Surge Protective Device LAYM40 MOV510

Technical Specifications

Version 1.0

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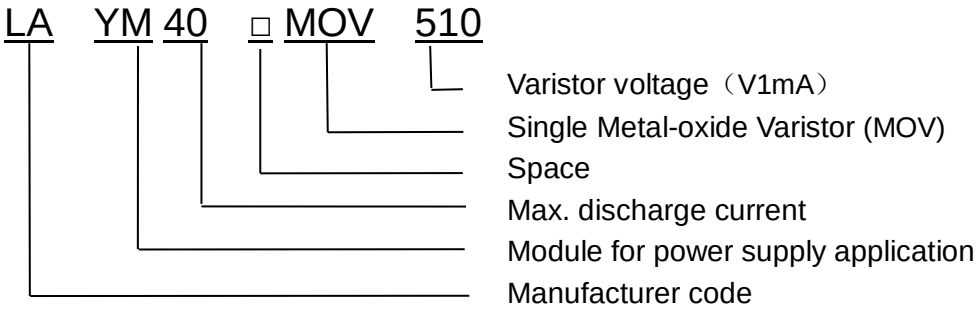
1. Introduction

Surge Protective Device (SPD) LAYM40 MOV510 series are suitable to low-voltage power supply and distribution system for protection of equipment from the surge and the transient over-voltage inducted by lightning strike or internal power supply systems with the following features:

- ◆ Anti-shock and flame retardant plastics
- ◆ High current discharge capacity with up to 40kA（8/20μs waveform） for single module
- ◆ Automatic fault release device for over-current, over-heating protection can effectively prevent the occurrence of fire
- ◆ Support hot plugging
- ◆ Local signal alarm and remote switching signal alarm mode；
- ◆ DIN 35mm rail mounting

2.Part Numbering System



3. Specifications

Parameters	**Specification**
Standards	IEC61643-11 2011/EN61643-11 2011
IEC category	Ⅱ T2
EN category	T2
Protection mode	L-N
Mounting	35mm DIN rail（comply with EN60715）
Enclosure material	PBT 20% GF
Flame retardant level comply with UL49	V-0
Structure type	DIN rail mounted module, separate module, combinable module
SPD Fault Alarm	Local alarm indication window and remote signal alarm contacts
Rated voltage Uo	230V AC
Frequency f_N	47~63Hz
Max. continuous operating voltage Uc	320V AC
Leakage current at Ucont	20μA
Nominal discharge current In (8/20μs waveform)（15times）	20kA
Maximum discharge current Imax (8/20μs waveform)（once）	40kA

Threshold voltage at 20kA	≤1500V
Short current withstand capacity I_{SCCR}	10kA
Max. backup fuse	125A gL/gG
Temporary over voltage (TOV)	385V/5s
	440V/120min
Response time t_A	≤25ns
Installation location	Indoor
Ingress Protection（comply with IEC60529/EN60529）	IP20
Release device	Thermal release
Local alarm indication window	Green (normal),Red (fault)
Remote signal alarm contacts	Closed (normal),Open (fault)
Wire section area	4 mm^2～35mm^2
Remote signal contacts type	Floating contacts 125VAC/30VDC 1A(AC),0.5A(DC)
Insulation among devices	Insulation among remote signal connectors and main circuit devices comply with EN 60950-1A12: 2011;Withstand voltage：3000V AC 1mA 1 min.

