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CONNECTORS & TERMINALS

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Crimp Connectors



Ring Terminals

Selection information: dimensions shown in inches (millimeters)

Catalog Number	Wire Size	Stud Size	Width	Length	Type*	Std Pack
AMP-0-0036160-0	16-14 AWG	#10 Stud	.343 (8.71)	.859 (21.82)	Nylon	1000
CPGI-8-36160-1	16-14 AWG	#10 Stud	.343 (8.71)	.859 (21.82)	Nylon	5pk/100
AMPS-0-0031886-0	22-16 AWG	#8 Stud	.281 (7.14)	.797 (20.24)	Nylon	1000
CPGI-8-31886-1	22-16 AWG	#8 Stud	.281 (7.14)	.797 (20.24)	Nylon	5pk/100
AMPS-0-0031894-0	22-16 AWG	1/4" Stud	.469 (11.91)	1.078 (27.38)	Nylon	1000
CPGI-8-31894-1	22-16 AWG	1/4" Stud	.469 (11.91)	1.078 (27.38)	Nylon	5pk/100
AMPS-0-0034142-0	22-16 AWG	#6 Stud	.218 (5.54)	.684 (17.37)	Vinyl	1000
CPGI-8-34142-1	22-16 AWG	#6 Stud	.218 (5.54)	.684 (17.37)	Vinyl	5pk/100
AMPS-0-0034145-0	22-16 AWG	#8 Stud	.281 (7.14)	.809 (20.55)	Vinyl	1000
CPGI-8-34145-1	22-16 AWG	#8 Stud	.281 (7.14)	.809 (20.55)	Vinyl	5pk/100
AMPS-0-0034146-0	22-16 AWG	#10 Stud	.281 (7.14)	.809 (20.55)	Vinyl	1000
CPGI-8-34146-1	22-16 AWG	#10 Stud	.281 (7.14)	.809 (20.55)	Vinyl	5pk/100
AMPS-0-0034150-0	22-16 AWG	1/4" Stud	.469 (11.91)	1.090 (27.69)	Vinyl	1000
CPGI-8-34150-1	22-16 AWG	1/4" Stud	.469 (11.91)	1.090 (27.69)	Vinyl	5pk/100
AMPS-0-0034158-0	16-14 AWG	#6 Stud	.250 (6.35)	.715 (18.16)	Vinyl	1000
CPGI-8-34158-1	16-14 AWG	#6 Stud	.250 (6.35)	.715 (18.16)	Vinyl	5pk/100
AMPS-0-0034160-0	16-14 AWG	#8 Stud	.343 (8.71)	.871 (22.12)	Vinyl	1000
CPGI-8-34160-1	16-14 AWG	#8 Stud	.343 (8.71)	.871 (22.12)	Vinyl	5pk/50
AMPS-0-0034161-0	16-14 AWG	#10 Stud	.343 (8.71)	.871 (22.12)	Vinyl	1000
CPGI-8-34161-1	16-14 AWG	#10 Stud	.343 (8.71)	.871 (22.12)	Vinyl	5pk/50
AMPS-0-0034162-0	16-14 AWG	1/4" Stud	.469 (11.91)	1.090 (27.69)	Vinyl	1000
CPGI-8-34162-1	16-14 AWG	1/4" Stud	.469 (11.91)	1.090 (27.69)	Vinyl	5pk/50
AMPS-0-0034168-0	12-10 AWG	#6 Stud	.375 (9.53)	1.098 (27.89)	Vinyl	500
CPGI-8-34168-2	12-10 AWG	#6 Stud	.375 (9.53)	1.098 (27.89)	Vinyl	5pk/50
AMPS-0-0034853-0	12-10 AWG	#8 Stud	.375 (9.53)	1.098 (27.89)	Vinyl	500
CPGI-8-34169-2	12-10 AWG	#8 Stud	.375 (9.53)	1.098 (27.89)	Vinyl	5pk/50
AMPS-0-0034854-0	12-10 AWG	#10 Stud	.375 (9.53)	1.098 (27.89)	Vinyl	500
CPGI-8-34170-1	12-10 AWG	#10 Stud	.375 (9.53)	1.098 (27.89)	Vinyl	5pk/50
AMPS-0-0034855-0	12-10 AWG	1/4" Stud	.531 (13.49)	1.327 (33.71)	Vinyl	500
CPGI-8-34171-2	12-10 AWG	1/4" Stud	.531 (13.49)	1.327 (33.71)	Vinyl	5pk/50
AMPS-0-0035108-0	12-10 AWG	#8 Stud	.375 (9.53)	1.083 (27.21)	Nylon	500
CPGI-8-35108-1	12-10 AWG	#8 Stud	.375 (9.53)	1.083 (27.21)	Nylon	5pk/50
AMPS-0-0035109-0	12-10 AWG	#10 Stud	.375 (9.53)	1.083 (27.51)	Nylon	500
CPGI-8-35109-1	12-10 AWG	#10 Stud	.375 (9.53)	1.083 (27.51)	Nylon	5pk/50
AMPS-0-0035110-0	12-10 AWG	1/4" Stud	.531 (13.49)	1.322 (33.58)	Nylon	500
CPGI-8-35110-1	12-10 AWG	1/4" Stud	.531 (13.49)	1.322 (33.58)	Nylon	5pk/50
AMPS-0-0035149-0	12-10 AWG	#6 Stud	.281 (7.14)	.953 (24.21)	Nylon	500
CPGI-8-35149-2	12-10 AWG	#6 Stud	.281 (7.14)	.953 (24.21)	Nylon	5pk/50
AMPS-0-0036152-0	22-16 AWG	#6 Stud	.281 (7.14)	.797 (20.24)	Nylon	1000
CPGI-8-36152-1	22-16 AWG	#6 Stud	.281 (7.14)	.797 (20.24)	Nylon	5pk/100
AMPS-0-0036154-0	22-16 AWG	#10 Stud	.312 (7.92)	.844 (21.44)	Nylon	1000
CPGI-8-36154-1	22-16 AWG	#10 Stud	.312 (7.92)	.844 (21.44)	Nylon	5pk/100
AMPS-0-0320565-0	16-14 AWG	#8 Stud	.343 (8.71)	.859 (21.82)	Nylon	1000
CPGI-8-320565-1	16-14 AWG	#8 Stud	.343 (8.71)	.859 (21.82)	Nylon	5pk/100
AMPS-0-0320619-0	16-14 AWG	#6 Stud	.250 (6.35)	.703 (17.86)	Nylon	1000
CPGI-8-320619-1	16-14 AWG	#6 Stud	.250 (6.35)	.703 (17.86)	Nylon	5pk/100
AMPS-0-0321045-0	16-14 AWG	1/4" Stud	.469 (11.91)	1.078 (27.38)	Nylon	1000
CPGI-8-321045-1	16-14 AWG	1/4" Stud	.469 (11.91)	1.078 (27.38)	Nylon	5pk/50
AMPS-0-0052041-3	8 AWG	1/4" Stud	.478 (12.14)	1.600 (40.64)	Vinyl	100
AMPS-0-0052042-3	6 AWG	1/4" Stud	.500 (12.70)	1.869 (47.47)	Vinyl	100
AMPS-0-0052043-2	4 AWG	#10 Stud	.546 (13.87)	1.948 (49.48)	Vinyl	100
AMPS-0-0052043-3	4 AWG	1/4" Stud	.546 (13.87)	1.948 (49.48)	Vinyl	100
AMPS-0-0052263-1	8 AWG	#10 Stud	.431 (10.95)	1.556 (39.52)	Vinyl	100
AMPS-0-0052265-0	6 AWG	#10 Stud	.468 (11.89)	1.719 (43.66)	Vinyl	100*

*Note: Vinyl Type possesses a 600 voltage rating and Nylon Type possesses a 300 voltage range.



Crimp Connectors



Spade Terminals

Selection information: dimensions shown in inches (millimeters)

Catalog Number	Wire Size	Stud Size	Width	Length	Type	Std. Pack
AMP-0-0035559-0	16-14 AWG	#6 Stud	.297 (7.54)	.753 (19.13)	Nylon	1000
CPGI-8-35559-1	16-14 AWG	#6 Stud	.297 (7.54)	.753 (19.13)	Nylon	5pk/100
AMPS-0-0032053-0	22-16 AWG	#8 Stud	.375 (9.53)	.908 (23.06)	Nylon	1000
CPGI-8-32053-1	22-16 AWG	#8 Stud	.375 (9.53)	.908 (23.06)	Nylon	5pk/100
AMPS-0-0032054-0	22-16 AWG	#10 Stud	.375 (9.53)	.908 (23.06)	Nylon	1000
CPGI-8-32054-1	22-16 AWG	#10 Stud	.375 (9.53)	.908 (23.06)	Nylon	5pk/100
AMPS-0-0032060-0	16-14 AWG	#10 Stud	.385 (9.78)	.908 (23.06)	Nylon	1000
CPGI-8-32060-1	16-14 AWG	#10 Stud	.385 (9.78)	.908 (23.06)	Nylon	5pk/50
AMPS-0-0032588-0	12-10 AWG	#8 Stud	.406 (10.31)	1.095 (27.81)	Nylon	500
CPGI-8-32588-2	12-10 AWG	#8 Stud	.406 (10.31)	1.095 (27.81)	Nylon	5pk/50
AMPS-0-0032589-0	12-10 AWG	#10 Stud	.406 (10.31)	1.095 (27.81)	Nylon	500
CPGI-8-32589-2	12-10 AWG	#10 Stud	.406 (10.31)	1.095 (27.81)	Nylon	5pk/50
AMPS-0-0034155-0	22-16 AWG	#8 Stud	.375 (9.53)	.920 (23.37)	Vinyl	1000
CPGI-8-34155-1	22-16 AWG	#8 Stud	.375 (9.53)	.920 (23.37)	Vinyl	5pk/100
AMPS-0-0034156-0	22-16 AWG	#10 Stud	.375 (9.53)	.920 (23.37)	Vinyl	1000
CPGI-8-34156-1	22-16 AWG	#10 Stud	.375 (9.53)	.920 (23.37)	Vinyl	5pk/100
AMPS-0-0034166-0	16-14 AWG	#8 Stud	.385 (9.78)	.920 (23.37)	Vinyl	1000
CPGI-8-34166-1	16-14 AWG	#8 Stud	.385 (9.78)	.920 (23.37)	Vinyl	5pk/100
AMPS-0-0034167-0	16-14 AWG	#10 Stud	.385 (9.78)	.920 (23.37)	Vinyl	1000
CPGI-8-34167-1	16-14 AWG	#10 Stud	.385 (9.78)	.920 (23.37)	Vinyl	5pk/100
AMPS-0-0034176-0	12-10 AWG	#10 Stud	.406 (10.31)	1.095 (27.81)	Vinyl	500
CPGI-8-34176-1	12-10 AWG	#10 Stud	.406 (10.31)	1.095 (27.81)	Vinyl	5pk/50
AMPS-0-0034541-0	22-16 AWG	#6 Stud	.250 (6.35)	.846 (21.49)	Nylon	1000
CPGI-8-34541-1	22-16 AWG	#6 Stud	.250 (6.35)	.846 (21.49)	Nylon	5pk/100
AMPS-0-0320665-0	22-16 AWG	#6 Stud	.297 (7.54)	.765 (19.43)	Vinyl	1000
CPGI-8-320665-1	22-16 AWG	#6 Stud	.297 (7.54)	.765 (19.43)	Vinyl	5pk/100
AMPS-0-0321233-0	16-14 AWG	#8 Stud	.297 (7.54)	.753 (19.13)	Nylon	1000
CPGI-8-321233-1	16-14 AWG	#8 Stud	.297 (7.54)	.753 (19.13)	Nylon	5pk/100
AMPS-0-0322985-0	12-10 AWG	#6 Stud	.290 (7.37)	.954 (24.23)	Nylon	500
CPGI-8-322985-2	12-10 AWG	#6 Stud	.290 (7.37)	.954 (24.23)	Nylon	5pk/50
AMPS-0-0322994-0	16-14 AWG	#6 Stud	.297 (7.54)	.765 (19.43)	Vinyl	1000
CPGI-8-322994-1	16-14 AWG	#6 Stud	.297 (7.54)	.765 (19.43)	Vinyl	5pk/100

*Note: Vinyl Type possesses a 600 voltage rating and Nylon Type possesses a 300 voltage range.

UL US LISTED
WIRE CONNECTOR
40CA
E13288



Female Disconnects

Selection information: dimensions shown in inches (millimeters)

Catalog Number	Wire Size	Series	Width	Length	Type	Std. Pack
AMP-0-0640903-1	22-18 AWG	.250 x .032	.300 (7.62)	.900 (22.86)	Nylon	1000
CPGI-8-640903-1	22-18 AWG	.250 x .032	.300 (7.62)	.900 (22.86)	Nylon	5pk/50
AMP-0-0640905-1	16-14 AWG	.250 x .032	.300 (7.62)	.900 (22.86)	Nylon	1000
CPGI-8-640905-1	16-14 AWG	.250 x .032	.300 (7.62)	.900 (22.86)	Nylon	5pk/50
AMPS-0-0640907-1	12-10 AWG	.250 x .032	.300 (7.62)	1.012 (22.07)	Nylon	500
CPGI-8-640907-1	12-10 AWG	.250 x .032	.300 (7.62)	1.012 (22.07)	Nylon	5pk/50

*Note: Vinyl Type possesses a 600 voltage rating and Nylon Type possesses a 300 voltage range.

UL LISTED
Quick-Connect Terminal
40CA
E66717

SA Certified
LR7189



Male Disconnects

Selection information: dimensions shown in inches (millimeters)

Catalog Number	Wire Size	Series	Type	Std. Pack
AMP-0-0066024-2	16-14 AWG	.250 x .032 (6.35 x 0.81)	Nylon	100
CPGI-66024-6	16-14 AWG	.250 x .032 (6.35 x 0.81)	Nylon	5pk/50
AMPS-0-0066023-2	22-16 AWG	.250 x .032 (6.35 x 0.81)	Nylon	500
CPGI-66023-2	22-16 AWG	.250 x .032 (6.35 x 0.81)	Nylon	5pk/50
AMPS-0-0066025-2	12-10 AWG	.250 x .032 (6.35 x 0.81)	Nylon	500
CPGI-66025-2	12-10 AWG	.250 x .032 (6.35 x 0.81)	Nylon	5pk/50

*Note: Vinyl Type possesses a 600 voltage rating and Nylon Type possesses a 300 voltage range.

UL LISTED
Quick-Connect Terminal
E66717

SA Certified
LR7189

Crimp Connectors



Short Spring Spade Terminals

Selection information: dimensions shown in inches (millimeters)

Catalog Number	Wire Size	Stud Size	Width	Length	Type	Std. Pack
AMP-0-0052936-0	16-14 AWG	#8 Stud	.375 (9.53)	.860 (21.24)	Nylon	1000
CPGI-8-52936-1	16-14 AWG	#8 Stud	.375 (9.53)	.860 (21.24)	Nylon	5pk/50
AMPS-0-0052929-0	22-16 AWG	#6 Stud	.250 (6.35)	.799 (20.29)	Nylon	1000
CPGI-8-52929-1	22-16 AWG	#6 Stud	.250 (6.35)	.799 (20.29)	Nylon	5pk/50
AMPS-0-0052930-0	22-16 AWG	#8 Stud	.375 (9.53)	.860 (21.84)	Nylon	1000
CPGI-8-52930-1	22-16 AWG	#8 Stud	.375 (9.53)	.860 (21.84)	Nylon	5pk/50
AMPS-0-0052931-0	22-16 AWG	#10 Stud	.406 (10.31)	.908 (23.06)	Nylon	1000
CPGI-8-52931-1	22-16 AWG	#10 Stud	.406 (10.31)	.908 (23.06)	Nylon	5pk/50
AMPS-0-0052935-0	16-14 AWG	#6 Stud	.250 (6.35)	.799 (20.29)	Nylon	1000
CPGI-7-52935-1	16-14 AWG	#6 Stud	.250 (6.35)	.799 (20.29)	Nylon	5pk/50
AMPS-0-0052937-0	16-14 AWG	#10 Stud	.406 (10.31)	.908 (23.06)	Nylon	1000
CPGI-7-52937-1	16-14 AWG	#10 Stud	.406 (10.31)	.908 (23.06)	Nylon	5pk/50
AMPS-0-0052941-0	12-10 AWG	#6 Stud	.250 (6.35)	.959 (24.36)	Nylon	500
CPGI-8-52941-2	12-10 AWG	#6 Stud	.250 (6.35)	.959 (24.36)	Nylon	5pk/50
AMPS-0-0052942-0	12-10 AWG	#8 Stud	.375 (9.53)	1.100 (26.72)	Nylon	500
CPGI-8-52942-1	12-10 AWG	#8 Stud	.375 (9.53)	1.100 (26.72)	Nylon	5pk/50
AMPS-0-0052943-0	12-10 AWG	#10 Stud	.406 (10.31)	1.100 (27.94)	Nylon	500
CPGI-8-52943-1	12-10 AWG	#10 Stud	.406 (10.31)	1.100 (27.94)	Nylon	5pk/50
AMPS-0-0052945-0	12-10 AWG	1/4" Stud	.625 (15.88)	1.225 (31.12)	Nylon	500
CPGI-8-52945-2	12-10 AWG	1/4" Stud	.625 (15.88)	1.225 (31.12)	Nylon	5pk/25
AMPS-0-0052949-0	22-16 AWG	#6 Stud	.250 (6.35)	.811 (20.60)	Vinyl	1000
CPGI-8-52949-1	22-16 AWG	#6 Stud	.250 (6.35)	.811 (20.60)	Vinyl	5pk/80
AMPS-0-0052950-0	22-16 AWG	#8 Stud	.375 (9.53)	.872 (22.15)	Vinyl	1000
CPGI-8-52950-1	22-16 AWG	#8 Stud	.375 (9.53)	.872 (22.15)	Vinyl	5pk/80
AMPS-0-0052955-0	16-14 AWG	#6 Stud	.250 (6.35)	.811 (20.60)	Vinyl	1000
CPGI-8-52955-1	16-14 AWG	#6 Stud	.250 (6.35)	.811 (20.60)	Vinyl	5pk/80
AMPS-0-0052956-0	16-14 AWG	#8 Stud	.375 (9.53)	.872 (22.15)	Vinyl	1000
CPGI-7-52956-1	16-14 AWG	#8 Stud	.375 (9.53)	.872 (22.15)	Vinyl	5pk/80
AMPS-0-0052957-0	16-14 AWG	#10 Stud	.406 (10.31)	.920 (23.37)	Vinyl	1000
CPGI-8-52957-1	16-14 AWG	#10 Stud	.406 (10.31)	.920 (23.37)	Vinyl	5pk/80
AMPS-0-0052963-0	12-10 AWG	#10 Stud	.406 (10.31)	1.100 (27.94)	Vinyl	500
CPGI-8-52963-2	12-10 AWG	#10 Stud	.406 (10.31)	1.100 (27.94)	Vinyl	5pk/50
AMPS-0-0053242-1	22-16 AWG	#10 Stud	.294 (7.47)	.969 (24.61)	Vinyl	1000
CPGI-8-53242-5	22-16 AWG	#10 Stud	.294 (7.47)	.969 (24.61)	Vinyl	5pk/80
AMPS-0-0053247-1	12-10 AWG	#8 Stud	.312 (7.92)	1.052 (26.72)	Vinyl	500
CPGI-8-53247-1	12-10 AWG	#8 Stud	.312 (7.92)	1.052 (26.72)	Vinyl	5pk/50

*Note: Vinyl Type possesses a 600 voltage rating and Nylon Type possesses a 300 voltage range.

WIRE CONNECTOR
40CA
E13288WIRE CONNECTOR
40CA
E13288

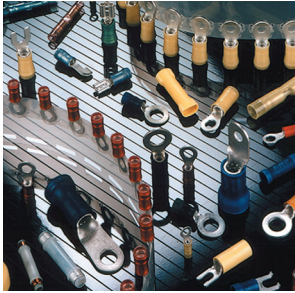
Butt Splices

Selection information: dimensions shown in inches (millimeters)

Catalog Number	Wire Size	Length	Type	Std. Pack
AMP-0-0055785-1	16-14 AWG	1.065 (27.05)	Vinyl	1000
CPGI-8-55785-1	16-14 AWG	1.065 (27.05)	Vinyl	5pk/50
AMP-0-0055792-1	22-16 AWG	1.076 (27.33)	Vinyl	1000
CPGI-8-55792-1	22-16 AWG	1.076 (27.33)	Vinyl	5pk/50
AMP-0-0055793-1	12-10 AWG	1.160 (29.46)	Vinyl	500
CPGI-8-55793-2	12-10 AWG	1.160 (29.46)	Vinyl	5pk/25
AMPS-0-0320559-0	22-16 AWG	1.265 (32.13)	Nylon	50
CPGI-8-320559-2	22-16 AWG	1.265 (32.13)	Nylon	5pk/50
AMPS-0-0320562-0	16-14 AWG	1.265 (32.13)	Nylon	50
CPGI-8-320562-5	16-14 AWG	1.265 (32.13)	Nylon	5pk/50
AMPS-0-0320570-0	12-10 AWG	1.656 (42.06)	Nylon	50
CPGI-8-320570-2	12-10 AWG	1.656 (42.06)	Nylon	5pk/25

*Note: Vinyl Type possesses a 600 voltage rating and Nylon Type possesses a 300 voltage range.

Mechanical Kits



Electrical Maintenance & Repair Kits

Tyco Electronics offers a wide range of electrical maintenance and repair kits containing a selection of our most popular products, conveniently packaged for on-the-job use.

Each kit contains the most popular sizes of PIDG, PLASTI-GRIP, or FASTON terminals and splices. The AMP Mated Tool Terminal Concept

- Carefully engineered application tooling has been developed to ensure uniformly high quality terminations.
- Compression crimping produces crimps for a given size wire and terminal that are alike in appearance and performance.
- Terminal and crimping tool are designed as uniform matched devices. PRO-CRIMPER II dies are precision engineered from the finest hard metal alloys.
- Crimping pressure is controlled by a ratchet device on the hand tool.

Selection Information: dimensions shown in inches (millimeters)

Connector Kit Name	Catalog Number	Dimensions			Weight	Contents
		L	W	H		
PIDG & PLASTI-GRIP	55823-1	12 (280)	7 (180)	2 (50)	4 lb. 0.94 kg	PRO-CRIMPER II hand tool #58433-3, 225 insulated ring and spade terminals in 12-10, 16-14, and 22-16 AWG (3.0-5.0, 1.3-2.0, and 0.3-1.3mm ²) wire sizes
PIDG	608028-1	13.6 (345)	9.6 (240)	2.1 (50)	6 lb. 2.72 kg	SUPER CHAMP IV Hand Tool 604252-1. 500 piece kit includes insulated PIDG ring and spade terminals, butt splices, and FASTON receptacles. Wire size 22-10 AWG (0.3-5mm ²). Hinged-top heavy-duty metal case with storage compartments.
PLASTI-GRIP	314974-1	11 (280)	7 (180)	2 (50)	2 lb. 0.94 kg	SUPER CHAMP IV Hand Tool 604252-1. Assorted insulated and uninsulated terminals and splices. Clear plastic case with compartments and hinged Top.



**PIDG & PLASTI-GRIP
Connector Kit 55823-1**



**PIDG Connector Kit
608028-1**



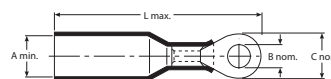
**PLASTI-GRIP Connector Kit
314974-1**

DuraSeal Heat-Shrink Crimp Connectors



DuraSeal Heat-Shrink Ring Terminals

Selection information: dimensions shown in inches (millimeters)



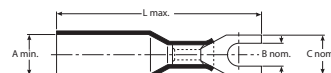
Catalog Number	AWG	Color	Ring Terminal Dimensions				Wire Dimensions			Std. Pack
			A Min.	Stud Size	C Nom.	L Max.	Insulation O.D. Max.	Min.		
CPGI-B-106-1401-BULK	22-18	Red	.15 (3.81)	8 (M4)	.31 (7.88)	1.26 (32.0)	.150 (3.81)	.055 (1.40)	1000/Box	
CPGI-B-106-1402-BULK	16-14	Blue	.18 (4.57)	8 (M4)	.31 (7.88)	1.30 (33.02)	.175 (4.45)	.080 (2.00)	1000/Box	
CPGI-B-106-1403-BULK	12-10	Yellow	.25 (6.35)	8 (M4)	.31 (7.88)	1.50 (38.10)	.250 (6.35)	.110 (2.79)	1000/Box	
CPGI-B-106-1501-BULK	22-18	Red	.15 (3.81)	10 (M5)	.39 (9.91)	1.34 (34.04)	.150 (3.81)	.055 (1.40)	1000/Box	
CPGI-B-106-1501-6	22-18	Red	.15 (3.81)	10 (M5)	.39 (9.91)	1.34 (34.04)	.150 (3.81)	.055 (1.40)	6/Clam	
CPGI-B-106-1502-BULK	16-14	Blue	.18 (4.57)	10 (M5)	.39 (9.91)	1.38 (35.05)	.175 (4.45)	.080 (2.00)	1000/Box	
CPGI-B-106-1502-5	16-14	Blue	.18 (4.57)	10 (M5)	.39 (9.91)	1.38 (35.05)	.175 (4.45)	.080 (2.00)	5/Clam	
CPGI-B-106-1503-BULK	12-10	Yellow	.25 (6.35)	10 (M5)	.39 (9.91)	1.58 (40.13)	.250 (6.35)	.110 (2.79)	500/Box	
CPGI-B-106-1503-5	12-10	Yellow	.25 (6.35)	10 (M5)	.39 (9.91)	1.58 (40.13)	.250 (6.35)	.110 (2.79)	5/Clam	
CPGI-B-106-1601-BULK	22-18	Red	.15 (3.81)	1/4 (M6)	1.42 (36.07)	1.42 (36.07)	.150 (3.81)	.055 (1.40)	1000/Box	
CPGI-B-106-1602-BULK	16-14	Blue	.18 (4.57)	1/4 (M6)	1.44 (36.58)	1.44 (36.58)	.175 (4.45)	.080 (2.00)	1000/Box	
CPGI-B-106-1603-BULK	12-10	Yellow	.25 (6.35)	1/4 (M6)	1.64 (41.66)	1.64 (41.66)	.250 (6.35)	.110 (2.79)	1000/Box	
CPGI-B-106-1801-BULK	22-18	Red	.15 (3.81)	5/16 (M8)	.55 (13.97)	1.54 (39.12)	.150 (3.81)	.055 (1.40)	1000/Box	
CPGI-B-106-1802-BULK	16-14	Blue	.18 (4.57)	5/16 (M8)	.55 (13.97)	1.58 (40.13)	.175 (4.45)	.080 (2.00)	1000/Box	
CPGI-B-106-1803-BULK	12-10	Yellow	.25 (6.35)	5/16 (M8)	.55 (13.97)	1.78 (45.21)	.250 (6.35)	.110 (2.79)	1000/Box	
CPGI-B-106-1991-BULK	22-18	Red	.15 (3.81)	3/8 (M10)	.70 (17.78)	1.70 (43.18)	.150 (3.81)	.055 (1.40)	1000/Box	
CPGI-B-106-1992-BULK	16-14	Blue	.18 (4.57)	3/8 (M10)	.70 (17.78)	1.73 (43.94)	.175 (4.45)	.080 (2.00)	1000/Box	
CPGI-B-106-1993-BULK	12-10	Yellow	.25 (6.35)	3/8 (M10)	.70 (17.78)	1.85 (46.99)	.250 (6.35)	.110 (2.79)	1000/Box	

Note: 600 Voltage Rating.



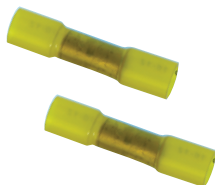
DuraSeal Heat-Shrink Spade Terminals

Selection information: dimensions shown in inches (millimeters)



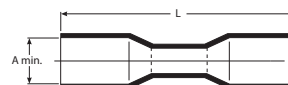
Catalog Number	AWG	Color	Ring Terminal Dimensions				Wire Dimensions			Std. Pack
			A Min.	Stud Size	C Nom.	L Max.	Insulation O.D. Max.	Min.		
CPGI-B-106-2401-Bulk	22-18	Red	.15 (3.68)	8 (M4)	.31 (7.87)	1.26 (32.00)	.150 (3.81)	.055 (1.40)	1000/Box	
CPGI-B-106-2401-6	22-18	Red	.15 (3.68)	8 (M4)	.31 (7.87)	1.26 (32.00)	.150 (3.81)	.055 (1.40)	6/Clam	
CPGI-B-106-2402-Bulk	16-14	Blue	.18 (4.57)	8 (M4)	.31 (7.87)	1.38 (35.05)	.175 (4.45)	.080 (2.00)	500/Box	
CPGI-B-106-2403-Bulk	12-10	Yellow	.25 (6.35)	8 (M4)	.31 (7.87)	1.50 (38.10)	.250 (6.35)	.110 (2.79)	500/Box	
CPGI-B-106-2502-Bulk	16-14	Blue	.18 (4.57)	10 (M5)	.39 (9.91)	1.38 (35.05)	.175 (4.45)	.080 (2.00)	1000/Box	
CPGI-B-106-2502-5	16-14	Blue	.18 (4.57)	10 (M5)	.39 (9.91)	1.38 (35.05)	.175 (4.45)	.080 (2.00)	5/Clam	
CPGI-B-106-2503-Bulk	12-10	Yellow	.25 (6.35)	10 (M5)	.39 (9.91)	1.58 (40.15)	.250 (6.35)	.110 (2.79)	500/Clam	
CPGI-B-106-2503-5	12-10	Yellow	.25 (6.35)	10 (M5)	.39 (9.91)	1.58 (40.15)	.250 (6.35)	.110 (2.79)	5/Clam	

Note: 600 Voltage Rating.



DuraSeal Heat-Shrink Butt Splices

Selection information: dimensions shown in inches (millimeters)



Catalog Number	AWG	Color	Butt Splice Dimensions		Wire Dimensions		Std. Pack
			A Min.	L Nom.	Insulation O.D. Max.	Min.	
CPGI-D-406-0001-Bulk	22-18	Red	.145 (3.68)	1.25 (31.75)	.140 (3.56)	.055 (1.40)	100/Box
CPGI-D-406-0001-10	22-18	Red	.145 (3.68)	1.25 (31.75)	.140 (3.56)	.055 (1.40)	10/Clam
CPGI-D-406-0002-Bulk	16-14	Blue	.180 (4.57)	1.25 (31.75)	.175 (4.45)	.080 (2.03)	1000/Box
CPGI-D-406-0002-8	16-14	Blue	.180 (4.57)	1.25 (31.75)	.175 (4.45)	.080 (2.03)	8/Clam
CPGI-D-406-0003-Bulk	12-10	Yellow	.250 (6.35)	1.50 (38.10)	.245 (6.22)	.279 (1.10)	500/Box
CPGI-D-406-0003-6	12-10	Yellow	.250 (6.35)	1.50 (38.10)	.245 (6.22)	.279 (1.10)	6/Clam

Note: 600 Voltage Rating.

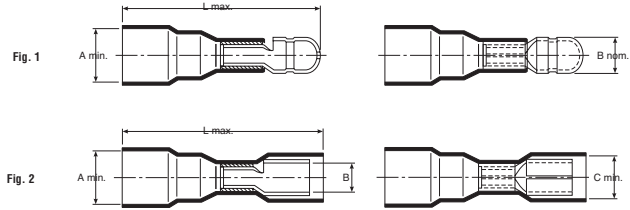
DuraSeal Heat-Shrink Crimp Connectors

DuraSeal Heat-Shrink Bullet Terminals

Selection information: dimensions shown in inches (millimeters)



CRUS
WIRE CONNECTOR
E87681
CU ONLY



CPGI Catalog No.	Fig.—Type	Tab Terminal Dimensions				Color	AWG	Wire Dimensions		Std. Pack*
		A Min.	B Nom.	C Nom.	L Max.			Insulation Max.	O.D. Min.	
CPGI-B-106-7401-BULK	1—Male	.150 (3.81)	.150 (6.35)	—	1.32 (33.53)	Red	22-18	.150 (3.81)	.055 (1.40)	1000
CPGI-B-106-7502-BULK	1—Male	.180 (4.57)	.200 (5.08)	—	1.36 (34.54)	Blue	16-14	.175 (4.45)	.080 (2.00)	1000
CPGI-B-106-8401-BULK	2—Female	.150 (3.81)	.150 (6.35)	.220 (5.59)	1.20 (.48)	Red	22-18	.150 (3.81)	.055 (1.40)	1000
CPGI-B-106-8502-BULK	2—Female	.180 (4.57)	.200 (5.08)	.240 (6.10)	1.28 (32.51)	Blue	16-14	.175 (4.45)	.080 (2.00)	1000

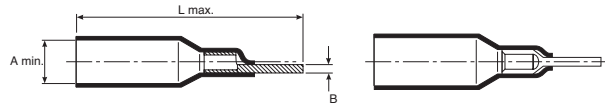
Note: 600 Voltage Rating.
*Note: Std. Pack consists of 1000/BOX.

DuraSeal Heat-Shrink Pin Terminals

Selection information: dimensions shown in inches (millimeters)



CRUS
WIRE CONNECTOR
E87681
CU ONLY



CPGI Catalog No.	Pin Terminal Dimensions			Color	AWG	Wire Dimensions		Std. Pack*
	A Min.	B Nom.	L Max.			Insulation Max.	O.D. Min.	
CPGI-B-106-6201-BULK	.150 (3.81)	.080 (2.00)	1.220 (30.99)	Red	22-18	.150 (3.81)	.055 (1.40)	1000

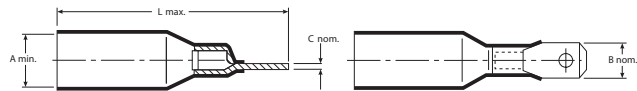
Note: 600 Voltage Rating.
*Note: Std. Pack consists of 1000/BOX.

DuraSeal Heat-Shrink Male Disconnects

Selection information: dimensions shown in inches (millimeters)



CRUS
WIRE CONNECTOR
E87681
CU ONLY



CPGI Catalog No.	Tab Size	Tab Terminal Dimensions				Color	AWG	Wire Dimensions		Std. Pack*
		A Min.	B Nom.	C Nom.	L Max.			Insulation Max.	O.D. Min.	
CPGI-B-106-4631-BULK	.250 x .032	.150 (3.81)	.250 (6.35)	.032 (.81)	1.20 (30.48)	Red	22-18	.150 (3.81)	.055 (1.40)	1000
CPGI-B-106-4632-BULK	.250 x .032	.180 (4.57)	.250 (6.35)	.032 (.81)	1.26 (32.00)	Blue	16-14	.175 (4.45)	.080 (2.00)	1000

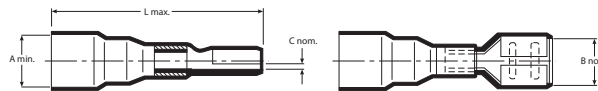
Note: 600 Voltage Rating.
*Note: Std. Pack consists of 1000/BOX.

DuraSeal Heat-Shrink Female Disconnects

Selection information: dimensions shown in inches (millimeters)



CRUS
WIRE CONNECTOR
E87681
CU ONLY



CPGI Catalog No.	Tab Size	Tab Terminal Dimensions				Color	AWG	Wire Dimensions		Std. Pack*
		A Min.	B Nom.	C Nom.	L Max.			Insulation Max.	O.D. Min.	
CPGI-B-106-3631-BULK	.250 x .032	.150 (3.81)	.250 (6.35)	.032 (.81)	1.20 (30.48)	Red	22-18	.150 (3.81)	.055 (1.40)	1000
CPGI-B-106-3632-BULK	.250 x .032	.180 (4.57)	.250 (6.35)	.032 (.81)	1.26 (32.00)	Blue	16-14	.175 (4.45)	.080 (2.00)	1000
CPGI-B-106-3633-BULK	.250 x .032	.250 (6.35)	.250 (6.35)	.032 (.81)	1.300 (33.02)	Yellow	12-10	.250 (6.35)	.110 (2.79)	1000
CPGI-B-106-3281-BULK	.110 x .020	.150 (3.81)	.110 (2.79)	.020 (.51)	9.00 (22.86)	Red	22-18	.150 (3.81)	.155 (1.40)	1000
CPGI-B-106-3481-BULK	.187 x .020	.150 (3.81)	.187 (4.75)	.020 (.51)	1.200 (30.48)	Red	22-18	.150 (3.81)	.055 (1.40)	1000

Note: 600 Voltage Rating.
*Note: Std. Pack consists of 1000/BOX.

SolderGrip Heat-Shrink Connectors

SolderGrip Ring Terminals



Selection information: dimensions shown in inches (millimeters)

Catalog Number	Wire Size AWG	Stud Size	Max. Bundle Diameter	CMA/mm ² Wire Range (Min. - Max.)	Typical Length	Std. Pack
CPGI-SGRT-2-04-Bulk	22-18	8 (4)	—	1.2-3.0 (2400-6000)	1 1/2 (38)	100/Box
CPGI-SGRT-2-04-6	22-18	1/4 (6)	—	1.2-3.0 (2400-6000)	1 1/2 (38)	6/Clam
CPGI-SGRT-3-06-Bulk	20-12	8 (4)	.255 (6.5)	2.5-6.6 (5000-13,200)	1 3/4 (44.5)	100/Box
CPGI-SGRT-3-06-6	20-12	8 (4)	.255 (6.5)	2.5-6.6 (5000-13,200)	1 3/4 (44.5)	6/Clam
CPGI-SGRT-4-06-Bulk	18-10	1/4 (6)	.355 (9.0)	6.0-11.2 (12,000-22,400)	1 3/4 (44.5)	100/Box
CPGI-SGRT-4-06-5	18-10	1/4 (6)	.355 (9.0)	6.0-11.2 (12,000-22,400)	1 3/4 (44.5)	5/Clam
CPGI-SGRT-4-08-Bulk	18-10	5/16(8)	—	6.0-11.2 (12,000-22,400)	2 (51.0)	100/Box
CPGI-SGRT-4-08-5	18-10	5/16(8)	—	6.0-11.2 (12,000-22,400)	2 (51.0)	5/Clam



Note: 600 Voltage Rating.

Note: Please see Application & Technical Specification (SolderGrip Wire Combination) Section for complete product use range.

SolderGrip Butt Splices



Selection information: dimensions shown in inches (millimeters)

Catalog Number	Wire Size AWG	Wire Jacket OD Min.	Wire Jacket OD Max.	CMA/mm ² Combined Total Number Min.	CMA/mm ² Combined Total Number Max.	Std. Pack
CPGI-CWT-9002-Bulk	22-18	0.05 (1.3)	0.106 (2.7)	1250 (0.8)	3500 (0.2)	100/Box
CPGI-CWT-9002-15	22-18	0.05 (1.3)	0.106 (2.7)	1250 (0.8)	3500 (0.2)	15/Clam
CPGI-CWT-9003-Bulk	16-14	0.07 (1.8)	0.18 (4.5)	2500 (0.8)	7200(4.0)	100/Box
CPGI-CWT-9003-12	16-14	0.07 (1.8)	0.18 (4.5)	2500 (0.8)	7200(4.0)	12/Clam
CPGI-CWT-9004-Bulk	12-10	0.11 (2.8)	0.236 (6.0)	6100 (4.0)	19000 (6.0)	100/Box
CPGI-CWT-9004-10	12-10	0.11 (2.8)	0.236 (6.0)	6100 (4.0)	19000 (6.0)	10/Clam
CPGI-CWT-9005-Bulk	16-10	0.125 (3.2)	0.275 (7.0)	12000 (6.0)	25000 (10.0)	100/Box
CPGI-CWT-9005-8	16-10	0.125 (3.2)	0.275 (7.0)	12000 (6.0)	25000 (10.0)	8/Clam



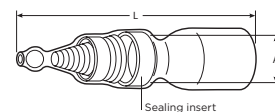
Note: 600 Voltage Rating.

Note: Please see Application & Technical Specification (SolderGrip Wire Combination) Section for complete product use range.

SolderGrip Wire Connector Splices



Insulated and Sealed Closed-End Connectors (SGRS series)



Selection information: dimensions shown in inches (millimeters)

Product Dimensions

Catalog Number	Size AWG	Color Code	L	A	CMA/mm ² Wire Range (Min. - Max.)	Std. Pack
CPGI-SGRS-1-Bulk	22-18	Green	34.8 (1.370)	3.4 (0.130)	0.7-2.4 (1400-4800)	100/Box
CPGI-SGRS-1-6	22-18	Green	34.8 (1.370)	3.4 (0.130)	0.7-2.4 (1400-4800)	6/Clam
CPGI-SGRS-2-Bulk	20-12	Red	34.2 (1.350)	4.8 (0.190)	2.0-4.0 (4000-8000)	100/Box
CPGI-SGRS-2-6	20-12	Red	34.2 (1.350)	4.8 (0.190)	2.0-4.0 (4000-8000)	6/Clam
CPGI-SGRS-3-Bulk	18-10	Blue	42.0 (1.650)	7.3 (0.290)	3.5-8.0 (7000-16000)	100/Box
CPGI-SGRS-3-5	18-10	Blue	42.0 (1.650)	7.3 (0.290)	3.5-8.0 (7000-16000)	5/Clam
CPGI-SGRS-4-Bulk	16-8	Yellow	41.5 (1.630)	9.1 (0.360)	7.5-12.0 (15000-24000)	100/Box
CPGI-SGRS-4-4	16-8	Yellow	41.5 (1.630)	9.1 (0.360)	7.5-12.0 (15000-24000)	4/Clam



Note: 600 Voltage Rating.

Note: Please see Application & Technical Specification (SolderGrip Wire Combination) Section for complete product use range.

Lighting Connectors



2-Position

LIGHT-N-LOK Ballast Disconnects

The LIGHT-N-LOK ballast disconnects are hot-pluggable interconnects for fluorescent ballast applications designed to meet the 2008 NEC code for section 410.130(G) and Canadian Electrical Code: 22-1-06-Paragraph 30-308 (4).

These connectors meet UL 2459 Insulated Multi-Pole Splicing Wire Connectors and CSA Std. C22.2 No. 1823-M1987 with Current Interruption, and it also supports CSA Luminaries Labeling Requirements.

- Available in 2 and 3 position connectors
- Poke-In wire termination
- Integral wire strain relief (exceeds 25 lbs retention)
- Squeeze-to-release latches
- Snag resistant rounded corners
- Accepts 18 AWG solid wire
- "Ballast Disconnect" marking in English and French
- Contacts fully recessed in housings
- Compact connector design
- Electrical rating: 120 - 600VAC, 5A
- Operating temperature: -40°C to +105°C
- Accommodates standard & dimming ballasts
- Easy, tool-less field or factory installation
- Prevents unintentional connector disconnect
- Installer friendly
- Ballast side industry standard
- Finger safe in unmated configuration
- UL 2459 Insulated Multi-Pole Splicing Wire Connectors
- CSA Std C22.2 No. 1823-M1987 With Current Interruption



The 2 and 3-position LIGHT-N-LOK ballast disconnects consist of a plug assembly and receptacle assembly with or without being pre-wired. The assemblies will accept 18 AWG solid copper wire. "Poke-In Wire Termination" method removes the need for application tooling. Knockout diameter opening is 5/8" for 2-position and is 7/8" for the 3 position.

Selection information: dimensions shown in inches (millimeters)

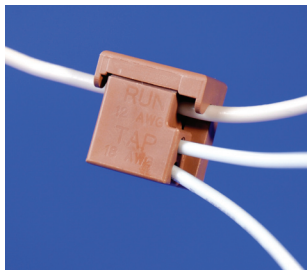


3-Position

Catalog Number	Description	Std. Pack
2-Position		
CPGI-2008535-1-K2	2-Position with 6" leads	2
CPGI-2008535-1-BULK	2-Position with 6" leads	1500
CPGI-2008144-1-K6	2-Position no leads	6
CPGI-2008144-1-K20	2-Position no leads	20
CPGI-2008144-1-K50	2-Position no leads	50
CPGI-2008144-1-BULK	2-Position no leads	1500
3-Position		
CPGI-2008836-2-K2	3-Position with 6" leads	2
CPGI-2008836-2-BULK	3-Position with 6" leads	500
CPGI-2008152-1-K6	3-Position no leads	6
CPGI-2008152-1-K50	3-Position no leads	50
CPGI-2008152-1-BULK	3-Position no leads	500



Lighting Connectors



Poke-In Wire Tap/Splice Connector

Poke-In connectors combine wire splices with power taps for use in commercial lighting ballast installations. The Insulation Displacement Contacts (IDC) in the splice allow for quick termination to “run” or power wire connection. Installers place the “run” connection in the IDC splice and close the splice with wire pliers or flat-rock tooling. Poke-In connection to the power taps is made with pre stripped solid wires and installers poke the stripped wire into the taps to complete the circuit. Integrated splice and tap design helps speed the installation process and minimizes the need for specialized tools or other installation materials.

- IDC Poke-In wire tap/ splice products are available in two sizes.
- One size accepts “run” connections with 12 AWG solid or stranded wire.
- Second size accepts “run” connections with 18 AWG solid wire.
- Splice poke-in accommodates two pre-stripped 18 AWG solid wires.
- Contact current rating is 7 amps with an operating voltage of 600V maximum.
- UL 486C File E13288/ CSA Std C22.2 No. 188



Selection information

Catalog Number	Description	Std. Pack
12 AWG		
CPGI-1811027-1-Bulk	12 AWG Tap with (2) 18 AWG Poke-Ins	500/Bag
CPGI-1811027-1-K100	12 AWG Tap with (2) 18 AWG Poke-Ins	100/Jar
CPGI-1811027-1-K25	12 AWG Tap with (2) 18 AWG Poke-Ins	25/Clam
CPGI-1811027-1-K6	12 AWG Tap with (2) 18 AWG Poke-Ins	6/Clam
18 AWG		
CPGI-1811027-2-Bulk	18 AWG Tap with (2) 18 AWG Poke-Ins	500/Bag
CPGI-1811027-2-K100	18 AWG Tap with (2) 18 AWG Poke-Ins	100/Jar
CPGI-1811027-2-K25	18 AWG Tap with (2) 18 AWG Poke-Ins	25/Clam
CPGI-1811027-2-K6	18 AWG Tap with (2) 18 AWG Poke-Ins	6/Clam

Compression Connectors



Copper Compression Terminals

- Uses industry-standard tooling for simple installation
- Industry-standard color coding system simplifies die selection
- Chamfered connector end allows cable to be inserted easily
- One-piece, seamless construction from electrolytic tough pitch (ETP) copper for superior electrical performance and mechanical operation
- Closed barrel transition design for protection from moisture and contaminants
- Tin-plated for corrosion resistance and durability, and tempered for easy crimping

Copper compression terminals are ideally suited for secondary power distribution in buildings, power plants, electrical equipment, and industrial applications. Connectors can be used on applications up to 35 kV, and meet the requirements of UL486A and CSA C22.2 No. 65-95 when applied with approved die sets. (See Instruction Sheet #408-8869 for approved listing of die sets.)

Copper compression terminals are available to accommodate a range of cable sizes from 6 AWG through 1,000 MCM and are designed for terminating concentric, compact, or standard stranded copper conductors. These terminals are offered in one-hole terminals from 6 AWG through 1,000 MCM with either a standard or long barrel. A two-hole NEMA terminal with a long barrel is also available for 4 AWG through 1,000 MCM.

Compression crimping forms the terminal barrel and conductor into a strong, almost homogeneous unit, producing excellent conductivity, low temperature rise, and outstanding resistance to oxidation and corrosion.

Physical and Electrical Properties

Material: ETP copper alloy C11000
Plating: Electro tin plate
Heat treating: Soft tempered
Voltage Rating: For applications up to 35 kV consult shielded cable manufacturers stress relief instructions.

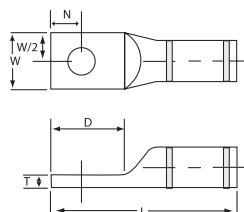
Agency approvals (when crimped with the approved die sets): Listed by Underwriters Laboratories, Inc. File No. E13288, Compression terminal connectors comply with the requirements of UL486A and CSA C.22.2 NO. 65-93.



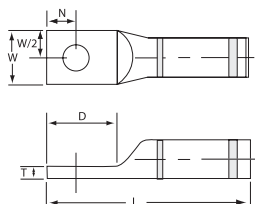
Compression Connectors

Copper Compression Terminals continues

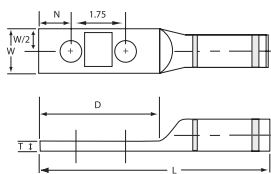
Selection Information: dimensions shown in inches (millimeters)



Catalog Number	Conductor	Stud Size	Dimensions				N	Color Code
			L	W	T	D		
One Hole, Short Barrel								
1099898-1	6 STR.	1/4	1.5	0.45	0.08	0.56	0.27	blue
1099898-2	4 STR.	1/4	1.5	0.50	0.09	0.56	0.27	gray
1099898-3	3 STR.	5/16	1.6	0.57	0.09	0.70	0.34	white
1099898-4	2 STR.	5/16	1.6	0.61	0.11	0.70	0.34	brown
1099898-5	1 STR.	1/4	1.6	0.68	0.10	0.56	0.27	green
1099898-6	1/0 STR.	5/16	1.7	0.74	0.12	0.70	0.34	pink
1099898-7	1/0 STR.	1/2	2.1	0.88	0.09	1.08	0.53	pink
1099898-8	2/0 STR.	3/8	1.9	0.83	0.12	0.83	0.41	black
1099898-9	3/0 STR.	1/2	2.2	0.91	0.13	1.08	0.53	orange
1-1099898-0	4/0 STR.	1/2	2.2	1.02	0.14	1.08	0.53	purple
1-1099898-1	250 MCM	1/2	2.4	1.11	0.16	1.08	0.53	yellow
1-1099898-2	350 MCM	1/2	2.5	1.27	0.18	1.08	0.53	red
1-1099898-3	500 MCM	1/2	3.2	1.54	0.23	1.30	0.65	brown
1-1099898-4	750 MCM	5/8	4.0	1.88	0.27	1.94	0.88	black
1-1099898-5	1000 MCM	5/8	4.9	2.16	0.32	2.12	0.94	white



One Hole, Long Barrel								
1099899-1	6 STR.	1/4	1.9	0.45	0.08	0.56	0.34	blue
1099899-2	4 STR.	1/4	1.9	0.50	0.09	0.56	0.38	gray
1099899-3	3 STR.	5/16	2.3	0.57	0.09	0.70	0.38	white
1099899-4	2 STR.	5/16	2.3	0.60	0.11	0.75	0.38	brown
1099899-5	1 STR.	5/16	2.4	0.68	0.10	0.75	0.27	green
1099899-6	1/0 STR.	5/16	2.4	0.74	0.12	0.75	0.27	pink
1099899-7	1/0 STR.	1/2	2.7	0.75	0.11	1.08	0.53	pink
1099899-8	2/0 STR.	3/8	2.7	0.82	0.12	0.88	0.44	black
1099899-9	3/0 STR.	1/2	2.9	0.91	0.13	1.08	0.53	orange
1-1099899-0	4/0 STR.	1/2	3.0	1.00	0.14	1.08	0.53	purple
1-1099899-1	250 MCM	1/2	3.2	1.09	0.16	1.12	0.56	yellow
1-1099899-2	300 MCM	1/2	3.6	1.19	0.16	1.12	0.56	white
1-1099899-3	350 MCM	1/2	3.7	1.28	0.18	1.12	0.56	red
1-1099899-4	400 MCM	5/8	4.2	1.38	0.19	1.50	0.75	blue
1-1099899-5	500 MCM	5/8	4.4	1.52	0.23	1.50	0.75	brown
1-1099899-6	500 MCM	1/2	4.2	1.54	0.23	1.30	0.65	brown
1-1099899-7	600 MCM	5/8	5.2	1.69	0.27	1.75	0.88	green
1-1099899-8	750 MCM	5/8	5.4	1.89	0.27	1.94	0.88	black
1-1099899-9	1000 MCM	5/8	6.0	2.17	0.32	2.12	0.94	white



Two-Hole NEMA, Long Barrel								
1099939-1	4 STR.	1/2	4.4	0.83	0.11	3.00	0.62	gray
1099939-2	3 STR.	1/2	4.4	0.83	0.11	3.00	0.62	white
1099939-3	2 STR.	1/2	4.5	0.82	0.11	3.00	0.62	brown
1099939-4	1 STR.	1/2	4.7	0.80	0.09	3.00	0.62	green
1099939-5	1/0 STR.	1/2	4.7	0.75	0.12	3.00	0.62	pink
1099939-6	2/0 STR.	1/2	4.8	0.82	0.12	3.00	0.62	black
1099939-7	3/0 STR.	1/2	4.8	0.90	0.12	3.00	0.62	orange
1099939-8	4/0 STR.	1/2	5.0	1.00	0.14	3.00	0.62	purple
1099939-9	250 MCM	1/2	5.0	1.09	0.16	3.00	0.62	yellow
1-1099939-0	300 MCM	1/2	5.4	1.18	0.16	3.00	0.62	white
1-1099939-1	350 MCM	1/2	5.4	1.27	0.18	3.00	0.62	red
1-1099939-2	500 MCM	1/2	5.7	1.53	0.23	3.00	0.62	brown
1-1099939-3	600 MCM	1/2	6.2	1.71	0.27	3.00	0.62	green
1-1099939-4	750 MCM	1/2	6.5	1.89	0.27	3.00	0.62	black
1-1099939-5	1000 MCM	1/2	6.8	2.16	0.33	3.00	0.62	white

Compression Connectors



Copper Compression Splices

- Uses industry-standard tooling for simple installation
- Industry-standard color coding system simplifies die selection
- Chamfered connector end allows cable to be inserted easily
- One-piece, seamless construction from electrolytic tough pitch (ETP) copper for superior electrical performance and mechanical operation
- Tin-plated for corrosion resistance and durability, and tempered for easy crimping

Copper compression splices are ideally suited for secondary power distribution in buildings, power plants, electrical equipment, and industrial applications. Connectors can be used on applications up to 35 kV, and meet the requirements of UL486A and CSA C22.2 No. 65-95 when applied with approved die sets. (See Instruction Sheet #408-8969 for approved listing of die sets.)

Copper compression splices are available to accommodate a range of cable sizes from 6 AWG through 1,000 MCM and are designed for splicing concentric, compact, or standard stranded copper conductors. These splices are offered from 6 AWG through 1,000 MCM with either a standard or long barrel.

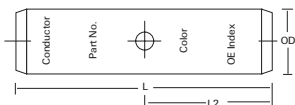
Compression crimping forms the splice and conductor into a strong, almost homogeneous unit, producing excellent conductivity, low temperature rise, and outstanding resistance to oxidation and corrosion.

Physical and Electrical Properties

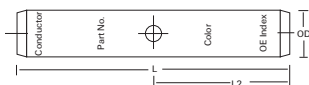
Material: ETP copper alloy C11000
 Plating: Electro tin plate
 Heat treating: Soft tempered
 Voltage rating: For applications up to 35 kV
 Consult shielded cable manufacturers stress relief instructions.

Agency approvals (when crimped with the approved die sets): Listed by Underwriters Laboratories, Inc. File No. E13288, Compression splice connectors comply with the requirements of UL486A and CSA C.22.2 NO. 65-93.

Selection Information: dimensions shown in inches (millimeters)



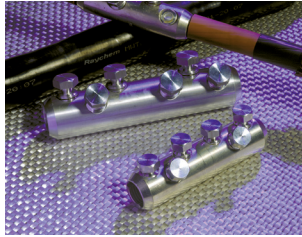
Catalog Number	Conductor	Length		Outside Diameter(D)	Color Code
		(L)	(L/2)		
Standard Barrel Splice					
1443402-1	#6 STR	1.75	0.83	0.292	Blue
1443402-2	#4 STR	2.00	0.96	0.340	Gray
1443402-3	#3 STR	2.09	1.00	0.377	White
1443402-4	#2 STR	2.09	1.00	0.418	Brown
1443402-5	#1 STR	2.09	1.00	0.462	Green
1443402-6	1/0 STR	2.09	1.00	0.515	Pink
1443402-7	2/0 STR	2.18	1.05	0.583	Black
1443402-8	3/0 STR	2.32	1.11	0.618	Orange
1443402-9	4/0 STR	2.32	1.12	0.691	Purple
1-1443402-0	250 MCM	2.50	1.19	0.753	Yellow
1-1443402-1	300 MCM	2.50	1.19	0.815	White
1-1443402-2	350 MCM	2.62	1.25	0.844	Red
1-1443402-3	400 MCM	2.75	1.31	0.953	Blue
1-1443402-4	500 MCM	3.15	1.50	1.064	Brown
1-1443402-5	600 MCM	3.25	1.55	1.185	Green
1-1443402-6	750 MCM	3.75	1.80	1.302	Black
1-1443402-7	1000 MCM	4.26	2.06	1.504	White



Catalog Number	Conductor	Length		Outside Diameter(D)	Color Code
		(L)	(L/2)		
Long Barrel Splice					
1443403-1	#6 STR	2.41	1.16	0.292	Blue
1443403-2	#4 STR	2.41	1.16	0.340	Gray
1443403-3	#3 STR	2.53	1.22	0.377	White
1443403-4	#2 STR	2.65	1.28	0.418	Brown
1443403-5	#1 STR	2.91	1.41	0.462	Green
1443403-6	1/0 STR	2.91	1.41	0.515	Pink
1443403-7	2/0 STR	3.15	1.53	0.583	Black
1443403-8	3/0 STR	3.15	1.53	0.618	Orange
1443403-9	4/0 STR	3.39	1.63	0.691	Purple
1-1443403-0	250 MCM	3.39	1.63	0.753	Yellow
1-1443403-1	300 MCM	4.13	2.00	0.815	White
1-1443403-2	350 MCM	4.13	2.00	0.844	Red
1-1443403-3	400 MCM	4.38	2.13	0.953	Blue
1-1443403-4	500 MCM	4.62	2.23	1.064	Brown
1-1443403-5	600 MCM	5.50	2.67	1.185	Green
1-1443403-6	750 MCM	5.88	2.86	1.302	Black
1-1443403-7	1000 MCM	6.12	2.96	1.504	White



ShearBolt Connectors



Aluminum ShearBolt Connectors #2 AWG Compact to 1000 kcmil Standard

Tyco Electronics' new line of Aluminum ShearBolt connectors are range-taking mechanical connectors. Just six connectors will accommodate a wide range of aluminum and copper conductors from #2 AWG compact stranded to 1000 kcmil standard stranded class B. The primary application of Aluminum ShearBolt connectors is for underground splices up to 35kV.

ShearBolt connectors are ideally suited for aluminum to aluminum, aluminum to copper and copper to copper applications making them the universal connector solution. Please refer to test report matrix.



The only tool required to install the connector is a standard ratchet wrench with the appropriate sized hexagonal sockets. The connector design incorporates shear head bolts, which ensures that the correct torque is applied to each bolt and consequently the optimal contact force is generated to minimize connection resistance. A holding tool is recommended to avoid core bending of conductors and can be ordered from Tyco Electronics (#188072-000).

The Tyco Electronics cordless impact wrench (#CA7469-000) can also be used to install the connector. This convenient and quick tool has been tested and qualified to install ShearBolt connectors.

The solid center stop (available on certain sizes) inside the connector ensures proper conductor positioning and eliminates oil leakage when connecting oil impregnated conductors.

Two removable inserts in the connector body centralize smaller conductor sizes. For larger sizes, inserts are not required and are easily removed with a standard screwdriver.

ShearBolt connectors meet the electrical requirements (Class A) of ANSI C119.4-2004 and exceed the mechanical requirements of a class 3 connector by a large margin of safety.

ShearBolt connectors are designed to be compatible with Tyco Electronics' Raychem brand cable accessories and insulation products. For a complete list of cable accessories please visit our web site, <http://energy.tycoelectronics.com>. For other applications, please consult the manufacturer's installation instructions for compatibility.

