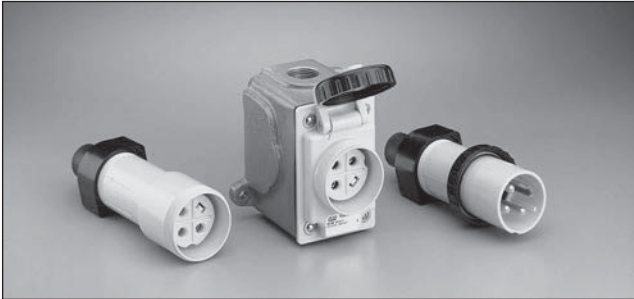


Dura-Gard® Nonmetallic Waterproof Connections

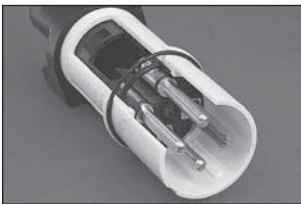
Washdown Duty, Chemical, Outdoor, Industrial and Marine Use Nonmetallic Plugs, Connectors Receptacles and Inlets – 20, 30 and 50 A, Maximum 600 VAC/250 VDC



The Next Generation: Dura-Gard®

Severe environments and high pressure washdown duty applications require durable, waterproof and safe connections. Russellstoll takes design reliability to new heights with Safety Grade™ standards for truly waterproof connectors. Many watertight specifications cover mated connections only. Dura-Gard® connectors are designed to be watertight mated or unmated, thus offering the ultimate waterproof connection. Dura-Gard® connectors are also UL94-V0 flame rated for safety and utilize a durable, efficient pin and sleeve contact design that is voltage polarized to meet NEC210-7 and OSHA standards. Dura-Gard® ... designed for maximum safety, durability and performance.

Dura-Gard® Features Make the Performance Difference



Not just “watertight”; Waterproof for Washdown Duty: DurORing™ Sealing

- Specifically designed for wet environments with our unique DurORing™ sealing system. Unit is watertight mated or unmated.
- Eliminates need for costly “weather boots” or “adapters”
- Compact Size
- “Lockout Ready” plugs have padlock access hole in front (30/50 A)



Durable, Tough and Flame Safety Rated Housings

- DuraV™ housing material specially selected for hot or cold washdown duty
- Flame Safe UL94-V0 rated housings
- Superior Performance in Corrosive Environments
- High Visibility yellow housings



Safe and Reliable Power Connections: Pin and Sleeve, Voltage Polarized

- Long Life: Round, Self Cleaning, Constant Pressure Pin and Sleeve Contacts, of Solid CDA 360 brass for long reliable electrical life
- More Power, Operates Cooler: large circular electrical contact area allows more current flow with lower temperature rise
- Ground Pin Keyed for Voltage Polarization (O-ring seal)



Easy To Wire

- “No twistoff” Locking Plugs™: Integral Threaded Screw Collars and Compression type Bushings make wiring a snap
- Fast Assembly and Wiring: “Drop-In” rear loaded interiors use no assembly screws, versus 3-5 or more with other connectors. 30/50 A connectors use unique EZ Tite™ external gland lock screw, also.

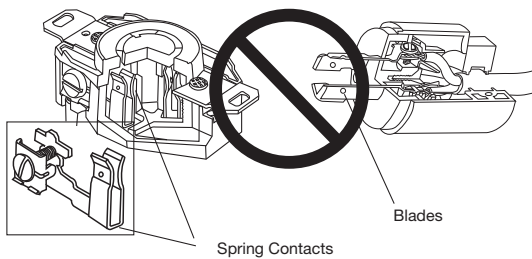
DuraGuard® Nonmetallic Waterproof Connections

Washdown Duty, Chemical, Outdoor, Industrial and Marine Use Nonmetallic Plugs, Connectors Receptacles and Inlets —
20, 30, 50 and 60 A, Maximum 600 VAC/250 VDC

Pin and Sleeve contact devices consist of round male pins that are inserted into tubular female sleeves. Current flows through a large pin-to-sleeve circular contact area. Because current is not restricted through point contact only, higher current flow and cooler operating temperatures are achieved in a compact connection. Wiping action during insertion or withdrawal provides positive self cleaning. Shrouded pins and sleeves are

