

Class II Modular Single and Multi-pole SPD 40kA per pole



Category IEC / EN / VDE:	Class II / Type 2 / C
Location of use:	Sub-distribution boards
Protection modes:	L/N-PE, L-PEN, L-N, N-PE
Protective elements:	MOV and GDT
Surge discharge ratings:	I_{max} up to 40kA
Safety:	TOV withstand for unlimited time
Internal protection:	Separate thermal disconnecter for each MOV
Complies with:	IEC/EN 61643-11

The new SAFETEC series of SPDs :

- Are highly reliable - controlled disconnection, arc-quenching
- Are safer - controlled behaviour even when surge ratings are exceeded
- Have longer life - protection against ageing
- Have up to 20 years warranty

SAFETEC C(R) Series:

SAFETEC C(R) 40

SAFETUBE C 40

SAFETEC C(R) 80 (2+0)

SAFETEC C(R) 120 (3+0)

SAFETEC C(R) 160 (4+0)

SAFETEC C(R) 80 (1+1)

SAFETEC C(R) 160 (3+1)

The modular SAFETEC C(R) series is suitable for all type of connections.

Patented TC* technology prevents catastrophic failures in case of TOV (temporary overvoltages).

All in one technology is a protection from overvoltages surges and transients. It has been developed to protect against partial direct and indirect lightning discharges and are intended to provide protection in zones O_B - 2 per IEC 62305.



*TC - Thermal control function

SAFETEC C(R)



- Category IEC / EN / VDE: Class II / Type 2 / C
- Location of use: Sub-distribution boards
- Network systems: TN-S, TN-C, IT, TT (only L-N)
- Protection modes: L/N - PE, L- PEN
- Protective element: MOV and GDT
- Surge discharge rating: I_{max} up to 40kA
- Safety: TOV withstand for unlimited time
- Housing: Modular design
- Complies with: IEC/EN 61643-11



Technical data

Type		75	150	SAFETEC C(R) yy/xxx		440	750
				275	385		
Electrical characteristics							
Max. continuous operating voltage (AC/DC)	U_c	75/100V	150/200V	275/350V	385/500V	440/580V	750/1000V
Nominal discharge current (8/20)	I_n	10kA			20kA		12.5kA
Max. discharge current (8/20)	I_{max}	20kA			40kA		25kA
Protection level	U_p	< 0.8kV	< 1.1kV	< 1.5kV	< 2.2kV	< 2.3kV	< 2.8kV
Residual voltage at 5kA (8/20)	U_{res}	< 0.6kV	< 0.7kV	< 1.1kV	< 1.3kV	< 1.6kV	< 2.2kV
Follow current	I_{fi}				NO		
Response time	t_A				< 25ns		
Thermal protection					YES		
Back-up fuse (if mains > 125A)					125A gL		
TOV withstand for unlimited time up to	U_T	110V	230V	440V	560V	690V	1100V
Mechanical characteristics							
Terminal screw torque					max. 3.0Nm		
Temperature range					- 40°C + 80°C		
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	75	150	275	385	440	750
Ordering code SAFETEC C 20/75	516.612					
Ordering code SAFETEC CR 20/75 (with remote contacts)	516.613					
Ordering code SAFETEC C 40/xxx		516.001	516.003	516.614	516.005	
Ordering code SAFETEC CR 40/xxx (with remote contacts)		516.002	516.004	516.615	516.006	
Ordering code SAFETEC C 25/750						516.616
Ordering code SAFETEC CR 25/750 (with remote contacts)						516.617
Ordering code Module SAFETEC C(R) 20/75	516.648					
Ordering code Module SAFETEC C(R) 40/xxx		516.037	516.038	516.649	516.039	
Ordering code Module SAFETEC C(R) 25/750						516.650

SAFETUBE C 40



- Category IEC / EN / VDE: Class II / Type 2 / C
- Location of use: Sub-distribution boards
- Network system: TT
- Protection modes: N - PE
- Protective element: GDT
- Surge discharge rating: $I_{\max} = 40\text{kA}$
- Housing: Modular design
- Complies with: IEC/EN 61643-11



