

Class III Modular and Compact Single and Multi-pole SPD



Category IEC / EN / VDE:	Class III / Type 3 / D
Location of use:	Sub-distribution boards, power outlets and/or PCBs
Protection modes:	L/N-PE
Protective elements:	MOV, GDT or EMI filter
Surge discharge ratings:	U_{oc} up to 10kV
Internal protection and safety:	Separate thermal disconnecter for each MOV
Complies with:	IEC/EN 61643-11

PROTEC D(R) 10/xxx
PROTEC DM(R) 20/xxx (2+0)
PROTEC DMG(R) 20/xxx (2+0)
PROLED 275 16A Series

MPE-MINI
MPE-MINI LED
ZE 200-PS
VTC 10/xxx
PROFILT D xxx

SPDs Class I and Class II are not enough to protect sensitive electronic elements. Overvoltage waves are slowly increasing and, at a greater distance, reoccurring and threatening devices. Incidence of low value surges, which are still too high for electronic elements, is still common in the object itself. They are caused by activation/switching of major appliances, inductive devices and motors, industrial systems operation. They intended to provide protection in zones 2 - 3 as per IEC 62305.

The PROTEC D series of overvoltage surge protective devices has been developed to protect against indirect lightning discharges and induced voltages. The plug-in module/base design facilitate replacement of a failed module without the need to remove system wiring etc.

PROLED series is designed for advanced 3-phase devices, equipment and systems up to 16A/230VAC per phase.

MPE series is designed for installation into electrical installation systems, cable ducts and wiring sockets.

ZE 200-PS is designed for plug in to the power outlet.

VTC series is designed for mounting on printed circuit boards (PCBs).

PROFILT D series contains surge arresters and filter, which are connected in serial.

PROTEC D(R) 10



- Category IEC / EN / VDE: Class III / Type 3 / D
- Location of use: Sub-distribution boards
- Network systems: TN-S, TN-C, TT
- Protection modes: L/N - PE
- Protective element: MOV
- Surge discharge rating: $U_{oc} = 10kV$
- Housing: Modular design
- Complies with: IEC/EN 61643-11



Technical data

Type		150	275	PROTEC D(R) 10/xxx		385	440
Electrical characteristics							
Max. continuous operating voltage (AC/DC)	U_c	150/200V	275/350V	320/420V	385/500V	440/580V	
Open circuit voltage of the combination wave generator	U_{oc}			10kV			
Max. discharge current (8/20)	I_{max}			10kA			
Protection level	U_p	< 0.8kV	< 1.2kV	< 1.2kV	< 1.6kV	< 2.0kV	
Follow current	I_{fi}	NO					
Response time	t_A	< 25ns					
Thermal protection		YES					
Back-up fuse (if mains > 63A)		63A gL					
Short-circuit withstand current	I_{SCCR}	10kA/50Hz					
Mechanical characteristics							
Temperature range		- 40°C + 80°C					
Terminal screw torque		max. 3.0Nm					
Terminal cross section		35mm ² (solid) / 25mm ² (stranded)					
Mounting		35mm DIN rail, EN 60715					
Degree of protection		IP 20					
Housing material		Thermoplastic; extinguishing degree UL 94 V-0					
Indication of disconnector operation		red flag					
Remote contacts (RC)		YES					
Contact ratings		AC: 250V/0.5A; 125V/3A					
Terminal cross section		max. 1.5mm ²					
Remote terminal torque		0.25Nm					

Ordering information

U_c	150	275	320	385	440
Ordering code PROTEC D 10/xxx	50.8601	50.8603	50.8605	50.8617	50.8607
Ordering code PROTEC DR 10/xxx (with remote contacts)	50.8609	50.8611	50.8613	50.8619	50.8615
Ordering code Module PROTEC D(R) 40/xxx	50.8620	50.8621	50.8622	50.8623	50.8624

PROTEC DM(R) 20 (2+0)



- Category IEC / EN / VDE: Class III / Type 3 / D
- Location of use: Sub-distribution boards
- Network systems: TN-S, TT
- Protection modes: L/N - PE
- Protective element: MOV
- Surge discharge rating: $U_{oc} = 10kV$
- Housing: Modular design
- Complies with: IEC/EN 61643-11



