

 **Lightning Protection**

Lightning protector using lightning protection elements

# FLT series



**Lightning protectors using lightning protection elements adapted to JIS and 10/350µs wave-form, which have the top-class performance in the world**

This lightning protectors have the top-class performance in the world adapted to the wave-form  $10/350\ \mu\text{s}$ , which has more similar wave-form to the actual lightning strike wave-form and higher lightning energy than the surge current wave-form of the former Japan-standard  $8/20\ \mu\text{s}$ . Also to the facilities like steel tower, lightning rod etc. where the direct lightning strike can be expected, this protector can be used.



# FLT-CP series

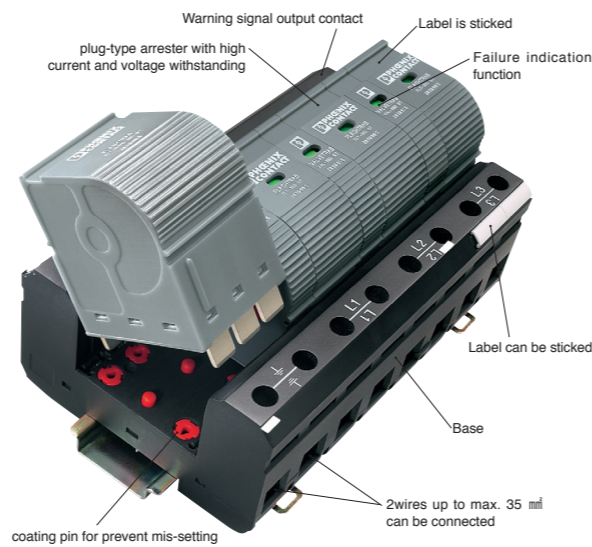
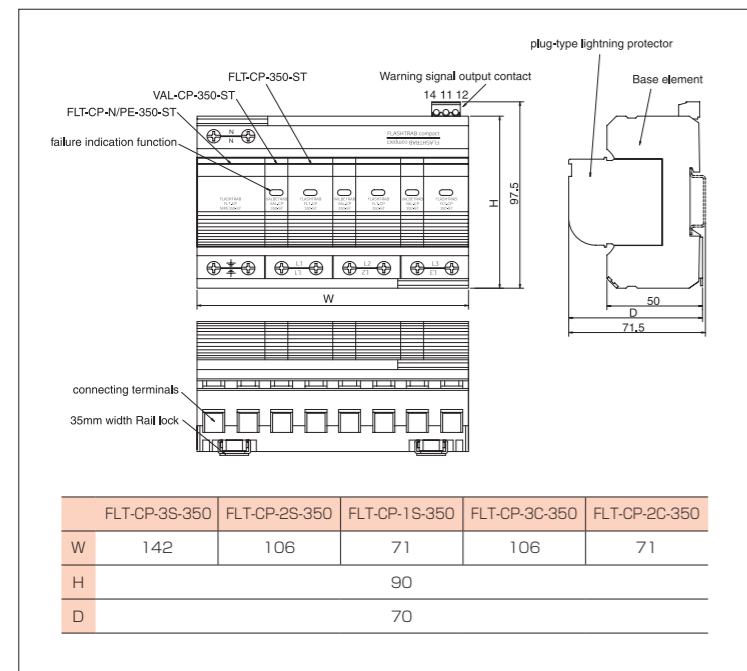
The strong combination with arresters adapted to class I + class II protects from lightning surge.

FLASHTRAB compact is the products consisting of minimized and combined two protectors, one for direct lightning strike wave-form, class I 10/350 $\mu$ s and one for inductive lightning strike wave-form, class II 8/20 $\mu$ s and can be harmonized between class I and class II energy by active energy control (AEC). The main body consists of plug-type high current and voltage withstanding arrester and base part. Warning signal output contact and failure indicating function are equipped as standard equipment. According to the application, single phase 2 wires, single phase 3 wires, three phase 3 wires etc. line-up is prepared.



## External figure

unit(mm)



## Specifications

Type name	FLT-CP-3S-350	FLT-CP-2S-350	FLT-CP-1S-350	FLT-CP-3C-350	FLT-CP-2C-350
Test class ※ 1	Class I +class II				
Rated voltage Un	AC 240V				
Max. continuous operating voltage Uc	AC 350V				
Impulse current Iimp(10/350) $\mu$ s	L ~ N	25kA $\times$ 3	25kA $\times$ 2	25kA $\times$ 1	25kA $\times$ 3
	N ~ PE	100kA			-
Nominal discharge current In(8/20) $\mu$ s	L ~ N	25kA $\times$ 3	25kA $\times$ 2	25kA $\times$ 1	25kA $\times$ 3
	N ~ PE	100kA			-
Voltage protection level ( Voltage limitation ) Up	L ~ N	less than 1.5 k V			
	N ~ PE				
Required max. back-up fuse	315A				
Current withstanding to short-circuit	50kA(in case of using 315A fuse )				
Current withstanding to short-circuit without back-up fuse	3kA(N-PE 100A)				
Applicable wire	0.5 ~ 25mm <sup>2</sup> (Recommended 14-22 mm <sup>2</sup> )				
Failure indication function	equipped				
Warning signal output contact	one connecting contact				

※ 1 IEC 61643-1/JIS C 5381-1

# FLT-PLUS series

Adapted to class I and impulse current (10/350 $\mu$ s) is improved to 50kA.

