Line Series

Canalis KN 40 to 160 A

Catalogue 2023

Prefabricated busbar trunking for power distribution

se.com

Life Is On Schneider Electric

Green Premium™

An industry leading portfolio of offers delivering sustainable value

Green Premium™

More than 75% of our product sales offer superior transparency on the material content, regulatory information and environmental impact of our products:

- RoHS compliance
- REACh substance information
- Industry leading # of PEP's*
- Circularity instructions

Discover what we mean by green
Check your products!

The Green Premium program stands for our commitment to deliver customer valued sustainable performance. It has been upgraded with recognized environmental claims and extended to cover all offers including Products, Services and Solutions.

CO_2 and P&L impact through… Resource Performance

Green Premium brings improved resource efficiency throughout an asset's lifecycle. This includes efficient use of energy and natural resources, along with the minimization of CO_2 emissions.

Cost of ownership optimization through… Circular Performance

We're helping our customers optimize the total cost of ownership of their assets. To do this, we provide IoT-enabled solutions, as well as upgrade, repair, retrofit, and remanufacture services.

Peace of mind through… Well-being Performance

Green Premium products are RoHS and REACh compliant. We're going beyond regulatory compliance with step-by-step substitution of certain materials and substances from our products.

Improved sales through… Differentiation

Green Premium delivers strong value propositions through third-party labels and services. By collaborating with third-party organizations we can support our customers in meeting their sustainability goals such as green building certifications.

*PEP: Product Environmental Profile (i.e. Environmental Product Declaration)

Canalis KN 40 to 160 A

Canalis, a comprehensive and consistent busbar trunking system for...

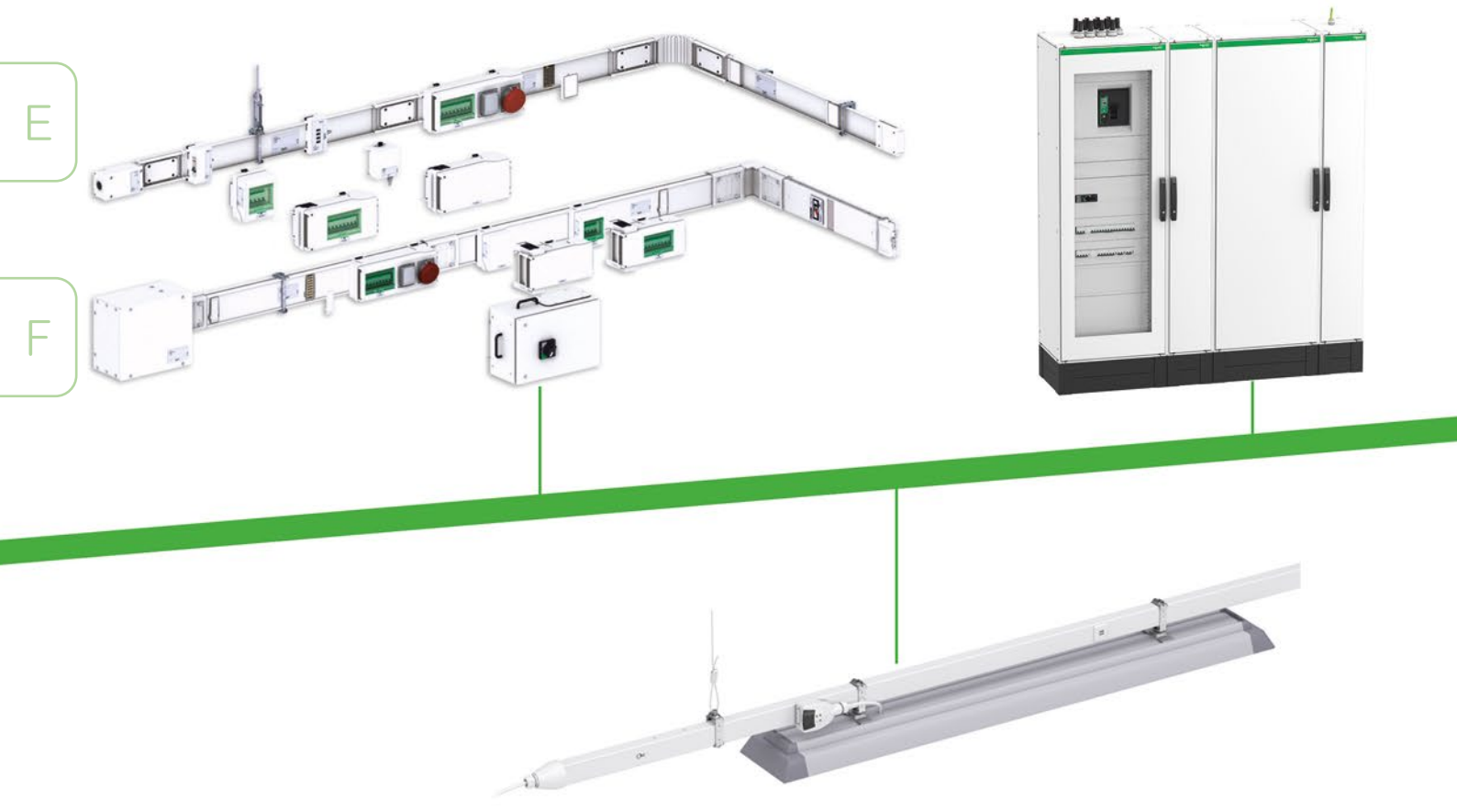
A new path for achieving your electrical installations

Canalis is part of a comprehensive offer of products that are perfectly coordinated to meet all medium and low voltage electrical distribution requirements.
All of these products have been designed to work together: electrical, mechanical and communication compatibility.
The electrical installation is thus both optimised and high-performance.

Optimum system performance is ensured by coordination between the protection circuit breakers and the busbar trunking used for decentralised distribution.

Decentralised electrical distribution with total coordination perfectly satisfies all your requirements in terms of safety, continuity of service, upgradeability and simplicity.

Decentralised electrical distribution with total coordination is the ideal solution for a wide range of applications including factories, warehouses, commercial premises, parkings, etc.



... lighting and power distribution in all types of buildings

Easier

• Coordination

Schneider Electric proposes coordinated busbar trunking and circuit breaker combinations for all your applications.

For typical applications with power ratings up to 630 kVA, a solution including the low-voltage electrical switchboard, circuit breakers and Canalis busbar trunking ensures an installation sized to handle all short-circuit levels encountered.

• Design

The electrical installation can be designed without knowing the exact location of the equipment to be supplied.

• Operation

Canalis opens the door to total upgradeability throughout the installation.

Connectors with standard performance circuit breakers can be installed at any point along the busbar trunking run.

Safer

• Decentralised distribution system

The combination of cascading and discrimination techniques guarantees optimum safety and continuity of service.

• Design

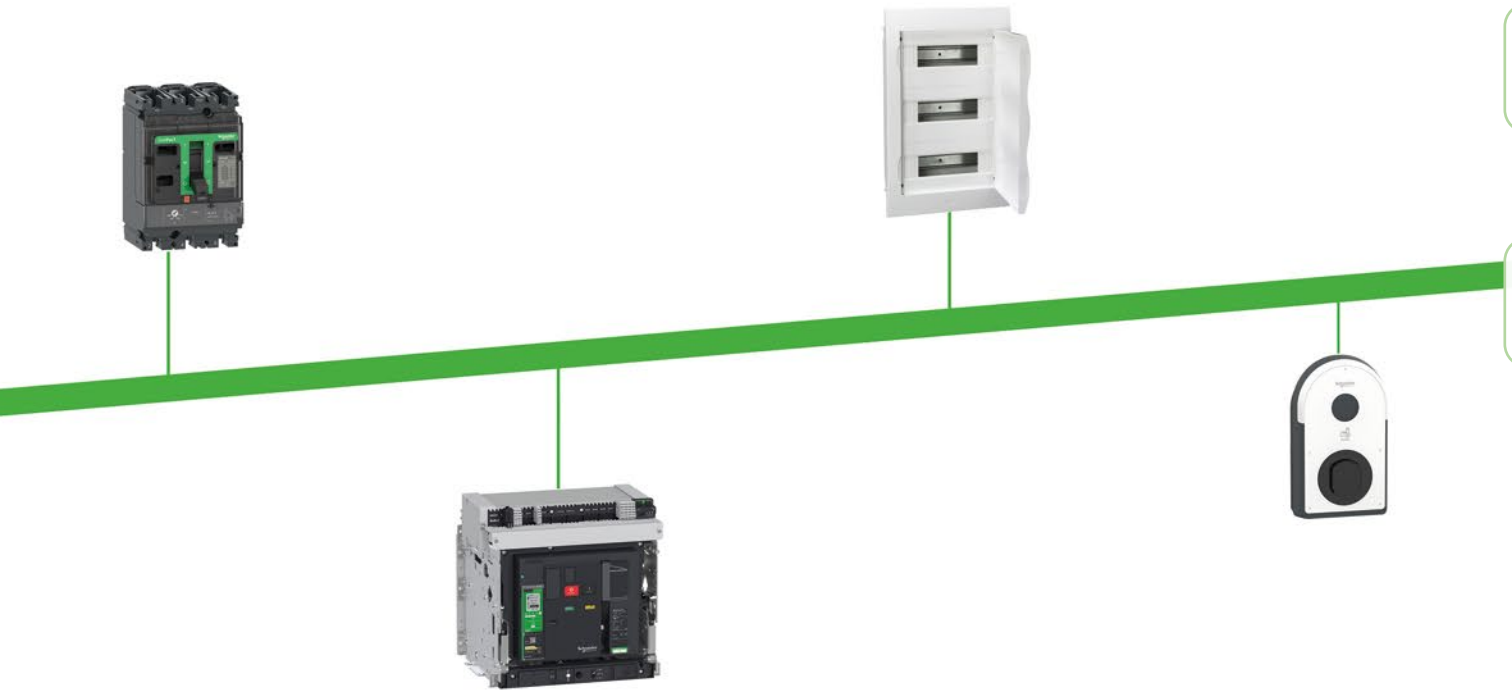
Total discrimination for enhanced protection as standard and at a lower cost.point de la canalisation.

• Operation

Any changes to your installation are carried out in complete safety.

Connectors can be plugged in and out with the trunking live. They are equipped with interlocking systems to prevent incorrect mounting.

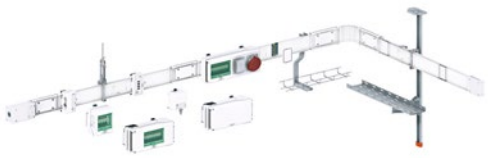
Coordination guarantees their installation at any point on the busbar trunking system.



Panorama of the range

Lighting and low power distribution from 25 to 40 A - IP55

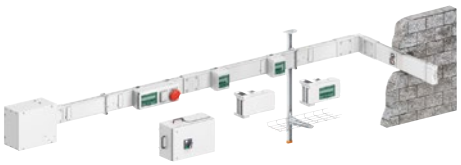
Rated service current	Rated insulation voltage	Color	Line components	
Inc	Ui		Length of components	Number of conductors
Canalis KBA				
25 A 40 A	690 V	Pre-lacquered white (RAL9003)	2 m and 3 m	2 or 4 + PE
Canalis KBB				
25 A 40 A	690 V	Pre-lacquered white (RAL9003)	2 m and 3 m	Single circuit 2 or 4 + PE Dual circuit 2 + 2 + PE 2 + 4 + PE 4 + 4 + PE



Power distribution from 40 to 160 A - IP55

Canalis KN *				
40 A 63 A 100 A 160 A	500 V	Pre-lacquered white (RAL9001)	2 m and 3 m	3L + N + PE

* Canalis KN range is available on se.com



Horizontal and vertical distribution from 100 to 1000 A - IP55

Canalis KS *					
Aluminium: 100 A, 160 A, 250 A, 400 A, 500 A, 630 A, 800 A, 1000 A	**Copper:** 160 A, 250 A, 400 A, 630 A, 800 A	690 V	Pre-lacquered white (RAL9001)	3 m, 5 m and additional or customized components	3P + N + PE

* Canalis KS range is available on se.com or catalogue: DEBU026EN

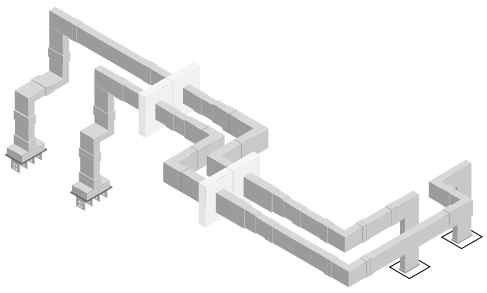
Horizontal open track distribution from 250 to 630 A - IP20/42

I-Line Track				
250 A, 400 A, 630 A	690 V	Pre-lacquered white (RAL9003)	Standard 3 m or customized	3L + N + PE

Power transmission and distribution from 800 to 6300 A - IP55

Canalis KT *					
Aluminium: 800 A, 1000 A, 1250 A, 1600 A, 2000 A, 2500 A, 3200 A, 4000 A, 5000 A	**Copper:** 1000 A, 1350 A, 1600 A, 2000 A, 2500 A, 3200 A, 4000 A, 5000 A, 6300 A	1000 V	Pre-lacquered white (RAL9001)	2 m and 4 m	3L + PE 3L + N + PE 3L + N + PER

* Canalis KT range is available on se.com or catalogue: KTA: ref. DEBU021EN / KTC: ref. DEBU024EN



Power transmission for outdoor and harsh environment from 800 to 6300 A - IP68

Canalis KR *				
800 A, 1000 A, 1250 A, 1350 A , 1600 A, 2000 A, 2500 A, 3200 A, 4000 A, 5000 A, 6300 A	1000 V	Gray (RAL7030)	Up to 3 m	3L 3L + N or 3L + PE or 3L + PEN 3L + N + PE

* Canalis KR range is available on se.com or catalogue ref. DEBU031EN

	Branching points			Accessories
	Center to center distance		**Protection type**	
	0.5 m, 1 m on 1 side	L + N + PE or 3L + N + PE (10/16 A) pre-cabled or to be cabled,with phase selection or fixed polarity, with lighting control	With fuses or without protection	> Flexible components > Fixing devices with quick adjustment > Communication bus (DALI, KNX, ASI) > Cable ducts
	0.5 m or 1 m on 1 or 2 sides	L + N + PE or 3L + N + PE (10/16 A) pre-cabled or to be cabled,with phase selection or fixed polarity, with lighting control	With fuses or without protection	> Flexible components > Fixing devices with quick adjustment > Communication bus (DALI, KNX, ASI) > Cable ducts
	0.5 m, 1 m on 1 side	16 A to 63 A (plug-in)	Units for modular circuit breakers, fuses and sockets	> Flexible components > Fixing devices with quick adjustment > Remote control bus > Cable ducts > Installation accessories
	0.5 m or 1 m on each side for horizontal version, and on one side for vertical version	16 A to 400 A (plug-in)	Units for circuit breakers (modular, Compact NSX), fuses, sockets	> Riser ducting offer > Fixing devices with quick adjustment > Cable ducts > Installation accessories > Fire barriers
	Continuous opened channel	16 A to 125 A (plug-in)		> Data Center IT room > Fixing devices with quick adjustment > Installation accessories > Color customization
	0.5 m or 1 m	25 A to 630 A (plug-in) 400 A to 1250 A (bolt-on)	Units for circuit breakers (modular, Compact NSX), fuses, sockets	> Power supply ends > Direction change angles and T-pieces > Fixing devices and fuses
	-	-	-	> Power supply ends > Direction change angles and T-pieces > Fixing devices > Fire resistant elements

A Canalis installation for every distribution system

Schneider Electric offers different distribution systems to fit all your operating needs.

The Canalis decentralized distribution concept.

Upgradeable during operation

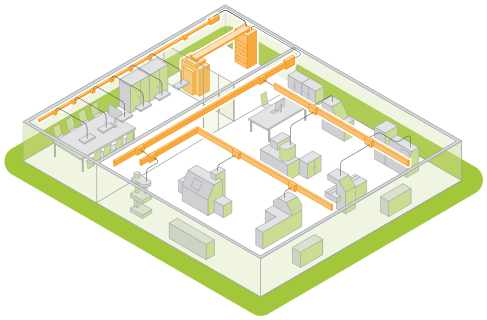
In decentralized distribution, evolving operating requirements and costs are integrated right from the start.

- The addition, relocation or replacement of load equipment can be carried out quickly, without de-energizing the supply trunking or shutting down operation.
- The cost of making such changes is greatly reduced:

- loads are located close to supply points
- tap-off points are always available
- tap-units can be reused or new ones added quickly for load.

Relocation or replacement needs.

- Reusable in the event of major changes.
- When making major modifications to your installation, the existing trunking can be easily dismantled and reused.