Technical data

Type	PROTEC DM(R) 20/xxx (2+0)					
	150	275	320	385	440	
Electrical characteristics						
Max. continuous operating voltage (AC/DC)	U_c	150/200V	275/350V	320/420V	385/500V	440/580V
Open circuit voltage of the combination wave generator	U_{oc}	10kV				
Max. discharge current (8/20)	I_{max}	10kA per pole				
Protection level	U_p (L/N-PE)	< 0.8kV	< 1.2kV	< 1.2kV	< 1.6kV	< 2.0kV
Follow current	I_{fi}	NO				
Response time	t_A	< 25ns				
Thermal protection		YES				
Back-up fuse (if mains > 63A)		63A gL				
Short-circuit withstand current	I_{SCCR}	10kA/50Hz				
Mechanical characteristics						
Temperature range		- 40°C + 80°C				
Terminal screw torque	Upper terminals	max. 2.0Nm				
	Lower terminal	max. 3.0Nm				
Terminal cross section	Upper terminals	6mm ² (solid) / 4mm ² (stranded)				
	Lower terminal	35mm ² (solid) / 25mm ² (stranded)				
Mounting		35mm DIN rail, EN 60715				
Degree of protection		IP 20				
Housing material		Thermoplastic; extinguishing degree UL 94 V-0				
Indication of disconnector operation		red flag				
Remote contacts (RC)		YES				
Contact ratings		AC: 250V/0.5A; 125V/3A				
Terminal cross section		max. 1.5mm ²				
Remote terminal torque		0.25Nm				

Ordering information

U_c	150	275	320	385	440
Ordering code PROTEC DM 20/xxx (2+0)	508.029	508.031	508.033	508.113	508.035
Ordering code PROTEC DMR 20/xxx (2+0) (with remote contacts)	508.037	508.039	508.041	508.115	508.043
Ordering code Module PROTEC DM(R) 20/xxx	508.191	508.192	508.193	508.194	508.195

PROTEC DMG(R) 20 (2+0)



- Category IEC / EN / VDE: Class III / Type 3 / D
- Location of use: Sub-distribution boards
- Network systems: TN-S, TT
- Protection modes: L/N - PE
- Protective elements: MOV and GDT
- Surge discharge rating: $U_{oc} = 10kV$
- Housing: Modular design
- Complies with: IEC/EN 61643-11



Technical data

Type		PROTEC DMG(R) 20/320 (2+0)
Electrical characteristics		
Max. continuous operating voltage (AC/DC)	U_c	320/420V
Open circuit voltage of the combination wave generator	U_{oc}	10kV
Max. discharge current (8/20)	I_{max}	10kA per pole
Protection level	U_p (L/N-PE)	< 1.6kV
Follow current	I_{fi}	NO
Response time	t_A	< 100ns
Thermal protection		YES
Back-up fuse (if mains > 63A)		63A gL
Short-circuit withstand current	I_{SCCR}	10kA/50Hz
Mechanical characteristics		
Temperature range		-40°C +80°C
Terminal screw torque	Upper terminals	max. 2.0Nm
	Lower terminal	max. 3.0Nm
Terminal cross section	Upper terminals	6mm ² (solid) / 4mm ² (stranded)
	Lower terminal	35mm ² (solid) / 25mm ² (stranded)
Mounting		35mm DIN rail, EN 60715
Degree of protection		IP 20
Housing material		Thermoplastic; extinguishing degree UL 94 V-0
Indication of disconnector operation		red flag
Remote contacts (RC)		YES
Contact ratings		AC: 250V/0.5A; 125V/3A
Terminal cross section		max. 1.5mm ²
Remote terminal torque		0.25Nm

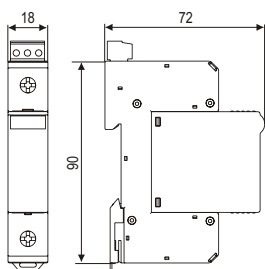
Ordering information

U_c	320
Ordering code PROTEC DMG 20/xxx (2+0)	508.021
Ordering code PROTEC DMGR 20/xxx (2+0) (with remote contacts)	508.027
Ordering code Module PROTEC DMG(R) 20/xxx	508.196

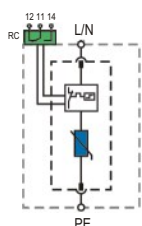
Dimensions, Internal configuration, Weight and Packaging

PROTEC D(R) 10/xxx

Dimensions



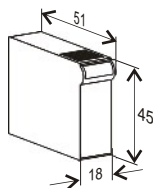
Internal configuration



PROTEC D 10/xxx	150	275	320	385	440
Dimensions DIN 43880	1TE				
Weight per unit	124g	130g	130g	131g	132g
PROTEC DR 10/xxx	150	275	320	385	440
Dimensions DIN 43880	1TE				
Weight per unit	129g	135g	135g	136g	137g
Packaging dimensions (single unit)	108 x 74 x 24mm				
Min. packaging quantity	12 pcs.				

