



Low Voltage Energy

Creator of electrical equipment

Catalogue
Low Voltage Energy



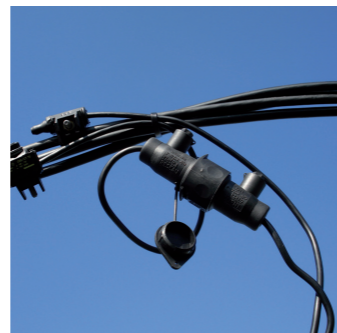


Michaud Export is a subsidiary specialised in the international marketing of the **Michaud** group products and those of carefully selected manufacturers. It now presents its product line in two fields of expertise:

- **Low Voltage networks** for safe and high-performance, smart, underground and aerial electric lines;
- **Energy management** for controlling and facilitating access to electricity.

Michaud has been designing, qualifying, producing and selling electrical equipment and connection systems for over 40 years.

With 4 production units in France and abroad, several engineering and design offices, a COFRAC-accredited Type Test Laboratory and 250 employees, the **Michaud** group provides the flexibility and responsiveness of a company on a human scale. From R&D to after-sales service, **Michaud** has full mastery of its value chain, ensuring high-level quality and service worldwide.



Engineering
& creativity

As a technical expert with low voltage networks, **Michaud** focuses its R&D on developing innovative solutions and responding to all applications in the Low Voltage field.

With the support of an engineering service dedicated to international business, **Michaud Export** provides assistance to network managers in their deployment projects.

From smart meter to underground connections, many innovative solutions are already in use at major electric companies around the world.

Complete
range of
Low Voltage
products

From the medium voltage/low voltage station to the customer, **Michaud Export** offers all electrical equipment for the construction & maintenance of aerial and underground lines.

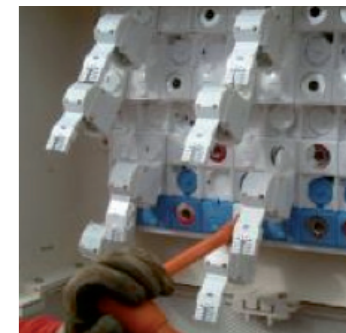
In addition to low-voltage networks, **Michaud Export** also offers solutions for residential electricity distribution and smart metering.

Partner
for energy
access

One-quarter of the world population does not have access to electricity, which is a factor for economic development.

In this environment, **Michaud Export** offers a true support approach to evaluate the situation and to propose optimal electrification systems.

To meet the challenges of sustainable development, **Michaud Export** offers a complete product range dedicated to Energy Management in rural and suburban environments, enabling everyone to have access to energy.



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LV connection

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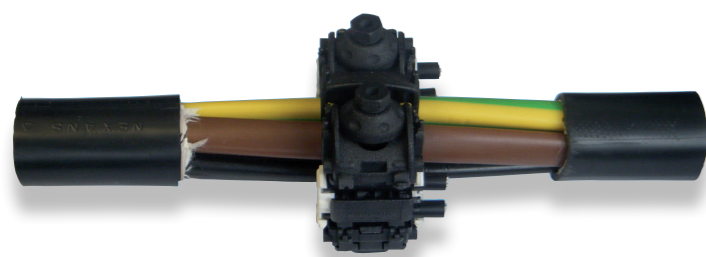
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Reducing the overall size of
underground connections in
complete safety



**Underground multipole
service connector**

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Preparing the
arrival of the
Smart Meter



**Smart Meter universal
meter board**

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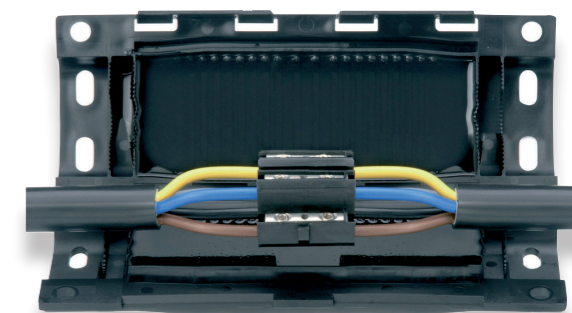
Choosing an economical
and easy to use
underground urban network



Emerging connection

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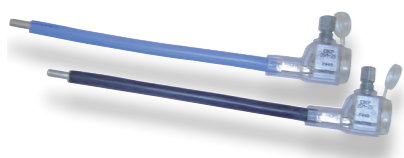
Connecting/
Disconnecting/
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Making
links easy



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Checking
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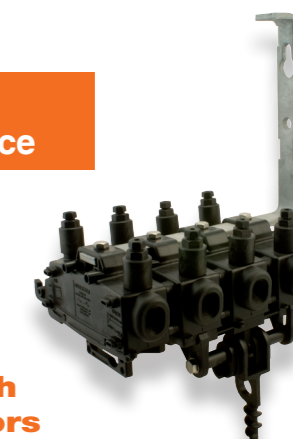
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Residential electrical distribution

Residential electrical distribution

Smart Meter Equipment

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The arrival of the Smart Meter and opening of the market to competition among electricity producers: a challenge for electricity distributors



Preparing the roll-out for greater efficiency

The methods of generating and using electricity are constantly **changing**.

With the arrival of individual electricity generation, home car charging, and new European regulations, meters must obviously be adapted to this environment by evolving towards smarter systems, such as **Smart Meter**. The peripherals must also follow this development.

MICHAUD Export forges ahead in this dynamic approach by proposing universal "**Smart Meter Ready**" peripherals that can be adapted to the current metering and protection architectures of homes whilst being ready to accept the new metering solutions of the future.



Choice of Smart Meter Ready solutions

Quick connection for connecting the service cable to the energy meter terminal block:

- Al-Cu anti-corrosion connection between the aluminium connection cable and the meter copper terminal block,
- Flexible connection for implementation in confined spaces,
- Existing connection cable extension in the event of changing the meter connection configuration.

Universal meter board holding any type of meter (current or Smart Meter). The board stays the same regardless of the size or type of meters.

Auxiliary modules for easily adding protection, cutoff and tap elements upstream or downstream of the meter.

Connection terminal block for quickly connecting or disconnecting the meter.



Assisting the change

You are manufacturing meters, you are operating electricity distribution networks, **Smart Meter Ready** solutions from **MICHAUD Export** allow you to:

- Anticipate and facilitate transition towards **Smart Meter** solutions,
- Minimise "material" roll-out costs by choosing universal and upgradeable solutions that are compatible with the arrival of **Smart Meters**,
- Minimise "labour" costs by reducing intervention times, eliminating service outage times.

Universal meter board and accessories

Residential electrical distribution

Residential electrical distribution



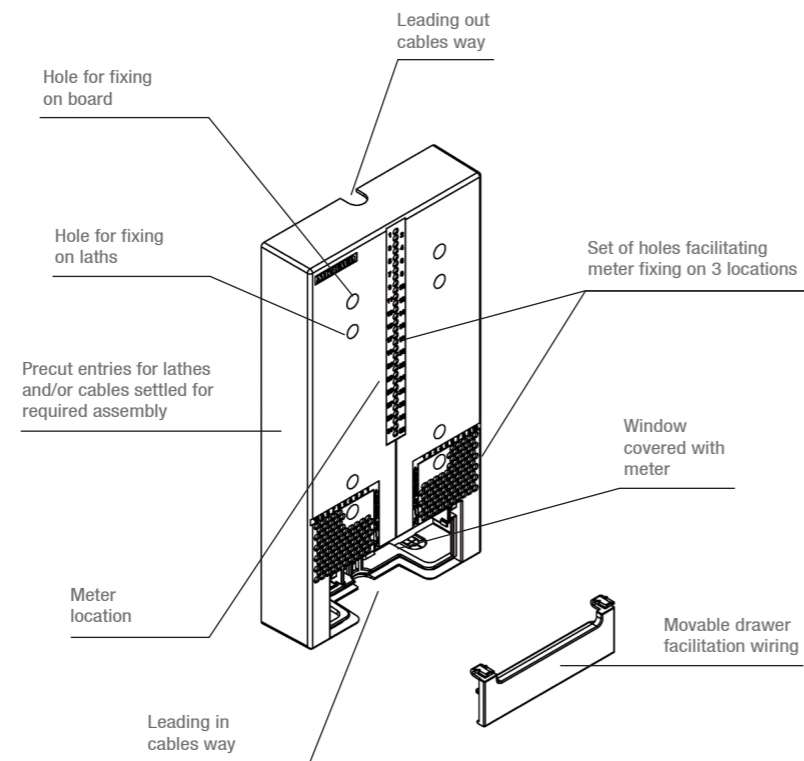
MICHAUD

Application

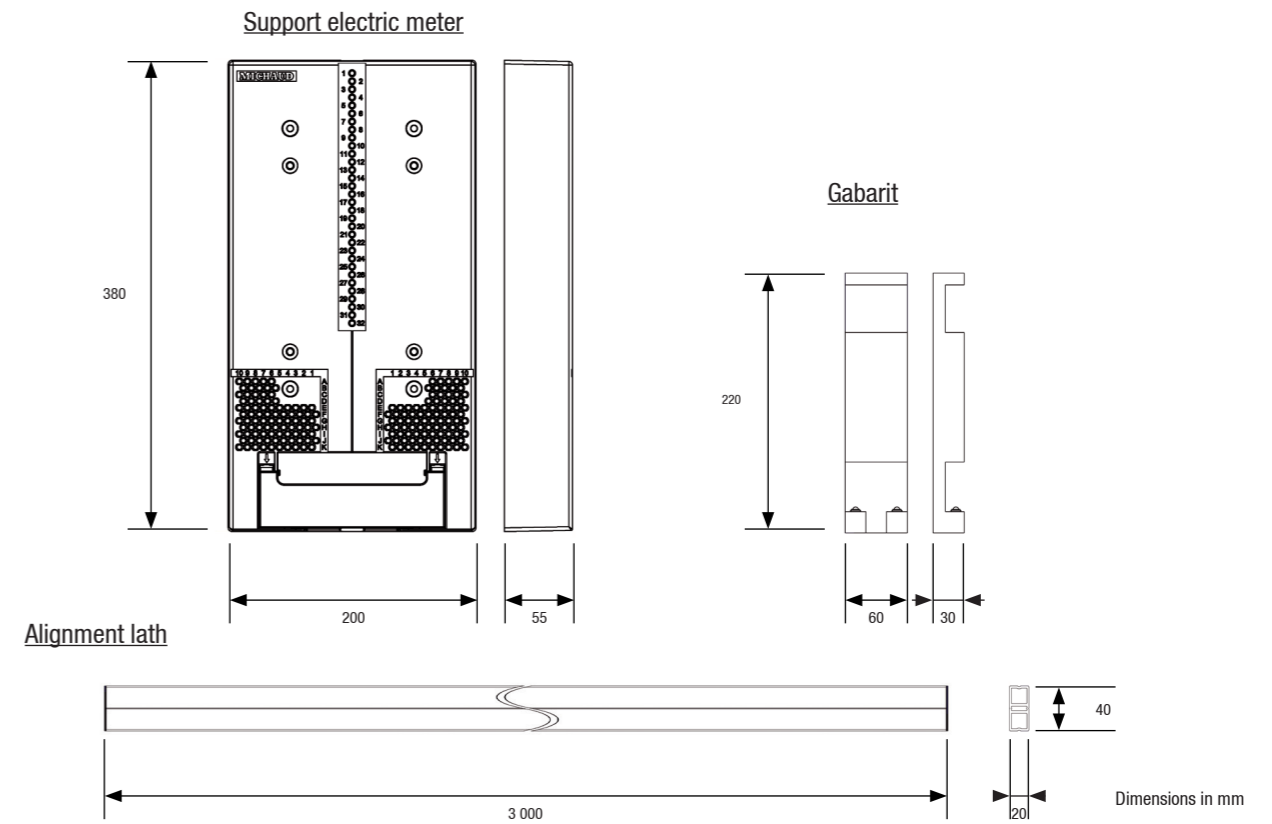
This meter board is used to receive any residential type electric meter whether single phase, three phase or tetrapolar, equipped with a cable cover. It can be combined with pluggable or non-pluggable module type connection equipment.

Description

- The assembly is made of grey synthetic self-extinguishing material (RAL 9035).
- The board is equipped with a removable clipped cover which is dismountable to make equipment wiring easier.
- The board is vertically fixed to a flat surface and possibly by means of alignment laths (see Accessories).
- When equipped with a tetrapolar meter, the board is IP4x on the front face and IK4.
- The board is used to attach meters that are compliant with **DIN 43857**.



Dimensions



References

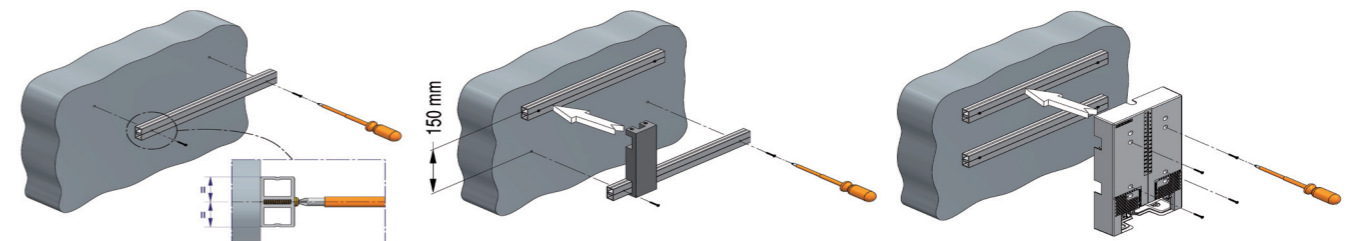
Code	Designation	Weight (kg)	Sales unit
K 424	SUPPORT FOR ELECTRIC METER + COVER	0.500	10
K 425	COVER (FOR SUPPORT FOR ELECTRIC METER)	0.080	1

Accessories

Code	Designation	Weight (kg)	Sales unit
K 422	ALIGNMENT LATH (Length 3m)	1.500	6
K 421	GABARIT FOR ALIGNMENT LATH	0.320	1

Comment: if the supporting wall is uneven, the meter board can be mounted using alignment laths. The laths are made from grey PVC. The gabarit makes it easier to assemble the laths and guarantee a centre-to-centre distance of 150mm between laths.

Implementation



Meter circuit-breaker board



P 475

MICHAUD

Application

This board is designed to accommodate the single phase electronic meter and the circuit-breaker. It defines the boundary between the energy distributor and the installer private domain. The cover is optional.

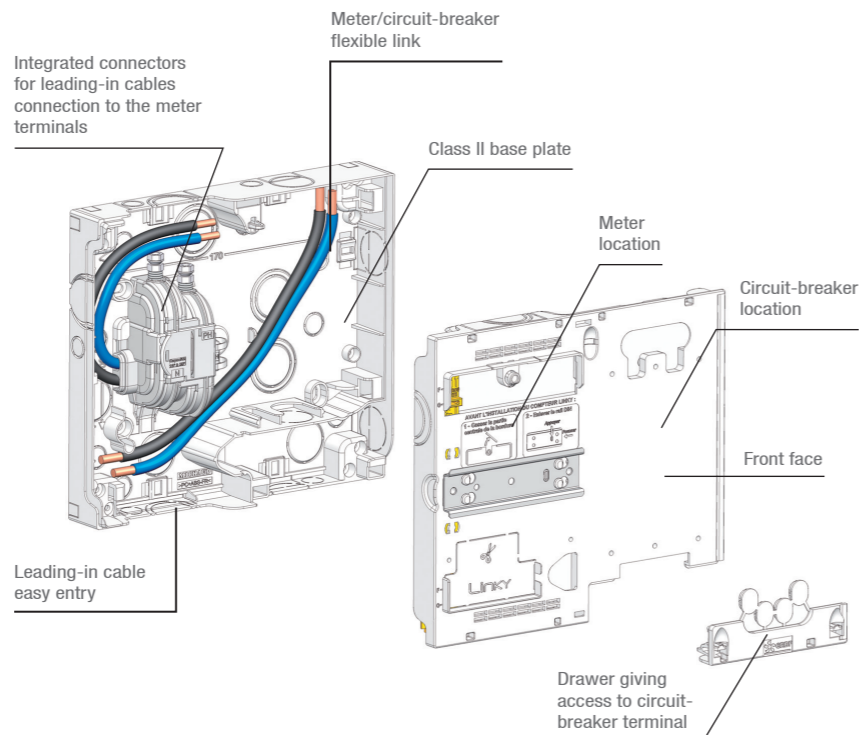


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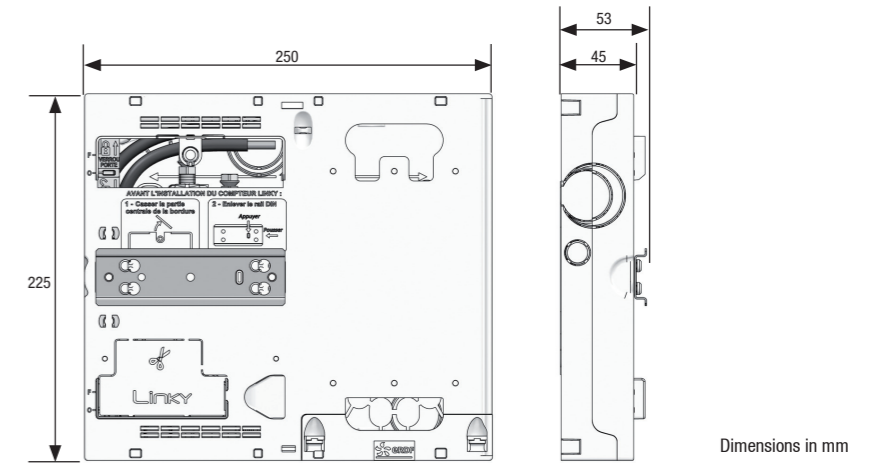
- 1 Board fixing
- 2 Swivel window to access the meter and circuit-breaker

Description

- The assembly is made of white synthetic self-extinguishing material (RAL 9010).
- The front face is equipped with a fixing rail for installing the meter and openings for the conductors to run through. It can be dismantled for easier wiring of the devices. The rail can be removed for installing the meter.
- The board is equipped with a connector fixed to the bottom, designed to receive the leading-in cables from the top or the bottom. The terminals use insulation piercing technology and shear heads.
- This connector has a IPXXB degree of protection after implementation. It integrates 16mm² copper links whose length enables the connection of any meters with terminals at the top or bottom.
- The terminals downstream of the circuit-breaker are accessible via a drawer in the lower part.



Dimensions



References

Code	Designation	Weight (kg)	Sales unit
P 475	METER AND CIRCUIT-BREAKER BOARD	0.920	1
P 474	COVER FOR METER AND CIRCUIT-BREAKER BOARD	0.340	1

Variations

METER CIRCUIT-BREAKER BOARD FOR THREE PHASE ELECTRONIC METER

(Size 250x550)

(Size 330x330)



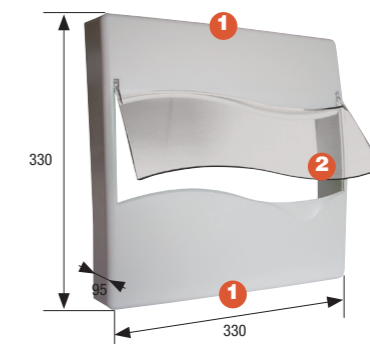
R 041



R 112



R 043



R 139

- 1 Board fixing
- 2 Swivel window to access the meter and circuit-breaker

Code	Designation	Weight (kg)	Sales unit
R 092	250x550 PANEL FOR THREE PHASE METER + CIRCUIT-BREAKER + COVER	3.080	1
R 041	250x550 PANEL FOR THREE PHASE METER + CIRCUIT-BREAKER WITHOUT LOGO	1.920	1
R 112	COVER FOR 250x550 PANEL	1.160	1
R 043	330x330 PANEL FOR THREE PHASE METER + CIRCUIT-BREAKER WITHOUT LOGO	2.500	1
R 139	COVER FOR 330x330 PANEL	1.200	1

Residential electrical distribution

Residential electrical distribution

AMM concentrator data supply kit

Residential electrical distribution

Residential electrical distribution



AMM concentrator data supply kit (K 716)



Concentrator data supply cabinet type S22 (K 722)

MICHAUD

Application

These kits are designed for the installation of an AMM (Automatic Meter Management) data concentrator in a LV/MV transformer or on a pole depending on the type of network (underground or overhead). These products supply and protect the concentrator.

Description

Products are offered in kits to facilitate management and use:

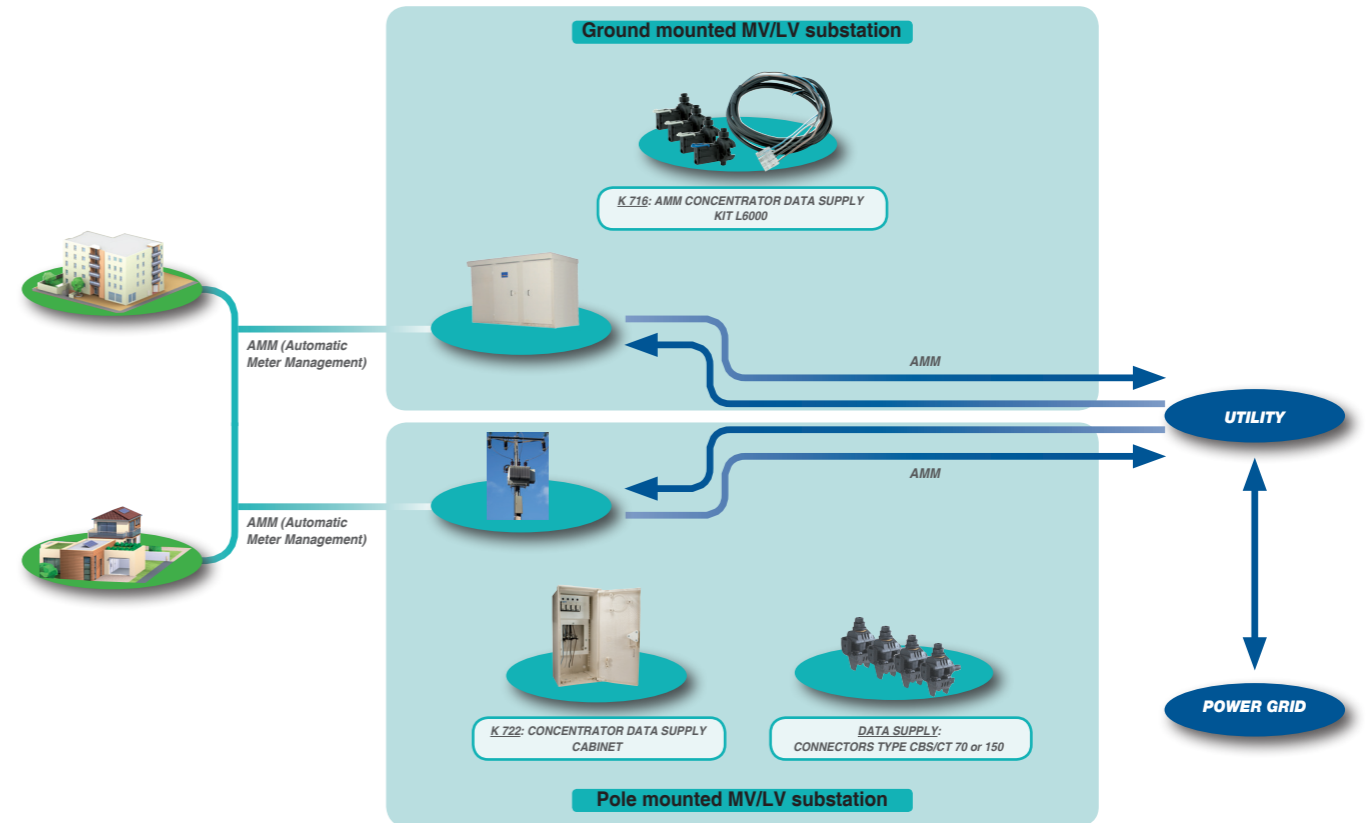
For LV/MV underground transformers: AMM concentrator data supply kit + linking cable L=6m (sold alone under Ref. K 716) comprising:

- This kit comprises the following elements:
 - 3 phase connectors and 1 neutral insulation piercing connector up to 240mm² sectoral with built-in removable fuse protection (3 Phases + 1 Neutral), 3 fuses size 10x38, gauge 2A and a neutral tube,
 - 1 connection link of 6m between the connectors and the concentrator fitted at one end, with a quick connection socket.
- This kit is delivered with installation instructions.

For the LV/MV transformers on poles: AMM Concentrator Data Supply Cabinet Type S22

- This cabinet is type S22, dimensions 485x230x190m.
- At the back of the cabinet, 2 fixing plates are used for pole mounting thanks to straps.
- It is equipped with a board for accommodating the concentrator. This board comprises:
 - 1 modular, tetrapolar, three phase 2A cutout,
 - 4 2.5mm² links in different colours connecting cutout and concentrator; these 4 links are already assembled in the terminal blocks, downstream of the cutout,
 - 4 service end connectors EBCP 16-35M assembled in the terminal block upstream of the cutout and used for its connection.
- This cabinet is delivered with 3 fuse cartridges size 14x51, gauge 2A, a neutral tube and installation instructions.

Implementation



References

Code	Designation	Weight (kg)	Sales unit
K 716	AMM CONCENTRATOR DATA SUPPLY KIT + LINKING CABLE L=6m	2.000	1
K 722	CONCENTRATOR DATA SUPPLY CABINET TYPE S22 *	5.330	1

* Products manufactured on request only.

Accessories

SEE SHEET
Service insulation piercing connector

Modular distribution box



MICHAUD

Application

These 1 row modular distribution boxes are designed to be equipped with devices that protect the customer installation.

Description

- The assembly is made of synthetic materials passing the incandescent wire resistance test at 750°C.
- The cover is white (RAL 9010) and has a IP30/IK05 degree of protection.
- The distribution boxes with 6 and 9 modules are delivered with an IP2X earth system terminal offering 7 inlets/outlets including connection terminals of 16mm² section maximum.
- The distribution boxes with 1 up to 6 modules can be opened using a clip. The distribution box with 9 modules uses a screw.
- These distribution boxes meet the criteria of specification **NF C 61-910**.

References

Code	Designation	Height in mm	Length in mm	Depth in mm	Weight (kg)	Sales unit
Q 591	DISTRIBUTION BOX WITH 1 MODULE	140	30	70	0.080	1
Q 592	DISTRIBUTION BOX WITH 2 MODULES	141	48	70	0.100	1
Q 594	DISTRIBUTION BOX WITH 4 MODULES	142	84	70	0.140	1
Q 596	DISTRIBUTION BOX WITH 6 MODULES	180	120	70	0.250	1
Q 599	DISTRIBUTION BOX WITH 9 MODULES	180	190	70	0.360	1

Seals

Numbered seals with wire



The cable is delivered assembled (or separately on request).

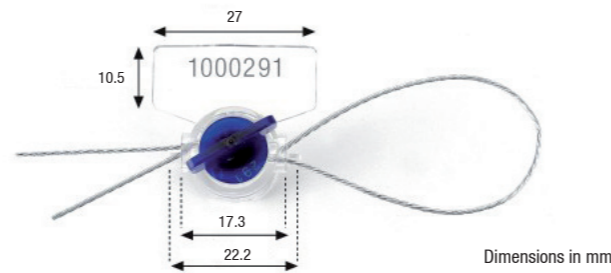
SELECTED BY
MICHAUD

Application

This seal is designed with a rotary closing system to wound manually. It is ideal for sealing electrical equipment, water meters, gas meters, etc. The breakage of this element highlights possible fraud.

Description

- It comprises two parts in which the wire is wound manually using a wing nut.
- Unique clockwise rotation way.
- No need for tools to close it.
- Wire features:
 - * Stainless steel type,
 - * Section approximately 0.35mm² (diameter ≈ 0.65mm),
 - * Tensile strength > 30daN at ambient temperature,
 - * Pre-mounted on the seal,
 - * The length can be defined on request.
- The rotation mechanism is available in several colours.
- The seal flag can include standard marking:
 - xxx_xxx (customer marking)
 - 1234567 (7-digit consecutive numbering).
- Materials resistant to UV, bad weather and various temperatures.



Dimensions in mm

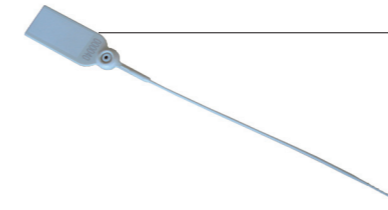
Reference

Code	Designation	Weight (kg)	Sales unit
F 009	NUMBERED SEAL WITH WIRE (100 pieces)	0.420	1

Note:

- Preparation and packaging on request, please contact us.
- Available colours: red, blue, green. For other colours, please contact us.
- Available cable lengths: 20cm and 40cm. For other lengths, please contact us.

Plastic seal



MICHAUD

Application

This seal is designed with a tail to run through a locking hole. It is ideal for sealing electrical equipment, water meters, gas meters, etc. The breakage of this element highlights possible fraud.

Description

- This seal is made of UV resistant synthetic materials.
- A space is provided for possible identification to be carried out on site using a permanent marker (Electricity Company, Network Manager or customer number, etc.).
- The effective length is 130mm for a tail diameter of 2mm.
- It is implemented manually without using tools.

Code	Designation	Weight (kg)	Sales unit
K 910	WHITE SEAL (box of 100 pieces)	0.240	1

Sealable screw cover



MICHAUD

Application

When installing the meter, the anti-fraud system may need to be modified. This sealable screw cover is designed to seal a screw.

Code	Designation	Weight (kg)	Sales unit
P 641	SEALABLE SCREW COVER (2mm diameter)	0.002	100
P 642	SEALABLE SCREW COVER + 5x30 VBA SCREW	0.006	100

Insulation piercing end connector 6-35

Residential electrical distribution

Residential electrical distribution



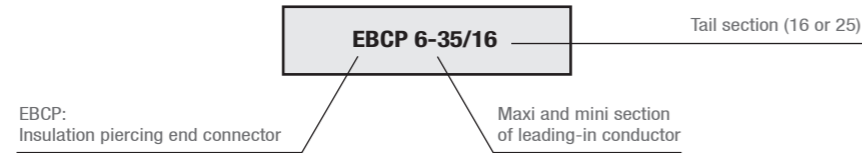
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Application

These end connectors are used for the connection of leading-in cables to electrical equipment terminals (cutouts, electronic meter, ...). They can be fitted on copper or aluminium stranded or solid core conductors.

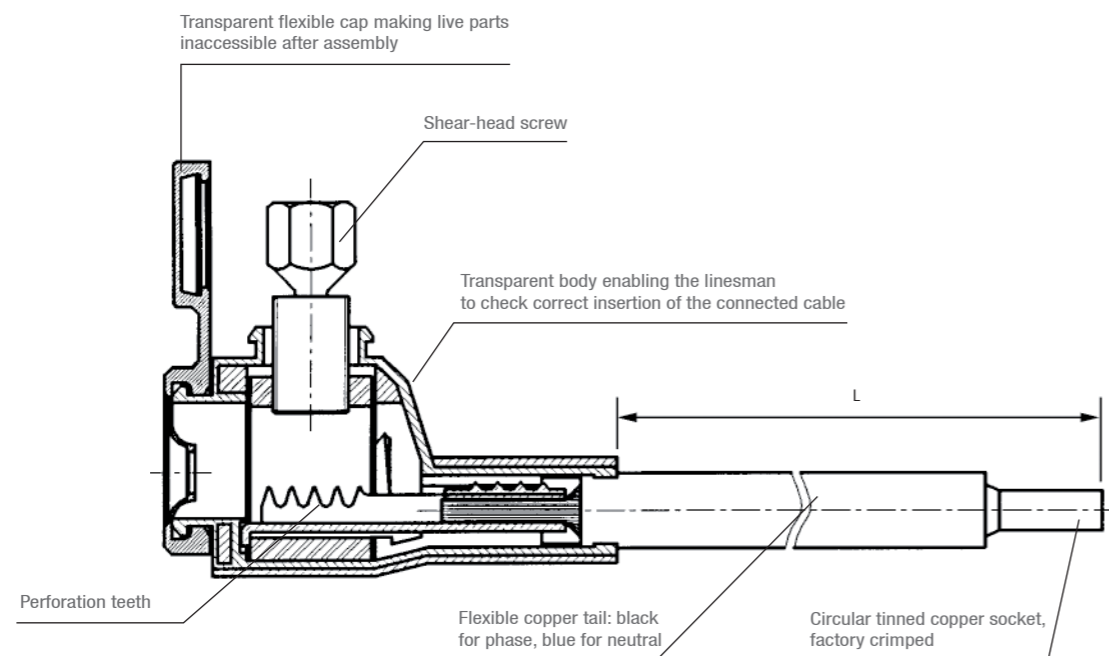
Description

- Low dimensions enable to easily fit the end connector behind the panel.
- The robust material of which the cover is made enables it to be held with a pair of pliers, without taking any particular precautions while perforating.
- Standard notation of end connector:



- These end connectors meet the requirements of the **H-M24-2011-02598-FR** specification.

* M : solid core conductor.



Implementation

- Insert the end of the conductor fully into the connector. DO NOT STRIP.
- Check correct insertion through the transparent body.
- Hold the housing in hand or with a pair of pliers, and tighten the piercing screw with a 10mm spanner until the shear head breaks.
- Clip on the flexible cap to make the tightening screw inaccessible.

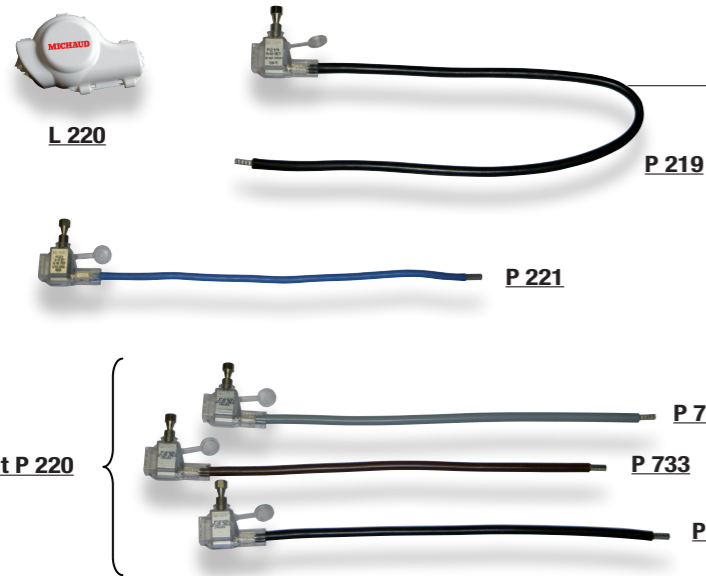
References

Code	Designation	Out of box length: L (mm)	Capacities (mm ²)	Weight (kg)	Sales unit
P 446	EBCP 6-35/16 BLACK L235	235	6 - 35	0.089	10
P 447	EBCP 6-35/16 BLUE L235	235		0.089	10
P 648	SET OF 2 EBCP 6-35/16 (1 BLACK + 1 BLUE) L235	235		0.189	1
P 448	EBCP 10-35/25 BLACK L190	185	6 - 35	0.100	10
P 449	EBCP 10-35/25 BLUE L190	185		0.098	10
P 649	SET OF 2 EBCP 10-35/25 (1 BLACK + 1 BLUE) L190	185		0.213	1
P 650	SET OF 4 EBCP 10-35/25 (3 BLACK + 1 BLUE) L190	185		0.423	1

Variations

Code	Designation	Out of box length: L (mm)	Capacities (mm ²)	Weight (kg)	Sales unit
P 222	EBCP 6-35/16 BLACK L500	500	6 - 35	0.137	1
P 223	EBCP 6-35/16 BLUE L500	500		0.137	1
P 651	SET OF 4 EBCP 6-35/16 (3 BLACK + 1 BLUE) L235	235		0.374	1

Insulation piercing end connector 16-50 Class II



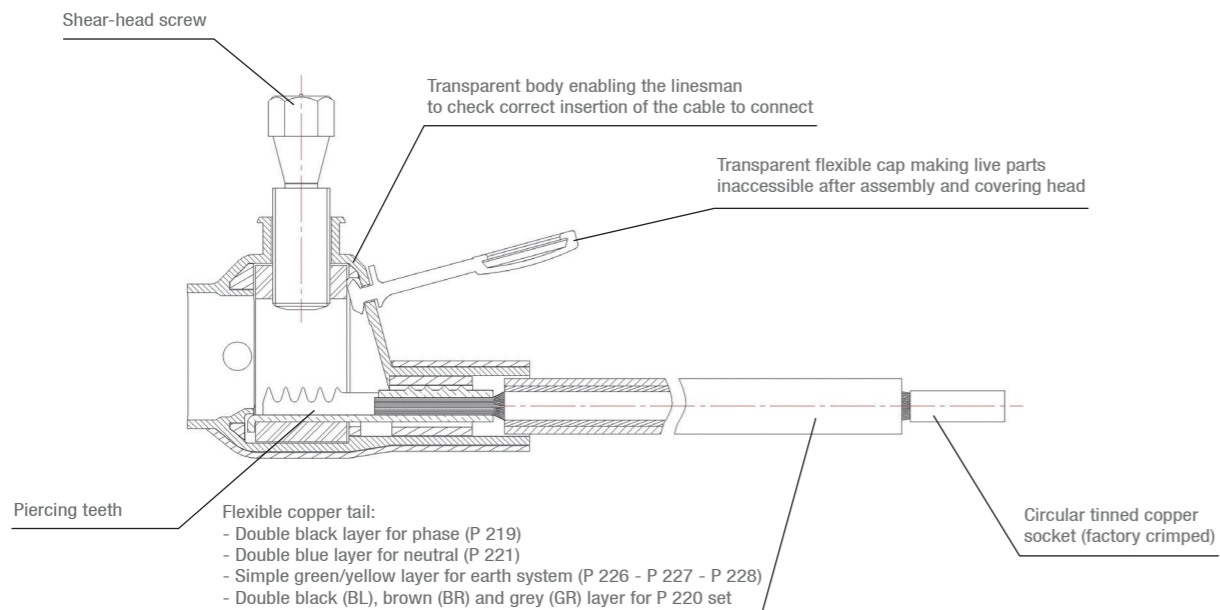
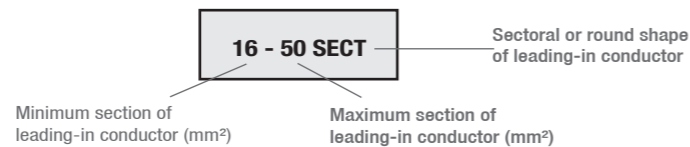
MICHAUD

Application

This range of insulation piercing end connectors is used for connecting leading-in cables to electrical equipment terminals. They can be fitted on sectoral or circular-shaped copper or aluminium stranded or solid core conductors. They provide class II protection using the double insulated coloured tail, when equipped with the cover.

Description

- The degree of protection is IP2X when it is implemented.
- The maximum power passing through the insulation piercing end connector is 80A.
- The end connector uses insulation piercing technology (16-50mm²).
- Low dimensions enable to easily fit the end connector behind the panel.
- Teeth ensure connection in extreme environments even with low temperatures.
- The robust material constituting the cover enables it to be held with a pair of pliers during piercing.
- The synthetic cover provides class II protection for the connector body and can be sealed.
- Reference P 220 comprises a kit of 3 coloured end connectors with black, brown and grey tails.
- Normative rating of the insulation piercing end connector:



Implementation

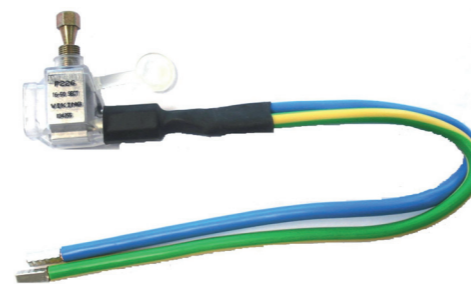


- Insert the end of the conductor fully into the connector: DO NOT STRIP.
- Check correct insertion through the transparent body.
- Hold the housing in hand or with a pair of pliers, and tighten the piercing screw with a 10mm spanner until the shear head breaks.
- Clip on the flexible cap to make the tightening screw inaccessible.
- Add the cover (L 220) to obtain a class II installation.

References

Code	Designation	Out of box length: L (mm)	Capacities (mm ²)	Weight (kg)	Sales unit
P 219	EBCP 50 SECT-16 BLACK L700 CLASS II	700	16-50	0.190	9
P 220	SET OF 3 EBCP 50 SECT-16 BL/BR/GR L375	375		0.390	1
P 221	EBCP 50 SECT-16 BLUE L375 CLASS II	375		0.130	9
P 731	EBCP 50 SECT-16 BLACK L375 CLASS II	375		0.390	100
P 732	EBCP 50 SECT-16 GREY L375 CLASS II	375		0.390	100
P 733	EBCP 50 SECT-16 BROWN L375 CLASS II	375		0.390	100
L 220	EBCPAU COVER CLASS II	-	-	0.020	12

Option



A wide range of insulation piercing end connectors has been designed for earth system:

- P 227 and P 226 with two tails (yellow/green and blue) for connecting and earth system the neutral at the same time,
- P 228 with one tail (yellow/green) for the earth conductor.

The neutral conductor (blue) has double insulation whereas the earth conductor (yellow/green) has single insulation as it is not considered as a live element (class II not required).

References

Code	Designation	Out of box length: L (mm) tail	Out of box length: L (mm) earth system	Capacities (mm ²)	Weight (kg)	Sales unit
P 226	EBCP P221 + YELLOW/GREEN EARTH SYSTEM L345	375	345	16-50	0.220	9
P 227	EBCP P221 + YELLOW/GREEN EARTH SYSTEM L800	375	800		0.330	9
P 228	EBCP 50 SECT-16 YELLOW/GREEN L800	-	800		0.200	9

Reversible stripping end connector 6-35

The technical benefits

- Connection possible from the top or bottom



PATENTED SYSTEM

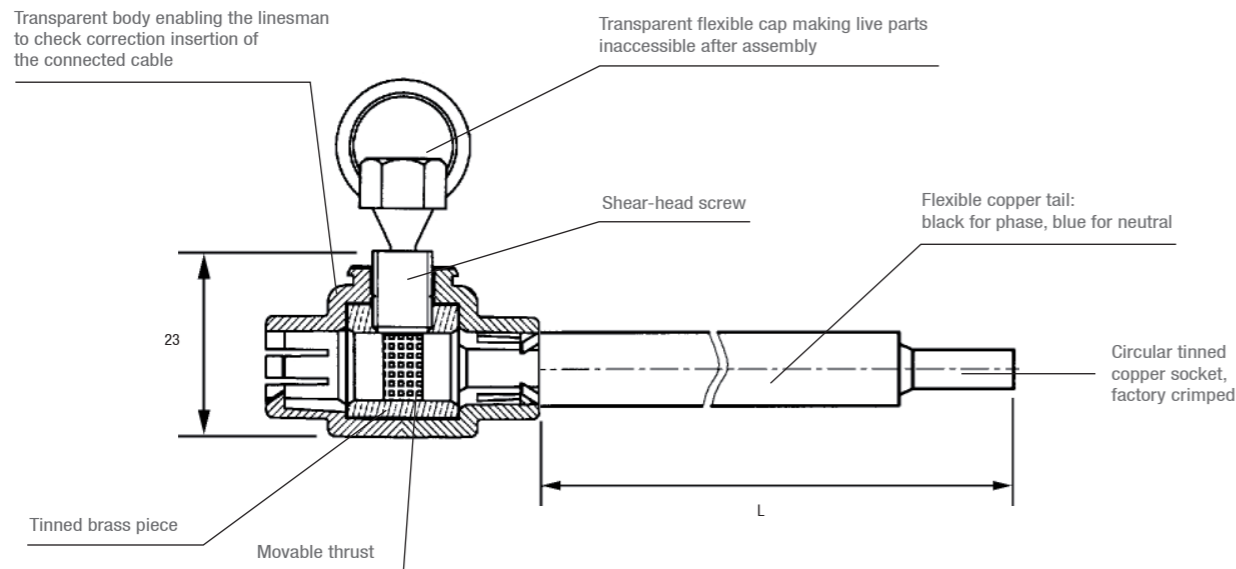
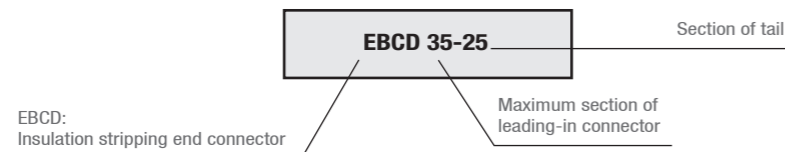
MICHAUD

Application

These end connectors are used for the connection of leading-in cables to electrical equipment terminals (cutouts, electronic meters, etc.). They can be fitted on copper or aluminium stranded core conductors.

Description

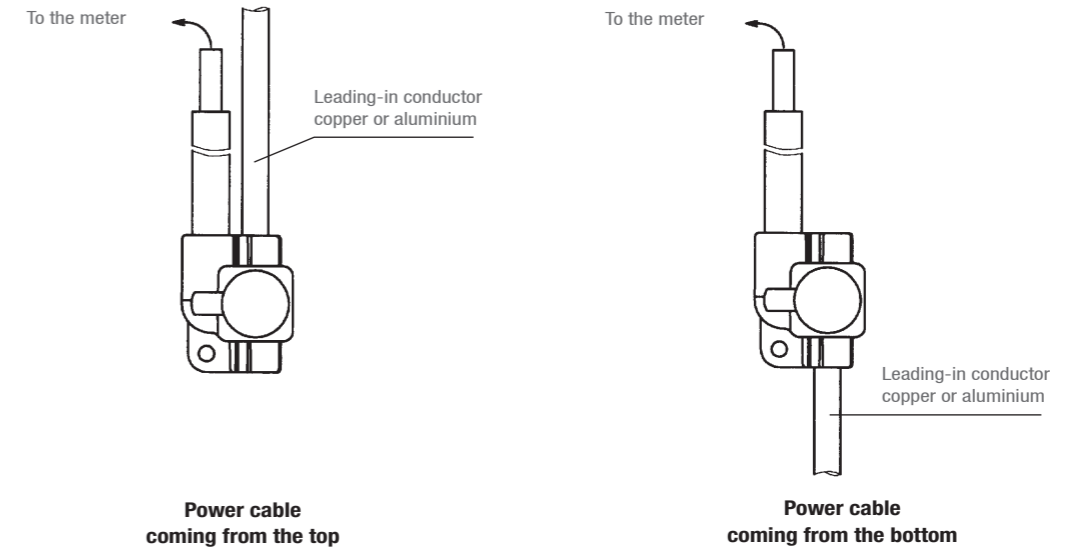
- The end connector can be connected in two opposite directions, which overcomes bulky loops in the event of insertion of the power cable from the top.
- The small overall size enables the end connectors to be easily placed behind the board, in particularly in the case of not very deep control boards.
- Normative rating for the end connector:



Implementation

- Strip the conductor to be connected according to the length indicated on the reversible end connector.
- Insert the conductor fully into the reversible end connector on the side chosen, to make wiring easier.
- The conductor is positioned correctly if the slide is blocked against the stop.
- Tighten using a 10mm spanner until the shear head breaks holding the housing in hand.
- Clip on the flexible cap to make the tightening screw inaccessible.

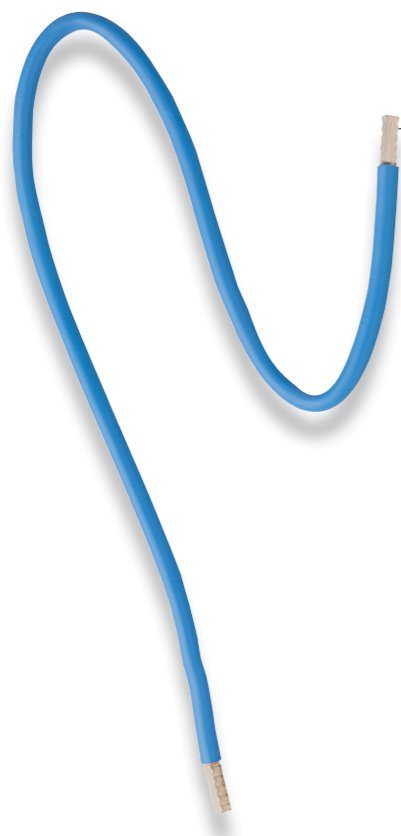
The reversible end connector can either remain floating or be fixed using a 4mm diameter screw.



