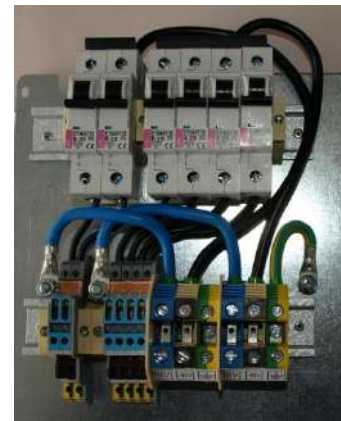


PTTA POWER-TO-THE-ANTENNA UNIVERSALE BOX

Features

- Ruggedised outdoor power distribution box
- Supports 3 or 6 remote radio heads
- Different configurations, with circuit breakers or/and surge protection devices
- Suitable for mounting on poles, walls and towers
- Legs with round-, L- and -shape
- Protective vent equalises pressure and prevents water condensation
- Each box is fully electrical tested



Specification

	PTTA box small	PTTA box medium
Number of RRH	Up to 3 RRH	Up to 6 RRH
Dimensions	255 x 180 x 126 mm	360 x 255 x 152 mm
Un rated voltage	-48 V DC	
In rated current per RRH		
Box material	Polycarbonate, halogen free (DIN/VDE 0472, Part 815), UV resistant (UL 508)	
Flammability rating	UL 746C 5V	
Ingress protection (EN 60529)	IP 66/67	
Impact resistance (EN 62262)	IK 08	
Ambient temperature range	-40°C to +55°C	
Protective vent	IP 67, typical airflow 2500 ml/min	
Screw terminals	Up to 16mm ² stranded with wire end sleeve Up to 25mm ² without wire end sleeve	
Circuit breaker	miniature circuit breaker ETIMAT 10DC / C 20A	
Surge protection device	ETITEC C-PV - Class II / Type 2 / C	

POWER ENTRY

For the PTTA (Power-To-The-Antenna) boxes we recommend shielded copper cables, either 6 wire cables up to 10 mm² or 2 wire cables up to 25 mm². The 6 wire cable is suited for individual power supply for 3 RRH, especially when using circuit breakers. The PTTA box medium has optional a second power entry cable gland. This is useful when a bigger cross section is needed in case of long distances. The cross section can be increased up to 32 mm² (2 x 16 mm²). Further, the second power entry is needed when using 2 separate power supplies, one for RRH 1-3 and the other for RRH 4-6.

POWER EXIT

The PTTA box exits are compatible with shielded 2 wire cables (cross section 4 mm² or 6 mm²).

EARTHING

All boxes have a cable gland and screw terminals for an earthing cable with a cross section up to 16 mm².

CIRCUIT BREAKER

In the standard configuration 20 A circuit breakers are used. The ambient temperatures to which the PTTA box is exposed have a big influence on the maximum current load. The self-heating of the circuit breaker in combination with the ambient temperature is a key issue to choose the right circuit breaker.

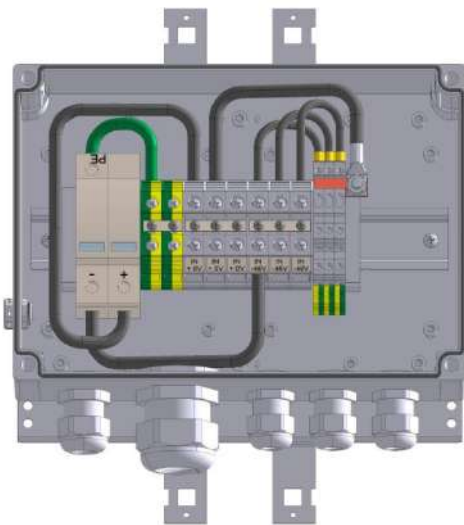
SURGE PROTECTION DEVICE

In the standard configurations SPD type 2 / class II are used to protect the remote radio heads against surge voltage. SPD type 2 are capable of handling 40 kA (8/20 For lightning protection SPD type 1 + 2 / class I + II with coordinated spark gap technology are optional available. The current discharge capacity is 100 kA (10/350

