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Modular Toggle Operated Starter

Product Description

- The MS Motor Starter is a compact, versatile unit featuring heavy sliding contacts as well as “quick-make” and “quick-break” mechanism

Dimensions

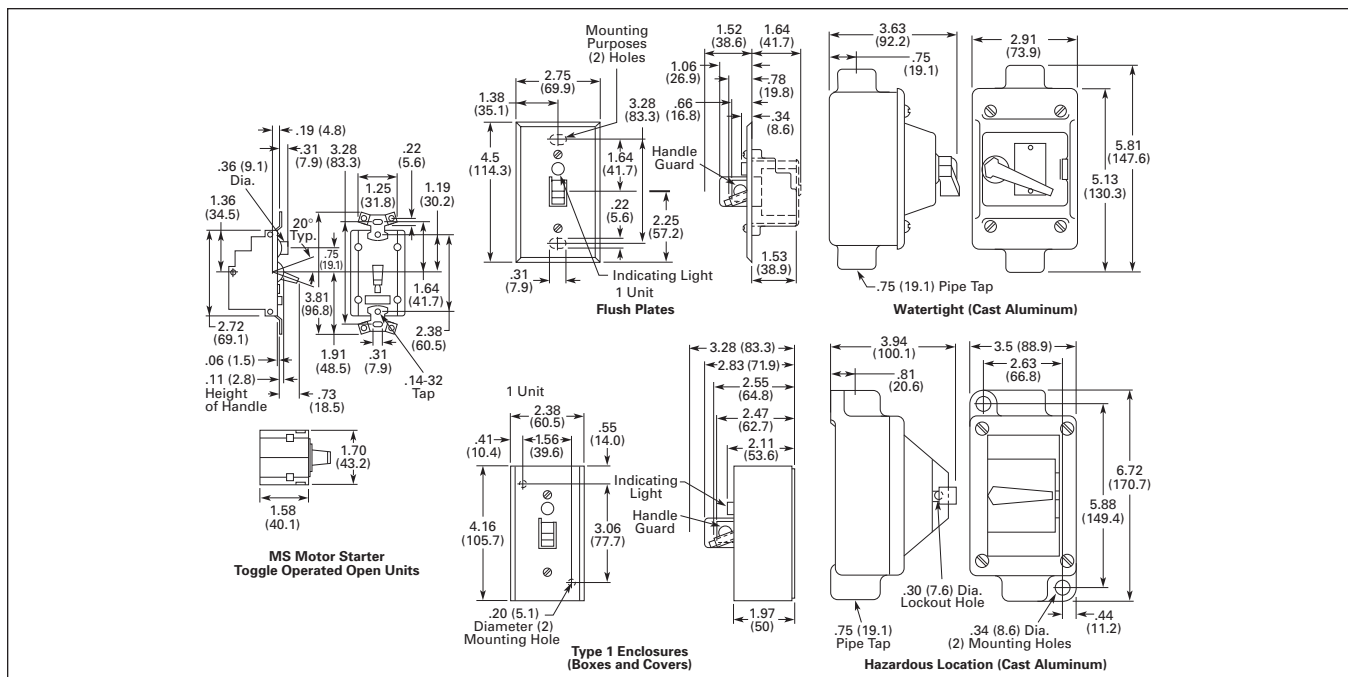


Figure 38-3. Approximate Dimensions in Inches (mm)

- Standard with large pressure type terminals, straight-through wiring and a trip-free handle mechanism
- The “plug-in” heater element is keyed to ensure proper positioning and an adjustable knob allows a setting of plus or minus ten percent of the nominal heater rating

Application Description

The MS Manual Motor Starter provides manual control and overload protection to single-phase motors. By utilizing the interchangeable heater elements, the starter can protect motors ranging from .40 amps up to 16.0 amps. Ideal for HVAC applications.

Features

- Compact size
- Trip-free handle mechanism
- Keyed heater elements to ensure proper installation
- Starters available with red pilot light
- The operating handle of the enclosed units can be locked in the OFF position
- Enclosures are offered in NEMA 1, 3, 4 and 5
- Hazardous locations cast aluminum enclosures are available rated for Type 7, Class I, Group D (vapors) and Type 9, Class II, Groups E, F and G (dust).

