

**POWER SUPPLY SYSTEMS****SURGE ARRESTERS – TYPE 3**

SPD Type 3 according to EN 61643-11  
SPD Class III according to IEC 61643-1



For protecting the power supply of industrial electronic devices against surges in switchgear installations.

DEHNrail M 2P ...: Two-pole surge arrester consisting of a base element and plug-in protection module  
DEHNrail M 2P ... FM: With remote signalling contact for monitoring device (floating changeover contact)

The new modular devices of the DEHNrail M product family impress the users with their high performance parameters and new clear Red/Line design. The device combines safety and easy handling in only one module to a convincing synergy. The low voltage protection level as well as the comprehensive protection against common-mode and differential-mode interferences are designed for protection of industrial terminal electronic devices in an optimal way. The design of the devices with input and output terminals for series connection and the protective circuit designed for high load currents underline this concept.

The very compact design of the DEHNrail M devices includes the distinctive Y protection circuit and the combined SPD control and disconnecter.

The coding integrated into the base part and protection module prevents wrong supplying by the installer or user.

The new module locking system of the DEHNrail M product family is unique for surge protective devices. It connects the surge protection module tightly with the base part of the SPD. Neither vibrations during transport nor the electromagnetic forces of discharges can loosen this connection.

- Two-pole surge arrester consisting of a base element and plug-in protection module
- High discharge capacity due to powerful zinc-oxide-varistor/spark-gap combination
- Energy-coordinated within the Red/Line product family
- Operating state/fault indication by mark in the inspection window
- Small (modular) design according to DIN 43880
- Easy exchange of protection modules with module releasing button

If the protective circuit is overloaded despite of the powerful characteristics of the devices, the module releasing button allows for quick exchanging of the protection module.

Apart from the standard visual indication by the green and red marking, type DEHNrail M ... FM has a 3-pole terminal for remote signalling. As the remote signalling contact is a floating changeover contact, the remote signal can be used as break or make contact, according to circuit concept.



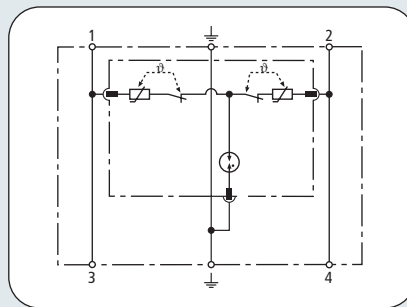
# DEHNrail modular

## DEHNrail M 2P ...

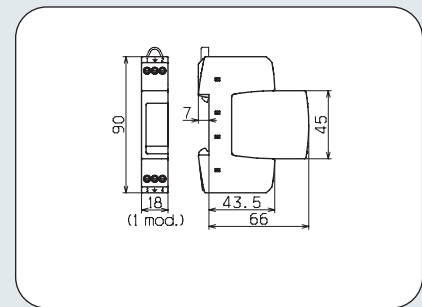
# POWER SUPPLY SYSTEMS

## SURGE ARRESTERS – TYPE 3

**NEW**



Basic circuit diagram DR M 2P ...



Dimension drawing DR M 2P ...

DR M 2P ...: Two-pole surge arrester consisting of a base element and plug-in protection module