FTTA SOLUTIONS

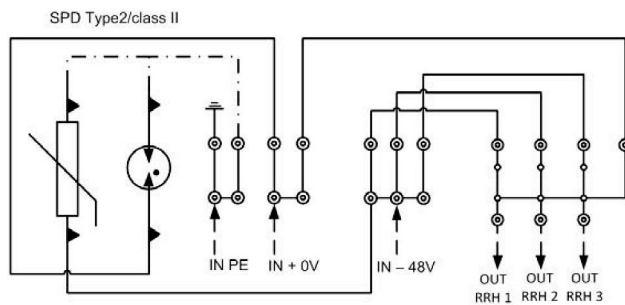
PTTA POWER-TO-THE-ANTENNA UNIVERSALE BOX

PTTA U box S3 RRH power distribution with surge protection type 2

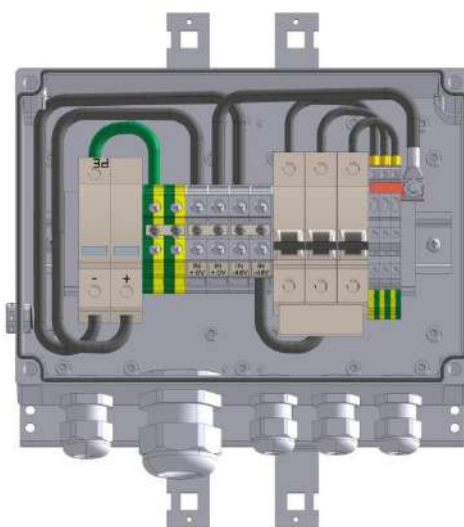


Specification

PTTA U-box-S3 RRH	255 x 180 x 126 mm
Screw terminals	Up to 16 mm ² (25 mm ²)
Power entry	1 cable ϕ 12 - ϕ 25 mm, 2 x 10 mm ² , 2 x 16 mm ² , 2 x 25 mm ²
Power exit	3 cables ϕ 8 - ϕ 17 mm, 2 x 4 mm ² , 2 x 6 mm ²
Earthing	1 cable ϕ 5 - ϕ 13 mm, 1 x 16 mm ²
Surge protection device	Type 2 / class II
IN rated current per RRH	16.7 A
Item no.	PTTA-01_3

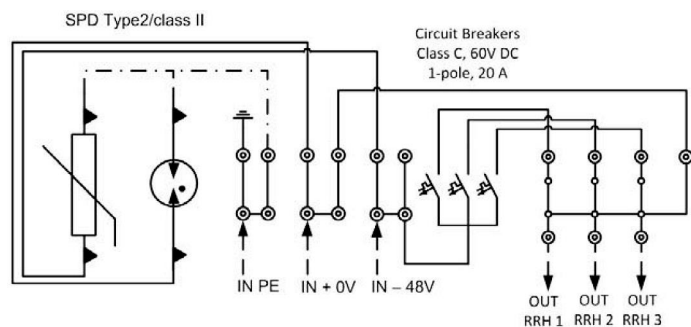


PTTA U box S3 RRH power distribution with circuit breaker and surge protection type 2



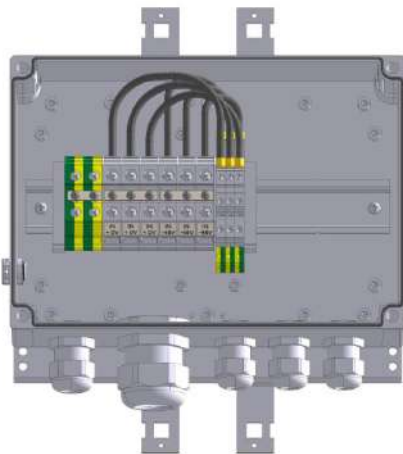
Specification

PTTA U-box-S3 RRH	255 x 180 x 126 mm
Screw terminals	Up to 16 mm ² (25 mm ²)
Power entry	1 cable ϕ 12 - ϕ 25 mm, 2 x 10 mm ² , 2 x 16 mm ² , 2 x 25 mm ²
Power exit	3 cables ϕ 8 - ϕ 17 mm, 2 x 4 mm ² , 2 x 6 mm ²
Earthing	1 cable ϕ 5 - ϕ 13 mm, 1 x 16 mm ²
Circuit breaker	Class C 20 A
Surge protection device	Type 2 / class II
IN rated current per RRH	13.3 A
Item no.	PTTA-01_4