References

Code	Designation	Out of box length: L (mm)	Capacities (mm ²)	Weight (kg)	Sales unit
P 620	SET OF 2 EBCD 35-25 (1 BLACK + 1 BLUE)	185	6 - 35	0.220	1
P 621	SET OF 4 EBCD 35-25 (3 BLACK + 1 BLUE)			0.437	1

Flexible linking cable



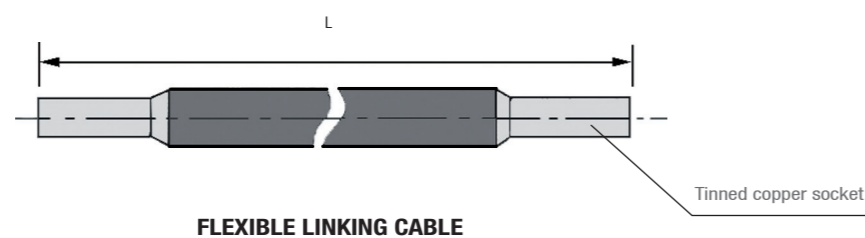
MICHAUD

Application

The flexible linking cable is used for the equipment wiring when the rigid stranded core or solid core conductor implementation is too difficult.

Description

- The linking cable is a 16mm² flexible copper conductor, multi-stranded of HO 7 VK type.
- A tin-plated copper socket is factory crimped at each end. The socket is designed for connection to a plate or tunnel terminal, or to an insulation piercing terminal.
- The length L of the link is stated on the right-hand page.



References

Code	Designation	Length L in cm	Weight (kg)	Sales unit
J 045	1 BLUE 16mm ² LINKING CABLE	56	0.097	10
J 046	1 BLACK 16mm ² LINKING CABLE	53	0.092	10
J 047	1 BLUE 16mm ² LINKING CABLE L 700	70	0.135	10
J 048	1 BLACK 16mm ² LINKING CABLE L 700	70	0.135	10
J 041	1 BLUE 16mm ² LINKING CABLE L 1200	120	0.204	10
J 042	1 BLACK 16mm ² LINKING CABLE L 1200	120	0.207	10
J 808	SET OF 2 16mm ² LINKING CABLES (1 BLUE + 1 BLACK)	56+53	0.215	1
J 809	SET OF 4 16mm ² LINKING CABLES (1 BLUE + 3 BLACK)	56+3x44	0.370	1
VARIATION : 25mm² CONDUCTOR				
J 132	1 BLUE 25mm ² LINKING CABLE L 700	70	0.185	5
J 133	1 BLACK 25mm ² LINKING CABLE L 700	70	0.180	5

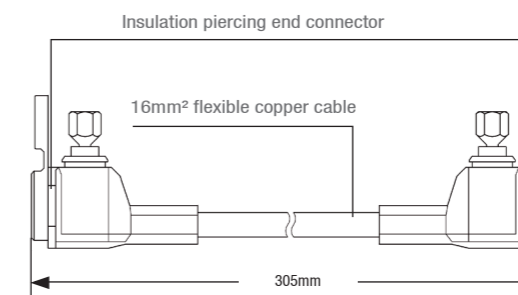
Variations

The ends of the flexible linking cable can be connected to 2 insulation piercing end connectors for connection to other conductors.

Possible sections for conductors to be connected:

- Aluminium solid core conductors: 16M, 25M, 35M, 50M *
- Aluminium or copper rigid stranded core conductors: 10mm², 16mm², 25mm²,
- Copper multi-stranded conductors: 10mm², 16mm², 25mm² (in this case, the connection must be carried out only if the end of the conductor has been compressed).

* M means that the conductor is solid.



Code	Designation	Weight (kg)	Sales unit
* P 660	SET OF 16mm ² EBCPAU LINKING CABLE SINGLE 2 PIERCINGS	0.257	1
* P 662	SET OF 16mm ² EBCPAU LINKING CABLE THREE-PHASE 2 PIERCINGS	0.505	1

* The P660 and P662 sets can be used in the case of upgrading to the electronic meter in the S20 cabinet.

Exterior end connector

Reduce/increase service end connector

MICHAUD

Application

These end connectors are used for connecting a conductor with a given section into a terminal with a smaller or larger section. They are usually used for industrial supplies and long-line supplies.



K 126



K 127



K 128

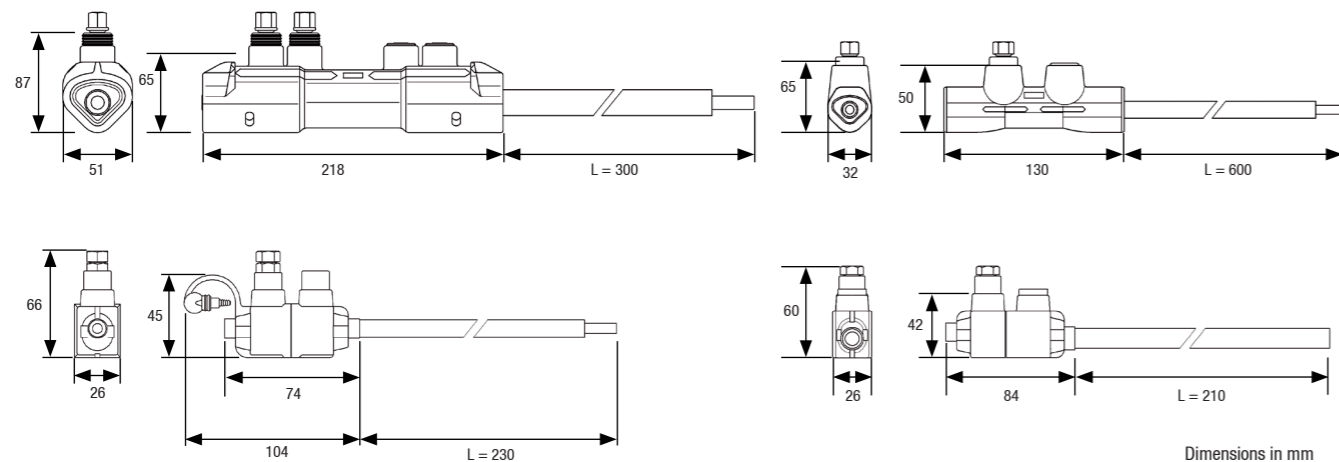


K 206

Description

- The dielectric strength in water is greater than 6kV.
- The flexible copper tails enable direct connection to the equipment.
- The terminals are stripping terminals for the reducing end connectors and piercing terminals for the increasing end connector.
- These end connectors can be used on aluminium or copper conductors.

Dimensions



Implementation

- Cut the conductor using a device that does not scratch the core.
- Strip it over the length indicated on the sleeve.
- Brush the conductor to be connected using neutral grease to remove the oxide film. Do not wipe the conductor cleaned in this way.
- Insert the conductor fully into the sleeve bore without rounding it before.
- Tighten the screws using a 13mm spanner until the shear heads break.
- Insert the end connector tail into the device terminal and tighten to the recommended torque.

References

Code	Designation	Leading-in capacities (mm ²)	Tail section	Weight (kg)	Sales unit
K 126	STRIPPING REDUCING END CONNECTOR 95-240	Round Al-Cu 95-150mm ² Sectoral Al-Cu 95-240mm ²	50mm ²	0.781	4
K 127	STRIPPING REDUCING END CONNECTOR 25-95	Round Al-Cu 25-95mm ² Sectoral Al-Cu 50-95mm ²	25mm ²	0.331	2
K 128	STRIPPING REDUCING END CONNECTOR 6-50M	Round Al-Cu 6-35mm ² Round Al-Cu 16M-50M	25mm ²	0.173	2
K 206	PIERCING INCREASING END CONNECTOR 6-35	Round Al-Cu 6-35mm ² Round Al-Cu 16M-50M	50mm ²	0.215	4

Note: For other adaptations, please contact us.

Secured service end connector



K 131



K 132

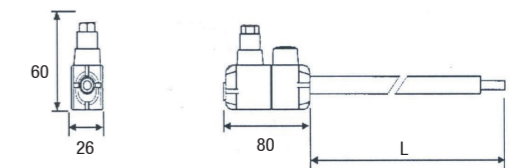
MICHAUD

Application

This end connector is used for connecting a service conductor to an equipment terminal. Four models are available with black tail for Phase connection (K 129 and K 131) or blue for Neutral connection (K 130 and K 132). This solution is used to secure the connection to equipment terminals.

Description

- The service end connector is designed for connection to 6-35mm² section copper or aluminium conductors.
- A 6mm² insulated flexible copper tail enables connection to equipment terminals (meter circuit-breaker).
- The conductor connection terminal is of insulation piercing type. The shear head ensures tightening efficiency.
- Note: to prevent dismantling of the end connector with risk of fraud, none of the permanent screw heads is accessible.
- The dielectric strength of the end connector in water is greater than 6kV.



*Dimensions in mm
L= 220 (K 131 and K 132)
L= 520 (K 129 and K 130)

References

Code	Designation	Capacities (Al-Cu)	Tail section	Weight (kg)	Sales unit
K 131	STRIPPING REDUCING END CONNECTOR 6-50M PHASE L300	6-35mm ² 16-50M	16mm ²	0.150	16
K 132	STRIPPING REDUCING END CONNECTOR 6-50M NEUTRAL L300	6-35mm ² 16-50M	16mm ²	0.150	16
K 129	STRIPPING REDUCING END CONNECTOR 6-50M PHASE L600	6-35mm ² 16-50M	16mm ²	0.190	12
K 130	STRIPPING REDUCING END CONNECTOR 6-50M NEUTRAL L600	6-35mm ² 16-50M	16mm ²	0.190	12



LV

connection

LV connection

LV connection

LV connection

Underground service box

- Underground multipole service connector
- Underground box with multipole service connector
- Single pole service connector and underground box

Underground network box

- Single pole network connector and underground box
- Tap and junction gel box

Overhead service connector

- Service insulation piercing connector
- Service insulation piercing connector with Test Probe
- Bare conductor service connector
- Multitap service connector
- Service connector with independent tightening
- Two stage bare conductor service connector
- Multitap aerial connection box

Overhead network connector

- Network insulation piercing connector
- Bare conductor network connector
- Network connector with dismantable tap contact

Street light connection

- Street light insulation piercing connector
- Street light set and cold shrink end cap

LV junction

- p.36 Preinsulated sleeve E140 p.70
- p.38 Preinsulated sleeve E173 p.72
- p.40 Preinsulated sleeve E215 p.74
- Preinsulated sleeve for aerial sub-surface connection E140 p.76
- Service cable dismantable sleeve and mains connection box p.78
- p.42 Network preinsulated sleeve with mechanical tightening p.80
- p.44

LV ending fitting

- Preinsulated CPTAU lug p.82
- Bare lug p.84
- End cap p.86
- Heat shrinkable material p.88

Mechanical fixing

- Stainless steel strap p.90
- Neutral messenger network suspension and anchoring p.92
- Fully supported network suspension and anchoring p.94
- Service cable anchoring p.96
- Cable saddle and cable tie p.98
- Support cable and pole hardware (wood application) p.100

Tools and accessories

- LV line unwinding and pulling p.102
- Overhead pulling grip and swivel p.104
- LV insulated toolings and gloves p.106
- Hydraulic crimping tool p.108
- Warning and protection accessories p.110



Equipment that withstands the test of time



Expertise

In the 1970s, the French Utility, **EDF**, was one of the pioneers in the implementation of aerial bundled conductors in replacement of bare lines.

Following this development and upholding its tradition in innovation, **Michaud** designed the very first preinsulated compression connectors and insulation piercing connectors. **Michaud** experience was then expanded on an international level, by developing accessories suitable for all international standards (**IEC, EN, DIN, AISI, AS, NZ**, etc.).

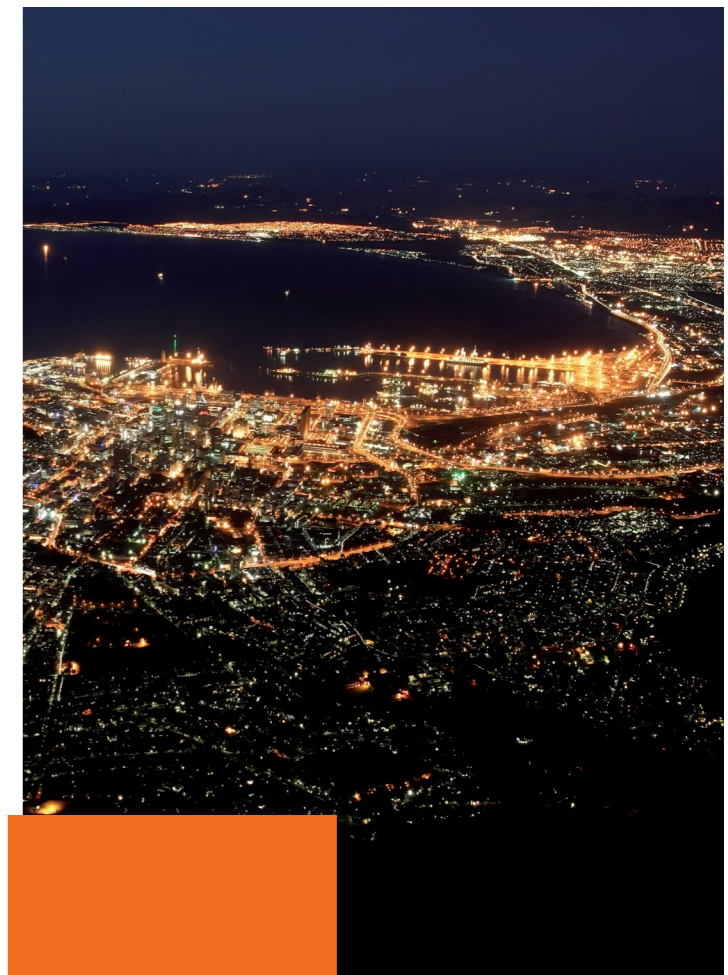
Michaud thus acquired solid expertise in electrical connections and more specifically in the fields of insulation piercing, bimetal connections, and crimping, therefore guaranteeing the service life of the power lines on which these accessories are installed.



Management

Michaud knew how to integrate the requirements of electricity companies worldwide in the design of these products:

- Making the neutral connection safe in TN earth system systems and thus ensuring the safety of people,
- Managing connection resistances between copper and aluminium,
- Developing products for checking correct implementation by companies when they subcontract work,
- Reducing maintenance costs,
- Managing overheating by improving energy performance,
- Managing the manufacture enabling the price/quality ratio to be adapted according to the countries,
- A design enabling assembly to be located as close to the market as possible.



Reliability

This know-how in insulated cable connection has been extended to several fields, for example, underground networks. **Michaud** has designed an entire range of products that are adapted to the inherent constraints of this field:

- Reliable products for overcoming intervention problems thereby limiting the operating costs,
- Watertight system preventing any penetration of water which leads to premature ageing,
- Maintenance-free operation for 30 years in hostile environments (pollution, constant humidity, etc.),
- Easy implementation at the bottom of trenches.

By taking into account the overall cost of these products over years (purchasing, maintenance and replacement costs, and the energy performance of the products), **Michaud offers a competitive range of low voltage line accessories.**

Underground multipole service connector



K 449 - 150mm²



K 459 - 240mm²

MICHAUD

Application

This RING connector is used to establish a tap connection on low voltage underground networks. It is installed inside a cast box. It is used on a main cable with the following type of synthetic insulation:

- Circular or sectoral,
- Copper or aluminium,
- Solid or stranded core.

Description

- Connection is ensured by insulation piercing technology, simultaneously on main and tap lines.
- The connector comprises:
 - * 2 identical IP2X tightening modules enabling non-oriented mounting and simultaneous tightening from the top,
 - * 1 cleat for locking the modules and for permanently securing the connector on the cable.
- The body is made of synthetic materials to make live-line work safe.
- The ergonomics has been designed to meet the specific constraints of underground work.
- Tightening efficiency is ensured by 2 shear heads, thereby reducing the assembly time.
- The K 459 model is tested by 1 000 cycles electrical ageing according to the standard **EN 61 238-1**.
- The K 449 model is tested according to the standard **DIN VDE 0220** and **DIN EN 50393**.

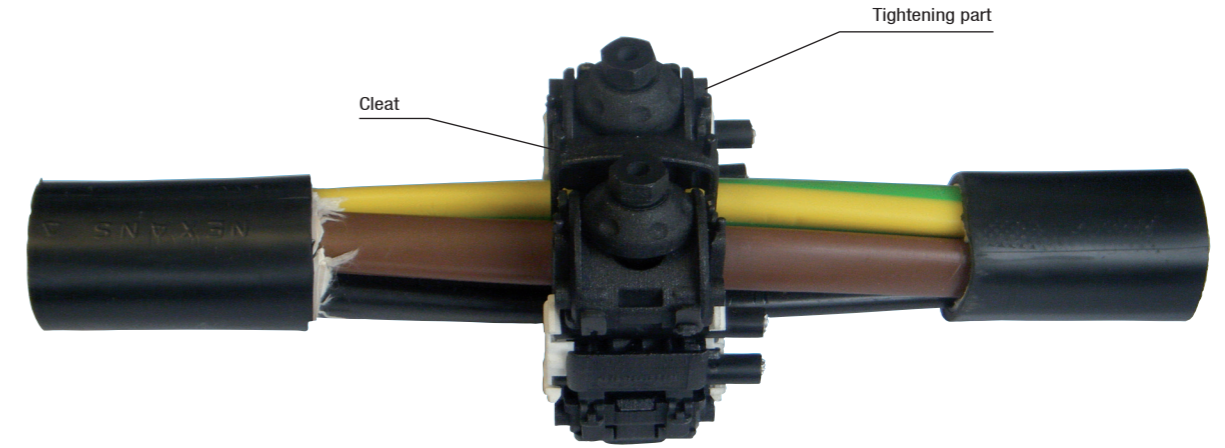
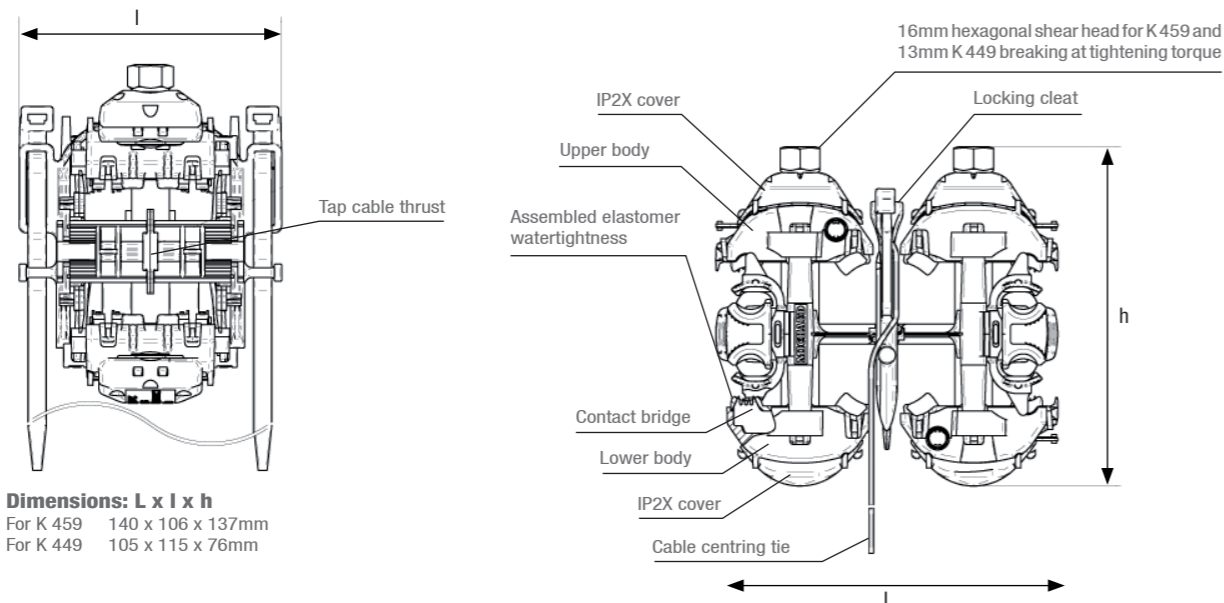


Illustration: K 459 during implementation before the head breaks

References

Code	Designation	Conductors:		Weight (kg)	Sales unit
		Capacities Main (mm ²)	Capacities Tap (mm ²)		
K 449	4 POLES SERVICE CONNECTOR 150 / 1x50	25-150	1 x 10-50	0.450	10
K 459	4 POLES SERVICE CONNECTOR 240 / 2x50	50-240	2 x 10-35 2 x 10-50M	0.820	10

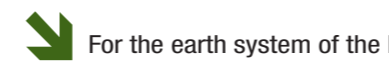
For compatibility with your conductors, please contact us (cable compatibility must be tested before use).

Accessories

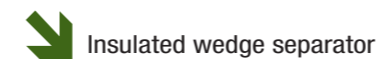


Earth system for K 459

This kit comprising a cable and a blue synthetic sheath is used as a complement to the K 459 to ensure earth system of the multitap connector.



For the earth system of the K 449, please contact us.



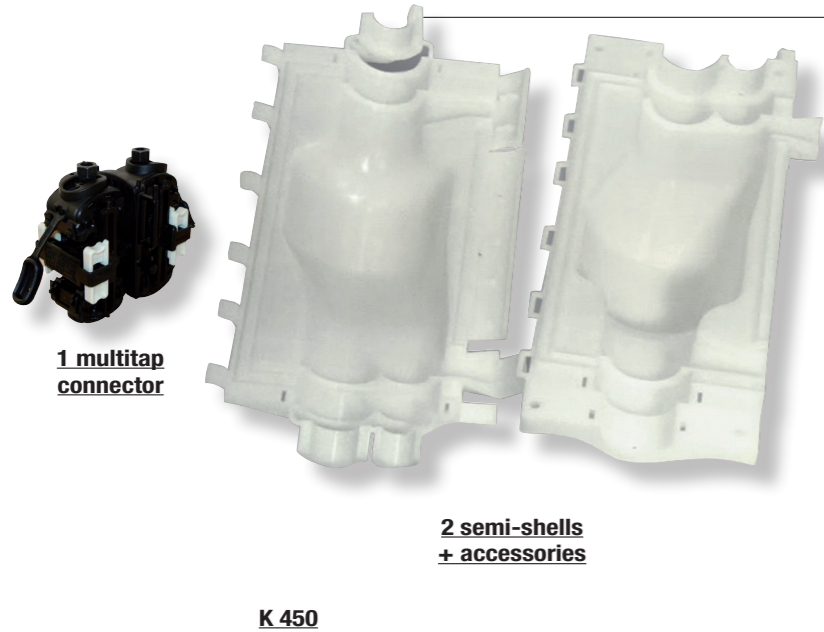
Insulated wedge separator

The insulated wedge separator is used for installing the multitap connector. It is used to separate the conductors.

Code	Designation	Weight (kg)	Sales unit
K 007	WEDGE SEPARATOR 200x15x9mm	0.052	100

Underground box with multipole service connector

Underground cast box with multipole connector 150



MICHAUD

Application

The "multipole RING connector and underground service box" system is used to establish a simple tap from an underground network made up of solid or multi-stranded, round or sectoral conductors. This kit includes all of the elements needed to establish an underground tap:

- A connector,
- A box,
- Resin,
- Accessories (foams, links, etc.).

This compact connector is easy to implement and quick to assemble.

Description

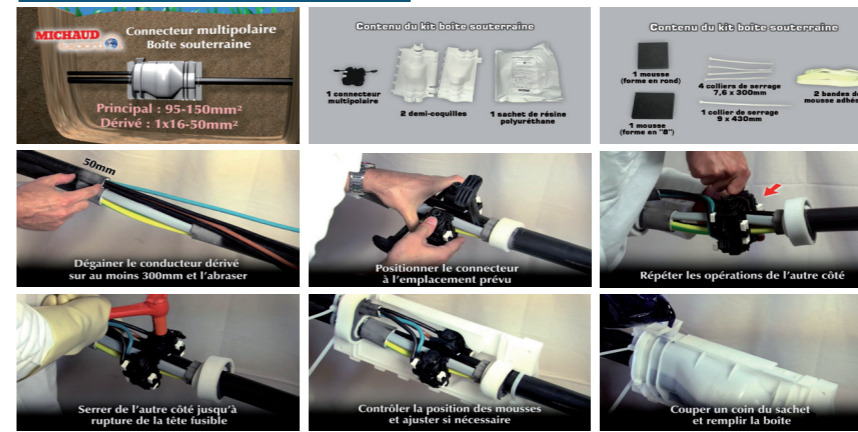
Multipole connector:

- Capacity: 25 to 150mm² main, 1 x 10 to 50mm² tap.
- Accepted conductors: round, sectoral, multi-stranded or solid.
- Connection is ensured by insulation piercing technology, simultaneously on main and tap lines.
- The connector accepts a reduced neutral.
- The connector comprises:
 - * 2 identical IP2x tightening modules enabling non-oriented mounting and simultaneous tightening from the top.
 - * 1 cleat for locking the modules and for permanently securing the connector on the cable.
- Adjustable clips are used to guide the cable and act as stops. The tap can be established on the right or left.
- The connector shapes are designed to enable good distribution of the resin.
- All connector elements are captive to make implementation easier.
- The connector dimensions once implemented: $\varnothing \leq 115\text{mm}$.
- IP2x connector once implemented.
- The connector is tested according to the standard **DIN VDE 0220**.

Underground box:

- 2 translucent shells made of thermoplastic material (PP).
- The box accessories needed for the assembly are supplied: section reducer, strips of adhesive foam, foams, links, gloves, etc.
- Polyurethane (PUR) resin, delivered in a dual-bag, qualified according to the standard **NF C 33-010** (MPF01/DC and MPF PM) and **HD 631.1** (LMPW, LIN, MMPW and NIW).
- Dimensions of the box once implemented: 380 x 180 x 150mm.
- The underground box equipped with the multipole connector K 449 is tested according to the standard **DIN EN 50393**.

Implementation



Implementation training: please contact us.

Implementation video available: request via our web site: www.michaud-export.fr

Code	Designation	Capacities (mm ²)	Weight (kg)	Sales unit
K 450	MULTIPOLE CONNECTOR 150 + UNDERGROUND BOX (WITH CONNECTOR RING 150 K449)	25 - 150 / 1 x 10 - 50	4.300	10

For compatibility with your conductors, please contact us (cable compatibility must be tested before use).

Underground cast box with multipole connector 240



MICHAUD

Application

The multipole RING connector is designed to be used as single or double service tap on low voltage underground networks. It is located in a small underground service box. It is only used on a stranded or solid, aluminium or copper, circular or sectoral type cable with synthetic insulation (**NF C 33-210**).

Description

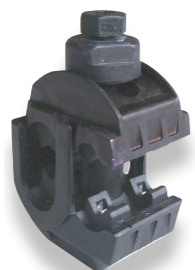
- Connection is ensured by insulation piercing technology, simultaneously on main and tap lines.
- An earth system kit is available as an accessory.
- The connector comprises:
 - * 2 identical IP2X tightening modules enabling non-oriented mounting and simultaneous tightening from the top.
 - * 1 cleat for locking the modules and for permanently securing the connector on the cable.
- The body is made of synthetic materials to make live-line work safe.
- The ergonomics has been designed to meet the specific constraints of underground work.
- Tightening efficiency is ensured by shear head screws.
- The underground box is available in 2 versions: injected box or cast box.
- Each kit contains the equipment needed for the implementation:
 - * Multipole connector,
 - * For the injected boxes : adhesive tape and resin type Epoxy delivered in a dual bag, qualified according to **H-M24-2008-00586** and **FR MPF 01 & 248M**,
 - * For the cast boxes : 2 semi-housings and resin.
- Dimensions of the box once implemented: 420 x 260 x 180mm.

Code	Designation	Capacities Main (mm ²)	Capacities Tap (mm ²)	Weight (kg)	Sales unit
K 640	SERVICE BOX MULTI-CONNECTION INJECTED 240-35	50-240	2x10-35 2x10-50M	15.000	10
K 645	SERVICE BOX MULTI-CONNECTION CAST 240-35	50-240	2x10-35 2x10-50M	15.000	10

For compatibility with your conductors, please contact us (cable compatibility must be tested before use).

Single pole service connector and underground box

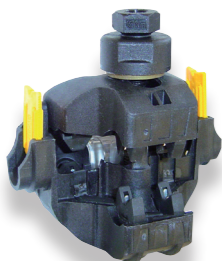
Single pole service connector



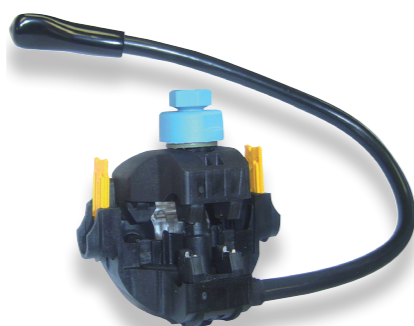
Phase - 1 tap
(K 317)



Neutral - 1 tap
(K 318)



Phase - 2 taps
(K 419)



Neutral - 2 taps
(K 420)

MICHAUD

Application

This connector is used to establish a tap connection on low voltage underground networks. It is located in underground cast or injected boxes. It can be used on a stranded or solid, aluminium or copper, circular or sectoral type main cable with paper or synthetic insulation.

Description

- Connection is established using insulation piercing technology on the main and tap lines.
- The K 419 and K 420 models can be used for connecting 2 taps with identical or different sections.
- The K 420 model integrates an earth system conductor.
- The connectors are fully insulated (IP2X degree of protection). Their bodies are made of synthetic materials to make live-line work safe.
- They are tested for 200 cycles according to **NF C 63-061** and 1 000 cycles electrical ageing according to **NF EN 61238-1**.
- The ergonomics has been designed to meet the specific constraints of underground work.
- Tightening efficiency is ensured by shear head screws.

References

Code	Designation	Capacities Main (mm ²)	Capacities Tap (mm ²)	Weight (kg)	Sales unit
K 317	CONNECTOR CBS/CS 240	50 - 240	10 - 50M	0.230	3
K 318	CONNECTOR CBS NEUTRAL/CS	50 - 95	10 - 50M	0.135	1
K 419	CONNECTOR CB2p/CS 240	50 - 240	2x10 - 50M	0.200	3
K 420	CONNECTOR CB2p NEUTRAL/CS	50 - 95	2x10 - 50M	0.310	1

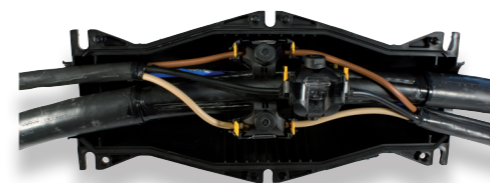
Accessory



It is used in addition to K 317 and K 318 to insulate the end of the tap cable.

Code	Designation	Weight (kg)	Sales unit
K 001	BLACK FLEXIBLE END CAP 10-50M	0.003	20

Underground service box



MICHAUD

Application

This underground service box is used to establish a single or double tap from one or 2 line connections from an underground network made up of round or sectoral conductors (as defined in **NF C 33-210**).

Description

- 2 versions are available: injected box or cast box.
- SDI or SDC: injected or cast single tap service box.
- DDI or DDC: injected or cast double tap service box.
- Small models have been developed for single phase applications (single phase SDI-R).
- Each kit contains all of the equipment needed for the implementation:
 - * Insulation piercing connectors,
 - * Adhesive tape and resin for the injected boxes,
 - * 2 semi-housings and resin for the cast boxes.
- Injected box models for earlier generation cables (impregnated paper cables) can be supplied. Please contact us.

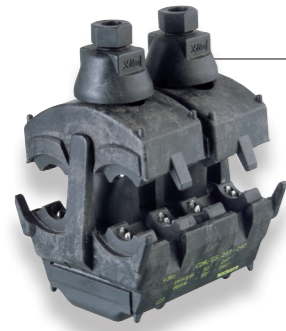
References

Code	Designation	Capacities Main (mm ²)	Capacities Tap (mm ²)	Weight (kg)	Sales unit
K 623	SINGLE-OUTLET INJECTION-MOULDED BOX COMPACT SINGLE PHASE (SDI-R-MONO) *	50-240	1x10-35 (50) mono	ND	1
K 630	SINGLE-OUTLET CAST BOX (SDC) *	50-240	1x10-35 (50)	ND	1
K 631	DOUBLE-OUTLET CAST BOX (DDC) *	50-240	2x10-35 (50)	ND	1

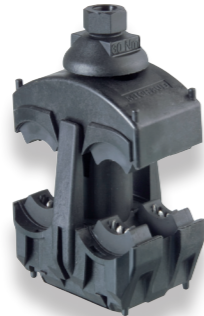
* Products manufactured on request. Please contact us.

Single pole network connector and underground box

Single tap network connector



Phase 50-240
(K 383)



Phase 50-240 / 50-150
(K 384)



Phase 50-95
(K 313)



Neutral 50-95
(K 360)

MICHAUD

Application

These connectors are designed to be used as underground low voltage network for tapping or junction applications. They are located in underground cast or injected boxes. They can be used on aluminium, circular or sectoral type cables with paper or synthetic insulation.

Description

- Connection is established using insulation piercing technology on the main and tap lines.
- The connectors are fully insulated (IP2X degree of protection). Their bodies are made of synthetic materials to make live-line work safe.
- They are tested for 1 000 cycles electrical ageing according to **NF EN 61238-1**.
- The dielectric strength in air is greater than 4kV.
- The ergonomics has been designed to meet the specific constraints of underground work.
- Tightening efficiency is ensured by shear head screws.
- These connectors meet the criteria of the technical specification **HN 68 S-12**.

References

Code	Designation	Capacities Main (mm ²)	Capacities Tap (mm ²)	Weight (kg)	Sales unit
K 383	CONNECTOR CDR/CS 50-240	50 - 240	50 - 240	0.700	1
K 384	CONNECTOR CDR/CS 50-240/50-150	50 - 240	50 - 150	0.400	1
K 313	CONNECTOR CDR/CS 50-95	50 - 95	50 - 95	0.210	3
K 360	CONNECTOR CDR NEUTRAL/CS 50-95	50 - 150	50 - 95	0.210	1

Accessories

CABLE END INSULATION

Black cap 95-240: K 247



It is used in addition to K 383 and K 384 to insulate the end of the tap cable.

Black cap 35-95: K 002



It is used in addition to K 313 and K 360 to insulate the end of the tap cable.

Code	Designation	Weight (kg)	Sales unit
K 247	BLACK FLEXIBLE END CAP 95-240	0.003	6
K 002	BLACK FLEXIBLE END CAP 35-95	0.008	20

EARTH SYSTEM



This connector is designed for earth system the neutral. For the supply of the earth system cable, please contact us.

Code	Designation	Weight (kg)	Sales unit
K 314	EARTH SYSTEM CONNECTOR 50-95 / 25	0.140	1

Underground network box



MICHAUD

Application

This underground network box is used to establish the junction or tap from a round or sectoral underground network (as defined in **NF C 33-210**).

Description

- The box is available in cast version (JNC: tap or junction cast box).
- Each kit contains all of the equipment needed for the implementation:
 - * Insulation piercing connector (see details on the underground network connectors page),
 - * Adhesive tape and resin for the injected box,
 - * 2 semi-housings and resin for the cast box.

Code	Designation	Capacities Main (mm ²)	Capacities Tap (mm ²)	Weight (kg)	Sales unit
K 610	CAST JUNCTION BOX 95-95 (JNC) *	50-95	50-95	ND	1
K 612	CAST JUNCTION BOX 240-240 (JNC) *	95-240	95-240	ND	1

* Products manufactured on request. Please contact us.

Tap and junction gel box

MICHAUD

Application

These gel boxes are used to establish low voltage conductor junction or tapping. They protect, insulate and make the connection waterproof in a single work operation. They comprise a connector that is trapped in the gel once the product has been implemented. This connector can be dismantled. The box can be implemented in soil, water or outdoors. It can be reused several times.



Description

- Resistant to UVs, the box has a gel integrated enabling the product to be assembled and dismantled.
- The gel ensures the waterproofing and insulation functions whereas the box ensures the mechanical functions (shock-absorbing function). The gel is stable at temperature between -60 and +200°C.
- The product is watertight under water up to 1m.
- Implementation is carried out without any special tools, neither flame. Drill holes are available for wall mounting.
- The connector is dimensioned for 3 up to 5 conductors. It is delivered with a spanner for its implementation.
- The box is made of shock-resistant, halogen-free PP synthetic material.
- The product meets the criteria of **DIN EN 50393**.

Junction application

Derivation application



Technical characteristics

GEL CONNEXION BOXES - JUNCTION WITH CONNECTOR

Code	Designation	Number of conductors	Main section mini / maxi (mm ²)	Dimensions L x l x D (mm)
N 708	QUICKGEL 125C	1	6 - 25	86 x 47 x 27
N 709	QUICKGEL 32.5C	3	1.5 - 2.5	86 x 47 x 27
N 710	QUICKGEL 506C	3 up to 5	1.5 - 6	146 x 55 x 35
N 711	QUICKGEL 516C	3 up to 5	6 - 16	180 x 69 x 40
N 712	QUICKGEL 425P	4 (piercing)	6 - 25	240 x 75 x 43
N 713	QUICKGEL 525P	4 (piercing) + 1 (stripping/earth system)	6 - 25	240 x 75 x 43

GEL CONNEXION BOXES - JUNCTION / TAPPING WITH CONNECTOR

Code	Designation	Number of conductors	Main section mini / maxi (mm ²)	Tap section mini / maxi (mm ²)	Dimensions L x l x D (mm)
N 714	QUICKGEL 516YC	3 up to 5	6 - 16	2.5 - 6	220 x 110 x 53
N 715	QUICKGEL 525YC	3 up to 5	16 - 25	2.5 - 25	260 x 130 x 65

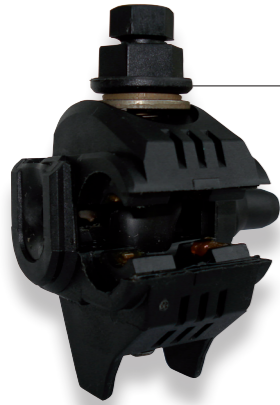
GEL CONNEXION BOXES WITHOUT CONNECTOR

Code	Designation	Dimensions L x l x D (mm)
N 716	QUICKGEL 100	86 x 47 x 27
N 717	QUICKGEL 500	146 x 55 x 35
N 718	QUICKGEL 510	180 x 69 x 40
N 719	QUICKGEL 520	240 x 75 x 43

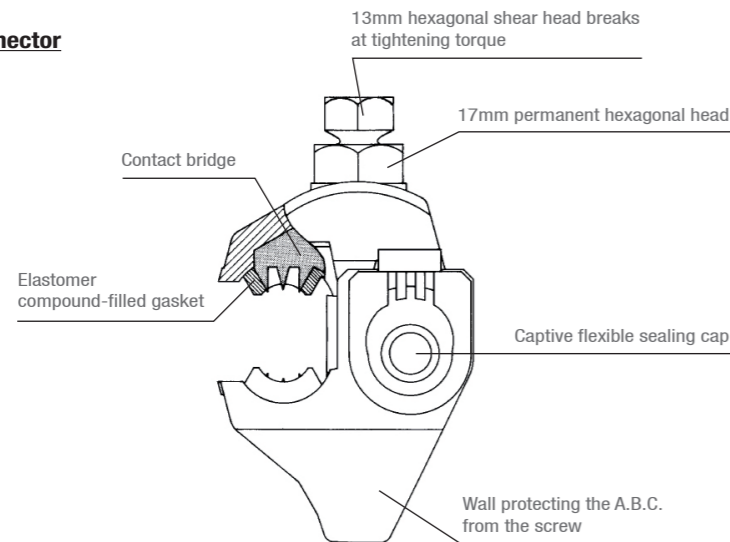
References

Code	Designation	Weight (kg)	Sales unit
N 708	QUICKGEL 125C	0.125	1
N 709	QUICKGEL 32.5C	0.085	1
N 710	QUICKGEL 506C	0.275	1
N 711	QUICKGEL 516C	0.470	1
N 712	QUICKGEL 425P	0.785	1
N 713	QUICKGEL 525P	0.855	1
N 714	QUICKGEL 516YC	0.780	1
N 715	QUICKGEL 525YC	1.290	1
N 716	QUICKGEL 100	0.070	1
N 717	QUICKGEL 500	0.185	1
N 718	QUICKGEL 510	0.330	1
N 719	QUICKGEL 520	0.610	1

Service insulation piercing connector



Service connector



MICHAUD

Application

This connector is used for connecting the insulated service conductors to the low voltage A.B.C. (Aerial Bundled Conductors).

Description

Connector end cap:

- The connector end cap is flexible so that to feel good tap conductor insertion simply by hand.
- It is carrying membranes instead of grease, granting watertightness around tap conductor end on long terms basis.
- It is glued on connector body so that to avoid eventual loss during handling, installation and environment (wind, wild life...).
- It can be equipped with a hard end cap, gripping and covering so, in case rigid cover is required. (Part Number K 246: please enquire for further information).

Connector general features:

- Insulation piercing is carried out on the main and tap conductors simultaneously in a single tightening operation.
- The dielectric strength in water is greater than 6kV.
- The tightening screw is potential free.
- Tightening efficiency is ensured by a shear head screw.
- This connector meets the criteria of **NF C 33-020** and **EN 50-483**.

Implementation

- Insert the insulated tap conductor into the connector so that its end seats in the flexible end cap.
- Use a 13mm spanner and tighten the connector on the insulated main conductor of the bundle until the shear head breaks.
- The 17mm permanent screw head is only provided for possible dismantling, and must not be used to re-tighten the screw after the 13mm head has broken.
- Implementation can be carried out on a live line but with no load on the tap conductor.

References

- Zinc-plated Steel Fasteners (ZF):

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 322	CONNECTOR CBS/CT 25 ZF - ERDF	Aluminium alloy	16 - 25	6 - 25 6M - 35M	0.118	12
K 323	CONNECTOR CBS/CT 70 ZF - ERDF	Aluminium alloy	16 - 70	6 - 25 6M - 35M	0.120	12
K 324	CONNECTOR CBS/CT 150 ZF - ERDF	Aluminium alloy	16 - 150	6 - 25 6M - 35M	0.126	12

M means that the core of the conductor is solid.

- Zinc-plated Steel Fasteners (ZF):

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 331	CONNECTOR CBS/CT 70 ZF	Tinned brass	16 - 70	4 - 25	0.130	30
K 332	CONNECTOR CBS/CT 95 ZF	Tinned brass	16 - 95	2.5 - 35	0.131	30
K 330	CONNECTOR CBS/CT 150 ZF	Tinned brass	35 - 150	6 - 35	0.137	30

- Stainless Steel Fasteners (SF):

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 441	CONNECTOR CBS/CT 95 SF	Tinned brass	25 - 95	6 - 35	0.135	20
K 442	CONNECTOR CBS/CT 150/1.5-25 SF	Tinned brass	35 - 150	1.5 - 25	0.142	20
K 443	CONNECTOR CBS/CT 150/6-35 SF	Tinned brass	35 - 150	6 - 35	0.143	20

- These 3 connectors are fitted with a Yellow Shear Head Indicator that:
- Disappears when head is sheared-off, being easy visual confirmation of good tightening for eventual Regulator inspection from ground level.
 - Increases head height up to 10mm.



Accessories

SEE SHEET
Tools & accessories / LV insulated toolings and gloves

Service insulation piercing connector with Test Probe

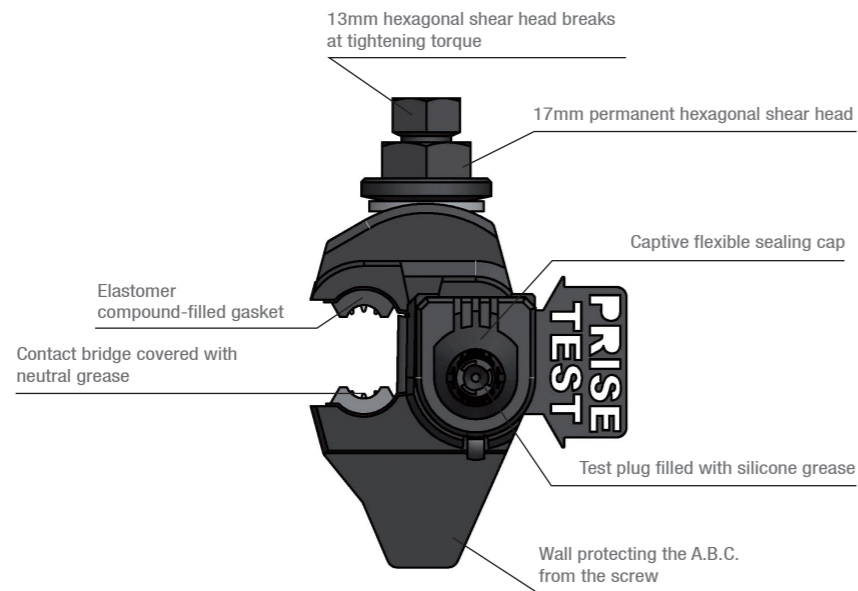


MICHAUD

Application

This connector is used for connecting the insulated service conductors to the low voltage A.B.C. (Aerial Bundled Conductors). It is equipped with a Test Probe on the flexible end cap. This enables the potential to be checked between 2 connectors installed on neutral and phase conductors and thus ensure good connection.

Service connector



Description

- Insulation piercing is carried out on the main conductor and on the tap conductor simultaneously in a single tightening operation.
- The dielectric strength in water is greater than 6kV even after several piercings of the flexible end cap Test Probe using a standardised pin of a measuring device (3 to 5 times maximum).
- The tightening screw is potential free.
- Tightening efficiency is ensured by a shear head screw (nominal torque of 10Nm).
- The connector end cap is flexible so that to feel good tap conductor insertion simply by hand. It is glued on connector body so that to avoid eventual loss during handling, installation and environment (wind, wild life...).
- This connector meets the criteria of **NF C 33-020** and **EN 50-483**.

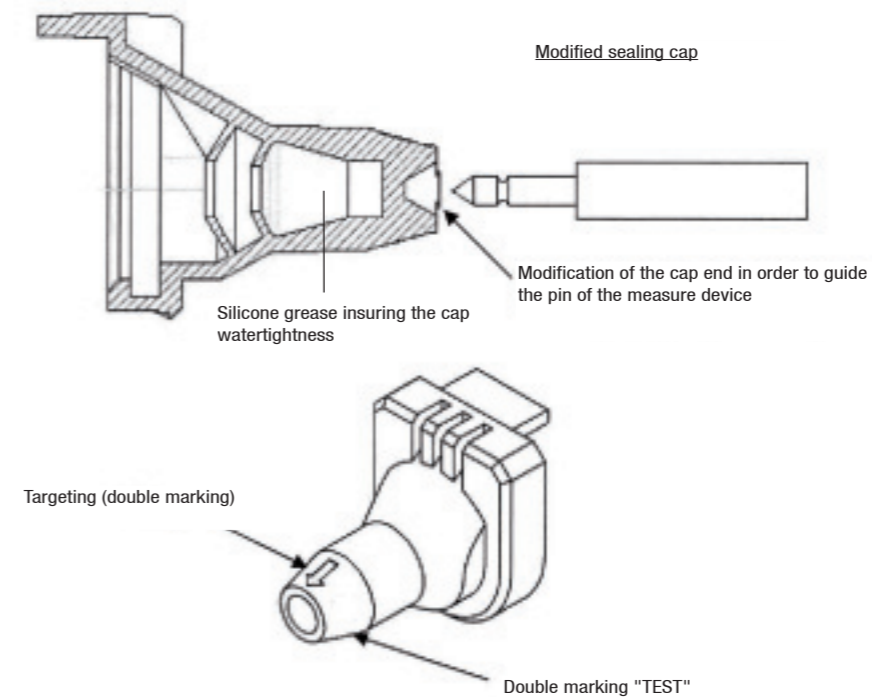
Implementation

- Insert the insulated tap conductor into the connector so that its end seats in the flexible end cap.
- Use a 13mm spanner and tighten the connector on the insulated main conductor of the bundle until the shear head breaks.
- The 17mm permanent screw head is only provided for possible dismantling, and must not be used to re-tighten the screw after the 13mm head has broken.
- Implementation can be carried out on a live line but with no load on the tap conductor.

References

- Zinc-plated Steel Fasteners (ZF):

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 336	CONNECTOR CBS/CT 95 TEST PROBE ZF	Tinned brass	16 - 95	4 - 35	0.135	10
K 337	CONNECTOR CBS/CT 150 TEST PROBE ZF	Tinned brass	35 - 150	6 - 35	0.145	10



- Stainless Steel Fasteners (SF):

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 338	CONNECTOR CBS/CT 95 TEST PROBE SF	Tinned brass	16 - 95	4 - 35	0.135	10

Accessories

SEE SHEET
Tools & accessories / LV insulated toolings and gloves

Bare conductor service connector



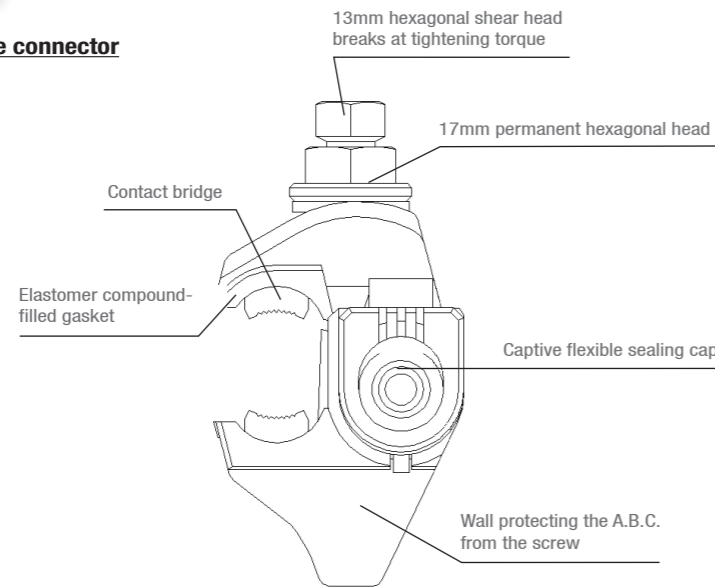
Bare conductor service connector

MICHAUD

Application

This connector is used for connecting the insulated service conductors to the low voltage overhead copper or aluminium alloy bare conductor network. Two versions are available according to the type of conductor to be connected (Al or Cu):

- CNA (with aluminium alloy contact bridges),
- CNU (with rough brass contact bridges).



