



Electrical Distribution

Overhead

Extract of Catalogue
Low Voltage Energy

MICHAUD
Export 



The French Group Michaud, has been designing, qualifying, producing and selling electrical equipment and connection systems for over 60 years.

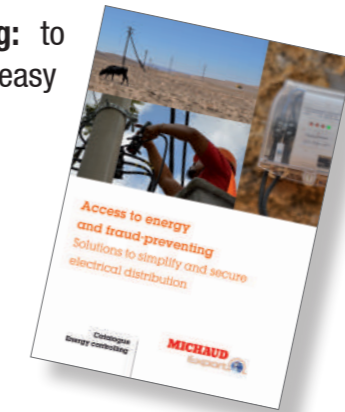
According to the international standards, **Michaud Export** designs and develops energy distribution solutions. The product range is focused on two fields of expertise:

Michaud Export
in a few words:

Reliability
Support
Adaptability
Quality
Innovation
Expertise
Reactivity
Experience
LISTENING

- **Low Voltage Network:** to connect and protect the overhead and underground electrical lines ;

- **Energy Controlling:** to manage and offer easy access to electricity.



Creator of innovative solutions



Supplier of electrical equipment

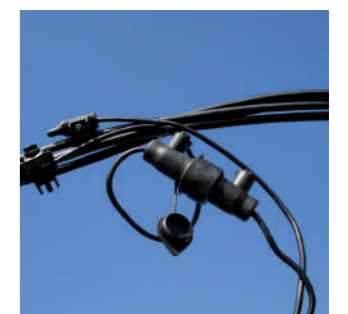
As a **technical expert in low-voltage networks**, Michaud focuses R&D on innovative solutions.

From MV/LV transformer substation to the end customer, Michaud Export offers all **electrical equipment for the construction & maintenance** of overhead and underground lines.

Thanks to an **engineering Department dedicated to international business**, Michaud Export provides support to Power Utilities in their grid expansion projects.

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

From protection to connections, many **innovative solutions** are already used in major Power Utilities around the world.



250
staff members



7

establishments
Europe,
North Africa,
Asia



Certified since



8 to 10%
of turnover
invested in R&D

1

Accredited
Test Laboratory



3
Engineering departments

From R&D to after-sales service, **Michaud Export**, as a Michaud subsidiary, has full mastery of its value chain, ensuring high-level quality and service worldwide.



MIRELEC

Mirelec is a Michaud brand, dedicated to low voltage electrical distribution equipment.

The brand offers **European quality** products and solutions at a **price matching emerging markets expectations.**



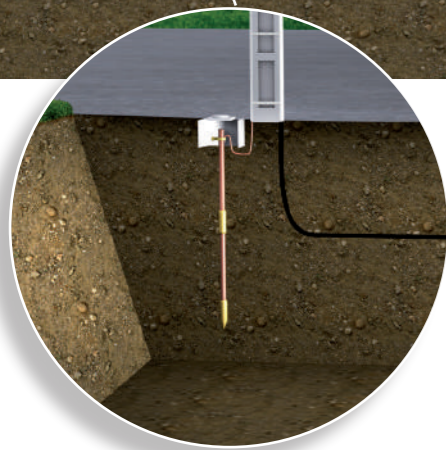
Protection



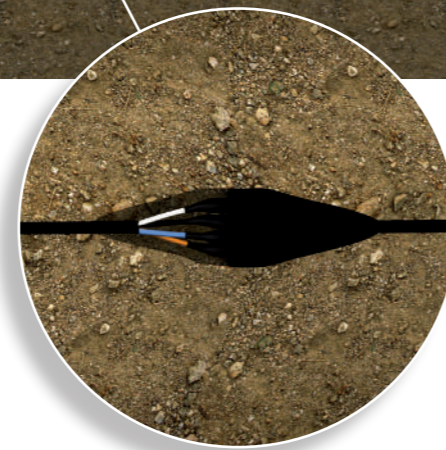
Habitat



Aérien



Mise à la terre



Souterrain



Installation

Overhead

Overhead

LV service connector

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The **low voltage overhead connectors** range is the historical core business of MICHAUD. The company has been able to integrate the issues of worldwide power utilities into the design of its products.



Expertise

MICHAUD developed its **technical skills** with the transition of overhead bare lines into Aerial Bundled Conductors (A.B.C). Thanks to large **innovation ability**, the company has been a pioneer for a long time in the adaptation to this new environment.



Durability

MICHAUD acquired a **solid experience in electrical connections** and more specifically in the fields of insulation piercing, bimetal connections and crimping guaranteeing the power lines durability.

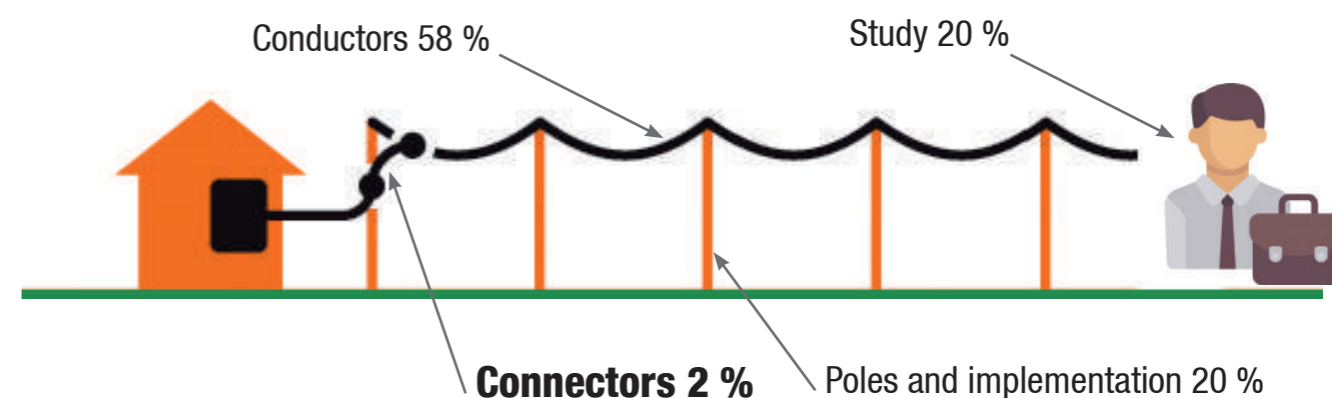


Competitiveness

By taking into account the **overall cost** of the products over years (purchasing, maintenance, energy performance), MICHAUD offers a long terms **competitive range** of low voltage line accessories (with service life higher than 40 years).

Optimisation of the LV electrical line cost

Analysis of the line cost



Cost allocated to connectors is only about **2 %**. However this item is at the origin of **80 %** of network incidents that can possibly damage the full line especially conductors of high value.

Solutions for qualitative connections

Incidents can result from:

- connector failure,
- installation mistake,
- insubstantial training.

An incorrect implementation can lead to dangerous risks for people safety and electrical line efficiency. MICHAUD solutions aim to facilitate the installation and therefore avoid fitters mistake thanks to technologies enabling to ensure a correct and effective implementation: captive screws, overmoulding, shear head, user instructions delivered with the product...

Other options have been designed to make the implementation, even easier.

Risks

Faulty implementation

Burning caused by main tap conductors bad connection

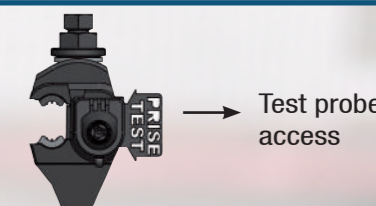
Water penetration in the connection due to bad waterproofness

MICHAUD solutions

+ Possibility to check potential between two conductors

+ Possibility to check shear head break from ground level

+ Captive end cap because linked to connector



Test probe access



Yellow shear head break indicator



Fixed end cap



A proven technology for many years

To guarantee the connections waterproofness on Aerial Bundled Conductors is significant challenge. A connection that is not set-up the right way can lead to a risk of water penetration and endanger the security and durability of the equipment.

MICHAUD experience

In the 1980's, MICHAUD was first producer in the world to develop the preinsulated compression sleeve MJPB for the Power French Company ErDF. This sleeve designed to offer a dielectric strength of 6kV into water was really appreciated. This technology has been expanded today to other products of the range showing reliability and efficiency on the field.

For
35 years



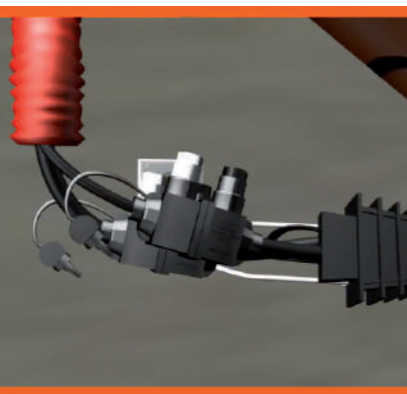
MICHAUD preinsulated sleeves range

Compression sleeve



MJP
Preinsulated sleeve

Service sleeve with
mechanical tightening



MDB
Dismountable service sleeve

Network sleeve with
mechanical tightening



MJS
Underground sleeve

Service (**MJPB**)
A.B.C. network (**MJPT**)
Service aerial sub-surface (**MJPBAS**)

A diversity and flexibility with the offer

An adaptation to projects and local requirements is possible thanks to MICHAUD human scale and its wide range enabling **reactivity** and **flexibility** when facing specific applications.

Options

- Bare or insulated **cable**
- ✓ From 1.5 up to 240mm²
- ✓ Compatible with RIB

- Synthetical or metallic **hexagonal shear head**
- ✓ Removable / unremovable
- ✓ Thrust washer
- ✓ Breaking torque controller (with coloured indicator)

- Simultaneous or independent tightening**
- 1,2 or 4 conductors

- Overmoulded or assembled **sealing**

- Glued or movable **sealing end cap**
- ✓ Test probe access
- ✓ Rigid (Class II)

Engraved marking

OF 153911 MICHAUD

Batch number: YYWWXX
Y: Year / W: Week / X: Number

- ✓ Systematic traçability
- ✓ Special series with own marking

- Contact bridges** copper, brass, aluminium with a choice of surface treatments (tinning)
- ✓ Stripping
- ✓ Piercing

- Steel **fastener** with different treatments (zinc, galvanised, ...) or stainless steel fastener
- ✓ Captive components

MICHAUD expertise

Development and certification of products in compliance with every worldwide standards:



IEC

EN

DIN

AISI

AS

NZ

Service insulation piercing connector



K322

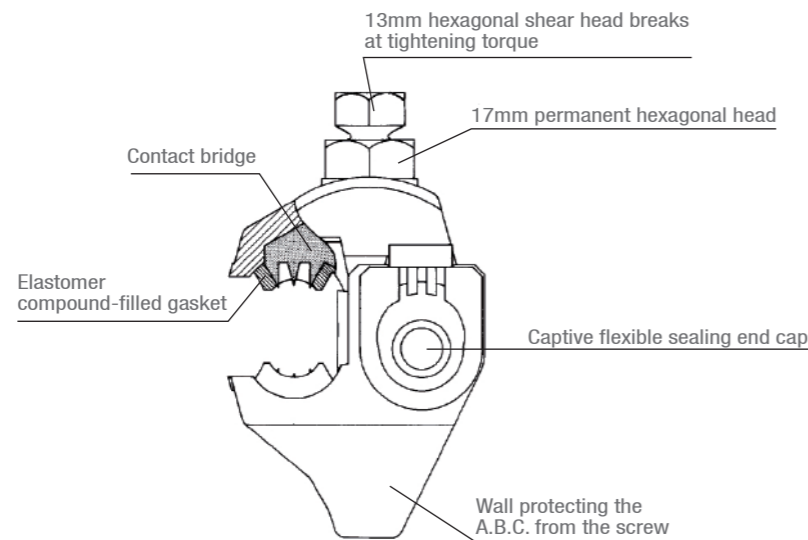


K441
with yellow shear head indicator

MICHAUD

Application

This connector is designed to connect the insulated service conductors to the low voltage A.B.C. (Aerial Bundled Conductors).



Description

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.
- Connectors K441, K442 and K443 are fitted with a yellow shear head indicator that disappears when head is sheared-off, being a clear visual confirmation of good tightening from ground level. It increases head height by 10 mm.

This connector meets the criteria of the **NF C 33-020** and **EN 50-483** standards.

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 term basis.
- It is glued on connector body so that to avoid eventual loss during handling, installation and environment (wind, bad weather...).
- It can be equipped with a hard end cap, gripping and covering so, in case rigid cover is required. (Part Number K246 : please enquire for further information).



Implementation video available on www.michaud-export.com
(tab Documentation > Implementation videos)

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
ZINC-PLATED STEEL FASTENERS (ZF)						
K322	CONNECTOR CBS/CT 25 ZF - ERDF	Aluminium alloy	16-25	6-25 6M-35M	0.120	12
K323	CONNECTOR CBS/CT 70 ZF - ERDF	Aluminium alloy	16-70	6-25 6M-35M	0.120	12
K324	CONNECTOR CBS/CT 150 ZF - ERDF	Aluminium alloy	16-150	6-25 6M-35M	0.130	12
ZINC-PLATED STEEL FASTENERS (ZF)						
K331	CONNECTOR CBS/CT 70 ZF	Tinned brass	16-70	4-25	0.130	30
K332	CONNECTOR CBS/CT 95 ZF	Tinned brass	16-95	2.5-35	0.130	30
K330	CONNECTOR CBS/CT 150 ZF	Tinned brass	35-150	6-35	0.140	30
STAINLESS STEEL FASTENERS (SF) + YELLOW SHEAR HEAD INDICATOR						
K441	CONNECTOR CBS/CT 95 SF	Tinned brass	25-95	6-35	0.135	20
K442	CONNECTOR CBS/CT 150/1.5-25 SF	Tinned brass	35-150	1.5-25	0.140	20
K443	CONNECTOR CBS/CT 150/6-35 SF	Tinned brass	35-150	6-35	0.140	20

M means that the core of the conductor is solid.

Option: Service connector with movable seal cap

This connector is used for connecting the insulated service conductors to the low voltage A.B.C (Aerial Bundled Conductors). The movable sealing end cap enables a tap connection on the right or on the left. The main conductor connection and the tap ones use the insulation piercing technology.



Cap set-up for tap connection on the right



Cap set-up for tap connection on the left

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K532	CONNECTOR CBS/CT 95 ZF A	Tinned brass	16-95	2.5-35	0.115	20

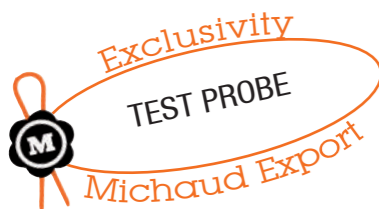


SEE SHEET
INSTALLATION / LV insulated toolings

Service insulation piercing connector with Test Probe



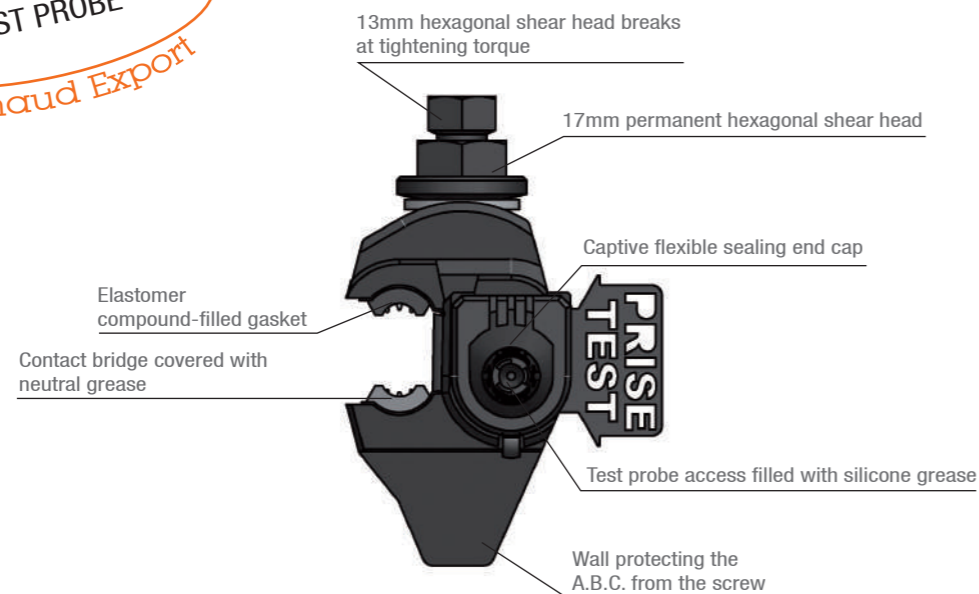
K336



MICHAUD

Application

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

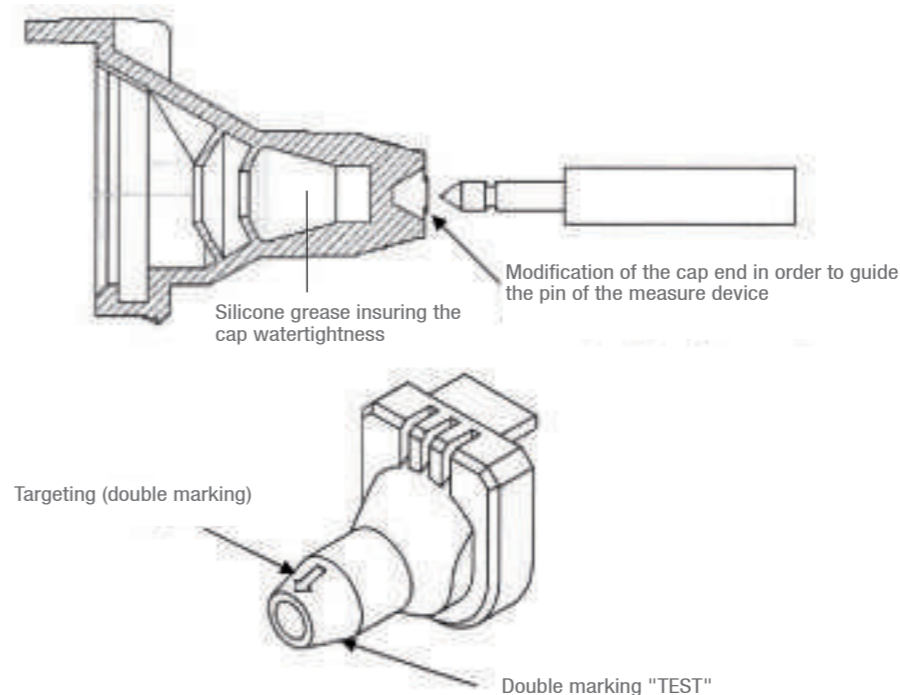


Description

- 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, bad weather...).

This connector meets the criteria of the **NF C 33-020** and **EN 50-483** standards.

Modified sealing end cap for test probe access:



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.

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm)	Capacities Tap insulated Al-Cu (mm)	Weight (kg)	Sales unit
ZINC-PLATED STEEL FASTENERS (ZF)						
K336	CONNECTOR CBS/CT 95 TEST PROBE ZF	Tinned brass	16-95	4-35	0.135	10
K337	CONNECTOR CBS/CT 150 TEST PROBE ZF	Tinned brass	35-150	6-35	0.145	10
STAINLESS STEEL FASTENERS (SF)						
K338	CONNECTOR CBS/CT 95 TEST PROBE SF	Tinned brass	16-95	4-35	0.135	10

SEE SHEET
INSTALLATION / LV insulated toolings

Service insulation piercing connector for bare conductor



K258

MICHAUD

Application

This connector is designed to connect the insulated service conductors to the low voltage overhead copper or aluminium alloy bare conductor network.

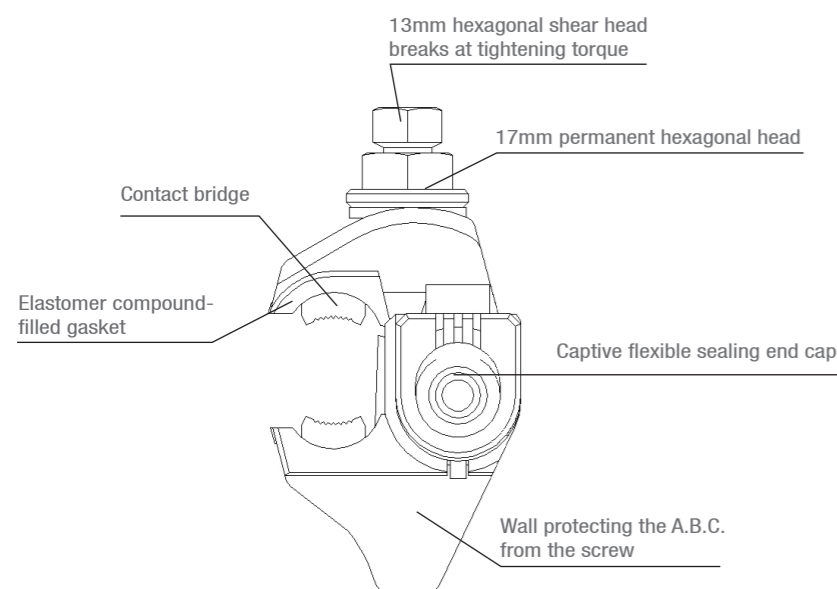
Two versions are available according to the type of conductor to be connected (Al or Cu):

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



K470

with yellow shear head indicator



Description

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.
- Connectors K470 and K471 are fitted with a yellow shear head indicator that disappears when head is sheared-off, being a clear visual confirmation of good tightening from ground level. It increases head height by 10 mm.

This connector meets the criteria of the **NF C 33-020** and **EN 50-483** standards.

