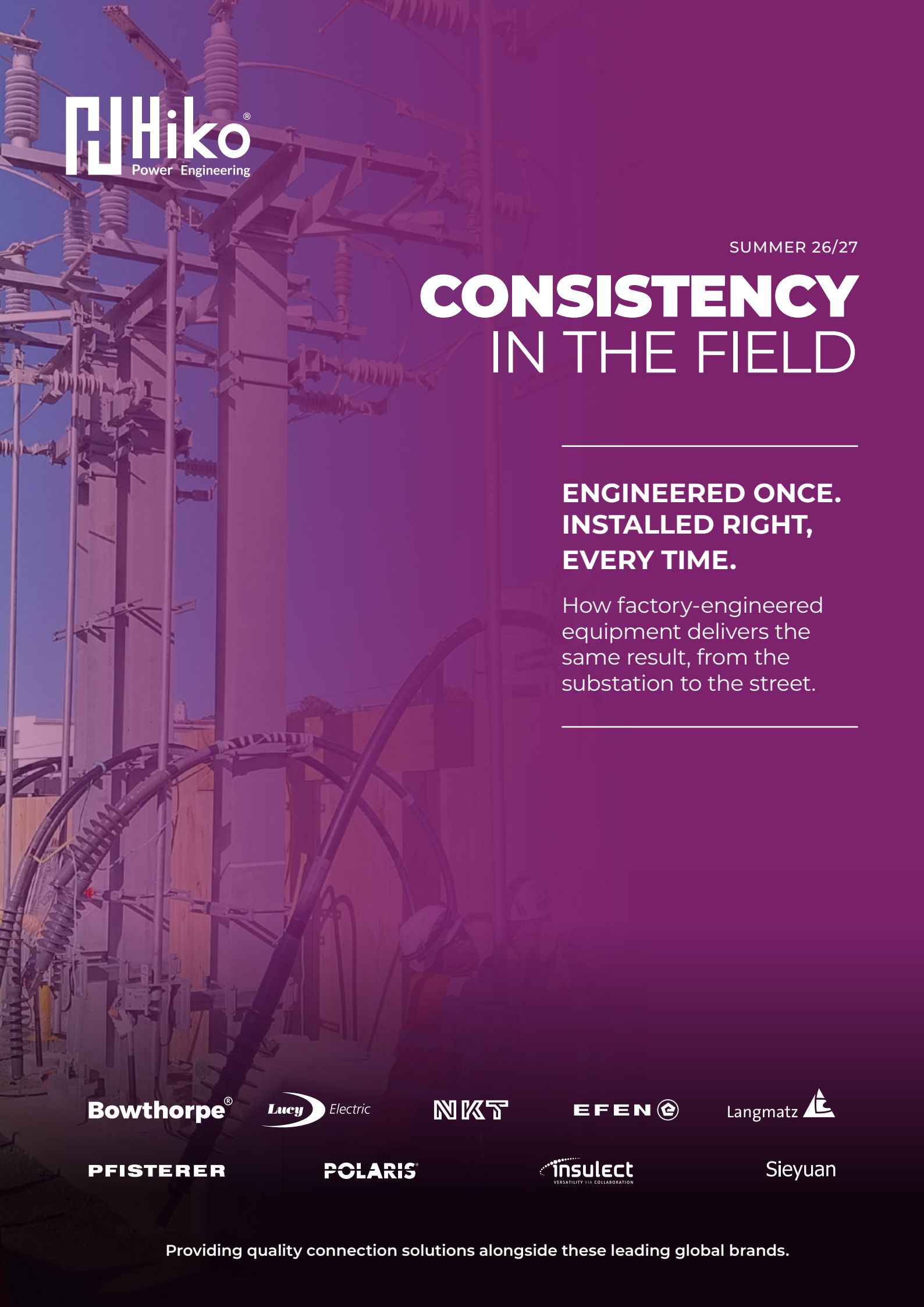


Hiko®
Power Engineering

SUMMER 26/27

CONSISTENCY IN THE FIELD

ENGINEERED ONCE. INSTALLED RIGHT, EVERY TIME.

How factory-engineered equipment delivers the same result, from the substation to the street.

Bowthorpe®
Lucy Electric
NKT
EFEN
Langmatz
PFISTERER
POLARIS
insulect
VERSATILITY VIA COLLABORATION
Sieyuan

Providing quality connection solutions alongside these leading global brands.