Description

Connector end cap:

- The connector end cap is flexible so that to feel good tap conductor insertion simply by hand.
- It is carrying membranes instead of grease, granting watertightness around tap conductor end on long terms basis.
- It is glued on connector body so that to avoid eventual loss during handling, installation and environment (wind, wild life...).
- It can be equipped with a hard end cap, gripping and covering so, in case rigid cover is required. (Part Number K 246: please enquire for further information).

Connector general features:

- Tightening of the bare main conductor and piercing of the tap conductor are carried out simultaneously in a single tightening operation.
- The tightening screw is potential free.
- Tightening efficiency is ensured by a shear head screw.
- This connector meets the criteria of **NF C 33-020** and **EN 50-483**.

Implementation

- Insert the insulated tap conductor into the connector so that its end seats in the flexible end cap.
- Use a 13mm spanner and tighten the connector on the bare main conductor until the shear head breaks.
- The 17mm permanent screw head is only provided for possible dismantling, and must not be used to re-tighten the screw after the 13mm head has broken.
- Implementation can be carried out on a live line but with no load on the tap conductor.

References

- Zinc-plated Steel Fasteners (ZF):

Code	Designation	Contact bridge	Capacities Main bare (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 258	CONNECTOR RDP/CNU 95 ZF	Brass	Cu 7 - 95	6 - 35	0.148	20
K 259	CONNECTOR RDP/CNA 95 ZF	Aluminium Alloy	Al 7 - 95	6 - 35	0.129	20

- Stainless Steel Fasteners (SF):

Code	Designation	Contact bridge	Capacities Main bare (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 470	CONNECTOR RDP/CNU 95 SF	Brass	Cu 7-95	6-35	0.148	20
K 471	CONNECTOR RDP/CNA 95 SF	Aluminium Alloy	Al 7-95	6-35	0.127	20

These both connectors are fitted with a Yellow Shear Head Indicator that:

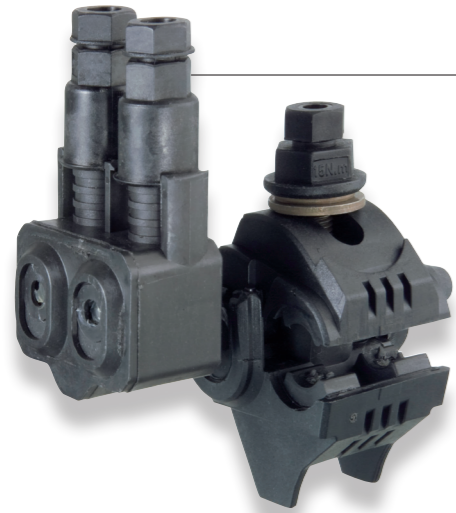
- Disappears when head is sheared-off, being easy visual confirmation of good tightening for eventual Regulator inspection from ground level.
- Increases head height up to 10mm.



Accessories

SEE SHEET
Tools & accessories / LV insulated toolings

Multitap service connector



Double output
service connector

MICHAUD

Application

This connector is used for connecting up to 2 insulated service conductors to the low voltage A.B.C. (Aerial Bundled Conductors). While connection of the main line conductor uses insulation piercing technology, that of the tap line uses either insulation piercing or stripping technology.

Description

Connector end cap:

- The connector end cap is flexible so that to feel good tap conductor insertion simply by hand.
- It is carrying membranes instead of grease, granting watertightness around tap conductor end on long terms basis.
- It is glued on connector body so that to avoid eventual loss during handling, installation and environment (wind, wild life...).
- It can be equipped with a hard end cap, gripping and covering so, in case rigid cover is required. (Part Number K 246: please enquire for further information).

Connector general features:

- The dielectric strength in water is greater than 6kV.
- The tightening screws are potential free.
- Tightening efficiency is ensured by shear head screws.
- K 389 - K 390 - K 392 - K 394 use the insulation piercing technology.
- The stripped versions K 391 - K 393 on the tap lines can accommodate solid or stranded core aluminium or copper insulated conductors with section between 6 and 35mm².
- These connectors meet the criteria of **NF C 33-020** and **EN 50-483**.

Implementation

- Install the connector on the main conductor using a 13mm spanner until the shear head breaks.
- The 17mm permanent screw head is only provided for possible dismantling. It must not be used to re-tighten the screw after the 13mm head has broken.

K 389 - K 390 - K 392 - K 394

- Insert the tap conductor(s) fully into the connector by piercing the seal wall.
- Tighten using a 13mm spanner until the shear head breaks.
- Implementation can be carried out on a live line but with no load on each tap conductor.

K 391 - K 393

- Strip the tap conductor(s) over the recommended length and brush with neutral grease.
- Insert the conductor(s) fully into the connector by piercing the seal wall.
- Tighten using a 13mm spanner until the shear head breaks.
- If dismantling and reassembling the tap, tighten the screw to the torque indicated on the head.
- It can be installed live. The load on each tap conductor must not exceed 90A.
- It can be disconnected live, but with no load.

References

- Zinc-plated Steel Fasteners (ZF):

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm)	Capacities Tap insulated Al-Cu (mm)	Weight (kg)	Sales unit
K 390	PIERCING CONNECTOR CB 2p/CT 150 ZF	Tinned copper	35 - 150	2 x 6-35	0.261	10
K 391	STRIPPING CONNECTOR CB 2d/CT 150 ZF	Tinned copper	35 - 150	2 x 6-35	0.262	10
K 392	PIERCING CONNECTOR CB 2p/CT 70 ZF	Tinned copper	16 - 70	2 x 6-35	0.255	10
K 393	STRIPPING CONNECTOR CB 2d/CT 70 ZF	Tinned copper	16 - 70	2 x 6-35	0.255	10
K 394	PIERCING CONNECTOR CB 2p/CT 95 ZF	Tinned copper	16 - 95	2 x 6-35	0.255	10

- Stainless Steel Fasteners (SF):

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm)	Capacities Tap insulated Al-Cu (mm)	Weight (kg)	Sales unit
K 389	PIERCING CONNECTOR CB 2p/CT 150 SF	Tinned copper	35 - 150	2 x 6-35	0.261	10

- This connector is fitted with a Yellow Shear Head Indicator that:
- Disappears when head is sheared-off, being easy visual confirmation of good tightening for eventual Regulator inspection from ground level.
 - Increases head height up to 10mm.

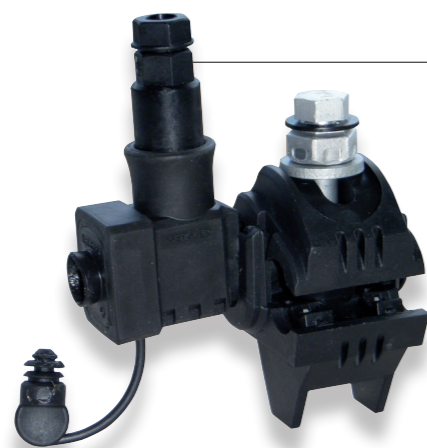


Accessories

SEE SHEET
Tools & accessories / LV insulated toolings

Service connector with independent tightening

Dismountable tap contact single service connector



K 397

MICHAUD

Application

This connector is used for connecting independently the insulated service conductors to the low voltage A.B.C. (Aerial Bundled Conductors). While connection of the main line conductor uses insulation piercing technology, that of the tap line uses stripping technology.

Description

- The dielectric strength in water is greater than 6kV.
- The tightening screws are potential free.
- Tightening efficiency is ensured by shear head screws.
- The independent tightening tap line can accommodate solid or stranded core aluminium or copper insulated conductors with sections between 2.5 and 35mm².
- This connector meets the criteria of **NF C 33-020** and **EN 50483**.

Implementation

- Install the connector on the main conductor using a 13mm spanner until the shear head breaks.
- The 17mm permanent screw head is only provided for possible dismantling. It must not be used to re-tighten the screw after the 13mm head has broken.
- Strip the tap conductor over the recommended length and brush with neutral grease.
- Insert the conductor fully into the connector by piercing the seal wall.
- Tighten using a 13mm spanner until the shear head breaks.
- If dismantling and reassembling the tap, tighten the screw to the torque indicated on the head.
- It can be installed live. The load on the tap conductor must not exceed 90A.
- It can be disconnected live, but with no load.

Reference

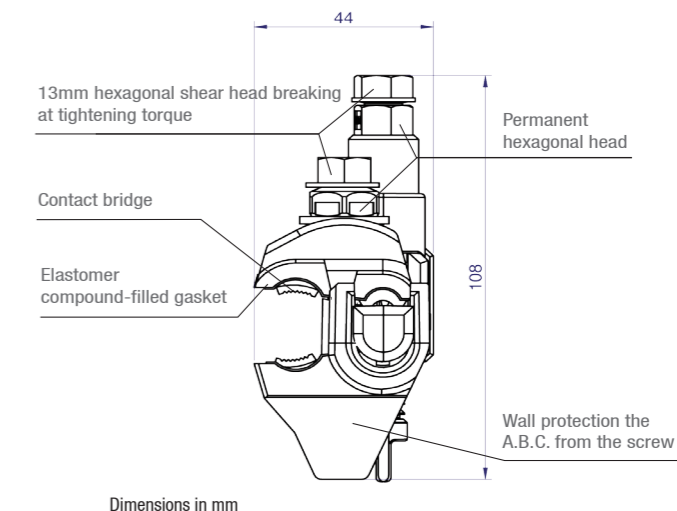
- Zinc-plated Steel Fasteners (VZ):

Code	Designation	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 397	PIERCING CONNECTOR CB 1d/CT 95	16-95	2.5-35	0.175	6

Bare conductor service connector with independent tightening



K 396



MICHAUD

Application

This connector is used for connecting independently the insulated service conductors to the low voltage overhead copper bare conductor network.

Description

- The tightening screws are potential free.
- Tightening efficiency is ensured by shear head screws.
- The independent tightening can accommodate solid or stranded core aluminium or copper insulated conductors with sections between 2.5 and 35mm².

Implementation

- Strip the tap conductor over the recommended length and brush with neutral grease.
- Insert the tap line fully, piercing the seal wall.
- Tighten using a 13mm spanner until the shear head breaks holding the tap line in your hand.
- Use a 13mm spanner and tighten the connector on the bare main conductor until the shear head breaks.
- The 17mm permanent screw head is only provided for possible dismantling. It must not be used to re-tighten the screw after the 13mm head has broken.
- Implementation can be carried out on a live line but with no load on the tap conductor.
- If dismantling and reassembling the tap, tighten the screw to the torque indicated on the head.
- It can be disconnected live, but with no load.

Reference

- Zinc-plated Steel Fasteners (VZ):

Code	Designation	Contact bridge	Capacities Main bare (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 396	STRIPPING CONNECTOR RDP 1d/CT 95	Brass	Cu 16 - 95	2.5 - 35	0.210	6

Accessories



Two stage bare conductor service connector



MICHAUD



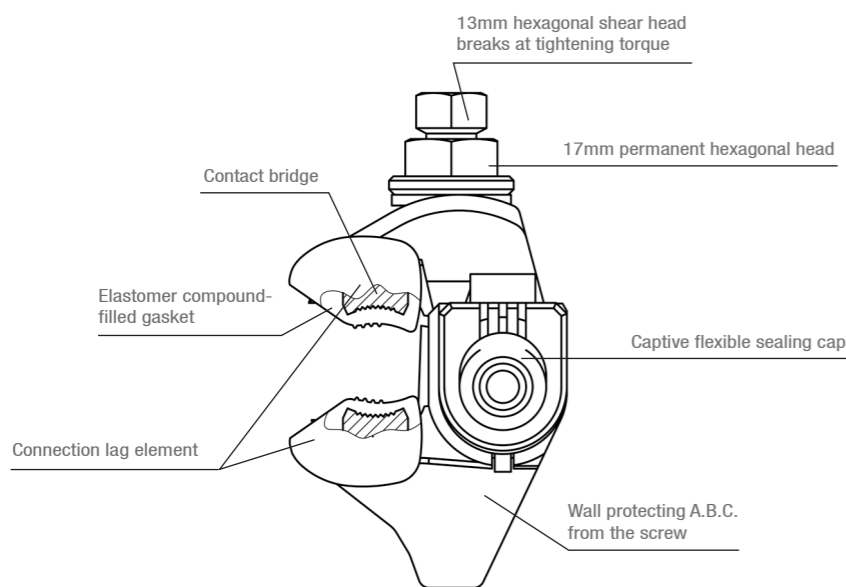
Application

This connector is used for connecting the insulated service conductors to the low voltage overhead aluminium alloy or copper bare conductor network.

Two versions are available according to the type of conductor to be connected (Al or Cu). The tap and main cables are connected separately step by step to improve the electrical connection:

1. First the tap line is connected by piercing the insulation,
2. Then the main line is connected.

Implementation can be carried out with a maximum load of 100A.



Description

Connector end cap:

- The connector end cap is flexible so that to feel good tap conductor insertion simply by hand.
- It is carrying membranes instead of grease, granting watertightness around tap conductor end on long terms basis.
- It is glued on connector body so that to avoid eventual loss during handling, installation and environment (wind, wild life...).
- It can be equipped with a hard end cap, gripping and covering so, in case rigid cover is required. (Part Number K 246: please enquire for further information).

Connector general features:

- Piercing of the tap line and tightening of the main conductor are carried out step by step in a single tightening operation.
- The tightening screw is potential free.
- Tightening efficiency is ensured by a shear head screw.
- This connector meets the criteria of **NF C 33-020** and **EN 50-483**.

Implementation

Insert the insulated service conductor into the connector so that its end seats in the flexible end cap. ① ②
Install the connector correctly on the bare line. The conductor stays on the lag elements made of synthetic material. ③
Note: The contact bridges remain away from the bare conductor.

Use a 13mm spanner and follow the following two stage connection principle:

(a) Connection of the insulated tap cable:

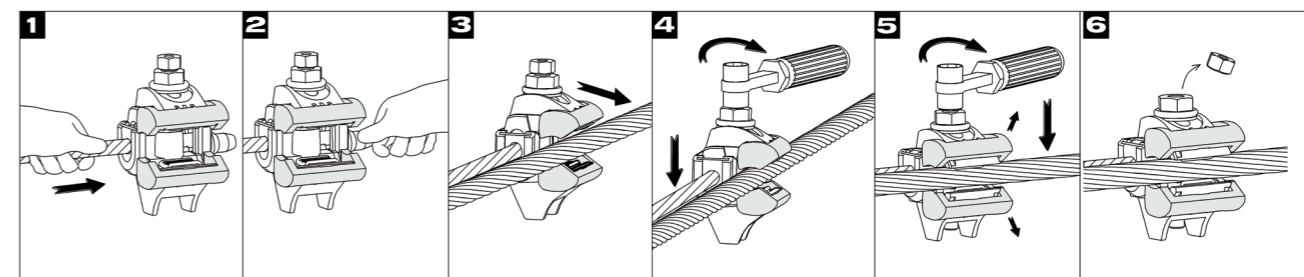
- * The insulated tap conductor is connected by insulating piercing. ④

(b) Connection of the bare main cable:

- * Tighten the connector on the bare conductor,
- * The lag elements are automatically pushed away and the bare main conductor is connected, ⑤
- * Tighten the connector fully on to the bare conductor until the shear head breaks. ⑥

The 17mm permanent screw head is only provided for possible dismantling. It must no be used to re-tighten the screw after the 13mm head has broken.

Implementation can be carried out on a live line but with a maximum load of 100A on the tap conductor.



References

- Stainless Steel Fasteners (SF):

Code	Designation	Contact bridge	Capacities Main bare (mm²)	Capacities Tap insulated Al-Cu (mm²)	Weight (kg)	Sales unit
K 235	2 STAGES CONNECTOR RDP/CNU 95 SF	Brass	Cu 7 - 95	6 - 35	0.170	4
K 236	2 STAGES CONNECTOR RDP/CNA 95 SF	Aluminium Alloy	Al 7 - 95	6 - 35	0.171	4

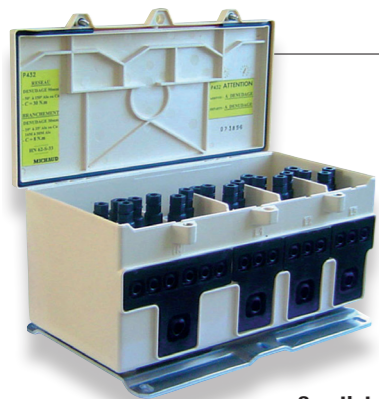
These both connectors are fitted with a Yellow Shear Head Indicator that:

- Disappears when head is sheared-off, being easy visual confirmation of good tightening for eventual Regulator inspection from ground level.
- Increases head height up to 10mm.

Accessories

SEE SHEET
Tools & accessories / LV insulated toolings

Multitap aerial connection box



3 outlets



7 outlets

MICHAUD

Application

The box with 3 outlets makes it possible to establish up to 6 single phase connections or up to 3 three phase connections at one point of the low voltage aerial bundled network.

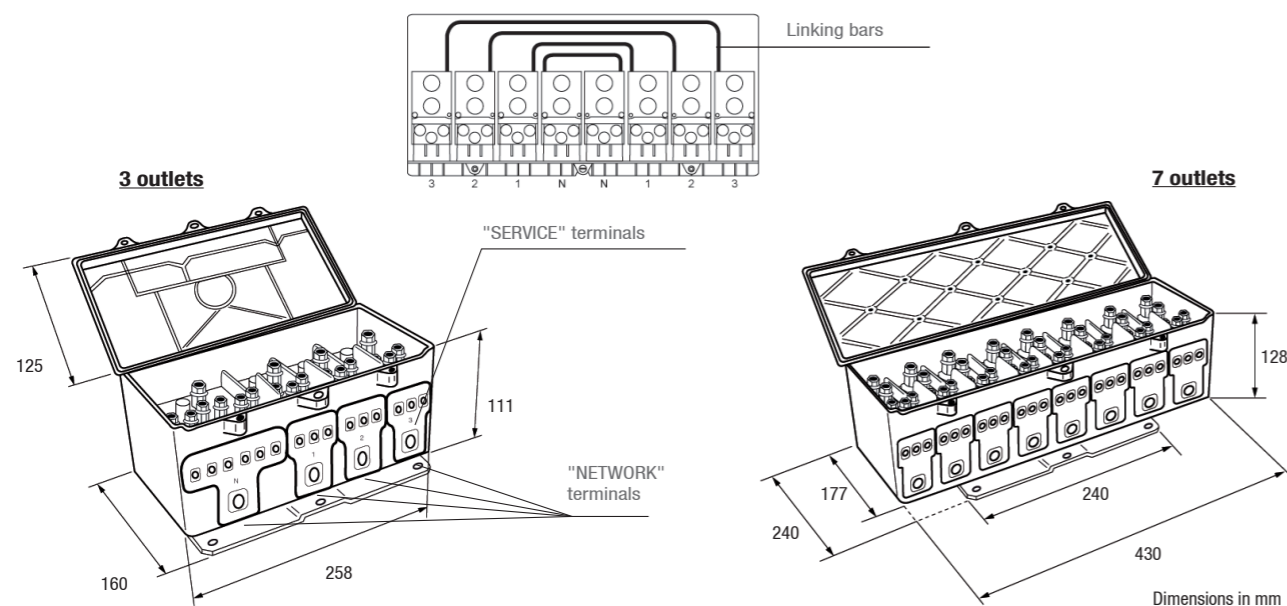
The box with 7 outlets makes it possible to establish the junction of 2 overhead networks and the tap contact of 6 single phase or three phase connections maximum.

These boxes can be installed on a façade or a pole.

They can also be used at the network end.

Description

- The colour of the enclosure is ivory.
- The box with 3 outlets is equipped with 4 connection blocks (1 neutral + 3 phases). The "neutral block" consists of one inlet and 6 outlets: each "phase box" consists of one inlet and 3 outlets.
- The box with 7 outlets is equipped with 8 connection blocks.
- The network terminals use insulation piercing technology, and the service terminals use stripping technology. The connection blocks are linked 2 by 2 by linking bars.
- Each connection block is accessible with the contact pin of a test probe.
- The inlet and outlet of the conductors in the lower part are performed by elastomer sealed tulip-shaped sockets.
- The box is delivered with an aluminium alloy integral fixing plate, which is resistant to corrosion. The rigidity of this plate allows it to be installed on uneven surfaces.
- The cover is closed using 2 stainless steel screws.
- An integrated device enables the assembly to be sealed and possibly padlocked.
- The terminal separators inside the box enable the conductors to be connected in any order.
- The degree of protection of the enclosure is IP43 (according to **NF EN 60529**).
- When the cover is open, the degree of protection of the live parts is IP2X.
- These boxes meet the criteria of **HN 62-S-33**.



Capacity of connection terminals

Code P 430

- **"NETWORK" terminals = Insulation piercing:**
Capacity: 35mm² - 150mm² Al or Cu
- **"SERVICE" terminals = Insulation piercing:**
Capacity: 10mm² - 35mm² Al or Cu
16M - 50M Al

Code P 432

- **"NETWORK" terminals = Stripping:**
Capacity: 35mm² - 150mm² Al or Cu
- **"SERVICE" terminals = Stripping:**
Capacity: 6mm² - 35mm² Al or Cu
16M - 50M Al

Code P 435

- **"NETWORK" terminals = Insulation piercing:**
Capacity: 50mm² - 150mm² Al or Cu
- **"SERVICE" terminals = Stripping:**
Capacity: 10mm² - 35mm² Al or Cu
16M - 50M Al

- The maximum flow power in the connection box is 110kVA.

- The maximum flow power is 160kVA.

Connection implementation

Caution: the connection is not designed to withstand a mechanical strength on the conductors, which must be anchored.

Code P 430

- **"NETWORK" terminals:**
 - Insert each conductor fully through the corresponding sealed tulip-shaped socket up to the stop.
 - Tighten the screw until the shear head breaks.

Code P 432

- **"NETWORK" terminals:**
 - Strip each conductor over a length of 90mm.
 - Brush it with neutral grease.
 - Insert it fully through the corresponding sealed tulip-shaped socket up to the stop.
 - Tighten the terminal screw until the shear head breaks.

Code P 435

- **"NETWORK" TERMINALS:**
 - Connection can be establish on a live line but with no load.
 - Remove the seal caps on the sealed tulip-shaped socket to perform the connection.
 - Insert each conductor fully through the corresponding sealed tulip-shaped socket.
 - Check its correct position through the transparent protection.
 - In order to have good contact, the breaking torque of the head is important. A suitable spanner must be used with a sufficient lever arm.
 - Do not use the 12-pin socket.

- **"SERVICE" terminals:**
 - Insert each conductor fully through the sealed tulip-shaped socket up to the stop.
 - Tighten the terminal screw until the shear head breaks.

- **"SERVICE" terminals:**
 - Strip the conductor to be connected over a length of 30mm.
 - Brush it with neutral grease.
 - Insert it fully through the sealed tulip-shaped socket up to the stop.
 - Tighten the terminal screw until the shear head breaks.

- **"SERVICE" TERMINALS:**
 - Strip the conductor to be connected over a length of 30mm.
 - Brush it with neutral grease.
 - Insert it fully through the sealed tulip-shaped socket up to the stop. Check its correct position through the transparent protection.
 - Tighten the terminal screw until the shear head breaks.
 - Do not use the 12-pin socket.
 - If reused, the conductor must be cut and stripped again. The recommended torque is 10Nm.
 - Implementation can be carried out on a live line but the load on the connected conductor must not exceed 60A.

References

Code	Designation	Weight (kg)	Sales unit
P 430	INSULATION PIERCING AERIAL CONNECTION BOX 3 OUTLETS	2.880	1
P 432	STRIPPING AERIAL CONNECTION BOX 3 OUTLETS	2.776	1
P 435	STRIPPING AERIAL CONNECTION BOX 7 OUTLETS	6.092	1

Network insulation piercing connector



K 355



K 356



K 381



K 366



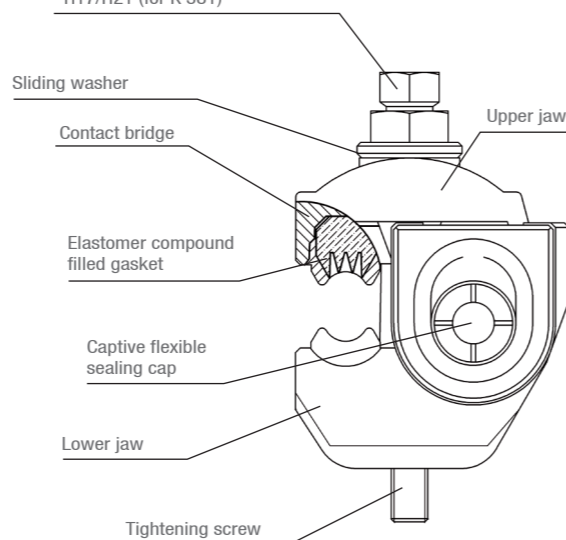
K 365

MICHAUD

Application

This connector is used to establish the tap connection from a low voltage A.B.C. (Aerial Bundled Conductors) network to another network of the same type.

Hexagonal shear head breaks at tightening torque:
- H13/H17 (for K 354 - K 355 - K 356),
- H17/H17 (for K 365 - K 366 - K 445 - K 446),
- H17/H21 (for K 381)



Description

Connector end cap:

- The connector end cap is flexible so that to feel good tap conductor insertion simply by hand.
- It is carrying membranes instead of grease, granting watertightness around tap conductor end on long terms basis.
- It is glued on connector body so that to avoid eventual loss during handling, installation and environment (wind, wild life...).
- It can be equipped with a hard end cap, gripping and covering so, in case rigid cover is required. (Part Number K 245: please enquire for further information).

Connector general features:

- Insulation piercing is carried out on the main and tap conductors simultaneously.
- The dielectric strength in water is greater than 6kV.
- The tightening screws are potential free.
- Tightening efficiency is ensured by shear head screws.
- This connector meets the criteria of **NF C 33-020** and **EN 50-483**.

Implementation

- Insert the insulated tap conductor into the connector so that its end seats in the flexible end cap. (Note: connector K 381 is delivered without a cap).
- Use a 17mm spanner (13mm for connectors K 354, K 355 and K 356) and tighten the connector on the insulated conductor of the bundle until the shear head breaks.
- The 17mm permanent screw head (21mm for connector K 381) is only provided for possible dismantling, and must not be used to re-tighten the screw after the first head has broken.
- Implementation can be carried out on a live line but with no load on the tap conductor.

References

- Zinc-plated Steel Fasteners (ZF):

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm)	Capacities Tap insulated Al-Cu (mm)	Weight (kg)	Sales unit
K 365	CONNECTOR CDRS/CT 95-95 ZF	Aluminium	25 - 95	25 - 95	0.235	20
K 355	CONNECTOR CDRS/CT 150-95 ZF	Tinned brass	25 - 150	25 - 95	0.204	20
K 366	CONNECTOR CDRS/CT AL 150-150 ZF	Aluminium	50 - 150	50 - 150	0.576	1
K 356	CONNECTOR CDRS/CT 150-150 ZF	Tinned brass	35 - 150	35 - 150	0.404	20
K 381	CONNECTOR CDRS/CT 240-240 ZF (without cap)	Tinned copper	50 - 240	50 - 240	0.820	1

Notes: - Connector K 356 is manufactured to order; please contact us.
- The cap to be used with the K 381 is the K 247.

- Stainless Steel Fasteners (SF):

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm)	Capacities Tap insulated Al-Cu (mm)	Weight (kg)	Sales unit
K 445	CONNECTOR CDRS/CT 95-95 SF	Aluminium	25 - 95	25 - 95	0.229	20
K 354	CONNECTOR CDRS/CT 150-95 SF	Aluminium	50 - 150	35 - 95	0.204	8
K 446	CONNECTOR CDRS/CT 150-150 SF	Aluminium	50 - 150	50 - 150	0.557	8

These 3 connectors are fitted with a Yellow Shear Head Indicator that:

- Disappears when head is sheared-off, being easy visual confirmation of good tightening for eventual Regulator inspection from ground level.
- Increases head height up to 10mm.



K 445



K 354



K 446

Accessories

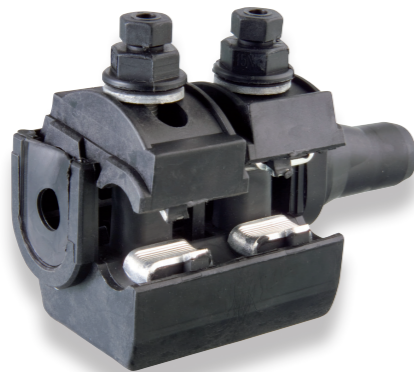
SEE SHEET
LV end fitting / End cap

SEE SHEET
Tools & accessories / LV insulated toolings

Bare conductor network connector



K 254



K 257



K 472 - K 473



K 474 - K 475

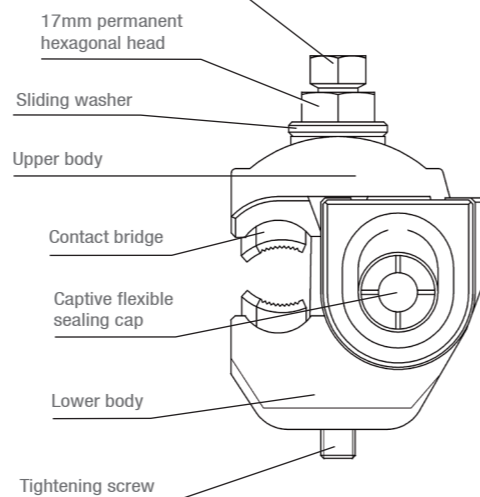
MICHAUD

Application

This connector is used to connect a low voltage A.B.C. (Aerial Bundled Conductors) network to another low voltage aluminium alloy or copper bare conductors network.

The section of the bare conductors is from 7 to 240mm² depending on the model. The section of the insulated cables is from 25 to 150mm² depending on the model.

13mm hexagonal shear head breaks at tightening torque (or 17mm for K 472 to K 475 and with Yellow Shear Head Indicator)



Description

Connector end cap:

- The connector end cap is flexible so that to feel good tap conductor insertion simply by hand.
- It is carrying membranes instead of grease, granting watertightness around tap conductor end on long terms basis.
- It is glued on connector body so that to avoid eventual loss during handling, installation and environment (wind, wild life...).
- It can be equipped with a hard end cap, gripping and covering so, in case rigid cover is required. (Part Number K 245: please enquire for further information).

Connector general features:

- The tightening screws are potential free.
- Tightening efficiency is ensured by a shear head screw.
- Connection on the tap conductors is established using insulation piercing technology.
- This connector meets the criteria of **NF C 33-020** and **EN 50-483**.

Implementation

- Insert the insulated tap conductor into the connector so that its end seats in the flexible end cap.
- Use a 13mm spanner for K 254 - K 257 or 17mm for K 472 to K 475. Tighten the connector on to the bare conductor until the shear head breaks.
- The 17mm hexagonal screw head is only provided for possible dismantling, and must not be used to re-tighten the screw after the first head has broken.
- Implementation can be carried out on a live line but with no load on the tap conductor.

References

- Zinc-plated Steel Fasteners (ZF):

Code	Designation	Contact bridge	Capacities Main bare Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 254	CONNECTOR CDRSp/CN 120-70 ZF	Tinned brass	7 - 120	25 - 70	0.210	20
K 257	CONNECTOR CDRSp/CN 120-150 ZF	Tinned brass	7 - 120	25 - 150	0.410	10

These connectors can be connected to copper or aluminium alloy bare conductors.

- Stainless Steel Fasteners (SF):

Code	Designation	Contact bridge	Capacities Main bare (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 472	CONNECTOR RDP/CNU 120-95 SF	Copper Alloy	Cu 7-120	25-95	0.267	20
K 473	CONNECTOR RDP/CNA 120-95 SF	Aluminium Alloy	Al 7-120	25-95	0.232	20
K 474	CONNECTOR RDP/CNU 240-150 SF	Copper Alloy	Cu 50-240	35-150	0.644	8
K 475	CONNECTOR RDP/CNA 240-150 SF	Aluminium Alloy	Al 50-240	35-150	0.552	8

These 4 connectors are fitted with a Yellow Shear Head Indicator that:

- Disappears when head is sheared-off, being easy visual confirmation of good tightening for eventual Regulator inspection from ground level.
- Increases head height up to 10mm.

Accessories

SEE SHEET
Tools & accessories / LV insulated toolings

Network connector with dismountable tap contact

MICHAUD

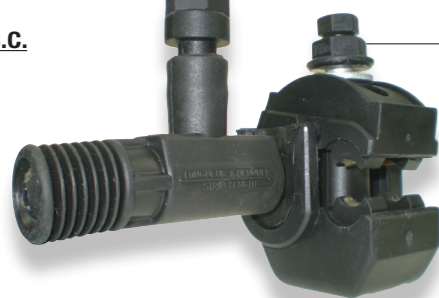
Application

This connector is used to establish the tap connection from a low voltage A.B.C. (Aerial Bundled Conductors) to another network of the same type or to a low voltage aluminium alloy or copper bare conductors network.

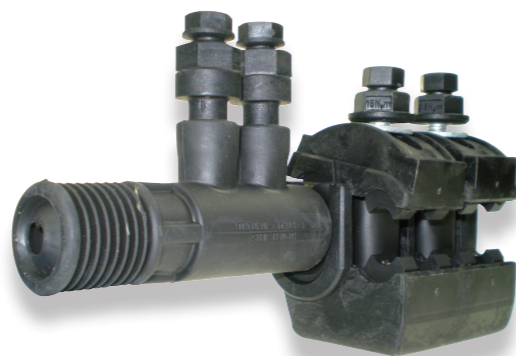
In main line, the section of the insulated conductors is from 25 to 150mm² depending on the model, and is from 7 to 120mm² on bare conductors.

In tap line, the section of the insulated conductors is from 25 to 70mm² and from 35 to 150mm² depending on the model.

ON A.B.C.

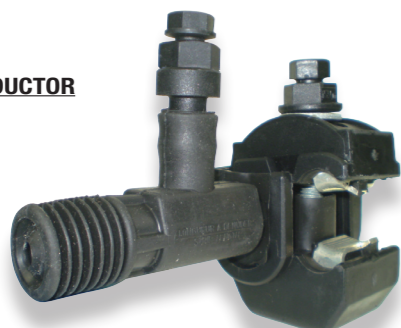


K 341 - K 342

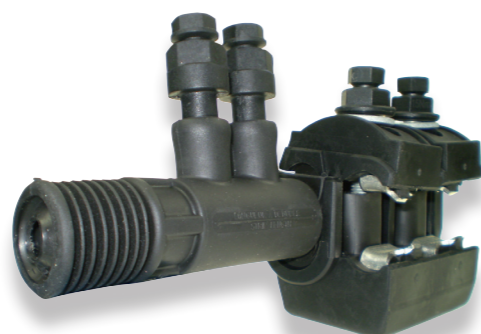


K 343

ON BARE CONDUCTOR



K 376 - K 378

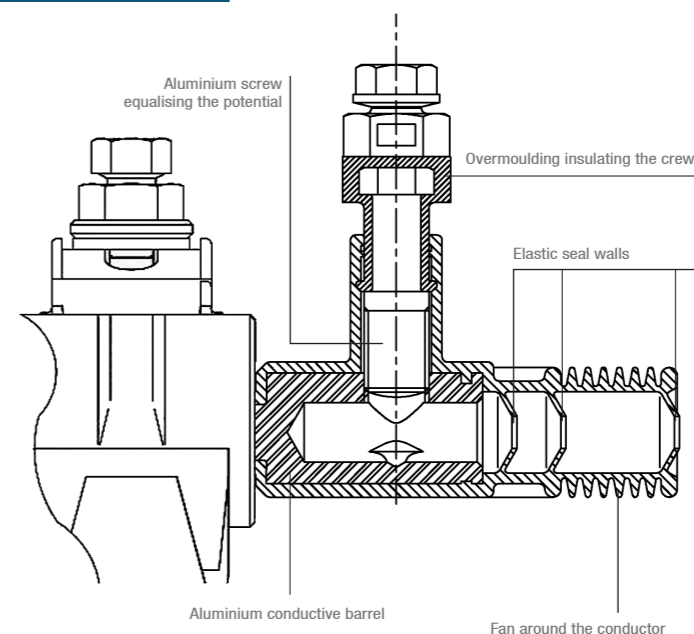


K 377 - K 379

Description

- For the connection of the tap and for the connectors for insulated conductors, the dielectric strength in water is greater than 6kV.
- All of the tightening screws are potential free.
- Tightening efficiency is ensured by shear head screws.
- Connection on the main conductor is established with 1 or 2 shear head screws, depending on the model. This connection can be dismantled but not reused.
- Connection on the tap conductor is established after stripping its end with 1 or 2 shear head screw(s), depending on the model. It can be dismantled and reused.
- This connector meets the criteria of **NF C 33-020** and **EN 50-483**.

Details of the tap contact



Implementation

- Place the connector on the main conductor and tighten using a 13mm spanner until the shear head breaks.
- The 17mm permanent screw head is only provided for possible dismantling, and must not be used to re-tighten the screw after the first head has broken.
- Strip the tap conductor over the recommended length, insert it fully into the bore after brushing it with neutral grease.
- Tighten using a 13mm spanner until the shear head breaks (double screw on K 377, K 379 and K 343).
- If dismantling and reassembling the tap, tighten the screw(s) using a 17mm spanner to the torque indicated on the head: 15Nm.
- Implementation can be carried out on a live line but the load on the tap conductor must not exceed 60A.

References

- Zinc-plated Steel Fasteners (ZF):

Code	Designation	Capacities insulated Al-Cu (mm ²)		Weight (kg)	Sales unit
		Main	Tap		
ON A.B.C.					
K 341	CONNECTOR CDR/CT 2S 70-70 ZF	25-150	25-70	0.261	10
K 342	CONNECTOR CDR/CT 2S 150-70 ZF	25-150	25-70	0.261	10
K 343	CONNECTOR CDR/CT 2S 150-150 ZF	35-150	35-150	0.520	10
ON BARE CONDUCTOR					
K 376	CONNECTOR CDR/CNA 2S 70 ZF	7-120	25-70	0.283	10
K 377	CONNECTOR CDR/CNA 2S 150 ZF	7-120	35-150	0.530	10
K 378	CONNECTOR CDR/CNU 2S 70 ZF	7-120	25-70	0.283	10
K 379	CONNECTOR CDR/CNU 2S 150 ZF	7-120	35-150	0.530	10

Street light insulation piercing connector

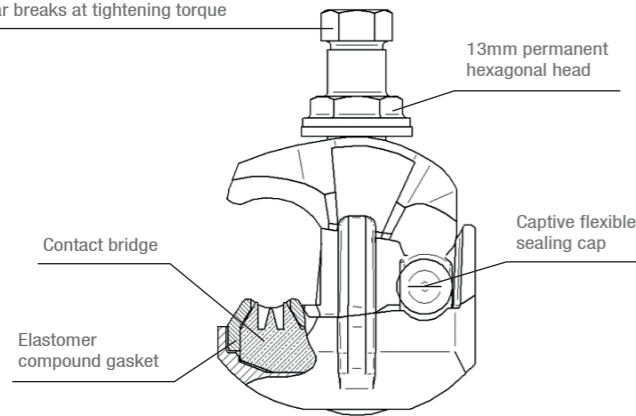


MICHAUD

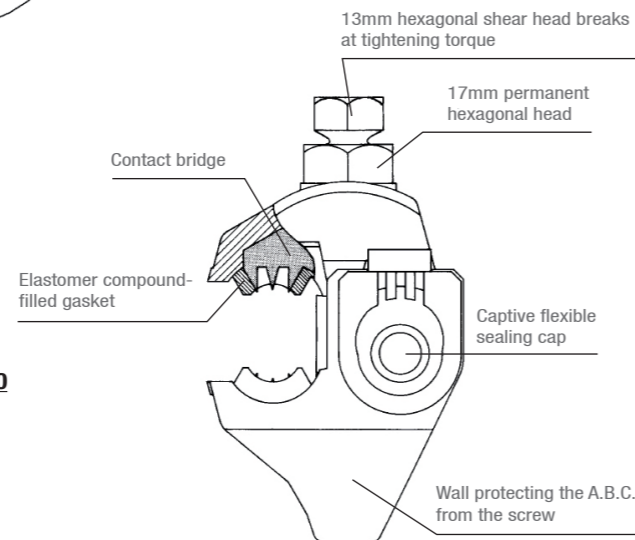
Application

This connector is used for connecting the street light insulated conductors to the low voltage A.B.C. (Aerial Bundled Conductors).

10mm (K 326) or 13mm (K 439) hexagonal shear breaks at tightening torque



K 440



Description

- Insulation piercing is carried out on the main and tap conductors simultaneously in a single tightening operation.
- The dielectric strength in water is greater than 6kV.
- The tightening screw is potential free.
- Tightening efficiency is ensured by a shear head screw.
- The connector end cap is flexible so that to feel good tap conductor insertion simply by hand. It is glued on connector body or interdependent on watertightness, so that to avoid eventual loss during handling, installation and environment (wind, wild life...).
- This connector meets the criteria of **NF C 33-020** and **EN 50-483**.

Implementation

- Insert the insulated service conductor into the connector such that its end seats in the flexible end cap.
- Use a 10mm spanner (for the K 326) or a 13mm spanner (for the K 439 and K 440) and tighten the connector on the insulated main conductor of the bundle until the shear head breaks.
- The 13mm (for the K 326 and K 439) or 17mm (for the K 440) permanent screw head is only provided for possible dismantling, and must not be used to re-tighten the screw after the shear head has broken.
- Implementation can be carried out on a live line but with no load on the tap conductor.

References

- Zinc-plated Steel Fasteners (ZF):

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 326	CONNECTOR CES/CT 70 ZF	Tinned brass	16 - 70	1.5 - 6	0.068	12
K 439	CONNECTOR CES/CT 95 ZF	Tinned brass	10 - 95	1.5 - 6	0.061	50

- Stainless Steel Fasteners (SF):

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 440	CONNECTOR CES/CT 95 SF	Tinned brass	10 - 95	1.5 - 6	0.114	20

This connector is fitted with a Yellow Shear Head Indicator that:

- Disappears when head is sheared-off, being easy visual confirmation of good tightening for eventual Regulator inspection from ground level.
- Increases head height up to 10mm.

Accessories

SEE SHEET
Tools & accessories / LV insulated toolings

Street light set and cold shrink end cap



K 416

MICHAUD

Application

This street light set has been designed to interconnect a network with a street light installation inside a lighting column.

Description

- This set comprises:
 - * 4 mechanical sleeves,
 - * 1 protective cover.
- The mechanical sleeves are made of brass and accept up to 3 conductors of 10mm². The conductor(s) must be stripped over 17mm before implementation. Tightening is ensured by two 4mm hollow hexagonal screws. Each sleeve is covered with a hard transparent synthetic material enclosure providing good protection during and after implementation. The sleeves have a degree of protection of IP2X.
- The protective cover is made of impermeable synthetic materials. It is equipped with a watertight inlet seal on the upper part avoiding water penetration on the connector, and a cable tie on the lower part enabling the enclosure to perfectly fit network cables.

Implementation

- 1 Insert the cable from the lighting column through the seal entrance.
- 2 Slide the enclosure upwards.
- 3 Implement the connectors.
- 4 Slide the enclosure down over the connectors.
- 5 Tighten the cable tie around the network cables.

Reference

Code	Designation	Weight (kg)	Sales unit
K 416	STREET LIGHT SET	0.350	10



P 414

MICHAUD

Application

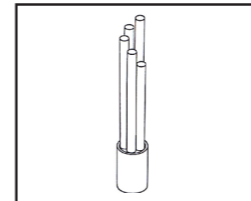
This end cap is designed to ensure street light conductor insulation when fitted at its end. It is mainly used on the bottom of lighting column.

Description

- The end cap is implemented without the flame thanks to cold shrink technology.
- Depending on the model, it is made of an end cap with 4 or 5 movable guides designed for correct conductors insertion.
- The material used is designed to ensure good UV resistance.
- Conductor capacity is 6-16mm² according to the standard **NF C 32-321**.
- This product meets the criteria of **HN 68-S-24**.

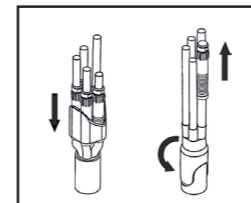
End implementation

1/



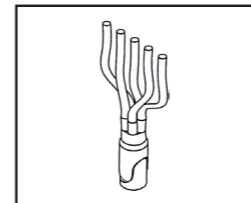
- Remove the sheath of the cable over the required length.
- Cut the conductors in a stair shape to facilitate assembly.

2/



- Place the conductors from the longest to the shortest in the open guides.
- Fully insert the end cap.
- Turn over the end cap using the tabs.
- Remove the guides.

3/



- Shape and cut the conductors to the required length.

References

Code	Designation	Weight (kg)	Sales unit
P 414	STREET LIGHT END CAP EE4TF 6-16	0.012	10
P 419	STREET LIGHT END CAP EE5TF 6-16	0.013	10

Preinsulated sleeve E140



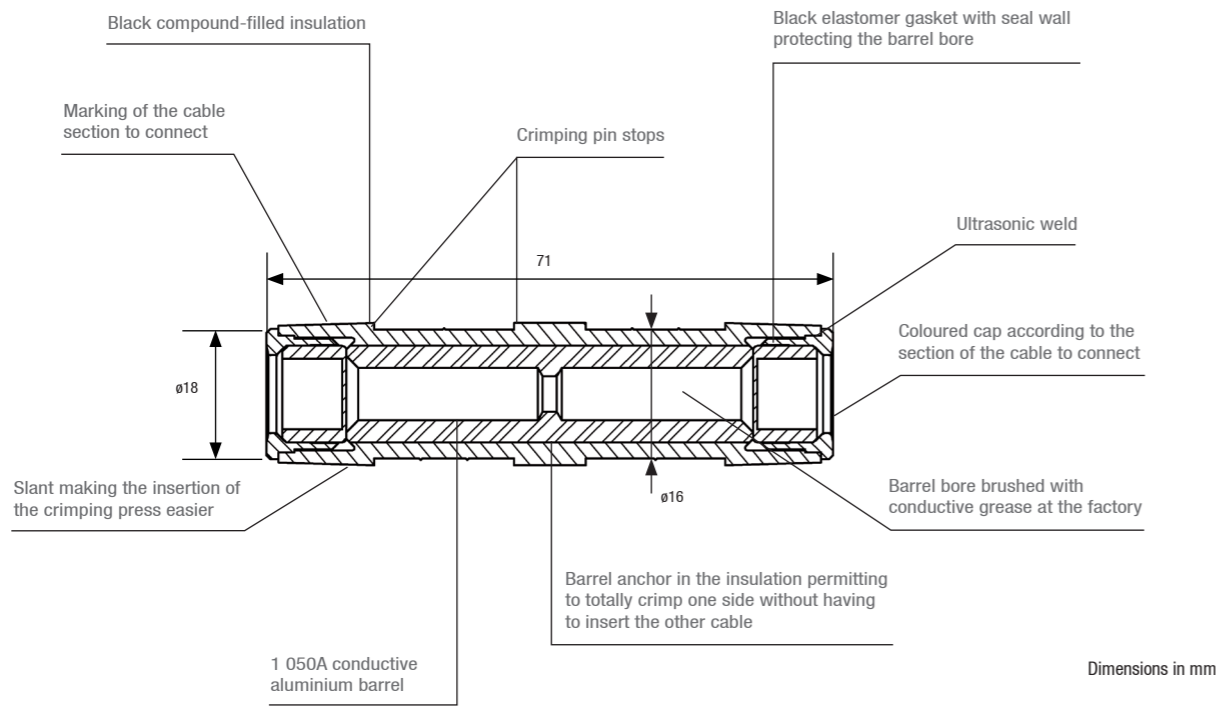
MJPB sleeve

MICHAUD

Application

These preinsulated sleeves are used for the connection of copper or aluminium stranded core overhead insulated conductors with traction or with no mechanical load. They are used for the installation, repair or modification of low voltage service lines. The section of the cables ranges from 6 up to 35mm².

