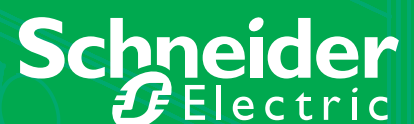
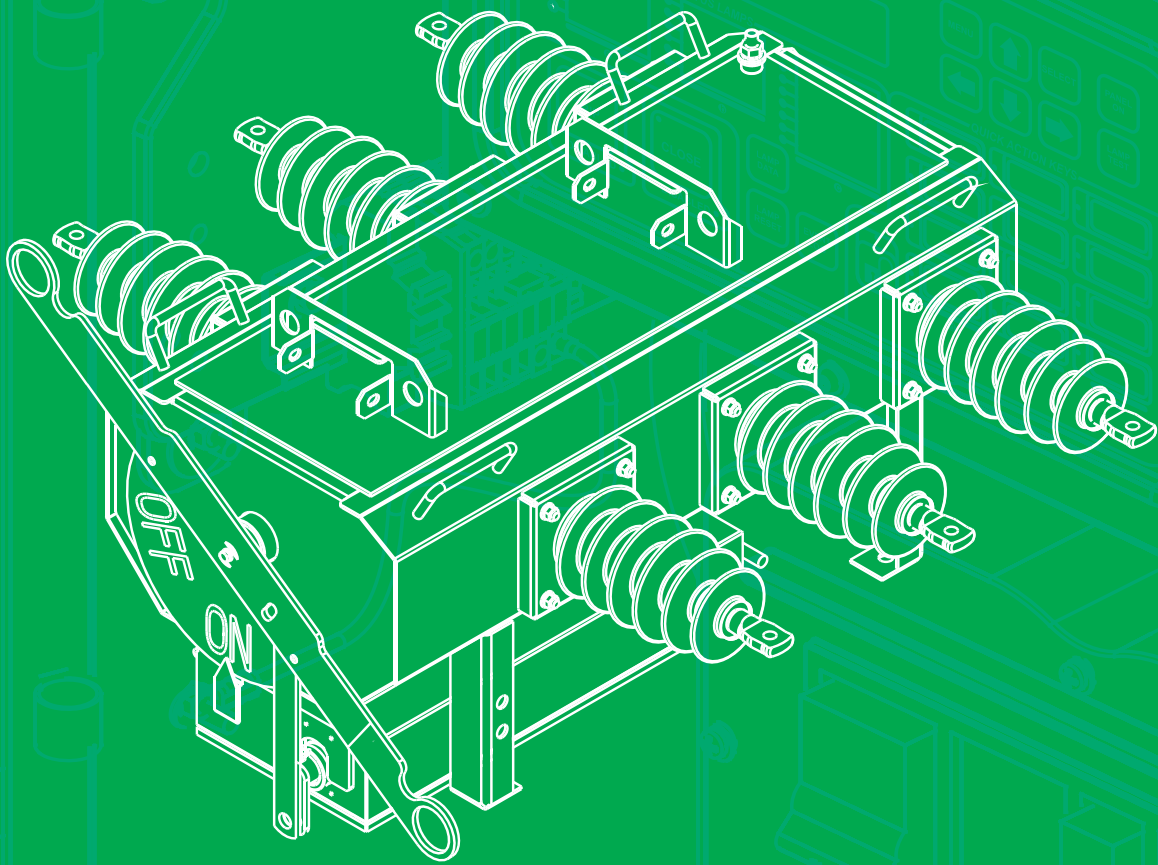


Medium Voltage Distribution

RL-Series Load Break Switch/
Sectionaliser
with ADVC Controller



Applications

SMART GRID READY

With the increasing need for advanced monitoring, reduction of outages, improved network control and automation of distribution networks, the RL-Series Load Break Switch / Sectionalizer is ready to be integrated into your Smart Grid solution.

LOOP AUTOMATION

Restoring supply to your customers in the shortest possible time is the focus of Recloser Solutions' Loop Automation Scheme.

The Loop Automation Scheme reconfigures protection settings, sectionalises faults, minimises affected areas, and restores network supply without the need for communications or operator intervention, using standard product features.

Loop Automation is a Distribution System Automation Scheme designed to restore supply to customers in the shortest possible time.