4.Product Description

4.1 Profile photo

Fig.1：LAYM40 MOV510

4.2 Dimensions

Dimensions：90.0mm×66mm×18mm

Mounting：35mm DIN rail

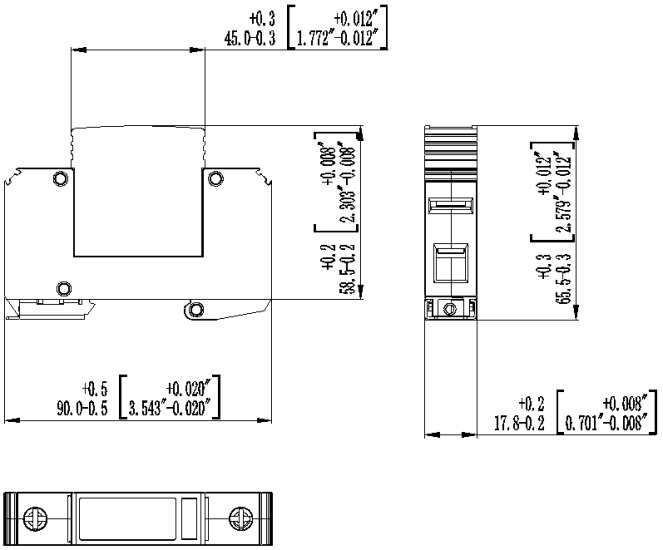


Fig.2 Profile drawing

4.3 Schematic

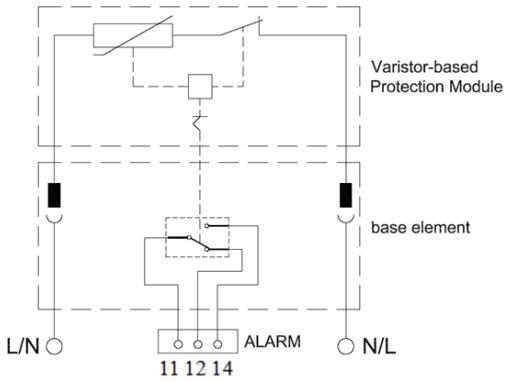
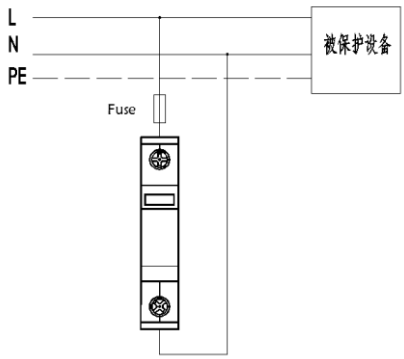


Fig. 3 Schematic

4.4 Mounting

Installation and maintenance of surge protective devices should be carried out by professionals, and the product generally mounted on 35mm DIN rail in power distribution cabinets. The wire connection is in parallel and the recommended multi-wire section area is not less than 4mm2 and the length L is less than 0.5 meters (as shown in Fig. 4).

Stainless steel screws M6 is used as the fastening screws for the surge protection device, 1.5N.m (about 15kgf.cm) is recommended for electrical fastener torque and stripped length of 13mm for the wire, wire pressing frame is loose for directly putting into the wires before fixation.



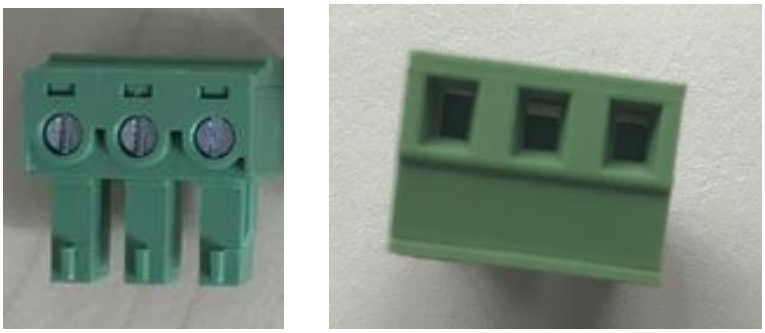
(被保护设备： Protected equipment)

Fig.4 Connection illustration

The remote signal connectors are located on the upper part of the product, when remote monitoring is needed, pull off the connection plug and insert the wire of alarm device into the corresponding connection hole of the wiring plug, screw the plug and then put the connection plug back in place (as shown in Figure 5).

Binding screw M2 is used for wire connection, and fixing torque of 0.2N.m and stripped length of 6mm is recommended.

The connector can be fixed by a 3mm slotted screwdriver.



Remote alarm connection: closed at normal operation while open at fault.

Fig.5 Remote signal alarm connection

Before power on, please confirm that wire connection is correct and reliable.

Warning

Surge protective device must be disconnected with the power supply in installation and maintenance, power on operation is absolutely prohibited due to the possible danger of electricity shock. Protected wire should not in line (bundle) with unprotected or ground wire. The cross section area, the length and the connection of grounding wire must comply with the relevant standards so that it can provide adequate protection. Special maintenance is not needed for the surge protective device except to periodically checking of wire fixation and the color indication window. The red indication window represent that the surge protective device is in fault and need to be replaced with a new one. If remote alarm device exists, alarm signal will be sent.

4.5 Material

Items	**Materials**	**Surface coating**
Enclosure	PBT，UL94-V0	Pantone Black

5. Environmental parameters

Parameters	Specifications
Operating temperature	-40℃～+70℃
Storage temperature	-40℃～+85℃
Relative humidity	5%-95%
Atmosphere pressure	70kPa～106kPa
Altitude	4000 m

6. Environmental protection

RoHS compliant

7. Marking

PET material lable

8.Standards

- IEC61643-11 2011 Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and test methods
- EN61643-11 2011 Low-voltage surge protective devices - Part 11: Surge protective devices connected to low-voltage power systems - Requirements and tests
- IEC60068-2-1 Environmental testing-Part 2-1:Tests-Test A:Cold
- IEC60068-2-2 Environmental testing-Part 2-1:Tests-Test B: Hot
- IEC60068-2-30 Environmental testing procedures-Part 2: Tests. Test Db and guidance: Damp heat, cyclic (12 + 12-hour cycle)
- IEC60068-2-6 Environmental testing – Part 2-6: Tests – Test Fc: Vibration (sinusoidal)
- IEC60068-2-11 Environmental testing - Part 2: Tests; test Ka: Salt mist
- IEC60068-2-27 Environmental testing-Part 2-27: Tests - Test Ea and guidance: Shock
- IEC60068-2-32 Basic environmental testing procedures- Part 2: Test - Test Ed: Free fall
- IEC68-2-30 Test Db: Damp heat, cyclic
- IEC60068-2-34 Environmental Testing - Test Fd: Random Vibration Wide Band-General Requirements
- IEC60068-2-52 Environmental testing - Part 2: Tests, Test Kb: Salt mist, cyclic (sodium chloride solution)