Lightning protector adapted to class I with impulse current 50kA.

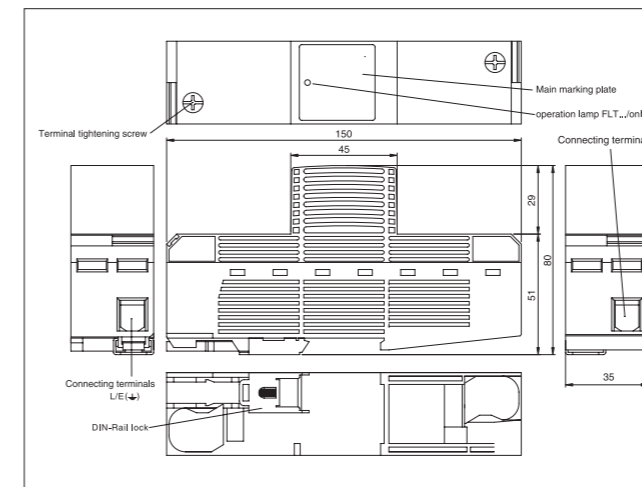
This protector series is used for such places in the structure to be protected, where damages caused by direct lightning energy can be expected like main power supply pull-in board.



Impulse current Iimp	10/350 $\mu$ s 50kA	
Type name	FLT-PLUS.../I	FLT-PLUS...
Power supply indication lamp	equipped	not equipped

## External figure

unit(mm)



## Specifications

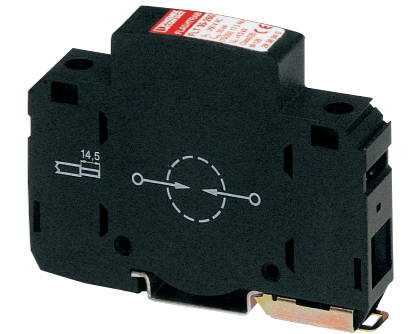
Type-name	FLT-PLUS CTRL-0.9	FLT-PLUS CTRL-1.5	FLT-PLUS	FLT100 N/PE CTRL-1.5	FLT35 CTRL-0.9	FLT35 CTRL-1.5	FLT50 N/PE CTRL-1.5
Test class ※ 1	Class I						
Rated voltage UN	AC230V	AC400V		AC230V (N ~ PE)	AC230V	AC440V	AC230V (N ~ PE)
Max. continuous operation voltage Uc	AC330V	AC440V		AC260V	AC260V	AC440V	AC260V
Impulse current Iimp(10/350) $\mu$ s	50kA			100kA	35kA		50kA
Nominal discharge current In(8/20) $\mu$ s	50kA			100kA	35kA		50kA
Voltage protection level ( Voltage limitation ) Up	less than 0.9kV	less than 1.5kV	less than 4kV	1.5kV	less than 0.9kV	less than 1.5kV	
	250A			125A	125A		
Short-circuit withstanding without back-up fuse	50kA			100A	3kA		500A
Applied cable	16 ~ 35mm <sup>2</sup> (Recommended 14 ~ 38mm <sup>2</sup> )			0.5 ~ 25mm <sup>2</sup> (Recommended 14 ~ 22mm <sup>2</sup> )			

※ 1 IEC 61643-1/JIS C 5381-1

# FLT35 series

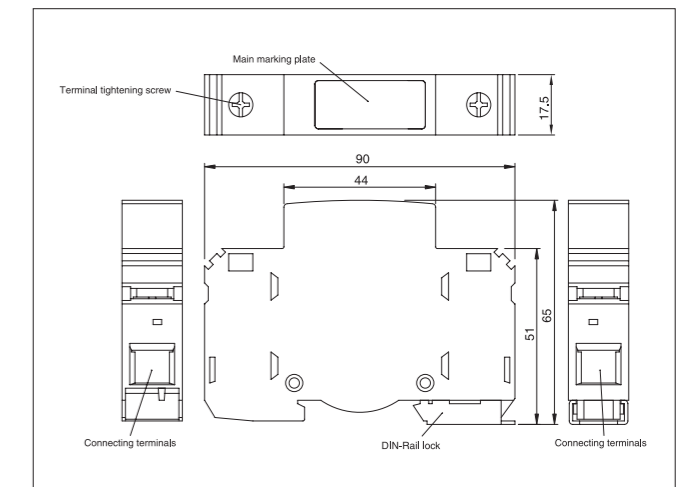
Adapted to class I and space-saving type.

Impulse current (10/350  $\mu$  s) is specified up to 35kA. Lightning protector is the space-saving type and adapted to class I and is installed in the zone, where the influence of inductive lightning and back-lightning surge are strong in the building.



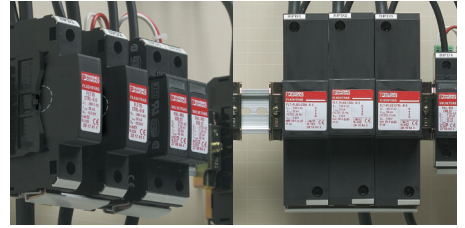
Impulse current Iimp	10/350 $\mu$ s 35kA	
Type name	FLT35CTRL.../I	FLT35CTRL...
Power supply indication lamp	equipped	not equipped

unit(mm)



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