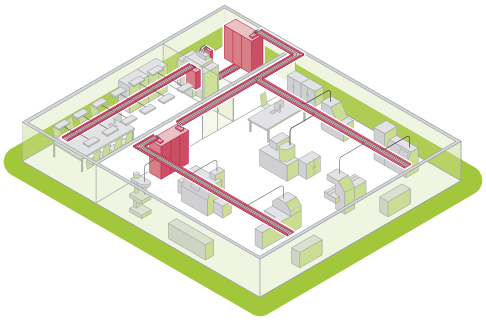
Decentralized distribution

For manufacturing industries

- Mechanical
- Textiles
- Lumber
- Injection moulding
- Electronics
- Pharmaceuticals
- Livestock, etc.

Decentralized distribution lets you

- Design installations without layout details
- Upgrade without shutting down production
- Get systems up and running sooner thanks to faster installation
- Generate savings depending on the number of loads.



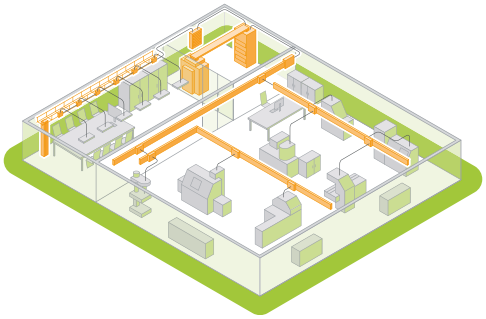
Centralized distribution

For all continuous processes

- Cement plants
- Oil and gas
- Petrochemicals
- Steel
- Paper, etc.

Centralized distribution offers

- Continuity of service
- Combined distribution of power, control and monitoring circuits
- Supervision, etc.



Combined distribution

Where the advantages of both centralized and decentralized distribution are required.

Commercial and service buildings

- Offices
- Stores
- Hospitals
- Exhibition halls, etc.

Infrastructures

- Airports
- Telecommunications
- Internet data centres
- Tunnels, etc.

Industrial facilities

- Pharmaceuticals
- Food processing, etc.

The Canalis decentralized distribution concept

Electrical power available at all points within the installation

Total coordination of the Schneider Electric system provides maximum safety of life and property, continuity of service, upgradeability and ease of installation.

Total coordination is made easy by the tables in the "Design Guide".
They help you choose the right combination of circuit breakers and busbar trunking.

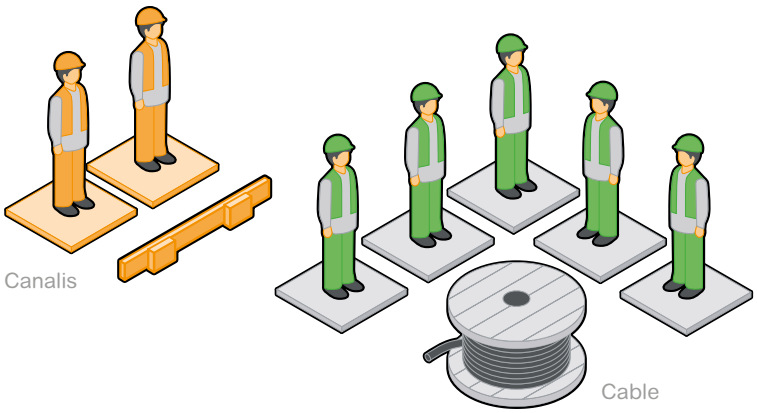
Product characteristics are verified by calculations and tests carried out in our laboratories.

Exclusive features of the Schneider Electric system

A competitive installation

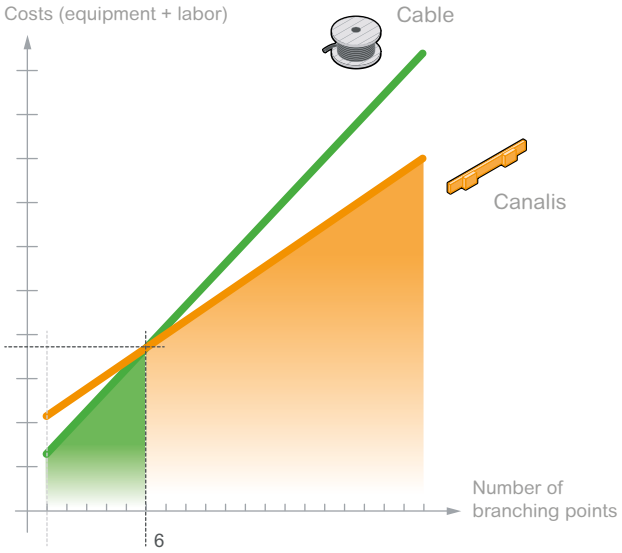
Simplicity, upgradeability, safety and continuity of service and operation.

Savings start as soon as the installation begins. With tap-off points every 3 metres, Canalis busbar trunking reduces installation costs.
Given the low cost of adding new circuits, savings increase as the number of loads increase, a natural consequence of the growth of your business.



Comparative investment

of 400 A electric power system equipment.



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Power distribution is a major challenge in the construction and refurbishment of commercial, industrial buildings and data centers.

The choice of device is fundamental as it will have an effect on the building's lifecycle. Infrastructures must comply with existing requirements while being flexible, networked and smart. The Canalis concept is undoubtedly the best solution to meet the needs of today and the challenges of tomorrow.

Simple to estimate

Designing Canalis installations is straightforward as there is no need to know the exact location, nor the power rating of the loads to be supplied.

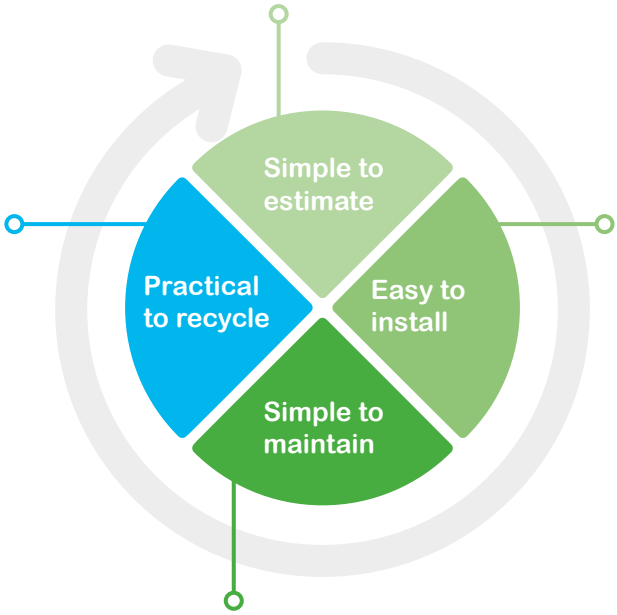
It is therefore very quick to cost the distribution functions. Moreover, Canalis's flexibility means you can invest in existing needs without adversely affecting future expansion.

Practical to recycle

Over the last 20 years, recycling has become a major challenge for industry.

The composition of Canalis ranges **guarantees a 95% recycling rate.**

But the Canalis offers go one better… if a site is being restructured or enlarged, **the products can simply be removed and reinstalled in their new environment.**



Easy to install

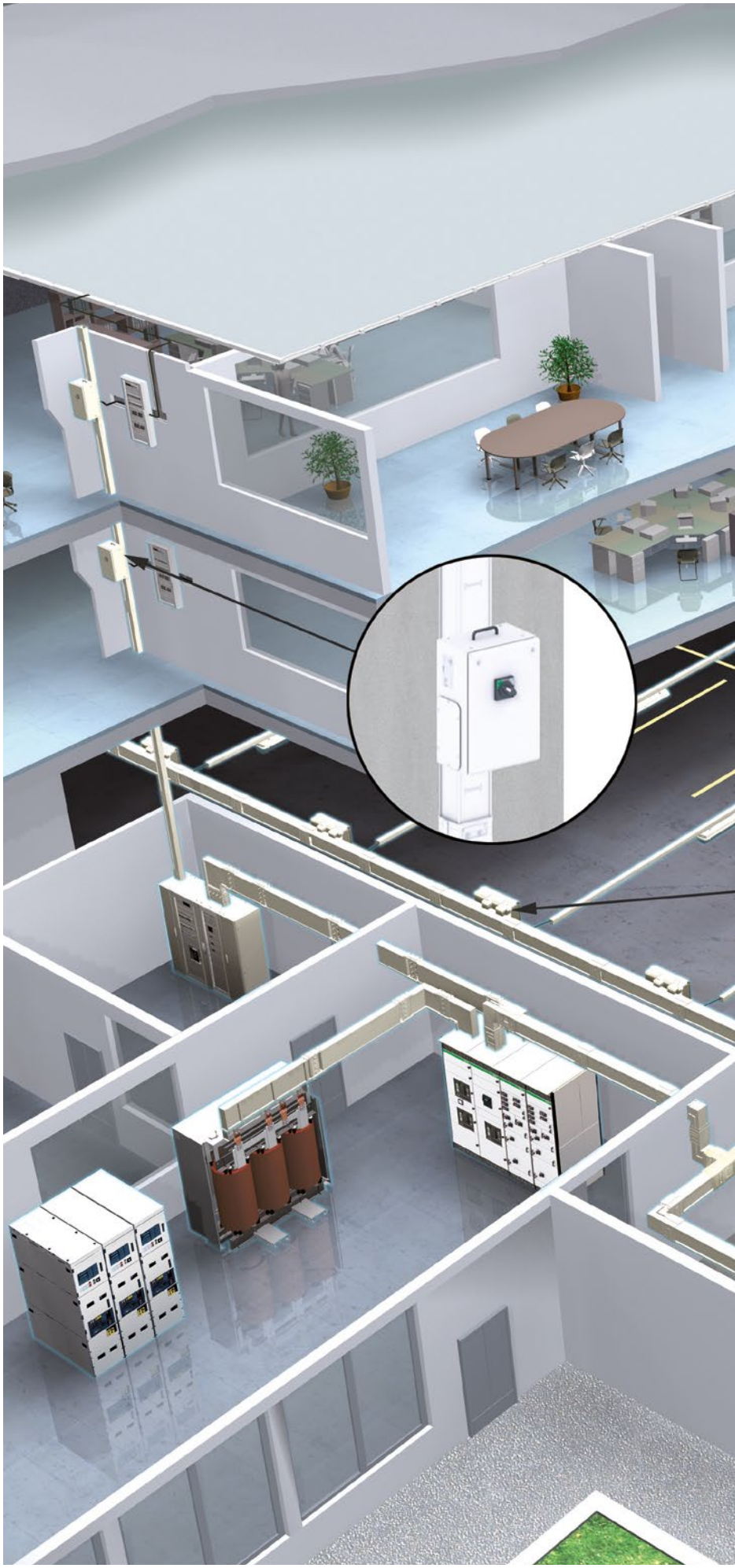
The compact nature of Canalis makes it easy to integrate in all parts of the building.
Since it is based on a decentralized architecture, Canalis can be installed at the same time as the building is being built, which optimizes site construction schedules.
Because of the delayed differentiation linked to the Canalis architecture, new constraints can be taken into account without adding to the installation time.

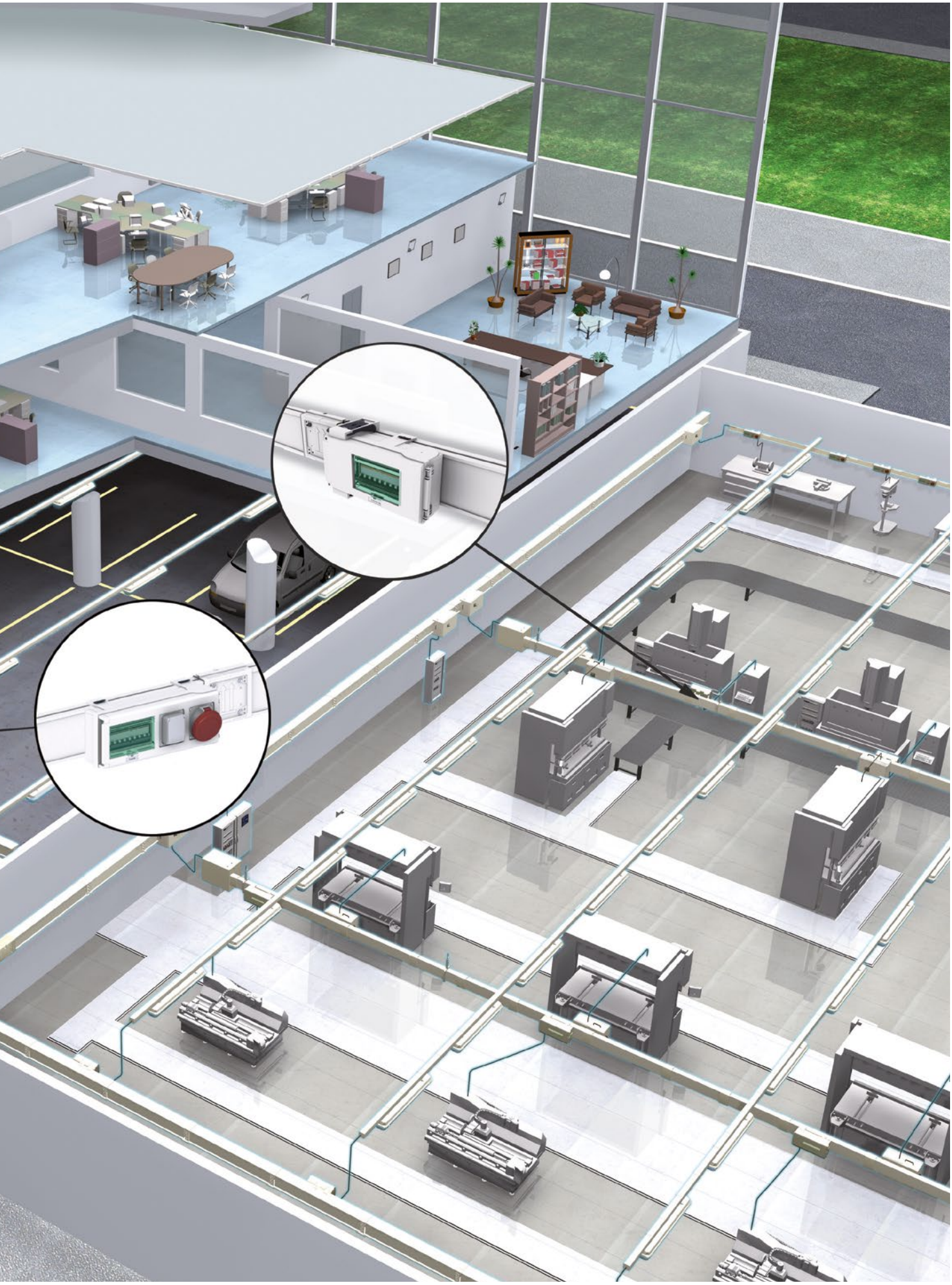
Controlling costs
The Canalis ranges are factory-tested, which ensures a very high level of quality on site and considerably improves the success of site acceptance tests.

Simple to maintain

- **No maintenance is required on the Canalis electrical contacts.**
- The clarity of the Canalis architecture simplifies building maintenance and upgrades:
  > enlarging office space,
  > adding check-outs in a supermarket…
  Decentralized distribution ensures continuity of service; when associated with a 100% maintained or non-maintained supply, the essential functions are guaranteed:
  > maintaining the cold chain in a hypermarket,
  > lighting system in a car park…

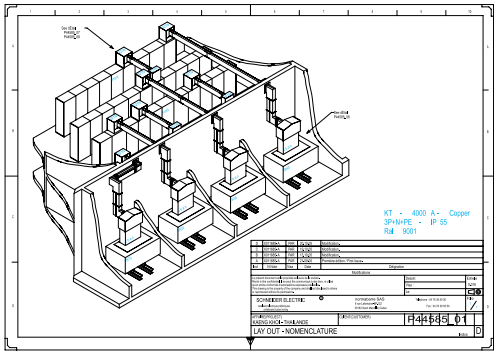
"Electrical energy available throughout your installation."





Canalis tools and services

Working together on your solution



Our teams are available to provide customers with technical assistance throughout the installation of their projects.

Design of electrical distribution architectures:

- design of decentralized transport and distribution systems
- technical and financial optimization of busbar trunking design projects
- transformer/switchboard link
- installation coordination and discrimination.

Full installation drawings*:

- 3D AutoCAD drawings with corresponding parts lists
- 2D drawing with dimensions
- detailed connection drawings

*All AutoCADs are available on Traceparts.com
BIM Models: will be available on Schneider-electric.com in 2019.

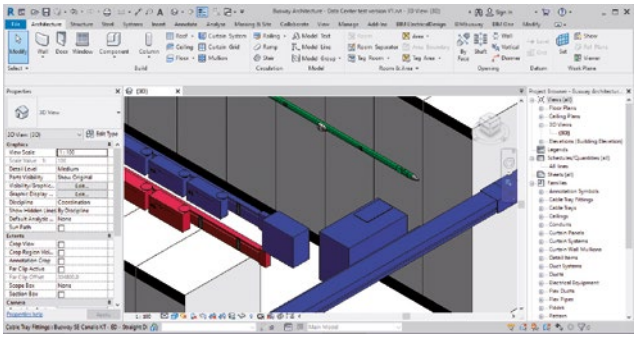
Site supervision and commissioning assistance.