Feature	Advantage	Benefit
Wide Application Range	Only six connectors needed to accommodate all cable sizes from #2 AWG compact strand to 1,000 kcmil standard stranded	Reduces inventory and prevents accidental use of the wrong connector
Hexagonal shear head bolts	Installs with simple ratchet-type socket wrench	Installs easily and quickly in confined areas
No crimp tooling or dies required	Installs easily using readily available tools	Ease of installation. Installation tool is no longer a source of failure. Reduces tool and die inventory, maintenance and cost
Compact, smooth body design	Compatible with Raychem brand heat-shrink and cold-applied products	An engineered system providing years of trouble-free performance
Torque-controlled shear head bolts	Sheared head gives positive indication of correct installation	Low contact resistance gives superior electrical performance
Heavy-duty design	Connector bodies are made of high strength, tin-plated aluminum alloy	Provides long service life under normal operation conditions with reserve capacity for emergency loading conditions
Centering inserts for small diameter conductors	Properly positions small conductors for proper connection	Minimizes voltage stresses at transition from connector body to cable insulation
Knurled Inner bore	Unique profile breaks through oxides and grips conductor strands	Generates low contact resistance and increases conductor pullout rating
Solid center stop	Eliminates oil leakage and ensures proper conductor position	Accommodates transition applications from polymeric to oil impregnated conductors

ShearBolt Connectors

Selection Information: dimensions shown in inches (millimeters)

Catalog Number	Conductor Range	OD Range	Length	Connector OD	Stop
ASBS-2-3/0	2 AWG compact stranded to 3/0 AWG standard stranded	.268 - .470 (6.8 - 11.9mm)	2.5 (65mm)	.95 (24mm)	Disc
ASBS-2-350	2 AWG compact stranded to 350 kcmil standard stranded	.268 - .681 (6.8 - 17.3mm)	3.9 (100mm)	1.22 (31mm)	Solid
ASBS-3/0-500	3/0 AWG compact stranded to 500 kcmil standard stranded	.423 - .813 (10.7 - 20.6mm)	4.9 (125mm)	1.3 (34mm)	Disc
ASBS-500-750	500 kcmil compact stranded to 750 kcmil standard stranded	.736 - .998 (18.7 - 25.3mm)	6 (152mm)	1.52 (39mm)	Solid
ASBS-350-750	350 kcmil compact stranded to 750 kcmil standard stranded	.616 - .998 (15.6 - 25.3mm)	6.7 (170mm)	1.67 (42.5mm)	Solid
ASBS-600-1000	600 kcmil compact stranded to 1000 kcmil standard stranded	.813 - 1.152 (20.6 - 29.2 mm)	8 (203mm)	1.75 (44.4mm)	Solid

Please request Data Sheet # 1654972 for our line of Copper ShearBolt connectors.

Application Information

Catalog Number	Installation Instruction Number (inches)	Socket Size	Test Number	Conductor Combination
ASBS-2-3/0	408-8990	1/2	Note 1	Note 1
ASBS-2-350	408-8990	11/16	502-47292(I)	4/0 kcmil Cu to 350 kcmil AAC
			502-47300(I)	350 kcmil AAC to 350 kcmil AAC
			502-47340(I)	350 kcmil CU to 350 kcmil CU
ASBS-3/0-500	408-8990	3/4	502-47331(I)	500 kcmil AAC to 500 kcmil AAC
			502-47331(I)	500 kcmil CU to 500 kcmil CU
ASBS-350-750	408-8990	7/8	502-47329(I)	750 kcmil AAC to 750 kcmil AAC
ASBS-500-750	408-8990	3/4	502-47288(I)	500 kcmil CU to 750 kcmil CU
			502-47294(I)	750 kcmil ACC to 750 kcmil AAC
			502-47357(I)	750 kcmil AAC strandfill to 750 kcmil AAC strandfill
ASBS-600-1000	408-8990	7/8	502-47289(I)	750 kcmil CU to 1000 kcmil AAC
			502-47344(I)	1000 kcmil CU to 1000 kcmil CU
			502-47305(I)	1000 kcmil AAC to 1000 kcmil AAC

Note 1: This part number was not tested, as ANSI C119.4 allows a smaller size connector of the same design to be added without additional testing.

Please contact your Tyco Electronics representative for conductor sizes or types not listed in this catalog.

ShearBolt Connectors



Copper ShearBolt Connectors 2/0 AWG Compact to 750 kcmil Compact

Tyco Electronics' line of Copper ShearBolt connectors are range-taking, mechanical connectors that will accommodate a wide range of copper cables from 2/0 AWG compact stranded to 750 kcmil compact stranded. The primary application is for underground splices up to 35 kV.

The tool required to install the connector is a standard ratchet wrench with hexagonal sockets. The connector design incorporates shear head bolts, which ensures that the correct torque is applied to each bolt and consequently to the end of each conductor. A holding tool is recommended to avoid core bending of conductors and can be ordered separately (#188072-000).



The Tyco Electronics cordless impact wrench (#CA7469-000) can also be used to install the connector. This tool offers convenience and speed and has been tested and qualified to install ShearBolt connectors. It eliminates the need for a holding tool. Please refer to accessory and tool section for ordering information.

The connector is supplied with two copper inserts assembled into the connector body to center small conductor sizes. For larger sizes, inserts are not required and must be removed with a standard screwdriver. Please see the installation table for details. An oxide-inhibiting joint compound is factory-applied in the barrel of the connector to provide low initial contact resistance, seal out air and moisture, prevent oxidation/corrosion, and maintain a reliable connection for the life of the installation.

The connectors have been electrically tested to the class A requirements of ANSI C119.4 and mechanically rated at a pull out force of 2300 lbs, for the 2/0 AWG to 500 kcmil version and 3000 lbs, for the 300 kcmil to 750 kcmil version. Engineering Test Reports are available upon request.

Copper ShearBolt connectors have an impermeable oil block for connecting paper-insulated cables.

Catalog Number	Cable Range	Conductor OD Range	Length	OD	Connector Type
CSBS-20C-500C-SOS (solid oil stop)	2/0 AWG compact to 500 kcmil compact	.376 to .736 (0.95 cm to 1.87 cm)	4 (10.10 cm)	1.2 (3.05 cm)	Center cable block, impermeable to oil, recommended for oil impregnated cables
CSBS-300C-750C-SOS (solid oil stop)	300 kcmil compact to 750 kcmil compact	.570 to .945 (1.45 cm to 2.40 cm)	5.00 (12.70 cm)	1.45 (3.68 cm)	Center cable block, impermeable to oil, recommended for oil impregnated cables

Installation

Copper ShearBolt connectors use four brass shear head bolts, two on each side of the center stop. A torque wrench is not required. The only tool required is a standard ratchet wrench with a hexagonal socket. Refer to the following installation table.

Catalog Number	Installation Sheet Number	Socket Size	Application Guide
CSBS-20C-500C-SOS	408 -8894	11/16	Remove inserts for cable sizes equal to or greater than 300 kcmil compact.
CSBS-300C-750C-SOS	408 -8863	3/4	Remove inserts for cable sizes equal to or greater than 500 kcmil compact.

Engineering Test Information

#502-47260 (300 kcmil compact) - CSBS-300C-750C
 #502-47257 (750 kcmil compact) - CSBS-300C-750C
 #502-47265 (500 kcmil compact) - CSBS-20C-500C
 Available upon request

Please contact your Tyco Electronics representative for conductor sizes or types not listed in this catalog.

Insulation Piercing Connectors



Insulation Displacement Splice Tap Connectors

Insulation displacement splice tap connectors provide a reliable method for making branch and through wire taps to solid and stranded wires up to 300 volts. The splice tap uses insulation displacement, self-stripping contacts for faster and easier tapping than twist-on or other type splices.

The ELECTRO-TAP connector uses insulation displacement type self-stripping contacts which provide fast, easy tapping. Creates a reliable connection on solid or stranded wires 20-10 AWG (.160-.195 max. insulation diameter). Requires no special tooling; can be installed with ordinary pliers.

Each ELECTRO-TAP connector is constructed of durable nylon with self-stripping, tin-plated brass contacts. These connectors have a wide range of wiring applications in low- and high-voltage environments.

Materials

Housing - color-coded nylon
Contact - tin-plated brass

Applications

Control Panels
Low-voltage switching systems
Plant maintenance
Harness Repair

Easy two-step operation

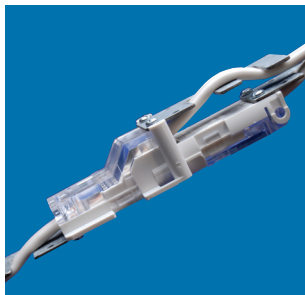
1. Butt tap-wire against wire stop, fold top cover half over to meet base, and squeeze with pliers until latch locks.
2. Lay run-wire in remaining section, fold over to meet base, and squeeze to latch as before.

Selection information

Catalog Number	Wire Range	Std. Pack
CPGI-53440-9	20-18 AWG	5
CPGI-53440-9-Bulk	20-18 AWG	100
CPGI-53440-7	18-14 AWG	5
CPGI-53440-7-Bulk	18-14 AWG	100
CPGI-735411	12-10 AWG	5
CPGI-735411-Bulk	12-10 AWG	100



Insulation Piercing Connectors



Tap & Splice



Splice

Non-Metallic Cable Splice & Tap Connectors

These splice and tap kits provide a fast and reliable method for splicing or tapping 2 wire w/ground and splicing 3 wire w/ground non-metallic cables up to 300 volts. They are designed and approved for use in rework within existing structures. Splice and Tap Kits also eliminate wire nuts for installation and replace the conventional method for adding a splice or tap for non-metallic cable without the need for exposed and unsightly junction boxes. NEC compliant-Article 334-40b, 2005 and 2008 NEC.

Non-metallic (NM) splice and tap technology provides a fast and reliable way to connect 12 and 14 AWG (3.31 or 2.08 mm²) circuits using non-metallic cable.

Agency Approvals

Listed by Underwriters Laboratories Inc. (UL), File E57250
 Meets 2005 and 2008 National Electrical Code (NEC) Articles 334-40 (B), 545-13, 550-15K, and 551-47 (O)
 UL Listed to Canadian safety standards, File E57250
 Meets CSA C22.1-09, "Canadian Electrical Code, Part 1" (CEC), Section 12, Rule 12-522 and Section 70.

Features

- Eliminates junction boxes and wire nuts
- Fast and simple to install
- Insulation displacement contacts eliminate stripping individual conductors
- Tap into existing circuits without cutting wire
- No special tools required
- Polarized for proper mating
- Approved for residential and commercial uses
- Clear cover allows visual inspection of termination

Voltage rating: 300 VAC RMS
 Temperature rating: 105°C
 Current rating: 20 A

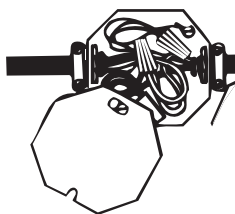
Selection information

Catalog Number	Wire Range	Description	Std. Pack
CPGI-1116377-2	12-14 AWG	Splice Kit for 2-conductor	5
CPGI-1116377-2-Bulk	12-14 AWG	Splice Kit for 2-conductor	100
CPGI-208169-2	12-14 AWG	Splice Kit for 3-conductor	5
CPGI-208169-2-Bulk	12-14 AWG	Splice Kit for 3-conductor	100
CPGI-1116415-2	12-14 AWG	Tap & Splice Kit for 2-conductor	5
CPGI-1116415-2-Bulk	12-14 AWG	Tap & Splice Kit for 2-conductor	100

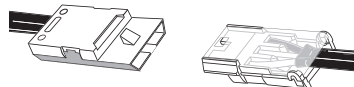


Splicing

Conventional Splicing Method

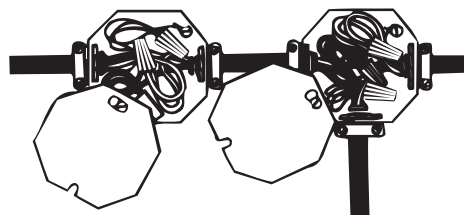


Non-Metallic Splicing Method



Tapping

Tapping Method



Tapping Method



Insulation Piercing Connectors



Insulation Piercing Connectors

Insulation Piercing Connectors (IPCs) provide electrical connection for aluminum and copper stranded conductors without stripping and removing insulation from the conductors. During installation the IPC establishes electrical contact, protects, and seals the contact interface, and electrically insulates the connection, eliminating the need for weatherproofing and re-insulating.

Features

- Wide conductor range, bare and insulated cables
- Suitable for aluminum and copper conductors
- Tin-plated copper alloy contacts pierce insulation sheath
- Single bolt application with ring washers provide residual contact force
- Torque-control nut for precise pressure on conductor and insulation
- Operating temperature from -40°C to +55° C
- Quick, reliable, and safe connections on energized conductors (not under load).

Selection information: dimensions show in inches (millimeters)

Catalog Number	Type	Main Al/Cu		Tap Al/Cu		Dimensions		Std. Pack
		Min. AWG	Max. AWG	Min. AWG	Max. AWG	Shear Head	Weight (g)	
SIML-1727742-1	P3X-4/0	4	4/0 Al-2/0 Cu	4	4/0 Al-2/0 Cu	9/16" Install	202	20
		(25)	(95-70)	(25)	(95-70)	3/4" Remove		
SIML-1-708052-1	KZEP-4/0	6	4/0	14	10	10mm	54	50
		(16)	(95)	(1,5)	(6)			

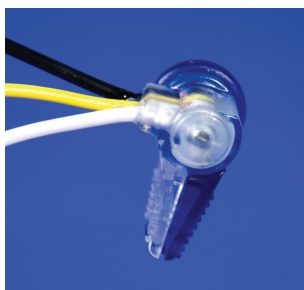
Insulation Piercing Connectors



SNAP-N-LOK Wire Connectors

The SNAP-N-LOK water-resistant splice and tap connectors are a quick and simple single-piece solution for underground electrical systems. Connectors are pre-filled with a water-resistant sealant which provides moisture and corrosion protection. SNAP-N-LOK connectors do not require any special tools and their single piece design prevents losing additional pieces. These connectors can be used underground or above grade for lighting, irrigation and/or power splices and taps up to 300V. Re-entry allows the installer to add conductors or change wiring schemata without cutting the wires. Three connector sizes provide cost-effective simple installations ranging from #20 - #10 AWG solid or stranded wire combinations. Please see descriptions below for wire and package configurations.

Selection information

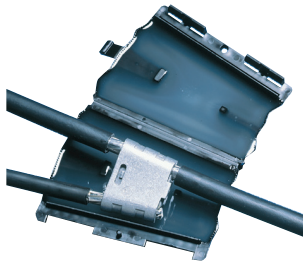


Catalog Number	Description	Std. Pack
CPGI-SNL-1-20-16-B-K3	SNAP-N-LOK Water-Resistant Connectors- Any Combination of #16-#20 Solid or Stranded Wire	3/Clam
CPGI-SNL-1-20-16-B-J30	SNAP-N-LOK Water-Resistant Connectors- Any Combination of #16-#20 Solid or Stranded Wire	30/Jar
CPGI-SNL-1-20-16-B-B100	SNAP-N-LOK Water-Resistant Connectors- Any Combination of #16-#20 Solid or Stranded Wire	100/Bag
CPGI-SNL-2-18-12-Y-K2	SNAP-N-LOK Water-Resistant Connectors- #12 and #14 Solid Wire with one #16, #18, or #20 Solid or Stranded Wire	2/Clam
CPGI-SNL-2-18-12-Y-J15	SNAP-N-LOK Water-Resistant Connectors- #12 and #14 Solid Wire with one #16, #18, or #20 Solid or Stranded Wire	15/Jar
CPGI-SNL-2-18-12-Y-B100	SNAP-N-LOK Water-Resistant Connectors- #12 and #14 Solid Wire with one #16, #18, or #20 Solid or Stranded Wire	100/Bag
CPGI-SNL-3-18-10-CP-K2	SNAP-N-LOK Water-Resistant Connectors- 2 #10 or #12 Stranded Wires and 1 #16 or #18	2/Clam
CPGI-SNL-3-18-10-CP-J12	SNAP-N-LOK Water-Resistant Connectors- 2 #10 or #12 Stranded Wires and 1 #16 or #18	12/Jar
CPGI-SNL-3-18-10-CP-B100	SNAP-N-LOK Water-Resistant Connectors- 2 #10 or #12 Stranded Wires and 1 #16 or #18	100/Bag



Wire Connector
3NHT

Wedge Pressure Connectors



Service Entrance Connector System MINIWEDGE Connectors

MINIWEDGE connectors incorporate wedge pressure technology to provide an easily applied and reliable aluminum-to-aluminum/aluminum-to-copper connection for service entrance and street light applications. The color-coded packaging simplifies connector selection for terminating standard stranded and compacted ACSR, AAAC, AAC and copper conductors.

MINIWEDGE connectors are for service entrance applications from #6-to-#2 through 2/0-to-4/0. To enhance the mechanical and electrical performance of the service entrance connector the AMP GEO-TAC surface is added to the inside of the "C" component during the manufacturing process. The GEO-TAC surface provides superior grip on the conductor to overcome the possibility of failure due to vibration and also increase the contact surface for greater electrical performance under changing load conditions.

MINIWEDGE connectors are also offered for typical street light applications for a range of sizes to connect from #14, #12, and #10 street light tap wire up to a 336.4 thru conductor. The designed controlled force exerted by the MINIWEDGE connector does not damage the conductor and it can be easily removed without loss of cable length.

MINIWEDGE connectors offer simple installations anytime, anywhere, without the need for special tools and complicated die selection. The aluminum alloy "C" and wedge components are installed with parallel jaw pliers. A quick visual inspection of the locking tab in the inspection window verifies the connection is complete and ready for installation of the insulated cover, if required. Factory applied inhibitor is applied to all MINIWEDGE connectors to prolong the life of the connection in its service environment.

- No special tools
- Removable without conductor loss or damage
- Unique GEO-TAC surface in "C" provides higher tensile and vibration resistance
- Conductor range #14 AWG to 336.4 kcmil
- Service entrance and street light applications
- Separate insulating covers (See GHFC-MW on page 2-30)
- Color-coded for easy connector selection
- Wedge pressure reliability
- Aluminum to aluminum, aluminum to copper
- Suitable for guy, messenger and fence grounding (not for direct burial)

Approvals

- Meets ANSI C119.4
- RUS

Note: MINIWEDGE connectors are not recommended for copper-to-copper connections. The MINIWEDGE connector with GHFC MW cover is pictured.



Certified
LR7189*
*Part Number
Series
83623 & 83630

MINIWEDGE Connectors - Wire Diameter Limits

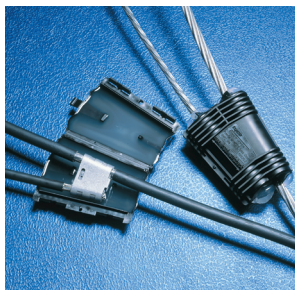
Catalog Numbers	Wire Marking Groove		Sum of Diameters		Groove 1 Diameter		Groove 2 Diameter	
	1	2	Max.	Min.	Max.	Min.	Max.	Min.
Core								
83592-1	1/0	1/0	.796 (20.22)	.696 (17.68)	.398 (10.11)	.315 (8.00)	.398 (10.11)	.315 (8.00)
83592-2	1/0	#2	.723 (18.36)	.618 (15.70)	.398 (10.11)	.315 (8.00)	.336 (8.53)	.260 (6.60)
83592-3	1/0	#4	.656 (16.66)	.549 (13.94)	.398 (10.11)	.315 (8.00)	.268 (6.81)	.205 (5.21)
83592-4	1/0	#6	.602 (15.29)	.498 (12.65)	.398 (10.11)	.315 (8.00)	.215 (5.46)	.138 (3.51)
83592-5	#2	#2	.650 (16.51)	.550 (13.97)	.336 (8.53)	.260 (6.60)	.336 (8.53)	.260 (6.60)
83592-6	#2	#4	.583 (14.81)	.481 (12.22)	.336 (8.53)	.260 (6.60)	.268 (6.81)	.205 (5.21)
83592-7	#2	#6	.529 (13.44)	.429 (10.90)	.336 (8.53)	.260 (6.60)	.215 (5.46)	.138 (3.51)
83592-8	#4	#4	.516 (13.11)	.416 (10.57)	.268 (6.81)	.205 (5.21)	.268 (6.81)	.205 (5.21)
83592-9	#4	#6	.462 (11.73)	.362 (9.19)	.268 (6.81)	.205 (5.21)	.215 (5.46)	.138 (3.51)
1-83592-0	#6	#6	.408 (10.36)	.308 (7.82)	.215 (5.46)	.138 (3.51)	.215 (5.46)	.138 (3.51)
1-83592-1	1/0 SB	1/0 SB	.752 (19.10)	.652 (16.56)	.398 (10.11)	.315 (8.00)	.398 (10.11)	.315 (8.00)
1-83592-2	1/0 SB	#2 SB	.670 (17.02)	.570 (14.48)	.398 (10.11)	.315 (8.00)	.336 (8.53)	.260 (6.60)
1-83592-3	#2 SB	#2 SB	.600 (15.24)	.500 (12.70)	.336 (8.53)	.260 (6.60)	.336 (8.53)	.260 (6.60)

Wedge Pressure Connectors

Catalog Numbers	Wire Marking Groove		Sum of Diameters		Groove 1 Diameter		Groove 2 Diameter	
	1	2	Max.	Min.	Max.	Min.	Max.	Min.
Service Connectors								
83631-1	4/0	#2	.888 (22.56)	.788 (20.02)	.570 (14.48)	.473 (12.01)	.336 (8.53)	.260 (6.60)
83631-2	4/0	1/0	.961 (24.41)	.861 (21.87)	.570 (14.48)	.473 (12.01)	.398 (10.11)	.315 (8.00)
83631-3	4/0	2/0	1.010 (25.65)	.907 (23.04)	.570 (14.48)	.473 (12.01)	.470 (11.94)	.375 (9.53)
83631-4	3/0	#2	.827 (21.01)	.731 (18.57)	.515 (13.08)	.420 (10.67)	.336 (8.53)	.260 (6.60)
83631-5	3/0	1/0	.900 (22.86)	.809 (20.55)	.515 (13.08)	.420 (10.67)	.398 (10.11)	.315 (8.00)
83631-6	3/0	2/0	.949 (24.10)	.849 (21.56)	.515 (13.08)	.420 (10.67)	.470 (11.94)	.375 (9.53)
83631-7	2/0	#2	.772 (19.61)	.682 (17.32)	.470 (11.94)	.375 (9.53)	.336 (8.53)	.260 (6.60)
83631-8	2/0	1/0	.845 (21.46)	.760 (19.30)	.470 (11.94)	.375 (9.53)	.398 (10.11)	.315 (8.00)
83631-9	2/0	2/0	.894 (22.71)	.800 (20.32)	.470 (11.94)	.375 (9.53)	.470 (11.94)	.375 (9.53)
1-83631-1	4/0 SB	#2 SB	.820 (20.83)	.720 (18.29)	.570 (14.48)	.473 (12.01)	.336 (8.53)	.260 (6.60)
1-83631-2	4/0 SB	1/0 SB	.901 (22.89)	.811 (20.60)	.570 (14.48)	.473 (12.01)	.398 (10.11)	.315 (8.00)
1-83631-3	4/0 SB	2/0 SB	.942 (23.93)	.851 (21.62)	.570 (14.48)	.473 (12.01)	.470 (11.94)	.375 (9.53)
1-83631-4	3/0 SB	#2 SB	.756 (19.20)	.660 (16.76)	.515 (13.08)	.420 (10.67)	.336 (8.53)	.260 (6.60)
1-83631-5	3/0 SB	1/0 SB	.837 (21.26)	.759 (19.28)	.515 (13.08)	.420 (10.67)	.398 (10.11)	.315 (8.00)
1-83631-6	3/0 SB	2/0 SB	.878 (22.30)	.799 (20.29)	.515 (13.08)	.420 (10.67)	.470 (11.94)	.375 (9.53)
1-83631-7	2/0 SB	#2 SB	.706 (17.93)	.620 (15.75)	.470 (11.94)	.375 (9.53)	.336 (8.53)	.260 (6.60)
1-83631-8	2/0 SB	1/0 SB	.787 (19.99)	.700 (17.78)	.470 (11.94)	.375 (9.53)	.398 (10.11)	.315 (8.00)
1-83631-9	2/0 SB	2/0 SB	.828 (21.03)	.740 (18.80)	.470 (11.94)	.375 (9.53)	.470 (11.94)	.375 (9.53)
Large Asymmetrical StreetLight								
2-83623-0	336.4	#4	.924 (23.47)	.822 (20.88)	.675 (17.15)	.590 (14.99)	.268 (6.81)	.205 (5.21)
1-83623-9	336.4	#6	.870 (22.10)	.771 (19.58)	.675 (17.15)	.590 (14.99)	.215 (5.46)	.138 (3.51)
1-83623-8	336.4	#8	.828 (21.03)	.725 (18.42)	.675 (17.15)	.590 (14.99)	.198 (5.03)	.115 (2.92)
1-83623-7	336.4	#10 - #14	.782 (19.86)	.673 (17.09)	.675 (17.15)	.590 (14.99)	.125 (3.18)	.055 (1.40)
1-83623-6	266.8	#4	.867 (22.02)	.788 (20.02)	.620 (15.75)	.540 (13.72)	.268 (6.81)	.205 (5.21)
1-83623-5	266.8	#6	.813 (20.65)	.737 (18.72)	.620 (15.75)	.540 (13.72)	.215 (5.46)	.138 (3.51)
1-83623-4	266.8	#8	.771 (19.58)	.691 (17.55)	.620 (15.75)	.540 (13.72)	.198 (5.03)	.115 (2.92)
1-83623-3	266.8	#10 - #14	.725 (18.42)	.639 (16.23)	.620 (15.75)	.540 (13.72)	.125 (3.18)	.055 (1.40)
1-83623-2	4/0	#4	.821 (20.85)	.720 (18.29)	.570 (14.48)	.473 (12.01)	.268 (6.81)	.205 (5.21)
1-83623-1	4/0	#6	.767 (19.48)	.669 (16.99)	.570 (14.48)	.473 (12.01)	.215 (5.46)	.138 (3.51)
1-83623-0	4/0	#8	.725 (18.42)	.623 (15.82)	.570 (14.48)	.473 (12.01)	.198 (5.03)	.115 (2.92)
83623-9	4/0	#10 - #14	.679 (17.25)	.571 (14.50)	.570 (14.48)	.473 (12.01)	.125 (3.18)	.055 (1.40)
83623-8	3/0	#4	.760 (19.30)	.662 (16.81)	.515 (13.08)	.420 (10.67)	.268 (6.81)	.205 (5.21)
83623-7	3/0	#6	.706 (17.93)	.611 (15.52)	.515 (13.08)	.420 (10.67)	.215 (5.46)	.138 (3.51)
83623-6	3/0	#8	.664 (16.87)	.565 (14.35)	.515 (13.08)	.420 (10.67)	.198 (5.03)	.115 (2.92)
83623-5	3/0	#10 - #14	.618 (15.70)	.513 (13.03)	.515 (13.08)	.420 (10.67)	.125 (3.18)	.055 (1.40)
83623-4	2/0	#4	.705 (17.91)	.613 (15.57)	.470 (11.94)	.375 (9.53)	.268 (6.81)	.205 (5.21)
83623-3	2/0	#6	.651 (16.54)	.562 (14.27)	.470 (11.94)	.375 (9.53)	.215 (5.46)	.138 (3.51)
83623-2	2/0	#8	.609 (15.47)	.516 (13.11)	.470 (11.94)	.375 (9.53)	.198 (5.03)	.115 (2.92)
83623-1	2/0	#10 - #14	.563 (14.30)	.464 (11.79)	.470 (11.94)	.375 (9.53)	.125 (3.18)	.055 (1.40)
Small StreetLight								
83630-1	1/0	#10 - #14	.514 (13.06)	.400 (10.16)	.398 (10.11)	.315 (8.00)	.125 (3.18)	.055 (1.40)
83630-2	1/0	#8	.560 (14.22)	.460 (11.68)	.398 (10.11)	.315 (8.00)	.198 (5.03)	.115 (2.92)
83630-3	#2	#10 - #14	.441 (11.20)	.332 (8.43)	.336 (8.53)	.260 (6.60)	.125 (3.18)	.055 (1.40)
83630-4	#2	#8	.487 (12.37)	.384 (9.75)	.336 (8.53)	.260 (6.60)	.198 (5.03)	.115 (2.92)
83630-5	#4	#10 - #14	.374 (9.50)	.274 (6.96)	.268 (6.81)	.205 (5.21)	.125 (3.18)	.055 (1.40)
83630-6	#4	#8	.420 (10.67)	.320 (8.13)	.268 (6.81)	.205 (5.21)	.198 (5.03)	.115 (2.92)
83630-7	#6	#10 - #14	.320 (8.13)	.220 (5.59)	.215 (5.46)	.138 (3.51)	.125 (3.18)	.055 (1.40)
83630-8	#6	#8	.366 (9.30)	.266 (6.76)	.215 (5.46)	.138 (3.51)	.198 (5.03)	.115 (2.92)
83630-9	#8	#10 - #14	.278 (7.06)	.178 (4.52)	.198 (5.03)	.115 (2.92)	.125 (3.18)	.055 (1.40)
1-83630-0	#8	#8	.324 (8.23)	.224 (5.69)	.198 (5.03)	.115 (2.92)	.198 (5.03)	.115 (2.92)

Please Contact Inside Sales Support for Additional Product Selection.

Wedge Pressure Connectors



Gel Cover for use with MINIWEDGE Connectors GHFC MW Closure

The GHFC MW closure was specifically designed to provide sealing and corrosion protection for MINIWEDGE connectors — installed overhead for corrosion protection or in direct buried applications up to 1000 volts.

In either case, it is as easy as simply snapping the closure over the connector.

These closures are suitable for aluminum-to-aluminum and aluminum-to-copper connections. The GHFC MW gel closure fits most MINIWEDGE connector applications.

Selection Information: dimensions shown in inches (millimeters)

Catalog Number	Description	Main	Tap	Std. Pack
GHFC-MW	Gel cover for sealing and insulating	#8-4/0 (10-95)	#14-2/0 (1.5-70)	10

Ordering information

1. Package does not contain MINIWEDGE connectors, which must be ordered separately
2. Standard package: 10kits/box



SHEAR-LOK Connectors Copper Tap/Grounding Connectors

SHEAR-LOK copper tap/grounding connector was developed for applications in the power utility industry where connectors are required to withstand mid-range (20 kA symmetrical RMS) magnitudes of fault current. The SHEAR-LOK connectors utilize Wedge Pressure Technology and controlled torque drive bolts to provide easily-applied and highly-reliable ground rod connections.

This family of connectors is ideal for Telco and CATV applications where connections must be made between conductor and rods, specifically in the range of #10, #6, #4, to both 5/8" and 3/4" copper clad galvanized rods.

- Wedge Pressure Technology
- Shear-head bolt—controlled torque
- Removable without conductor damage
- No special tools
- Application not inhibited by disfigured ground rod end
- Taps into existing ground conductors

Typical Applications

- Industrial/residential service grounds
- Pole grounds transmission line grounding
- Telco distribution, CATV grounds



Grounding & Bonding Including Direct Burial E69905
Certified LR7189

Selection Information: dimensions shown in inches (millimeters)

Catalog Number	Conductor	Connects Rod To
83000-1	1/0 Str.	5/8" Cu Clad Dia .562 [14.30]
80408-2	#6 Sol. or Strd. or #4 Sol. or Strd.	5/8" Cu Clad Dia .562 [14.30]
80408-2	#6 Sol. or Strd.	5/8" Galv. Dia .562 [15.88]
80408-3	#6 Sol. or Strd.	3/4" Cu Clad Dia .682 [17.32]
80408-4	#4 Sol. or Strd.	3/4" Cu Clad Dia .682 [17.32]
80408-4	#6 Sol. or Strd.	3/4" Galv. Dia .750 [19.05]
80408-5	#4 Sol. or Strd.	3/4" Galv. Dia .750 [19.05]
80408-6	1/0 Str.	3/4" Cu Clad Dia .682 [17.32]
80408-7	#6 Sol., #8 Sol., Strd. or #10 Sol., Strd.	5/8" Cu Clad Dia .562 [14.30]

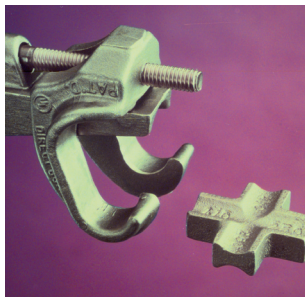
*UL Listed File No.E69905 Grounding & Bonding Including Direct Burial

*CSA Certified

Technical Document

Instruction Sheet 408-9921

Wedge Pressure Connectors



Copper Connector Grounding System

WRENCH-LOK Grounding Connector

The WRENCH-LOK electrical grounding connector system provides a superior, fool-proof connection while reducing application time dramatically. The WRENCH-LOK grounding connector system uses a specially designed shear-head bolt to drive a tapered wedge into the connector body. All that's needed to apply it is a common ratchet or socket wrench. When the connection is tightened to the proper torque, the bolt head shears off, giving a positive visual indication of a perfect connection. It's that simple and sure.

WRENCH-LOK grounding connections require no special training, no special tools, no auxiliary power, and they can be installed in any weather. The product line offers options to connect conductor-to-conductor or conductor-to-ground rod. There is no need to change connector styles, molds or tooling.

Selection Information:

Catalog Number	Description		Conductor to Ground Rod
	Small Body	Standard Round	
83747-1	#2 sol., str.	#2 sol., str.	2 - #2
83747-2	1/0, 2/0 str.	#2 sol., str.	1/0, 2/0 - #2
83747-3	1/0, 2/0 str.	1/0 str.	1/0, 2/0 - 1/0
	3/0 str.	#2 sol., str.	3/0 - #2
83747-4	2/0 str.	2/0 str.	2/0 - 2/0
	3/0 str.	1/0 str.	3/0 - 1/0
	4/0 str.	#2 sol., str.	4/0, 250 - #2
83749-1	3/0 str.	#2 str.	3/0 - 2/0
	4/0 str.	1/0 str.	4/0 - 1/0
	250 str.	#2 sol., str.	300 - #2
83749-2	3/0 str.	3/0 str.	3/0 - 3/0
	4/0 str.	2/0 str.	4/0, 250 - 2/0
	250 str.	1/0 str.	250/300 - 1/0
	300 str.	#2 sol., str.	350 - #2
83749-3	4/0 str.	3/0 str.	4/0 - 3/0
	250 str.	2/0 str.	300 - 2/0
	300 str.	1/0 str.	350 - 1/0
	350 str.	#2 sol., str.	400, 450 - #2
83748-1	4/0 str.	4/0 str.	4/0 - 4/0
	250 str.	3/0 str.	250, 300 - 3/0
	300 str.	2/0 str.	350 - 2/0
	350 str.	1/0 str.	400 - 1/0
83748-2	4/0 str.	4/0 str.	250, 300 - 4/0
	300 str.	3/0 str.	350 - 3/0
	350 str.	2/0 str.	400 - 2/0
83749-4	400, 450 str.	#2 sol., str.	450 - 1/0
			500 - #2
83748-3	350 str.	3/0 str.	400 - 3/0
	400 str.	2/0, 1/0 str.	450 - 2/0
	450 str.	1/0 str.	500 - 1/0
83748-4	300 str.	4/0 str.	350 - 4/0, 250
	400 str.	3/0 str.	400 - 4/0
	450 str.	2/0 str.	450 - 3/0
			500 - 2/0
83750-1	250 str.	250 str.	250, 300 - 250, 300
			5/8 Clad - 250 str., cmpt.

Wrench-Lok Copper Grounding Connector System continues next page

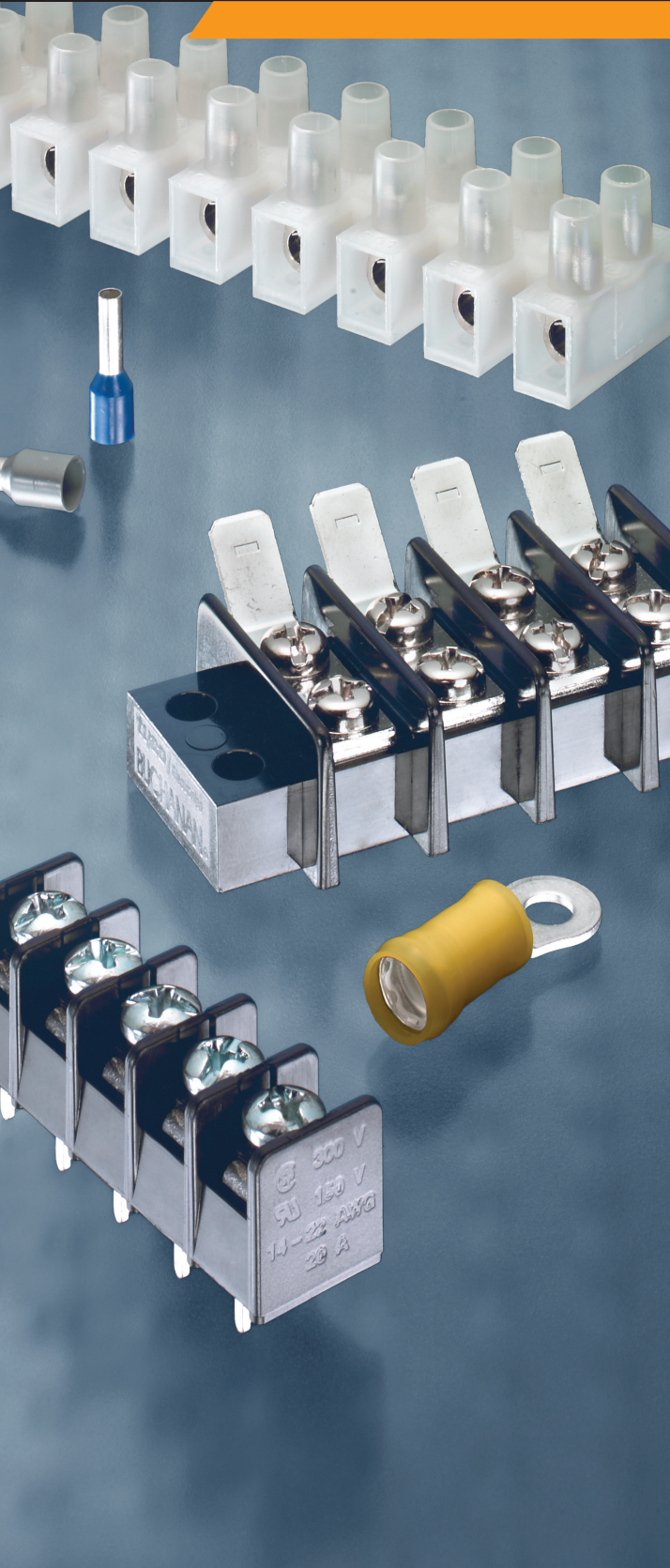
Wedge Pressure Connectors

Selection Information:

Catalog Number Small Body	Description Standard Round	Compacted	Conductor to Ground Rod
83751-1	300 str. - 250 str.	350, 400 - 300	5/8 Galv. - 250 str., — 300 cmpt.
	350, 400 str. - 4/0 str.	400 - 250	3/4 Clad - 4/0, 250 cmpt.
	450 str. - 3/0 str.	450 - 4/0	3/4 Galv. - 3/0
	500 str. - 2/0 str.	500 - 3/0	
83751-2	300, 350 str. - 300 str.	350, 400 - 350	5/8 Galv. - 350 cmpt., — 300 str.
	350, 400 str. - 250 str.	450 - 300, 250	3/4 Clad - 250 str., — 300 cmpt.
	450 str. - 4/0 str.	500 - 250	3/4 Galv. - 4/0, 250— cmpt. 500 str. - 3/0 str.
83751-3	350 str. - 350 str.	400 - 400	3/4 Clad - 300 str., — cmpt, str., 400 cmpt.
	400 str. - 300 str.	450 - 350	3/4 Galv. - 250 str., — 300 cmpt.
	450 str. - 250 str.	500 - 350, 300	
	500 str. - 4/0 str.		
83751-4	400 str. - 350 str.	400, 500 - 400	3/4 Galv. - 300 str., — 350 cmpt, 400 cmpt.
	450 str. - 300 str.		
	500 str. - 250 str.		
83750-2	400 str. - 400 str.	450, 500 - 450	3/4 Galv. - 350 str., 450— 450cmpt.
	450 str. - 350 str.		
	500 str. - 300 str.		

Please Contact Inside Sales Support for Additional Product Selection.

TERMINAL BLOCKS & BARRIER STRIPS



Dual Row Barrier Strips

Double-Row, Dual-Barrier Strips. 31

Europa Terminal Blocks

8mm (.315) Pitch, 30A, with Tunnel Connection Series TSB230. 33
 10mm (.394) Pitch, 30A with Tunnel Connection Series TSB500 34
 12mm (.472) Pitch, 40A Series TSB1000 35
 13.5mm (.531) Pitch, 40A Series TSB1500 36

Modular Terminal Blocks

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Modular Fuse & Switches

300 Series, Fuse & Switch 44

One-piece Terminal Blocks

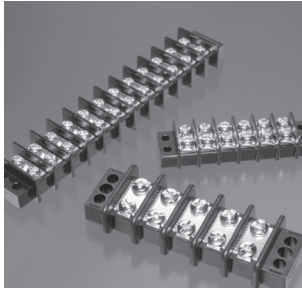
B100 Series, One-Piece Phenolic Blocks. 46

Accessories

Mounting Channels 47
 Channel Clamps 47
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Dual Row Barrier Strips



Double-Row, Dual-Barrier Strips

- Double-row, dual-barrier strips for wire-to-wire applications. These parts also allow end users to complete the wiring to a separate screw without disturbing the factory wiring.
- Available with either binding head screws or wire clamp
- Increased current-carrying capability

Applications

- Industrial Controls
- Test Equipment
- HVAC
- Power Supplies
- Traffic Signals
- Telecom

Key Features

- Closed bottom design allows for mounting direct to sheet metal panel
- Molded to length
- Accessories such as Quick-Connect Tabs and Jumpers available
- Wire-to-wire termination: - .563 (14.3) centerline: Up to 18 positions
- RoHS Compliant

Material & Finish

Insulator Body—UL94V-0, thermoplastic, black
 Terminals—Brass, tin plated
 Screw—M4.0 steel, nickel plated

Mechanical Properties

Screw Torque—16 in-lb

Electrical Properties

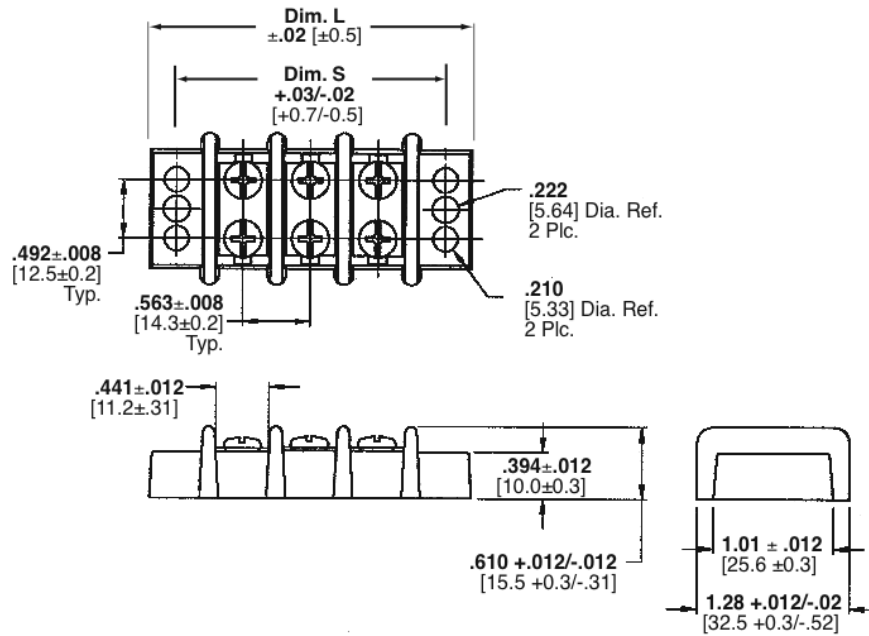
Current Rating—30 A, 300 VAC
 Wire Range—10-22 AWG
 Withstanding Voltage—2000 VAC min.

Environmental Properties

Operating Temperature— -40°F to +284°F (-40°C to +140°C)

Dual Row Barrier Strips

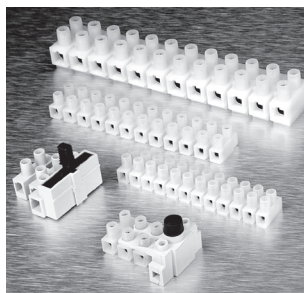
Double-Row, Dual Barrier Strips continued



Selection information (dimensions in inches/millimeters)

No. of Positions	Dimension		Part Numbers	
	L	S	w/Wire Clamp Screws	w/Binding Head Screws
2	2.13 (54.0)	1.69 (42.9)	CPGI-BUCH-1546311-2	CPGI-BUCH-1546310-2
3	2.69 (68.3)	2.25 (57.2)	CPGI-BUCH-1546311-3	CPGI-BUCH-1546310-3
4	3.25 (82.6)	2.81 (71.5)	CPGI-BUCH-1546311-4	CPGI-BUCH-1546310-4
4	3.25 (82.6)	2.81 (71.5)		CPGI-1546310-4
5	3.81 (96.9)	3.38 (85.8)	CPGI-BUCH-1546311-5	CPGI-BUCH-1546310-5
6	4.38 (111.2)	3.94 (100.1)	CPGI-BUCH-1546311-6	CPGI-BUCH-1546310-6
6	4.38 (111.2)	3.94 (100.1)		CPGI-1546310-6
7	4.94 (125.5)	4.50 (114.4)	CPGI-BUCH-1546311-7	CPGI-BUCH-1546310-7
8	5.50 (139.8)	5.07 (128.7)	CPGI-BUCH-1546311-8	CPGI-BUCH-1546310-8
8	5.50 (139.8)	5.07 (128.7)		CPGI-1546310-8
9	6.08 (154.1)	5.63 (143.0)	CPGI-BUCH-1546311-9	CPGI-BUCH-1546310-9
10	6.63 (168.4)	6.19 (157.3)	CPGI-BUCH-1-1546311-0	CPGI-BUCH-1-1546310-0
11	7.19 (182.7)	6.76 (171.6)	CPGI-BUCH-1-1546311-1	CPGI-BUCH-1-1546310-1
12	7.75 (197.0)	7.32 (185.9)	CPGI-BUCH-1-1546311-2	CPGI-BUCH-1-1546310-2
13	8.32 (211.3)	7.88 (200.2)	CPGI-BUCH-1-1546311-3	CPGI-BUCH-1-1546310-3
14	8.88 (225.6)	8.44 (214.5)	CPGI-BUCH-1-1546311-4	CPGI-BUCH-1-1546310-4
15	9.44 (239.9)	9.01 (228.8)	CPGI-BUCH-1-1546311-5	CPGI-BUCH-1-1546310-5
16	10.02 (254.5)	9.57 (243.1)	CPGI-BUCH-1-1546311-6	CPGI-BUCH-1-1546310-6
17	10.57 (268.5)	10.13 (257.4)	CPGI-BUCH-1-1546311-7	
18	11.13 (282.8)	10.70 (271.7)	CPGI-BUCH-1-1546311-8	CPGI-BUCH-1-1546310-8

Europa Terminal Blocks



**8mm (.315) Pitch, 30A, with Tunnel Connection
Series TSB230**

Material & Finish

Housing Material—Polyamide 6
 Flammability—UL94V-2
 Color—natural (off white)
 Tubular Contact—Brass, tin plated
 Screw—Steel, M3
 Screw Plating—Zinc with chromate

Mechanical Properties

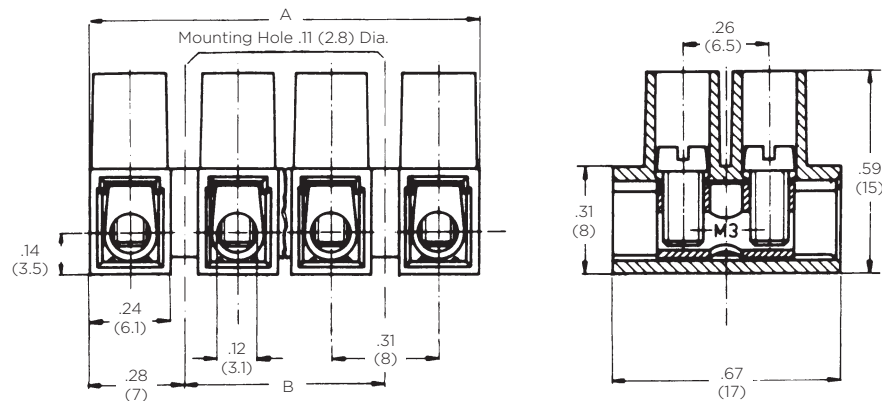
Pitch (terminal spacing)— 8mm (.315)
 Wire Strip Length—5mm (0.20")
 Min. Wire Pull-Out Force—75lbs.
 Recommended Tightening Torque—5in.- lbs.
 Recommended Screwdrivers—Stanley 1016, Sears Craftsman 41429, Xcelite R184

Electrical Properties

Maximum Current—30A
 Operating Voltage—250V
 Wire Range—12-24 AWG
 Dielectric Withstand—3000V

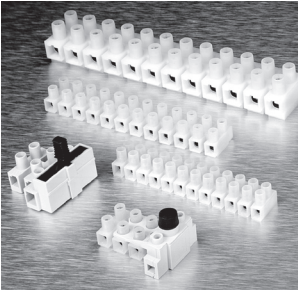
Environmental Properties

Continuous Working Temperature— -35°C to +100°C (-31°F to +212°F)



No. of Positions	Dimensions		Tunnel Connection	
	A	B	Part Number	Buchanan Number
1	6 (.24)	—	CPGI-BUCH-1776294-1	TSB230 01
2	14 (.55)	—	CPGI-BUCH-1776294-2	TSB230 02
3	22 (.87)	8 (.31)	CPGI-BUCH-1776294-3	TSB230 03
4	30 (1.18)	16 (.63)	CPGI-BUCH-1776294-4	TSB230 04
5	38 (1.50)	24 (.94)	CPGI-BUCH-1776294-5	TSB230 05
6	46 (1.81)	32 (1.26)	CPGI-BUCH-1776294-6	TSB230 06
7	54 (2.13)	40 (1.57)	CPGI-BUCH-1776294-7	TSB230 07
8	62 (2.44)	48 (1.89)	CPGI-BUCH-1776294-8	TSB230 08
9	70 (2.76)	56 (2.20)	CPGI-BUCH-1776294-9	TSB230 09
10	78 (3.07)	64 (2.52)	CPGI-BUCH-1-1776294-0	TSB230 10
11	86 (3.39)	72 (2.83)	CPGI-BUCH-1-1776294-1	TSB230 11
12	94 (3.70)	80 (3.15)	CPGI-BUCH-1-1776294-2	TSB230 12
12	94 (3.70)	80 (3.15)	CPGI-1-1776294-2	TSB230 12

Europa Terminal Blocks



10mm (.394) Pitch, 30A with Tunnel Connection Series TSB500

Material & Finish

Housing Material—Polyamide 6
 Flammability—UL94V-2
 Color—Natural (off white)
 Tubular Contact—Brass, tin plated
 Screw—Steel, M3
 Screw Plating—Zinc with chromate

Mechanical Properties

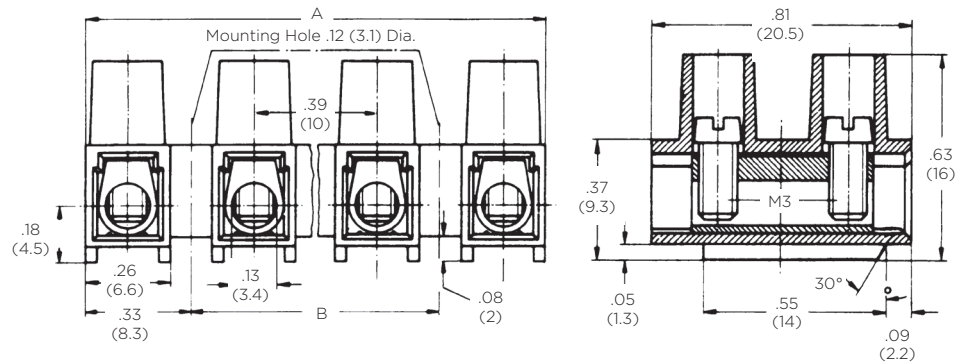
Pitch (terminal spacing)—10mm (.394)
 Wire Strip Length—5mm (0.20")
 Min. Wire Pull-Out Force—75lbs.
 Recommended Tightening Torque—5 in.- lbs.
 Recommended Screwdrivers—Stanley 1016, Sears Craftsman 41429, Xcelite R184

Electrical Properties

Maximum Current—30A
 Operating Voltage—250V
 Wire Range—10-22 AWG
 Dielectric Withstand—3500V

Environmental Properties

Continuous Working Temperature— -35°C to +100°C (-31°F to +212°F)



No. of Positions	Dimensions		Tunnel Connection	
	A	B	Part Number	Buchanan Number
1	6.6 (.26)	—	—	TSB500 0131
2	16.6 (.65)	—	CPGI-BUCH-1776297-2	TSB500 0231
3	26.6 (1.05)	10 (.39)	CPGI-BUCH-1776297-3	TSB500 0331
4	36.6 (1.44)	20 (.79)	CPGI-BUCH-1776297-4	TSB500 0431
5	46.6 (1.83)	30 (1.18)	CPGI-BUCH-1776297-5	TSB500 0531
6	56.6 (2.23)	40 (1.57)	CPGI-BUCH-1776297-6	TSB500 0631
7	66.6 (2.62)	50 (1.97)	CPGI-BUCH-1776297-7	TSB500 0731
8	76.6 (3.02)	60 (2.36)	CPGI-BUCH-1776297-8	TSB500 0831
9	86.6 (3.41)	70 (2.76)	CPGI-BUCH-1776297-9	TSB500 0931
10	96.6 (3.80)	80 (3.15)	CPGI-BUCH-1-1776297-0	TSB500 1031
11	106.6 (4.20)	90 (3.54)	CPGI-BUCH-1-1776297-1	TSB500 1131
12	116.6 (4.59)	100 (3.94)	CPGI-BUCH-1-1776297-2	TSB500 1231
12	116.6 (4.59)	100 (3.94)	CPGI-1-1776297-2	TSB500 1231

Europa Terminal Blocks



12mm (.472) Pitch, 40A Series TSB1000

Material & Finish

Housing Material—Polyamide 6
 Flammability—UL94V-2
 Color—Natural (off white)
 Tubular Contact—Brass, tin plated
 Screw—Steel, M3.5
 Screw Plating—Zinc with chromate
 Wire Protector—Stainless steel

Mechanical Properties

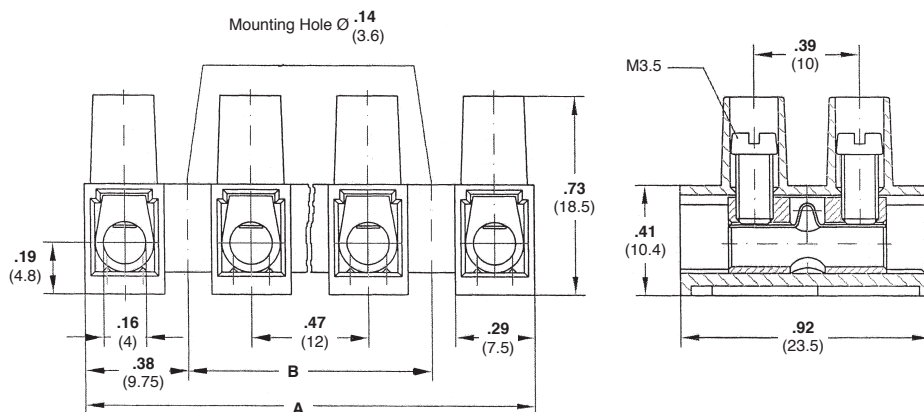
Pitch (terminal spacing)—12mm [.472"]
 Wire Strip Length—7mm [.28"]
 Min. Wire Pull-Out Force—125 lbs.
 Recommended Tightening Torque—10 in.-lbs.
 Recommended Screwdrivers—Stanley 1016, Sears Craftsman 41429, Xcelite R184

Electrical Properties

Maximum Current—40A
 Operating Voltage—250V
 Wire Range—10-22 AWG
 Dielectric Withstand—4500V

Environmental Properties

Continuous Working Temperature - -35°C to +100°C [-31°F to +212°F]



No. of Positions	Dimensions		Wire Protector	
	A	B	Part Number	Buchanan Number
1	7.5 (30)	—	CPGI-BUCH-1776319-1	TSB1000 01MDS
2	19.5 (.77)	—	CPGI-BUCH-1776319-2	TSB1000 02MDS
3	31.5 (1.24)	12 (.47)	CPGI-BUCH-1776319-3	TSB1000 03MDS
4	43.5 (1.71)	24 (.95)	CPGI-BUCH-1776319-4	TSB1000 04MDS
5	55.5 (2.19)	36 (1.42)	CPGI-BUCH-1776319-5	TSB1000 05MDS
6	67.5 (2.66)	48 (1.89)	CPGI-BUCH-1776319-6	TSB1000 06MDS
7	79.5 (3.13)	60 (2.36)	CPGI-BUCH-1776319-7	TSB1000 07MDS
8	91.5 (3.60)	72 (2.83)	CPGI-BUCH-1776319-8	TSB1000 08MDS
9	103.5 (4.07)	84 (3.31)	CPGI-BUCH-1776319-9	TSB1000 09MDS
10	115.5 (4.55)	96 (3.78)	CPGI-BUCH-1-1776319-0	TSB1000 10MDS
11	127.5 (5.02)	108 (4.25)	CPGI-BUCH-1-1776319-1	TSB1000 11MDS
12	139.5 (5.49)	120 (4.72)	CPGI-BUCH-1-1776319-2	TSB1000 12MDS
12	139.5 (5.49)	120 (4.72)	CPGI-1-1776319-2	-

Europa Terminal Blocks



13.5mm (.531) Pitch, 40A Series TSB1500

Material & Finish

Housing Material—Polyamide 6
 Flammability—UL94V-2
 Color—Natural (off white)
 Tubular Contact—Brass, tin plated
 Screw—Steel
 Screw Plating—Zinc with chromate
 Wire Protector—Stainless steel
 Tunnel Connection—Without wire protector

Mechanical Properties

Pitch (terminal spacing)—13.5mm (.531")
 Wire Strip Length—8mm (.315")
 Recommended Tightening Torque—10 in.-lbs.
 Recommended Screwdrivers—Stanley 1016, Sears Craftsman 41429, Xcelite R184

Electrical Properties

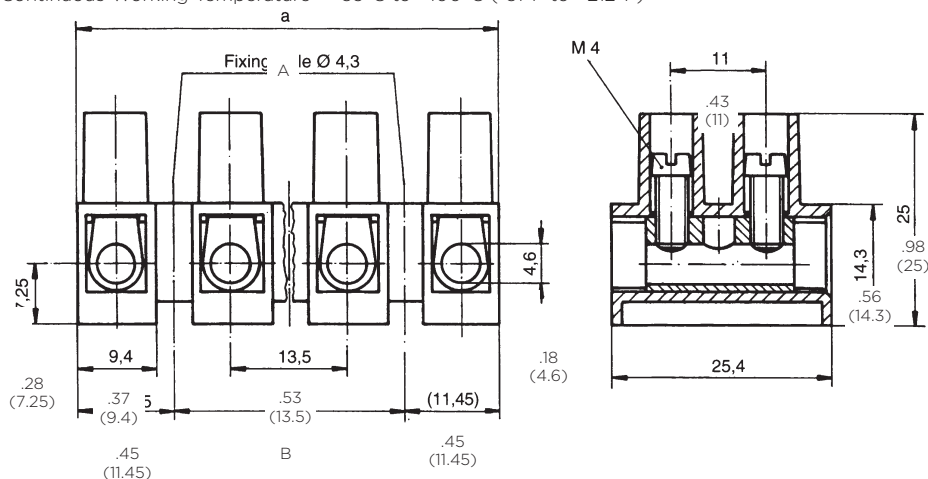
Maximum Current—40A (UR); 55A (CSA)
 Operating Voltage—300V

Wire Range

Wire Protector—8-18 AWG
 Tunnel Connection—8-16 AWG

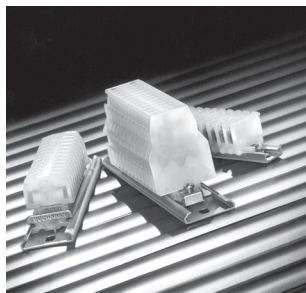
Environmental Properties

Continuous Working Temperature— -35°C to +100°C (-31°F to +212°F)



No. of Positions	Dimensions		Tunnel Connection		Wire Protector	
	A	B	Part Number	Buchanan Number	Part Number	Buchanan Number
1	9.4 (.37)	—	CPGI-BUCH-1776310-1	TSB1500 01	CPGI-BUCH-1776311-1	TSB1500 01DS
2	22.9 (.90)	—	CPGI-BUCH-1776310-2	TSB1500 02	CPGI-BUCH-1776311-2	TSB1500 02DS
3	36.4 (1.43)	13.5 (.53)	CPGI-BUCH-1776310-3	TSB1500 03	CPGI-BUCH-1776311-3	TSB1500 03DS
4	49.9 (1.96)	27.0 (1.06)	CPGI-BUCH-1776310-4	TSB1500 04	CPGI-BUCH-1776311-4	TSB1500 04DS
5	63.4 (2.49)	40.5 (1.59)	CPGI-BUCH-1776310-5	TSB1500 05	CPGI-BUCH-1776311-5	TSB1500 05DS
6	76.9 (3.03)	54.0 (2.12)	CPGI-BUCH-1776310-6	TSB1500 06	CPGI-BUCH-1776311-6	TSB1500 06DS
7	90.4 (3.55)	67.5 (2.65)	CPGI-BUCH-1776310-7	TSB1500 07	CPGI-BUCH-1776311-7	TSB1500 07DS
8	103.9 (4.09)	81.0 (3.19)	CPGI-BUCH-1776310-8	TSB1500 08	CPGI-BUCH-1776311-8	TSB1500 08DS
9	117.4 (4.62)	94.5 (3.72)	CPGI-BUCH-1776310-9	TSB1500 09	CPGI-BUCH-1776311-9	TSB1500 09DS
10	130.9 (5.15)	108.0 (4.25)	CPGI-BUCH-1-1776310-0	TSB1500 10	CPGI-BUCH-1-1776311-0	TSB1500 10DS
11	144.4 (5.68)	121.5 (4.78)	CPGI-BUCH-1-1776310-1	TSB1500 11	CPGI-BUCH-1-1776311-1	TSB1500 11DS
12	157.9 (6.21)	135.0 (5.31)	CPGI-BUCH-1-1776310-2	TSB1500 12	CPGI-BUCH-1-1776311-2	TSB1500 12DS
12	157.9 (6.21)	135.0 (5.31)			CPGI-1-1776311-2	TSB1500 12DS

Modular Terminal Blocks

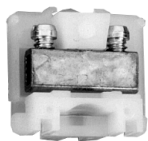


100 Series, High Density Miniature Blocks

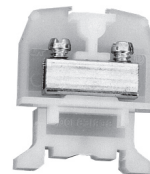


- No Wire Crimping Required — tubular clamp contacts hold wire ranging from #30 to #12 AWG better than crimp-on terminals
- Saves Installation Time and Costs — tubular clamp contacts are supplied with captive screws backed out
- Nylon housing standard; polypropylene for fire retardant characteristics
- Positive Stop — helps prevent wire from being inserted too far, and helps prevent screw from being tightened on insulation. Easy access contact provides for safe, reliable, and cost-effective connection
- Quick Installation and Change — additional sections may be added or removed without removing channel mounting screw
- Choice of Five Mounting Channels:
 - Miniature aluminum
 - Zinc-plated steel
 - Pre-punched aluminum
 - Break-away steel
- Single and Double Tier blocks fit all standard Buchanan mounting channels. Single Tier blocks fit both miniature and standard channels
- Choice of Marking Surfaces — matte-finish area for marking directly on block; slide-in vinyl strip (blank or preprinted) also available

These miniature terminal blocks fit on a much smaller channel to save valuable panel space or can be surface mounted directly to the panel. Miniature blocks accept wire as large as #12 AWG and are available in four styles: Miniature (nylon), Miniature (polypropylene), Single Tier and Double Tier.



