

# FLP-15-VH/...

## SPD Type 1, Type 2 – varistor arresters



- For industrial and residential installations
- Surge protection at the entry into building
- Pluggable modules, visual fault signalling
- Module locking, remote fault signalling (S)
- Possible **temporary** replacement of range FLP-12,5 V / ...

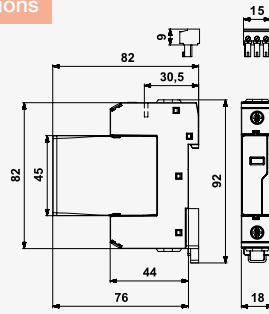
# Product information FLP-15-VH/...:

## FLP-15-VH/1S

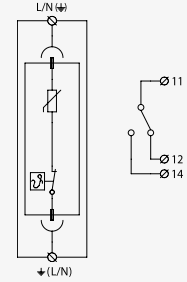
- lightning current and surge arresters
- suitable for TN and TT systems
- installation at the entry into building;  
60 kA (8/20), 15 kA (10/350)
- remote fault signalling



Dimensions



Basic circuit diagram

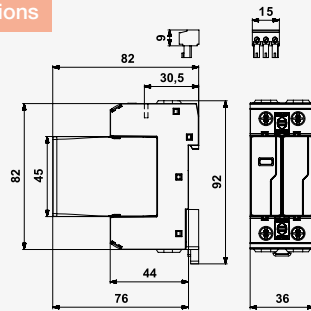


## FLP-15-VH/1S+1

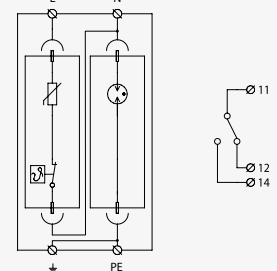
- lightning current and surge arresters
- suitable for 1-phase TT system
- installation at the entry into building;  
60 kA (8/20), 25 kA (10/350)
- remote fault signalling



Dimensions



Basic circuit diagram

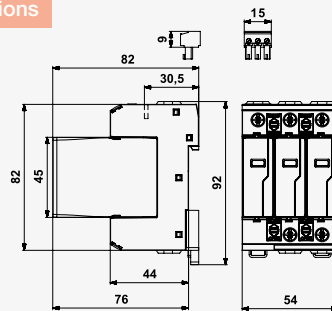


## FLP-15-VH/3S

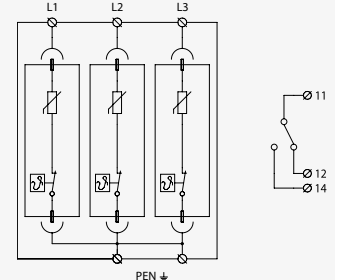
- lightning current and surge arresters
- suitable for 3-phase TN-C system
- installation at the entry into building;  
180 kA (8/20), 45 kA (10/350)
- remote fault signalling



Dimensions



Basic circuit diagram

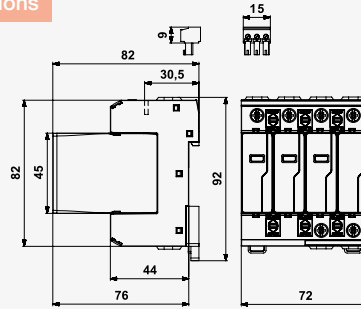


## FLP-15-VH/3S+1

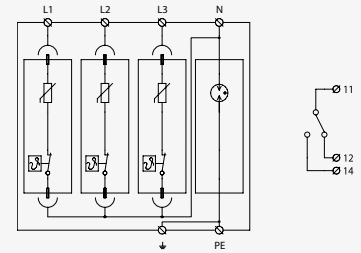
- lightning current and surge arresters
- suitable for 3-phase TT system
- installation at the entry into building;  
100 kA (8/20), 50 kA (10/350)
- remote fault signalling