Module PROTEC D(R) 10/xxx

Dimensions



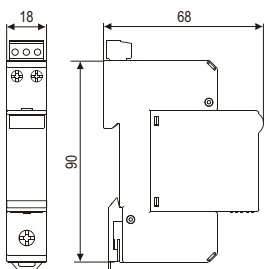
Internal configuration



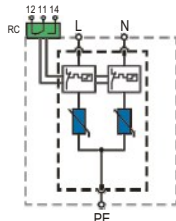
Module PROTEC D(R) 10/xxx	150	275	320	385	440
Weight per unit	52g	58g	58g	59g	60g
Packaging dimensions	219 x 62 x 47mm				
Min. packaging quantity	12 pcs.				

PROTEC DM(R) 20/xxx (2+0)

Dimensions



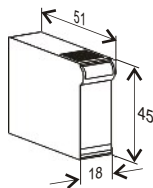
Internal configuration



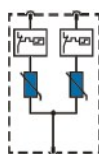
PROTEC DM 20/xxx (2+0)	150	275	320	385	440
Dimensions DIN 43880	1TE				
Weight per unit	136g	140g	150g	153g	155g
PROTEC DMR 20/xxx (2+0)	150	275	320	385	440
Dimensions DIN 43880	1TE				
Weight per unit	141g	145g	155g	158g	160g
Packaging dimensions (single unit)	108 x 74 x 24mm				
Min. packaging quantity	12 pcs.				

Module PROTEC DM(R) 20/xxx (2+0)

Dimensions



Internal configuration

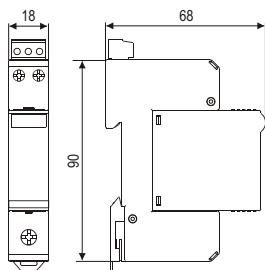


Module PROTEC DM(R) 20/xxx (2+0)	150	275	320	385	440
Weight per unit	69g	73g	83g	86g	88g
Packaging dimensions	219 x 62 x 47mm				
Min. packaging quantity	12 pcs.				

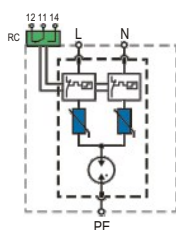
Dimensions, Internal configuration, Weight and Packaging

PROTEC DMG(R) 20/320 (2+0)

Dimensions



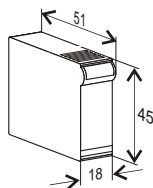
Internal configuration



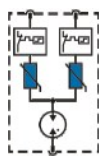
PROTEC DMG 20/320 (2+0)	
Dimensions DIN 43880	1TE
Weight per unit	118g
PROTEC DMGR 20/320 (2+0)	
Dimensions DIN 43880	1TE
Weight per unit	123g
Packaging dimensions (single unit)	108 x 74 x 24mm
Min. packaging quantity	12 pcs.

Module PROTEC DMG(R) 20/320 (2+0)

Dimensions



Internal configuration



Module PROTEC DMG(R) 20/320 (2+0)	
Weight per unit	51g
Packaging dimensions	219 x 62 x 47mm
Min. packaging quantity	12 pcs.

