

MDE Semiconductor, Inc.

78-150 Calle Tampico, Unit 210, La Quinta, CA., USA 92253 Tel : 760-564-8656 • Fax : 760-564-2414
 1-800-831-4881 [Email: sales@mdesemiconductor.com](mailto:sales@mdesemiconductor.com) Web: www.mdesemiconductor.com

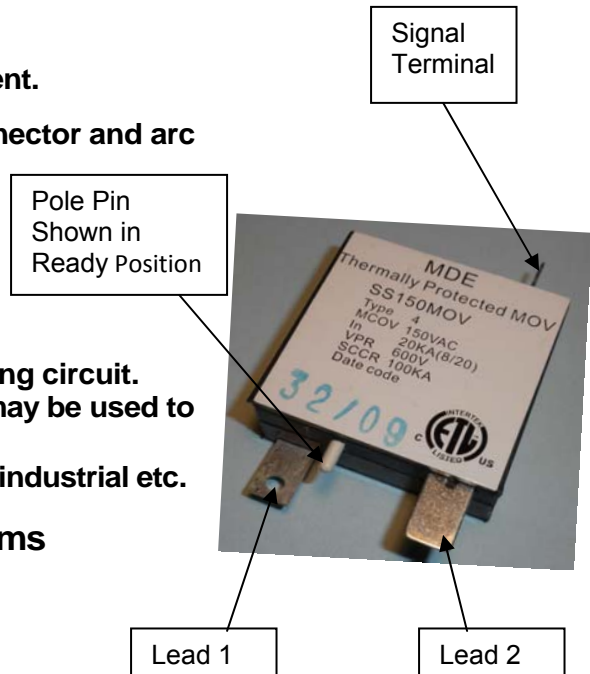
SURGE SHIELD™ MOV

High Energy Thermally Protected SSMOV
 VOLTAGE-150 to 550 Volts AC
 Intregrated Transient Surge Protector

FEATURES

Surge Protective Device with thermal protection designed to open in the event of overheating due to an abnormal over-voltage, with High Fault Current.

- Quick response and MOV cutoff function with disconnecter and arc extinguishing device (Patent Pending).
- Wide operating temperature range (-40°C ~ 85°C).
- High surge current capability.
- Low leakage current.
- Two way failure indicator when SSxxxMOV has been disconnected from the circuit.
 1. The signal terminal can be connected to a monitoring circuit.
 2. The pole-pin provides a visual indication and/or may be used to operate an isolated external switch.
- Application in AC mains, service entrance, and heavy industrial etc.
- All products have a SCCR rating of 100 kA rms
- All products approved to UL1449 4th Ed, Type 4 tested to Type 1 or 2 and CSA