Training for designers and contractors.

Canalis Busway "Total Solution":

1	2	3	4	5	6	7	8
Project launch	Technical support	CanBrass drawing	Autocad drawing	Production	Project management	On-site instruction and installation	After-sales service

Quotation and Design tools



CanBrass

> is a design and costing tool for Canalis busbar trunking runs.

CanCad

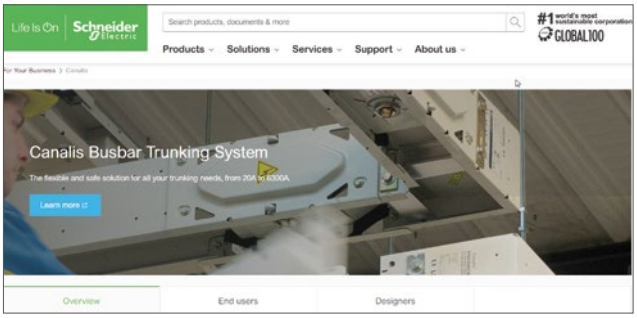
> is a Plug-in for Autocad. It allows to easily design and get bill of materials.

BIMBusway

> is a Plug-in for Revit. It allows to easily design and get bill of materials in BIM format.

Learn more...

... about Canalis KN on se.com



... about Canalis ranges

Canalis KN is a comprehensive solution

1 Feed units and end covers

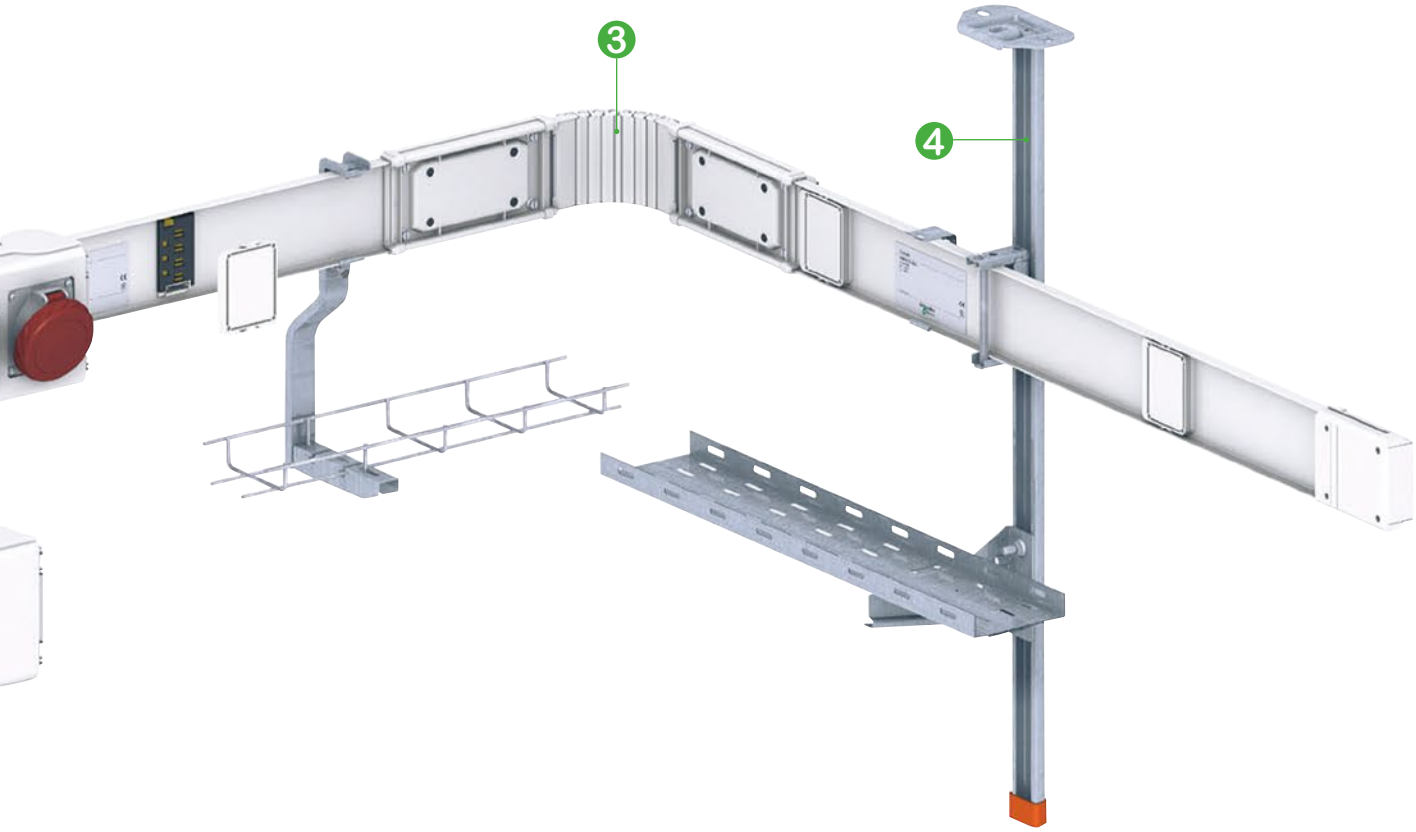
- The feed units delivered with end covers, receive the cables supplying one end or any other point of Canalis KN trunking. (central feed).

2 Run components

- Rating: 40, 63, 100 and 160 A.
- 4 live conductors.
- Length:
  - Basic components: 3 metres,
  - Additional lengths: 2 and 3 metres.

3 Changing direction

- Changing direction: flexible.



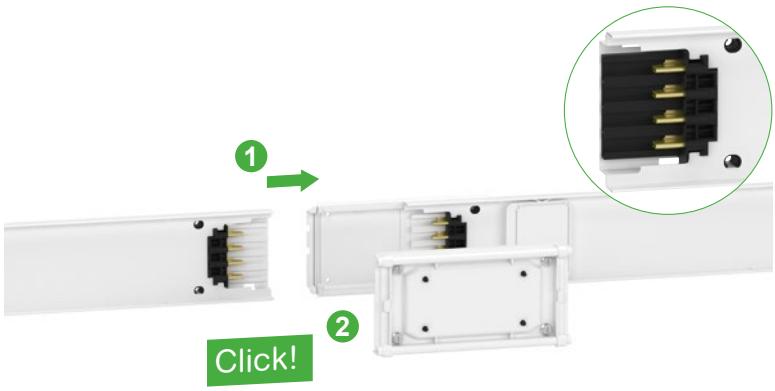
4 Fixing system

- The fixing system ensures that Canalis KN is well secured, whatever the type of building structure.

5 Tap-off units

- The tap-off units are used to:
  - supply loads from 16 to 63 A
  - or protect nearby loads against overloads due to lightning strikes.
- Protection using modular circuit breakers or fuses.

Canalis KN is a fast and easy mounting solution



Excellent contact
Easy to extend

Fast installation

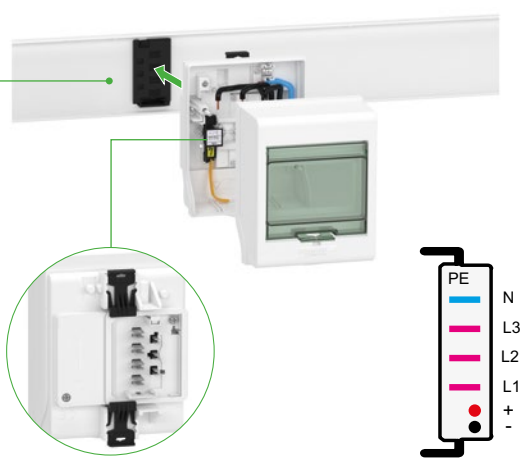
Unmatched upgrading possibilities

Canalis KN is a safe and robust solution

Flexible installation

A complete range of tap-off units

Digital BUS



A high degree of protection

The high degree of protection for Canalis KN means it can be installed in all types of buildings.

- IP55 guarantees trunking protection against splashes, dust
- IK08 guarantees the strength of the trunking (resistance to shocks)
- IPxxD ensures totally safe working conditions for maintenance personnel
- Canalis KN complies with sprinkler tests, guaranteeing operation under vertically and horizontally sprayed water for 50 minutes.

Total safety

An interlocking device prevents mounting errors and makes it impossible to install or remove an energised tap-off unit.

No toxic emission in case of fire

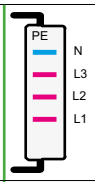
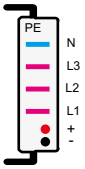
All components in the KN range are halogen free.

In case of fire, Canalis KN releases very small quantities of smoke and no toxic gases..

Canalis KN is designed for low-power distribution.
There are two versions:
- Canalis KNA: busbar trunking with four live conductors (3L + N + PE), for distribution up to 160 A.
- Canalis KNT: identical to KNA, but equipped with a transmission bus with three 2.5 mm^2 conductors (except 160 A).
  This bus can be used to set up simple control/monitoring systems (lighting or other loads).

The degree of protection of KNA and KNT trunking is IP55

All the insulating and plastic materials are **halogen-free** and have enhanced fire-withstand capabilities: incandescent wire test as per standard IEC 60695-2 (960°C for components in contact with live parts and 650°C for other components).

Type	Canalis KNA	Canalis KNT
Classic offer without bus		
Control system with an internal **digital bus**		

Feed units and end covers

Feed units

Supply a Canalis KN line, via a cable.
They can be mounted at the end of a line (end feed) or in the middle (central feed).
These units are made of moulded plastic for the 40, 63 and 100 A ratings and metal for the 160 A rating.

They are equipped with:
- terminals for 16 mm^2 copper cables on the 63 A feed units, copper contacts for 35 mm^2 lugs on the 100 A feed units and for 95 mm^2 lugs on the 160 A feed units
- multi-diameter knock-outs until 100 A rating and cable-gland plates for the 160 A rating
- a 3 x 2.5 mm^2 terminal block for connection of the remote-transmission cable (Canalis KNT).

1 End feed units
They are equipped with a mechanical and electrical locating system (polarisation), making it possible to supply a run from the right or the left. They are supplied with an end cover.

2 Central feed units
They are supplied with two end covers.

Straight lengths

Carry the current and supply low-power loads.
Straight lengths constitute the basic structure of the line and are made up of:

1 **a carrier casing**, crimp closed, made of hot-galvanised sheet steel, pre-lacquered RAL 9001 white. This rail also acts as the protective earth conductor (PE),

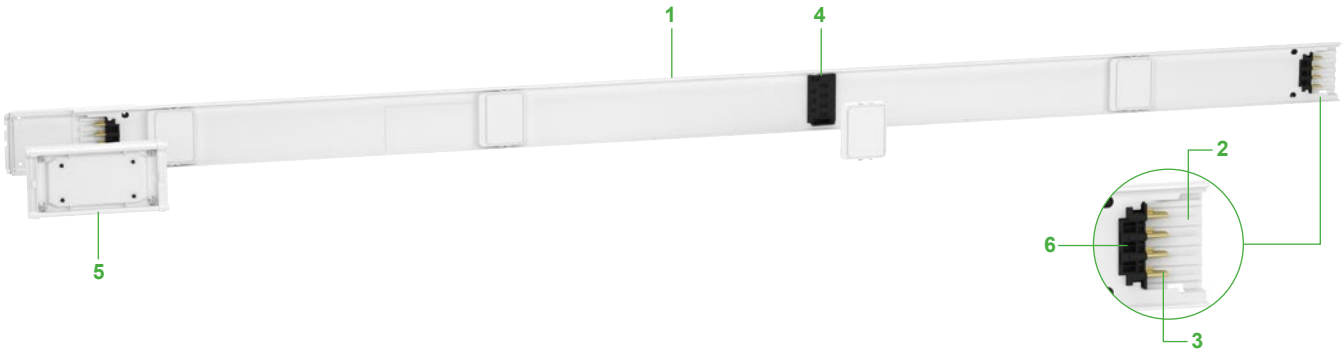
2 **an insulated mounting casing**, supporting the live conductors,

3 **four live aluminium conductors**, equipped with silver-plated aluminium/copper bimetal contacts at junctions and tap-off points,

4 **tap-off outlets** with automatic shutters that open and close automatically when tap-off units are installed or removed. They are equipped with blanking plugs to maintain the degree of protection IP55. There are one or two tap-offs per metre, depending on the version,

5 **a mechanical and electrical jointing system.** Electrical connection is via flexible grip contacts made of silver-plated copper. The system ensures automatic and simultaneous connection of all live conductors and the continuity of the protective earth conductor,

6 **three copper bus conductors** (Canalis KNT for the complementary offer).



Changing direction

Components for changing direction

For changes in direction and detours around obstacles (posts, pipes). They can be shaped by hand, on site, to follow any path.

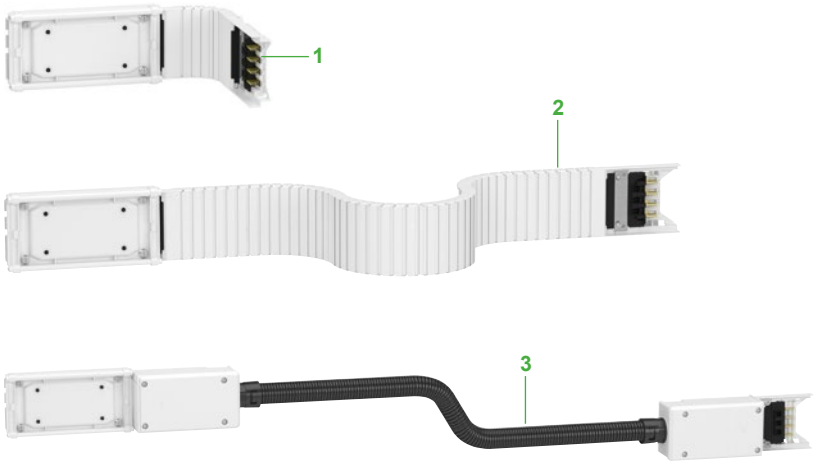
1 **Flexible elbow**

2 **Flexible length**

One metre long, these components can be used in corners to adjust to the lengths of the straight components running along three walls, regardless of the dimensions of the premises.

3 **3D flexible length**

Three metres long, it can be bent in any direction to avoid major obstacles, particularly useful in false ceilings.



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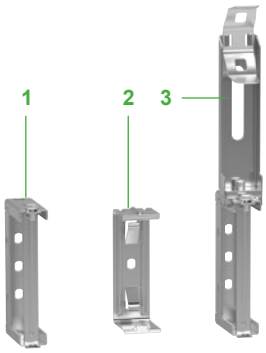
For attachment of the busbar trunking to the structure of the building, either directly or via threaded rods (8 mm diameter), brackets, etc.

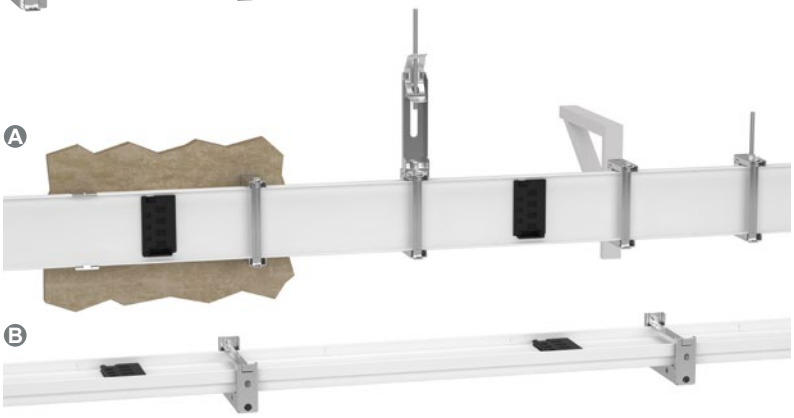
The fixings are suitable for all types of mounting: on ceilings, suspended, on walls, etc. Regarding fixing installation, some tap-off outlets would not be available.



