

Surge Free™ SF160M

Standard Class Entry Protector
Ip=160kA



The SF160M Series offers first-rate protection for most applications at the main service panel. Computers, sensitive business systems and other high tech equipment are guarded from damage, errors and downtime that result from high speed transients and surges.

The SF160M is a shunt-installed device designed to protect your facility from damaging surges at the service entrance panel. The SF160M's Micro-Z circuitry significantly reduces the surge remnant voltage or "let-through" experienced by the protected equipment (see pages 10-12). A special wiring configuration offered by MCG features accommodations for neutral conductors. This allows for significantly less impedance than is found in standard connective practices.

The SF160M works by diverting excess transient currents away from the sensitive equipment whenever the surge exceeds the specified clamping threshold.

The UL-listed SF160M automatically resets after the transient has been diverted. It is housed in a rugged, indoor/outdoor NEMA 4 enclosure.



ANSI/IEEE
Category C

Features of the SF160M

- Protection Redundancy**
Each phase employs independently-fused protection elements within a module to provide back-up protection for continued equipment survival despite a fault condition.
- Micro-Z Concept / MOV Technology**
MCG's patented Micro-Z technology system significantly reduces let-through voltage across the board and connecting cabling. 40mm MOV's.
- Personnel Safety**
Integral disconnect with Lexan deadfront.
- Ten Year Warranty**
And free replacement modules and fuses for life.
- Self Diagnostics & Self Test**
Both front panel and internal LEDs offer continuous analysis of power and possible fault conditions. Self test ensures integrity of diagnostic components.
- Audible Alarm & Remote Alarm**
Reduced protection triggers an audible alarm with mute capability. Monitor unit from a remote location using Form C dry contacts.
- Transient Event Counter**
Records the number of surges suppressed and is resettable.
- Sinewave Filtering**
MIL STD 220A. No charge option.

MCG Surge Protection

1-800-851-1508
<http://www.mcgsurge.com>

12 Burt Drive, Deer Park, N.Y. 11729, U.S.A. Phone (516) 586-5125 Fax (516) 586-5120

Note: New (631) Area Code begins 11/1/99 E-Mail: mcginfo@mcgsurge.com

SF160M Electrical Specifications

The SF160M Series of surge protectors meet or exceed ANSI/IEEE C62.41-1991 and UL 1449, 2nd Ed.

| Model | Rated Voltage | Description | Energy Absorption (8/20µs) Joules Total | Typical Peak Suppression Voltage 6" Lead Length (8/20µs) | | UL1449 Surge Voltage (8/20µs) |
|---------------|---------------|-------------------------|---|--|---------|-------------------------------------|
| | | | | 10kA | 3kA | |
| SF160M-120T | 120/240VAC | 1 phase, 3w+gnd | 8,722 | 520V | 400V | 400V |
| SF160M-120Y | 120/208 | 3 phase, 4w+gnd wye | 8,722 | 520 | 400 | 400 |
| SF160M-220Y | 220/380 | 3 phase, 4w+gnd, wye | 23,520 | 840 | 740 | 700 |
| SF160M-240Y | 240/415 | 3 phase, 4w+gnd, wye | 23,520 | 840 | 740 | 700 |
| SF160M-240D | 240 | 3 phase, 3w+gnd, delta | 20,160 | 840 | 820 | 700 |
| SF160M-240DCT | 240/120/120* | 3 phase, 4w+gnd, hi-leg | 15,064 | 840/520 | 740/400 | 700/400 |
| SF160M-277Y | 277/480 | 3 phase, 4w+gnd, wye | 25,200 | 960 | 800 | 800 |
| SF160M-480D | 480 | 3 phase, 3w+gnd, delta | 36,000 | - | 1536 | 1500 |

* High-leg delta center tapped

Maximum Continuous Operating VAC: 115% rated line voltage

Response time: <5 nanoseconds

Modes of protection: L-N, L-G, L-L, N-G
(where applicable)

Surge current/phase (8/20µs) 1 event: 160kA

Surge life/phase (8/20µs) 10,000 impulses: 6kA

| Filter attenuation MIL STD 220A (50 ohm): | 120VAC | 240VAC | 277VAC | 480VAC |
|---|--------|--------|--------|--------|
| -30db | 100kHz | 25kHz | 80kHz | 80kHz |
| -40db | 200kHz | 100kHz | 180kHz | 180kHz |
| -50db | 280kHz | 180kHz | 210kHz | 250kHz |
| -55db | 310kHz | 200kHz | 390kHz | 390kHz |

Protection present indicators: Green LED

Reduced protection indicator: Red LED

Additional status indicators: Audible alarm, event counter,
remote alarm, dry contacts

Operating altitude: 13,000 ft. (4000m)

Temperature (operating): -40° to +70°C

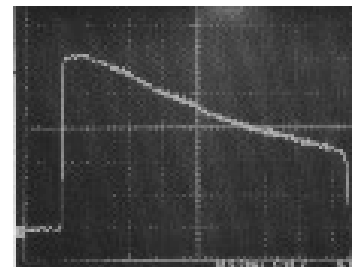
Enclosure: NEMA 4, 14 gauge steel
Optional enclosures available

Dimensions: 12" x 10" x 5"

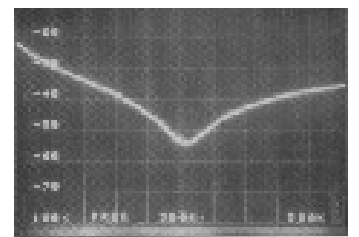
Mounting: 12.75" x 8".3125" ID - 4 holes

Connection: Terminals

Shipping weight: 23 lbs.



Shown here is a typical clamp waveform: SF160M-120Y suppression voltage is 520V; peak at 10kA (8/20).



Typical filter attenuation for SF160M-120YF -50db at 280kHz.

Ordering Information

Example: SF160M-120Y = 120/208 VAC, 3 phase, 4w+gnd, wye.

No charge filter optional = SF160M-120YF.

Integral disconnect not available in delta.

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