AUTOMATIC CHANGEOVER (ACO)

The Automatic Changeover (ACO) system is used in support of a critical load (such as a hospital) to ensure that supply is always available in the event of a power failure.

Intelligence embedded in the master switchgear device monitors the supply status and controls a slave device via a dedicated communications link. In the event of an outage the normally open point is closed to provide a secure source of supply to the load. A high level of flexibility ensures the system is compatible with most network configurations.

OPERATION AS A SECTIONALISER

Reclosers and sectionalisers work together to further improve feeder reliability. The RL-Series LBS/Sectionalizer, as part of a feeder automation network, detects fault passage and automatically isolates faulty sections of a network in conjunction with upstream recloser operation. To accomplish this it senses three-phase current and voltage to count the number of recloser trip operations. When the pre-programmed number of recloser operations is reached, the controller opens the sectionaliser during the recloser dead time to isolate the downstream fault. This allows the recloser to restore power up to the sectionaliser during the next reclose sequence.

Introduction & Benefits

The Schneider Electric RL-Series pole-mounted, gas insulated, load break switch is available in manual and automatic models.

The automatic model can be configured as a remotely controlled switch, or as a sectionaliser.

These automatic switches provide the features of traditional load break switches and sectionalisers, plus the benefits of an up-to-date design optimised for automation, remote control and monitoring, making them ideal for any Smart Grid Solution, now or in the future.

The development of these products was driven by customer demand for improved return on capital investment in the distribution network.

After carefully evaluating customer needs, the Schneider Electric RL-Series was developed to achieve optimum performance and reliability, making use of the latest available technology in SF₆ arc interruption and microelectronics.

FLEXIBILITY

- The RL-Series can be used as either a locally or remotely controlled manual switch, or as a fully automated sectionaliser.
- Advanced processing capabilities allow use in complex automation schemes such as Loop Automation and Automatic Changeover. (ACO)

REDUCED INSTALLATION COSTS

- Simple Commissioning: Configuration of the product is via the user friendly WSOS software tool or the operator interface (O.I.).
- All key components required for installation are included.
- Pole mounting brackets are provided in the standard package. An optional Voltage Transformer (VT) for auxiliary supply is available.

REDUCED OPERATING COSTS

- The switchgear constantly monitors line current and voltage without the need for additional measurement devices. This data can then be used for forward planning and optimisation of existing feeders.
- Long lifetime, low maintenance equipment reduces lifetime cost.

DSA/SCADA COMPATIBILITY

When used with a compatible Distribution System Automation (DSA) or SCADA system, Schneider Electric switchgear supports remote control and monitoring to provide the following advantages:

- Reduced Travel Time for Line Crews. Information on fault current and LBS status values transmitted to system control allows fast location of the faulted line section.
- This same information allows informed remote switching, reducing the affected area and quickly restoring supply.
- Switchgear can be configured and settings managed from system control, without technicians having to visit each individual switch in the field, with a consequent reduction in travelling time and improved system integrity.

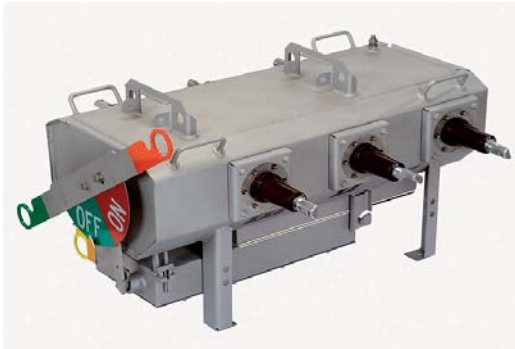
INCREASED CUSTOMER SATISFACTION

- Reduce Customer Minutes Lost. Supply can be quickly restored to fault-free areas.

DEFERRED CAPITAL WORKS

- Remotely controlled and monitored switchgear gives an improved knowledge of a system and provides better system control. Feeder and substation load can then be remotely managed, improving utilisation of existing plant. Purchase of new plant can then most likely be deferred for a considerable period of time.

Schneider Electric's RL-Series SF₆ gas switch is designed to meet the growing requirements for oil free, maintenance free, long life, maximum safety and feeder automation, with a view to Smart Grid applications.



The SF₆ gas as the insulating and arc quenching media together with puffing principle ensure the positive breaking of small current, mainly active load current, cable charging current and magnetising current. The extremely short arcing times (within half a cycle) plus tulip type contacts with arc resistant material ensure the long switching life and extended short circuit making capability.