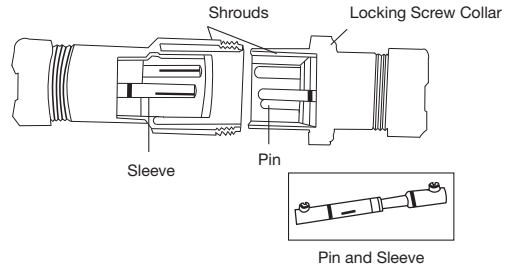
protected from physical damage or casual access and aid in polarization features of the line. The shroud and screw collar completely lock plugs to receptacles or connectors for a reliable connection. Step on the cord, kick or drop a plug — your connection will remain tight. Pin and Sleeve devices are the safety standard for high-current applications worldwide.

Bladed Plug and Receptacle



Spring blade contact designs offer point contact only, with minimal mechanical support in receptacles. Higher heat is generated in use as contacts loosen with age and dirt accumulation, resulting in failures. Exposed blade contacts can easily be damaged. Contacts are both the electrical and mechanical locking method. Pin and Sleeve design enables higher current flow at cooler temperatures due to large circular contact area.

Pin and Sleeve Connector and Plug



Sleeves act as retainers for the pins, making a reliable connection. Shrouded pins and sleeves are protected from damage and inadvertent access. Locking housing screw collars provide for a reliable, long-lasting connection with electrical contacts separate.



The Water Spray Test

1000-PSI water spray was directly applied at the face of Dura-Gard® receptacles. No damage occurred, and no water penetrated the housing or cord seal. Dura-Gard® plugs, connectors and receptacles are designed to withstand water spray test at 1000 PSI. No extra boots or adapters required.



Dura-Gard®: Designed For the Toughest Washdown Applications



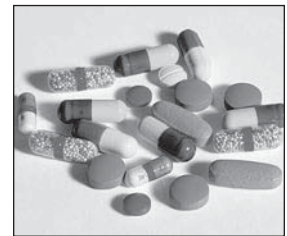
Pulp and Paper



Food Processing



Beverage and Bottling



Pharmaceutical Manufacturing

DuraGuard® Nonmetallic Waterproof Connections

Washdown Duty, Chemical, Outdoor, Industrial and Marine Use Nonmetallic Plugs, Connectors Receptacles and Inlets — 20, 30, 50 and 60 A, Maximum 600 VAC/250 VDC

20, 30, 50 and 60 A, 600 VAC 20 A, 250 VDC



NEC and National Electrical Code are registered trademarks of the National Fire Protection Association, Inc.

DuraGuard® Nonmetallic Waterproof Connections

Engineering Specifications

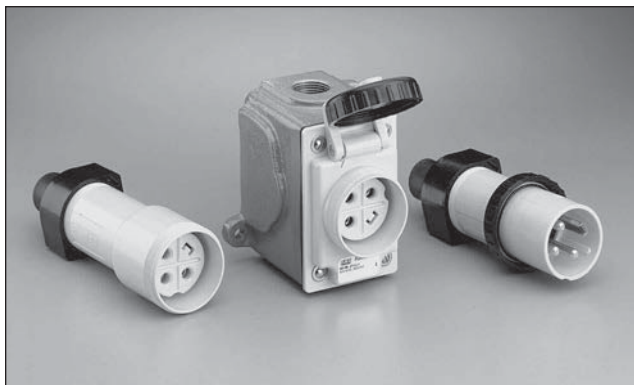
Washdown Duty, Chemical, Outdoor, Industrial and Marine Use Nonmetallic Plugs, Connectors Receptacles and Inlets – 20, 30 and 50 A, Maximum 600 VAC/250 VDC

Performance – Electrical

Dielectric Voltage Withstand	3000 V
Maximum Working Voltage	6000 V RMS (minimum voltage creepage and minimum clearance per UL 840)
Current Interrupting/ Load Breaking	UL listed and CSA certified for circuit interrupting at full rated current.
Temperature Rise	Max. 30°C temperature rise at full rated current after 50 cycles of overload at 150% rated current at .75-pf.s
Horsepower	Per NEC 430-151 ratings