PROLED 275 16A Series



- Category IEC/EN/VDE: Class III / Type 3 / C
- Location of use: Sub distribution board
- Network systems: TN-S, TT
- Max. load current: 16A AC
- Protection modes: L/N-PE
- Protective elements: MOV, GDT
- Indication: Red and green LED
- No. of ports: Two ports SPD
- Complies with: IEC/EN 61643-11



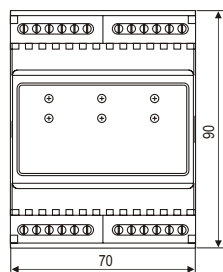
Technical data

Type	PROLED	
	275 (3+1) 16A	275 (4+0) 16A
Electrical characteristics		
Max. continuous operating voltage (AC/DC) at 50/60Hz	U_c	275V
Max. rated load current	I_L	16A
Open circuit voltage of the combination wave generator	U_{oc}	6kV
Protection level at U_{oc}	U_p (L-N)	850V
	U_p (L-PE)	/
Thermal protection		YES
Remote contacts		10A/230VAC
Back-up fuse (if mains > 16A)		16A gL
Mechanical characteristics		
Temperature range		-40°C +80°C
Terminal cross section		4mm ² (stranded)
Mounting		35mm DIN rail, EN 60715
Degree of protection		IP 20
Housing material		Thermoplastic; extinguishing degree UL 94 V-0
Indication of operation		Red and green LED

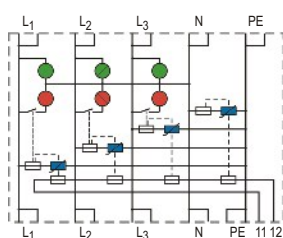
Ordering information

U_c	275 (3+1) 16A	275 (4+0) 16A
Ordering code PROLED	130 302	130 301

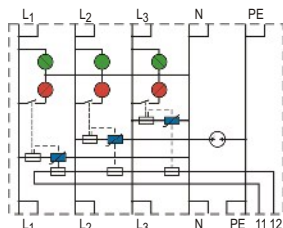
Dimensions



Internal configuration



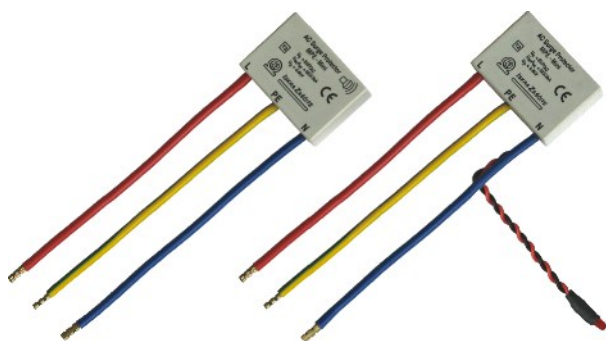
PROLED 275 (4+0) 16A



PROLED 275 (3+1) 16A

Dimensions, weight and packaging		
PROLED	275 (3+1) 16A	275 (4+0) 16A
Dimensions DIN 43890		4TE
Weight per unit		164g
Packaging dimensions (single unit)	109 x 76.5 x 78 mm	
Min. packaging quantity	3 pcs.	

MPE-MINI



- Category IEC / EN / VDE: Class III / Type 3 / D
- Location of use: Cable ducts, wiring outlets
- Network systems: TN-S, TT
- Protection modes: L/N - PE
- Protective elements: MOV and GDT
- Surge discharge rating: $U_{oc} = 6kV$
- Fault indication: Buzzer; LED
- Complies with: IEC/EN 61643-11



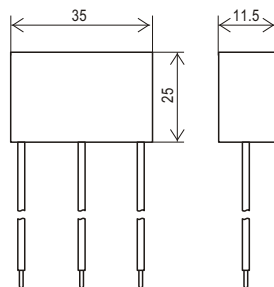
Technical data

Type	MPE-MINI	MPE-MINI LED
Electrical characteristics		
Max. continuous operating voltage (AC/DC) at 50/60Hz	U_c	275V
Nominal load voltage	U_L	230V/50(60)Hz
Open circuit voltage of the combination wave generator	U_{oc}	6kV
Protection level	U_p (L-N)	800V
	U_p (L/N-PE)	1800V
Thermal protection		YES
Back-up fuse (if mains > 16A)		16A gL
Mechanical characteristics		
Temperature range		- 40°C + 80°C
Terminal cross section		1.5mm ² (stranded)
Mounting		Cable ducts
Degree of protection		IP 20
Housing material		Thermoplastic; extinguishing degree UL 94 V-0
Indication of disconnector operation	Buzzer	LED

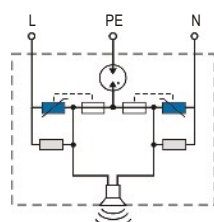
Ordering information

U_c	275
Ordering code MPE-MINI	121 501
Ordering code MPE-MINI LED	130 331

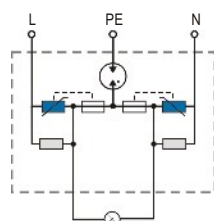
Dimensions



Internal configuration



MPE-MINI



MPE-MINI LED

Dimensions, weight and packaging	
MPE-MINI	
Dimensions	35 x 25 x 12 mm
Weight per unit	52g
MPE-MINI LED	
Dimensions DIN 43880	35 x 25 x 12 mm
Weight per unit	52g
Min. packaging quantity	30 pcs.