Connector end cap:

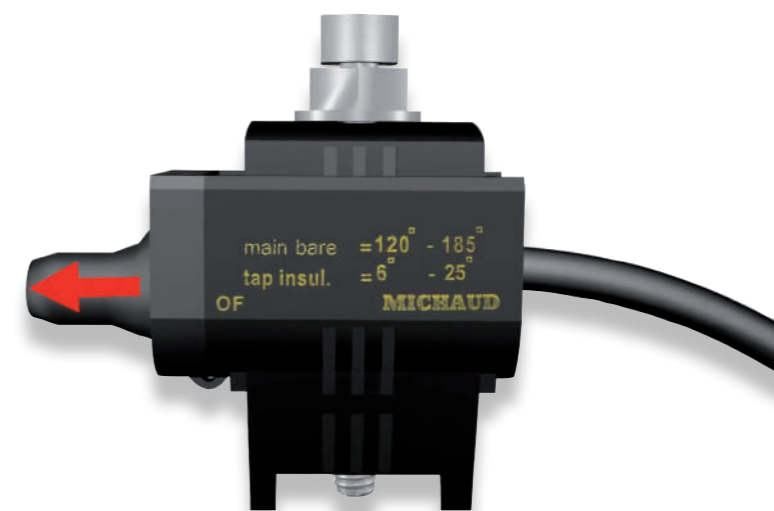
- The connector end cap is flexible so that to feel good tap conductor insertion simply by hand.
- It is carrying membranes instead of grease, granting watertightness around tap conductor end on long term basis.
- It is glued on connector body so that to avoid eventual loss during handling, installation and environment (wind, bad weather...).
- It can be equipped with a hard end cap, gripping and covering so, in case rigid cover is required. (Part Number K246 : please enquire for further information).

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.



Implementation video available on www.michaud-export.com (tab Documentation > Implementation videos)



Code	Designation	Contact bridge	Capacities Main bare (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
ZINC-PLATED STEEL FASTENERS (ZF)						
K258	CONNECTOR RDP/CNU 95 ZF	Brass	Cu 7-95	6-35	0.150	20
K259	CONNECTOR RDP/CNA 95 ZF	Aluminium Alloy	Al 7-95	6-35	0.130	20
STAINLESS STEEL FASTENERS (SF) + YELLOW SHEAR HEAD INDICATOR						
K470	CONNECTOR RDP/CNU 95 SF	Brass	Cu 7-95	6-35	0.150	20
K471	CONNECTOR RDP/CNA 95 SF	Aluminium Alloy	Al 7-95	6-35	0.130	20

SEE SHEET
INSTALLATION / LV insulated toolings

Two stage bare conductor service connector



K235
with yellow shear head indicator

MICHAUD

Application

This connector designed to connect 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 under a maximum load of 100A.

The benefit:

- + Connection under load

Description

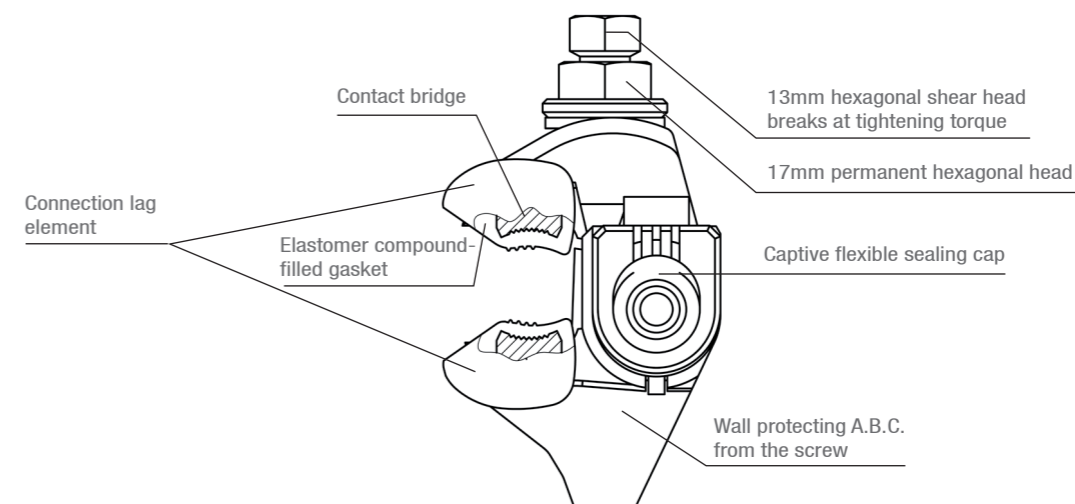
Connector general features:

- 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 is fitted with a yellow shear head indicator that disappears when head is sheared-off, being a clear visual confirmation of good tightening from ground level. It increases head height by 10 mm.

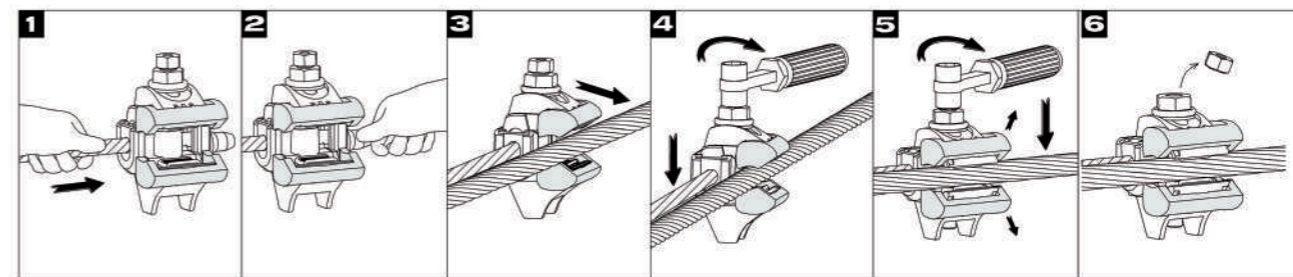
This connector meets the criteria of the **NF C 33-020** and **EN 50-483** standards.

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 term basis.
- It is glued on connector body so that to avoid eventual loss during handling, installation and environment (wind, bad weather...).
- It can be equipped with a hard end cap, gripping and covering so, in case rigid cover is required. (Part Number K246 : please enquire for further information).



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 two stage connection principle hereafter:

(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.

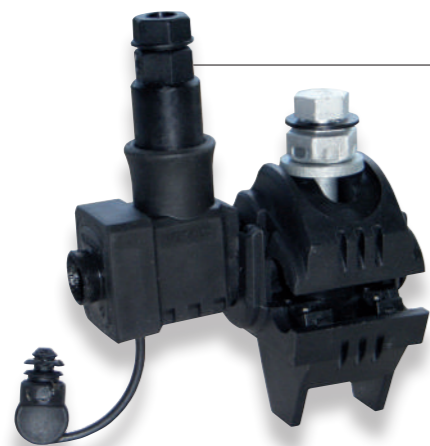
STAINLESS STEEL FASTENERS (SF) + YELLOW SHEAR HEAD INDICATOR

Code	Designation	Contact bridge	Capacities Main bare (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K235	2 STAGES CONNECTOR RDP/CNU 95 SF	Brass	Cu 7-95	6-35	0.170	4
K236	2 STAGES CONNECTOR RDP/CNA 95 SF	Aluminium Alloy	Al 7-95	6-35	0.170	4

SEE SHEET
INSTALLATION / LV insulated toolings

Service connector with independent tightening

Dismountable tap contact single service connector



K397

MICHAUD

Application

This connector designed to connect 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 the **NF C 33-020** and **EN 50483** standards.

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.

ZINC-PLATED STEEL FASTENERS (VZ)						
Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K397	PIERCING CONNECTOR CB 1d/CT 95	Tinned brass	16-95	2.5-35	0.175	6

Bare conductor service connector with independent tightening

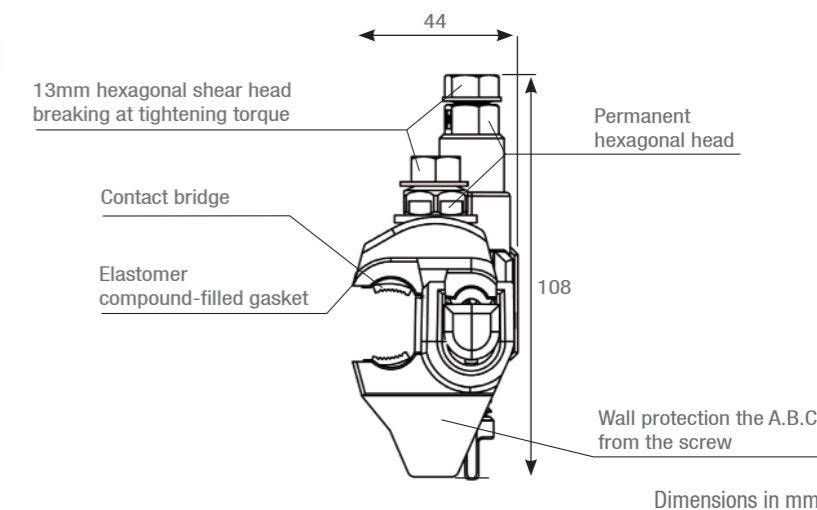


K396

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.

This connector meets the criteria of **NF C 33-020**.

Implementation

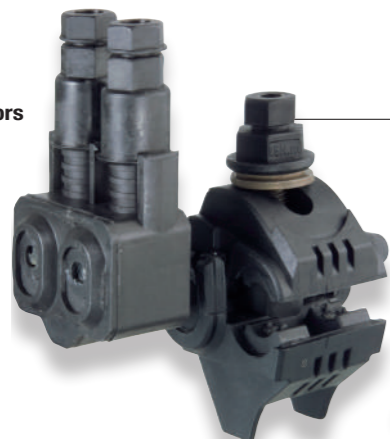
- Strip the tap conductor over the recommended length and brush with neutral grease.
- Insert the tap line fully, piercing the seal wall.
- Tighten using a 13mm spanner until the shear head breaks holding the tap line in your hand.
- Use a 13mm spanner and tighten the connector on the bare main conductor 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.

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
K396	STRIPPING CONNECTOR RDP 1d/CNU 95	Brass	Cu 16-95	2.5-35	0.210	6

SEE SHEET
INSTALLATION / LV insulated toolings

Multitap service connector

2 tap conductors



K390



K389

with yellow shear head indicator

4 tap conductors



K346

with yellow shear head indicator



K434

with yellow shear head indicator

MICHAUD

Application

This connector is designed to connect from 2 to 4 insulated service conductors to the low voltage A.B.C. (Aerial Bundled Conductors).

Description

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.
- The tap conductor of K391 and K393 versions uses the stripping technology. It uses the insulation piercing technology for the other versions.
- This independent tightening tap conductor can accommodate solid or stranded core aluminium or copper insulated conductors with sections between 6 and 35mm².
- Connectors K389, K434 and K346 are fitted with a yellow shear head indicator that disappears when head is sheared-off, being a clear visual confirmation of good tightening from ground level. It increases head height by 10mm.

This connector meets the criteria of the **NF C 33-020** and **EN 50-483** standards.

Connector end cap (2 conductors):

- 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 term basis.
- It is glued on connector body so that to avoid eventual loss during handling, installation and environment (wind, bad weather...).
- It can be equipped with a hard end cap, gripping and covering so, in case rigid cover is required. (Part Number K246: please enquire for further information).

Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
ZINC-PLATED STEEL FASTENERS (ZF)						
K390	PIERCING CONNECTOR CB 2p/CT 150 ZF	Tinned copper	35-150	2 x 6-35	0.260	10
K391	STRIPPING CONNECTOR CB 2d/CT 150 ZF	Tinned copper	35-150	2 x 6-35	0.260	10
K392	PIERCING CONNECTOR CB 2p/CT 70 ZF	Tinned copper	16-70	2 x 6-35	0.260	10
K393	STRIPPING CONNECTOR CB 2d/CT 70 ZF	Tinned copper	16-70	2 x 6-35	0.260	10
K394	PIERCING CONNECTOR CB 2p/CT 95 ZF	Tinned copper	16-95	2 x 6-35	0.260	10
STAINLESS STEEL FASTENERS (SF) + YELLOW SHEAR HEAD INDICATOR						
K389	PIERCING CONNECTOR CB 2p/CT 150 SF	Tinned copper	35-150	2 x 6-35	0.260	10
K346	4 TAPS IPC 25-95 SF	Tinned brass	25-95	4 x 6-35	0.300	20
K434	4 TAPS IPC 35-150 SF	Tinned brass	35-150	4 x 6-35	0.380	10

Option: Service connector with movable seal cap

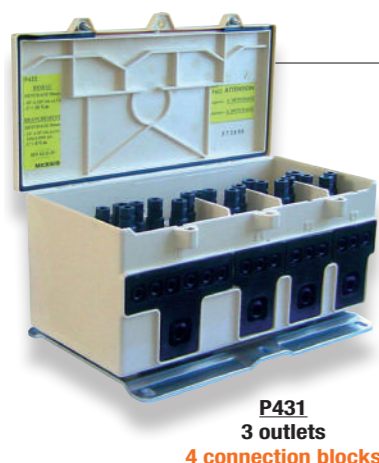
This connector is used for connecting 2 insulated service conductors to the low voltage A.B.C (Aerial Bundled Conductors). The movable seal cap enables a tap connection on the right or on the left. The main conductor connection and the tap ones use the insulation piercing technology.



Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K594	PIERCING IPC CB 2p/CT 95 ZF A	Tinned brass	16-95	2 x 6-35	0.250	10

SEE SHEET
INSTALLATION / LV insulated toolings

Multitap aerial connection box



P431
3 outlets
4 connection blocks



P435
7 outlets
8 connection blocks

MICHAUD

Application

The box with 3 outlets is designed 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 is designed 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.

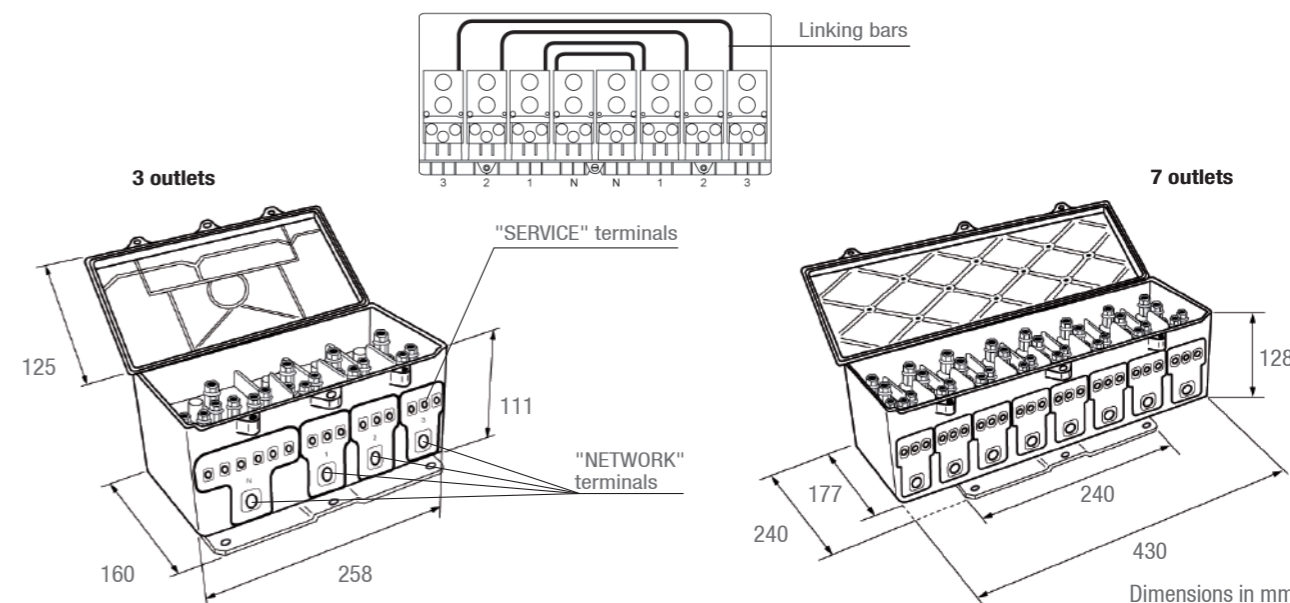
The benefits:

- + Perform single phase or three phases connections
- + Better spread charges on the network, thanks to the connections visibility
- + Guarantee the network durability (better resistance to corrosion and humidity)
- + Reduce the number of connectors (safer network organisation, strengthened fraud-prevention)
- + Disconnect subscribers easily (network cable unimpacted, possibility to re-use connectors)
- + Check the potential at the connection terminals (with a test probe)
- + Guarantee a better fitters safety (electric shock risk limited)

Description

- 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 seal sockets.
- The box is delivered with a metal 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** standard). When the cover is open, the degree of protection of the live parts is IP2X.

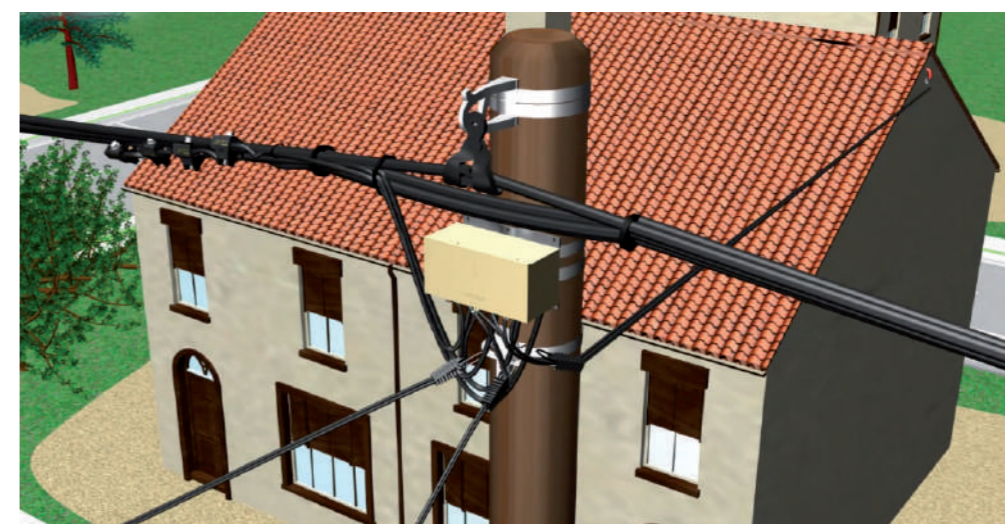
This box meets the criteria of the **HN 62-S-33** standard.



	Network	Service	Maximum flow power
P431	Capacity: 35mm ² - 150mm ² Al ou Cu Insulation piercing	Capacity: 10mm ² - 35mm ² Al ou Cu 16M - 50M Al Insulation piercing	110kVA
P432	Capacity: 35mm ² - 150mm ² Al ou Cu Stripping	Capacity: 6mm ² - 35mm ² Al ou Cu 16M - 50M Al Stripping	
P435	Capacity: 50mm ² - 150mm ² Al ou Cu Insulation piercing	Capacity: 10mm ² - 35mm ² Al ou Cu 16M - 50M Al Stripping	160kVA



Implementation video available on www.michaud-export.com
(tab Documentation > Implementation videos)



Code	Designation	Network terminals	Service terminals	Weight (kg)	Sales unit
P431	INSULATION PIERCING AERIAL CONNECTION BOX 3 OUTLETS	Insulation piercing	Insulation piercing	2.880	1
P432	STRIPPING AERIAL CONNECTION BOX 3 OUTLETS	Stripping	Stripping	2.780	1
P435	STRIPPING AERIAL CONNECTION BOX 7 OUTLETS	Insulation piercing	Stripping	6.090	1

Network insulation piercing connector



K355



K356



K381



K366



K365



K445

with yellow shear head indicator



K354

with yellow shear head indicator



K446

with yellow shear head indicator

MICHAUD

Application

This connector is designed to connect a low voltage A.B.C. (Aerial Bundled Conductors) network to another network of the same type.

Description

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.
- Connectors K445, K354 and K446 are fitted with a yellow shear head indicator that disappears when head is sheared-off, being a clear visual confirmation of good tightening from ground level. It increases head height by 10 mm.

This connector meets the criteria of the **NF C 33-020** and **EN 50-483** standards.

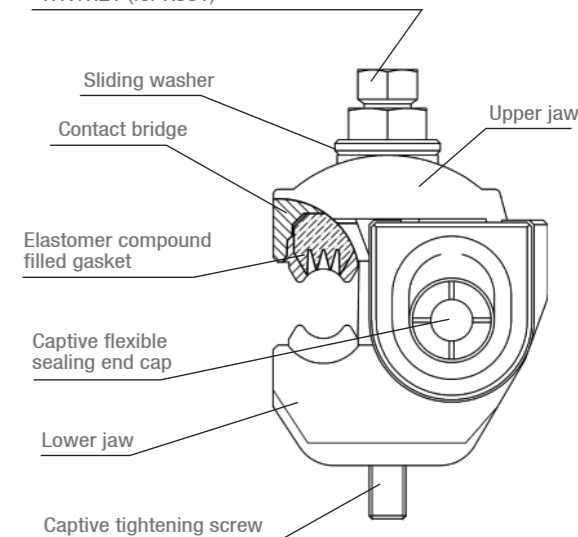
Connector end cap:

- 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 term basis.
- It is glued on connector body so that to avoid eventual loss during handling, installation and environment (wind, bad weather...).
- It can be equipped with a hard end cap, gripping and covering so, in case rigid cover is required. (Part Number K245: please enquire for further information).

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 K354, K355 and K356) and tighten the connector on the insulated conductor of the bundle until the shear head breaks.
- The 17mm permanent screw head (21mm for connector K381) 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.