Performance – Mechanical

Impact Resistance	Per UL 1682 Paragraph 34
Cord	Round portable service cords. 10
Accommodations	Standard diameters from 0.405 in. to 1.00 in., custom sizes to spec.
Terminal Identification	In accordance with UL, CSA and IEC 309 conventions
Cable Pull-Out Force	In accordance with UL 1682
Product Identification	Identification label and molded in name
Lockout/Tagout	Lockout/Tagout hole on plug complies with OSHA Reg. 29 CFR 1910.147



Performance – Environmental

Moisture Resistance	Per UL 1682 Paragraph 49. Watertight/flap screw cover on receptacle, O-Rings on all pins and sleeves, interiors and plug shell. Watertight even when not engaged.
Flammability	V0 or better per UL94
Operating Temperatures	Maximum Continuous: 95°C / 203°F Minimum: -40°C / -40°F w/o impact
Chemicals	Resists standard industrial hydrocarbons, acids, bases and solvents.

Materials

Contact Carrier	Molded arc-resistant UL94-V0 phenolic thermoset
Housing, Gland Nuts	DuraV™ UL94-V0, High Impact
Screw Collar Rings	Thermoplastic
O-Rings	Buna-N (Nitrile)
Contacts: Pins and Sleeves	Brass CDA 360
Hinge Pins (Receptacle) Terminals	Stainless Steel Brass CDA 360
Terminal Screws	Stainless Steel
Flap Springs	
Assembly Screws	
Nuts, Hardware	
Gland Friction Washer	20 A - Nylon 30 and 50 A - Aluminum
Cable Clamp Bushing	Neoprene

Approvals and Compliances



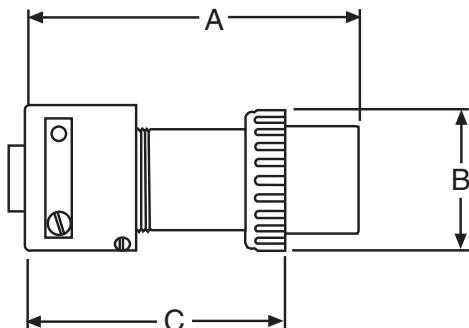
DuraGuard® Nonmetallic Waterproof Connections

A	Voltage Polarization	Safety Polarization (Receptacle)	Male Plug	Female Connector	Std. I.D. Bushing: Plug/Conn.	Female Receptacle	Female Plug	Male Receptacle		
2P3W 20 A	125 VAC		 9P23U1	 9C23U1	Standard 0.625 For Optional Sizes See p. E24	 9R23U1W	 9R23U1W	 9B23U1F		
	250 VAC		9P23U2	9C23U2		9R23U2W			9R23U2W	9B23U2F
	277 VAC		9P23U3	9C23U3		9R23U3W			9R23U3W	9B23U3F
	480 VAC		9P23U4	9C23U4		9R23U4W			9R23U4W	9B23U4F
	600 VAC		9P23U5	9C23U5		9R23U5W			9R23U5W	9B23U5F
	thru 600 VAC/250 VDC		9P23U0	9C23U0		9R23U0W			9R23U0W	9B23U0F
2P3W 30 A	125 VAC		9P33U1	9C33U1	Standard 0.700 For Optional Sizes See p. E24	9R33U1W	9F33U1	9B33U1F		
	250 VAC		9P33U2	9C33U2		9R33U2W	9F33U2	9B33U2F		
	277 VAC		9P33U3	9C33U3		9R33U3W	9F33U3	9B33U3F		
	480 VAC		9P33U4	9C33U4		9R33U4W	9F33U4	9B33U4F		
	600 VAC		9P33U5	9C33U5		9R33U5W	9F33U5	9B33U5F		
	thru 600 VAC/3P3W		9P33U0	9C33U0		9R33U0W	9F33U0	9B33U0F		
2P3W 50 A	125 VAC		9P53U1	9C53U1	Standard 0.925 For Optional Sizes See p. E24	9R53U1W	9F53U1	9B53U1F		
	250 VAC		9P53U2	9C53U2		9R53U2W	9F53U2	9B53U2F		
	277 VAC		9P53U3	9C53U3		9R53U3W	9F53U3	9B53U3F		
	480 VAC		9P53U4	9C53U4		9R53U4W	9F53U4	9B53U4F		
	600 VAC		9P53U5	9C53U5		9R53U5W	9F53U5	9B53U5F		
	thru 600 VAC/3P3W		9P53U0	9C53U0		9R53U0W	9F53U0	9B53U0F		
3P4W 20 A	125/250 VAC		9P24U1	9C24U1	Standard 0.625 For Optional Sizes See p. E24	9R24U1W				
	250- 3ø VAC		9P24U2	9C24U2		9R24U2W				
	480 3ø VAC		9P24U4	9C24U4		9R24U4W				
	600 3ø VAC		9P24U5	9C24U5		9R24U5W				
	thru 600 VAC / 250 VDC		9P24U0	9C24U0		9R24U0W				
3P4W 30 A	125/250 VAC		9P34U1	9C34U1	Standard 0.750 For Optional Sizes See p. E24	9R34U1W	9F34U1	9B34U1F		
	250 3ø VAC		9P34U2	9C34U2		9R34U2W	9F34U2	9B34U2F		
	480 3ø VAC		9P34U4	9C34U4		9R34U4W	9F34U4	9B34U4F		
	600 3ø VAC		9P34U5	9C34U5		9R34U5W	9F34U5	9B34U5F		
	thru 600 VAC/4P4W		9P34U0	9C34U0		9R34U0W	9F34U0	9B34U0F		
3P4W 50 A	125/250 VAC		9P54U1	9C54U1	Standard 0.925 For Optional Sizes See p. E24	9R54U1W	9F54U1	9B54U1F		
	250 3ø VAC		9P54U2	9C54U2		9R54U2W	9F54U2	9B54U2F		
	480 3ø VAC		9P54U4	9C54U4		9R54U4W	9F54U4	9B54U4F		
	600 3ø VAC		9P54U5	9C54U5		9R54U5W	9F54U5	9B54U5F		
	thru 600 VAC/4P4W		9P54U0	9C54U0		9R54U0W	9F54U0	9B54U0F		