Description



- These preinsulated sleeves meet the requirements of the **NF C 33-021** and **EN 50-483** standards.

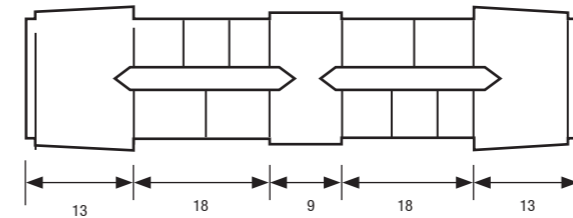
Implementation

Preparation of the conductors to be connected:

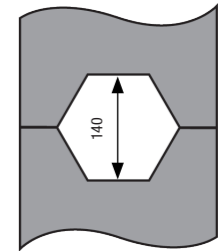
- Cut the cables using a device that does not scratch the core.
- Strip the conductors over a length of 23mm.
- Brush the conductors to be connected using neutral grease to remove the oxide film. Do not wipe the conductors cleaned in this way.
- Insert the conductors fully into the sleeve bores.

Crimping:

- Use a tool equipped with an E140 hexagonal crimping die (14mm).
- Crimp in the indicated area starting from the centre and working towards the end of the sleeve.
- Both conductors do not need to be inserted before crimping. You can insert one, crimp it, insert the second one and crimp it.



Dimensions in mm



References

Code	Designation	Leading-in cable section (mm ²)	Leading-in colour	Output cable section (mm ²)	Output colour	Weight (kg)	Sales unit
K 030	PREINSULATED SLEEVE (E140) MJPB 6	6	BROWN	6	BROWN	0.029	10
K 031	PREINSULATED SLEEVE (E140) MJPB 10-6	10	GREEN	6	BROWN	0.029	10
K 032	PREINSULATED SLEEVE (E140) MJPB 16-6	16	BLUE	6	BROWN	0.028	10
K 033	PREINSULATED SLEEVE (E140) MJPB 25-6	25	ORANGE	6	BROWN	0.027	10
K 035	PREINSULATED SLEEVE (E140) MJPB 10	10	GREEN	10	GREEN	0.028	10
K 036	PREINSULATED SLEEVE (E140) MJPB 16-10	16	BLUE	10	GREEN	0.027	10
K 037	PREINSULATED SLEEVE (E140) MJPB 25-10	25	ORANGE	10	GREEN	0.027	10
K 039	PREINSULATED SLEEVE (E140) MJPB 16	16	BLUE	16	BLUE	0.027	10
K 040	PREINSULATED SLEEVE (E140) MJPB 25-16	25	ORANGE	16	BLUE	0.026	10
K 053	PREINSULATED SLEEVE (E140) MJPB 35-16	35	RED	16	BLUE	0.024	10
K 042	PREINSULATED SLEEVE (E140) MJPB 25	25	ORANGE	25	ORANGE	0.025	10
K 054	PREINSULATED SLEEVE (E140) MJPB 35-25	35	RED	25	ORANGE	0.024	10
K 055	PREINSULATED SLEEVE (E140) MJPB 35	35	RED	35	RED	0.023	10

Accessories

SEE SHEET
Tools & accessories / Hydraulic crimping tool

Preinsulated sleeve E173



Phase MJPT sleeve



Neutral MJPT sleeve

MICHAUD

Application

These preinsulated sleeves are used for the connection of insulated conductors of a low voltage overhead network to other ones.

The junction can be established between two conductors of equal or unequal sections. All combinations of sections are possible.

The neutral conductor is dimensioned to withstand tensile strength greater than 1 600daN for the 54mm² section and greater than 2 000daN for the 70mm² section. The section of the cables ranges from 16mm² to 95mm².

Description

PHASE SLEEVE

Elastomer gasket with seal wall protecting the barrel bore

1050A conductive aluminium barrel

Coloured cap locating the conductor section to connect

104

ø22

ø20

Black compound-filled insulation

Barrel anchor in the insulation permitting to totally crimp one side without having to insert the other cable

Barrel bore brushed with conductive grease at the factory

NEUTRAL SLEEVE

Conductive barrel in aluminium alloy

166

ø22

ø20

Insulation-barrel jointing anchorages

Discontinuity pin stop

Stuffing box collar in soft aluminium

- These preinsulated sleeves meet the requirements of the **NF C 33-021** and **EN 50-483** standards.

Dimensions in mm

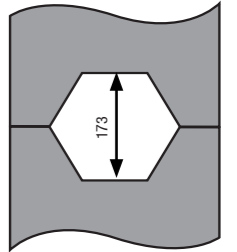
Implementation

Preparation of the conductor to be connected:

- Cut the cable using a device that does not scratch the core.
- Strip the conductors over the length indicated on the sleeve.
- Brush the conductors to be connected using neutral grease to remove the oxide film. Do not wipe the conductors cleaned in this way.
- Insert the conductors fully into the sleeve bores.

Crimping:

- Use a tool equipped with an E173 hexagonal crimping die (17.3mm).
- Crimp in the indicated area starting from the centre and working towards the end of the sleeve.
- Both conductors do not need to be inserted before the crimping operation. You can insert one, crimp it, insert the second one and crimp it.



References

PHASE SLEEVES

Code	Designation	Leading-in cable section insulated Al-Cu (mm ²)	Leading-in colour	Output cable section insulated Al-Cu (mm ²)	Output colour	Weight (kg)	Sales unit
K 101	PREINSULATED SLEEVE (E173) MJPT 16	16	BLUE	16	BLUE	0.064	10
K 103	PREINSULATED SLEEVE (E173) MJPT 25	25	ORANGE	25	ORANGE	0.062	10
K 106	PREINSULATED SLEEVE (E173) MJPT 35	35	RED	35	RED	0.059	10
K 108	PREINSULATED SLEEVE (E173) MJPT 50-25	50	YELLOW	25	ORANGE	0.058	10
K 109	PREINSULATED SLEEVE (E173) MJPT 50-35	50	YELLOW	35	RED	0.057	10
K 110	PREINSULATED SLEEVE (E173) MJPT 50	50	YELLOW	50	YELLOW	0.055	10
K 114	PREINSULATED SLEEVE (E173) MJPT 54-50	54	BLACK	50	YELLOW	0.044	10
K 118	PREINSULATED SLEEVE (E173) MJPT 70-35	70	WHITE	35	RED	0.054	10
K 119	PREINSULATED SLEEVE (E173) MJPT 70-50	70	WHITE	50	YELLOW	0.054	10
K 121	PREINSULATED SLEEVE (E173) MJPT 70	70	WHITE	70	WHITE	0.050	10
K 122	PREINSULATED SLEEVE (E173) MJPT 95-70	95	GREY	70	WHITE	0.048	10
K 123	PREINSULATED SLEEVE (E173) MJPT 95	95	GREY	95	GREY	0.046	10

NEUTRAL SLEEVES (Full traction)

Code	Designation	Leading-in cable section insulated Al-Cu (mm ²)	Leading-in colour	Output cable section insulated Al-Cu (mm ²)	Output colour	Weight (kg)	Sales unit
K 115	PREINSULATED SLEEVE (E173) NEUTRAL MJPT 54	54.6N	BLACK	54.6N	BLACK	0.084	10
K 117	PREINSULATED SLEEVE (E173) NEUTRAL MJPT 70-54	70N	WHITE	54.6N	BLACK	0.082	10
K 116	PREINSULATED SLEEVE (E173) NEUTRAL MJPT 70	70N	WHITE	70N	WHITE	0.081	10

Variations

Set comprising 3 phase sleeves and 1 neutral sleeve:

Code	Designation	A.B.C. to connect	Weight (kg)	Sales unit
K 503	SET OF SLEEVES (E173) EJPT 35-54.6	3x35 + 54.6N on 3x35 + 54.6N	0.265	1
K 504	SET OF SLEEVES (E173) EJPT 50-54.6	3x50 + 54.6N on 3x50 + 54.6N	0.257	1
K 506	SET OF SLEEVES (E173) EJPT 70-35-54.6	3x70 + 54.6N on 3x35 + 54.6N	0.252	1
K 505	SET OF SLEEVES (E173) EJPT 70-54.6	3x70 + 54.6N on 3x70 + 54.6N	0.240	1
K 507	SET OF SLEEVES (E173) EJPT 70-50/54.6	3x70 + 54.6N on 3x50 + 54.6N	0.252	1
K 700	SET OF SLEEVES (E173) EJPT 70/70-54.6	3x70 + 70N on 3x70 + 54.6N	0.239	1
K 701	SET OF SLEEVES (E173) EJPT 70-70	3x70 + 70N on 3x70 + 70N	0.239	1
K 699	SET OF SLEEVES (E173) EJPT 70-50/70-54.6	3x70 + 70N on 3x50 + 54.6N	0.255	1

Accessories



SEE SHEET

Tools & accessories / Hydraulic crimping tool

Preinsulated sleeve E215



Phase MJPT sleeve



Neutral MJPT sleeve

MICHAUD

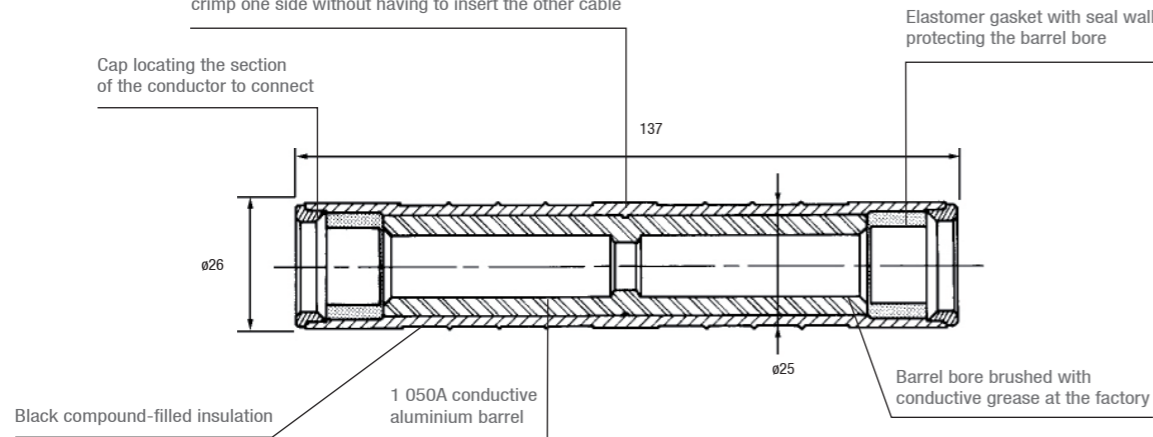
Application

These preinsulated sleeves are used for the connection of low voltage overhead insulated conductors to other ones. The junction can be established between two conductors of equal or unequal sections. All combinations of sections are possible. The section of the cables ranges from 95mm² to 150mm². The neutral conductor is dimensioned to withstand tensile strength greater than 1 530daN for the 95mm² and greater than 2 500daN for the 150mm² section.

Description

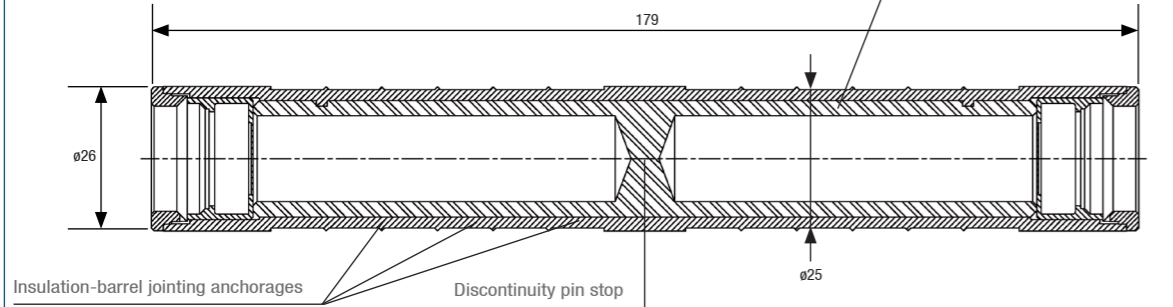
PHASE SLEEVE

Barrel anchor in the insulation permitting to totally crimp one side without having to insert the other cable



NEUTRAL SLEEVE

Conductive barrel in aluminium alloy



Dimensions en mm

- These preinsulated sleeves meet the requirements of the **NF C 33-021** and **EN 50-483** standards.

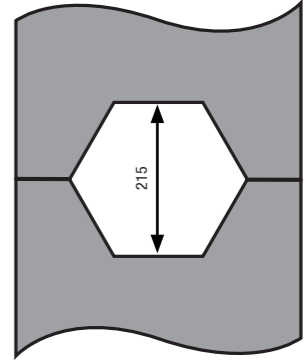
Implementation

Preparation of the conductor to be connected:

- Cut the cable using a device that does not scratch the core.
- Strip the conductor over the length indicated on the sleeve.
- Brush the conductor to be connected using neutral grease to remove the oxide film. Do not wipe the conductor cleaned in this way.
- Insert the conductor fully into the sleeve bore.

Crimping:

- Use a tool equipped with an E215 hexagonal crimping die (21.5mm).
- Crimp in the indicated area starting from the centre and working towards the end of the sleeve.
- Both conductors do not need to be inserted into the sleeve before the crimping operation. You can insert one, crimp it, insert the second one and crimp it.



References

PHASE SLEEVES

Code	Designation	Leading-in cable section insulated Al-Cu (mm ²)	Leading-in colour	Output cable section insulated Al-Cu (mm ²)	Output colour	Weight (kg)	Sales unit
K 170	PREINSULATED SLEEVE (E215) MJPT 95	95	GREY	95	GREY	0.103	10
K 188	PREINSULATED SLEEVE (E215) MJPT 120	120	ROSE	120	ROSE	0.090	10
K 174	PREINSULATED SLEEVE (E215) MJPT 150-70	150	VIOLET	70	IVORY	0.098	10
K 175	PREINSULATED SLEEVE (E215) MJPT 150	150	VIOLET	150	VIOLET	0.085	10
K 176	PREINSULATED SLEEVE (E215) MJPT 150-95	150	VIOLET	95	GRIS	0.093	10

NEUTRAL SLEEVES (Full traction)

Code	Designation	Leading-in cable section insulated Al-Cu (mm ²)	Leading-in colour	Output cable section insulated Al-Cu (mm ²)	Output colour	Weight (kg)	Sales unit
K 182	PREINSULATED SLEEVE (E215) NEUTRAL MJPT 95 FT	95	GREY	95	GREY	0.100	10
K 185	PREINSULATED SLEEVE (E215) NEUTRAL MJPT 150 FT	150	VIOLET	150	VIOLET	0.100	10

Variations

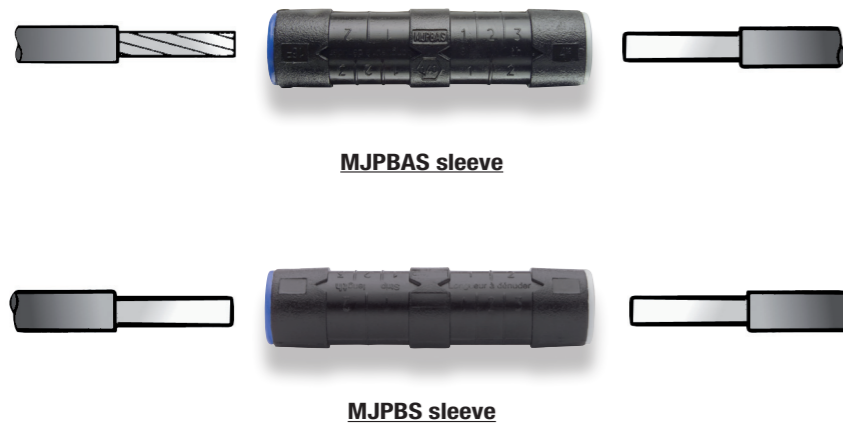
Set comprising 3 phase sleeves (E215 crimped) and 1 neutral sleeve (E173 crimped).

Code	Designation	A.B.C. to connect	Weight (kg)	Sales unit
K 509	SET OF SLEEVES (E215) EJPT 150-70/70-54.6	3x150 + 70N on 3x70 + 54.6N	0.382	1
K 702	SET OF SLEEVES (E215) EJPT 150-70/70-70	3x150 + 70N on 3x70 + 70N	0.380	1
K 510	SET OF SLEEVES (E215) EJPT 150-70/150-70	3x150 + 70N on 3x150 + 70N	0.353	1

Accessories

SEE SHEET
Tools & accessories / Hydraulic crimping tool

Preinsulated sleeve for aerial sub-surface connection E140



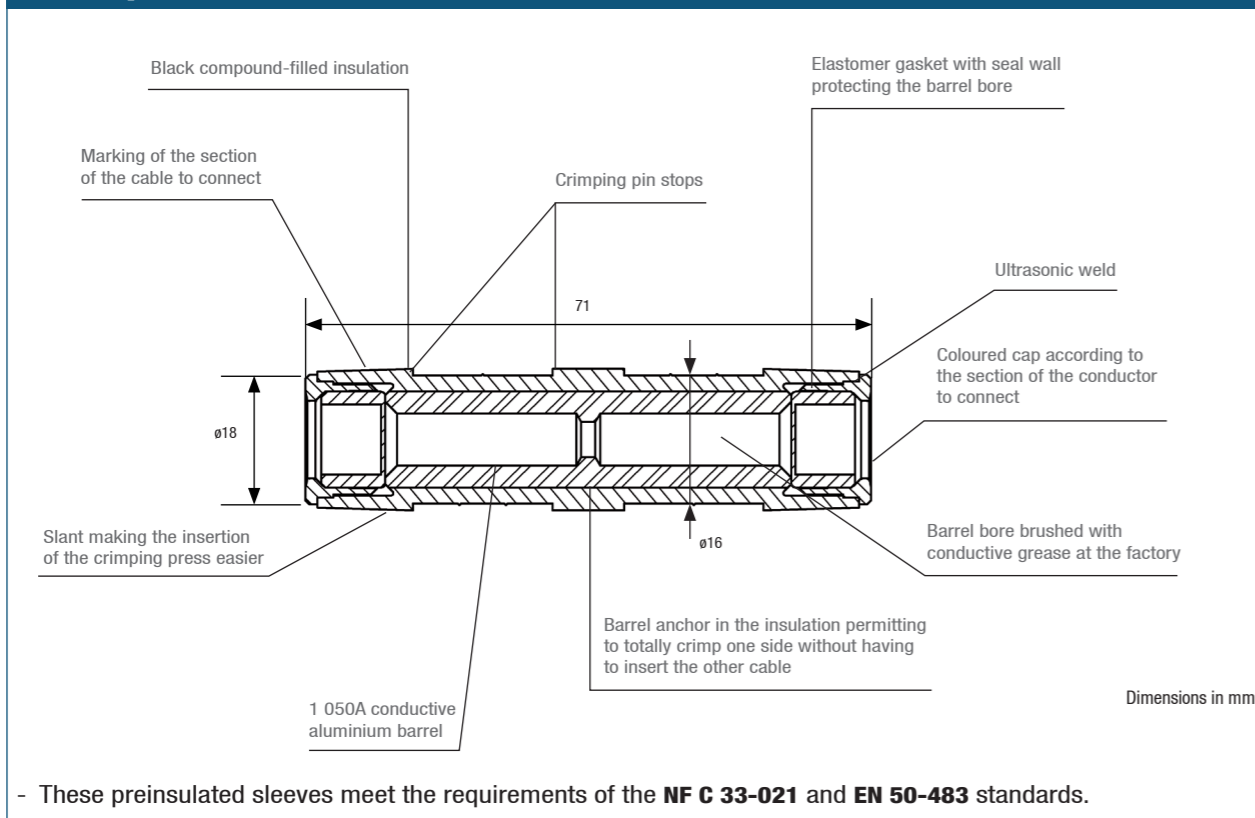
MICHAUD

Application

These preinsulated sleeves are used for the connection of stranded core aerial service cables (aluminium or copper) to aluminium solid core sub-surface service cables.

They are also used to connect aluminium solid core service cables to one another. Cable sections up to 25mm² can be connected on the stranded core side and up to 35mm² on the solid core side.

Description



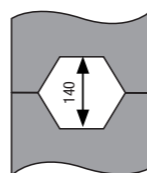
Implementation

Preparation of the conductors to be connected:

- Cut the cable using a device that does not scratch the core.
- Strip the conductors over a length of 23mm.
- Brush the conductors to be connected using neutral grease to remove the oxide film. Do not wipe the conductors cleaned in this way.
- Insert the conductors fully into the sleeve bores.

Crimping

- Use a tool equipped with an E140 hexagonal crimping die (14mm).
- Crimp in the indicated area starting from the centre and working towards the end of the sleeve.
- Both conductors do not need to be inserted before crimping. You can insert one, crimp it, insert the second one and crimp it.



References

AERIAL SUB-SURFACE SLEEVES (Connection of a stranded core cable with a solid core cable.)

Code	Designation	Aerial cable insulated Al-Cu section (mm ²)	Aerial colour	Subsurface cable insulated Al (mm ²)	Subsurface colour Cap	Gasket	Weight (kg)	Sales unit
K 068	PREINSULATED SLEEVE (E140) MJPBAS 10-25M	10	GREEN	25 M	GREY	ORANGE	0.027	10
K 069	PREINSULATED SLEEVE (E140) MJPBAS 10-35M	10	GREEN	35 M	GREY	RED	0.027	10
K 064	PREINSULATED SLEEVE (E140) MJPBAS 16-4M	16	BLUE	4 M	GREY	BLACK	0.028	10
K 065	PREINSULATED SLEEVE (E140) MJPBAS 16-6M	16	BLUE	6 M	GREY	BLACK	0.028	10
K 070	PREINSULATED SLEEVE (E140) MJPBAS 16-16M	16	BLUE	16 M	GREY	BLUE	0.028	10
K 078	PREINSULATED SLEEVE (E140) MJPBAS 16-25M	16	BLUE	25 M	GREY	ORANGE	0.027	10
K 079	PREINSULATED SLEEVE (E140) MJPBAS 16-35M	16	BLUE	35 M	GREY	RED	0.026	10
K 072	PREINSULATED SLEEVE (E140) MJPBAS 25-16M	25	ORANGE	16 M	GREY	BLUE	0.026	10
K 074	PREINSULATED SLEEVE (E140) MJPBAS 25-25M	25	ORANGE	25 M	GREY	ORANGE	0.026	10
K 076	PREINSULATED SLEEVE (E140) MJPBAS 25-35M	25	ORANGE	35 M	GREY	RED	0.026	10

SUB-SURFACE SLEEVES (Connection of two solid core cables to one another.)

Code	Designation	Leading-in cable section insulated Al (mm ²)	Output cable section insulated Al (mm ²)	Subsurface colour Cap	Gasket	Weight (kg)	Sales unit
K 085	PREINSULATED SLEEVE (E140) MJPBS 16M-35M	16 M	35 M	GREY	BLUE/RED	0.026	10
K 073	PREINSULATED SLEEVE (E140) MJPBS 25M-25M	25 M	25 M	GREY	ORANGE/ORANGE	0.028	10
K 086	PREINSULATED SLEEVE (E140) MJPBS 25M-35M	25 M	35 M	GREY	ORANGE/RED	0.027	10
K 075	PREINSULATED SLEEVE (E140) MJPBS 35M-35M	35 M	35 M	GREY	RED/RED	0.026	10

Variations

SLEEVES FOR NEUTRAL SCREEN UNDERGROUND SERVICE CABLES (HM-27/03/139).

They have a violet coloured cap on the copper side (21mm²).

AERIAL SUB-SURFACE SLEEVES

Code	Designation	Weight (kg)	Sales unit
K 080	PREINSULATED SLEEVE (E140) MJPBAS 16-21Cu	0.028	10
K 081	PREINSULATED SLEEVE (E140) MJPBAS 25-21Cu	0.028	10

Code	Designation	Weight (kg)	Sales unit
K 082	PREINSULATED SLEEVE (E140) MJPBS 16M-21Cu	0.028	10
K 083	PREINSULATED SLEEVE (E140) MJPBS 25M-21Cu	0.028	10
K 084	PREINSULATED SLEEVE (E140) MJPBS 35M-21Cu	0.028	10
K 087	PREINSULATED SLEEVE (E140) MJPBS 21Cu-21Cu	0.028	10

M means that the core of the conductor is solid.

Accessories

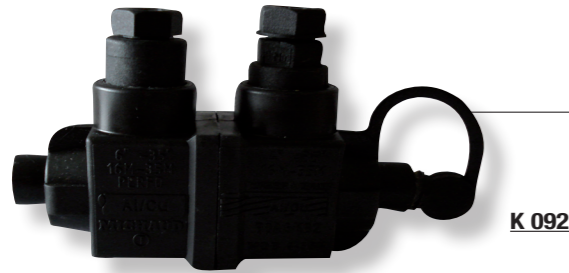


SEE SHEET

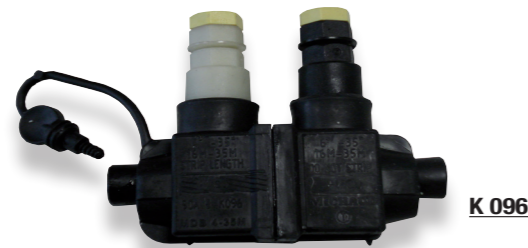
Tools & accessories / Hydraulic crimping tool

Service cable dismantlable sleeve and mains connection box

Service cable dismantlable sleeve



K 092



K 096

MICHAUD

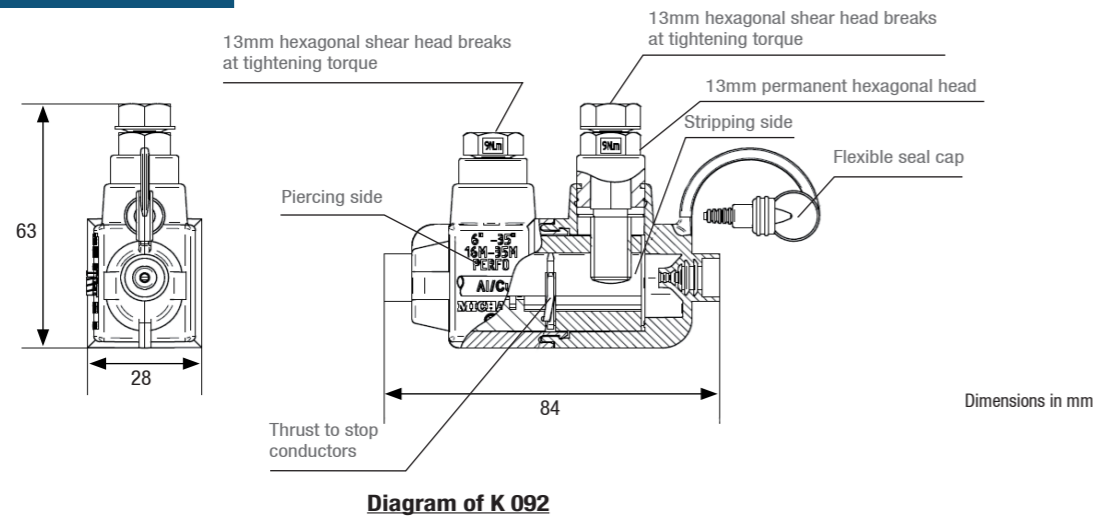
Application

These service cable dismantlable sleeves are used to establish the connection between the aerial service cable to the customer cable with Al or Cu conductors. These sleeves are used in no mechanical load situation.

Description

- This sleeve has a stripping terminal on the leading-out side and an insulation piercing on the leading-in side.
- The dielectric strength in water is greater than 6kV.
- A flexible seal cap maintains the watertightness and insulation level on the stripping terminal in "disconnected" position.
- The capacity of the terminals is 6-35mm²/16M-50M on the leading-in side and 4-35mm²/16M-50M on the leading-out side depending on the models.
- Implementation of stripping terminals can be performed under a maximum load of 90A. Disconnection can be performed on a live line but with no load.
- The sleeves can be assembled in a MCB (Mains Connection Box).
- The permanent hexagonal screw head on the "leading-out" side allows possible reuse. The permanent hexagonal screw head on the "leading-in" side, for the K 096, allows possible dismantling.
- These preinsulated sleeves meet the criteria of **HN 33-S-83**.

Dimensions



Implementation

On the "Piercing" side ("leading-in"):

- Cut the end of the conductor using a device that does not scratch the core. Do not strip the conductor.
- Insert the conductor fully into the sleeve.
- Use a 13mm spanner and tighten the connector on the insulated conductor until the shear head breaks.
- Implementation can be carried out on a live line, but with no load.

On the "Stripping" side ("leading-out"):

- Cut the end of the conductor using a device that does not scratch the core.
- Strip the conductor to be connected over the recommended length.
- After brushing it with neutral grease, insert it fully into the sleeve.
- Tighten using a 13mm spanner until the shear head breaks.
- **Disconnection:** it can be disconnected live but with no load.
- If the conductor is dismantled, the sleeve is insulated by inserting the flexible seal cap in the bore.
- **Reconnection:** cut the end of the conductor using a device that does not scratch the core. Strip it over the recommended length.
- If reassembling the conductor, tighten the screw to the torque indicated on the head: 8Nm, after cutting, stripping and brushing with neutral grease the end of the conductor again.
- It can be installed live. The load on the connected conductor must not exceed 90A.

References

Code	Designation	Capacities		Weight (kg)	Sales unit
		Leading-in	Leading-out		
K 092	DISMOUNTABLE SLEEVE PIERCING 6-50M / STRIPPING 6-50M	6 - 35mm ² 16M - 50M	6 - 35mm ² 16M - 50M	0.096	10
K 096	DISMOUNTABLE SLEEVE PIERCING 6-35 / STRIPPING 4-35	6-35	4-35	0.093	10

M means that the core of the conductor is solid.

Mains connection box for dismantlable sleeves



Single phase



Three phase

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Application

This box is installed on the façade of the customer building. It includes service cable dismantlable sleeves to connect the aerial service cable to the customer premise.

Description

- The boxes equipped with service cable dismantlable sleeves are available in single phase or three phase versions.
- The service cable dismantlable sleeves accept cable sections between 6 and 35mm² on the "leading-in" side and between 4 and 35mm² on the "leading-out" side.

References

Code	Designation	Weight (kg)	Sales unit
K 451	SINGLE PHASE MCB + 2 K096	0.380	1
K 455	THREE PHASE MCB + 4 K096	0.649	1

Network preinsulated sleeve with mechanical tightening



Type 240
(K 191, K 192, K 193)



Type 95
(K 189)

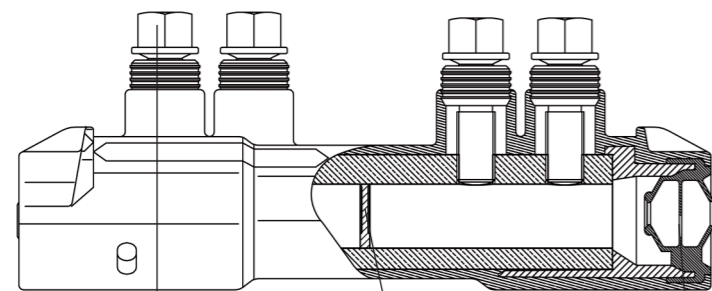
MICHAUD

Application

These sleeves can be used to connect aluminium or copper conductors. They do not need the sectoral cores to be rounded before and are implemented using a 13mm or 17mm spanner. Their electrical capacity is respectively 240mm² aluminium conductors (K 191, K 192), 150mm² aluminium or copper conductors (K 193) and 95mm² aluminium or copper conductors (K 189).

Description

- The dielectric strength in water is greater than 6kV.
- The materials are protected against UV and can be used outside.
- The 95 type preinsulated sleeve accepts round and sectoral sections in a single model.

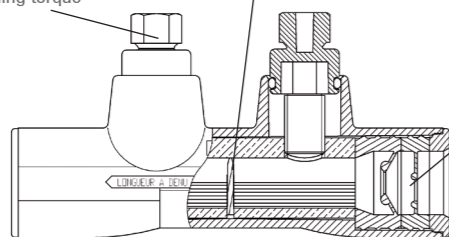


Type 240
(K 191, K 192, K 193)

13mm hexagonal shear head for type 95 and 17mm for type 240 breaks at tightening torque

Thrust to stop conductors

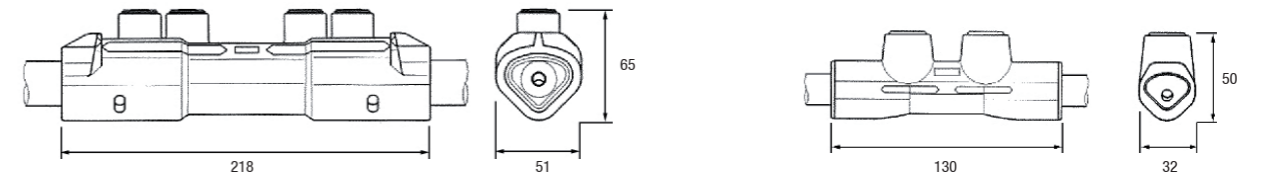
Sealing gaskets



Type 95
(K 189)

Implementation

- Cut the conductor using a device that does not scratch the core.
- Strip it over the length indicated on the sleeve.
- Brush the conductor to be connected using neutral grease to remove the oxide film. Do not wipe the conductor cleaned in this way.
- Insert the conductor fully into the sleeve.
- The sectoral cores can be inserted directly without previous rounding.
- Tighten the screws using a 13mm (K 189) or 17mm (K 191, K 192, K 193) spanner until shear head breaks.



Dimensions in mm

References

Code	Designation	Cable insulated Al-Cu (mm ²)		Weight (kg)	Sales unit
		Leading-in	Leading-out		
K 191	MECHANICAL SUBSURFACE PREINSULATED SLEEVE SECTORAL 95-240	Sectoral 95 - 240	Sectoral 95 - 240	0.522	4
K 192	MECHANICAL SUBSURFACE PREINSULATED SLEEVE ROUND 150 / SECTORAL 240	Round 50 - 150	Sectoral 95 - 240	0.519	4
K 193	MECHANICAL PREINSULATED SLEEVE ROUND 50-150	Round 50 - 150	Round 50 - 150	0.519	4
K 189	MECHANICAL PREINSULATED SLEEVE 25-95	Round 25 - 95 Sectoral 25 - 95	Round 25 - 95 Sectoral 25 - 95	0.159	3

Accessories

- SEE SHEET
Tools & accessories / LV insulated toolings and gloves

Preinsulated CPTAU lug



Spin-welded terminal lug



Crimped terminal lug

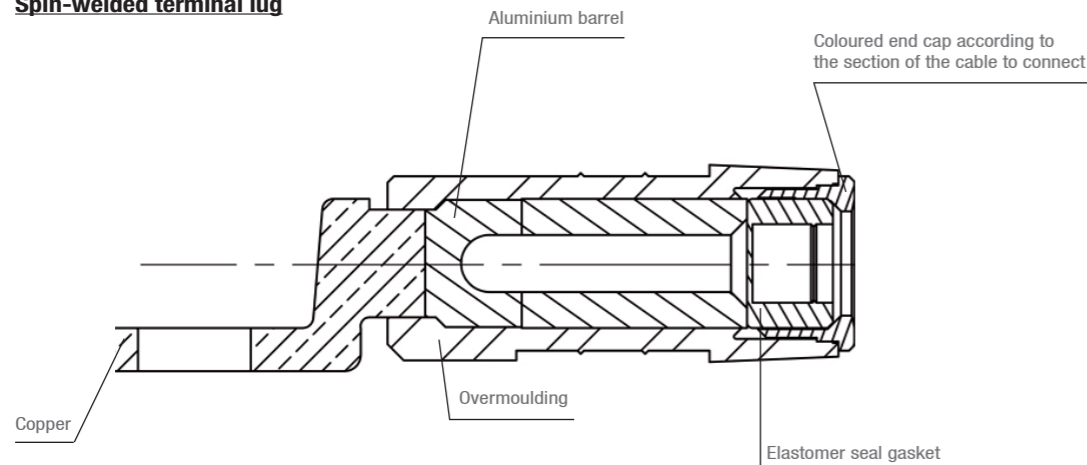
MICHAUD

Application

These preinsulated lugs are used to connect low voltage overhead insulated conductors to copper equipment terminals. The cable sections range from 16 to 95mm² for the spin-welded terminal lug and 16 to 150mm² for the crimped lug.

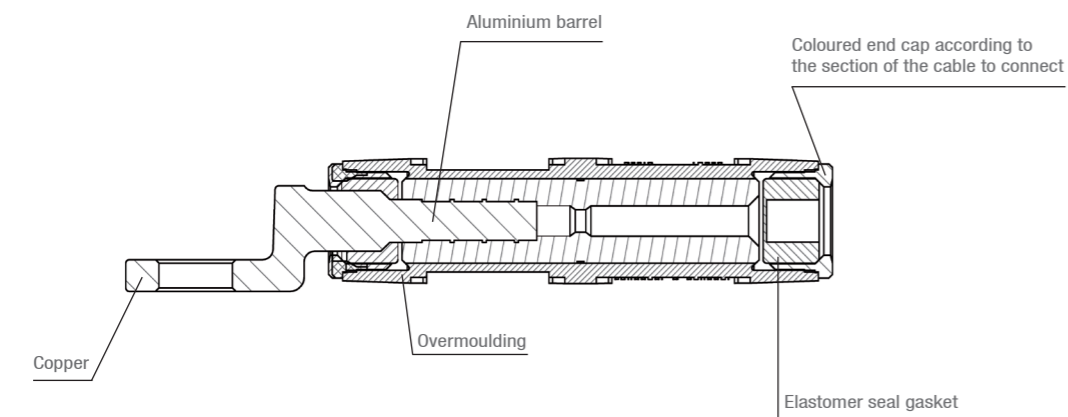
Description

Spin-welded terminal lug



This preinsulated lug meets the requirements of the **NF C 33-021** and **EN 50-483** standards.

Crimped terminal lug

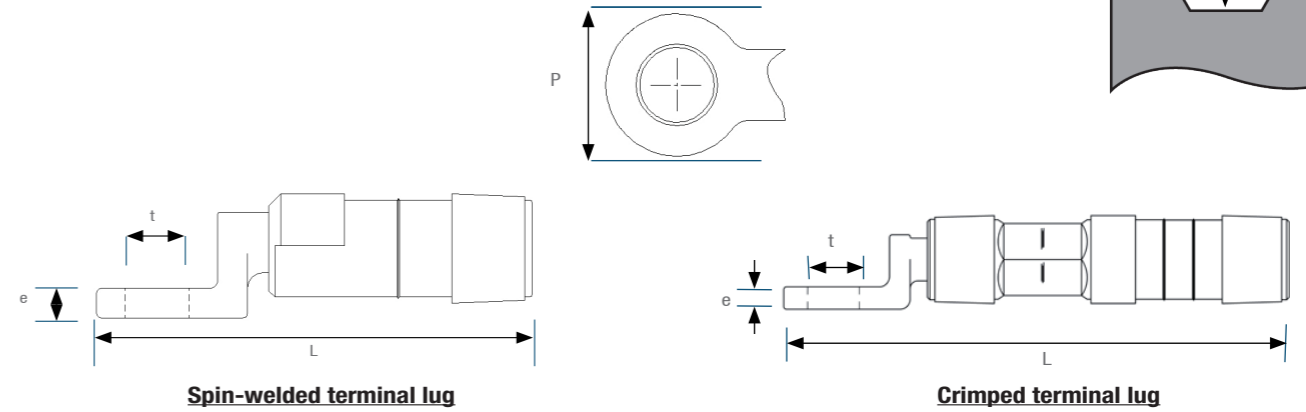
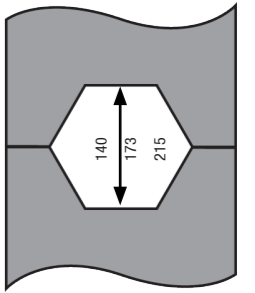


This preinsulated lug meets the requirements of the **NF C 33-021** and **EN 50-483** standards.

Implementation

Crimping:

- Use a tool equipped with a suitable hexagonal die: E140 (14mm) or E173 (17.3mm) or E215 (21.5mm).
- Crimp in the indicated area starting from the centre and working towards the end of the lug.



References

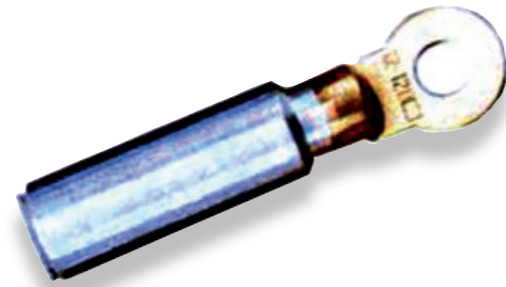
Code	Designation	Insulated Al-Cu cable (mm ²)	Dimensions in mm				Weight (kg)	Sales unit
			P	e	t	L		
SPIN-WELDED PREINSULATED LUG REQUIRING A E140 CRIMPING DIE								
K 159	Cu TERMINAL LUG (E140) CPTAU 16	16	20	5	10.3	72	0.042	10
K 160	Cu TERMINAL LUG (E140) CPTAU 25	25	20	5	10.3	72	0.041	10
SPIN-WELDED PREINSULATED LUG REQUIRING A E173 CRIMPING DIE								
K 163	Cu TERMINAL LUG (E173) CPTAU 35	35	25	5	12.8	92	0.074	10
K 164	Cu TERMINAL LUG (E173) CPTAU 50	50	25	5	12.8	92	0.074	10
K 165	Cu TERMINAL LUG (E173) CPTAU 54	54	25	5	12.8	92	0.071	10
K 166	Cu TERMINAL LUG (E173) CPTAU 70	70	25	5	12.8	92	0.071	10
K 167	Cu TERMINAL LUG (E173) CPTAU 95	95	25	5	12.8	92	0.069	10
CRIMPED PREINSULATED LUG REQUIRING A E140 CRIMPING DIE								
K 013	Cu CRIMPED TERMINAL LUG (E140) CPTAU 25	25	20	4.5	10.5	102	0.055	10
CRIMPED PREINSULATED LUG REQUIRING A E173 CRIMPING DIE								
K 017	Cu CRIMPED TERMINAL LUG (E173) CPTAU 54	54	25	5	13	142	0.117	10
K 018	Cu CRIMPED TERMINAL LUG (E173) CPTAU 70	70	25	5	13	142	0.113	10
CRIMPED PREINSULATED LUG REQUIRING A E215 CRIMPING DIE								
K 021	Cu CRIMPED TERMINAL LUG (E215) CPTAU 120	120	30	6	13	186	0.224	10
K 023	Cu CRIMPED TERMINAL LUG (E215) CPTAU 150	150	30	6	13	186	0.218	10

Accessories

- SEE SHEET
Tools & accessories / LV insulated toolings and gloves
- SEE SHEET
Tools & accessories / Hydraulic crimping tool

Bare lug

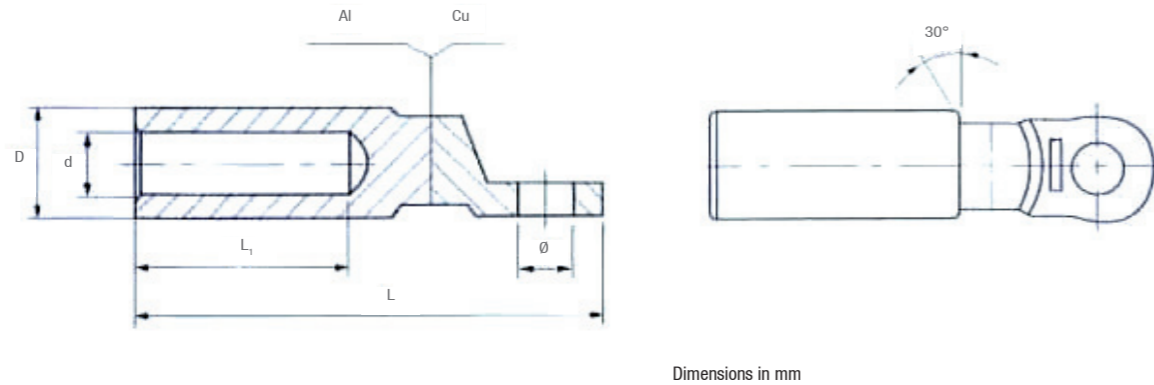
Spin-welded terminal lug for copper terminal



SELECTED BY
MICHAUD

Application

These friction welded lugs are used to connect aluminium bare conductors to copper equipment terminals.



References

Code	Designation	Dimensions in mm					Sales unit
		Ø	D	d	L ₁	L	
F 150	BIMETAL SPIN-WELDED BARE TERMINAL LUG 35mm ²	13	17	8	43	90	3
F 151	BIMETAL SPIN-WELDED BARE TERMINAL LUG 50mm ²	13	20	9	43	90	3
F 153	BIMETAL SPIN-WELDED BARE TERMINAL LUG 70mm ²	13	20	11	43	90	3
F 156	BIMETAL SPIN-WELDED BARE TERMINAL LUG 95mm ²	13	20	13	43	90	3
F 154	BIMETAL SPIN-WELDED BARE TERMINAL LUG 150mm ²	13	25	15	55	115	3
F 155	BIMETAL SPIN-WELDED BARE TERMINAL LUG 240mm ²	13	32	19.5	55	115	3

Lugs compliant with **NFC 33 090-1**.

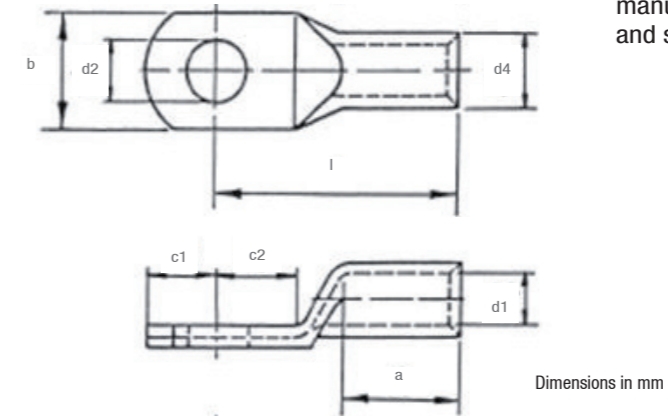
Tubular lug



SELECTED BY
MICHAUD

Application

These tubular lugs are made of tin-plated copper (by electrolysis). They are manufactured with an inspection hole and socketing.

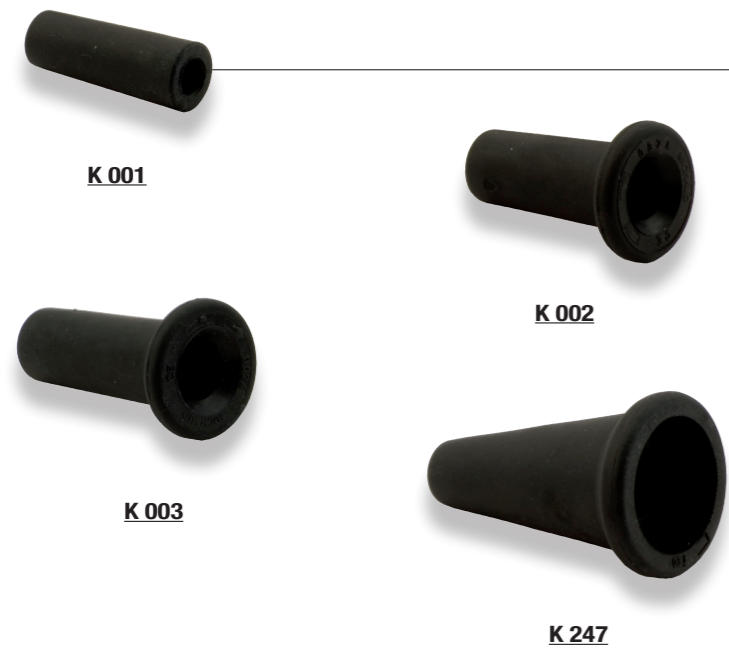


References

Code	Designation	Dimensions in mm								Bore	Weight (kg)	Sales unit
		d1	a	b	d2	d4	c1	c2	l			
F 180	TUBULAR LUG 10 ² -6	4.2	12	12	6.5	6.8	6.5	7.5	24	M6	0.020	100
F 181	TUBULAR LUG 16 ² -6	5.5	14	12	6.5	8	6.25	7.5	27	M6	0.020	100
F 182	TUBULAR LUG 25 ² -10	6.6	15	17	10.5	9.5	12	12	34	M10	0.020	100
F 184	TUBULAR LUG 35 ² -8	7.9	17	17	8.5	11	10	10	34	M8	0.020	100
F 185	TUBULAR LUG 35 ² -10	7.9	17	17	10.5	11	12	12	37	M10	0.021	100
F 186	TUBULAR LUG 35 ² -12	7.9	17	17	13	11	13	13	38	M12	0.021	100
F 187	TUBULAR LUG 50 ² -8	9.2	19	18	8.5	12.5	10	10	37	M8	0.029	100
F 188	TUBULAR LUG 50 ² -10	9.2	19	18	10.5	12.5	12	12	40	M10	0.031	100
F 189	TUBULAR LUG 50 ² -12	9.2	19	19	13	12.5	13	13	41	M12	0.032	100
F 190	TUBULAR LUG 70 ² -8	11	21	21	8.5	15	10	10	41	M8	0.044	100
F 191	TUBULAR LUG 70 ² -10	11	21	21	10.5	15	12	12	43	M10	0.045	100
F 192	TUBULAR LUG 70 ² -12	11	21	21	13	15	13	13	46	M12	0.046	100
F 193	TUBULAR LUG 95 ² -8	13.1	25	23	8.5	17	10	10	46	M8	0.054	50
F 194	TUBULAR LUG 95 ² -10	13.1	25	23	10.5	17	12	12	48	M10	0.054	50
F 195	TUBULAR LUG 95 ² -12	13.1	25	23	13	17	13	13	50	M12	0.056	50
F 196	TUBULAR LUG 150 ² -12	16.2	26	30	13	21	15	15	58	M12	0.077	50
F 197	TUBULAR LUG 150 ² -14	16.2	26	30	15	21	15	15	58	M14	0.076	50
F 198	TUBULAR LUG 240 ² -12	20.6	35	39	13	26	21.5	19	72	M12	0.146	20
F 199	TUBULAR LUG 240 ² -14	20.6	35	39	15	26	21.5	19	72	M14	0.142	20
F 215	TUBULAR LUG 300 ² -16	23.1	44	41	17	28	19	20	83	M16	0.150 g	100

Lugs compliant with **NFC 20-130**.

