



Electrical protections

PROTECTION FOR ELECTRICAL CIRCUITS

OVERCURRENT AND SHORT CIRCUIT PROTECTION

Two types of products protect circuits from current overloads and short circuits: fuse switch disconnectors and circuit breakers.

They cut off power in the event of a fault in the circuit.

FUSE SWITCH DISCONNECTOR

The simplest device for protecting circuits.

Works with a calibrated fuse cartridge.

As the neutral remains connected, the switch has to be opened manually to cut off power completely.

Also available in D0 or Neozed version (excluding isolation).

Advantages

- High breaking capacity, compactness, price.



CIRCUIT BREAKER

In the event of an overcurrent or short circuit, the circuit breaker automatically breaks the circuit.

Advantages

- Both poles are mechanically cut off.
- Simple to reset.
- The defective circuit is easy to identify.



OVERVOLTAGE PROTECTION

These devices are used increasingly frequently in street lighting for the safety of LED lighting fixtures and maintenance support. There are 2 types of protection.

Varistors, useful for permanent overvoltages, help detect any problems with "phase/phase" connection or any neutral breaks, which means any temporary or prolonged voltages of 400 V.

Surge arresters to protect LED lighting fixtures against transient overvoltages between live and neutral or earth.

VARISTORS

A varistor, used with a fuse switch disconnecter, guarantees protection and easy detection of prolonged overvoltages.



SURGE ARRESTER

Device positioned as close as possible to the lamppost's earth terminal for optimal protection (0.5 m according to standard NF C17-200).

Did you know there are more than 2 million lightning strikes per year in France?

Anticipating risks helps limit maintenance costs.



Recommended
for all LED
installations

PERSONAL PROTECTION

PROTECTION AGAINST DIRECT CONTACT

Protection against people coming into direct contact with the live parts of a powered installation is ensured by insulating these live parts, by setting up devices guaranteeing inaccessibility or distance, with automatic switch-off or Safety Extra Low Voltage (SELV).

PROTECTION AGAINST INDIRECT CONTACT

Two products featuring Differential Devices, used with an earth connection, provide protection from indirect contact: the Differential Switch and the Residual Current Circuit Breaker.

They are essentially characterised by their sensitivity (in mA), i.e. the minimum current leakage value for the differential device to react.

DIFFERENTIAL SWITCH

The differential switch, in conjunction with an earth connection, protects against indirect contact.

It does not offer overcurrent or short circuit protection, which is why it must be combined with a Fuse Switch Disconnecter or a Circuit Breaker located upstream.

Advantages

- Easy diagnosis of overcurrent/differential faults.
- Price.



RESIDUAL CURRENT CIRCUIT BREAKER

The Residual Current Circuit Breaker, in conjunction with an earth connection, provides:

- Protection against indirect contact.
- Overcurrent and short circuit protection.

Advantages

- Compactness.



STREET LIGHTING CONTINUITY

AUTOMATIC DISCONNECTION DEVICES

ADDs or Automatic Disconnection Devices are covered by the UTE NF C17-210 guide and are designed to be fitted individually onto street lighting points. Recommended to be fitted onto every lamppost, their main feature is ensuring lighting continuity for a row of lamps should one be affected by an earthing fault, by temporarily or permanently isolating it from the network without causing the other equipment to go out.

AUTOMATIC DISCONNECTION DEVICE FOR STREET LIGHTING

The ADD does not include a device to protect against overcurrents and short-circuits. It must therefore be used in conjunction with a fuse switch disconnecter or a circuit breaker located upstream.

The ADD is not designed to provide protection against indirect contact, this function is performed by an RCCB located at the head of the power supply circuit.

The ADD can also be used to carry out automatic reloading sequences in the event of a non-permanent fault.

Advantages

- Automatic reset.
- Price.