Technical data

Type		SAFETUBE C 40/255
Electrical characteristics		
Max. continuous operating voltage (AC)	U_c	255V
Nominal discharge current (8/20)	I_n	20kA
Max. discharge current (8/20)	$I_{\max}$	40kA
Protection level	U_p	< 1.5kV
Follow current	I_{fi}	100A _{RMS}
Response time	t_A	25ns
Mechanical characteristics		
Terminal screw torque		max. 3.0Nm
Temperature range		- 40°C + 80°C
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

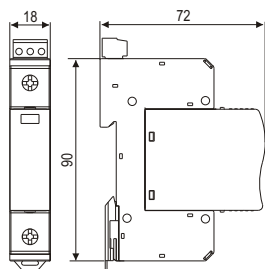
Ordering information

$I_{\max}$	40
Ordering code SAFETUBE C 40/255	516.417
Ordering code Module SAFETUBE C 40/255	516.115

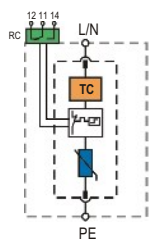
Dimensions, Internal configuration, Weight and Packaging

SAFETEC C(R)

Dimensions



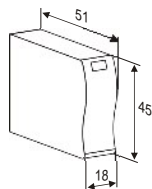
Internal configuration



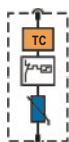
SAFETEC C 20/75	75
Weight per unit	125g
SAFETEC C 40/xxx	150 275 385 440
Weight per unit	140g 140g 148g 150g
SAFETEC C 25/750	750
Weight per unit	156g
SAFETEC CR 20/75	75
Weight per unit	130g
SAFETEC CR 40/xxx	150 275 385 440
Weight per unit	148g 148g 156g 158g
SAFETEC CR 25/750	750
Weight per unit	164g
Dimensions DIN 43880	1TE
Packaging dimensions (single unit)	108 x 74 x 24mm
Min. packaging quantity	12 pcs.

Module SAFETEC C(R)

Dimensions



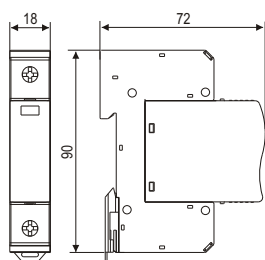
Internal configuration



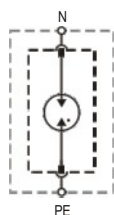
Module SAFETEC C(R) 20/75	75
Weight per unit	58g
Module SAFETEC C(R) 40/xxx	150 275 385 440
Weight per unit	62g 66g 72g 74g
Module SAFETEC C(R) 25/750	750
Weight per unit	78g
Packaging dimensions	219 x 62 x 47mm
Min. packaging quantity	12 pcs.

SAFETUBE C 40/255

Dimensions



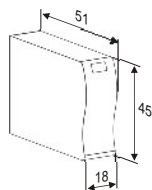
Internal configuration



SAFETUBE C 40/255	255
Dimensions DIN 43880	1TE
Weight per unit	118g
Packaging dimensions (single unit)	108 x 74 x 24mm
Min. packaging quantity	12 pcs.

Module SAFETUBE C 40/255

Dimensions



Internal configuration



Module SAFETUBE C 40/255	255
Weight per unit	34g
Packaging dimensions	219 x 62 x 47mm
Min. packaging quantity	12 pcs.

SAFETEC C(R) Series



- **Category IEC / EN / VDE:** Class II / Type 2 / C
- **Location of use:** Sub-distribution boards
- **Network systems:** TN-S, TN-C, IT
- **Protection modes:** L/N - PE, L - PEN
- **Protective element:** MOV and GDT
- **Surge discharge rating:** I_{max} up to 40kA
- **Safety:** TOV withstand for unlimited time
- **Housing:** Modular design
- **Complies with:** IEC/EN 61643-11