ZE 200-PS



- **Category IEC / EN / VDE:** Class III / Type 3 / D
- **Location of use:** Power outlet
- **Network systems:** TN-S, TT
- **Protection modes:** L(N) - PE, L-N
- **Protective elements:** MOV and GDT
- **Surge discharge rating:** $U_{oc} = 6kV$
- **Indication:** Green and red light
- **Housing:** Compact design
- **Complies with:** IEC/EN 61643-11



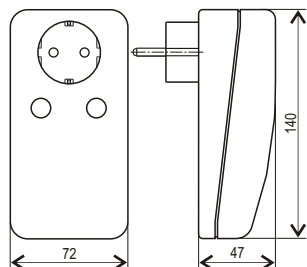
Technical data

Type		ZE 200-PS
Electrical characteristics		
Max. continuous operating voltage (AC/DC) at 50/60Hz	U_c	275V
Nominal load voltage	U_L	230V/50(60)Hz
Open circuit voltage of the combination wave generator	U_{oc}	6kV
Protection level at U_{oc}	U_p (L-N)	< 1000V
	U_p (L/N-PE)	< 1500V
Response time	t_A (L-N)	< 25ns
	t_A (L/N-PE)	< 100ns
Thermal protection		YES
Back-up fuse (if mains > 16A)		16A gL
Mechanical characteristics		
Temperature range		-40°C +80°C
Connection		DIN 49 440-CE(7)III; DIN 49 441-CEE(7)IV; Crounding contact
Degree of protection		IP 20
Housing material		Thermoplastic; extinguishing degree UL 94 V-0
Indication of operation		Green and red light

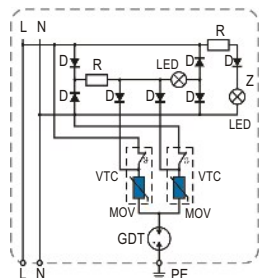
Ordering information

U_c	275
Ordering code ZE 200-PS	121 532

Dimensions

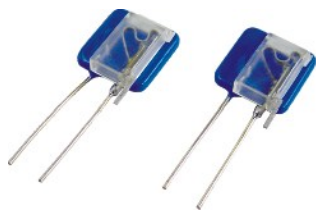


Internal configuration



Dimensions, weight and packaging	
ZE 200-PS	
Dimensions	72 x 140 x 47 mm
Weight per unit	182g
Packaging dimensions (single unit)	95 x 150 x 90 mm
Min. packaging quantity	1 pc.

VTC 10



- Category IEC / EN / VDE: Class III / Type 3 / D
- Location of use: PCB
- Network systems: TN-S, TN-C, IT
- Protection modes: L/N - PE
- Protective element: MOV
- Surge discharge rating: $U_{OC} = 10kV$
- Fault indication: Visual
- Housing: Compact design
- Complies with: IEC/EN 61643-11



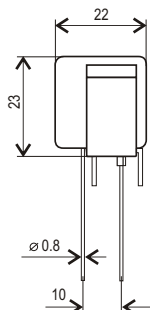
Technical data

Type		150	275	320	440
Electrical characteristics					
Max. continuous operating voltage (AC)	U_C	150V	275V	320V	440V
Open circuit voltage of the combination wave generator	U_{OC}	10kV			
Max. discharge current (8/20)	I_{max}	10kA			
Protection level	U_p	< 0.9kV	< 1.4kV	< 1.6kV	< 1.8kV
Follow current	I_{fi}	NO			
Response time	t_A	< 25ns			
Thermal protection		YES			
Back-up fuse (if mains > 16A)		16A gL			
Mechanical characteristics					
Temperature range		- 40°C + 80°C			
Mounting		On printed circuit board			
Degree of protection		IP 20			
Housing material		Thermoplastic; extinguishing degree UL 94 V-0			
Indication of disconnector operation		Visual			