	DR M 2P 30	DR M 2P 60	DR M 2P 75	DR M 2P 150	DR M 2P 255
SPD according to EN 61643-11	Type 3	Type 3	Type 3	Type 3	Type 3
SPD according to IEC 61643-1	Class III	Class III	Class III	Class III	Class III
Nominal ac voltage $U_N$	24 V	48 V	60 V	120 V	230 V
Max. continuous ac voltage $U_C$	30 V	60 V	75 V	150 V	255 V
Max. continuous dc voltage $U_C$	30 V	60 V	75 V	150 V	255 V
Nominal load current ac $I_L$	25 A	25 A	25 A	25 A	25 A
Nominal discharge current (8/20 $\mu$ s) [L-N] $I_n$	1 kA	1 kA	2 kA	2 kA	3 kA
Nominal discharge current (8/20 $\mu$ s) [L+N-PE] $I_n$	2 kA	2 kA	4 kA	4 kA	5 kA
Combined impulse [L-N] $U_{OC}$	2 kV	2 kV	4 kV	4 kV	6 kV
Combined impulse [L+N-PE] $U_{OC}$	4 kV	4 kV	8 kV	8 kV	10 kV
Voltage protection level [L-N] $U_p$	$\leq 180$ V	$\leq 350$ V	$\leq 400$ V	$\leq 640$ V	$\leq 1250$ V
Voltage protection level [L/N-PE] $U_p$	$\leq 630$ V	$\leq 730$ V	$\leq 730$ V	$\leq 800$ V	$\leq 1500$ V
Response time [L-N] $t_A$	$\leq 25$ ns	$\leq 25$ ns	$\leq 25$ ns	$\leq 25$ ns	$\leq 25$ ns
Response time [L/N-PE] $t_A$	$\leq 100$ ns	$\leq 100$ ns	$\leq 100$ ns	$\leq 100$ ns	$\leq 100$ ns
Max. mains-side overcurrent protection	25 A gL/gG or B 25 A				
Short circuit withstand capability at mains-side overcurrent protection with 25 A gL/gG	6 kA <sub>rms</sub>	6 kA <sub>rms</sub>	6 kA <sub>rms</sub>	6 kA <sub>rms</sub>	6 kA <sub>rms</sub>
TOV voltage [L-N] $U_T$	—	—	—	—	335 V / 5 sec.
TOV voltage [L/N-PE] (I) $U_T$	—	—	—	—	400 V / 5 sec.
TOV voltage [L+N-PE] (II) $U_T$	—	—	—	—	1200 V + $U_0$ / 200 ms
Operating temperature range $T_U$	-40°C...+80°C	-40°C...+80°C	-40°C...+80°C	-40°C...+80°C	-40°C...+80°C
Cross-sectional area (min.)	0.5 mm <sup>2</sup> solid/flexible				
Cross-sectional area (max.)	4 mm <sup>2</sup> stranded/2.5 mm <sup>2</sup> flexible				
Mounting on	35 mm DIN rail acc. to EN 60715				
Enclosure material	red thermoplastic, UL 94 V-0				
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 20
Dimension	1 mod., DIN 43880	1 mod., DIN 43880	1 mod., DIN 43880	1 mod., DIN 43880	1 mod., DIN 43880

Ordering information					
Type	DR M 2P 30	DR M 2P 60	DR M 2P 75	DR M 2P 150	DR M 2P 255
Part No.	953 201	953 202	953 203	953 204	953 200
Packing unit	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)

### Protection Module for DEHNrail M

DR MOD ...: Protection module with integrated Y protection circuit

Type DR MOD ...	30	60	75	150	255
Nominal discharge current (8/20 $\mu$ s) [L-N] $I_n$	1 kA	1 kA	2 kA	2 kA	3 kA
Nominal discharge current (8/20 $\mu$ s) [L+N-PE] $I_n$	2 kA	2 kA	4 kA	4 kA	5 kA
Max. continuous ac voltage $U_C$	30 V	60 V	75 V	150 V	255 V
Max. continuous dc voltage $U_C$	30 V	60 V	75 V	150 V	255 V
Type	PU		Part No.		
DR MOD 30	1		953 011		
DR MOD 60	1		953 012		
DR MOD 75	1		953 013		
DR MOD 150	1		953 014		
DR MOD 255	1		953 010		

**NEW**

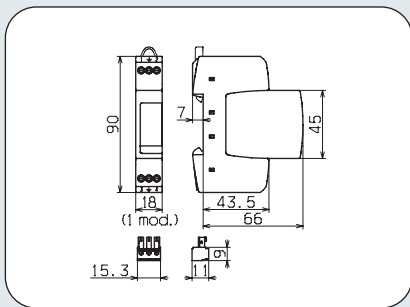


## POWER SUPPLY SYSTEMS

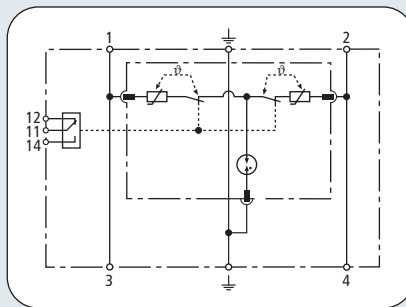
### SURGE ARRESTERS – TYPE 3

## DEHNrail modular

### DEHNrail M 2P ... FM



Dimension drawing DR M 2P ... FM



Basic circuit diagram DR M 2P ... FM



DR M 2P ... FM: Two-pole surge arrester consisting of a base element and plug-in protection module; with floating remote signalling contact