Miniature Nylon

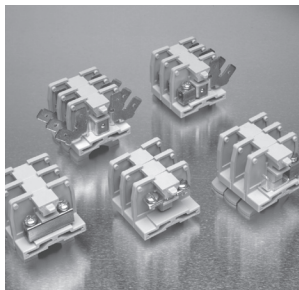


Single Tier

100 Series High Density Miniature Blocks

Type of Block	Miniature Nylon	Part Number	Single Tier	Part Number
Standard Block	125-BU	CPGI-BUCH-2-1437392-3	115-BU	CPGI-BUCH-1437381-5
Specifications				
Housing Material	Nylon	—	Nylon	—
Max. Service Temperature	125°C (257°F)	—	125°C (257°F)	—
Flammability	UL94V-2	—	UL94V-2	—
Wire Strip Length (in.)	5/16	—	5/16	—
Torque, in-lbs.	6-9	—	6-9	—
Electrical Characteristics				
UL Rating	20 A @ 300V	—	20 A @ 600V	—
Wire Range (solid & stranded)	30-12	—	30-12	—
Spacing				
Pitch	0.25"	—	0.25"	—
Terminals per Foot	48	—	48	—
End Section				
End Section (gray)	130-BU	CPGI-BUCH-2-1437392-5	120	CPGI-BUCH-2-1437392-1

Modular Terminal Blocks



900 Series, Medium Duty

- High circuit density - 183 circuits per 6-foot length, 3/8 inch pitch
- Choice of three contact styles - tubular clamp, tubular screw, strap screw
- Sections snap-fit with Heavy Duty, Intermediate Heavy Duty, and Fuse & Switch blocks
- Readily identify circuits - mark directly on block sections or use removable marking strip. Preprinted marking strips also available.
- Rated up to 50 amperes per circuit
- Flat base models mount directly to surfaces or on miniature channel. Dovetail base mounts on standard size channel.
- Packaged for rapid handling and assembly - 100 per carton
- Only one end section needed per block assembly
- Fanning strips - interlocking sectional fanning strips allow entire circuit groups to be connected and disconnected as a single unit
- Factory assembled blocks available, including marking strips and different contact sections



NEMA 900 Series is available in .375"(9.53) centerline, in direct or channel mount, tubular or strap versions, and screw, clamp or quick connect configurations. Corrosion-resistant versions are also available.

NEMA 900 Series snap fit with the Medium Duty 500, 600 and 700 Series, as well as with the Heavy Duty, Intermediate Heavy Duty and Fuse & Switch blocks.



Strap Screw



Tubular Screw



Tubular Clamp

900 Series, 600V Medium Duty, 0.375" (9.53) Pitch

Type of Block	Strap Screw		Tubular Screw		Tubular Clamp	
	Part Number	Part Number	Part Number	Part Number	Part Number	Part Number
Direct Mount (Flat Base)						
Standard	921	CPGI-BUCH-1546143-1	924	CPGI-BUCH-1546147-1	925	CPGI-BUCH-1546234-1
Channel Mount (Dovetail Base)						
Standard	0921	CPGI-BUCH-1546144-1	0924	CPGI-BUCH-1546148-1	0925	CPGI-BUCH-1546235-1

Contact Type



Specifications

Wire Range (AWG)			
Solid & Stranded	10*, 22-14	22-8	22-8
Wire Strip Length (in.)	—	11/32	11/32
Screw Type	6-32	10-32	10-32
	Binding Head	Pan Head	Slotted Pan Head
Ampacity	35 A*, 15A	50 A	30 A

End Sections

Direct Mount	930	CPGI-BUCH-1546163-1	930	CPGI-BUCH-1546163-1	930	CPGI-BUCH-1546163-1
Channel Mount	0930	CPGI-BUCH-1546164-1	0930	CPGI-BUCH-1546164-1	0930	CPGI-BUCH-1546164-1

Modular Terminal Blocks



200 Series, Heavy Duty

- Choose from 5 different contact styles
- 600 volt UL and NEMA rating
- Conservatively rated from 50 to 90 amperes per circuit, depending on which contact style is selected
- Choose any of three mounting methods — two-way flat base models surface mount directly to the panel or snap-on miniature channel. Dovetail base models mount on standard channel.
- Packaged for rapid handling and assembly — snap-fit sections are packed 10 per carton.
- Only one end section needed per block assembly
- Readily identify circuits — mark directly on block sections or use removable marking strip. Pre-printed strips are also available



This compact, heavy-duty block line accepts single or combination wires up to #4 AWG, solid or stranded. The compact design allows at least 138 circuits per 6-foot length to be mounted. The pitch of this 600 volt block is 0.50" (12.70) (centerline spacing).



Strap Screw



Tubular Screw



Tubular Clamp

200 Series, Heavy Duty, 600V, 0.50" (1.27) Pitch

Type of Block	Strap Screw		Tubular Screw		Tubular Clamp	
	Strap Screw	Part Number	Tubular Screw	Part Number	Tubular Clamp	Part Number
Direct Mount (Flat Base)						
Nylon, Unpainted	241	CPGI-BUCH-3-1437390-9	242	CPGI-BUCH-4-1437390-0	243	CPGI-BUCH-4-1437390-1
Channel Mount (Dovetail Base)						
Nylon, Painted	0241	CPGI-BUCH-1-1437390-6	0242	CPGI-BUCH-2-1437390-0	0243	CPGI-BUCH-2-1437390-1

Contact Type



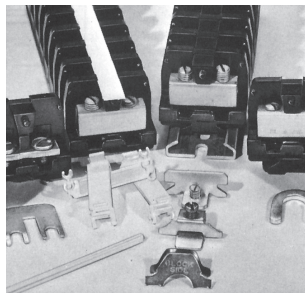
Specifications

Wire Range (AWG)						
Solid & Stranded		22-10		18-4		18-6
Wire Strip Length (in.)		—		1/2		1/2
Screw Type		10-32		1/4-28		1/4-28
		binding head		set screw		set screw
Ampacity		35 A		85 A		65 A

End Sections

Direct Mount, Nylon	250	CPGI-BUCH-4-1437390-3	250	CPGI-BUCH-4-1437390-3	250	CPGI-BUCH-4-1437390-3
Channel Mount, Nylon	0250	CPGI-BUCH-2-1437390-5	0250	CPGI-BUCH-2-1437390-5	0250	CPGI-BUCH-2-1437390-5

Modular Terminal Blocks



200 Series, Heavy-Duty Phenolic Blocks

- Sturdy Heavy-Duty block accepts single or combinations of wire up to #4 AWG solid or stranded—at least 122 circuits per 6-foot length, 9/16" center-to-center spacing.
- Choose from four different contact styles conservatively rated up to 90 amperes.
- 600 volt UL and NEMA rating
- Surface mounted flat base and channel mounted dovetail base models available
- Only one end section needed per block assembly
- Interlocking sectional fanning strips allow entire circuit groups to be connected and disconnected as a single unit
- Readily identify circuits — available with painted marking surface or use removable marking strip. Pre-printed strips are also available.
- Factory assembled blocks available
- Heavy-Duty Phenolic Block Sections Snap-fit with 300 & 600 volt, medium duty phenolic, heavy duty nylon and polypropylene, and Fuse and Switch blocks.



This family of phenolic heavy duty blocks is ideal for high temperature, high current applications. The rugged material withstands temperatures up to 302°F (150°C).

200 Series Heavy Duty Phenolic, 600 V, 0.56" (14.24) Pitch



Strap Screw



Tubular Screw



Tubular Clamp

Type of Block	Strap Screw	Part Number	Tubular Screw	Part Number	Tubular Clamp	Part Number
Direct Mount (Flat Base)						
Painted	221	CPGI-BUCH-3-1437390-1	222-BU	CPGI-BUCH-3-1437390-3	223-BU	CPGI-BUCH-3-1437390-6
Channel Mount (Dovetail Base)						
Painted	0221	CPGI-BUCH-1437390-8	0222	CPGI-BUCH-1437390-9	0223	CPGI-BUCH-1-1437390-2

Contact Type



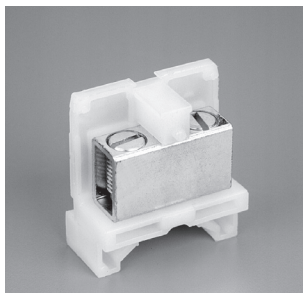
Specifications

Wire Range (AWG)						
Solid & Stranded		22-10		18-4		18-6
Wire Strip Length (in.)		—		1/2		1/2
Screw Type		10-32 binding head		1/4-28 set screw		1/4-28 set screw
Ampacity		35 A		85 A		65 A

End Sections

Direct Mount	230-BU	CPGI-BUCH-1-1437381-7	230-BU	CPGI-BUCH-1-1437381-7	230-BU	CPGI-BUCH-1-1437381-7
Channel Mount	0230	CPGI-BUCH-1-1437390-4	0230	CPGI-BUCH-1-1437390-4	0230	CPGI-BUCH-1-1437390-4

Modular Terminal Blocks

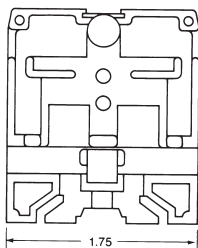


800 Series, Intermediate Heavy Duty

- An exceptionally compact block that accepts single or combinations of AWG wire sizes as large as #1/0 — at least 92 circuits per 6-foot length, 3/4 inch center-to-center spacing
- Tubular screw contact style accepts AWG wire sizes from #12 thru #1/0, solid or stranded
- Same block mounts on surface or channel — two-way mounting base fits standard channel or mounts directly to flat surfaces.
- Packaged for rapid handling and assembly — snap-fit sections packaged 10 per carton
- Contacts conservatively rated at 155 amperes per circuit when used with copper wire
- Only one end section needed per block assembly
- Readily identify circuits — blocks available with painted marking surface or use removable vinyl marking strip. Preprinted marking strips are also available.
- Factory assembled blocks available
- Nylon housing material for the most rugged applications
- Allen head screw for aluminum wire — screw tip design helps protect aluminum wire from overtightening. Slotted screw head for copper wire.
- Intermediate Heavy-Duty blocks snap-fit with 300 & 600V, Medium Duty phenolic, Heavy-Duty nylon, polypropylene and phenolic and Fuse and Switch blocks

This line of 600 volt blocks is rated up to 150 A and is available in a standard version and a corrosion resistant version.

800 Series, Intermediate Heavy Duty, 600 V, 0.75" Pitch



Same part used for both panel and channel mounting

Description	Part Number	Buchanan Number
Tubular Screw, Painted	CPGI-BUCH-1437395-3	824-BU
End Section	CPGI-BUCH-1-1437395-4	830-BU

Material & Finish

Housing Material—Polyamide type 6/6, unfilled
 Max Continuous Temp.—125°C (257°F)
 Water Absorption (24hrs. % wt. gain)—1.5%
 Flammability—UL94V-2
 Chemical Resistance—Resistant to aromatic hydrocarbons, strong alkalis
 Radiation Resistance (ergs g-1 (C)—8 x 10⁷
 Color—Translucent white

Electrical Properties

Voltage Rating—Blocks meet 600V clearance and creepage requirements of NEMA, UL, and CSA standards for general industrial control equipment and panelboards. Withstand voltages in excess of IEEE switchgear standards for 750V.
 Breakdown Voltage, AC, 60Hz—
 Contact-to-Contact: 8,800V
 Contact-to-Ground: 9000V
 Dielectric Strength — RH 40% @ Sea Level—470-385 Volts/mil thickness per ASTM D149
 Operating Voltage—Blocks meet 600V creepage and clearance requirements; withstand voltage greatly exceeds standards for 750V
 UL High Voltage Arc Tracking (in./min.)—.01-.35 (.25-8.89)

Contacts

Standard Contacts

Material—Electrical grade copper conductor
 Screws—Steel, zinc plated to resist corrosion in most applications

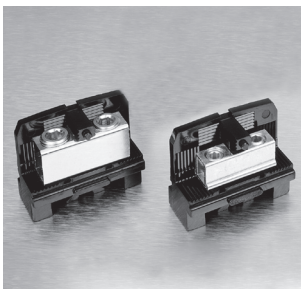
Duramax Contacts (for highly corrosive atmospheres)

Tubular Screw—Electrical grade copper tube with nickel plating; nickel plated brass screws. Nickel plating exceeds specification QQ-N-290 Class 1, Type VII.
 Wire Range—#12-1/0 AWG, solid or stranded
 Wire Strip Length—11/16" (17.46)
 Screw Type—7/16" (11.11) - 20 slotted headless screw

Independent Testing Service Listing and Recognition

UL Wire Sizes—Solid or Stranded, Tubular Screw
 1 — #1/0 AWG, 1 — #1 AWG
 1 — #2 AWG, 1 or 2 — #4 AWG
 1, 2 or 3 — #6 AWG,
 1, 2, 3 or 5 — #8 AWG
 1 to 6 — #10 AWG, 1 to 7 — #12 AWG

Modular Terminal Blocks



400 Series, Ultra Heavy Duty

- Compact 2/0 or 250 kcmil (MCM) block - at least 57 circuits per 6-foot length, 1-3/16" (30.16) center-to-center spacing
- High current capacity snap-fit sectional block — tubular contacts accept single or combinations of wire sizes as large as 250 kcmil (MCM)
- Two contact styles available; rated up to 270 amperes for copper wire
- Allen head screws allow maximum torque when using large wire sizes
- Withstands voltages in excess of IEEE switchgear standards for 750 volts. Meets clearance and creepage spacing specified in UL, CSA, and NEMA Industrial Control Standards for 600 volts
- Same block directly mounts on surface or channel mounts
- Only one end section needed per block assembly
- Readily identify circuits—order blocks with painted marking area or use removable vinyl marking strip. Preprinted marking strips are also available.
- Factory assembled blocks available
- Ultra Heavy-Duty phenolic block sections do not snap-fit with other block styles

This Ultra Heavy Duty line includes the 400 Series rated up to 270 A.

Material & Finish

Housing Material—Phenolic, filled flame retardant

Flammability—UL94V-1

Color—Black

Contacts

Material—Electrical grade copper conductor; plated steel screws resist corrosion

Tubular Screw Type—

Small: 1/2" (12.7) - 13 Hex

Large: 3/4" (19.05) - 16 Hex socket set screw

Mechanical Properties

Pitch (terminal spacing)—

1.19" (30.23); 9 circuits/foot

Wire Strip Length—

Tubular Screw (small): 1" (25.4)

Tubular Screw (large): 1" (25.4)

Electrical Properties

Maximum Current—255A for a single 250MCM wire

Operating Voltage—Blocks meet 600V creepage and clearance requirements; withstand voltage greatly exceeds standards for 750V

Wire Range—Tubular Screw (small):

#4-#2/0 AWG solid or stranded; Tubular Screw (large): #6 AWG-250 kcmil (MCM) solid or stranded

Dielectric Strength (RH 40% @ sea level)—300 V/mil thickness per ASTM D149

Breakdown Voltage, AC, 60Hz—

Contact-to-Contact: 10,000V

Contact-to-Ground: 10,000V

UL High Voltage Arc Tracking (in./min.)—.49-.58 (12.45-14.73)

Environmental Properties

Max. Continuous Temperature—

150°C (302°F)

Water Absorption (24hrs. % wt. gain)—.45% per ASTM D149

Chemical Resistance—Resistant to acids, alkalis, and aliphatic hydrocarbons and ketones per ASTM D543

Radiation Resistance (ergs g-1 (C))—2.7 x 10⁸

UL Independent Testing Service Recognitions

Tubular Screw: Catalog # 416 & 426-BU

1 #2/0 AWG, 1 #1/0 AWG, 1 #1 AWG,

1 or 2 #2 AWG, 1 to 3 #4 AWG, 1 to 3 #6 AWG,

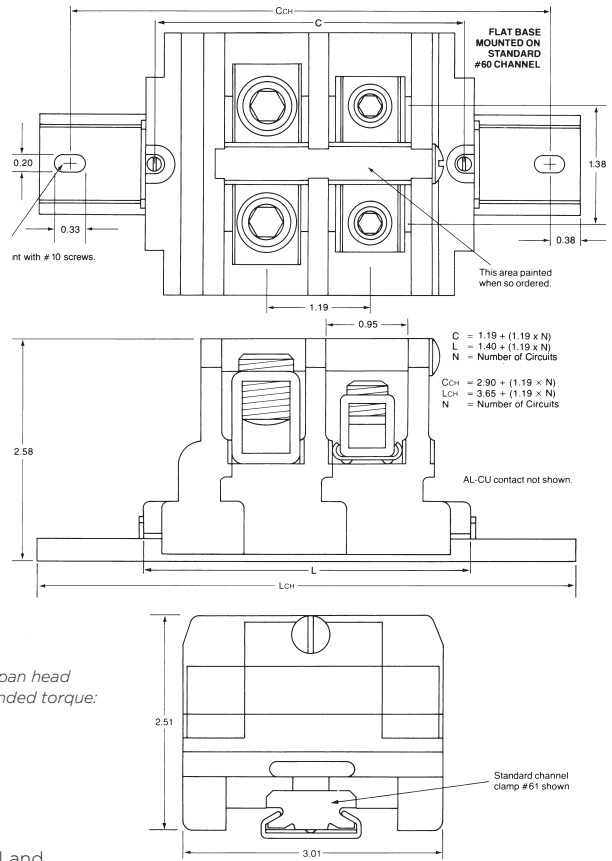
1 to 4 #8 AWG, 1 to 6 #10 AWG, 2 to 8 #12 AWG,

Tubular Screw: Catalog # 417 & 427-BU

1 #250kcmil (MCM), 1 #4/0 AWG, 1 #3/0 AWG,

1 or 2 #2/0 AWG, 1 or 2 #1/0 AWG, 1 or 2 #1 AWG, 1 to 3 #2 AWG, 1 to 4 #4 AWG, 1 to 5 #6 AWG

Modular Terminal Blocks

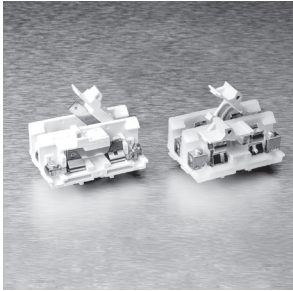


Note: For Direct Mounting, use #10 pan head screws every six circuits. Recommended torque: 15-20 in.-lbs.

Same part used for both panel and channel mounting.

Description	Wire Range	Part Number	Catalog Number
Tubular Screw, Painted	#14-2/0	CPGI-BUCH-1437396-7	426-BU
Tubular Screw, Painted	#6-250 kcmil/MCM	CPGI-BUCH-1437396-8	427-BU
End Section	—	CPGI-BUCH-1437396-9	430-BU

Modular Fuses & Switches



300 Series, Fuse & Switch

High Density Blocks

- Fuse and Switch Blocks rated 15A and 300V
- High Density 0.36" (9.14) centerline spacing saves panel space; at least 33 circuits per foot

Fuse Blocks

- Provide in-line circuit protection for virtually any circuit or group of circuits — select contacts for terminated or unterminated wire
- Remove, check, and replace fuses safely and quickly — switch action fuse blocks open circuits before fuse can be removed or installed
- Contacts conservatively rated to 30 amperes

Switch Blocks

- Quickly and easily interrupt a circuit or group of circuits — insert switch blocks directly in line. Contacts available for terminated or unterminated wire.
- Keep circuits open for extended periods — switch blade can be removed entirely from block for lock-out protection
- Rated to 15 amperes



Common Features of 300 & 0300 Series

- At least 91 circuits per 6-foot length, 3/4 inch center-to-center spacing
- Blocks meet 600 volt clearance and creepage spacings specified in UL, CSA, and NEMA Industrial Control Standards
- Choose nylon housing material
- Dovetail base fits standard mounting channel — can also be mounted on flat surfaces
- Only one end section needed per block assembly
- Readily identify circuits — mark directly on white, matte-surface puller assembly, marking tab on block, or use removable marking tape
- Open or close several circuits simultaneously — holes in puller handles allow use of nylon "ganging" rods
- Fuse and Switch block sections snap-fit with 300 & 600 Volt, phenolic Medium Duty, Heavy Duty, and Intermediate Heavy Duty blocks.

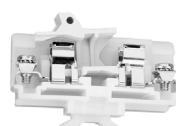
This broad line features High Density Blocks (Series 0135), Nylon & Polypropylene Blocks (Series 0300) and Phenolic Blocks (Series 300).

Fuses & Switches - Nylon and Phenolic

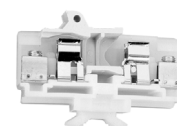
0300 Series - Nylon



Fuse Block Strap Screw



Fuse Block Strap Clamp



Fuse Block Tubular Screw

Type of Block	Fuse Block Strap Screw	Part Number	Fuse Block Strap Clamp	Part Number	Fuse Block Tubular Screw	Part Number
Channel Mount (Dovetail Base) Nylon	0311	CPGI-BUCH-1437397-1	0318	CPGI-BUCH-1437397-3	0312	CPGI-BUCH-1437397-2

Specifications

	Fuse Block Strap Screw	Fuse Block Strap Clamp	Fuse Block Tubular Screw
Wire Range (AWG) Solid & Stranded	22-8	18-8	18-8
Wire Strip Length (in.)	—	1/2	1/2
Screw Type	10-32 binding head	8-32 pan head w/clamp	1/4"-28 set screw

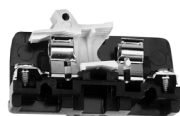
Ampacity

	25 A	25 A	25 A
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End Sections

Channel Mount, Nylon	CPGI-BUCH-2-1437397-0	CPGI-BUCH-2-1437397-0	CPGI-BUCH-2-1437397-0
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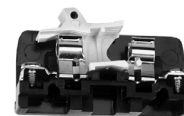
0300 Series - Phenolic



Strap Screw



Strap Clamp



Tubular Screw

Type of Block	Strap Screw	Part Number	Strap Clamp	Part Number	Tubular Screw	Part Number
Direct Mount (Flat Base) Fuse Block with Puller	351	CPGI-BUCH-2-1437397-8	358	CPGI-BUCH-3-1437397-1	352	CPGI-BUCH-3-1437397-0
Channel Mount (Dovetail Base) Fuse Block with Puller	0351	CPGI-BUCH-1437397-9	0358	CPGI-BUCH-1-1437397-2	0352	CPGI-BUCH-1-1437397-0

Contact Type

Specifications

	Strap Screw	Strap Clamp	Tubular Screw
Wire Range (AWG) Solid & Stranded	22-8	18-8	18-8
Wire Strip Length (in.)	—	1/2	1/2
Screw Type	8-32 binding head	8-32 pan head w/clamp	1/4"-28 set screw

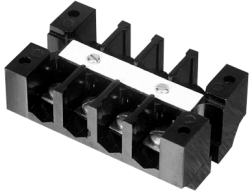
Ampacity

Fuse Blocks	25A	25A	25A
Switch Blocks	15A	15A	15A

End Sections

No Contact, Flat Base	CPGI-BUCH-2-14376397-4	CPGI-BUCH-2-14376397-4	CPGI-BUCH-2-14376397-4
No Contact, Dovetail Base	CPGI-BUCH-14376397-5	CPGI-BUCH-14376397-5	CPGI-BUCH-14376397-5

One-Piece Terminal Blocks



Steel Screw w/ Strap



B100 Series, One-Piece Phenolic Blocks

- Two, four, six, eight, and twelve circuit models available — 5/8" (15.88) center-to-center contact spacing
- No assembly required — each is a single, easily installed unit
- Three contact styles available — strap screw, captive strap clamp, and moving tubular contact
- Use wire up to #6 AWG with tubular contact. Strap screw and strap clamp contacts are available for #8 and smaller.
- Withstand voltages in excess of IEEE standards for 750 volts. Meet clearance and creepage spacings specified in UL, CSA, and NEMA Industrial Control Standards for 600 Volts.
- Strap contacts rated at 50 amperes — tubular contact conservatively rated at 70 amperes.
- Pilot point screws supplied with strap screw and clamp contacts — speeds installation time
- Plain white marking strip supplied with each block — circuits are easily identified
- Special purpose blocks available—choose from blocks with solder posts, printed circuit board pins, or nuts on screw posts, removable circuit links, and a shorting bar

Traditionally, these rugged One-Piece Blocks are the standard means of connection for heavy industrial applications like rail transport, utility, and traffic control industries. Ideal for dirty and vibration prone environments.

B100, #B100 Series, One-Piece Blocks, 600 V - Phenolic

Material & Finish

Housing Material—Phenolic, filled flame retardant
 Flammability—UL94V-1
 Color—Black

Contacts

Standard Material—Electrical grade copper or copper alloy conductor. Steel screws plated to resist corrosion in most industrial applications.
 Brass Material—For Corrosive Environment (2B100, 4B100 Series) Nickel plated brass straps and screws. Meets specification QQ-N-290A Class 1, Grade G
 Wire Range—Strap Screw: #18-8 AWG solid or stranded; Tubular Clamp: #14-6 AWG solid or stranded
 Screw Type—Strap Screw: #10-32 Binding Head; Tubular Clamp: #1/4"(6.35)-28 Set Screw
 Strap Screw—7/16" (11.11) max. lug width

Mechanical Properties

Pitch (terminal spacing)—.63" (16.00)
 Wire Strip Length—Strap Screw: as needed for lugging; Tubular Clamp: 1/2" (12.1)

Electrical Properties

Maximum Current—70A for a single #6 AWG wire
 Operating Voltage—Blocks meet 600V creepage and clearance requirements for general industrial control equipment and panelboards; greatly exceeds IEEE switchgear standards for 750 volts.
 Dielectric Strength (RH 40% @ sea level)—300 Volts/mil thickness per ASTM D149
 UL High Voltage Arc Tracking (in./min.)—.49-.58 (12.45-14.73)

Environmental Properties

Max. Continuous Temperature—150°C (302°F)
 Water Absorption (24hrs. % wt. gain)—.45% per ASTM D570
 Chemical Resistance—Resistant to acids, alkalies, and aliphatic hydrocarbons and ketones per ASTM D543
 Radiation Resistance (ergs G-1 (C))—2.7 x 108 min

UL Independent Testing Service Recognitions

Wire Sizes—Solid or Stranded, Tubular Clamp
 1—#6 AWG, 1—#8 AWG, 1or 2 — #10 AWG, 1or 2—#12 AWG, 1 to 3—#14 AWG, 1 —#10 & 1 —#12 AWG
 1 — #12 & 1 — #14 AWG

Steel Screw w/ Strap

Standard	Part Number
2	CPGI-BUCH-2-1437382-6
4	CPGI-BUCH-3-14373882-0
6	CPGI-BUCH-4-1437382-0
8	CPGI-BUCH-4-1437382-9
12	CPGI-BUCH-5-1437382-9

Accessories



Miniature Channel



Steel Channel



Break Away Steel



Pre-Punched Aluminum Channel

Mounting Channels

Description	Part Number	Buchanan Number	Standard Length	Series
Miniature (#12)	CPGI-BUCH-1437381-8	12	3 feet	100, 900, 200
Steel Channel	CPGI-BUCH-9-1437381-1	60	6 feet	
	CPGI-BUCH-9-1437381-8	63-BU	3 feet	100, 900, 200, 800
Break Away Steel	CPGI-BUCH-9-1437381-2	60-B-36	3 feet	400, 300
Pre-Punched Aluminum Channel	CPGI-BUCH-9-1437381-9	64	6 feet	
	CPGI-BUCH-1437382-2	67	3 feet	



Screw Channel Clamps



Universal Clamps



Snap-In Clamps



Miniature for #12 Channel



See-Thru Cover



Ganging Rod

Channel Clamps

Description	Part Number	Buchanan Number	Standard Length	Series
Screw Channel Clamps	CPGI-BUCH-9-1437381-5	61	-	100, 900, 200, 800
Universal Clamps	CPGI-BUCH-1437382-3	68	-	400, 300
Snap-In Clamps	CPGI-BUCH-9-1437381-7	62	-	
Miniature for #12	CPGI-BUCH-1437381-4	11	-	100, 900, 200
See-Thru Cover	CPGI-BUCH-1-1437381-0	13	-	100
See-Thru Cover	CPGI-BUCH-1-1437382-2	71	-	900
See-Thru Cover	CPGI-BUCH-1-1437381-6	23-BU	-	200
Ganging Rod	CPGI-BUCH-3-1437381-9	30-BU	2 feet	900, 200, 800



Nylon Holding Plug



Jumper 2 pole



Jumper for Tubular Contacts



Jumper for Strap Screw



Snap-Apart for Tubular Contacts

Jumpers

Description	Part Number	Buchanan Number	Standard Length	Series
Nylon Holding Plug	CPGI-BUCH-4-1437393-0	65-BU	-	900, 200,
Jumper, 2 pole	CPGI-BUCH-1437381-1	10	-	100
Jumpers For Tubular Contacts	CPGI-BUCH-1437382-6	70	-	900
Jumper For Tubular Contacts	CPGI-BUCH-2-1437393-4	42-BU	-	200
Jumper For Tubular Contacts	CPGI-BUCH-2-1437381-3	41-BU	-	200
Jumper for Strap Screw	CPGI-BUCH-5-1437381-5	43	-	200
Snap-apart For Tubular Contacts	CPGI-BUCH-1-1437382-3	73	-	900



WIRE MANAGEMENT



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Plastic Cable Wrap SPIRAP	59
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Retaining Clips

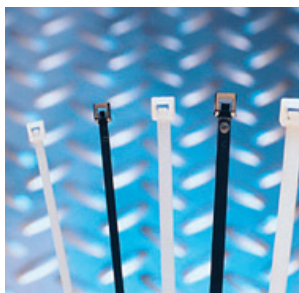
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Cable Ties & Accessories



AMP Cable Ties

AMP cable ties are available in three grades of Nylon 6/6

- General purpose cable ties (NATURAL) are suitable for use in most practical applications at continuous temperatures up to 150 degrees Fahrenheit.
- UV Stabilized cable ties (BLACK) ties are used in continuous or extended exposure to outdoor use. This nylon cable tie is a weather resistant grade, enduring additional ultraviolet (UV) light.
- Heat Stabilized cable ties (BLACK) are used in continuous or extended exposure to high temperatures (up to 250 degrees Fahrenheit). These cable ties contain specially formulated heat stabilizers which provide additional thermal endurance. Heat stabilized nylons are engineered for continuous exposure to temperatures above 185 degrees Fahrenheit.

The entire AMP cable tie line provides the following features and benefits:

- Faster - low insertion and pull through force
- Stronger - high tensile strength is achieved from one piece, advanced pawl, and teeth design
- Purer - manufactured from filtered nylon reducing particle contamination
- Easier - angled tail provides quicker initial insertion alignment and tail finger grips allow easier handling and tightening
- Safer - rounded edges provide added safety and eliminates insulation damage
- Consistent - formulated molding processes

Selection information: dimensions in inches (millimeters)

Catalog Number	Description	Length	Width	Thickness	Max Bundle	Tensile Strength	Mil-spec Reference	Qty/ Bag	Packs/ Carton
Miniature (18 lb.) Natural & UV Black									
CPGI-CTY-04-18-NAT-C	Natural Nylon	4.12 (104.77)	.095 (2.413)	.042 (1.06)	7/8 (22.22)	18 lbs.	MS3367-4	100	10
CPGI-CTY-04-18-NAT-M	Natural Nylon	4.12 (104.77)	.095 (2.413)	.042 (1.06)	7/8 (22.22)	18 lbs.	MS3367-4	1000	5
CPGI-CTY-04-18-BLK-C	UV Black Nylon	4.12 (104.77)	.095 (2.413)	.042 (1.06)	7/8 (22.22)	18 lbs.	MS3367-4	100	10
CPGI-CTY-04-18-BLK-M	UV Black Nylon	4.12 (104.77)	.095 (2.413)	.042 (1.06)	7/8 (22.22)	18 lbs.	MS3367-4	1000	5
CPGI-CTY-06-18-NAT-C	Natural Nylon	6.18 (157.14)	.095 (2.413)	.042 (1.06)	1.5 (38.10)	18 lbs.	MS3367-4	100	10
CPGI-CTY-06-18-BLK-C	UV Black Nylon	6.18 (157.14)	.095 (2.413)	.042 (1.06)	1-1/2 (38.10)	18 lbs.	MS3367-4	100	10
CPGI-CTY-08-18-NAT-C	Natural Nylon	8.1 (206)	.094 (2.39)	.042 (1.06)	2-3/16 (55.56)	18 lbs.	MS3367-4	100	10
CPGI-CTY-08-18-NAT-M	Natural Nylon	8.1 (206)	.094 (2.39)	.042 (1.06)	2-3/16 (55.56)	18 lbs.	MS3367-4	1000	5
CPGI-CTY-08-18-BLK-C	UV Black Nylon	8.1 (206)	.094 (2.39)	.042 (1.06)	2-3/16 (55.56)	18 lbs.	MS3367-4	100	10
CPGI-CTY-08-18-BLK-M	UV Black Nylon	8.1 (206)	.094 (2.39)	.042 (1.06)	2-3/16 (55.56)	18 lbs.	MS3367-4	1000	5
Intermediate (40 lb.) Natural & UV Black									
CPGI-CTY-05-40-NAT-C	Natural Nylon	5.84 (148.33)	.140 (3.56)	.049 (1.24)	1-7/16 (36.51)	40 lbs.	MS3367-5	100	10
CPGI-CTY-05-40-NAT-M	Natural Nylon	5.84 (148.33)	.140 (3.56)	.049 (1.24)	1-7/16 (36.51)	40 lbs.	MS3367-5	1000	5
CPGI-CTY-05-40-BLK-C	UV Black Nylon	5.84 (148.33)	.140 (3.56)	.049 (1.24)	1-7/16 (36.51)	40 lbs.	MS3367-5	100	10
CPGI-CTY-05-40-BLK-M	UV Black Nylon	5.84 (148.33)	.140 (3.56)	.049 (1.24)	1-7/16 (36.51)	40 lbs.	MS3367-5	1000	5
CPGI-CTY-08-40-NAT-C	Natural Nylon	8.88 (225.42)	.140 (3.56)	.049 (1.24)	2-3/8 (60.33)	40 lbs.	MS3367-5	100	10
CPGI-CTY-08-40-NAT-M	Natural Nylon	8.88 (225.42)	.140 (3.56)	.049 (1.24)	2-3/8 (60.33)	40 lbs.	MS3367-5	1000	5
CPGI-CTY-08-40-BLK-C	UV Black Nylon	8.88 (225.42)	.140 (3.56)	.049 (1.24)	2-3/8 (60.33)	40 lbs.	MS3367-5	100	10
CPGI-CTY-08-40-BLK-M	UV Black Nylon	8.88 (225.42)	.140 (3.56)	.049 (1.24)	2-3/8 (60.33)	40 lbs.	MS3367-5	1000	5
CPGI-CTY-11-40-NAT-C	Natural Nylon	11.5 (292)	.140 (3.56)	.058 (1.473)	3-3/8 (85.72)	40 lbs.		100	10
CPGI-CTY-11-40-BLK-C	UV Black Nylon	11.5 (292)	.140 (3.56)	.058 (1.473)	3-3/8 (85.72)	40 lbs.		100	10
CPGI-CTY-14-40-NAT-C	Natural Nylon	14.5 (368.30)	.140 (3.56)	.058 (1.473)	4 (101.60)	40 lbs.		100	10
CPGI-CTY-14-40-BLK-C	UV Black Nylon	14.5 (368.30)	.140 (3.56)	.058 (1.473)	4 (101.60)	40 lbs.		100	10
Standard (50 lb.) Natural, UV Black & Heat Stabilized Black									
CPGI-CTY-07-50-NAT-C	Natural Nylon	7.56 (192.07)	.180 (4.572)	.052 (1.32)	1-7/8 (47.63)	50 lbs.	MS3367-1	100	10
CPGI-CTY-07-50-NAT-M	Natural Nylon	7.56 (192.07)	.180 (4.572)	.052 (1.32)	1-7/8 (47.63)	50 lbs.	MS3367-1	1000	5
CPGI-CTY-07-50-BLK-C	UV Black Nylon	7.56 (192.07)	.180 (4.572)	.052 (1.32)	1-7/8 (47.63)	50 lbs.	MS3367-1	100	10
CPGI-CTY-07-50-BLK-M	UV Black Nylon	7.56 (192.07)	.180 (4.572)	.052 (1.32)	1-7/8 (47.63)	50 lbs.	MS3367-1	1000	5
CPGI-CTY-07-50-HS-BLK-C	Heat Stabilized Black Nylon	7.56 (192.07)	.180 (4.572)	.052 (1.32)	1-7/8 (47.63)	50 lbs.		100	10
CPGI-CTY-11-50-NAT-C	Natural Nylon	11.25 (285.75)	.180 (4.572)	.052 (1.32)	3-1/16 (77.79)	50 lbs.	MS3367-7-9	100	10
CPGI-CTY-11-50-NAT-D	Natural Nylon	11.25 (285.75)	.180 (4.572)	.052 (1.32)	3-1/16 (77.79)	50 lbs.	MS3367-7-9	500	5
CPGI-CTY-11-50-BLK-C	UV Black Nylon	11.25 (285.75)	.180 (4.572)	.052 (1.32)	3-1/16 (77.79)	50 lbs.	MS3367-7-9	100	10
CPGI-CTY-11-50-BLK-D	UV Black Nylon	11.25 (285.75)	.180 (4.572)	.052 (1.32)	3-1/16 (77.79)	50 lbs.	MS3367-7-9	500	5
CPGI-CTY-11-50-HS-BLK-C	Heat Stabilized Black Nylon	11.25 (285.75)	.180 (4.572)	.052 (1.32)	3-1/16 (77.79)	50 lbs.		100	10

AMP Cable Ties continues next page

Cable Ties & Accessories

AMP Cable Ties (continued)

Catalog Number	Description	Length	Width	Thickness	Max Bundle	Tensile Strength	Mil-spec Refence	Qty/ Bag	Packs/ Carton
Standard (50 lb.) Natural, UV Black & Heat Stabilized Black									
CPGI-CTY-14-50-NAT-C	Natural Nylon	14.56 (369.87)	.180 (4.572)	.052 (1.32)	4-1/8 (104.78)	50 lbs.	MS3367-2-9	100	10
CPGI-CTY-14-50-NAT-D	Natural Nylon	14.56 (369.87)	.180 (4.572)	.052 (1.32)	4-1/8 (104.78)	50 lbs.	MS3367-2-9	500	5
CPGI-CTY-14-50-BLK-C	UV Black Nylon	14.56 (369.87)	.180 (4.572)	.052 (1.32)	4-1/8 (104.78)	50 lbs.	MS3367-2-0	100	10
CPGI-CTY-14-50-BLK-D	UV Black Nylon	14.56 (369.87)	.180 (4.572)	.052 (1.32)	4-1/8 (104.78)	50 lbs.	MS3367-2-0	500	5
CPGI-CTY-14-50-HS-BLK-C	Heat Stabilized Black Nylon	14.56 (369.87)	.180 (4.572)	.052 (1.32)	4-1/8 (104.78)	50 lbs.		100	10
CPGI-CTY-17-50-NAT-C	Natural Nylon	17.09 (434.16)	.187 (4.749)	.060 (1.52)	4-3/4 (120.65)	50 lbs.		100	10
CPGI-CTY-17-50-BLK-C	UV Black Nylon	17.09 (434.16)	.187 (4.749)	.060 (1.52)	4-3/4 (120.65)	50 lbs.		100	10
Light Heavy-Duty, Heavy-Duty & Extra Heavy-Duty Natural, UV Black									
CPGI-CTY-15-120-NAT-L	Natural Nylon	15.09 (383.36)	.300 (7.62)	.076 (1.930)	4-1/16 (103.18)	120 lbs.	MS3367-3	50	10
CPGI-CTY-15-120-BLK-L	UV Black Nylon	15.09 (383.36)	.300 (7.62)	.076 (1.930)	4-1/16 (103.18)	120 lbs.	MS3367-3	50	10
CPGI-CTY-18-120-NAT-L	Natural Nylon	17.70 (449.58)	.305 (7.74)	.080 (2.032)	5-1/4 (133.35)	120 lbs.		50	10
CPGI-CTY-18-120-BLK-L	UV Black Nylon	17.70 (449.58)	.305 (7.74)	.080 (2.032)	5-1/4 (133.35)	120 lbs.		50	10
CPGI-CTY-24-120-NAT-L	Natural Nylon	24.18 (630.22)	.305 (7.74)	.080 (2.032)	7 (177.80)	120 lbs.		50	5
CPGI-CTY-24-120-BLK-L	UV Black Nylon	24.18 (630.22)	.305 (7.74)	.080 (2.032)	7 (177.80)	120 lbs.		50	5
CPGI-CTY-28-120-NAT-L	Natural Nylon	28.50 (723.9)	.305 (7.74)	.080 (2.032)	8 (203.20)	120 lbs.		50	5
CPGI-CTY-28-120-BLK-L	UV Black Nylon	28.50 (723.9)	.305 (7.74)	.080 (2.032)	8 (203.20)	120 lbs.		50	5
CPGI-CTY-25-175-NAT-L	Natural Nylon	25.25 (641.35)	.340 (8.64)	.090 (2.29)	7-1/8 (182.56)	175 lbs.	MS3367-10	50	5
CPGI-CTY-25-175-BLK-L	UV Black Nylon	25.25 (641.35)	.340 (8.64)	.090 (2.29)	7-1/8 (182.56)	175 lbs.	MS3367-10	50	5
CPGI-CTY-37-175-NAT-L	Natural Nylon	37.25 (946.15)	.340 (8.64)	.090 (2.29)	11 (279.40)	175 lbs.	MS3367-13	50	5
CPGI-CTY-37-175-BLK-L	UV Black Nylon	37.25 (946.15)	.340 (8.64)	.090 (2.29)	11 (279.40)	175 lbs.	MS3367-13	50	5
CPGI-CTY-48-175-NAT-L	Natural Nylon	48.50 (1231.9)	.340 (8.64)	.090 (2.29)	14-1/2 (368.30)	175 lbs.	MS3367-16	50	5
CPGI-CTY-48-175-BLK-L	UV Black Nylon	48.50 (1231.9)	.340 (8.64)	.090 (2.29)	14-1/2 (368.30)	175 lbs.	MS3367-16	50	5
CPGI-CTY-48-175-GRY-L	Gray Nylon	48.50 (1231.9)	.340 (8.64)	.090 (2.29)	14-1/2 (368.30)	175 lbs.	MS3367-16	50	5
CPGI-CTY-48-175-BLK-L	UV Black Nylon	48.50 (1231.9)	.340 (8.64)	.090 (2.29)	14-1/2 (368.30)	175 lbs.	MS3367-16	50	5
CPGI-CTY-22-250-NAT-C	Natural Nylon	21.93 (557.19)	.494 (12.54)	.086 (2.18)	6 (152.40)	250 lbs.		100	5
CPGI-CTY-22-250-BLK-C	UV Black Nylon	21.93 (557.19)	.494 (12.54)	.086 (2.18)	6 (152.40)	250 lbs.		100	5



Mounting Head Ties - Natural and UV Black

- One piece design allows for quicker mechanical mounting and reduced cost
- Secures and positions wire bundles, cables, hoses, etc. to panels or other surfaces with one mechanical fastener

Selection information: dimensions in inches (millimeters)

Catalog Number	Description	Length	Width	Thickness	Max Bundle	Tensile Strength	Screw Size	Qty/ Bag	Packs/ Carton
CPGI-CTY-05-30-MH-NAT-C	Natural Nylon	5.8 (149.2)	.138 (3.505)	.045 (1.143)	1-1/4 (31.75)	30 lbs.	No. 8	100	10
CPGI-CTY-05-30-MH-BLK-C	UV Black Nylon	5.8 (149.2)	.138 (3.505)	.045 (1.143)	1-1/4 (31.75)	30 lbs.	No. 8	100	10
CPGI-CTY-07-50-MH-NAT-C	Natural Nylon	8 (203.2)	.177 (4.495)	.052 (1.32)	1-3/4 (44.45)	50 lbs.	No. 10	100	5
CPGI-CTY-07-50-MH-BLK-C	UV Black Nylon	8 (203.2)	.177 (4.495)	.052 (1.32)	1-3/4 (44.45)	50 lbs.	No. 10	100	5
CPGI-CTY-11-50-MH-NAT-C	Natural Nylon	11.7 (298.4)	.191 (4.851)	.061 (1.5459)	3 (76.20)	50 lbs.	No. 10	100	5
CPGI-CTY-11-50-MH-BLK-C	UV Black Nylon	11.7 (298.4)	.191 (4.851)	.061 (1.5459)	3 (76.20)	50 lbs.	No. 10	100	5
CPGI-CTY-14-50-MH-NAT-C	Natural Nylon	14.5 (368.3)	.186 (4.724)	.060 (1.52)	4 (101.60)	50 lbs.	No. 10	100	5
CPGI-CTY-14-50-MH-BLK-C	UV Black Nylon	14.5 (368.3)	.186 (4.724)	.060 (1.52)	4 (101.60)	50 lbs.	No. 10	100	5
CPGI-CTY-16-120-MH-NAT-C	Natural Nylon	15.7 (398)	.298 (7.569)	.075 (1.90)	4-1/16 (103.12)	120 lbs.	1/4	100	5
CPGI-CTY-16-120-MH-BLK-C	UV Black Nylon	15.7 (398)	.298 (7.569)	.075 (1.90)	4-1/16 (103.12)	120 lbs.	1/4	100	5

Cable Ties & Accessories



In-Line Ties - Natural and UV Black

- Reduced head height compared to standard head designs
- Increased safety, eliminates snags, cuts and abrasions to cables, hoses, products, and users
- No sharp tail cutoffs - remaining tail slips back into head of tie leaving no exposed sharp edges
- Quick and safe removal - simply cut and pry top crossbar to release cable tie, eliminating damage to wires, tubing, etc.
- Flexible head design allows the head to easily flex around the total circumference of tubing or bundled wires
- Tamper proof pawl located under the tie's head makes it inaccessible when bundled
- Easy handling finger grips on the tail provide a no slip grip during insertion and tensioning
- Ideal applications: wire harnesses, confined spaces, control panels, marine, hoses, playgrounds, construction, appliances, and safety equipment

Selection information: dimensions in inches (millimeters)

Catalog Number	Description	Length	Width	Thickness	Max Bundle	Tensile Strength	Mil-Spec Reference	Qty/ Bag	Packs/ Carton
CPGI-CTY-07-50-LP-NAT-C	Natural Nylon	7.5 (191)	.177 (4.495)	.053 (1.35)	1-3/4 (44.45)	50 lbs.	MS3367-23	100	10
CPGI-CTY-07-50-LP-BLK-C	UV Black Nylon	7.5 (191)	.177 (4.495)	.053 (1.35)	1-3/4 (44.45)	50 lbs.	MS3367-23	100	10
CPGI-CTY-16-120-LP-NAT-C	Natural Nylon	16 (406.4)	.300 (7.62)	.075 (1.90)	41/6 (103.18)	120 lbs.		100	5
CPGI-CTY-16-120-LP-BLK-C	UV Black Nylon	16 (406.4)	.300 (7.62)	.075 (1.90)	41/6 (103.18)	120 lbs.		100	5



Push Mount Ties - Natural and UV Black

- Quick mounting one piece-design securely attaches bundle to panel
- Extra stability is created from the tensioning wings
- Thickness variations in materials is easily overcome with tensioning wings

Selection information: dimensions in inches (millimeters)

Catalog Number	Description	Length	Width	Thickness	Max Bundle	Tensile Strength	Hole Diameter	Panel Thickness	Qty/ Bag	Packs/ Carton
CPGI-CTY-07-50-PM-NAT-C	Natural Nylon	7.9 (203.00)	.189 (4.8)	.062 (1.574)	1-15/16 (50.00)	50 lbs.	1/4 (6.40)	3/16 (3.55)	100	5
CPGI-CTY-07-50-PM-BLK-C	UV Black Nylon	7.9 (203.00)	.189 (4.8)	.062 (1.574)	1-15/16 (50.00)	50 lbs.	1/4 (6.40)	3/16 (3.55)	100	5
CPGI-CTY-07-50-PMW-NAT-C	Natural Nylon	7.8 (200.00)	.189 (4.8)	.062 (1.574)	1-15/16 (50.00)	50 lbs.	1/4 (6.40)	3/16 (3.55)	100	5
CPGI-CTY-07-50-PMW-BLK-C	UV Black Nylon	7.8 (200.00)	.189 (4.8)	.062 (1.574)	1-15/16 (50.00)	50 lbs.	1/4 (6.40)	3/16 (3.55)	100	5

Cable Ties & Accessories



Plenum Rated - Halar Ties

- Halar cable ties feature low smoke density and high flame-resistance, and are ideal for plenum areas where smoke generation is a concern

Selection information: dimensions in inches (millimeters)

Catalog Number	Description	Length	Width	Thickness	Max Bundle	Tensile Strength	Qty/ Bag	Packs/ Carton
CPGI-CTY-04-18-HL-C	Maroon Halar	4.0 (102)	.094 (2.4)	.042 (1.07)	1/16 - 7/8	18 lbs	100	5
CPGI-CTY-08-50-HL-C	Maroon Halar	8.0 (203)	.178 (4.5)	.053 (1.35)	1/16 -	50 lbs	100	5

Halar is a trademark of Sovay Solexis, Inc.