Component for PCB Mounting

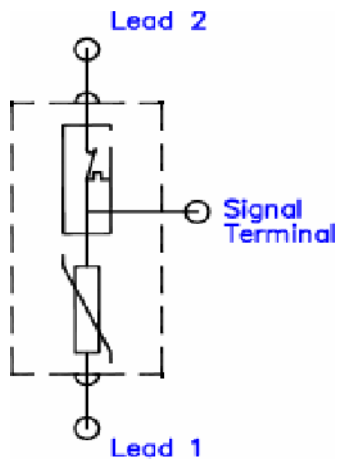
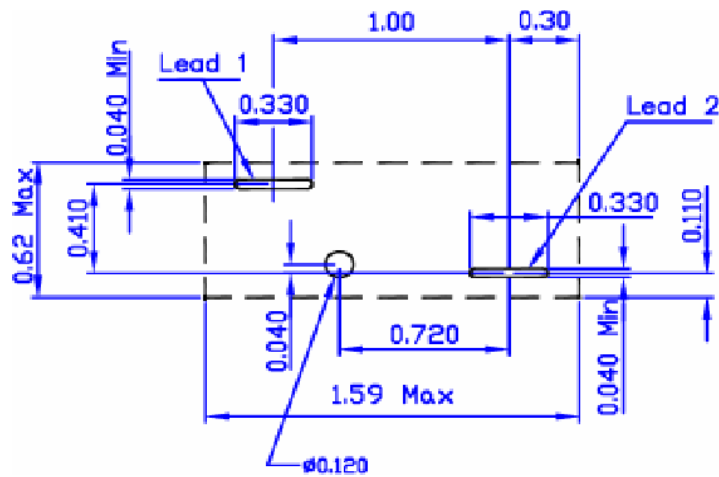
| Type | Continuous MCOV | | Max Peak Current | Test Current | Rating | Energy (2ms) | Varistor Voltage | | Max Clamping Voltage | |
|----------|-----------------|---------|-----------------------|---------------------|------------|--------------|----------------------|-----------------------|----------------------|--------------------|
| | Vrms (V) | Vdc (V) | I _{max} (kA) | I _n (kA) | VPR rating | WTM (J) | V _{1mA} (V) | ΔV _{1mA} (%) | V _C (V) | I _p (A) |
| SS150MOV | 150 | 200 | 50 | 20 | 600 | 360 | 240 | ±10 | 395 | 300 |
| SS180MOV | 180 | 225 | 50 | 20 | 600 | 390 | 270 | ±10 | 455 | 300 |
| SS250MOV | 250 | 320 | 50 | 20 | 900 | 490 | 390 | ±10 | 650 | 300 |
| SS275MOV | 275 | 350 | 50 | 20 | 900 | 550 | 430 | ±10 | 710 | 300 |
| SS320MOV | 320 | 415 | 50 | 20 | 1200 | 640 | 510 | ±10 | 850 | 300 |
| SS420MOV | 420 | 560 | 50 | 20 | 1500 | 910 | 680 | ±10 | 1120 | 300 |
| SS510MOV | 510 | 670 | 50 | 20 | 1500 | 940 | 820 | ±10 | 1350 | 300 |
| SS550MOV | 550 | 745 | 50 | 20 | 1500 | 960 | 910 | ±10 | 1500 | 300 |

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VOLTAGE-150 TO 550 Volts AC
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Dimensions in inches

**SSxxx MOV PCB
Layout**

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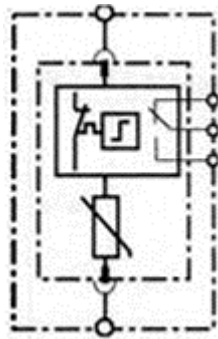
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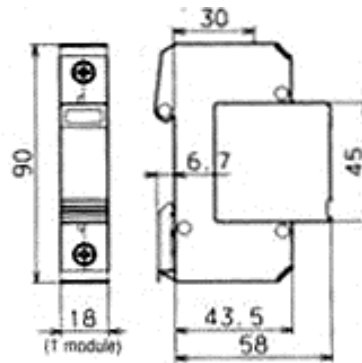
Component for DIN Rail Applications

| Type | Continuous MCOV | | Max Peak Current I _{max} (kA) | Test Current I _n (kA) | Rating VPR rating | Energy (2ms) WTM (J) | Varistor Voltage | | Max Clamping Voltage | |
|----------|----------------------|---------------------|---|-------------------------------------|----------------------|-------------------------|----------------------|-----------------------|----------------------|--------------------|
| | V _{rms} (V) | V _{dc} (V) | | | | | V _{1mA} (V) | ΔV _{1mA} (%) | V _C (V) | I _p (A) |
| SS150DIN | 150 | 200 | 50 | 20 | 600 | 360 | 240 | ±10 | 395 | 300 |
| SS180DIN | 180 | 225 | 50 | 20 | 600 | 390 | 270 | ±10 | 455 | 300 |
| SS250DIN | 250 | 320 | 50 | 20 | 900 | 490 | 390 | ±10 | 650 | 300 |
| SS275DIN | 275 | 350 | 50 | 20 | 900 | 550 | 430 | ±10 | 710 | 300 |
| SS320DIN | 320 | 415 | 50 | 20 | 1200 | 640 | 510 | ±10 | 850 | 300 |
| SS420DIN | 420 | 560 | 50 | 20 | 1500 | 910 | 680 | ±10 | 1120 | 300 |
| SS550DIN | 550 | 745 | 50 | 20 | 1500 | 960 | 910 | ±10 | 1500 | 300 |