Made right. Every time.

The best network assets aren't only the ones your most experienced jointer installs. They're the ones every qualified crew can install the same way, every time.

The networks we work with across New Zealand tell us the same things. The industry has an ageing workforce. Experienced people move from one contractor to another. Skill levels vary from crew to crew. At the same time, there is pressure to shorten outages and closer scrutiny of asset quality and reliability.

None of this is a criticism of the people doing the work. It is a reason to design the work differently. When quality depends on each installer's interpretation on the day, results vary. When quality is engineered into the product, checked before it leaves the factory and installed through a standard method, results repeat.

This issue follows that idea from the substation to the street. It covers connections that plug in rather than being built on site, accessories that cover wide cable ranges with fewer parts, and LV frames and cabinets engineered and assembled by Hiko in Christchurch.

Consistency isn't luck. It's engineered.

IN THIS ISSUE:

PFISTERER CONNEX SIZE 4



Dry plug-in interface, routine-tested in the factory

NKT SCREENED T-CONNECTORS



One connector covers a wide range of cross-sections; no special tools

HIKO UTMF



One frame and one rail-and-clamp fitting method across makes

HIKO WALL MOUNT FRAME



Insulation and covers built into the frame

HIKO CB FRAMES



ACB protection engineered into the frame

LANGMATZ CABINETS



Fitted, assembled and tested in Christchurch

NKT HDC-A CABLE CABINET



Coupling pieces pre-mounted in the cabinet

Cable Jointer Training

Learn about Hiko's 2027 training programme

Plug in. Test once. Repeat across every site.

On sub-transmission projects, the cable connection into a transformer or GIS is one of the most important interfaces on the network. It can also be one of the most variable, because a conventional termination is built at the equipment interface, on site, by whoever is doing the job.

Pfisterer's CONNEX changes where that work happens.

CONNEX is a globally standardised, dry-insulated, plug-in connection system for medium and high voltage networks, from 6 kV up to 550 kV. The device connection part is permanently integrated into the transformer or GIS. Once the cable connector is prepared, it simply plugs in, rather than a conventional termination being built at the equipment.

Installation needs no gas or oil work at the transformer or GIS, which Pfisterer states considerably reduces installation time. CONNEX separable connectors are routine-tested in the factory. They are also available as factory-tested, pre-assembled field installation cable, so a key part of quality control is done before the cable reaches site.

Once installed, CONNEX is touchproof, submersible and maintenance-free. Fully encapsulated components need no minimum distances between phase connections, which supports compact substation layouts. And because the connection is separable, cables and equipment can be disconnected and changed quickly, for transformer replacement, temporary installations or future equipment changes. Horizontal, vertical and angled versions suit GIS and transformer connections.

WHEN TO SPECIFY

For project managers
CONNEX is installed without any gas or oil work at the transformer or GIS, considerably reducing installation time. It is routine-tested in the factory and plugs into a standard interface, so a key part of quality control is done before the crew is on site.

TECHNICAL DATA CONNEX SIZE 4

Parameter	Value
Max. system voltage (Um)	72.5 kV
Nominal voltage (Un)	60–69 kV
Lightning impulse withstand (BIL)	325 kV
Power frequency withstand	140 kV (1 min) / 90 kV (30 min)
Partial discharge	< 2 pC at 54 kV
Nominal current	2500 A
Rated short-time withstand current	50 kA
Conductor	Copper or aluminium, 95–2000 mm²
Insulation diameter	33–78.5 mm
Connection method	Compression



Pfisterer CONNEX Separable Connectors

One connector. Reduce variability.

MV cable projects do not always fail because a product is unavailable. Sometimes the problem is that the correct product is difficult to identify, a different cable is encountered on site, or a narrowly selected component does not match the actual insulation diameter.

NKT's CB screened T-connectors help reduce that variability.

The elasticity of the silicone rubber allows each connector size to cover a comparatively broad range of conductor cross-sections. Across the complete Hiko range, connectors are available for 11 kV, 22 kV and 33 kV applications and for conductor sizes extending from 25 to 1000 mm².

This broader application range can mean fewer connector variants in the approved library, in stores and in the field. It also reduces the chance of a project being delayed because the selected accessory does not suit the cable actually presented to the crew.

The Type C bolted interface is used with switchgear, RMUs and transformers fitted with bushings to EN 50180 and EN 50181. Installation is straightforward, requires no special tools and provides a fully screened, maintenance-free connection.