Dimensions



Basic circuit diagram

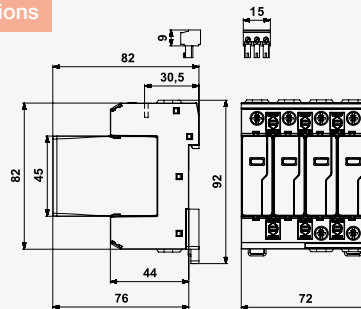


## FLP-15-VH/4S

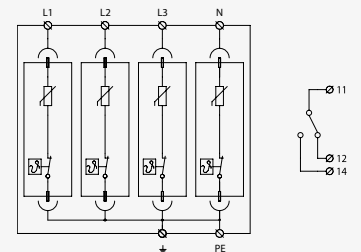
- lightning current and surge arresters
- suitable for 3-phase TN-S system
- installation at the entry into building;  
240 kA (8/20), 60 kA (10/350)
- remote fault signalling



Dimensions



Basic circuit diagram



## Parameters:

Parameter / Type		FLP-15-VH/1S+1	FLP-15-VH/3S+1
Nominal voltage	$U_n$	230 V AC	230 V AC
Maximum operating voltage L-N	$U_c$	275 V AC	275 V AC
Maximum operating voltage N-PE	$U_c$	255 V AC	255 V AC
Lightning impulse current (10/350 $\mu$ s) L-N	$I_{imp}$	15 kA	15 kA
Lightning impulse current (10/350 $\mu$ s) N-PE	$I_{imp}$	25 kA	50 kA
Nominal discharge current (8/20 $\mu$ s) L-N	$I_n$	30 kA	30 kA
Nominal discharge current (8/20 $\mu$ s) N-PE	$I_n$	30 kA	50 kA
Maximum discharge current (8/20 $\mu$ s) L-N	$I_{max}$	60 kA	60 kA
Maximum discharge current (8/20 $\mu$ s) N-PE	$I_{max}$	60 kA	100 kA
Voltage protection level at 5 kA L-N	$U_p$	0,9 kV	0,9 kV
Voltage protection level L-N	$U_p$	1,5 kV	1,5 kV
Voltage protection level N-PE	$U_p$	1,5 kV	1,5 kV
Voltage protection level L-PE	$U_p$	1,5 kV	1,5 kV
Ability to turn off independently subsequent current N-PE	$I_n$	0,1 kA	0,1 kA
Short-circuit current rating	$I_{SCCR}$	50 kA	50 kA
Maximum overcurrent protection		160 A gL/gG	160 A gL/gG
Response time L-N	$t_a$	25 ns	25 ns
Response time N-PE	$t_a$	100 ns	100 ns
Cross-section of connected conductors solid (min/max)		1 mm <sup>2</sup> / 35 mm <sup>2</sup>	1 mm <sup>2</sup> / 35 mm <sup>2</sup>
Cross-section of connected conductors stranded (min/max)		1 mm <sup>2</sup> / 25 mm <sup>2</sup>	1 mm <sup>2</sup> / 25 mm <sup>2</sup>
Fault indication L-N		red indication field	red indication field
Remote indication		potential-free change-over contact	potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC	250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		1,5 mm <sup>2</sup>	1,5 mm <sup>2</sup>
Degree of protection		IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 80 °C	-40 °C / 80 °C
Mounting		DIN rail 35 mm	DIN rail 35 mm
According to standard		EN 61643-11:2012, IEC 61643-11:2011 / T1,T2	EN 61643-11:2012, IEC 61643-11:2011 / T1,T2
Ordering number		A07091	A07093

