

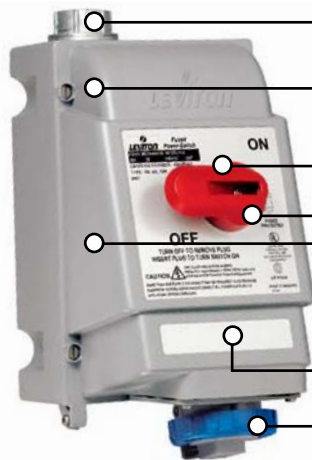
Powerswitch® Mechanical Interlocks — North American Rated

Powerswitch® Mechanical Interlock devices incorporate a safety disconnect switch and IEC receptacle in a non-metallic watertight enclosure. The interlock mechanism prevents making and breaking of power under load. The switch cannot be actuated to the ON position until an IEC compatible plug is fully inserted and the plug cannot be removed until the switch is in the OFF position. The complete IEC 60309-1 and 60309-2 system of plugs, connectors, inlets and mechanical interlock devices can be used for both retrofit and new installations for enhanced safety and performance in critical power connections.

Features and Benefits

- 20A, 30A, 60A non-fused and fused
- 100A non-fused and breakered
- Fused models accept “Class J” time-delay fuses
- Engineered to IP67 watertight and IP69K high-pressure, high-temperature washdown standards
- Backed by a limited 2-year warranty

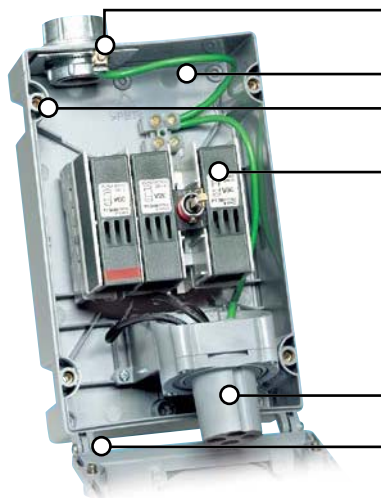
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- Liquid-tight conduit fitting can be installed for top or bottom feed. Conduit hub sold separately
- Stainless steel screws are captive and will not fall out when cover is opened
- Red “pistol grip” handle provides visual confirmation of switch’s status
- Integrated lockout handle meets OSHA safety regulations
- Impact, UV and chemical-resistant Valox® enclosure rated to UL and IEC watertight standards
 - Type 3R, 4X & 12K
 - IP67 & IP69K
- Circuit identification pad for identifying specific equipment loads
- Color-coded receptacle cover indicates voltage rating of device and seals against water and other contaminants when not in use

Valox® is a registered trademark of SABIC

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- Pre-wired grounding plate connects to metal conduit grounding system
- Generous wiring space for drip loop or top to bottom wiring
- Brass threaded inserts will not strip, provide higher torque, and form tighter seal between back box and cover
- Disconnect switch with integrated fuse holder offers proven performance in a compact package
 - Fused cartridges accept “Class J” fuses (not included)
 - One factory installed auxiliary contact (normally opened – 10 Amp). Additional auxiliary contact available
 - Easily accessible neutral and ground terminal blocks
- Pre-wired IEC receptacle accepts all manufacturer’s IEC 60309-2 plugs
- Rugged hinge mechanism pivots 180° for easy access during installation and maintenance

MECHANICAL INTERLOCKS

North American Watertight Breakered Mechanical Interlocks — 20A, 30A, 60A and 100A

Features and Benefits

- Enclosures are rated Type 3R, 4X & 12K, IP67 & IP69K
- Listed to UL 231 and 1686
- Certified to CSA Standard C22.2 number 182.1 and 14
- Classified to IEC Standards 60309-1 and 60309-2
- CE marking per low-voltage directives 73/23/EEC and 93/68/EEC
- Switches are listed to UL 60947-4-1 for non-fused and UL 98 for fused models (including 100A non-fused) and breakered models

4100MB9W

Stainless steel screws are captive and will not fall out when cover is opened

Red “pistol grip” handle provides visual confirmation of switch’s status: ON, OFF, TRIPPED