End cap



End caps

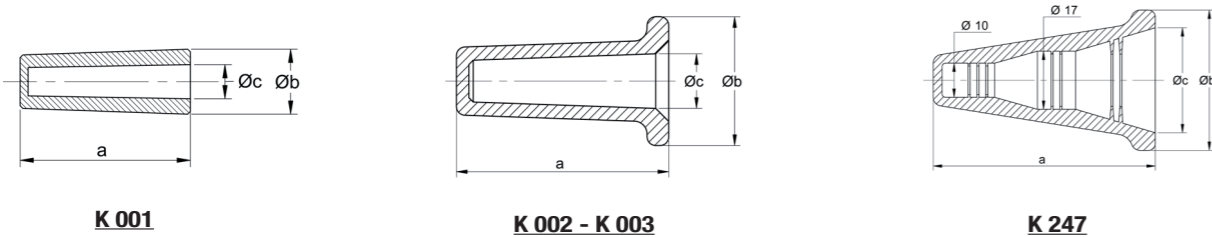
MICHAUD

Application

These flexible end caps are used to ensure insulation of the end of a conductor. They are used inside and outside.

Description

- The dielectric strength in water is greater than 6kV.
- The body is made of UV resistant black flexible synthetic material.



References

Code	Designation	Dimensions (mm)			Capacities (mm ²)	Weight (kg)	Sales unit
		a	b	c			
K 001	BLACK FLEXIBLE END CAP 10-50M	32	12	7	10-50M	0.003	20
K 002	BLACK FLEXIBLE END CAP 35-95	40	16	10.5	35-95	0.008	20
K 003	BLACK FLEXIBLE END CAP 95-150	50	19	13	95-150	0.012	20
K 247	BLACK FLEXIBLE END CAP 95-240	67.2	45	31	Round: 50-150 Sectoral: 95-240	0.027	6



Flexible seal end cap

MICHAUD

Application

These caps are designed to ensure sealing at the end of service and network cables. They can be used on turrets or in the case of a cable awaiting connection in a cabinet. They are used exclusively potential free.

Description

- The cap is made of elastomer material that is highly elastic, very flexible, highly resistant and treated to ensure good UV resistance.
- It is delivered with a UV resistant flexible polyamide cable tie designed to reinforce the fastening on the cable.
- The cap is available in 4 sizes:
 - For armoured remote energy meter cables and single phase neutral screen service cables (ref. P 451),
 - For the 16 to 35mm² service cables and three phase neutral screen service cables (ref. P 452),
 - For the 50 to 95mm² network cables (ref. P 453),
 - For the 150 to 240mm² network cables (ref. P 454).

References

Code	Designation	Capacity (mm ²)	Weight (kg)	Sales unit
P 451	SET OF 10 FLEXIBLE END CAPS NEUTRAL SCREEN SERVICE CABLE	Concentric neutral 25-35 ARMRSC*	0.082	1
P 452	SET OF 10 FLEXIBLE END CAPS 16-35	4x16M to 4x35M	0.239	1
P 453	SET OF 10 FLEXIBLE END CAPS 50-95	4x50 to 1x50+3x95	0.356	1
P 454	SET OF 10 FLEXIBLE END CAPS 150-240	1x70+3x150 to 1x95+3x240	0.778	1

* ARMRSC: Armoured Remote Meter Reading System Cable.

Heat shrinkable material

Heat shrinkable end



SELECTED BY
MICHAUD

Application

This heat shrinkable material is used for low voltage applications in order to protect conductors and make them watertight. It is characterised by its insulating performances and its high resistivity to pollution and UV. It is retracted by blow torch heating.

Description

This heat shrinkable end cap is fitted at the end of a conductor in order to insure its watertightness.

References

Code	Designation	Section (mm)	Covered diameter (mm)	Weight (kg)	Sales unit
F 110	HEAT SHRINKABLE END CAP CRB 10-25	10 to 25	4 to 8	0.030	100
F 111	HEAT SHRINKABLE END CAP CRR 16-70	16 to 70	8 to 17	0.010	50
F 112	HEAT SHRINKABLE END CAP CRR 150	150	15 to 30	0.020	10
F 113	HEAT SHRINKABLE END CAP CRC 16-27	-	15 to 30	0.020	10
F 114	HEAT SHRINKABLE END CAP CRC 26-48	-	25 to 45	0.045	10
F 115	HEAT SHRINKABLE END CAP CRC 46-80	-	32 to 65	0.065	10

Heat shrinkable end

Description

This heat shrinkable end is fitted at the end of a single phase or multi-phase junction.



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MICHAUD

Code	Designation	Section (mm)	Number of conductors	Weight (kg)	Sales unit
F 100	HEAT SHRINKABLE END E2R 10-35	10 to 35	2	0.130	20
F 101	HEAT SHRINKABLE END E4R 10-35	10 to 35	4	0.020	20
F 102	HEAT SHRINKABLE END E4R 50-150	50 to 150	4	0.090	20
F 103	HEAT SHRINKABLE END E4R 240	240	4	0.140	5

Heat shrinkable sheath

Description

This heat shrinkable sheath is used when neutral and phases have to be insulated. It is delivered in 10m rolls.



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MICHAUD

Code	Designation	Section (mm)	Covered diameter (mm)	Weight (kg)	Sales unit
F 120	HEAT SHRINKABLE SHEATH GR 10-35 (10m)	3 to 35	3 to 10	0.200	1
F 121	HEAT SHRINKABLE SHEATH GR 50-150 (10m)	50 to 150	8 to 25	0.500	1
F 122	HEAT SHRINKABLE SHEATH GR 240 (10m)	240	12 to 35	0.800	1

Heat shrinkable sleeve

Description

This heat shrinkable sleeve is used when a bare sleeve has to be insulated.



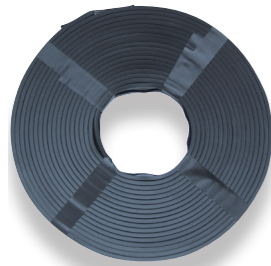
SELECTED BY
MICHAUD

Code	Designation	Section (mm)	Weight (kg)	Sales unit
F 130	HEAT SHRINKABLE SLEEVE FRM 16-100	16 to 35	0.010	10
F 131	HEAT SHRINKABLE SLEEVE FRM 25-100	16 to 35	0.010	10
F 132	HEAT SHRINKABLE SLEEVE FRM 25-200	50 to 95	0.020	10
F 133	HEAT SHRINKABLE SLEEVE FRM 30-250	50 to 95	0.350	10
F 134	HEAT SHRINKABLE SLEEVE FRM 30-200	50 to 150	0.300	10
F 135	HEAT SHRINKABLE SLEEVE FRM 35-150	50 to 150	0.250	10
F 136	HEAT SHRINKABLE SLEEVE FRM 35-250	95 to 240	0.400	10

Stainless steel strap



Strap



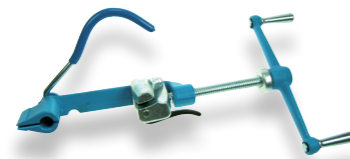
Protection tape



Eye



Binding tool ratchet type for strap



Binding tool wheel type for strap



Folding plier type for strap



Reinforced buckle



Buckle



Cutting tool



Carrying case for strap tools

MICHAUD

Application

This stainless steel strap and this range of implementation tools are mainly used to attach the suspension or anchoring clamp brackets on all types of poles (wooden, metal or concrete).

Implementation

- Cut the required length of strap using the cutting tool.
- Fix the strap around the pole and bracket using one of the two binding tools (lever or screw model) and attach a buckle.
- Keep the cutting tool and binding tool in the suitable carrying case.

References

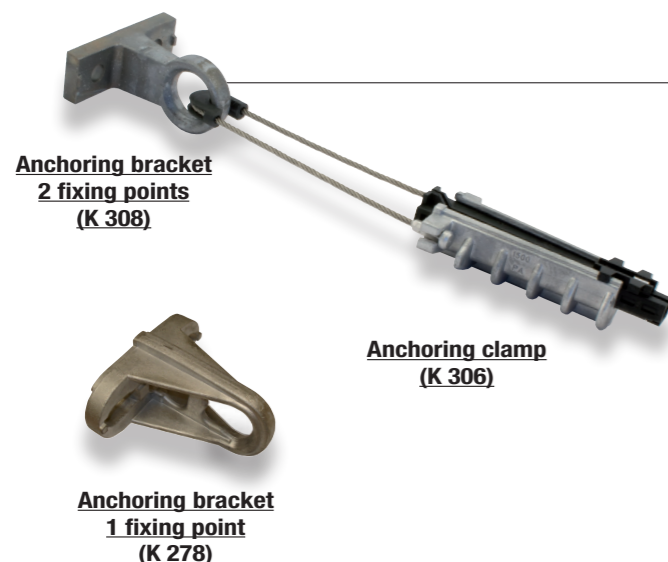
Code	Designation	Weight (kg)	Sales unit
K 930	50m WINDER STAINLESS STEEL STRAP 10x0.4mm	1.850	5
K 931	50m WINDER STAINLESS STEEL STRAP 10x0.7mm	2.950	5
K 932	50m WINDER STAINLESS STEEL STRAP 20x0.4mm	3.450	5
K 933	50m WINDER STAINLESS STEEL STRAP 20x0.7mm	5.800	5
K 935	25m WINDER STAINLESS STEEL STRAP 20x0.7mm	3.025	5
K 951	SET OF 100 BUCKLES FOR 20mm STRAP	0.610	1
K 952	SET OF 100 REINFORCED BUCKLES FOR 10mm STRAP	0.320	1
K 953	SET OF 100 REINFORCED BUCKLES FOR 20mm STRAP	0.900	1
K 957	PROTECTION TAPE FOR 10mm STRAP (10m length)	0.500	1
K 958	PROTECTION TAPE FOR 20mm STRAP (10m length)	0.770	1
K 959	BINDING TOOL WHEEL TYPE FOR STRAP	2.500	1
K 960	BINDING TOOL RATCHET TYPE FOR STRAP	1.950	1
K 961	CUTTING TOOL FOR STRAP	0.550	1
K 963	CARRYING CASE FOR STRAP TOOLS	0.550	1
K 968	STRAP FOLDING PLIER	0.510	1
K 654	SET OF 100 EYES 25x25	1.660	1
K 655	SET OF 100 EYES 25x40	2.160	1
K 656	SET OF 100 EYES 25x60	2.820	1

Description

- The strap is made of AISI 201 or AISI 304 grade stainless steel.
- The strap is delivered in a 50m roll inside an easy to handle synthetic material winder.
- The strap edges are deburred.
- The elastomer protection tape for the strap prevents any cable injury if the cable fixed on poles with a strap falls.
- The tools are made of non-corrosive steel.
- The carrying case with ergonomic inside trim is made of synthetic material. It includes a cutting tool, binding tool and buckles (to be ordered separately).

Neutral messenger network suspension and anchoring

Anchoring assembly



MICHAUD

Application

This anchoring assembly is used for the 1500daN single or double anchoring of A.B.C. (Aerial Bundled Conductors) with insulated neutral messenger of 54.6 and 70mm² sections. It comprises a bracket supporting one or two anchoring clamps.

Description

Anchoring clamp:

- The body is made of aluminium alloy.
- The cleats are made of UV resistant synthetic material. They are captive.
- The stainless steel flexible linking cable is captive. It is equipped with a resistant, insulated and movable saddle.
- Fixing the insulated neutral messenger is ensured by cleats without damaging the insulation.

Anchoring bracket

- The bracket is made of aluminium alloy and permits single or double anchoring.
- Fixing on poles is ensured by one or two 14 or 16mm diameter bolts with suitable washers or using two 20x0.7mm stainless steel straps.
- This anchoring assembly meets the criteria of **NF C 33-041** and **EN 50-483**.

Implementation

- Fix the bracket on the pole using one or two 14 or 16mm diameter bolts with suitable washers or using two 20x0.7mm stainless steel straps.
- Open the A.B.C. where the implementation has to be done.
- Slide the cleats backward.
- Insert the neutral messenger between the cleats.
- Push the cleats in the clamp while keeping the neutral messenger in place.
- Anchor the clamp on the bracket.
- Additional tightening is achieved automatically by the cleats.

References

Code	Designation	Weight (kg)	Sales unit
K 306	ANCHORING CLAMP - PA 1500	0.427	30
K 278	ANCHORING BRACKET - CA 1500 - 1FP	0.316	30
K 308	ANCHORING BRACKET - CA 1500 - 2FP	0.250	30

Suspension assembly



Suspension assembly
ES 1500 (50 - 95mm²): K 277

Fuse suspension assembly ESF 715
(50 - 70mm²): K 283

MICHAUD

Application

This suspension assembly is used for suspending the low voltage A.B.C. (Aerial Bundled Conductors) with insulated neutral messenger of 50 - 95mm² sections for code K 277 and 50 - 70mm² sections for code K 283. It comprises a movable link system, a suspension clamp and a bracket.

2 standard suspension assemblies are available:

- ES 1500,
- ESF 715 equipped with a fuse element (breaking 715 ± 65daN).

The fuse element can be factory calibrated between 500 and 1 200daN. It is designed to break when an abnormal effort is applied on the A.B.C. The cable drops without causing the pole to break (i.e.: tree falling on to a power line). The cable can be quickly put back in position thanks to the implementation of a new clamp on the bracket still in place.

Description

The suspension clamp, the movable link system and the bracket are delivered in a full set.

Suspension clamp:

- The body is made of UV resistant, glass fibre reinforced synthetic material.
- The insulated neutral messenger is secured by the notched tightening lever.

Movable link system:

- The body is made of UV resistant, glass fibre reinforced synthetic material and adds insulation between the pole and the cables.
- The design facilitates longitudinal and transversal movement of the suspension clamp body.
- The ESF 715 incorporates the fuse element.

Bracket:

- The bracket is made of aluminium alloy.
- Fixing on poles is ensured by a 14 or 16mm diameter bolt with a suitable washer or using two 20x0.7mm stainless steel straps.
- This suspension assembly meets the criteria of **NF C 33-040** and **EN 50-483**.

Implementation

- Fix the bracket on the pole using a 14 or 16mm diameter bolt with the suitable washer or using two 20x0.7mm stainless steel straps.
- Open the tightening lever.
- Insert the neutral messenger in the suspension clamp.
- Lock the tightening lever by at least 3 safety notches.
- Insert an insulated tie in the lower slot of the suspension clamp in order to support the phase conductors.
- For the fuse suspension assembly only, after the fuse element has broken:
 - * Remove the movable link system from the bracket fixed on the pole,
 - * Install the spare part on the bracket,
 - * Reassemble the bundled cable on the new suspension assembly.

References

Code	Designation	Weight (kg)	Sales unit
K 277	SUSPENSION ASSEMBLY [50-95] - ES 1500	0.550	20
K 283	FUSE SUSPENSION ASSEMBLY [50-70] - ESF 715	0.438	25
K 280	SPARE PART - PS + LM 715	0.210	1

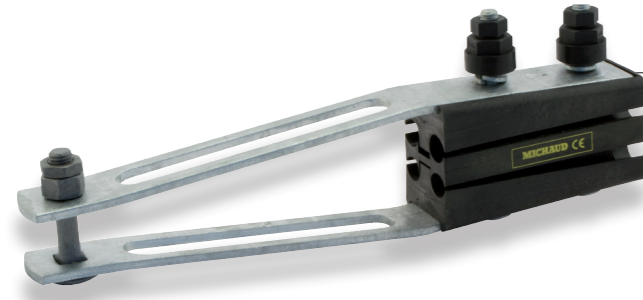
Notes: - Contact us for any other breaking values for the fuse element.
- Fixing with bolts and washers or stainless steel straps must be ordered separately.
- The insulated tie must be ordered separately.

Accessories

SEE SHEET
Mechanical fixing / Stainless steel strap

Fully supported network suspension and anchoring

Anchoring clamp



MICHAUD

Application

This clamp is used to anchor the low voltage fully supported A.B.C. (Aerial Bundled Conductors).

Description

- The arms are made of hot-dip galvanised steel. A bolt enables the clamp to be easily dismantled manually and anchored on a bracket fixed to a pole or façade.
- The cleats are made of UV resistant, glass fibre reinforced synthetic material.
- The conductors are attached using a combination of bolts and cleats. Two 17mm shear head nuts are used to control the tightening torque.
- Each conductor runs through a separate channel. The conductors are anchored by distributing the loads, protecting the insulation.
- A large opening facilitates the passage of the conductors between the clamp arms.
- The mechanical resistance is 3 300daN for the K 288, and is greater than 5 000daN for the K 302.
- These clamps meet the criteria of **DIN VDE 0211**.

Implementation

- Unscrew the nuts.
- Open the A.B.C and insert each conductor into one of the channels.
- Screw the nuts alternately using a 17mm spanner until the shear head breaks. The 21mm head is only provided for possible dismantling.
- Anchor the clamp on a hook.
- Additional tightening is achieved automatically by the cleats.

References

Code	Designation	Weight (kg)	Sales unit
K 288	FULLY SUPPORTED ANCHORING CLAMP 4x50-95 *	1.240	10
K 302	FULLY SUPPORTED ANCHORING CLAMP 4x120 *	1.620	20

* Products manufactured on request only. Please contact us.

Accessories

SEE SHEET
Tools & accessories/LV insulated toolings and gloves

Movable suspension clamp



MICHAUD

Application

This clamp is used to suspend the low voltage fully supported A.B.C. (Aerial Bundled Conductors). It is suitable for angles on poles up to 30°.

Description

- The body, the tightening screw and the washer are made of hot-dip galvanised steel.
- The shear head nut permits controlled tightening of the A.B.C.
- The fastener is captive during installation of the A.B.C. in the body.
- The insert made of UV resistant synthetic material ensures secure holding of the A.B.C.
- The fixing hole on the body is reinforced using an eye made of UV resistant synthetic material. It enables the assembly to be implemented on a pole or on a façade equipped with hook.

Implementation

- Unscrew the tightening screw.
- Remove the screw and take out the insert made of synthetic material.
- Place the body of the suspension clamp on a hook.
- Put the A.B.C. in the insert.
- Put the insert back in the body of the suspension clamp.
- Replace the screw then screw the nut using a 13mm spanner until the shear head breaks (7Nm).

References

Code	Designation	Weight (kg)	Sales unit
K 267	FULLY SUPPORTED SUSPENSION CLAMP MOVABLE 2x16-2x25 *	0.550	30
K 270	FULLY SUPPORTED SUSPENSION CLAMP MOVABLE 4x16-4x25 *	0.540	30
K 274	FULLY SUPPORTED SUSPENSION CLAMP MOVABLE 4x35-4x50 *	0.530	30
K 275	FULLY SUPPORTED SUSPENSION CLAMP MOVABLE 4x70 *	0.520	30
K 276	FULLY SUPPORTED SUSPENSION CLAMP MOVABLE 4x95 *	0.510	30
K 271	FULLY SUPPORTED SUSPENSION CLAMP MOVABLE 4x120 *	0.510	30

* Products manufactured on request only. Please contact us.

Option

Double suspension bracket:

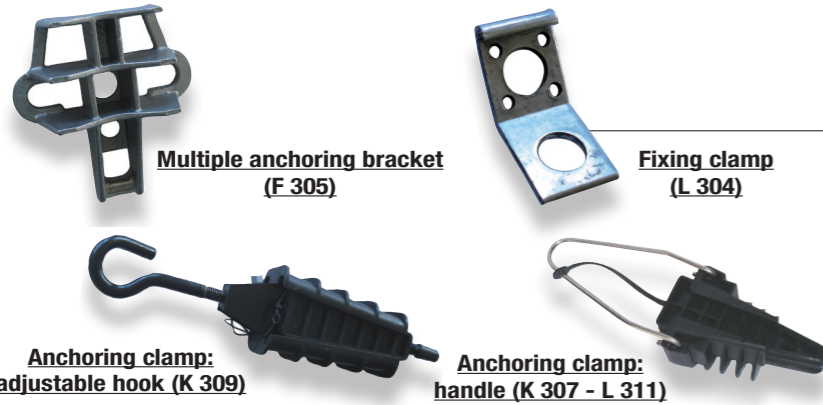
The body is made of hot-dip galvanised steel. This accessory is designed for angle poles where the line deviation exceeds 30°:

- One suspension clamp fixed on each hook of the bracket,
- The bracket fixed on a hook or an anchoring bracket.

Code	Designation	Dimensions (mm)			Maximum load daN (± 10%)	Weight (kg)	Sales unit
		a	b	c			
F 220	DOUBLE SUSPENSION CLAMP BRACKET 12kN	16	106	174	1 200	0.990	10

Service cable anchoring

Service anchoring assembly EA 25



MICHAUD

Application

This anchoring assembly is used for fixing low voltage service A.B.C. (Aerial Bundled Conductors) with capacity of 2x6 to 4x25mm². The anchoring clamp is also available in an adjustable hook version.

Description

Anchoring clamp:

- The body is made of UV resistant, glass fibre reinforced synthetic material.
- The wedge is made of UV resistant synthetic material. 4 channels ensure the clamping of 2 or 4 conductors by distributing the loads, protecting the insulation. It is connected to the handle via its integrated link.
- The handle and the hook have good corrosion resistance: stainless steel for K 307 and galvanized steel for K 309 and L 311.
- The hook can be adjusted to position (toothed rack with 10cm stroke).
- All of the elements are captive.
- The tensile strength is 200daN.

Fixing clamp and bracket:

- These elements are made of aluminium alloy.
- The fixing clamp is designed for single anchoring whereas the bracket offers up to 6 fixing points.
- Their specific design allows fixing on wooden, metal or concrete poles.
- The fixing clamp is implemented using a 10mm diameter bolt or using a 20x0.7mm stainless steel strap (tensile strength: 200daN).
- The fixing bracket is implemented using a 14 or 16mm diameter bolt or using two 20x0.7mm stainless steel straps (tensile strength: 200daN/anchoring point).
- This anchoring assembly meets the criteria of **NF C 33-042** and **EN 50-483**.

Implementation

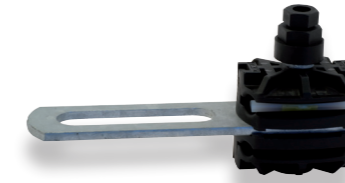
- Fix the bracket of the fixing clamp on a pole using a bolt with the suitable washer or using two 20x0.7mm stainless steel straps.
- Remove the wedge from the body. Open the A.B.C. where the implementation has to be done.
- Position the wedge inside the A.B.C. at approximately 10cm from the anchoring point.
- Remove the handle from the body by pressing both rods to release the hooks.
- Position the body on the A.B.C.
- Pull the body on the wedge making sure that it is positioned correctly (for A.B.C. with 2 conductors, they are positioned on the lower channels of the wedge).
- Attach the handle to the anchoring point and place it back into the body by pressing on the 2 rods.
- The conductors are tightening automatically between the wedge and the body of the clamp.

References

Code	Designation	Weight (kg)	Sales unit
L 304	FIXING CLAMP - PF 25	0.011	100
L 306	SCREW - M10	0.048	30
K 307	ANCHORING CLAMP WITH HANDLE - PA 25	0.105	50
L 311	ANCHORING CLAMP WITH HANDLE GH - PA 25	0.105	50
K 309	ANCHORING CLAMP WITH ADJUSTABLE HOOK - PACR 25	0.230	50
F 305	MULTIPLE ANCHORING BRACKET - CAM 25	0.220	1

Note: fixing with bolts or a stainless steel strap must be ordered separately.

Service anchoring assembly PA 35



MICHAUD

Application

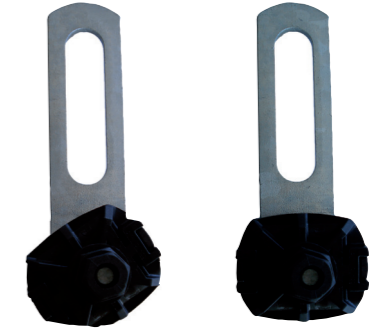
This anchoring clamp is used for fixing or suspending low voltage service A.B.C. (Aerial Bundled Conductors) with capacity of 3x16 to 4x35mm².

Description

- The blocks are made of UV resistant, glass fibre reinforced synthetic material. They are held open via the use of springs.
- The conductors are attached using a combination of blocks and a bolt. The 17mm shear head nut is used to control the tightening torque.
- Each conductor runs through a separate channel. 3 or 4 conductors are anchored by distributing the load, protecting the insulation.
- The arm is made of hot-dip galvanised steel. A large hole at the end allows anchoring of the clamp on a bracket or a hook fixed on a pole or façade. The arm offers an opening through an oblong hole (on request, a hook type opening is available).
- The tensile strength on fully supported A.B.C. is 500daN (version with oblong arm).

Option

This service cable clamp can also be used for the suspension of low voltage service A.B.C. by simply rotating the blocks before implementation.



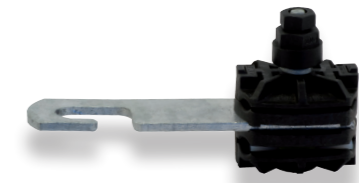
Implementation

- Unscrew the nut without removing it. The blocks are held opened using springs.
- Open the A.B.C and insert each conductor into one of the channels.
Comment: Remove the rod and its adhesive for a 4 conductors bundle.
- Anchor the end of the clamp on a bracket or a hook.
- Screw the nut using a 17mm spanner until the shear head breaks to ensure fixing of the conductors. The 21mm permanent head is only provided for possible dismantling.

Code	Designation	Weight (kg)	Sales unit
K 300	SERVICE CABLE CLAMP 3/4 x 16-35 TYPE CLOSED EYE - PA 35	0.482	10

Option

The 3/4x16-35 service cable clamp (K 300) can be supplied with a hook arm under reference K 301.



Code	Designation	Weight (kg)	Sales unit
K 301	SERVICE CABLE CLAMP 3/4 x 16-35 TYPE HOOK - PA 35	0.477	10

Accessories

SEE SHEET
Tools & accessories / LV insulated toolings

Cable saddle and cable tie

Cable saddle



K 273

MICHAUD

Application

This cable saddle is used for fixing the low voltage A.B.C. (Aerial Bundled Conductors) on façades using neutral messenger or fully supported technology. A cable saddle is implemented every 30cm to ensure excellent fixing of the A.B.C. The wall mounting is quick and easy to implement and is discreet and aesthetic.

Description

- Three types of cable saddles are available:
 - * **BRPF**: cable saddle to be fixed on façades by a nail (12mm Ø hole).
 - * **BRPV**: cable saddle to be fixed on façades by a screw and dowel pin (12mm Ø hole).
 - * **BRTV**: cable saddle to be fixed on façades by a reinforced screw and dowel pin assembly (16mm Ø hole).
- The body and cable tie are made of UV resistant synthetic material.
- The opening under the saddle allows the use of an extra tie (not provided) to install a second conductor.
- The cable tie has outside teeth for:
 - Excellent protection of conductor insulation,
 - Excellent fixing of conductors:
 - * Service 2x16 to 4x35mm²,
 - * Network 4x35 to 4x150mm².
- This connector meets the criteria of **NF C 33-040** and **EN 50-483**.

References

Code	Designation	A.B.C. capacity (mm ²)	Wall clearance (mm)	Weight (kg)	Sales unit
K 272	CABLE SADDLE - BRPF1	2x16 to 4x35	10	0.040	25
K 273	CABLE SADDLE - BRPF6	4x35 to 3x150 + 95N+16	60	0.063	25
F 033	CABLE SADDLE - BRPV1	3x25+54.6N+16 to 3x150+95N+16	10	0.068	50
F 035	CABLE SADDLE - BRPV6		60	0.083	50
F 036	CABLE SADDLE - BRTV10		100	0.175	20
F 038	CABLE SADDLE - BRTV17		170	0.244	20

Cable tie



Cable tie



Cable tie mounts

SELECTED BY
MICHAUD

Application

This cable tie made of black synthetic material is used to tighten the phase and neutral conductors in order to achieve correct installation. It is used to prevent the phase conductors from rubbing against accessories such as clamps.

Description

- The cable tie is made of black UV resistant synthetic material.
- The strap has outside teeth for a 9mm width to secure fixing.
- The black UV resistant synthetic material cable tie mounts are suitable for 9mm wide cable ties.
- The knock in wall cable tie mount has a drill hole diameter of 8mm.

Code	Designation	Diameter grip capacity		Weight (kg)	Sales unit
		MAX	MIN		
F 002	CABLE TIE 9x180mm (100 pieces)	44	10	0.330	100
F 003	CABLE TIE 9x265mm (100 pieces)	62	26	0.511	100
F 004	CABLE TIE 9x360mm (100 pieces)	92	26	0.625	100
F 005	CABLE TIE 9x500mm (100 pieces)	140	74	1.073	100
F 006	CABLE TIE 9x750mm (100 pieces)	220	74	1.482	100
F 013	IMPLEMENTATION TOOL FOR TIE			0.332	1
F 040	WALL TYPE STRAP SUPPORT WITH BRACKET TO STRIKE (box of 100)			0.400	100
F 041	WALL TYPE STRAP SUPPORT ATTACHED BY SCREW (box of 100)			0.300	100

Other dimensions are available. Please contact us.

Accessories



This saddle is used to fix cable trunking on poles. It is fixed using a strap. It is made of UV protected thermoplastic material. The F 042 is sealed with a cable tie for 15 to 30mm diameter cables, the F 039 for 30 to 50mm diameter cables, and the F 037 for 50 to 90mm cables.

Code	Designation	Weight (kg)	Sales unit
F 043	CABLE SADDLE BIC 15/30 WITHOUT CABLE TIE	0.010	100
F 042	CABLE SADDLE BIC 15/30 + CABLE TIE 9x180mm	0.015	100
F 039	CABLE SADDLE BIC 30/50	0.068	100
F 037	CABLE SADDLE BIC 50/90	0.110	100

Support cable and pole hardware (wood application)

Pigtail bolt



Pigtail bolt (BQC)

SELECTED BY
MICHAUD

Application

This material is used to fix anchoring and suspension clamps.

Description

- This material is made of hot-dip galvanised steel.

References

Code	Designation	Sales unit
F 312	PIGTAIL BOLT BQC 12x55 WITH 1 NUT	10
F 313	PIGTAIL BOLT BQC 12x90 WITH 2 NUTS	10
F 314	PIGTAIL BOLT BQC 12x110 CH WITH 1 NUT *	10
F 315	PIGTAIL BOLT BQC 12x250 WITH 2 NUTS	10
F 316	PIGTAIL BOLT BQC 12x300 WITH 2 NUTS	10
F 317	PIGTAIL BOLT BQC 12x350 WITH 2 NUTS	10
F 322	PIGTAIL BOLT BQC 16x250 WITH 2 NUTS	10
F 323	PIGTAIL BOLT BQC 16x300 WITH 2 NUTS	10
F 321	PIGTAIL BOLT BQC 20x250 WITH 2 NUTS	10
F 326	PIGTAIL BOLT BQC 20x400 WITH 2 NUTS	10
F 330	NUT E12	10
F 331	WASHER MG12	10

* Delivered with peg

Wood screws



SELECTED BY
MICHAUD

Application

These Pozidrive countersunk screws are used for fixing on wood substrates.

Description

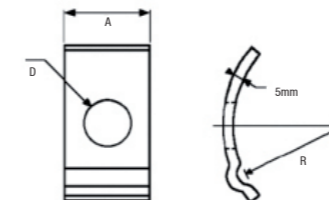
- Chipboard screw.
- Countersunk:
 - * Pozidrive indentation.
 - * Zinc-treated steel.
- Diameter: 6mm.
- Length: 60mm.
- Fully threaded.

Reference

Code	Designation	Sales unit
F 332	LOT OF 200 WOOD SCREWS COUNTERSUNK POZI 6x60	200

For other dimensions, please contact us.

Clamping plate



SELECTED BY
MICHAUD

Application

This clamping plate is implemented on bolts.

Description

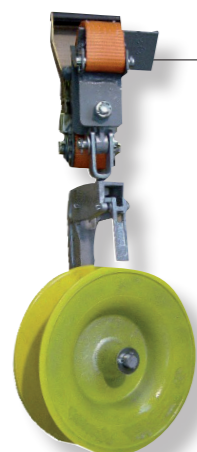
- Made of hot-dip galvanised steel.
- Compliant with the standard **NF C 66-433**.

References

Code	Designation	A (mm)	D (mm)	R (mm)	Weight (kg)	Sales unit
F 327	CLAMPING PLATE PR35	35	16	70	0.090	500
F 328	CLAMPING PLATE PR55	55	26	80	0.120	500

LV line unwinding and pulling

Pulley for aerial bundled conductors



F 240



F 241

SELECTED BY
MICHAUD

Application

This pulley is used to receive low voltage A.B.C. (Aerial Bundled Conductors).

Description

- The body of the pulley is made of aluminium alloy.
- The 250mm diameter wheel is made of synthetic material. It has a 60mm groove to make the passage of A.B.C. up to 3x150 + 70N + 16mm² easier.
- The pulley is equipped with safety locking allowing the rope to be fitted with one hand. This system prevents the rope and therefore the A.B.C. from jumping out of the wheel during handling.
- Two types of pole fixing are available:
 - * Pulley with swivelling hook,
 - * Pulley with ratchet tightener and 1.20m strap.

References

Code	Designation	Pulley width (mm)	Operating load (daN)	Weight (kg)	Sales unit
F 240	PULLEY WITH STRAP	60	800	5.200	1
F 241	PULLEY WITH HOOK	60	800	2.650	1

For other characteristics, please contact us.

Overhead comealong



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MICHAUD

Application

This overhead comealong is used to pull, retain and stretch bare or insulated conductors of a power line. Three models are available according to the type of conductors to be implemented:

- Bare steel or aluminium cable,
- A.B.C. (Aerial Bundled Conductors) type neutral messenger,
- A.B.C. type fully supported.

Description

- The half-cylinder shaped parallel jaws ensure secure tightening of the conductor, protecting it.
- An ergonomic handle with its wide opening permits good handling.
- The sliding of the jaws and arms is made easy thanks to bolts and slides.
- The assembly is made of corrosion-proof galvanised steel or aluminium.

References

Code	Designation	Conductor type	Tighten capacity	Maximum load (daN)	Weight (kg)	Sales unit
F 257	BARE CONDUCTOR COMEALONG 4-12mm	Bare Al / Steel	4-12mm	1 700	0.500	1
F 258	INSULATED CONDUCTOR COMEALONG 6-14mm	Insulated Al / Cu	6-14mm	800	1.555	1
F 269	SELF-SUPPORTED A.B.C. COMEALONG 4x95-150mm ²	A.B.C.	4x95mm ²	600	6.500	1
			4x150mm ²	900		

Mechanical winch



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MICHAUD

Application

This mechanical winch is used to pull conductors of a low voltage power line. Light and small in size, it can be used for all types of cable adjustments, in particular on top of supports. It can be used also for lifting loads, stowing poles and other applications.

Description

- Two hooks at each end enable the winch to be fixed. They are equipped with a safety locking pin.
- The operating arm with ergonomic handle makes it easier to adjust the traction.
- The body is equipped with the ratchet tightening system.

References

Code	Designation	Maximum load (daN)	Weight (kg)	Sales unit
F 670	MECHANICAL WINCH 500	500	9.00	1
F 671	MECHANICAL WINCH 1 000	1 000	9.00	1

Overhead pulling grip and swivel



Single eye grip

Description

- With one eye, closed at one end (with a spliced core lug).
- Cable-end pulling.
- Manufactured in galvanised steel.

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Application

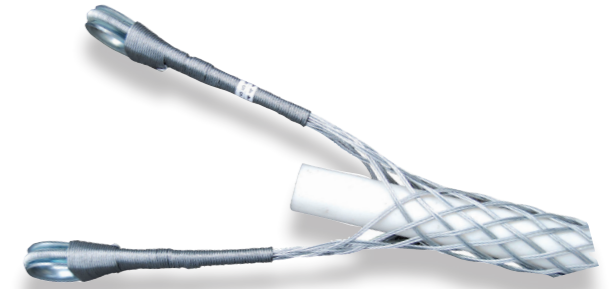
This overhead pulling grip is used for the pulling, unreeling and laying of bare and insulated overhead cables.

Code	Designation	Ø of cables (mm)	Maximum operating load	M (mm)	N (mm)	Weight (kg)	Sales unit
F 270	OVERHEAD PULLING GRIP SINGLE EYE Ø 8	8 to 10	0.400 T	250	125	0.070	1
F 271	OVERHEAD PULLING GRIP SINGLE EYE Ø 10	10 to 15	0.400 T	300	125	0.070	1
F 272	OVERHEAD PULLING GRIP SINGLE EYE Ø 15	15 to 20	0.800 T	350	130	0.129	1
F 273	OVERHEAD PULLING GRIP SINGLE EYE Ø 20	18 to 25	0.800 T	425	130	0.135	1
F 274	OVERHEAD PULLING GRIP SINGLE EYE Ø 25	23 to 30	1.650 T	475	135	0.225	1
F 275	OVERHEAD PULLING GRIP SINGLE EYE Ø 30	30 to 38	1.650 T	500	135	0.230	1
F 276	OVERHEAD PULLING GRIP SINGLE EYE Ø 35	35 to 43	3.400 T	525	150	0.445	1
F 277	OVERHEAD PULLING GRIP SINGLE EYE Ø 40	40 to 50	3.400 T	575	155	0.480	1

* The same models are available in stainless steel or in Rilsan. Please contact us.
Other sleeved models are also available.

Description

- Grip with two eyes, open at both ends.
- Pulling starts at the cable-end and continues in any part of the cable.
- Manufactured in galvanised steel.



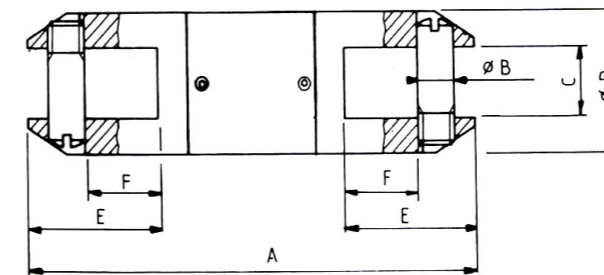
Double eye grip

Code	Designation	Ø of cables (mm)	Maximum operating load	M (mm)	N (mm)	Weight (kg)	Sales unit
F 280	OVERHEAD PULLING GRIP DOUBLE EYE Ø 8	8 to 10	0.400 T	250	125	0.100	1
F 281	OVERHEAD PULLING GRIP DOUBLE EYE Ø 10	10 to 15	0.400 T	300	125	0.142	1
F 282	OVERHEAD PULLING GRIP DOUBLE EYE Ø 15	15 to 20	0.800 T	350	130	0.150	1
F 283	OVERHEAD PULLING GRIP DOUBLE EYE Ø 20	18 to 25	0.800 T	425	130	0.157	1
F 284	OVERHEAD PULLING GRIP DOUBLE EYE Ø 25	23 to 30	1.650 T	475	135	0.271	1
F 285	OVERHEAD PULLING GRIP DOUBLE EYE Ø 30	30 to 38	1.650 T	500	135	0.276	1
F 286	OVERHEAD PULLING GRIP DOUBLE EYE Ø 35	35 to 43	3.400 T	525	150	0.520	1
F 287	OVERHEAD PULLING GRIP DOUBLE EYE Ø 40	40 to 50	3.400 T	575	155	0.560	1

* The same models are available in stainless steel or in Rilsan. Please contact us.



Overhead swivel



Application

This overhead swivel is used between two overhead pulling grips to replace an old conductor by a new one or between a pulling grip and the wire rope on the winch. It prevents any twisting of the conductor during pulling, unreeling and laying. All of the parts are made of alloyed steel.

Code	Designation	A (mm)	B (mm)	C (mm)	Ø D (mm)	E (mm)	Linear break-down	Weight (kg)	Sales unit
F 250	OVERHEAD SWIVEL DIAMETER 14	61	6	6	14	16	1 650daN	0.075	1
F 251	OVERHEAD SWIVEL DIAMETER 16	70	6.5	8	16	19	1 700daN	0.100	1
F 252	OVERHEAD SWIVEL DIAMETER 22	88	8.5	10	22	29	4 600daN	0.230	1
F 253	OVERHEAD SWIVEL DIAMETER 34	122	12	16	34	35	6 500daN	0.520	1
F 254	OVERHEAD SWIVEL DIAMETER 38	122	12	16	38	35	9 500daN	0.690	1
F 255	OVERHEAD SWIVEL DIAMETER 55	200	16	32	55	35	5 000daN	2.000	1

LV insulated toolings and gloves

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Application

These insulated tools and gloves are used during work on A.B.C. (Aerial Bundled Conductors) and on underground conductors. They are used during low voltage implementation operations (500V).

2 in 1 composite insulated gloves



Description

These gloves combine high dielectric performance and mechanical strength and are used without leather gloves. They have the following technical characteristics:

- Efficient "grip",
- Pair of mitten inner-gloves supplied,
- Product compliant with **IEC 60903:2002**.

Maximum usage voltages:

- 1 000 Volts for LV gloves,
- 36 000 Volts for Class 4 gloves,
- For other Classes, please contact us.

5 000V insulated latex gloves



Description

These class 00 latex gloves are used exclusively for protection against any low voltage electrical shocks. Before using, the gloves must be inflated with air in order to detect any faults. A visual inspection is then carried out. They are considered out of date after 6 months of use.

Handling gloves



Description

The insulated gloves are put inside the leather gloves to protect them against sharp and cutting objects. A scratch band secures the gloves at the wrists.

Code	Designation	Weight (kg)	Sales unit
F 083	COMPOSITE GLOVES 2 IN 1 FOR LV Size 10	0.400	1
F 084	COMPOSITE GLOVES 2 IN 1 CLASS 4 Size 10	0.400	1
F 080	INSULATED LATEX GLOVES 5 000V Size 10	0.258	1
F 081	HANDLING GLOVES Size 10	0.158	1

Comment: for other sizes, please contact us.

Safety goggles



Description

These UV goggles are packed in a plastic box to protect them from any scratches. They are designed to protect eyes from any low voltage electrical shocks (5 000V).

Brush



Description

This brush is used with neutral grease to brush conductor cores in order to remove the oxide film.

Insulated cross spanner 8 - 10 - 13 - 17mm



Description

The particular structure of this spanner allows it to be easily held. Generally, 13 and 17mm spanners are used for the implementation of insulation piercing connectors. The 4 sides are insulated from one another.

Insulated ratchet wrench hexagonal



Description

This ratchet spanner is generally used for the implementation of connectors. It has a H13/H17 end fittings. It is manufactured in accordance with the Standard: **DIN EN 60900 : 2012 = 1000V + double triangle**.

Holding spanner



Description

The holding spanner is designed to make implementation of service connectors easier. It is positioned on the connector walls.

Insulated wedge separator



Description

The wedge separator is used to separate a conductor in an aerial bundle or in an underground cable to enable localised work on this conductor. It consists of 2 wedges linked by a 1m long cord. Each black wedge is made of strong synthetic material, and is UV, shock and cold resistant.

2 separations are possible:

- 2cm: for the installation of connectors.
- 4cm: for the installation of anchoring and pulling devices.

A hole at the end enables insertion of a tool to make 90° rotation easier, providing the separation of 2 to 4cm. Very smooth ribs and a slight penetration angle make wedge insertion in the cable easier.

Neutral grease



Description

This tube of neutral grease is used to brush the conductors to be connected and thus protect the electrical connection. The nozzle enables grease to be applied to contacts that are difficult to access. The neutral grease complies with the ERDF technical guide. It is neutral as regards aluminium and copper. It has the following technical characteristics:

- A high drop point (190°),
- A wide temperature range (-20°C up to + 120°C).

Code	Designation	Weight (kg)	Sales unit
F 082	SAFETY GOGGLES	0.029	1
F 450	BRUSH FOR CONDUCTOR WITH CASE	0.080	1
F 460	INSULATED CROSS SPANNER 8-10-13-17mm	0.400	1
F 445	INSULATED RATCHET WRENCH HEXAGONAL 13/17mm	0.380	1
K 004	HOLDING SPANNER CBS/RDP	0.083	20
K 005	INSULATED WEDGE SEPARATOR	0.358	5
K 007	INSULATED WEDGE SEPARATOR 200x15x9mm	0.052	100
L 024	CONTACTAL N190 NEUTRAL GREASE - TUBE OF 100g	0.115	1

Hydraulic crimping tool



F 400



F 420 - F 421 - F 422



F 407



F 408

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Application

These crimping tools are used during the implementation of crimp connectors on bare or insulated conductors. They are designed for the crimping of junction sleeves and lugs.
They are available in 2 versions: hydraulic and electro-hydraulic.

Description

Hydraulic version:

- The ergonomic mobile handle enables the beginning of crimping by operating the tool with one hand.
- A developed force of 50kN enables the crimping of the connectors.
- The safety valve and audible "click" ensure efficient crimping and good protection of the hydraulic closing system.
- The ram retract mechanism is actuated by a release trigger.
- A 13mm stroke enables crimp connectors to be crimped between 6 and 150mm².
- The 180° rotating head facilitates use in any situations.
- The length is 365mm.
- The 430x280x75mm metal carrying case can contain one hydraulic crimping tool and up to 12 dies.
- This hydraulic crimping tool meets the criteria of **NF C 20-130**.

Electro-hydraulic version:

- The force developed is 60kN maximum.
- The crimping time varies between 5 and 8 seconds depending on the section.
- The return is automatic after complete crimping.
- The autonomy is approximately 120 crimping operations.
- The U A5 adaptor is used to assemble the E140, E173 and E215 dies.
- The product is delivered in a highly resistant plastic case.

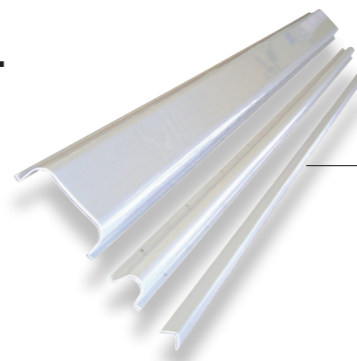
References

Code	Designation	Weight (kg)	Sales unit
F 400	50kN HYDRAULIC CRIMPING TOOL	2.350	1
F 401	CARRYING CASE FOR 50kN HYDRAULIC CRIMPING TOOL	2.850	1
F 420	HEXAGONAL DIE TYPE E140	0.115	1
F 421	HEXAGONAL DIE TYPE E173	0.115	1
F 422	HEXAGONAL DIE TYPE E215	0.115	1
F 407	60kN ELECTRO-HYDRAULIC CRIMPING TOOL	4.500	1
F 408	HEXAGONAL DIE ADAPTER	0.110	1

Other dies and other hydraulic tools are available. Please contact us.

Warning and protection accessories

Protective duct for aerial-subsurface connection



MICHAUD

Application

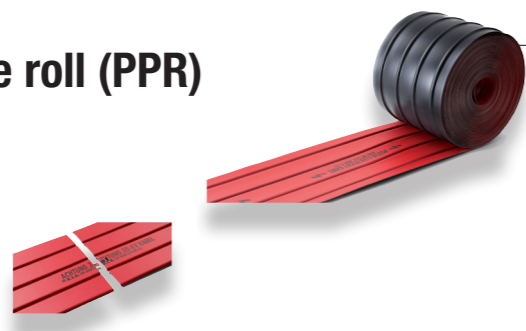
These PVC ducts are used to protect aerial-subsurface connections on poles or façades. They are fixed on poles using straps or to façades using screws.

