



# MA3160 (1 Pole) Class I

Cost effective surge protection designed to cope with secondary currents as described in IEC 61312

- Space saving design, DIN-rail mounting
- Full range of AC mains power applications
- Coordinated surge protection to IEC 61312; rated according to IEC 61643
- Class I single pole  $I_{peak}$  of 50kA (10/350 $\mu$ s)
- Multiple pole  $I_{peak}$  of >100kA (10/350 $\mu$ s)



The MA3100 Series offers cost effective, DIN rail mounted, surge protection for applications described by IEC61312. The Class I surge arrester fits into the cascade philosophy alongside Class II & Class III devices.

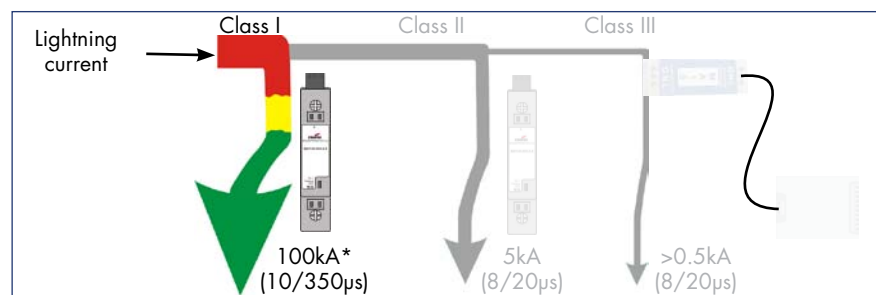
All modules are DIN rail mounted for ease of installation and have very small footprints therefore minimising the space required. Each device is simply connected in parallel with the power.

The Class I surge current arrester is designed for location at the service entrance in the transition between Zone 0A and 0B as per IEC61312 coordinated surge protection. A single width module withstands surge currents up to 50,000 amps with a 10/350 $\mu$ s waveform. The single width module gives excellent flexibility when applying to the different supply configurations worldwide.

## Coordinated IEC 61643 Class I, Class II and Class III surge protection

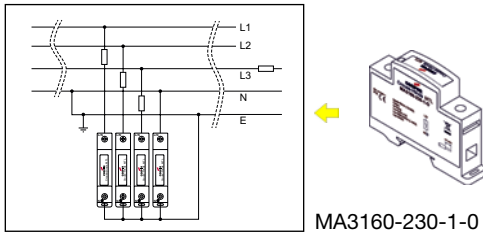
The MA3100 range offers cost effective surge protection for applications described by IEC 61312, where the AC mains supply can carry a partial share of the lightning surge current. Class I surge protectors (rated according to IEC 61643) are designed to carry up to 50kA (10/350 $\mu$ s). Class II surge protectors are characterized by their ability to protect against 8/20 $\mu$ s impulses up to 50kA, possibly resulting from the operation of a class I device. Finally Class III devices are used to protect individual pieces of equipment. An excellent example of a class III device is the MA15.

### Cascade Effect Example

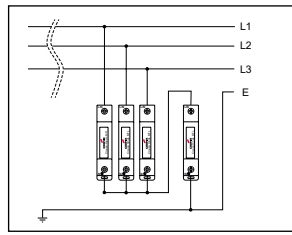


\*Total over a 3 phase system

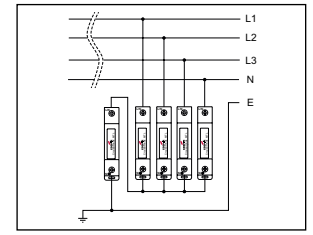
## TN-C-S SYSTEM



## VARIATIONS FOR IT

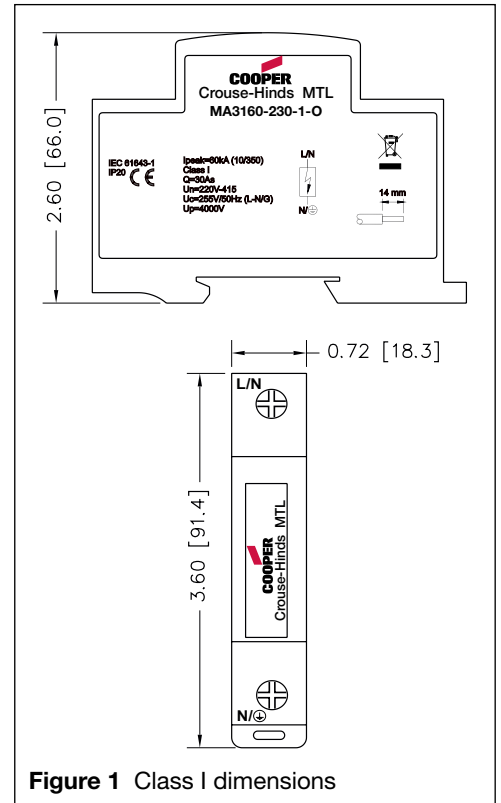


## VARIATIONS FOR TT

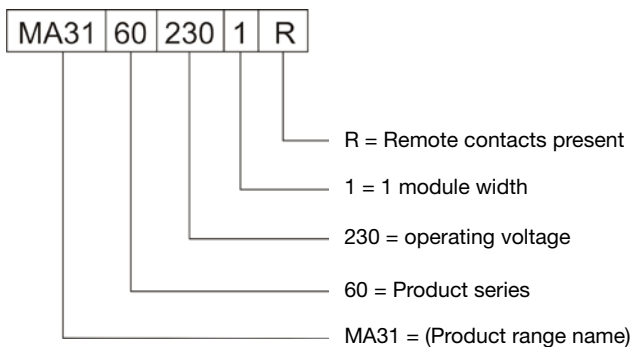


## CLASS I SURGE PROTECTION DEVICE

Technical data	MA3160	230-1-0
Dimensions:		See Figure 1
IEC category/VDE requirement class:		I/B
Max. continuous operating voltage $U_c$ :		250V 50/60Hz
Leakage current:		<1 $\mu$ A
Lightning test current $I_{imp}$ (10/350 $\mu$ s)	peak value/charge:	50kA/30As
	multi-pole:	>100kA/>50As
	specific energy:	1000kJ/W
Protection level $U_p$ :		$\leq$ 4kV
Response time $t_a$ :		$\leq$ 100ns
Quenching short circuit current $I_f$		1.5kA/250V
Max. required backup fuse:		125A gL-type
Temperature range:		-40°C to +80°C
Perm. relative air humidity:		$\leq$ 95%
Protection type according to IEC 60 529/EN 60 529:		IP20
Flammability class according to UL94:		VO
Maximum wire size:		25mm <sup>2</sup>
Torque:		4.5Nm
Weight (typ.):		115g
Approvals:		
Test standards:	IEC 61643-1:1998-02 E DIN VDE 0675 PART 6:1989-11/A2:1196-10	



## TO ORDER CLASS I SURGE PROTECTION DEVICES, SPECIFY -



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.



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