Hexagonal shear head breaks at tightening torque:
- H13/H17 (for K354 - K355 - K356),
- H17/H17 (for K365 - K366 - K445 - K446),
- H17/H21 (for K381)



Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
ZINC-PLATED STEEL FASTENERS (ZF)						
K365	CONNECTOR CDRS/CT 95-95 ZF	Aluminium	25-95	25-95	0.235	20
K355	CONNECTOR CDRS/CT 150-95 ZF	Tinned brass	25-150	25-95	0.200	20
K366	CONNECTOR CDRS/CT AL 150-150 ZF	Aluminium	50-150	50-150	0.580	1
K356	CONNECTOR CDRS/CT 150-150 ZF	Tinned brass	35-150	35-150	0.400	20
K381	CONNECTOR CDRS/CT 240-240 ZF (without cap)	Tinned copper	50-240	50-240	0.820	1
STAINLESS STEEL FASTENERS (SF) + YELLOW SHEAR HEAD INDICATOR						
K445	CONNECTOR CDRS/CT 95-95 SF	Aluminium	25-95	25-95	0.230	20
K354	CONNECTOR CDRS/CT 150-95 SF	Aluminium	50-150	35-95	0.200	8
K446	CONNECTOR CDRS/CT 150-150 SF	Aluminium	50-150	50-150	0.560	8

Notes: - Connector K356 is manufactured on order: please contact us.
- The cap to be used with the K381 is the K247.

Option: Connector with movable end cap

This connector is used for connecting the insulated service conductors to the low voltage A.B.C (Aerial Bundled Conductors). The movable sealing end cap enables a tap connection on the right or on the left. The main conductor connection and the tap ones use the insulation piercing technology.



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
K555	CONNECTOR CDRS/CT 95-95 VZA	Tinned brass	25-95	25-95	0.174	20

SEE SHEET
OVERHEAD / LV end fitting / End cap

SEE SHEET
INSTALLATION / LV insulated toolings

Network insulation piercing connector for bare conductor



K254



K257



K472 - K473
with yellow shear head indicator



K474 - K475
with yellow shear head indicator

MICHAUD

Application

This connector is designed 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.

Description

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.
- Connectors K472, K473, K474 and K475 are fitted with a yellow shear head indicator that disappears when head is sheared-off, being a clear visual confirmation of good tightening from ground level. It increases head height by 10 mm.

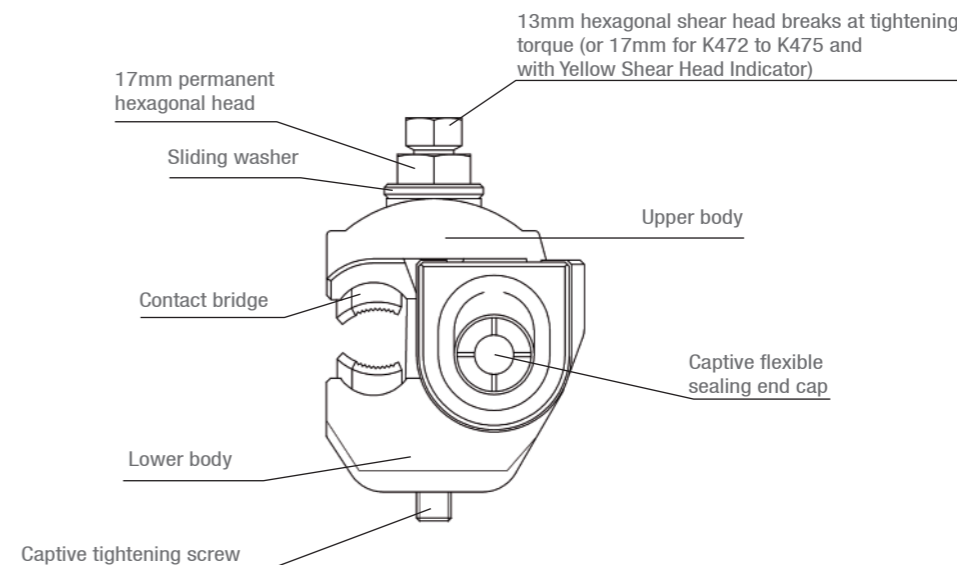
This connector meets the criteria of the **NF C 33-020** and **EN 50-483** standards.

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 term basis.
- It is glued on connector body so that to avoid eventual loss during handling, installation and environment (wind, bad weather...).
- It can be equipped with a hard end cap, gripping and covering so, in case rigid cover is required. (Part Number K245: please enquire for further information).

Implementation

- Insert the insulated tap conductor into the connector so that its end seats in the flexible end cap.
- Use a 13mm spanner for K254 - K257 or 17mm for K472 to K475. 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.



Code	Designation	Contact bridge	Capacities Main bare Al-Cu (mm ²)	Capacities Tap insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
ZINC-PLATED STEEL FASTENERS (ZF)						
K254	CONNECTOR CDRSp/CN 120-70 ZF	Tinned brass	7-120	25-70	0.210	20
K257	CONNECTOR CDRSp/CN 120-150 ZF	Tinned brass	7-120	25-150	0.410	10
STAINLESS STEEL FASTENERS (SF) + YELLOW SHEAR HEAD INDICATOR						
K472	CONNECTOR RDP/CNU 120-95 SF	Copper Alloy	Cu 7-120	25-95	0.270	20
K473	CONNECTOR RDP/CNA 120-95 SF	Aluminium Alloy	Al 7-120	25-95	0.230	20
K474	CONNECTOR RDP/CNU 240-150 SF	Copper Alloy	Cu 50-240	35-150	0.640	8
K475	CONNECTOR RDP/CNA 240-150 SF	Aluminium Alloy	Al 50-240	35-150	0.550	8

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

SEE SHEET
INSTALLATION / LV insulated toolings

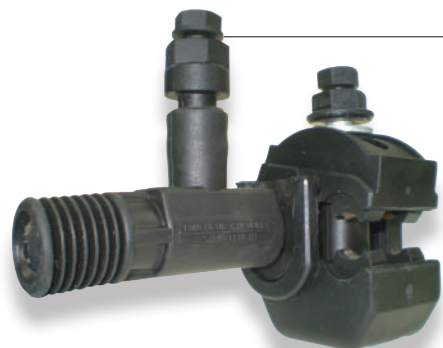
Network insulation piercing connector with dismantlable tap contact

MICHAUD

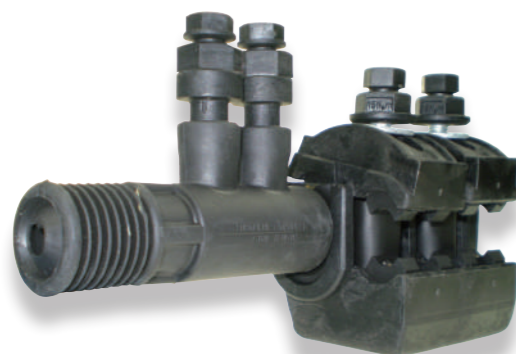
Application

This connector is designed to connect 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



K342

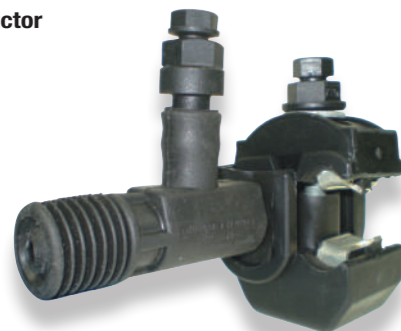


K343 - K444

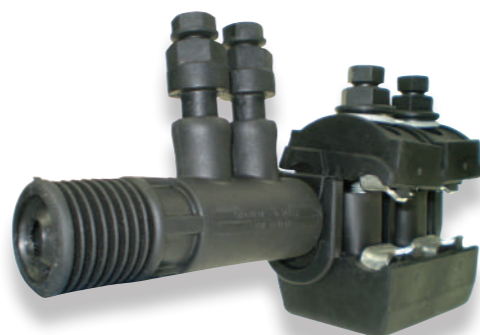


K444
with yellow shear head indicator

One bare conductor



K376 - K378



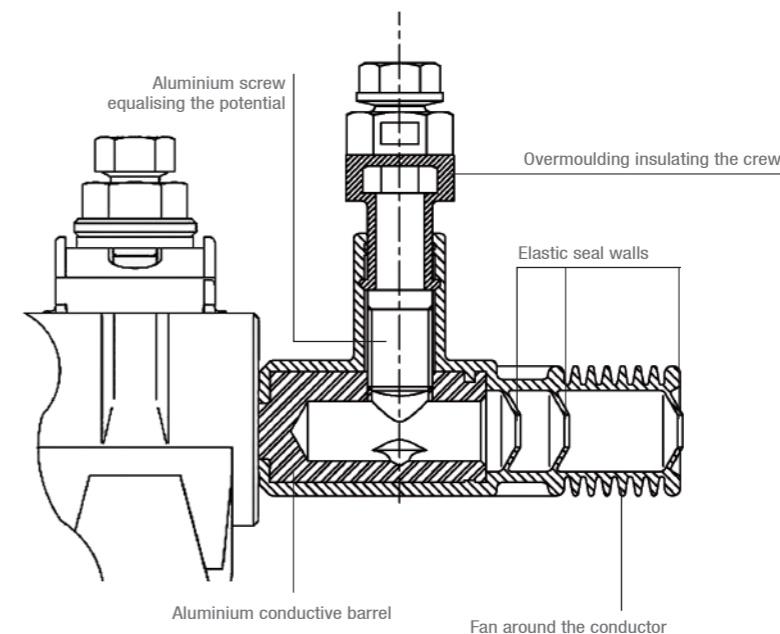
K377 - K379

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.
- The connector K444 is fitted with a yellow shear head indicator that disappears when head is sheared-off, being a clear visual confirmation of good tightening from ground level. It increases head height by 10 mm.

This connector meets the criteria of the **NF C 33-020** and **EN 50-483** standards.

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 K377, K379 and K343).
- 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.

Code	Designation	Capacities insulated Al-Cu (mm ²)		Weight (kg)	Sales unit
		Main	Tap		
ON A.B.C. ZINC-PLATED STEEL FASTENERS (ZF)					
K342	CONNECTOR CDR/CT 2S 150-70 ZF	25-150	25-70	0.260	10
K343	CONNECTOR CDR/CT 2S 150-150 ZF	35-150	35-150	0.520	10
ON A.B.C. STAINLESS STEEL FASTENERS (SF) + YELLOW SHEAR HEAD INDICATOR					
K444	CONNECTOR CDR/CT 2S 150-150 SF	35-150	25-150	0.520	4
ON BARE CONDUCTOR ZINC-PLATED STEEL FASTENERS (ZF)					
K376	CONNECTOR CDR/CNA 2S 70 ZF	7-120	25-70	0.280	10
K377	CONNECTOR CDR/CNA 2S 150 ZF	7-120	35-150	0.530	10
K378	CONNECTOR CDR/CNU 2S 70 ZF	7-120	25-70	0.280	10
K379	CONNECTOR CDR/CNU 2S 150 ZF	7-120	35-150	0.530	10

SEE SHEET
INSTALLATION / LV insulated toolings

Parallel groove jaw



U558

Application

These parallel groove jaws are designed to connect a bare aluminium or copper line from another bare aluminium line. They are adapted to outside use.

Description

- The parallel groove jaws comprise an upper body and a lower body linked by 1 or 2 tightening screws.
- Jaws are designed to fit conductors shape.

Code	Designation	Capacities (mm ²)		Weight (kg)	Sales unit
		Main	Tap		
BARE ALUMINIUM					
U558-50	PARALLEL GROOVE JAW BARE AI 50	10-50	10-50	0.080	50
U558-90	PARALLEL GROOVE JAW BARE AI 90	20-90	20-90	0.100	50
U558-150	PARALLEL GROOVE JAW BARE AI 150	20-150	20-150	0.120	50
U558-185	PARALLEL GROOVE JAW BARE AI 185	35-185	35-185	0.130	50
BARE ALUMINIUM / COPPER					
U559-70/25	PARALLEL GROOVE JAW BARE AI/Cu 70 / 25	Al 16-70	Cu 6-25	0.090	50
U559-70/50	PARALLEL GROOVE JAW BARE AI/Cu 70 / 50	Al 16-70	Cu 6-50	0.100	50
U559-120/95	PARALLEL GROOVE JAW BARE AI/Cu 120 / 95	Al 16-120	Cu 10-95	0.110	50
U559-150/95	PARALLEL GROOVE JAW BARE AI/Cu 50 / 95	Al 25-150	Cu 10-95	0.120	50
U559-185/150	PARALLEL GROOVE JAW BARE AI/Cu 185 / 150	Al 95-185	Cu 35-150	0.130	50

Street light insulation piercing connector



K439

MICHAUD

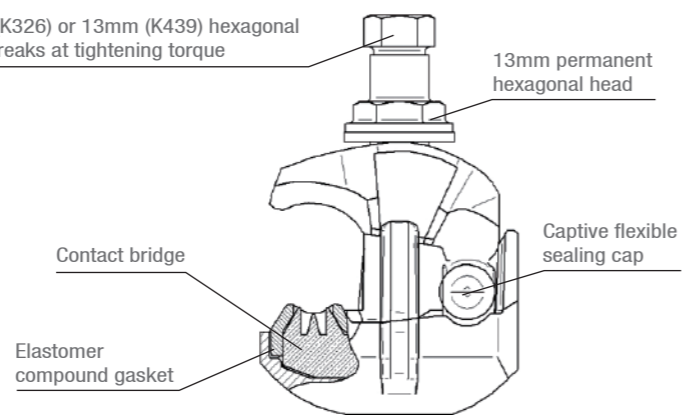
Application

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

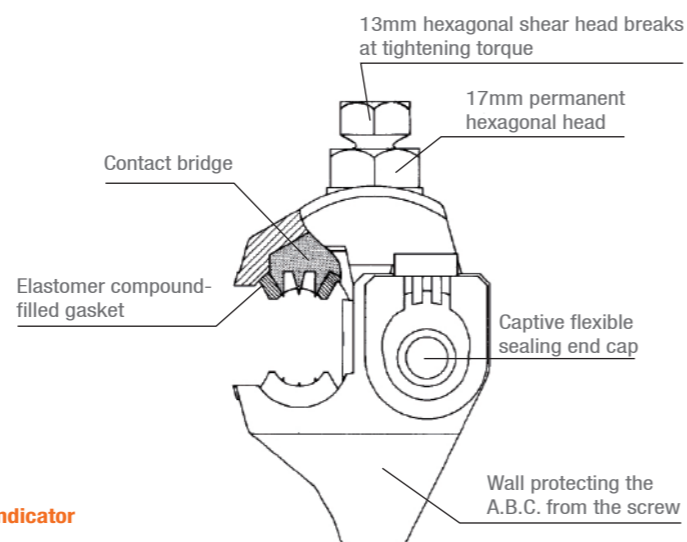


K326

10mm (K326) or 13mm (K439) hexagonal shear breaks at tightening torque



K440
with yellow shear head indicator



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 K326) or a 13mm spanner (for the K439 and K440) and tighten the connector on the insulated main conductor of the bundle until the shear head breaks.
- The 13mm (for the K326 and K439) or 17mm (for the K440) 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.



Code	Designation	Contact bridge	Capacities Main insulated Al-Cu (mm)	Capacities Tap insulated Al-Cu (mm)	Weight (kg)	Sales unit
ZINC-PLATED STEEL FASTENERS (ZF)						
K326	CONNECTOR CES/CT 70 ZF	Tinned brass	16-70	1.5-6	0.070	12
K439	CONNECTOR CES/CT 95 ZF	Tinned brass	10-95	1.5-6	0.060	50
STAINLESS STEEL FASTENERS (SF) + YELLOW SHEAR HEAD INDICATOR						
K440	CONNECTOR CES/CT 95 SF	Tinned brass	10-95	1.5-6	0.110	20

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, bad weather...).
- The connector K440 is fitted with a yellow shear head indicator that disappears when head is sheared-off, being a clear visual confirmation of good tightening from ground level. It increases head height by 10 mm.

This connector meets the criteria of the **NF C 33-020** and **EN 50-483** standards.

➤ **SEE SHEET**
INSTALLATION / LV insulated toolings

➤ **SEE SHEET**
PROTECTION / Service protection / Fuse switch connector 20A

Street light set



K416

MICHAUD

Application

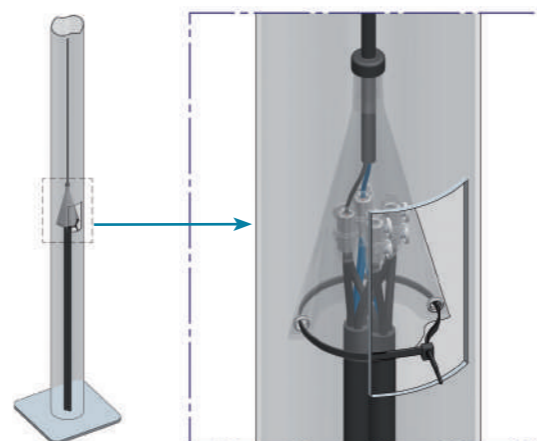
This street light set is designed to interconnect a network with a street light installation inside a lighting column.

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 an IP2X protection degree.
- 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.



Lighting column

Code	Designation	Weight (kg)	Sales unit
K416	STREET LIGHT SET	0.350	10

Cold shrink end cap



P414

MICHAUD

Application

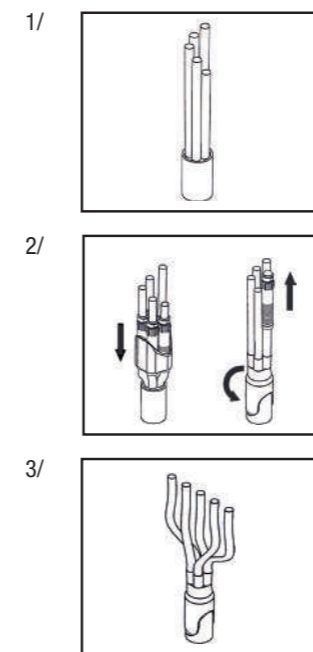
This end cap is designed to ensure street light conductor insulation when fitted at its end. It is mainly used on the bottom of lighting column.

Description

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

This product meets the criteria of the **HN 68-S-24** standard.

End implementation



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

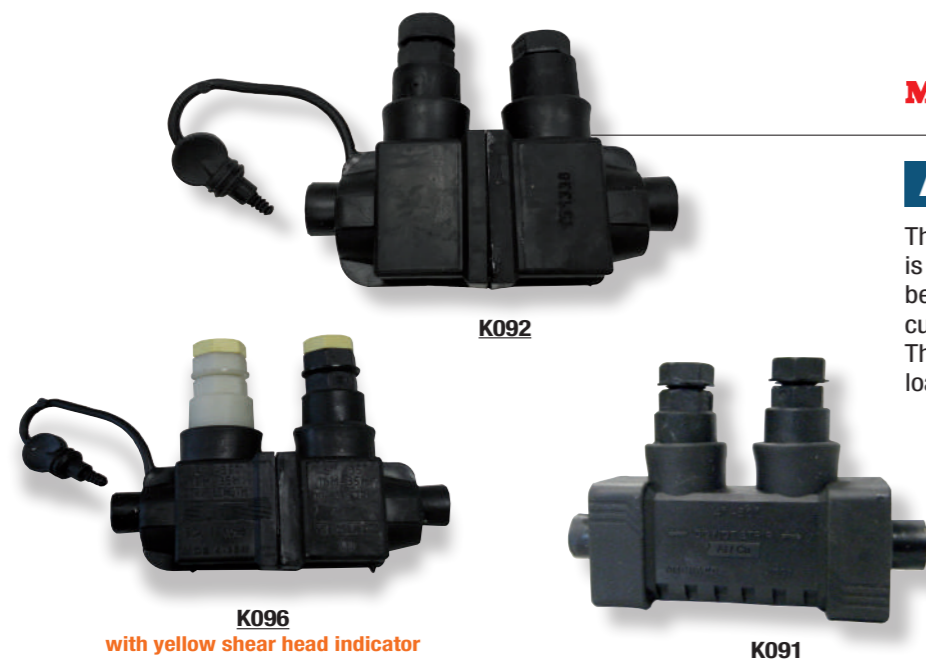
- Place the conductors from the longest to the shortest in the open guides.
- Fully insert the end cap.
- Turn over the end cap using the tabs.
- Remove the guides.

- Shape and cut the conductors to the required length.

Code	Designation	Weight (kg)	Sales unit
P414	STREET LIGHT END CAP EE4TF 6-16	0.010	10
P419	STREET LIGHT END CAP EE5TF 6-16	0.010	10

Service cable dismantlable sleeve and mains connection box

Service cable dismantlable sleeve



MICHAUD

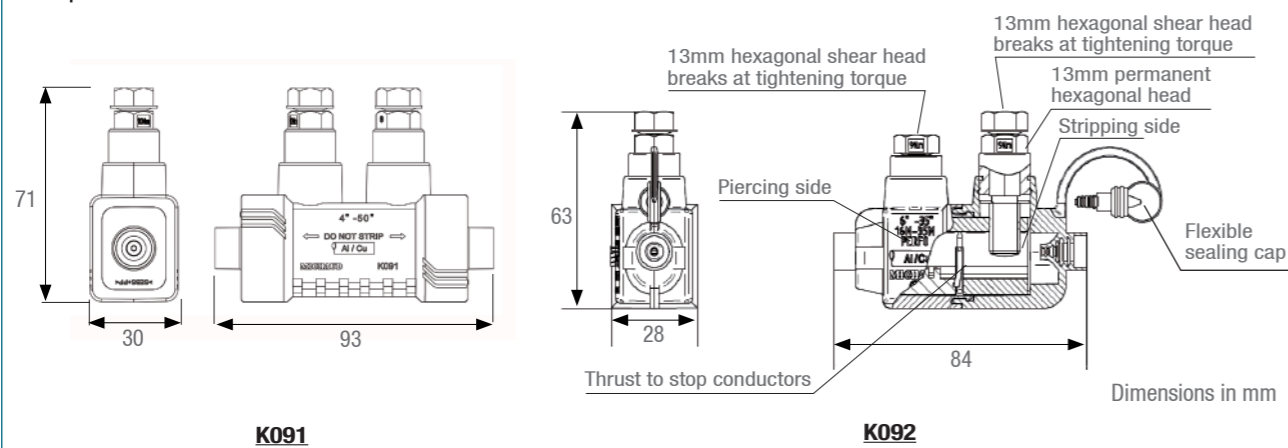
Application

This service cable dismantlable sleeve is designed to establish the connection between the aerial service cable to the customer cable with Al or Cu conductors. This sleeve is used in no mechanical load situation.