NKT Screened T-Connector

WHEN TO SPECIFY

For design estimators

Specify for 11–33 kV cable connections to switchgear, RMUs or transformers with the appropriate interface, selecting the connector to suit system voltage, cable insulation diameter and conductor size. One product can serve many different cables which means fewer part numbers to specify.

CONSISTENCY BUILT IN

- Broad cable application range within each connector size
- Standard Type C bolted interface
- No special installation tools required
- Fully bonded conductive outer screen
- Silicone rubber resistant to UV, ozone, water and heat
- Coupling connectors and standard accessories available
- Maintenance-free operation

One-piece stress control. Repeatable termination.

An MV termination is a precision installation. Cable preparation, stress control, sealing and component selection all matter.

The more separate operations and components involved, the more opportunities there are for different crews to approach the work differently.

NKT SOT terminations simplify that process through a pre-moulded, cold-applied silicone rubber body with integrated electrical field control and top sealing.

The single-piece termination slips over the prepared cable without heat or compound mixing. This does not remove the need for a qualified cable jointer or correct cable preparation. It does, however, provide a consistent manufactured stress-control component rather than requiring that function to be formed from several separate materials on site.

The elasticity of the silicone rubber gives each termination a broad application range. Indoor and outdoor kits are available for one-core and three-core XLPE or EPR-insulated cables, with aluminium or copper conductors, across 11 kV to 33 kV applications. Kits can be supplied with or without shear-bolt lugs, and outdoor configurations incorporate permanent sheds to provide an extended creepage distance.

WHEN TO SPECIFY

For engineering consultants

Specify for indoor or outdoor termination of 11–33 kV XLPE or EPR insulated cables where a pre-moulded cold-applied termination is appropriate, selected primarily by cable insulation diameter.



NKT SOT Terminations

CONSISTENCY BUILT IN

- Pre-moulded single-piece termination body
- Integrated electrical field control and top sealing
- Cold applied, with no heat required for the termination body
- Broad application range from the elasticity of silicone rubber
- Indoor and outdoor kits
- One-core and three-core cable options
- Kits available with or without SICON shear-bolt lugs
- Designed to meet CENELEC HD 629.1 S1 and IEEE 48:1996 requirements

One frame. One fitting method. Across your transformer fleet.

A network rarely runs a single make of transformer, so LV frames have often varied from site to site. Hiko's Universal Tank Mount Frame (UTMF) was designed to change that. One frame fits Etel Minipad, Hitachi/ABB Mini Sub and Tyree cubicle transformers.

The UTMF is designed to be installed safely in less than 30 minutes, using a two-rail system developed by the Hiko engineering team. Stainless steel rails bolt to the mounting bosses on the transformer. The frame is lifted onto the rails, where open clamps make positioning easy, and a long nut driver tightens the spring-loaded clamp bolts. Feedback from the field describes it as simple, plug-and-play and quick to install.

Because the frame mounts to the transformer tank, there's no need to drill the concrete pad, though it can be bolted to the pad if a network requires it. The earth bar sits on the right-hand side, close to the neutral bushing and earth stud, which makes the earth connection easier and keeps access clear to the neutral bar for testing.

Handles and lifting eyes make the frame easier to manoeuvre, and the design gives clearer access to the transformer's drain tap for oil changes.

Every Hiko design goes through mechanical, electrical and thermal modelling and testing before it is released to production, in line with AS/NZS 61439.1 and AS/NZS 61439.5.

The UTMF is a standard design configured to each network's requirements: PEN or separate earth/neutral connections, pre-installed internal CTs, Gridkey LV monitoring, and circuit breakers on frames over 500 kVA.

WHEN TO SPECIFY

For asset managers

Specify where a standardised LV frame is required across multiple compatible transformer makes and ratings such as Etel, Hitachi/ABB and Tyree, and where reducing installation time and avoiding pad drilling support the network's asset strategy.