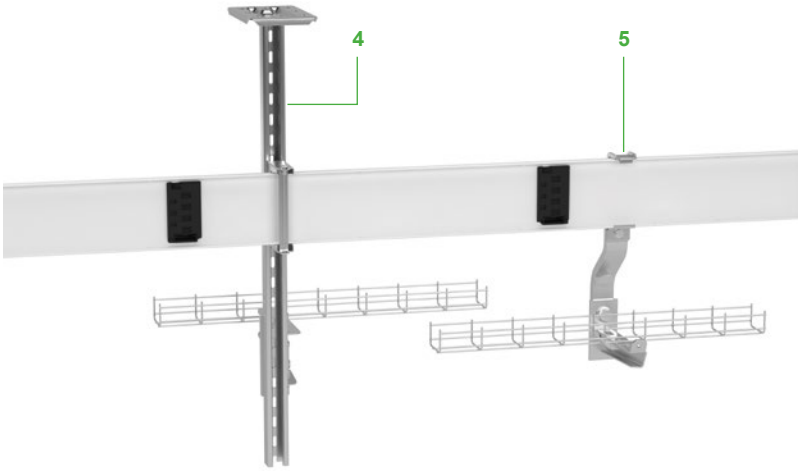
1 Universal fixing bracket
For edgewise or flat trunking installation.
The recommended fixing distance is three metres for trunking installed edgewise Ⓐ and 1.5 metres when installed flat Ⓑ.

2 Wall brackets
For edgewise mounting only. The recommended fixing distance is two metres.

3 Spring fixing bracket
These brackets are used to suspend the KN line on threaded rods M8 and do not require tools. The bracket is attached to the treaded rod by the spring mechanism, without nuts or bolts. Adjustment of the length of the threaded rod is simplified and the KN trunking can be installed three times faster.
They are suitable for all ratings.



4 Pendant Kit
The pendant kit includes:
- a perforated pendant (length: 1 meter, width: 80 mm) used to suspend a KN line from the bulding structure, an IPN or the ceiling.
- a cantilever arm (100 mm) that supports the cable tray under the KN line.
- the mounting hardware required to secure the KN bracket and the cantilever arm to the pendant.If neccessary, additional cantilever arms can be ordered.



5 Fixing bracket for tracking
Designed for fast mounting, it supports the 100 mm cable trays made of perforated sheet-metal or wire mesh.
Can be directly installed on Canalis trunking: no addition fixing points required.

Tap-off units with disconnection by unplugging, equipped or not equipped

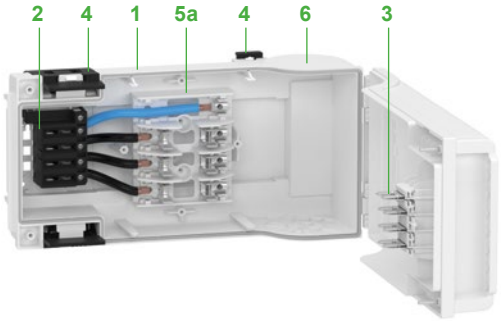
For rapid connection of loads or secondary lines (e.g. lighting), in compliance with installation standards CEI 60364 and regulations concerning TT, IT and TNS systems.

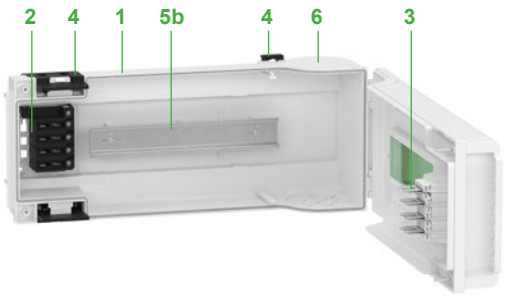
They can be handled under off-load conditions with the trunking energised.
All contacts are made of silver-plated copper.

Disconnection by unplugging the tap-off unit.
Access to the electrical equipment and the terminals is possible only when the tap-off unit is unplugged (i.e. not energised).
A safety device prevents connection to the trunking when the cover has been removed.

Tap-off unit disconnection by opening or closing the cover should be carried out only if the downstreamload is de-energised

Category AC 20 disconnection is obtained by opening the tap-off unit cover.
With the cover open, no live parts are accessible.
The degree of protection is IPxxB. (protected against access with a finger).





A number of safety devices prevent the operator from:
- plugging in the tap-off unit when the cover is closed.
- closing the cover before the tap-off unit is locked onto the trunking.
- unplugging the tap-off unit when the cover is closed.

1 Moulded plastic casing insulating material which is self-extinguishing and halogen free.

2 Power socket

3 Cover equipped with contact blades

4 Trunking locking device (four points)

5 Equipment :
5a for fuses
5b for C60 type modular devices

6 Cable exit knockouts

All tap-off units are manufactured in the KNA version (without a remote transmission bus).
They can be converted to the KNT version by adding an “Remote control power socket block” KNT63ZT1 (see Accessories page) that must bo ordered separately.

Single-phase tap-off units with phase selection, equipped with a iC60N circuit breaker

They are equipped with a phase selection system (L1, L2 or L3 + N + PE).
Positioned as close as possible to the loads; extension leads are not required.

1 Tap-off unit with circuit breaker
For protection of the tap-off circuit by a circuit breaker.
It is equipped with a Multi 9 single-pole iC60 type circuit breaker.

Four-pole tap-off units for modular devices (not equipped)

2 Tap-off unit for modular devices

This tap-off unit accepts most devices available in multiples of 18 mm wide modules:
- rated current: 32 A
- maximum capacity: 5 modules.

Tap-off unit covers can be lead sealed to prevent circuit-breaker switching by unauthorised persons.

Tap-off units, with isolators, for modular devices (not equipped)

3 Tap-off unit for modular devices

They can be equipped with modular Multi 9 iC60 type devices.
Rated current: 63 A
2 sizes available: 8 or 12 18 mm modules.
They are available with windows and blanking plates (devices visible and accessible) or with a plain cover (devices not accessible when energised).

Tap-off unit covers can be lead sealed to prevent circuit-breaker switching by unauthorised persons.

5

Tap-off units for power sockets Empty or eq

For the supply of portable loads equipped with household or industrial plugs in a:
- garage,
- maintenance workshop,
- laboratory,
- battery charging room, etc.

Rated courant: 32 A
Capacity: 8 modules in multiple of 18 mm wide
Two versions are available:
- pre-equipped with 2 PK or PratiKa power sockets
- customisable:
  - two 90 x 100 mm openings for PK-type (screw connections) or PratiKa (fast and reliable connection without stripping) industrial or household sockets.
  - direct mounting for industrial IEC 16 A 5P or IEC 32 A 3, 4 or 5P sockets.
  - mounting on 65 x 85 mm clip-on adapter plate for industrial IEC 16 A 3P or 5P and household 10/16 A 2P + PE sockets.

Tap-off unit covers can be lead sealed to prevent circuit-breaker switching by unauthorised persons.

6

Tap-off units with fuse holders (not equipped)

For protection of the tap-off by a fuse (not supplied).

6 Single-phase tap-off unit

Can be equipped with fuse holders for:
- NF 8.5 x 31.5 fuse, 16 A maximum, gG and aM type,
- BS 88A1 fuse, 20 A maximum.

7 - NF

7 - BS / DIN

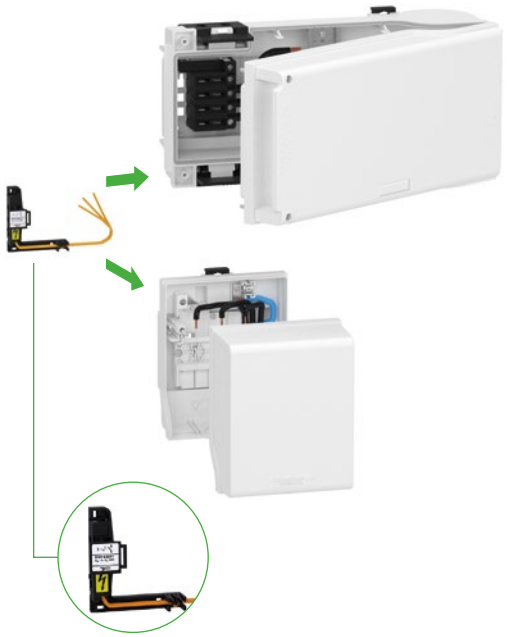
7 Four-pole tap-off unit

Can be equipped with fuse holders for:
- NF 10 x 38 fuse, 20 A maximum, gG type
- NF 10 x 38 fuse, 25 A maximum, aM type
- BS 88A1 fuse, 20 A maximum
- DIN Neozed E14 fuse, 16 A maximum.

8

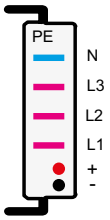
8 Tap-off unit with isolator

Can be equipped with fuse holders for:
- NF 14 x 51 fuse, gG and aM type 50 A maxi.
- BS 88A1 fuse, 30 A
- DIN fuse, type Diazed E27 25 A or Diazed E33 50 A or Neozed E18, 50 A.



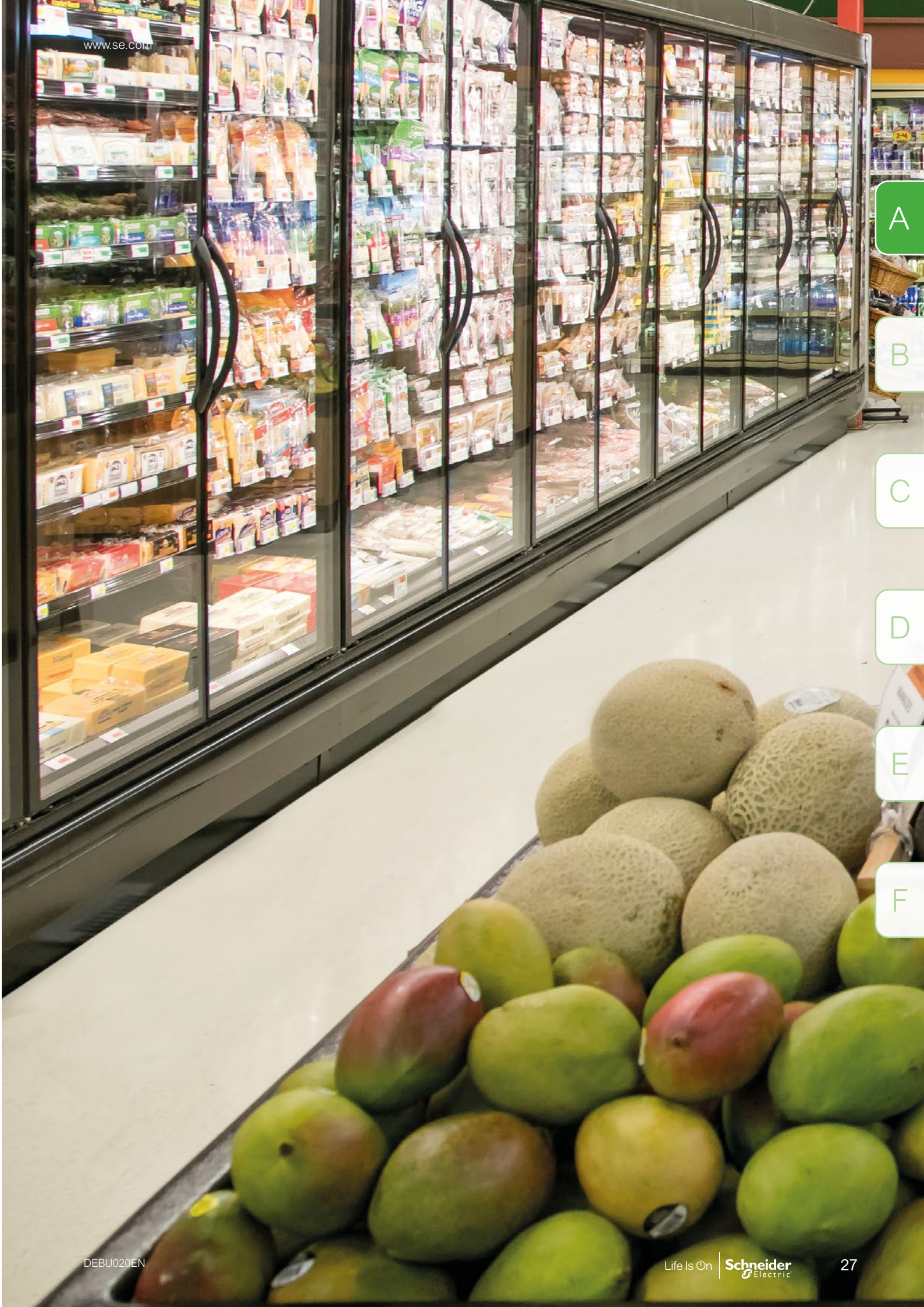
Add-on bus connection block

Used to tap off the KNT bus.
Clips into all tap-offs with isolators and can be used to control the equipment via a bus (BatiBus...).



Outlet/tap-off unit interlocking device

Used to differentiate and mechanically lock out tap-off units when up to four different Canalis KN lines are present (voltage, frequency, etc.).



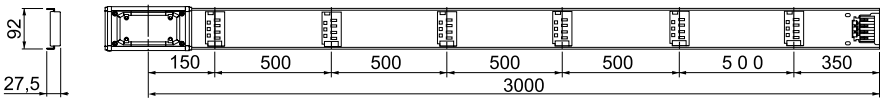
ED - Straight horizontal distribution - 3L+N+PE (1) - IP55

KNA••ED4•••

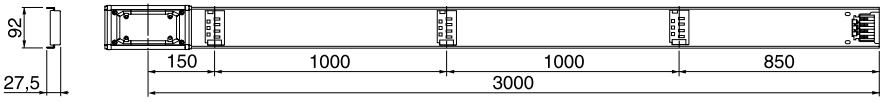
Length	Outlet nb		Catalogue number			
(mm)	Front	Rear	40 A	63 A	100 A	160 A
3000	6	-	KNA40ED4306	KNA63ED4306	KNA100ED4306	KNA160ED4306
3000	3	-	KNA40ED4303	KNA63ED4303	KNA100ED4303	KNA160ED4303
3000	1	-	KNA40ED4301	KNA63ED4301	KNA100ED4301	-
2000	4	-	▶	KNA63ED4204	KNA100ED4204	KNA160ED4204

(1) To create a PEN version, a connection is available in each end feed unit.

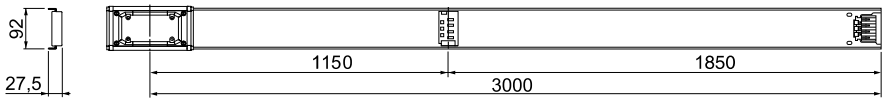
KNA•••ED4306



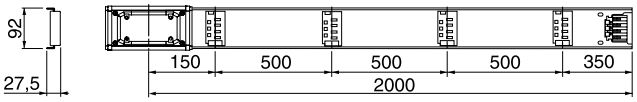
KNA•••ED4303



KNA•••ED4301



KNA•••ED4204



Catalogue number	Weight
40 A	(kg)
KNA40ED4306	5.60
KNA40ED4303	5.60
KNA40ED4301	5.50
63 A	
KNA63ED4306	5.70
KNA63ED4303	5.70
KNA63ED4301	5.60
KNA63ED4204	4.10
100 A	
KNA100ED4306	6.70
KNA100ED4303	6.70
KNA100ED4301	6.60
KNA100ED4204	4.80
160 A	
KNA160ED4306	7.30
KNA160ED4303	7.30
KNA160ED4204	5.20

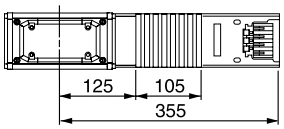
▶ No dedicated reference for this rating. Select the first above available reference.

DL - Flexible elbow for internal or external angle, 80° to 180° - IP55

KNA•••DL4

Length (mm)	Angle	Catalogue number 40 A	63 A	100 A	160 A
350	80° to 180°	▶	KNA63DL4	KNA100DL4	KNA160DL4
Additional information					
Weight (kg)		1.20	1.20	1.30	1.50

KNA•••DL4

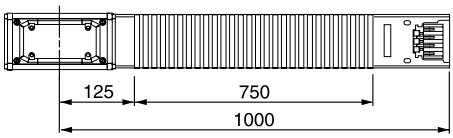


DF - Flexible length, 1 m for detours around obstacles - IP55

KNA•••DF410

Length (mm)	Angle	Catalogue number 40 A	63 A	100 A	160 A
1000	80° to 180°	▶	KNA63DF410	KNA100DF410	KNA160DF410
Additional information					
Weight (kg)		2.10	2.10	2.30	2.50

KNA•••DF410

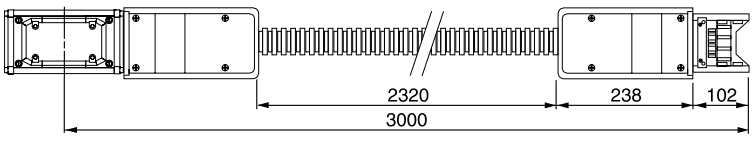


EDF - Flexible length, 3 m for detours around obstacles - IP55

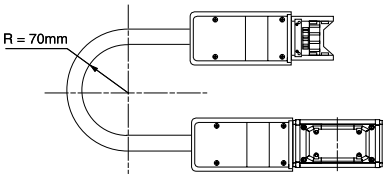
KNA100EDF430

Length (mm)	Angle	Catalogue number 40 A	63 A	100 A	160 A
1000	80° to 180°	▶	▶	KNA100EDF430	-
Additional information					
Weight (kg)		-	-	5.00	-

KNA100EDF430



Minimum curve radius



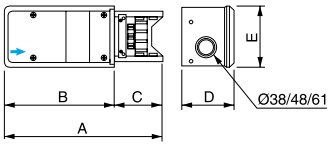
▶ No dedicated reference for this rating. Select the first above available reference.