Description

- The sleeves K092 et K096 use the insulation piercing technology on the leading-in side (SUPPLY) and the stripping technology on the leading-out side (CUSTOMER).
- The sleeve K091 uses the insulation piercing technology on both sides.
- 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 for K092 and K096.
- The capacity of the terminals is 6-35mm²/16M-50M on the leading-in side (SUPPLY) and 4-35mm²/16M-50M on the leading-out side (CUSTOMER) depending on the models for K092 and K096.
- The capacity of terminals is 4-50mm² on both sides for K091.
- 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 K092 and K096 can be assembled in a MCB (Mains Connection Box).
- The permanent hexagonal screw head on the "leading-in" side (SUPPLY), for the K096, allows possible dismantling. The permanent hexagonal screw head on the "leading-out" side (CUSTOMER) allows possible reuse.

This preinsulated sleeve meets the criteria of the **HN 33-S-83** standard.



Implementation video available on www.michaud-export.com (tab Documentation > Implementation videos)

Code	Designation	Capacities		Weight (kg)	Sales unit
		Leading-in	Leading-out		
K091	DISMOUNTABLE SLEEVE PIERCING 4-50 / PIERCING 4-50	4-50	4-50	0.090	10
K092	DISMOUNTABLE SLEEVE PIERCING 6-50M / STRIPPING 6-50M	6-35mm ² 16M-50M	6-35mm ² 16M-50M	0.100	10
K096	DISMOUNTABLE SLEEVE PIERCING 6-35 / STRIPPING 4-35	6-35	4-35	0.090	10

M means that the core of the conductor is solid.

Mains connection box for dismantlable sleeves



MICHAUD

Utilisation

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 (SUPPLY) and between 4 and 35mm² on the "leading-out" side (CUSTOMER).

Code	Designation	Weight (kg)	Sales unit
K451	SINGLE PHASE MCB + 2 K096	0.380	1
K455	THREE PHASE MCB + 4 K096	0.650	1

Variant: House service connector 4 bolts

This House Service Connector (HSC) with 4 bolts is designed to connect the overhead service line to the electrical installation of the premise. It receives aluminium/copper leading-in and copper leading-out cables, running through two separated chambers. It is installed outside or can be fitted in a no mechanical load situation into a MCB (Main Connection Box).



+ Safe neutral connection

Code	Designation	Network side (mm ²)	Customer side (mm ²)	Weight (kg)	Sales unit
K099	HSC PIERCING 6-35 / STRIPPING 4-35 / 4 BOLTS	6-35	4-35	0.167	5
L307	WHITE SHEAR HEAD SCREW FOR K099			0.016	10

Network preinsulated sleeve with mechanical tightening



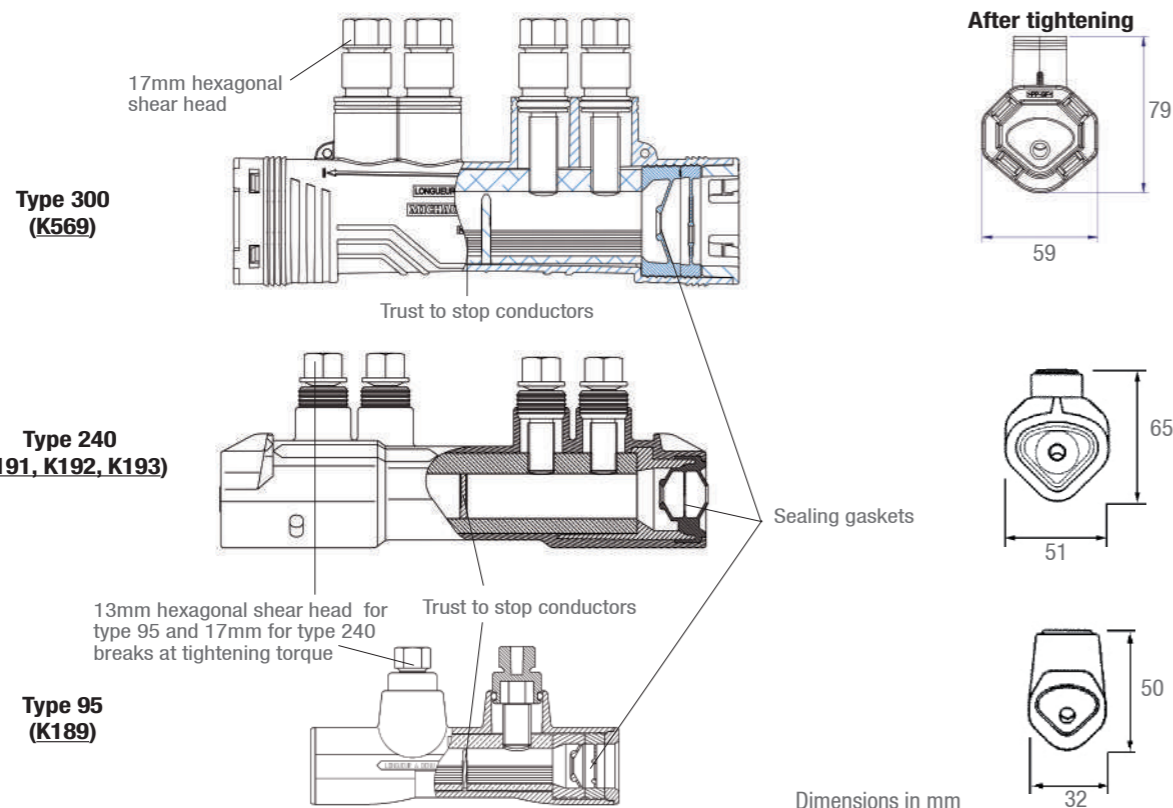
MICHAUD

Application

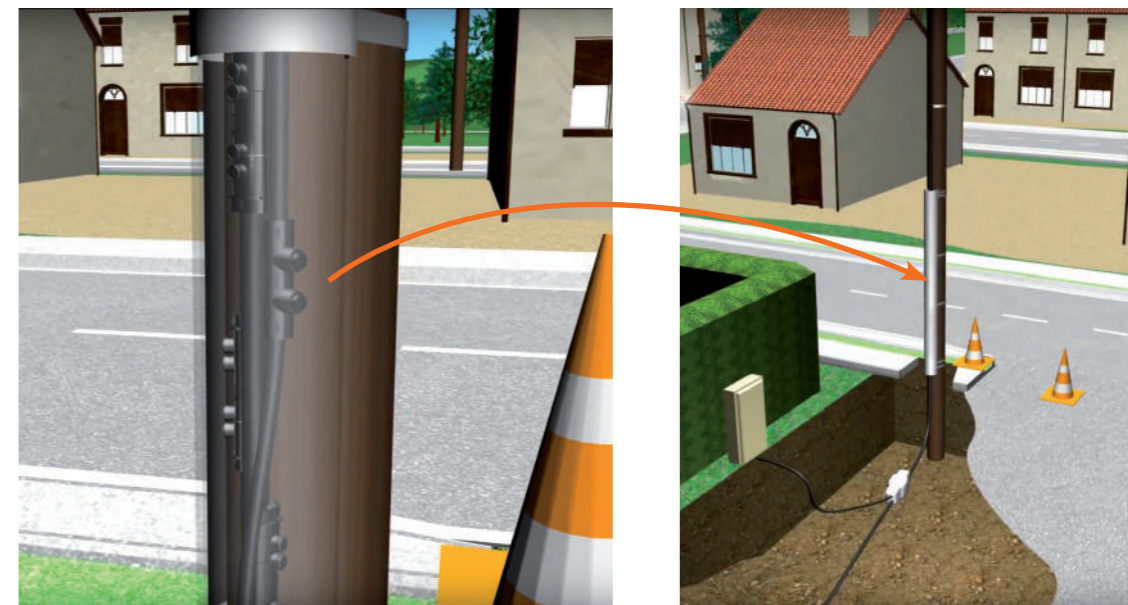
This sleeve is designed to connect aluminium or copper conductors. It does not need the sectoral cores to be rounded before. It is implemented using a 13 or 17mm spanner. The electrical capacity is respectively 240mm² aluminium conductors (K191, K192), 150mm² aluminium or copper conductors (K193) and 95mm² aluminium or copper conductors (K189).

Description

- The dielectric strength in water is greater than 6kV.
- The materials are protected against UV and can be used outside.
- The 95 and 300 types accept round and sectoral sections in a single model.



Implementation video available on www.michaud-export.com (tab Documentation > Implementation videos)



Code	Designation	Cable insulated Al-Cu (mm ²)		Weight (kg)	Sales unit
		Leading-in	Leading-out		
K569	MECHANICAL SUBSURFACE PREINSULATED SLEEVE 150-300	Round/Sectoral 150 - 300	Round/Sectoral 150 - 300	0.700	4
K191	MECHANICAL SUBSURFACE PREINSULATED SLEEVE SECTORAL 95-240	Sectoral 95 - 240	Sectoral 95 - 240	0.520	4
K192	MECHANICAL SUBSURFACE PREINSULATED SLEEVE ROUND 150 / SECTORAL 240	Round 50 - 150	Sectoral 95 - 240	0.520	4
K193	MECHANICAL PREINSULATED SLEEVE ROUND 50-150	Round 50 - 150	Round 50 - 150	0.520	4
K189	MECHANICAL PREINSULATED SLEEVE 25-95	Round/Sectoral 25 - 95	Round/Sectoral 25 - 95	0.160	3

SEE SHEET
INSTALLATION / LV insulated toolings

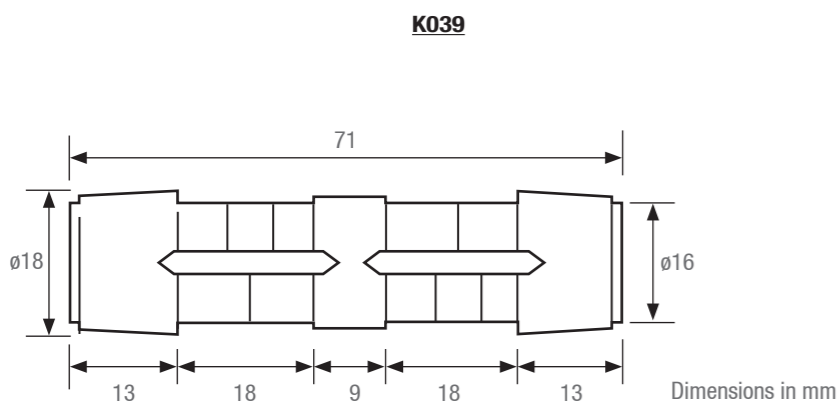
Preinsulated sleeve E140



MICHAUD

Application

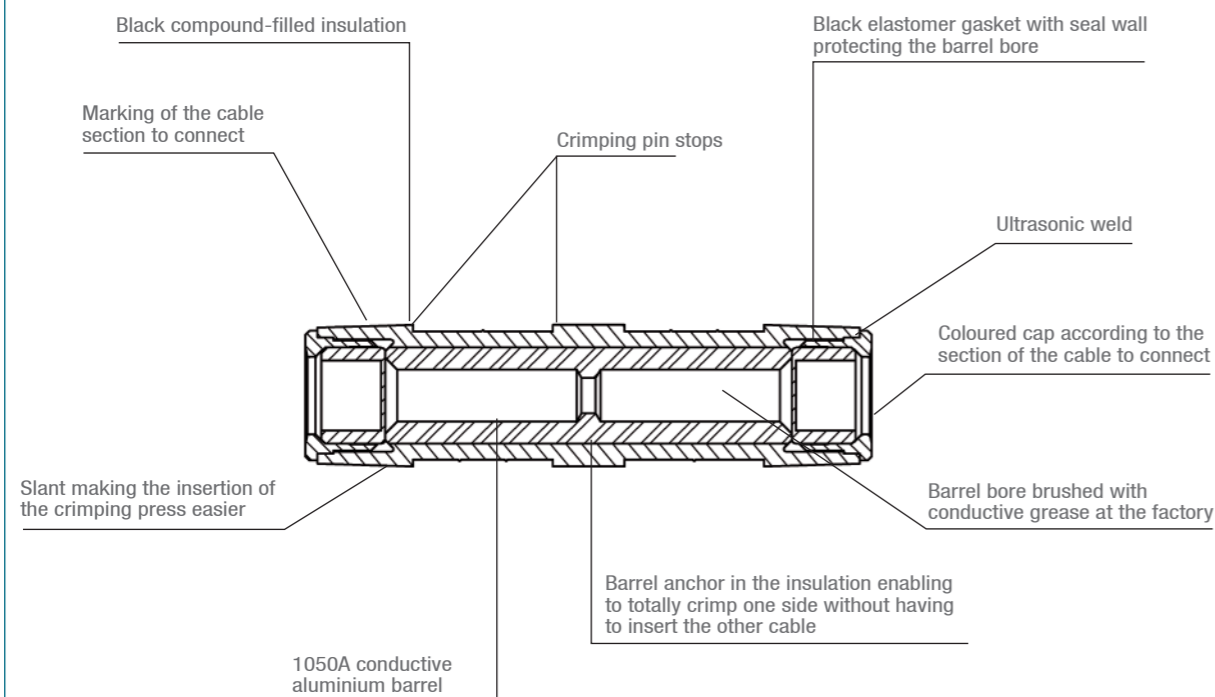
This preinsulated sleeve is designed for the connection of copper or aluminium stranded core overhead insulated conductors with traction or with no mechanical load. It is used for the installation, repair or modification of low voltage service lines. The junction can be established between two conductors of equal or unequal sections. All combinations of sections are possible. The section of the cables ranges goes from 6 up to 35mm².



Description

- The sleeve can be used in mechanical traction.
- The sleeve has got an excellent dielectric strength, greater than 6kV.
- The materials are protected against UV.

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



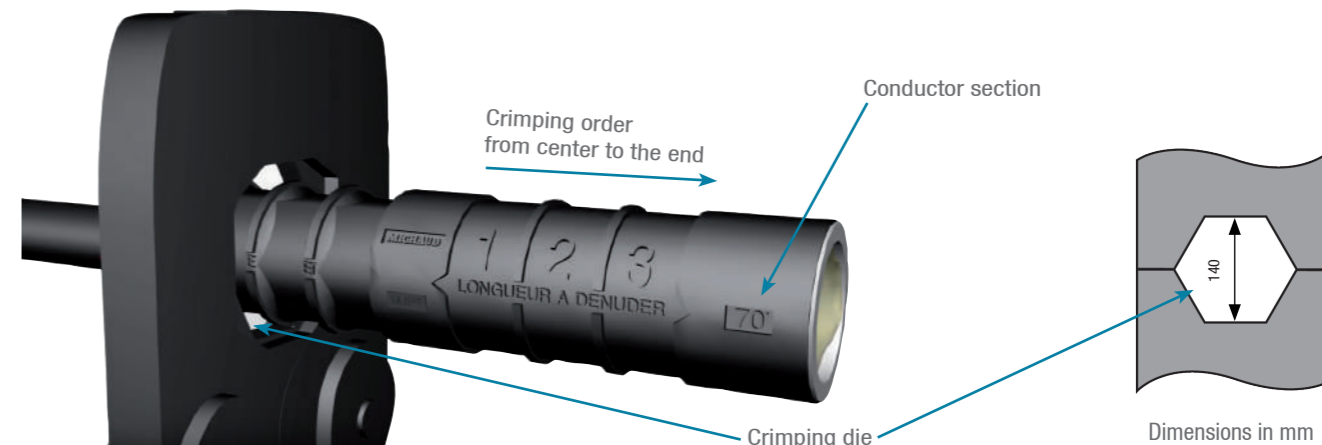
Implementation

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:

- Both conductors do not need to be inserted before crimping. You can insert one, crimp it, insert the second one and crimp it.



Implementation video available on www.michaud-export.com (tab Documentation > Implementation videos)

Code	Designation	Leading-in cable section (mm ²)	Leading-in colour	Leading-out cable section (mm ²)	Leading-out colour	Weight (kg)	Sales unit
K030	PREINSULATED SLEEVE (E140) MJPB 6	6	BROWN	6	BROWN	0.030	10
K031	PREINSULATED SLEEVE (E140) MJPB 10-6	10	GREEN	6	BROWN	0.030	10
K032	PREINSULATED SLEEVE (E140) MJPB 16-6	16	BLUE	6	BROWN	0.030	10
K033	PREINSULATED SLEEVE (E140) MJPB 25-6	25	ORANGE	6	BROWN	0.030	10
K035	PREINSULATED SLEEVE (E140) MJPB 10	10	GREEN	10	GREEN	0.030	10
K036	PREINSULATED SLEEVE (E140) MJPB 16-10	16	BLUE	10	GREEN	0.030	10
K037	PREINSULATED SLEEVE (E140) MJPB 25-10	25	ORANGE	10	GREEN	0.030	10
K039	PREINSULATED SLEEVE (E140) MJPB 16	16	BLUE	16	BLUE	0.030	10
K040	PREINSULATED SLEEVE (E140) MJPB 25-16	25	ORANGE	16	BLUE	0.030	10
K053	PREINSULATED SLEEVE (E140) MJPB 35-16	35	RED	16	BLUE	0.020	10
K042	PREINSULATED SLEEVE (E140) MJPB 25	25	ORANGE	25	ORANGE	0.020	10
K054	PREINSULATED SLEEVE (E140) MJPB 35-25	35	RED	25	ORANGE	0.020	10
K055	PREINSULATED SLEEVE (E140) MJPB 35	35	RED	35	RED	0.020	10



SEE SHEET
INSTALLATION / Hydraulic crimping tool

Preinsulated sleeve E173

Phase MJPT sleeve - **K110**



Neutral MJPT sleeve - **K116**



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Application

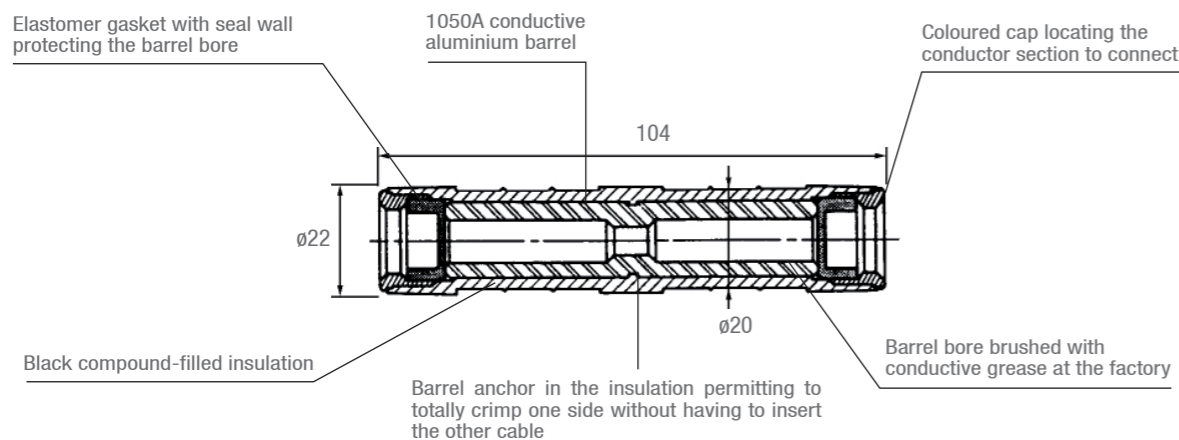
This preinsulated sleeve is designed for the connection of insulated conductors of a low voltage overhead network to other ones.
The junction can be established between two conductors of equal or unequal sections. All combinations of sections are possible.
The neutral conductor is dimensioned to withstand 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

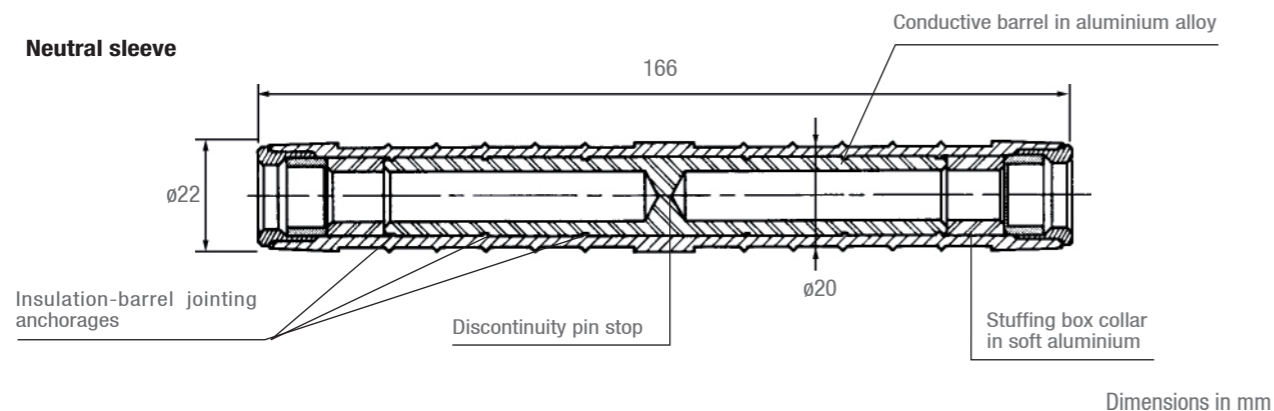
- The sleeve can be used in mechanical traction.
- The sleeve has got an excellent dielectric strength, greater than 6kV.
- The materials are protected against UV.

