

Summer 2024

Hiko Product News



Safely connecting communities to power the future.



Providing quality connection solutions alongside these leading global brands

NKT Inner Cone Plugs



CPI 3 is a screened inner cone cable connector made of silicone rubber for cable connection to switchgear (RMU) and transformers up to 52 kV with bushings size 3 according to EN 50180/50181. The CPI 3 is also available with metal housing

Features

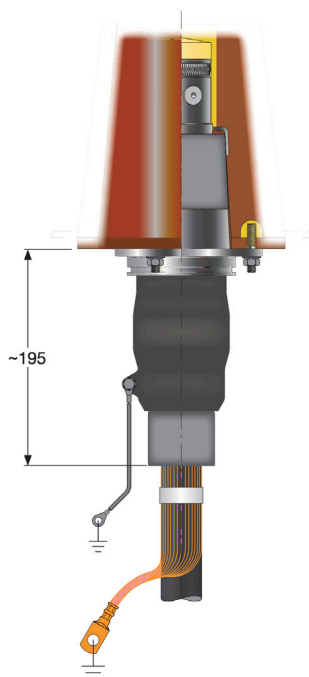
- › Assembling without specialty tools
- › Screening by outer conductive layer
- › Multirange screw cable lug with lamellated contact
- › Integrated stress control system
- › Cable sheath testing without dismantling of connector
- › Unique connector casing for 50 up to 800 mm²

Product Information

- › Max. cross section: 800 mm²
- › Core insulations: 21.2 - 51.0mm
- › Core type: Single-Core, Three-Core
- › Max. operating Voltage (Ur): 52 kV
- › Product type: Inner cone
- › Application: Switch Gear, Transformer
- › DIN norms: HD 629.1 S2, EN 50180, EN 50181

Properties

Maximal system voltage	52 kV
Continuous nominal current	1250 A
Partial discharge at 2 U ₀	< 10 pC
Alternating withstand voltage (AC, 5 min.)	124 kV
Direct withstand voltage (DC, 15 min.)	125 kV
Impulse withstand voltage	250 kV

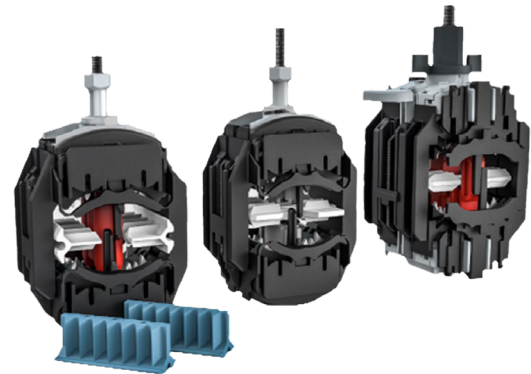


ISICOMPACT Cable Tap Connector for 1 kV Low-voltage Powergrids

PFISTERER

Practical installation, good occupational safety and high levels of operational reliability are fundamental criteria for home power connections. ISICOMPACT by PFISTERER – the inventor of multi-conductor cable branch technology – is today's state-of-the-art.

This enhancement of our "compact tap connector" (also known as the SCK) has been modified in line with current work standards. And with great success. These days, the ISICOMPACT connector is a major player in low-voltage powergrids.



Single-screw system

- ▶ 4-conductor branch by tightening one screw
- ▶ Screw connection can be placed in any position

Piercing contact technique

- ▶ No stripping of the conductors

Cross-wedges

- ▶ Penetrate through insulations



Functional product design

- ▶ Touch-safe at every installation step
- ▶ Stepless adjustment to conductor cross-sections
- ▶ Branch conductors are simply placed into the clamp

Universal application

- ▶ Large cross-section ranges
- ▶ For all types of conductor
- ▶ For aluminium and copper conductors, class 1 and 2
- ▶ Fewer different variants and low inventory costs



Shear-off nut

- ▶ Defined shear-off torque
- ▶ Optimal contact forces

Spring elements

- ▶ Constant contact quality
- ▶ Compensation of mechanical settling losses

Protection ribs

- ▶ Prevent premature penetration of contacts into main line
- ▶ Breaks during tightening of clamp



