Lightning arrester LightningController MC 50-B VDE

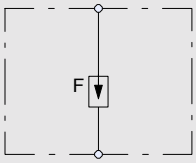
Operation and fields of application

LightningController MC 50-B VDE is a plug-in multiple spark gap. The device consists of nine partial spark gaps, formed by ten heavy-duty carbon discs. The precisely defined spacing of the spark gaps is safely ensured by highly heat-resistant Teflon discs. Blade contacts of pressure die-cast zinc, which are screwed to each other, clamp the spark gap together with accurate positioning. Eight of the nine spark gaps are capacitively controlled and thus ensure a precisely defined operating surge voltage of ≤ 2 kV.

The lightning arrester conforms to requirement class B to DIN VDE 0675 Part 6 (Draft 11.89) A1, A2 and class I to IEC 61643-1 (02.98). The device is designed to be used between interface 0 to 1 in accordance with the lightning protection zone concept of IEC 61312-1.

In a lightning protection installation in a building, LightningController MC 50-B VDE provides lightning protection potential equalisation with the power supply lines. The device has been successfully tested with respect to the lightning current parameters according to ENV 61024-1 and IEC 61024-1.

Since the protective action of LightningController MC 50-B VDE is ensured even with a direct lightning strike on an overhead line, the device can also be used in buildings supplied with power via an overhead line.



Block diagram of LightningController

Mounting

LightningController MC 50-B VDE is easy to install, since the dimensions of the housing of the device conform to the space-saving 17.5 mm grid module. The lightning arrester is installed simply by snap-fitting it to the top-hat rail. The LightningController has two terminals each for the N and PE-conductors.

Note: since the spark gap of the device is enclosed, no plasma arcs are produced outside the casing.

Test marks

Other marks

Please always state the order number when ordering.

TBS_GB_V0_15072002

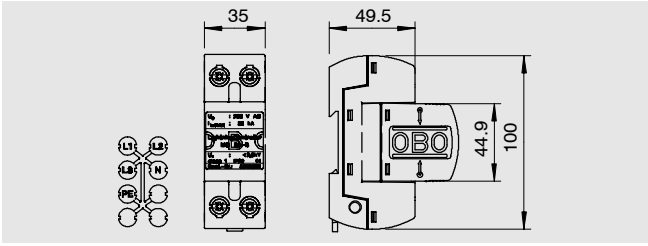
Technical data

LightningController lightning arrester		
Type		**MC 50-B VDE**
Nominal voltage	U_N	230 V / 50-60 Hz
Maximum continuous operating voltage	U_c	255 V
Requirement class to DIN VDE 0675, Part 6 (Draft 11.89) A1, A2 to IEC 61643-1		B class I
LPZ		0 → 1
Insulation resistance	R_{ins}	> 100 MΩ
Voltage protection level	U_p	< 2 kV
Response time	t_A	< 100 ns
Surge voltage test (10/350) with the lightning parameters set out in IEC 61312-1 (02.95) Peak current Charge Spec. energy	 I_{imp} Q W/R	 50 kA 25 As 0.63 MJ/Ω
Mains follow-up current quenching capacity of the arrester at U_c Maximum asymmetric short-circuit current	 I_p	12.5 kA_{rms} 25 kA
Max. series fuse (only required if there is no such fuse already in the network)		500 A gL/gG
Short-circuit strength (series fuse 500 A gL) Maximum asymmetric short-circuit current	 I_p	17.6 kA_{rms} 25 kA
Temperature range	ϑ	-40 °C to +85 °C
Air humidity		≤ 95%
IP Code		IP 20
Connection cross-section rigid/flexible/stranded Tightening torque (M_A) at least 4 Nm		10-50 / 0-25 / 10-35 mm^2 AWG 8-2
Mounting		Snap-fitting on 35 mm top-hat rail to DIN EN 50022
		Subject to technical alterations

Ordering data

Type	Description	Order no.
MC 50-B VDE	Complete[1)]	**5096 84 7**
MC 50-B VDE/O	Upper part	**5096 82 0**
MC 50-B VDE/U	Base	**5096 83 9**

[1)] Complete = upper part and base



Features at a glance MC 50-B VDE	Advantages in use
Enclosed system, no plasma arcs outside the casing	Can be installed in any standard commercial distribution board enclosure
Safety-tested, VDE, ÖVE, KEMA KEUR, MEEI, EZU test marks	Reliable arrester in all applications, tested by several independent institutes
Low protection level	Decoupling inductances only needed where the distance (line length) between class B and C arresters is less than 5 metres
Plug-in upper part	Simple checking of the technical connection condition (TAB) of the VDEW (see page 24)
Two connection possibilities on each side	Easy to install
High follow-up current quenching capacity	Can be used close to transformers
Connection duct at side	No busbars required