Hiko Universal Tank Mount Frame (UTMF)



Bushing Cover
Operator safety

Mounting Clips
Safe and easy lifting on to horizontal tank rail

Stainless Steel Construction
Precision-built and durable for long asset lifespan

Adjustable Feet
Adjustable and removable feet increase cable access

Service Panel
Configured to each network's requirements and includes streetlight supply

QR Code Access
Easy onsite access to instructions and animation

Lifting Handles
For ease of installation

Horizontal Tank Rail
Convenient frame attachment method

Heatshrink on Busbars
For safety and identification

Side Mount Earth bar
Earth connections allow for easy access to neutral bar

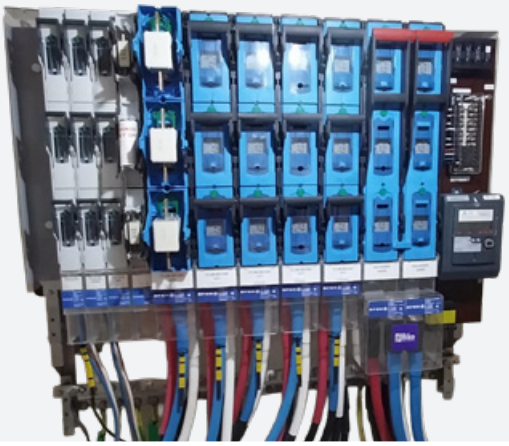
Safety built into design. Not added on site.

Where an LV assembly is mounted to a wall or other vertical structure, field layout decisions can influence access, clearances, protection and future maintainability.

Hiko's Wall Mount Frame provides an engineered platform for transformer and distribution applications. It can be configured for new builds or retrofits and is designed for safe installation in as little as 30 minutes.

The frame incorporates the elements that crews would otherwise need to coordinate or protect on site: insulated busbars, transparent protective covers, switch disconnects, CTs, test blocks and, where required, circuit breakers or other arc-flash risk treatments.

Integrated handles, lifting eyes and lightweight brackets simplify handling. The earth-neutral assembly and disconnects can be removed to reduce installation weight. A folded rear cover helps prevent accidental contact with live terminals, while extended rear and side covers can be specified where water drip is a concern.



Hiko LV Wall Mount Frame

TYPICAL CONFIGURATIONS

Rating (kVA)	Busbar (mm)	N/E bar (mm)	Incoming isolator (A)
100–300	30 × 10	40 × 6	630
500	50 × 10	40 × 6	1000
750	80 × 10	50 × 10	2000
1000	100 × 10	80 × 10	2000
1500	100 × 20	80 × 20	2500*

*1500 kVA configuration uses a circuit breaker. Other N/E bar cross-sections available on request

CONSISTENCY BUILT IN

- Universal mounting approach for new and retrofit applications
- Fully insulated busbars with polarity identification
- High-temperature-rated transparent polycarbonate covers
- Integrated handles and lifting eyes
- Removable components to reduce installation weight
- Protected CT secondary wiring and rated CT test blocks
- Configurable PEN or separate earth and neutral arrangements
- Service panels available with metering, monitoring and auxiliary supplies

Field feedback indicates Hiko's pre-engineered LV frame solutions are simple, plug-and-play and quick to install, reducing the amount of work and variability on site.

Feedback from the field

Protection engineered in. Frame by frame.

Higher-capacity LV transformer installations do not always suit a standard fuse-switch-disconnector arrangement. Network protection requirements, available space, transformer configuration and fault conditions can all shape the final frame. That can make every project look different. It should not make the quality process different.

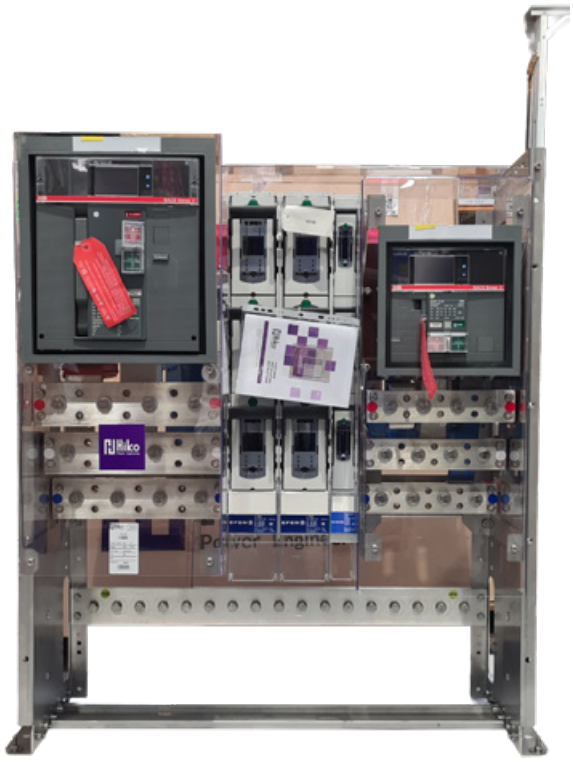
Hiko circuit breaker frames are custom designed to the network's project and protection requirements, but each design follows the same engineering workflow. The layout, busbar sizing, insulation, clearances, covers, mechanical support and thermal performance are considered as part of one assembly. Hiko fits ACBs from ABB or Terasaki, typically rated at 1600 A and suitable for 750 kVA–1 MVA installations.