Technical data

Type		75	150	275	385	440	750
SAFETEC C(R) yyy/xxx (2+0), (3+0), (4+0)							
Electrical characteristics							
Max. continuous operating voltage (AC/DC)	U_c	75/100V	150/200V	275/350V	385/500V	440/580V	750/1000V
Nominal discharge current (8/20)	I_n	10kA per pole		20kA per pole			12.5kA per pole
Max. discharge current (8/20)	I_{max}	20kA per pole		40kA per pole			25kA per pole
Protection level	U_p	< 0.8kV	< 1.1kV	< 1.5kV	< 2.2kV	< 2.3kV	< 2.8kV
Residual voltage at 5kA (8/20)	U_{res}	< 0.6kV	< 0.7kV	< 1.1kV	< 1.3kV	< 1.6kV	< 2.2kV
Follow current	I_{fi}			NO			
Response time	t_A			< 25ns			
Thermal protection				YES			
Back-up fuse (if mains > 125A)				125A gL			
TOV withstand for unlimited time up to	U_T	110V	230V	440V	560V	690V	1100V
Mechanical characteristics							
Terminal screw torque				max. 3.0Nm			
Temperature range				- 40°C + 80°C			
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			

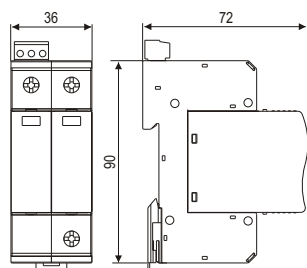
Ordering information

U_c	75	150	275	385	440	750
Ordering code SAFETEC C 40/75 (2+0)	516.618					
Ordering code SAFETEC CR 40/75 (2+0) (with remote contacts)	516.619					
Ordering code SAFETEC C 80/xxx (2+0)		516.007	516.009	516.620	516.011	
Ordering code SAFETEC CR 80/xxx (2+0) (with remote contacts)		516.008	516.010	516.621	516.012	
Ordering code SAFETEC C 50/750 (2+0)						516.622
Ordering code SAFETEC CR 50/750 (2+0) (with remote contacts)						516.623
Ordering code SAFETEC C 60/75 (3+0)	516.630					
Ordering code SAFETEC CR 60/75 (3+0) (with remote contacts)	516.631					
Ordering code SAFETEC C 120/xxx (3+0)		516.019	516.021	516.632	516.023	
Ordering code SAFETEC CR 120/xxx (3+0) (with remote contacts)		516.020	516.022	516.633	516.024	
Ordering code SAFETEC C 75/750 (3+0)						516.634
Ordering code SAFETEC CR 75/750 (3+0) (with remote contacts)						516.635
Ordering code SAFETEC C 80/75 (4+0)	516.636					
Ordering code SAFETEC CR 80/75 (4+0) (with remote contacts)	516.637					
Ordering code SAFETEC C 160/xxx (4+0)		516.025	516.027	516.638	516.029	
Ordering code SAFETEC CR 160/xxx (4+0) (with remote contacts)		516.026	516.028	516.639	516.030	
Ordering code SAFETEC C 100/750 (4+0)						516.640
Ordering code SAFETEC CR 100/750 (4+0) (with remote contacts)						516.641

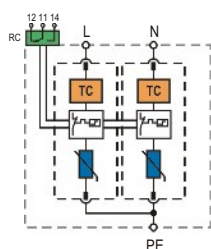
Dimensions, Internal configuration, Weight and Packaging

SAFETEC C(R) (2+0)

Dimensions



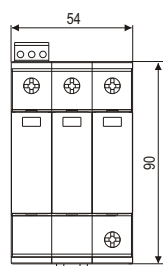
Internal configuration



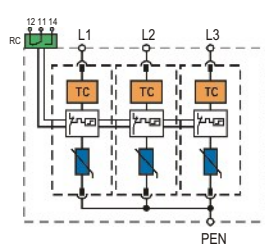
SAFETEC C 40/75 (2+0)	75
Weight per unit	250g
SAFETEC C 80/xxx (2+0)	150 275 385 440
Weight per unit	280g 281g 284g 286g
SAFETEC C 50/750 (2+0)	750
Weight per unit	288g
SAFETEC CR 40/75 (2+0)	75
Weight per unit	260g
SAFETEC CR 80/xxx (2+0)	150 275 385 440
Weight per unit	288g 289g 292g 294g
SAFETEC CR 50/750 (2+0)	750
Weight per unit	296g
Dimensions DIN 43880	2TE
Packaging dimensions (single unit)	109 x 76.5 x 41.5mm
Min. packaging quantity	7 pcs.