References

	Code	Designation	Use	Length	Weight (kg)	Sales unit
	N 273	PROTECTIVE DUCT GPT 30.30 GREY	Earth wire	2m60	0.550	10
	N 274	PROTECTIVE DUCT GPC 35.35 GREY	LV 4x50 maxi	2m75	1.010	10
	N 275	PROTECTIVE DUCT GPC 60.60 GREY	LV 3x240 + 95 maxi	2m75	1.960	10
	N 276	PROTECTIVE DUCT GPC 90.90 GREY	MV 3x150 + 50 maxi	2m75	2.780	5
	N 277	PROTECTIVE DUCT GPC 120.120 GREY	MV 3x150 + 50 maxi	2m75	4.260	5
	N 278	PROTECTIVE DUCT GPC 140.50 GREY	MV 3x240 maxi	2m75	3.060	5

Other protective ducts are available in colour or in aluminium. Please contact us.

Protection plate roll (PPR)



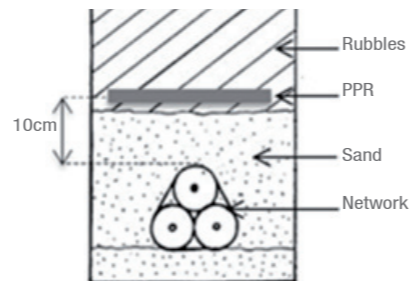
MICHAUD

Application

This protection plate roll (PPR) is used to protect underground networks from extraction. It can be used for underground network under weak load, engineering structure crossing, or in area of high density network.

Description

- This protection plate roll meets the Standard **DIN 54841-5** specifications.
- It offers a permanent mechanical protection.
- It is rot-proof, corrosion & water resistant, and shock absorbing.



References

Code	Designation	Dimensions LxHxD (mm)	Weight (kg)	Sales unit
U 590	PROTECTION PLATE ROLL (width 120mm)	50000 x 120 x 2	12.000	1
U 591	PROTECTION PLATE ROLL (width 160mm)	50000 x 160 x 2	16.000	1
U 592	PROTECTION PLATE ROLL (width 180mm)	50000 x 180 x 2	18.000	1
U 593	PROTECTION PLATE ROLL (width 240mm)	25000 x 240 x 2	12.000	1
U 594	PROTECTION PLATE ROLL (width 300mm)	25000 x 300 x 2	15.000	1

These references are offered in red colour. Other colours are available, please contact us.

Corrugated tube



SELECTED BY
MICHAUD

Application

The corrugated tubes are used to protect and insulate electrical cables and wires.

Description

- These tubes are made from polyolefins.
- They are available in black.
- They have the following characteristics:
 - * Scratch resistance: 320N,
 - * Shock resistance: 2J.
- Their minimum and maximum temperatures for use and installation are between -5°C and 90°C.
- Their dielectric strength is from 2 000V - 50Hz for 15min.
- Their insulation resistance is $\leq 100M\Omega$ under 500V dc.
- Their degree of protection is IP44 with accessories.

References

Code	Designation	External diameter (in mm)	Tolerance	Minimal internal diameter (in mm)	Bending radius (in mm)	Sales unit
F 140	RINGED TUBE DIAMETER 16 (100m)	16	0 / -0.3	10.7	48	1
F 141	RINGED TUBE DIAMETER 20 (100m)	20	0 / -0.3	14.1	60	1
F 142	RINGED TUBE DIAMETER 25 (100m)	25	0 / -0.4	18.3	75	1
F 143	RINGED TUBE DIAMETER 32 (50m)	32	0 / -0.4	24.3	96	1
F 144	RINGED TUBE DIAMETER 40 (50m)	40	0 / -0.4	31.2	160	1

Warning grille



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MICHAUD

Application

This warning grille is used to indicate the presence of low voltage power line cables buried in the ground.

Description

- This flexible grille complies with European Standard **NF EN 12613**.
- It is available in 3 widths: 100, 200 and 300mm.
- It is made of red or green synthetic material according to the requirement.

References

Code	Designation	Width (m)	Length (m)	Sales unit
F 860	WARNING GRILLE 300m (width 0.1m)	0.1	300	3
F 861	WARNING GRILLE 100m (width 0.2m)	0.2	100	1
F 862	WARNING GRILLE 100m (width 0.3m)	0.3	100	1

LV protection and cabinets

LV protection and cabinets

Aerial fuse switch disconnecter

Fuse switch disconnecter 100A (Size 22x58)	p.116
Fuse switch disconnecter 160A (size 00)	p.118
Gang fuse switch disconnecter 160A	p.120
Cutout sleeve 100A	p.122
Fuse switch connector 20A and 63A	p.124
Operating stick	p.126
Fuse cartridge	p.128

Pit cutout

Fuse insulation piercing pit connector 100A	p.130
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Short-circuiting, earth system and surge protection device

Insulation piercing connector for measures and short-circuiting	p.132
Earth system and short-circuiting device	p.134
Switch earth system and short-circuiting device for Gang FSD	p.136
Surge protection device connector (LV overvoltage protection accessory)	p.138
Earth rod (copper plated steel)	p.140
Earth rod (threaded copper plated steel)	p.142

LV modular connection cabinet

REMIC equipped cabinet	p.144
REMIC bare cabinet	p.146
REMIC set of bars support	p.148
REMIC network module	p.150
REMIC fuse service module	p.152
REMIC multitap service connection	p.154
REMIC disconnection and protection module	p.156
REMIC insulation bloc module	p.158
Accessories for emerging connection	p.160



Optimising the performance of LV networks



Protection of overhead networks

Low Voltage networks are usually structured in a star shape from the LV/MV transformer and are not looped. A single short-circuit could therefore make an entire network fail, creating

customer service disruptions.

The use of **protections on strategic points of the network** would provide protection against this risk, thereby offering better management of the propagation of faults. The service offered by the electricity company is thus of a better quality.

Aerial fuse switch disconnectors are also a low-cost solution for **protecting individual homes** that could be placed in the public domain for electricity company employees.

Compared to a usual protection cabinet, an aerial fuse switch disconnector is approximately 30% more economical. The equipment acquisition costs, the implementation costs and the operating costs are therefore reduced. Usually installed at the top of poles and operated from the ground, they minimise the risks of damage and prevent any handling by unauthorised persons, thereby offering further protection against electrocution risks.



Protection of underground networks

The emerging connection system combines the advantages of an underground network (aesthetics, line burying, safety) with those of the overhead network (easy

operation and maintenance).

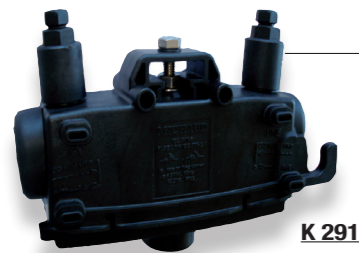
This results in the grouping of an underground network connections and protections inside an accessible box. It provides:

- Simple or protected network outlets,
- Simple or protected service outlets,
- Short-circuiting,
- Supply system.

These functions are provided by modules fixed on a set of bars support made of entirely insulated aluminium, thus offering total flexibility and modularity during operation.

The set of bars support adapts to any type of cabinet, of the DIN, EN, NF, etc., type and offers a competitive solution whilst being designed for a 400A transit, corresponding to the maximum current of transformer LV output cables.

Fuse switch disconnecter 100A (Size 22x58)



K 291



K 49X

MICHAUD

Application

This fuse switch disconnecter (FSD) is a single phase device. It is installed at the top of pole or on façade. It protects the overhead connection supplying an individual customer and the low voltage network.

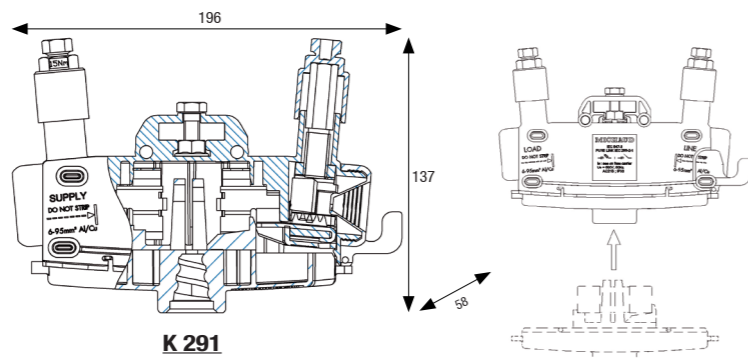
2 types of FSD are available:

- K 291 is suitable for a 22x58 100A fuse (according to IEC 269-2.1). The insulated conductor section ranges from Al-Cu 6 to 95mm².
- K 49X is designed to receive a neutral tube or a AD 100A maximum, size 22x58 fuse cartridge (according to IEC 269-2.1). The Al-Cu insulated conductor section ranges from 6 to 35mm².

Description

Fuse switch disconnecter 6-95mm² - 100A K291:

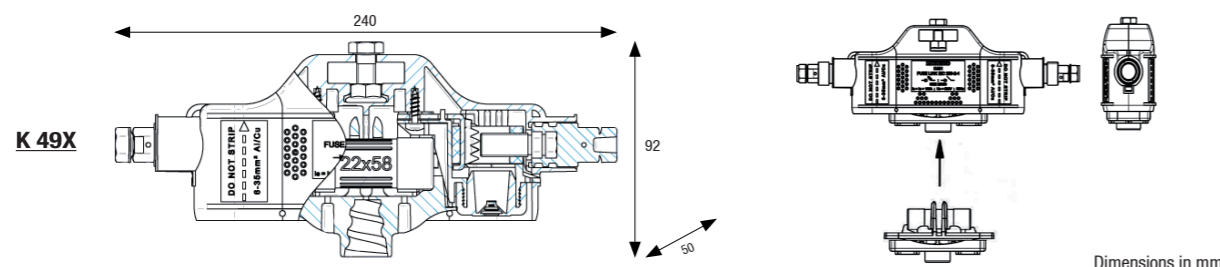
- The terminals are completely insulated. Connection is established using insulation piercing technology.
 - The tightening efficiency of the conductors is ensured by two shear head screws on top body.
 - The conductors are inserted on side.
 - The fuse holder is opened, removed and closed using a pigtail stick.
- Note: the fuse holder can be installed without fuses.
- The polarity test points are accessible on each terminal without removing the fuse holder.
 - The degree of protection is IP33.



K 291

Fuse switch disconnecter 6-35mm² - 100A K49x:

- The terminals are completely insulated. Connection is established using insulation piercing technology.
- The tightening efficiency of the conductors is ensured by two shear head screws on side body.
- The conductors are inserted from below.
- The fuse holder is opened, removed and closed using a pigtail stick (Note: the fuse holder can be installed without fuses).
- The screw heads and fuse holder can be sealed if necessary.
- The degree of protection is IP33.



K 49X

Dimensions in mm

This range meets the criteria of IEC 60 947-3.

Ratings

- Rated voltage, Ue : 500V
- Rated insulation voltage, Ui : 1 000V
- Rated frequency : 50 to 60Hz
- Rated current, Ie : 100A for K 291 and K 49X

Implementation

Fixing

The FSD can be fixed directly to a bracket using a supplied M8 screw made of stainless steel. K 291 can also be fixed on a wall using two 6mm screws.

Connection

"LEADING-IN" AND "LEADING-OUT" TERMINAL

It can be implemented on a live line, but with no load on the conductor section:

Al-Cu 6-95mm² for the K291, and Al-cu 6-35mm² for the K49x.

The terminals use insulation piercing technology:

- Insert the conductor fully into the terminal (the length as well as the insertion inclination are indicated on the FSD).
- Tighten using a 13mm spanner until the shear head breaks.

Note: The second screw head is only provided for possible dismantling.

Do not use it to re-tighten the screw after the first head has broken.

Installation

- FSD 22x58:**
- Insert the fuse into the housing provided on the fuse holder.
 - Position the assembly on the end of the stick.
 - Insert the assembly into the FSD up to the stop.

Polarity test for the K 291 only

A space is provided to access each terminal in order to check polarity.

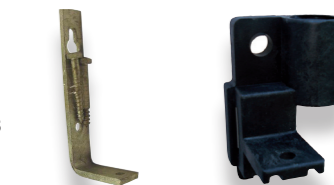
Code	Designation	Weight (kg)	Sales unit
K 291	SINGLE PHASE FSD 100A (Size 22x58)	0.507	1
K 490	SINGLE PHASE FSD 100A G2 (Size 22x58) (WITH NUMBER PLATE)	0.400	20
K 491	SINGLE PHASE FSD 100A G2 (Size 22x58) (WITHOUT NUMBER PLATE)	0.385	20
K 492	NUMBER PLATE FOR FSD K491 / CABLE	0.025	100

Accessories

The bracket is made of galvanised steel highly resistant to corrosion.

Fixing on a pole or façade is achieved by two 10mm diameter galvanised steel screws and two holes on the bracket (top hole having a key shape to make it easier to position the FSD).

The adaptor made of synthetic materials is designed to fix a fuse switch disconnecter on a "swan neck" type bracket. It can also be fixed using a strap or 2 screws.



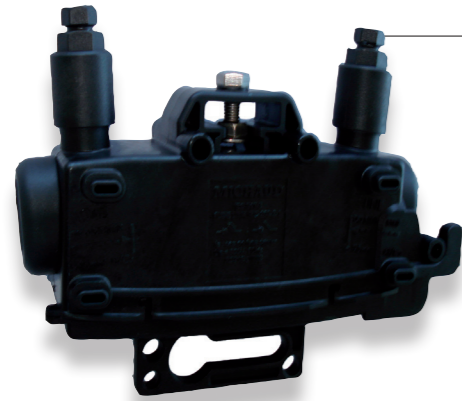
Bracket K 297 Adaptor K 295

Code	Designation	Weight (kg)	Sales unit
K 295	PLASTIC ADAPTOR FOR SINGLE PHASE FSD BRACKET	0.066	5
K 297	BRACKET FOR SINGLE PHASE FSD	0.493	30

- SEE SHEET LV Connection / Tools & accessories / LV insulated toolings
- SEE SHEET LV protection and cabinets / Fuse cartridge
- SEE SHEET LV protection and cabinets / Operating stick

Fuse switch disconnecter 160A (Size 00) with fuse indicator options

MICHAUD



K 292

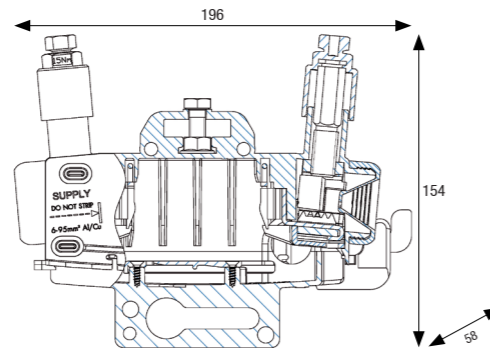
Application

This fuse switch disconnecter (FSD) is a single phase device. It is installed at the top of pole or on façade. It protects the overhead connection supplying an individual customer and the low voltage network. It is suitable for a 160A fuse or 240A solid connecting links size 00 (according to **IEC 269-2.1**). The insulated conductor section ranges from 6 to 95mm² Al-Cu. It presents on option fuse indicators:
- Blown fuse indicator.
- Display indicator.

Description

Fuse switch disconnecter 6-95mm² - 160A:

- The terminals are completely insulated. Connection is established using insulation piercing technology.
 - The tightening efficiency of the conductors is ensured by two shear head screws on top body.
 - The conductors are inserted on side.
 - The fuse holder is opened, removed and closed using a hook stick.
- Note: the fuse holder can be installed without fuses.
- The polarity test points are accessible on each terminal without removing the fuse holder.
 - The degree of protection is IP33.



K 292

Dimensions in mm

This range meets the criteria of **IEC 60 947-3**.

Ratings

- Rated voltage, Ue : 500V
- Rated insulation voltage, Ui : 1 000V
- Rated frequency : 50 to 60Hz
- Rated current, Ie : 160A

Code	Designation	Weight (kg)	Sales unit
K 292	SINGLE PHASE FSD 160A (Size 00)	0,470	1

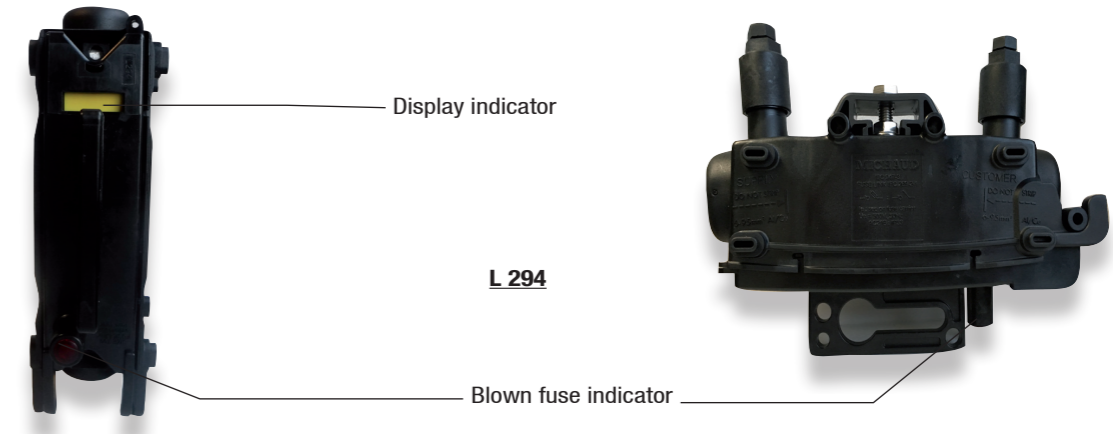
Accessories

FUSE INDICATOR OPTIONS:

Fuse switch disconnecter type K 292 can be delivered with the following options:

- Blown fuse indicator (**L 293**). The fuse carrier can also be sold as a spare part (**L 297**).
- Display and blown fuse indicators (**L 294**). The fuse carrier can also be sold as a spare part (**L 298**).

Fuse carriers L297 and L298 can be used with existing MICHAUD fuse switch disconnecter size 00 on the field for retrofit operations.



BRACKET OPTIONS:

The bracket is made of galvanised steel highly resistant to corrosion.

Fixing on a pole or façade is achieved by two 10mm diameter galvanised steel screws and two holes on the bracket (top hole having a key shape to make it easier to position the FSD).

The adaptor made of synthetic materials is designed to fix a fuse switch disconnecter on a "swan neck" type bracket. It can also be fixed using a strap or 2 screws.

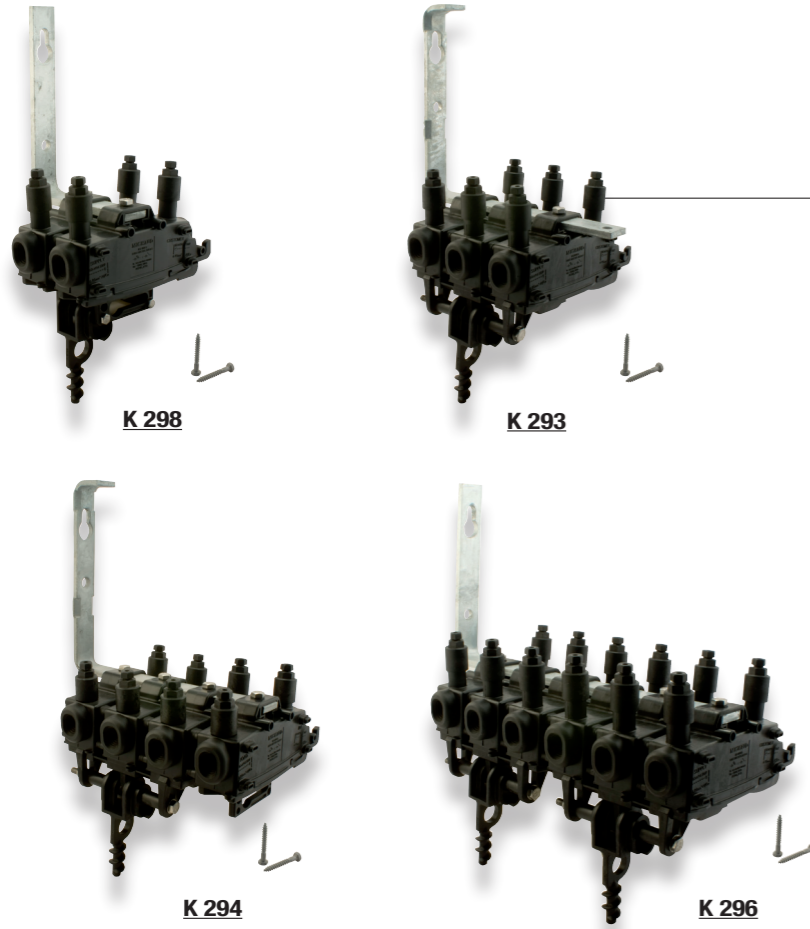


Bracket K 297 **Adaptor K 295**

Code	Designation	Weight (kg)	Sales unit
L 293	SINGLE PHASE FSD 160A (Size 00) WITH BLOWN FUSE INDICATOR	0.561	1
L 294	SINGLE PHASE FSD 160A (Size 00) WITH DISPLAY & BLOWN FUSE INDICATORS	0.561	1
L 297	FUSE CARRIER (Size 00) WITH BLOWN FUSE INDICATOR	0.091	1
L 298	FUSE CARRIER (Size 00) WITH DISPLAY & BLOWN FUSE INDICATORS	0.091	1
K 295	PLASTIC ADAPTOR FOR SINGLE PHASE FSD BRACKET	0.066	5
K 297	BRACKET FOR SINGLE PHASE FSD	0.493	30

- SEE SHEET
LV Connection / Tools & accessories / LV insulated toolings
- SEE SHEET
LV protection and cabinets / Fuse cartridge
- SEE SHEET
LV protection and cabinets / Operating stick

Gang fuse switch disconnecter 160A



MICHAUD

Application

This fuse switch disconnecter (FSD) is a multi-phase device. It is installed at the top of poles or on façades.

It protects the overhead service supplying one or more multi-phase customers or the low voltage circuit of a pole mounted transformer.

Four types of Gang FSD are available for 160A fuses and 240A size 00 solid connecting links (according to IEC 269-2.1):

- K 298 FSD Double pole,
- K 293 FSD Triple pole,
- K 294 FSD Quadruple pole,
- K 296 FSD Double triple pole.

The Al-Cu insulated conductor section ranges from 6 to 95mm².

Description

Fuse switch disconnecter

- The terminals are completely insulated. Connection is established using insulation piercing technology.
- The fuse holders are opened, removed and closed simultaneously using a hook stick or a stick to be screwed on the adaptor.
- The polarity test points are accessible on each terminal without removing the fuse holders.
- The Quadruple pole FSD (K 294) is equipped with a neutral blade contact size 00 integral with the fuse holder, on the neutral side (independent opening reaches to neutral cut).
- The degree of protection is IP33.

Bracket

- The bracket is made of galvanised steel highly resistant to corrosion. A hook at its end is used to fix a PA 25 type service anchoring clamp (except K 296 / K 298).
- Fixing on a pole or façade is achieved by two 10mm diameter galvanised steel screws and two holes on the bracket (top hole having a key shape to make it easier to position the Gang FSD). Fixing on poles can also be carried out using two stainless steel straps thanks to spurs on the bracket (except K 296 / K 298).
- Three types of brackets are available:
 - * 2 holes type for K 298,
 - * 4 holes type for K 293 and K 294,
 - * 6 holes type for K 296.

This range meets the criteria of **IEC 60 947-3** and **IEC 602 69-2**.

Implementation

Fixing

- Drill the pole or façade and fix the upper screw without tightening it completely.
- Attach the Gang FSD using the hole of the key shaped hole of the bracket.
- Drill the second hole on the pole using the one remaining on the bracket.
- Retighten the two screws fully.

Note: fixing can also be carried out using two stainless steel straps.

Connection

"LEADING-IN" AND "LEADING-OUT" TERMINALS

It can be implemented on a live line, but with no load on the conductor section: **Al - Cu 6-95mm²**.

The terminals use insulation piercing technology:

- Insert the conductor fully into the terminal.
- Comment: the length and the insertion inclination are indicated on the FSD.
- Tighten using a 13mm spanner until the shear head breaks.
- Only in the case of reuse, it can be disconnected live, but with no load. In this case, tighten the 17mm hexagonal head to a torque of 15Nm.

Note: A double tap is available by adding a K 098 end connector with two insulation piercing taps. Capacity is Al-Cu 6-35mm² insulated conductor.



K 098

Installation

- Insert the fuses into the housings provided on the fuse holders.
- Position the fuse holders on the end of the stick using the adaptor.
- Place the fuse holder axes in their housings on the "SUPPLY" side.
- Comment: the "V" shape of the fuse holders can be used as a guide.
- By rotating, slide the fuse holders into the FSD up to the stop.
- Possibility of sealing using clamps on the "CUSTOMER" side.

Polarity test

A space is provided to access each terminal in order to check the polarity.

References

Code	Designation	Weight (kg)	Sales unit
K 298	DOUBLE POLE FSD 160A (Size 00)	1.850	1
K 293	TRIPLE POLE FSD 160A (Size 00)	2.710	1
K 294	QUADRUPLE POLE FSD 160A (Size 00)	3.236	1
K 296	DOUBLE TRIPLE POLE FSD 160A (Size 00)	3.800	1
K 098	DOUBLE TAP END CONNECTOR (6-35mm ²)	0.114	12

Note: Fixing with two 10mm diameter galvanised steel screws is provided with the disconnecter.

Accessories

SEE SHEET
LV protection and cabinets / Fuse cartridge

SEE SHEET
LV protection and cabinets / Operating stick

Cutout sleeve 100A



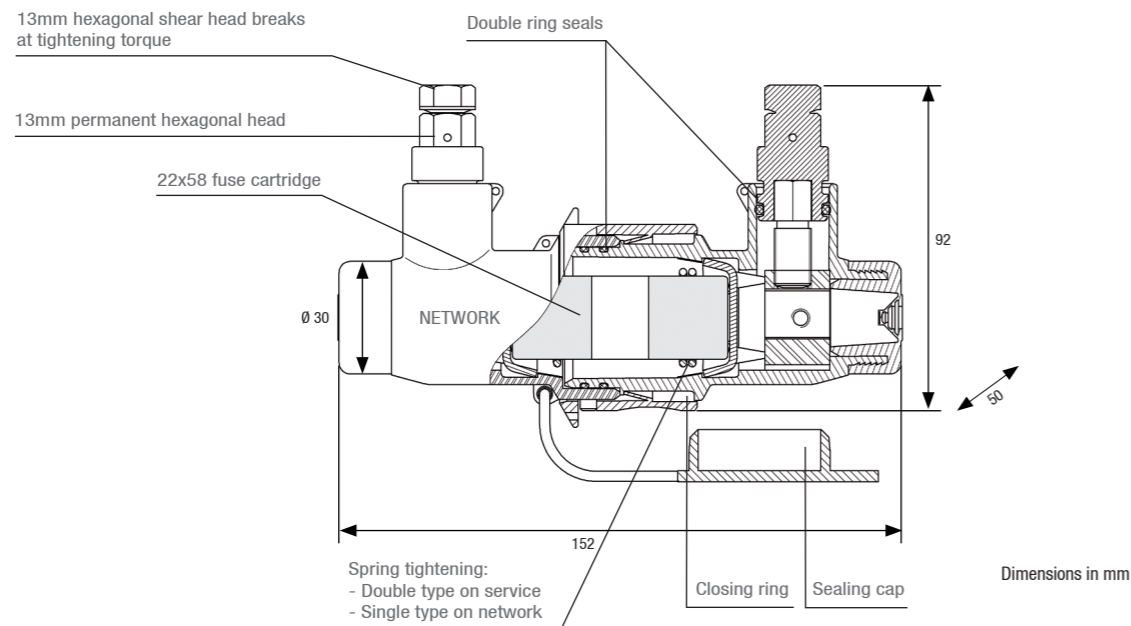
K 219
with stripping

K 221
with piercing

MICHAUD

Application

This cutout sleeve is designed to receive a fuse cartridge, a neutral tube or a 22x58 mini-switch. It is used in no mechanical load situations. It is equipped with mechanical tightening terminals allowing its implementation using a simple spanner. Opening and closing of the cutout can be performed under load.



Description

- Connection is established using insulation piercing technology for the K 221 and stripping technology for the K 219. The tightening screws are equipped with shear heads.
- The terminals offer the following capacities:
 - * 6-35mm² Al/Cu or 16M-50M Al for the K 221,
 - * 16-35mm² Al/Cu or 16M-50M Al for the K 219.
- The product has a dielectric strength in water greater than 6kV.
- The elastic tightening on the cartridge is calibrated so that when the cutout is opened, the cartridge remains on the customer side (therefore without voltage).
- A sealing cap temporarily protects the access on the network side.
- Once the cartridge has been installed, the product is locked using a sealable ring.
- The sealable ring and the 13mm screw can be sealed.
- The sleeve accepts 63A fuses. The 100A fuse is only accepted with 35mm² copper wiring.

Implementation

Conductor connection

- Connection can be carried out on a live-line but without load.
 - Move the sealing ring and separate both parts.
 - Identify the "CUSTOMER" and "NETWORK" sides.
 - Do not strip for K 221. Strip the conductor over the recommended length for K 219.
 - On the network side, temporarily protect the access by inserting the sealing cap.
 - Insert each conductor fully into the cutout sleeve on the appropriate side.
 - Visually check good insertion through the transparent wall located between the contacts of the cartridge.
 - Tighten using a 13mm spanner for hexagonal head until the shear head breaks.
- Note: The second screw head is only provided for possible dismantling. Do not use it to re-tighten the screw after the first head has broken.

Installation

- While waiting connection, the cutout sleeve can be closed without cartridge.
- Insert the neutral tube or fuse cartridge of the type 22x58 in the "CUSTOMER" side.
- Assemble the "NETWORK" and "CUSTOMER" parts.
- Lock both parts by moving the sealing ring.
- Seal the sealing ring and screws if necessary.

References

Code	Designation	Weight (kg)	Sales unit
K 221	CUTOUT INSULATION PIERCING SLEEVE 22x58 / 63A	0.235	10
K 219	CUTOUT STRIPPING SLEEVE 22x58 / 63A	0.235	10

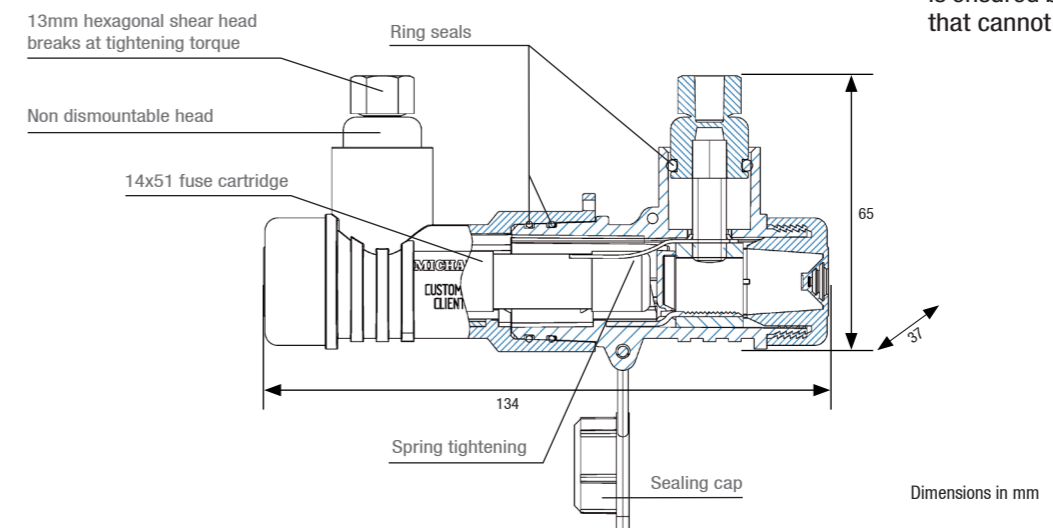
Alternative



K 220

MICHAUD

The cutout sleeve is also available in 14x51. It accepts fuses up to 50A and Al/Cu conductors from 2.5 to 16mm². Connection is established by stripping the conductor. Connection is ensured by a shear head screw that cannot be dismantled.



Code	Designation	Weight (kg)	Sales unit
K 220	CUTOUT STRIPPING SLEEVE 14x51 / 50A	0.195	20

Accessories

- SEE SHEET
LV Connection/Tools & accessories / LV insulated toolings
- SEE SHEET
LV protection and cabinets / Fuse cartridge

Fuse switch connector 20A and 63A

Fuse switch connector 20A



K 223 and K 224

K 228 and K 229

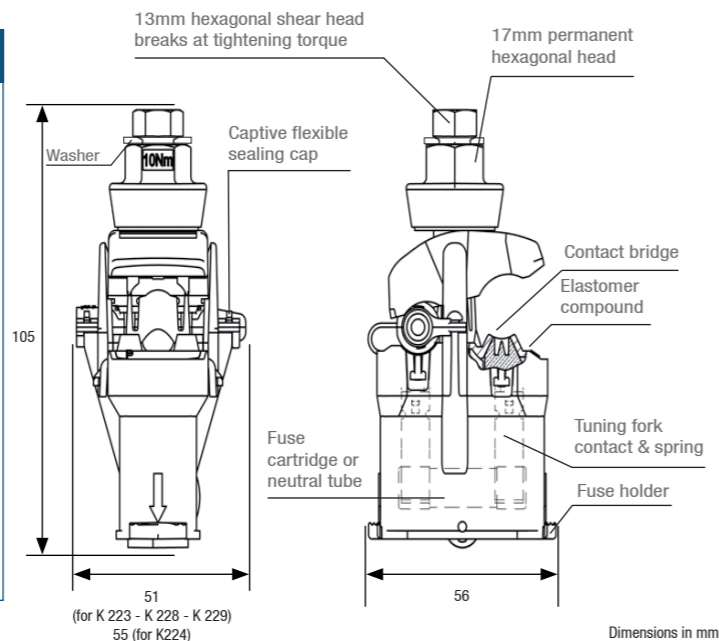
MICHAUD

Application

This fuse switch connector is designed to receive a 10.3x38mm fuse cartridge or neutral tube. It is used to protect street light or insulated service conductors connected to the low voltage A.B.C. (Aerial Bundled Conductors) or bare line conductors. It is designed for 20A maximum fuse cartridge. It is used in no mechanical load situations.

Description

- Tightening of the bare or insulated main line conductor and piercing on the tap line conductor are carried out simultaneously in a single operation.
- The sealing end cap is flexible in order to check good tap conductor insertion. It can be installed with service cable outlet on left or right side.
- Tightening efficiency is ensured by a shear head screw.
- An elastomer compound ensures insulation during piercing of the conductors to be connected.
- Contact of the fuse cartridge on the tuning fork contacts is ensured using springs.
- The sealable fuse holder is operated easily by hand. Two arrows engraved on the side of the box indicate the opening and closing direction to be followed.
- The degree of protection is IP2X during implementation. It becomes IP33 after installation on the insulated conductor.



Implementation

Conductor connection

- Connection can be carried out on a live line, with the fuse holder empty and no load on the tap conductor.
- Insert the end of the insulated tap conductor fully into connector flexible end cap.
- Position the connector vertically on the main conductor to be connected (insulated or bare) so that the fuse holder is at the bottom for correct operation (connection/disconnection).
- Use a 13mm spanner and tighten the connector on the main conductor (insulated or bare) until the shear head breaks.
- The 17mm permanent screw head is only provided for possible dismantling.

Installation

- While waiting connection, the cutout box can be closed without cartridge.
- Open the cutout (Note: the fuse holder is captive).
- Insert the 10.3x38mm neutral tube or fuse cartridge into the fuse holder.
- Close the fuse holder making sure to push it fully into the cutout box.
- Note: The connector must be vertical with the fuse holder box located at the bottom.
- Seal the fuse holder if necessary.

Code	Designation	Capacities Main (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 223	FUSE CONNECTOR PIERCING 20A - 95/10	Al / Cu Insulated 16-95	1.5-10	0.130	10
K 224	FUSE CONNECTOR PIERCING 20A - 95/16	Al / Cu Insulated 16-95	6-16	0.130	10
K 228	FUSE CONNECTOR BARE 20A - Cu 95/10	Cu bare 16-95	1.5-10	0.130	10
K 229	FUSE CONNECTOR BARE 20A - Al 95/10	Al bare 16-95	1.5-10	0.130	10

Fuse switch connector 63A



K 210

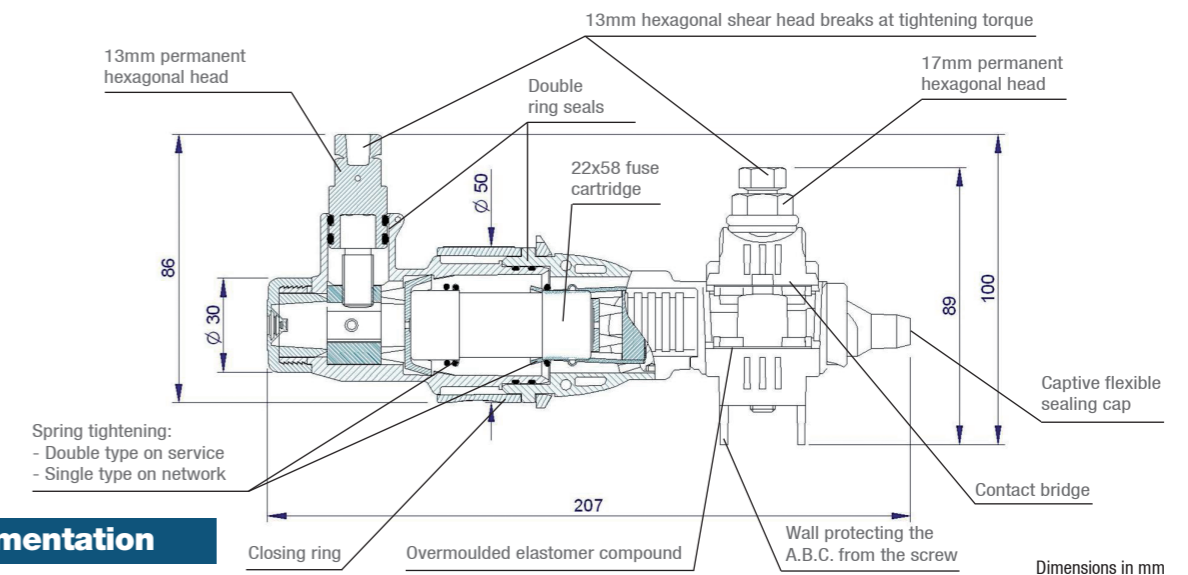
MICHAUD

Application

This fuse switch connector is designed to receive a 22x58mm fuse cartridge or neutral tube. It protects the insulated service conductors connected to a low voltage A.B.C. (Aerial Bundled Conductors). It is used in no mechanical load situations. Opening and closing of the cutout can be performed under a load of 63A maximum.

Description

- Insulation piercing on the main and tap conductors is carried out independently.
- Tightening efficiency is ensured by shear head screws. The dielectric strength in water is greater than 6kV. An elastomer compound ensures insulation during piercing of the conductors to be connected.
- The elastic tightening on the cartridge is calibrated so that when the cutout is opened, the cartridge remains on the customer side (therefore without voltage).
- Once the cartridge has been installed, the cutout is locked using a sealable ring.
- The sealable ring and the 13mm permanent head can be sealed.



Implementation

Main line

- It can be installed live.
- Use a 13mm hexagonal spanner and tighten the connector part on the main conductor until the shear head breaks.
- The 17mm permanent screw head is only provided for possible dismantling of the connector, and must not be used to re-tighten the screw after the 13mm head has broken.
- Tighten the black cable tie around the main conductor to ensure secure holding of the fuse switch connector.

Tap line

- Move the sealable ring and separate both parts. Do not strip the conductor to be connected.
- Give the tap conductor a "teardrop" shape, then insert the conductor fully into the cutout.
- Tighten using a 13mm hexagonal spanner until the shear head breaks.
- The second 13mm permanent screw head is only provided for possible dismantling, and must not be used to re-tighten the screw after the first head has broken.
- A second cable tie (not supplied) must be installed to ensure secure holding of the tap conductor on the main conductor.

Installation

- Insert the 22x58mm fuse cartridge or neutral tube on the "customer" side.
- Connection and disconnection can be carried out under a maximum load of 63A (100A accepted if 35mm² copper wiring)
- Assemble the two "connector" and "cutout" parts. Lock both parts by moving the sealable ring.
- Seal the sealable ring and the 13mm permanent hexagonal head of the cutout if necessary.

Code	Designation	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K 210	FUSE SWITCH CONNECTOR PIERCING 63A - 150/35	35-150	6-35	0.313	10

Accessories

- SEE SHEET
LV Connection / Tools & accessories / LV insulated toolings and gloves
- SEE SHEET
LV protection and cabinets / Fuse cartridge

Operating stick



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Application

This telescopic operating stick is used to check that there is no voltage, to earth or operate a switch, remotely from the ground.

Each model is equipped with a notched universal U-shaped terminal end.

Description

- The stick and the extension comprise 1, 2 or 3 elements.
- Each element is made of glass fibre composite and has a high mechanical strength (standard **IEC 1235**).
- The upper tube is filled with yellow foam to ensure the dielectric strength in the upper part.
- The hollowed lower tube receives the upper tube, in retracted position. It is entirely treated against humidity by siliconisation (the retracted or deployed position is locked using a push button).
- The work must be operated, with limited load at the top, with no mechanical stresses (twisting).
- The assembly can be used for low voltage applications at any time when the stick is deployed.
- The stick is equipped with:
 - * A U-shaped notched universal end for fixing a suitable terminal end (wing nut equipped),
 - * A second end with a mount equipped with a protected connection for the optional extension,
 - * A hand grip for secure holding.
- Stick diameter: 42mm.
- Stick length: a number of models are available (see description of the references table).
- Note: the stick and the extension can be delivered in a protective cover.

References

Code	Designation	Elements number	Extension bar application	Length when closed	Length when opened	Weight (kg)	Sales unit
F 200	OPERATING STICK 2E - 1.5M (TERMINAL END U)	2	Non	0.85m	1.50m	1.050	1
F 201	OPERATING STICK 2E - 2M (TERMINAL END U)	2	Oui	1.10m	2.00m	1.200	1
F 202	OPERATING STICK 2E - 3.2M (TERMINAL END U)	2	Oui	1.75m	3.20m	1.500	1
F 203	OPERATING STICK 2E - 5M (TERMINAL END U)	2	Oui	2.65m	5.00m	3.000	1
F 204	OPERATING STICK 3E - 4.5M (TERMINAL END U)	3	Non	1.65m	4.50m	3.000	1
F 205	OPERATING STICK 3E - 5M (TERMINAL END U)	3	Non	1.85m	5.00m	4.000	1
F 206	OPERATING STICK 3E - 6M (TERMINAL END U)	3	Non	2.50m	6.00m	5.000	1
F 207	OPERATING STICK 1E - 1M	1	Non	1.00m	1.00m	0.800	1
F 208	PROTECTIVE COVER FOR OPERATING STICK	1	Non	2.00m	2.00m	0.600	1

Accessories



To operate a fuse switch disconnecter remotely from the ground, the notched universal U-shaped threaded terminal end is fixed to the handling pole.

It can be used to operate a fuse switch disconnecter manually, without loss of handling thanks to its handle shape.

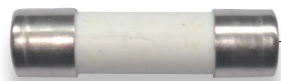


A terminal end with bores is also available for the mono-bloc fuse holder of the Gang fuse switch disconnecters.

Code	Designation	Weight (kg)	Sales unit
F 209	BORED TERMINAL END DISCONNECTOR / STICK	0.105	10
F 210	THREAD TERMINAL END DISCONNECTOR / POLE	0.035	10

Fuse cartridge

Fuse cartridge type gG



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Application

These gG fuses are used to protect goods. They are placed in a cutout sheltered from outside weather conditions.

gG 10.3x38 fuse cartridge description

- The size of these fuse cartridges is 10.3x38mm.
- They are of the type gG HPC (High Breaking Capacity).
- The characteristics are as follows:
 - * Voltage ~: 500V,
 - * No light indicator,
 - * Breaking capacity: 100kA.
- These fuses meet the criteria of **NF/EN/IEC 60269-1**, **NF HD/IEC 60269-2**, **NF C 60200-1** and **NF C 60200-2**.

References

Code	Designation	Weight (kg)	Sales unit
F 058	FUSE CARTRIDGE 10.3x38 1A (100 pieces)	0.700	1
F 062	FUSE CARTRIDGE 10.3x38 2A (100 pieces)	0.700	1
F 063	FUSE CARTRIDGE 10.3x38 4A (100 pieces)	0.700	1
F 064	FUSE CARTRIDGE 10.3x38 6A (100 pieces)	0.700	1
F 059	FUSE CARTRIDGE 10.3x38 8A (100 pieces)	0.700	1
F 067	FUSE CARTRIDGE 10.3x38 10A (100 pieces)	0.700	1
F 061	FUSE CARTRIDGE 10.3x38 12A (100 pieces)	0.700	1
F 072	FUSE CARTRIDGE 10.3x38 15A (100 pieces)	0.700	1
F 068	FUSE CARTRIDGE 10.3x38 16A (100 pieces)	0.700	1
F 069	FUSE CARTRIDGE 10.3x38 20A (100 pieces)	0.700	1

Note: Other 10.3x38 fuses can be supplied upon request: please contact us.

Fuse cartridge type AD



22x58 cartridge



Size 00 cartridge

MICHAUD

Application

These AD fuse cartridges are used with the circuit-breaker installed on the individual service connection. They perform the cutoff for high short-circuit currents and thereby extend the service life of the associated circuit-breaker, which is not overloaded.

22x58mm AD fuse cartridge description

- The size of these fuse cartridges is 22x58mm.
- There are 3 models depending on the nominal current of the circuit-breaker to which they must be connected: AD 30A, AD 45A, AD 60A.
- Low power loss limits heating of the device supporting the fuse and extends its service life.
- These fuses meet the criteria of **NF/EN/IEC 60269-1**, **NF HD/IEC 60269-2**, **NF C 60200-1** and **NF C 60200-2**.

Code	Designation	Weight (kg)	Sales unit
N 201	FUSE CARTRIDGE 22x58 AD 30A	0.054	10
N 202	FUSE CARTRIDGE 22x58 AD 45A	0.054	10
N 203	FUSE CARTRIDGE 22x58 AD 60A	0.055	10
P 117	NEUTRAL TUBE 22x58	0.020	20

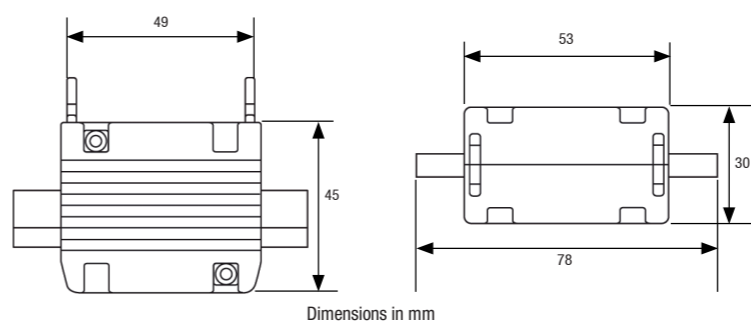
Note: Other 22x58 fuses can be supplied upon request. Please contact us.

Size 00 fuse cartridge description

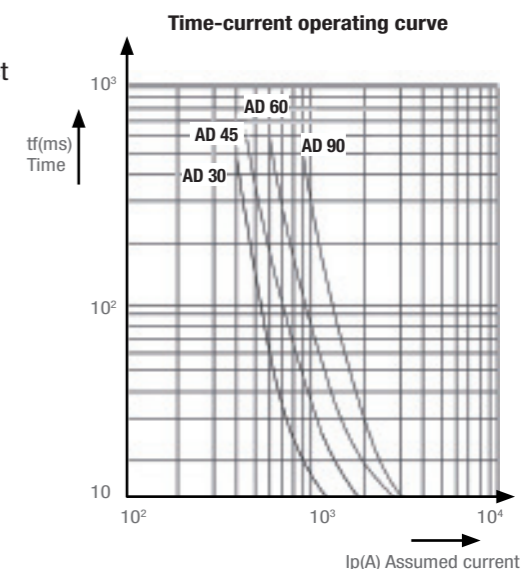
- These blade fuse cartridges are size 00 according to the standard **IEC 60269-2-1**.
- There are 4 models depending on the nominal current of the circuit-breaker to which they must be connected: AD 30A / AD 45A / AD 60A / AD 90A.
- The fixing brackets are made of insulating synthetic materials.
- The accessible metal parts (screws), with the exception of the blades, are potential free and also have the degree of protection IP2X according to **NF EN 60529**.
- Low power loss limits heating of the device supporting the fuse and extends its service life.
- These fuses meet the criteria of **HN 62-S-83**.

Caractéristiques

- The fuse cartridges are specified for a nominal voltage of 440V in alternating current with nominal frequency of 50Hz.
- The nominal breaking capacity is 20kA.
- Consumption and heating:
The values given in the table opposite are maximum values under the effect of a current equal to 1.1 times the nominal current in stabilised voltage.



