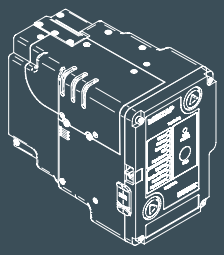


WEEZAP AND RELINK DATA-SHEET

Low Voltage Meshing, Automation and Protection

camlin energy


WEEZAP
119-0278
119-0165
119-0414
119-0445
119-0412
119-0235
119-0464
119-0287
119-0411
119-0261

INTRODUCTION

WEEZAP & RELINK work in combination to enable the installation of additional Low Carbon Technologies (LCT's) on a DNOs Low Voltage network. This is achieved through monitoring, advanced protection, meshing and reconfiguration of the LV network and the use of embedded LV vacuum switches and intelligent technology. Optimising the voltage levels on the network ensures customer appliances and the LV network run as efficiently as possible.

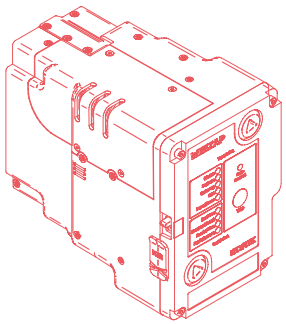
WEEZAP and RELINK are key components of LV network automation, which can be retrofitted to existing networks to allow centralised network management and automation. They assist in keeping costs low for consumers and help reduce carbon emissions by maximising the utilisation of the existing network.

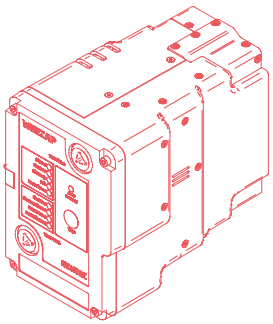
WEEZAP

WEEZAP provides enhanced measurement and protection through the use of a vacuum circuit breaker commutated with a semiconductor switch solution. It includes specially designed sensors and circuitry for advanced protection and monitoring of power flows and power quality.

WEEZAP's compact retrofit design allows it to be installed directly on to existing LV fuse panels without the necessity to replace the LV board itself. Fitting is therefore simple and fast, with minimum training required.

WEEZAP



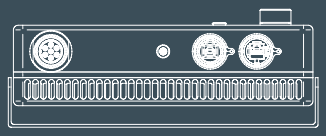


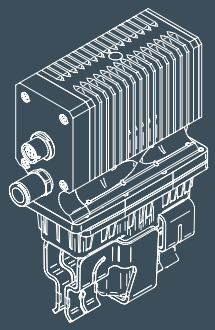
RELINK

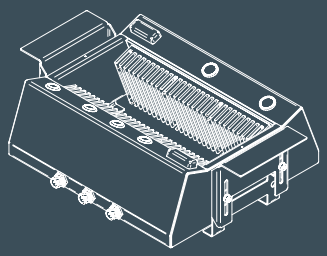
RELINK provides the ability to mesh the network at a time of capacity need, and unmesh the network once the demand is reduced to ensure maximum utilisation and efficiency of the network. It also allows re-configuration of the network topology during fault conditions, such as a permanent LV fault condition. RELINK automatically opens under loss of power, allowing HV sectionalising and HV fault location, which would not be possible if there was a 'back-feed' condition of an HV fault through the LV network.

RELINK is retrofitted directly into LV link boxes in replacement of the solid link or fuse.

RELINK







Substation

Switch Module

Control Module

REMOTE MONITORING

Both WEEZAP and RELINK communicate wirelessly through a local GATEWAY device, which provides a remote connection to the installed devices on the LV network. This enables remote monitoring of the power flows and quality on the network, as well as control of the embedded devices via the DNOs NMS system over DNP3 communications.

KEY FEATURES

Low carbon technology enabler

- Allows installation of more LCT's to the LV network, such as Electric Vehicles, Photo-Voltaic panels and Heat Pumps.