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

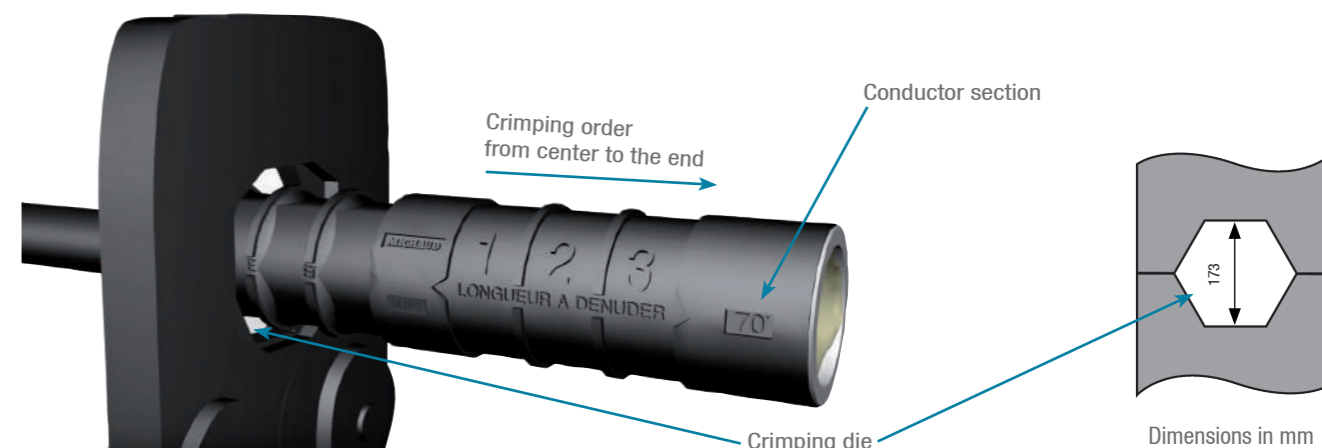
Phase sleeve



Neutral sleeve



Dimensions in mm



Implementation video available on www.michaud-export.com
(tab Documentation > Implementation videos)

Code	Designation	Leading-in cable section insulated Al-Cu (mm ²)	Leading-in colour	Leading-out cable section insulated Al-Cu (mm ²)	Leading-out colour	Weight (kg)	Sales unit
PHASE SLEEVES							
K101	PREINSULATED SLEEVE (E173) MJPT 16	16	BLUE	16	BLUE	0.060	10
K103	PREINSULATED SLEEVE (E173) MJPT 25	25	ORANGE	25	ORANGE	0.060	10
K106	PREINSULATED SLEEVE (E173) MJPT 35	35	RED	35	RED	0.060	10
K108	PREINSULATED SLEEVE (E173) MJPT 50-25	50	YELLOW	25	ORANGE	0.060	10
K109	PREINSULATED SLEEVE (E173) MJPT 50-35	50	YELLOW	35	RED	0.060	10
K110	PREINSULATED SLEEVE (E173) MJPT 50	50	YELLOW	50	YELLOW	0.055	10
K114	PREINSULATED SLEEVE (E173) MJPT 54-50	54	BLACK	50	YELLOW	0.040	10
K118	PREINSULATED SLEEVE (E173) MJPT 70-35	70	WHITE	35	RED	0.050	10
K119	PREINSULATED SLEEVE (E173) MJPT 70-50	70	WHITE	50	YELLOW	0.050	10
K121	PREINSULATED SLEEVE (E173) MJPT 70	70	WHITE	70	WHITE	0.050	10
K122	PREINSULATED SLEEVE (E173) MJPT 95-70	95	GREY	70	WHITE	0.050	10
K123	PREINSULATED SLEEVE (E173) MJPT 95	95	GREY	95	GREY	0.050	10
NEUTRAL SLEEVES (FULL TRACTION)							
K115	PREINSULATED SLEEVE (E173) NEUTRAL MJPT 54	54.6N	BLACK	54.6N	BLACK	0.080	10
K117	PREINSULATED SLEEVE (E173) NEUTRAL MJPT 70-54	70N	WHITE	54.6N	BLACK	0.080	10
K116	PREINSULATED SLEEVE (E173) NEUTRAL MJPT 70	70N	WHITE	70N	WHITE	0.080	10

Variant: Sleeves set

Set comprising 3 phase sleeves and 1 neutral sleeve.

Code	Designation	A.B.C. to connect	Weight (kg)	Sales unit
K503	SET OF SLEEVES (E173) EJPT 35-54.6	3x35 + 54.6N on 3x35 + 54.6N	0.265	1
K504	SET OF SLEEVES (E173) EJPT 50-54.6	3x50 + 54.6N on 3x50 + 54.6N	0.260	1
K506	SET OF SLEEVES (E173) EJPT 70-35-54.6	3x70 + 54.6N on 3x35 + 54.6N	0.250	1
K505	SET OF SLEEVES (E173) EJPT 70-54.6	3x70 + 54.6N on 3x70 + 54.6N	0.240	1
K507	SET OF SLEEVES (E173) EJPT 70-50/54.6	3x70 + 54.6N on 3x50 + 54.6N	0.250	1
K700	SET OF SLEEVES (E173) EJPT 70/70-54.6	3x70 + 70N on 3x70 + 54.6N	0.240	1
K701	SET OF SLEEVES (E173) EJPT 70-70	3x70 + 70N on 3x70 + 70N	0.240	1
K699	SET OF SLEEVES (E173) EJPT 70-50/70-54.6	3x70 + 70N on 3x50+ 54.6N	0.255	1



SEE SHEET
INSTALLATION / Hydraulic crimping tool

Preinsulated sleeve E215

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Application

This preinsulated sleeve is designed 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.



Phase MJPT sleeve - **K175**



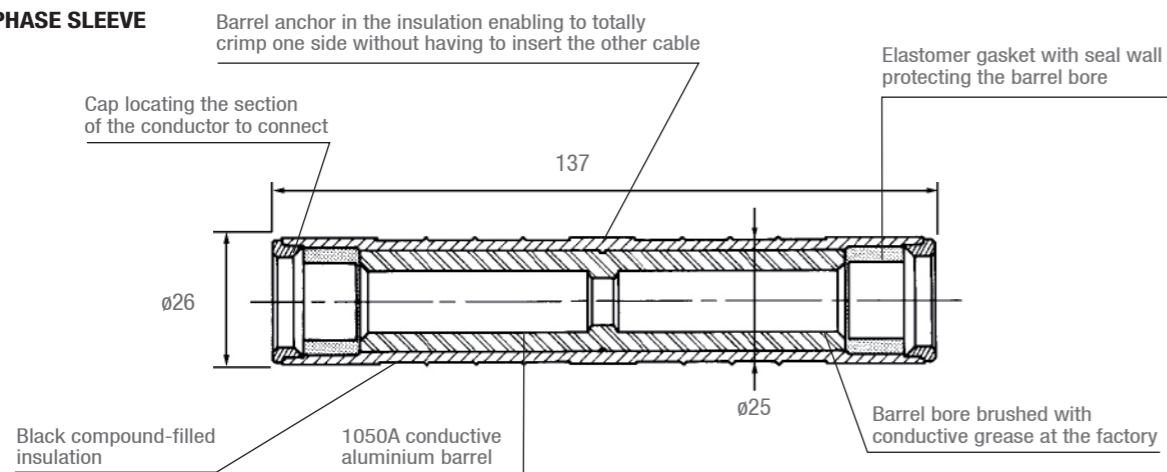
Neutral MJPT sleeve - **K185**

Description

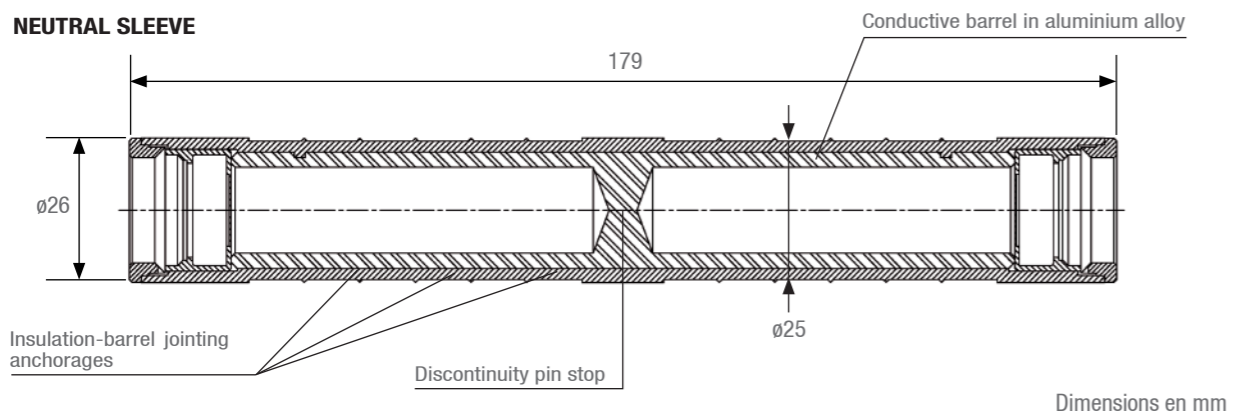
- The sleeve can be used in mechanical traction.
- The sleeve has got an excellent dielectric strength, greater than 6kV.
- The materials are protected against UV.

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

PHASE SLEEVE



NEUTRAL SLEEVE



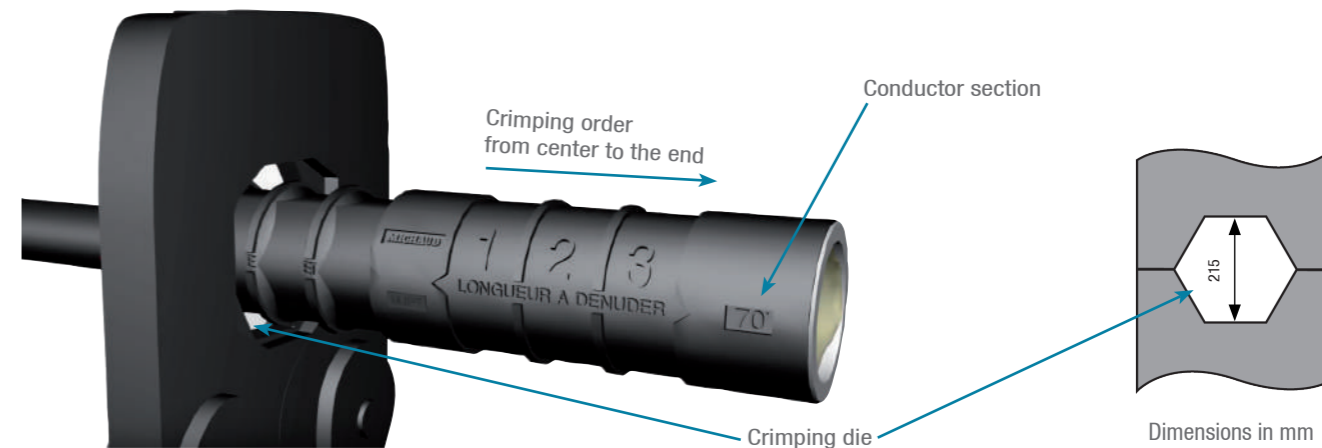
Implementation

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 this way.
- Insert the conductor fully into the sleeve bore.

Crimping:

- 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.



Implementation video available on www.michaud-export.com (tab Documentation > Implementation videos)

Code	Designation	Leading-in cable section insulated Al-Cu (mm ²)	Leading-in colour	Leading-out cable section insulated Al-Cu (mm ²)	Leading-out colour	Weight (kg)	Sales unit
PHASE SLEEVES							
K170	PREINSULATED SLEEVE (E215) MJPT 95	95	GREY	95	GREY	0.100	10
K188	PREINSULATED SLEEVE (E215) MJPT 120	120	PINK	120	PINK	0.090	10
K174	PREINSULATED SLEEVE (E215) MJPT 150-70	150	PURPLE	70	IVORY	0.100	10
K175	PREINSULATED SLEEVE (E215) MJPT 150	150	PURPLE	150	PURPLE	0.085	10
K176	PREINSULATED SLEEVE (E215) MJPT 150-95	150	PURPLE	95	GREY	0.090	10
NEUTRAL SLEEVES (FULL TRACTION)							
K182	PREINSULATED SLEEVE (E215) NEUTRAL MJPT 95 FT	95	GREY	95	GREY	0.100	10
K185	PREINSULATED SLEEVE (E215) NEUTRAL MJPT 150 FT	150	PURPLE	150	PURPLE	0.100	10

Variant: Sleeves set

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

Code	Designation	A.B.C. to connect	Weight (kg)	Sales unit
K509	SET OF SLEEVES (E215) EJPT 150-70/70-54.6	3x150 + 70N on 3x70 + 54.6N	0.380	1
K702	SET OF SLEEVES (E215) EJPT 150-70/70-70	3x150 + 70N on 3x70 + 70N	0.380	1
K510	SET OF SLEEVES (E215) EJPT 150-70/150-70	3x150 + 70N on 3x150 + 70N	0.350	1



SEE SHEET
INSTALLATION / Hydraulic crimping tool

Preinsulated sleeve for aerial sub-surface connection E140



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Application

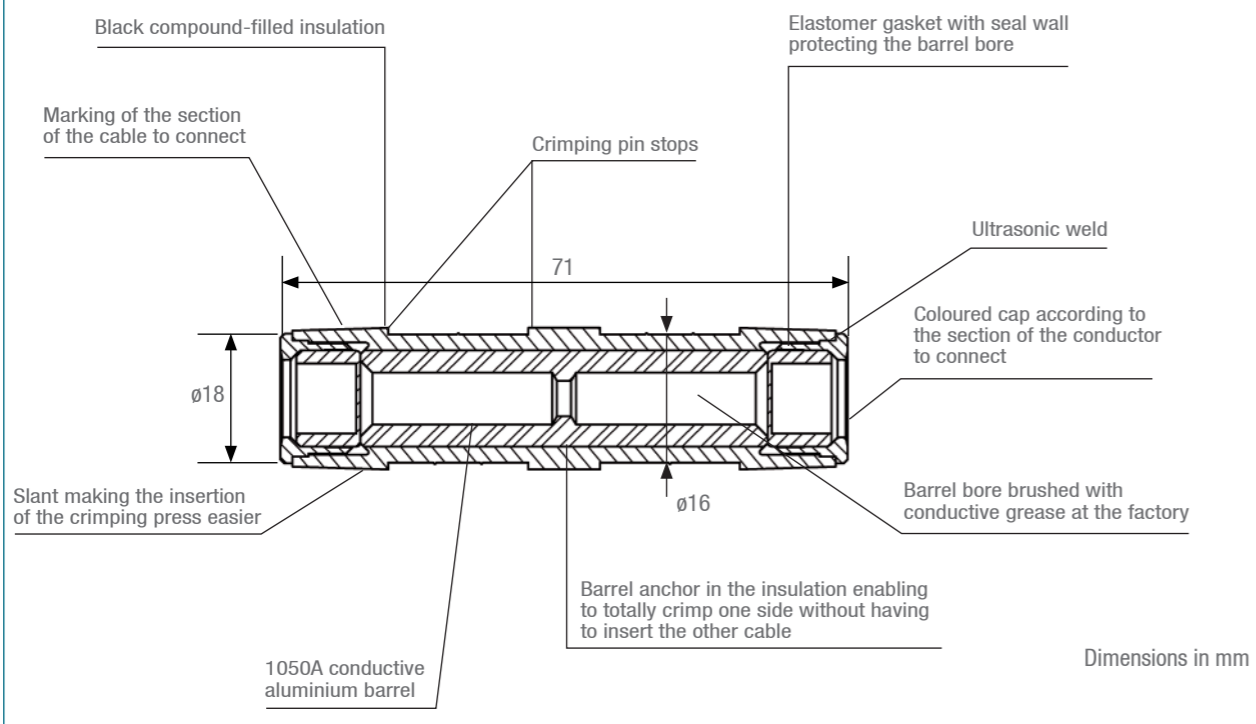
This preinsulated sleeve is designed for the connection of stranded core aerial service cables (aluminium or copper) to aluminium solid core sub-surface service cables.

It is 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

- The sleeve can be used in mechanical traction.
- The sleeve has got an excellent dielectric strength, greater than 6kV.
- The materials are protected against UV.

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



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		Weight (kg)	Sales unit
					Cap	Gasket		
K068	PREINSULATED SLEEVE (E140) MJPBAS 10-25M	10	GREEN	25 M	GREY	ORANGE	0.030	10
K069	PREINSULATED SLEEVE (E140) MJPBAS 10-35M	10	GREEN	35 M	GREY	RED	0.030	10
K064	PREINSULATED SLEEVE (E140) MJPBAS 16-4M	16	BLUE	4 M	GREY	BLACK	0.030	10
K065	PREINSULATED SLEEVE (E140) MJPBAS 16-6M	16	BLUE	6 M	GREY	BLACK	0.030	10
K070	PREINSULATED SLEEVE (E140) MJPBAS 16-16M	16	BLUE	16 M	GREY	BLUE	0.030	10
K078	PREINSULATED SLEEVE (E140) MJPBAS 16-25M	16	BLUE	25 M	GREY	ORANGE	0.030	10
K079	PREINSULATED SLEEVE (E140) MJPBAS 16-35M	16	BLUE	35 M	GREY	RED	0.030	10
K072	PREINSULATED SLEEVE (E140) MJPBAS 25-16M	25	ORANGE	16 M	GREY	BLUE	0.030	10
K074	PREINSULATED SLEEVE (E140) MJPBAS 25-25M	25	ORANGE	25 M	GREY	ORANGE	0.030	10
K076	PREINSULATED SLEEVE (E140) MJPBAS 25-35M	25	ORANGE	35 M	GREY	RED	0.030	10

M means that the core of the conductor is solid.

SUB-SURFACE SLEEVES (CONNECTION OF TWO SOLID CORE CABLES TO ONE ANOTHER)

Code	Designation	Leading-in cable section insulated Al (mm ²)	Leading-out cable section insulated Al (mm ²)	Subsurface colour		Weight (kg)	Sales unit
				Cap	Gasket		
K085	PREINSULATED SLEEVE (E140) MJPBS 16M-35M	16 M	35 M	GREY	BLUE/RED	0.030	10
K073	PREINSULATED SLEEVE (E140) MJPBS 25M-25M	25 M	25 M	GREY	ORANGE/ORANGE	0.030	10
K086	PREINSULATED SLEEVE (E140) MJPBS 25M-35M	25 M	35 M	GREY	ORANGE/RED	0.030	10
K075	PREINSULATED SLEEVE (E140) MJPBS 35M-35M	35 M	35 M	GREY	RED/RED	0.030	10

M means that the core of the conductor is solid.

Variant:

Sleeves for neutral screen underground service cables (HM-27/03/139). They have a purple coloured cap on the copper side (21mm²).

Code	Designation	Poids (kg)	Unité vente
AERIAL/SUB-SURFACE SLEEVES			
K080	PREINSULATED SLEEVE (E140) MJPBAS 16-21Cu	0.030	10
K081	PREINSULATED SLEEVE (E140) MJPBAS 25-21Cu	0.030	10
SUB-SURFACE SLEEVES			
K082	PREINSULATED SLEEVE (E140) MJPBS 16M-21Cu	0.030	10
K083	PREINSULATED SLEEVE (E140) MJPBS 25M-21Cu	0.030	10
K084	PREINSULATED SLEEVE (E140) MJPBS 35M-21Cu	0.030	10
K087	PREINSULATED SLEEVE (E140) MJPBS 21Cu-21Cu	0.030	10

M means that the core of the conductor is solid.



Implementation video available on www.michaud-export.com (tab Documentation > Implementation videos)

SEE SHEET
INSTALLATION / Hydraulic crimping tool

Preinsulated CPTAU lug



Spin-welded terminal lug



Crimped terminal lug

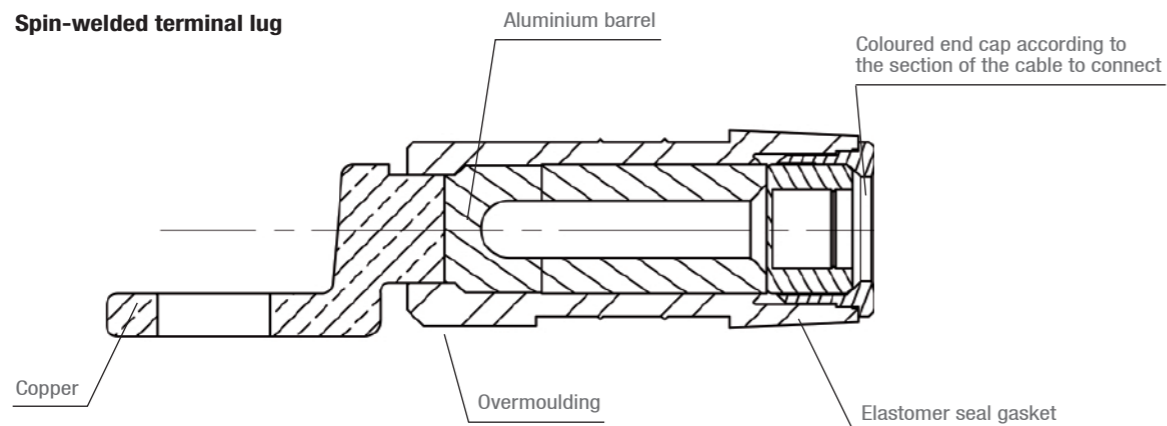
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Application

This preinsulated lug is designed to connect low voltage overhead insulated conductors to copper equipment terminals.
The cable sections range from 16 to 150mm² for the spin-welded terminal lug and 16 to 150mm² for the crimped lug.