Integrated lockout handle meets OSHA safety regulations

Circuit identification pad for means of identifying specific equipment loads

Color-coded receptacle cover indicates voltage rating of device and seals against water and other contaminants when receptacle is not in use

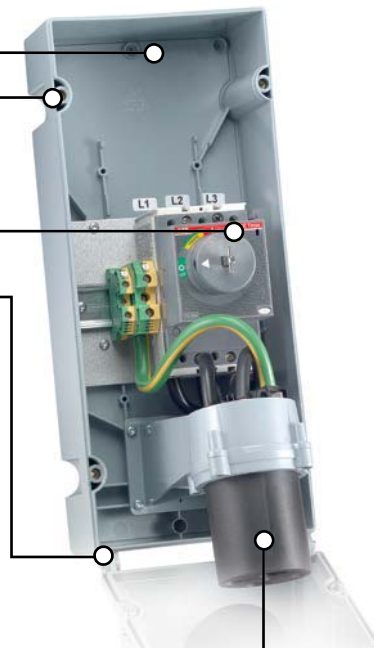
Generous wiring space for drip loop or top to bottom wiring

Brass threaded inserts resist stripping, provide higher torque, and form tighter seal between back box and cover

Circuit breaker integrated into switch provides overload protection

Rugged hinge mechanism pivots 180° for easy access during installation and maintenance

Liquid-tight conduit fitting can be installed for top or bottom feed. Four mounting feet and grounding plate included



Pre-wired IEC receptacle accepts all manufacturers’ IEC 60309-2 plugs

MECHANICAL INTERLOCKS | 20A and 30A
North American Watertight Mechanical Interlocks — Fused and Non-Fused

20A and 30A — Type 3R, 4X & 12K, IP67 & IP69K										
Amp	Wiring	Voltage AC	Color	Receptacle Config.	Plug Config.	Cat. No. Non-Fused Mech. Interlock	HP Rating	Cat. No. Fused Mech. Interlock	HP Rating	Cat. No. Use Plug
20	2p3w	240	Blue			320MI6W	3	—	—	320P6W
	2p3w	480	Red			320MI7W	5	—	—	320P7W
	3p4w	125/250	Orange			420MI12W	*	420MF12W	*	420P12W
	3p4w	3Ø240	Blue			420MI9W	10	420MF9W	5	420P9W
	3p4w	3Ø480	Red			420MI7W	20	420MF7W	10	420P7W
	3p4w	3Ø600	Black			420MI5W	25	420MF5W	15	420P5W
	4p5w	3ØY120/208	Blue			520MI9W	10	—	—	520P9W
	4p5w	3ØY277/480	Red			520MI7W	20	—	—	520P7W
	4p5w	3ØY347/600	Black			520MI5W	25	—	—	520P5W
30	2p3w	240	Blue			330MI6W	5	—	—	330P6W
	2p3w	480	Red			330MI7W	10	—	—	330P7W
	3p4w	125/250	Orange			430MI12W	*	430MF12W	*	430P12W
	3p4w	3Ø240	Blue			430MI9W	10	430MF9W	7.5	430P9W
	3p4w	3Ø480	Red			430MI7W	20	430MF7W	15	430P7W
	3p4w	3Ø600	Black			430MI5W	25	430MF5W	20	430P5W
	4p5w	3ØY120/208	Blue			530MI9W	10	—	—	530P9W
	4p5w	3ØY277/480	Red			530MI7W	20	530MF7W	15	530P7W
	4p5w	3ØY347/600	Black			530MI5W	25	530MF5W	20	530P5W

*Consult factory for your specific application

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420MF9W



560MI7W



5100MI9W

MECHANICAL INTERLOCKS | Performance Specifications

Performance Specifications for North American Watertight Mechanical Interlocks

Electrical			
Description	Device	Current Applied	Duration
Ground Path Integrity	20A	40A	2 min.
	30A	60A	2 min.
	60A	120A	4 min.
	100A	200A	6 min.
Current Interrupting	Certified for current interrupting at full-rated current and voltage		
Endurance	6000 operations at rated current and voltage (Power Factor 0.75 — 0.80)		
Dielectric	1000 V plus rated voltage for 1 minute		