AB - Cable box feed unit - Right or left mounting - IP55

KNA63AB4

Type	Mounting	Catalogue number			
		40 A	63 A	100 A	160 A
Fixed	Right or left	▶	KNA63AB4	KNA100AB4	KNA160AB4
Additional information					
Connection		Terminals	-	Lugs (M10 screws)	Lugs (M10 screws)
Max. Cable size (mm²)		max Ø 23 mm	-	4 x 240	4 x 300 or 8 x 120
Weight (kg)		0.58	0.58	1.12	2.80

KNA•••AB4



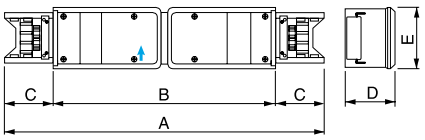
Dim.	40 to 63 A	100 A	160 A
A	265	340	256
B	165	238	258
C	100	102	98
D	71	112	130
E	92	127	185

ABT - Central cable box feed unit - IP55

KNA63ABT4

Type	Mounting	Catalogue number			
		40 A	63 A	100 A	160 A
Fixed	Right or left	▶	KNA63ABT4	KNA100ABT4	KNA160ABT4
Additional information					
Connection		Terminals	-	Lugs (M10 screws)	Lugs (M10 screws)
Max. Cable size (mm²)		max Ø 23 mm	-	4 x 240	4 x 300 or 8 x 120
Weight (kg)		1.47	1.47	2.94	5.50

KNA•••ABT4



Dim.	40 to 63 A	100 A
A	535	685
B	335	481
C	100	102
D	71	112
E	92	127

▶ No dedicated reference for this rating. Select the first above available reference.

Accessories

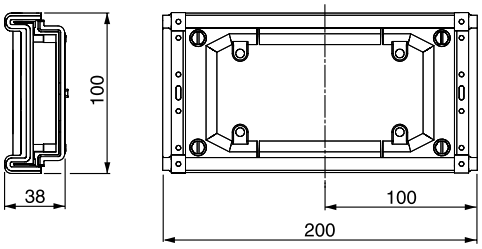
KNA•••ZJ4, KNT•••ZJ4

Designation	Rating (A)	Order in multiple of	Catalogue number	Weight (kg)
Spare parts				
Electrical and mechanical jointing unit	40 to 63	1	**KNA63ZJ4**	0.60
	100 to 160	1	**KNA160ZJ4**	0.60
IP55 blanking plate	All	10	**KNB160ZB1**	0.02

KNB160ZB1

Designation	Rating (A)	Catalogue number	Weight (kg)
Spare parts with built-in transmission bus			
Electrical and mechanical jointing unit	40 to 63	**KNT63ZJ4**	0.60
	100	**KNT100ZJ4**	0.60

KNA•••ZJ4, KNT•••ZJ4



KNB160ZL••

Designation	Colour	Order in multiple of	Catalogue number	Weight (kg)
For all tap-off units				
Outlet/tap-off unit interlocking device	White	10	**KNB160ZL10**	0.01
	Red	10	**KNB160ZL20**	0.01
	Yellow	10	**KNB160ZL30**	0.01
	Blue	10	**KNB160ZL40**	0.01

KNB160ZL10

KNB160ZL20

KNB160ZL30

KNB160ZL40

Designation	Description	Catalogue number	Weight (kg)
For tap-off units with modular devices			
Modular blanking plate	Divisible set of 10 x 5	**13940**	0.08
Screw-on plate	For blanking of unused openings	**13137**	0.10
	For adapting 65 x 85 mm power-socket bases	**13136**	0.09
Adhesive label (1)	Set of 12 label-holders (height 24 mm)	**08905**	0.50
	Set of 12 labels (height 24 mm)	**08903**	0.50
	Set of 12 divisible labels (height 24 mm)	**08907**	0.50

(1) Self-adhevise support complete with transparent cover and paper label.

Fixing system and routing system




Designation	Fixing bracket		Spring fixing bracket	Fixing bracket
Rating (A)	40 to 160	40 to 160	40 to 160	40 to 160
Max. load (kg)	80	39	100	11
Mounting	Suspended on M8 threaded rod (1)	Wall mounting (2)	Suspended on M8 threaded rod (1)	Clipped on trunking (3)
Order in multiple of	10	10	10	4
Weight (kg)	0.126	0.032	0.26	0.82
Catalogue number	**KNB160ZF1**	**KNB160ZF2**	**KNB160ZFPU**	**KNB160ZFG100**

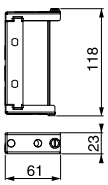
(1) Maximun recommended distance between fixings: 3 meters.
(2) Maximun recommended distance between fixings: 2 meters.
(3) Maximun recommended distance between fixings: 1.5 meters.

Trunking fixing system

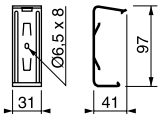
Designation	Pendant kit (1)
Rating (A)	40 to 160
Max. load (kg)	16
Mounting	Under ceiling or I-beam
Order in multiple of	4
Weight (kg)	1.60
Catalogue number	**KNB160ZFKP1**

(1) Maximun recommended distance between fixings: 3 meters.

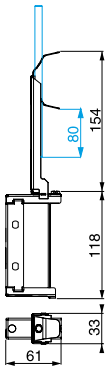
KNB160ZF1



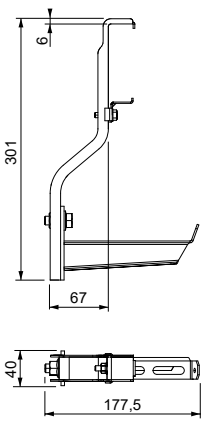
KNB160ZF2



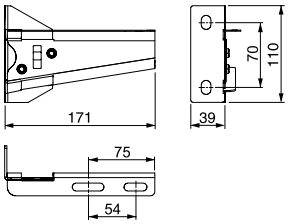
KNB160ZFPU



KNB160ZFG100

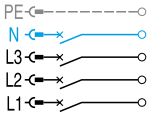


KNB160ZFKP1

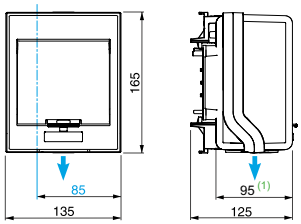


CM - Tap-off units for modular devices

KNB32CM55

Polarity	Catalogue number
	32 A
3L + N + PE 	**KNB32CM55**
Number of modules (18 mm)	5
Weight (kg)	0.60

Delivered equipped with a DIN rail.
For 18 mm modular devices.



(1) Protruding.

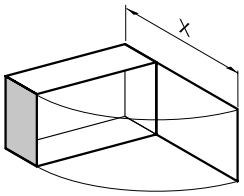
SM - Tap-off units for modular devices

KNB63SM4••

Polarity	Catalogue number	
	63 A	
3L + N + PE 	**KNB63SM48**	**KNB63SM412**
Number of modules (18 mm)	8	12
Max cable size (rigid or flexible)	5 x 16 mm²	5 x 35 mm²
Max cable glands size (not supplied)	2 x ISO 50	2 x ISO 63
Weight (kg)	2.40	2.70

Disconnection by opening the door.
Delivered equipped with a DIN rail.
Silver-plated copper terminals (M6) for Copper compression lugs.

KNB63SM48



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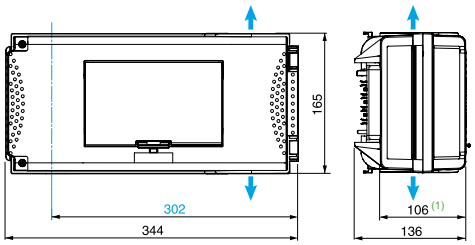
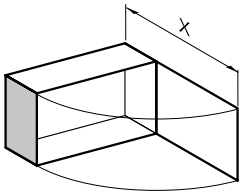


KNB63SM412



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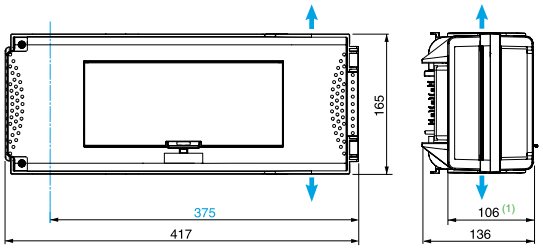


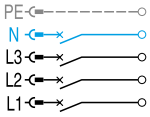
Cable exit
Centre line of tap-off outlets

(1) Protruding.

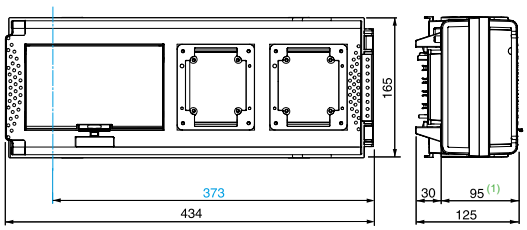
Catalogue numbers and dimensions
Classic offer
Tap-off units
For modular devices and power sockets

CP - Tap-off units for Pratika Power sockets

KNB32CP

Polarity	Catalogue number
	32 A
3L + N + PE 	**KNB32CP**
Number of modules (18 mm)	8
Weight (kg)	2.70

Delivered equipped with a DIN rail.
For 18 mm modular devices.



Centre line of tap-off outlets

(1) Protruding.

CP - Tap-off units with power sockets

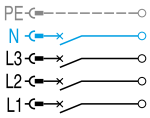
KNB32CP11D

KNB32CP11F

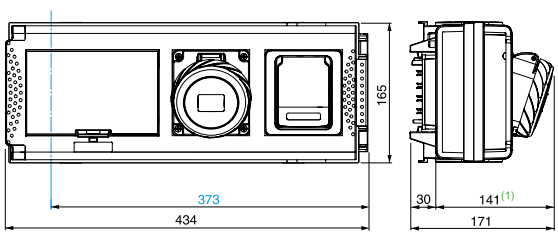
KNB32CP15F

KNB32CP15D

KNB32CP35

Polarity			Current	Voltage	Polarity	Catalogue number	Weight (kg)
			(A)	(V)		32 A	
3L + N + PE 	2	Household socket Schuko	10/16	230	2P+T	**KNB32CP11D***	2.90
	2	Household socket NF	10/16	230	2P+T	**KNB32CP11F***	2.90
	1	Household socket NF	10/16	230	2P+T	**KNB32CP15F***	3.00
	1	Industrial socket	16	415	3P+N+T		
	1	Household socket Schuko	10/16	230	2P+T	**KNB32CP15D***	3.00
	1	Industrial socket	16	415	3P+N+T		
	1	Industrial socket	16	230	2P+T	**KNB32CP35***	3.10
	1	Industrial socket	16	415	3P+N+T		
Number of modules (18 mm)						8	

* Adaptation for transmission bus (KNT) with remote control power socket block KNT63ZT1 **not possible**.

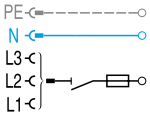


Centre line of tap-off outlets

(1) Protruding.

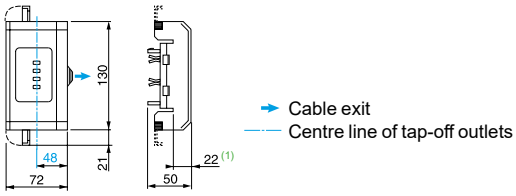
CF - Tap-off units for cyndrical fuses - P+N with phase selection

KNB16CF2

Polarity	Catalogue number
	16 A
3L + N + PE 	KNB16CF2*
Number of modules (18 mm)	8
Max cable size (rigid or flexible)	5 x 16 mm²
Max cable glands size (not supplied)	2 x ISO 50
Weight (kg)	0.16

* Adaptation for transmission bus (KNT) with remote control power socket block KNT63ZT1 **not possible**.

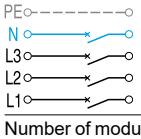
KNB16CF2



(1) Protruding.

CF/SF- Tap-off units for cynlindrical fuses - 3P+N

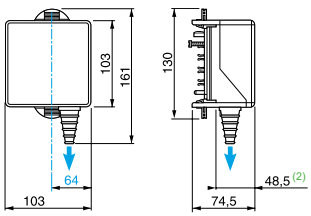
KNB25CF5

Polarity	Catalogue number	
	25 A	50 A
3L + N + PE (1) 	KNB25CF5*	KNB50SF4
Number of modules (18 mm)	8	
Max cable size (rigid or flexible)	5 x 16 mm²	
Max cable glands size (not supplied)	2 x ISO 50	
Weight (kg)	0.38	1.50

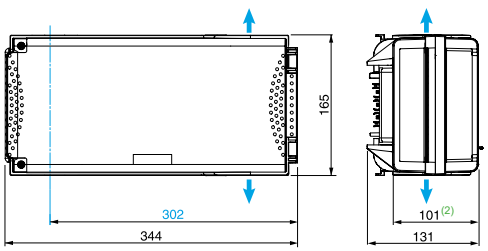
* Adaptation for transmission bus (KNT) with remote control power socket block KNT63ZT1 **not possible**.

KNB50SF4

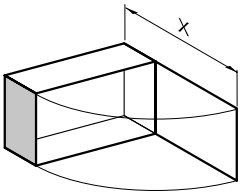
KNB25CF5



KNB50SF4



(1) Also suitable for tap-off unit 3L + PE (N not distributed).
(2) Protruding.



X = 420

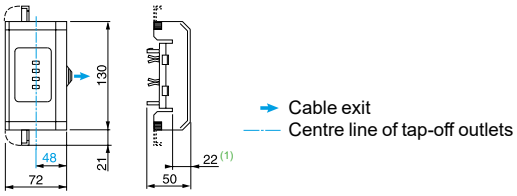
CG - Tap-off units for screew-mounted BS fuses - P+N with phase selection

KNB16CG2

Polarity	Catalogue number
	16 A
3L + N + PE 	**KNB16CG2***
Number of modules (18 mm)	8
Max cable size (rigid or flexible)	5 x 16 mm²
Max cable glands size (not supplied)	2 x ISO 50
Weight (kg)	0.16

* Adaptation for transmission bus (KNT) with remote control power socket block KNT63ZT1 **not possible**.

KNB16CG2



(1) Protruding.

CG/SG - Tap-off units for screew-mounted fuses BS - 3P+N

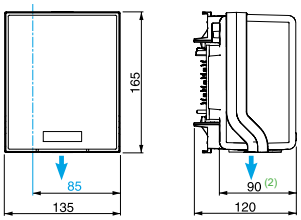
KNB20CG5

Polarity	Catalogue number	
	20 A	32 A
3L + N + PE (1) 	**KNB20CG5***	**KNB32SG4**
Number of modules (18 mm)	8	
Max cable size (rigid or flexible)	5 x 16 mm²	
Max cable glands size (not supplied)	2 x ISO 50	
Weight (kg)	0.60	1.50

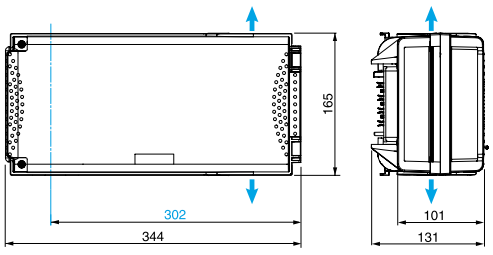
* Adaptation for transmission bus (KNT) with remote control power socket block KNT63ZT1 **not possible**.

KNB32SG4

KNB20SG5



KNB32SG4

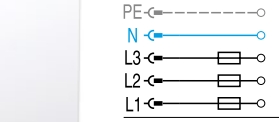


(1) Also suitable for tap-off unit 3L + PE (N not distributed).
(2) Protruding.

Four-pole tap-off unit for screw-type fuses

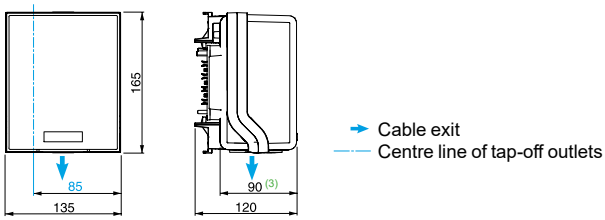
Disconnection by unplugging the tap-off unit

KNB16CN5

Polarity		Catalogue number
		16 A
3L + N + PE (1)	3L + PE	KNB16CN5*
		
For fuses (not supplied)		Néozed E14
Connection		Tunnel terminals
Max cable size (flexible / rigid)		4 mm² / 6 mm²
Max cable glands size (2) (not supplied)		ISO 32
Weight (kg)		0.60

* Adaptation for transmission bus (KNT) with remote control power socket block KNT63ZT1 **not possible**.