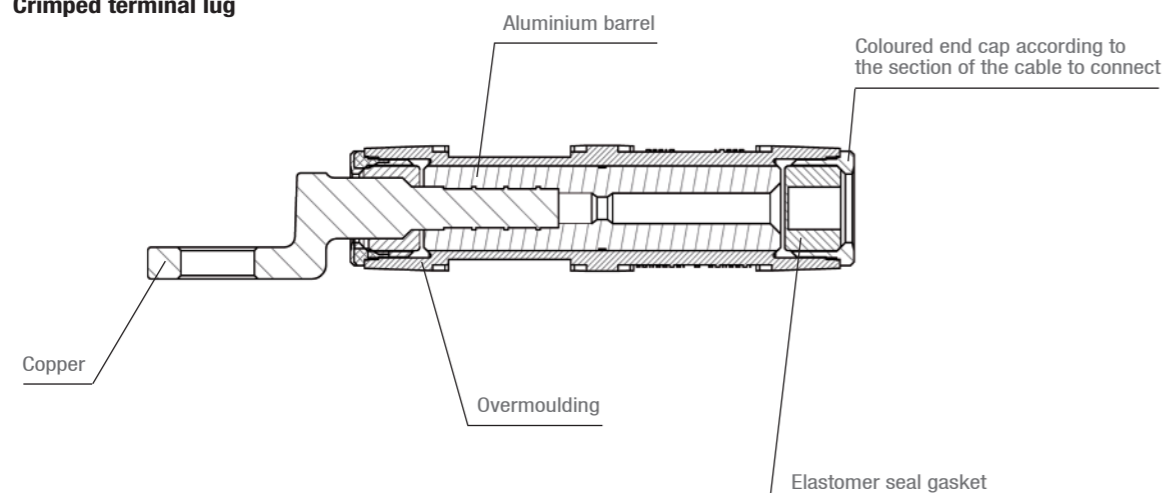
Description

Spin-welded terminal lug



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

Crimped terminal lug

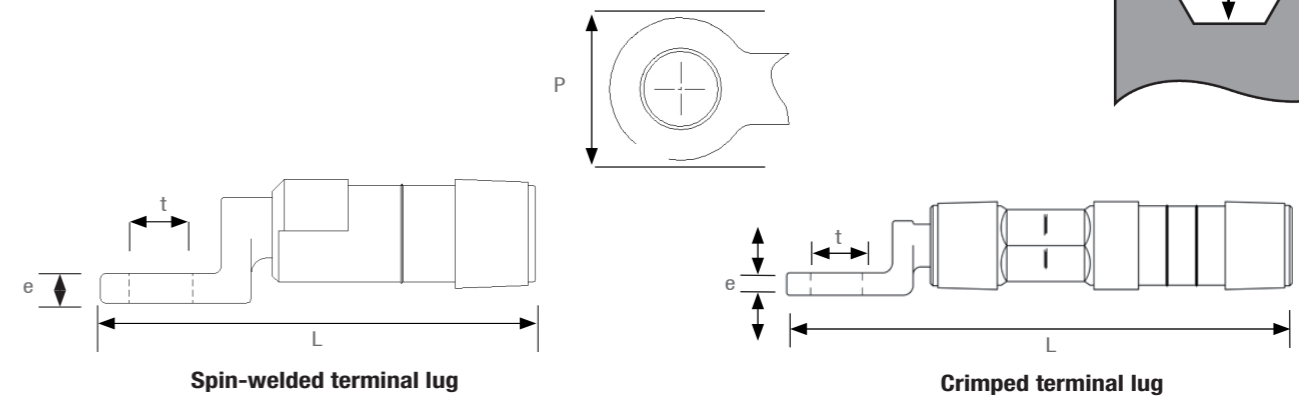
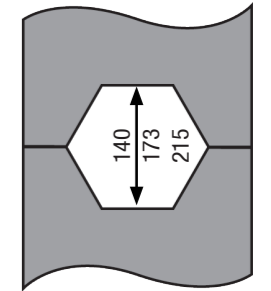


This preinsulated lug meets the requirements of the **NF C 33-021** and **EN 50-483** standards.

Implementation

Crimping:

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



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								
K159	Cu TERMINAL LUG (E140) CPTAU 16	16	20	5	10.3	72	0.040	10
K160	Cu TERMINAL LUG (E140) CPTAU 25	25	20	5	10.3	72	0.040	10
SPIN-WELDED PREINSULATED LUG REQUIRING A E173 CRIMPING DIE								
K163	Cu TERMINAL LUG (E173) CPTAU 35	35	25	5	12.8	92	0.070	10
K164	Cu TERMINAL LUG (E173) CPTAU 50	50	25	5	12.8	92	0.070	10
K165	Cu TERMINAL LUG (E173) CPTAU 54	54	25	5	12.8	92	0.070	10
K166	Cu TERMINAL LUG (E173) CPTAU 70	70	25	5	12.8	92	0.070	10
K167	Cu TERMINAL LUG (E173) CPTAU 95	95	25	5	12.8	92	0.070	10
SPIN-WELDED PREINSULATED LUG REQUIRING A E215 CRIMPING DIE								
K024	Cu TERMINAL LUG (E215) CPTAU 150	150	30	6	13	118	0.120	10
CRIMPED PREINSULATED LUG REQUIRING A E140 CRIMPING DIE								
K013	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								
K017	Cu CRIMPED TERMINAL LUG (E173) CPTAU 54	54	25	5	13	142	0.120	10
K018	Cu CRIMPED TERMINAL LUG (E173) CPTAU 70	70	25	5	13	142	0.110	10
CRIMPED PREINSULATED LUG REQUIRING A E215 CRIMPING DIE								
K021	Cu CRIMPED TERMINAL LUG (E215) CPTAU 120	120	30	6	13	186	0.220	10
K023	Cu CRIMPED TERMINAL LUG (E215) CPTAU 150	150	30	6	13	186	0.220	10

SEE SHEET
INSTALLATION / Hydraulic crimping tool

Bare lug

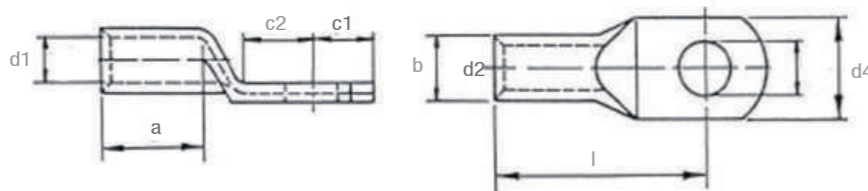
Tubular lug



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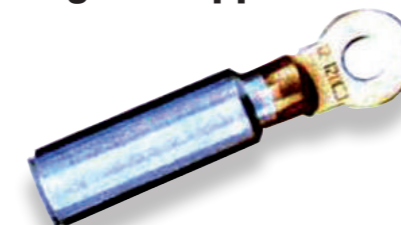
Application

This tubular lug is designed to connect cable. It is made of tinned copper (by electrolysis). It is manufactured with an inspection hole and socketing. This lug meets the requirement of the **NFC 20-130** standard.



Code	Designation	Dimensions (mm)								Bore	Weight (kg)	Sales unit
		d1	a	b	d2	d4	c1	c2	l			
F180	TUBULAR LUG 10 ² -6	4.2	12	12	6.5	6.8	6.5	7.5	24	M6	0.020	100
F181	TUBULAR LUG 16 ² -6	5.5	14	12	6.5	8	6.25	7.5	27	M6	0.020	100
F182	TUBULAR LUG 25 ² -10	6.6	15	17	10.5	9.5	12	12	34	M10	0.020	100
F184	TUBULAR LUG 35 ² -8	7.9	17	17	8.5	11	10	10	34	M8	0.020	100
F185	TUBULAR LUG 35 ² -10	7.9	17	17	10.5	11	12	12	37	M10	0.021	100
F186	TUBULAR LUG 35 ² -12	7.9	17	17	13	11	13	13	38	M12	0.021	100
F187	TUBULAR LUG 50 ² -8	9.2	19	18	8.5	12.5	10	10	37	M8	0.029	100
F188	TUBULAR LUG 50 ² -10	9.2	19	18	10.5	12.5	12	12	40	M10	0.031	100
F189	TUBULAR LUG 50 ² -12	9.2	19	19	13	12.5	13	13	41	M12	0.032	100
F190	TUBULAR LUG 70 ² -8	11	21	21	8.5	15	10	10	41	M8	0.044	100
F191	TUBULAR LUG 70 ² -10	11	21	21	10.5	15	12	12	43	M10	0.045	100
F192	TUBULAR LUG 70 ² -12	11	21	21	13	15	13	13	46	M12	0.046	100
F193	TUBULAR LUG 95 ² -8	13.1	25	23	8.5	17	10	10	46	M8	0.054	50
F194	TUBULAR LUG 95 ² -10	13.1	25	23	10.5	17	12	12	48	M10	0.054	50
F195	TUBULAR LUG 95 ² -12	13.1	25	23	13	17	13	13	50	M12	0.056	50
F196	TUBULAR LUG 150 ² -12	16.2	26	30	13	21	15	15	58	M12	0.077	50
F197	TUBULAR LUG 150 ² -14	16.2	26	30	15	21	15	15	58	M14	0.076	50
F198	TUBULAR LUG 240 ² -12	20.6	35	39	13	26	21.5	19	72	M12	0.146	20
F199	TUBULAR LUG 240 ² -14	20.6	35	39	15	26	21.5	19	72	M14	0.142	20
F215	TUBULAR LUG 300 ² -16	23.1	44	41	17	28	19	20	83	M16	0.150	100

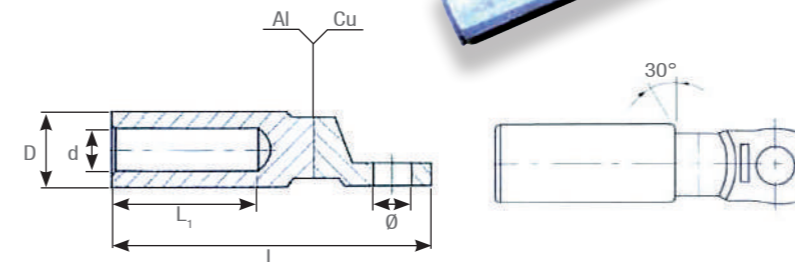
Spin-welded terminal lug for copper terminal



MIRELEC

Application

This friction welded lug is used to connect aluminium bare conductors to copper equipment terminals. This lug meets the requirement of the **NFC 33 090-1** standard.



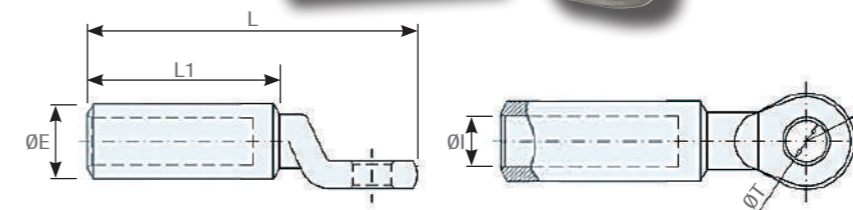
Code	Designation	Dimensions (mm)					Weight (kg)	Sales unit
		Ø	D	d	L ₁	L		
F150	BIMETAL SPIN-WELDED BARE TERMINAL LUG 35mm ²	13	17	8	43	90	0.050	3
F151	BIMETAL SPIN-WELDED BARE TERMINAL LUG 50mm ²	13	20	9	43	90	0.070	3
F153	BIMETAL SPIN-WELDED BARE TERMINAL LUG 70mm ²	13	20	11	43	90	0.080	3
F156	BIMETAL SPIN-WELDED BARE TERMINAL LUG 95mm ²	13	20	13	43	90	0.090	3
F154	BIMETAL SPIN-WELDED BARE TERMINAL LUG 150mm ²	13	25	15	55	115	0.110	3
F155	BIMETAL SPIN-WELDED BARE TERMINAL LUG 240mm ²	13	32	19.5	55	115	0.150	3

Tinned aluminium lug



Application

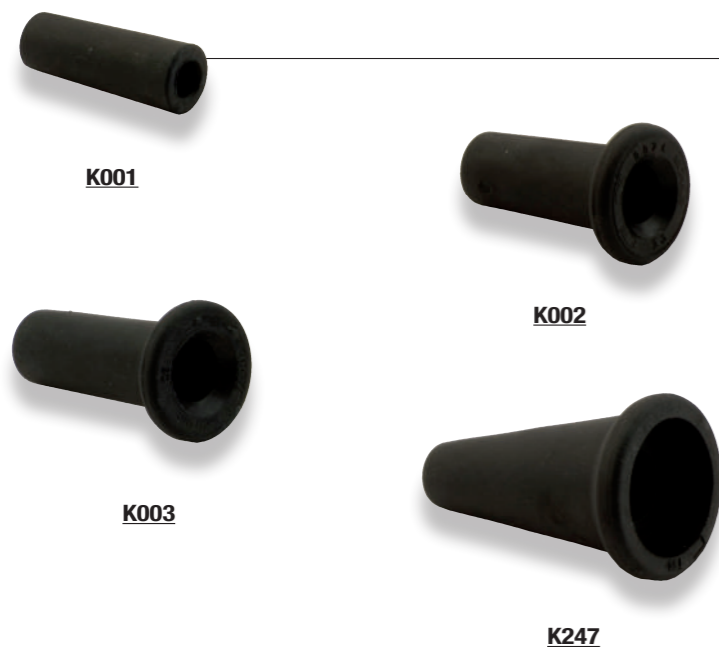
This bimetallic cable lug is made of aluminium alloy of purity equal or higher than 99.5%. The complete cable lug surface is tinned by means of an electrolytic process. Some neutral grease is incorporated to avoid aluminium oxidation.



Code	Designation	Section (mm ²)	Dimensions (mm)						Weight (kg)	Sales unit
			ØE	ØI	ØT	R	L ₁	L		
U037	ALU LUG TINNED 16 ²	16	20	5.5	13	13	48	88	0.053	1
U038	ALU LUG TINNED 25 ²	25	20	6.5	13	13	48	88	0.052	1
U039	ALU LUG TINNED 35 ²	35	20	8	13	13	48	88	0.051	1
U040	ALU LUG TINNED 50 ²	50	20	9	13	13	48	88	0.050	1
U041	ALU LUG TINNED 54.6 ²	54.6	20	10	13	13	53	93	0.051	1
U042	ALU LUG TINNED 70 ²	70	20	11	13	13	48	88	0.046	1
U043	ALU LUG TINNED 95 ²	95	20	12.5	13	13	48	88	0.043	1
U044	ALU LUG TINNED 120 ²	120	25	14	13	15	65	113	0.092	1
U045	ALU LUG TINNED 150 ²	150	25	15.5	13	15	65	113	0.085	1
U046	ALU LUG TINNED 185 ²	185	32	17	13	18	65	122	0.150	1
U047	ALU LUG TINNED 240 ²	240	32	19.5	13	18	65	122	0.135	1
U048	ALU LUG TINNED 300 ²	300	40	23.3	13	20	100	165	0.315	1
U049	ALU LUG TINNED 400 ²	400	40	26	13	20	100	165	0.285	1

Sealing end cap and cover

Sealing end cap



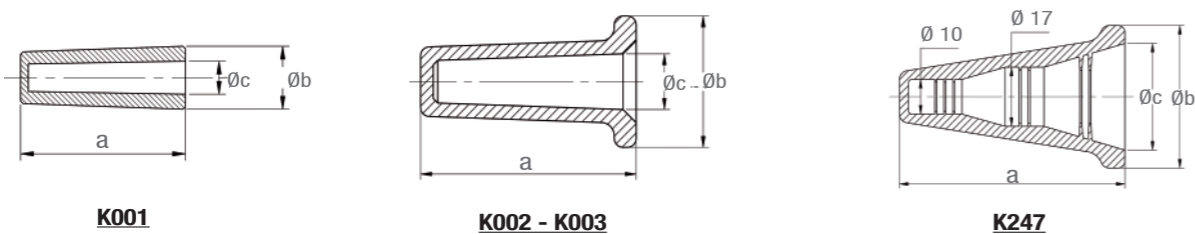
MICHAUD

Application

This flexible end cap is designed to ensure insulation of the end of a conductor. It can be 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.



Dimensions in mm

Code	Designation	Dimensions (mm)			Capacities (mm ²)	Weight (kg)	Sales unit
		a	b	c			
K001	BLACK FLEXIBLE END CAP 10-50M	32	12	7	10-50M	0.003	20
K002	BLACK FLEXIBLE END CAP 35-95	40	16	10.5	35-95	0.008	20
K003	BLACK FLEXIBLE END CAP 95-150	50	19	13	95-150	0.012	20
K247	BLACK FLEXIBLE END CAP 95-240	67.2	45	31	Round: 50-150 Sectoral: 95-240	0.027	6

Sealing cover



MICHAUD

Application

This cap is designed to ensure sealing at the end of service and network cables. It can be used on turrets on a cable awaiting connection in a cabinet. It is used exclusively potential free.

Description

- The cap is made of elastomer material that is highly elastic, very flexible, 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. P451),
 - For the 16 to 35mm² service cables and three phase neutral screen service cables (ref. P452),
 - For the 50 to 95mm² network cables (ref. P453),
 - For the 150 to 240mm² network cables (ref. P454).

Code	Designation	Capacity (mm ²)	Weight (kg)	Sales unit
P451	SET OF 10 FLEXIBLE END CAPS NEUTRAL SCREEN SERVICE CABLE	Concentric neutral 25-35 ARMRSC*	0.080	1
P452	SET OF 10 FLEXIBLE END CAPS 16-35	4x16M to 4x35M	0.240	1
P453	SET OF 10 FLEXIBLE END CAPS 50-95	4x50 to 1x50+3x95	0.360	1
P454	SET OF 10 FLEXIBLE END CAPS 150-240	1x70+3x150 to 1x95+3x240	0.780	1

* ARMRSC: Armoured Remote Meter Reading System Cable.

Heat-shrinkable material

End cap



MIRELEC

Application

This heat-shrinkable material is designed 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 ensure its watertightness.

Code	Designation	Section (mm ²)	Covered diameter (mm)	Weight (kg)	Sales unit
F110	HEAT-SHRINKABLE END CAP CRB 10-25	10 to 25	4 to 8	0.004	100
F111	HEAT-SHRINKABLE END CAP CRR 16-70	16 to 70	8 to 17	0.006	50
F112	HEAT-SHRINKABLE END CAP CRR 150	150	15 to 30	0.024	10
F113	HEAT-SHRINKABLE END CAP CRC 16-27	-	15 to 30	0.024	10
F114	HEAT-SHRINKABLE END CAP CRC 26-48	-	25 to 45	0.045	10
F115	HEAT-SHRINKABLE END CAP CRC 46-80	-	32 to 65	0.065	10

End

Description

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



MIRELEC

Code	Designation	Section (mm ²)	Number of conductors	Weight (kg)	Sales unit
F100	HEAT-SHRINKABLE END E2R 10-35	10 to 35	2	0.015	20
F101	HEAT-SHRINKABLE END E4R 10-35	10 to 35	4	0.035	20
F102	HEAT-SHRINKABLE END E4R 50-150	50 to 150	4	0.047	20
F103	HEAT-SHRINKABLE END E4R 240	240	4	0.095	5

Sheath

Description

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



Code	Designation	Section (mm ²)	Covered diameter (mm)	Weight (kg)	Sales unit
F120	HEAT-SHRINKABLE SHEATH GR 10-35 (10m)	10 to 35	3 to 10	0.200	1
F121	HEAT-SHRINKABLE SHEATH GR 50-150 (10m)	50 to 150	8 to 25	0.500	1
F122	HEAT-SHRINKABLE SHEATH GR 240 (10m)	240	12 to 35	0.800	1

Sleeve

Description

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



Code	Designation	Section (mm ²)	Weight (kg)	Sales unit
F130	HEAT-SHRINKABLE SLEEVE FRM 16-100	16 to 35	0.010	10
F131	HEAT-SHRINKABLE SLEEVE FRM 25-100	16 to 35	0.010	10
F132	HEAT-SHRINKABLE SLEEVE FRM 25-200	50 to 95	0.020	10
F133	HEAT-SHRINKABLE SLEEVE FRM 30-250	50 to 95	0.350	10
F134	HEAT-SHRINKABLE SLEEVE FRM 30-200	50 to 150	0.300	10
F135	HEAT-SHRINKABLE SLEEVE FRM 35-150	50 to 150	0.250	10
F136	HEAT-SHRINKABLE SLEEVE FRM 35-250	95 to 240	0.400	10

Stainless steel strap



Synthetic material winder



Cardboard winder

MICHAUD

Application

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



Eye



Buckle



Reinforced buckle

Description

- The strap is made of stainless steel.
- References of strap K930 et K935 are delivered in a roll inside an easy to handle synthetic material winder. References of strap K920 to K923 are delivered in a roll inside a cardboard 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.