	DR M 2P 30 FM	DR M 2P 60 FM	DR M 2P 75 FM	DR M 2P 150 FM	DR M 2P 255 FM
SPD according to EN 61643-11	Type 3	Type 3	Type 3	Type 3	Type 3
SPD according to IEC 61643-1	Class III	Class III	Class III	Class III	Class III
Nominal ac voltage $U_N$	24 V	48 V	60 V	120 V	230 V
Max. continuous ac voltage $U_C$	30 V	60 V	75 V	150 V	255 V
Max. continuous dc voltage $U_C$	30 V	60 V	75 V	150 V	255 V
Nominal load current $I_L$	25 A	25 A	25 A	25 A	25 A
Nominal discharge current (8/20 $\mu$ s) [L-N] $I_n$	1 kA	1 kA	2 kA	2 kA	3 kA
Nominal discharge current (8/20 $\mu$ s) [L+N-PE] $I_n$	2 kA	2 kA	4 kA	4 kA	5 kA
Combined impulse [L-N] $U_{OC}$	2 kV	2 kV	4 kV	4 kV	6 kV
Combined impulse [L+N-PE] $U_{OC}$	4 kV	4 kV	8 kV	8 kV	10 kV
Voltage protection level [L-N] $U_p$	$\leq 180$ V	$\leq 350$ V	$\leq 400$ V	$\leq 640$ V	$\leq 1250$ V
Voltage protection level [L/N-PE] $U_p$	$\leq 630$ V	$\leq 730$ V	$\leq 730$ V	$\leq 800$ V	$\leq 1500$ V
Response time [L-N] $t_A$	$\leq 25$ ns	$\leq 25$ ns	$\leq 25$ ns	$\leq 25$ ns	$\leq 25$ ns
Response time [L/N-PE] $t_A$	$\leq 100$ ns	$\leq 100$ ns	$\leq 100$ ns	$\leq 100$ ns	$\leq 100$ ns
Max. mains-side overcurrent protection	25 A gL/gG or B 25 A				
Short circuit withstand capability at mains-side overcurrent protection with 25 A gL/gG	6 kA <sub>rms</sub>	6 kA <sub>rms</sub>	6 kA <sub>rms</sub>	6 kA <sub>rms</sub>	6 kA <sub>rms</sub>
TOV voltage [L-N] $U_T$	—	—	—	—	335 V / 5 sec.
TOV voltage [L/N-PE] (I) $U_T$	—	—	—	—	400 V / 5 sec.
TOV voltage [L+N-PE] (II) $U_T$	—	—	—	—	1200 V + $U_0$ / 200 ms
Operating temperature range $T_U$	-40°C...+80°C	-40°C...+80°C	-40°C...+80°C	-40°C...+80°C	-40°C...+80°C
Cross-sectional area (min.)	0.5 mm <sup>2</sup> solid/flexible				
Cross-sectional area (max.)	4 mm <sup>2</sup> solid/2.5 mm <sup>2</sup> flexible				
Mounting on	35 mm DIN rail acc. to EN 60715				
Enclosure material	red thermoplastic, UL 94 V-0				
Degree of protection	IP 20	IP 20	IP 20	IP 20	IP 20
Dimension	1 mod., DIN 43880	1 mod., DIN 43880	1 mod., DIN 43880	1 mod., DIN 43880	1 mod., DIN 43880
Type of remote signalling contact	changeover contact	changeover contact	changeover contact	changeover contact	changeover contact
Switching capacity ac	250 V/0.5 A	250 V/0.5 A	250 V/0.5 A	250 V/0.5 A	250 V/0.5 A
Switching capacity dc	250 V/0.1 A; 125 V/0.2 A; 75 V/0.5 A				
Cross-sectional area for remote signalling terminals	max. 1.5 mm <sup>2</sup> solid/flexible				
<b>Ordering information</b>					
Type	DR M 2P 30 FM	DR M 2P 60 FM	DR M 2P 75 FM	DR M 2P 150 FM	DR M 2P 255 FM
Part No.	953 206	953 207	953 208	953 209	953 205
Packing unit	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)	1 pc(s)