DuraGuard® Nonmetallic Waterproof Connections

Washdown Duty, Chemical, Outdoor, Industrial and Marine Use Nonmetallic Plugs, Connectors Receptacles and Inlets – 20, 30 and 50 A, Maximum 600 VAC/250 VDC

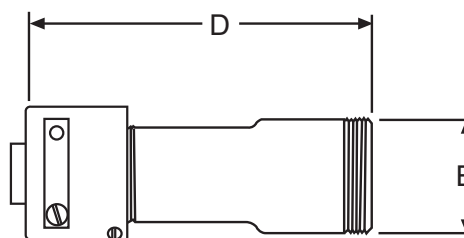
Plugs and Female Plugs (30/50 A only)



A		A*	B	C*	Max AWG	Terminal Ø in./mm
20 A	Inches mm	3.87 98.3	2.16 54.9	2.75 69.9	12	0.140/0.0055
30 A	Inches mm	5.385 136.6	2.38 60.5	4.16 105.7	8	0.235/0.0092
50 A	Inches mm	5.75 146.1	2.38 60.5	4.16 105.7	6	0.235/0.0092

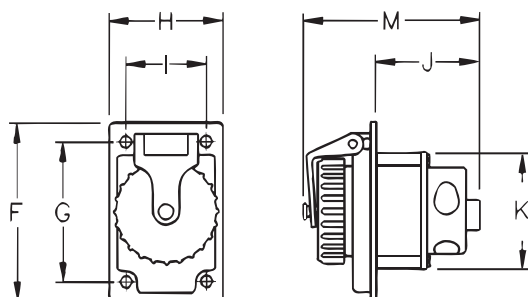
*Dimensions will vary slightly with assembly

Connectors



A		D	E	Max AWG	Terminal Ø in./mm
20 A	Inches mm	4.75 120.7	1.88 47.8	12	.140/.0055
30 A	Inches mm	6.25 158.8	2.13 54.1	8	.235/.0092
50 A	Inches mm	6.25 158.8	2.13 54.1	6	.235/.0092