SAFETEC C(R) (3+0)

Dimensions



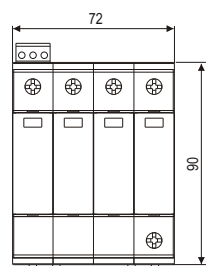
Internal configuration



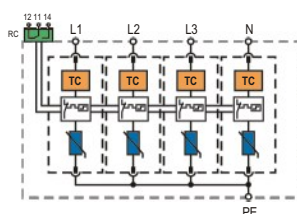
SAFETEC C 60/75 (3+0)	75
Weight per unit	375g
SAFETEC C 120/xxx (3+0)	150 275 385 440
Weight per unit	420g 422g 448g 450g
SAFETEC C 75/750 (3+0)	750
Weight per unit	468g
SAFETEC CR 60/75 (3+0)	75
Weight per unit	390g
SAFETEC CR 120/xxx (3+0)	150 275 385 440
Weight per unit	428g 430g 456g 458g
SAFETEC CR 75/750 (3+0)	750
Weight per unit	476g
Dimensions DIN 43880	3TE
Packaging dimensions (single unit)	109 x 76.5 x 60mm
Min. packaging quantity	5 pcs.

SAFETEC C(R) (4+0)

Dimensions



Internal configuration



SAFETEC C 80/75 (4+0)	75
Weight per unit	500g
SAFETEC C 160/xxx (4+0)	150 275 385 440
Weight per unit	560g 562g 595g 598g
SAFETEC C 100/750x (4+0)	750
Weight per unit	602g
SAFETEC CR 80/75 (4+0)	75
Weight per unit	520g
SAFETEC CR 160/xxx (4+0)	150 275 385 440
Weight per unit	568g 570g 603g 606g
SAFETEC CR 100/750 (4+0)	750
Weight per unit	610g
Dimensions DIN 43880	4TE
Packaging dimensions (single unit)	109 x 76.5 x 78mm
Min. packaging quantity	3 pcs.

SAFETEC C(R) Series



- **Category IEC / EN / VDE:** Class II / Type 2 / C
- **Location of use:** Sub-distribution boards
- **Network system:** TT
- **Protection modes:** L-N, N-PE
- **Protective element:** MOV and GDT
- **Surge discharge rating:** I_{max} up to 40kA
- **Safety:** TOV withstand for unlimited time
- **Housing:** Modular design
- **Complies with:** IEC/EN 61643-11



Technical data

Type		SAFETEC C(R) yyy/xxx (1+1), (3+1)					
		75	150	275	385	440	750
Electrical characteristics							
Max. continuous operating voltage (AC/DC)	U_c (L-N)	75/100V	150/200V	275/350V	385/500V	440/580V	750/1000V
	U_c (N-PE)	255V					
Nominal discharge current (8/20)	I_n (L-N/N-PE)	10kA/20kA		20kA/20kA			12.5kA/20kA
Max. discharge current (8/20)	I_{max} (L-N/N-PE)	20kA/40kA		40kA/40kA			25kA/40kA
Protection level	U_p (L-N)	< 0.8kV	< 1.1kV	< 1.5kV	< 2.2kV	< 2.3kV	< 2.8kV
	U_p (N-PE)	< 1.5kV					
Residual voltage at 5kA (8/20)	U_{res} (L-N)	< 0.6kV	< 0.7kV	< 1.1kV	< 1.3kV	< 1.6kV	< 2.2kV
Follow current	I_{fi} (N-PE)	100A _{RMS}					
Response time	t_A (L-N/N-PE)	< 25ns					
Thermal protection		YES					
Back-up fuse (if mains > 125A)		125A gL					
TOV withstand for unlimited time up to	U_T	110V	230V	440V	560V	690V	1100V
Mechanical characteristics							
Terminal screw torque		max. 3.0Nm					
Temperature range		- 40°C + 80°C					
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					