Model	Resistance to 20°C (μΩ)	Consumption (W)	Blade temperature rise (°K)
AD 30	1150	1.4	9
AD 45	740	2.1	16
AD 60	650	3.3	20
AD 90	430	5.1	34



Code	Designation	Weight (kg)	Sales unit
P 241	FUSE CARTRIDGE SIZE 00 AD 30A	0.148	10
P 242	FUSE CARTRIDGE SIZE 00 AD 45A	0.148	10
P 243	FUSE CARTRIDGE SIZE 00 AD 60A	0.151	10
P 244	FUSE CARTRIDGE SIZE 00 AD 90A	0.147	10
P 240	NEUTRAL BLADE CONTACT SIZE 00	0.062	10

Variation

Code	Designation	Weight (kg)	Sales unit
P 236	FUSE CARTRIDGE SIZE 00 100A	0.148	10

Accessory



The operating handle is used to install and extract fuses size 00 and size 2 in devices when these are not equipped with an integrated gripping device.

Code	Designation	Weight (kg)	Sales unit
P 237	HANDLE FOR FUSES SIZE 00 - SIZE 2	0.256	1

Fuse insulation piercing pit connector 100A



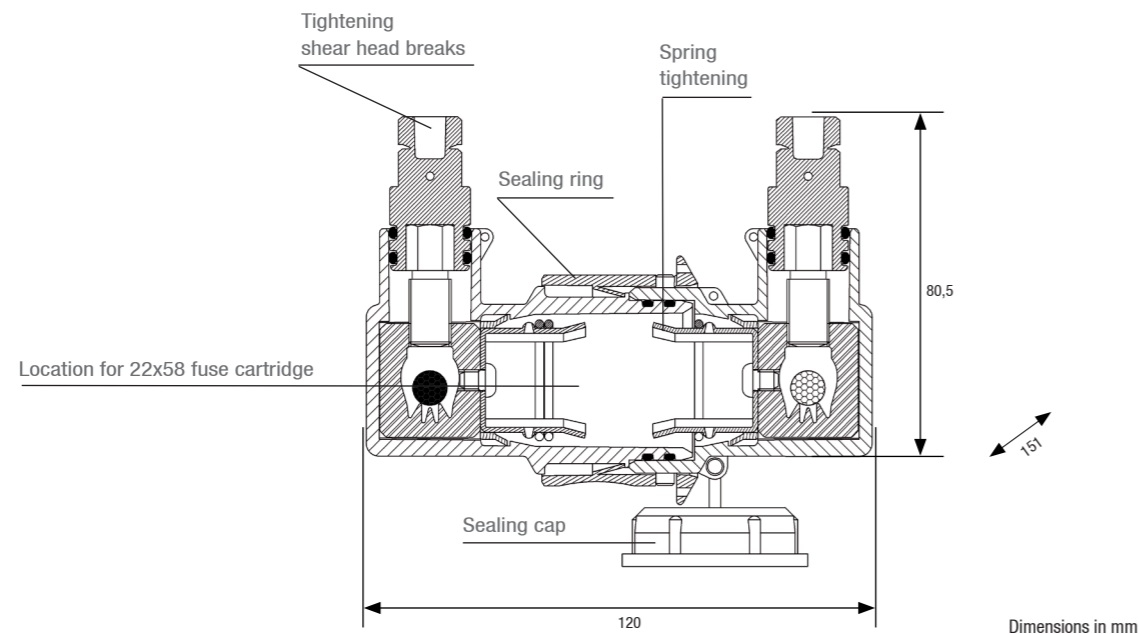
MICHAUD

Application

This Fuse Insulation Piercing Pit Connector (IPPC) is designed to use a 22x58 size fuse cartridge, a neutral tube or a mini-switch. It is used to connect a customer service line to an underground conductor. It is designed to be installed in a pit and to operate partially and temporary immersed in water. It is equipped with mechanical tightening terminals allowing its implementation on a conductor using a simple spanner.

Description

- Terminals use insulation piercing technology.
- Tightening efficiency is ensured by shear head screws.
- The connection is totally watertight.
- The terminals offer a capacity of Al/Cu from 6 up to 50mm².
- The elastic tightening of the cartridge is calibrated so that when the connector is opened, the cartridge remains on the customer side (therefore without voltage).
- A sealing cap temporarily protects the access on the network side.
- Once the cartridge is installed, the connector is be locked using a sealable ring.



Implementation

Conductors connection:

- Implementation can be carried out on a live-line but without load.
 - Move the sealing ring and separate both parts.
 - Locate "CUSTOMER" and "SUPPLY" sides engraved on the body.
 - Do not strip the conductor.
 - Remove the seal caps.
 - For the multi-conductor cables:
 - * Apply a heat shrinkable sheath on each conductor,
 - * Strip the heat shrinkable sheath over a length of 35mm from the end of the conductor.
 - For insulated and sheathed cables:
 - Remove the outer sheath over a length of 35mm without stripping the conductor.
 - Insert the conductor fully into the connector piercing the inlet wall. Check that it is correctly positioned. To facilitate insertion of the 50mm² conductor, slightly unscrew the shear head.
 - On the "NETWORK" side, temporarily protect the access by inserting the sealing cap.
 - Tighten using a 13mm hexagonal spanner until the shear head breaks (10Nm).
- NOTE: The permanent head is only provided for possible dismantling. Do not use it to re-tighten the screw after the first head has broken.

Installation:

- While waiting connection, the connector can be closed without cartridge.
- Connection and disconnection can be carried out under load.
- Insert the 22x58 neutral tube or 60A fuse cartridge in the "CUSTOMER" side (100A accepted if 35mm² copper wiring).
- Remove the sealing cap on the "NETWORK" side.
- Assemble the "CUSTOMER" and "NETWORK" parts.
- Lock both parts by moving the sealing ring.
- Seal the sealing ring and screws if necessary.

Reference

Code	Designation	Weight (kg)	Sales unit
K 199	FUSE INSULATION PIERCING PIT CONNECTOR	0.302	10

Accessories

- SEE SHEET
LV connection / Tooling & accessories / LV toolings
- SEE SHEET
LV protection and cabinets / Fuse cartridge

Insulation piercing connector for measures and short-circuiting

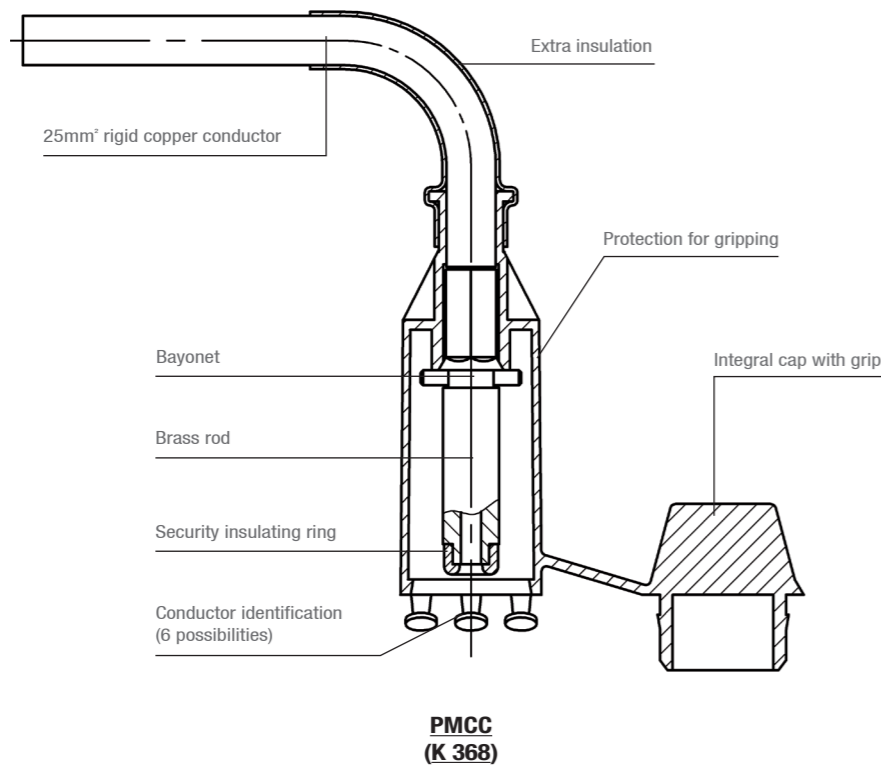


Connector CMCC/CT

MICHAUD

Application

This I.P.C. (Insulation Piercing Connector) is used for short-circuiting or earth system of low voltage A.B.C. (Aerial Bundled Conductors). It is also used for taking voltage measurements.



PMCC (K 368)

Description

- Connection is established by insulation piercing technology.
- Dielectric strength in water is greater than 6kV.
- Tightening screw is the only accessible metal part and is potential free.
- Tightening efficiency is ensured by shear head screw.
- The end socket is protected by an integral cap preventing the water penetration and corrosion.
- This I.P.C. meets the requirements of the **NF C 33-020** and **EN 50-483**.

Implementation

- Check that the tap socket is completely inserted in the connector.
- Position the connector on the main conductor.
- Use a 13mm spanner and tighten the connector on the insulated conductor of the A.B.C. until shear head breaks.
- The 17mm permanent head is only provided for possible dismantling, and must not be used to re-tighten the screw after the 13mm shear head has broken.

References

- Zinc-plated Fastener (ZF):

Code	Designation	Capacities Main insulated Al-Cu (mm)	Weight (kg)	Sales unit
K 362	CONNECTOR CMCC/CT 25 ZF	16 - 25	0.225	10
K 363	CONNECTOR CMCC/CT 70 ZF	16 - 70	0.226	10
K 361	CONNECTOR CMCC/CT 95 ZF	16 - 95	0.228	10
K 364	CONNECTOR CMCC/CT 150 ZF	16 - 150	0.234	10

The connector K 362 is adapted from an ERDF connector type K 322 (CBS/CT 25).
The connector K 363 is adapted from an ERDF connector type K 323 (CBS/CT 70).
The connector K 364 is adapted from an ERDF connector type K 324 (CBS/CT 150).

Accessories



PMCC Socket

The short-circuiting and earth system socket (PMCC) can be sold separately. This tap socket can be used with the entire range of 6kV CBS/CT MICHAUD connectors.

Code	Designation	Weight (kg)	Sales unit
K 368	SHORT-CIRCUITING AND EARTH SYSTEM SOCKET	0.102	25



SEE SHEET

Tools & Accessories / LV insulated toolings

Earth system and short-circuiting device

Short-circuiting device



6 sockets
(K 008)

MICHAUD

Application

This device is used for short-circuiting and earth system a low voltage A.B.C. (Aerial Bundled Conductors). It is connected to a connector for measures and short-circuiting (CMCC).

Description

- This device comprises 6 or 7 insulated sockets closing with a bayonet system on the CMCC connector.
- Connection between the sockets is established with a 25mm² flexible copper conductor.
- The electrical characteristics are:
 - * Short-circuiting capacity : 4 000A/second,
 - * Permanent current capacity: 200A.

References

The device is packed in a plastic case.

Code	Designation	Weight (kg)	Sales unit
K 008	SHORT-CIRCUITING EQUIPMENT 6 SOCKETS	2.490	1
K 009	SHORT-CIRCUITING EQUIPMENT 7 SOCKETS	3.000	1

Earth system equipment



Earth system equipment
(K 006)

MICHAUD

Application

This equipment is used for earth system a low voltage A.B.C. (Aerial Bundled Conductor). It is connected on short-circuiting device linked to CMCC connectors (for measures and short-circuiting).

Description

- This equipment is composed of the following elements:
 - * Earth system clamp,
 - * 10m long 25mm² copper insulated flexible conductor,
 - * Insulated socket closing with a bayonet system on CMCC connector tap socket.
- The electrical characteristics are:
 - * Short-circuiting capacity : 4 000A/second,
 - * Permanent current capacity: 200A.
- The earth system rod is made of galvanised steel (to be ordered in addition).

References

The equipment is packed in a plastic case (excepted earth system rod).

Code	Designation	Weight (kg)	Sales unit
K 006	EARTH SYSTEM EQUIPMENT	4.000	1
F 243	EARTH SYSTEM ROD GALVANISED STEEL L = 1m	2.000	10

Note: for other earth system rods and earth system equipments, please contact us.

Switch earth system and short-circuiting device for Gang FSD



MICHAUD

Application

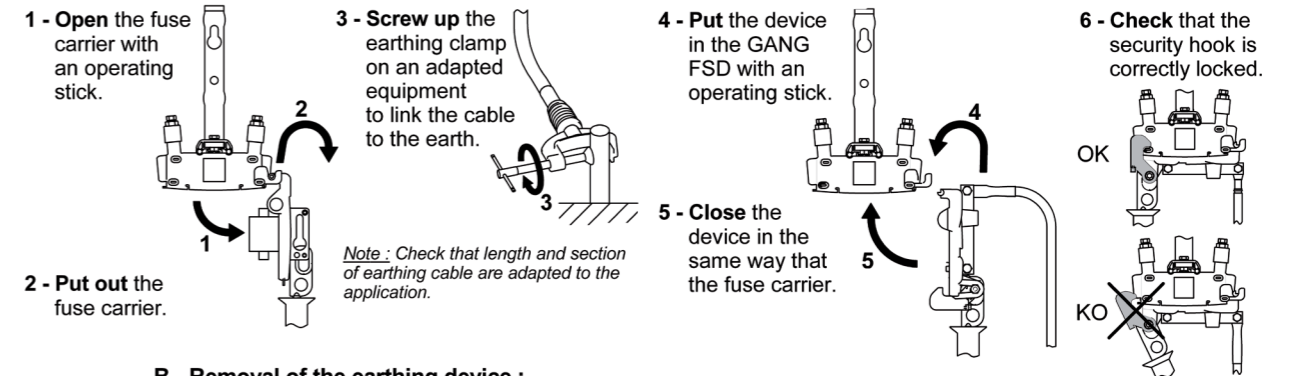
This device is used for short-circuiting and earth system a low voltage A.B.C. (Aerial Bundled Conductor). It is connected to the MICHAUD 3-pole type pole-mounted Gang fuse switch disconnecter.

Description

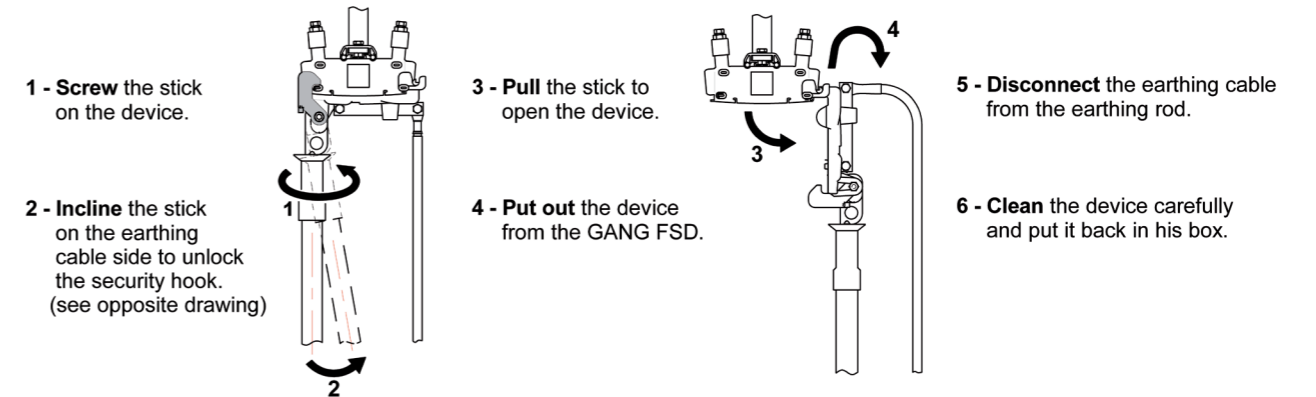
- The short-circuiting of the Gang fuse switch disconnecter poles is carried out using a tinned metal comb bar. This bar can be seen from the bottom of the pole which constitutes an visual indicator of the short-circuiting of the poles.
- A safety hook made of synthetic material ensures correct closing of the bar holder on the body of the Gang fuse switch disconnecter. The load related to the weight of the copper cable is offset towards the bar rotational axis via the presence of a metal bar. This assembly prevents the device from being opened when the operator pulls on the cable.
- A 2.5m long 35mm² copper cable with transparent insulation is fixed to the metal bar using a terminal lug. The other end of the cable is linked to the earth system clamp.
- The short-circuiting capacity is 9kA maximum over 500V.
- The device is delivered in a plastic case ensuring safe transport and storage.

Implementation

A - Installation of the earthing device :



B - Removal of the earthing device :



Replacement of the copper cable:

The copper cable with transparent insulation and earth system clamp can be damaged during careless handling. Therefore, it should be replaced to ensure correct use of the device in complete safety. For this, dismount the existing cable and replace it with a new MICHAUD model by screwing the terminal lug on the metal bar of the device.

References

Code	Designation	Weight (kg)	Sales unit
K 010	GANG FSD EARTH SYSTEM DEVICE 3 POLES	2.500	1
K 012	GANG FSD EARTH SYSTEM DEVICE COPPER CABLE (2.5m / 35mm ²)	1.400	1

Accessories

- **SEE SHEET**
LV protection and cabinets / Aerial fuse switch disconnecter + Gang fuse switch disconnecter 160A

Surge protection device connector (LV overvoltage protection accessory)

MICHAUD

Application

The surge protection device connector (SPD IPC) is used to protect low voltage overhead lines and electric equipment against over-voltages. It enables the current from the lightning to be lead to the ground.

The surge protection device connector includes the following elements:

- An insulation piercing connector,
- A terminal outlet inserted in the end cap of the connector,
- A surge protection device (metal oxide overmoulded with silicone) screwed into the terminal outlet,
- An earth system tail welded to the surge protection device.

The surge protection device reacts:

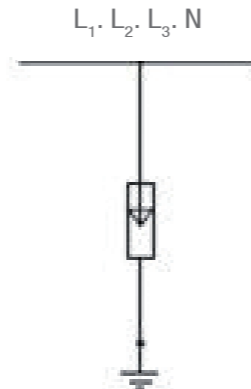
- After a certain number of over-voltages, when the current passing through the surge protection device increases by more than 1mA,
- In the case of atmospheric discharge (lightning strike), the current exceeding 65mA.

After the surge protection device has reacted, the earth system tail physically separates from the connector. The surge protection device then needs to be replaced with an available spare part (comprising the surge protection device and the earth system tail).

K 241 - K 242



K 243 - K 244



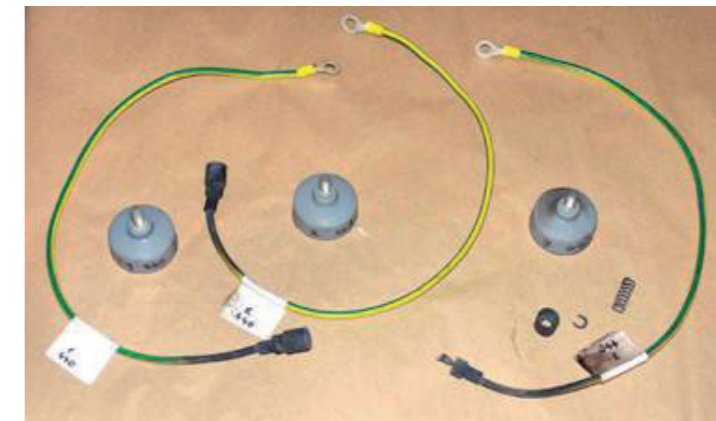
Drawing of connection

Description

- Use outside only.
- Maximum altitude: 2000m.
- Ambient temperature: from -40 to +70°C.
- Frequency: 48-62Hz.
- The surge protection device is Class II as defined in the specifications of **IEC 61643-1**.
- The connector, the terminal outlet, the surge protection device and the tail are made of UV and flame resistant materials.
- The connector is equipped with a 0.5m long, 6mm² insulated black multi-stranded tail.
- Degree of protection: IP67.
- Response time: < 25 ns.

Implementation

- The location of the surge protection device connection is decided according to the technical specifications and guidelines of the electrical regulatory authorities. These connectors must be installed on all overhead service and network line conductors, the phase(s) and neutral being linked by earth system tails.
- To protect long sections of overhead lines, it is recommended to use at least one surge protection device connector every 500 metres.
- Check that the terminal outlet is inserted into the connector fully and correctly.
- Position the connector on the conductor so that the surge protection device and its tail are directed towards the ground.
- Using a 13mm spanner, tighten the shear head until it breaks. The 17mm head is only provided for the dismantling. Do not use it to re-tighten.
- When the surge protection device connector has been used, protecting the power line against over-voltages, the earth system tail is automatically disconnected from the base of the silicone cylinder. A new surge protection device, available as a spare part, must replace the old one (the photo below shows the protection accessories after over-voltage). To do this, unscrew the old part of the silicone surge protection device from the terminal end and screw in a spare surge protection device, join all of the earth system tails together and link them to the earth.



Characteristics

Code	Designation	I _{max} Maximal discharge current	U _c Continuous operating voltage (AC)	I _n Nominal discharge current	U _p Protection level at I _n
K 241	SPD IPC 15kA/275VAC 0.5m	40kA	275V(AC)	15kA	< 1.86kV
K 243	SPD SPARE PART 15kA/275VAC 0.5m	40kA	275V(AC)	15kA	< 1.86kV
K 242	SPD IPC 15kA/440VAC 0.5m	40kA	440V(AC)	15kA	< 2.24kV
K 244	SPD SPARE PART 15kA/440VAC 0.5m	40kA	440V(AC)	15kA	< 2.24kV

References

Code	Designation	Main line insulated Al-Cu (mm)	Weight (kg)	Sales unit
K 241	SPD IPC 15KA/275VAC 0.5m	16-95	0.300	30
K 243	SPD SPARE PART 15KA/275VAC 0.5m	-	0.170	30
K 242	SPD IPC 15KA/440VAC 0.5m	16-95	0.300	30
K 244	SPD SPARE PART 15KA/440VAC 0.5m	-	0.170	30

Upon request, the earth system tails can be delivered in different colours and lengths, and can be assembled with a terminal lug at their end. Please contact us.

Earth rod



Application

These earth rods are used for earth system power networks. The copper coating made by electrolytic process gives a resistance to corrosion as well as a good conductivity. The reference Standard is **EN 50 164-2**.

MIRELEC

Copper plated steel rod

References

50µm copper coating

Code	Designation	Nominal diameter (mm)	Real diameter (mm)	Length (m)	Weight (kg)	Sales unit
U 203	EARTH ROD COPPER 50µm L = 1m DIAM 12.7	14	12.7	1	1.025	10
U 204	EARTH ROD COPPER 50µm L = 1.5m DIAM 12.7	14	12.7	1.5	1.537	10
U 205	EARTH ROD COPPER 50µm L = 2m DIAM 12.7	14	12.7	2	2.050	10
F 226	EARTH ROD COPPER 50µm L = 1m DIAM 14	16	14	1	1.250	10
F 244	EARTH ROD COPPER 50µm L = 1.5m DIAM 14	16	14	1.5	1.900	10
F 245	EARTH ROD COPPER 50µm L = 2m DIAM 14	16	14	2	2.500	10

Nota : Other dimensions are available, please enquire.

254µm copper coating

Code	Designation	Nominal diameter (mm)	Real diameter (mm)	Length (m)	Weight (kg)	Sales unit
U 206	EARTH ROD COPPER 254µm L = 1m DIAM 14	16	14	1	1.250	10
F 249	EARTH ROD COPPER 254µm L = 1.5m DIAM 14	16	14	1.5	1.900	10
F 227	EARTH ROD COPPER 254µm L = 2m DIAM 14	16	14	2	2.500	10
U 207	EARTH ROD COPPER 254µm L = 3m DIAM 14	16	14	3	3.700	10
U 208	EARTH ROD COPPER 254µm L = 1m DIAM 17.2	19	17.2	1	2.000	10
U 209	EARTH ROD COPPER 254µm L = 1.5m DIAM 17.2	19	17.2	1.5	3.000	10
U 210	EARTH ROD COPPER 254µm L = 2m DIAM 17.2	19	17.2	2	4.000	10
U 211	EARTH ROD COPPER 254µm L = 3m DIAM 17.2	19	17.2	3	6.000	10

Nota : Other dimensions are available, please enquire.

350µm copper coating

Code	Designation	Nominal diameter (mm)	Real diameter (mm)	Length (m)	Weight (kg)	Sales unit
U 212	EARTH ROD COPPER 350µm L = 1m DIAM 17.2	19	17.2	1	2.000	10
U 213	EARTH ROD COPPER 350µm L = 1.5m DIAM 17.2	19	17.2	1.5	3.000	10
U 214	EARTH ROD COPPER 350µm L = 2m DIAM 17.2	19	17.2	2	4.000	10

Nota : Other dimensions are available, please enquire.

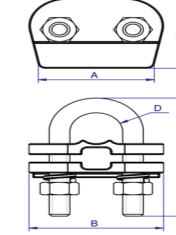
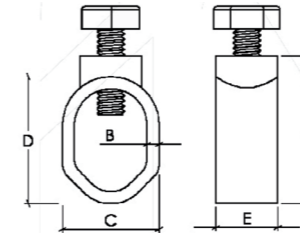
Clamps



Connection clamp - F 234



"U" bolt connection clamp - F 224



MIRELEC

Application

These clamps enable to establish a connection between the earth rod and the conductor. The cable can be fixed radially or axially by means of the "U" bolt clamp.

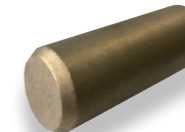
References

Code	Designation	Nominal rod diameter (mm)	Maximal conductors section (mm²)	Dimensions (mm)					Screw	Weight (kg)	Sales unit
				A	B	C	D	E			
F 234	CONNECTION CLAMP ROD DIAM 12.7 + 14 UNTHREADED	14 - 16	35	35	3	21	30	17.5	M8	0.050	20
F 246	CONNECTION CLAMP ROD DIAM 17.2 UNTHREADED	19	50	38	3	23	32	17.5	M8	0.050	20
F 224	"U" BOLT CONNECTION CLAMP ROD DIAM 12.7 TO 17.2 UNTHREADED	14 to 19	150	44	52	38	10.2	64	-	0.230	20

Accessories



Driving spike - F 229



Driving head - F 238

MIRELEC

Application

These driving spikes and heads are intended to protect the earth rod during the implementation. They enable to preserve the copper coating and its technical features.

References

Code	Designation	Nominal rod diameter (mm)	Weight (kg)	Sales unit
F 229	DRIVING SPIKE FOR ROD DIAM 12.7 + 14 UNTHREADED	14 - 16	0.115	10
F 239	DRIVING SPIKE FOR ROD DIAM 17.2 UNTHREADED	19	0.145	10
F 238	DRIVING HEAD FOR ROD DIAM 12.7 + 14 UNTHREADED	14 - 16	0.115	10
F 237	DRIVING HEAD FOR ROD DIAM 17.2 UNTHREADED	19	0.145	10

Earth rod



Application

These earth rods are used for earth system power networks. The thread on both ends makes the earth rod lengthening possible. The copper coating made by electrolytic process gives a resistance to corrosion as well as a good conductivity. The reference Standard is **EN 50 164-2**.

MIRELEC

Threaded copper plated steel rod

References

50µm copper coating

Code	Designation	Nominal diameter (mm)	Real diameter (mm)	Length (m)	Weight (kg)	Sales unit
U 215	EARTH ROD COPPER 50µm L = 1m DIAM 12.7 - 2 THREADS 9/16"	14	12.7	1	1.025	10
F 296	EARTH ROD COPPER 50µm L = 1.5m DIAM 12.7 - 2 THREADS 9/16"	14	12.7	1.5	1.537	10
U 216	EARTH ROD COPPER 50µm L = 2m DIAM 12.7 - 2 THREADS 9/16"	14	12.7	2	2.050	10
U 217	EARTH ROD COPPER 50µm L = 1m DIAM 14 - 2 THREADS 5/8"	16	14	1	1.250	10
F 235	EARTH ROD COPPER 50µm L = 1.5m DIAM 14 - 2 THREADS 5/8"	16	14	1.5	1.900	10
F 223	EARTH ROD COPPER 50µm L = 2m DIAM 14 - 2 THREADS 5/8"	16	14	2	2.500	10

Nota : Other dimensions are available, please enquire.

254µm copper coating

Code	Designation	Nominal diameter (mm)	Real diameter (mm)	Length (m)	Weight (kg)	Sales unit
U 218	EARTH ROD COPPER 254µm L = 1m DIAM 14 - 2 THREADS 5/8"	16	14	1	1.250	10
F 222	EARTH ROD COPPER 254µm L = 1.5m DIAM 14 - 2 THREADS 5/8"	16	14	1.5	1.900	10
F 221	EARTH ROD COPPER 254µm L = 2m DIAM 14 - 2 THREADS 5/8"	16	14	2	2.500	10
U 219	EARTH ROD COPPER 254µm L = 3m DIAM 14 - 2 THREADS 5/8"	16	14	3	3.700	10
U 220	EARTH ROD COPPER 254µm L = 1m DIAM 17.2 - 2 THREADS 3/4"	19	17.2	1	2.000	10
F 262	EARTH ROD COPPER 254µm L = 1.5m DIAM 17.2 - 2 THREADS 3/4"	19	17.2	1.5	3.000	10
U 221	EARTH ROD COPPER 254µm L = 2m DIAM 17.2 - 2 THREADS 3/4"	19	17.2	2	4.000	10
U 222	EARTH ROD COPPER 254µm L = 3m DIAM 17.2 - 2 THREADS 3/4"	19	17.2	3	6.000	10

Nota : Other dimensions are available, please enquire.

350µm copper coating

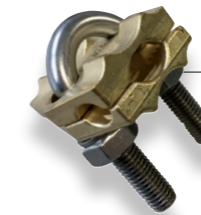
Code	Designation	Nominal diameter (mm)	Real diameter (mm)	Length (m)	Weight (kg)	Sales unit
U 223	EARTH ROD COPPER 350µm L = 1m DIAM 17.2 - 2 THREADS 3/4"	19	17.2	1	2.000	10
U 224	EARTH ROD COPPER 350µm L = 1.5m DIAM 17.2 - 2 THREADS 3/4"	19	17.2	1.5	3.000	10
U 225	EARTH ROD COPPER 350µm L = 2m DIAM 17.2 - 2 THREADS 3/4"	19	17.2	2	4.000	10

Nota : Other dimensions are available, please enquire.

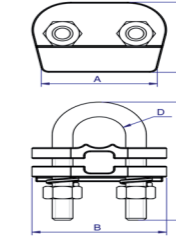
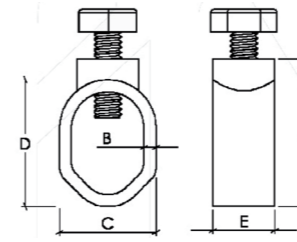
Clamps



Connection clamp - F 234



"U" bolt connection clamp - F 224



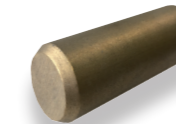
References

Code	Designation	Nominal rod diameter (mm)	Maximal conductors section (mm²)	Dimensions (mm)					Screw	Weight (kg)	Sales unit
				A	B	C	D	E			
F 234	CONNECTION CLAMP ROD DIAM 12.7 THREADED	14	35	35	3	21	30	17.5	M8	0.050	20
F 246	CONNECTION CLAMP ROD DIAM 14 + 17.2 THREADED	16 - 19	50	38	3	23	32	17.5	M8	0.050	20
F 224	"U" BOLT CONNECTION CLAMP ROD DIAM 12.7 TO 17.2 THREADED	14 to 19	150	44	52	38	10.2	64	-	0.230	20

Accessories



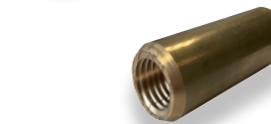
Driving spike - F 229



Driving head - F 238



Screw for coupling - F 228



Threaded coupling - F 298

References

Code	Designation	Nominal rod diameter (mm)	Weight (kg)	Sales unit
F 229	DRIVING SPIKE FOR ROD DIAM 12.7 THREADED	14	0.115	10
F 239	DRIVING SPIKE FOR ROD DIAM 14 THREADED	16	0.145	10
U 226	DRIVING SPIKE FOR ROD DIAM 17.2 THREADED	19	0.155	10
F 238	DRIVING HEAD FOR ROD DIAM 12.7 THREADED	14	0.115	10
F 237	DRIVING HEAD FOR ROD DIAM 14 THREADED	16	0.145	10
U 227	DRIVING HEAD FOR ROD DIAM 17.2 THREADED	19	0.155	10
F 298	THREADED COUPLING FOR ROD DIAM 12.7 THREAD 9/16"	14	0.090	10
F 236	THREADED COUPLING FOR ROD DIAM 14 THREAD 5/8"	16	0.115	10
F 265	THREADED COUPLING FOR ROD DIAM 17.2 THREAD 3/4"	19	0.155	10
U 228	SCREW FOR COUPLING FOR ROD DIAM 12.7 THREAD 9/16"	14	0.085	10
F 228	SCREW FOR COUPLING FOR ROD DIAM 14 THREAD 5/8"	16	0.100	10
U 229	SCREW FOR COUPLING FOR ROD DIAM 17.2 THREAD 3/4"	19	0.135	10

MIRELEC

Application

These clamps enable to establish a connection between the earth rod and the conductor. The cable can be fixed radially or axially by means of the "U" bolt clamp.

MIRELEC

Application

These driving spikes and heads are intended to protect the earth rod during the implementation. They enable to preserve the copper coating and its technical features. These threaded couplings enable to join two rods and get a deeper earth system.

REMIC equipped cabinet

**NEW
GENERATION**



MICHAUD

Application

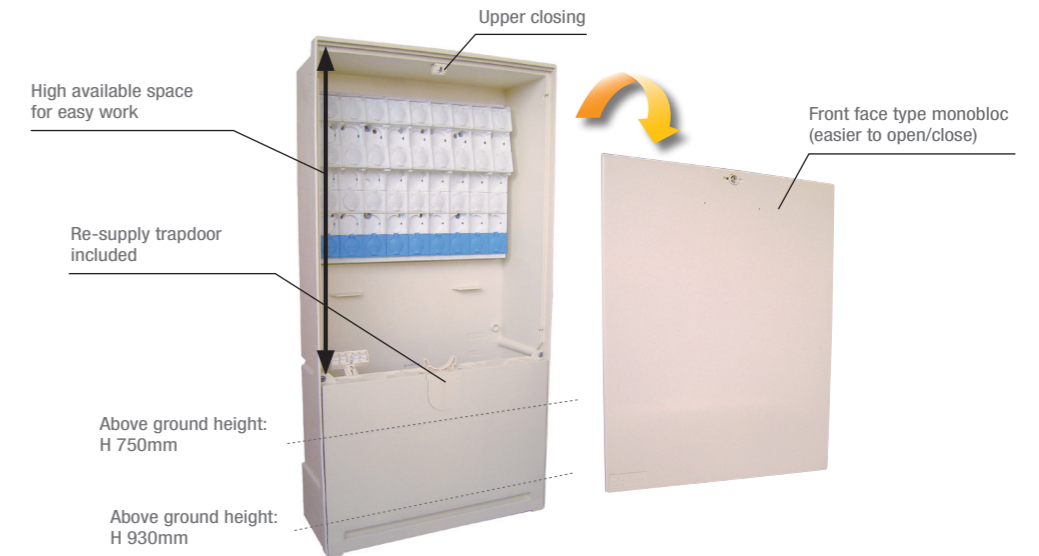
The equipped cabinets are delivered preassembled with 300, 450 or 600mm REMIC sets of bars supports and possibly a network cutting/protection module. They have an aesthetic compatible with other CGV, CIBE and GAZ cabinets in place. The top plinth is used to adapt the cabinets above ground height.

Description

- The sets of bars supports are fixed to the bottom of the cabinet.
- When delivered with an RCP or RRCP network cutting/protection module, it is installed on the 4 far left steps of the set of bars support (but can be moved as required).
- The cabinets offer an upper closing.
- Re-supply trapdoor is included in cabinets.
- The cabinets meet the criteria of **HN 63-S-65**.

Dimensions

SEE SHEET
LV modular connection cabinet / REMIC bare cabinet



References

Code	Designation	Weight (kg)	Sales unit
Q 680	REMIC 2014 CABINET 300 + JDB 300	14.734	1
Q 684	REMIC 2014 CABINET 450 + JDB 450	19.810	1
Q 688	REMIC 2014 CABINET 600 + JDB 600	23.328	1
Q 692	REMIC 2014 CABINET 450 + JDB 450 + RRC	24.160	1
Q 694	REMIC 2014 CABINET 450 + JDB 450 + RRCP	24.160	1
Q 696	REMIC 2014 CABINET 600 + JDB 600 + RRC	29.130	1
Q 698	REMIC 2014 CABINET 600 + JDB 600 + RRCP	30.030	1

JDB means "set of bars support".
RRC means " network cutting"
RRCP means " protection modules"
All of the references are available in remote meter reading system version: please contact us.

Accessory



The cabinets with remote meter reading system are equipped as standard with a self-adhesive interface to receive the 4 or 8-way self-stripping connection devices. This optional kit is another solution for users who prefer mechanical type fixing that is reliable even in dusty atmospheres. In addition, this kit is used to install the Euridis stripping bar P 280 (please contact us).

Code	Designation	Weight (kg)	Unit sale
Q 615	FIXING KIT FOR 4D-8D BAR	0.199	1

REMIC bare cabinet

NEW
GENERATION



Envelope 300:
6 connection terminals



Envelope 450:
9 connection terminals



Envelope 600:
12 connection terminals

The technical benefits

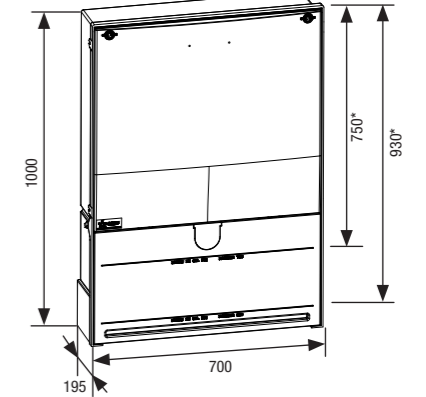
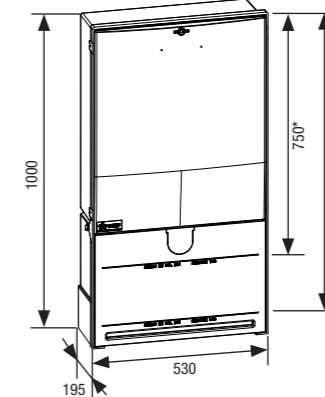
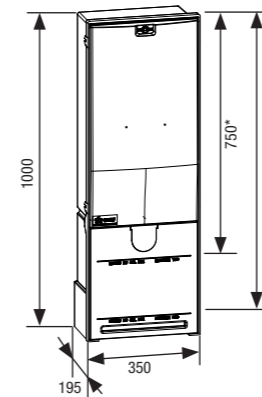
- A single cabinet model for 2 above ground heights.
- Aesthetically matches the S20 and S22 ranges.

MICHAUD

Application

REMIC cabinets exist in 3 widths and are designed to receive a 300, 450 or 600mm REMIC set of bars support. They use "common" equipment (direct connection network, service) and RRCP cutting / protection network connection modules. They are also designed for possible re-supply of the set of bars support without additional re-supply doors.

Dimensions



* Height outside ground

Dimensions in mm

References

Code	Designation	Weight (kg)	Sales unit
Q 667	REMIC 2014 CABINET 300	12.550	1
Q 673	REMIC 2014 CABINET 450	16.520	1
Q 669	REMIC 2014 CABINET 600	20.030	1

All of the references are available in remote meter reading system or with flash marking: please contact us.

Description

- These cabinets are moulded from glass fibre reinforced ivory polyester.
- The build-in depth is that of a conventional S20 cabinet.
- They are equipped with inserts for receiving the REMBT sets of bars supports.
- They have a degree of protection of IP33D according to **NF EN 60529** and IK10 according to **NF EN 62262**.
- They are available in 2 versions, with or without remote meter reading system. However, they are systematically delivered with a self-adhesive interface designed for receiving Euridis bus connection devices.
- The monobloc front face is completely removable to facilitate connection inside the cabinet.
- The plinth is used to adapt the above ground height of the cabinets (double marking for 750 or 930mm height).
- A re-supply trapdoor is included in the cabinet.
- The cabinets are delivered with their fixing foundations.
- These cabinets meet the criteria of **HN 63-S-65**.

Accessories

- **SEE SHEET**
LV modular connection cabinet / REMIC equipped cabinet

REMIC set of bars support

G3



Set of bars support 300
(Q 600)



Set of bars support 450
(Q 601)



Set of bars support 600
(Q 602)

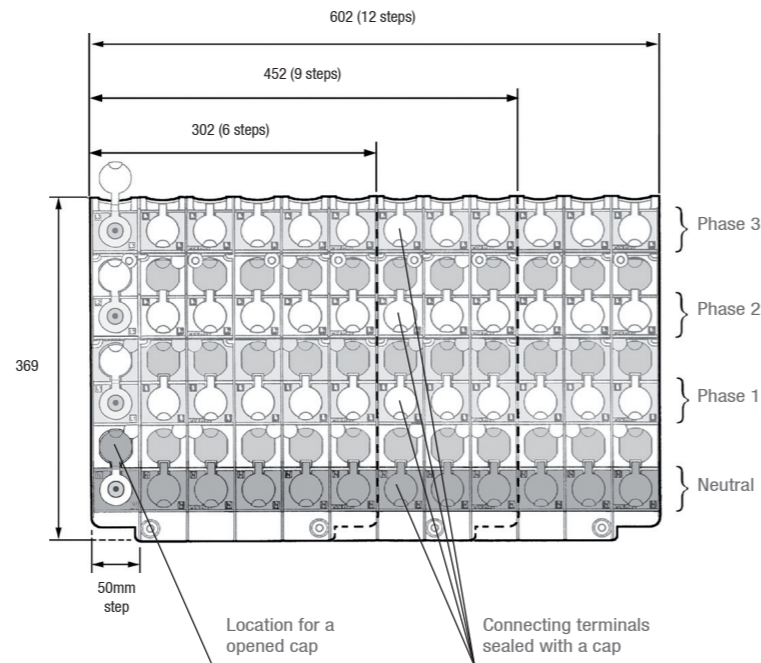
MICHAUD

Application

The sets of bars supports 300, 450 and 600 respectively offer 6, 9 and 12 connection terminals for each pole.

Description

- The sets of bars supports 300, 450 and 600 are respectively made of 6, 9 and 12 steps of 50mm.
- The set of bars support is fixed to the bottom of all REMBT cabinets on standardised inserts.
- The inclination of the phase bars facilitates connection.
- The poles are identified (N, L1, L2, L3).
- The modules are fixed using standardised M12 threads.
- The product is IP2X before and after implementation. The unused connection terminals are covered using a captive cap.
- A 400A re-supply device can be connected directly to the connection terminals. IP2X is maintained thanks to the 35mm diameter of the terminals.
- These sets of bars supports meet the criteria of **HN 63-S-65**.



Dimensions in mm

References

Code	Designation	Weight (kg)	Sales unit
Q 600	REMIC SET OF BARS SUPPORT 300	2.630	1
Q 601	REMIC SET OF BARS SUPPORT 450	3.755	1
Q 602	REMIC SET OF BARS SUPPORT 600	4.868	1

Accessories



Adaptors for S15-S20 cabinets

Code	Designation	Weight (kg)	Sales unit
Q 618	REMIC STANDARD S20 CABINET FRAME	1.030	1
Q 619	REMIC STANDARD S15 CABINET FRAME	1.554	1

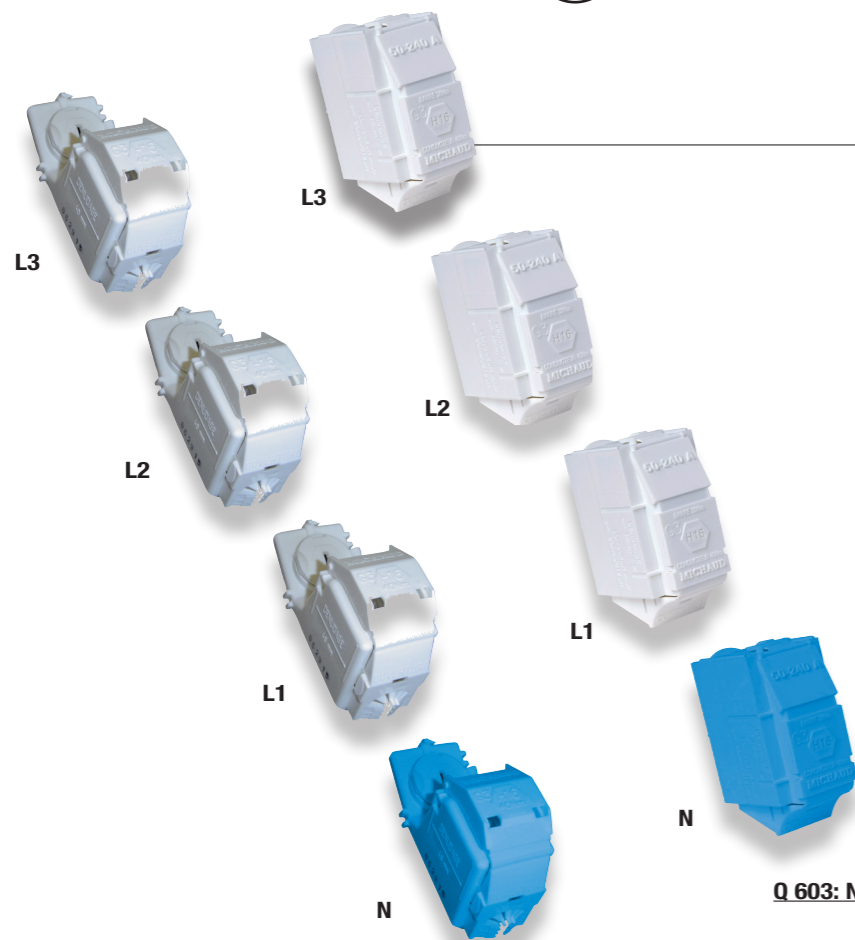


SEE SHEET

LV protection and cabinets / LV modular connection cabinet / Accessories for emerging connection

REMIC network module

G3



Q 612: Network module 50-150

Q 603: Network module 50-240

The technical benefits

- Easy implementation of the NETWORK module 50-240.
- 50mm² or 95mm² connection on a terminal of the NETWORK module 50-150.

MICHAUD

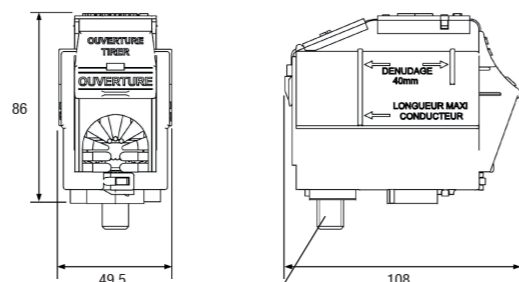
Application

The network module is available in 2 versions:
- 50-240mm²,
- 50-150mm².
It comprises one neutral terminal and three phase terminals.
It is installed on the M12 standardised connection terminals of the sets of bars supports.

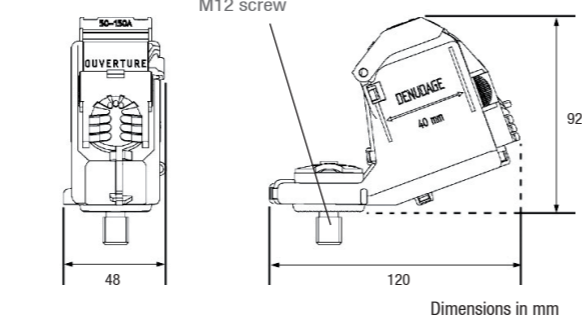
Description

- The terminals are Class A according to **NF C 63-061** (Electrical ageing: 700 cycles).
- They are IP2X before and after implementation regardless of the section of the conductors.
- The neutral is identified thanks to its blue colour.
- The terminals receive round or sectoral shape aluminium or copper conductors.
- The conductors are tightened using a hexagonal H14 shear head screw. A second H14 head is used for possible dismantling and reuse using a 40Nm torque wrench.
- This module meets the criteria of **HN 63-S-65**.

50-240 network module



50-150 network module

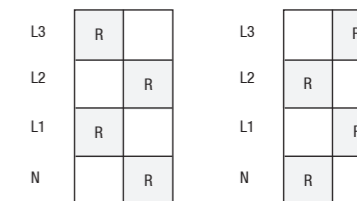


Dimensions in mm

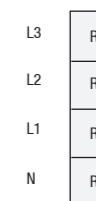
Implementation

PRINCIPLE

- For all cable sections
Install the network module on two 50mm steps. The design of the sets of bars supports allows one of the configurations opposite to be chosen.