The RL-Series can be operated either manually or by a DC motor in a motor compartment below the tank.

A manual operating arm allows hookstick operation from ground level. By pulling on the appropriate side of the arm the load break switch can be tripped or closed. The interrupters are ganged together and driven by an over-centring spring mechanism.

The mechanism is "operator independent" so that it does not matter how slowly the arm is moved by the operator. A motor mechanism is used in feeder automation schemes to facilitate remote control.

SWITCHING CONTACTS

The RL-Series switch features a common rotary shaft driving three sets of contacts which operate on the puffer principle of arc quenching. The contacts are "tulip" style with copper-tungsten alloy to ensure a long switching life.

TANK

The switching contacts are housed in a tank made of 316 stainless steel. The finish is the natural, unpainted finish, and is grit-blasted. The tank envelope is 3.0mm thick and reinforced with ribbing to give excellent impact resistance

Each tank is equipped with:

- a mechanical operations counter which is independent of the controller.
- an explosion vent on the side, which will safely release any overpressures developed by excessive internal arcing.
- a mechanical low-gas interlock, which prevents operation of the switch if the gas falls below safe pressure and which provides visible indication of low gas through a window in the tank.
- a manual lock-out ring. When pulled by the hookstick, this mechanically prevents operation of the switch, for example, if maintenance work is being done on the line downstream of the switch.

INDICATION

Two on/off indicators are provided: one on the side of the tank by the operating lever and one underneath the tank in order to be visible to the operator from below. The underside indicator is directly operated by the switching shaft.

CURRENT TRANSFORMERS

A toroidal current transformer is mounted on the inside stem of each bushing on one side of the RL switch. The analogue current signal is read by the on-board electronics and passed to the controller as a digital signal. The current transformers have a range from 10A to 16,000A for measurement and fault detection.

VOLTAGE SENSORS

Capacitive voltage dividers are mounted in each bushing, providing an analogue current signal which is proportional to the voltage between the bushing and earth potential. This analogue signal is read by the on-board electronics and passed to the ADVC controller.

ON-BOARD ELECTRONICS

Each RL-Series switch includes a built-in electronic board which reads the current and voltage signals. It also contains memory holding the switch serial number, number of operations and contact wear.

In addition, the on-board electronics contains a temperature-compensated pressure transducer which is used to display the gas pressure at the ADVC controller.

ADVC Controller Series

Advanced protection, data logging & communications capabilities are made possible by the technology housed in the ADVC Controller.

It has been designed especially for outdoor pole-mounted operation and is typically mounted low on the pole for ease of access by operation personnel.



ADVC ULTRA (with flexVUE)

With a cubicle designed to minimise temperature rise from solar heating, the 304 (COMPACT) or 316 (ULTRA) grade stainless steel enclosure is used to mount the Control And Protection Enclosure (CAPE), Power Supply Unit (PSU), customer accessories and Operator Interface.

The ADVC Controller Series incorporates the functions of a multi-function protection relay, a switchgear controller, a metering unit and a remote terminal unit.

Batteries are located underneath these modules to help avoid overheating so that a battery life of up to 5 years¹ can be achieved. A vandal resistant lockable stainless steel door, sealed with a rubber gasket, provides access to the Operator Interface. Vents are screened against vermin entry and all electronic parts are enclosed in a sealed die-cast enclosure which protects them from entry of moisture and condensation, ensuring a long lifetime.

The COMPACT Cubicle is suitable for temperatures from -10°C to 50°C, while the option of a battery heater in the ULTRA Cubicle extends its operating temperature range to -40°C to 50°C.

A built-in microprocessor controlled power supply provides uninterrupted operation of not only the circuit breaker and controller, but also the communications radio or modem. These accessories are connected to a built-in user programmable radio power supply. No other power supplies are required for connection into your SCADA or Distribution Automation System.

Due to careful design, the efficiency of all parts is extremely high, allowing a battery hold up time of up to 44 hours². The architecture used has the advantage that the switchgear operation is independent of the high voltage supply, relying on a set of capacitors charged by the auxiliary supply.

Due to sophisticated power supply management techniques, a switchgear breaker operation is always guaranteed when attempted and alarms are raised over the telemetry when auxiliary power is lost.