COMPONENTS FOR JUNCTION BOXES

TECHNOLOGICAL AND REGULATORY REMINDERS

PROTECTIVE DEVICES

Fuse Switch Disconnecter	Circuit breaker	Varistor	Surge arrester	Differential switch	Residual current circuit breaker	ADD	ADD + Fuse Switch Disconnecter
-----------------------------	-----------------	----------	----------------	------------------------	-------------------------------------	-----	--------------------------------------

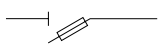
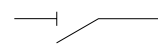
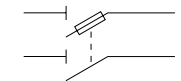
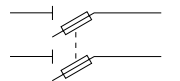
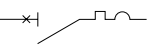
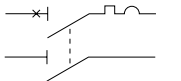
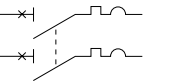
POWER CUT FUNCTIONS

Isolation	•	•			•	•	•
Overcurrent and short circuit protection	•	•			•	•	•
Differential protection				•	•		

ADDITIONAL FUNCTIONS

Protection against permanent overvoltages		•					
Protection against transient overvoltages			•				
Street Lighting Continuity						•	•

TECHNICAL CHARACTERISTICS

FUSE SWITCH DISCONNECTORS In accordance with standards EN 60269-1, EN 60269-2, EN 60947-1, EN 60947-3				CIRCUIT BREAKERS Compliant with standard EN 60947-2			
Single pole Phase	Single pole Neutral	Single pole Phase + Neutral	Double pole 2 Phases coupled	Single pole	Single pole Phase + Neutral	Double pole	
FP	FN	FPN	F2P	DP	DPN	D2P	
							
W (mm)	18	18	18	36	18	18	36
D (mm)	40	40	40*	40	77	77	77
H (mm)	80	80	80	80	80	80	80
CABLE OUTPUT CONNECTION	1 x 16 mm ²	1 x 16 mm ²	2 x 10 mm ²	2 x 10 mm ²	1 x 16 mm ²	2 x 10 mm ²	2 x 16 mm ²

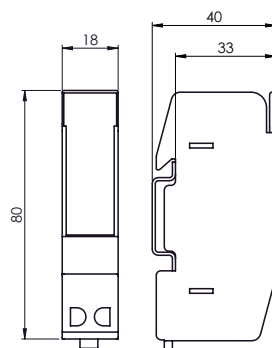
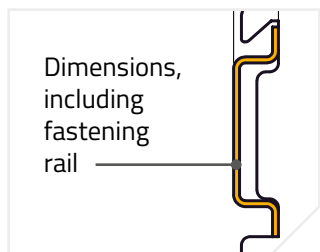
All our boxes are delivered with a 10.3 x 38 gG cylindrical cartridge, minimum BC 120 kA.

Choice of rating, or without fuse cartridges, to be specified when ordering.

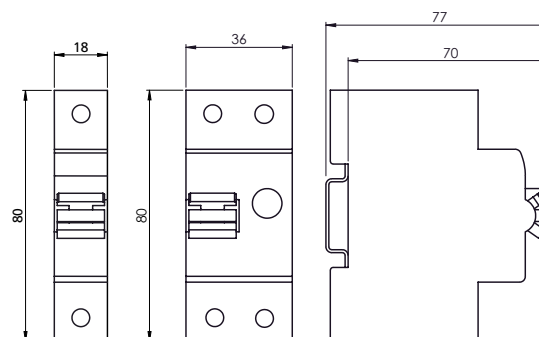
*Optional: Fuse Switch Disconnecter, depth 62 mm (version FPN-H).

Our boxes are delivered with 6, 10, 16 or 20 A circuit breakers (please state when ordering), curve B and cut-off current 10 kA.

For other ratings or curves, please state when ordering.

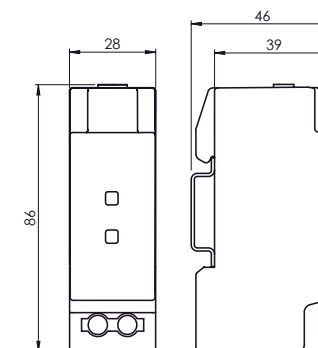


FPN



DPN

ID/DDR



IDIL10

SURGE ARRESTERS Compliant with standard EN 61643-11		RESIDUAL CURRENT DEVICES Compliant with standards EN 61800 (ID), EN 61009 (DDR, DDR2P)			IDIL - AUTOMATIC DISCONNECTION DEVICES (ADD) for street lighting, with automatic reset
One phase		Differential Switch	RCCB phase + neutral	Double pole Residual current circuit breaker	ADD 6 A with automatic reset 30/100/300 mA
PFM		ID	DDR	DDR2P	IDIL10
18		36	36	72	28
40*		77	77	77	46
80*		80	80	80	86
0.5 - 2.5 mm ²		2 x 16 mm ²	2 x 16 mm ²	2 x 10 mm ²	2 x 4 mm ²

*Optional: 16 A version (PFG),
depth 60 mm,
and height 90 mm.