Releasable Ties - Natural and UV Black

- Temporary or Permanent Bundling allows for quick addition or removal of wires or items
- Strap finger release latch allows easy access but reduces snags compared to top latch styles

Selection information: dimensions in inches (millimeters)

Catalog Number	Description	Length	Width	Thickness	Max Bundle	Tensile Strength	Qty/ Bag	Packs/ Carton
CPGI-CTY-05-50-RL-NAT-C	Natural Nylon	5.905 (150.00)	.299 (7.60)	.050 (1.27)	1-3/8 (35.00)	50 lbs.	100	10
CPGI-CTY-05-50-RL-BLK-C	UV Black Nylon	5.905 (150.00)	.299 (7.60)	.050 (1.27)	1-3/8 (35.00)	50 lbs.	100	10
CPGI-CTY-08-50-RL-NAT-C	Natural Nylon	7.87 (200)	.299 (7.60)	.053 (1.35)	2 (50.00)	50 lbs.	100	10
CPGI-CTY-08-50-RL-BLK-C	UV Black Nylon	7.87 (200)	.299 (7.60)	.053 (1.35)	2 (50.00)	50 lbs.	100	10
CPGI-CTY-12-50-RL-NAT-C	Natural Nylon	11.81 (300)	.299 (7.60)	.053 (1.35)	3 (76.20)	50 lbs.	100	10
CPGI-CTY-12-50-RL-BLK-C	UV Black Nylon	11.81 (300.00)	.299 (7.60)	.053 (1.35)	3 (76.20)	50 lbs.	100	10

Cable Ties & Accessories



Identification & Flag Cable Ties

- One easy step to identify and bundle items
- Flat ties extend from bundle to be easily seen when identification is critical
- Identification ties reduce snags while providing support to the bundle

Selection information: dimensions in inches (millimeters)

Catalog Number	Description	Length	Width	Thickness	Max Bundle	Tensile Strength	Pad Size	Qty/ Bag	Packs/ Carton
CPGI-CTY-04-18-ID-NAT-C	Natural Nylon	4.0 (102)	.100 (2.54)	.044 (1.12)	7/8 (22.22)	18 lbs.	5/16 x 1	100	5
CPGI-CTY-07-50-ID-NAT-C	Natural Nylon	7.8 (200)	.181 (4.59)	.055 (1.40)	1-7/8 (47.63)	50 lbs.	1/2 x 1.1/8	100	5
CPGI-CTY-14-50-ID-NAT-C	Natural Nylon	14.1 (358.10)	.187 (4.749)	.055 (1.40)	4 (101.60)	50 lbs.	1/2 x 1.1/8	100	5



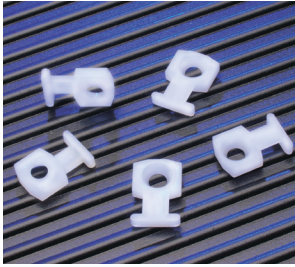
Mounting Pads

- Saves cable tie clinching time - the stay-n-place tab keeps cable tie head from sliding down behind bundle during applications and maintenance placement during horizontal applications
- Easy insertion of cable ties - lead-n-feature funnels cable ties into position and countersunk screw hole allows cable ties to easily pass over screw head
- Saves positioning time with the 4 sided entry and center screw hole

Selection information: dimensions in inches (millimeters)

Catalog Number	Description	Length	Height	Adhesive	Height	Width	Qty/ Bag	Packs/ Carton
CPGI-CTY-MP-750-NAT-C	Natural Nylon	.74 (18.7)	.19 (4.8)	Rubber	.05 (1.2)	.20 (5.0)	100	5
CPGI-CTY-MP-750-BLK-C	Black Nylon	.74 (18.7)	.19 (4.8)	Rubber	.05 (1.2)	.20 (5.0)	100	5
CPGI-CTY-MP-1000-NAT-C	Natural Nylon	.99 (25.1)	.20 (5.0)	Rubber	.06 (1.5)	.20 (5.0)	100	5
CPGI-CTY-MP-1000-BLK-C	Black Nylon	.99 (25.1)	.20 (5.0)	Rubber	.06 (1.5)	.20 (5.0)	100	5

Cable Ties & Accessories

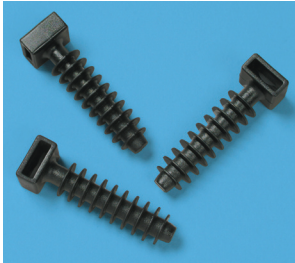


Low Profile Screw Mounts

- Reduces snags allowing bundles closer proximity to mounting material
- Confined spaces & control panels or other areas where space is limited
- Achieve extreme low height when combined with low profile cable ties

Selection information: dimensions in inches (millimeters)

Catalog Number	Description	Length	Slot Height	Slot Width	Height	Width	Qty/ Bag	Packs/ Carton
CPGI-CTY-LPM1-NAT-C	Natural Nylon	.75 (19.05)	.12 (3.04)	.50 (12.70)	.062 (1.587)	.18 (4.57)	100	5



Wall Mounts

- Saves cable tie cinching time - the stay-in-place tab keeps cable tie head from sliding down during vertical applications and maintains placement during horizontal applications
- Quickly secures and positions wire bundles, cables, hoses, etc. to walls
- One piece design allows for quicker mounting with no mechanical fastener, reducing time and cost

Selection information: dimensions in inches (millimeters)

Catalog Number	Shaft Description	Head Height	Shaft Height	Head Diameter	Slot Width	Head Width	Depth	Qty/ Bag	Packs/ Carton
CPGI-CTY-WM-BLK-C	Black Nylon	1.45/37.0	.248/6.3	.393/10.0	.50/12.7	.381/9.7	.492/12.5	100	5

Cable Ties & Accessories



Screw Mounts

- Secure support deep cradle design provides maximum support for large bundles and tubing
- Easy insertion of cable ties: deep recessed screw hole allows cable ties to pass over screw head

Selection information: dimensions in inches (millimeters)

Catalog Number	Description	Length	Height	Width	Slot Height	Slot Width	Qty/ Bag	Packs/ Carton
CPGI-CTY-SM1-NAT-C	Natural Nylon	.59 (14.98)	.27 (6.85)	.37 9.39	.062 (1.587)	.19 (4.82)	100	5
CPGI-CTY-SM1-BLK-C	Black Nylon	.59 (14.98)	.27 (6.85)	.37 9.39	.062 (1.587)	.19 (4.82)	100	5
CPGI-CTY-SM2-NAT-C	Natural Nylon	.87 (22.09)	.38 (9.65)	.64 16.25	.125 (3.175)	.30 (7.62)	100	5
CPGI-CTY-SM2-BLK-C	Black Nylon	.87 (22.09)	.38 (9.65)	.64 16.25	.125 (3.175)	.30 (7.62)	100	5



Wing Push Mounts & Button Mounts

- One piece design allows for quicker mounting with no mechanical fastener, reducing time and cost
- Quickly secures and positions wire bundles, cables, hoses, etc. to panels
- Easy insertion of cable ties through wide entry slot
- Extra stability is created from the push mount tensioning wings
- Saves cable tie cinching time. The button mount's stay-n-place tab keeps cable ties from sliding during application

Selection information: dimensions in inches (millimeters)

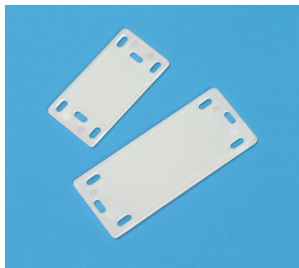
Wing Push Mounts

Catalog Number	Description	Height	Depth	Wing Width	Head Width	Slot Width	Mount Width	Qty/ Bag	Packs/ Carton
CPGI-CTY-PMW-NAT-C	Natural Nylon	.732 (18.6)	.375 (9.5)	.79 (20.1)	.422 (10.72)	.31 (8.1)	.244 (6.2)	100	5

Button Mounts

Catalog Number	Description	Height	Exposed	Shaft Length	Button Diameter	Slot Width	Shaft Diameter	Qty/ Bag	Packs/ Carton
CPGI-CTY-BM-BLK-C	Black Nylon	.535 (13.6)	.248 (6.3)	.287 (7.3)	.634 (16.12)	.196 (5.0)	.299 (7.6)	100	5

Cable Ties & Accessories



Identification Plates

- Allows larger print when information and visibility is critical
- Increased surface area provides twice the area as conventional identification cable ties
- Orientation variety: apply to bundle vertically or horizontally
- For use with 18 lb., 40 lb., and 50 lb. cable ties

Selection information: dimensions in inches (millimeters)

Catalog Number	Description	Length	Width	Slot Thickness	Slot Height	Width	Qty/ Bag	Packs/ Carton
CPGI-CTY-IDP-1-NAT-C	Natural Nylon	1.57 (40.0)	.787 (20.0)	.039 (1.0)	.08 (2.03)	.18 (4.57)	100	5
CPGI-CTY-IDP-2-NAT-C	Natural Nylon	2.36 (60.0)	.984 (25.0)	.039 (1.0)	.08 (2.03)	.18 (4.57)	100	5



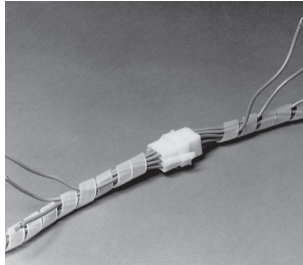
Cable Clamps

- Designed to secure the routing of cables, harnesses, and hoses
- Radius edges protect against insulation, abrasion, and cutting hoses
- Quick alignment is achieved with bottom oval screw hole
- Accurate selection is made easy with clearly identified diameter sizes

Selection information: dimensions in inches (millimeters)

Catalog Number	Description	Screw Hole	Diameter	Width	Center to Center	Thickness	Qty/ Bag	Packs/ Carton
CPGI-CTY-CCL-125-NAT-C	Natural Nylon	.181 (4.6)	.126 (3.2)	.378 (9.6)	.374 (9.5)	.055 (1.4)	100	5
CPGI-CTY-CCL-125-BLK-C	Black Nylon	.181 (4.6)	.126 (3.2)	.378 (9.6)	.374 (9.5)	.055 (1.4)	100	5
CPGI-CTY-CCL-250-NAT-C	Natural Nylon	.181 (4.6)	.250 (6.3)	.394 (10.0)	.394 (10.0)	.055 (1.4)	100	5
CPGI-CTY-CCL-250-BLK-C	Black Nylon	.181 (4.6)	.250 (6.3)	.394 (10.0)	.394 (10.0)	.055 (1.4)	100	5
CPGI-CTY-CCL2-375-NAT-C	Natural Nylon	.181 (4.6)	.374 (9.5)	.472 (12.0)	.492 (12.5)	.059 (1.5)	100	5
CPGI-CTY-CCL2-375-BLK-C	Black Nylon	.181 (4.6)	.374 (9.5)	.472 (12.0)	.492 (12.5)	.059 (1.5)	100	5
CPGI-CTY-CCL2-500-NAT-C	Natural Nylon	.181 (4.6)	.500 (12.7)	.472 (12.0)	.598 (15.2)	.059 (1.5)	100	5
CPGI-CTY-CCL2-500-BLK-C	Black Nylon	.181 (4.6)	.500 (12.7)	.472 (12.0)	.598 (15.2)	.059 (1.5)	100	5
CPGI-CTY-CCL2-750-NAT-C	Natural Nylon	.181 (4.6)	.764 (19.4)	.472 (12.0)	.717 (18.2)	.059 (1.5)	100	5
CPGI-CTY-CCL2-750-BLK-C	Black Nylon	.181 (4.6)	.764 (19.4)	.472 (12.0)	.717 (18.2)	.059 (1.5)	100	5
CPGI-CTY-CCL2-1000-NAT-C	Natural Nylon	.181 (4.6)	1.00 (25.4)	.472 (12.0)	.866 (22.0)	.071 (1.8)	100	5
CPGI-CTY-CCL2-1000-BLK-C	Black Nylon	.181 (4.6)	1.00 (25.4)	.472 (12.0)	.866 (22.0)	.071 (1.8)	100	5

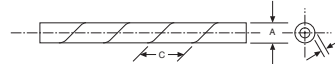
Plastic Cable Wrap



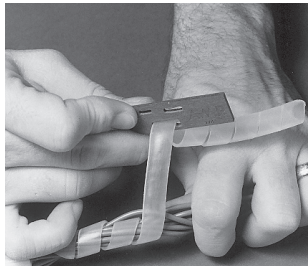
**Plastic Cable Wrap
SPIRAP Hand Tool**

- Provides abrasion protection for wires, cables, tubing, and hoses
- Attractive - makes neat, compact uniform bundles
- Break-out at any point along the bundle
- Moisture resistant - will not hold "cable-rotting" moisture
- Meets military and commercial specifications
- Available in three sizes converting from 1/16-inch (1.58) to 4-inch (101.60) diameter bundles
- Quickly applied by hand or by supplied hand tool

Selection information: dimensions in inches (millimeters)



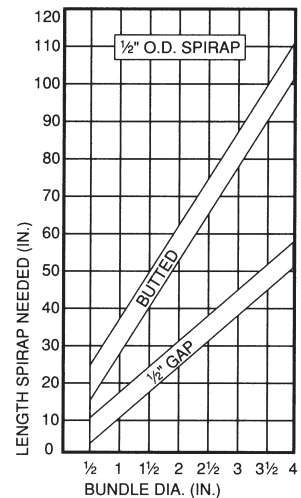
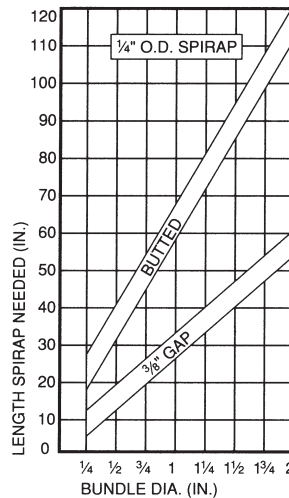
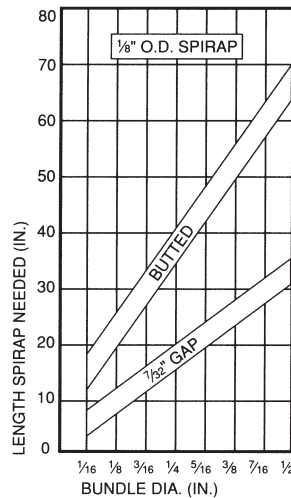
Catalog Number	Max. Bundle O.D. Size	Dia. Range	Dimensions			Length		Std. Pack
			A	B	C	Ft/Box	M/Box	
AMPS-O-0500000-1	1/8 (3.18)	1/16 - 1/2 (1.59 - 12.70)	.125 (3.18)	.031 (.70)	.218 (5.54)	50	15.24	50
AMPS-O-0500001-1	1/4 (6.35)	3/16 - 2 (4.76 - 50.8)	.250 (6.25)	.045 (1.14)	.375 (9.53)	50	15.24	50
AMPS-O-0500002-1	1/2 (12.70)	3/8 - 4 (9.53 - 101.6)	.500 (12.70)	.062 (1.57)	.500 (12.70)	50	15.24	50



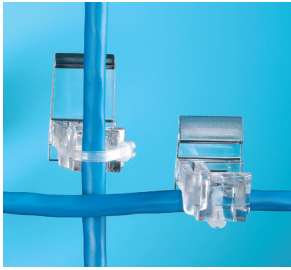
SPIRAP Hand Tool

Part Number 500901

Furnished with each box, the SPIRAP hand tool increases the spread of application and permits uniform wrapping along the bundle length. The hand tool is slotted for 1/8-inch (3.18), 1/4-inch (6.35) and 1/2-inch (12.70) SPIRAP tubing.



Retaining Clips



Exterior Siding Wire Retaining Clips

Exterior siding clips offer a low cost, efficient means of routing and retaining wire on aluminum and vinyl siding. All clips snap under the siding lap joint.

Selection information: dimensions in inches (millimeters)

Catalog Number	Type	Depth	Height	Width	Std. Pack
CPGI-061-0114A	Aluminum	0.750	0.750	0.600	5
CPGI-061-0114V	Vinyl	0.750	0.980	0.600	5



Exterior Masonry Wire Retaining Clips

Masonry Clips are supplied with pre-inserted hardened, zinc coated nails. These masonry clips can be mounted to cinder block, masonry, and other forms of concrete. All siding clips are made from high-impact flame-retardant polycarbonate and are compatible with current designs of datacom, CATV, and telecom wire.

Selection information: dimensions in inches (millimeters)

Catalog Number	Type	Opening Dimension	Std. Pack
CPGI-063-0020	Masonry	0.500	5

Duct Sealing System



**Duct Sealing System
RDSS Sealing System**

RDSS duct sealing system has been designed for use in conjunction with plastic, concrete, or steel ducts to provide a watertight duct seal. The RDSS duct sealing system seals cable ducts and helps to prevent flooding in cable vaults, access manholes, substation basements, and customer feeds. It can be installed while the water is flowing - see photograph.

Provides watertight seal

The RDSS sealing system consists of an inflatable, sealed bladder of flexible, metallic laminate material, which has pre installed, high-temperature sealant strips on both sides. The bladder is first inflated to 45 psi (three-bar) internal pressure, and then presses the sealant against the duct wall and onto the substrate. The bag uses a self-sealing gel material to seal the filling hole when the filling tube is removed.

Seals multiple cable ducts

For applications with three or more cables, an RDSS-CLIP is inserted between the cables. The RDSS CLIP is a high-temperature mastic mounted on an installation stick. It seals the area between the cables when used in conjunction with the RDSS inflatable bladder. Acceptable to use on medium voltage cables including unjacketed concentric neutral.

Selection information: dimensions in inches (millimeters)

Duct Inner Diameter	Number of Cables in Duct / Maximum Cable Bundle Diameter			
	0, 1, or 2 Cables	3 or 4 Cables		5, 6, or 7 Cables
1.25 (32)	RDSS-45 0.5 (13)	RDSS-45, 1 RDSS-CLIP-45	0.3 (8)	RDSS-45, 2 RDSS-CLIP-45 0.1 (3)
1.50 (38)	RDSS-45 1.0 (25)	RDSS-45, 1 RDSS-CLIP-45	0.8 (20)	RDSS-45, 2 RDSS-CLIP-45 0.6 (15)
1.75 (45)	RDSS-45 1.3 (32)	RDSS-45, 1 RDSS-CLIP-45	1.05 (27)	RDSS-45, 2 RDSS-CLIP-45 0.9 (22)
2.00 (50)	RDSS-60 1.2 (30)	RDSS-60, 1 RDSS-CLIP-75	1.0 (25)	RDSS-60, 2 RDSS-CLIP-75 0.8 (20)
2.25 (57)	RDSS-60 1.6 (41)	RDSS-75, 1 RDSS-CLIP-75	1.4 (36)	RDSS-75, 2 RDSS-CLIP-75 1.2 (31)
2.50 (64)	RDSS-75 1.5 (38)	RDSS-75, 1 RDSS-CLIP-75	1.3 (33)	RDSS-75, 2 RDSS-CLIP-75 1.1 (28)
2.75 (70)	RDSS-75 1.8 (46)	RDSS-75, 1 RDSS-CLIP-75	1.6 (41)	RDSS-75, 2 RDSS-CLIP-75 1.4 (36)
3.00 (75)	RDSS-75 2.2 (56)	RDSS-75, 1 RDSS-CLIP-75	2.0 (50)	RDSS-75, 2 RDSS-CLIP-75 1.8 (46)
3.25 (83)	RDSS-100 2.2 (56)	RDSS-100, 1 RDSS-CLIP-100	2.0 (50)	RDSS-100, 2 RDSS-CLIP-100 1.8 (46)
3.50 (89)	RDSS-100 2.6 (66)	RDSS-100, 1 RDSS-CLIP-100	2.4 (61)	RDSS-100, 2 RDSS-CLIP-100 2.2 (56)
3.75 (95)	RDSS-100 2.9 (74)	RDSS-100, 1 RDSS-CLIP-100	2.7 (69)	RDSS-100, 2 RDSS-CLIP-100 2.5 (64)
4.00 (100)	RDSS-100 3.2 (80)	RDSS-100, 1 RDSS-CLIP-100	3.0 (75)	RDSS-100, 2 RDSS-CLIP-100 2.8 (70)
4.25 (108)	RDSS-100 3.5 (89)	RDSS-100, 1 RDSS-CLIP-100	3.3 (85)	RDSS-100, 2 RDSS-CLIP-100 3.1 (79)
4.50 (114)	RDSS-100 3.5 (89)	RDSS-100, 1 RDSS-CLIP-100	3.3 (85)	RDSS-100, 2 RDSS-CLIP-100 3.1 (79)
4.75 (121)	RDSS-125 3.8 (97)	RDSS-125, 1 RDSS-CLIP-125	3.6 (92)	RDSS-125, 2 RDSS-CLIP-125 3.4 (87)
5.00 (125)	RDSS-125 4.1 (104)	RDSS-125, 1 RDSS-CLIP-125	3.9 (98)	RDSS-125, 2 RDSS-CLIP-125 3.7 (93)
5.25 (133)	RDSS-150† 4.3 (109)	RDSS-150†, 1 RDSS-CLIP-150	4.1 (104)	RDSS-150†, 2 RDSS-CLIP-150 3.9 (98)
5.50 (140)	RDSS-150† 4.7 (120)	RDSS-150†, 1 RDSS-CLIP-150	4.5 (114)	RDSS-150†, 2 RDSS-CLIP-150 4.3 (109)
5.75 (146)	RDSS-150† 4.9 (124)	RDSS-150†, 1 RDSS-CLIP-150	4.7 (119)	RDSS-150†, 2 RDSS-CLIP-150 4.5 (114)
6.00 (150)	RDSS-150† 5.1 (129)	RDSS-150†, 1 RDSS-CLIP-150	4.9 (124)	RDSS-150†, 2 RDSS-CLIP-150 4.7 (120)
6.25 (159)	RDSS-150† 5.4 (138)	RDSS-150†, 1 RDSS-CLIP-150	5.2 (133)	RDSS-150†, 2 RDSS-CLIP-150 5.0 (125)
6.50 - 8.00 (165 - 210mm)	Ducts in this range require the use of RDSS-AD-210 adapter. Contact Tyco Electronics for application information.			

†See Ordering information.

RDSS sealing system continues next page

Duct Sealing System

RDSS Sealing System continues

Ordering information

- In ducts where the cable/cable bundle is less than 2.4"(60mm) in diameter, an RDSS-AT/AP-150 device must be used in conjunction with the RDSS-150.
- Standard package: RDSS = 10 kits/box or 3 kits/box RDSS-CLIP = 5 clips/box
RDSS-TOOLS = 1 each/box, CO2 cartridges = 10 each/box,
RDSS-AT/AP-150 = 1 each/box
- Related test report: EDR-5253
- S-1278 sealant, used in RDSS-CLIPS, is available separately.

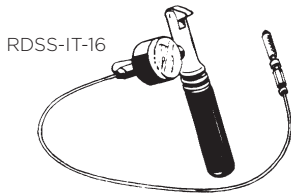
RDSS sealing clip

RDSS duct sealing clips are to be used if the duct is occupied by more than two cables. The maximum number of cables sealed with one RDSS-CLIP is four. If more cables are to be sealed, one extra clip is needed for every three additional cables. Check with your Tyco Electronics representative for applications with more than seven cables.

Catalog Number	Kit Used With
RDSS-CLIP-45	RDSS-45
RDSS-CLIP-75	RDSS-75 and RDSS-60
RDSS-CLIP-100	RDSS-100
RDSS-CLIP-125	RDSS-125
RDSS-CLIP-150	RDSS-150

RDSS Installation Tools

RDSS duct seals can be installed with a variety of inflation tools having the capability of inflating RDSS to 4533 psi (3 bar) of pressure. The tools Tyco Electronics offers are summarized in the table below. The tool will only accept 16-gr CO2 gas cylinders (listed below).



Catalog Number	Description	Std. Pack
RDSS-IT-16	Inflation tool designed with an ON/OFF switch and an automatic pressure-monitoring system. The required CO2 gas cylinders (E7512-0160) must be ordered separately.	1 tool/box
E7512-0160	16-gr CO2 gas cylinders for the RDSS-IT-16 tool. Each gas cylinder inflates approximately four RDSS-100 duct seals.	10 cylinders/box
RDSS-IG-SR-AS	Inflation tool designed for use with customer's own source of nitrogen or compressed air. Features a pressure gauge, automatic shutoff, VGF valve connection, and two alternate connections for plastic or rubber hoses.	1 tool/box
E7512-0220	Tube snap assembly.	1 each/box
E7512-0240	Spare part for RDSS-IT-16 inflation tool.	1 each/box
E7512-0260	Spare pressure gauge assembly for RDSS-IT-16 inflation tool.	1 each/box
S-1278-3 x 61 x 7620	Spare delivery pipe for RDSS-IT-16 inflation tool.	1 each/box
RDSS-AT/AP-150	RDSS sealant roll.	1 25-ft roll/box
	For use with the RDSS-150 in duct 5.25" or larger with cable/cable bundles less than 2.4" (60mm) in diameter.	1 each/box
RDSS-AD-210	Adapter for ducts 6.5 - 8.0" (165 - 210mm) diameter	4 each/box
E4540-1250	RDSS-LUBE for installation of RDSS.	25 each/box

Duct Sealing System



Blank Duct Plugs
Duct Plugs / Sealing Ducts

Blank duct plugs effectively seal empty conduits to reduce the cost of cable placement and maintenance in new underground construction projects and routine work. These plugs prevent the flow of water and the costly sedimentation of duct banks and conduit systems while confining problems of dangerous vapors to their source.

- High-impact plastic components, combined with durable elastic gaskets
- Corrosion proof and effective as long-term or temporary seals
- Water-tight and gas-tight
- Equipped with a rope tie device to allow the securing of pull rope to the plug's back compression plate
- Removable and reusable

Selection information: dimensions in inches (millimeters)

Catalog Number*	Plug Diameter	Duct ID Range		Std. Pack
		Inch	mm	
CPGI-JM-BLA-07D100U	0.700	0.71 - 0.83	18.0 - 21.1	12
CPGI-JM-BLA-10D104U	1.000	0.96 - 1.16	24.4 - 29.5	12
CPGI-JM-BLA-12D148U	1.250	1.14 - 1.48	29.0 - 37.6	12
CPGI-JM-BLA-12D163U	1.375	1.30 - 1.63	33.0 - 41.4	12
CPGI-JM-BLA-15D183U	1.500	1.49 - 1.83	37.8 - 46.5	12
CPGI-JM-BLA-20D236U	2.000	1.83 - 2.36	46.5 - 59.9	12
CPGI-JM-BLA-25D296U	2.500	2.34 - 2.96	59.4 - 75.2	12
CPGI-JM-BLA-30D346U	3.000	2.99 - 3.46	75.9 - 87.9	12
CPGI-JM-BLA-35D400N	3.500	3.45 - 3.80	86.9 - 96.5	12
CPGI-JM-BLA-35D400U	3.500	3.45 - 3.80	86.9 - 96.5	12
CPGI-JM-BLA-40D402N	4.000	3.94 - 4.17	100.1 - 105.9	8
CPGI-JM-BLA-40D402U	4.000	3.94 - 4.17	100.1 - 105.9	8
CPGI-JM-BLA-40D402U-C	4.000	3.94 - 4.17	100.1 - 105.9	8
CPGI-JM-BLA-50D500U	5.000	4.58 - 5.02	116.3 - 127.5	8
CPGI-JM-BLA-50D535U	5.000	5.00 - 5.35	127 - 135.9	8
CPGI-JM-BLA-60D637U	6.000	5.82 - 6.37	147.8 - 161.8	8
CPGI-JM-BLA-80D816U	8.000	7.83 - 8.27	198.9 - 210.1	8

* T - Temporary Plug, CR - CR Rubber Gasket, C - Custom Gasket, N - Nut Version



TELECOM / DATACOM / COAX



Telecom Datacom

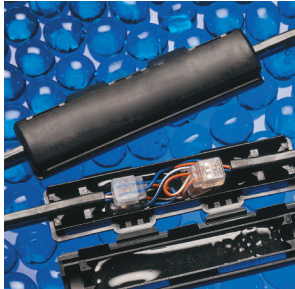
Water-Resistant Telephone/CAT-5 Splice Kits & Covers	67
Water-Resistant Drop Wire Splices & Taps	67

Coax

Water-Resistant Coax Splice Kits & Covers	68
Water-Resistant Coax Boot Covers	68



Telecom/Datacom



Water-Resistant Telephone/CAT-5 Splice Kits & Covers

CERTI-SEAL Aerial Splice Closure

The telephone wire splice kits and covers are designed for direct buried splicing of Telco and Datacom cables. These quickly installed, low-cost splice kits can be used to repair damaged telecom and datacom cables. The water-resistant, gel-filled construction seals out the environment, withstands 14 days immersion without signal degradation, and withstands extreme temperatures. One-piece housing snaps on and requires no special tools.

Selection information

Catalog Number	Cable Type	Connectors	Std. Pack
CPGI-1116542-1	Telephone (2 pr.)	No	5
CPGI-1116542-1-K	Telephone (2 pr.)	Yes (4)	5
CPGI-1217204-1	Telephone (2 or 6 pr.)	No	5
CPGI-1217204-1-K	Telephone (2 or 6 pr.)	Yes	5



Water-Resistant Drop Wire Splices & Taps

Tel-Splice Connectors

Water-resistant insulation displacement, gel-filled splice and tap connectors provide an economical and reliable means of splicing telephone/CAT-5 cable conductors. These tiny splices and taps are highly durable and resistant to moisture and chemical attack. No pre-stripping required reduces operator preparation.

Selection information

Catalog Number	Cable Type	Connectors	Pcs./Pack	Packs/ Carton
CPGI-552795-2	Telephone	2-Wire	20	5
CPGI-1-552678-2	Telephone	3-Wire	20	5
CPGI-1-553017-2	Telephone	Half-Tap	20	5
CPGI-5-554374-7	Telephone	Cap (No Gel)	20	5

Coax



Water-Resistant Coax Splice Kits & Covers
CERTI-SEAL Coax Splice Closure

Coax splice kits and covers are designed for direct buried splicing of Series RG-59 and RG-6 coaxial cables. These quickly installed, low-cost kits and covers can be used to repair damaged coax cable. The water-resistant gel-filled construction seals out environment, withstands 14 days immersion without signal degradation and withstands extreme temperatures. One-piece housing snaps on and requires no special tools.

Selection information

Catalog Number	Cable Type	Connectors	Pcs./Pack	Packs/ Carton
CPGI-569224-1	Coax (6/59)	No	1	5
CPGI-569224-1-K	Coax (6)	Yes	1	5
CPGI-569661-1	Coax (7/11)	No	1	5
CPGI-569661-1-K	Coax (11)	Yes	1	5



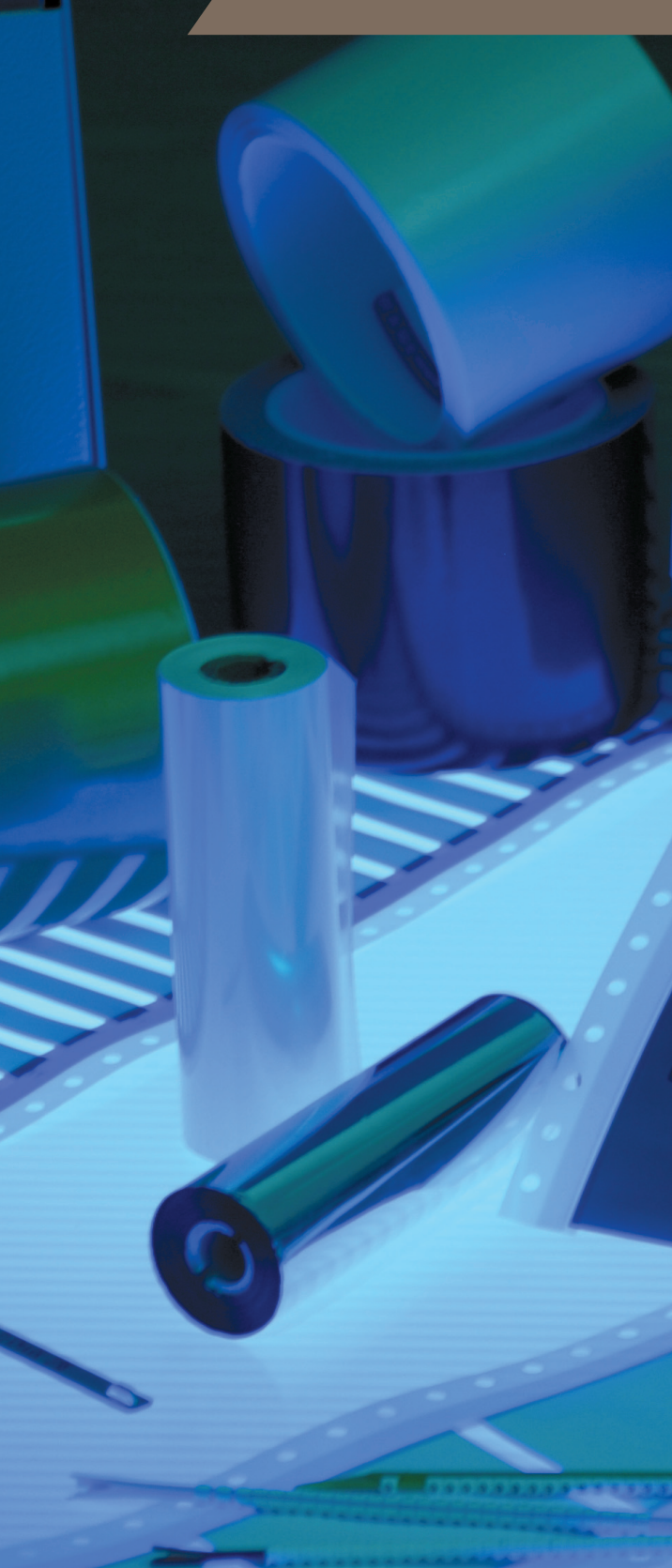
Water-Resistant Coax Boot Covers
Gel Closure for Sealing F-Connectors

The VST gel closure system provides corrosion resistant sealing of an F-connector exposed to the outside environment. The housing contains innovative gel material and provides an efficient moisture block. The ease of installation together with the long-term protection makes VST a cost effective solution

Selection information

Catalog Number	Cable Type	Connectors	Pcs./Pack	Packs/ Carton
CPGI-VST-02/1	Coax	No	2	5

IDENTIFICATION SOLUTIONS



Heat-Shrink Markers

ShrinkMark Heat-Shrinkable Sleeves	71
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Cable Markers

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Heat-Shrink Markers



ShrinkMark Heat-Shrinkable Sleeves

ShrinkMark sleeves are suitable for a wide variety of applications. Heat-shrinkable sleeves provide legible identification for all types of cables used by electrical contractors and instrumentation control manufacturers.

Because ShrinkMark sleeves are extruded from Tyco Electronics tubing, they have a low installed profile with no edges to snag. The crosslinked polyolefin construction makes ShrinkMark sleeves resistant to abrasion, aggressive cleaning solvents, and industrial fluids.

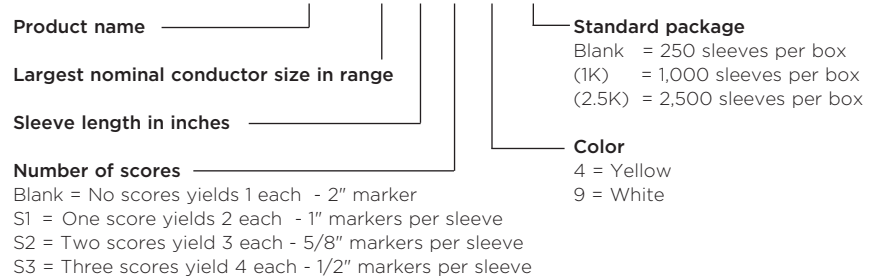
ShrinkMark sleeves are ideal for tough industrial environments, including switchgear, motor control centers, and terminal boxes. They shrink faster than conventional thermoplastic tags.

- Shrink ratio of 3:1
- Expanded sleeve diameters from .125"(3.125mm) to 1.50" (38mm)
- Sleeves come in 2.00"(50mm) lengths
- Flame retardant. Sleeves meet UL 224
- Print performance to military requirements
- ShrinkMark sleeves can be supplied pre-scored for a more economical use of material
- Several packaging options to choose from: 250, 1,000 or 2,500 pieces per box
- Standard colors are white and yellow
- Elliptical shape leaves un-shrunk sleeves in place
- Temperature Range: -30°C to 105°C

Selection Information: dimensions in inches (millimeters)

Product Order Code Replace - 9 with - 4 if Yellow is needed	Wire Size	Nominal Diameter	Recovered Diameter
ShrinkMark-18-2-9	#22 - #18	0.125 (3)	0.042 (1)
ShrinkMark-18-2-S1-9	#22 - #18	0.125 (3)	0.042 (1)
ShrinkMark-12-2-9	#18 - #12	0.187 (5)	0.062 (2)
ShrinkMark-12-2-S1-9	#18 - #12	0.187 (5)	0.062 (2)
ShrinkMark-10-2-9	#16 - #10	0.250 (6)	0.083 (2)
ShrinkMark-10-2-S1-9	#16 - #10	0.250 (6)	0.083 (2)
ShrinkMark-2-2-9	#10 - #2	0.500 (13)	0.167 (4)
ShrinkMark-2-2-S1-9	#10 - #2	0.500 (13)	0.167 (4)
ShrinkMark-250-2-9	#1 - 250	1.00 (25)	0.333 (9)
ShrinkMark-250-2-S1-9	#1 - 250	1.00 (25)	0.333 (9)
ShrinkMark-1000-2-9	350 - 1000	1.40 (36)	0.740 (19)
ShrinkMark-1000-2-S1-9	350 - 1000	1.40 (36)	0.740 (19)

ShrinkMark 10 - 2 - S2 - 9 (1K)

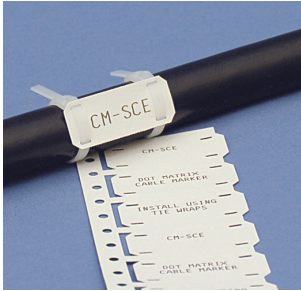


Recommended

- Printers**
 IDP-T208M-PRINTER
 IDP-T312M-PRINTER
 IDP-AM6310-110V-PRINTER

- Ribbons**
 IDP-T208M-RIBBON
 IDP-TMS-RJS-RIBN-4RPSCE
 IDP-1892BK04-RIBBON

Cable Markers



CM-SCE Cable Markers

CM-SCE cable markers provide a reliable method of identification of larger cables and bundles. They can be installed using standard nylon tie wraps.

- Cable markers are a standard 2"(55mm) length that come in a .25"(6.25mm) or .50"(2.5mm) width
- Flame retardant
- Cable Markers meet UL 224
- Print performance to military requirements
- Standard color is white
- Temperature Range: -55°C to 135°C

Selection Information

Catalog Number	Description	Std. Pack
IDP-CM-SCE-25-4H-9	1/4" Cable Marker, 4 hole	250
IDP-CM-SCE-50-4H-9	1/2" Cable Marker, 4 hole	250
IDP-CM-SCE-50-6H-9	1/2" Cable Marker, 6 hole	250

Recommended

Printers

IDP-AM6310-110V-PRINTER

Ribbons

IDP-1892BK04-RIBBON



HL Cable Markers

HL cable markers are a cost effective way to identify cables already terminated. Like CM-SCE cable markers, cable ties are used to secure the label to cables or bundles.

- Easy to use fan-fold format for easy kitting and marker selection
- Cable markers are available in 1.75"(44mm) - 3.50" (87.5mm) lengths and .375" (9.4mm) - 1.0" (25mm) widths
- Standard color is white
- Temperature Range: -55°C to 135°C

Selection Information: dimensions in inches (millimeters)

Catalog Number	Dimensions W x H	Printable Area W x H	Pcs/ Pack	Std. Pack
IDP-HL104WEITS025B	1.800 x 0.400 (45.00 x 10.40)	1.000 x 0.400 (25.00 x 10.40)	1000	1
IDP-HL104WEITS033B	2.100 x 0.400 (52.00 x 10.40)	1.300 x 0.400 (33.00 x 10.40)	1000	1
IDP-HL104WEITS038B	2.300 x 0.400 (58.00 x 10.40)	1.500 x 0.400 (38.00 x 10.40)	1000	1
IDP-HL104WEITS050B	2.750 x 0.400 (70.00 x 10.40)	2.000 x 0.400 (50.00 x 10.40)	1000	1
IDP-HL104WEITS070B	3.500 x 0.400 (90.00 x 10.40)	2.750 x 0.400 (70.00 x 10.40)	1000	1
IDP-HL203WEITS025B	1.800 x 0.800 (45.00 x 20.30)	1.000 x 0.800 (25.00 x 20.30)	500	1
IDP-HL203WEITS033B	2.100 x 0.800 (52.00 x 20.30)	1.300 x 0.800 (33.00 x 20.30)	500	1
IDP-HL203WEITS038B	2.300 x 0.800 (58.00 x 20.30)	1.500 x 0.800 (38.00 x 20.30)	500	1
IDP-HL203WEITS050B	2.750 x 0.800 (70.00 x 20.30)	2.000 x 0.800 (50.00 x 20.30)	500	1
IDP-HL203WEITS070B	3.500 x 0.800 (90.00 x 20.30)	2.750 x 0.800 (70.00 x 20.30)	500	1
IDP-HL253WEITS025B	1.800 x 1.000 (45.00 x 25.30)	1.000 x 1.000 (25.00 x 25.30)	250	1
IDP-HL253WEITS033B	2.100 x 1.000 (52.00 x 25.30)	1.300 x 1.000 (33.00 x 25.30)	250	1
IDP-HL253WEITS038B	2.300 x 1.000 (58.00 x 25.30)	1.500 x 1.000 (38.00 x 25.30)	250	1
IDP-HL253WEITS050B	2.750 x 1.000 (70.00 x 25.30)	2.000 x 1.000 (50.00 x 25.30)	250	1
IDP-HL253WEITS070B	3.500 x 1.000 (90.00 x 25.30)	2.750 x 1.000 (70.00 x 25.30)	250	1

Recommended

Printers

IDP-T312M-PRINTER

Ribbons

IDP-TMS-RJS-RIBN-4RPSCE

Cable Markers



HLX-NEL Cable Markers

Tyco Electronics HLX markers are assembled in Narrow Edge Leading (NEL) format for use in the T208M printer. Markers are manufactured from low fire hazard polyolefin material making them ideal in applications where low smoke, low toxicity and zero halogen are critical.

- Ideal for pre- or post- termination assembly
- Attach using standard cable ties
- Available in white and yellow
- Temperature Range: -40°C to 105°C

Selection Information: dimensions in inches (millimeters)

Catalog Number	Marker Dimensions	Number of Printable Area	Markers Across	Std. Pack
IDP-HLX125WE4NEL60S	3.15 x 0.49 (80 x 12.5)	2.35 x 0.4 (60 x 10.50)	4	200
IDP-HLX125WE2NEL60S	3.15 x 0.49 (80 x 12.5)	2.35 x 0.4 (60 x 10.50)	2	200
IDP-HLX125YW4NEL60S	3.15 x 0.49 (80 x 12.5)	2.35 x 0.4 (60 x 10.50)	4	200
IDP-HLX125YW2NEL60S	3.15 x 0.49 (80 x 12.5)	2.35 x 0.4 (60 x 10.50)	2	200

Recommended

Printers

IDP-T208M-PRINTER

Ribbons

IDP-T200-RIBBON-1966

Cable Markers



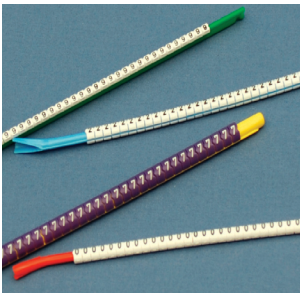
Permark Pre-Printed 316 Stainless Steel Markers

Permark stainless steel markers and identification plates are designed to withstand the most hostile environments. Using state-of-the-art technology and no inks, the marking process produces a permanent, deep surface mark. Permark markers are produced for individual customer requirements on a fast turn-around basis.

- Pre-marked to customer requirements
- Transfer of data files electronically
- Excellent chemical, abrasion, corrosion, and weather resistance
- One-piece, 316 stainless steel construction
- Stainless steel cable ties are also available
- Temperature Range: -80°C to 500°C

Selection Information: dimensions in inches (millimeters)

Catalog Number	Description	Std. Pack
IDP-PM09512	Stainless Steel 4mm, 3.74 x 0.47 (95 x 12) marker - Pre-Printed (max 25 characters)	1
IDP-PM09512-BLANK	Stainless Steel 4mm, 3.74 x 0.47 (95 x 12) marker - Blank	1
IDP-PM07507	Stainless Steel 4mm, 2.95 x 0.28 (75 x 7) marker - Pre-Printed (max 20 characters)	1
IDP-PM07507-BLANK	Stainless Steel 4mm, (75 x 70) marker - Blank	1
IDP-SST141-316	SS cable tie 0.18 x 14.3 (4.6 x 360), Ties/ Pack 100	100
IDP-SST71-316	SS cable tie 0.18 x 7.9 (4.6 x 200), Ties/ Pack 100	100



Snap-On Markers

Snap-on markers represent the best snap-on wire marking system available. Convenient and easy to use, these markers are supplied on a "wand" applicator that simplifies and reduces installation time and saves on the cost of marking.

- Perfect way to permanently and rapidly mark cables and wires after installation
- Resistant against oils, cleaning agents, and fuels
- Markers come in white with black print. Color-coding options available for markers 0-9
- Temperature Range: -40°C to 106°C

Selection Information: dimensions in inches

Catalog Number	Description	Wand Color	Pcs. / Pack
STD03W-x	Cable diameters 0.076 - 0.104 - 30 markers/wand, 10 wands/pack	Green	300
STD06W-x	Cable diameters 0.104 - 0.140 - 30 markers/wand, 10 wands/pack	Red	300
STD09W-x	Cable diameters 0.140 - 0.180 - 30 markers/wand, 10 wands/pack	Blue	300
STD12W-x	Cable diameters 0.180 - 0.240 - 30 markers/wand, 10 wands/pack	Yellow	300
STD15W-x	Cable diameters 0.232 - 0.340 - markers in loose packs, wand separate		50
STD17W-x	Cable diameters 0.340 - 0.460 - markers in loose packs, wand separate		50
STD21W-x	Cable diameters 0.433 - 0.610 - markers in loose packs, wand separate		50
STD24W-x	Cable diameters 0.590 - 0.750 - markers in loose packs, wand separate		50
STD15MO	Wand for marker size 15	Orange	1
STD17MO	Wand for marker size 17	Orange	1
STD21MO	Wand for marker size 21	Gray	1
STD24MO	Wand for marker size 24	Gray	1

*Replace "x" in Catalog Number with the number or letter required on the markers.

Labels



Self-Laminating Labels

Self-Laminating labels offer a fast and inexpensive way to identify wire and cable. Because these labels wrap over themselves, creating a seal, the printed surface is protected from solvents, oil, water, and abrasion. Self-laminating labels are able to run through various thermal transfer printers.

- Self-laminating labels offer a white area for printed or handwritten information and a clear wrap that winds around and protects the information
- Protects printed information from chemicals and frequent handling
- Designed to withstand exposure to oil, solvents, and water
- Vinyl material with acrylic adhesive
- UL recognized for indoor use
- Temperature Range: -40°C to 80°C

Selection Information: dimensions in inches (millimeters)

Catalog Number	Maximum Cable OD	Print Area Height	Label Width	Height	Labels/Roll
IDP-SB050100WE10	.20 (5.1)	.33 (8.5)	.50 (12.7)	1.0 (25.4)	10,000
IDP-SB050143WE10	.30 (7.6)	.50 (12.7)	.50 (12.7)	1.437 (36.5)	10,000
IDP-SB100143WE5	.30 (7.6)	.50 (12.7)	1.0 (25.4)	1.437 (36.5)	5,000
IDP-SB200143WE2.5	.30 (7.6)	.50 (12.7)	2.0 (50.8)	1.437 (36.5)	2,500
IDP-SB080150WE10	.30 (7.6)	.50 (12.7)	.80 (20.3)	1.50 (38.1)	10,000
IDP-SB100225WE5	.48 (12.2)	.75 (19)	1.0 (24.4)	2.25 (57.2)	5,000
IDP-SB200225WE2.5	.48 (12.2)	.75 (19)	2.0 (50.8)	2.25 (57.2)	2,500
IDP-SB100375WE2.5	.88 (22.4)	1.0 (25.4)	1.0 (25.4)	3.75 (95.3)	2,500
IDP-SB200375WE2.5	.88 (22.4)	1.0 (25.4)	2.0 (50.8)	3.75 (95.3)	2,500
IDP-SB100594WE1	1.40 (35.5)	1.50 (38.1)	1.0 (25.4)	5.94 (151)	1,000
IDP-SB190594WE1	1.40 (35.5)	1.50 (38.1)	1.90 (48.3)	5.94 (151)	1,000
IDP-SB200743WE1	1.90 (48.3)	1.50 (38.1)	2.0 (50.8)	7.437 (189)	1,000

These standard labels fit inside the T312M Printer or they can feed into a T208M Printer using the IDP-T200-SPINDLE

T208M Size Rolls

IDP-SB050100WE5-T200	.20 (5.1)	.33 (8.5)	.50 (12.7)	1.0 (25.4)	5,000
IDP-SB050143WE5-T200	.30 (7.6)	.50 (12.7)	.50 (12.7)	1.437 (36.5)	5,000
IDP-SB100143WE2.5-T200	.30 (7.6)	.50 (12.7)	1.0 (25.4)	1.437 (36.5)	2,500
IDP-SB080150WE5-T200	.30 (7.6)	.50 (12.7)	.80 (20.3)	1.50 (38.1)	5,000
IDP-SB100225WE2.5-T200	.48 (12.2)	.75 (19)	1.0 (25.4)	2.25 (57.2)	2,500
IDP-SB200225WE1-T200	.48 (12.2)	.75 (19)	2.0 (50.8)	2.25 (57.2)	1,000
IDP-SB100375WE1-T200	.88 (22.4)	1.0 (25.4)	1.0 (25.4)	3.75 (95.3)	1,000
IDP-SB200375WE1-T200	.88 (22.4)	1.0 (25.4)	2.0 (50.8)	3.75 (95.3)	1,000
IDP-SB100594WE0.5-T200	1.40 (35.5)	1.50 (38.1)	1.0 (25.4)	5.94 (151)	500
IDP-SB200743WE0.5-T200	1.90 (48.3)	1.50 (38.1)	2.0 (50.8)	7.734 (189)	500

These labels have a smaller core that allows them to fit inside of the T208M Printer. However, these are not recommended for the T312M Printer.

Recommended

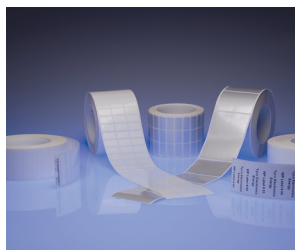
Printers

IDP-T208M-PRINTER
IDP-T312M-PRINTER

Ribbons

IDP-T208M-RIBBON
IDP-TMS-RJS-RIBN-4RPSCE

Labels



Pressure Sensitive Polyester Labels

Tyco Electronics offers a wide range of label products for thermal transfer printing applications. Several material types and adhesives are available providing guaranteed results for your application. Tyco Electronics is a UL-recognized label supplier.

- Labels made of polyester provide the best material for your application
- Permanent acrylic adhesive provides excellent bond to many surfaces: tubing, wiring, cables or panels
- No heat curing process required
- Excellent for barcode applications
- Multiple die-cut sizes available
- MP – Metalized Polyester
- WP – White Polyester
- Temperature Range: -40°C to 150°C

Selection Information: dimensions in inches (millimeters)

Catalog Number	Width	Height	Material	T208M	Labels per Roll
IDP-MP-191064-10-8A	.75 (19)	.25 (6.4)	Metalized Polyester	No	10,000
IDP-MP-203127-10-8A	.80 (20.3)	.50 (12.7)	Metalized Polyester	No	10,000
IDP-MP-254127-10-8A	1.0 (25.4)	.50 (12.7)	Metalized Polyester	Yes	10,000
IDP-MP-254254-10-8A	1.0 (25.4)	1.0 (25.4)	Metalized Polyester	Yes	10,000
IDP-MP-381064-10-8A	1.50 (38.1)	.25 (6.4)	Metalized Polyester	Yes	10,000
IDP-MP-381191-5-8A	1.50 (38.1)	.75 (19)	Metalized Polyester	No	5,000
IDP-MP-508254-5-8A	2.0 (50.8)	1.0 (25.4)	Metalized Polyester	Yes	5,000
IDP-MP-508318-2.5-8A	2.0 (50.8)	1.25 (31.8)	Metalized Polyester	Yes	2,500
IDP-MP-699254-5-8A	2.75 (70)	1.0 (25.4)	Metalized Polyester	Yes	5,000
IDP-MP-762381-2.5-8A	3.0 (76.2)	1.50 (38.1)	Metalized Polyester	Yes	2,500
IDP-MP-762508-2.5-8A	3.0 (76.2)	2.0 (50.8)	Metalized Polyester	Yes	2,500
IDP-MP-101635-2.5-8A	4.0 (101.6)	2.50 (63.5)	Metalized Polyester	Yes	2,500
IDP-WP-040040-25-9	.157 (4)	.157 (4)	White Polyester	No	25,000
IDP-WP-064064-25-9	.25 (6.4)	.25 (6.4)	White Polyester	No	25,000
IDP-WP-080080-10-9	.315 (8)	.315 (8)	White Polyester	No	10,000
IDP-WP-950950-10-9	.375 (9.5)	.375 (9.5)	White Polyester	Yes	10,000
IDP-WP-114040-25-9	.45 (11.4)	.157 (4)	White Polyester	No	25,000
IDP-WP-127111-10-9	.50 (12.7)	.437 (11.1)	White Polyester	Yes	10,000
IDP-WP-165102-10-9	.65 (16.5)	.40 (10.2)	White Polyester	Yes	10,000
IDP-WP-165051-25-9	.65 (16.5)	.20 (5.1)	White Polyester	No	25,000
IDP-WP-178095-10-9	.70 (17.8)	.375 (9.5)	White Polyester	No	10,000
IDP-WP-191064-10-9	.75 (19)	.25 (6.4)	White Polyester	No	10,000
IDP-WP-203127-10-9	.80 (20.3)	.50 (12.7)	White Polyester	No	10,000
IDP-WP-229364-10-9	.90 (22.9)	.25 (6.4)	White Polyester	Yes	10,000
IDP-WP-254097-10-9	1.0 (25.4)	.38 (9.7)	White Polyester	Yes	10,000
IDP-WP-254127-10-9	1.0 (25.4)	.50 (12.7)	White Polyester	Yes	10,000
IDP-WP-254254-10-9	1.0 (25.4)	1.0 (25.4)	White Polyester	Yes	10,000
IDP-WP-318064-10-9	1.25 (31.8)	.25 (6.4)	White Polyester	Yes	10,000
IDP-WP-381020-10-9	1.50 (38.1)	.08 (2)	White Polyester	Yes	10,000
IDP-WP-381064-10-9	1.50 (38.1)	.25 (6.4)	White Polyester	Yes	10,000
IDP-WP-381190-5-9	1.50 (38.1)	.75 (19)	White Polyester	No	5,000
IDP-WP-508127-10-9	2.0 (50.8)	.5 (12.7)	White Polyester	Yes	10,000
IDP-WP-508254-5-9	2.0 (50.8)	1.0 (25.4)	White Polyester	Yes	5,000
IDP-WP-508318-2.5-9	2.0 (50.8)	1.25 (31.8)	White Polyester	Yes	2,500
IDP-WP-508064-10-9	2.0 (50.8)	.25 (6.4)	White Polyester	Yes	10,000
IDP-WP-523841-1.5-9	2.06 (52.3)	3.31 (84.1)	White Polyester	Yes	1,500
IDP-WP-700254-5-9	2.75 (70)	1.0 (25.4)	White Polyester	Yes	5,000
IDP-WP-762381-2.5-9	3.0 (76.2)	1.50 (38.1)	White Polyester	Yes	2,500
IDP-WP-762508-2.5-9	3.0 (76.2)	2.0 (50.8)	White Polyester	Yes	2,500
IDP-WP-101635-2.5-9	4.0 (101.6)	2.50 (63.5)	White Polyester	Yes	2,500
IDP-WP-101165-0.85-9	4.0 (101.6)	6.5 (165)	White Polyester	Yes	900

* All labels are compatible with T312M-Printer, but only those marked "Yes" in the T208M column are compatible with T208M Printer.

Recommended

Printers

IDP-T208M-PRINTER
IDP-T312M-PRINTER

Ribbons

IDP-I330-0607-T200
IDP-I330-0607-10

Labels



ProjectMark Continuous Labels

ProjectMark (TTPA) is a durable, high strength polyester material that can be used as warning and service labels, rating plates, and a way to identify cable trays—all of which can be produced on demand.

- High tack acrylic adhesive
- Resistant to moisture/humidity
- 4 printable continuous widths in several colors
- Material comes on a 100' reel and ranges from 1.0" (25mm) to 4.0"(100mm) wide
- Standard white ProjectMark labels have a 5-7 year outdoor life
- Apply a UV protection laminate (IDP-NPVF) to provide 15 year protection
- Temperature Range: -40°C to 150°C

Standard Colors are White (WE) and Metalized Polyester (MP)

Additional colors include the following: OE = Orange, GN = Green, BE = Blue, RD = Red, BK = Black, YW = Yellow, CL = Clear

Selection Information: dimensions in inches

Catalog Number	Description	Std. Pack
IDP-TTPA100WE-10*	Continuous Polyester 100 Ft Roll - 1 Wide, White	1
IDP-TTPA100YW-10*	Continuous Polyester 100 Ft Roll - 1 Wide, White	1
IDP-TTPA200MP-10	Continuous Polyester 100 Ft Roll - 2 Wide, Metalized Poly	1
IDP-TTPA200WE-10	Continuous Polyester 100 Ft Roll - 2 Wide, White	1
IDP-TTPA300MP-10	Continuous Polyester 100 Ft Roll - 3 Wide, Metalized Poly	1
IDP-TTPA300WE-10	Continuous Polyester 100 Ft Roll - 3 Wide, White	1
IDP-TTPA400MP-10	Continuous Polyester 100 Ft Roll - 4 Wide, Metalized Poly	1
IDP-TTPA400WE-10	Continuous Polyester 100 Ft Roll - 4 Wide, White	1

*1 inch wide rolls are only available in White and Yellow.

Recommended

Printers	Ribbons
IDP-T208M-PRINTER*	IDP-1330-0607-T200
IDP-T312M-PRINTER	IDP-1330-0607-10

* Software adjustments required to use the T208M with ProjectMark. Call 866-374-9655 for support.

Insta-Mark Wire Markers



Insta-Mark Wire Marker Books & Dispensers

Insta-Mark Wire Marker Books and Dispensers offer a portable and convenient pocket-sized solution of vinyl impregnated cloth tape wire markers and self-laminating labels. Each item is packaged for Point-of-Purchase merchandising and provides an array of letters, numbers, symbols, or colors to easily identify any type of wire and/or terminal block.

Pre-Printed Marker Books (PPMB) contain 10 pages of pre-cut markers 1-1/4" long, totaling 450 wire markers with 450 matching terminal markers sized 3/16" x 3/16".

Write-On Self-Laminating Marker Books (WOMB) contain 10 pages of pre-cut self laminating markers made of .004" thick clear vinyl film, using an acrylic adhesive and mounted on a silicone release liner. The service temperature is -40°C to 93°C.

Pre-Printed Marker Dispensers (PPMD) are a portable wire marker system. Each dispenser contains 10 rolls of marker tape. Each roll contains 76 individual markers with a pre-determined length of 1-1/4" and a width of 1/4". Legends available are 0-9, A-J or the NEMA colors.

Write-On Marker Dispensers (WOMD) are a portable and disposable dispenser containing a roll of pre-cut Self-Laminating Wire Markers. Each marker has a white area available for legend inscription using a pen or pencil. The adhesive is an aggressive acrylic that is impervious to oil and water with a service temperature range of -40°C to 121°C.

Selection Information: dimensions in inches

Catalog Number	Description	Std. Pack
CPGI-PPMB-01	Insta-Mark Pre-Printed Marker Book - 0-9	10
CPGI-PPMB-02	Insta-Mark Pre-Printed Marker Book - A-Z, 1-15, +, -, /	10
CPGI-PPMB-03	Insta-Mark Pre-Printed Marker Book - 1-45	10
CPGI-PPMB-04	Insta-Mark Pre-Printed Marker Book - 1, 2, 3	10
CPGI-PPMB-05	Insta-Mark Pre-Printed Marker Book - A, B, C	10
CPGI-PPMB-06	Insta-Mark Pre-Printed Marker Book - T1, T2, T3	10
CPGI-PPMB-07	Insta-Mark Pre-Printed Marker Book - L1, L2, L3	10
CPGI-PPMB-08	Insta-Mark Pre-Printed Marker Book - 46-90	10
CPGI-PPMB-09	Insta-Mark Pre-Printed Marker Book - 10 NEMA COLORS	10
CPGI-PPMB-10	Insta-Mark Pre-Printed Marker Book - AC, DC, POS, NEG, GND,	10
CPGI-PPMB-11	Insta-Mark Pre-Printed Marker Book - Burglar Alarm	10
CPGI-PPMB-12	Insta-Mark Pre-Printed Marker Book - 0-9, L1-L3, T1-T3	10
CPGI-PPMB-13	Insta-Mark Pre-Printed Marker Book - 1-30	10
CPGI-PPMB-14	Insta-Mark Pre-Printed Marker Book - 1-45,+/-, L1-L3, T1-T3,	10
CPGI-PPMB-15	Insta-Mark Pre-Printed Marker Book - 1, 2, 3, A, B, C, L1-L3, T1-T3	10
CPGI-PPMB-16	Insta-Mark Pre-Printed Marker Book - 1-45, 46-90, A-Z, +, -, /, 0	10
CPGI-PPMB-20	Insta-Mark Pre-Printed Marker Book - Circuit Breaker (3 SET)	10
CPGI-PPMB-21	Insta-Mark Pre-Printed Marker Book - Circuit Breaker (1 SET)	10
CPGI-PPMB-22	Insta-Mark Pre-Printed Marker Book - Fire Alarm	10
CPGI-WOMB-B30	Insta-Mark Write-on Marker Book - Label Size 1.0 x 5.0	10
CPGI-WOMB-B50	Insta-Mark Write-on Marker Book - Label Size 0.5 x 1.25	10
CPGI-WOMB-B60	Insta-Mark Write-on Marker Book - Label Size 1.0 x 2.5	10
CPGI-WOMB-B75	Insta-Mark Write-on Marker Book - Label Size .75 x 1.67	10
CPGI-PPMD-0-9	Insta-Mark Preprinted Marker Dispenser 0,1,2,3,4,5,6,7,8,9	5
CPGI-PPMD-A-J	Insta-Mark Preprinted Marker Dispenser A,B,C,D,E,F,G,H,I,J	5
CPGI-PPMD-NEMA	Preprinted Marker Dispenser NEMA COLORS (Wht, Yel, Org, Red, Blu, Grn, Vio, Brn, Gry, Blk)	5
CPGI-PPMDRF-0-9	Preprinted Marker Dispenser REFILL 0,1,2,3,4,5,6,7,8,9	5
CPGI-PPMDRF-A-J	Preprinted Marker Dispenser REFILL A,B,C,D,E,F,G,H,I,J	5
CPGI-PPMDRF-NEMA	Preprinted Marker Dispenser REFILL NEMA COLORS (Wht, Yel, Org, Red, Blu, Grn, Vio, Brn, Gry, Blk)	5
CPGI-WOMD-13	Insta-Mark Write-on Marker Dispensers - Label Size .75 x3.0	5
CPGI-WOMD-16	Insta-Mark Write-on Marker Dispensers - Label Size .75 x6.0	5
CPGI-WOMD-51	Insta-Mark Write-on Marker Dispensers - Label Size .75 x1.25	5
CPGI-WOMD-52	Insta-Mark Write-on Marker Dispensers - Label Size .75 x1.75	5

Portable Marker Kit



LM2020 PLUS Portable Hand-Held Marking Kit

The LM2020 Plus system is an advanced portable thermal label printer. It is designed for both labeling and bar coding. The LM2020 Plus system is quick and easy to use in the field, office, or shop. The LM2020 Plus marker material and ribbon are pre-loaded into a snap-in cartridge. This allows for repeatable, error free loading into the printer.