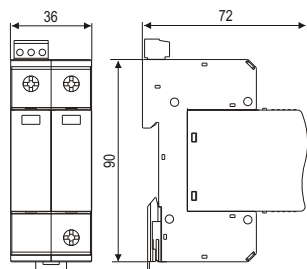
Ordering information

U_c	75	150	275	385	440	750
Ordering code SAFETEC C 40/75 (1+1)	516.624					
Ordering code SAFETEC CR 40/75 (1+1) (with remote contacts)	516.625					
Ordering code SAFETEC C 80/xxx (1+1)		516.013	516.015	516.626	516.017	
Ordering code SAFETEC CR 80/xxx (1+1) (with remote contacts)		516.014	516.016	516.627	516.018	
Ordering code SAFETEC C 50/750 (1+1)						516.628
Ordering code SAFETEC CR 50/750 (1+1) (with remote contacts)						516.629
Ordering code SAFETEC C 80/75 (3+1)	516.642					
Ordering code SAFETEC CR 80/75 (3+1) (with remote contacts)	516.643					
Ordering code SAFETEC C 160/xxx (3+1)		516.031	516.033	516.644	516.035	
Ordering code SAFETEC CR 160/xxx (3+1) (with remote contacts)		516.032	516.034	516.645	516.036	
Ordering code SAFETEC C 100/750 (3+1)						516.646
Ordering code SAFETEC CR 100/750 (3+1) (with remote contacts)						516.647
Ordering code Module SAFETEC C(R) 20/75	516.648					
Ordering code Module SAFETEC C(R) 40/xxx		516.037	516.038	516.649	516.039	
Ordering code Module SAFETEC C(R) 25/750						516.650
Ordering code Module SAFETUBE C 40/255				516.115		

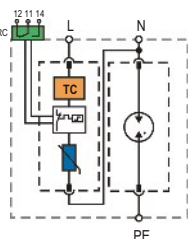
Dimensions, Internal configuration, Weight and Packaging

SAFETEC C(R) (1+1)

Dimensions



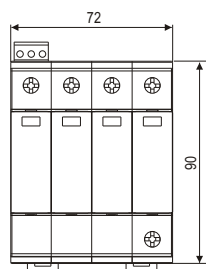
Internal configuration



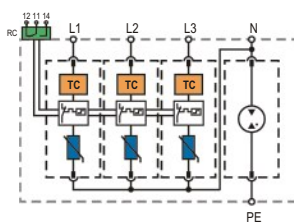
SAFETEC C 40/75 (1+1)	75			
Weight per unit	253g			
SAFETEC C 80/xxx (1+1)	150	275	385	440
Weight per unit	258g	258g	265g	268g
SAFETEC C 50/750 (1+1)	750			
Weight per unit	271g			
SAFETEC CR 40/75 (1+1)	75			
Weight per unit	261g			
SAFETEC CR 80/xxx (1+1)	150	275	385	440
Weight per unit	266g	266g	274g	276g
SAFETEC CR 50/750 (1+1)	750			
Weight per unit	279g			
Dimensions DIN 43880	2TE			
Packaging dimensions (single unit)	109 x 76,5 x 41,5mm			
Min. packaging quantity	7 pcs.			

SAFETEC C(R) (3+1)

Dimensions



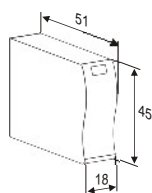
Internal configuration



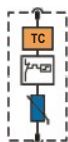
SAFETEC C 80/75 (3+1)	75			
Weight per unit	533g			
SAFETEC C 160/xxx (3+1)	150	275	385	440
Weight per unit	538g	540g	565g	568g
SAFETEC C 160/xxx (3+1)	750			
Weight per unit	571g			
SAFETEC CR 80/75 (3+1)	75			
Weight per unit	541g			
SAFETEC CR 160/xxx (3+1)	150	275	385	440
Weight per unit	546g	548g	574g	576g
SAFETEC CR 160/xxx (3+1)	750			
Weight per unit	579g			
Dimensions DIN 43880	4TE			
Packaging dimensions (single unit)	109 x 76,5 x 78mm			
Min. packaging quantity	3 pcs.			

Module SAFETEC C(R)

Dimensions



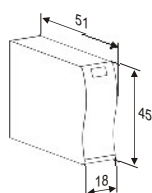
Internal configuration



Module SAFETEC C(R) 20/75	75			
Weight per unit	58g			
Module SAFETEC C(R) 40/xxx	150	275	385	440
Weight per unit	62g	66g	72g	74g
Module SAFETEC C(R) 25/750	750			
Weight per unit	78g			
Packaging dimensions	219 x 62 x 47mm			
Min. packaging quantity	12 pcs.			