**Dry Contact
Form C**

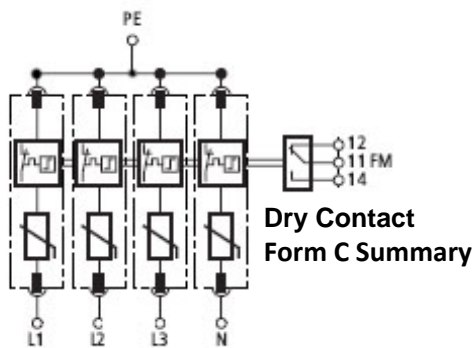
Typical SSxxxDIN Product layout
 Single Component DIN Assembly
 35 mm DIN Rail



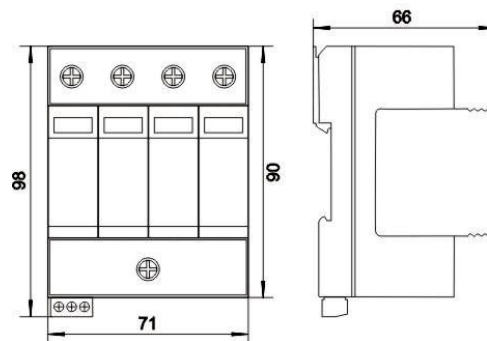
Dimensions in mm
 Each Pole has an indicator
 Green is Operational
 Red is Replace

Components in a 4 DIN Rail Enclosure for 3 Phase Applications

| Type | Continuous MCOV | | Max Peak Current | Test Current | Rating | Energy (2ms) | Varistor Voltage | | Max Clamping Voltage | |
|-------------|-----------------|---------|-----------------------|---------------------|-----------|--------------|----------------------|-----------------------|----------------------|--------------------|
| | Vrms (V) | Vdc (V) | I _{max} (kA) | I _n (kA) | VPR ratio | WTM (J) | V _{1mA} (V) | ΔV _{1mA} (%) | V _C (V) | I _p (A) |
| D4-SS150DIN | 150 | 200 | 50 | 20 | 600 | 360 | 240 | ±10 | 395 | 300 |
| D4-SS180DIN | 180 | 225 | 50 | 20 | 600 | 390 | 270 | ±10 | 455 | 300 |
| D4-SS250DIN | 250 | 320 | 50 | 20 | 900 | 490 | 390 | ±10 | 650 | 300 |
| D4-SS275DIN | 275 | 350 | 50 | 20 | 900 | 550 | 430 | ±10 | 710 | 300 |
| D4-SS320DIN | 320 | 415 | 50 | 20 | 1200 | 640 | 510 | ±10 | 850 | 300 |
| D4-SS420DIN | 420 | 560 | 50 | 20 | 1500 | 910 | 680 | ±10 | 1120 | 300 |
| D4-SS550DIN | 550 | 745 | 50 | 20 | 1500 | 960 | 910 | ±10 | 1500 | 300 |



Typical D4-SSxxxDIN Product Layout
3 Phase DIN Component Assembly
35 mm DIN rail



Dimensions in mm
Each Pole has an indicator
Green is Operational
Red is Replace

Operating Characteristics – All DIN Products

| | |
|-----------------------|-------------------|
| Operating Temperature | -40 °C to +85 °C |
| Storage Temperature | -40 °C to +100 °C |
| Dielectric withstand | ≥ 2500V (AC) |
| Insulation Resistance | ≥ 10 Mohm |
| Response Time | ≤ 25nS |