KNB16CN5

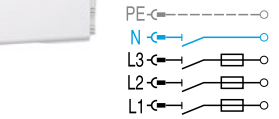


(1) Also suitable for tap-off unit 3L + PE (N not distributed).
(2) Maximum diameter for a multipolar cable.
(3) Protruding.

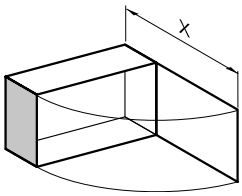
Tap-off units for screw-type fuses

Disconnection by unplugging the tap-off unit

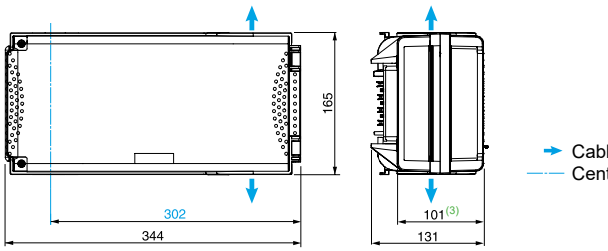
KNB••S•4

Polarity		Catalogue number		
		25 A	50 A	
3L + N + PE (1)	3L + PE	KNB25SD4	KNB50SN4	KNB50SD4
				
For fuses (not supplied)		Diazed E27	Néozed E18	Diazed E33
Connection		Tunnel terminals		
Max cable size (flexible or rigid)		16 mm²		
Max cable glands size (2) (not supplied)		ISO 50		
Weight (kg)		1.50		

KNB••S•4



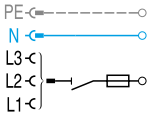
X = 432.5



(1) Also suitable for tap-off unit 3L + PE (N not distributed).
(2) Maximum diameter for a multipolar cable.
(3) Protruding.

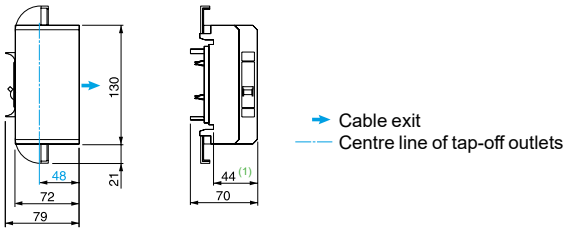
CG - Tap-off units with Acti 9 iC60N circuit breaker - P+N with phase selection

KNB16CM2

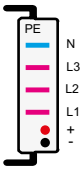
Polarity	Catalogue number	
	16 A	
3L + N + PE 	**KNB16CM2***	**KNB16CM2H***
Number of modules (18 mm)	8	
Max cable size (rigid or flexible)	5 x 16 mm²	
Max cable glands size (not supplied)	2 x ISO 50	
Weight (kg)	0.34	

* Adaptation for transmission bus (KNT) with remote control power socket block KNT63ZT1 **not possible**.

KNB16CM2 / KNB16CM2H



(1) Protruding.



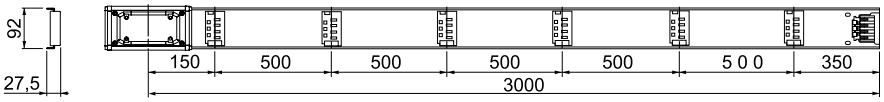
ED - Straight horizontal distribution - 3L+N+PE (1) - IP55

KNT••ED4•0•

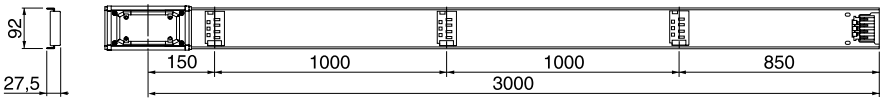
Length	Outlet nb		Catalogue number		
(mm)	Front	Rear	40 A	63 A	100 A
3000	6	-	KNT40ED4306	KNT63ED4306	KNT100ED4306
3000	3	-	KNT40ED4303	KNT63ED4303	KNT100ED4303
2000	4	-	▶	KNT63ED4204	KNT100ED4204

(1) To create a PEN version, a connection is available in each end feed unit.

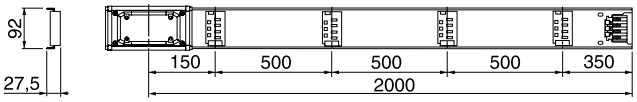
KNT•••ED4306



KNT•••ED4303

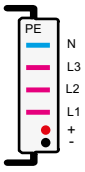


KNT•••ED4204



Catalogue number	Weight
40 A	(kg)
KNT40ED4306	5.60
KNT40ED4303	5.60
63 A	
KNT63ED4306	5.70
KNT63ED4303	5.70
KNT63ED4204	4.10
100 A	
KNT100ED4306	6.70
KNT100ED4303	6.70
KNT100ED4204	4.80

▶ No dedicated reference for this rating. Select the first above available reference.

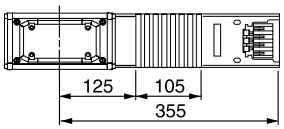


DL - Flexible elbow for internal or external angle, 80° to 180° - IP55

KNT•••DL4

Length (mm)	Angle	Catalogue number 40 A	63 A	100 A
350	80° to 180°	▶	KNT63DL4	KNT100DL4
Additional information				
Weight (kg)		1.20	1.20	1.30

KNT•••DL4

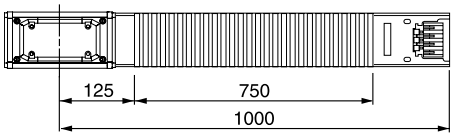


DF - Flexible length, 1 m for detours around obstacles - IP55

KNT•••DF410

Length (mm)	Angle	Catalogue number 40 A	63 A	100 A
1000	80° to 180°	▶	KNT63DF410	KNT100DF410
Additional information				
Weight (kg)		2.10	2.10	2.30

KNT•••DF410



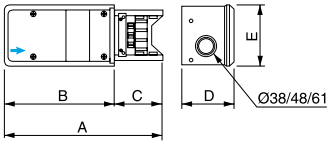
▶ No dedicated reference for this rating. Select the first above available reference.

AB - Cable box feed unit - Right or left mounting - IP55

KNT63AB4

Type	Mounting	Catalogue number		
		40 A	63 A	100 A
Fixed	Right or left	▶	KNT63AB4	KNT100AB4
Additional information				
Connection		Terminals	-	Lugs (M10 screws)
Max. Cable size (mm²)		max Ø 23 mm	-	4 x 240
Weight (kg)		0.58	0.58	1.12

KNT•••AB4



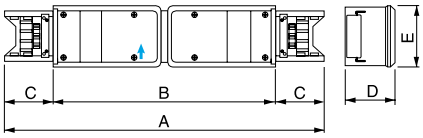
Dim.	40 to 63 A	100 A
A	265	340
B	165	238
C	100	102
D	71	112
E	92	127

ABT - Central cable box feed unit - IP55

KNT63ABT4

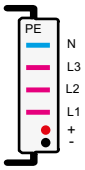
Type	Mounting	Catalogue number		
		40 A	63 A	100 A
Fixed	Right or left	▶	KNT63ABT4	KNT100ABT4
Additional information				
Connection		Terminals	-	Lugs (M10 screws)
Max. Cable size (mm²)		max Ø 23 mm	-	4 x 240
Weight (kg)		1.47	1.47	2.94

KNT•••ABT4



Dim.	40 to 63 A	100 A
A	535	685
B	335	481
C	100	102
D	71	112
E	92	127

▶ No dedicated reference for this rating. Select the first above available reference.



Accessories

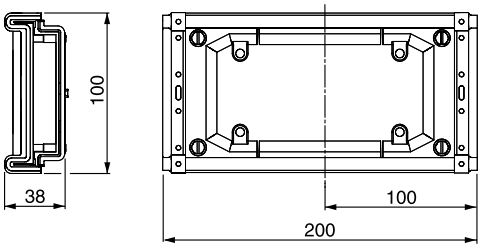
KNA•••ZJ4, KNT•••ZJ4

Designation	Rating (A)	Order in multiple of	Catalogue number	Weight (kg)
Spare parts				
Electrical and mechanical jointing unit	40 to 63	1	**KNA63ZJ4**	0.60
	100 to 160	1	**KNA160ZJ4**	0.60
IP55 blanking plate	All	10	**KNB160ZB1**	0.02

KNB160ZB1

Designation	Rating (A)	Catalogue number	Weight (kg)
Spare parts with built-in transmission bus			
Electrical and mechanical jointing unit	40 to 63	**KNT63ZJ4**	0.60
	100	**KNT100ZJ4**	0.60

KNA•••ZJ4, KNT•••ZJ4



Accessories

KNB160ZL••

Designation	Colour	Order in multiple of	Catalogue number	Weight (kg)
For all tap-off units				
Outlet/tap-off unit interlocking device	White	10	**KNB160ZL10**	0.01
	Red	10	**KNB160ZL20**	0.01
	Yellow	10	**KNB160ZL30**	0.01
	Blue	10	**KNB160ZL40**	0.01

KNB160ZL10

KNB160ZL20

KNB160ZL30

KNB160ZL40

Designation	Description	Catalogue number	Weight (kg)
For tap-off units with modular devices			
Modular blanking plate	Divisible set of 10 x 5	**13940**	0.08
Screw-on plate	For blanking of unused openings	**13137**	0.10
	For adapting 65 x 85 mm power-socket bases	**13136**	0.09
Adhesive label (1)	Set of 12 label-holders (height 24 mm)	**08905**	0.50
	Set of 12 labels (height 24 mm)	**08903**	0.50
	Set of 12 divisible labels (height 24 mm)	**08907**	0.50

(1) Self-adhevise support complete with transparent cover and paper label.

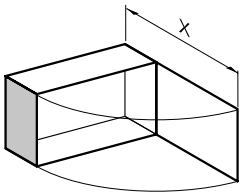
SM - Tap-off units for modular devices

KNB63SM4••

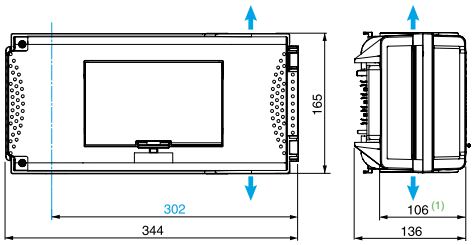
Polarity	Catalogue number	
	63 A	
3L + N + PE 	KNB63SM48 + KNT63ZT1	KNB63SM412 + KNT63ZT1
Number of modules (18 mm)	8	12
Max cable size (rigid or flexible)	5 x 16 mm²	5 x 35 mm²
Max cable glands size (not supplied)	2 x ISO 50	2 x ISO 63
Weight (kg)	2.40	2.70

Disconnection by opening the door.
Delivered equipped with a DIN rail.
Silver-plated copper terminals (M6) for Copper compression lugs.

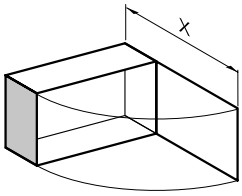
KNB63SM48



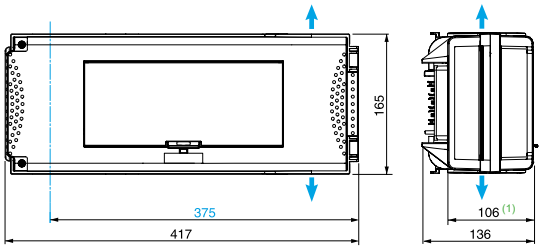
X = 432.5



KNB63SM412



X = 491



→ Cable exit
—·— Centre line of tap-off outlets

(1) Protruding.

Accessory

KNT63ZT1

Designation	Order in multiple of	Catalogue number
For tap-off units*		
Remote control power socket block	1	KNT63ZT1
Weight (kg)		0.035

(*) KNT63ZT1 is compatible with the following tap-off units:
- Four-pole tap-off unit
- Tap-off unit with isolator
- Tap-off unit with isolator for cylindrical fuses
- Tap-off unit with isolator for screw-mounted fuses
- Tap-off unit with forscrew-type fuses.

Busbar trunking for low-power distribution

Run component characteristics

Rating of trunking (A)			KN	40	63	100	160
General characteristics							
Compliance with standards				IEC/EN 61439-6			
Degree of protection			IP	55	55	55	55
Mechanical impacts			IK	08	08	08	08
Rated current at an ambient temperature of 35 °C			I_{nc} **A**	40	63	100	160
Rated insulation voltage			U_i **V**	500	500	500	500
Rated operational voltage			U_e **V**	500	500	500	500
Rated impulse voltage			U_{imp} **kV**	6	6	6	6
Rated frequency			f **Hz**	50/60	50/60	50/60	50/60
Conductor characteristics							
Phase conductors							
Mean resistance at an ambient temperature of 20 °C			R_{20} **mΩ/m**	1.7	1.7	1.7	0.61
Mean resistance at I_{nc} and 35 °C			R_1 **mΩ/m**	1.94	2.05	2.2	0.79
Mean reactance at I_{nc}, 35 °C and 50 Hz			X_1 **mΩ/m**	0.25	0.25	0.25	0.24
Mean impedance at I_{nc}, 35 °C and 50 Hz			Z_1 **mΩ/m**	1.96	2.06	2.23	0.83
Protective conductor (PE)							
Mean resistance at an ambient temperature of 20 °C			**mΩ/m**	**1.09**	**1.09**	**1.09**	**1.09**
Fault loop characteristics							
Symmetrical components method	Ph/N at 20 °C	Mean resistance	$R_{0\ ph/N}$ **mΩ/m**	6.93	6.93	6.93	2.67
		Mean reactance	$X_{0\ ph/N}$ **mΩ/m**	1.56	1.56	1.56	1.4
		Mean impedance	$Z_{0\ ph/N}$ **mΩ/m**	7.11	7.11	7.11	3.01
	Ph/PE at 20 °C	Mean resistance	$R_{0\ ph/PE}$ **mΩ/m**	5.15	5.15	5.15	3.34
		Mean reactance	$X_{0\ ph/PE}$ **mΩ/m**	1.68	1.68	1.68	1.29
		Mean impedance	$Z_{0\ ph/PE}$ **mΩ/m**	5.42	5.42	5.42	3.58
Impedance method	At 20 °C	Mean resistance Ph/Ph	$R_{b0\ ph/ph}$ **mΩ/m**	3.4	3.4	3.4	1.21
		Mean resistance Ph/N	$R_{b0\ ph/N}$ **mΩ/m**	3.4	3.4	3.4	1.24
		Mean resistance Ph/PE	$R_{b0\ ph/PE}$ **mΩ/m**	2.85	2.85	2.85	1.71
	For I_{nc} at 35 °C	Mean resistance Ph/Ph	$R_{b1\ ph/ph}$ **mΩ/m**	3.89	4.09	4.43	1.58
		Mean resistance Ph/N	$R_{b1\ ph/N}$ **mΩ/m**	3.89	4.09	4.43	1.61
		Mean resistance Ph/PE	$R_{b1\ ph/PE}$ **mΩ/m**	3.14	3.27	3.45	2.22
	For I_{nc} at 35 °C and 50 Hz	Mean reactance Ph/Ph	$X_{b\ ph/ph}$ **mΩ/m**	0.52	0.52	0.52	0.79
		Mean reactance Ph/N	$X_{b\ ph/N}$ **mΩ/m**	0.78	0.78	0.78	0.75
		Mean reactance Ph/PE	$X_{b\ ph/PE}$ **mΩ/m**	0.96	0.96	0.96	0.84
Other characteristics							
Short-circuit withstand capacity							
Rated peak withstand current			I_{pk} **kA**	6	11	14	20
Maximum thermal limit I^2t (t = 1 s)			**A2s**	1.98 x 10^6	1.98 x 10^6	1.98 x 10^6	8 x 10^6
Rated short-time withstand current (t = 1 s)			I_{cw} **kA**	1.4	1.4	1.4	2.8
Voltage drop							
	Composite voltage drop (hot state) expressed in V / 100 m / A (50 Hz) with the load uniformly distributed over the run. If the load is concentrated at one end of the run, the voltage drop is twice the value indicated in the table.						
For a power factor of	1		**V/100 m/A**	0.168	0.178	0.191	0.068
	0.9		**V/100 m/A**	0.161	0.169	0.181	0.071
	0.8		**V/100 m/A**	0.147	0.155	0.165	0.067
	0.7		**V/100 m/A**	0.133	0.140	0.149	0.063
	This calculation table applies to the three-phase system. To obtain the single-phase voltage drop, the three-phase voltage drop shown above is divided by 0.866.						
Radiated magnetic field							
Radiated magnetic field strength 1 metre from the trunking	B		**µT**	0.039	0.063	0.106	0.186
Product selection when harmonics are present (for details, see the "Special Applications" section)							
Operational current as a function of 3rd harmonic content	THD ≤ 15 %			40	63	100	160
	15 % < THD ≤ 33 %			32	50	80	130
	THD > 33 %			28	40	63	100
Permissible current as a function of ambient temperature							
Ambient temperature			**°C**	< 35	35	40	45	50	55
Coefficient K1			**%**	Sans	1	0.97	0.94	0.91	0.87