Communications equipment can be mounted within the ADVC Controller cubicle. A V23 FSK modem, RS232, RS485 and Ethernet TCP/IP are provided as standard to support all of your communications needs.

The ADVC Controller Series is available in two models:

- ULTRA
- COMPACT

The table below outlines some of the differences between the two models

	ULTRA	COMPACT
Enclosure	316 stainless steel	304 stainless steel
Door Locking	Three-point	Two-point
Customer accessory tray	Side Tray Upper Tray	Side Tray
Input/Output modules	8 inputs, 8 outputs Optional	N/A
Battery heater	Optional	N/A
Battery	7 Ah, or 12 Ah	7 Ah
Temperature Range	-40°C to 50°C (with battery heater option)	-10°C to 50°C
Auxiliary power supply	115/230Vac	115/230Vac
Dual AC power supply	Optional	N/A
VT supply via switchgear	Optional	Optional
DC power supply	Optional	N/A



ADVC COMPACT (with setVUE)

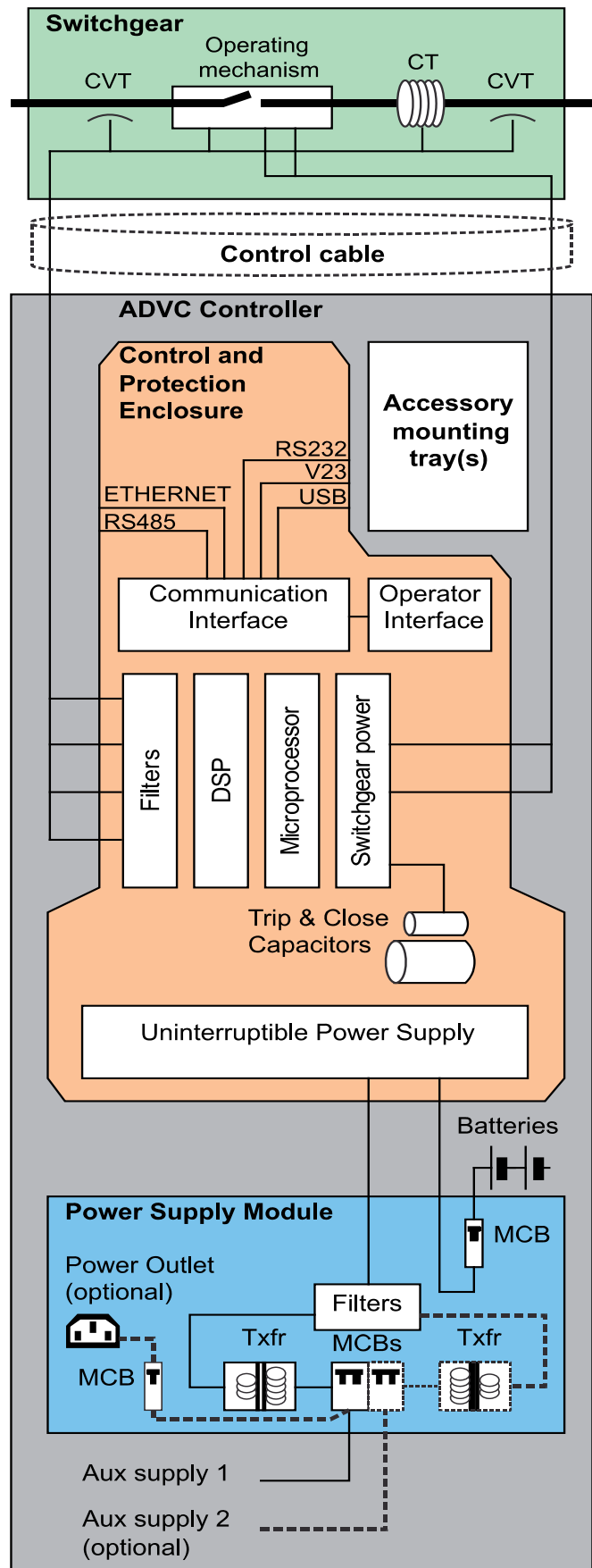
¹ Battery replacement interval is influenced by environmental temperature.

² with optional 12 Ah Battery, panel off and without communications devices operating.

Schneider Electric switchgear provides many outstanding advantages to the user.