Module SAFETUBE C 40/255

Dimensions



Internal configuration

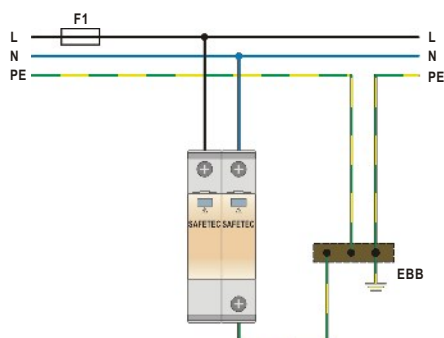


Module SAFETUBE C 40/255	255			
Weight per unit	34g			
Packaging dimensions	219 x 62 x 47mm			
Min. packaging quantity	12 pcs.			

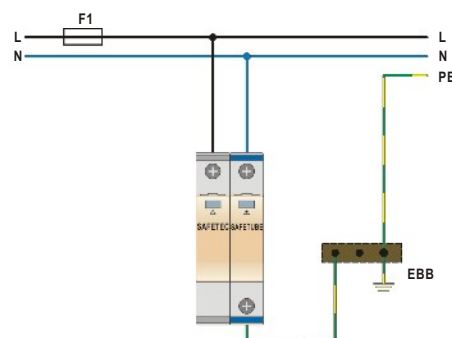
SAFETEC C(R) Series

Network connections

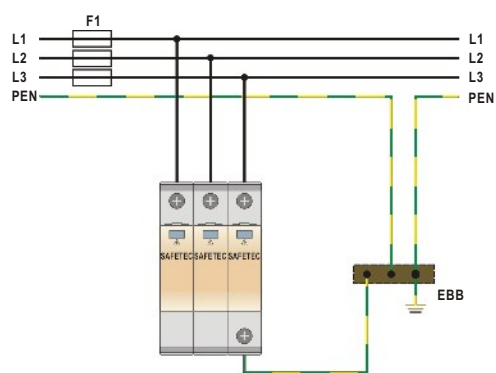
TN-S Network (Single-phase)



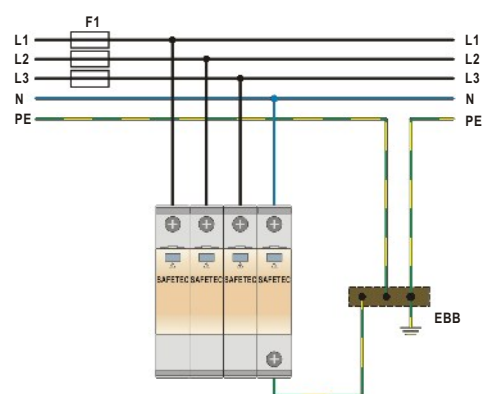
TT Network (Single-phase)



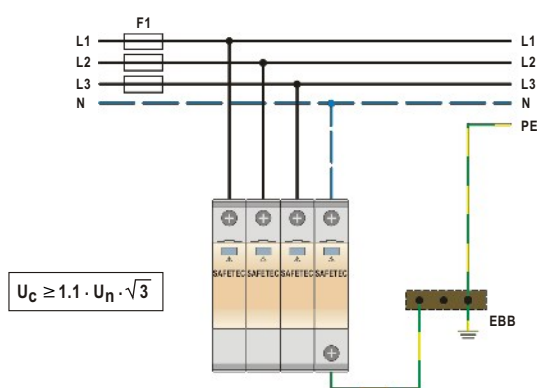
TN-C Network (Three-phase)



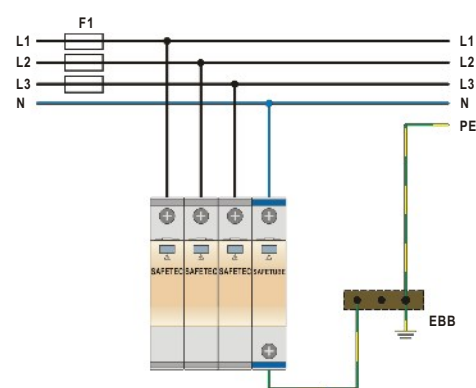
TN-S Network (Three-phase)



IT Network (Three-phase)



TT Network (Three-phase)



Back-up fuse

- $F1 > 125 \text{ A gL} \rightarrow$ $F2 = 125 \text{ A gL}$
- $F1 \leq 125 \text{ A gL} \rightarrow$ $F2$