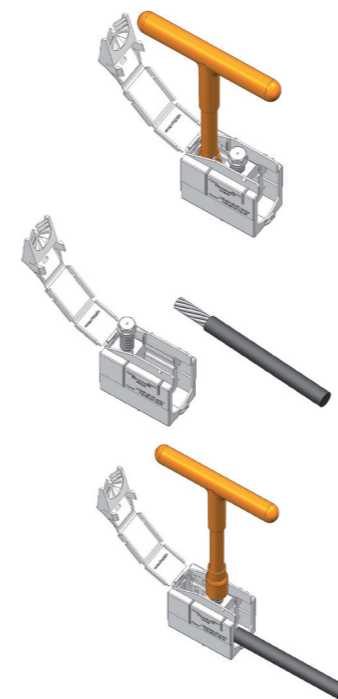
R = Network terminal



- For the cables with sections up to 95mm²
The network module 50-150 can be installed on only one step.

CHRONOLOGY OF THE OPERATIONS

- For the 50-240 module



1°) Fixing the terminal to the set of bars support (tightening at 30Nm).

2°) Moving the **captive** slide of the terminal to the top so the conductor can be grasped from the front.

3°) Tightening of the conductor until the shear head breaks after bringing the upper part of the terminal back to the bottom.

- For the 50-150 module

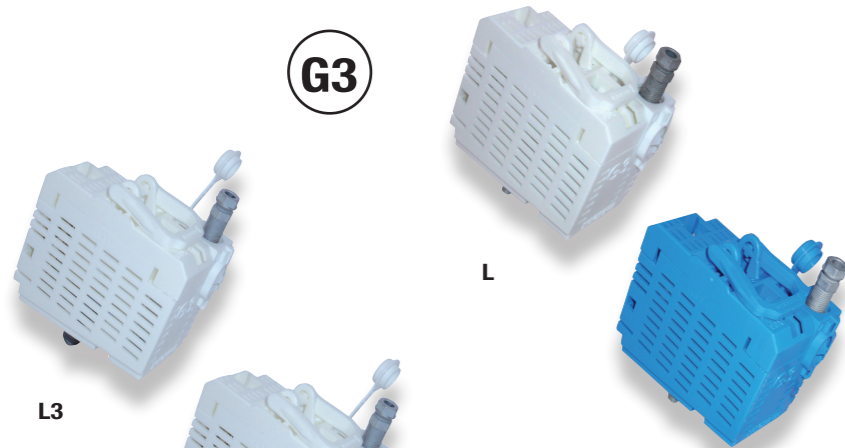
The principle is the same except the slide of the terminal does not have a retention system in the upper part (the slide is installed and removed from the front).

References

Code	Designation	Weight (kg)	Sales unit
Q 603	REMIC MODULE TYPE NETWORK RRD 50-240 (1 neutral + 3 phases)	1.782	1
Q 612	REMIC MODULE TYPE NETWORK RRD 50-150 (1 neutral + 3 phases)	1.667	1

REMIC fuse service module

G3



The technical benefits

- In case of long service connections, the terminal can receive 50mm² solid core to avoid the voltage drop.

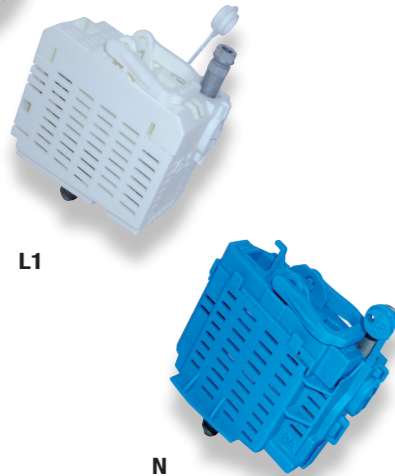
MICHAUD

Application

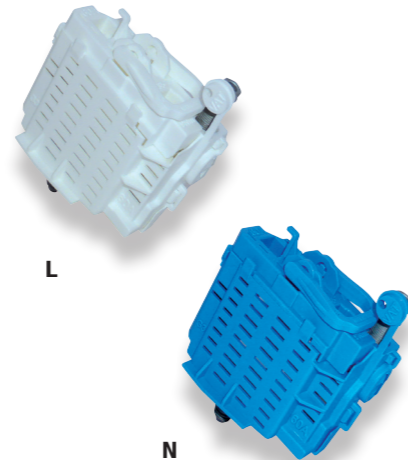
The fuse service module is available in 2 versions: single phase 60A and 90A, and three phase 60A.

It is installed on the M12 standardised connection terminals of the set of bars support. It is used to tap a single or three phase service connection and protect it using fuses size 00.

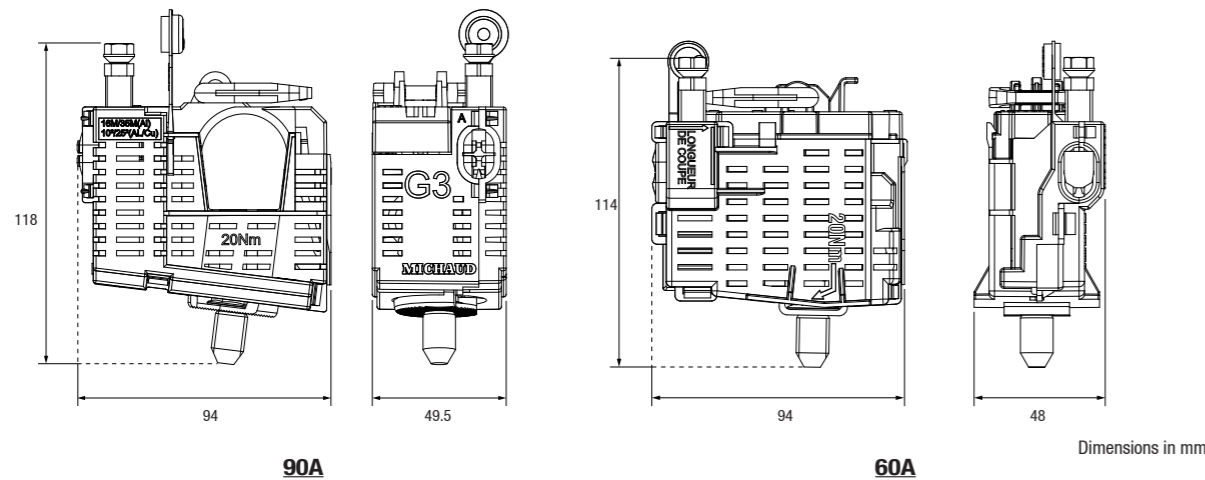
Q 608: Single phase module 90A



Q 606: Three phase module 60A



Q 609: Single phase module 60A



Dimensions in mm

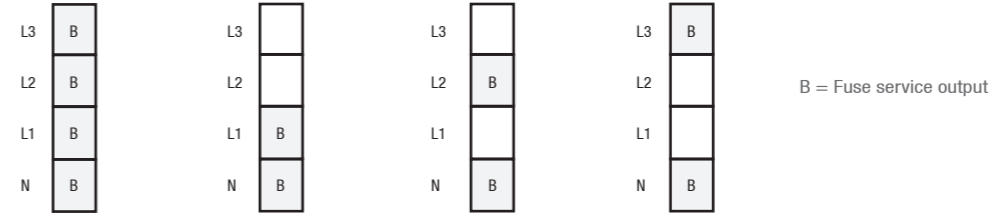
Description

- The fuse service module has a degree of protection of IP2X before and after implementation.
- The connection terminals use insulation piercing technology and are equipped with shear head screws. Capacity is 10-25mm² Cu / 16M-50M Al.
- The neutral is identified thanks to its blue colour.
- This module meets the criteria of **H 63-S-65**.

Implementation

PRINCIPLE

The design of the sets of bars supports enables a single phase or three phase service connection to be installed on a single 50mm step.



CHRONOLOGY OF THE OPERATIONS

- REMOVE the gripping device.
- Put the base on a place equipped with an M12 standardised connection terminal.
- Fix the base using the H10 screw.
- Fully insert the tap cable then screw the H10 screw until the shear head breaks.
- Insert the fuse size 00 in the fuse holder until the audible "click" of the locking device is heard.
- Insert the fuse holder into the base using the gripper.
- The gripping device clips on to the base without the fuse.

References

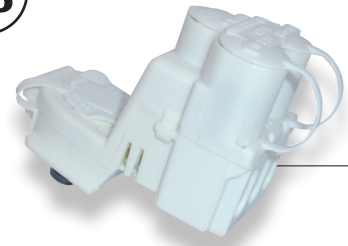
Code	Designation	Normative capacity	Real capacity	Weight (kg)	Unit sale
Q 608	REMIC MODULE TYPE FUSE SERVICE SINGLE PHASE 90A RBPM	90A	108A	0.592	1
Q 606	REMIC MODULE TYPE FUSE SERVICE THREE PHASE 60A RBPT	60A	72A	0.846	1
Q 609	REMIC MODULE TYPE FUSE SERVICE SINGLE PHASE 60A RBPM	60A	72A	0.430	1

Accessories

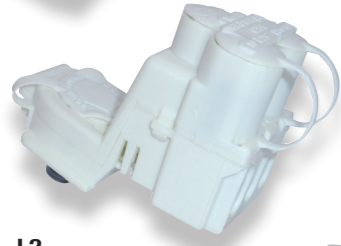
- SEE SHEET
Residential electrical distribution / LV fuse / AD Fuse size 00

REMIC multitap service connection

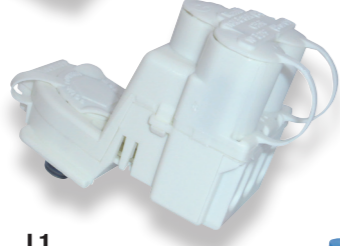
G3



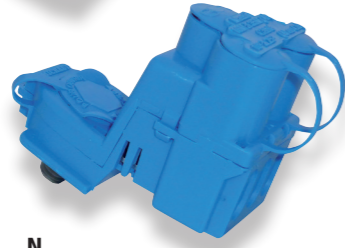
L3



L2



L1



N

The technical benefits

- In case of long service connections, the terminal can receive 50mm² solid core to avoid the voltage drop.

MICHAUD

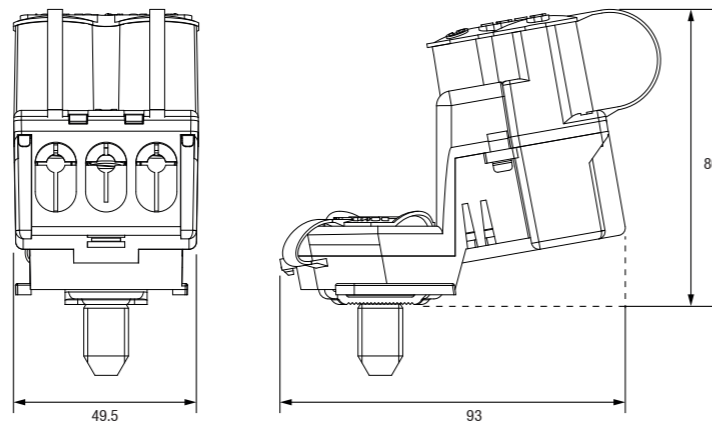
Application

The multitap connection module comprises 1 neutral and 3 phases. It allows a maximum of 3 single phase or 3 three phase services to be connected. It is installed on the M12 standardised connection terminals of the set of bars support. It is mainly used when the AD fuses are installed in the customer premises.

Q 607: Multitap service connection module

Description

- The multitap connection module has a degree of protection of IP2X before and after implementation.
- The neutral and phases have 3 insulation piercing connection terminals.
- The neutral is identified thanks to its blue colour.
- The terminals are equipped with shear head screws. Capacity is 10-25mm² Cu / 16M-50M Al.
- The product design allows the conductors to be wired on the top of the lower terminals.
- The small size of the IP2X caps provides access to the tightening screws of the terminals even when all of the conductors are connected.
- This module meets the criteria of **HN 63-S-65**.

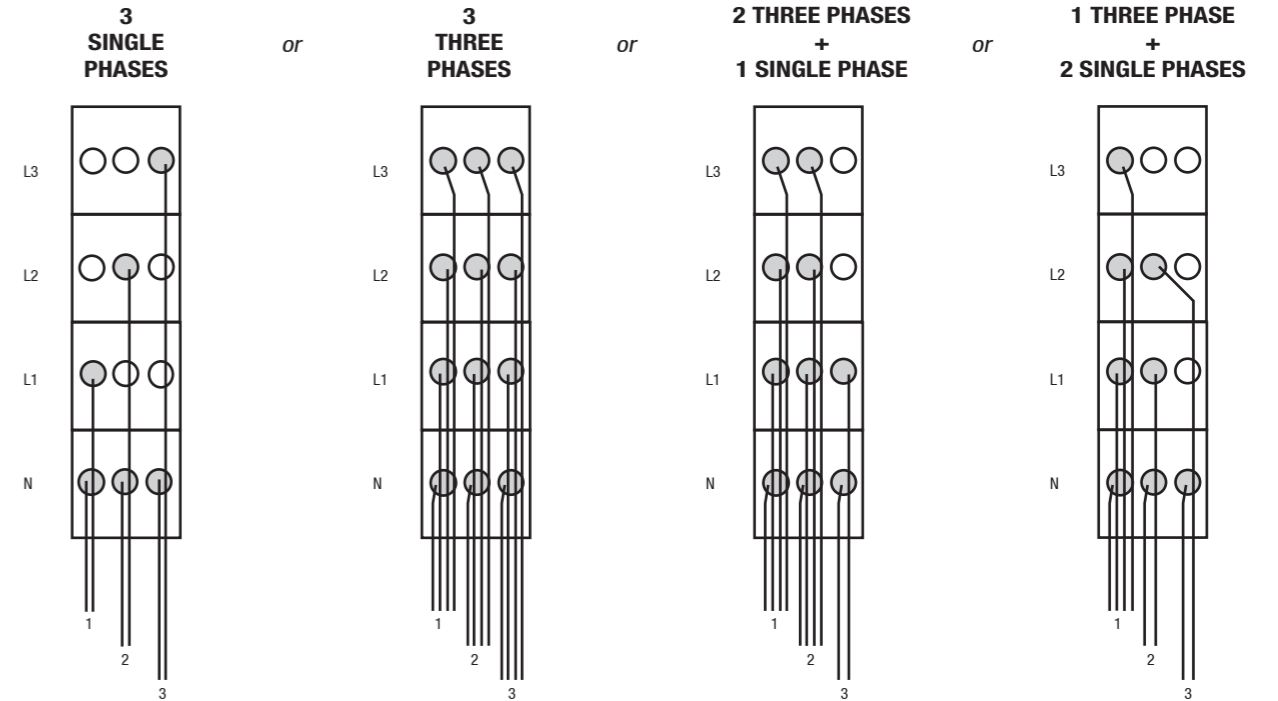


Dimensions in mm

Implementation

PRINCIPLE

A multitap service connection only takes up one 50mm step. The following choice can be made:



CHRONOLOGY OF THE OPERATIONS

- Fix the module on the bars support (neutral in bottom position).
- Position the conductors in the terminals and tighten until the shear head breaks, starting with the neutral.
- Close the seal caps.

Reference

Code	Designation	Weight (kg)	Sales unit
Q 607	REMIC MULTITAP CONNECTION MODULE RBD (1 NEUTRAL + 3 PHASES)	0.948	1

Variation

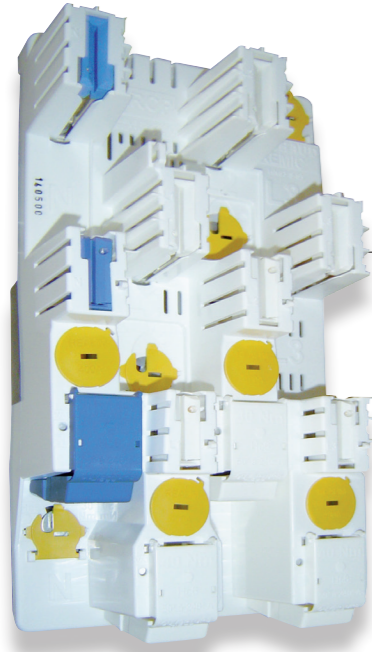
The multitap connection module is available in single phase version.

Code	Designation	Weight (kg)	Sales unit
Q 610	REMIC MULTITAP CONNECTION MODULE SINGLE PHASE (1 NEUTRAL + 1 PHASE)	0.576	1

REMIC disconnection and protection module

The technical benefits

- 1 single tool for implementation.
- Compatibility with flat doors.
- Clear poles separation.
- Integrated IP2X protection on each pole.



MICHAUD

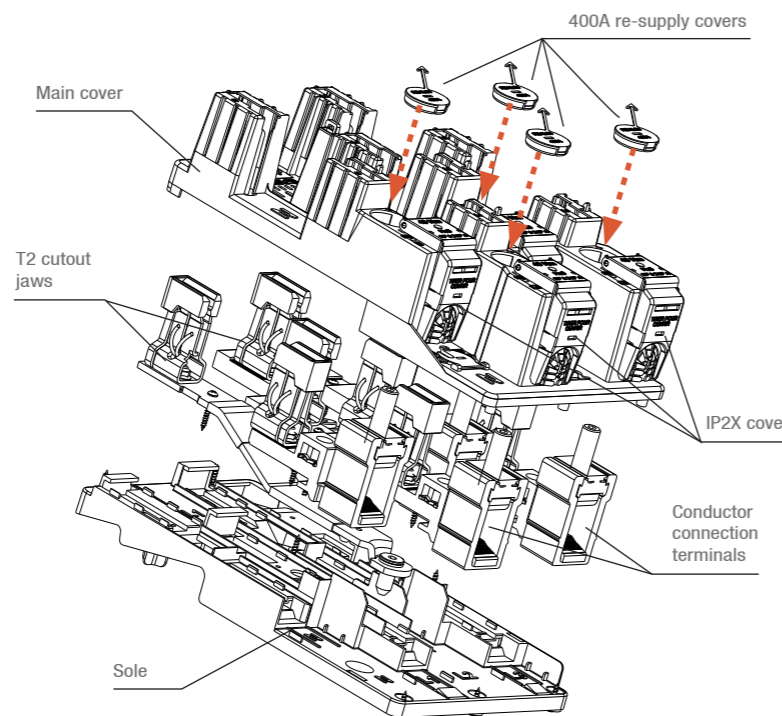
Application

The REMIC module type RRCP offers a network outlet that can be cut (C400 function) or protected using maximum 200A fuses 115mm size 2 (P200 function). It is installed on the M12 standardised connection terminals of the sets of bars supports. It is mainly used for supplying a collective or individual service with supervised power.

Description

- The small thickness of the new generation of module type RRCP facilitates use in small depth cabinets (flat door).
- The terminals permit the connection of round or sectoral shape, copper or aluminium conductors.
- The neutral is identified thanks to its blue colour.
- The capacity of the terminals is 50 to 240mm² for the neutral and for the phases.
- This module meets the criteria of **HN 63-S-65**.

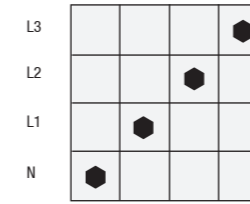
Caution: the RRCP module is installed exclusively on REMIC sets of bars supports in MICHAUD REMIC large depth cabinets (No concern in G3 compatibility).



Implementation

PRINCIPLE

A disconnection and protection module (RRCP) requires four 50mm steps.



● : Fixing points on the set of bars support

OPERATIONS

ASSEMBLY

- On the set of bars support installed (450 or 600), open the 4 poles diagonally in the required place for installing the RRCP (the other captive caps above and below the diagonal must remain closed).
- Remove the IP2X captive caps then place and fix the RRCP on the set of bars support using 4 H16 screws.
- Replace all of the captive caps while waiting connection of the outlet.

OUTPUT WIRING

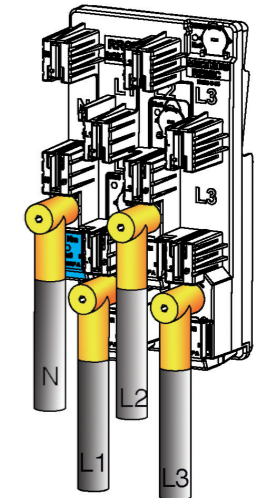
- Prepare the cable head as for use.
- Remove the cover.
- Cut the conductors to length, strip them over 45mm, brush them with neutral grease then insert them into the terminals.
- Replace the slides in U shape and tighten the screws until 40Nm.
- Replace the cover.

INSTALLATION OF THE BARS OR FUSES SIZE 2 (CENTRE-TO-CENTRE DISTANCE 115mm)

- Install the bars or fuses using an insulated operating handle.

INSTALLATION OF THE RE-SUPPLY

- Remove the 4 re-supply covers.
- Take the necessary electrical measurements.
- Insert and screw the M12 re-supply socket.



Reference

Code	Designation	Weight (kg)	Sales unit
Q 614	REMIC MODULE RRCP 400A / 200A	5.658	1

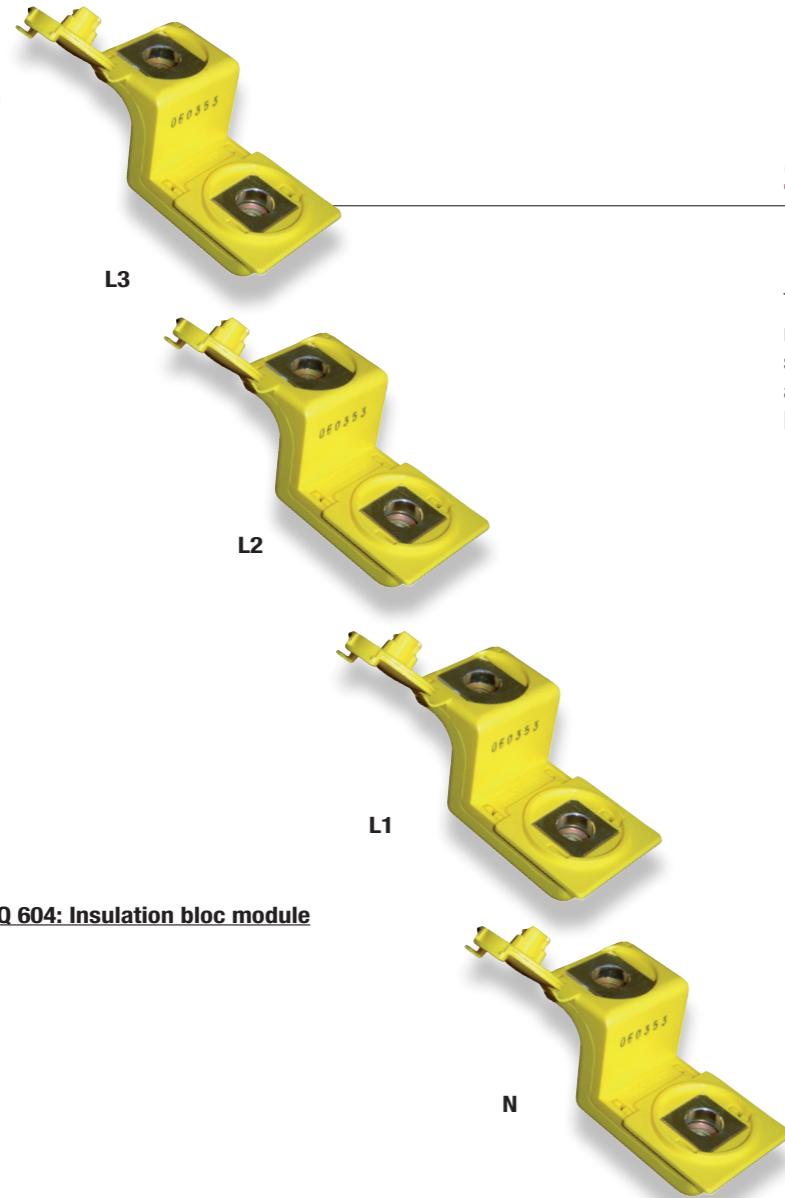
Variation

The ERDF technical specification also defines a product known as RRC exclusively dedicated to the 400A cutout. This item is offered under code Q 613. However, for Michaud this is exactly the same product.

Code	Designation	Weight (kg)	Sales unit
Q 613	REMIC MODULE RRC 400A	5.658	1

REMIC insulation bloc module

G3



Q 604: Insulation bloc module

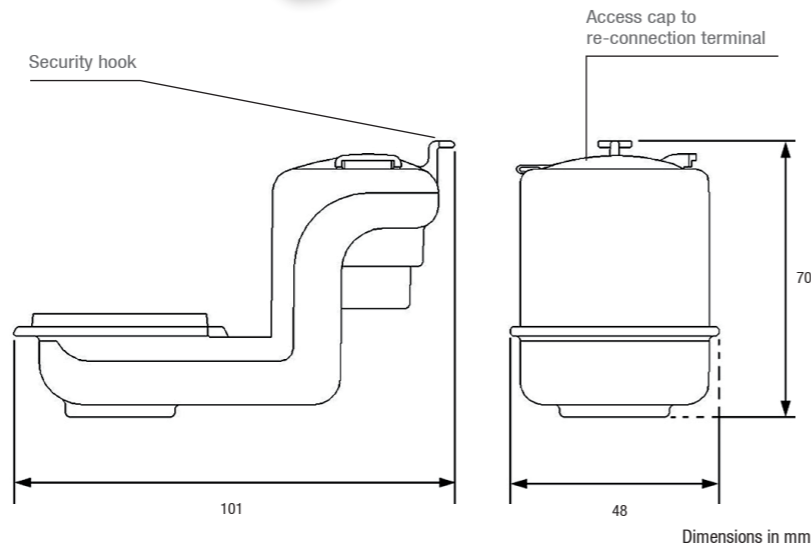
MICHAUD

Application

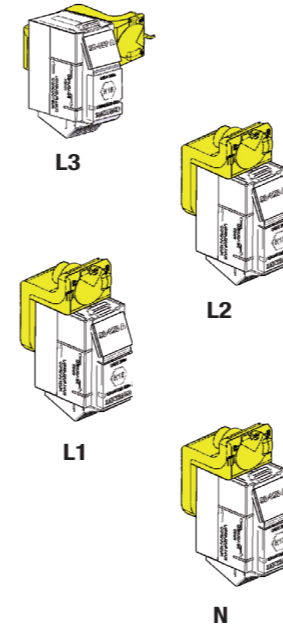
The insulation bloc module enables a network module to be temporarily separated from the set of bars support and possibly resupplied. It comprises 4 parts.

Description

- The insulation bloc module is yellow so that the insulated network can be easily identified.
- The overall size is designed so that it can be installed instead of the network module without using additional steps.
- It is equipped with an M12 standardised terminal for possible re-supply of the network on which it is installed.
- This module meets the criteria of **HN 63-S-65**.



Implementation



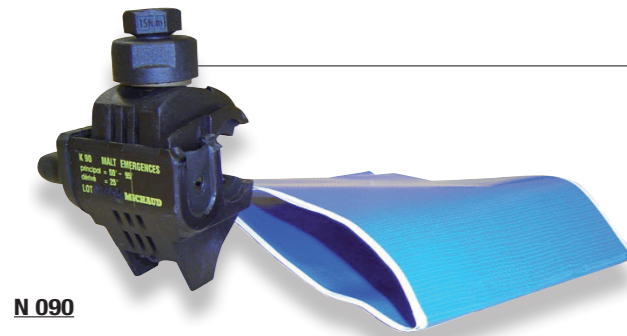
- Disconnect the phase 3 network terminal from the set of bars support.
- Fix the terminal on the insulation bloc (the insulation bloc can be fixed in the alignment of the terminal or perpendicular according to the available space).
- Reconstitute the insulation of the bar support using the corresponding captive cap.
- Repeat this operation for the 2 other phases and the neutral.
- To re-supply the network placed on the insulation bloc, remove the cap from the insulation block to release the connection terminal.
- Fix the temporary re-supply socket on the M12 threaded hole starting with the neutral.

Reference

Code	Designation	Weight (kg)	Sales unit
Q 604	REMIC 4-TYPE INSULATION BLOC MODULE	0.668	1

Accessories for emerging connection

Earth system of emerging connection



N 090

MICHAUD

Application

This device is used for earth system on the neutral of the network input cable in low voltage emerging connections (C400-P200, ECP-3D, cutoff grid false type and cutoff grid, REMIC, etc.).

Description

Earth system device

- The earth system device comprises:
 - 1 black 6kV insulation piercing connector,
 - 1 blue 100mm wide adhesive tape.
- The blue adhesive tape is designed to insulated the neutral conductor of the network input cable without removing the lead sheath.
- The connector is then installed on the blue sheath and receives the earth system conductor on the tap side.
- The connector capacity is:
 - Main: 50-95mm²,
 - Tap: 25mm².



Q 616

MICHAUD

Application

This label made of synthetic materials is designed for identification of the underground cables in low voltage service and network emerging connections in accordance with the requirements of the ERDF Electricity Technical Guide GTE 135. It is installed directly on the cable using the supplied cable tie. Its surface area has a specific granulometry for writing using a simple ball-point pen.

Description

Earth system identification

- The labels are delivered in bags of 50.
- They can be installed on all types of commonly used service and network cables (ø 20mm to ø 60mm).
- They are made of self-extinguishing synthetic materials that have excellent heat-resistance.

References

Code	Designation	Weight (kg)	Sales unit
N 090	EARTH SYSTEM SET OF EMERGING CONNECTIONS	0.182	1
Q 616	BATCH OF 50 IDENTIFICATION LABELS	0.302	1

Wrench



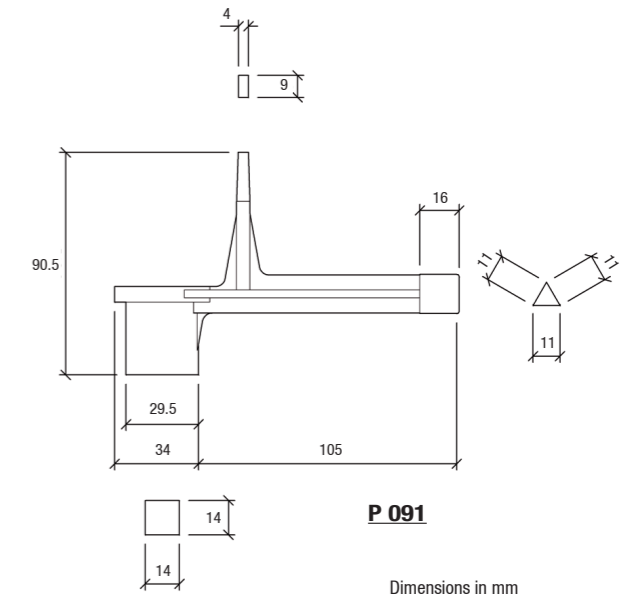
- Square 14
- Flat 9x4
- Triangle 11

P 091

MICHAUD

Application

This wrench is designed for opening cabinets, gas conduits and for operating valves which are provided with a 14mm square frame.



P 091

Dimensions in mm

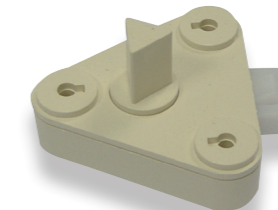
Description

It is made of white highly resistant synthetic material.

Lock



N 036



N 003

Application

These locks fit on S15, S20 and S22 cabinets for reference N 003, only on S20 cabinets for reference N 037 and only on C400-P200 cabinets for reference N 036.

Description

They are half-turn triangular or rectangular locks.

Code	Designation	Weight (kg)	Sales unit
P 091	14 SQUARE 11 TRIANGULAR 9x4 FLAT WRENCH FOR GAS CONDUITS	0.044	10
N 003	BEIGE HALF-TURN TRIANGULAR LOCKING DEVICE	0.026	1
N 036	TRIANGULAR LOCKING DEVICE	0.026	1
N 037	RECTANGULAR LOCKING DEVICE TO SCREW	0.026	1

Commercial reference index

Code	Designation	Pages
F 002	CABLE TIE 9x180mm (100 pieces)	98-99
F 003	CABLE TIE 9x265mm (100 pieces)	98-99
F 004	CABLE TIE 9x360mm (100 pieces)	98-99
F 005	CABLE TIE 9x500mm (100 pieces)	98-99
F 006	CABLE TIE 9x750mm (100 pieces)	98-99
F 009	NUMBERED SEAL WITH CABLE (100 pieces)	20-21
F 013	IMPLEMENTATION TOOL FOR TIE	98-99
F 033	CABLE SADDLE - BRPV1	98-99
F 035	CABLE SADDLE - BRPV6	98-99
F 036	CABLE SADDLE - BRTV10	98-99
F 037	CABLE SADDLE BIC 50/90	98-99
F 038	CABLE SADDLE - BRTV17	98-99
F 039	CABLE SADDLE BIC 30/50	98-99
F 040	WALL TYPE STRAP SUPPORT WITH BRACKET TO STRIKE (box of 100)	98-99
F 041	WALL TYPE STRAP SUPPORT ATTACHED BY SCREW (box of 100)	98-99
F 042	CABLE SADDLE BIC 15/30 + CABLE TIE 9x180mm	98-99
F 043	CABLE SADDLE BIC 15/30 WITHOUT CABLE TIE	98-99
F 058	FUSE CARTRIDGE 10.3x38 1A (100 pieces)	128-129
F 059	FUSE CARTRIDGE 10.3x38 8A (100 pieces)	128-129
F 061	FUSE CARTRIDGE 10.3x38 12A (100 pieces)	128-129
F 062	FUSE CARTRIDGE 10.3x38 2A (100 pieces)	128-129
F 063	FUSE CARTRIDGE 10.3x38 4A (100 pieces)	128-129
F 064	FUSE CARTRIDGE 10.3x38 6A (100 pieces)	128-129
F 067	FUSE CARTRIDGE 10.3x38 10A (100 pieces)	128-129
F 068	FUSE CARTRIDGE 10.3x38 16A (100 pieces)	128-129
F 069	FUSE CARTRIDGE 10.3x38 20A (100 pieces)	128-129
F 072	FUSE CARTRIDGE 10.3x38 15A (100 pieces)	128-129
F 080	INSULATED LATEX GLOVES 5 000V Size 10	106-107
F 081	HANDLING GLOVES Size 10	106-107
F 082	SAFETY GOGGLES	106-107
F 083	COMPOSITE GLOVES 2 IN 1 FOR LV Size 10	106-107
F 084	COMPOSITE GLOVES 2 IN 1 CLASS 4 Size 10	106-107
F 100	HEAT SHRINKABLE END E2R 10-35	88-89
F 101	HEAT SHRINKABLE END E4R 10-35	88-89
F 102	HEAT SHRINKABLE END E4R 50-150	88-89
F 103	HEAT SHRINKABLE END E4R 240	88-89
F 110	HEAT SHRINKABLE END CAP CRB 10-25	88-89
F 111	HEAT SHRINKABLE END CAP CRR 16-70	88-89
F 112	HEAT SHRINKABLE END CAP CRR 150	88-89
F 113	HEAT SHRINKABLE END CAP CRC 16-27	88-89
F 114	HEAT SHRINKABLE END CAP CRC 26-48	88-89

F 115	HEAT SHRINKABLE END CAP CRC 46-80	88-89
F 120	HEAT SHRINKABLE SHEATH GR 10-35 (10m)	88-89
F 121	HEAT SHRINKABLE SHEATH GR 50-150 (10m)	88-89
F 122	HEAT SHRINKABLE SHEATH GR 240 (10m)	88-89
F 130	HEAT SHRINKABLE SLEEVE FRM 16-100	88-89
F 131	HEAT SHRINKABLE SLEEVE FRM 25-100	88-89
F 132	HEAT SHRINKABLE SLEEVE FRM 25-200	88-89
F 133	HEAT SHRINKABLE SLEEVE FRM 30-250	88-89
F 134	HEAT SHRINKABLE SLEEVE FRM 30-200	88-89
F 135	HEAT SHRINKABLE SLEEVE FRM 35-150	88-89
F 136	HEAT SHRINKABLE SLEEVE FRM 35-250	88-89
F 140	RINGED TUBE DIAMETER 16 (100m)	110-111
F 141	RINGED TUBE DIAMETER 20 (100m)	110-111
F 142	RINGED TUBE DIAMETER 25 (100m)	110-111
F 143	RINGED TUBE DIAMETER 32 (50m)	110-111
F 144	RINGED TUBE DIAMETER 40 (50m)	110-111
F 150	BIMETAL SPIN-WELDED BARE TERMINAL LUG 35mm ²	84-85
F 151	BIMETAL SPIN-WELDED BARE TERMINAL LUG 50mm ²	84-85
F 153	BIMETAL SPIN-WELDED BARE TERMINAL LUG 70mm ²	84-85
F 154	BIMETAL SPIN-WELDED BARE TERMINAL LUG 150mm ²	84-85
F 155	BIMETAL SPIN-WELDED BARE TERMINAL LUG 240mm ²	84-85
F 156	BIMETAL SPIN-WELDED BARE TERMINAL LUG 95mm ²	84-85
F 180	TUBULAR LUG 10 ² -6	84-85
F 181	TUBULAR LUG 16 ² -6	84-85
F 182	TUBULAR LUG 25 ² -10	84-85
F 184	TUBULAR LUG 35 ² -8	84-85
F 185	TUBULAR LUG 35 ² -10	84-85
F 186	TUBULAR LUG 35 ² -12	84-85
F 187	TUBULAR LUG 50 ² -8	84-85
F 188	TUBULAR LUG 50 ² -10	84-85
F 189	TUBULAR LUG 50 ² -12	84-85
F 190	TUBULAR LUG 70 ² -8	84-85
F 191	TUBULAR LUG 70 ² -10	84-85
F 192	TUBULAR LUG 70 ² -12	84-85
F 193	TUBULAR LUG 95 ² -8	84-85
F 194	TUBULAR LUG 95 ² -10	84-85
F 195	TUBULAR LUG 95 ² -12	84-85
F 196	TUBULAR LUG 150 ² -12	84-85
F 197	TUBULAR LUG 150 ² -14	84-85
F 198	TUBULAR LUG 240 ² -12	84-85
F 199	TUBULAR LUG 240 ² -14	84-85

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Code	Designation	Pages
F 200	OPERATING STICK 2E-1.5M (TERMINAL END U)	126-127
F 201	OPERATING STICK 2E-2M (TERMINAL END U)	126-127
F 202	OPERATING STICK 2E-3.2M (TERMINAL END U)	126-127
F 203	OPERATING STICK 2E-5M (TERMINAL END U)	126-127
F 204	OPERATING STICK 3E-4.5M (TERMINAL END U)	126-127
F 205	OPERATING STICK 3E-5M (TERMINAL END U)	126-127
F 206	OPERATING STICK 3E-6M (TERMINAL END U)	126-127
F 207	OPERATING STICK 1E-1M	126-127
F 208	PROTECTIVE COVER FOR OPERATING STICK	126-127
F 209	BORED TERMINAL END DISCONNECTOR / STICK	126-127
F 210	THREAD TERMINAL END DISCONNECTOR / POLE	126-127
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Implementation

These products must be implemented and used in **compliance with the applicable regulations** with a skilled, qualified professional undertaking to do so following the generally accepted rules of the trade.

For **live-line** implementation or handling, the electrician must comply with the requirements for live-line work conditions and must be equipped with the necessary personal protection equipment. The implementation temperature limits are: -10°C to +40°C.

Live-line work is carried out under the responsibility of the ordering customer in compliance with the applicable rules.

Before powering up the equipment, all the required verifications must be carried out.

Tools

The product should be installed and used with **suitable tools**.

The screw heads should be driven in and tightened with the appropriate tool: **Spanner** for hexagonal cap screws, **flat screwdriver** for slotted screw heads of the right size, **Phillips screwdriver** for cruciform screw heads, **HSHC screw head (awls)** for hollow hexagonal screw heads, etc. The screw heads with no torque-limiting device must be tightened to the recommended torque and must not be tightened again.

Recommendations for use

The installation instructions must be read carefully before using the product.

The product must be used and implemented in compliance with these recommendations for use and installation instructions; it must be used for the applications for which it was defined by the operator/manager of the network and on an electrical installation that is compliant and compatible with the product.

Never exceed the capacities indicated on the device and in the instructions sheet.

Unless explicitly indicated, products are designed for no-load connection.

Environment

Please group your waste together and follow the recycling and destruction instructions before leaving the worksite.

1. APPLICATION OF CONDITIONS:
Purchaser make himself acquainted with these general selling conditions which shall lay down the Parties law, except purchaser's written denunciation ratified by MICHAUD EXPORT and despite opposite clauses that could be included in the purchaser's general conditions. Possible renunciation of one or few clauses herein does not interfere with the validity of the other clauses.
Except any formal and express derogation made by MICHAUD EXPORT, all purchaser's orders carry off his full and entire consent to the present General Selling Conditions which prevail over any Purchasing Conditions. All particular purchasing clauses or conditions aiming to modify the present conditions must not be contrary to the seller's ones.
2. ORDER:
Any order shall not constitute a contract unless accepted in writing by MICHAUD EXPORT.
3. PRICE LIST:
3.1 Unless otherwise stated by MICHAUD EXPORT, price lists and commercial offers are established in Euro €, excluding any other currency, even Euro indexed currencies, and is governed by Incoterms 2010 to be defined with the purchaser in the particular conditions.
3.2 The price list is established for standard items with specific given technical characteristics. Any technical changes on products to adapt them to other specifications or standards may lead to extra unit costs and price revision.
3.3 Unless otherwise stated by MICHAUD EXPORT, MICHAUD EXPORT reserves the right to gather purchaser's orders and to deal with according to a minimum invoice amount of 800 € excluding tax and freight charges (according to general price list in due force on the order date). Any order which amount is lower than 1 500 € shall result in the invoicing of a fixed sum of 150 € meant to cover administrative fees.
3.4 Unless otherwise stated and written by MICHAUD EXPORT, validity of the price list is one month starting when given to the purchaser.
3.5 The price list is subject to alteration without notice.
4. DELIVERY TIME:
4.1 The delivery time is defined as the case may be according to the commercial relationships established with the purchaser. MICHAUD EXPORT use their best endeavours to deliver the goods by the time fixed for delivery, however, in case of delay, they will not be responsible for any loss or damage thereby caused to the purchaser unless expressly accepted in writing by MICHAUD EXPORT.
4.2 Should partial or delayed deliveries occur, it does not justify any cancellation of purchaser's orders, and MICHAUD EXPORT shall not be liable and responsible for any actual or potential, direct or indirect, or consequential damages caused to the purchaser through delay or by failing on deliveries.
5. DISPATCH:
5.1 MICHAUD EXPORT use their best endeavours to select appropriate method of delivery with no responsibility on it. Choice shall be made freely unless purchaser's contrary notice who then support following additional cost that may follow.
5.2 Ex-works delivery is considered as an effective delivery, notably regarding modalities and payment terms.
5.3 Partial loss or damage during in transit must be reported to the carrier and to MICHAUD EXPORT in writing by registered letter with proof of delivery within three days after receipt of the goods by the purchaser. If these conditions are not complied with, the purchaser will be responsible for any loss or damage that may occur during transit.
The purchaser commits to return to MICHAUD EXPORT at his own costs and risks the products he rejected during his check-up for due investigation. The purchaser agrees that MICHAUD EXPORT shall return the products at the purchaser's cost and risks after examination or any possible repair or replacement.
6. USE OF THE PRODUCTS:
The purchaser has to follow imperatively the laws, current prescriptions in due force and custom rules regarding instruction procedures and use of the products. MICHAUD EXPORT shall not be responsible in case of wrong use of the products according to the specifications and prescriptions of use advised by MICHAUD EXPORT.
7. TESTING AND INSPECTION:
When testing and/or inspection is required by the purchaser, tests shall be carried out at MICHAUD SA's facilities, and relevant costs shall be covered by the purchaser, unless any exemption agreed and approved by MICHAUD EXPORT.
8. WARRANTY:
8.1 MICHAUD EXPORT guarantees the purchaser against latent defect of the goods according to the conditions driven by the law.
Once a guaranteed shortcoming is stated by the buyer, it is up to him to send his reclamation to MICHAUD EXPORT with a registered letter with proof of delivery within a time limit of three months starting from the fault's appearance.
This reclamation has to be accompanied by a detailed description of the fault's nature.
After this period of time the goods delivered shall be deemed as in good condition and the purchaser is no longer entitled to make a complaint about any defect on the products.
8.2 MICHAUD EXPORT guarantees its products for a period of one year after delivery or shifting from our facilities.
In case of fault, defect, non-conformity proved or admitted by MICHAUD EXPORT, MICHAUD EXPORT undertakes to replace the products admitted defective in reasonable time. In order to be replaced, rejected products shall be returned. No other prejudice of damage shall be required by the purchaser.
8.3 The guarantee is excluding the followings:
- If the product has been repaired or modified by the buyer or by third parties chosen by him ; or
- If it concerns items that have been made by sub-contractors or MICHAUD EXPORT
9. TAKING BACK OF THE PRODUCTS:
In case the purchaser renounces to the ordered and delivered products, no taking back will be considered unless expressly accepted in writing by MICHAUD EXPORT. Rejected goods shall be sent back to the French plant defined by MICHAUD EXPORT. Credit of the sent back goods will be registered after receipt in the warehouse. Taking back value will systematically take into consideration a reduction to be defined for administrative and check-up cost as well as a reduction for restoration of the product and packaging if necessary.
10. PAYMENT:
10.1 Payment terms are defined with the purchaser in the particular conditions. All goods shall be paid to the MICHAUD EXPORT head office located in Pont d'Ain France whatever the payment terms used. Invoice date shall be the starting point of the settlement period.
10.2 Legal property transfer of the goods shall be retained until full payment of the whole sold goods. MICHAUD EXPORT keep the property of the goods until full payment of their price, sending bank drafts or any other bond notes building payment obligation not constituting a payment.
10.3 Any unpaid draft or invoice being at maturity will produce due interest, without giving notice. Applicable penalties shall be equivalent to three times the legal interest rate at the payment date located on the invoice. Payment of any other sums owed by the failing debtor shall be immediately payable, even if they are accepted draft. Any full or partial non-execution by the Customer of the payment obligations or any delay in payment shall, without prejudice to any damages and interests, lead to the payment of fees of 40 € for collection charges set down by decret made pursuant to the section 121 of this act. Moreover, MICHAUD EXPORT keep the right, in that case, to suspend or cancel fulfilment of the contracts and pending orders and demand cash in advance payment of any other delivery, whatsoever past conditions agreed for such delivery.
10.4 Any change in the purchaser situation regarding sale or other party's investment in the business, decease, incompetence, suspension of payment, official recovery, official receivership, temporary proceedings suspension, dissolution or form modification, even after partial fulfilment of the contracts or pending orders entails application of the same conditions as the ones described in case of unpaid invoice.
11. FORCE MAJEURE:
Neither MICHAUD EXPORT nor the buyer can be held responsible for a possible delay or lack in their obligations' execution, if this delay or lack is the result of a force majeure. A force majeure exists notably in the following situations, if they present certain characteristics of a force majeure, this means if the event was irresistible, unforeseeable, and externally provoked. This non-exhaustive list enumerates some situations which constitute a force majeure: explosions, fires, incidents, destruction of machinery, factories and equipment, natural disasters, acts by governmental authorities (refusing or cancellation of a license ...), wars, or any acts of war, flooding, riots, or social conflicts.

The party that faces such a circumstance which responds to the above given definition must immediately inform in writing the other party of this intervention and when this circumstance possibly ends. In the case of absence of information, the concerned party can not prevail over, unless in the case of intervening circumstances, which also prevent any communication.

Where a force majeure case which responds to the above definition intervenes, the time for the contract's execution is prolonged for a period of time corresponding to the event's duration. This does not include any payment of damages and interest or a penalty for the delay.
However if the above mentioned circumstances do persist for a period of time of 6 months, each party can cancel the contract without any payment of damages and interest.
12. CANCELLATION:
The contract is cancelled by law, without the need of any judicial formality where there are serious shortcomings by one of the parties concerning essential obligations. Cancellation would become effective within one month after the mailing of a registered letter with proof of delivery of an earlier made formal notice which stayed unfruitful.

The essential obligations, which the parties have to fulfill, notably consist of the due payment by the buyer or the merchandise's non-delivery by MICHAUD EXPORT. In case of a serious shortcoming to the contract's essential obligations, the sale will be cancelled in good law without prejudice of damages and interest that can be claimed.

Any tolerance that one party allows the other not to prevail immediately over one of its rights, will not prejudice the party's rights to prevail over them later, except in case of a contrary convention or stipulation to the present conditions.
13. JURISDICTION ATTRIBUTION:
These General Selling Conditions shall be ruled and governed by the French Law as followed by the courts. Any dispute deriving from these General Selling Conditions, after failure of a previous conciliation procedure shall be of the exclusive French jurisdiction of the competent Commercial Court of Lyon located in France. Each party accepts to bear any costs and expenses it would have exposed.
14. OFFICIAL LANGUAGE:
The French version of these general selling conditions, available upon enquiry, is the only legally acceptable version.



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