New and innovative features have been made possible by the intimate way the pole-mounted switchgear and control cubicle work together. The block diagram on this page shows how the two items are interfaced.

Special extended range current transformers provide a range from 1A to 16,000A for measurement and protection. Embedded voltage screens accurately image the primary voltage value and phase relationship at the analogue front end, allowing measurement of voltage, current, power factor and frequency in the electronic module.



ADVC Controller block diagram

ADVC Features

Each controller is provided with an Operator Interface. From here a user can access and program the many measurement and protection features available. Two different Operator Interfaces are available, these are:

■ setVUE Operator Interface

- Based on the field-proven operator panels in the previous controllers, this menu-driven interface with large LCD display offers a familiar look and feel.



setVUE Operator Interface

■ flexVUE Operator Interface

- 20 configurable Status Lamps provide a quick snapshot of the protection and controller status.
- 12 configurable Quick Action Keys are available to execute frequently used actions such as "Remote control" ON/OFF, "Sectionalise" ON/OFF, etc. Each key has its own status lamp to indicate the ON/OFF state.
- All Status Lamps and Quick Action Keys are customisable.
- It is possible to access Event and Measurement data and change settings.



flexVUE Operator Interface

TELEMETRY INTERFACE

The Schneider Electric switchgear can be interfaced to your SCADA system either through its built-in V23 modem and a radio, or its RS232 ports and a modem of your choice: RS485 and Ethernet TCP/IP are also available. A radio or modem can be mounted inside the communications cubicle and power can be supplied by a variable voltage uninterruptible power supply. Many telemetry protocols can be supported including DNP3 and IEC 60870-5-101.

COMPUTER INTERFACE

WSOS is an advanced personal computer based software package to allow off-line and on-line programming, monitoring and control of a switch via a USB port, RS232 port or Ethernet.

REMOTE CONTROL

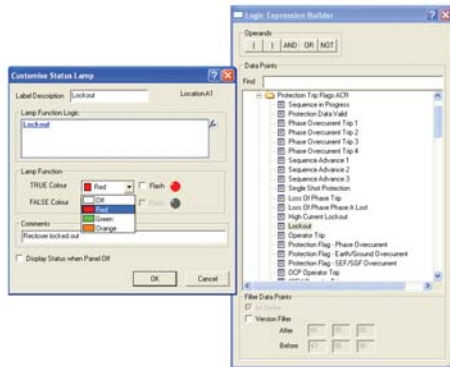
The ADVC Controller offers an impressive list of communication ports for use in remote control applications:

- 4 x RS232;
- 1 x Ethernet;
- 1 x RS485
- 1 x V23

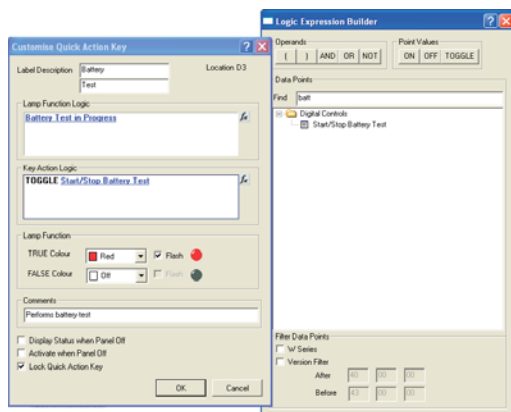
RL-Series Load Break Switch / Sectionaliser

flexVUE Operator Interface

Customising the operator interface to suit your unique applications has never been easier.