Tap-off unit characteristics

General characteristics

Degree of protection	IP		55
Mechanical impacts	IK		08
Rated insulation voltage	U_i	**V**	400, 500 depending on protective device
Rated operational voltage	U_e	**V**	400, 500 depending on protective device
Rated impulse voltage	U_{imp}	**kV**	4.6
Rated frequency	f	**Hz**	50/60

Electrical characteristics of remote control circuit (KNT)

Number of conductors			3 x 2.5
Material			Copper
Rated insulation voltage	U_e	**V**	500
Rated operational voltage	U_i	**V**	500
Rated impulse voltage	U_{imp}	**kV**	6
Rated current at an ambient temperature of 35 °C	I_{nc}	**A**	6
Mean resistance at an ambient temperature of 20 °C	R_{20}	**mΩ/m**	7.6
Mean resistance at I_{nc} and 35 °C	R_1	**mΩ/m**	8.7

Coordination tables between circuit breaker and Canalis electrical busbar trunking

Canalis KNA
Ue: 380-415 V AC

Isc max. in kA rms		10 kA	15 kA	20 kA	25 kA	36 kA	50 kA
Type of Canalis busbar trunking KNA40							
Type of circuit breaker	iC60	**iC60N 40**	**iC60H 40**	**iC60L 40**			
	NG125	NG125N/H/L 40					
	ComPact NSXm	NSXm E/B/F/N/H 40A		NSXm B/F/N/H 40A			
	ComPact NSX	NSX100B/F/N/H/S/L 40A					
Type of Canalis busbar trunking KNA63							
Type of circuit breaker	iC60	**iC60N 63**	**iC60H 63**				
	C120	C120N 63	C120H 63				
	NG125	**NG125N/H/L 63**				**NG125H 63**	**NG125L 63**
	ComPact NSXm	NSXm E/B/F/N/H 63A		NSXm B/F/N/H 63A			
	ComPact NSX	NSX100B/F/N/H/S/L 63A					
Type of Canalis busbar trunking KNA100							
Type of circuit breaker	C120	C120N 100A	C120H 100A				
	NG125	NG125N/H/L 100				NG125H/L 80	NG125L 80
	ComPact NSXm	NSXm E/B/F/N/H 100A		NSXm B/F/N/H 100A			
	ComPact NSX	NSX100B/F/N/H/S/L NSX160B/F/N/H/S/L					
Type of Canalis busbar trunking KNA160							
Type of circuit breaker	NG125	NG125N125					
	ComPact NSXm	**NSXm E/B/F/N/H 160**		**NSXm B/F/N/H 160A**		**NSXm F/N/H 160A**	**NSXm N/H 160A**
	ComPact NSX	NSX100B/F/N/H/S/L **NSX160B/F/N/H/S/L** NSX250B/F/N/H/S/L				NSX100F/N/H/S/L **NSX160F/N/H/S/L** NSX250F/N/H/S/L	NSX100N/H/S/L **NSX160N/H/S/L** NSX250N/H/S/L

Design of a power distribution line in Canalis busbar trunking

Except in extreme atmospheres, there's no longer any need to hesitate. Canalis can be installed anywhere!

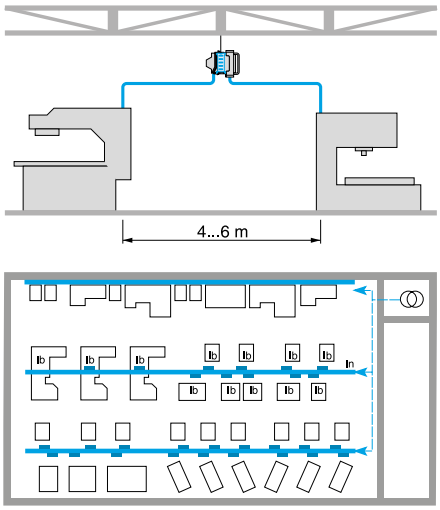
"The chronology described below aims to present the steps for the execution of a **simple** installation. For a detailed study, it is essential to use appropriate tools, certified by the inspection organisations, in accordance with local installation standards. The **Ecodial** software, published by Schneider Electric, perfectly meets this need".

A study grid, enabling you to note your choices and store them, is available on page 52 (to be detached or photocopied).

1 Identify external influences

The ambient temperature, presence of dust, condensation water, etc. contribute to the definition of the degree of protection required by the room in which electrical installation will be performed.
Canalis KS and KN prefabricated electrical busbar trunking are IP55 by design and can be installed in nearly all premises. See description of the degree of protection (IP) page 54.

2 Location of loads and trunking installation method



The layout of the distribution lines depends on the location of the loads, the location of the power supply source and the mounting possibilities.

- A single distribution line serves an area of 4 to 6 metres long.
- Load protection id located in the tap-off unit positioned as close as possible to the load.
- A single Canalis busbar trunking system powers a series of loads of various capacities.

3 Power balance: calculation of currents consumed on each distribution line

Calculation of the total operating current (In) consumed on a line:
In operating = Σ Ib
Ib = current consumed by each load

BUT

Since the loads do not all operate at the same time and are not constantly at full capacity, it is necessary to allow for the growth factor or coincidence factor (Ks):
In operating = Σ (Ib x Ks).

The diversity factor Ks depends on the type and number of loads.

Application	Number of loads	K_S factor
Lighting, heating	-	1
Distribution (Mechanical workshop)	2...3	0.9
	4...5	0.8
	6...9	0.7
	10...40	0.6
	40 and more	0.5

MOREOVER

For industrial installations, take into account growth in the installed machinery base. A 20% margin is recommended: In operating = Σ Ib x Ks x 1.2.

Design of a power distribution line in Canalis busbar trunking

4 Choice of canalis trunking corresponding to in operating

By calculating "In" operating you can determine "In trunking" and hence the trunking to be installed.
Select the trunking for which the "In trunking" is directly greater than "In operating".

Table 1

Total operating current In (A)	Trunking
40	**KNA40**
63	**KNA63**
100	**KNA100 or KSA100**
160	**KNA160 or KSA160**
250	**KSA250**
400	**KSA400**
500	**KSA500**
630	**KSA630**
800	**KSA800**
1000	**KSA1000**

5 Temperature derating - Calculation of iz: permissible current in trunking

Canalis trunkings are designed to operate in an ambient temperature of 35°C.
Above this temperature, the trunking should be derated as per the following table.

Permissible current according to ambient temperature						
	Iz					
Ambient temperature	< 35	35	40	45	50	55
K1 factor	None	1	0.97	0.94	0.91	0.87

Example: Canalis KNA 63 A at 45°C: Iz = In trunking x K1 = 63 x 0.94 = 59.22 A.
Check that Iz > In operating and check the actual reserve. If necessary, select the next larger trunking.

6 Derating according to installation method

Canalis KS trunking is designed to be installed edgewise. However, it can also be mounted flat WITHOUT derating.

7 Overload protection

To allow extensions at any time, the prefabricated trunkings are generally protected at nominal current "In trunking" (or at permissible current Iz if the K1 factor is applied according to the ambient temperature).
Depending on the type of protective device adopted, determine the standardised nominal current "In protection" of the overload protection device such that:

In protection ≤ Iz/K2	**K2: Factor specific to the type of protective device**
	Protection by circuit breaker: K2 = 1
	Protection by gG/gI fuses: K2 = 1.1

Choose the equal or immediately lower standardised rating In (protection).

Fuses: the typical ratings are given following the series of characteristic numbers of the "Renard" series.
Example: 40 - 50 - 63 - 80 - 100 - 125 - 160 - 200, etc

Circuit breakers: the typical ratings found at Schneider Electric are, for example: 10 - 16 - 20 - 25 - 32 - 40 - 50 - 63 - 80 - 100 - 125 - 160 - 250 - 400 - 630, etc.
Finally, confirm the following condition: In standardised protection ≥ In operating.
If this is not the case, choose the immediately larger trunking and adjust the calculations.

8 Verification of voltage drop

The voltage drop between the source and any point of use must not exceed the values in the following table:

Table 2

Installation supplied by a distribution network	Lighting	Other application
LV public system	3%	5%
High voltage	6%	8%

The line-to-line voltage drop, during operation, is indicated in volts per 100 metre per ampere (V/100 m/A), at 50 Hz, with distributed loads on the Canalis line.
In the case of a load concentrated at the end of a line, the value of the voltage drop is twice the indicated value.

Table 3

For a power factor ϕ of	KN	40 A	63 A	100 A	160 A
1	V/100 m/A	0.168	0.178	0.191	0.068
0.9	V/100 m/A	0.161	0.169	0.181	0.071
0.8	V/100 m/A	0.147	0.155	0.165	0.067
0.7	V/100 m/A	0.133	0.140	0.149	0.063

This table applies to the three-phase network. To obtain the single-phase voltage drop, the three-phase voltage drop shown above is divided by 0.866.
Check that the calculated voltage drop is < to the maximum voltage drop wanted.

9 Protection against short circuits

For standard installations with installed capacities of up to 630 kVA, by using the Schneider Electric product offering, the low-voltage electrical switchboard, circuit breakers and even Canalis trunking, your installation can be sized to cope with all levels of short circuits encountered.

To verify the correct configuration of your installation (Icc up to 150 kA), refer to the coordination tables page 48.

We also invite you to discover Ecodial, our design and computation software dedicated to low-voltage electrical networks (choice of circuit breaker type, calculation of breaking capacity, short-circuit currents, voltage drops, selection of cables, etc.). Ask your Schneider Electric representative about it.

Design of a power distribution line in Canalis busbar trunking

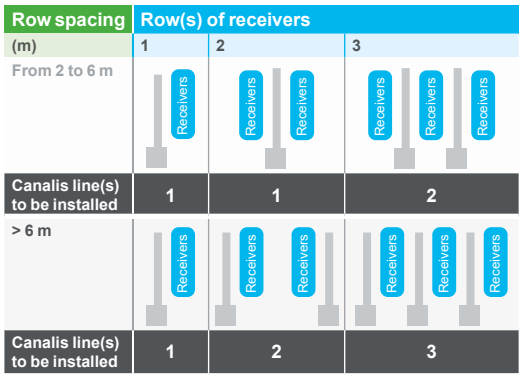
1 Identify external influences

Minimum IP of equipment installed in the room:

≤ IP 55 → **Canalis busbar trunking**

≥ IP 55 → **Other solution**

2 Location of loads and trunking installation method



EXAMPLE		YOUR INSTALLATION	
Rows	2	Rows	
Space (m)	8	Space (m)	
Canalis line(s) to be installed	2	Canalis line(s) to be installed	

3 Power balance: calculation of currents consumed on each distribution line

	EXAMPLE	LINE 1	LINE 2	LINE 3	LINE 4
No. of loads	5				
	X	X	X	X	X
Average current Ib (A)	10				
	X	X	X	X	X
Diversity factor Ks	0.8				
	X	X	X	X	X
Reserve factor (e.g. 1.2)	1.2				
	=	=	=	=	=
In operating (A)	48				

4 Choice of Canalis trunking corresponding to In

	EXAMPLE	LINE 1	LINE 2	LINE 3	LINE 4
Trunking to be installed Table 1	KNA63				
In trunking (A) Table 1	63				

Design of a power distribution line in Canalis busbar trunking

5 Temperature derating - Calculation of iz: permissible current in trunking

	EXAMPLE	LINE 1	LINE 2	LINE 3	LINE 4
T° ambient (°c)	45				
Derating factor K1	0.94				
Iz (A) = In trunking * K1	59.22				
	= permissible current				

Check.

6 Derating according to installation method

No derating for Canalis KN placed flat or upright.

7 Overload protection

	EXAMPLE	LINE 1	LINE 2	LINE 3	LINE 4
	Trunking protection	Trunking protection	Trunking protection	Trunking protection	Trunking protection
	☐ Fuses ☐ CB*	☐ Fuses ☐ CB*	☐ Fuses ☐ CB*	☐ Fuses ☐ CB*	☐ Fuses ☐ CB*
K2	1.1				
Iz (A)	59.22				
In protection	53.84 / 59.22				
In standardised of protective device	50 / 50				

Check.

*Circuit breaker

8 Verification of voltage drop

	EXAMPLE	LINE 1	LINE 2	LINE 3	LINE 4
Three-phase network voltage (V)	415				
	X	X	X	X	X
Max. voltage drop %	5% Tb2				
	=	=	=	=	=
Max. voltage drop (V)	20.75				
Length (m) of Canalis line	50 (a)				
Power factor	0.9				
Voltage drop (V/100m/A) Tb3	0.169 (b)				
Voltage drop (V) (a/100) x b x "In trunking"	5.32				
	Single-phase loads	Single-phase loads	Single-phase loads	Single-phase loads	Single-phase loads
Voltage drop (V) x 0.866	6.15				
	Concentrated loads	Concentrated loads	Concentrated loads	Concentrated loads	Concentrated loads
Voltage drop (V) x 2	10.65				

Check. Check. Check.

9 Protection from short-circuits

Refer to the coordination tables page 48.

Determining the degree of protection

Standard IEC 60364-5-51 categorises a large number of external influences to which electrical installations can be subjected, for instance the presence of water, solid objects, shocks, vibrations and corrosive substances.
The importance of these influences depends on the installation conditions.
For example, the presence of water can vary from a few drops to total immersion.

Degree of protection IP

Standard IEC 60529 (February 2001) indicates the degree of protection provided by electrical equipment enclosures against accidental direct contact with live parts and against the ingress of solid foreign objects or water.

This standard does not apply to protection against the risk of explosion or conditions such as humidity, corrosive gases, fungi or vermin.
The IP code comprises 2 characteristic numerals and may include an additional letter when the actual protection of persons against direct contact with live parts is better than that indicated by the first numeral.
The first numeral characterises the protection of the equipment against penetration of solid objects and the protection of people.
The second numeral characterises the protection of the equipment against penetration of water with harmful effects.

Remarks concerning the degree of protection IP

- The degree of protection IP must always be read and understood numeral by numeral and not as a whole.
For example, an IP31 enclosure is suitable for an environment that requires a minimum degree of protection IP21. However an IP30 wall-mount enclosure is not suitable.
- The degrees of protection indicated in this catalogue are valid for the enclosures as presented. However, the indicated degree of protection is guaranteed only when the installation and device mounting are carried out in accordance with professional standard practice.

Additional letter

Protection of persons against direct contact with live parts.
The additional letter is used only if the actual protection of persons is higher than that indicated by the first characteristic numeral of the IP code.
If only the protection of persons is of interest, the two characteristic numerals are replaced by the letter "X", e.g. IPXXB.

Degree of protection IK

Standard IEC 62262 defines a coding system (IK code) indicating the degree of protection provided by electrical equipment enclosures against external mechanical impact.

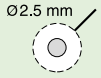
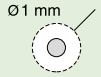
Installation standard IEC 60364 provides a cross-reference between the various degrees of protection and the environmental conditions classification, relating to the selection of equipment according to external factors.

IK•• code

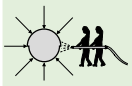
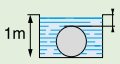
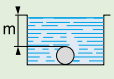
The IK code comprises 2 characteristic numerals (e.g. IK05).
Practical guide UTE C 15-103 shows, in the form of tables, the characteristics required for electrical equipment (including minimum degrees of protection), according to the locations in which they are installed.

Meaning of the numerals and letters representing the degree of protection IP

1st characteristic numeral: corresponds to protection of equipment against penetration of solid objects and protection of persons against direct contact with live parts.

Protection of equipment	Protection of persons	
0 Non-protected	0 Non-protected	
1 Protected against the penetration of solid objects having a diameter greater than or equal to 50 mm.	1 Protected against direct contact with the back of the hand (accidental contact).	
2 Protected against the penetration of solid objects having a diameter greater than or equal to 12.5 mm.	2 Protected against direct finger contact.	
3 Protected against the penetration of solid objects having a diameter greater than or equal to 2.5 mm.	3 Protected against direct contact with a 2.5 mm diameter tool.	
4 Protected against the penetration of solid objects having a diameter greater than 1 mm.	4 Protected against direct contact with a 1 mm diameter wire.	
5 Dust protected (no harmful deposits).	5 Protected against direct contact with a 1 mm diameter wire.	
6 Dust tight.	6 Protected against direct contact with a 1 mm diameter wire.	

2nd characteristic numeral: corresponds to protection of equipment against penetration of water with harmful effects

Protection of equipment	
0 Non-protected	
1 Protected against vertical dripping water (condensation).	
2 Protected against dripping water at an angle of up to 15°.	
3 Protected against rain at an angle of up to 60°.	
4 Protected against splashing water in all directions.	
5 Protected against water jets in all directions.	
6 Protected against powerful jets of water and waves.	
7 Protected against the effects of temporary immersion.	
8 Protected against the effects of prolonged immersion under specified conditions.	