Air circuit breakers can provide protection during overload and fault conditions and can be incorporated with fully insulated busbars, transparent protective covers and other design measures intended to reduce exposure to arc-flash hazards.

Hiko's approach to arc flash is documented. In-house technical report TR0175 covers arc flash prevention provisions, and IN0160 specifically addresses insulation of the section from the transformer LV bushing to the ACB, for arc flash mitigation in certain 750/1000 kVA installations.

Most CB frames are custom designed to the network's specification, each with its own Hiko drawing. What stays the same is how they're engineered: every design follows Hiko's methodology of mechanical, electrical and thermal modelling and testing, in line with AS/NZS 61439.1 and AS/NZS 61439.5. Custom layout, consistent engineering.

Item	Rating / Detail
Frame ratings	1 MVA and 1.5 MVA
Circuit breakers	ACBs, ABB or Terasaki
Typical ACB rating	1600 A (750 kVA–1 MVA installations)
Standard safety features	Fully insulated busbars, transparent polycarbonate covers
Design methodology	Mechanical, electrical and thermal modelling and testing, in line with AS/NZS 61439.1 / 61439.5



Hiko Circuit Breaker Frame

WHEN TO SPECIFY

For asset managers

Specify where transformer LV protection requires circuit-breaker-based protection rather than a traditional disconnect arrangement, particularly where a consistent protection philosophy is required across differing transformer configurations.

The cabinet standard. Across the network.

LV network cabinets often sit in publicly accessible places for decades, and a cabinet fitted out on site is only as consistent as the crew doing it. Hiko fits and assembles Langmatz cabinets in its Christchurch factory, where continuity and earthing testing is carried out before they leave. Every cabinet arrives configured to the network's requirements and already checked.

This moves more of the work into a controlled manufacturing environment and allows the arrangement to be checked before delivery. The crew receives a familiar cabinet prepared for the defined application rather than an empty enclosure that still requires substantial interpretation and assembly.

Cabinets can be pre-fitted with busbars, a neutral-earth bar and mounting panels; street lighting and auxiliary supplies; MDIs, metering and monitoring; and identification and warning labels to network requirements. Mounting points for vertical or horizontal DIN-standard disconnects and fuse holders withstand all normal forces applied during cable fastening and fuse installation or removal.

The cabinets are made from structural foamed polycarbonate, a reinforced engineering thermoplastic that is extremely robust, heat resistant, flame retardant, and corrosion and weather resistant. It resists chemicals, oils and greases, including cracking from solvents and aerosols, and is fully recyclable.

For LV network switchgear, safety is assured by compliance with IEC 61439-5. There are no exposed fixings, and all mounting screws and fixings are 316 grade stainless steel. The hinged, lockable doors have a fully insulated lock and 5-point latching, and last as long as the cabinet itself.



Langmatz Polycarbonate Equipment Cabinets

CONSISTENCY BUILT IN

- Network-standard equipment layout
- Factory fit-out before delivery to site
- Busbars, mounting panels and auxiliary equipment available
- Network-specific labels and locking arrangements
- No exposed external fixings
- Hinged doors with an insulated lock and five-point latching
- IEC 61439-5 mechanical performance requirements
- Cabinet protection rated IP44, with up to IP54 available on request
- Lock rated IP65

WHEN TO SPECIFY

For new CIW projects including field replacements: Specify where a repeatable cabinet solution is needed for standard network installations, with the enclosure, equipment arrangement and interfaces defined early enough to avoid project-specific redesign.

Defined branching interface. Ready to connect.

When a cable grid branches, networks often need a point where selected cable runs can be sectionalised during maintenance. Building that branching point in the field adds work and variation. NKT's HDC-A cable cabinet provides it as a standard, above-ground unit.