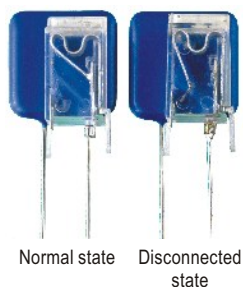
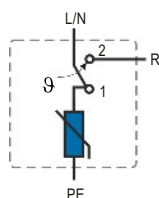
Ordering information

U_C	150	275	320	440
Ordering code VTC 10/xxx	122 646	122 636	509 313	122 808

Dimensions



Internal configuration



Dimensions, weight and packaging				
VTC 10/xxx	150	275	320	440
Weight per unit	6g	8g	12g	16g
Packaging dimensions	109 x 76.5 x 78 mm			
Min. packaging quantity	100 pcs.			

PROFILT D 8A



- **Category IEC/EN/VDE:** Class III / Type 3 / D
- **Location of use:** Sub distribution boards
- **Network systems:** TN-S, TT
- **Max. load current:** 8A
- **Protection modes:** L/N PE
- **Protective elements:** MOV, GDT, EMI Filter
- **Fault indication:** Red light
- **No. of ports:** Two port
- **Complies with:** IEC/EN 61643-11



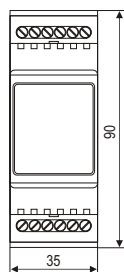
Technical data

Type		PROFILT D 8A
Electrical characteristics		
Max. continuous operating voltage (AC/DC) at 50/60Hz	U_C	275V
Nominal load voltage at 50/60Hz	U_L	230V
Max. load current	I_L	8A
Open circuit voltage of the combination wave generator	U_{OC}	6kV
Protection level at U_{OC}	U_P (L-N)	< 1.0kV
Thermal protection		YES
Filtering		< 90dB@5MHz
Back-up fuse (if mains > 8A)		8A gL
Mechanical characteristics		
Temperature range		- 40°C + 80°C
Terminal screw torque		0.51Nm
Terminal cross section		2.5mm ² (stranded)
Mounting		35mm DIN rail, EN 60715
Degree of protection		IP 20
Housing material		Thermoplastic; extinguishing degree UL 94 V-0
Indication of disconnector operation		Red light

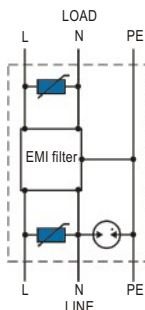
Ordering information

I_L	8A
Ordering code PROFILT 8A	130 061

Dimensions



Internal configuration



Dimensions, weight and packaging	
PROFILT D 8A	
Dimensions DIN 43880	2TE
Weight per unit	94g
Packaging dimensions (single unit)	109 x 76.5 x 41.5mm
Min. packaging quantity	7pcs.

PROFIL D



- **Category IEC/EN/VDE:** Class III / Type 3 / D
- **Location of use:** Sub distribution boards
- **Network systems:** TN-S, TT
- **Max. load current:** 30A
- **Protection modes:** L/N-PE
- **Protective elements:** MOV, GDT, EMI Filter
- **Fault indication:** Red light
- **No. of ports:** Two port
- **Complies with:** IEC/EN 61643-11



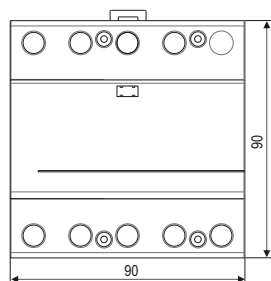
Technical data

Type	PROFIL D yy				
	10A	16A	25A	30A	
Electrical characteristics					
Max. continuous operating voltage (AC/DC) at 50/60Hz	U_C		275V		
Nominal load voltage at 50/60Hz	U_L		230V		
Max. load current	I_L	10A	16A	25A	30A
Open circuit voltage of the combination wave generator	U_{OC}		6kV		
Protection level at U_{OC}	$U_P (L-N)$		< 1.0kV		
Thermal protection	YES				
Filtering	< 70dB@1MHz				
Back-up fuse	10A gL	16A gL	25A gL	30A gL	
Mechanical characteristics					
Temperature range	- 40°C + 80°C				
Terminal cross section	25mm ² (stranded)				
Mounting	35mm DIN rail, EN 60715				
Degree of protection	IP 20				
Housing material	Thermoplastic; extinguishing degree UL 94 V-0				
Indication of disconnector operation	Red light				