Code	Designation	Weight (kg)	Sales unit
K930	50m WINDER STAINLESS STEEL STRAP 10x0.4mm	1.850	5
K931	50m WINDER STAINLESS STEEL STRAP 10x0.7mm	2.950	5
K932	50m WINDER STAINLESS STEEL STRAP 20x0.4mm	3.450	5
K933	50m WINDER STAINLESS STEEL STRAP 20x0.7mm	5.800	5
K935	25m WINDER STAINLESS STEEL STRAP 20x0.7mm	3.025	5
K920	50m CARDBOARD WINDER STAINLESS STEEL STRAP 10x0.4mm	1.800	5
K921	50m CARDBOARD WINDER STAINLESS STEEL STRAP 10x0.7mm	2.800	5
K922	50m CARDBOARD WINDER STAINLESS STEEL STRAP 20x0.4mm	3.250	5
K923	50m CARDBOARD WINDER STAINLESS STEEL STRAP 20x0.7mm	5.800	5
K951	SET OF 100 BUCKLES FOR 20mm STRAP	0.610	1
K952	SET OF 100 REINFORCED BUCKLES FOR 10mm STRAP	0.320	1
K953	SET OF 100 REINFORCED BUCKLES FOR 20mm STRAP	0.900	1
K654	SET OF 100 EYES 25x25	1.660	1
K655	SET OF 100 EYES 25x40	2.160	1
K656	SET OF 100 EYES 25x60	2.820	1

Variants: several AISI grades are available

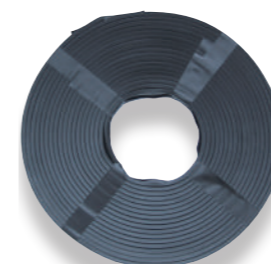
Grade	Designation	Tensile strength (N/mm ²)	Elongation
AISI 201	X12CrMnNiN 17-7-5	750 up to 950	45% mini
AISI 304	X5CrNi 18-10	540 up to 750	45% mini
AISI 430	X6Cr 17	450 up to 600	20% mini
AISI 316	X5CrNiMo 17-12-2	530 up to 680	40% mini



Implementation video available on www.michaud-export.com (tab Documentation > Implementation videos)

Accessories

- 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).



Protection tape



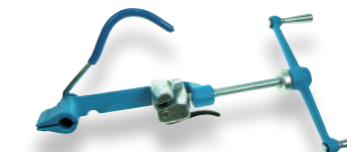
Binding tool ratchet type



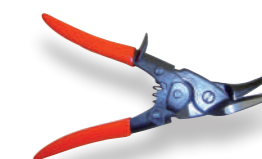
Carrying case for strap tools



Folding plier



Binding tool wheel type

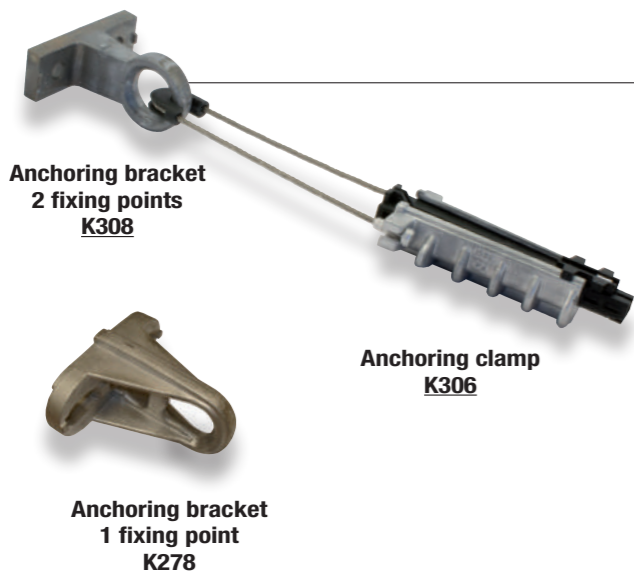


Cutting tool

Code	Designation	Weight (kg)	Sales unit
K957	PROTECTION TAPE FOR 10mm STRAP (10m length)	0.500	1
K958	PROTECTION TAPE FOR 20mm STRAP (10m length)	0.770	1
K959	BINDING TOOL WHEEL TYPE FOR STRAP	2.500	1
K960	BINDING TOOL RATCHET TYPE FOR STRAP	1.950	1
K961	CUTTING TOOL FOR STRAP	0.550	1
K963	CARRYING CASE FOR STRAP TOOLS	0.550	1
K968	STRAP FOLDING PLIER	0.510	1

Neutral messenger network suspension and anchoring

Anchoring assembly



MICHAUD

Application

This anchoring assembly is designed 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 the **NF C 33-041** and **EN 50-483** standards.

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.

Code	Designation	Weight (kg)	Sales unit
K306	ANCHORING CLAMP - PA 1500	0.430	30
K278	ANCHORING BRACKET - CA 1500 - 1FP	0.320	30
K308	ANCHORING BRACKET - CA 1500 - 2FP	0.250	30

Suspension assembly



Suspension assembly
ES 1500 (50 - 95mm²): **K277**

Fuse suspension assembly ESF 715
(50 - 70mm²): **K283**

MICHAUD

Application

This suspension assembly is designed for suspending the low voltage A.B.C. (Aerial Bundled Conductors) with insulated neutral messenger of 50 - 95mm² sections for code K277 and 50 - 70mm² sections for code K283.

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.

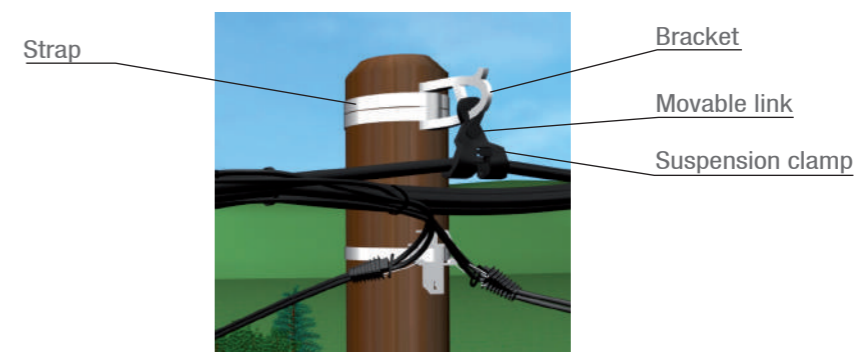
Movable link system:

- 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**.



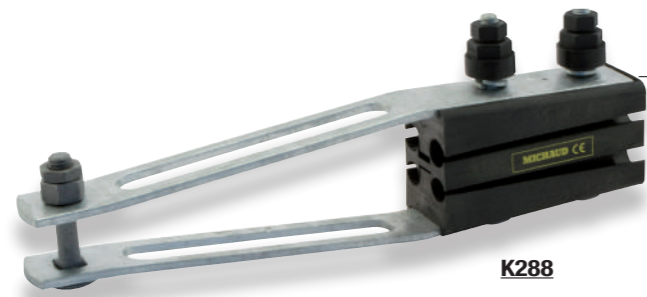
Code	Designation	Weight (kg)	Sales unit
K277	SUSPENSION ASSEMBLY [50-95] - ES 1500	0.550	20
K283	FUSE SUSPENSION ASSEMBLY [50-70] - ESF 715	0.438	25
K280	SPARE PART - PS + LM 715	0.210	1

- 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.

SEE SHEET
OVERHEAD / Mechanical fixing / Stainless steel strap

Fully supported network suspension and anchoring

Anchoring clamp



MICHAUD

Application

This clamp is designed 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 3300daN for the K288, and is greater than 5000daN for the K302.

This clamp meets the criteria of the **DIN VDE 0211** standard.

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.

Code	Designation	Weight (kg)	Sales unit
K288	FULLY SUPPORTED ANCHORING CLAMP 4x50-95 *	1.240	10
K302	FULLY SUPPORTED ANCHORING CLAMP 4x120 *	1.620	20

* Products manufactured on request only. Please contact us.

SEE SHEET
INSTALLATION / LV insulated toolings

Movable suspension clamp



MICHAUD

Application

This clamp is designed 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 enables 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.

This clamp meets the criteria of the **DIN VDE 0211** standard.

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).

Code	Designation	Weight (kg)	Sales unit
K267	FULLY SUPPORTED SUSPENSION CLAMP MOVABLE 2x16-2x25 *	0.550	30
K270	FULLY SUPPORTED SUSPENSION CLAMP MOVABLE 4x16-4x25 *	0.540	30
K274	FULLY SUPPORTED SUSPENSION CLAMP MOVABLE 4x35-4x50 *	0.530	30
K275	FULLY SUPPORTED SUSPENSION CLAMP MOVABLE 4x70 *	0.520	30
K276	FULLY SUPPORTED SUSPENSION CLAMP MOVABLE 4x95 *	0.510	30
K271	FULLY SUPPORTED SUSPENSION CLAMP MOVABLE 4x120 *	0.510	30

* Products manufactured on request only. Please contact us.

Option: Double suspension bracket

This accessory is designed for angle poles where the line deviation exceeds 30°. It includes:

- 2 hooks to hold 2 suspension clamps,
- 1 ring to allow fixing on pigtail bolt or anchoring bracket.

The body is made of hot-dip galvanised steel.

Code	Designation	Dimensions (mm)			Maximum load daN (± 10%)	Weight (kg)	Sales unit
		a	b	c			
F220	DOUBLE SUSPENSION CLAMP BRACKET 12kN	16	106	174	1200	0.990	10

Service cable anchoring

Service anchoring assembly EA 25



MICHAUD

Application

This anchoring assembly is designed 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

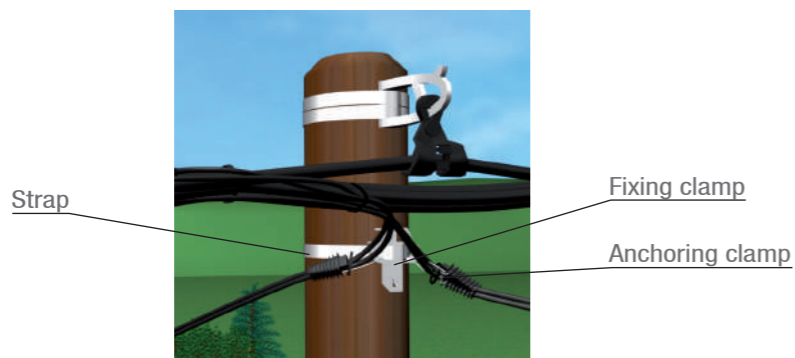
Anchoring clamp:

- 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 K307 and galvanized steel for K309 and L311.
- The hook can be adjusted once positioned (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 the **NF C 33-042** and **EN 50-483** standards.



Code	Designation	Weight (kg)	Sales unit
L304	FIXING CLAMP - PF 25	0.010	100
L306	SCREW - M10	0.050	30
K307	ANCHORING CLAMP WITH HANDLE - PA 25	0.105	50
L311	SERVICE ANCHORING CLAMP GS - PA 25	0.105	50
K309	ANCHORING CLAMP WITH ADJUSTABLE HOOK - PACR 25	0.230	50
F305	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 designed 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).

The benefit:

+ Rotative blocks for two functions



Implementation

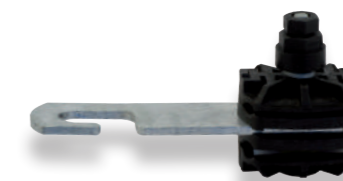
Fixing:

- 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
K300	SERVICE CABLE CLAMP 3/4 x 16-35 TYPE CLOSED EYE - PA 35	0.480	10

Variant: Clamp with hook arm

The 3/4x16-35 service cable clamp (K300) can be supplied with a hook arm.

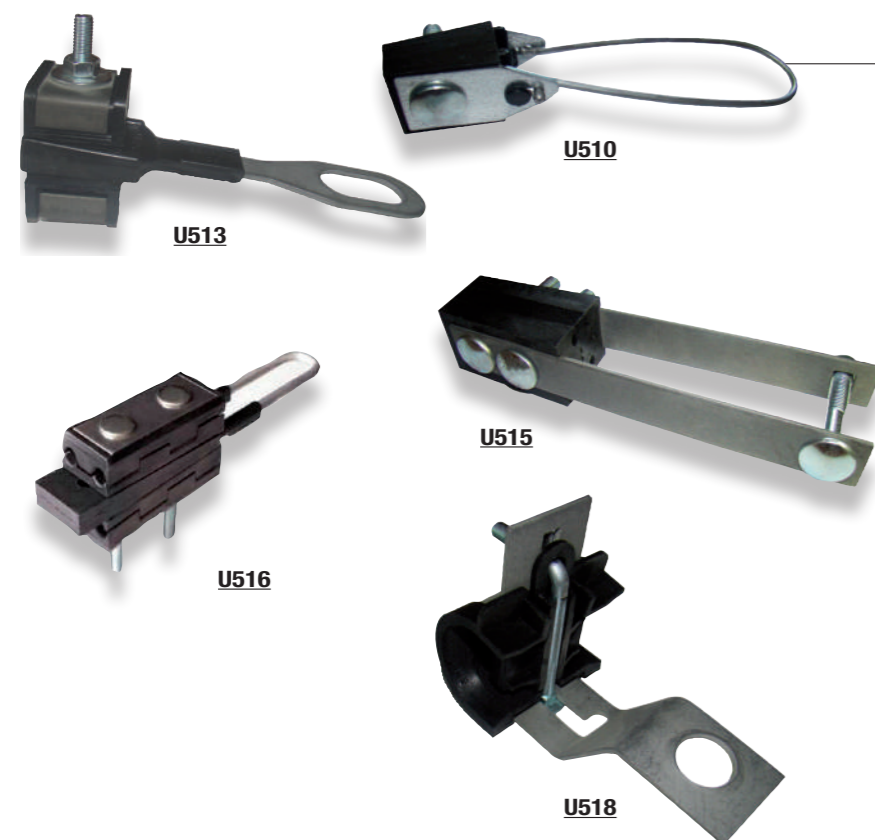


Code	Designation	Weight (kg)	Sales unit
K301	SERVICE CABLE CLAMP 3/4 x 16-35 TYPE HOOK - PA 35	0.480	10

SEE SHEET
INSTALLATION / LV insulated toolings

Low voltage line accessories

Anchoring and suspension clamp



MICHAUD

Application

These anchoring and suspension clamps are designed to anchor and to hold the A.B.C. (Aerial Bundled Conductors) network.

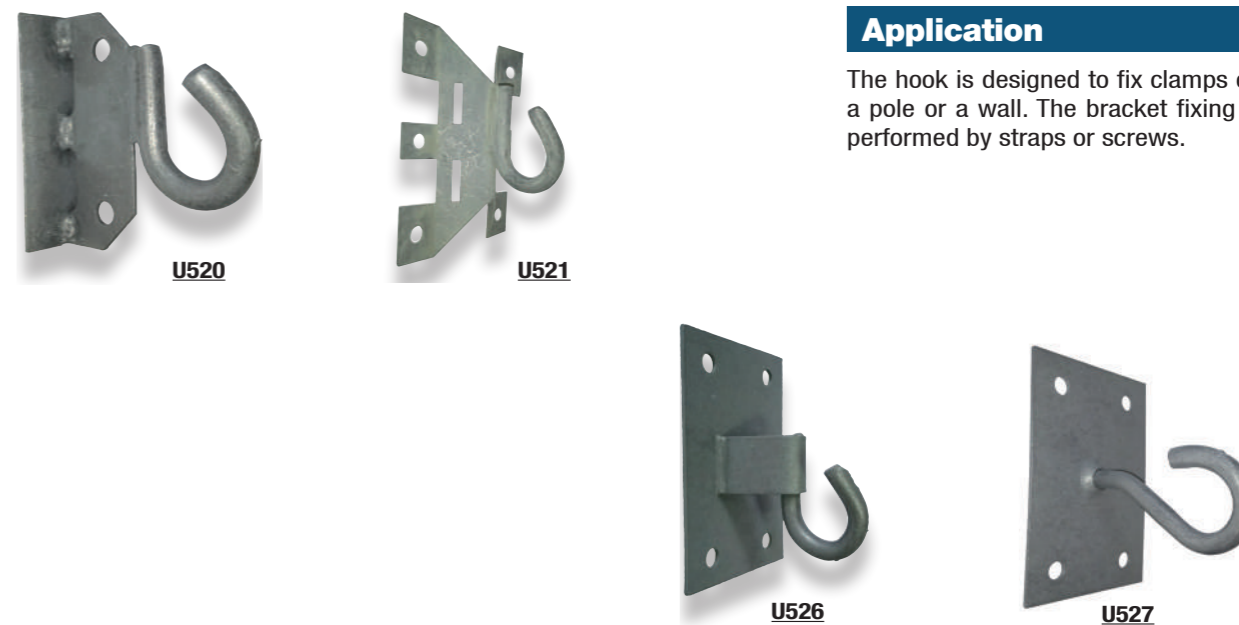
This range is rather designed to meet the Eastern Europe countries' specifications.

Description

- These clamps can be used to fix and hold from 2 up to 4 insulated conductors between a pole and a wall or between two poles.
- Admitted conductors capacities go from 16 up to 120mm².
- Clamps body is made of polymer and the metallic parts are made of hot dip galvanised steel.

Code	Designation	Mechanical resistance (daN)	Section (mm ²)	Weight (kg)	Sales unit
ANCHORING CLAMP					
U510	ANCHORING CLAMP WITH MOVABLE HANDLE (NUT) 2x10-25	500	2 x 10-25	0.100	30
U511	ANCHORING CLAMP WITH MOVABLE HANDLE (NUT) 4x10-25	700	4 x 10-25	0.105	30
U512	ANCHORING CLAMP WITH CLOSED HANDLE 2x16-35	500	2 x 16-35	0.100	5
U513	ANCHORING CLAMP WITH CLOSED HANDLE 4x16-35	1 000	4 x 16-35	0.140	5
U514	FULLY SUPPORTED ANCHORING CLAMP OPENED HANDLE 4x25-50 EC	2 500	4 x 25-50	0.490	30
U515	FULLY SUPPORTED ANCHORING CLAMP OPENED HANDLE 4x50-95 EC	3 500	4 x 50-95	0.880	30
U516	FULLY SUPPORTED ANCHORING CLAMP CLOSED HANDLE 4x50-95 EC	2 500	4 x 35-70	0.850	30
U517	FULLY SUPPORTED ANCHORING CLAMP CLOSED HANDLE 4x70-120 EC	4 000	4 x 70-120	1.215	30
SUSPENSION CLAMP					
U518	FULLY SUPPORTED SUSPENSION CLAMP 4x10-120	2 500	4 x 35-70	0.343	30

Suspension bracket



MICHAUD

Application

The hook is designed to fix clamps on a pole or a wall. The bracket fixing is performed by straps or screws.

Code	Designation	Mechanical resistance (daN)	Section (mm ²)	Weight (kg)	Sales unit
U520	BRACKET WITH HOOK DIAM 16 6 POLE TYPE	1 800	16	0.380	10
U521	BRACKET WITH HOOK DIAM 16 6 UNIVERSAL	1 800	16	0.330	10
U526	BRACKET WITH SUSPENSION HOOK DIAM 16 -1800 daN	1 800	16	0.570	10
U527	BRACKET WITH SUSPENSION HOOK DIAM 16 -2000 daN	2 000	16	0.440	10

Hook



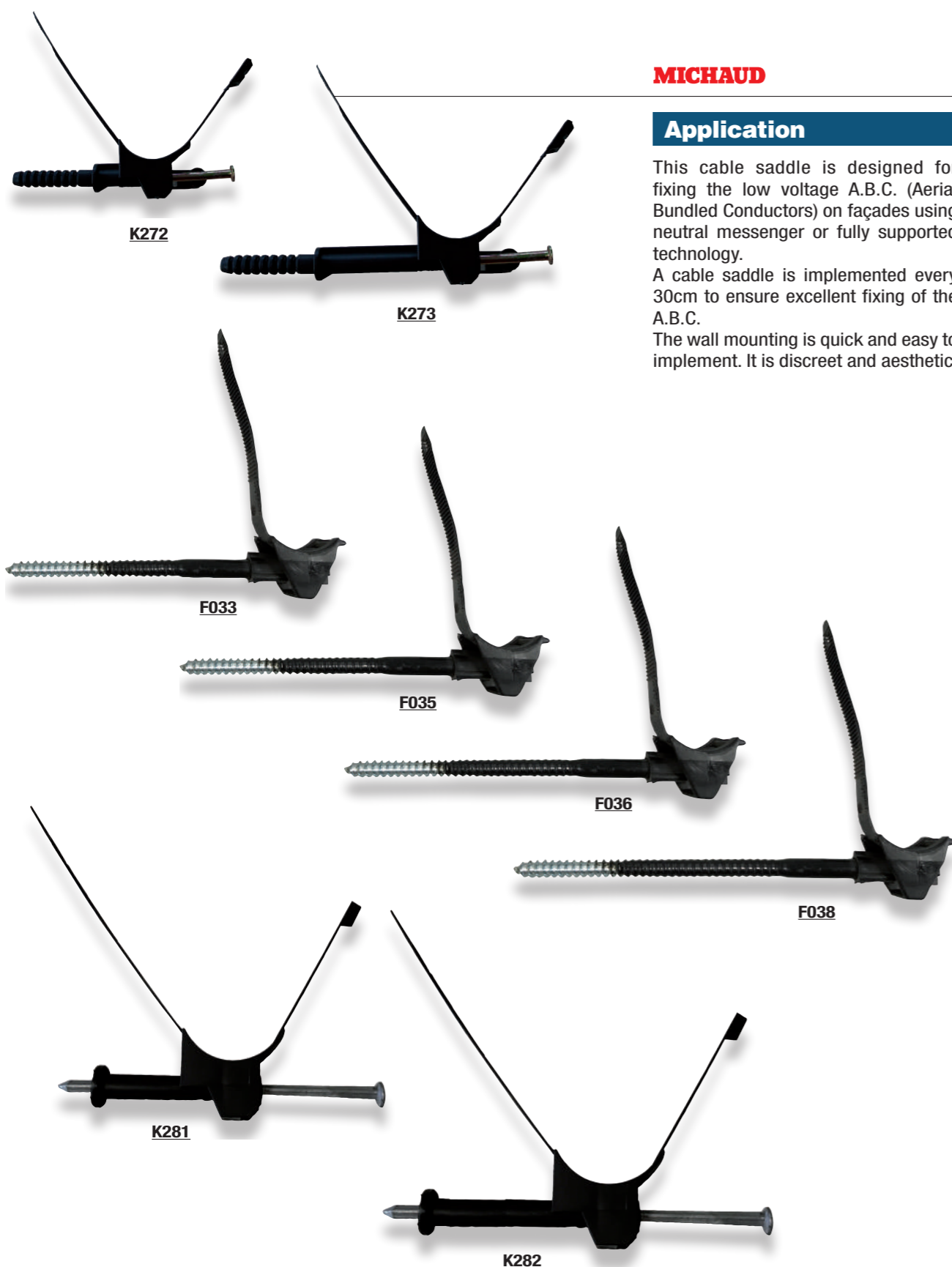
Application

The hook is used to fix an anchoring clamp on a pole or a wall. It is implemented once holes are drilled.