Insulating wall with inspection openings

- ▶ Enables checking of conductor position

Installation using standard tools

- ▶ Insulated tools in accordance with EN 60900
- ▶ Requires 13 mm or 17 mm wrench
- ▶ No torque wrench

U-PILLAR Underground Service Connection Boxes



Hiko's solution to more and more councils nationwide not wanting above ground infrastructure and street accessories was to provide the custom designed U-Pillar. This delivers a simple, robust, secure, cost effective and fully underground solution for 63 A / 100 A service fuses and 160 A DIN standard disconnects.

The U-Pillar takes a completely different approach to the traditional sealing of underground fuses to prevent the ingress of water. A transparent, airtight bell-shaped enclosure that latches down onto the

stand and traps all the air needed to keep the electrical connections under it dry, even when the U-Pillar becomes completely submerged in water. The U-pillar keeps the lights on even in flood conditions!

With the lid off and lifting the bell housing to the ground level, this allows all U-Pillar maintenance to be carried out above ground in the dry with no need to pump out any water before or after.

Features

- Housing is underground
- Reinforced lid class B
- Transparent airtight bell shaped enclosure
- Pre terminated flexible cables
- 6 x 63A, 4 x 100A and 1 x 3P 160A connections available

Benefits

- Removes the need for above ground street furniture
- Suitable for footpaths and driveways
- The electrical connections remain clean, dry and fully protected in air and electrically safe
- Faster installation
- Multiple connection configurations available
- QR code enables on site instructions and animation via installers phone



Air Insulated Load Break Switches



Insulect manufactures side-break and vertical-break air insulated load break switches. Within this range, we produce several versions and customise them to suit individual network requirements for isolation or switching applications. Air Break Switches are widely installed throughout distribution networks for use as both isolating and switching points.

12/24kV and 36kV Voltage ratings. 630 and 1250 amps load current ratings.



Features

- ▶ Modular Design - We readily provide custom design changes to suit individual customer requirements, as well as modular or unitised factory assembly for more rapid installation
- ▶ Manual or Motorised - Available with conventional operating rod and handle, with patented hook stick actuator. Able to be fitted with motorised operation as well as remote control facilities
- ▶ Insulators - Choose from Porcelain, Silicon or Cycloaliphatic insulators
- ▶ Options - Associated earthing switch available. Load interrupter to break up to 630 amps



EFEN LV Vertical Fuse Switch Disconnects



Isolating electricity supply at distribution sub-stations can be made safer with the latest generation of EFEN disconnectors.

- ▶ Terminals shrouded both open and closed, eliminating risk of exposed live fuse terminals
- ▶ Size 00, Size 3 and dual Size 3 for 160 A to 2,000 A
- ▶ Fully compliant with IEC 60947 Part 1 and Part 3



EFEN's LV Vertical Fuse Disconnects

With distributed generation utilising more connected solar feeding into the LV network from residential and commercial premises, a fully shrouded approach better protects operators by eliminating the risk of exposed live fuse terminals. The action of fuse carrier is withdrawn in a parallel direction, which opens both terminals of each fuse blade at the same time. The result in arc voltage is halved by creating two smaller arcs - one at each terminal delivering improved switching capacity. Disconnects can be ganged and non-ganged. E3 disconnectors also manage heat more effectively, reducing the risk of over-heating. Heat build-up is minimised by improved housing ventilation and busbar design.

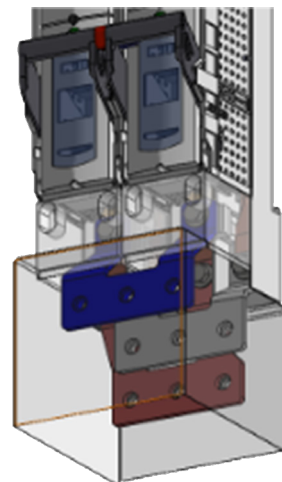
Disconnect Accessories

Side entry tags are available for either the left or the right-hand side of the EFEN E3 disconnector.