PTTA POWER-TO-THE-ANTENNA UNIVERSALE BOX

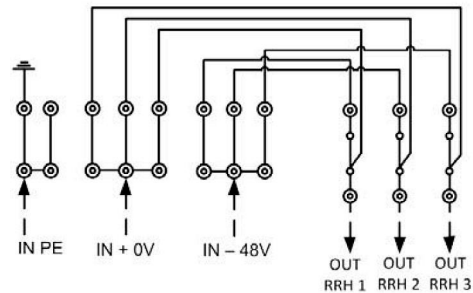
PTTA U box S 3 RRH power distribution



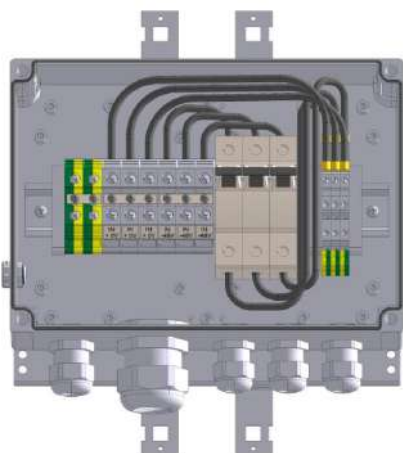
Specification

PTTA U-box-S 3 RRH	255 x 180 x 126 mm
Screw terminals	Up to 16 mm ² (25 mm ²)
Power entry	1 cable ϕ 12 - ϕ 25 mm 6 x 6 mm ² , 6 x 10 mm ² , 2 x 10 mm ² , 2 x 16 mm ² , 2 x 25 mm ²
Power exit	3 cables ϕ 8 - ϕ 17 mm, 2 x 4 mm ² , 2 x 6 mm ²
Earthing	1 cable ϕ 5 - ϕ 13 mm, 1 x 16 mm ²
IN rated current per RRH	16.7 A
Item no.	PTTA-01_1

Including removable bridges for using multiwire cable



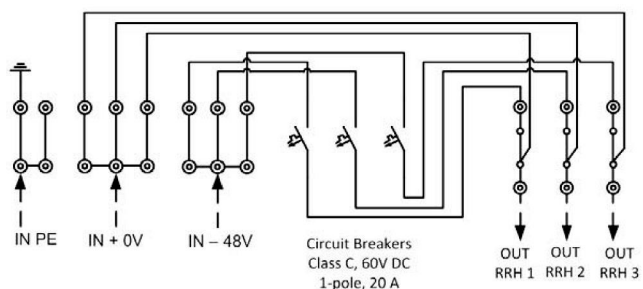
PTTA U box S 3 RRH power distribution with 3 circuit breaker



Specification

PTTA U-box-S 3 RRH	255 x 180 x 126 mm
Screw terminals	Up to 16 mm ² (25 mm ²)
Power entry	1 cable ϕ 12 - ϕ 25 mm 6 x 6 mm ² , 6 x 10 mm ² , 2 x 10 mm ² , 2 x 16 mm ² , 2 x 25 mm ²
Power exit	3 cables ϕ 8 - ϕ 17 mm, 2 x 4 mm ² , 2 x 6 mm ²
Earthing	1 cable ϕ 5 - ϕ 13 mm, 1 x 16 mm ²
Circuit breaker	Class C 20 A
IN rated current per RRH	13.3 A
Item no.	PTTA-01_2

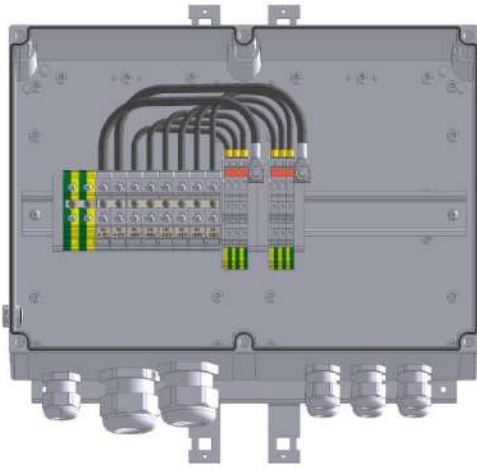
Including removable bridges for using multiwire cable