Code	Designation	Length (mm)	Section (mm ²)	Weight (kg)	Sales unit
U522	HOOK BOLT DIAM 16 -250	250	16	1.080	10
U523	HOOK BOLT DIAM 20 -250	250	20	1.175	10
U524	HOOK NUT DIAM 16	200	16	0.350	10
U525	HOOK NUT DIAM 20	200	20	0.360	10

Cable saddle

Façade fixing



MICHAUD

Application

This cable saddle is designed 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. It 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 service and network conductors.

This cable saddle meets the criteria of the **NF C 33-040** and **EN 50-483** standards

Code	Designation	A.B.C. capacity (mm ²)	Wall clearance (mm)	Weight (kg)	Sales unit
K272	CABLE SADDLE - BRPF1	2x16 to 4x35	10	0.040	25
K273	CABLE SADDLE - BRPF6	4x35 to 3x150 + 95N+16	60	0.060	25
F033	CABLE SADDLE - BRPV1	3x25+54.6N+16 to 3x150+95N+16	10	0.070	50
F035	CABLE SADDLE - BRPV6		60	0.080	50
F036	CABLE SADDLE - BRTV10		100	0.175	20
F038	CABLE SADDLE - BRTV17		170	0.240	20
K281	CABLE SADDLE - BRPF4	3x25 + 54.6N to 3x150 + 95N + 16	90	0.050	100
K282	CABLE SADDLE - BRPF9		40	0.065	100

Pole fixing



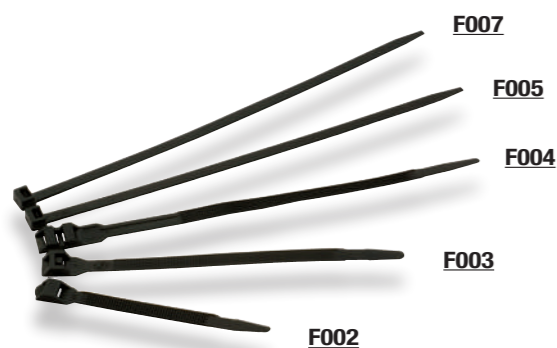
Application

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 F042 is sealed with a cable tie for 15 to 30mm diameter cables, the F039 for 30 to 50mm diameter cables, and the F037 for 50 to 90mm cables.

Code	Designation	Weight (kg)	Sales unit
F043	CABLE SADDLE BIC 15/30 WITHOUT CABLE TIE	0.010	100
F042	CABLE SADDLE BIC 15/30 + CABLE TIE 9x180mm	0.015	100
F039	CABLE SADDLE BIC 30/50	0.070	100
F037	CABLE SADDLE BIC 50/90	0.110	100

Cable tie

Synthetic material



MICHAUD

Application

This cable tie made of black synthetic material is designed to tighten the phase and neutral conductors in order to achieve correct installation. It is used to prevent the 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 strap support 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 (mm)	MIN (mm)		
F002	CABLE TIE 9x180mm (100 pieces)	44	10	0.330	1
F003	CABLE TIE 9x265mm (100 pieces)	62	26	0.510	1
F004	CABLE TIE 9x360mm (100 pieces)	92	26	0.625	1
F005	CABLE TIE 9x500mm (100 pieces)	140	74	1.070	1
F006	CABLE TIE 9x750mm (100 pieces)	220	74	1.480	1
F013	IMPLEMENTATION TOOL FOR TIE			0.330	1
F040	WALL TYPE STRAP SUPPORT WITH BRACKET TO STRIKE (box of 100)			0.400	1
F041	WALL TYPE STRAP SUPPORT ATTACHED BY SCREW (box of 100)			0.300	1

Other dimensions are available. Please contact us.

Stainless steel



U718

MIRELEC

Application

This cable tie provides a self locking system enabling easy installation. It is made of stainless steel type 304. It is designed to allow installation in every type of environment.

Code	Designation	Width (mm)	Length (mm)	Max-bundle-diameter (mm)	Tensile strength (N)	Weight for 100 pieces (kg)	Sales unit		
U704-150	STAINLESS STEEL TIE 4.6x150	4.6	150	37	600	0.260	100		
U704-200	STAINLESS STEEL TIE 4.6x200		200	50		0.300	100		
U704-250	STAINLESS STEEL TIE 4.6x250		250	63		0.340	100		
U704-300	STAINLESS STEEL TIE 4.6x300		300	76		0.390	100		
U704-350	STAINLESS STEEL TIE 4.6x350		350	89		0.440	100		
U704-400	STAINLESS STEEL TIE 4.6x400		400	102		0.490	100		
U704-450	STAINLESS STEEL TIE 4.6x450		450	115		0.540	100		
U704-500	STAINLESS STEEL TIE 4.6x500		500	122		0.590	100		
U704-550	STAINLESS STEEL TIE 4.6x550		550	141		0.640	100		
U704-600	STAINLESS STEEL TIE 4.6x600		600	154		0.690	100		
U705-150	STAINLESS STEEL TIE 7.9x150		7.9	150		37	800	0.440	100
U705-200	STAINLESS STEEL TIE 7.9x200			200		50		0.500	100
U705-250	STAINLESS STEEL TIE 7.9x250	250		63	0.560	100			
U705-300	STAINLESS STEEL TIE 7.9x300	300		76	0.630	100			
U705-350	STAINLESS STEEL TIE 7.9x350	350		89	0.700	100			
U705-400	STAINLESS STEEL TIE 7.9x400	400		102	0.780	100			
U705-450	STAINLESS STEEL TIE 7.9x450	450		115	0.860	100			
U705-500	STAINLESS STEEL TIE 7.9x500	500		128	0.920	100			
U705-550	STAINLESS STEEL TIE 7.9x550	550		141	1.000	100			
U705-600	STAINLESS STEEL TIE 7.9x600	600		154	1.080	100			
U705-650	STAINLESS STEEL TIE 7.9x650	650		167	1.170	100			
U705-700	STAINLESS STEEL TIE 7.9x700	700		180	1.260	100			
U705-750	STAINLESS STEEL TIE 7.9x750	750		191	1.350	100			
U705-800	STAINLESS STEEL TIE 7.9x800	800		193	1.440	100			

Pigtail bolt



F345

MIRELEC

Application

This material made of hot dip galvanised steel is designed to fix anchoring and suspension clamps.



Pigtail bolt (BQC)

Code	Designation	Weight (kg)	Sales unit
F311	PIGTAIL BOLT BQC 12x150 WITH 2 NUTS	0.230	10
F312	PIGTAIL BOLT BQC 12x55 WITH 1 NUT	0.180	10
F313	PIGTAIL BOLT BQC 12x90 WITH 2 NUTS	0.240	10
F314	PIGTAIL BOLT BQC 12x110 CH WITH 1 NUT *	0.300	10
F315	PIGTAIL BOLT BQC 12x250 WITH 2 NUTS	0.300	10
F316	PIGTAIL BOLT BQC 12x300 WITH 2 NUTS	0.340	10
F317	PIGTAIL BOLT BQC 12x350 WITH 2 NUTS	0.370	10
F322	PIGTAIL BOLT BQC 16x250 WITH 2 NUTS	0.450	10
F323	PIGTAIL BOLT BQC 16x300 WITH 2 NUTS	0.500	10
F321	PIGTAIL BOLT BQC 20x250 WITH 2 NUTS	0.700	10
F326	PIGTAIL BOLT BQC 20x400 WITH 2 NUTS	1.290	10
F330	NUT E12	0.020	10
F331	WASHER MG12	0.010	10
F345	ANCHORING HOOK PIGTAIL TQC 12x200	0.310	10

* Delivered with peg

Hot dip galvanised bolt and nut

Bolt and nut



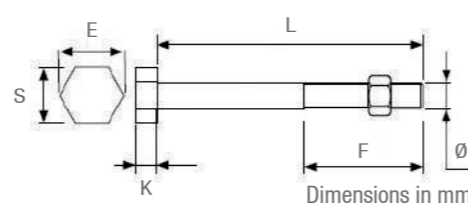
MIRELEC

Application

These bolts and nuts are designed to fix MV/LV accessories.

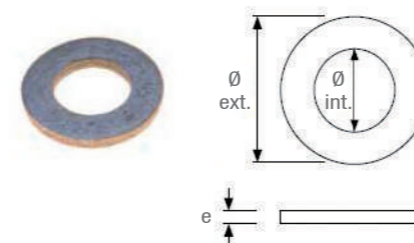
Description

- This bolt and nut is made of hot dip galvanised steel class 8.8 for widths lower than 100mm and class 6.8 above.
- These bolts and nuts meet the criteria of the standards hereafter:
 - ISO 4014/4016/4017 - NF EN 24015
 - DIN 931/933
 - Nut ISO 4032 / DIN 834



Code	Designation	Ø	L	S	E	K	F	Weight (kg)	Sales unit
U440	BH 8.30	8	30	12.73	14.38	5.15	30	0.023	200
U442	BH 10.30	10	30	15.73	17.77	6.22	30	0.036	100
U445	BH 12.30	12	30	17.73	20.03	7.32	30	0.038	200
U446	BH 12.50	12	50	17.73	20.03	7.32	50	0.055	100
U447	BH 12.100	12	100	17.73	20.03	7.32	30	0.110	100
U448	BH 12.150	12	150	17.73	20.03	7.32	36	0.142	100
U449	BH 12.200	12	200	17.73	20.03	7.32	36	0.177	100
U450	BH 12.250	12	250	17.73	20.03	7.32	49	0.212	100
U451	BH 12.300	12	300	17.73	20.03	7.32	49	0.248	100
U455	BH 14.30	14	30	20.67	23.36	8.62	30	0.054	100
U456	BH 14.40	14	40	20.67	23.36	8.62	40	0.066	100
U457	BH 14.50	14	50	20.67	23.36	8.62	50	0.078	100
U458	BH 14.100	14	100	20.67	23.36	8.62	34	0.158	100
U459	BH 14.150	14	150	20.67	23.36	8.62	40	0.220	100
U460	BH 14.200	14	200	20.67	23.36	8.62	40	0.276	100
U461	BH 14.250	14	250	20.67	23.36	8.62	53	0.300	100
U462	BH 14.300	14	300	20.67	23.36	8.62	53	0.350	100
U463	BH 14.350	14	350	20.67	23.36	8.62	53	0.390	100
U464	BH 14.400	14	400	20.67	23.36	8.62	53	0.450	100
U465	BH 14.450	14	450	20.67	23.36	8.62	53	0.500	100
U466	BH 14.500	14	500	20.67	23.36	8.62	53	0.550	100
U467	BH 14.600	14	600	20.67	23.36	8.62	53	0.750	100
U468	BH 16.200	16	200	23.10	26.17	9.71	44	0.360	100
U469	BH 16.250	16	250	23.10	26.17	9.71	57	0.434	100
U470	BH 16.300	16	300	23.10	26.17	9.71	57	0.509	100
U471	BH 16.350	16	350	23.10	26.17	9.71	57	0.585	100
U472	BH 16.400	16	400	23.10	26.17	9.71	57	0.660	100
U475	BH 20.100	20	100	29.16	32.95	12.15	46	0.363	100
U476	BH 20.140	20	140	29.16	32.95	12.15	52	0.458	100
U477	BH 20.160	20	160	29.16	32.95	12.15	52	0.506	100

Flat washer

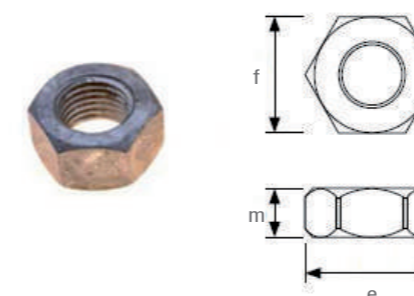


The reference standard is **NF E 25513**.

Code	Designation	Ø external (mm)	Ø internal (mm)	e	Weight (kg)	Sales unit
U480	M8	18	8	1.50	0.220	100
U481	M10	22	11	2.00	0.440	100
U482	M12	27	14	2.50	0.820	100
U483	L12	32	14	2.50	1.300	100
U484	M14	30	16	2.50	1.000	100
U485	L14	36	16	2.50	1.600	100
U486	M16	32	18	3.00	1.500	100
U487	L16	40	18	3.00	2.300	100
U488	M20	40	22	3.00	2.400	100

M and L designations are series standards.

Nut



The reference standard is **ISO 4032**.

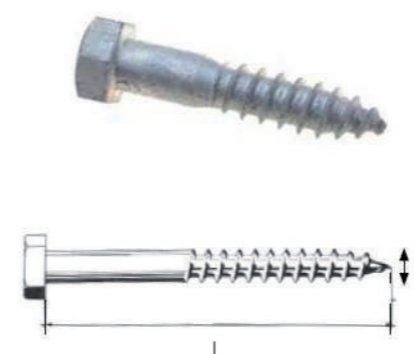
Code	Designation	f (mm)	m (mm)	e (mm)	Weight (kg)	Sales unit
U490	HM8	13	6.80	14.38	0.011	100
U491	HM10	16	8.40	17.77	0.014	100
U492	HM12	18	10.80	20.03	0.017	100
U493	HM14	21	12.80	23.35	0.020	100
U494	HM16	24	14.80	26.75	0.034	100
U495	HM20	30	18.00	32.95	0.064	100

Threaded shaft



Code	Designation	L (mm)	Ø (mm)	Weight (kg)	Sales unit
U496	TF 12x1000	1000	12	0.700	100
U497	TF 14x1000	1000	14	1.000	100
U498	TF 16x1000	1000	16	1.400	100
U499	TF 20x1000	1000	20	1.700	100

Screw



The reference standard is **Din 571**.

Code	Designation	L (mm)	Ø (mm)	Weight (kg)	Sales unit
U434	T 6x40 INOX A2	40	6	0.016	200
U435	T 10x70	70	10	0.041	100
U437	T 12x70	70	12	0.070	100
U438	T 12x80	80	12	0.080	100
U439	T 14x100	100	14	0.110	100

Protection accessories

Corrugated tube



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Application

This corrugated tube is designed to protect and insulate electrical cables and wires.

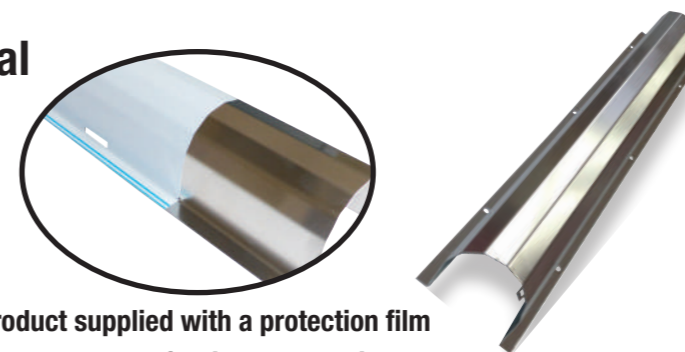
Description

- This tube is made of polyolefins.
- It is available in black or/and grey.
- It offers the following characteristics:
 - Scratch resistance: 320N,
 - Shock resistance: 2J.
- Minimum and maximum temperatures for use and installation are between -5°C and +90°C.
- Dielectric strength is 2 000V - 50Hz for 15min.
- Insulation resistance is $\leq 100M\Omega$ under 500V dc.
- Degree of protection is IP44 with accessories.
- It is delivered with wire-pulling.
- It is recommended to protect tubes from solar radiations.

Code	Designation	External diameter (in mm)	Tolerance	Minimal internal diameter (in mm)	Bending radius (in mm)	Weight (kg)	Sales unit
F140	RINGED TUBE DIAMETER 16 (100m)	16	0 / -0.3	10.7	48	4.80	1
F141	RINGED TUBE DIAMETER 20 (100m)	20	0 / -0.3	14.1	60	4.63	1
F142	RINGED TUBE DIAMETER 25 (100m)	25	0 / -0.4	18.3	75	7.00	1
F143	RINGED TUBE DIAMETER 32 (50m)	32	0 / -0.4	24.3	96	4.60	1
F144	RINGED TUBE DIAMETER 40 (50m)	40	0 / -0.4	31.2	160	3.00	1

Protective duct for aerial-subsurface connection

Metal



MICHAUD

Application

This protective duct is designed to protect aerial-subsurface connections on poles or façades. It is fixed on pole using straps or on facade using screws. It offers an IK10 degree of protection. It is made of metal (aluminium).

+ Product supplied with a protection film to be removed after implementation

	Code	Designation	Length (m)	Weight (kg)	Sales unit
	N297	METAL PROTECTIVE DUCT GPC 35.35mm	2.75	1.100	1
	N298	METAL PROTECTIVE DUCT GPC 60.60mm	2.75	1.700	1
	N299	METAL PROTECTIVE DUCT GPC 90.90mm	2.75	2.350	1
	N300	METAL PROTECTIVE DUCT GPC 120.120mm	2.75	2.950	1

Synthetic material



MICHAUD

Application

This PVC duct is designed to protect aerial-subsurface connections on poles or façades. It is fixed on pole using straps or on façade using screws.

	Code	Désignation	Use	Length (m)	Weight (kg)	Sales unit
	N273	PROTECTIVE DUCT GPT 30.30 GREY	Earth wire	2.60	0.550	10
	N274	PROTECTIVE DUCT GPC 35.35 GREY	LV 4x50 maxi	2.75	1.010	10
	N275	PROTECTIVE DUCT GPC 60.60 GREY	LV 3x240 + 95 maxi	2.75	1.960	10
	N276	PROTECTIVE DUCT GPC 90.90 GREY	MV 3x150 + 50 maxi	2.75	2.780	5
	N277	PROTECTIVE DUCT GPC 120.120 GREY	MV 3x150 + 50 maxi	2.75	4.260	5
	N278	PROTECTIVE DUCT GPC 140.50 GREY	MV 3x240 maxi	2.75	3.060	5

D'autres gaines sont disponibles en couleur ou en aluminium. Nous consulter.

IPC for MV BLL/BLX conductor



K250



K251

MICHAUD

Application

This I.P.C. (Insulation Piercing Connector) is designed to establish a tap connection from a medium voltage conductor type BLL/BLX (covered overhead conductor) to another BLL/BLX conductor. Connectors K250 and K251 can receive conductors section from 50mm² up to 241mm².

Description

- Insulation piercing of the main line and the tap line is carried out simultaneously.
- Contact bridges are studied to pierce an insulation thickness up to 3mm maximum.
- Tightening screws are potential free.
- Tightening efficiency is ensured by shear head screws.
- Connectors K250 and K251 can receive respectively main and tap conductors as follows:
 - 50-157/50-157mm²
 - 50-241mm²/50-241mm²
- The IPC is delivered with a sealing end cap.

This connector meets the criteria of the **EN 50483-5-6** and **EN 50397-1-2** standards.

Implementation

- Insert the insulated tap conductor into the connector. Adjust extra length and add the sealing cap at the end.
- Implement the connector on the main line and tighten the screw with a 17mm spanner until shear head breaks.
- The permanent head is only provided for eventual disassembly, do not use it to tighten the screw further after the first shear head has broken.

Code	Designation	Main line insulated Al-Cu (mm ²)	Tap line insulated Al-Cu (mm ²)	Weight (kg)	Sales unit
K250	IPC 50-157 BLL/BLX	50-157	50-157	0.640	3
K251	IPC 50-241 BLL/BLX	50-241	50-241	0.810	3

Accessory

The cap to be used is K247 for the insulation of the end of a conductor.

SEE SHEET
OVERHEAD / Sealing end cap and cover / Sealing end cap



Web site

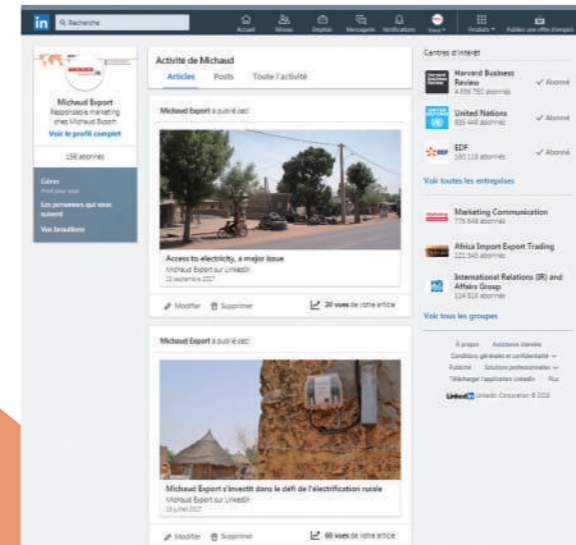
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LinkedIn

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YouTube

Follow our YouTube channel in order to discover products implementation videos and this way facilitate your installations on the field.



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 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.



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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

suppliers to whom the normal producer or Subcontractor guaranty applies ; or
- If the defect is coming from the buyer's negligence, or recklessness ; or
- If the defect is the result of a force majeure or of an external event.

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 Viriat 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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International expert in electrical distribution, **Michaud Export** designs, develops and implements reliable systems reducing maintenance operations on distribution networks.

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Michaud Export

499, Rue du Revermont
ZAC La Cambuse
01440 Viriat
France

Tél +33 (0)9 70 75 50 24
contact@michaud-export.com
www.michaud-export.com