Connection plates have been specially designed to enable the connection of large cross section cables and multiple cables.

These are typically ordered with the EFEN E3 disconnector as a complete assembly. The "compact single" connection is available as a retrofit kit. Connection plates are provided complete with covers; spare covers are available if required.

Hiko also engineers bespoke connection solutions for individual customer requirements.



EFEN Dual Compact 3 Hole Assembly

LV Protective Caps

For transformer bushings and other applications



Technical Data

Material: PVC

Operating Temperature: $-40^{\circ}\text{C} + 120^{\circ}\text{C}$

Dielectric strength: 20 kV/mm

External Length: 170mm

Opening

- Width: 86mm
- Height: 73mm
- Length: 80mm

Inner End

- Width: 74mm
- Height: 47mm
- Length: 40mm

The Hiko LV Protective Cap provides a cost effective and convenient way to protect LV bushings and other live metalwork from accidental contact.

LV Protective Caps are quick and simple to install, compared to other methods, such as using PVC tape. In addition, as a factory-made moulding, with defined wall thickness and materials characteristics, they provide greater assurance of safety than ad-hoc methods.

The caps are supplied as a set of four, in standard colours, to provide a clear visual indication to phase identification. They are designed so that one size fits most New Zealand bushing types and sizes. LV Protective Caps can also be modified to fit different cable entry positions.

The LV caps are not intended for use on medium voltage and high voltage bushings.

GridKey



To increase efficiency Network Operators are adding automation and monitoring systems to their networks to manage distributed energy sources and to restore faults more quickly

GridKey is Lucy Electric's LV monitoring system. GridKey produces three MCU systems - MCU520 (low voltage), MCU520 (medium voltage) and MCU318 - each communicates directly with the cloud-based GridKey Data Centre, which stores and analyses data to provide actionable information on line faults, technical and non-technical losses, voltage levels and harmonic content.

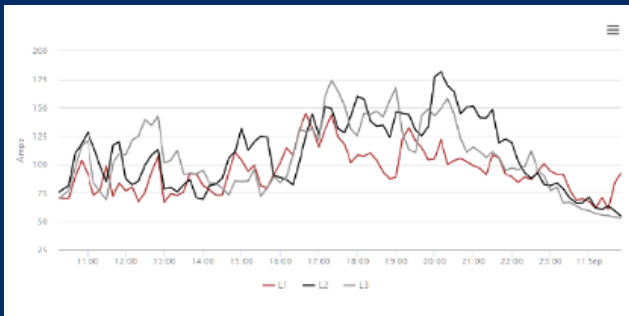
GridKey's low voltage monitoring allows companies visibility of what is happening on the last mile of their network. To date, the GridKey Data Centre has

generated over 100 billion data points for analysis. To be meaningful and valuable this data needs to be stored, analysed and presented in a way that is actionable and easy to understand.

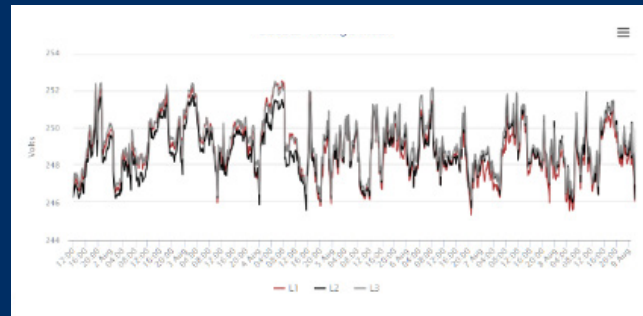
Data analytics is a very specialised area and many companies do not have the capabilities or capacity to manage this activity. To address this challenge the GridKey team has developed its own Data Centre which delivers a high integrity solution for effective data management.

Lucy Electric launches industry-leading AI technology that could cut time and cost of fault detection by two thirds.

