

MPD-ST3-3P3W-1000A-480V-3PH-N1

1000-amp Static Transfer Switch - 480V 3 Phase 3 Wire - NEMA 1

Product ID: 339349

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



Image: MPD-ST3-3P3W-1000A-480V-3PH-N1

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.

MPD-ST3-3P3W-1000A-480V-3PH-N1 Static Transfer Switch

Unit Type: Static Transfer Switch, Solid-state, SCR-based

Dimensions: 84"W x 36"D x 80"H (maximum)

Weight: 1100 lbs

Phase: 3-Phase 3-Wire + Ground (3P3W+G)

Voltage: 480V +10% / -10%

Cont. Current Rating: 1000A (100% continuous load rating)

Frequency: 60 Hz $\pm$ 0.5 Hz

Load Power Factor Range: 0.75 to 1.0, leading or lagging

Load Crest Factor: Up to 3.5

Sensing & Transfer Time: 4 ms (< 1/4 cycle interruption)

Manual Transfer Interruption: < 1 ms when sources synchronized within adjustable phase window

Overload Capability: 125% for 30 min; 150% for 2 min; 500% for 0.25 sec

Short-Circuit Withstand Rating: 100 kA

Available Fault Current Rating (SCRs): Up to 65,000 A at 480V

Out-of-Phase Transfer Tolerance: Up to 180° (emergency); adjustable sync window $\pm$ 30° (normal manual transfer)

Switching Technology: 6 pairs of back-to-back SCRs (silicon-controlled rectifiers) in AC switch configuration

Bypass Provision: Key-interlocked static switch isolation and maintenance bypass breakers

Features/Ratings

NEMA 1

Digital Power Technology (DPM)

65 kA Fault Current Rating

NRTL Listed for United States & Canada

Assy Transfer Control

to each source

Circuit Breakers:

Breaker Count: 6 molded-case, plug-in, non-automatic circuit breakers

Breaker Function Split: 3 breakers: Source 1 input, Source 2 input, load isolation (static switch isolation); 2 breakers: maintenance bypass to Source 1 / Source 2

Redundant Output Breaker: 1 additional plug-in non-automatic breaker in parallel with the output breaker

Interlocking: Plug-in interlock prevents removal unless in "Off" position; key interlocks prevent improper bypass sequencing

Shunt Trips: 48 Vdc shunt trips on both source input breakers, controlled by STS logic

Auxiliary Contacts: N.O. and N.C. auxiliary switches on all breakers for position monitoring

Fusing: Fuseless design — no fuses used to protect solid-state switching devices

Control Panel & Monitoring:

Display: Back-lit, menu-driven, full-graphics color touch-screen LCD (no mechanical pushbuttons); door-independent mounting

Displayed Content: One-line diagram, system/status information, active alarms, alarm history, startup/bypass instructions, syncope, customer logo

Mimic Panel: Shows power flow, breaker status, preferred source, STS connection position, active alarms

Communication Port: Internal RS-485 port with flash memory for field firmware upgrades without load shutdown

Network Interface: OpenComms Network Interface Card (NIC) — SNMP and HTTP over IP-based Ethernet via RJ-45

Event Logging: 512-event nonvolatile alarm log; two 64-frame "freeze fault" history logs (40 frames pre-fault, 23 post-fault, 4 ms/frame, 2 samples per frame)

Real-Time Clock: System calendar/RTC time-stamps all stored events

Key Lockout Switch: Software lockout of touchscreen to prevent manual transfers/setting changes (alarm silence remains active)

Reliability & Redundancy:

MTBF: > 1,000,000 hours (critical AC output bus)

Power Supplies: Dual, fully redundant, separate boards; replaceable while load is on bypass; two independent DC buses

Control Logic: Triple-redundant logic modules, each independently powered/fused from both supply buses; gating/sensing partitioned per source

Serviceability: Field-replaceable components without de-energizing the load (minimum one source available); plug-in/draw-out breakers; control and power components mounted separately

Servicing Access: Front access only; barriers protect personnel from hazardous voltage during live servicing

Surge Protective Device (SPD):

SPD Listing: UL 1449 and UL 1283 listed, per-input module

MOV Configuration: Multiple gapless Metal Oxide Varistor (MOV) arrays, clamping voltages matched within 1%; individually fused (100 kA interrupting rating fuses)

Surge Withstand per Array: Multiple gapless Metal Oxide Varistor (MOV) arrays, clamping voltages matched within 1%; individually fused (100 kA interrupting rating fuses)

Total Surge Current Capacity: 80 kA per phase (8 x 20 μ s waveform)

