Cable Routing/Disconnect

MELTRIC Switch-Rated Plugs & Receptacles

Advantages

Exclusive Switch-Rated Safety

MELTRIC Switch-Rated devices enable you to easily comply with NEC/CEC and NFPA 70E/CSA Z462 requirements.

Our Switch-Rated plugs and receptacles combine the safety and functionality of a disconnect switch with the convenience of a plug and receptacle. Their exclusive design allows users to safely make and break connections under full load and provides significant protection in overload and short-circuit conditions.

Their dead-front design and enclosed arc chambers ensure that the load is safely disconnected, and that all live parts are isolated and inaccessible, before the plug can be removed. This design guarantees that users are protected from exposure to live parts and potential arc flash at all times while making and breaking connections.

Motor & Branch Circuit Switching

Our Switch-Rated devices are also UL and CSA rated for "motor circuit" and "branch circuit" disconnect switching and are an approved NEC/CSA "line of sight" disconnect switch. Models are available with ratings up to:

- 200 A for Branch Circuit Disconnect Switching
- 100 hp for Motor Circuit Disconnect Switching

Switch-Rated plugs and receptacles eliminate expensive and spacious non-fused disconnect switches and interlocks.

Short-Circuit Overload Protection

Our Switch-Rated plugs and receptacles are designed to provide short-circuit protection far in excess of what is required by the standards. They are rated to successfully close into and withstand short-circuit currents of up to **100 kA** when used in circuits protected by RK1 fuses. *(See page 19 for more information on ratings.)*

Our Switch-Rated plugs and receptacles provide safe and convenient plug & play connections and can be used as the "line of sight" disconnect switch for most inductive and resistive equipment. They are UL and CSA listed for use as:

a. a motor circuit disconnect switch

b. a branch circuit disconnect switch

c. a plug and receptacle

Our devices eliminate the need for mechanical interlocks and auxiliary non-fused disconnect switches.

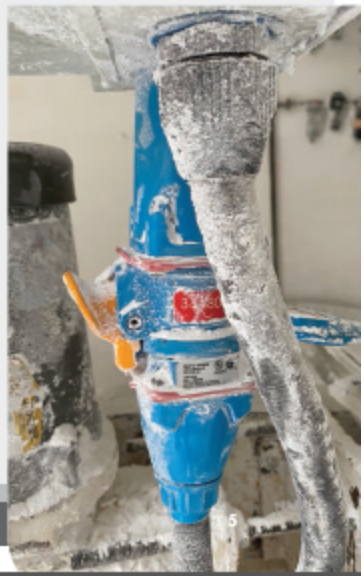
Their dead-front design also simplifies compliance with NFPA 70E and CSA Z462. The plug can only be removed from the receptacle after the load has been disconnected and the safety shutter has closed. This isolates the receptacle contacts and prevents an operator from ever being exposed to arcing or live parts. Removing the plug from the receptacle is a NFPA 70E defined normal operation that visually verifies the power is OFF and eliminates the need to wear cumbersome PPE and perform complex procedures.

Switch-Rated Safety Anywhere a Power Connection is Needed

The modular design and numerous mounting accessories of our Switch-Rated plugs and receptacles make it easy to configure them for use in a wide variety of applications. They can be used as in-line connectors/switches or mounted on wall boxes, distribution panels, or even directly on equipment.

Their modular design makes it simple to install them as "line of sight" disconnects exactly where they are needed. Plus, they eliminate the hassle of finding convenient mounting locations for spacious interlocks and auxiliary disconnect switches required with other connectors.

They make it easy to provide plug & play connections for all your mission-critical equipment. The switch-ratings and dead-front design of our devices make it easy for mechanics to safely break electrical connections, remove failed motors or other equipment, and quickly install pre-wired replacements.



Built For Thousands of Operations in the Harshest Environments

Our Switch-Rated devices' silver-nickel, butt-style contacts and patented, spring-assisted terminals have been performance tested for over 6,000 trouble-free operations with highly consistent electrical connections. Their contacts are backed by a best-in-industry, 5-year warranty.

Critical hardware is made of stainless steel to protect against the effects of corrosion. Reinforced polyester and aluminum alloy casings are used to provide excellent impact resistance as well as protection against UV radiation and most harsh chemicals found in typical industrial applications.

UNPRECENDENTED PERFORMANCE

To attain their UL/CSA switch-ratings, our Switch-Rated plugs and receptacles must pass electrical and mechanical endurance tests, horsepower/locked-rotor overload tests, and short-circuit make and withstand tests that far exceed the testing required of ordinary plugs and receptacles. In fact, the tests performed to achieve the devices' switch-ratings are the same electrical performance tests required of manual motor controllers and enclosed disconnect switches (UL 508 and UL 98 or CSA 22.2 No. 14 and 4 type devices).

The chart below compares the tests passed by MELTRIC devices to achieve their "Switch-Rated Plug and Receptacle" listings to the tests required for a standard pin and sleeve plug and receptacle listing.