Automation of LV network

- Mesh LV networks to stabilise voltage along the length of the network, increase network capacity, and avoid traditional reinforcement costs. WEEZAP is the only LV automation recloser with true 400 A capability (500 A inline secondary protection), and the smallest at only 112 x 159 x 183 mm. It can be installed on all phases and ways in a substation (side by side and stacked) and is shallow enough to allow cabinet doors to close.

Fault management and auto-recloser

- Detects faults before they cause an outage, reducing CIs and CMLs in the event of LV transient faults through auto-reclosing operation. It locates faults using bespoke distance to fault algorithms.

SAPIENT integration

- Connects to 24/7 SAPIENT services for LV network fault management.

Monitors power quality

- Measures key voltage, current, power factor, frequency and harmonic data.

SCADA and NMS integration

- Integrates directly to the NMS for visibility and control of the LV network.

Advanced protection and fault isolation

- Detects distant faults that are fed through meshed networks, supplies cold load pickup currents, and isolates faulted sections of network to restore the maximum number of customers quickly.

Increased safety

- All devices are installed in an open circuit state and therefore they never pick up load or fault current during insertion or tightening. All switching is performed remotely, removing the operator from direct switching actions, significantly increasing safety.

DEVICE SPECIFICATIONS – WEEZAP

Rated operational voltage (Ue)	415 V_{ac}
Rated operational current (Ie)	400 A_{RMS}
Rated frequency	50 Hz
Making capacity	50 kA_{RMS}
Breaking capacity (Icr)	VCB: 6 kA_{RMS} at 415 V_{ac} Secondary protection: 80 kA @ 415 V_{ac} Combined System: 50 kA_{RMS}
Circuit breaker technology	Vacuum Circuit Breaker & Thyristor
Dimensions	112 x 159 x 183 mm (Protrusion < 150 mm from end of stalks to allow substation door to close)
Mass	5 kg
Secondary protection	Up to 500 A JS type BS88 fuse (allowing true 400 A protection curve)
Terminals	Fits JP & JS (82 & 92 mm) fuse stalks
Protection	BS 88-2 100, 160, 200, 250, 315, 355, 400 A
Test for fault on close	Tippling
Advanced protection	Long range for meshed circuits
Cold load pickup	Yes - to enable additional Low Carbon Technology
Communications	Wireless via Gateway using Zigbee Radio. Gateway: GSM 4G, TLS v1.2, DNP3 etc. Local and remote operation and configuration 'Auto-off' remote operation lockout.
Fault management	Fault waveform recorder for transient and permanent faults. Integrates with Kelvatek SAPIENT service.
Test points	Yes – Bus and Feeder test points on front
Emergency trip	Red 'Trip' button on unit initiates immediate trip
Temperature range	-20 to +50 °C with over-temperature trip
Standards	BS EN 61439-1 BS EN 61439-5 ENA TS 37-2 Issue 5 Electricity North West: LV Distribution Equipment for future networks. Issue 1 September 2012 ENW ES380 – Issue 1 BS EN 60947-1 BS EN 60947-6-2

DEVICE SPECIFICATIONS – RELINK

Rated operational voltage (Ue)	415 V_{ac}
Rated operational current (Ie)	400 A_{RMS}
Rated frequency	50 Hz
Switching technology	Vacuum Circuit Breaker
Dimensions	70 x 167 x 217.5 mm
Mass	2.4 kg
Terminals	Fits JP (82 mm) link positions
Fail-safe	Open under loss of power
Communications	GSM 4G, TLS v1.2, DNP3 etc. Local and remote operation and configuration 'Auto-off' remote operation lockout.
Fault management	Fault waveform recorder for transient and permanent faults. Integrates with Kelvatek SAPIENT service.
Test points	Yes – Bus and Feeder test points on top
Emergency trip	Red 'Trip' button on unit initiates immediate open
Temperature range	-20 to +50 °C with over-temperature open
Standards	BS EN 61439-1 BS EN 61439-5 ENA TS 37-2 Issue 5 Electricity North West : LV Distribution Equipment for future networks. Issue 1 September 2012 ENW ES380 – Issue 1 BS EN 60947-1 BS EN 60947-6-2

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