

## MA15E range

### AC and DC power surge protective device with filter

- 20kA 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
- ATEX and IECEx certified



**The MA15E range** of surge protection devices protects electronic equipment and computer networks against the effects of 'noise pollution' induced in power supplies. MA15E 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 MA15E units is critical. Ideally suited for protecting equipment mounted in Haz location Zone 2 application, the MA15E 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**, MA15E units reduce both electromagnetic emissions and the susceptibility of the associated equipment to emissions from other sources. MA15E 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 MA15E in parallel.

**An LED status indication facility** is standard with the MA15E units. This displays both 'power on' and that protection is present. Thermal fusing is also incorporated into each 20kA rated device as an additional safety feature. MA15E units also offer short circuit protection for added peace of mind.

**MA15E devices are ATEX and IECEx certified.** For Hazardous areas in Zone 2 application with increased safety (ec) as per IEC60079-7:2015. As MA15E units suppress conducted RFI and voltage surges they enable associated equipment to comply with this aspect of European 'CE' mark standards.

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## AC and DC power surge protective Device with Filter

October 2019

### SPECIFICATION

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

**SPD according to IEC61643-11: Class II+III/T2+T3**

**Nominal Surge current, In**

3kA (8/20µs)

**Maximum Surge Current, I<sub>max</sub>**

10kA (8/20µs)

**Total Discharge current - I<sub>total</sub>**

20kA(8/20 µs)

**Open circuit voltage, U<sub>oc</sub>**

6kV(1.2/50µs)

**Maximum leakage current**

<0.3mA

**Maximum continuous operating current**

120V @ 15A; 240V @ 10A series connection

Unlimited Amps in parallel

**Response time**

<25ns

**Working voltage**

**AC**

**DC**

MA15E/D/1/SI 120V, 47-63Hz 140V

MA15E/D/2/SI 240V, 47-63Hz 280V

| MODEL        | MCOV | Modes of protection | MLV(Vpk) | Up     |
|--------------|------|---------------------|----------|--------|
| MA15E/D/1/SI | 127  | L - N               | 560      | <0.6kV |
|              |      | L - G               | 560      |        |
|              |      | N - G               | 560      |        |
| MA15E/D/2/SI | 254  | L - N               | 980      | <1kV   |
|              |      | L - G               | 990      |        |
|              |      | N - G               | 960      |        |

**Maximum attenuation (typical)**

-55dB @ 100MHz

**Ambient temperature limits**

-40°C to +85°C (Safe Area)

-40°C to +70°C (Haz Loc with IECEx and ATEX)

**Humidity**

95% RH (non-condensing)

**Casing**

Polycarbonate-PC, UL94-V0

(Top-hat) DIN-rail mounting foot

**Connectors**

Screw terminal

**Terminals**

12 to 30 AWG, nominal :2.5mm2

**Mounting**

T-section ('Top-hat')

(35mm) DIN rail

**Weight**

3.88oz (110g)

**Dimensions**

See figure 1

**Compliance standards**

BS EN 61326-1 : 2013

IEC 61643-11 : 2011

**LED Indication**

Green LED on Protection present

Green LED off No Power/Internal failure

### DIMENSIONS

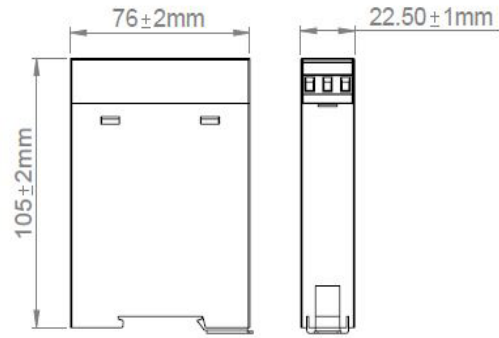
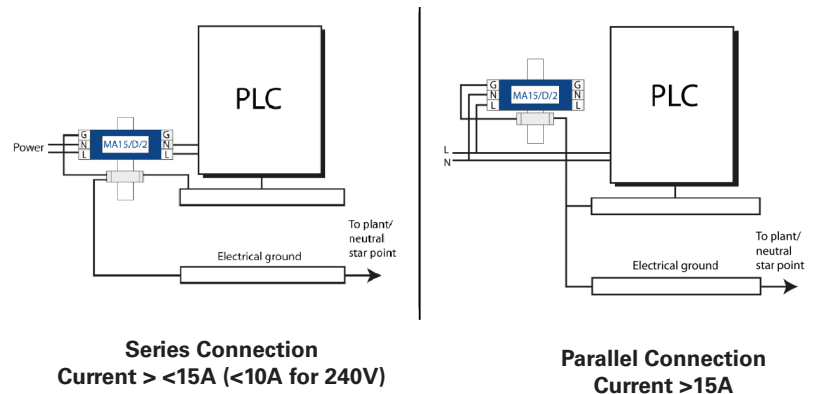


Figure 1 Dimensions

### Installation

Typical wiring connections for MA15E 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 (<10A for 240V)

Parallel Connection  
Current >15A

Figure 2 Installation

### Approvals

| Country (Authority)            | Standard                         | File No            | Approved for   | Products                   |
|--------------------------------|----------------------------------|--------------------|--|----------------------------|
| International (Baseefa), IECEx | IEC60079-15:2010                 | IECEX BAS 19.0076X | Ex nA IIC T4 Gc (-40°C ≤ Ta ≤ +70°C)                         | MA15E/D/2/SI, MA15E/D/1/SI |
| International (Baseefa), IECEx | IEC60079-7:2015                  | IECEX BAS 19.0075X | Ex ec IIC T4 Gc (-40°C ≤ Ta ≤ +70°C)                         |                            |
| Europe (Baseefa), ATEX         | EN60079-0:2017<br>EN60079-7:2015 | MTL19ATEXMA15X     | Ex II 3 G Ex ec IIC T4 Gc                                    | MA15E/D/2/SI, MA15E/D/1/SI |
| USA, Canada (UL)               | UL1604                           | Pending            | Hazardous Locations Class I, Division 2 Groups A, B, C and D | MA15E/D/2/SI MA15E/D/1/SI  |



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