Performance Testing Comparison

Test	MELTRIC Switch-Rated Plugs and Receptacles	Pin and Sleeve Plugs and Receptacles	
	UL Subject 2682 (used for both UL & CSA listings)	UL 1682 & CSA 22.2 No. 182.1	
	Motor Circuit/Branch Circuit Switching	Non-Current Interrupting	Current Interrupting
Temperature Rise	< 30°	< 30°	< 30°
Voltage Withstand	3,000 VAC for 1 Minute	1000V + 200% of Device Rating	1000V + 200% of Device Rating
Overload	250 Operations @ 150% of Rated Current (p.f. = .75 - .80)	3 Operations @ 150% of Rated Current (p.f. = .75 - .80)	50 Operations @ 150% of Rated Current (p.f. = .75 - .80)
Mechanical Endurance (Plus Required Electrical Operations)+	4,000 Cycles	15-20 A = 5000 Opns 21-63 A = 2000 Opns 64-250 A = 250 Opns	15-20 A = 0 Opns 21-63 A = 1000 Opns 64-250 A = 500 Opns
Electrical Endurance (With Load)	6,000 Operations @ Rated Current & Voltage (p.f. = .75 - .80)	–	15-20 A = 5000 Opns 21-63 A = 1000 Opns[1] 64-250 A = 250 Opns[1] @ Rated Current & Voltage (p.f. = .75-.80)
Overload - Locked Rotor (Horsepower Rated Devices)	50 Operations @ 600% of Motor FLA (p.f. = .40 - .50)	–	–
Short Circuit Withstand	≥ 65 kA* (600 V and ≤ .15 power factor)	–	–
Short Circuit Make	≥ 65 kA* (600 V and ≤ .15 power factor)	–	–

\+ Testing not required by Standard. MELTRIC conducted test for product performance verification.

1 Testing alternates between mechanical & electrical operations. This reduces the severity of the electrical test by allowing additional cooling time during electrical testing.

* DS200 tested at 10 kA. See page 19 for specific ratings and associated fusing for each model.

PRODUCT Selection Guide

MELTRIC SWITCH-RATED Models & Ratings

	DSN Series					DS Series					
Key Features	Compact, Type 4X					High Amperage, Metal or Poly Casings					
Model	20	30	60	100	150	20	30	60	100C	100	200
Branch Circuit Disconnect Switch Ratings (A.C. only)											
Amperage	20 A	30 A	60 A	100 A	150 A	20 A	30 A	60 A	100 A	100 A	200 A
Max VAC	600 V	600 V	600 V	600 V	600 V	600 V	600 V	600 V	600 V	600 V	600 V
Motor Circuit Disconnect Switch Ratings - Horsepower (A.C. only)											
120 V 1Ø	.75 hp	1 hp	2 hp	5 hp	7.5 hp	.75 hp	1.5 hp	3 hp	5 hp	3 hp	–
240 V 1Ø	2 hp	3 hp	3 hp	10 hp	20 hp	1.5 hp	3 hp	5 hp	10 hp	7.5 hp	–
208 V 3Ø	3 hp	5 hp	7.5 hp	20 hp	30 hp	3 hp	5 hp	10 hp	20 hp	10 hp	40 hp
240 V 3Ø	3 hp	5 hp	7.5 hp	20 hp	30 hp	5 hp	5 hp	10 hp	20 hp	10 hp	40 hp
480 V 3Ø	7.5 hp	10 hp	20 hp	50 hp	75 hp	7.5 hp	15 hp	25 hp	50 hp	30 hp	100 hp
600 V 3Ø	7.5 hp	15 hp	20 hp	50 hp	75 hp	10 hp	15 hp	25 hp	50 hp	–	100 hp
Short Circuit Closing & Withstand Ratings (A.C. only)											
S.C. Rating	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	100 kA	65 kA	10 kA
Fuse Type	RK1	RK1	RK1	RK1	RK1	RK1	RK1	RK1	RK1	RK1	RK1
Fuse Size	35 A	125 A	110 A	250 A	225 A	80 A	125 A	250 A	250 A	175 A	500 A
Casing Materials											
Standard	Poly	Poly	Poly	Poly/Metal	Poly/Metal	Poly	Poly	Poly/Metal	Poly/Metal	Poly/Metal	Metal
Environmental Ratings											
Type	4X	4X	4X	4X	4X	3R+	3R+	4X	4X	4X	4X
IP	69/69K	69/69K	69/69K	69/69K	69/69K	–	–	–	–	–	–
Temp. Max	140°F	140°F	140°F	140°F	140°F	140°F	140°F	140°F	140°F	140°F	140°F
Temp. Min	-40°F	-40°F	-40°F	-40°F	-40°F	-40°F	-40°F	-40°F	-40°F	-40°F	-40°F
Optional Auxiliary Contacts											
Max Number	2*	2	4	4	6	2	4	4	4	6	6
A@120 VAC	.60 A	6 A	6 A	6 A	1.5 A	6 A	6 A	6 A	6 A	1.5 A	1.5 A
A@240 VAC	.30 A	3 A	3 A	3 A	.75 A	3 A	3 A	3 A	3 A	.75 A	.75 A
A@480 VAC	–	1.5 A	1.5 A	1.5 A	.37 A	1.5 A	1.5 A	1.5 A	1.5 A	.37 A	.37 A
A@600 VAC	–	1.2 A	1.2 A	1.2 A	.30 A	1.2 A	1.2 A	1.2 A	1.2 A	.3 A	.3 A
Wiring Terminal Capacities - AWG THHN											
Phase – Max	12	8	4	2	2/0	8	4	2	2	2/0	4/0
Phase – Min	14	14	12	10	4	14	12	10	10	4	4
Aux – Max	18	14	14	14	14	14	14	14	14	14	14

+ Type 4X is available as an option

* Unlike other DSN and DS products, the DSN20 pilots are only on the receptacle side and create a continuity loop that is completed when a plug is connected to the receptacle