FTTA SOLUTIONS

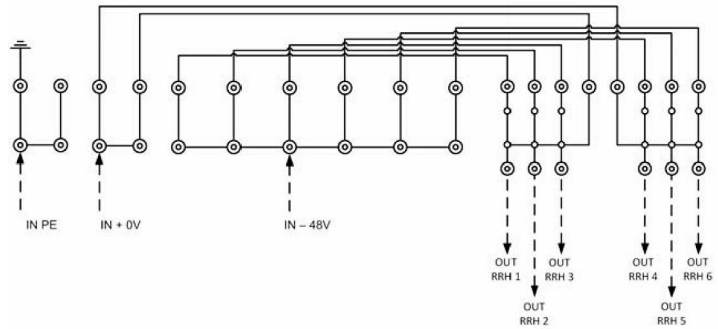
PTTA POWER-TO-THE-ANTENNA UNIVERSALE BOX

PTTA U box S 3 RRH power distribution with circuit breaker and surge protection type 2

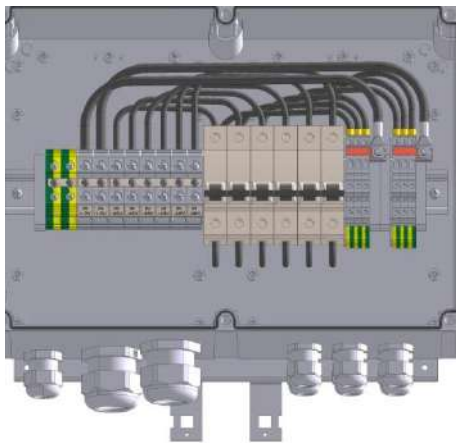


Specification

PTTA U-box-M 6 RRH	360 x 255 x 152 mm
Screw terminals	Up to 16 mm ² (25 mm ²)
Power entry	2 cables ø12 - ø25 mm, 2 x 10 mm ² , 2 x 16 mm ² , 2 x 25 mm ²
Power exit	6 cables ø8 - ø17 mm, 2 x 4 mm ² , 2 x 6 mm ²
Earthing	1 cable ø5 - ø13 mm, 1 x 16 mm ²
IN rated current per RRH	15 A
Item no.	PTTA-02_1

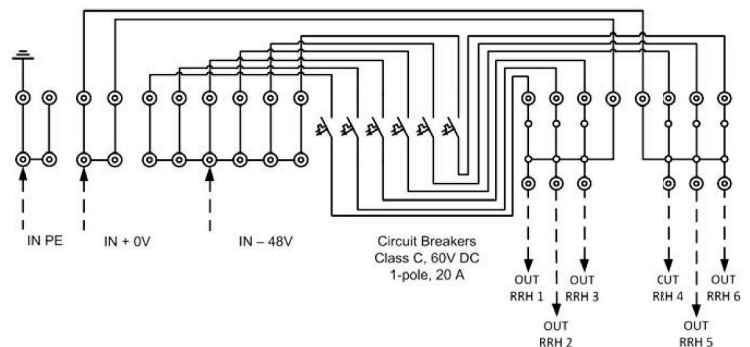


PTTA U box M 6 RRH power distribution with 6 circuit breaker



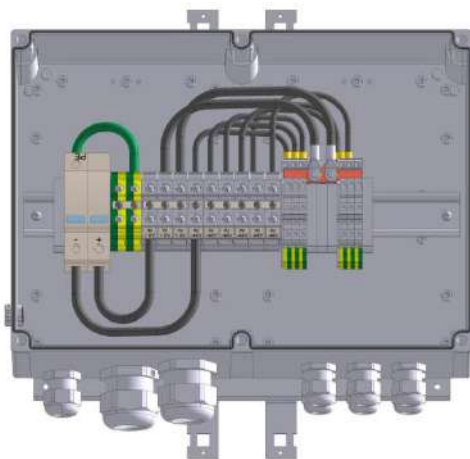
Specification

PTTA U-box-M 6 RRH	360 x 255 x 152 mm
Screw terminals	Up to 16 mm ² (25 mm ²)
Power entry	2 cables ø12 - ø25 mm, 2 x 10 mm ² , 2 x 16 mm ² , 2 x 25 mm ²
Power exit	6 cables ø8 - ø17 mm, 2 x 4 mm ² , 2 x 6 mm ²
Earthing	1 cable ø5 - ø13 mm, 1 x 16 mm ²
Circuit breaker	Class C 20 A
IN rated current per RRH	11.7 A
Item no.	PTTA-02_2