Features

- Minimum media width of 0.125" (3.2mm). Maximum media width of 1.0" (25mm)
- 67 point size ranging from 6 point to 72 point
- 10 resident bar codes
- Alphanumeric sequencing
- Battery-operated or AC power supply-operated
- Product and ribbon comes housed in easy-to-install cartridges

Materials available

- Shrink tube wire and cable markers (White & Yellow)
- Self-laminating wrap-around wire and cable markers
- Industrial labels for tray and pipe identification

Advantages over other portable systems

- No smearing—Ink dries immediately
- One-step loading process—No separate ribbon and markers to load
- 300 dpi thermal print quality—Superior print quality compared to 9-pin dot matrix printers
- Savings—Very affordable portable thermal printing system

Selection Information: dimensions in inches

Catalog Number	Description	Std. Pack
LM2020PLUS-PRINTER-KIT	Handheld printer, protective jacket, 6 ni-cad batteries	1
LM2020PLUS-2800MAH-NICAD	LM 2020 Rechargeable Batteries	1
LM-CASE	LM 2020 Hard Sided Carrying Case	1
LM-1/8-TUBE-WE	Shrinktube 1/8" x 100" Cartridge, White #16 - #22	1
LM-1/8-TUBE-YW	Shrinktube 1/8" x 100" Cartridge, Yellow #16 - #22	1
LM-3/16-TUBE-WE	Shrinktube 3/16" x 100" Cartridge, White #12 - #18	1
LM-3/16-TUBE-YW	Shrinktube 3/16" x 100" Cartridge, Yellow #12 - #18	1
LM-1/4-TUBE-WE	Shrinktube 1/4" x 100" Cartridge, White #10 - #16	1
LM-1/4-TUBE-YW	Shrinktube 1/4" x 100" Cartridge, Yellow #10 - #16	1
LM-1/2-TUBE-WE	Shrinktube 1/2" x 100" Cartridge, White #1 - #12	1
LM-1/2-TUBE-YW	Shrinktube 1/2" x 100" Cartridge, Yellow #1 - #12	1
LM-1/2-TAPE-BK	0.5" x 40' Industrial Tape- White on Black	1
LM-1/2-TAPE-CR	0.5" x 40' Industrial Tape- Black on Clear	1
LM-1/2-TAPE-WE	0.5" x 40' Industrial Tape- Black on White	1
LM-1/2-TAPE-YW	0.5" x 40' Industrial Tape- Black on Yellow	1
LM-1-TAPE-BK	1" x 40' Industrial Tape- White on Black	1
LM-1-TAPE-CR	1" x 40' Industrial Tape- Black on Clear	1
LM-1-TAPE-WE	1" x 40' Industrial Tape- Black on White	1
LM-1-TAPE-YW	1" x 40' Industrial Tape- Black on Yellow	1
LM-1/2-VINYL-CR	0.5" x 40' Vinyl Industrial Tape- Black on Clear	1
LM-1/2-VINYL-RD	0.5" x 40' Vinyl Industrial Tape- Black on Red	1
LM-1/2-VINYL-WE	0.5" x 40' Vinyl Industrial Tape- Black on White	1
LM-1/2-VINYL-YW	0.5" x 40' Vinyl Industrial Tape- Black on Yellow	1
LM-1-VINYL-CR	1" x 40' Vinyl Industrial Tape- Black on Clear	1
LM-1-VINYL-RD	1" x 40' Vinyl Industrial Tape-Black on Red	1
LM-1-VINYL-SR	1" x 40' Vinyl Industrial Tape-Black on Silver	1
LM-1-VINYL-WE	1" x 40' Vinyl Industrial Tape-Black on White	1
LM-1-VINYL-YW	1" x 40' Vinyl Industrial Tape-Black on Yellow	1
LM-1/2-SL	Self-Lam 1" x .50" Print Area 1" x .25" 230 each. Fits #16-#22	1
LM-3/4-SL	Self-Lam 1" x .75" Print Area 1" x .375" 250 each. Fits #10-#16	1
LM-1-SL	Self-Lam 1" x 1" Print Area 1" x .375" 200 each. Fits #10-#12	1
LM-1-1/4-SL	Self-Lam 1" x 1.25" Print Area 1" x .50" 170 each. Fits #8-#12	1
LM-2-1/2-SL	Self-Lam 1" x 2.50" Print Area 1" x .75" 108 each. Fits #6-#10	1
LM-4-SL	Self-Lam 1" x 4" Print Area 1" x 1" 81 each. Fits #4-#6	1

Accessories

System Printers, Software, & Accessories

These printers have been selected to suit a range of identification requirements and offer excellent legibility and mark permanence. An extensive range of ribbons has been designed for use with the Tyco Electronics identification products. These ribbons ensure excellent mark permanence and legibility to applicable industry specifications.



Thermal Transfer Printers

T208M Printer

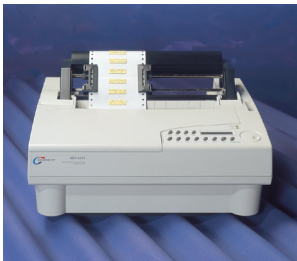
T208M Printer Kit (Contains T208M-Printer & T208M-Ribbon) medium volume, 200 dpi printer. Lightweight printer with a 4.1" printhead that can print sleeves and labels. Parallel and USB ports provided.

T208M-C-Printer comes with cutter for continuous labels, such as ProjectMark.

T312M Printer

T312M Printer is a high performance, yet cost effective thermal transfer printer with a 4.1" printhead. Robust, industrial computer-driven thermal transfer printer. This 300 dpi printer has been specially designed to print the full range of Tyco Electronics' cable identification and labeling products giving the optimum in flexibility, print quality and permanence. With dual 32 bit processors this printer is ideal for high volume users.

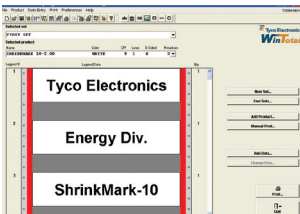
T312S-C-Printer comes with optional cutter, ideal for ProjectMark continuous labels, not recommended for ShrinkMark sleeves.



Dot-Matrix Printer

AM6310 Printer

Specifically designed by Tyco Electronics, the AM6310 is a heavy-duty, industrial dot matrix printer with a high impact 24-pin print head. Automatic media thickness detection and a high impact print head make the AM6310 the best industrial printer available for heavy gauge wire marker and tag materials, and the 24-pin print head produces high quality text printing with fast print speeds. Standard AM6310 printer models are designed to print on Tyco Electronics wire marker sleeves and dot matrix pressure sensitive label and tag products.



WinTotal Software

WinTotal software is a powerful Windows based package that makes identification marking quick and easy. The Windows environment gives access to a huge array of font options, including non-English fonts and also allows simple importing and manipulation of graphics and logos.

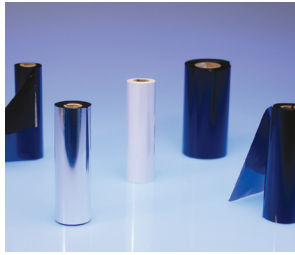
- Pre-loaded with all of Tyco Electronics identification products
- Powerful import and export functions: reads wire lists from spreadsheets, and text files
- Incremental alpha and numeric fields
- Double-sided marker printing
- Automatic or manual routing to multiple printers
- Network compatible

WinTotal USB Dongle option available - Allows software registration to be purchased once and shared among different computers simply by plugging the dongle into an available USB port.

Selection Information

Catalog Number	Description	Std. Pack
IDP-T208M-PRINTER	Medium Vol. Thermal Trans Printer Kit, 4" Print head,	1
IDP-T208M-C-PRINTER	Medium Vol. Thermal Trans Printer Kit, 4" Print head, with cutter	1
IDP-T312M-PRINTER	High Vol. Thermal Trans Printer Kit, 4" Print head, 3MB RAM	1
IDP-T312S-C-PRINTER	High Vol. Thermal Trans Printer Kit, 4" Print head, 3MB RAM, with cutter	1
IDP-AM6310-110V-PRINTER	AM-6310 Dot Matrix Printer Kit	1
IDP-WINTOTAL-SWARE	WinTotal Software	1
IDP-WINTOTAL-SWARE-DGLUS	WinTotal Software with USB Dongle	1

Accessories

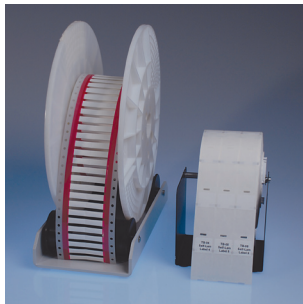


Ribbons

Printer	Ribbon	Print Media
IDP-T208M-PRINTER	IDP-T208M-RIBBON	ShrinkMark sleeves & SB labels
	IDP-1330-0607-T200	TTPA & MP, WP, WV labels
	IDP-T200-RIBBON-1966	HLX-NEL cable markers
IDP-T312M-PRINTER	IDP-TMS-RJS-RIBN-4RPSCE	ShrinkMark sleeves, SB labels, HL cable markers
	IDP-1330-0607-10	TTPA & MP, WP, WV labels
IDP-AM6310-110V-PRINTER	IDP-1892BK04-RIBBON	ShrinkMark sleeves & CM-SCE cable markers

Selection Information

Catalog Number	Description	Std. Pack
IDP-T208M-RIBBON	Ribbon for T208M printer, use with heat-shrink sleeves & SB labels, 242' (74M)	1
IDP-1330-0607-T200	Ribbon for T200 printers, use with TTPA, MP, WP, WV labels, 242' (74M)	1
IDP-T200-RIBBON-1966	Ribbon for T200 printers, use with HLX-NEL cable markers, 242' (74M)	1
IDP-TMS-RJS-RIBN-4RPSCE	T300-T400 Series Ribbon for heat-shrink sleeves & SB labels, 4.33" wide, 984' (300M)	1
IDP-1330-0607-10	T300-T400 Series Ribbon for TTPA, MP, WP, WV labels, 4.33" wide, 984' (300M)	1
IDP-1892BK04-RIBBON	AM-6310-Ribbon designed for heat-shrink sleeves and CM-SCE cable markers	1



Accessories

Catalog Number	Description	Std. Pack
IDP-T200-SPINDLE	Feeds TTPA, MP, WP, SB (standard), and other labels into T208M	1
IDP-PAYOFF-CRADEL	Feeds SHRINKMARK-18/12/10 (2.5K box) and -2/250/1000 (1K box) into T208M	1
IDP-T200-CASE	Hard-sided gray case with foam interior, ideal for travel with T208M Printer	1
CPGI-GLOW-GUN	Flameless heat gun for shrinking ShrinkMark sleeves or thin wall tubing	6

SPLICES, TAPS & TERMINATIONS



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Low Voltage In-Line Splices



GelWrap Splice Closures Water Resistant Wraparound Splice Closures (1000 V)

Tyco Electronics' GelWrap splice closures quickly and conveniently insulate and seal buried electrical connections rated up to 1000 volts. The robust, yet compact, design is engineered to handle the harsh environments of direct burial and manhole applications. GelWrap splice closures are equally well suited for insulation and jacket repair. GelWrap UF splices include the UF connector.

Fast and easy installation

Installers will appreciate the simple wraparound design and dependable gel sealing performance. Simply wrap and snap the closure on any cable in the use range. The gel in the closure seals on contact. Installation is literally a snap. The GelWrap splice closure can be applied on all common compression connectors and low-voltage cables. Many in-line mechanical connectors can be covered as well.

Dependable performance

The factory cured PowerGel silicone sealant in the GelWrap closure encapsulates the connection. Since the gel is easily stretched and very sticky, it basically forms around the cable and connector sticking to everything including itself. Moisture cannot enter the splice.



96J4
Insulating Splice Sleeve for
Underground Conductors
600V
E91151
IDJZ1
Submersible

Selection Information: dimensions in inches (millimeters)

Catalog Number	Sleeve Length	Conductor Size	Connector Opening	Maximum General Use Diameter Range	Std. Pack
GelWrap-18/4-100	4.0 (100)	#12 - 4/0 (4 - 95)	1.0 (25)	0.15 - 0.70 (4 - 18)	6
GelWrap-18/4-150	6.0 (150)	#12 - 4/0 (4 - 95)	3.0 (75)	0.15 - 0.70 (4 - 18)	6
GelWrap-18/4 -200	8.0 (200)	#12 - 4/0 (4 - 95)	5.0 (125)	0.15 - 0.70 (4 - 18)	6
CPGI-GelWrap-18/4-200	8.0 (200)	#12 - 4/0 (4 - 95)	5.0 (125)	0.15 - 0.70 (4 - 18)	5
CPGI-GelWrap-18/4-200UL*	8.0 (200)	#12 - 4/0 (4 - 95)	4.0 (100)	0.15 - 0.70 (4-18)	5
GelWrap-18/4-250	10.0 (250)	#12 - 4/0 (4 - 95)	7.0 (175)	0.15 - 0.70 (4 - 18)	6
CPGI-GelWrap-18/4-250UL*	10 (250)	#2 - 4/0 (4 - 95)	6.0 (150)	0.40 - 1.30 (10 - 33)	5
GelWrap-18/4-300	12.0 (300)	#12 - 4/0 (4 - 95)	9.0 (225)	0.15 - 0.70 (4 - 18)	6
GelWrap-33/10-150	6.0 (150)	#2 - 500 (35 - 240)	2.0 (50)	0.40 - 1.30 (10 - 33)	6
CPGI-GelWrap-33/10-250	10.0 (250)	#2 - 500 (35 - 240)	6.0 (150)	0.40 - 1.30 (10 - 33)	5
GelWrap-33/10-200	8.0 (200)	#2 - 500 (35 - 240)	4.0 (100)	0.40 - 1.30 (10 - 33)	6
GelWrap-33/10-250	10.0 (250)	#2 - 500 (35 - 240)	6.0 (150)	0.40 - 1.30 (10 - 33)	6
GelWrap-33/10-250-I350M4*	10.0 (250)	#6 - 350 (16 - 180)	5 (125)	0.40 - 1.30 (10 - 33)	12
GelWrap-33/10-300	12.0 (300)	#2 - 500 (35 - 240)	8.0 (200)	0.40 - 1.30 (10 - 33)	12
GelWrap-33/10-350	14.0 (350)	#2 - 500 (35 - 240)	10.0 (250)	0.40 - 1.30 (10 - 33)	10
GelWrap-50/20-200	8.0 (200)	250 - 750	2.0 (50)	0.80 - 1.50 (20 - 38)	12
GelWrap-50/20-250	10.0 (250)	250 - 750	4.0 (100)	0.80 - 1.50 (20 - 38)	12
GelWrap-50/20-300	12.0 (300)	250 - 750	6.0 (150)	0.80 - 1.50 (20 - 38)	12
GelWrap-50/20-350	14.0 (350)	250 - 750	8.0 (200)	0.80 - 1.50 (20 - 38)	12
GelWrap-50/20-400	16.0 (400)	250 - 750	10.0 (250)	0.80 - 1.50 (20 - 38)	12
CPGI-GelWrap-UF-200	8.0 (200)	14/2 - 8/3 w/ground included connectors			5
CPGI-GelWrap-UF-250UL*	10 (250)	14/2 - 8/3 w/ground included connectors			5

*Notes: Listed for submersible applications

For other sizes or applications, a minimum seal length is required on each side of connector opening or jacket damage:

GelWrap closure 18/4 series 1.5" (38mm)

GelWrap closure 33/10 series 2.0" (51mm)

GelWrap closure 50/20 series 3.0" (75mm)

*Includes mechanical connector

Product Performance

Testing	Test Conditions
ANSI C119.1 - 1986	600 V insulated underground
Chemical Resistance	Fluid immersion, 168 hours @ 23°C, 75% elongation retention minimum - 10W-40 motor oil - 10% hydrochloric acid - 15% sodium chloride - 20% sodium hydroxide - ETX 60280 antifreeze (1000 hours)
Accelerated Aging	1000 hours @ 135°C - 93% retention tensile strength - 82% retention elongation at break

Ordering Information

- Selection is based on typical dimensions for low-voltage insulated cables.
- Related test reports:
EDR-5343 - 18/4;
EDR-5356 - 33/10,
EDR-5367 for 50/20,
EDR-5356 for GelWrap-33/10-250-I350M4
(A four screw connector is included).

For connector information refer to the Connectors and Terminals section of this catalog.

Low Voltage In-Line Splices



GILS In-Line Splices Water Resistant Splice Kit for Power Cable (1000 V)

The Tyco Electronics' GILS gel in-line splice kit offers a state-of-the-art sealed splice for underground, buried, and overhead applications. GILS closures offer a fast and simple method for splicing, insulating, and environmentally sealing low-voltage cable splices.

The GILS closure, with its revolutionary PowerGel sealant, covers and seals the splice quickly and easily, saving both time and effort.

Simply install the connector, place on the closure, and snap closed. It's that easy—no tapes, mastic, tools or mixing are required. The splice is ready to bury—no waiting to cure.

- Connector accommodates copper and/or aluminum cables
- Qualified to ANSI C119.1-1986 for underground splicing
- UV resistant
- Qualified for temperatures from -40°C to 90°C
- Connector included
- RUS accepted connector blocks and splices for secondary. Water-tight for use in all locations

Selection Information

Catalog Number	Conductor Size (AWG/kcmil)	Std. Pack
GILS-4/0	#2 - 4/0	18 or 72 each
CPGI-GILS-4/0	#2 - 4/0	5
GILS-350	1/0 - 350	18

Ordering Information

1. Based on typical dimensions for low-voltage insulated cables.
2. Related test reports: EDR-5298, EDR-5394



RVS Splices "Roll-on" Splices for 1/C Power Cable (1000 V)

RVS splice cover kits are the easy "roll-on" way to insulate and seal cable connections up to 1000V. The gripping force of the specially formulated EPDM elastomer combines with the high-performance sealant to form a water-resistant, insulating sleeve that is UL listed and CSA certified for direct burial application over in-line compression connectors.

RVS splice cover sleeves feature a dual-wall design with an entrapped lubricant, making installation fast and simple. The elastomeric sleeve rolls onto the cable with minimal effort, even at temperatures below -15°F (-25°C). The cable can be energized immediately. It is ideal for use where gas or electric heating devices are not approved.

Qualified to ANSI C119.1-1986. CSA certified to C22.2 No. 198.2. UL listed in accordance with std. UL 486D, RUS listed accept for use as a secondary tap or splice cover. For use on standard poly- or elastomeric-insulated cables. Use to insulate and seal in-line compression connectors or to seal terminal lugs.

Selection Information: dimensions in inches (millimeters)

Catalog Number	Conductor Size (AWG/kcmil)	Cable O.D. (Min. - Max.)	Sleeve Length	Maximum Connector Length
RVS-11	#8 - 2/0	.22 - .68 (6 - 17)	8.0 (205)	5.00 (127)
CPGI-RVS-11	#8 - 2/0	.22 - .68 (6 - 17)	8.0 (205)	5.00 (127)
RVS-12	1/0 - 250	0.50 - 0.90 (13 - 23)	9.5 (241)	4.50 (114)
CPGI-RVS-12	1/0 - 250	0.50 - 0.90 (13 - 23)	9.5 (241)	4.50 (114)
RVS-13	250 - 600	0.70 - 1.20 (18 - 30)	12.0 (305)	7.00 (178)
CPGI-RVS-13	250 - 600	0.70 - 1.20 (18 - 30)	12.0 (305)	7.00 (178)
RVS-14	600 - 1000	0.95 - 1.50 (24 - 38)	14.0 (356)	9.00 (229)



Ordering Information

1. Select the appropriate catalog number. Selections are based on typical dimensions of low-voltage insulated cable. Confirm selection with dimensions to assure proper sizing.
2. Kits do not contain connectors. The RVS splice cover selection information mentioned above covers copper and aluminum in-line compression connections.
3. Each kit contains one Rayvolve RVS splice cover sleeve and sealant strips.
4. Standard package: 5 kits/box or 50 kits/box.
5. Related test report: EDR-5167

For connector information refer to the Connectors and Terminals section of this catalog.

Low Voltage In-Line Splices



MWTM Tubing

Medium-Wall Sealant-Coated or Uncoated Tubing (600 V)

- Sealant-coated MWTM tubing (-S designation) is for use as insulation/jacket repair up to 600 V or for general sealing and re-jacketing of polymeric- or elastomeric-insulated cables up to 35kV
- RUS accepted as jacket restoration of JCN cable
- Uncoated MWTM tubing (-U or -A/U) is for cable re-jacketing only
- 3:1 shrink ratio and an unlimited shelf life when stored under normal conditions

Selection Information: dimensions in inches (millimeters)

Sealant-Coated, Cut-Length Tubing

Catalog Number	Use Range Min. - Max.	Cut-Piece Length	Std. Pkg /Box
MWTM-10/3-1200-S	0.13 - 0.35 (3 - 9)	48 (1200)	25
MWTM-16/5-1200-S	0.25 - 0.55 (6 - 14)	48 (1200)	25
MWTM-25/8-1200-S	0.35 - 0.85 (9 - 22)	48 (1200)	25
MWTM-35/12-1200-S	0.50 - 1.25 (13 - 32)	48 (1200)	25
MWTM-50/16-1200-S	0.65 - 1.70 (17 - 43)	48 (1200)	15
MWTM-85/25-1200-S	1.00 - 2.90 (25 - 74)	48 (1200)	5
MWTM-115/34-1200-S	1.40 - 3.90 (36 - 99)	48 (1200)	5
MWTM-140/42-1200-S	1.80 - 4.70 (46 - 119)	48 (1200)	5

Uncoated, Spooled Tubing

Catalog Number	Use Range Min. - Max.	Min. Cont. Length	Std. Pkg/Spool	Bulk Option /Spool
MWTM-10/3-A/U	0.13 - 0.35 (3 - 9)	25 (7.6)	100 (30)	
MWTM-16/5-A/U	0.25 - 0.55 (6 - 14)	25 (7.6)	100 (30)	1155 (350)
MWTM-25/8-A/U	0.35 - 0.85 (9 - 22)	25 (7.6)	100 (30)	660 (200)
MWTM-35/12-A/U	0.50 - 1.25 (13 - 32)	25 (7.6)	100 (30)	495 (150)
MWTM-50/16-A/U	0.65 - 1.70 (17 - 43)	15 (4.6)	75 (23)	330 (100)

Uncoated, Cut-Piece Tubing

Catalog Number	Use Range Min. - Max.	Cut-Piece Length	Std. Pkg/Box
MWTM-85/25-1500/U	1.00 - 2.90 (25 - 74)	60 (1500)	5
MWTM-115/34-1500/U	1.40 - 3.90 (36 - 99)	60 (1500)	5
MWTM-140/42-1500/U	1.80 - 4.70 (46 - 119)	60 (1500)	5

Ordering Information

1. Select the appropriate catalog number. Confirm selection with application dimensions to assure proper sizing.
2. MWTM is a general purpose tubing; for sealing applications use MWTM with sealant (-S) or use uncoated MWTM (-U or -A/U) in combination with S-1052 sealant. Order sealants separately.
3. For testing information refer to the Technical Data section of this catalog.
4. UV resistant test report: EDR-5361.

For connector information refer to the Connectors and Terminals section of this catalog.

Low Voltage In-Line Splices



WCSM-33/8



WCSM Tubing

Heavy-Wall Sealant Coated or Uncoated Tubing (1000 V)

- For use on standard poly- or elastomeric insulated/jacketed cables or lead-jacketed cables, which may include aluminum or steel armoring
- Use sealant-coated tubing (-S) as a sealed in-line splice or terminal lug seal for non-flame retardant applications. Use uncoated tubing (-A/U and /U) for cable re-jacketing and mechanical protection only.
- Sealant-coated WCSM tubing, sizes -9/3 through -70/21 (-S designation) is UL listed per 486D, qualified to ANSI C119.1-1986, and rated to Western Underground Guide 2.5. Also RUS accepted for use as a secondary tap or splice cover, and for use as jacket restoration materials on JCN cable. WCSM tubing may be used for jacket repair on cables to 35 kV.
- Connectors over 6 inches: Recommended cut length = connector length + 5 inches
Connectors up to 6 inches: Recommended cut length = connector length + 4 inches
- WCSM tubing has a 3:1 shrink ratio and an unlimited shelf life when stored under normal conditions
- Note: UL listing applies to sealant-coated (-S) WCSM-9/3 through -70/21 only. WCSM-105/30 and -130/36 are not UL listed.

Selection Information: dimensions in inches (millimeters)

Catalog Number ¹	1000-V General Conductor Size (AWG/kcmil)	Use Range (Min. - Max.)	Cut-Piece Length ²	Std. Pack	
				(Ft/Roll)	(Pcs/Box) (Pcs/Pack)
Sealant-Coated Cut-Length Tubing					
WCSM-9/3-150-S	#14 - #8	0.15 - 0.30 (4-8)	6 (150)	50	
CPGI-WCSM-9/3-150-S	#14 - #8	0.15 - 0.30 (4-8)	6 (150)		3
WCSM-9/3-300-S	#14 - #8	0.15 - 0.30 (4-8)	12 (300)	50	
WCSM-9/3-1200-S	#14 - #8	0.15 - 0.30 (4-8)	48 (1200)	25	
WCSM-13/4-150-S	#12 - #6	0.20 - 0.45 (5-11)	6 (150)	50	
CPGI-WCSM-13/4-150-S	#12 - #6	0.20 - 0.45 (5-11)	6 (150)		2
WCSM-13/4-1200-S	#12 - #6	0.20 - 0.45 (5 - 11)	48 (1200)	25	
WCSM-20/6-150-S	#8 - #2	0.25 - 0.70 (6 - 18)	6 (150)	50	
CPGI-WCSM-20/6-150-S	#8 - #2	0.25 - 0.70 (6 - 18)	6 (150)		2
WCSM-20/6-225-S	#8 - #2	0.25 - 0.70 (6 - 18)	9 (225)	50	
WCSM-20/6-300-S	#8 - #2	0.25 - 0.70 (6 - 18)	12 (300)	50	
WCSM-20/6-1200-S	#8 - #2	0.25 - 0.70 (6 - 18)	48 (1200)	25	
WCSM-33/8-150-S	#4 - 4/0	0.35 - 1.20 (9 - 30)	6 (150)	50	
CPGI-WCSM-33/8-150-S	#4 - 4/0	0.35 - 1.20 (9 - 30)	6 (150)		2
WCSM-33/8-225-S	#4 - 4/0	0.35 - 1.20 (9 - 30)	9 (225)	50	
WCSM-33/8-300-S	#4 - 4/0	0.35 - 1.20 (9 - 30)	12 (300)	50	
WCSM-33/8-1200-S	#4 - 4/0	0.35 - 1.20 (9 - 30)	48 (1200)	25	
WCSM-43/12-150-S	1/0 - 400	0.50 - 1.55 (13 - 39)	6 (150)	40	
WCSM-43/12-225-S	1/0 - 400	0.50 - 1.55 (13 - 39)	9 (225)	40	
CPGI-WCSM-43/12-225-S	1/0 - 400	0.50 - 1.55 (13 - 39)	9 (225)		1
WCSM-43/12-300-S	1/0 - 400	0.50 - 1.55 (13 - 39)	12 (300)	40	
WCSM-43/12-1200-S	1/0 - 400	0.50 - 1.55 (13 - 39)	48 (1200)	10	
WCSM-51/16-100-S	250 - 500	0.70 - 1.75 (18 - 44)	4 (100)	100	
WCSM-51/16-225-S	250 - 500	0.70 - 1.75 (18 - 44)	9 (225)	30	
CPGI-WCSM-51/16-225-S	250 - 500	0.70 - 1.75 (18 - 44)	9 (225)		1
WCSM-51/16-300-S	250 - 500	0.70 - 1.75 (18 - 44)	12 (300)	30	
WCSM-51/16-1200-S	250 - 500	0.70 - 1.75 (18 - 44)	48 (1200)	10	
WCSM-70/21-300-S	400 - 1000	0.90 - 2.45 (23 - 62)	12 (300)	15	
WCSM-70/21-450-S	400 - 1000	0.90 - 2.45 (23 - 62)	18 (450)	15	
WCSM-70/21-600-S	400 - 1000	0.90 - 2.45 (23 - 62)	24 (600)	10 or 100	
WCSM-70/21-1200-S	400 - 1000	0.90 - 2.45 (23 - 62)	48 (1200)	10	
WCSM-105/30-300-S	800 - 1250	1.30 - 3.70 (33 - 94)	12 (300)	15	
WCSM-105/30-1200-S	800 - 1250	1.30 - 3.70 (33 - 94)	48 (1200)	5	
WCSM-130/36-300-S	1500 - 2500	1.60 - 4.20 (41 - 107)	12 (300)	10	
WCSM-130/36-450-S	1500 - 2500	1.60 - 4.20 (41 - 107)	18 (450)	20	
WCSM-130/36-1200-S	1500 - 2500	1.60 - 4.20 (41 - 107)	48 (1200)	5	

¹ Catalog numbers with -S designation are suitable for sealed electrical insulation to 1000 V. Catalog numbers with A/U and /U designations are for cable re-jacketing only.

² Length tolerance to 32 percent. Can be used for multi-conductor LV splices using different tubings.

Low Voltage In-Line Splices

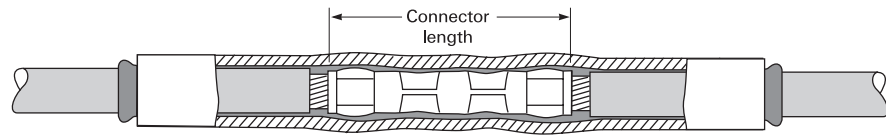
Selection Information: dimensions in inches (millimeters)

Catalog Number ¹	1000-V General Conductor Size (AWG/kcmil)	Use Range (Min. - Max.)	Cut-Piece Length ²	Std. Pack (Ft/Roll)	(Pcs/Box)	(Pcs/Pack)
Uncoated Tubing						
WCSM-9/3-A/U	#14 - #8	0.15 - 0.30 (4 - 8)		100		
WCSM-13/4-A/U	#12 - #6	0.20 - 0.45 (5 - 11)		100		
WCSM-20/6-A/U	#8 - #2	0.25 - 0.70 (6 - 18)		100		
WCSM-33/8-A/U	#4 - 4/0	0.35 - 1.20 (9 - 30)		65		
WCSM-43/12-A/U	1/0 - 400	0.50 - 1.55 (13 - 39)		50		
WCSM-51/16-A/U	250 - 500	0.70 - 1.75 (18 - 44)		40		
WCSM-70/21-A/U	400 - 1000	0.90 - 2.45 (23 - 62)		40		
WCSM-90/30-1500/U	800 - 1200	1.30 - 3.10 (33 - 79)	60 (1500)		5	
WCSM-130/36-1500/U	1500 - 2500	1.60 - 4.20 (41 - 107)	60 (1500)		5	

¹ Catalog numbers with -S designation are suitable for sealed electrical insulation to 1000 V. Catalog numbers with A/U and /U designations are for cable re-jacketing only.

² Length tolerance to 32%. Can be used for multi-conductor LV splices using different tubings.

Note: UL listing applies to sealant-coated (-S) WCSM-9/3 through -70/21 only. WCSM-105/30 and -130/36 are not UL listed.



Ordering Information

- Select the appropriate catalog number based on typical dimensions for low-voltage insulated cable. Confirm selection with dimensions to assure proper sizing.
- UL listing applies to sealant-coated (-S) WCSM-9/3 through -70/21 only. WCSM-105/30 and -130/36 are not UL listed.
- Package does not contain connectors or lugs. Installed connector or lug diameter must be within use range.
- If sealing is needed with WCSM-A/U uncoated tubing, order S-1052 sealant separately.
- WCSM tubing may be field-cut for shorter requirements.
- Bulk packaging is available for cut lengths. Consult your Tyco Electronics representative for information.
- For testing information refer to the Technical Data section of this catalog.
- Related test report: EDR-5139
- UV resistant test report: EDR-5361.

For connector information refer to the Connectors and Terminals section of this catalog.

Low Voltage In-Line Splices



FCSM Tubing Heavy-Wall Flame Retardant Tubing (2000 V)

FCSM tubing's tough, crosslinked polyolefin construction provides mechanical strength and cut-through resistance equal to, or surpassing, the properties of low-voltage cable jackets.

- 3:1 shrink ratio and an unlimited shelf life when stored under normal conditions
- Use sealant-coated tubing (-S) as a sealed in-line splice or terminal lug seal. It provides a water-tight seal for direct-buried applications and wet environments.
- Use uncoated tubing (-/U) for cable rejacketing only
- Sealant-coated or uncoated tubing may be used for jacket repair on cable to 35 kV. Qualified to ANSI C119.1-1986; also rated to IEEE 383 (Vertical Tray Flame Test) and ICEA S-19-81.
- FCSM is also MSHA approved (No. P-137-MSHA).

MSHA approved
(No. P-137-MSHA)

For use on standard poly- or elastomeric- insulated/jacketed cables or lead-jacketed cables, which may include aluminum or steel armoring.

Connectors up to 6 inches: Recommended cut length = connector length + 4 inches.
Connectors over 6 inches: Recommended cut length = connector length + 5 inches.

Selection Information: dimensions in inches (millimeters)

Catalog Number	1000-V Insulated Conductor Size (AWG/kcmil)	General Use Range (Min.-Max.)	Tube Length*	Std. Ft.(m)/Roll	Pack Pcs/Box	Bulk Option Ft.(m)/Roll
In-Line Splice Or Terminal Lug Seal (With Sealant)						
FCSM-9/3-1200-S	#14 - #8	0.15 - 0.30 (4 - 8)	48 (1200)	25		
FCSM-19/6-150-S	#6 - #2	0.25 - 0.65 (6 - 17)	6 (150)	50		
FCSM-19/6-1200-S	#6 - #2	0.25 - 0.65 (6 - 17)	48 (1200)	25		
FCSM-28/9-225-S	#2 - 4/0	0.40 - 0.95 (10 - 24)	9 (225)	50		
FCSM-28/9-1200-S	#2 - 4/0	0.40 - 0.95 (10 - 24)	48 (1200)	25		
FCSM-38/12-300-S	1/0 - 350	0.50 - 1.30 (13 - 33)	12 (300)	40		
FCSM-38/12-1200-S	1/0 - 350	0.50 - 1.30 (13 - 33)	48 (1200)	10		
FCSM-51/16-300-S	250 - 500	0.70 - 1.75 (18 - 44)	12 (300)	30		
FCSM-51/16-1200-S	250 - 500	0.70 - 1.75 (18 - 44)	48 (1200)	10		
FCSM-68/22-1200-S	600 - 1000	0.95 - 2.30 (25 - 58)	48 (1200)	10		
FCSM-90/30-1200-S	800 - 1200	1.30 - 3.10 (33 - 79)	48 (1200)	5		
FCSM-120/40-1200-S	1500 - 2500	1.75 - 4.10 (44 - 104)	48 (1200)	5		
FCSM-177/63-600-S		2.75 - 6.05 (70 - 154)	24 (600)	6		
FCSM-177/63-1200-S		2.75 - 6.05 (70 - 154)	48 (1200)	5		

Cable Rejacketing (Without Sealant)

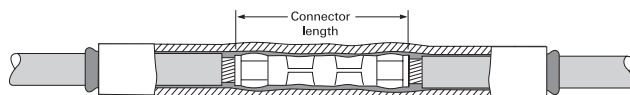
FCSM-9/3-A/U	#14 - #8	0.15 - 0.30 (4 - 8)		100 (30)		
FCSM-19/6-A/U	#6 - #2	0.25 - 0.65 (6 - 17)		100 (30)		825 (250)
FCSM-28/9-A/U	#2 - 4/0	0.40 - 0.95 (10 - 24)		65 (20)		495 (150)
FCSM-38/12-A/U	1/0 - 350	0.50 - 1.30 (13 - 33)		50 (15)		395 (120)
FCSM-51/16-A/U	250 - 500	0.70 - 1.75 (18 - 44)		40 (12)		330 (100)
FCSM-68/22-A/U	600 - 1000	0.95 - 2.30 (25 - 58)		80 (24)		
FCSM-90/30-1500/U	800 - 1200	1.30 - 3.10 (33 - 79)	60 (1500)		5	
FCSM-120/40-1500/U	1500 - 2500	1.75 - 4.10 (44 - 104)	60 (1500)		5	
FCSM-177/63-1500/U		2.75 - 6.05 (70 - 154)	60 (1500)		5	

*Length tolerance to 32 percent.

Ordering Information

1. Select the appropriate catalog number based on typical dimensions for low-voltage insulated cable. Confirm selection with cable dimensions to assure proper sizing.
2. Connectors or lugs not included.
3. If sealing is needed with uncoated FCSM tubing (-/U), order S-1052 separately.
4. Tubing may be field-cut for shorter requirements.
5. Bulk packaging is available for cut-lengths. Contact your Tyco Electronics representative for additional information.
6. For testing information refer to the Technical Data section of this catalog.
7. Related test reports: EDR-5133, EDR-5134, EDR-5141

For connector information refer to the Connectors and Terminals section of this catalog.



Low Voltage In-Line Splices



CRSM Sleeves Heat-shrink Wraparound Sleeve (1000 V)

CRSM sleeves close easily with a permanent locking system that consist of a raised rail profile and a stainless steel channel. These sleeves are made from crosslinked polyolefin, which equals or exceeds the material properties of the original cable jacket. CRSM sleeves fit a wide range of cable sizes and have unlimited shelf life, when stored under normal conditions.

- Qualified to ANSI C119.1-1986, rated to ICEA electrical withstand test for 1000V.
- RUS accepted for use as jacket restoration materials on JCN cable.
- For use on standard poly- or elastomeric insulated/jacketed cables or lead-jacketed cables, which may include aluminum or steel armoring.
- Use as insulation fro 1/C low-voltage power cable up to 1000V and for jacket repair up to 35kV or for general sealing applications. All CRSM sleeves are sealant-coated.

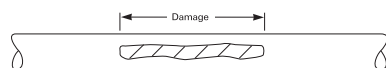
Selection Information: dimensions in inches (millimeters)

Catalog Number	Sleeve Length	Primary Electrical Repair (1000 V) Cable and Jacket Repair Conductor Size Use Range		General Sealing Use Range (0-35 kV) (Min.-Max.)	Std. Pack
		(AWG/kcmil)	(Min.-Max.)		
CRSM 34/10-200	08 (200)	#8 - 2/0	0.25 - 0.60 (6 - 15)	0.25 - 1.20 (6 - 30)	3
CRSM 34/10-1200	48 (1219)	#8 - 2/0	0.25 - 0.60 (6 - 15)	0.25 - 1.20 (6 - 30)	5
CRSM 53/13-200	08 (200)	3/0 - 400	0.60 - 0.95 (15 - 24)	0.60 - 1.80 (15 - 46)	10
CRSM 53/13-1200	48 (1219)	3/0 - 400	0.60 - 0.95 (15 - 24)	0.60 - 1.80 (15 - 46)	5
CRSM 84/20-750	30 (750)	500 - 1000	0.95 - 1.40 (24 - 36)	0.95 - 2.70 (24 - 69)	10
CRSM 84/20-1200	48 (1219)	500 - 1000	0.95 - 1.40 (24 - 36)	0.95 - 2.70 (24 - 69)	5
CRSM 107/29-1000	40 (1000)	1000 - 2000	1.30 - 2.00 (33 - 51)	1.30 - 3.60 (33 - 91)	10
CRSM 107/29-1200	48 (1219)	1000 - 2000	1.30 - 2.00 (33 - 51)	1.30 - 3.60 (33 - 91)	5
CRSM 143/36-1200	48 (1219)			1.65 - 4.95 (42 - 126)	5
CRSM 198/55-1200	48 (1219)			2.50 - 6.50 (64 - 165)	5

Ordering Information

1. Select the appropriate catalog number for either primary electrical repair (1000 volts max.) or general sealing applications. Electrical repair selections are based on typical dimensions for low-voltage insulated cable. Confirm selection with cable dimensions to assure proper sizing.
2. Use the "Primary electrical repair" columns for electrical repair applications (when CRSM is in direct contact with the conductor).
3. Use the "General sealing and jacket repair use range" column for general re-jacketing or sealing applications (when CRSM is not in direct contact with the conductor).
4. Package does not contain connectors.
5. Kits include a wraparound sleeve and stainless steel channel closure. Both can be field-cut for shorter requirements (see "Reference dimensions" below).
6. Related test report: EDR-5124, EDR-5192
7. UV resistant test report: EDR-5361
8. CRSM 34/20 are available in shorter standard lengths by ordering the corresponding CRSM-CT kits. (The use ranges in the selection information table still apply).

For connector information refer to the Connectors and Terminals section of this catalog.



Cut sleeve length = Damage length + total seal length

Damage	Total Seal Length
<3 (<76)	3 (76)
3 - 12 (76 - 305)	4 (102)
12 - 24 (305 - 610)	6 (152)
>24 (>610)	8 (203)

Low Voltage In-Line Splices



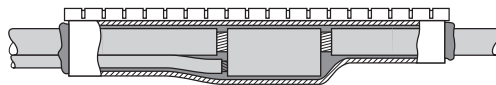
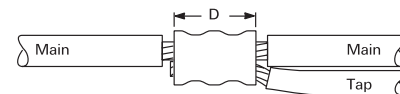
CRSM CT Cable Tap Splices Heat-shrink Wraparound Cable Tap Splices (1000 V)

- Use as a wraparound, sealed cable tap splice
- Qualified to ANSI C119.1-1986, rated to ICEA electrical withstand test for 1000 volts
- RUS accepted for use with compression and split-bolt connectors
- Sealant-coated
- For use on standard poly- or elastomeric insulated conductors

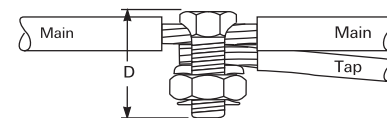
Selection Information: dimensions in inches (millimeters)

Catalog Number	Sleeve Length	Conductor Size (1000 V max.)		Connector Dimension (Max. D)	Std. Pack
		Main (AWG/kcmil)	Tap (AWG/kcmil)		
Compression Connector					
CRSM-CT-34/10-150	6 (152)	#8 - #2	#10 - #2	2 (51)	10
CPGI-CRSM-CT-34/10-150	6 (152)	#8 - #2	#10 - #2	2 (51)	5
CRSM-CT-53/13-200	8 (203)	#2 - 4/0	#10 - 4/0	4 (102)	10
CRSM-CT-84/20-250	10 (254)	4/0 - 500	#2 - 500	6 (152)	10
Standard Split-Bolt Connector					
CRSM-CT-53/13-200	8 (203)	#8 - #2	#14 - #2	1 1/2 (38)	10

Compression connector



Split-bolt connector



Ordering Information

1. Select the appropriate catalog number based on the main and tap conductor sizes and connector type for electrical repair (1000 volts max.). Selections are based on typical dimensions for low-voltage insulated cable. Confirm selection with cable dimensions to assure proper sizing.
2. Kits are capable of insulating and sealing wye (3-wire) or H (4-wire) configurations up to 1000 volts.
3. Kits do not contain connectors.
4. Kits include insulating sleeve, sealant strip, and stainless steel channel closure.
5. Standard package: 10 kits/box.
6. Related test report: EDR-5192.
7. UV resistant test report: EDR-5361.

For connector information refer to the Connectors and Terminals section of this catalog.

Low Voltage In-Line Splices



MRS Repair Sleeves Heat-shrink Wraparound Flame-Retardant Sleeve (2 kV)

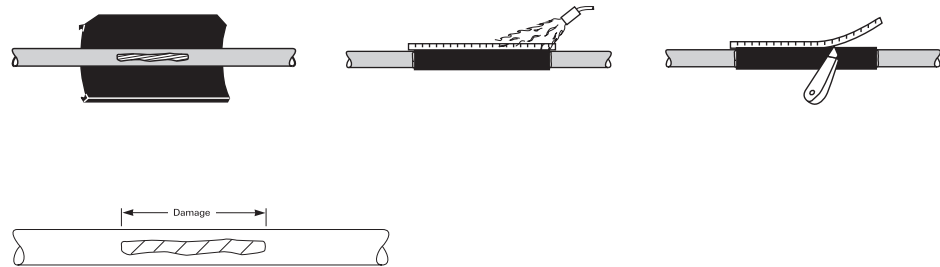
Tyco Electronics' wraparound mining repair sleeve provides an efficient method of repairing insulation on flexible cables to 2 kV and repairing jacket damage on high-voltage cable where a splice is not required.

- Specially formulated, flame-retardant, flexible wraparound sleeve
- Installs with a low profile quickly and easily, which means the cable can be returned to service in minutes.
- Ideal for use on trailing cable as well as flexible-construction cables and conduits.
- MSHA approved (No. P-137-MSHA).

Selection Information: dimensions in inches (millimeters)

Catalog Number	Cable use Range (Min. - Max.)	Sleeve Length	Std. Pack (Kits/Box)
MRS-12-10	1.00 - 1.60 (25 - 41)	10 (254)	20
MRS-12-24	1.00 - 1.60 (25 - 41)	24 (610)	10
MRS-34-24	1.60 - 2.30 (41 - 58)	24 (610)	10
MRS-34-30	1.60 - 2.30 (41 - 58)	30 (762)	10
MRS-56-30	2.30 - 3.50 (58 - 89)	30 (762)	10

Kits do not contain connectors.



Damage	Total Seal Length
<3 (< 76)	3 (76)
3 - 12 (76 - 305)	4 (102)
12 - 24 (305 - 610)	6 (152)
>24 (> 610)	8 (203)

Ordering Information

1. Select the appropriate catalog number based on cable diameter.
2. Kits do not contain connectors.
3. MRS repair sleeve is precoated with adhesive.
4. Kits contain a wraparound sleeve and stainless steel channel closure (removed after installation). Both can be field-cut for shorter requirements.
5. Related test report: EDR-5028

For connector information refer to the Connectors and Terminals section of this catalog.

Low Voltage In-Line Splices



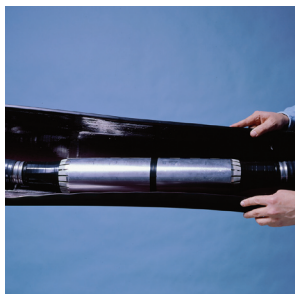
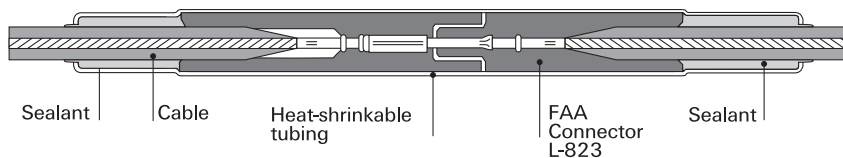
ALK Splice Sealing Kit Heat-Shrink Airport Lighting Kit

These environmental sealing kits enhance the ability of type L-823 plug and receptacle connectors to meet FAA specifications.

Selection Information: dimensions in inches (millimeters)

Catalog Number	Cable/Connector Diameter (Min. - Max.)	Std. Pack (Kits/Box)
ALK-L823	0.50 - 1.50 (13 - 38)	10

*Kits do not contain connectors.
Suitable for use on FAA-type L-823 connectors.*



LVSA-3 Splice Heat-Shrink Splices for 3/C Armored Cable (1000 V)

The LVSA-3 splice kit features a wraparound, heat-shrinkable, adhesive-coated outer sleeve that significantly reduces the installation space required and protects the splice from corrosion and moisture.

- Kits include a low-profile wraparound armor case that is simple to install and requires no compound or resin filling.
- Qualified to ANSI C119.1-1986. For splicing 3/C polymeric, armored (corrugated or interlocked-type) power and control cables (600-1000 volts).

Selection Information: dimensions in inches (millimeters)

Catalog Number	Conductor Size Range (AWG/kcmil)	Cable O.D. (Min.-Max.)	Maximum Connector Length	Std. Pack
LVSA-3-1	#6 - #2	0.60 - 1.50 (15 - 38)	3.50 (89)	1
LVSA-3-2	#1 - 4/0	0.90 - 2.20 (23 - 56)	4.00 (102)	1
LVSA-3-3	250 - 500	1.20 - 3.00 (30 - 76)	5.00 (127)	1
LVSA-3-4	600 - 1000	1.50 - 3.80 (38 - 97)	7.00 (178)	1

Kits do not contain connectors; please order them separately.

For connector information refer to the Connectors and Terminals section of this catalog.

Low Voltage In-Line Splices



LV-MSK Splice Heat-Shrink Flexible Mining Cable (600 V-8 kV)

LV-MSK kits are flame-retardant, in-line and multi-conductor splice kits for use on mining cables and standard flexible cables up to 2 kV

- MSHA approved to P-137-4-MSHA
- For types G, W, G-GC, and SHD-GC round and flat cables



Selection Information: dimensions in inches (millimeters)

Catalog Number	Cable Diameter (Min.-Max.)	Power Conductor Size (AWG/kcmil)			Std. Pack (Kits/Box)
		G or G-GC 3/C	W or G 2/C	W 4/C	
LV-MSK (600 V-2 kV) - Flat Cables					
LV-MSK-046	0.85 - 1.40 (22 - 36)		#6 - #2		15
LV-MSK-047	1.30 - 2.40 (33 - 61)	#6 - #1	#1 - 4/0	#6 - #1	10
LV-MSK-058	1.60 - 3.15 (41 - 80)	#2 - 4/0		#2 - 4/0	5
Round Cables					
LV-MSK-045*	0.85 - 1.40 (22 - 36)	#8 - #6	#8 - #6		20
LV-MSK-046	0.85 - 1.40 (22 - 36)	#6 - #2	#6 - #4		15
LV-MSK-047	1.30 - 2.40 (33 - 61)	#2 - 3/0	#3 - 3/0	#6 - 1/0	10
LV-MSK-058	1.60 - 3.15 (41 - 80)	2/0 - 500	2/0 - 350	1/0 - 350	5

Ordering Information

1. Kits do not contain connectors; please order separately.
2. LV-MSK-045 has a lower profile than LV-MSK-046.
3. Standard package: LV-MSK: See selection tables above. HV-MSK: One 3/C kit per box.

For connector information refer to the Connectors and Terminals section of this catalog.

Low Voltage Stub Splices & Motor Connection Kits



GelCap Splice Covers Water Resistant Stub Splice Cover Kit (1000 V)

GelCap splice cover kits quickly and conveniently insulate, seal, and protect stub splice connections in motors, street lights, etc.. up to 1000 volts. The robust, yet compact, design was engineered to handle the harsh environments of motor connections. GelCap splice cover kits are equally well suited for many other connection applications including street light connections. The specially formulated material provides excellent abrasion resistance and insulation value.

Each cap size is designed to fit a wide range of cable sizes. The expandable design keeps the cap as small as possible and allows it to expand only as much as needed to fit on large cable.

GelCap splice cover kits provide the fastest installation. Simply push the cover down over the connection and snap the clamp closed. No extra materials or greases are required. The PowerGel sealant is already in the cap. Removal is just as quick and easy as installation.

Common uses for GelCap splice cover kits:

- Motor connections
- Street lights
- Over wire nuts for sealing
- Irrigation systems
- HVAC
- Outdoor lighting

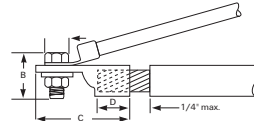
Selection Information: dimensions in inches (millimeters)

Catalog Number	Feeder Conductor Size (mm²)	Max. Bolt Dimensions Width (A) Length (B)	Max. Lug Dimensions Total Length (C)	Barrel Length (D)	Cap length (Nominal)	Std. Pack
GelCap 1**	#16 - #10 AWG (1.5 - 5)	.375 (10) .500 (13)	1.00 (25)	0.5 (13)	2.8 (71)	5
CPGI-GelCap-1**	#16 - #10 AWG (1.5 - 5)	.375 (10) .500 (13)	1.00 (25)	0.5 (13)	2.8 (71)	5
GelCap 2	#8 - #2 AWG (8 - 35)	.625 (16) 1.00 (25)	2.00 (51)	1.0 (25)	3.5 (89)	5
CPGI-GelCap-2	#8 - #2 AWG (8 - 35)	.625 (16) 1.00 (25)	2.00 (51)	1.0 (25)	3.5 (89)	5
CPGI-GelCap-2-SGL*	#8 - #2 AWG (8 - 35)	.625 (16) 1.00 (25)	2.00 (51)	1.0 (25)	3.5 (89)	5
GelCap 3	#2 - #4/0 AWG (35 - 105)	.850 (22) 1.30 (33)	3.00 (76)	1.5 (38)	6.0 (152)	5
GelCap 4	250 - 500 kcmil (125 - 250)	1.100 (28) 1.85 (47)	5.00 (127)	2.0 (51)	8.0 (203)	5

* CPGI-GelCap-2-SGL kit contains one GelCap cover only.

** For wire sizes #16 - #10, the unique design of the GelCap 1 splice kit saves space by allowing all three phase connections to be installed in one cover.

• For GelCap splice kits sizes 2-4, one cap per phase is provided.

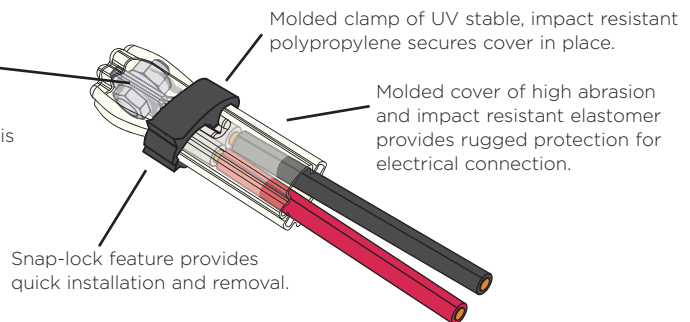


Product Performance

Testing	Test Conditions
Chemical Resistance	ASTM D543, Sulfuric acid, Sodium hydroxide and motor oil
Ozone Resistance	ASTM D1149, 168 hours @40°C, 50pphm
Accelerated Aging	ASTM D2671
Abrasion Resistance	2040 gm wt., 4000 cycles, 2% max thickness loss

Related Product Information: EDR-5435 Test Report

Silicone gel is high dielectric insulation and provides constant pressure on cable and connector to provide waterseal. PowerGel sealant is specially formulated for high temperature environments.



90UF
Insulating Splice Covers
600V/105°C
E216204
IDJ21

Ordering Information

1. Selection based on typical dimensions of low-voltage insulated cables.
2. Kits do not contain connectors.

For connector information refer to the Connectors and Terminals section of this catalog.

Low Voltage Stub Splices & Motor Connection Kits



RVC Splice Cover Kits “Roll-on” Stub Connection Insulation Kits (1000 V)

RVC splice cover kits offer the quick and easy “roll-on” way to insulate and seal stub connections in motors and street lights up to 1000 volts. The elastomeric RVC cap splice cover provides the required insulation thickness, withstands abrasion, and forms a water-resistant seal. The tool-free RVC cap is ideal for installation in cramped motor boxes. It slides on easily and will not leak, unravel, or slip off.

Selection Information: dimensions in inches (millimeters)

Catalog Number	Feeder Size (AWG/kcmil)	Bolt Dimensions Size (Max.)	Bolt Length (Max.)	Lug Length (Max.)	Cap Length (Nominal)	Std. Pack
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Motor Connections or Two-Wire Stub Splices

RVC-1V	#14 - #4	.375 (8)	.625 (15)	1.75 (45)	3.00 (75)	5
RVC-2V	#8 - 2/0	.375 (8)	.750 (20)	2.75 (70)	4.00 (100)	5
RVC-3V	#2 - 4/0	.500 (12)	1.00 (25)	3.00 (75)	5.25 (130)	5
RVC-4V	250 - 500	.625 (16)	1.50 (35)	5.00 (125)	7.50 (190)	5

Catalog Number	Conductor Size (AWG/kcmil)	Insulation Cut-Back (Max.)
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Three-Wire Stub Splices

RVC-1V	#14 - #8	1.75 (44)
RVC-2V	#6 - #2	2.75 (70)

Ordering Information

1. Select the appropriate catalog number. Selections are based on typical dimensions of low-voltage insulated cable. Confirm selection with dimensions to assure proper sizing.
2. Kits do not contain connectors. The RVS splice cover selection information above covers copper and aluminum in-line compression connections.
3. Each kit contains one Rayvolve RVS splice cover sleeve and sealant strips.
4. Standard package: 5 kits/box.
5. Related test report: EDR-5167

For connector information refer to the Connectors and Terminals section of this catalog.



LISTED 96J4
Direct burial insulation covered for listed pressure connectors



Certified C22.2
No. 198.2

Qualified to ANSI C119.1-1986. CSA certified to C22.2 No. 198.2. UL listed per 96J4 (file E91151).

Low Voltage Stub Splices & Motor Connection Kits



MCK Motor Connection Kits Heat-Shrink Motor Connection Kits for 1/C (2000 V)

- Qualified to ANSI-C119.1-1986 and rated to ICEA electrical withstand test for 1000 V
- For use as an in-line or stub splice between 1/C poly feeder cable and motor leads
- Excellent insulation sealing—and resistance to abrasion—in motor connections

Type V

The stub “Type V” kit is designed to splice the stub or butt configuration that is commonly used where there is insufficient room to make in-line connections.

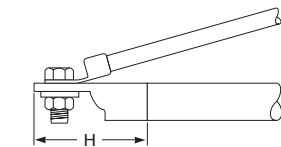
Type L

The In-Line “Type L” kit is used, where space permits, to splice in-line connections.

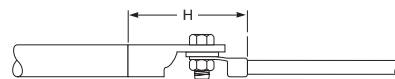
Selection Information: dimensions in inches (millimeters)

Catalog Number	Motor Feeder Size (AWG/kcmil)	Bolt Length (Max.)	Connection Length (Max.) H	Length (Nominal)	Std. Pack
Stub Type V				<i>Cap</i>	
MCK-1V	#14 - #10	5/8	2.0 (51)	2.5 (64)	5
CPGI-MCK-1V	#14 - #10	5/8	2.0 (51)	2.5 (64)	5
MCK-2V	#12 - #4	3/4	2.5 (64)	3.4 (86)	5
CPGI-MCK-2V	#12 - #4	3/4	2.5 (64)	3.4 (86)	5
MCK-3V	#2 - 4/0	1	3.5 (89)	4.5 (114)	5
MCK-4V	250 - 500	1 1/2	5.5 (140)	6.5 (165)	5
In-Line Type L				<i>Sleeve</i>	
MCK-1L	#8 - 4/0	1 1/4	5.0 (127)	9.0 (229)	
MCK-2L	250 - 1000	1 1/2	8.0 (203)	12.0 (305)	

Notes: MCK motor connection kits are designed for single-hole connectors and include caps and sealant strips for three connections. Kits do not contain connectors.



Type V
Stub configuration



Type L
In-line configuration

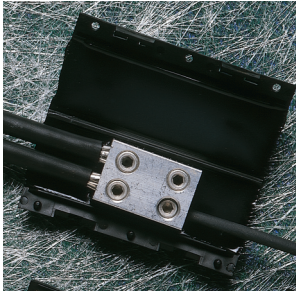


Ordering information

1. Select appropriate catalog number based on the motor feeder cable. Motor pigtail leads of the same size or smaller are suitable. MCK selections are based on the typical dimensions of low-voltage insulated cable. MCK selections are based on the typical dimensions of 100%-insulated cables manufactured in accordance with the data contained in AEIC CS5-1987 and AEIC CS6-1987, as well as the dimensions of commonly used connectors. Nominal insulation thickness (100%): 90 mils. For cables manufactured to other specifications, confirm selection with cable and connector dimensions.
2. Shielded cable must be terminated before installing MCK.
3. MCK kits are designed for single-hole connectors and include caps and sealant strips for three connections. Kits do not contain connectors.
4. Related test reports: MCK: EDR-5110

For connector information refer to the Connectors and Terminals section of this catalog.

Low Voltage Taps



GTAP Splices Water Resistant Splice (1000 V)

The GTAP gel tap splice kit provides a fast and simple method for connecting, insulating, and environmentally sealing low-voltage splices. The GTAP splice kit is designed for underground as well as overhead environments. It is especially useful for street lighting applications.