Parameter / Type		FLP-15-VH/1S	FLP-15-VH/3S	FLP-15-VH/4S
Nominal voltage	$U_n$	230 V AC	230 V AC	230 V AC
Maximum operating voltage	$U_c$	275 V AC / 350 V DC	275 V AC / 350 V DC	275 V AC / 350 V DC
Lightning impulse current (10/350 $\mu$ s)	$I_{imp}$	15 kA	15 kA	15 kA
Nominal discharge current (8/20 $\mu$ s)	$I_n$	30 kA	30 kA	30 kA
Maximum discharge current (8/20 $\mu$ s)	$I_{max}$	60 kA	60 kA	60 kA
Voltage protection level at 5 kA	$U_p$	0,9 kV	0,9 kV	0,9 kV
Voltage protection level	$U_p$	1,5 kV	1,5 kV	1,5 kV
Short-circuit current rating	$I_{SCCR}$	50 kA	50 kA	50 kA
Maximum overcurrent protection		160 A gL/gG	160 A gL/gG	160 A gL/gG
Response time	$t_a$	25 ns	25 ns	25 ns
Cross-section of connected conductors solid (min/max)		1 mm <sup>2</sup> / 35 mm <sup>2</sup>	1 mm <sup>2</sup> / 35 mm <sup>2</sup>	1 mm <sup>2</sup> / 35 mm <sup>2</sup>
Cross-section of connected conductors stranded (min/max)		1 mm <sup>2</sup> / 25 mm <sup>2</sup>	1 mm <sup>2</sup> / 25 mm <sup>2</sup>	1 mm <sup>2</sup> / 25 mm <sup>2</sup>
Fault indication		red indication field	red indication field	red indication field
Remote indication		potential-free change-over contact	potential-free change-over contact	potential-free change-over contact
Remote indication contacts		250 V / 0,5 A AC, 250 V / 0,1 A DC	250 V / 0,5 A AC, 250 V / 0,1 A DC	250 V / 0,5 A AC, 250 V / 0,1 A DC
Cross-section of remote indication conductors		1,5 mm <sup>2</sup>	1,5 mm <sup>2</sup>	1,5 mm <sup>2</sup>
Degree of protection		IP 20	IP 20	IP 20
Range of operating temperatures (min/max)		-40 °C / 80 °C	-40 °C / 80 °C	-40 °C / 80 °C
Mounting		DIN rail 35 mm	DIN rail 35 mm	DIN rail 35 mm
According to standard		EN 61643-11:2012, IEC 61643-11:2011 / T1,T2		
Ordering number		A07090	A07092	A07094

Spare module	Ordering number	Description
FLP-15-VH/0	A07089	Spare varistor module for FLP-15-VH/...
FLP-NPE-25-VH/0	A07066	spare NPE module for FLP-15-VH/1S+1


## Recommended applications of the FLP-12,5 V/... and FLP-15-VH/... product ranges:

- Buildings supplied with power from another building (without direct connection to the public distribution mains)
- Indoor installations with equipment installed on the roof or outside the building (in the LPZ 0<sub>B</sub> lightning protection zone)
- Buildings and halls (warehouses) without permanent presence of people and without equipment installed (without electronic devices), LV installations only
- Buildings without LPS and powered by cable (buried in the ground), e.g. family houses
- Residential buildings with SPDs installed for each apartment and where there is no SPD in the main switchboard

(note the depth of the switchboard when installing the FLP-15-VH/...)

## Replacement for the FLP-12,5 V/... product range:

The different types of the FLP-12,5 V/... can be replaced as follows:

Product type	Ordering number		Product type	Ordering number
FLP-12,5 V/1	A03421		FLP-15-VH/1S	A07090
FLP-12,5 V/1 S	A03422		FLP-15-VH/1S	A07090
FLP-12,5 V/1+1	A03423		FLP-15-VH/1S+1	A07091
FLP-12,5 V/1S+1	A03424		FLP-15-VH/1S+1	A07091
FLP-12,5 V/2	A03809		2 ks FLP-15-VH/1S	2 ks A07090
FLP-12,5 V/2 S	A05182		2 ks FLP-15-VH/1S	2 ks A07090
FLP-12,5 V/3	A03425		FLP-15-VH/3S	A07092
FLP-12,5 V/3 S	A03426		FLP-15-VH/3S	A07092
FLP-12,5 V/3+1	A03427		FLP-15-VH/3S+1	A07093
FLP-12,5 V/3S+1	A03428		FLP-15-VH/3S+1	A07093
FLP-12,5 V/4	A03429		FLP-15-VH/4S	A07094
FLP-12,5 V/4 S	A03430		FLP-15-VH/4S	A07094

### ATTENTION!

When substituting FLP-12,5 V/... with the FLP-15-VH/... products, the depth of the switchboard must be taken into account, as the FLP-15-VH/... products **are 9 mm deeper**, which can be limiting in case of wall mounted switchboards.

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