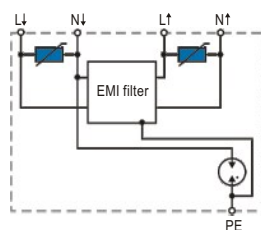
Ordering information

I_L	10A	16A	25A	30A
Ordering code PROFIL D xxx	130 051	130 052	130 053	130 050

Dimensions



Internal configuration



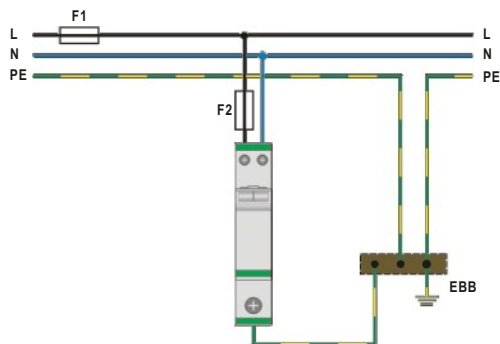
Dimensions, weight and packaging				
PROFIL D yy	10A	16A	25A	30A
Dimensions DIN 43880	5TE			
Weight per unit	420g			
Packaging dimensions (single unit)	109 x 76.5 x 96mm			
Min. packaging quantity	3 pcs.			

PROTEC DM(R) Series
PROTEC DMG(R) Series

Network connections

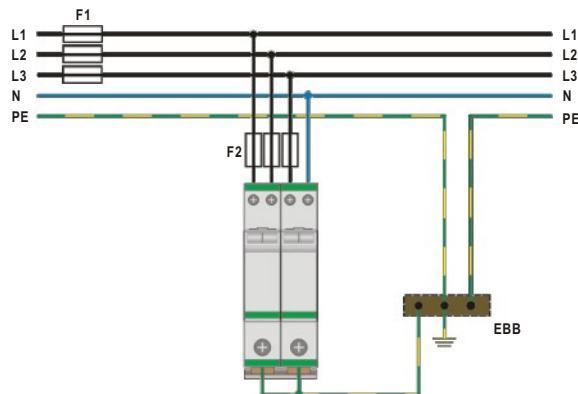
TN-S Network (Single-phase)

PROTEC DM(R) 20 (2+0)
 PROTEC DMG(R) 20 (2+0)



TN-S Network (Three-phase)

2x PROTEC DM(R) 20 (2+0)
 2x PROTEC DMG(R) 20 (2+0)



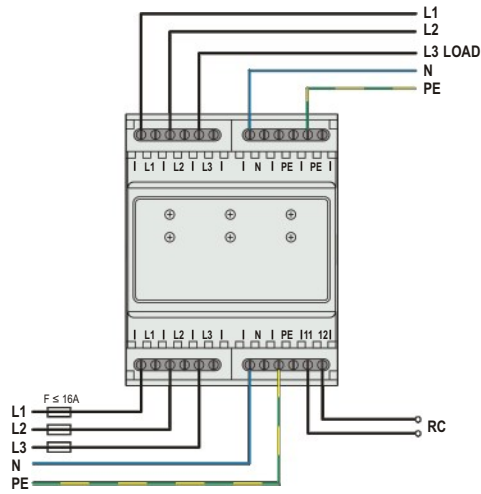
Back-up fuse

- $F1 > 63 \text{ A gL}$ → $F2 = 63 \text{ A gL}$
- $F1 \leq 63 \text{ A gL}$ → $F2$

Network connections

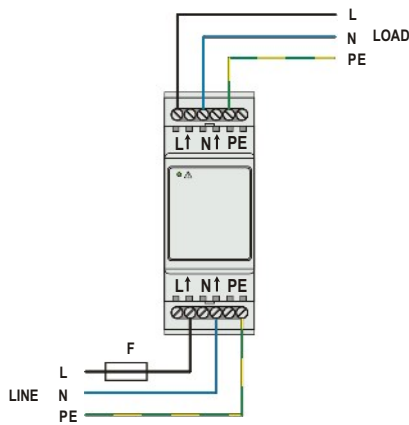
TN-S, TT Network

PROLED 275 16A



TN-S, TT Network

PROFIL D 8A



TN-S, TT Network

PROFIL D yy

