MA15 range

AC and DC power surge protective device with filter

- 12kA surge protection and RFI filtering
- Protects panel loads up to 15 Amps in series, unlimited Amps in parallel
- Suitable for AC or DC application
- Thermal and short circuit protection
- LED status indication feature
- 10 year product warranty
- UL1449 4th Edition



The MA15 range of surge protection devices protects electronic equipment and computer networks against the effects of 'noise pollution' induced in power supplies. MA15 units 'clean up' the effects of industrial noise and surges caused by lightning, switching devices, thyristor controls, transmission system overloads and power-factor correction circuits.

Industrial control systems utilizing programmable logic controllers (plc) and industrial computers are particularly vulnerable due to the aggressive electrical environments for which they are intended, such as process plants, factories and water treatment sites. Although industrial computers and plcs are designed to be rugged, the extra protection provided by the DIN rail mounting MA15 units is critical. Ideally suited for protecting panel mounted equipment and typically used in the controls section of a motor control centre (MCC), the MA15 range provides surge and RFI protected power.

With a unique 'three-stage' combination of protection elements, these units suppress conducted RFI and voltage surges. The circuit elements are first, surge clipping components to absorb transient surges that may otherwise damage equipment, second a filter to suppress noise in the system and third, 'ring' suppression. The third of these prevents surges causing the filter to 'ring' (oscillate) under low load conditions – an effect that actually accentuates interference in most commercially available filters.

Suitable for AC or DC application, MA15 units reduce both electromagnetic emissions and the susceptibility of the associated equipment to emissions from other sources. MA15 devices also offer ultimate installation flexibility. To protect circuits rated 15A or less, MA15 devices should be installed in series. To protect higher current circuits, simply install the MA15 in parallel.

An LED status indication facility is standard with the MA15 units. This displays both 'power on' and that protection is present. Thermal fusing is also incorporated into each 12kA rated device as an additional safety feature. MA15 units also offer short circuit protection for added peace of mind.

MA15 devices are UL 1449 Recognized Components (certified by UL for both US and Canadian requirements) and exceed the requirements of IEC 61000-4-5. As MA15 units suppress conducted RFI and voltage surges they enable associated equipment to comply with this aspect of European 'CE' mark standards.

Powering Business Worldwide

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SPECIFICATION

All figures typical at 77°F (25°C) unless otherwise stated

SPD Type according to UL 1449, 4th edition : 4CA
SPD according to IEC61643-11: Class III/T3

Nominal Surge current
3kA (8/20µs)

Maximum Surge Current
12kA (8/20µs)

Maximum leakage current
<0.3mA

Maximum continuous operating current (UL-approved)
120V @ 15A; 240V @ 10A series connection
Unlimited Amps in parallel

Maximum continuous operating current (Non-approved)
120V @ 15A; 240V @ 15A series connection
Unlimited Amps in parallel

Working voltage	AC	DC
MA15/D/1/SI	120V, 47-63Hz	140V
MA15/D/1TT/SI	120V, 47-63Hz	140V
MA15/D/2/SI	240V, 47-63Hz	280V
MA15/D/2TT/L	240V, 47-63Hz	280V

MODEL	MCOV	Modes of protection	MLV(Vpk)
MA15/D/1/SI	127	L - N	560
		L - G	560
		N- G	560
MA15/D/2/SI	254	L - N	980
		L - G	990
		N -G	960
MA15/D/1TT/SI	127	L - N	560
		L - G	990
		N - G	960
MA15/D/2TT/L	254	L - N	975
		L - G	975
		N - G	975

Maximum attenuation (typical)
-55dB @ 100MHz

Ambient temperature limits
–40°F to +185°F (working)
–40°C to +85°C (working)

Humidity
95% RH (non-condensing)

Casing
Polymide-PA, with G- or T-section (Top-hat) DIN-rail mounting foot UL94-V0

Connectors
Screw terminal

Terminals
0.1 inch² (2.5mm²) 12 AWG

Mounting
G- or T-section ('Top-hat') or 1.4 inch (35mm) DIN rail

Weight
3.53oz (100g)

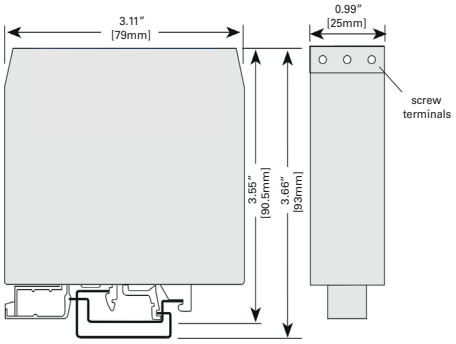
Dimensions
See figure 1

EMC compliance
BS EN 61326-1 : 2013
IEC 61643-11 : 2011

LED Indication
Green LED on Protection present
Green LED off Internal failure

DIMENSIONS

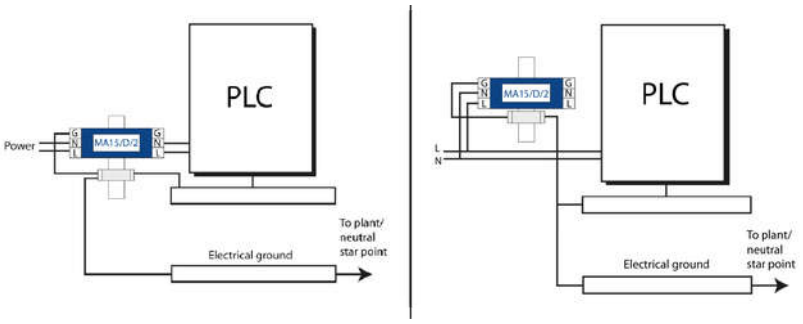
Figure 1 Dimensions



Installation

Typical wiring connections for MA15 range devices are indicated in figure 2. The grounding of the surge protector and the protected equipment is very important and, if possible, should be accomplished as illustrated.

Please note that the unit is marked Protected and Unprotected and it is important that the unit is installed with the Unprotected side connected to the incoming power and the Protected side connected to the equipment to be protected. For parallel application however, the Unprotected side is connected to the incoming power and the Protected side left unconnected.



Series Connection Current <15A

Parallel Connection Current >15A

Figure 2 Installation

Approvals

Country	Standard/Authority	Approved for	Product
United States Canada	UL 1449 Recognized Component	AC Power Product	MA15/D/1/SI, MA15/D/2/SI MA15/D/1TT/SI
United States Canada	UL 1449 Recognized Component UL 1604	Hazardous Locations Class I, Division 2 Groups A, B, C and D	MA15/D/1/SI, MA15/D/2/SI MA15/D/1TT/SI

NOTE: The above approvals do not apply to the MA15/D/2TT/L and DC applications.

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The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantee. In the interest of further technical developments, we reserve the right to make design changes.