Example of building the logic function for a Status Lamp



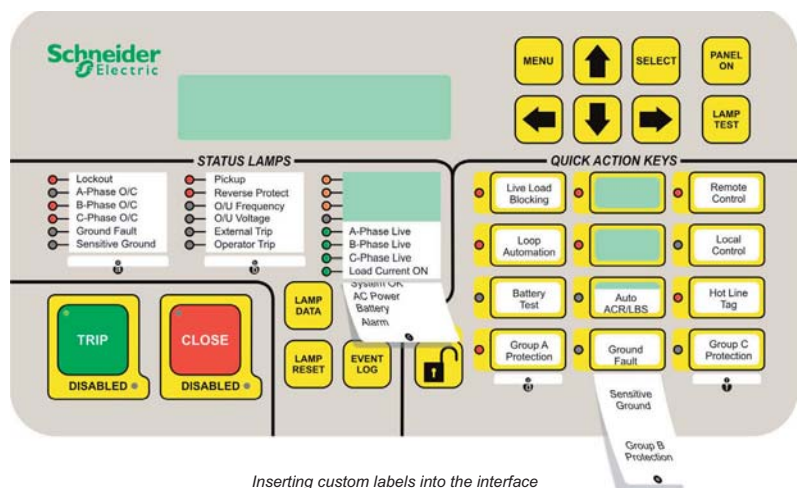
Example of setting the action keys

The **flexVUE** Operator Interface uses Light Emitting Diodes (LED) and a LCD display to communicate the system status to a local operator. Operator actions that are performed on a regular basis can be mapped to 12 dedicated buttons on the interface.

Each of these buttons also have a lamp to indicate the ON/OFF state of each action. Together with the 20 status lamps the panel provides no less than 32 three-colour LEDs that display the state of the controller and overhead system. On the interface, the action buttons are grouped together and referred to as Quick Action Keys. The status LEDs are also grouped together and referred to as Status Lamps.

Every controller is programmed with a standard configuration of Status Lamps and Quick Action Keys - text labels are used to mark the function of each. These labels are inserted into special pockets within the **flexVUE** Interface and can be changed in the field if required.

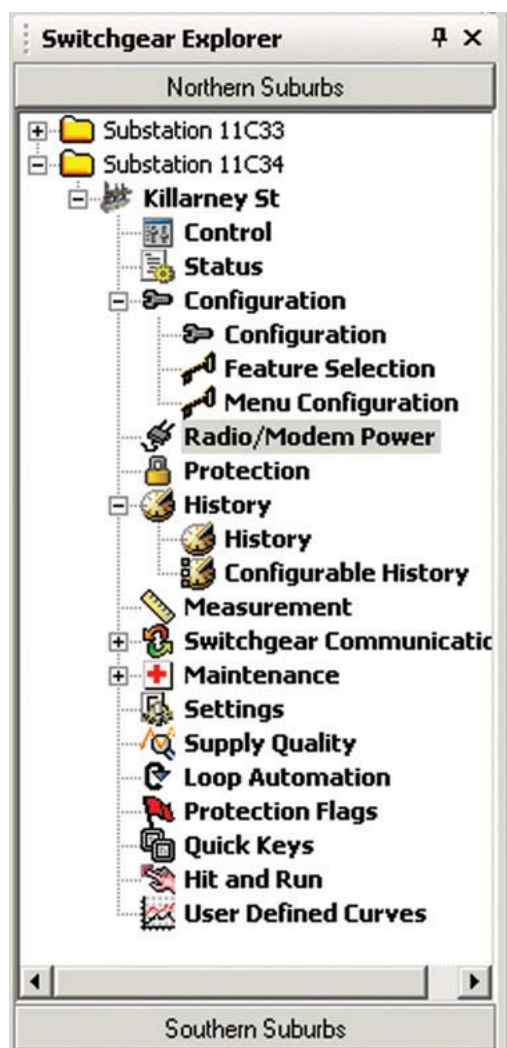
A graphic user interface tool is provided as part of the WSOS 5 software package that will allow full customisation of the **flexVUE** Operator Interface, if required. With the the tool you can create your own logic functions driving the Status Lamps, as well as change the actions linked to each Quick Action Key. New labels can be printed from the WSOS template using standard office stationery, cut to size and inserted into the controller.



Inserting custom labels into the interface

WSOS is the Schneider Electric Switchgear Operating System software. It provides easy access to all switchgear functions from opening/closing, through configuring detection and communication parameters to accessing measurement and analytical data.

By using a PC, engineers can manage a large number of switches either remotely via a communications link or, locally via a USB, serial port or Ethernet connection.