Voltage Protection Rating (VPR): $\leq$ 2000 V L-L (480V system, UL 1449 3rd edition)

Max. Continuous Operating Voltage: $\geq$ 115% of nominal (480V system)

EMI Noise Attenuation: 25 dB, 100 kHz–100 MHz (MIL-220A, 50-ohm impedance)

Failure Annunciation: SPD alarm contact wired to unit monitoring system

Operating Temperature: 0°C to 40°C (32°F to 104°F)

Relative Humidity: 0–95%, non-condensing

Operating Altitude: Up to 4000 ft (1200 m) above sea level, no derating

Audible Noise: < 55 dBA at 5 ft (1.5 m), audible alarm off

ESD Immunity: Withstands up to 10 kV at exterior contact points

RF Field Immunity: Withstands portable transmitters operated within 3 ft (1 m) of unit

Seismic: Provided with seismic floor anchors; refer to the project's General Technical Requirements

Enclosure Type: NEMA Type 1, free-standing, single cabinet

Frame: Galvanized steel, riveted substructure

Panels / Doors: Minimum 16-gauge steel, powder-coated textured enamel finish; key-lock hinged front door

Mobility: Four heavy-duty swivel casters plus four permanent leveling feet

Floor Loading: < 150 lbs/sq ft (660 kg/m²) distributed; stable to 15° tilt in any direction

Access: Front access only for installation, repair, and maintenance

Cooling: Convection cooling of enclosure; redundant forced-air fans for heat sinks, top-mounted screened exhaust; front door air filters

Cable Entry: Removable conduit/cable termination plates, top and bottom

Buswork: Silver-plated copper

Power Lugs: Two-hole, long-barrel, copper-only compression lugs

Grounding: Isolated AC output neutral from chassis; dedicated equipment ground terminal; for use on solidly or impedance-grounded sources only (not corner-grounded delta)

Material Derating: Solid-state/electronic devices operated at ≤ 75% of manufacturer voltage, current, di/dt, and thermal ratings

Larson Electronics manufacture a wide variety of custom power distribution systems. The pictures displayed for this unit are a general representation of form factor and may not accurately represent this exact configuration in every detail due to being one-time custom builds. The specifics for this configuration are listed in the specification table and one-line diagram.

Special Orders - Special Requirements

Contact us for special requirements

Toll Free: 1-800-369-6671

Intl: 1-903-270-1187

E-mail: sales@larsonelectronics.com

The MPD-ST3-3P3W-1000A-480V-3PH-N1 from Larson Electronics is a Static Transfer Switch that is ideal for managing electrical loads between two sources in industrial facilities. This 1000-amp, 480V three-phase, three-wire controller handles timing, sensing, exercise functions and transfer commands. The unit is housed in a NEMA 1 enclosure.

The MPD-ST3-3P3W-1000A-480V-3PH-N1 offers accurate control of electrical power and loads in locations where a backup generator or energy management system is installed. This 1000-amp unit features 480V three phase compatibility. The controller is designed to handle all commands related to the following: timing, sensing, exercise functions and transfers. During abnormal conditions, this unit can withstand a maximum of 65,000 amps.

Applications: Backup generators, power management, energy systems, industrial facilities, commercial spaces, and more.

At Larson Electronics, we do more than meet your lighting needs. We also provide replacement, retrofit, and upgrade parts as well as industrial grade power accessories. Our craftsmen can custom build any lighting system and/or accessories to fit the unique demands of your operation. A commitment to honesty, quality, and dependability has made Larson Electronics a leader in the lighting and electronics business since 1973. Contact us today at 800-369-6671 or message sales@larsonelectronics.com for more information about our custom options tailored to meet your specific industry needs.



Frequently Asked Questions (FAQ)

There are no Faqs



Image: MPD-ST5-3P3W-1000A-480V-3PH-N1



Image: MPD-ST5-3P3W-1000A-480V-3PH-N1



Image: MPD-ST5-3P3W-1000A-480V-3PH-N1



Export Control Classification Number (ECCN): EAR99



Links (Click on the below items to view):

- **HigResPic1**(<https://www.larsonelectronics.com/images/product/HigResPic1/339349.JPG>)
- **ISO 9001 Certification**(<http://larsonelectronics.com/images/pdfdocs/ISO9001.PDF>)
- **Business Certificate**(<https://www.larsonelectronics.com/images/pdfdocs/w9.PDF>)
- **Shipping Time Map**(<https://www.larsonelectronics.com/images/product/ShippingTimeMap/ShippingTimeMap.pdf>)