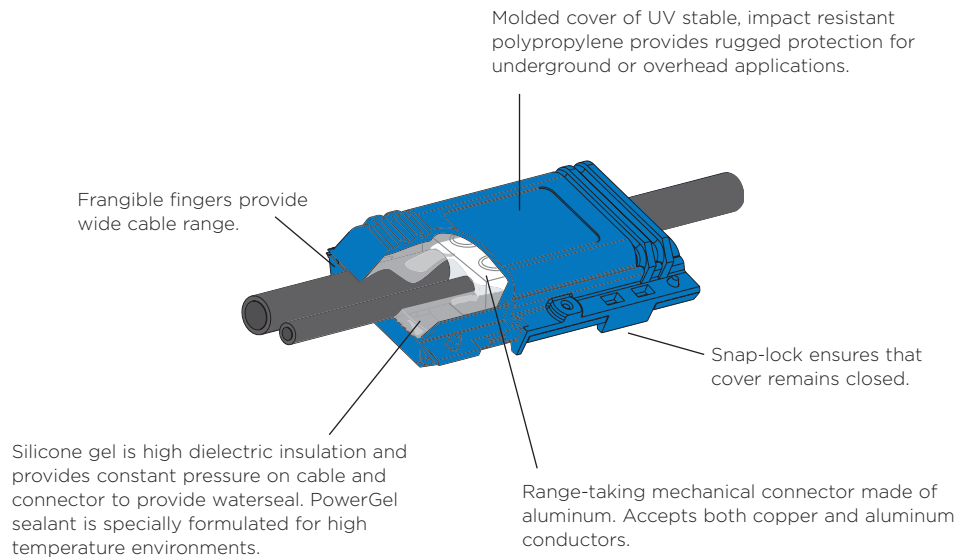
- Range-taking mechanical connectors splice a wide range of cables, including copper and aluminum
- Connector's four port design allows maximum inventory flexibility
- Hinged closure allows for one-step installation
- Can be installed over the connector in seconds by simply snapping the cover shut
- Utilizes Tyco Electronics' innovative PowerGel sealant to protect the connection from moisture ingress, corrosion, and pollution
- PowerGel sealant provides additional insulation

Selection Information

Catalog Number	Conductor Size (All Outlets) AWG (mm ²)	Std. Pack
GTAP-1	#14 - #2 (2 - 35)	18 or 72
CPGI-GTAP-1	#14 - #2 (2 - 35)	5
GTAP-2	#14 - 2/0 (2 - 70)	18 or 72
CPGI-GTAP-2	#14 - 2/0 (2 - 70)	5

Selections are based on typical dimensions for low voltage, insulated cable.

Catalog Number	Length	Width	Height
GTAP-1	2 3/4 (70)	1 5/8 (41)	1 1/16 (27)
GTAP-2	4 1/4 (108)	2 (51)	1 3/16 (30)



Ordering Information

1. Selection based on typical dimensions of low-voltage insulated cables.

Low Voltage Taps



GelCap SL Street Light Splice Water Resistant Cover Kit with Connector (1000 V)

Tyco Electronics' GelCap SL splice cover kits provide quick installation, dependable performance, and easy reentry for street lighting connections, but they have many other uses.

GelCap SL splice cover kits quickly and conveniently insulate, seal, and protect stub splice connections up to 1000 volts.

PowerGel Sealant Technology

The GelCap SL splice cover kits feature revolutionary PowerGel sealant which provides an excellent moisture seal over a wide temperature range (-40°C to 105°C).

Innovative Cap Design and Material

The specially formulated material provides excellent abrasion resistance and insulation.

Range Taking Connector

The special three wire connector is perfect for street light connections. There are two ports that accept wires from #14-2/0 AWG. Use these for the feeder cable. There is a single port that accepts #14-6 AWG. Use this port to power the light.

Fast and Easy Installation

GelCap SL splice cover kits provide the fastest installation. Simply push the cover down over the connection and snap the clamp closed. No extra materials or greases are required. The PowerGel sealant is already in the cap.

Easy to Reenter

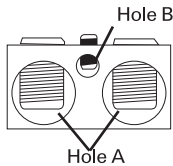
The GelCap SL splice cover is easy to re-enter because the PowerGel sealant pulls away leaving a clean connection. Re-entry is also safer than other methods because no sharp objects or cutting tools are required for removal of the cap.

Other Common Uses for GelCap Splice Cover Kits

- Irrigation systems
- HVAC
- Outdoor lighting
- Motor connections

Selection Information

Catalog Number	Hole A		Hole B		Std. Pack
	Wire Range	Recommended Torque Values	Wire Range	Recommended Torque Values	
GelCap-SL-2/0-3 Hole	#14 - 2/0 AWG	120 - 180 in-lbs	#14 - 6 AWG	120 - 150 in-lbs	10
CPGI-GelCap-SL-2/0-3 Hole	#14 - 2/0 AWG	120 - 180 in-lbs	#14 - 6 AWG	120 - 150 in-lbs	5



Testing

Testing	Test Conditions
Chemical Resistance	ASTM D543, Sulfuric acid, Sodium Hydroxide and motor oil
Ozone Resistance	ASTM D1149, 168 hours @ 40°C, 50 pphm
Accelerated Aging	ASTM D2671
Abrasion Resistance	2040 gm wt., 4000 cycles, 2% max thickness loss



90UF
Insulating Splice Covers
600V/105°C
E216204
IDJZ1

Ordering Information

1. Selections are based on typical dimensions of low-voltage insulated cables.
2. Kits include UL Listed connectors for use with copper and/or aluminum conductors.
3. Each kit contains a gel filled cap, cap clamp, and connector.

Low Voltage Taps



GHFC H-Frame Closures Water Resistant Closure for Power Cable (1000 V)

Tyco Electronics' low-voltage H-frame closures provide a fast and simple method for insulating and environmentally sealing low-voltage cable-taps and splices made with H-frame compression connectors.

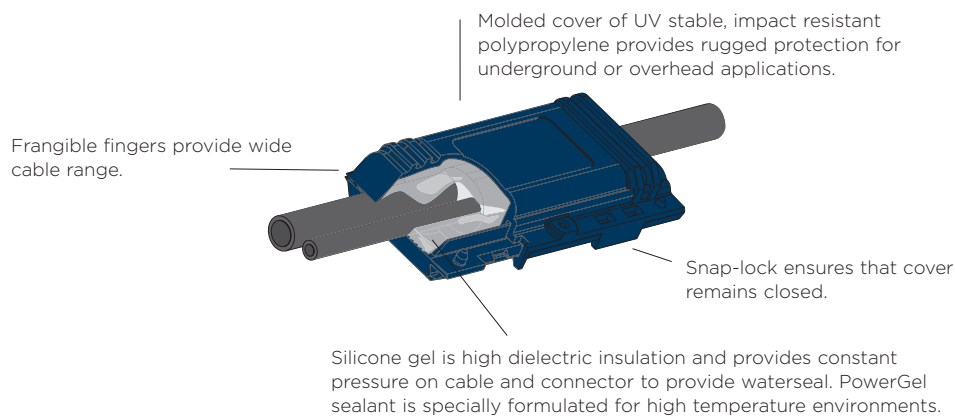
- Utilizes Tyco Electronics' PowerGel sealant material to seal and protect the connection from moisture ingress, corrosion, and pollution.
- Ideal for both underground and overhead applications and is especially useful for street lighting applications.
- Qualified to ANSI C119.1-1986 for underground splicing.
- UV resistant.
- Qualified for temperatures from -40°C to 90°C.

Simply place the connection on the closure and press the closure together. It's that easy—no tapes, mastics, tools, or mixing are required. The closure can be easily installed with one hand.

Selection Information: dimensions in inches (millimeters)

Catalog Number	Conductor Size (AWG/kcmil)		Die	Std. Pack
	Main	Tap		
GHFC-1-90	#6 - #2	#14 - #8	"BG"	10 or 100
CPGI-GHFC-1-90	#6 - #2	#14 - #8	"BG"	5
GHFC-2-90	#2 - 2/0	#14 - #6	"O"	10 or 100
CPGI-GHFC-2-90	#2 - 2/0	#14 - #6	"O"	5
GHFC-2.5-90	1/0 - 4/0	#6 - 3/0	"D"	30 each
GHFC-3-90	350	4/0	"N"	6 or 18

Catalog Number	Length	Width	Height
GHFC-1-90	2 3/4 (70)	1 5/8 (41)	1 1/16 (27)
GHFC-2-90	4 1/4 (108)	2 (51)	1 3/16 (30)
GHFC-2.5-90	7 1/8 (181)	2 3/4 (70)	1 4/7 (40)
GHFC-3-90	6 1/4 (159)	3 1/3 (84)	1 15/16 (49)



Ordering Information

1. Select the appropriate catalog number. Selections are based on typical dimensions for low-voltage, insulated cables and connectors.
2. Approved connectors (supplied by others) include, but are not limited to:

Product	Approved connectors
GHFC-1-90	Homac UB214; T&B 63105; Blackburn WR9; Burndy YPC2A8U
GHFC-2-90	Homac OB22, OB44, OB102, OB103; Burndy YHO-1, YHO-2, YHO100, YHO125, YHO150; Blackburn WR139, WR159, WR179, WR199; ILSCO AH1; T&B 63110; UTILCO HT1, HT2

3. Standard packs of 100 ea. are also available. Substitute a (B100) in place of the (B10) in the catalog number.
4. Related test report: GHFC-1-90 and GHFC-2-90 - EDR-5264, GHFC-3-90 - EDR-5326

Low Voltage Taps



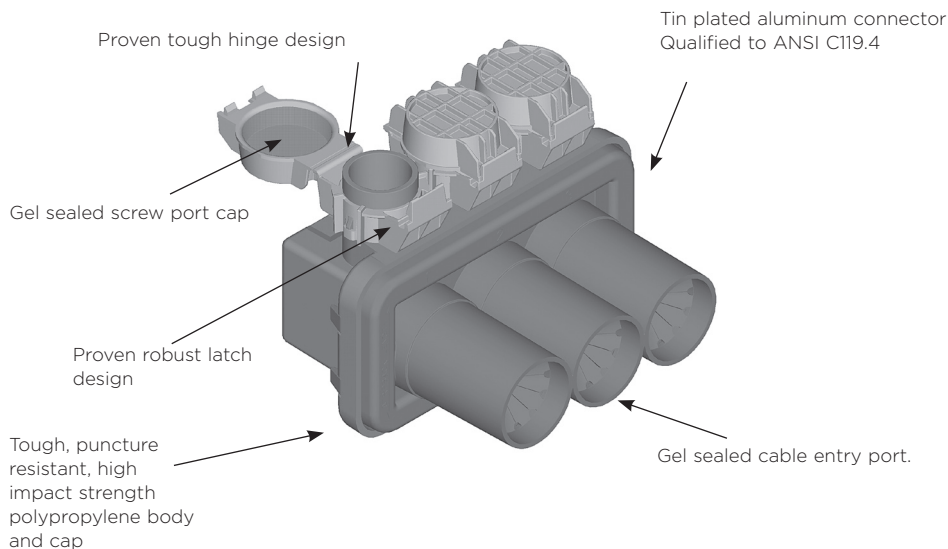
GelPort Connectors Submersible Connectors for URD Distribution (1000 V)

- Corrosion resistance
- No loose parts due to one piece housing
- Gel-filled cable entry ports provide a reliable cable seal
- PowerGel sealing gel seals out harsh environments
- Rugged, impact-resistant housing stands up to rough installations
- Clear view back allows for easy positive visual indication of wire position in connector

Selection Information: dimensions in inches (millimeters)

Catalog Number	Clear View	Number of Wire Ports	Conductor Use Range (mm ²)	Length Inches (mm)	Width Inches (mm)	Height Inches (mm)	Std. Pack
GPRT-350-3P	-C	3	14 - 350 (2 - 150)	4.60 (117)	3.825 (97)	3.50 (89)	6
GPRT-350-4P	-C	4	14 - 350 (2 - 150)	5.85 (149)	3.825 (97)	3.50 (89)	6
GPRT-350-5P	-C	5	14 - 350 (2 - 150)	7.10 (180)	3.825 (97)	3.50 (89)	6
GPRT-350-6P	-C	6	14 - 350 (2 - 150)	8.35 (212)	3.825 (97)	3.50 (89)	6
GPRT-350-8P	-C	8	14 - 350 (2 - 150)	10.85 (276)	3.825 (97)	3.50 (89)	6
GPRT-350/4P-500/1P	-C	5 Hybrid		7.10 (180)	3.825 (97)	3.50 (89)	6
		4	14 - 350 (2 - 150)				
		1	6 - 500 (16 - 250)				
GPRT-350/6P-500/2P	-C	8 Hybrid		10.85 (276)	3.825 (97)	3.50 (89)	6
		6	14 - 350 (2 - 150)				
		2	6 - 500 (16 - 250)				

Note: For clear view back, add "-C" to catalog number



Ordering Information

1. Selection based on typical dimensions of low voltage cables.

Product Performance

Testing	Test Condition
Complete unit	ANSI C119.1, 2002, Report: EDR-5379, EDR-5409, EDR-5427
Connector	ANSI C119.4, 2003, Report: 502-47264, 502-47302, 502-47308
Chemical Resistance	ASTM D543 to the following liquids: Sulfuric Acid, Sodium Sulfate, Sodium Chloride, Sodium Hydroxide, Ethylene Glycol
UV Resistance	ASTM G-53-95, ASTM-D-638-95

Medium Voltage Termination



TFT-R

1/C Terminations for Shielded and Non-Shielded Power Cable (5-15 kV)

TFT-R and TFT-RG/SG tool-free termination kits have been developed to provide a quick and easy, cold-applied method of terminating 5-15 kV, single conductor polymeric cables. Both the TFT-R and TFT-R-SG are designed for indoor and outdoor conditions.

TFT-R kits are for non-shielded cable applications. TFT-R-G kits do not have rain sheds and should be used for 5/8 kV indoor or outdoor applications and 15 kV indoor only applications.

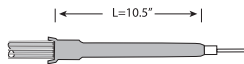
TFT-R and TFT-R-G/SG kits offer the following features and benefits:

- Advanced Metal Oxide Matrix stress control
- Positive placement of stress control patch
- Provided on a crush-resistant core
- Easy installation — allows for repositioning

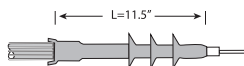
Rated to IEEE-48-1996, class 1 termination requirements.

Selection Information: dimensions in inches (millimeters)

Installed Length
5/8/15kV (without sheds)



15kV (with sheds)

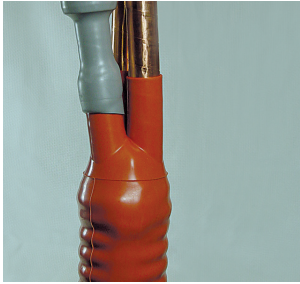


Catalog Number	Cable Range (AWG/kcmil)	Insulation Diameter (Min./Max.)	Number of Skirts	Standard Package (Kits/Box)
TFT-R (Non-Shielded, Indoor/Outdoor) Without Sheds (5 kV)				
TFT-50R	#2-3/0AWG	0.53-0.80 (13-20)	0	3
TFT-51R	1/0-250KCMIL	0.64-1.09 (16-28)	0	3
TFT-52R	250-500KCMIL	0.85-1.45 (22-37)	0	3
TFT-53R	350-750KCMIL	1.06-1.70 (27-43)	0	3
TFT-R-G (Shielded, Indoor/Outdoor) Without Sheds (5 kV)				
TFT-150R-G	#2-3/0AWG	0.53-0.80 (13-20)	0	3
TFT-151R-G	2/0-250KCMIL	0.64-1.09 (16-28)	0	3
TFT-152R-G	350-500KCMIL	0.85-1.45 (22-37)	0	3
TFT-153R-G	500-750KCMIL	1.06-1.70 (27-43)	0	3
TFT-R-G (Shielded, Indoor/Outdoor) Without Sheds (8 kV)				
TFT-150R-G	#2-3/0AWG	0.53-0.80 (13-20)	0	3
TFT-151R-G	1/0-250KCMIL	0.64-1.09 (16-28)	0	3
TFT-152R-G	250-500KCMIL	0.85-1.45 (22-37)	0	3
TFT-153R-G	500-750KCMIL	1.06-1.70 (27-43)	0	3
TFT-R-G (Shielded, Indoor Only) Without Sheds (15 kV)				
TFT-150R-G	#2-3/0AWG	0.53-0.80 (13-20)	0	3
TFT-151R-G	#2-250KCMIL	0.64-1.09 (16-28)	0	3
TFT-152R-G	4/0-500KCMIL	0.85-1.45 (22-37)	0	3
TFT-153R-G	500-750KCMIL	1.06-1.70 (27-43)	0	3
TFT-R-SG (Shielded, Indoor/Outdoor) (15 kV)				
TFT-151R-SG	#2-250KCMIL	0.64-1.09 (16-28)	3	3
TFT-152R-SG	4/0-500KCMIL	0.85-1.45 (22-37)	3	3
TFT-153R-SG	500-750KCMIL	1.06-1.70 (27-43)	3	3
TFT-154R-SG	1000-1250KCMIL	1.49-2.20 (38-56)	3	3

Ordering Information

1. All shielded cable kits contain a solder-blocked ground braid and a solderless ground clamp.
2. Selections are based on the typical dimensions of 100% insulated cables manufactured in accordance with the data contained in AEIC CS5-1987 and CS6-1987 as well as the dimensions of commonly used connectors. Nominal insulation thickness (100%): 15 kV: 175 mils.
3. For cables manufactured to other specifications, confirm cable dimensions.
4. Kits do not contain connectors; order compression or solder connectors separately.
5. Related test reports: 15 kV:EDR5302 (outdoor), 15kV:EDR5306 (indoor)
6. Cable mounting brackets are available to accommodate cable diameters from 0.80-2.40 (20-61).
7. For three conductor cables, order MOD-3-TFT kits.

Medium Voltage Termination



MOD-3-TFT 3/C Modification Kits for Raychem Medium-Voltage Tool Free Terminations (5-15 kV)

Use MOD-3-TFT kits in conjunction with three Raychem 1/C tool free terminations (TFT) to seal and re-jacket the cable terminations.

MOD-3Z-TFT is for re-jacketing of phase conductors. MOD-3C-TFT and MOD-3D-TFT provide re-jacketing, plus an environmental crotch sealing boot.

Each -3C and -3D kit includes six 1.5 feet-long pre-stretched tubes on holdouts for the phases. (Tubing can be field-cut to appropriate length). A three-legged cable breakout boot is also pre-stretched on holdouts and has a domed crown. Sealing is insured by pressure sensitive mastic to be applied under the breakout boot body as well as at the tubing interfaces.

The -3Z kit contains three 1.5 feet long re-jacketing tubes.

Note: MOD-3-TFT kits should be installed prior to installing Raychem TFT kits.

Selection Information: dimensions in inches (millimeters)

Indoor (Without Breakout Boot)		Outdoor/Indoor (Includes Breakout Boot)	
1/C Termination	Indoor MOD-3-TFT Kit	1/C Termination	Outdoor MOD-3-TFT Kit
5/8 kV			
TFT-50R	MOD-3Z-TFT*	TFT-50R	MOD-3C-TFT*
TFT-51R	MOD-3Z-TFT	TFT-51R	MOD-3C-TFT
TFT-52R	MOD-3Z-TFT	TFT-52R	MOD-3C-TFT
TFT-53R	MOD-3Z-TFT	TFT-53R	MOD-3D-TFT
TFT-150R-G	MOD-3Z-TFT*	TFT-150R-G	MOD-3C-TFT*
TFT-151R-G	MOD-3Z-TFT	TFT-151R-G	MOD-3C-TFT
TFT-152R-G	MOD-3Z-TFT	TFT-152R-G	MOD-3C-TFT
TFT-153R-G	MOD-3Z-TFT	TFT-153R-G	MOD-3D-TFT
15 kV			
TFT-150R-G	MOD-3Z-TFT*	TFT-151R-SG	MOD-3C-TFT*
TFT-151R-G	MOD-3Z-TFT	TFT-152R-SG	MOD-3C-TFT
TFT-152R-G	MOD-3Z-TFT	TFT-153R-SG	MOD-3D-TFT
TFT-153R-G	MOD-3Z-TFT	TFT-154R-SG	MOD-3D-TFT

* Refer to Selection information (#3) below this table.

Catalog Number	Insulation Diameter		Jacketing Tubes	Components Breakout Boot
	(Min.-Max.)	(Min.-Max.)		
MOD-3Z-TFT	0.60-1.72 (15-43)		3	0
MOD-3C-TFT	0.60-1.40 (15-35)	1.30-3.50 (33-89)	6	1
MOD-3D-TFT	1.20-1.72 (30-43)	2.70-4.50 (69-114)	6	1

Ordering Information

1. Select three TFT single-conductor terminations.
2. To select the appropriate modification kit for the TFT terminations, use the MOD-3-TFT selection table above.
3. Use the MOD-3-TFT dimensions table to confirm the insulation and jacket diameters.
4. Related installation instructions: MOD-3-TFT

TUBINGS & MOLDED PARTS



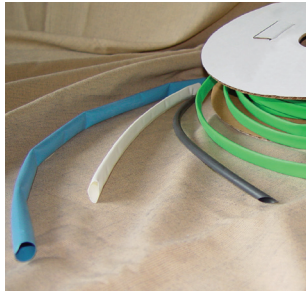
Heat-Shrink Tubing

RNF-100 Tubing	107
MWTM Tubing	108
WCSM Tubing	109
FCSM Tubing	111
LVIT Tubing	112

Molded Parts

ESC Sealing Caps	112
CFTS Seals	113
CBR Breakout Boot	113

Heat-Shrink Tubing



RNF-100 Tubing
Thin-Wall Tubing, Uncoated

- UL recognized to standard 224 (file E35586).
- Flexible, flame-retardant, thin-wall, general purpose heat-shrinkable polyolefin tubing
- Clear tubing is not flame-retardant.
- Ideal for wire jacketing marking and color coding
- Black, white, and colors meet AMS-DTL-23053/5, Class 1. Clear meets AMS-DTL-23053/5, Class 2
- 2:1 shrink ratio and an unlimited shelf life when stored under normal conditions
- Order spools as RNF-100-Size-Spool Length-color
- Other sizes, colors, and packaging are available

Selection Information: dimensions in inches (millimeters)



UL recognized to Standard 224
600V/125*

Spools

Catalog Number	Inner Diameter		Recovered Wall Thickness (Mils)	Color	Feet/Spool
	as Supplied	Recovered			
RNF-100-1/16-25-(color)	.063 (1.6)	.031 (0.8)	17	BLK,WHT,CL	25
RNF-100-3/32-25-(color)	.093 (2.4)	.046 (1.2)	20	BLK,WHT,CL	25
RNF-100-1/8-25-(color)	.125 (3.2)	.062 (1.6)	20	BLK,WHT,CL	25
RNF-100-1/8-500-(color)	.125 (3.2)	.062 (1.6)	20	BLK,WHT,RED	500
RNF-100-3/16-25-(color)	.187 (4.8)	.093 (2.4)	20	BLK,WHT,CL	25
RNF-100-1/4-25-(color)	.250 (6.4)	.125 (3.2)	25	BLK,WHT,CL	25
RNF-100-1/4-250-(color)	.250 (6.4)	.125 (3.2)	25	BLK,WHT,RED	250
RNF-100-3/8-25-(color)	.375 (9.6)	.187 (4.8)	25	BLK,WHT,CL	25
RNF-100-3/8-200-(color)	.375 (9.6)	.187 (4.8)	25	BLK,WHT,RED,GRN,BLUE	200
RNF-100-1/2-25-(color)	.500 (13)	.250 (6.4)	25	BLK,WHT,CL	25
RNF-100-1/2-150-(color)	.500 (13)	.250 (6.4)	25	BLK,WHT,RED, GRN,BLUE	150
RNF-100-3/4-25-(color)	.750 (19)	.375 (9.6)	30	BLK,WHT,CL	25
RNF-100-1-25-(color)	1.000 (25)	.500 (13)	35	BLK,WHT,CL	25
RNF-100-1 1/2-25-(color)	1.500 (38)	.750 (19)	40	BLK,WHT,CL	25
RNF-100-2-25-(color)	2.000 (51)	1.00 (25)	45	BLK,WHT,CL	25

4 Foot Sticks

Catalog Number	Inner Diameter		Cut-Piece Length	Colors	Pieces/ Carton
	as Supplied	Recovered			
CPGI-RNF-100-1/4-48-(color)	.250 (6.4)	.125 (3.2)	48" Stick	BLSK,WHSK,GRSK, RDSK	25
CPGI-RNF-100-3/8-48-(color)	.375 (9.6)	.187 (4.8)	48" Stick	BLSK,WHSK,GRSK, RDSK	25
CPGI-RNF-100-1/2-48-(color)	.500 (13)	.250 (6.4)	48" Stick	BLSK,WHSK,GRSK, RDSK	25
CPGI-RNF-100-3/4-48-(color)	.750 (19)	.375 (9.6)	48" Stick	BLSK,WHSK,GRSK, RDSK	25
CPGI-RNF-100-1-48-(color)	1.000 (25)	.500 (13)	48" Stick	BLSK,WHSK,GRSK, RDSK	25
CPGI-RNF-100-1/16-48-BLK	1.6 (0.063)	0.8 (0.0031)	48" Stick	BLK	50
CPGI-RNF-100-3/32-48-BLK	2.4 (0.093)	1.2 (0.046)	48" Stick	BLK	50
CPGI-RNF-100-1/8-48-BLK	3.2 (0.125)	1.6 (0.062)	48" Stick	BLK	50
CPGI-RNF-100-3/16-48-BLK	4.8 (0.187)	2.4 (0.093)	48" Stick	BLK	50

6 Inch Sticks

Catalog Number	Inner Diameter		Cut-Piece Length	Colors	Pieces/ Pack	Packs/ Carton
	as Supplied	Recovered				
CPGI-RNF-100-1/4-6-(color)	.250 (6.4)	.125 (3.2)	6" Piece	BLK,WHT,GRN, RED	15	5
CPGI-RNF-100-3/8-6-(color)	.375 (9.6)	.187 (4.8)	6" Piece	BLK,WHT,GRN, RED	12	5
CPGI-RNF-100-1/2-6-(color)	.500 (13)	.250 (6.4)	6" Piece	BLK,WHT,GRN, RED	10	5
CPGI-RNF-100-3/4-6-(color)	.750 (19)	.375 (9.6)	6" Piece	BLK,WHT,GRN, RED	8	5
CPGI-RNF-100-1-6-(color)	1.000 (25)	.500 (13)	6" Piece	BLK,WHT,GRN, RED	8	5
CPGI-RNF-100-1/4-6-ASRT	.250 (6.4)	.125 (3.2)	6" Piece	ASSORTED	15	5
CPGI-RNF-100-3/8-6-ASRT	.375 (9.6)	.187 (4.8)	6" Piece	ASSORTED	12	5
CPGI-RNF-100-1/2-6-ASRT	.500 (13)	.250 (6.4)	6" Piece	ASSORTED	10	5
CPGI-RNF-100-3/4-6-ASRT	.750 (19)	.375 (9.6)	6" Piece	ASSORTED	8	5
CPGI-RNF-100-1-6-ASRT	1.000 (25)	.500 (13)	6" Piece	ASSORTED	8	5
CPGI-RNF-100-MP-A-BLK:	.063 (1.6)	.031 (0.8)	6" Piece	BLK	12	5
	.093 (2.4)	.046 (1.2)	6" Piece	BLK	12	5
	.125 (3.2)	.062 (1.6)	6" Piece	BLK	12	5
	.187 (4.8)	.093 (2.4)	6" Piece	BLK	12	5
	.250 (6.4)	.125 (3.2)	6" Piece	BLK	12	5
CPGI-RNF-100-MP-B-BLK:	.375 (9.6)	.187 (4.8)	6" Piece	BLK	12	5
	.5 (13)	.250 (6.4)	6" Piece	BLK	8	5
	.750 (19)	.375 (9.6)	6" Piece	BLK	8	5
	1.00 (25)	.500 (13)	6" Piece	BLK	8	5

Heat-Shrink Tubing



MWTM Tubing

Medium-Wall Sealant Coated or Uncoated Tubing (600 V)

- Sealant coated MWTM tubing (-S designation) is for use as insulation/jacket repair up to 600 V or for general sealing and re-jacketing of polymeric- or elastomeric insulated cables up to 35kV
- RUS accepted as jacket restoration of JCN cable
- Uncoated MWTM tubing (-U or -A/U) is for cable re-jacketing only
- 3:1 shrink ratio and an unlimited shelf life when stored under normal conditions

Selection Information: dimensions in inches (millimeters)

Sealant-Coated, Cut-Length Tubing

Catalog Number	Use Range Min. - Max.	Cut-Piece Length	Standard Pkg /Box
MWTM-10/3-1200-S	0.13 - 0.35 (3 - 9)	48 (1200)	25
MWTM-16/5-1200-S	0.25 - 0.55 (6 - 14)	48 (1200)	25
MWTM-25/8-1200-S	0.35 - 0.85 (9 - 22)	48 (1200)	25
MWTM-35/12-1200-S	0.50 - 1.25 (13 - 32)	48 (1200)	25
MWTM-50/16-1200-S	0.65 - 1.70 (17 - 43)	48 (1200)	15
MWTM-85/25-1200-S	1.00 - 2.90 (25 - 74)	48 (1200)	5
MWTM-115/34-1200-S	1.40 - 3.90 (36 - 99)	48 (1200)	5
MWTM-140/42-1200-S	1.80 - 4.70 (46 - 119)	48 (1200)	5

Uncoated, Spooled Tubing

Catalog Number	Use Range Min. - Max.	Min. Cont. Length	Standard Pkg/Spool	Bulk Option /Spool
MWTM-10/3-A/U	0.13 - 0.35 (3 - 9)	25 (7.6)	100 (30)	
MWTM-16/5-A/U	0.25 - 0.55 (6 - 14)	25 (7.6)	100 (30)	1155 (350)
MWTM-25/8-A/U	0.35 - 0.85 (9 - 22)	25 (7.6)	100 (30)	660 (200)
MWTM-35/12-A/U	0.50 - 1.25 (13 - 32)	25 (7.6)	100 (30)	495 (150)
MWTM-50/16-A/U	0.65 - 1.70 (17 - 43)	15 (4.6)	75 (23)	330 (100)

Uncoated, Cut-Piece Tubing

Catalog Number	Use Range Min. - Max.	Cut-Piece Length	Standard Pkg/Box
MWTM-85/25-1500/U	1.00 - 2.90 (25 - 74)	60 (1500)	5
MWTM-115/34-1500/U	1.40 - 3.90 (36 - 99)	60 (1500)	5
MWTM-140/42-1500/U	1.80 - 4.70 (46 - 119)	60 (1500)	5

Ordering Information

1. Select the appropriate catalog number. Confirm selection with application dimensions to assure proper sizing.
2. MWTM is a general purpose tubing; for sealing applications use MWTM with sealant (-S) or use uncoated MWTM (-U or -A/U) in combination with S-1052 sealant. Order sealants separately.
3. UV resistant test report: EDR-5361.

Heat-Shrink Tubing



WCSM Tubing
Heavy-Wall Sealant-Coated or Uncoated Tubing (1000 V)

- For use on standard poly- or elastomeric -insulated/jacketed cables or lead-jacketed cables, which may include aluminum or steel armoring
- Use sealant-coated tubing (-S) as a sealed in-line splice or terminal lug seal for non-flame-retardant applications. Use uncoated tubing (-A/U and /U) for cable re-jacketing and mechanical protection only.
- Sealant-coated WCSM tubing, sizes -9/3 through -70/21 (-S designation) is UL listed per 486D (file E91151), certified to CSA C22.2, qualified to ANSI C119.1-1986, and rated to Western Underground Guide 2.5. Also RUS accepted for use as a secondary tap or splice cover, and for use as jacket restoration materials on JCN cable. WCSM tubing may be used for jacket repair on cables to 35 kV.
- Connectors over 6 inches: Recommended cut length = connector length + 5 inches
 Connectors up to 6 inches: Recommended cut length = connector length + 4 inches
- WCSM tubing has a 3:1 shrink ratio and an unlimited shelf life when stored under normal conditions

Selection Information: dimensions in inches (millimeters)

Catalog Number ¹	1000-V General Conductor Size (AWG/kcmil)	Use Range (Min. - Max.)	Cut-Piece Length ²	Std. Pack	
				(Ft/Roll)	(Pcs/Box) (Pcs/Pack)
Sealant-Coated Cut-Length Tubing					
WCSM-9/3-150-S	#14 - #8	0.15 - 0.30 (4 - 8)	6 (150)		50
CPGI-WCSM-9/3-150-S	#14 - #8	0.15 - 0.30 (4 - 8)	6 (150)		3
WCSM-9/3-300-S	#14 - #8	0.15 - 0.30 (4 - 8)	12 (300)		50
WCSM-9/3-1200-S	#14 - #8	0.15 - 0.30 (4 - 8)	48 (1200)		25
WCSM-13/4-150-S	#12 - #6	0.20 - 0.45 (5 - 11)	6 (150)		50
CPGI-WCSM-13/4-150-S	#12 - #6	0.20 - 0.45 (5 - 11)	6 (150)		2
WCSM-13/4-1200-S	#12 - #6	0.20 - 0.45 (5 - 11)	48 (120)		25
WCSM-20/6-150-S	#8 - #2	0.25 - 0.70 (6 - 18)	6 (150)		50
CPGI-WCSM-20/6-150-S	#8 - #2	0.25 - 0.70 (6 - 18)	6 (150)		2
WCSM-20/6-225-S	#8 - #2	0.25 - 0.70 (6 - 18)	9 (225)		50
WCSM-20/6-300-S	#8 - #2	0.25 - 0.70 (6 - 18)	12 (300)		50
WCSM-20/6-1200-S	#8 - #2	0.25 - 0.70 (6 - 18)	48 (1200)		25
WCSM-33/8-150-S	#4 - 4/0	0.35 - 1.20 (9 - 30)	6 (150)		50
CPGI-WCSM-33/8-150-S	#4 - 4/0	0.35 - 1.20 (9 - 30)	6 (150)		2
WCSM-33/8-225-S	#4 - 4/0	0.35 - 1.20 (9 - 30)	9 (225)		50
WCSM-33/8-300-S	#4 - 4/0	0.35 - 1.20 (9 - 30)	12 (300)		50
WCSM-33/8-1200-S	#4 - 4/0	0.35 - 1.20 (9 - 30)	48 (1200)		25
WCSM-43/12-150-S	1/0 - 400	0.50 - 1.55 (13 - 39)	6 (150)		40
WCSM-43/12-225-S	1/0 - 400	0.50 - 1.55 (13 - 39)	9 (225)		40
CPGI-WCSM-43/12-225-S	1/0 - 400	0.50 - 1.55 (13 - 39)	9 (225)		1
WCSM-43/12-300-S	1/0 - 400	0.50 - 1.55 (13 - 39)	12 (300)		40
WCSM-43/12-1200-S	1/0 - 400	0.50 - 1.55 (13 - 39)	48 (1200)		10
WCSM-51/16-100-S	250 - 500	0.70 - 1.75 (18 - 44)	4 (100)		100
WCSM-51/16-225-S	250 - 500	0.70 - 1.75 (18 - 44)	9 (225)		30
CPGI-WCSM-51/16-225-S	250 - 500	0.70 - 1.75 (18 - 44)	9 (225)		1
WCSM-51/16-300-S	250 - 500	0.70 - 1.75 (18 - 44)	12 (300)		30
WCSM-51/16-1200-S	250 - 500	0.70 - 1.75 (18 - 44)	48 (1200)		10
WCSM-70/21-300-S	400 - 1000	0.90 - 2.45 (23 - 62)	12 (300)		15
WCSM-70/21-450-S	400 - 1000	0.90 - 2.45 (23 - 62)	18 (450)		15
WCSM-70/21-600-S	400 - 1000	0.90 - 2.45 (23 - 62)	24 (600)		10 or 100
WCSM-70/21-1200-S	400 - 1000	0.90 - 2.45 (23 - 62)	48 (1200)		10
WCSM-105/30-300-S	800 - 1250	1.30 - 3.70 (33 - 94)	12 (300)		15
WCSM-105/30-1200-S	800 - 1250	1.30 - 3.70 (33 - 94)	48 (1200)		5
WCSM-130/36-300-S	1500 - 2500	1.60 - 4.20 (41 - 107)	12 (300)		10
WCSM-130/36-450-S	1500 - 2500	1.60 - 4.20 (41 - 107)	18 (450)		20
WCSM-130/36-1200-S	1500 - 2500	1.60 - 4.20 (41 - 107)	48 (1200)		5
Uncoated Tubing					
WCSM-9/3-A/U	#14 - #8	0.15 - 0.30 (4 - 8)		100	
WCSM-13/4-A/U	#12 - #6	0.20 - 0.45 (5 - 11)		100	
WCSM-20/6-A/U	#8 - #2	0.25 - 0.70 (6 - 18)		100	
WCSM-33/8-A/U	#4 - 4/0	0.35 - 1.20 (9 - 30)		65	
WCSM-43/12-A/U	1/0 - 400	0.50 - 1.55 (13 - 39)		50	
WCSM-51/16-A/U	250 - 500	0.70 - 1.75 (18 - 44)		40	
WCSM-70/21-A/U	400 - 1000	0.90 - 2.45 (23 - 62)		40	
WCSM-90/30-1500/U	800 - 1200	1.30 - 3.10 (33 - 79)	60		5
WCSM-130/36-1500/U	1500 - 2500	1.60 - 4.20 (41 - 107)	60		5

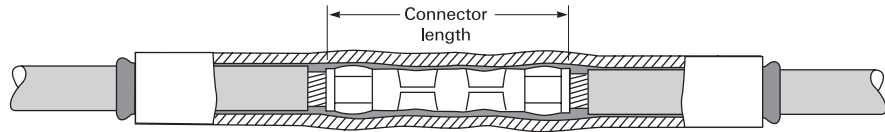
¹ Catalog numbers with -S designation are suitable for sealed electrical insulation to 1000 V. Catalog numbers with A/U and /U designations are for cable re-jacketing only.

² Length tolerance to 32 percent. Can be used for multi-conductor LV splices using different tubings.

Note: UL listing applies to sealant-coated (-S) WCSM-9/3 through -70/21 only. WCSM-105/30 and -130/36 are not UL listed.

Heat-Shrink Tubing

WCSM Tubing



UL **US LISTED**
 Direct Burial
 Insulation Covered
 for listed pressure
 connectors
 96J4
 E91151
 Submersible

SP Certified
 C22.2
 No. 198.2
 LR27428

Ordering Information

1. Select the appropriate catalog number based on typical dimensions for low-voltage insulated cable. Confirm selection with dimensions to assure proper sizing.
2. UL listing applies to sealant-coated (-S) WCSM-9/3 through -70/21 only. WCSM-105/30 and -130/36 are not UL listed.
3. Package does not contain connectors or lugs. Installed connector or lug diameter must be within use range.
4. If sealing is needed with WCSM-A/U uncoated tubing, order S-1052 sealant separately.
5. WCSM tubing may be field-cut for shorter requirements.
6. Bulk packaging is available for cut lengths. Consult your Tyco Electronics representative for additional information.
7. Related Test Report: EDR-5139
8. UV resistant test report: EDR-5361.

Heat-Shrink Tubing



FCSM Tubing
Heavy-Wall Flame Retardant Tubing (2000 V)

FCSM tubing's tough, crosslinked polyolefin construction provides mechanical strength and cut-through resistance equal to, or surpassing, the properties of low-voltage cable jackets.

- 3:1 shrink ratio and an unlimited shelf life when stored under normal conditions
- Uses sealant-coated tubing (-S) as a sealed in-line splice or terminal lug seal. It provides a watertight seal for direct-buried applications and wet environments.
- Use uncoated tubing (-/U) for cable re-jacketing only
- Sealant-coated or uncoated tubing may be used for jacket repair on cable to 35 kV. Qualified to ANSI C119.1-1986; also rated to IEEE 383 (Vertical Tray Flame Test) and ICEA S-19-81. FCSM is also MSHA approved (No. P-137-MSHA).

MSHA approved
(No. P-137-MSHA)

For use on standard poly- or elastomeric- insulated/jacketed cables or lead-jacketed cables, which may include aluminum or steel armoring.

Connectors up to 6 inches: Recommended cut length = connector length + 4 inches.
Connectors over 6 inches: Recommended cut length = connector length + 5 inches.

Selection Information: dimensions in inches (millimeters)

Catalog Number	1000-V Insulated Conductor Size (AWG/kcmil)	General Use Range (Min.-Max.)	Tube Length*	Std Ft.(m)/Roll	Pack Pcs/Box	Bulk Option Ft.(m)/Roll
In-Line Splice Or Terminal Lug Seal (With Sealant)						
FCSM-9/3-1200-S	#14 - #8	0.15 - 0.30 (4 - 8)	48 (1200)	25		
FCSM-19/6-150-S	#6 - #2	0.25 - 0.65 (6 - 17)	6 (150)	50		
FCSM-19/6-1200-S	#6 - #2	0.25 - 0.65 (6 - 17)	48 (1200)	25		
FCSM-28/9-225-S	#2 - 4/0	0.40 - 0.95 (10 - 24)	9 (225)	50		
FCSM-28/9-1200-S	#2 - 4/0	0.40 - 0.95 (10 - 24)	48 (1200)	25		
FCSM-38/12-300-S	1/0 - 350	0.50 - 1.30 (13 - 33)	12 (300)	40		
FCSM-38/12-1200-S	1/0 - 350	0.50 - 1.30 (13 - 33)	48 (1200)	10		
FCSM-51/16-300-S	250 - 500	0.70 - 1.75 (18 - 44)	12 (300)	30		
FCSM-51/16-1200-S	250 - 500	0.70 - 1.75 (18 - 44)	48 (1200)	10		
FCSM-68/22-1200-S	600 - 1000	0.95 - 2.30 (25 - 58)	48 (1200)	10		
FCSM-90/30-1200-S	800 - 1200	1.30 - 3.10 (33 - 79)	48 (1200)	5		
FCSM-120/40-1200-S	1500 - 2500	1.75 - 4.10 (44 - 104)	48 (1200)	5		
FCSM-177/63-600-S		2.75 - 6.05 (70 - 154)	24 (600)	6		
FCSM-177/63-1200-S		2.75 - 6.05 (70 - 154)	48 (1200)	5		

Cable Re-jacketing (Without Sealant)

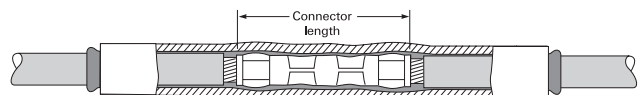
FCSM-9/3-A/U	#14 - #8	0.15 - 0.30 (4 - 8)		100 (30)		
FCSM-19/6-A/U	#6 - #2	0.25 - 0.65 (6 - 17)		100 (30)		825 (250)
FCSM-28/9-A/U	#2 - 4/0	0.40 - 0.95 (10 - 24)		65 (20)		495 (150)
FCSM-38/12-A/U	1/0 - 350	0.50 - 1.30 (13 - 33)		50 (15)		395 (120)
FCSM-51/16-A/U	250 - 500	0.70 - 1.75 (18 - 44)		40 (12)		330 (100)
FCSM-68/22-A/U	600 - 1000	0.95 - 2.30 (25 - 58)		80 (24)		
FCSM-90/30-1500/U	800 - 1200	1.30 - 3.10 (33 - 79)	60 (1500)		5	
FCSM-120/40-1500/U	1500 - 2500	1.75 - 4.10 (44 - 104)	60 (1500)		5	
FCSM-177/63-1500/U		2.75 - 6.05 (70 - 154)	60 (1500)		5	

*Length tolerance to 32 percent.

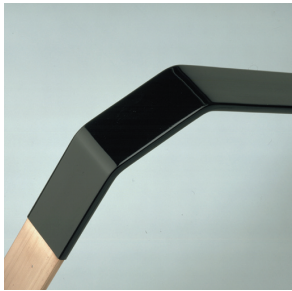
Ordering Information

1. Select the appropriate catalog number based on typical dimensions for low-voltage insulated cable. Confirm selection with cable dimensions to assure proper sizing.
2. Connectors or lugs not included.
3. If sealing is needed with uncoated FCSM tubing (-/U), order S-1052 separately.
4. Tubing may be field-cut for shorter requirements.
5. Bulk packaging is available for cut-lengths. Contact your Tyco Electronics representative for additional information.
6. Related test reports: EDR-5133, EDR-5134, EDR-5141

For connector information refer to the Connectors and Terminals section of this catalog.



Heat-Shrink Tubing



LVIT Tubing Busbar Insulating Tubing (1000 V)

LVIT is a heat-shrinkable medium-wall, flame-retardant, low voltage tubing for insulating straight and bent busbars during original equipment assembly or in retrofit applications where access to one end of the busbar is available.

When used according to the selection guidelines, LVIT may be used in applications up to 1 kV in accordance with ANSI/IEEE C37.20 specification. LVIT tubing may be used in applications up to 3.6 kV in accordance with IEC specifications.

Rated to ANSI/IEEE C37.20.1-1987. UL recognized to Standard 224 (file E137416), 600 V-125°C-VW.1.

Selection Information: dimensions in inches (millimeters)

Catalog Number	Busbar dimensions			LVIT Tubing Dia. as Supplied & Fully Recovered (Min.-Max.)	Std. Pack
	Rectangular Bar* (Bus Width)	Square Bar (Each Side)	Round Bar (Dia. Min.-Max.)		
LVIT-30/10-A/U	0.50 - 1.0 (12 - 25)			1.18 - 0.39 (30 - 10)	200 ft.
LVIT-75/25-A/U	2.0 - 3.0 (50 - 75)	1 (25)		2.95 - 0.98 (75 - 25)	100 ft.
LVIT-150/50-A/U	4.0 - 6.0 (100 - 150)	2 - 3 (50-75)		5.91 - 1.97 (150 - 50)	100 ft.

*Rectangular bus thickness range is 1/4 to 5/8 inch.

Molded Parts



ESC Sealing Caps End Sealing Caps for 1/C Power Cable (1000 V)

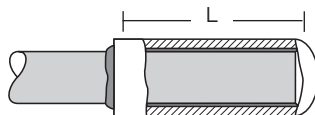
- Shrink and compress a hot-melt adhesive on the cable jacket, forming a secure environmental seal
- Fits easily over the cable end and shrinks in seconds, leaving a compact, rugged end seal
- Qualified to ANSI C119.1-1986 and rated to ICEA electrical withstand test for 1000 volts
- For use on standard poly- or elastomeric insulated/ jacketed cables or lead-jacketed cables, which may include aluminum or steel armoring.

Use as a live end seal to 1000 volts. Use as an end seal for storage and pulling of de-energized cable.

Selection Information: dimensions in inches (millimeters)

Catalog Number	Primary Insulation Conductor Size (AWG/kcmil)	(1000 V) Use Range (Min.-Max.)	General Use Range (Min.-Max.)	Length as Supplied	Std. Pack (Pcs/Box)
ESC-1/A	#12 - #8	0.17 - 0.35 (4-9)	0.15 - 0.30 (4-8)	1.0	50
CPGI-ESC-1/A	#12 - #8	0.17 - 0.35 (4-9)	0.15 - 0.30 (4-8)	1.0	25
ESC-2/A	#6 - 3/0	0.31 - 0.71 (8-18)	0.30 - 0.70 (8-18)	2.0	50
CPGI-ESC-2/A	#6 - 3/0	0.31 - 0.71 (8-18)	0.30 - 0.70 (8-18)	2.0	25
ESC-3/A	4/0 - 750	0.65 - 1.25 (17-32)	0.65 - 1.25 (17-32)	3.5	40
ESC-4/A	750 - 1500	1.08 - 1.94 (27-49)	1.05 - 1.95 (27-50)	5.3	20
ESC-5/A	1500 - 2000	1.38 - 2.58 (35-66)	1.30 - 2.65 (33-67)	6.7	10
ESC-6/A		1.94 - 3.54 (49-90)	1.85 - 3.70 (47-94)	5.6	10
ESC-7/A		3.02 - 4.25 (77-108)	2.95 - 4.50 (75-114)	5.4	10

*5 packs, each with 5 pcs. per Point of Purchase Package.



Each energized conductor requires a separate ESC sealing cap.

Ordering information

1. Select the appropriate catalog number based on the conductor size or use range. Confirm selection with dimensions to assure proper sizing.
2. Each energized conductor requires a separate ESC sealing cap.
3. Bulk options also available. Consult your Tyco Electronics representative for information.
4. Caps are coated with an adhesive.
5. Related test report: EDR-5161

Molded Parts

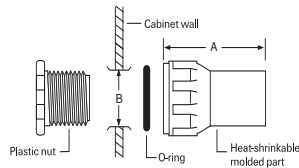


CFTS Seals
Heat-Shrink Cabinet Feed-Through Seals

CFTS seals are heat-shrinkable molded parts for moisture-sealing applications where cable enters enclosures, such as cabinets or connection boxes.

- Suitable for environments that have existing periodic pressure difference and/or temperature differential
- Precoated with a thermoplastic adhesive that seals around the entering cable. The O-ring creates the water/air seal at the cabinet entry.
- Utilizes a rigid plastic that, when inserted through the cabinet wall, protects the entering cable from abrasion or cut-through

Selection Information: dimensions in inches (millimeters)



Catalog Number	Cable Diameter (Min. - Max.)	A Length of Molded Part	B Clearance (Knockout) Hole Size	Std. Pack
CFTS-1	0.20 - 0.40 (5-10)	2.75 (70)	1 (25)	5
CFTS-2	0.25 - 0.65 (6-17)	2.75 (70)	1 (25)	5
CFTS-3	0.55 - 1.00 (14-25)	3.75 (95)	1 3/8 (35)	5
CFTS-4	0.80 - 1.45 (20-37)	4.50 (114)	2 (51)	5
CFTS-5	1.45 - 2.40 (37-61)	7.00 (178)	3 1/2 (89)	5



CBR Breakout Boot
Heat-Shrink Cable Breakout Boots

CBR products seal breakouts in multiconductor cables and conduit.

These seals are made of tough, crosslinked polyolefin to provide mechanical protection and strain relief. CBR seals have an adhesive-coating on the body and the legs to form a durable watertight seal, and conform tightly to conduits and cable jackets.

For use on standard poly- or elastomeric insulated/jacketed multiconductor cables or cables in metal or plastic conduits.

Selection Information: dimensions in inches (millimeters)

Cross Section	Catalog Number	Body Use Range (Min. - Max.)	Legs Use Range (Min. - Max.)	Std. Pack
	CBR-2-1-A	0.35 - 1.00 (9 - 25)	0.15 - 0.55 (4 - 14)	3
	CBR-2-2-A*	1.25 - 1.70 (32 - 43)	0.30 - 0.75 (8 - 19)	3
	CBR-2-3-A	1.65 - 3.00 (42 - 76)	0.65 - 1.40 (17 - 36)	3
	CBR-3-1-A	0.50 - 1.35 (13 - 34)	0.20 - 0.55 (5 - 14)	3
	CBR-3-2-A*	0.85 - 2.20 (22 - 56)	0.35 - 0.90 (9 - 23)	3
	CBR-3-3-A*	1.10 - 2.90 (28 - 74)	0.50 - 1.25 (13 - 32)	3
	CBR-3-4-A	2.35 - 5.65 (60 - 144)	1.20 - 2.10 (30 - 53)	3
	CBR-4-1-A	0.70 - 1.25 (18 - 32)	0.15 - 0.45 (4 - 11)	3
	CBR-4-2-A*	1.00 - 2.10 (25 - 53)	0.35 - 0.90 (9 - 23)	3
	CBR-4-3-A*	1.20 - 3.50 (30 - 89)	0.55 - 1.40 (14 - 36)	3
	CBR-4-4-A	2.35 - 6.05 (60 - 154)	0.90 - 1.50 (23 - 38)	3
	CBR-6-1-A*	1.45 - 3.85 (37 - 98)	0.60 - 1.50 (15 - 38) phase 0.30 - 0.75* (8 - 19) ground	3 3
	CBR-6-2-A*	2.65 - 5.30 (67 - 135)	0.90 - 2.20 (23 - 56) phase 0.40 - 0.95* (10 - 24) ground	3 6
	CBR-Plug**	(for use only with asterisked items above)		6/Box

CBR-Plugs are for blocking and sealing unused legs of breakouts. The plug will fit those items asterisked () above.



TAPES & SEALANTS



Tapes

CRPS Repair Tape	117
FSTW Splicing Tape	118
LVBT Busbar Tape	119

Sealants

Hot-Melt and Cold-Applied Sealants	120
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Tapes



CRPS Repair Tape
Flexible Cable Repair Tape

Tyco Electronics' CRPS repair strip is a high-quality replacement jacket for low and high voltage flexible mining cables. It is a tool-free, flexible, flame-retardant elastomeric strip that has been specially formulated to provide excellent resistance to abrasion, tearing, and cutting.

- Precoated with a thermoplastic sealant that provides an excellent seal against moisture and corrosive elements
- MSHA approved (No. P-137-13-MSHA)
- Tool-free, flexible, flame-retardant elastomeric strip for jacket repair on mining and other flexible cables

Selection Information: dimensions in inches (millimeters)

Catalog Number	Strip Length	Strip Width	Std. Pack (Strips/Box)
CRPS-248	48 (1219)	2 (51)	20
CPGI-CRPS-248	48 (1219)	2 (51)	5
CRPS-260	60 (1524)	2 (51)	20
CRPS-290	90 (2286)	2 (51)	15
CRPS-2120	120 (3048)	2 (51)	10

Approximate Coverage Length

Cable Diameter	CRPS-248	CRPS-260	CRPS-290	CRPS-2120
0.50 (13)	28 (711)	36 (914)	55 (1397)	73 (1854)
0.75 (19)	18 (457)	23 (584)	37 (940)	49 (1245)
1.00 (25)	14 (356)	17 (432)	26 (660)	35 (889)
1.25 (32)	11 (279)	14 (355)	21 (533)	28 (711)
1.50 (38)	9 (229)	11 (279)	18 (457)	24 (610)
1.75 (44)	7 (178)	9 (228)	15 (381)	20 (508)
2.00 (51)		8 (203)	14 (356)	19 (483)
2.50 (64)			10 (254)	13 (330)
3.00 (76)			9 (229)	12 (305)



Recommended coverage area includes 3 inches on either side of damaged area.

Ordering Information

1. Select the appropriate catalog number based on cable diameter and length of cable damage to be covered (see "Approximate coverage length" chart above). For larger damaged areas, multiple strips may be used to provide continuous coverage.
2. To install, half-lap CRPS repair strip on cable, beginning 3 inches before damage and continuing 3 inches after damage.
3. CRPS repair strip is pre coated with a thermoplastic sealant.
4. Related test report: EDR-5068

Tapes



FSTW Splicing Tape Fast Splicing Tape Wrap

Tyco Electronics' FSTW is a thermoplastic rubber tape combined with a butyl rubber sealant specially formulated for underground applications. FSTW is ideal for repairing cable jackets, sealing low-voltage splices, and re-jacketing MV cable splices.

This tape provides a complete re-jacketing solution in one pass as opposed to the multi-layer construction required when using traditional tape products. It's quick to install. There is no need for separate sealing mastic and tape as it combines sealant and rubber tape in one convenient product.

FSTW rubber tape is made 50 mils thick, which offers strong puncture resistance from underground material and debris. FSTW is rated for use on 90°C rated cables, in underground use, in acid or caustic soils, and saltwater environments. It is UV resistant and rated for aerial exposure.

Mastic is in contact with cable surface only at ends which allows for easy removal.

Splices made with FSTW quality to ANSI C119.1

Selection Information: dimensions in feet (meters)

Catalog Number	Roll Width	Roll Length	Std Pk.
CPGI-FSTW-2-1-4	2 (50)	4' (1.2)	5
FSTW-2-1-6	2 (50)	6' (1.8)	12

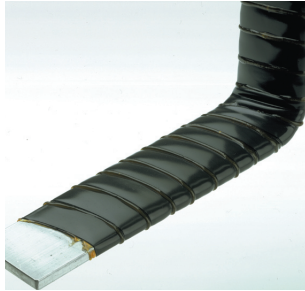
Approximate Coverage Length

Catalog Diameter	CPGI-FTSW-2-1-4	FTSW-2-1-6
0.50 (13)	28 (710)	42 (1000)
0.75 (19)	18 (460)	27 (680)
1.00 (25)	14 (355)	21 (530)
1.25 (32)	11 (280)	17 (430)
1.50 (38)	9 (230)	14 (355)
1.75 (44)	7 (180)	10 (280)
2.00 (51)	6 (150)	9 (230)
2.50 (63)		7 (180)
3.00 (76)		6 (150)

Ordering Information

1. See the approximate coverage length per roll based on cable diameter.
2. For repairing cable jackets, install the FSTW tape beginning 2" before the damage and continuing 1" after the damage.
3. FSTW is 2" (50) wide
4. Related test reports: EDR-5431, EDR-5360

Tapes



LVBT Busbar Tape
Low-Voltage Busbar Insulating Heat-Shrink Tape (1000 V)

LVBT is an adhesive-coated, low-voltage heat-shrinkable tape. One wrap insulates straight and bent bars in retrofit applications where tubing cannot be used. In addition, LVBT easily insulates unusual connections and geometries in the factory or field.

- Adhesive layer fuses the tape layers but does not stick to bus or hardware, providing tough insulation up to 1 kV in accordance with ANSI C37.20-1987 and up to 3.6 kV in accordance with IEC specifications
- Rated to ANSI/IEEE C37.20-1987
- UL-recognized to Standard 224 (file E137417), 600 V-125°C-VW.1

LVBT Tape Dimensions

Catalog Number	Roll width	Roll Length
LVBT-1-R	1 (25)	25 ft (7.5 m)
LVBT-2-R	2 (50)	25 ft (7.5 m)
LVBT-4-R	4 (100)	25 ft (7.5 m)

Selection Information: dimensions in feet (meters)

Bus Width	Catalog Number	Bus Length Insulated per Roll	Rolls/Std. Pack
-----------	----------------	-------------------------------	-----------------



Rectangular Busbar*

1 (25)	LVBT-1-R	3.8 ft (1.2 m)	8
2 (50)	LVBT-2-R	4.8 ft (1.5 m)	4
3 (75)	LVBT-2-R	3.5 ft (1.1 m)	4
4 (100)	LVBT-2-R	2.7 ft (0.8 m)	4
6 (150)	LVBT-2-R	1.9 ft (0.6 m)	4
8 (200)	LVBT-4-R	2.9 ft (0.9 m)	4

*Maximum thickness: 5/8 (15)



Square Busbar

1 (25)	LVBT-2-R	6.25 ft (2.0 m)	4
2 (50)	LVBT-2-R	3.1 ft (1.0 m)	4
3 (75)	LVBT-2-R	2.0 ft (0.6 m)	4
4 (100)	LVBT-4-R	3.1 ft (1.0 m)	2
6 (150)	LVBT-4-R	2.0 ft (0.6 m)	2



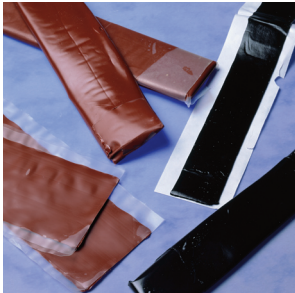
Round Busbar

0.5 in (12 mm)	LVBT-1-R	8.0 ft (2.6 m)	8
1.0 in (25 mm)	LVBT-2-R	8.0 ft (2.6 m)	4
2.0 in (50 mm)	LVBT-2-R	4.0 ft (1.3 m)	4
3.0 in (75 mm)	LVBT-2-R	2.6 ft (0.9 m)	4
4.0 in (100 mm)	LVBT-4-R	4.0 ft (1.3 m)	2

Ordering Information

1. LVBT-1-R is best for shorter lengths. LVBT-2-R is the most versatile width for general purpose use. LVBT-4-R is useful for long lengths and larger bus sizes.
2. If sealing is needed, order the S-1052-6-150 sealant strips.

Sealants



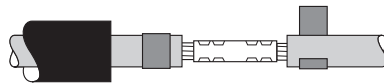
Hot-Melt and Cold-Applied Sealants

These adhesives are to be used for sealing the ends of uncoated tubing or for low-voltage applications requiring void-filling. The hot-melt sealants flow when heated and set when cooled to provide a superior watertight seal. The cold-applied sealants bond to surfaces when placed under pressure to create a water-tight seal.

Use sealants with uncoated tubing and molded parts for sealing applications or as an adhesion enhancement for specific applications.