Determining the degree of protection

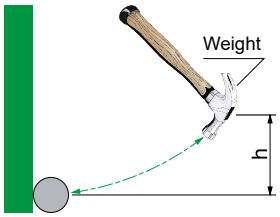
Additional letter

Corresponds to protection of persons against direct contact with live parts.

A	With the back of the hand.
B	With the finger.
C	With a 2.5 mm diameter tool.
D	With a 1.0 mm diameter tool.

Degrees of protection IK against mechanical impact

The IK code comprises 2 characteristic numerals corresponding to a value of impact energy, in joules.



	Weight (kg)	Height (cm)	Energy (J)
00	Non-protected		
01	0.20	7.50	0.15
02		10	0.20
03		17.50	0.35
04		25	0.50
05		35	0.70
06	0.50	20	1
07		40	2
08	1.70	30	5
09	5	20	10
10		40	20

Application

Canalis is adapted for all types of buildings

Key points

Electrical vehicule

- Flexibility
- Scalability
- Halogen Free
- Sprinkler proof

Garages

- Flexibility
- Scalability
- Cost-effective

Logistic centers

- Scalability
- Cost-effective
- Digital bus

Hypermarkets

- Operating continuity
- Flexibility
- Scalability
- Halogen Free
- Sprinkler proof

Offices

- Flexibility
- Scalability
- Halogen Free

Cruise ships

- Halogen Free
- Sprinkler proof
- Flexibility
- Compact

Canalis is adapted for all types of buildings

Data centers

- Operating continuity
- Flexibility
- Scalability
- Hot pluggability

Warehouses

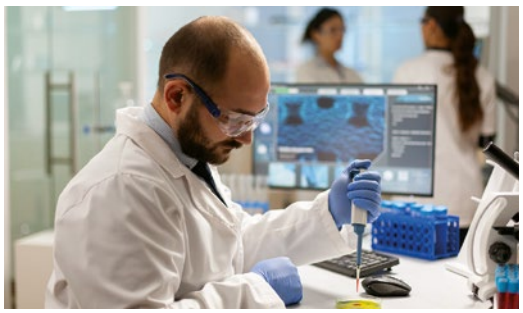
- Flexibility
- Scalability
- Cost-effective
- Halogen Free
- Sprinkler proof

Industrial Building

- Evolutivity
- Cost-effective
- Halogen Free

Laboratory

- Evolutivity
- Hot pluggability
- Halogen Free



EVLink terminal distribution kit

Decentralized EV chargers electrical distribution with Canalis™ busbar trunking system allows you to save time and cost on installation, and to be ready for future extensions.

Save space and cost in your LV Switchboard:

- Installation in half the time in comparison with cables
- Better reliability and personal safety
- Future readiness

Decentralized distribution with Canalis is an optimized solution for indoor car parks / garages, bringing easy servicing and scalability. EVlink terminal distribution kits enable direct connection to the busbar.

EVLink Terminal Protection Kits features

Technical specification

Canalis KS tap-off unit
KSB63SM48

MCB
A9F07440

RCD
A9Z51440

2-pole and 4-pole pre-assembled and pre-cabled kits for 1 x 8-module tap-off unit

- 1 x circuit breaker
- 1 x RCD B-type for electric vehicle applications

Offer presentation

Canalis KN,
distribution from 40 to 160 A

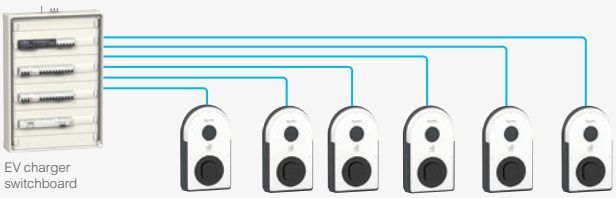
Charging station power	Description of the kit	Included
kW		Tap-off unit
3.7	Protection kit Canalis KN 8 mod. 2P MCB 25 A RCD B EV	KNB63SM48
7.4	Protection kit Canalis KN 8 mod. 2P MCB 40 A RCD B EV	
11	Protection kit Canalis KN 8 mod. 4P MCB 25 A RCD B EV	
22	Protection kit Canalis KN 8 mod. 4P MCB 40 A RCD B EV	

Canalis KS,
distribution from 100 to 1000 A

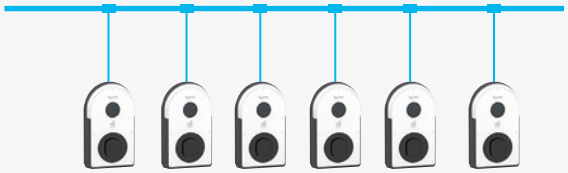
Charging station power	Description of the kit	Included
kW		Tap-off unit
3.7	Protection kit Canalis KS 8 mod. 2P MCB 25 A RCD B EV	KSB63SM48
7.4	Protection kit Canalis KS 8 mod. 2P MCB 40 A RCD B EV	
11	Protection kit Canalis KS 8 mod. 4P MCB 25 A RCD B EV	
22	Protection kit Canalis KS 8 mod. 4P MCB 40 A RCD B EV	

Electrical distribution architectures

Centralized distribution



Canalis distribution (decentralized)



A

B

C

D

E

F

Installation of a line

Unload and carry the products inside to an area where they are not exposed to dust or inclement weather.

Do not store the busbar trunking outdoors.

Take care not to knock or drag the busbar trunking on the ground. That could damage the ends and render connections impossible.

Unpack and layout on the floor the trunking components required to mount the first line.

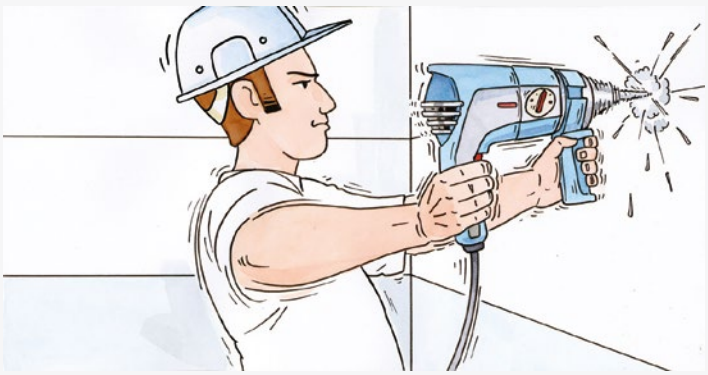
Check the position of the feed unit.
It must be as close as possible to the switchboard.

Preparation of fixings

Count the number of fixings required to install the trunking components.

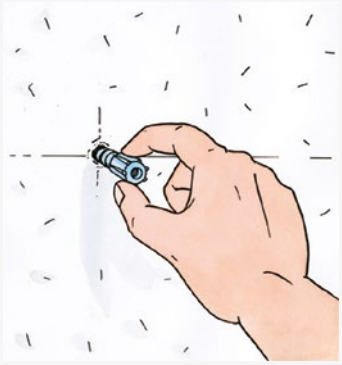
In this catalogue, you will find a number of fixings suited to different building structures.

Drill the holes used to mount the brackets on the wall.

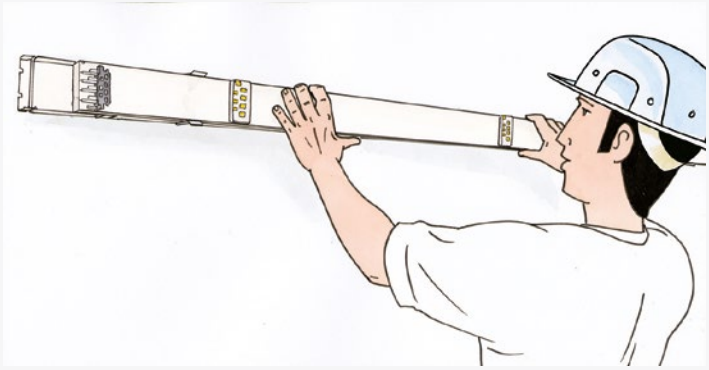


Insert fixing plugs in the holes.

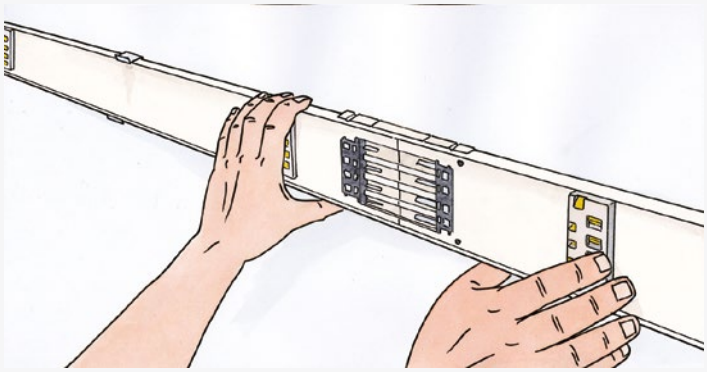
Position and secure the fixing brackets.



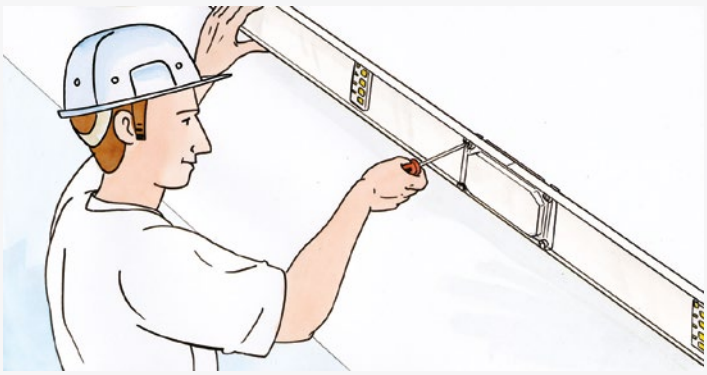
Position the Canalis KN trunking in the fixing brackets.



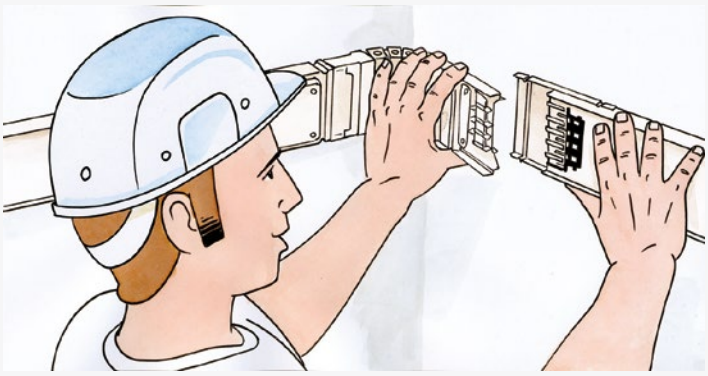
Assemble the components.



Interconnect the lengths using the mechanical and electrical jointing system.

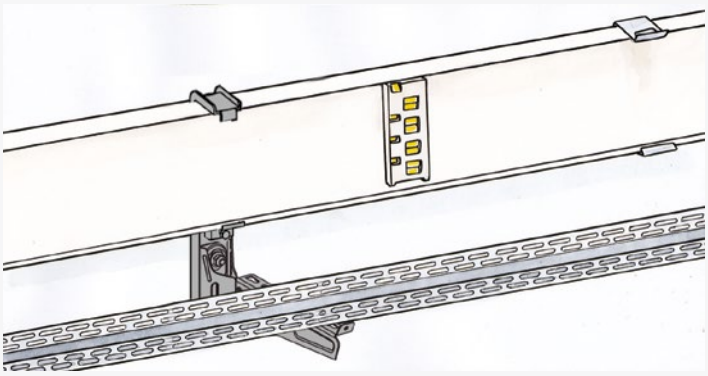


Assemble a run component and a component for changing direction.



Install a cable duct.

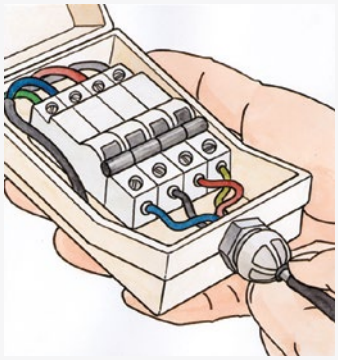
In this catalogue, you will find a full range of accessories for running all the adjacent circuits of the installation.

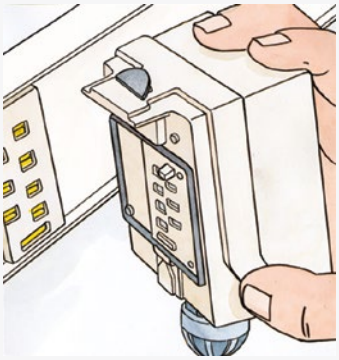


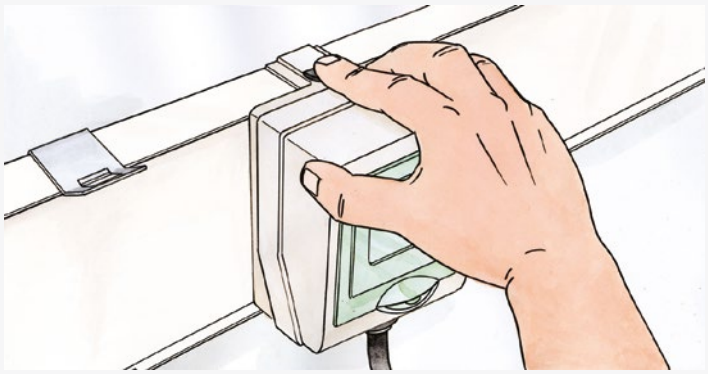
Tap-off connections

Wire the modular devices and then clip in the tap-off unit.

In this catalogue, you will find a full range of tap-off units to cover all protection needs using either circuit breakers or fuses.

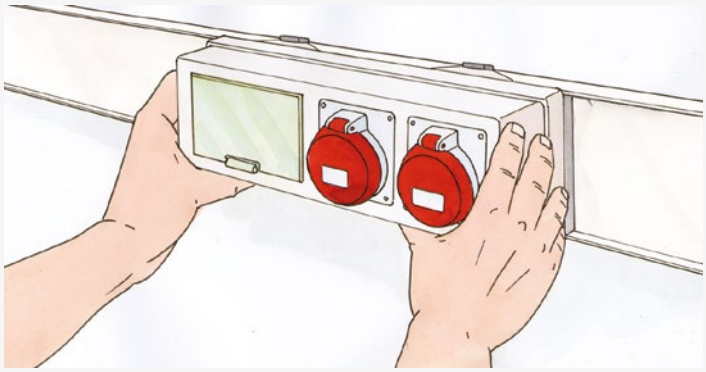






Industrial power sockets can be simply clipped on.

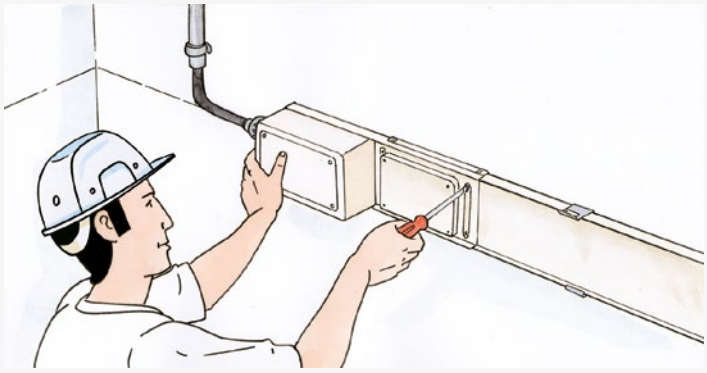
In this catalogue, you will find a full range of power-socket units with household and industrial sockets that are compatible with the entire PK socket range.



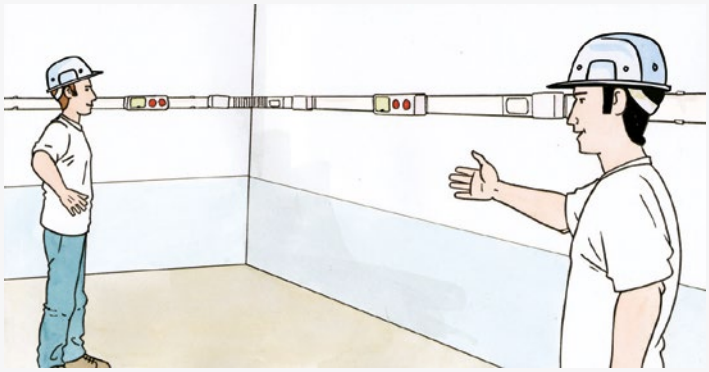
Connect the feed unit and energise

Last installation step.

Connect the supply cable to the Canalis KN feed unit, then to the switchboard.



Energise the system to check operation.



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