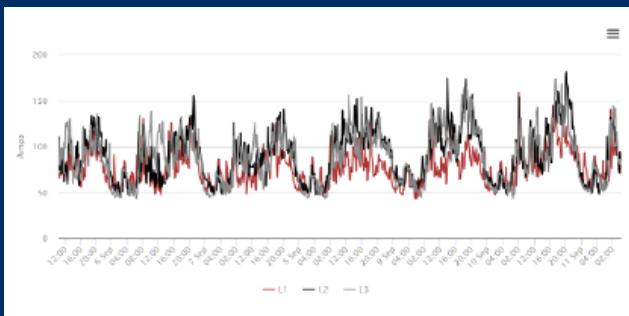
Busbar Current Mean



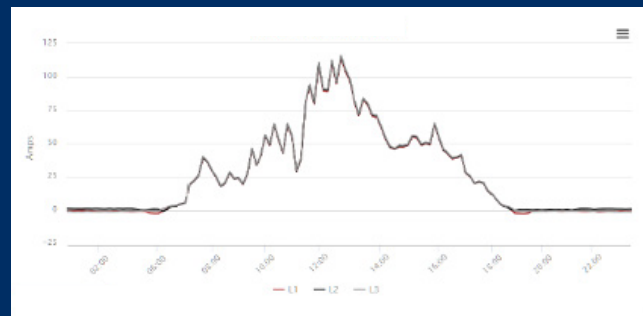
Busbar Voltage Mean



Busbar Current Mean



Feeder 1 Current Mean



Lucy Electric Ring Main Units

Aegis³⁶ is Lucy Electric's latest product, originating from the very successful Aegis product family

It is specially designed for secondary distribution networks, wind farms and photovoltaic power stations with ratings up to 36 kV. This range is available for indoor and outdoor environments, suiting various application needs.

Aegis³⁶ offers high levels of reliability and operator safety. It is a compact, cost-effective and virtually

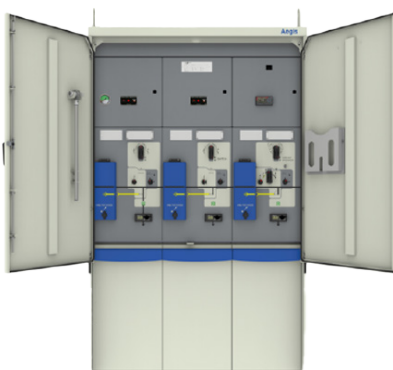
maintenance-free product. Aegis³⁶ offers numerous functional configurations insulated in a single robot-welded sealed tank. This robust range has been built for the toughest environments, with an option to convert units from indoor to outdoor, extending its environmental protection rating.

All of these enhancements have been achieved whilst reducing the spatial footprint, resulting in a design that is more compact, and easy to install.

Features

- 36 kV and 630 A ratings
- Extensible and non-extensible range
- Flexible arrangements of functions, providing the exact solution
- 1 to 4 functions in a single SF6-insulated stainless steel enclosure
- Hermetically sealed stainless steel switching chamber
- No on-site SF6 gas handling for installation
- Intuitive single-line mimic diagram
- Vacuum interrupter technology for circuit breakers
- Suitable for indoor and outdoor applications
- Circuit breaker protection using a wide range of self-powered and auxiliary relays
- Motorisation for remote control
- Easy integration with SCADA networks
- Front access cable terminations, with DIN 400 Type C bushings
- Earth & test facility