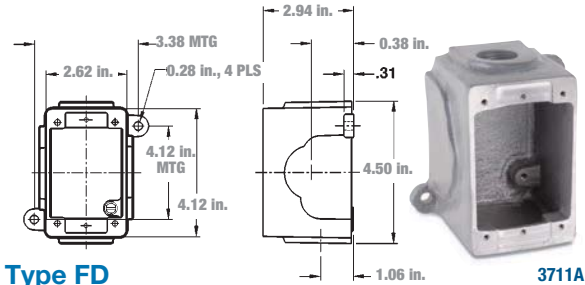
Receptacles and Male Receptacles (inlets – 30/50 A only)



Screw cover shown. Flap cover also available; no dimensional changes

A		F	G	H	I	J	K	M	Max. AWG	Terminal Ø in/mm
20 A	Inches mm	4.14 105.2	3.25 82.6	2.66 67.6	1.88 47.8	1.49 37.8	2.26 57.4	3.17 80.5	12	0.140/0.0055
30 A	Inches mm	4.14 105.2	3.25 82.6	2.66 67.6	1.88 47.8	2.44 62.0	2.71 68.8	4.12 104.6	8	0.235/0.0092
50 A	Inches mm	4.14 105.2	3.25 82.6	2.66 67.6	1.88 47.8	2.44 62.0	2.71 68.8	4.12 104.6	6	0.235/0.0092

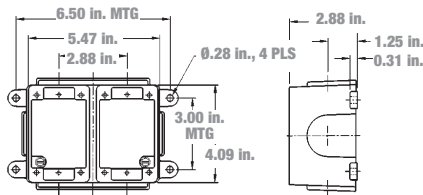
DuraGuard® Nonmetallic Waterproof Connections Accessories



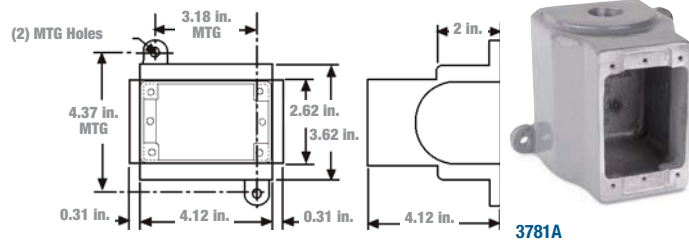
**Type FD
Conduit Boxes (For Surface Mounting)**

	Cast Aluminum	Cast Brass	Use with
Single	3711A	3731-RS	20 A
Double	3712A	3732-RS	30 A
DSFD	3781A	—	50 A

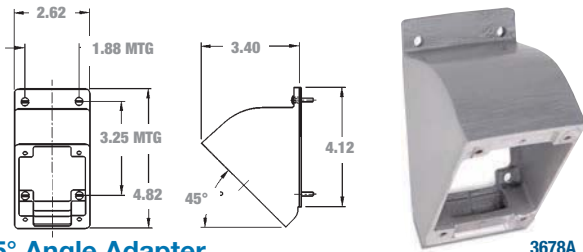
3/4 in. NPT Hole Std. Additional accessories are available.
Please consult your Regional Sales office



3712A



3781A



45° Angle Adapter

Cast Aluminum	Cast Brass
3678A	3678B



Conduit Adapter Kits (Plugs or Connectors)

Size (in.)	20 A	30 A	50 A	60 A
1/2	9X2C50	9X3C50	—	—
3/4	9X2C75	9X3C75	9X5C75	9X6C75
1	—	9X3C10	9X5C10	9X6C10



Replacement Caps

	20 A	30 A	50 A	60 A
Screw Cap (Connector)	9X2PSC	9X3PSC	9X5PSC	9X6PSC
Cup Cap (Plug)	—	F26874C	F26874C	F26874C
Screw Cap (Receptacle)	—	7X3RCW	7X5RCW	7X6RCW
Flap Cap (Receptacle)	—	7X3RCF	7X5RCF	7X6RCF

Cable Bushings



Max. Cable O.D. (in.)	20 A	30 and 50 A
0.375	C16984A	—
0.437	C16984B	—
0.500	C16984C	—
0.545	—	2000-11
0.562	C16984D	—
0.606	B16506	—
0.620	—	2000-03
0.625	B16524	—
0.700	—	2000-04
0.750	—	2000-01
0.800	—	2000-06
0.870	—	2000-02
0.925	—	2000-12
1.000	—	2000-05

(Minimum limit 85% of O.D. size for sealing.)
Material — Oil-resistant Neoprene.
State catalogue number followed by slash (/) and bushing code; example: 9P33U1/1000.

