

MS Series, Single-Phase Starters

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MS Series, Single-Phase Starters

Product Description

- The MS Motor Starter is a compact, versatile unit featuring heavy sliding contacts as well as “quick-make” and “quick-break” mechanism
- 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 0.40A up to 16.0A. 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)

Standards and Certifications

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



Instructional Leaflet

IL12987G

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NEMA Manual Starters

Starters and Switches

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Starter and Pilot Light Mounted in Type 1 Enclosure



Starter, Hand/Auto and Pilot Light—Type 1 Enclosure



Waterproof Type 3, 4 and 5



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



Enclosed Types

| Number of Poles | Enclosure Type | Product Feature | Catalog Number ^① |
|-----------------|---------------------------------------------------------|-----------------------------------------------|--------------------------------|
| 1 | General purpose Type 1 | Starter only | MST01SN |
| | | Starter with pilot light | MST01SN1P |
| 2 | | Starter only | MST02SN |
| | | Starter with pilot light | MST02SN1P |
| 2 | General purpose NEMA 1 | Starter with Hand/Auto switch and pilot light | MST02RN1PH ^② |
| 1 | Waterproof Type 3, 4 and 5 | Through hub | MST01AH |
| 2 | | Through hub | MST02AH |
| 1 | Hazardous location ^③ Types 7D, 9E, 9F and 9G | Through hub | MST01EH |
| 2 | | Through hub | MST02EH |

Typical Heater



Heater Element Installation



Heater Selection for MS Starters

| Motor Full Load Current | Catalog Number | Motor Full Load Current | Catalog Number | Motor Full Load Current | Catalog Number | Motor Full Load Current | Catalog Number |
|-------------------------|----------------|-------------------------|-----------------|-------------------------|----------------|-------------------------|-----------------|
| 0.4–0.43 | MSH-5A | 1.04–1.15 | MSH1-3A | 2.72–2.95 | MSH3-4A | 7.04– 7.74 | MSH8-8A |
| 0.44–0.48 | MSH-55A | 1.16–1.27 | MSH1-45A | 2.96–3.27 | MSH3-7A | 7.75– 8.46 | MSH9-7A |
| 0.49–0.53 | MSH-61A | 1.28–1.35 | MSH1-6A | 3.28–3.59 | MSH4-1A | 8.47– 9.35 | MSH10-6A |
| 0.54–0.58 | MSH-67A | 1.36–1.51 | MSH1-7A | 3.60–3.99 | MSH4-5A | 9.36–10.30 | MSH11-7A |
| 0.59–0.64 | MSH-74A | 1.52–1.67 | MSH1-9A | 4.00–4.39 | MSH5-0A | 10.31–11.35 | MSH12-9A |
| 0.65–0.71 | MSH-81A | 1.68–1.83 | MSH2-1A | 4.40–4.79 | MSH5-5A | 11.36–12.47 | MSH14-2A |
| 0.72–0.78 | MSH-89A | 1.84–1.99 | MSH2-3A | 4.80–5.26 | MSH6-0A | 12.48–13.67 | MSH15-6A |
| 0.79–0.87 | MSH-98A | 2.00–2.23 | MSH2-5A | 5.27–5.83 | MSH6-6A | 13.68–15.12 | MSH17-1A |
| 0.88–0.95 | MSH1-1A | 2.24–2.47 | MSH2-8A | 5.84–6.39 | MSH7-3A | 15.13–16.00 | MSH18-6A |
| 0.96–1.03 | MSH1-2A | 2.48–2.71 | MSH3-1A | 6.40–7.03 | MSH8-0A | — | — |

Notes

- ① Does not include heater. Select heater from table above.
- ② For OFF function, use OFF position on starter toggle switch.
- ③ Type 7D = Type 7, Class I, Group D; Type 9E, 9F and 9G = Type 9, Class II, Groups E, F and G.