Instructional Leaflet

IL12987G

Standards and Certifications

- UL File No. E19222, Category NLRV
- CSA File No. LR39402-6, Class 3211-05



Accessories

Table 38-2. MS Accessories

Description	Catalog Number	Price U.S. \$
Pilot Light Kit (NEMA 1 Enclosure and Flush Plates)	MSPT	
Box, 1 Unit (NEMA 1 Enclosure)	MS1BN	
Cover, 1 Unit (NEMA 1 Enclosure)	MS1CN	
Flush Plate, 1 Unit (Steel)	MS1FN	
Flush Plate, 1 Unit (Stainless Steel)	MS1DN	
Handle Guard (Padlockable for NEMA 1 Enclosure and Flush Plates)	MSLG	

Discount Symbol 1CD-1C

Product Selection

When Ordering Specify

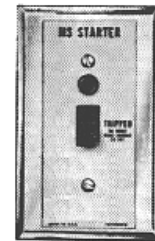
- Catalog Number of Manual Motor Starter
- Heater Pack selection
- Any required Accessories
- Heater Coil selection according to the motor full load current requirements

Table 38-3. Product Selection — MS Series Starters

Number of Poles	Horsepower	Voltage	Catalog Number ①	Price U.S. \$
Open Type				
1	1 1/4 1/4	120/240V, 277V AC 120/240V DC 32V DC	MST01	
2	1 1 1/4	120/240V, 277V AC 120/240V DC 32V DC	MST02	
Flush Plate (No Enclosure Included)				
1	Flush Plate Type General Purpose	Switch Only	MST01FN	
		Switch with Pilot Light	MST01FN1P	
2	General Purpose	Switch Only	MST02FN	
		Switch with Pilot Light	MST02FN1P	
1	Stainless Steel	Switch Only	MST01DN	
		Switch with Pilot Light	MST01DN1P	
2	Stainless Steel	Switch Only	MST02DN	
		Switch with Pilot Light	MST02DN1P	
Enclosed Types				
1	Enclosure Type General Purpose	Switch Only	MST01SN	
		Switch with Pilot Light	MST01SN1P	
2	General Purpose Type 1	Switch Only	MST02SN	
		Switch with Pilot Light	MST02SN1P	
1	Waterproof Type 3, 4 & 5	Through Hub	MST01AH	
2		Through Hub	MST02AH	
1	Hazardous Location ② Types 7D, 9E, 9F & 9G	Through Hub	MST01EH	
2		Through Hub	MST02EH	

① Does not include heater. Select heater from **Table 38-4**.

② Type 7D = Type 7, Class I, Group D; Type 9E, 9F and 9G = Type 9, Class II, Groups E, F and G.



Switch and Pilot Light Mounted on Flush Plate



Switch and Pilot Light Mounted in Type 1 Enclosure



Waterproof Type 3, 4 & 5



Hazardous Location Type 7D, 9E, 9F & 9G



Typical Heater



Heater Element Installation

Table 38-4. Heater Selection for MS Starters

Motor Full Load Current	Catalog Number	Price U.S. \$	Motor Full Load Current	Catalog Number	Price U.S. \$	Motor Full Load Current	Catalog Number	Price U.S. \$	Motor Full Load Current	Catalog Number	Price U.S. \$
.4 – .43	MSH-5A		1.04 – 1.15	MSH1-3A		2.72 – 2.95	MSH3-4A		7.04 – 7.74	MSH8-8A	
.44 – .48	MSH-55A		1.16 – 1.27	MSH1-45A		2.96 – 3.27	MSH3-7A		7.75 – 8.46	MSH9-7A	
.49 – .53	MSH-61A		1.28 – 1.35	MSH1-6A		3.28 – 3.59	MSH4-1A		8.47 – 9.35	MSH10-6A	
.54 – .58	MSH-67A		1.36 – 1.51	MSH1-7A		3.60 – 3.99	MSH4-5A		9.36 – 10.30	MSH11-7A	
.59 – .64	MSH-74A		1.52 – 1.67	MSH1-9A		4.00 – 4.39	MSH5-0A		10.31 – 11.35	MSH12-9A	
.65 – .71	MSH-81A		1.68 – 1.83	MSH2-1A		4.40 – 4.79	MSH5-5A		11.36 – 12.47	MSH14-2A	
.72 – .78	MSH-89A		1.84 – 1.99	MSH2-3A		4.80 – 5.26	MSH6-0A		12.48 – 13.67	MSH15-6A	
.79 – .87	MSH-98A		2.00 – 2.23	MSH2-5A		5.27 – 5.83	MSH6-6A		13.68 – 15.12	MSH17-1A	
.88 – .95	MSH1-1A		2.24 – 2.47	MSH2-8A		5.84 – 6.39	MSH7-3A		15.13 – 16.00	MSH18-6A	
.96 – 1.03	MSH1-2A		2.48 – 2.71	MSH3-1A		6.40 – 7.03	MSH8-0A				

Discount Symbol 1CD-1C