IP 54 - Indoor



IP 41 - Indoor



| Non-SF6 models coming soon



Polaris PTLIH Ground Mounted Transformer Connectors

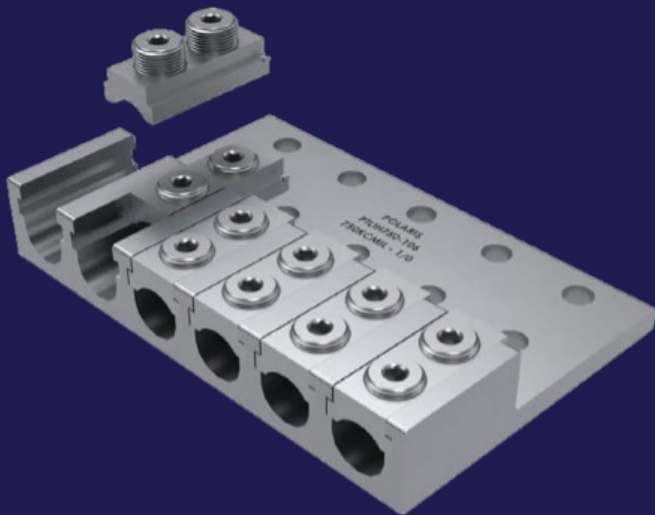
Polaris PTLIH transformer connectors are applications engineered for the New Zealand market to provide a secure, reliable and cost-effective means of connection for ground mounted transformers.

Polaris PTLIH transformer connectors are manufactured from high-strength 6061-T6 aluminium alloy to provide premium electrical and mechanical performance. They are dual rated for copper and aluminium conductors. No cable lugs are required, reducing tooling and installation costs and electrical losses. The lay-in cable cleats make connection quick and convenient, especially with large cable cross sections.

By using torque-setting set screws, Polaris PTLIH connectors are re-enterable, enabling the connection of additional cables, or different cable cross-sections. The range-taking design minimises inventory requirements; three sizes over transformer ratings from 200 – 1500 kVA.

Polaris PTLIH connectors meet or exceed ANSI C119.4 Class A, which specifies connectors for use between aluminium-aluminium or aluminium-copper conductors used in electricity distribution networks.

- Rated for 600 volts
- Mounting holes at standard NEMA 1.75" spacing



POLARIS[®]

| HellermannTyton



Fixing solar cables onto PV racking structure

Cable Tie Solutions

PA66W Ties

- UV resistant black cable tie for standard UV and subpolar/temperate climate zones
- 100% high quality compounded plastic 2% carbon black according ASTM D6779 IEC 62275 tested
- Available in a wide range of sizes
- Plastic solution adding security for 1500V DC systems

HellermannTyton

Bowthorpe Line Taps

The safe and reliable operation of electricity distribution lines depends on the quality of overhead line fittings

Bowthorpe®

100% owned by Hiko Power Engineering



The BOWTHORPE HD Series Line Taps have earned an enviable record for robustness and reliability in New Zealand and overseas since 1959.

They have a long-term trouble-free record in a wide variety of operating conditions providing a lasting and inexpensive solution. They can be quickly and easily installed (and removed) without the need for special tools.

BOWTHORPE HD Line Taps have been type tested for 1,000 hours of heat-cycling, to the latest version of BS 3288.1.

➤ All genuine BOWTHORPE HD Series Line Taps are marked with the name "BOWTHORPE".

Technical Data

Type	Product code	Pack quantity	Application Range						Recommended	
			Cross section, mm ²		Diameter, mm		Strands / diameter, mm		Torque setting, Nm	
			Min	Max	Min	Max	Min	Max	Min	Max
HD9	BL500	500	4	7	2.7	4.0	7 / 0.91	7 / 1.12	5	10
HD10	BL510	200	10	16	3.8	5.8	7 / 1.32	7 / 1.75	10	15
HD12	BL520	150	16	25	4.3	6.6	7 / 1.63	7 / 2.14	15	20
HD12A	BL530	100	16	35	5.3	8.1	7 / 1.70	19 / 1.63	20	25
HD13	BL540	50	25	50	6.6	10.1	7 / 2.11	19 / 1.83	40	45
HD14	BL550	50	35	70	7.3	11.1	19 / 1.53	19 / 2.14	50	55
HD15	BL565	25	50	95	8.8	13.4	19 / 1.75	37 / 1.83	105	110
HD18	BL575	25	70	120	10.5	16.1	19 / 2.11	37 / 2.11	105	110

Five sizes cover all conductors from 4 – 120 mm².

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