

MTSTR-MV-3P-13800V-2950HP-200A-M1

Medium Voltage Soft Starter – 200A – 13.8kV 3PH 60Hz – 2200 kW

Product ID: 344707

Please see last page for supporting documentation for this product (certificates, CAD files & drawings, IES files, wiring diagrams, etc).



Image: MTSTR-MV-3P-13800V-2950HP-200A-M1

Larson Electronics LLC manufactures a wide variety of products, including custom built to spec designs. The pictures displayed for this unit are a general representation of form factor for the product line and may not accurately represent this exact configuration in every detail due to custom builds and changes between similar products in our standard catalog. The specifics for this configuration are listed in the specification table and supporting documentation (CAD files, Dimensional Drawing, Name Plate Diagram, Wiring Diagram, etc.). This means that specific details (receptacles, plugs, wires, connections, mounting brackets, external finishes, etc.) may not be accurately represented in images vs specifications. Please review specifications and do not order based solely on images.

MTSTR-MV-3P-13800V-2950HP-200A-M1 Medium Voltage Soft Starter

Unit Type: Medium Voltage Soft Starter

Load Type: Three-phase induction motor

Dimensions: 2250-W × 2350-H × 2500-D mm

Weight: Approximately 2500 kg

Rated Power: 2,950 HP (≈ 2,200 kW)

Nominal Voltage: 13,800V

Line Voltage / PIV Rating: 2,950

BIL Rating: 13,800V / 39,000V

Short-Circuit Withstand: 25 kA

Phase: Three-Phase

Mutually Phase Sequence: Any

Bypass Contactor: Included, Contactor with direct starting capacity

Frequency: 60 Hz ±2HZ

Current Rating: 200A

Input Voltage Tolerance: +10% / -15%

Overload Capacity: 125% continuous; 500% for 60 sec during starting

Current Limit: 200–500% of motor FLA

Initial Torque: 0–100%

Acceleration Time: 1–120 sec

Features/Ratings

SCR-based reduced-voltage starting

Soft Starter/Emergency Bypass mode selection

Kick-start function

Integrated motor overload and protection functions

Thermal capacity and remaining thermal register monitoring

Pump-Flux Deceleration: 1–60 sec
Kick Start: 0.1–2.0 sec, 10–100% voltage
Starting Overload Curve: Class 5 through 30
Run Overload Curve: Class 5 through 30 when bypassed
Efficiency: 99.7% during starting; 99.97% in bypass mode
Control Power: UPS AC 120V / DC 110V
Inline Circuit: VCB, 17.5kV, 630A, draw-out type
Bypass Circuit: VCB, 17.5kV, 630A, fixed type
Bottom Circuit: VCB, 17.5kV, 1250A, fixed type
Current Transformer: 200/5A
Potential Transformer: 13.8kV / 110V
Cabinet Rating: IP41
Cabinet Color: RAL7035
Cabinet Rating: IP41
Enclosure Material: Metal
Construction: Free-standing, free-maintenance type
Cooling: Natural
Frame Thickness: 2.3 mm
Door Thickness: 3.2 mm
Cover Thickness: 2.3 mm
Paint Thickness: 60 µm
Access: Front / Rear
Operating Temperature: 0°C to +40°C
Extended Temperature: -20°C to +50°C with heater option
Humidity: 5–95% RH
Altitude: –1000 m above sea level without derating
Panel Space Heater: Yes
Motor Space Heater: N/A
Cable Entry: Bottom or Top
Cable Exit: Bottom or Top
Mount: Free-standing

Special Orders - Special Requirements

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The Larson Electronics MTSTR-MV-3P-13800V-2950HP-200A-M1 Medium Voltage Soft Starter provides controlled, reduced-voltage motor starting for heavy-duty industrial applications. Designed for 13.8kV three-phase, 60 Hz systems, this 2,950 HP (2,200 kW) unit is rated at 200A and utilizes SCR power technology to provide smooth motor acceleration while reducing starting stress on the motor and connected mechanical equipment. The system is specifically designed for chiller applications and incorporates medium-voltage vacuum circuit breakers for inline and bypass operation.

Built for demanding medium-voltage motor applications, the MTSTR-MV-3P-13800V-2950HP-200A-M1 features a 110 kV BIL rating, 13.8kV / 39kV PIV rating, and 25 kA short-circuit rating. The system provides 125% continuous overload capability and 500% capacity for 60 seconds during starting. Adjustable controls include 0–100% initial torque, 200–500% motor FLA current limiting, 1–120 second acceleration, 1–60 second pump-flux deceleration, and a 0.1–2.0 second kick-start function.

The medium voltage soft starter includes a 2-line × 20-character LCD display, red/green/yellow status indicators, Local/Remote and Soft Starter/Emergency Bypass selection, two 4–20mA analog outputs, eight digital outputs, and RS485 Modbus RTU communication. Integrated metering monitors phase currents, kW, kVA, kVAR, power factor,

starting current, thermal capacity, line frequency, and phase order. Protection functions include under/overvoltage, undercurrent, current imbalance, phase rotation, locked rotor, motor overload, overcurrent, power factor, frequency variance, lockout/start inhibit, and ground-fault detection.

Mount: The MTSTR-MV-3P-13800V-2950HP-200A-M1 is designed as a free-standing unit with front and rear access. The cabinet measures approximately 2250 × 2350 × 2500 mm and weighs approximately 2500 kg.

The unit is housed in an IP41 metal enclosure with natural cooling, a 2.3 mm frame, 3.2 mm door, and 2.3 mm cover. The system operates from 0°C to 40°C, with an optional heater configuration extending operation from -20°C to 50°C, and is suitable for 5–95% relative humidity and elevations up to 1,000 m without derating

Applications: Chiller motors, large industrial induction motors, pump systems, compressor applications, process equipment, heavy-duty motor starting, reduced-voltage starting, mechanical stress reduction, and high-inrush current mitigation.

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Frequently Asked Questions (FAQ)

There are no Faqs



Export Control Classification Number (ECCN): EAR99



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