Mechanical	
Description	Result
Mold Stress Relief	70°C for 7 hours
Crush	100 lb
Impact	1.2 lb steel ball dropped from 5 ft
Cold Impact	Same as above, after conditioning to -35°C
Strength of Insulating Base and Support	110% of specified tightening torque on terminal screws
Pullout	18 lb pull on internal wires

Environmental	
Description	Result
Flammability	No 0.6; V-0 for watertight enclosure
Rain (3R) per UL 50	Water spray @ 5 PSI from all sides for 1 hr
Hosedown (4X) per UL 50	Water spray @ 65 gal/minute for 5 minutes
Dust (12K) per UL 50	Cement Dust Circulated @ 1000 ft/minute for 5 minutes
Gasket Aging	70°C for 168 hours
UV Resistance	Exposed plastic materials are UV stabilized
Operating Temperature	-40°C to +60°C (-40°F to +140°F)

COLOR, NUMBERING & RATINGS | Clock Diagram

IEC 60309 Clock Diagram

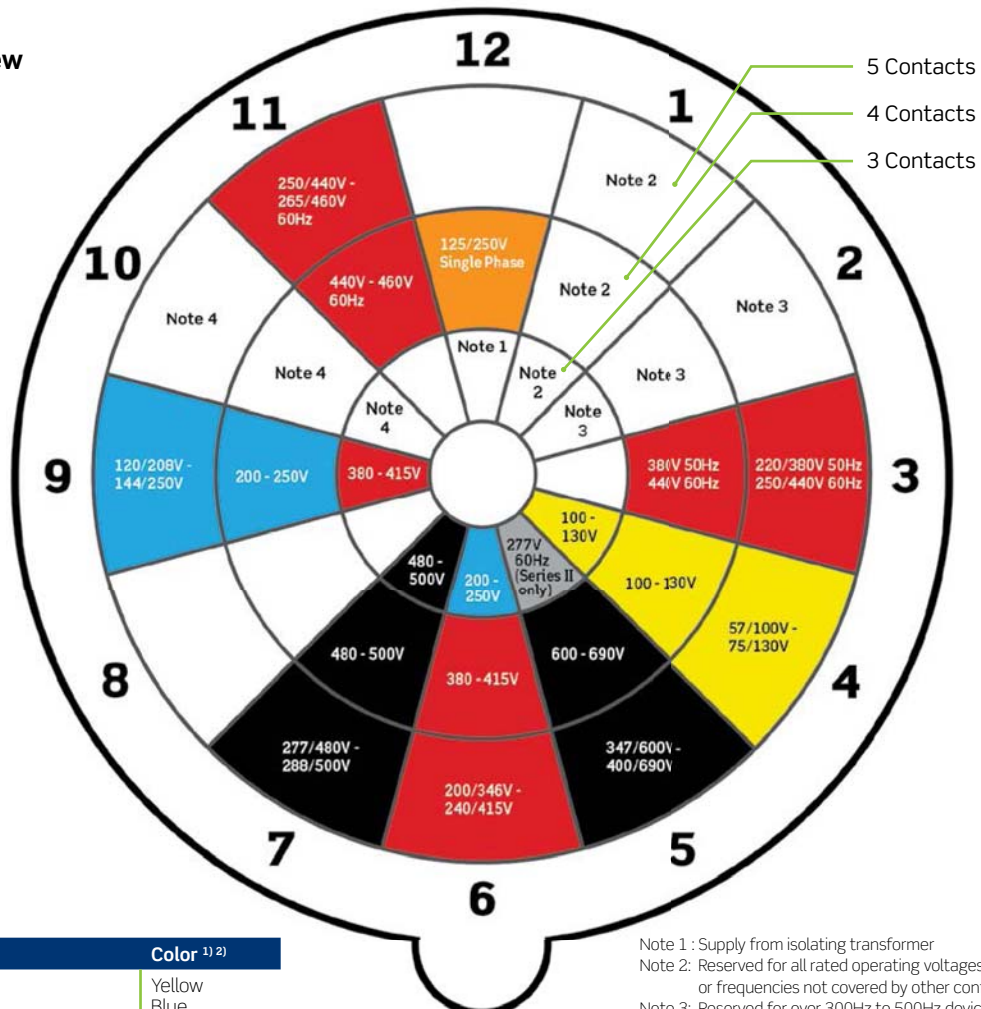
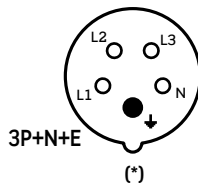
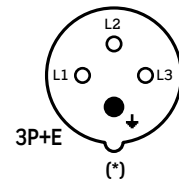
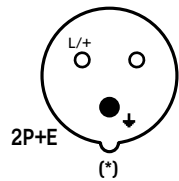
In order to prevent connecting devices to an incorrect power source, the IEC 60309 Standard specifies both physical attributes and marking requirements to prevent such mismatch. For example, different current ratings are distinguished by different diameters of the circular housing.