Selection Information

Sealant Type	Description	Use with These Products:
S-1052	General purpose low-voltage sealant	WCSCM-A/U (uncoated), MWTM-A/U (uncoated), FCSM-A/U (uncoated), LVBT, LVIT
S-1085	General purpose high-voltage sealant	HVS (high-voltage splices), HVT (high-voltage terminations), MCK-5
S-1189	High-temperature, low-voltage sealant	MCK
S-1251	High-voltage Raysulate electrical insulator sealant	BBIT, BPTM, HVBC, HVBT, HVIS
S-1171	Low-voltage mining sealant	LV-MSK, HV-MSK
S-1278	Low-voltage sealant	RDSS
GelWrap Pad	Low-voltage PowerGel sealing gel	GelWrap, GelWrap-RS closure



Catalog Number	Color	Dimensions (W x L x T)	Std. Pack
S-1052-3-3000	Black	Roll: 1.5 x 120 x .12	5 rolls/box
S-1171-4-300	Black	Strip: 2 x 12 x .10	100 strips/box
S-1174-2-300	Black	Strip: .5 x 12 x .09	25 strips/box
S-1174-4-460	Black	Strip: 1 x 18 x .19	15 strips/box
S-1251-25-300-4	Red	Strip: 1 x 12 x .150	25 strips/box
S-1251-50-300-1	Red	Strip: 2 x 12 x .045	25 strips/box
S-1278-3 x 61 x 7620	Gray	Roll: 2.4 x 300 x .12	1 roll/box
GelWrap Pad 2x8	Gray	Strip: 2 x 8 x .18	6 strips/box
S-1189-3-600	Yellow		

Ordering Information

1. Select the appropriate catalog number based on the application information in columns two and three of the above table.
2. Use the information in the table below for ordering.
3. Sealants are supplied in bulk form with protective release paper.

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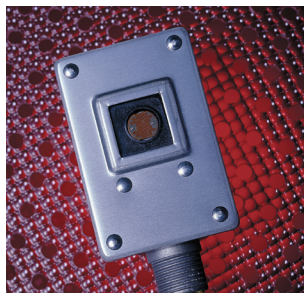
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Thermal Photocontrols



**AT Series
Die-Cast Aluminum Housing**

- Tough Die-Cast Aluminum Housing
- Heavy-Duty Thermal Bi-Metal Switch
- UL and CSA Listed
- 30-45 Second Time Delay
- 2000 & 3000 Watt Load Ratings
- Fail Mode is ON



Selection information

Model	Rated Volts	Range (Volts)	Load Rating Tungsten (Watts)	Load Rating Ballast (VA)	Turn ON (Fc)	OFF/ON Ratio
AT-15	120	105 - 130	2000	1900	1.5	6 : 1
AT-168	240	185 - 305	2000	1900	1.5	6 : 1
AT-19*	480	420 - 530	2000	1900	1.5	6 : 1
AT-20	120/208/240/277	105 - 305	2000	1900	1.5	6 : 1
AT-30*	120	105 - 130	3000	2900	1.5	6 : 1
AT-368*	240	180 - 305	3000	2900	1.5	6 : 1
AT-39*	480	420 - 530	3000	2900	1.5	6 : 1

Note: 6" Lead Wires
*Not: UL and CSA Listed



PT-15

SPT-15

**PT/SPT Series
Non-Metallic Housing**

- Fixed or Adjustable Swivel Base
- Heavy Duty Thermal Bimetal Swivel
- UL and CSA Listed
- 30 - 45 Second Time Delay
- 2000 Watt Load Rating
- Fail Mode is ON



Selection information

Model	Base	Rated Volts	Range (Volts)	Load Rating Tungsten (Watts)	Load Rating Ballast (VA)	Turn ON (Fc)	OFF/ON Ratio.
PT-15	Fixed	120	105 - 130	2000	1900	1.5	5 : 1
CPGI-ALR-PT-15	Fixed	120	105 - 130	2000	1900	1.5	5 : 1
PT-168	Fixed	240	185 - 305	2000	1900	1.5	5 : 1
PT-20	Fixed	120/208/240/277	105 - 305	2000	1900	1.5	5 : 1
PT-347**	Fixed	347	310 - 380	2000	1900	1.5	5 : 1
SPT-15	Swivel	120	105 - 130	2000	1900	1.5	5 : 1
CPGI-ALR-SPT-15	Swivel	120	105 - 130	2000	1900	1.5	5 : 1
SPT-168	Swivel	240	185 - 305	2000	1900	1.5	5 : 1
SPT-19*	Swivel	480	420 - 530	2000	1900	1.5	5 : 1
SPT-347**	Swivel	347	310 - 380	2000	1900	1.5	5 : 1

Note: 6" Lead Wires
*Not UL Listed and CSA
** CSA Listed only

PHOTOCONTROLS, TIMERS & ACCESSORIES

Thermal Photocontrols



TL Series Slim Profile

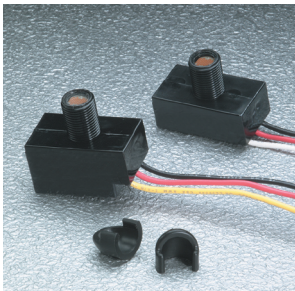
- Adjustable Swivel Base
- Thinline Profile - Perfect for Tight Spots
- 30 - 45 Second Time Delay
- UL and CSA Listed
- Durable Polycarbonate Housing
- Fail Mode is ON



Selection information

Model	Rated Volts	Range (Volts)	Load Rating Tungsten (Watts)	Load Rating Ballast (VA)	Turn ON (Fc)	OFF/ON Ratio
TL-115	120	105 - 130	1800	1100	1.5	5 : 1
CPGI-ALR-TL-115	120	105 - 130	1800	1100	1.5	5 : 1
TL-1168	240	185 - 305	1200	1100	1.5	5 : 1

Note: 6" Lead Wires



AA Series Button Style

- 3/4" Long Threaded Nipple
- 30 - 45 Second Time Delay
- UL and CSA Listed
- Durable Polycarbonate Housing
- 1800 and 1200 Watt Load Rating
- Fail Mode is ON



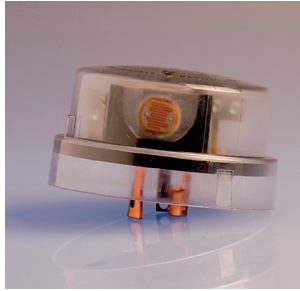
Selection information

Model	Product Information	Rated Volts	Range (Volts)	Load Rating Tungsten (Watts)	Load Rating Ballast (VA)	Surge Protection (Joules)	Turn ON (Fc)	OFF/ON Ratio
AA-105		120	105 - 130	1800	1100		1.5	5 : 1
CPGI-ALR-AA-105		120	105 - 130	1800	1100		1.5	5 : 1
AA-105W	w/Wall Plate	120	105 - 130	1800	1100		1.5	5 : 1
CPGI-ALR-AA-105W	w/Wall Plate	120	105 - 130	1800	1100		1.5	5 : 1
AA-1068		240	185 - 305	1200	1100		1.5	5 : 1
AA-1068W	w/Wall Plate	240	185 - 305	1200	1100		1.5	5 : 1
AA-305		120	105 - 130	300	840		1.5	5 : 1
CPGI-ALR-AA-305		120	105 - 130	300	840		1.5	5 : 1
AA-105M	15" Leads	120	105 - 130	1800	1100	180	1.5	5 : 1
AA-1068M	15" Leads	240	185 - 305	1200	1100	180	1.5	5 : 1
AA-105HA	High Ambient	120	105 - 130	1800	1100		1.5	5 : 1
AA-LS*	Light Shield							

Note: 6" Lead Wires unless otherwise noted

* Not UL and CSA Listed

Thermal Photocontrols



LC Series
Locking Style/Residential Grade

- Heavy-Duty Thermal Bi-Metal Switch
- 30 - 45 Second Time Delay
- UL and CSA Listed
- ANSI C136.10 Compliant
- Fail Mode is ON



Selection information

Model	Rated Volts	Range (Volts)	Load Rating Tungsten (Watts)	Load Rating Ballast (VA)	Turn ON (Fc)	OFF/ON Ratio
LC-120	120	105 - 130	1000	1800	1.5	4 : 1
CPGI-ALR-LC-120	120	105 - 130	1000	1800	1.5	4 : 1
LC-208-277	240	185 - 305	1000	1800	1.5	4 : 1
CPGI-ALR-LC-208-277	240	185 - 305	1000	1800	1.5	4 : 1



BF Series
Locking Style/Industrial/Commercial Grade with Surge Protection

- 180 Joule MOV Surge Protection
- Heavy-Duty Thermal Bi-Metal Switch
- 30 - 45 Second Time Delay
- UL and CSA Listed
- ANSI C136.10 Compliant
- Fail Mode is ON



Selection information

Model	Rated Volts	Range (Volts)	Load Rating Tungsten (Watts)	Load Rating Ballast (VA)	Surge Protection (Joules)	Turn ON (Fc)	OFF/ON Ratio
BF-120	120	105 - 130	1000	1800	180	1.5	5 : 1
BF-208-277	240	185 - 305	1000	1800	180	1.5	5 : 1
BF-PV	120 / 208 / 240 / 277	105 - 305	1000	1800	180	1.5	5 : 1

Thermal Photocontrols



M Series Locking Style/Industrial Grade with Surge Protection

- Up to 360 Joule MOV Surge Protection
- Heavy-Duty Thermal Bi-Metal Switch
- 30 - 45 Second Time Delay
- UL and CSA Listed
- ANSI C136.10 Compliant
- Fail Mode Is ON



Selection information

Model	Rated Volts	Range (Volts)	Load Rating Tungsten (Watts)	Load Rating Ballast (VA)	Surge Protection (Joules)	Turn ON (Fc)	OFF/ON Ratio
M-120	120	105 - 130	1000	1800	180	1.5	5 : 1
M-208-277	240	185 - 305	1000	1800	180	1.5	5 : 1
M-480*	480	420 - 530	1000	1800	180	1.5	5 : 1
M-PV	120 / 208 / 240 / 277	105 - 305	1000	1800	180	1.5	5 : 1
M-347**	347	310 - 380	1000	1800	180	1.5	5 : 1
MH-120*	120	105 - 130	1000	1800	360	1.5	5 : 1
MH-208-277*	240	185 - 305	1000	1800	360	1.5	5 : 1
MH-PV*	120 / 208 / 240 / 277	105 - 305	1000	1800	360	1.5	5 : 1

* Not UL Listed and CSA

** CSA Listed Only

Electronic Photocontrols



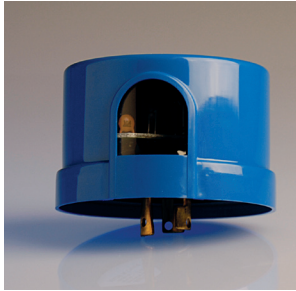
LM 1000 Time Off Lighting Control

- Programmable
- Built-in Daylight Savings Time Adjustment
- Resets Automatically After Power Outages
- 360 Joule MOV Surge Protection
- 2 - 5 Second ON and OFF Time Delay
- Rain-tight / Dust-tight Housing
- ANSI C136.10 Compliant
- Fail Mode Is ON

Selection information

Model	Rated Volts	Range (Volts)	Load Rating Tungsten (Watts)	Load Rating Ballast (VA)	Surge Protection (Joules)	Turn ON (Fc)	OFF/ON Ratio
LM-1000	120 / 208 / 240 / 277	105-305	1000	1800	360	5.0	1.5:1

Electronic Photocontrols



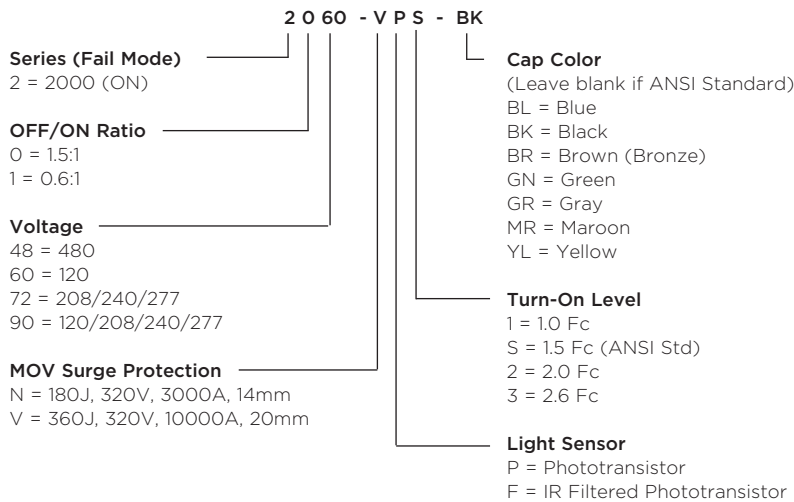
2000 Series
Electronic/Heavy Duty

- Heavy Duty Utility Grade Electronic
- 30 Amp Relay
- 180 or 360 Joule MOV Surge Protection
- 2-4 Second ON and OFF Time Delay
- Non-Drifting Phototransistor
- Rain-tight / Dust-tight Housing
- ANSI C136.10 Compliant
- Fail Mode Is ON
- 2100 Series Has Inverse OFF/ON Ratio

Selection information

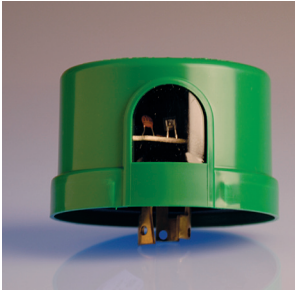
Model	Rated Volts	Range (Volts)	Load Rating Tungsten (Watts)	Load Rating Ballast (VA)	Surge Protection (Joules)	Turn ON (Fc)	OFF/ON Ratio
2060-NPS	120	105 - 130	1000	1800	180	1.5 +/- 0.5	1.5:1
2060-VPS	120	105 - 130	1000	1800	360	1.5 +/- 0.5	1.5:1
2090-NPS	120 / 208 / 240 / 277	105 - 305	1000	1800	180	1.5 +/- 0.5	1.5:1
CPGI-ALR-2090-NPS	120 / 208 / 240 / 277	105 - 305	1000	1800	180	1.5 +/- 0.5	1.5:1

Note: Custom models can be configured based on chart below.



ANSI Standard Colors	
120V	Gray
208 / 240 / 277V	Maroon
120 / 208 / 240 / 277V	Blue
480V	Yellow

Electronic Photocontrols



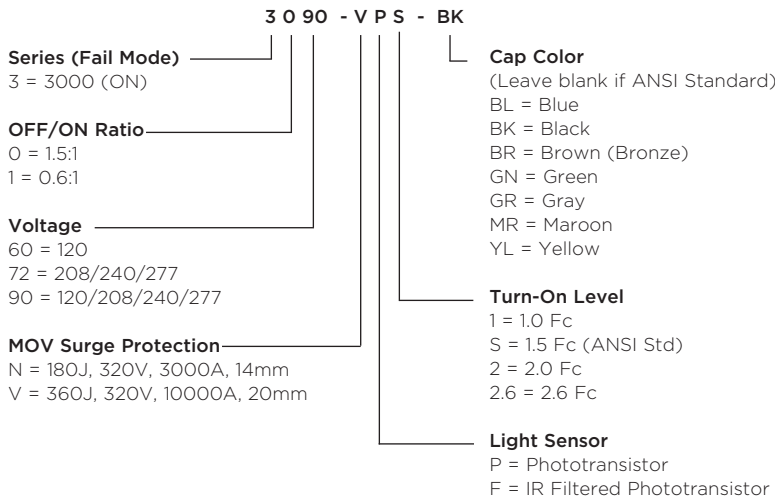
3000 Series Electronic/Heavy Duty/N.O. Contact

- Heavy Duty Utility Grade Electronic
- 30 Amp Relay
- 180 or 360 Joule MOV Surge Protection
- 2-4 Second ON and OFF Time Delay
- Non-Drifting Phototransistor
- Rain-tight / Dust-tight Housing
- ANSI C136.10 Compliant
- Fail Mode Is OFF
- 3100 Series Has Inverse OFF/ON Ratio

Selection information

Model	Rated Volts	Range (Volts)	Load Rating Tungsten (Watts)	Load Rating Ballast (VA)	Surge Protection (Joules)	Turn ON (Fc)	OFF/ON Ratio
3090-NPS	120 / 208 / 240 / 277	105 - 305	1000	1800	180	1.5 +/- 0.5	1.5:1

Note: Custom models can be configured based on chart below.



ANSI Standard Colors	
208 / 240 / 277V	Green
120 / 208 / 240 / 277V	Blue

Electronic Photocontrols



6000 Series
Electronic/Heavy Duty/Premium Grade

- 30 Amp Relay
- Long life, High Reliability
- Non-drifting phototransistor
- Instant ON / 2-5 Second OFF Time Delay
- Rain-tight / Dust-tight housing
- ANSI C136.10 Compliant
- Fail Mode Is ON
- 6100 Series Has Inverse OFF/ON Ratio

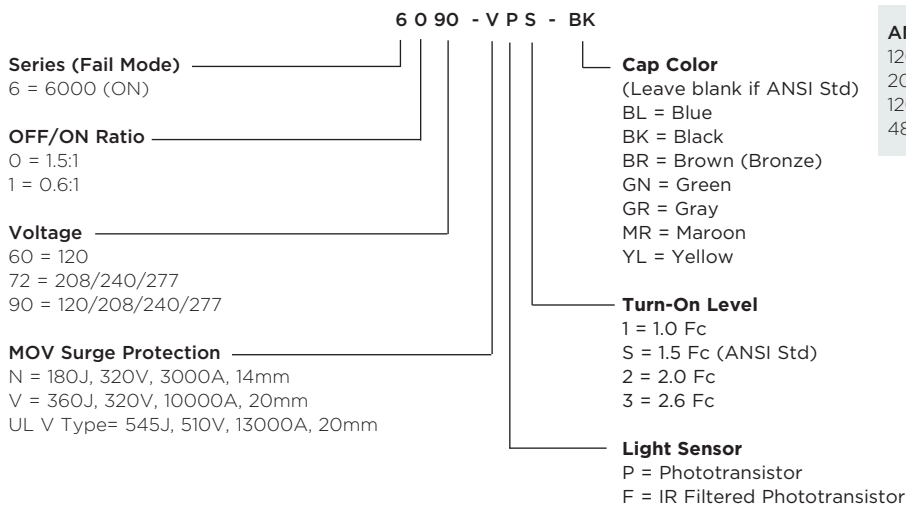


Selection information

Model	Rated Volts	Range (Volts)	Load Rating Tungsten (Watts)	Load Rating Ballast (VA)	Surge Protection (Joules)	Turn ON (Fc)	OFF/ON Ratio
6060-VPS	120	105-130	2000	1800	360	1.5	1.5:1
6090-VPS	120/240/277	105 - 305	2000	1800	360	1.5	1.5:1
6090-VPS-UL	120/208/240/277	105 - 305	1000	1800	545	1.5	1.5:1

Note: UL indicates a UL listed product

Note: Custom models can be configured based on chart below.



ANSI Standard Colors

120V	Gray
208 / 240 / 277V	Maroon
120 / 208 / 240 / 277V	Blue
480V	Yellow

Electronic Photocontrols



SST Series Electronic/Heavy Duty with Time Delay

- Energy Saving Inverse OFF/ON Ratio
- 30 Amp Relay / Microprocessor Controlled
- 180 Joule MOV Surge Protection
- Non-Drifting Phototransistor
- 30-45 Second ON and OFF Time Delay
- Rain-tight / Dust-tight Housing
- ANSI C136.10 Compliant
- Fail Mode Is ON

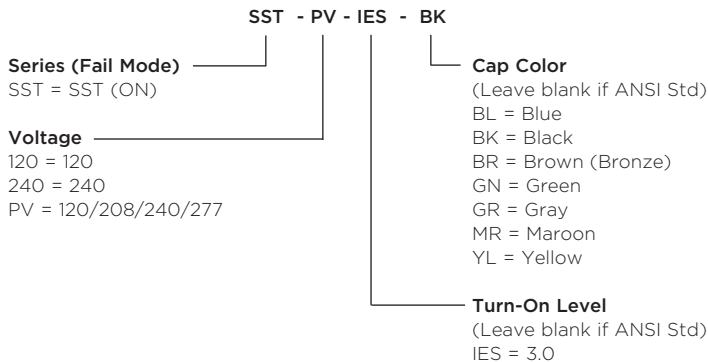


Selection information

Model	Rated Volts	Range (Volts)	Load Rating Tungsten (Watts)	Load Rating Ballast (VA)	Surge Protection (Joules)	Turn ON (Fc)	OFF/ON Ratio
SST-PV	120 / 208 / 240 / 277	105 - 305	1000	1800	180	1.5 +/- 0.5	0.6 : 1
SST-PV-UL	120 / 208 / 240 / 277	105 - 305	1000	1800	545	1.5 +/- 0.5	0.6 : 1
SST-PV-IES	120 / 208 / 240 / 277	105 - 305	1000	1800	180	3.0 +/- 0.5	0.6 : 1
SST-PV-IES-UL	120 / 208 / 240 / 277	105 - 305	1000	1800	545	3.0 +/- 0.5	0.6 : 1

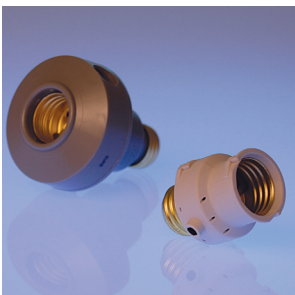
Note: UL indicates a UL listed product

Note: Custom models can be configured based on chart above



ANSI Standard Colors	
120V	Gray
208 / 240 / 277V	Maroon
120 / 208 / 240 / 277V	Blue
480V	Yellow

Screw-In Photocontrols



Screw-In/Plug-In | Incandescent and Compact Fluorescent Lighting Lighting Control

- Fast and simple to install
- Designed For Outdoor and Indoor Use
- Fail Mode is ON
- UL Listed



Selection information

Model	Rated Volts	Range (Volts)	Load Rating Tungsten (Watts)	Style	Type
CPGI-ALR-PL-120S	120	105 - 130	150	Lamp	Incandescent Only
CPGI-ALR-OLC-5C	120	105 - 130	150	Flood	Incandescent Only
CPGI-ALR-CFL-FL	120	105 - 130	150	Flood	Incandescent or CFL
CPGI-ALR-CFL-LP	120	105 - 130	150	Lamp	Incandescent or CFL

Note: PL-120S and OLC-5C are not compatible with compact fluorescent lamps.

Time Controls



Time Clocks
24 Hour

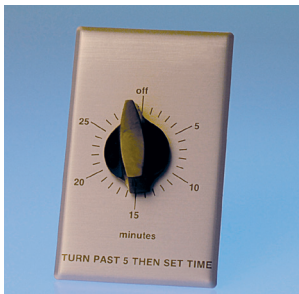
- Tamper Proof Enclosure
- Skip-A-Day Option
- All-Steel Mechanism
- 1-7 ON/OFF Operations per Day
- Manual Override
- UL and CSA Listed



Selection information

Model	Use	Volts (60 Hz)	Switch Rating Per Pole					Enclosure			
			Switch	Amps	Amps T	VA	HP	Type (NEMA)	Height (inches)	Width (inches)	Depth (inches)
TC-101	Indoor	120	SPST	40	40	690	1	1	7-27/32	4-9/64	2-15/16
TC-103	Indoor	120	DPST	40	40	690	1	1	7-27/32	4-9/64	2-15/16
TC-104	Indoor	208-277	DPST	40	40	690	1	1	7-27/32	5-9/64	2-15/16
TC-101R	Outdoor	120	SPST	40	40	690	1	3	9-5/8	5-3/8	3-11/16
TC-103R	Outdoor	120	DPST	40	40	690	1	3	9-5/8	5-3/8	3-11/16
TC-104R	Outdoor	208-277	DPST	40	40	690	1	3	9-5/8	5-3/8	3-11/16
PC-101R	Outdoor	120	SPST	40	40	690	1	3R	8-1/2	5-5/8	3-7/8
PC-103R	Outdoor	120	DPST	40	40	690	1	3R	8-1/2	5-5/8	3-7/8
PC-104R	Outdoor	208-277	DPST	40	40	690	1	3R	8-1/2	5-5/8	3-7/8

Note Trippers Replacement Part X-2772



Interval Timers
Spring Wound

- Easy to Install 2-Wire Design
- 20 Amp Rating at 120 VAC
- UL and CSA Listed
- SPST



Selection information

Model	Cycle Time	Style / Color	Wall Plate	NEMA Wall Box		
				(Depth - inches)	Amps	Volts (AC)
FC-15M	15 min.	Brushed Aluminum	Included	3	10	250
FC-30M	30 min.	Brushed Aluminum	Included	3	10	277
FC-60M	60 min.	Brushed Aluminum	Included	3	7	125*

* Tungsten

Switch Rating Specifications

Amps	Volts (AC)
20	125, 50/60 Hz
10	250, 50/60 Hz
10	277, 50/60 Hz

Photocontrol Accessories



Shorting and Open Caps

- Shorting and Non-Shorting Models
- Optional Surge Protection
- 120-480 VAC



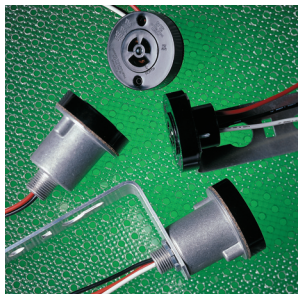
128F
PHOTOCONTROL
E66375

Selection information

Model	Circuit Type	Cap Color	Load Rating Tungsten (Watts)	Load Rating Ballast (VA)	Surge Protection (Joules)
SC-10A*	Shorting	Clear	1000	1800	-
SC-10ANSI**	Shorting	Black	1000	1800	-
MC-10	Shorting	Black	1000	1800	360
MC-10ANSI**	Shorting	Black	1000	1800	360
NS-10	Open	Maroon	1000	1800	-
NS-10ANSI**	Open	Red	1000	1800	-

* UL Listed

** ANSI C136.10-2006 Compliant



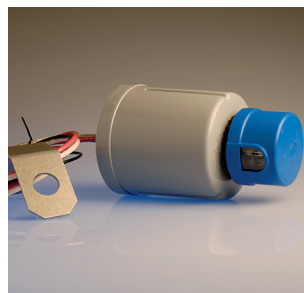
AM Series Receptacles

- Phosphor Bronze Contacts
- Thermal-set Phenolic Base
- UL Recognized Component



Selection information

Model	Rates (Volts)	Load Rating Ballast (VA)	Load Rating Ballast (Amps)	Flange Diameter	Receptacle Barrel Diameter	Receptacle (inches)		Lead Length	Bracket (inches)		
						Overall Height	Height		Width	Depth	Height
AM-1-A	120 - 480	1800	15.0	2-9/16	1-3/8	1-1/2	9	2.0	2-1/2	5-1/2	
AM-1-A-NB	120 - 480	1800	15.0	2-9/16	1-3/8	1-1/2	9	-	-	-	
AM-2-A	120 - 480	1800	15.0	2-9/16	-	3-1/3	6	1-1/2	3-1/2	5-1/2	
AM-2-A-NB	120 - 480	1800	15.0	2-9/16	-	3-1/4	6	-	-	-	



AMR Series Multiple Relays

- Perfect for Group Control Applications
- 30 Amp per Pole Relay
- SPDT or DPST Switching

Selection information

Model	Rates (Volts)	Range (Volts)	Load Rating Ballast (VA)/Pole	Rating (Amps)	Switch	Switch Contacts
AMR3030.2-120V	120	105 - 130	3600	30	SPDT	1 NO/1 NC
AMR3030.3-120V	120	105 - 130	3600	30	DPST	2 NO
AMR3030.3-240V	240	204 - 260	7200	30	DPST	2 NO

Photocontrol sold separately

Lighting Accessories



US-30 Starter

- Universal 3-Wire Design
- Hermetically Sealed Components
- Durable ABS Housing
- Operates With 35 to 400 Watt HPS Ballasts

Selection information

Model	Lead Connector	Lamp Voltage	Lamp Wattage
US-30	None	50 or 100	35 - 400



ACCESSORIES & TOOLS



Accessories

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Accessories



Cable Preparation Kit P63

- P63 cable preparation kits can be used with all Tyco Electronics cable accessories
- Use P63 kits to clean and abrade cable insulation

Selection information

Catalog Number	Std. Pack (kits/box)
P63	12

Ordering information

1. One kit contains six solvent wipes, six dry wipes and three strips of abrasive paper.
2. For splices, the number of prep kits vary depending upon size of cable and type of splice. For terminations, one prep kit will clean three phases (one 3/C termination or three 1/C terminations).
3. Solvent wipes contain PT Technologies type PF cleaner.

Heat Guns

- Ideal for shrinking small low-voltage products and identification marking sleeves
- Not recommended for shrinking high-voltage products or thick-wall low-voltage products



FH-PS-2001-Electric-Gun

Primus-Sievert model with increased air flow allows faster shrinking. 120V, 1750 watt, 80°F - 1100°F, Variable air flow: 21 cfm max., double insulated LED read out. This heat gun can be used for shrinking thick-wall low-voltage products.

HG-501A-Thermogun 115 V

500°F - 750°F hot-air gun ideal for shrinking ShrinkMark or TMS marking products, and thin-wall tubing. Includes stand. Reflector must be ordered separately.

HG-751A-C-Thermogun 120 V

750°F - 1000°F hot-air gun for shrinking low-voltage and marking products. Includes stand. Reflector must be ordered separately.

Heat Gun Accessories

Catalog Number	Description	Std. Pack
TG-12 Reflector	Use on tubing up to 3/4 inch in diameter.	1
TG-13 Reflector	Use on tubing up to 2 inches in diameter.	1
TG-23 Reflector	Use on tubing and cable breakouts up to 1 3/4 inches in diameter.	1
TG-24 Reflector	Use on tubing and cable breakouts up to 3 1/4 inches in diameter.	1



Heat Gun 16C6



- Portable and convenient with a powerful temperature rating
- Hand-held refillable heat gun with standard butane
- Automatic Piezo Electronics Ignition System
- Installs thin wall, dual wall and adhesive lined heat-shrink tubing and sleeves

Catalog Number	Description	Std. Pack
CPGI-GLOW-GUN	Flameless Heat Gun	6



- Lightweight, portable, and ergonomic design
- Provides a wide-flame torch output for instant controlled heating
- Automatic Piezo Electronics Ignition System
- Attaches directly to 1 lb or 2 lb disposable propane bottles
- Installs thin wall, dual wall and adhesive lined heat-shrink tubing and sleeves

Catalog Number	Description	Std. Pack
CPGI-GLOW-TORCH	Wide-Flame Torch	10

Accessories

Torches

These clean-burning, efficient, heat-shrinking torches are recommended for shrinking high-voltage products through low-voltage products

Selection information

Primus-Sievert Siever-Matic Torch Materials



FH-3366-97-PS-HANDLE

- Siever-Matic S auto ignite, auto shut-off torch handle
- Ergonomic design ensures comfortable operation
- Adjustable output
- Piezo ignition



FH-AD-3061-13-PS-REGULATOR

- Works with torch handle FH-3366-97-PS-HANDLE above
- Adjustable from 14-57psi
- Fitting POL, UNF 9/16" LH
- Requires torch hose AD-1432 or AD-1434



FH-AD-3347-91-PS-BURN-1

- Works with torch handle FH-3366-97-PS-HANDLE above
- Recommended especially for low voltage and general purpose products
- Tip diameter 1.0 inch 20,000BTU/hour

FH-AD-3341-91-PS-BURN1.5

- Works with torch handle FH-3366-97-PS-HANDLE above
- Recommended especially for low voltage products and high voltage terminations and splices
- Tip diameter 1.5 inch 40,000BTU/hour



FH-AD-3348-91-PS-BURN-2

- Works with torch handle FH-3366-97-PS-HANDLE above
- Recommended especially for Raysulate products
- Tip diameter 2.0 inch 90,000BTU/hour

Bullfinch Torch Materials



FH-2629-TORCH ASSY

- Built-in ignitor recommended for all products
- General purpose, heavy-duty propane torch with comfortable grip
- Provides a clean burning flame for shrinking high-voltage products or thick-wall low-voltage products.
- Output: Approximately 30,000 BTU/Hour



FH-2629-ELECTRODE

- Replacement ignitor for FH-2629 torch

Accessories

Torch Accessories**AD-1358-LPG-REGW/GAGE**

- Propane tank regulator with gauge (0-30 psi)
- Can also be used with Primus-Sievert or BullFinch products

**AD-1432-ACD10FT-LPG-HOSE**

10-foot LPG hose

AD-1434-ACD30FT-LPG-HOSE

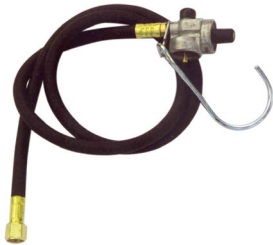
30-foot LPG hose

AD-1460-ACD-HEAT-SHLDGPA

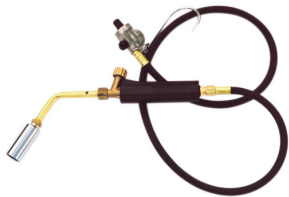
- 12 x 40 pad woven of heat-resistant fabric with corner grommets
- Protects adjacent components from torch heat during installation of heat-shrinkable products in confined areas

AD-1563-ADAPTER

- Valve to standard hose
- For use with FH-2618A-1 propane torch if disposable cylinders are not used

**AD-3015-04**

- Adapts Siever-Matic S FH-2649-PS-KIT or FH2629 for use with disposable 14.1 oz propane cylinders
- Includes 4-foot hose and regulator preset at 28 psi

Torch Kits**FH-2618A-1**

- Light, portable propane torch for installing low-voltage products and smaller, conductor-sized, high-voltage (up to 15 kV) accessories
- Includes hose, handle assembly, and regulator for disposable propane cylinder
- Operates from disposable 14.1 oz. propane cylinders
- Output: Approximately 20,000 BTU/hour
- Handle and torch head not available separately
- Regulator and hose assembly is product AD-3015-04

FH-2629-Kit

- Includes (AD-1432) 10 foot hose, (AD-1358) adjustable regulator, and (FH-2629-TORCH-ASSY) torch handle and tip

FH-2640-PS-KIT

- Primus-Sievert torch kit for use with disposable propane bottles
- Includes (FH-3366-97-PS-HANDLE, FH-AD-3341-91-PS-BURN1.5, & AD-3015-04)

**FH-2649-PS-KIT**

- Seiver-Matic S auto ignite, auto shut-off torch system
- Recommended especially for Raysulate products and can be used with all products
- Includes ergonomic handle, 30 foot hose, adjustable regulator, and large burner (3348-91); all in a canvas carrying bag
- Output: Approximately 90,000 BTU/hour
- Smaller burner and adapter for disposable bottles available. - includes FH-3366-97-PS-HANDLE, FH-AD-3348-91-PS-BURN-2, FH-AD-3061-13-PS-REGULAT, AD-1434-ACD30FT-LPG-HOSE, and a carrying bag

Tools

Testing Tools



- Tone Tracer** 1490533-1
- Permits wire and cable identification without direct metallic contact
 - Ergonomic design
 - Can be used with any tone generator
 - Quick change tips available
 - Also available in a Tone Generator/Tracer Kit, 1673606-1



- 4-Pair Tester** 1490530-1
- Test for opens, shorts, mis-wires, reversals, and split pairs
 - Auto-on/auto-off
 - Battery low indicator



- Tone Generator** 1490531-1
- Three built-in tones
 - Auto-off
 - Separate talk battery for increased voltage and power for test sets
 - Modular jack allows multiple cord sets to be used for different applications
 - Also available in a Tone Generator/Tracer Kit, 1673606-1



- Butt Set** 1490532-1
- LCD display shows: on-hook voltage, number dialed, off-hook current, called ID, stored numbers, etc.
 - Tone and pulse dialing
 - Modular cord set attachment
 - Auto-off

Impact Tools



- Impact Tool** 1583608-2
- Non-slip rubber grips on handle
 - Blade storage in rear of tool
 - Tool with 110 blade: 158608-1
 - Replacement 110 Blade: 1583609-1



- Premium Impact Tool** 1583694-2
- Light system, pick, hook and spudger
 - Non-slip rubber grips on handle
 - Blade storage in rear of tool
 - Adjustable Hi/Lo impact setting
 - Accepts all Twist and Lock blades
 - Tool with 110 Blade: 1583694-1



- Non-Impact Tool** 1583236-2
- Rubber palm grip
 - Blade storage area in side of tool
 - Accepts all Twist and Lock blades
 - Replacement 110 Blade: 1583609-1
 - Tool with 110 Blade: 1583694-1

Tools

Wire Strippers**Coax Stripper**

- 3 blades designed to strip RG-6, 58, 59 cable in one step
- Replaceable blade cartridges

1490490-1

**Cyclops Cable Stripper**

- Outer sheath stripper
- Automatically adjusts to different cable thicknesses
- Works on cable diameters up to 11mm

1375317-1

**Automatic Wire Stripper**

- Strips PVC, THHN, and THHW
- Adjustable wire stop
- Built-in cutter

734185-1

**Wire Cutters****350 MCM Cutter**

- Steel handles
- Not for steel or ACSR cable

605744-1

**500 MCM Cutter**

- 21" overall length
- Fiberglass handles
- Not for steel or ACSR cable

605742-1

Tools

All-Purpose Tools



Cable Tie Gun

- For cable ties 3.3 - 4.8mm
- Thickness up to 1.6mm
- Automatic cut-off
- Adjustable tension setting

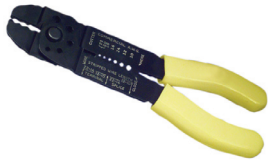
734587-1



Raceway Cutting Tool

- Cuts surface mount raceway to length
- Cuts PVC tubing up to 1.25" in diameter

1375479-1



SUPER CHAMP

- Economy Crimper
- Great for bolt cutting, wire stripping
- Convenient for tool boxes and repair kits

696201-1



Tel-Splice Pliers

- Works with all Tel-Splice part numbers
- Rounded nose won't snag on wires
- Wire cutter built into side
- Yellow handles
- Spring loaded handles

790162-1



Ratcheted Crimp Tool

- Tool with die: RBY Terminals
Coax Terminals
- Interchangeable with Ideal dies
- Ratchet release lever
- Easy clean plastic handles

1490496-2
1490496-3

APPLICATIONS AND TECHNICAL SPECIFICATIONS



Technical Data

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Applications by Cable Type	150
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CMA/MM² Calculation

CMA (Circular Mil Area)

The unit for expressing the cross-sectional area of a conductor. Equal to the diameter of a conductor strand (expressed in mils) squared, times the number of strands.

CMA/mm² Calculation for Wire Connectors

Calculating the total circular mil or mm² area of the conductors to be terminated in a single splice can be done by following these steps.

Step One

Choose either CMA or mm² as your unit of measure for selection purposes and continue to use it for all your selection criteria.

Step Two

In the workspace provided below, list the CMA or mm² for each conductor that will go into the same splice. (to assist you Table A on the bottom of this page provides the CMA of typical conductors.)

Step Three

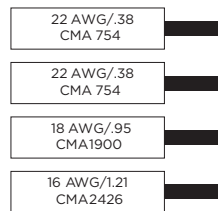
Add together the values listed in the workspace below to obtain the total area.

Step Four

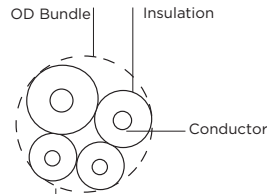
From the appropriate product table select the part number recommended for the total CMA or mm² you have calculated.

Wire Number	CMA	mm ²	
1.	_____	_____	
2.	_____	_____	
3.	_____	_____	
4.	_____	_____	
5.	_____	_____	
Total	_____	_____	Part Number: _____

CMA/mm² Example



Total CMA = 5834
 Total mm² = 2.92
 Correct part number (based on CMA of 5834 or mm² of 2.92): SGRP-2or SGRS-2



Bundle diameter must not exceed 6.0 mm (0.24 in) for SGRP-2 or 0.18 mm (4.5 in) for SGRS-2.

Table A.

AWG	30	28	26	24	22	20	18	16	14	12	10	8
CMA	112	177	304	475	754	1216	1900	2426	3831	5874	9354	16983
mm ²	0.05	0.09	0.15	0.24	0.38	0.61	0.95	1.21	1.92	2.94	4.74	8.61

SolderGrip Wire Combinations

SolderGrip Wire Combinations Self-Fixturing Insulated Ring Terminals

Wire Combinations	Part Number	Wire Combinations	Part Number	Wire Combinations	Part Number
1 # 8	SGRT-4-XX	1 # 12 + 1 # 16 + 4 # 18	SGRT-4-XX	1 # 14 + 4 # 20	SGRT-3-XX
1 # 8 + 1 # 16	SGRT-4-XX	1 # 12 + 2 # 16	SGRT-3-XX	1 # 14 + 1 # 18	SGRT-2-XX
2 # 8 + 2 # 16	SGRT-4-XX	1 # 12 + 2 # 16 + 1 # 18	SGRT-3-XX	1 # 14 + 1 # 18 + 1 # 20	SGRT-3-XX
1 # 8 + 1 # 14	SGRT-4-XX	1 # 12 + 2 # 16 + 2 # 18	SGRT-4-XX	1 # 14 + 2 # 18	SGRT-3-XX
1 # 10	SGRT-3-XX	1 # 12 + 3 # 16	SGRT-4-XX	1 # 14 + 3 # 18	SGRT-3-XX
1 # 10 + 1 to 3 # 18	SGRT-3-XX	1 # 12 + 4 # 16	SGRT-4-XX	1 # 14 + 4 # 18	SGRT-3-XX
1 # 10 + 2 # 18	SGRT-3-XX	1 # 12 + 5 # 16	SGRT-4-XX	1 # 14 + 5 # 18	SGRT-4-XX
1 # 10 + 3 # 18	SGRT-4-XX	1 # 12 + 1 # 14 + 1 # 18	SGRT-3-XX	1 # 14 + 1 # 16	SGRT-3-XX
1 # 10 + 1 # 16	SGRT-3-XX	1 # 12 + 1 # 14 + 2 # 18	SGRT-4-XX	1 # 14 + 1 # 16 + 1 # 20	SGRT-3-XX
1 # 10 + 1 # 16 + 1 # 18	SGRT-4-XX	1 # 12 + 1 # 14 + 3 # 18	SGRT-4-XX	1 # 14 + 1 # 16 + 1 # 18	SGRT-3-XX
1 # 10 + 1 # 16 + 2 # 18	SGRT-4-XX	1 # 12 + 1 # 14 + 1 # 16	SGRT-3-XX	1 # 14 + 1 # 16 + 2 # 18	SGRT-3-XX
1 # 10 + 2 # 16	SGRT-4-XX	1 # 12 + 1 # 14 + 2 # 16	SGRT-4-XX	1 # 14 + 1 # 16 + 3 # 18	SGRT-3-XX
1 # 10 + 3 # 16	SGRT-4-XX	1 # 12 + 1 # 14 + 3 # 16	SGRT-4-XX	1 # 14 + 1 # 16 + 4 # 18	SGRT-4-XX
1 # 10 + 4 # 16	SGRT-4-XX	1 # 12 + 1 # 14 + 4 # 16	SGRT-4-XX	1 # 14 + 2 # 16	SGRT-3-XX
1 # 10 + 5 # 16	SGRT-4-XX	1 # 12 + 2 # 14	SGRT-4-XX	1 # 14 + 2 # 16 + 1 # 18	SGRT-3-XX
1 # 10 + 1 # 14	SGRT-3-XX	1 # 12 + 2 # 14 + 1 # 18	SGRT-4-XX	1 # 14 + 2 # 16 + 2 # 18	SGRT-3-XX
1 # 10 + 1 # 14 + 1 # 18	SGRT-4-XX	1 # 12 + 2 # 14 + 1 # 16	SGRT-4-XX	1 # 14 + 2 # 16 + 3 # 18	SGRT-4-XX
1 # 10 + 1 # 14 + 1 # 16	SGRT-4-XX	1 # 12 + 2 # 14 + 2 # 16	SGRT-4-XX	1 # 14 + 3 # 16	SGRT-3-XX
1 # 10 + 1 # 14 + 2 # 16	SGRT-3-XX	1 # 12 + 2 # 14 + 3 # 16	SGRT-4-XX	1 # 14 + 3 # 16 + 1 # 18	SGRT-3-XX
1 # 10 + 1 # 14 + 3 # 16	SGRT-4-XX	1 # 12 + 3 # 14	SGRT-4-XX	1 # 14 + 3 # 16 + 2 # 18	SGRT-4-XX
1 # 10 + 2 # 14	SGRT-4-XX	1 # 12 + 3 # 14 + 1 # 16	SGRT-4-XX	1 # 14 + 4 # 16	SGRT-4-XX
1 # 10 + 3 # 14	SGRT-4-XX	1 # 12 + 4 # 14	SGRT-4-XX	1 # 14 + 4 # 16 + 1 # 18	SGRT-4-XX
1 # 10 + 1 # 12	SGRT-4-XX	2 # 12 + 1 # 18	SGRT-4-XX	1 # 14 + 5 # 16	SGRT-4-XX
1 # 10 + 1 # 12 + 1 # 14	SGRT-4-XX	2 # 12 + 1 # 16	SGRT-4-XX	2 # 14	SGRT-3-XX
1 # 10 + 2 # 12	SGRT-4-XX	2 # 12 + 2 # 16 + 1 # 18	SGRT-4-XX	2 # 14	SGRT-3-XX
2 # 10	SGRT-4-XX	2 # 12 + 3 # 16	SGRT-4-XX	2 # 14	SGRT-3-XX
2 # 10 + 1 # 16	SGRT-4-XX	2 # 12 + 1 # 14 + 1 # 18	SGRT-4-XX	2 # 14	SGRT-3-XX
1 # 12	SGRT-3-XX	2 # 12 + 1 # 14 + 1 # 16	SGRT-4-XX	2 # 14	SGRT-3-XX
1 # 12 + 1 # 18	SGRT-3-XX	2 # 12 + 2 # 14	SGRT-4-XX	2 # 14 + 1 # 16	SGRT-3-XX
1 # 12 + 2 # 18	SGRT-3-XX	3 # 12 + 1 # 18	SGRT-4-XX	2 # 14 + 1 # 16	SGRT-3-XX
1 # 12 + 3 # 18	SGRT-3-XX	3 # 12 + 1 # 16	SGRT-4-XX	2 # 14 + 1 # 16	SGRT-3-XX
1 # 12 + 4 # 18	SGRT-4-XX	3 # 12 + 1 # 14	SGRT-4-XX	2 # 14 + 1 # 16	SGRT-3-XX
1 # 12 + 5 # 18	SGRT-4-XX	1 # 14	SGRT-2-XX	2 # 14 + 2 # 16	SGRT-3-XX
1 # 12 + 1 # 16	SGRT-3-XX	1 # 14 + 1 # 22	SGRT-2-XX	2 # 14 + 2 # 16	SGRT-3-XX
1 # 12 + 1 # 16 + 1 # 18	SGRT-3-XX	1 # 14 + 1 # 20	SGRT-2-XX	2 # 14 + 3 # 16	SGRT-4-XX
1 # 12 + 1 # 16 + 2 # 18	SGRT-3-XX	1 # 14 + 2 # 20	SGRT-3-XX	2 # 14 + 4 # 16	SGRT-4-XX
1 # 12 + 1 # 16 + 3 # 18	SGRT-4-XX	1 # 14 + 3 # 20	SGRT-3-XX	3 # 14	SGRT-3-XX
3 # 14 + 1 # 16	SGRT-4-XX	2 # 16 + 4 # 20	SGRT-3-XX	1 # 18 + 1 # 20 + 2 # 22	SGRT-2-XX
3 # 14 + 2 # 16	SGRT-4-XX	2 # 16 + 1 # 18	SGRT-3-XX	1 # 18 + 2 # 20	SGRT-2-XX
3 # 14 + 3 # 16	SGRT-4-XX	2 # 16 + 1 # 18 + 1 # 20	SGRT-3-XX	1 # 18 + 3 # 20	SGRT-2-XX
4 # 14	SGRT-4-XX	2 # 16 + 1 # 18 + 2 # 20	SGRT-3-XX	1 # 18 + 4 # 20	SGRT-3-XX
4 # 14 + 1 # 16	SGRT-4-XX	2 # 16 + 1 # 18 + 3 # 20	SGRT-3-XX	1 # 18 + 5 # 20	SGRT-3-XX
4 # 14 + 2 # 16	SGRT-4-XX	2 # 16 + 2 # 18	SGRT-3-XX	2 # 18	SGRT-2-XX
5 # 14	SGRT-4-XX	2 # 16 + 2 # 18 + 1 # 20	SGRT-3-XX	2 # 18 + 1 # 22	SGRT-2-XX
5 # 14 + 1 # 16	SGRT-4-XX	2 # 16 + 2 # 18 + 2 # 20	SGRT-3-XX	2 # 18 + 1 # 20	SGRT-2-XX
1 # 16	SGRT-2-XX	2 # 16 + 3 # 18	SGRT-3-XX	2 # 18 + 2 # 20	SGRT-3-XX
1 # 16 + 1 # 22	SGRT-2-XX	2 # 16 + 3 # 18 + 1 # 20	SGRT-3-XX	2 # 18 + 3 # 20	SGRT-3-XX
1 # 16 + 2 # 22	SGRT-2-XX	2 # 16 + 4 # 18	SGRT-3-XX	2 # 18 + 4 # 20	SGRT-3-XX
1 # 16 + 3 # 22	SGRT-2-XX	3 # 16	SGRT-3-XX	3 # 18	SGRT-2-XX
1 # 16 + 1 # 20	SGRT-2-XX	3 # 16 + 1 # 20	SGRT-3-XX	3 # 18 + 1 # 20	SGRT-3-XX
1 # 16 + 1 # 20 + 1 # 22	SGRT-2-XX	3 # 16 + 2 # 20	SGRT-3-XX	3 # 18 + 2 # 20	SGRT-3-XX
1 # 16 + 2 # 20	SGRT-2-XX	3 # 16 + 3 # 20	SGRT-3-XX	3 # 18 + 3 # 20	SGRT-3-XX
1 # 16 + 3 # 20	SGRT-3-XX	3 # 16 + 1 # 18	SGRT-3-XX	4 # 18	SGRT-3-XX
1 # 16 + 4 # 20	SGRT-3-XX	3 # 16 + 1 # 18 + 1 # 20	SGRT-3-XX	4 # 18 + 1 # 20	SGRT-3-XX
1 # 16 + 5 # 20	SGRT-3-XX	3 # 16 + 1 # 18 + 2 # 20	SGRT-3-XX	4 # 18 + 2 # 20	SGRT-3-XX
1 # 16 + 1 # 18	SGRT-2-XX	3 # 16 + 2 # 18	SGRT-3-XX	5 # 18	SGRT-3-XX
1 # 16 + 1 # 18 + 1 # 20	SGRT-2-XX	3 # 16 + 2 # 18 + 1 # 20	SGRT-3-XX	5 # 18 + 1 # 20	SGRT-3-XX
1 # 16 + 1 # 18 + 2 # 20	SGRT-3-XX	3 # 16 + 3 # 18	SGRT-3-XX	6 # 18	SGRT-3-XX
1 # 16 + 1 # 18 + 3 # 20	SGRT-3-XX	4 # 16	SGRT-3-XX	1 # 20 + 2 # 22	SGRT-2-XX
1 # 16 + 1 # 18 + 4 # 20	SGRT-3-XX	4 # 16 + 1 # 20	SGRT-3-XX	1 # 20 + 3 # 22	SGRT-2-XX
1 # 16 + 2 # 18	SGRT-3-XX	4 # 16 + 2 # 20	SGRT-3-XX	1 # 20 + 4 # 22	SGRT-2-XX
1 # 16 + 2 # 18 + 1 # 20	SGRT-3-XX	4 # 16 + 1 # 18	SGRT-3-XX	2 # 20	SGRT-2-XX
1 # 16 + 2 # 18 + 2 # 20	SGRT-3-XX	4 # 16 + 1 # 18 + 1 # 20	SGRT-3-XX	2 # 20 + 1 # 22	SGRT-2-XX
1 # 16 + 2 # 18 + 3 # 20	SGRT-3-XX	4 # 16 + 2 # 18	SGRT-4-XX	2 # 20 + 2 # 22	SGRT-2-XX
1 # 16 + 3 # 18	SGRT-3-XX	5 # 16	SGRT-3-XX	2 # 20 + 3 # 22	SGRT-2-XX
1 # 16 + 3 # 18 + 1 # 20	SGRT-3-XX	5 # 16 + 1 # 20	SGRT-4-XX	3 # 20	SGRT-2-XX
1 # 16 + 3 # 18 + 2 # 20	SGRT-3-XX	5 # 16 + 1 # 18	SGRT-4-XX	3 # 20 + 1 # 22	SGRT-2-XX
1 # 16 + 4 # 18	SGRT-3-XX	6 # 16	SGRT-4-XX	4 # 20	SGRT-2-XX

SolderGrip Wire Combinations

SolderGrip Wire Combinations Self-Fixturing Insulated Ring Terminals (Continued)

Wire Combinations	Part Number	Wire Combinations	Part Number	Wire Combinations	Part Number
1 # 16 + 4 # 18 + 1 # 20	SGRT-3-XX	1 # 18 + 1 # 22	SGRT-2-XX	5 # 20	SGRT-3-XX
1 # 16 + 5 # 18	SGRT-3-XX	1 # 18 + 2 # 22	SGRT-2-XX	6 # 20	SGRT-3-XX
2 # 16	SGRT-2-XX	1 # 18 + 3 # 22	SGRT-2-XX	4 # 22	SGRT-2-XX
2 # 16 + 1 # 20	SGRT-3-XX	1 # 18 + 1 # 20	SGRT-2-XX	5 # 22	SGRT-2-XX
2 # 16 + 2 # 20	SGRT-3-XX	1 # 18 + 1 # 20 + 1 # 22	SGRT-2-XX	6 # 22	SGRT-2-XX
2 # 16 + 3 # 20	SGRT-3-XX	—	—	—	—

SolderGrip Wire Combinations SolderSleeve CWT Wire Splices

Side A:		Side B: Size and Number of Conductors							
Size & No. of Conductors	26 AWG		26 AWG		22 AWG		20 AWG		
	1	2	1	2	1	2	1	2	
26 AWG 1	CWT-9001	CWT-9001	CWT-9001	CWT-9001	CWT-9001	CWT-9002	CWT-9002	CWT-9002	
26 AWG 2	CWT-9001	CWT-9001	CWT-9001	CWT-9002	CWT-9001	CWT-9002	CWT-9002	CWT-9002	
24 AWG 1	CWT-9001	CWT-9001	CWT-9001	CWT-9001	CWT-9001	CWT-9002	CWT-9002	CWT-9002	
24 AWG 2	CWT-9001	CWT-9002	CWT-9001	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9002	
22 AWG 1	CWT-9001	CWT-9001	CWT-9001	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9002	
22 AWG 2	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9003	
20 AWG 1	CWT-9002	CWT-9002	CWT-9002	CWT-9003	CWT-9002	CWT-9002	CWT-9002	CWT-9003	
20 AWG 2	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9003	CWT-9003	CWT-9003	
18 AWG 1	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9003	
18 AWG 2	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	
16 AWG 1	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9002	CWT-9003	CWT-9003	CWT-9003	
16 AWG 2	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	
14 AWG 1	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	
14 AWG 2	CWT-9004	CWT-9004	CWT-9004	CWT-9004	CWT-9004	CWT-9004	CWT-9004	CWT-9004	
12 AWG 1	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9004	
12 AWG 2	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	
10 AWG 1	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	

Side A:		Side B: Size and Number of Conductors								
Size & No. of Conductors	18 AWG		16 AWG		14 AWG		12 AWG		10 AWG	
	1	2	1	2	1	2	1	2	1	
26 AWG 1	CWT-9002	CWT-9003	CWT-9002	CWT-9003	CWT-9003	CWT-9004	CWT-9003	CWT-9005	CWT-9005	
26 AWG 2	CWT-9002	CWT-9003	CWT-9002	CWT-9003	CWT-9003	CWT-9004	CWT-9003	CWT-9005	CWT-9005	
24 AWG 1	CWT-9002	CWT-9003	CWT-9002	CWT-9003	CWT-9003	CWT-9004	CWT-9003	CWT-9005	CWT-9005	
24 AWG 2	CWT-9002	CWT-9003	CWT-9002	CWT-9003	CWT-9003	CWT-9004	CWT-9003	CWT-9005	CWT-9005	
22 AWG 1	CWT-9002	CWT-9003	CWT-9002	CWT-9003	CWT-9003	CWT-9004	CWT-9003	CWT-9005	CWT-9005	
22 AWG 2	CWT-9002	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9004	CWT-9003	CWT-9005	CWT-9005	
20 AWG 1	CWT-9002	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9004	CWT-9003	CWT-9005	CWT-9005	
20 AWG 2	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9004	CWT-9004	CWT-9005	CWT-9005	
18 AWG 1	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9004	CWT-9004	CWT-9005	CWT-9005	
18 AWG 2	CWT-9003	CWT-9003	CWT-9003	CWT-9004	CWT-9003	CWT-9004	CWT-9004	CWT-9005	CWT-9005	
16 AWG 1	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9003	CWT-9004	CWT-9004	CWT-9005	CWT-9005	
16 AWG 2	CWT-9003	CWT-9004	CWT-9003	CWT-9004	CWT-9004	CWT-9005	CWT-9004	CWT-9005	CWT-9005	
14 AWG 1	CWT-9003	CWT-9003	CWT-9003	CWT-9004	CWT-9003	CWT-9004	CWT-9004	CWT-9005	CWT-9005	
14 AWG 2	CWT-9004	CWT-9004	CWT-9004	CWT-9005	CWT-9004	CWT-9005	CWT-9005	CWT-9005	CWT-9005	
12 AWG 1	CWT-9004	CWT-9004	CWT-9004	CWT-9004	CWT-9004	CWT-9005	CWT-9004	CWT-9005	CWT-9005	
12 AWG 2	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	
10 AWG 1	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	CWT-9005	