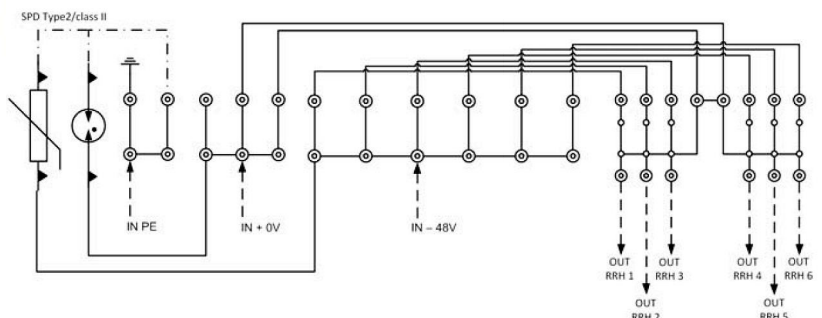
PTTA POWER-TO-THE-ANTENNA UNIVERSALE BOX

PTTA U box M 6 RRH power distribution with surge protection type 2

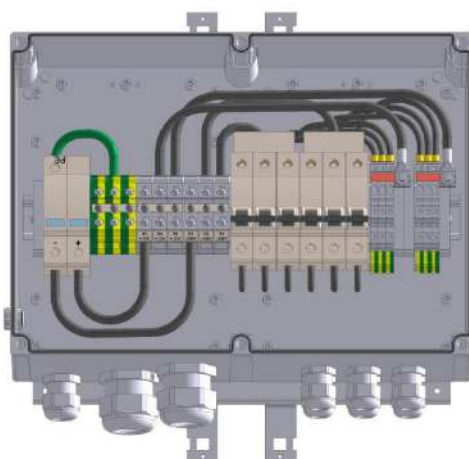


Specification

PTTA U-box-M 6 RRH	360 x 255 x 152 mm
Screw terminals	Up to 16 mm ² (25 mm ²)
Power entry	2 cables ϕ 12 - ϕ 25 mm, 2 x 10 mm ² , 2 x 16 mm ² , 2 x 25 mm ²
Power exit	6 cables ϕ 8 - ϕ 17 mm, 2 x 4 mm ² , 2 x 6 mm ²
Earthing	1 cable ϕ 5 - ϕ 13 mm, 1 x 16 mm ²
Surge protection device	Type 2 / class II
IN rated current per RRH	15 A
Item no.	PTTA-02_3

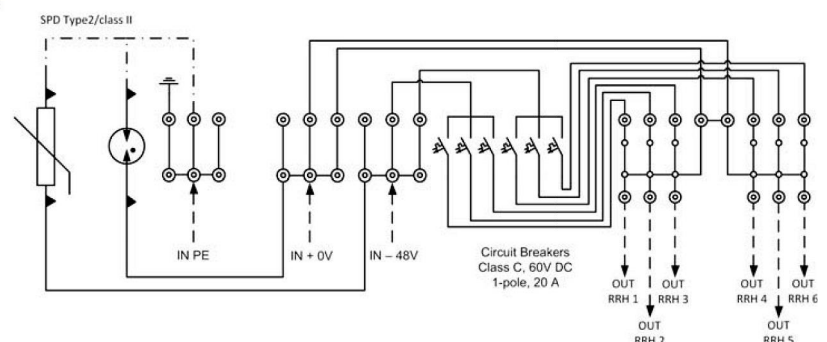


PTTA U box M 6 RRH power distribution with circuit breaker and surge protection type 2



Specification

PTTA U-box-M 6 RRH	360 x 255 x 152 mm
Screw terminals	Up to 16 mm ² (25 mm ²)
Power entry	2 cables ϕ 12 - ϕ 25 mm, 2 x 10 mm ² , 2 x 16 mm ² , 2 x 25 mm ²
Power exit	6 cables ϕ 8 - ϕ 17 mm, 2 x 4 mm ² , 2 x 6 mm ²
Earthing	1 cable ϕ 5 - ϕ 13 mm, 1 x 16 mm ²
Circuit breaker	Class C 20 A
Surge protection device	Type 2 / class II
IN rated current per RRH	11.7 A
Item no.	PTTA-02_4



FTTA SOLUTIONS

PTTA POWER-TO-THE-ANTENNA UNIVERSALE BOX

Surge protection device (SPD) type 2, class II

Features

- Solution for lightning protection
- Lightning current arrestors type 1 + 2, class I + II coordinated spark gap technology with 100 kA (10/350 s) current discharge capacity
- AEC combined T1 / T2 arrestor
- Low voltage protection level
- Operating state / fault indication by indicator flag and with optional remote signalling contacts for the monitoring system
- Easy replacement of protection modules