In addition to color coding (based on voltage specifications), voltage and frequency combinations are distinguished by the location of the ground pin relative to a keyway in the housing. The ground pin can be in one of twelve locations spaced at 30° intervals around the circle on which all the pins lie. The various positions are referenced from the view of the open side of a socket (or connector/receptacle); the 6 o'clock (180°) position is at the same angle as the keyway, and is oriented downwards. The ground pin also has a larger diameter than the other pins, preventing the wrong type of plug being inserted into a socket.

In order to summarize these differences, a “clock” type diagram is used for simplification. Below we have constructed a diagram that represents attributes of both Series I & II devices for voltages greater than 50VAC at frequencies of 50Hz and 60Hz.

Socket Front View

(*) Keyway



Rated Operating Voltage	Color ^{1) 2)}
100 to 130V	Yellow
200 to 250V	Blue
380 to 480V	Red
500 to 690V	Black

¹⁾ For frequencies over 60Hz up to and including 500Hz, the color Green may be used, if necessary, in combination with the color for the rated operating voltage.

²⁾ In countries where accessories of Series II current ratings are used, the color Orange is reserved for 125/250VAC and the color Gray is reserved for 277VAC accessories.

- Note 1 : Supply from isolating transformer
- Note 2: Reserved for all rated operating voltages and/or frequencies not covered by other configurations
- Note 3: Reserved for over 300Hz to 500Hz devices
- Note 4: Reserved for 100Hz to 300Hz devices

Catalog Numbering System

Leviton's catalog numbering system is easy to use. Each letter or number provides a description of the product. Simply follow the six-part code below, made up of letters and numbers. Each catalog number contains the number of conductors, amperage rating, device type, clock position of the ground sleeve, and environmental rating. For example, the catalog number below refers to a 3-wire, 20A receptacle with a grounding sleeve located at the 6 o'clock position and an environmental classification of watertight.

For North American (IEC 60309 Series II) Devices

3	20	R	6	W
1st digit	2nd-4th digit	Letter	Clock Position	Suffix
3 = 3 wire	20 = 20 Amp	P = Plug	4 = 4 hour	W = Watertight
4 = 4 wire	30 = 30 Amp	C = Connector	5 = 5 hour	
5 = 5 wire	60 = 60 Amp	R = Receptacle	6 = 6 hour	
	100 = 100 Amp	B = Inlet	7 = 7 hour	
		MI = Mechanical Interlock, Non-fused	9 = 9 hour	
		MF = Mechanical Interlock, Fused	12 = 12 hour	

For International (IEC 60309 Series I) Devices

S	4	16	-	C	11
Prefix	Poles (<u>Not</u> Wires)	3rd-5th digit	Dash	Letter	Clock Position
S = Splashproof	2 = 2 Pole	16 = 16 Amp	-	P = Plug	4 = 4 hour
W = Watertight	3 = 3 Pole	32 = 32 Amp	-	C = Connector	6 = 6 hour
	4 = 4 Pole	63 = 63 Amp	-	R = Receptacle (Flush Mount Socket Outlet)	9 = 9 hour
		125 = 125 Amp	-	S = Surface Mount Receptacle Socket Outlet	11 = 11 hour
				B = Inlet	