SolderGrip Wire Combinations

SolderGrip Wire Combinations Closed End Connector Splices

Wire Combinations	Splash-proof	Sealed	Wire Combinations	Splash-proof	Sealed	Wire Combinations	Splash-proof	Sealed
1 # 8 + 1 # 12	SGRP-4	SGRS-4	1 # 14 + 3 # 20	SGRP-2	SGRS-2	2 # 16 + 1 # 18 + 3 # 20	SGRP-3	SGRS-3
1 # 8 + 1 # 16	SGRP-4	SGRS-4	1 # 14 + 4 # 20	SGRP-3	SGRS-3	2 # 16 + 1 # 18 + 2 # 20	SGRP-3	SGRS-3
2 # 8 + 2 # 16	SGRP-4	SGRS-4	1 # 14 + 1 # 18	SGRP-2	SGRS-2	2 # 16 + 1 # 18 + 1 # 20	SGRP-2	SGRS-2
1 # 8 + 1 # 14	SGRP-4	SGRS-4	1 # 14 + 1 # 18 + 1 # 20	SGRP-2	SGRS-2	2 # 16 + 1 # 18	SGRP-2	SGRS-2
1 # 8 + 1 # 14 + 1 # 16	SGRP-4	SGRS-4	1 # 14 + 2 # 18	SGRP-2	SGRS-2	2 # 16 + 4 # 20	SGRP-3	SGRS-3
1 # 10 + 1 # 18	SGRP-3	SGRS-3	1 # 14 + 3 # 18	SGRP-3	SGRS-3	2 # 16 + 3 # 20	SGRP-3	SGRS-3
1 # 10 + 2 # 18	SGRP-3	SGRS-3	1 # 14 + 4 # 18	SGRP-3	SGRS-3	2 # 16 + 2 # 20	SGRP-2	SGRS-2
1 # 10 + 3 # 18	SGRP-3	SGRS-3	1 # 14 + 5 # 18	SGRP-3	SGRS-3	2 # 16 + 1 # 20	SGRP-2	SGRS-2
1 # 10 + 1 # 16	SGRP-3	SGRS-3	1 # 14 + 1 # 16	SGRP-2	SGRS-3	2 # 16	SGRP-2	SGRS-2
1 # 10 + 1 # 16 + 1 # 18	SGRP-3	SGRS-3	1 # 14 + 1 # 16 + 1 # 20	SGRP-2	SGRS-2	1 # 16 + 5 # 18	SGRP-3	SGRS-3
1 # 10 + 1 # 16 + 2 # 18	SGRP-3	SGRS-3	1 # 14 + 1 # 16 + 1 # 18	SGRP-3	SGRS-3	1 # 16 + 4 # 18 + 1 # 20	SGRP-3	SGRS-3
1 # 10 + 2 # 16	SGRP-3	SGRS-3	1 # 14 + 1 # 16 + 2 # 18	SGRP-3	SGRS-3	1 # 16 + 4 # 18	SGRP-3	SGRS-3
1 # 10 + 3 # 16	SGRP-4	SGRS-4	1 # 14 + 1 # 16 + 3 # 18	SGRP-3	SGRS-3	1 # 16 + 3 # 18 + 2 # 20	SGRP-3	SGRS-3
1 # 10 + 4 # 16	SGRP-4	SGRS-4	1 # 14 + 1 # 16 + 4 # 18	SGRP-3	SGRS-3	1 # 16 + 3 # 18 + 1 # 20	SGRP-3	SGRS-3
1 # 10 + 5 # 16	SGRP-4	SGRS-4	1 # 14 + 2 # 16	SGRP-3	SGRS-3	1 # 16 + 2 # 18 + 3 # 20	SGRP-3	SGRS-3
1 # 10 + 1 # 14	SGRP-3	SGRS-3	1 # 14 + 2 # 16 + 1 # 18	SGRP-3	SGRS-3	1 # 16 + 2 # 18 + 1 # 20	SGRP-2	SGRS-2
1 # 10 + 1 # 14 + 1 # 18	SGRP-3	SGRS-3	1 # 14 + 2 # 16 + 2 # 18	SGRP-3	SGRS-3	1 # 16 + 2 # 18	SGRP-2	SGRS-2
1 # 10 + 1 # 14 + 1 # 16	SGRP-3	SGRS-3	1 # 14 + 2 # 16 + 3 # 18	SGRP-3	SGRS-3	1 # 16 + 1 # 18 + 4 # 20	SGRP-3	SGRS-3
1 # 10 + 1 # 14 + 2 # 16	SGRP-3	SGRS-3	1 # 14 + 3 # 16	SGRP-3	SGRS-3	1 # 16 + 1 # 18 + 3 # 20	SGRP-2	SGRS-2
1 # 10 + 1 # 14 + 3 # 16	SGRP-4	SGRS-4	1 # 14 + 3 # 16 + 1 # 18	SGRP-3	SGRS-3	1 # 16 + 1 # 18 + 2 # 20	SGRP-2	SGRS-2
1 # 10 + 2 # 14	SGRP-4	SGRS-4	1 # 14 + 3 # 16 + 2 # 18	SGRP-3	SGRS-3	1 # 16 + 1 # 18 + 1 # 20	SGRP-2	SGRS-2
1 # 10 + 3 # 14	SGRP-4	SGRS-4	1 # 14 + 4 # 16	SGRP-3	SGRS-3	1 # 16 + 1 # 18	SGRP-1	SGRS-1
1 # 10 + 1 # 12	SGRP-3	SGRS-3	1 # 14 + 4 # 16 + 1 # 18	SGRP-3	SGRS-3	1 # 16 + 4 # 20	SGRP-2	SGRS-2
1 # 10 + 1 # 12 + 1 # 14	SGRP-4	SGRS-4	1 # 14 + 5 # 16	SGRP-3	SGRS-3	1 # 16 + 3 # 20	SGRP-2	SGRS-2
1 # 10 + 2 # 12	SGRP-4	SGRS-4	2 # 14	SGRP-2	SGRS-2	1 # 16 + 1 # 20 + 1 # 22	SGRP-1	SGRS-1
2 # 10	SGRP-4	SGRS-4	2 # 14 + 1 # 16	SGRP-3	SGRS-3	1 # 16 + 1 # 20	SGRP-1	SGRS-1
2 # 10 + 1 # 16	SGRP-4	SGRS-4	2 # 14 + 1 # 16	SGRP-3	SGRS-3	1 # 16 + 3 # 22	SGRP-1	SGRS-1
1 # 12 + 1 # 18	SGRP-2	SGRS-2	2 # 14 + 1 # 16	SGRP-3	SGRS-3	1 # 16 + 2 # 22	SGRP-1	SGRS-1
1 # 12 + 2 # 18	SGRP-3	SGRS-3	2 # 14 + 1 # 16	SGRP-3	SGRS-3	1 # 16 + 1 # 22	SGRP-1	SGRS-1
1 # 12 + 3 # 18	SGRP-3	SGRS-3	2 # 14 + 2 # 16	SGRP-3	SGRS-3	1 # 18 + 1 # 22	SGRP-1	SGRS-1
1 # 12 + 4 # 18	SGRP-3	SGRS-3	2 # 14 + 2 # 16	SGRP-3	SGRS-3	1 # 18 + 2 # 22	SGRP-1	SGRS-1
1 # 12 + 5 # 18	SGRP-3	SGRS-3	2 # 14 + 3 # 16	SGRP-3	SGRS-3	1 # 18 + 3 # 22	SGRP-1	SGRS-1
1 # 12 + 1 # 16	SGRP-3	SGRS-3	2 # 14 + 4 # 16	SGRP-4	SGRS-4	1 # 18 + 1 # 20	SGRP-1	SGRS-1
1 # 12 + 1 # 16 + 1 # 18	SGRP-3	SGRS-3	3 # 14	SGRP-3	SGRS-3	1 # 18 + 1 # 20 + 1 # 22	SGRP-1	SGRS-1
1 # 12 + 1 # 16 + 2 # 18	SGRP-3	SGRS-3	3 # 14 + 1 # 16	SGRP-3	SGRS-3	1 # 18 + 1 # 20 + 2 # 22	SGRP-1	SGRS-1
1 # 12 + 1 # 16 + 3 # 18	SGRP-3	SGRS-3	3 # 14 + 2 # 16	SGRP-4	SGRS-4	1 # 18 + 2 # 20	SGRP-1	SGRS-1
1 # 12 + 1 # 16 + 4 # 18	SGRP-4	SGRS-4	3 # 14 + 3 # 16	SGRP-4	SGRS-4	1 # 18 + 3 # 20	SGRP-2	SGRS-2
1 # 12 + 2 # 16	SGRP-3	SGRS-3	4 # 14	SGRP-3	SGRS-3	1 # 18 + 4 # 20	SGRP-2	SGRS-2

SolderGrip Wire Combinations























SolderGrip Wire Combinations Closed End Connector Splices (Continued)

Wire Combinations	Splash-proof	Sealed	Wire Combinations	Splash-proof	Sealed	Wire Combinations	Splash-proof	Sealed
1 # 12 + 2 # 16 + 1 # 18	SGRP-3	SGRS-3	4 # 14 + 1 # 16	SGRP-4	SGRS-4	1 # 18 + 5 # 20	SGRP-2	SGRS-2
1 # 12 + 2 # 16 + 2 # 18	SGRP-3	SGRS-3	4 # 14 + 2 # 16	SGRP-4	SGRS-4	2 # 18	SGRP-1	SGRS-1
1 # 12 + 3 # 16	SGRP-3	SGRS-3	5 # 14	SGRP-4	SGRS-4	2 # 18 + 1 # 22	SGRP-1	SGRS-1
1 # 12 + 4 # 16	SGRP-3	SGRS-3	5 # 14 + 1 # 16	SGRP-4	SGRS-4	2 # 18 + 1 # 20	SGRP-2	SGRS-2
1 # 12 + 5 # 16	SGRP-4	SGRS-4	1 # 16 + 3 # 18	SGRP-3	SGRS-3	2 # 18 + 2 # 20	SGRP-2	SGRS-2
1 # 12 + 1 # 14 + 1 # 18	SGRP-3	SGRS-3	1 # 16 + 2 # 18 + 2 # 20	SGRP-3	SGRS-3	2 # 18 + 3 # 20	SGRP-2	SGRS-2
1 # 12 + 1 # 14 + 2 # 18	SGRP-3	SGRS-3	1 # 16 + 5 # 20	SGRP-3	SGRS-3	2 # 18 + 4 # 20	SGRP-3	SGRS-3
1 # 12 + 1 # 14 + 3 # 18	SGRP-3	SGRS-3	1 # 16 + 2 # 20	SGRP-2	SGRS-2	3 # 18	SGRP-2	SGRS-2
1 # 12 + 1 # 14 + 1 # 16	SGRP-3	SGRS-3	6 # 16	SGRP-3	SGRS-3	3 # 18 + 1 # 20	SGRP-2	SGRS-2
1 # 12 + 1 # 14 + 2 # 16	SGRP-3	SGRS-3	5 # 16 + 1 # 18	SGRP-3	SGRS-3	3 # 18 + 2 # 20	SGRP-3	SGRS-3
1 # 12 + 1 # 14 + 3 # 16	SGRP-4	SGRS-4	5 # 16 + 1 # 20	SGRP-3	SGRS-3	3 # 18 + 3 # 20	SGRP-3	SGRS-3
1 # 12 + 1 # 14 + 4 # 16	SGRP-4	SGRS-4	5 # 16	SGRP-3	SGRS-3	4 # 18	SGRP-2	SGRS-2
1 # 12 + 2 # 14	SGRP-3	SGRS-3	4 # 16 + 2 # 18	SGRP-3	SGRS-3	4 # 18 + 1 # 20	SGRP-3	SGRS-3
1 # 12 + 2 # 14 + 1 # 18	SGRP-3	SGRS-3	4 # 16 + 1 # 18 + 1 # 20	SGRP-3	SGRS-3	4 # 18 + 2 # 20	SGRP-3	SGRS-3
1 # 12 + 2 # 14 + 1 # 16	SGRP-4	SGRS-4	4 # 16 + 1 # 18	SGRP-3	SGRS-3	5 # 18	SGRP-3	SGRS-3
1 # 12 + 2 # 14 + 2 # 16	SGRP-4	SGRS-4	4 # 16 + 2 # 20	SGRP-3	SGRS-3	5 # 18 + 1 # 20	SGRP-3	SGRS-3
1 # 12 + 2 # 14 + 3 # 16	SGRP-4	SGRS-4	4 # 16 + 1 # 20	SGRP-3	SGRS-3	6 # 18	SGRP-3	SGRS-3
1 # 12 + 3 # 14	SGRP-4	SGRS-4	4 # 16	SGRP-3	SGRS-3	1 # 20 + 1 # 22	SGRP-1	SGRS-1
1 # 12 + 3 # 14 + 1 # 16	SGRP-4	SGRS-4	3 # 16 + 3 # 18	SGRP-3	SGRS-3	1 # 20 + 2 # 22	SGRP-1	SGRS-1
1 # 12 + 4 # 14	SGRP-4	SGRS-4	3 # 16 + 2 # 18 + 1 # 20	SGRP-3	SGRS-3	1 # 20 + 3 # 22	SGRP-1	SGRS-1
2 # 12	SGRP-4	SGRS-4	3 # 16 + 2 # 18	SGRP-3	SGRS-3	1 # 20 + 4 # 22	SGRP-1	SGRS-1
2 # 12 + 1 # 18	SGRP-3	SGRS-3	3 # 16 + 1 # 18 + 2 # 20	SGRP-3	SGRS-3	2 # 20	SGRP-1	SGRS-1
2 # 12 + 1 # 16	SGRP-3	SGRS-3	3 # 16 + 1 # 18 + 1 # 20	SGRP-3	SGRS-3	2 # 20 + 1 # 22	SGRP-1	SGRS-1
2 # 12 + 1 # 16	SGRP-3	SGRS-3	3 # 16 + 1 # 18	SGRP-3	SGRS-3	2 # 20 + 2 # 22	SGRP-1	SGRS-1
2 # 12 + 2 # 16 + 1 # 18	SGRP-4	SGRS-4	3 # 16 + 3 # 20	SGRP-3	SGRS-3	2 # 20 + 3 # 22	SGRP-1	SGRS-1
2 # 12 + 3 # 16	SGRP-4	SGRS-4	3 # 16 + 2 # 20	SGRP-3	SGRS-3	3 # 20	SGRP-1	SGRS-1
2 # 12 + 1 # 14 + 1 # 18	SGRP-4	SGRS-4	3 # 16 + 1 # 20	SGRP-3	SGRS-3	3 # 20 + 1 # 22	SGRP-1	SGRS-1
2 # 12 + 1 # 14 + 1 # 16	SGRP-4	SGRS-4	3 # 16	SGRP-2	SGRS-2	4 # 20	SGRP-2	SGRS-2
3 # 12 + 1 # 14	SGRP-4	SGRS-4	2 # 16 + 4 # 18	SGRP-3	SGRS-3	5 # 20	SGRP-2	SGRS-2
2 # 12 + 2 # 14	SGRP-4	SGRS-4	2 # 16 + 3 # 18 + 1 # 20	SGRP-3	SGRS-3	6 # 20	SGRP-2	SGRS-2
3 # 12 + 1 # 18	SGRP-4	SGRS-4	2 # 16 + 3 # 18	SGRP-3	SGRS-3	3 # 22	SGRP-1	SGRS-1
3 # 12 + 1 # 16	SGRP-4	SGRS-4	2 # 16 + 2 # 18 + 2 # 20	SGRP-3	SGRS-3	4 # 22	SGRP-1	SGRS-1
1 # 14 + 1 # 22	SGRP-1	SGRS-1	2 # 16 + 2 # 18 + 1 # 20	SGRP-3	SGRS-3	5 # 22	SGRP-1	SGRS-1
1 # 14 + 1 # 20	SGRP-2	SGRS-2	2 # 16 + 2 # 18	SGRP-3	SGRS-3	6 # 22	SGRP-1	SGRS-1
1 # 14 + 2 # 20	SGRP-2	SGRS-2	—	—	—	—	—	—

Application by Cable Type



1/C Power Cable (Up to 1000V)

	Application(s)*	Product(s)	Heat-Shrink (HS)	Cold-Applied (CA)
 	<ul style="list-style-type: none"> Sealed in-line splices Terminal lug seals Insulation Jacket repair 	WCSM FCSM	(HS) (HS)	
  	<ul style="list-style-type: none"> Sealed in-line splices Insulation Jacket repair Terminal lug seals UF underground feeder cable splice 	MWTM RNF-100 GelWrap closure sleeve GILS closure RVS	(HS) (HS)	(CA) (CA) (CA)
	<ul style="list-style-type: none"> Submersible secondary BUS connectors 	GelWrap UF closure sleeve GelPort connector		(CA) (CA)
  	<ul style="list-style-type: none"> Sealed motor connections 2- or 3-wire stub splices 	MCK GelCap splice cover GelCap SL splice cover RVC	(HS)	(CA) (CA) (CA)
	<ul style="list-style-type: none"> Insulation and jacket repair General wraparound sealing 	CRSM MBSM GelWrap splice cover GWRS	(HS) (HS)	(CA) (CA)
 	<ul style="list-style-type: none"> Wraparound, sealed cable Tap splices 	CRSM-CT GHFC MW GHFC GTAP	(HS)	(CA) (CA) (CA)
	<ul style="list-style-type: none"> End seals for storage and pulling Sealing of live ends (up to 1000V) 	ESC RVC	(HS)	(CA)
 	<ul style="list-style-type: none"> Wire and cable marking Labels Hardware and Software 	Identification Solutions		
	<ul style="list-style-type: none"> Installation of heat-shrink products 	Propane torches Heat guns		
	<ul style="list-style-type: none"> Sealing of uncoated tubing 	Sealing mastics		
	<ul style="list-style-type: none"> Duct sealing 	RDSS		
	<ul style="list-style-type: none"> Airport lighting kit 	ALK	(HS)	
	<ul style="list-style-type: none"> Cable breakout boots Network protector sealing 	CBR CBR-NPB	(HS) (HS)	
	<ul style="list-style-type: none"> Cabinet feed through seals 	CFTS	(HS)	
	<ul style="list-style-type: none"> Cable prep kit 	P-63		

Low-Voltage Tubing and Wraparound Sleeves



General Purpose Cable Accessories (1000 V)

Tyco Electronics offers a complete line of Raychem brand general purpose heat-shrinkable and cold-applied power cable accessories that consistently provide outstanding mechanical protection, complete moisture sealing, and excellent electrical insulation for a broad range of low voltage applications.

Heat-Shrink Products

Raychem invented heat-shrinkable products in 1959 and the Raychem brand continues to be the world leader in heat-shrink technology and design. With Tyco Electronics, our heat-shrink products continue to be upgraded and improved to provide the best performance and value possible.

Rugged Mechanical Protection—Every Time

The tough, abrasion-resistant, cross-linked polyolefin construction of Tyco Electronics general-purpose products provides mechanical protection equal to the cable jacket. In addition, the one-piece solid protective layer cannot unravel or slip off.

Watertight Seals—Every Time

Most heat-shrinkable products are coated with a high-performance adhesive that melts and flows when heated, forming a durable bond that seals out water and dirt.

General purpose sealants are also available for use with uncoated tubings and other moisture-sealing applications.

Superior Electrical Insulation—Every Time

Heat-shrinkable products not only conform tightly to the connection, but they are also pre-engineered to shrink consistently to the required insulation thickness.



Cold-Applied Products

Cold-applied products offer superior sealing and electrical insulation. Our revolutionary PowerGel sealant provides the best and quickest cold-applied seal. By combining the properties of solids and liquids, PowerGel sealant conforms to intricate shapes to completely seal out water and contaminants.



Low-Voltage Tubing and Wraparound Sleeves

Material Properties

Test Method		WCSM Heavy Wall	FCSM Heavy Wall, Flame-Retardant	MWTM Medium Wall	RNF-100 Thin Wall	CRSM Wrap-Around
Physical						
Tensile strength	ASTM D 412	1750 psi min.	1750 psi min.	2000 psi min.	1500 psi min.	2450 psi min.
Ultimate elongation	ASTM D 412	350% min.	350% min.	350% min.	200% min.	350% min.
Accelerated aging (168 hrs at 150°32°C)	ASTM D 2671					
Tensile strength	ASTM D 412	1750 psi min.	1600 psi min.	2000 psi min.		2000 psi min.
Ultimate elongation	ASTM D 412	350% min.	200% min.	300% min.		300% min.
Low-temperature flexibility (4 hrs. at temp. indicated)	ASTM D 2671	No cracking (-55°C)	No cracking (-40°C)	No cracking (-40°C)	No cracking (-55°C)	No cracking (-40°C)
Flammability	ASTM D 2671				Self-extinguishing (60 sec max.)	

Electrical

Dielectric strength	ASTM D 149	430 V/mil min. (at 0.04 inch)	330 V/mil min. (at 0.10 inch)	500 V/mil min. (at 0.04 inch)	500 V/mil min.	500 V/mil min. (at 0.04 inch)
Volume resistivity	ASTM D 257	1 x 10 ¹² ohm-cm min.	1 x 10 ¹³ ohm-cm min.	1 x 10 ¹² ohm-cm min.	1 x 10 ¹⁴ ohm-cm min.	1 x 10 ¹² ohm-cm min.

Chemical

Resistance to liquids	ASTM D 543	X	X	X		X
Tensile strength	ASTM D 412	1450 psi min.	1600 psi min.	2000 psi min.	1000 psi min.	2000 psi min.
Ultimate elongation	ASTM D 412	300% min.	300% min.	300% min.		300% min.
Corrosive effect (16 hours at 150°32°C)	ASTM D 2671	No corrosion			No corrosion at 175°C	
Fungus resistance	ASTM G 21	Pass rating 1	Pass rating 1	Pass rating 1	Pass rating 1	Pass rating 1

Technical Specifications

ANSI C119.1-1986		X	X			X
UL 486D-1986		X				
UL Standard 224					X	
CSA 22.2		X			X	
Western Underground Guide 2.5		X				
MIL-I-23053/15, Class 1 & 2					X	
Flame-retardant per IEEE 383, ICEA-S-19-81			X			

Note: Blank space indicates that property was not measured during product qualification.

Low-Voltage Tubing and Wraparound Sleeves

Material Properties

Physical	Test Method	MCK	ESC	CBR
Tensile strength	ASTM D 412	1450 psi min.	1750 psi min.	1500 psi min.
Ultimate elongation	ASTM D 412	300% min.	200% min.	300% min.
Accelerated aging (168 hours at temperature indicated)	ASTM D 2671			
Tensile strength	ASTM D 412	1000 psi min. (175°32°C)	1750 psi min. (150°32°C)	1250 psi min. (150°32°C)
Ultimate elongation	ASTM D 412	200% min. (175°32°C)	200% min. (150°32°C)	100% min. (150°32°C)
Low-temperature flexibility (4 hours at -40°33°C)	ASTM D 2671	No cracking	No cracking	No cracking
Flammability	ASTM D 635	Self-extinguishing (120 sec. max.)		

Electrical

Dielectric strength (at .075 inch)	ASTM D 149	250 V/mil min.	200 V/mil min.	250 V/mil min.
Volume resistivity	ASTM D 257	1×10^{12} ohm-cm min.	1×10^{12} ohm-cm min.	1×10^{12} ohm-cm min.

Chemical

Resistance to liquids, transformer oil to VDE O370 (168 hours at 23°32°C)	ASTM D 543			
Tensile strength	ASTM D 412	1150 psi min.	1750 psi min.	1250 psi min.
Ultimate elongation	ASTM D 412	240% min.	200% min.	240% min.
Corrosive effect(16 hours at 175°32°C)	ASTM D 2671	No corrosion		
Resistance to fungi	ASTM G 21	Pass rating 1	Pass rating 1	Pass rating 1

Technical Specifications

ANSI C119.1-1986		X	X	
Flame-retardant per IEEE 383, ICEA-S-19-81		X		

Note: Blank space indicates that property was not measured during product qualification.

Material Properties

Physical	Test Method	S1052	S1085	S1171	S1174	S1251
Softening point	ASTM E 28	70°C min.		140°C min.	140°C min.	
Adhesive peel strength:						
Polyethylene		1 lb/in min.	5.5 lb/in min.		5 lb/in min.	6 lb/in min.
Steel		2 lb/in min.			5 lb/in min.	
Aluminum			4.4 lb/in min.			
Copper			4.4 lb/in min.			
Low-temperature flexibility (4 hours at temperature indicated)	ASTM D 2671	No cracking (-40°C/33°C)	No cracking (-30°C/32°C)		No cracking (-40°C/33°C)	No cracking (-40°C/33°C)

Electrical

Dielectric strength min.	ASTM D 149 (0.04 inch)	300 V/mil min.	200 V/mil min.	200 V/mil min.	300 V/mil min.	300 V/mil
Volume resistivity	ASTM D 257	1×10^{12} ohm-cm min.	1×10^{12} ohm-cm min.	1×10^{12} ohm-cm min.	1×10^{12} ohm-cm min.	1×10^{12} ohm-cm min.
Tracking and erosion resistance	ASTM D 2303		No tracking or erosion to top surface or flame failure after: 1 hr at 2.00 kV 1 hr at 2.25 kV 1 hr at 2.50 kV			

Chemical

Corrosive effect (16 hours at 121°32°C)	ASTM D 2671	No corrosion		No corrosion	No corrosion	
Fungus resistance	ASTM G 21	Pass rating 1			Pass rating 1	

Note: Blank space indicates that property was not measured during product specification.

Low-Voltage Tubing and Wraparound Sleeves

Material Properties

Physical	Test Method	S1052	S1085	S1171	S1174	S1251
Softening point	ASTM E 28	70°C min.		140°C min.	140°C min.	
Adhesive peel strength:						
Polyethylene		1 lb/in min.	5.5 lb/in min.		5 lb/in min.	6 lb/in min.
Steel		2 lb/in min.			5 lb/in min.	
Aluminum			4.4 lb/in min.			
Copper			4.4 lb/in min.			
Low-temperature flexibility (4 hours at temperature indicated)	ASTM D 2671	No cracking (-40°C/33°C)	No cracking (-30°C/32°C)		No cracking (-40°C/33°C)	No cracking (-40°C/33°C)

Electrical

Dielectric strength min.	ASTM D 149 (0.04 inch)	300 V/mil min.	200 V/mil min.	200 V/mil min.	300 V/mil min.	300 V/mil
Volume resistivity	ASTM D 257	1 x 10 ² ohm-cm min.	1 x 10 ² ohm-cm min.	1 x 10 ² ohm-cm min.	1 x 10 ² ohm-cm min.	1 x 10 ² ohm-cm min.
Tracking and erosion resistance	ASTM D 2303		No tracking or erosion to top surface or flame failure after: 1 hr at 2.00 kV 1 hr at 2.25 kV 1 hr at 2.50 kV			

Chemical

Corrosive effect (16 hours at 121°/32°C)	ASTM D 2671	No corrosion		No corrosion	No corrosion	
Fungus resistance	ASTM G 21	Pass rating 1			Pass rating 1	

Note: Blank space indicates that property was not measured during product specification.

PowerGel Testing	Test Methods	S.I. Units	Imperial Units
Dielectric strength (4 mm/016 inch wall thickness)		40 kV/cm min.	100 V/mil min.
Volume Resistivity		1 x 10 ² Ohm cm min.	1 x 10 ² Ohm cm min.
Resistance to Liquids Chemicals: 1 N na2SO4 0,1 N NaOH; 0, 1 N NaCl; 0, 1 NH2SO4; Distilled water; Ethylene Glycol	ASTM D543 modified: 10.0 cm x 1.0 cm x 0.4 cm, test bar supported on wire mesh, 24 hours immersion, IPA rinse after immersion, 24 hr. drying	No visible cracking, max. 2% weight change, 80% retention of elongation and tensile strength	No visible cracking, max. 2% weight change, 80% retention of elongation and tensile strength
Corrosive Effect	ASTM D2671	No corrosion	No corrosion
Resistance to Fungi 4.5 cm diameter x 0.4 cm thickness petridish	ISO 846	Pass rating 1 or less	Pass rating 1 or less
UV Resistance 10.0 cm x 1.0 cm x 0.4 cm test bar, UVB 313; 250 cycles (2000 hrs); 4 hours UV at 60°C then 4 hours at 50°C with condensation	ISO 4892/3	80% tensile strength retention, no visible cracking	80% tensile strength retention, no visible cracking

Termination



Tyco Electronics' proven oil-sealing technology has been used for more than 18 years in medium-voltage transition joints. This technology is now put to work in our PILC termination kits.

Reliable, Field-Proven Performance

Independent testing and field experience have repeatedly proven the long-term stability, durability, and reliability of the Tyco Electronics' Raychem HVT system, even in highly polluted environments. The nontracking, insulating outer jacket can withstand the rigors of long-term electrical stress and surface pollution without loss of performance. The nontracking material offers the additional benefit of being maintenance free, with no need for periodic cleaning. Extensive load cycle testing verifies the long-term thermomechanical compatibility between the termination system and the cable.

Ease of Installation

HVT kits can be installed on all cable types without special adapters or accessories. No special tooling or connectors are required since HVT kits accept all common compression or terminal lugs. The HVT installation method also provides generous cable cutback and component positioning tolerances, further reducing installation variability. Heat-shrinking allows the kits to be easily inspected, either visually or by simple touch, to help ensure proper installation.

Always Ready for the Job-Even in Emergencies

HVT kits have an unlimited shelf life. They remain ready to use on short notice, so you have no worries about scrapping aged inventory or being caught with useless products during an emergency or on a time-critical project.

Flexible and Versatile

An HVT system may be installed upright or inverted and can bend to the same bending radius as the cable. Slim and lightweight, the system can also be mounted directly to fuse cutouts or other devices, eliminating the cost of additional supporting brackets and cross arms.

46 and 69 kV

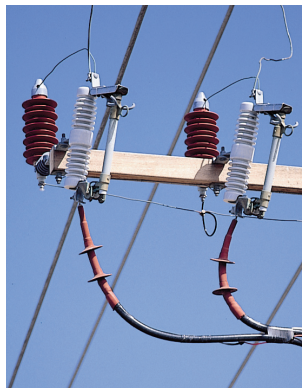
At voltages as high as 69 kV the need for proven stress control is even more important. The materials used in our 46 and 69 kV terminations (as with all lower voltages) are suitable for severely polluted areas—and for all installation conditions, including top feed installation.

The material is designed to be resistant to impact damage from transportation or vandalism, a typical problem for heavy, inflexible porcelain products. Tyco Electronics' Raychem brand 46/69 kV terminations also require no compound filling which can leak over time.

Cold-Applied Termination System

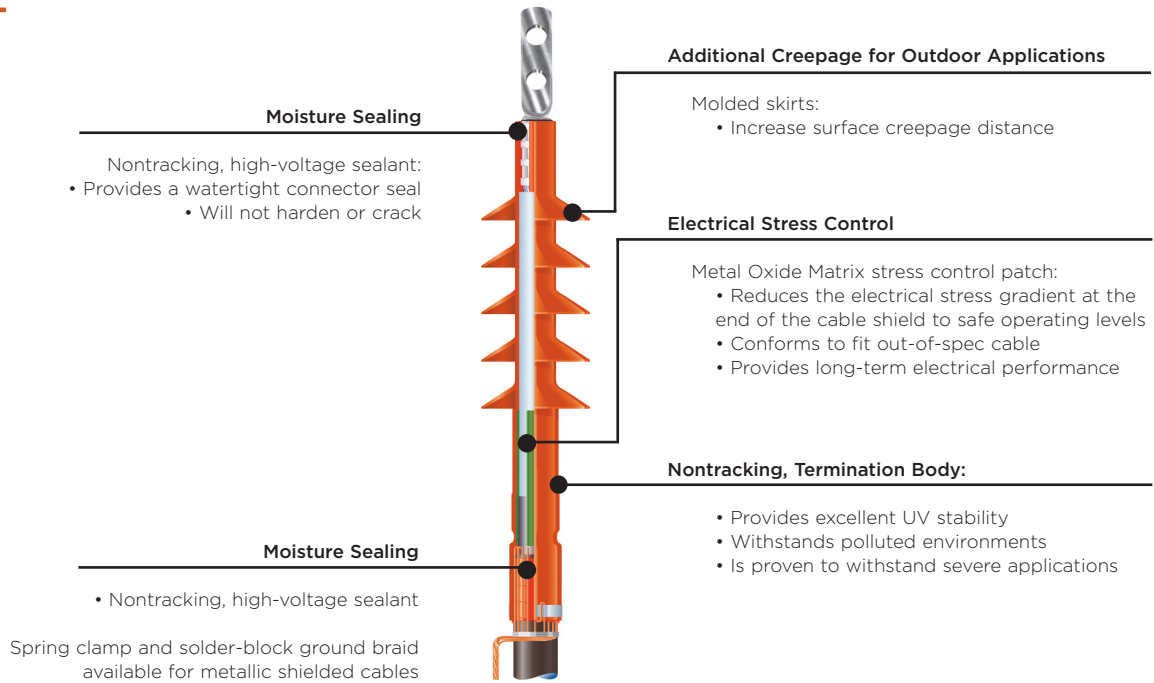
TFT terminations are designed for customers who want Tyco Electronics material technology in a cold-applied system. The cold-applied terminations also provide positive positioning of the stress control patch.

Tyco Electronics' Raychem brand HVT system features a nontracking, insulating surface that can withstand long-term electrical stress and surface pollution.



Termination

TFT



Termination

TFT Testing Data

These terminations are fully qualified per IEEE-48 as Class 1 terminations to provide a long, trouble-free service life. These terminations incorporate Tyco Electronics material technology in a cold-applied system. These terminations have a silicone elastomeric tubing that is formulated for long-term performance in typical extreme termination environments. The non-tracking material is maintenance-free and does not require periodic cleaning.

This series of products feature the latest in advanced stress control systems using Metal Oxide Matrix technology to provide superior electrical performance.

Tyco Electronics Products: Voltage Class

Test Description	TFT (5 - 8 kV)	TFT (15 kV)*	TFT (25 kV)	TFT (35 kV)
AC withstand, 1 minute, (kV)	35	50	65	90
DC withstand, 15 minutes, (kV)	65	75	105	140
Partial discharge (min. kV) for 5 pC or less	9	13	21.5	30
Impulse withstand 1.2 x 50 Qs, crest kV (outdoor)	95	110	150	200
Wet withstand, 10 seconds, kV rms	30	45	60	80
Dry withstand, 6 hours, kV rms	25	35	55	75

**With or without sheds*



1583608-2	140	1443402-9	16	83592-7	24	AMP-0-0036160-0	5
1099898-1	15	1443403-1	16	83592-8	24	AMP-0-0052936-0	7
1099898-2	15	1443403-2	16	83592-9	24	AMP-0-0055785-1	7
1099898-3	15	1443403-3	16	83623-1	25	AMP-0-0055792-1	7
1099898-4	15	1443403-4	16	83623-2	25	AMP-0-0055793-1	7
1099898-5	15	1443403-5	16	83623-3	25	AMP-0-0066024-2	6
1099898-6	15	1443403-6	16	83623-4	25	AMP-0-0640903-1	6
1099898-7	15	1443403-7	16	83623-5	25	AMP-0-0640905-1	6
1099898-8	15	1443403-8	16	83623-6	25	AMPS-0-0031886-0	5
1099898-9	15	1443403-9	16	83623-7	25	AMPS-0-0031894-0	5
1099899-1	15	1490490-1	141	83623-8	25	AMPS-0-0032053-0	6
1099899-2	15	1490496-2	142	83623-9	25	AMPS-0-0032054-0	6
1099899-3	15	1490496-3	142	83630-1	25	AMPS-0-0032060-0	6
1099899-4	15	1490530-1	140	83630-2	25	AMPS-0-0032588-0	6
1099899-5	15	1490531-1	140	83630-3	25	AMPS-0-0032589-0	6
1099899-6	15	1490532-1	140	83630-4	25	AMPS-0-0034142-0	5
1099899-7	15	1490533-1	140	83630-5	25	AMPS-0-0034145-0	5
1099899-8	15	1583236-2	140	83630-6	25	AMPS-0-0034146-0	5
1099899-9	15	1583694-2	140	83630-7	25	AMPS-0-0034150-0	5
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1099939-3	15	1-83592-2	24	83631-1	25	AMPS-0-0034158-0	5
1099939-4	15	1-83592-3	24	83631-2	25	AMPS-0-0034160-0	5
1099939-5	15	1-83623-0	25	83631-3	25	AMPS-0-0034161-0	5
1099939-6	15	1-83623-1	25	83631-4	25	AMPS-0-0034162-0	5
1099939-7	15	1-83623-2	25	83631-5	25	AMPS-0-0034166-0	6
1099939-8	15	1-83623-3	25	83631-6	25	AMPS-0-0034167-0	6
1099939-9	15	1-83623-4	25	83631-7	25	AMPS-0-0034168-0	5
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1-1099898-3	15	1-83623-8	25	83747-2	27	AMPS-0-0034854-0	5
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1-1099899-3	15	1-83631-4	25	83748-4	27	AMPS-0-0036152-0	5
1-1099899-4	15	1-83631-5	25	83749-1	27	AMPS-0-0036154-0	5
1-1099899-5	15	1-83631-6	25	83749-2	27	AMPS-0-0052041-3	5
1-1099899-6	15	1-83631-7	25	83749-3	27	AMPS-0-0052042-3	5
1-1099899-7	15	1-83631-8	25	83749-4	27	AMPS-0-0052043-2	5
1-1099899-8	15	1-83631-9	25	83750-1	27	AMPS-0-0052043-3	5
1-1099899-9	15	2060-NPS	127	83750-2	28	AMPS-0-0052263-1	5
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1-1099939-3	15	3090-NPS	128	83751-4	28	AMPS-0-0052931-0	7
1-1099939-4	15	314974-1	8			AMPS-0-0052935-0	7
1-1099939-5	15	350 MCM Cutter	141			AMPS-0-0052937-0	7
1-1443402-0	16	4-Pair Tester	140	A		AMPS-0-0052941-0	7
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1-1443402-2	16	55823-1	8	AA-105	124	AMPS-0-0052943-0	7
1-1443402-3	16	605742-1	141	AA-105HA	124	AMPS-0-0052945-0	7
1-1443402-4	16	605744-1	141	AA-105M	124	AMPS-0-0052949-0	7
1-1443402-5	16	6060-VPS	129	AA-105W	124	AMPS-0-0052950-0	7
1-1443402-6	16	608028-1	8	AA-1068	124	AMPS-0-0052955-0	7
1-1443402-7	16	6090-VPS	129	AA-1068M	124	AMPS-0-0052956-0	7
1-1443403-0	16	6090-VPS-UL	129	AA-1068W	124	AMPS-0-0052957-0	7
1-1443403-1	16	696201-1	142	AA-305	124	AMPS-0-0052963-0	7
1-1443403-2	16	734185-1	141	AA-LS	124	AMPS-0-0053242-1	7
1-1443403-3	16	734587-1	142	AD-1358-LPG-REGW/GAGE	139	AMPS-0-0053247-1	7
1-1443403-4	16	790162-1	142	AD-1432-ACDIOFT-LPG-HOSE	139	AMPS-0-0066023-2	6
1-1443403-5	16	80408-2	26	AD-1434-ACD30FT-LPG-HOSE	139	AMPS-0-0066025-2	6
1-1443403-6	16	80408-3	26	AD-1460-ACD-HEAT-		AMPS-0-0320559-0	7
1-1443403-7	16	80408-4	26	SHLDGPA	139	AMPS-0-0320562-0	7
1375317-1	141	80408-5	26	AD-1563-ADAPTER	139	AMPS-0-0320565-0	5
1375479-1	142	80408-6	26	AD-3015-04	139	AMPS-0-0320570-0	7
1443402-1	16	80408-7	26	ALK-L823	94	AMPS-0-0320619-0	5
1443402-2	16	83000-1	26	AM-1-A	132	AMPS-0-0320665-0	6
1443402-3	16	83592-1	24	AM-1-A-NB	132	AMPS-0-0321045-0	5
1443402-4	16	83592-2	24	AM-2-A	132	AMPS-0-0321233-0	6
1443402-5	16	83592-3	24	AM-2-A-NB	132	AMPS-0-0322985-0	6
1443402-6	16	83592-4	24	AMP-0-0035559-0	6	AMPS-0-0322994-0	6
1443402-7	16	83592-5	24			AMPS-0-0500000-1	59
1443402-8	16	83592-6	24			AMPS-0-0500001-1	59

AMPS-0-0500002-1	59	CPGI-1546310-8	32	CPGI-8-34541-1	6	CPGI-B-106-8401-BULK	10
AMPS-0-0640907-1	6	CPGI-1-552678-2	67	CPGI-8-35108-1	5	CPGI-B-106-8502-BULK	10
AMR3030.2-120V	132	CPGI-1-553017-2	67	CPGI-8-35109-1	5	CPGI-B-1401-BULK	9
AMR3030.3-120V	132	CPGI-1811027-1-Bulk	13	CPGI-8-35110-1	5	CPGI-B-1402-BULK	9
AMR3030.3-240V	132	CPGI-1811027-1-K100	13	CPGI-8-35149-2	5	CPGI-B-1403-BULK	9
ASBS-2-3/0	18	CPGI-1811027-1-K25	13	CPGI-8-35559-1	6	CPGI-BUCH-1-1437381-0	47
ASBS-2-350	18	CPGI-1811027-1-K6	13	CPGI-8-36152-1	5	CPGI-BUCH-1-1437381-6	47
ASBS-2-350	18	CPGI-1811027-2-Bulk	13	CPGI-8-36154-1	5	CPGI-BUCH-1-1437381-7	40
ASBS-3/0-500	18	CPGI-1811027-2-K100	13	CPGI-8-36160-1	5	CPGI-BUCH-1-1437382-2	47
ASBS-3/0-500	18	CPGI-1811027-2-K25	13	CPGI-8-52929-1	7	CPGI-BUCH-1-1437382-3	47
ASBS-350-750	18	CPGI-1811027-2-K6	13	CPGI-8-52930-1	7	CPGI-BUCH-1-1437390-2	40
ASBS-350-750	18	CPGI-2008144-1-BULK	12	CPGI-8-52931-1	7	CPGI-BUCH-1-1437390-4	40
ASBS-500-750	18	CPGI-2008144-1-K20	12	CPGI-8-52936-1	7	CPGI-BUCH-1-1437395-4	41
ASBS-500-750	18	CPGI-2008144-1-K50	12	CPGI-8-52941-2	7	CPGI-BUCH-1-1437397-0	45
ASBS-600-1000	18	CPGI-2008144-1-K6	12	CPGI-8-52942-1	7	CPGI-BUCH-1-1437397-2	45
ASBS-600-1000	18	CPGI-2008152-1-BULK	12	CPGI-8-52943-1	7	CPGI-BUCH-1-1546310-0	32
AT-15	123	CPGI-2008152-1-K50	12	CPGI-8-52945-2	7	CPGI-BUCH-1-1546310-1	32
AT-168	123	CPGI-2008152-1-K6	12	CPGI-8-52949-1	7	CPGI-BUCH-1-1546310-2	32
AT-19	123	CPGI-2008535-1-BULK	12	CPGI-8-52950-1	7	CPGI-BUCH-1-1546310-3	32
AT-20	123	CPGI-2008535-1-K2	12	CPGI-8-52955-1	7	CPGI-BUCH-1-1546310-4	32
AT-30	123	CPGI-2008836-2-BULK	12	CPGI-8-52957-1	7	CPGI-BUCH-1-1546310-5	32
AT-368	123	CPGI-2008836-2-K2	12	CPGI-8-52963-2	7	CPGI-BUCH-1-1546310-6	32
AT-39	123	CPGI-208169-2	21	CPGI-8-53242-5	7	CPGI-BUCH-1-1546310-8	32
Automatic Wire Stripper	141	CPGI-208169-2-Bulk	21	CPGI-8-53247-1	7	CPGI-BUCH-1-1546311-0	32
		CPGI-53440-7	20	CPGI-8-55785-1	7	CPGI-BUCH-1-1546311-1	32
		CPGI-53440-7-Bulk	20	CPGI-8-55792-1	7	CPGI-BUCH-1-1546311-2	32
		CPGI-53440-9	20	CPGI-8-55793-2	7	CPGI-BUCH-1-1546311-3	32
		CPGI-53440-9-Bulk	20	CPGI-8-640903-1	6	CPGI-BUCH-1-1546311-4	32
		CPGI-552795-2	67	CPGI-8-640905-1	6	CPGI-BUCH-1-1546311-5	32
		CPGI-5-554374-7	67	CPGI-8-640907-1	6	CPGI-BUCH-1-1546311-6	32
		CPGI-569224-1	68	CPGI-ALR-2090-NPS	127	CPGI-BUCH-1-1546311-7	32
		CPGI-569224-1-K	68	CPGI-ALR-AA-105	124	CPGI-BUCH-1-1546311-8	32
		CPGI-569661-1	68	CPGI-ALR-AA-105W	124	CPGI-BUCH-1-1776294-0	33
		CPGI-569661-1-K	68	CPGI-ALR-AA-305	124	CPGI-BUCH-1-1776294-1	33
		CPGI-66023-2	6	CPGI-ALR-CFL-FL	130	CPGI-BUCH-1-1776294-2	33
		CPGI-66024-6	6	CPGI-ALR-CFL-LP	130	CPGI-BUCH-1-1776297-0	34
		CPGI-66025-2	6	CPGI-ALR-LC-120	125	CPGI-BUCH-1-1776297-1	34
		CPGI-735411	20	CPGI-ALR-LC-208-277	125	CPGI-BUCH-1-1776297-2	34
		CPGI-735411-Bulk	20	CPGI-ALR-OLC-5C	130	CPGI-BUCH-1-1776310-0	36
		CPGI-7-52935-1	7	CPGI-ALR-PL-120S	130	CPGI-BUCH-1-1776310-1	36
		CPGI-7-52937-1	7	CPGI-ALR-PT-15	123	CPGI-BUCH-1-1776310-2	36
		CPGI-7-52956-1	7	CPGI-ALR-SPT-15	123	CPGI-BUCH-1-1776311-0	36
		CPGI-8-31886-1	5	CPGI-ALR-TL-115	124	CPGI-BUCH-1-1776311-1	36
		CPGI-8-31894-1	5	CPGI-B-106-1501-6	9	CPGI-BUCH-1-1776311-2	36
		CPGI-8-32053-1	6	CPGI-B-106-1501-BULK	9	CPGI-BUCH-1-1776319-0	35
		CPGI-8-32054-1	6	CPGI-B-106-1502-5	9	CPGI-BUCH-1-1776319-1	35
		CPGI-8-320559-2	7	CPGI-B-106-1502-BULK	9	CPGI-BUCH-1-1776319-2	35
		CPGI-8-320562-5	7	CPGI-B-106-1503-5	9	CPGI-BUCH-1437381-1	47
		CPGI-8-320565-1	5	CPGI-B-106-1503-BULK	9	CPGI-BUCH-1437381-4	47
		CPGI-8-320570-2	7	CPGI-B-106-1601-BULK	9	CPGI-BUCH-1437381-5	37
		CPGI-8-32060-1	6	CPGI-B-106-1602-BULK	9	CPGI-BUCH-1437381-8	47
		CPGI-8-320619-1	5	CPGI-B-106-1603-BULK	9	CPGI-BUCH-1437382-2	47
		CPGI-8-320665-1	6	CPGI-B-106-1801-BULK	9	CPGI-BUCH-1437382-3	47
		CPGI-8-321045-1	5	CPGI-B-106-1802-BULK	9	CPGI-BUCH-1437382-6	47
		CPGI-8-321233-1	6	CPGI-B-106-1803-BULK	9	CPGI-BUCH-1437390-8	40
		CPGI-8-322985-2	6	CPGI-B-106-1991-BULK	9	CPGI-BUCH-1437390-9	40
		CPGI-8-322994-1	6	CPGI-B-106-1992-BULK	9	CPGI-BUCH-1437395-3	41
		CPGI-8-32588-2	6	CPGI-B-106-1993-BULK	9	CPGI-BUCH-1437396-7	43
		CPGI-8-32589-2	6	CPGI-B-106-2401-6	9	CPGI-BUCH-1437396-8	43
		CPGI-8-34142-1	5	CPGI-B-106-2401-Bulk	9	CPGI-BUCH-1437396-9	43
		CPGI-8-34145-1	5	CPGI-B-106-2402-Bulk	9	CPGI-BUCH-1437397-1	45
		CPGI-8-34146-1	5	CPGI-B-106-2403-Bulk	9	CPGI-BUCH-1437397-2	45
		CPGI-8-34150-1	5	CPGI-B-106-2502-5	9	CPGI-BUCH-1437397-3	45
		CPGI-8-34155-1	6	CPGI-B-106-2502-Bulk	9	CPGI-BUCH-1437397-9	45
		CPGI-8-34156-1	6	CPGI-B-106-2503-5	9	CPGI-BUCH-14376397-5	45
		CPGI-8-34158-1	5	CPGI-B-106-2503-Bulk	9	CPGI-BUCH-1546143-1	38
		CPGI-8-34160-1	5	CPGI-B-106-3281-BULK	10	CPGI-BUCH-1546144-1	38
		CPGI-8-34161-1	5	CPGI-B-106-3481-BULK	10	CPGI-BUCH-1546147-1	38
		CPGI-8-34162-1	5	CPGI-B-106-3631-BULK	10	CPGI-BUCH-1546148-1	38
		CPGI-8-34166-1	6	CPGI-B-106-3632-BULK	10	CPGI-BUCH-1546163-1	39
		CPGI-8-34167-1	6	CPGI-B-106-3633-BULK	10	CPGI-BUCH-1546164-1	38
		CPGI-8-34168-2	5	CPGI-B-106-4631-BULK	10	CPGI-BUCH-1546234-1	38
		CPGI-8-34169-2	5	CPGI-B-106-4632-BULK	10	CPGI-BUCH-1546235-1	38
		CPGI-8-34170-1	5	CPGI-B-106-6201-BULK	10	CPGI-BUCH-1546310-2	32
		CPGI-8-34171-2	5	CPGI-B-106-7401-BULK	10	CPGI-BUCH-1546310-3	32
		CPGI-8-34176-1	6	CPGI-B-106-7502-BULK	10	CPGI-BUCH-1546310-4	32

CPGI-BUCH-1546310-5	32	CPGI-BUCH-4-1437393-0	47	CPGI-CTY-15-120-NAT-L	52	CPGI-GelWrap-UF-200	85
CPGI-BUCH-1546310-6	32	CPGI-BUCH-5-1437381-5	47	CPGI-CTY-16-120-LP-BLK-C	53	CPGI-GelWrap-UF-250UL	85
CPGI-BUCH-1546310-7	32	CPGI-BUCH-5-1437382-9	46	CPGI-CTY-16-120-LP-NAT-C	53	CPGI-GHFC-1-90	101
CPGI-BUCH-1546310-8	32	CPGI-BUCH-9-1437381-1	47	CPGI-CTY-16-120-MH-BLK-C	52	CPGI-GHFC-2-90	101
CPGI-BUCH-1546310-9	32	CPGI-BUCH-9-1437381-2	47	CPGI-CTY-16-120-MH-NAT-C	52	CPGI-GILS-4/0	86
CPGI-BUCH-1546311-2	32	CPGI-BUCH-9-1437381-5	47	CPGI-CTY-17-50-BLK-C	52	CPGI-GLOW-GUN	137
CPGI-BUCH-1546311-3	32	CPGI-BUCH-9-1437381-7	47	CPGI-CTY-17-50-NAT-C	52	CPGI-GLOW-TORCH	137
CPGI-BUCH-1546311-4	32	CPGI-BUCH-9-1437381-8	47	CPGI-CTY-18-120-BLK-L	52	CPGI-GTAP-1	99
CPGI-BUCH-1546311-5	32	CPGI-BUCH-9-1437381-9	47	CPGI-CTY-18-120-NAT-L	52	CPGI-GTAP-2	99
CPGI-BUCH-1546311-6	32	CPGI-CRPS-248	117	CPGI-CTY-22-250-BLK-C	52	CPGI-JM-BLA-07D100U	63
CPGI-BUCH-1546311-7	32	CPGI-CRSM-CT-34/10-150	92	CPGI-CTY-22-250-NAT-C	52	CPGI-JM-BLA-10D104U	63
CPGI-BUCH-1546311-8	32	CPGI-CTY-04-18-BLK-C	51	CPGI-CTY-24-120-BLK-L	52	CPGI-JM-BLA-12D148U	63
CPGI-BUCH-1546311-9	32	CPGI-CTY-04-18-BLK-M	51	CPGI-CTY-24-120-NAT-L	52	CPGI-JM-BLA-12D163U	63
CPGI-BUCH-1776294-1	33	CPGI-CTY-04-18-HL-C	54	CPGI-CTY-25-175-BLK-L	52	CPGI-JM-BLA-15D183U	63
CPGI-BUCH-1776294-2	33	CPGI-CTY-04-18-ID-NAT-C	55	CPGI-CTY-25-175-NAT-L	52	CPGI-JM-BLA-20D236U	63
CPGI-BUCH-1776294-3	33	CPGI-CTY-04-18-NAT-C	51	CPGI-CTY-28-120-BLK-L	52	CPGI-JM-BLA-25D296U	63
CPGI-BUCH-1776294-4	33	CPGI-CTY-04-18-NAT-M	51	CPGI-CTY-28-120-NAT-L	52	CPGI-JM-BLA-30D346U	63
CPGI-BUCH-1776294-5	33	CPGI-CTY-05-30-MH-BLK-C	52	CPGI-CTY-37-175-BLK-L	52	CPGI-JM-BLA-35D400N	63
CPGI-BUCH-1776294-6	33	CPGI-CTY-05-30-MH-NAT-C	52	CPGI-CTY-37-175-NAT-L	52	CPGI-JM-BLA-35D400U	63
CPGI-BUCH-1776294-7	33	CPGI-CTY-05-40-BLK-C	51	CPGI-CTY-48-175-BLK-L	52	CPGI-JM-BLA-50D402N	63
CPGI-BUCH-1776294-8	33	CPGI-CTY-05-40-BLK-M	51	CPGI-CTY-48-175-GRY-L	52	CPGI-JM-BLA-40D402U	63
CPGI-BUCH-1776294-9	33	CPGI-CTY-05-40-NAT-C	51	CPGI-CTY-48-175-NAT-L	52	CPGI-JM-BLA-40D402U-C	63
CPGI-BUCH-1776297-2	34	CPGI-CTY-05-40-NAT-M	51	CPGI-CTY-BM-BLK-C	57	CPGI-JM-BLA-50D500U	63
CPGI-BUCH-1776297-3	34	CPGI-CTY-05-50-RL-BLK-C	54	CPGI-CTY-CCL-125-BLK-C	58	CPGI-JM-BLA-50D535U	63
CPGI-BUCH-1776297-4	34	CPGI-CTY-05-50-RL-NAT-C	54	CPGI-CTY-CCL-125-NAT-C	58	CPGI-JM-BLA-60D637U	63
CPGI-BUCH-1776297-5	34	CPGI-CTY-06-18-BLK-C	51	CPGI-CTY-CCL2-1000-		CPGI-JM-BLA-80D816U	63
CPGI-BUCH-1776297-6	34	CPGI-CTY-06-18-NAT-C	51	BLK-C	58	CPGI-JM-BLA-HEXNUT	63
CPGI-BUCH-1776297-7	34	CPGI-CTY-07-50-BLK-C	51	CPGI-CTY-CCL2-1000-		CPGI-MCK-IV	98
CPGI-BUCH-1776297-8	34	CPGI-CTY-07-50-BLK-M	51	NAT-C	58	CPGI-MCK-2V	98
CPGI-BUCH-1776297-9	34	CPGI-CTY-07-50-HS-BLK-C	51	CPGI-CTY-CCL2-375-BLK-C	58	CPGI-PPMB-01	78
CPGI-BUCH-1776310-1	36	CPGI-CTY-07-50-ID-NAT-C	55	CPGI-CTY-CCL2-375-NAT-C	58	CPGI-PPMB-02	78
CPGI-BUCH-1776310-2	36	CPGI-CTY-07-50-LP-BLK-C	53	CPGI-CTY-CCL2-500-BLK-C	58	CPGI-PPMB-03	78
CPGI-BUCH-1776310-3	36	CPGI-CTY-07-50-LP-NAT-C	53	CPGI-CTY-CCL2-500-NAT-C	58	CPGI-PPMB-04	78
CPGI-BUCH-1776310-4	36	CPGI-CTY-07-50-MH-BLK-C	52	CPGI-CTY-CCL-250-BLK-C	58	CPGI-PPMB-05	78
CPGI-BUCH-1776310-5	36	CPGI-CTY-07-50-MH-NAT-C	52	CPGI-CTY-CCL-250-NAT-C	58	CPGI-PPMB-06	78
CPGI-BUCH-1776310-6	36	CPGI-CTY-07-50-NAT-C	51	CPGI-CTY-CCL2-750-BLK-C	58	CPGI-PPMB-07	78
CPGI-BUCH-1776310-7	36	CPGI-CTY-07-50-NAT-M	51	CPGI-CTY-CCL2-750-NAT-C	58	CPGI-PPMB-08	78
CPGI-BUCH-1776310-8	36	CPGI-CTY-07-50-PM-BLK-C	53	CPGI-CTY-IDP-1-NAT-C	58	CPGI-PPMB-09	78
CPGI-BUCH-1776310-9	36	CPGI-CTY-07-50-PM-NAT-C	53	CPGI-CTY-IDP-2-NAT-C	58	CPGI-PPMB-10	78
CPGI-BUCH-1776311-1	36	CPGI-CTY-07-50-PMW-		CPGI-CTY-LPM1-NAT-C	56	CPGI-PPMB-11	78
CPGI-BUCH-1776311-2	36	BLK-C	53	CPGI-CTY-MP-1000-BLK-C	55	CPGI-PPMB-12	78
CPGI-BUCH-1776311-3	36	CPGI-CTY-07-50-PMW-		CPGI-CTY-MP-1000-NAT-C	55	CPGI-PPMB-13	78
CPGI-BUCH-1776311-4	36	NAT-C	53	CPGI-CTY-MP-750-BLK-C	55	CPGI-PPMB-14	78
CPGI-BUCH-1776311-5	36	CPGI-CTY-08-18-BLK-C	51	CPGI-CTY-MP-750-NAT-C	55	CPGI-PPMB-15	78
CPGI-BUCH-1776311-6	36	CPGI-CTY-08-18-BLK-M	51	CPGI-CTY-PMW-NAT-C	57	CPGI-PPMB-16	78
CPGI-BUCH-1776311-7	36	CPGI-CTY-08-18-NAT-C	51	CPGI-CTY-SM1-BLK-C	57	CPGI-PPMB-20	78
CPGI-BUCH-1776311-8	36	CPGI-CTY-08-18-NAT-M	51	CPGI-CTY-SM1-NAT-C	57	CPGI-PPMB-21	78
CPGI-BUCH-1776311-9	36	CPGI-CTY-08-40-BLK-C	51	CPGI-CTY-SM2-BLK-C	57	CPGI-PPMB-22	78
CPGI-BUCH-1776319-1	35	CPGI-CTY-08-40-BLK-M	51	CPGI-CTY-SM2-NAT-C	57	CPGI-PPMD-0-9	78
CPGI-BUCH-1776319-2	35	CPGI-CTY-08-40-NAT-C	51	CPGI-CTY-WM-BLK-C	56	CPGI-PPMD-A-J	78
CPGI-BUCH-1776319-3	35	CPGI-CTY-08-40-NAT-M	51	CPGI-CWT-9002-15	11	CPGI-PPMD-NEMA	78
CPGI-BUCH-1776319-4	35	CPGI-CTY-08-50-HL-C	54	CPGI-CWT-9002-Bulk	11	CPGI-PPMDRF-0-9	78
CPGI-BUCH-1776319-5	35	CPGI-CTY-08-50-RL-BLK-C	54	CPGI-CWT-9003-12	11	CPGI-PPMDRF-A-J	78
CPGI-BUCH-1776319-6	35	CPGI-CTY-08-50-RL-NAT-C	54	CPGI-CWT-9003-Bulk	11	CPGI-PPMDRF-NEMA	78
CPGI-BUCH-1776319-7	35	CPGI-CTY-11-40-BLK-C	51	CPGI-CWT-9004-10	11	CPGI-RNF-100-1/16-48-BLK 107	
CPGI-BUCH-1776319-8	35	CPGI-CTY-11-40-NAT-C	51	CPGI-CWT-9004-Bulk	11	CPGI-RNF-100-1/2-	
CPGI-BUCH-1776319-9	35	CPGI-CTY-11-50-BLK-C	51	CPGI-CWT-9005-8	11	48-(color)	107
CPGI-BUCH-2-1437381-3	47	CPGI-CTY-11-50-BLK-D	51	CPGI-CWT-9005-Bulk	11	CPGI-RNF-100-1/2-6-	
CPGI-BUCH-2-1437382-6	46	CPGI-CTY-11-50-HS-BLK-C	51	CPGI-D-406-0001-10	9	(color)	107
CPGI-BUCH-2-1437392-1	37	CPGI-CTY-11-50-MH-BLK-C	52	CPGI-D-406-0001-Bulk	9	CPGI-RNF-100-1/2-6-ASRT	107
CPGI-BUCH-2-1437392-3	37	CPGI-CTY-11-50-MH-NAT-C	52	CPGI-D-406-0002-8	9	CPGI-RNF-100-1/4-	
CPGI-BUCH-2-1437392-5	37	CPGI-CTY-11-50-NAT-C	51	CPGI-D-406-0002-Bulk	9	48-(color)	107
CPGI-BUCH-2-1437393-4	47	CPGI-CTY-11-50-NAT-D	51	CPGI-D-406-0003-6	9	CPGI-RNF-100-1/4-6-	
CPGI-BUCH-2-1437397-0	45	CPGI-CTY-12-50-RL-BLK-C	54	CPGI-D-406-0003-Bulk	9	(color)	107
CPGI-BUCH-2-1437397-8	45	CPGI-CTY-12-50-RL-NAT-C	54	CPGI-ESC-1/A	112	CPGI-RNF-100-1/4-6-ASRT	107
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