ETICEC C-PV 100/20, 550/20
2 TE



ETICEC C-PV 1000/20
3 TE

In accordance with	IEC-61643-1		
Max. continuous operating voltage U_c (DC)	100 V	550 V	1000 V
Nominal discharge current I_n (8/20)	20 kA	20 kA	20 kA
Max. discharge current I_{max} (8/20)	40 kA	40 kA	40 kA
Impulse current I_{imp} (10/350)	-	-	-
Specific energy	-	-	-
Charge	-	-	-
Protection level U_p at I_n (8/20)	<0,7 kV	<2,1 kV	< 4,0 kV
Protection level U_p at I_{imp} (10/350)			
Follow current I_f	No		
Response time t_A	<25 ns		
Residual current at U_c	<1,5 mA		
Thermal protection	yes		
Short-circuit withstand current	25 kA / 50 Hz		
Temperature range	-40°C ... +80°C		
Terminal cross section	35 mm ² (solid) / 25 mm ² (stranded)		
Terminal screw torque	Max. 4,5 Nm		
Mounting EN 60715	35 mm top-hat rail		
Degree of protection	IP20		
Housing material	Thermoplastic, extinguishing degree UI 94 V-0		
Dimensions DIN 43880	2 TE	2 TE	3 TE

Remote contacts - type ...RC	
Contacts ratings	AC 250 V / 0,5 A; 125 V / 3 A
Terminal cross section	Max. 1,5 mm ²
Terminal screw torque	0,25 Nm
Packaging dimensions	108 mm x 79 mm x 76 mm

PTTA POWER-TO-THE-ANTENNA UNIVERSALE BOX

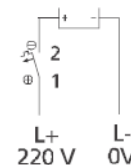
Mini Circuit breaker (MCB) ETIMAT 10 DC

Features

- Miniature Circuit breaker ETIMAT 10 DC with 20 A rated current
- Switching capacity 10 kA
- The devices are approved for worldwide use according to IEC standards for systems up to 220 V DC.



Connecting diagram

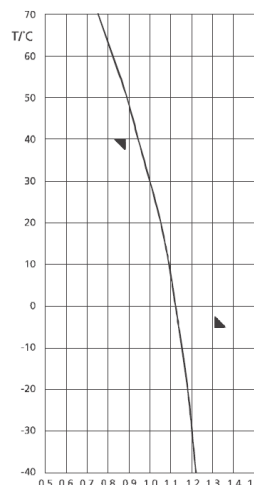
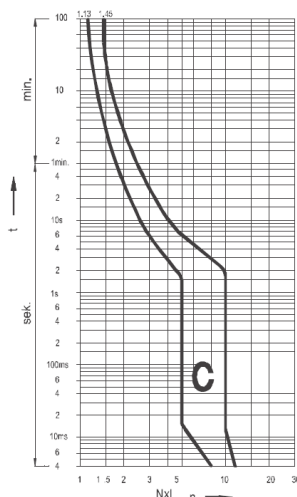


Specifications miniature circuit breaker ETIMAT 10 DC

Standards	EN 60898-1, EN 60947-2
Operational voltage	Up to 220 V DC
Rated current (at 30°C)	20 A
Rated time constant L/R	4 ms
Rated switching capacity	10 kA DC (EN 60898)
Tripping characteristic	C
Poles	1 pole
Energy limiting class	3
Isolating class	B
Conductor cross-sections	1 to 35 mm ² (solid and stranded) 1 to 25 mm ² (finely stranded, with end sleeve)
Ambient temperature	-25°C to +55°C, max. 95% humidity
Storage temperature	-40°C to +75°C

Tripping characteristic C at ambient temperature +30°C for ETIMAT 10 DC, rated current 20 A

Standard	Thermal trips		Electromagnetic trips	
	limiting test current tripping time > 1h	minimum test current tripping time < 1 h	Hold tripping time > 0.1 s	latest tripping instant tripping time < 0.1 s
IEC/EN 60898 1	22.6 A (1.13 x I _N)	29 A (1.45 x I _N)	100 A (5 x I _N)	200 A (10 x I _N)



Correction factor is valid for current with times over 30 s
 $I(x^{\circ}\text{C})$ - test current at x ambient temperature
 $I(30^{\circ}\text{C})$ - test current at 30°C ambient temperature

$$k = \frac{I(x^{\circ}\text{C})}{I(30^{\circ}\text{C})}$$