HDC-A is designed for jointing or branching XLPE- and EPR-insulated 12–36 kV cables, 1-core or 3-core, with conductor cross-sections from 25 to 630 mm² at 630 A. Up to four cables can be connected in parallel.

The screened separable cable connectors connect to coupling pieces that come pre-mounted in the cabinet. Each cabinet is supplied with 6 screened separable connectors, plus locks and a padlock shackle. To connect more cables, add 6 CSE-A screened separable connectors and a PC parallel coupling piece. For 3-core cables, a TSH branch seal kit or PSSK screen separation kit is required, ordered separately.

The enclosure is 316 stainless steel, with a foundation base plate and additional corrosion protection on the parts buried below ground. The cabinet meets the requirements for mechanical impact testing according to IEC 60439-5 and the cable connectors meet the electrical requirements of CENELEC HD 629.1 S2.

WHEN TO SPECIFY

For project managers

Specify where a 12–36 kV cable network requires a dedicated jointing or branching point, particularly where selected cable runs need to be sectionalised for maintenance.



NKT HDC-A Cable Cabinet, 12–36 kV

DIMENSIONS

- Overall height 1293 mm (993 mm above ground),
- Width 996 mm,
- Depth 522 mm.
- Weight 140 kg.

CONSISTENCY BUILT IN

- Pre-mounted coupling pieces
- Six screened separable connectors in the basic configuration
- Standard arrangement for jointing or branching
- Supports selective sectionalising during maintenance
- Versions for 12 kV, 24 kV and 36 kV systems
- Cable ranges from 25 to 630 mm²
- Up to four cables connected in parallel
- Mechanical impact performance to IEC 60439-5
- Connector electrical requirements to CENELEC HD 629.1 S2

CABLE JOINTER TRAINING IS COMING IN 2027

Same product. Same method. Same standard of workmanship.

Consistent products deliver their full value only when the people installing them understand the preparation, selection, assembly and inspection requirements.

Hiko is developing a 2027 Cable Jointer Training programme focused on practical product knowledge and repeatable installation methods. Planned programme details will cover training options, locations, dates and registration.

Scan to get in contact

REGISTER YOUR INTEREST

Want first notice when dates are released?

Contact Hiko and ask to be added to the 2027 Cable Jointer Training interest list.

CALL US ON
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EMAIL US AT
marketing@hikopower.co.nz

Quality assured in the factory. Before the crew reaches site.

For cable connections, PFISTERER CONNEX moves a critical transformer or GIS connection towards a dry, pluggable system, while NKT Screened Elbow Connectors simplify selection through broad application ranges and standardised interfaces. The same principle continues with NKT SOT Terminations, where a pre-moulded, cold-applied design with integrated field control reduces the number of termination steps that need to be created in the field.

On the LV side, Hiko UTMF provides a repeatable rail-and-clamp installation approach across compatible transformer fleets. Hiko Wall Mount Frames take this further by engineering busbar insulation, protection, CT arrangements and access into the assembly, while Hiko Circuit Breaker Frames apply a consistent engineering and manufacturing approach even where transformer layouts and protection requirements differ.

The principle also extends beyond the transformer. Langmatz Cabinets allow cabinet arrangements to be standardised and prepared before delivery, while the NKT HDC-A brings the components of an MV branching point together in a defined cabinet arrangement rather than leaving separate elements to be assembled on site.

Good field outcomes should not depend on unnecessary decisions being made at the point of installation. Across the products featured in this issue, a common theme is designing out variation and making the intended result easier to repeat from one installation to the next.

Less variation. More predictable outcomes.

Built for New Zealand. 85+ years in the making.

Hiko has supplied electrical network infrastructure in New Zealand for more than 85 years. We design and manufacture our LV frames in Christchurch, where we also fit, assemble and test Langmatz cabinets before they go to site.

Alongside our own range, we bring together proven technology from global partners including Pfisterer, NKT, Langmatz and Sieyuan, all with one aim: equipment that gives every qualified crew the same result, every time.

From our Christchurch and Auckland locations, Hiko lives by safely connecting communities to power the future.

Hiko is proud to be certified to the following ISO standards:

Telarc. Registered cert TM — Environment ISO 14001

Telarc. Registered cert TM — Health & Safety ISO 45001

Telarc. Registered cert TM — Quality ISO 9001

Telarc. Integrated Systems Certification cert TM — ISO 9001 ISO 14001 ISO 45001

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