DuraGuard® Nonmetallic Waterproof Connections Accessories



Replacement Interiors

A	Voltage Polarization	Cat. No.	
		Male Interior Assembly	Female Interior Assembly
2P3W 20 A	125 VAC	9XM23U1	9XF23U1
	250 VAC	9XM23U2	9XF23U2
	277 VAC	9XM23U3	9XF23U3
	480 VAC	9XM23U4	9XF23U4
	600 VAC	9XM23U5	9XF23U5
	through 600 VAC/250 VDC	9XM23U0	9XF23U0
2P3W 30 A	125 VAC	9XM33U1	9XF33U1
	250 VAC	9XM33U2	9XF33U2
	277 VAC	9XM33U3	9XF33U3
	480 VAC	9XM33U4	9XF33U4
	600 VAC	9XM33U5	9XF33U5
	through 600 VAC/250 VDC	9XM33U0	9XF33U0
2P3W 50 A	125 VAC	9XM53U1	9XF53U1
	250 VAC	9XM53U2	9XF53U2
	480 VAC	9XM53U4	9XF53U4
	600 VAC	9XM53U5	9XF53U5
	through 600 VAC/250 VDC	9XM53U0	9XF53U0
3P4W 20 A	125/250 VAC	9XM24U1	9XF24U1
	3Ø 250 VAC	9XM24U2	9XF24U2
	3Ø 480 VAC	9XM24U4	9XF24U4
	3Ø 600 VAC	9XM24U5	9XF24U5
	through 600 VAC/250 VDC	9XM24U0	9XF24U0
3P4W 30 A	125/250 VAC	9XM34U1	9XF34U1
	3Ø 250 VAC	9XM34U2	9XF34U2
	3Ø 480 VAC	9XM34U4	9XF34U4
	3Ø 600 VAC	9XM34U5	9XF34U5
	through 600 VAC/250 VDC	9XM34U0	9XF34U0
3P4W 50 A	125/250 VAC	9XM54U1	9XF54U1
	3Ø 250 VAC	9XM54U2	9XF54U2
	3Ø 480 VAC	9XM54U4	9XF54U4
	3Ø 600 VAC	9XM54U5	9XF54U5
	through 600 VAC/250 VDC	9XM54U0	9XF54U0
2P3W 60 A	125 VAC	9XM63U1	9XF63U1
	250 VAC	9XM63U2	9XF63U2
3P4W 60 A	125/250 VAC	9XM64U1	9XF64U1
	3Ø 250 VAC	9XM64U2	9XF64U2

DuraGuard® Nonmetallic Waterproof Connections Safety Interlocks



The only nonmetallic, 22 kAIC, 30 A and 50 A Series circuit breaker interlocked receptacle available today!

Circuit Breaker Interlocked Outlet

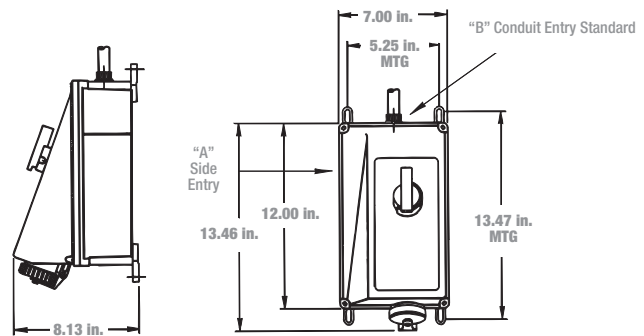
- 30 A and 50 A ranges and polarizations to 480 VAC
- 22 kA interrupt capacity breaker
- Easy handle reset after trip
- Auxiliary switch or other options

User Friendly – Flexible Mounting

- Variable footprint mounting tabs
- Compact size fits 8 in. standard I-beam webs
- Conduit entry from top, bottom or side (3/4 in., 1 in. or 1-1/4 in. NPT)

Flame Rated and DuraV™ Tough Housing

- UL 94-V0 housing and interior with stainless steel components
- High-impact thermoplastic housing
- NEMA 4X construction



AMPS	3P4W Examples Shown: Voltage Polarization	Cat. No.				
		Safety Interlock with Circuit Breaker	Circuit Breaker Trip Rating	Mating Plug	Rotary Controller	Replacement Interior
3P4W 30 A	125/250 VAC 30 250 VAC 30 480 VAC 30 600 VAC through 600 VAC/3P4W	9MT34U1W30B	30 A	9P34U1	9MI34U1WNAB	9XL34U1
		9MT34U2W30B		9P34U2	9MI34U2WNAB	9XL34U2
		9MT34U4W30B		9P34U4	9MI34U4WNAB	9XL34U4
		9MT34U5W30B		9P34U5	9MI34U5WNAB	9XL34U5
		9MT34U0W30B		9P34U0	9MI34U0WNAB	9XL34U0
		9MT34U1W50B		9P54U1	9MI54U1WNAB	9XL54U1
3P4W 50 A	125/250 VAC 30 250 VAC 30 480 VAC 30 600 VAC through 600 VAC/3P4W	9MT34U2W50B	50 A	9P54U2	9MI54U2WNAB	9XL54U2
		9MT34U4W50B		9P54U4	9MI54U4WNAB	9XL54U4
		9MT34U5W50B		9P54U5	9MI54U5WNAB	9XL54U5
		9MT34U0W50B		9P54U0	9MI54U0WNAB	9XL54U0
		9MT34U1W50B		9P54U1	9MI54U1WNAB	9XL54U1
		9MT34U2W50B		9P54U2	9MI54U2WNAB	9XL54U2

Add suffix — / xxxx for bushing I.D. (page E24) or conduit adapter assembled

▼ "W" suffix is watertight; "F" suffix for splash-proof spring flap cover

* Consult your Regional Sales Office

DuraGuard® Nonmetallic Waterproof Connections

Safety Interlocks Engineering Specifications

Washdown Duty, Chemical, Outdoor, Industrial and Marine Use Nonmetallic Plugs, Connectors Receptacles and Inlets – 20, 30 and 50 A, Maximum 600 VAC/250 VDC

Performance – Electrical

Dielectric Voltage Withstand	3000 V
Maximum Working Voltage	480 V RMS (minimum creepage distance and minimum clearance per UL 840) (using circuit breaker)
Current Interrupting/ Load Breaking	UL listed and CSA certified for Load circuit interrupting at full rated current.
Temperature Rise	Max. 30°C temperature rise at full rated current after 50 cycles of overload at 150% rated current at 0.75-pf.
Horsepower	Exceeds NEC 430-151 ratings (Circuit Breaker)

Performance – Mechanical

Impact Resistance	Per UL 1682 Paragraph 34
Wire Accommodations	Conduit Entries at top, side and bottom. .750" NPT top entry standard
Terminal Identification	In accordance with UL 1682 Identification
Plug Pull-Out Force	In accordance with UL 1682
Product Identification	Identification label
Lockout/Tagout	Lockout/Tagout hole on plug complies with OSHA Reg. 29 CFR 1910.147

Performance – Environmental

Moisture Resistance	Per UL 1682 Paragraph 49. Watertight/flap screw cover on receptacle, O-Rings on all pins and sleeves, interiors and plug shell. Watertight even when not engaged. (Screw cover closed / locked)
Flammability Operating Temperatures	VO or better per UL94 Maximum Continuous: 95°C / 203°F Minimum: -40°C / -40°F w/o impact (note: per circuit breaker trip curves at elevated temps.)
Chemicals	Resists standard industrial hydrocarbons, acids, bases and solvents.
UV Resistance	UV stabilized material

Materials

Contact Carrier	Molded arc resistant UL94-V0 thermoset material
Housing, Gland Nuts Screw Collar Rings	DuraV™ UL94-V0, High Impact Thermoplastic
O-Rings	Buna-N (Nitrile)
Contacts: Pins and Sleeves	Brass CDA 360
Hinge Pins (Receptacle) Terminals	Stainless Steel Brass CDA 360
Terminal Screws	Stainless Steel
Flap Springs Assembly Screws Nuts, Hardware	

Approvals and Compliances