Switchgear Explorer window

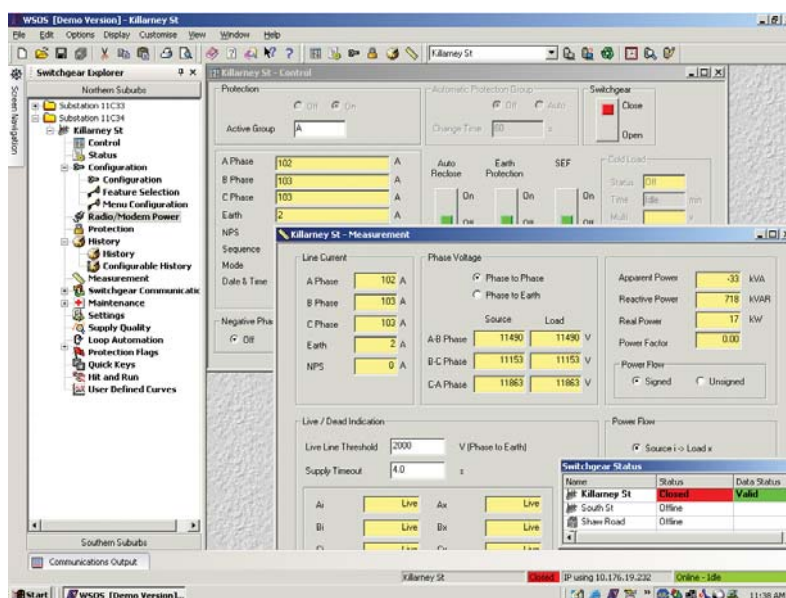
WSOS Version 5 integrates Schneider Electric field proven Windows-based switchgear operating system and its powerful features and tools, developed over many years, into a modern desktop. The desktop includes the Switchgear Explorer to organise your switchgear the way you like it and the Launch Pad for handy links to online help, getting started, updates and much, much more. Controlling, configuring and accessing valuable switchgear data from a local or remote location is now even easier than before.

LOCAL AND REMOTE CONTROL

- Switchgear operation.
- Detection group selection.
- Detection group copy.
- NPS on/off/alarm control.
- Auto Sectionalise, earth detection and SEF on/off control.
- Work tag, low gas and dead lockout on/off control.
- Configurable Input/Output Expander (IOEX).
- Configurable quick keys (setVUE).
- Configurable delay for local Open and Close operations (Hit and Run).
- Configurable SCADA protocols:
 - DNP3 is enabled as standard.

COMMUNICATION OPTIONS

- Local USB port (for connection to WSOS only)
- Local RS232 port connection.
- Radio modem.
- GSM / PSTN modem.
- DNP3 virtual terminal object.
- TCP/IP.
- Communications output capture.



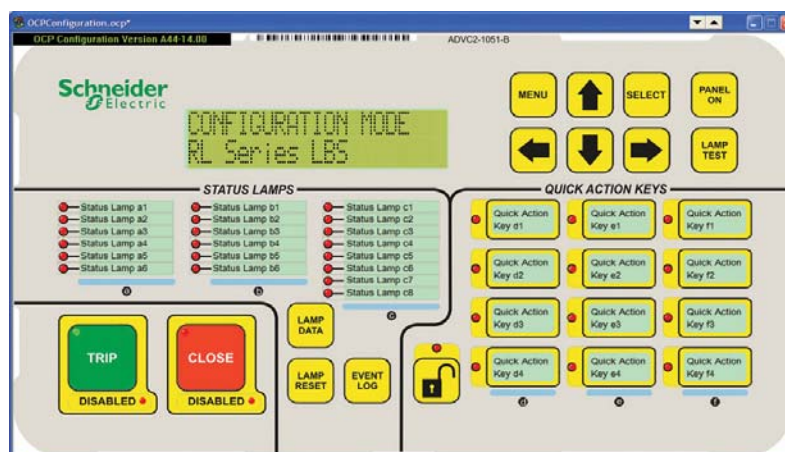
Example of the WSOS5 desktop

MEASUREMENT SCREENS

- Three-phase, earth and sequence current.
- Phase voltages:
 - Phase to phase,
 - Phase to earth, and
 - Sequence voltages.
- Phase live/dead indication.
- Apparent, reactive & real power:
 - Total, and
 - Per phase.
- Power factor.
- Signed or unsigned power.
- Frequency.
- Power quality toolkit.
 - Waveform capture.
 - Harmonics.

INTERFACE CONFIGURATION

- Status lamps:
 - ☐ Logic function to indicate; and
 - ☐ Separate true/false state colour configuration.
- Quick Action Keys:
 - ☐ Customise actions assigned to each key;
 - ☐ Custom logic functions for lamp indication; and
 - ☐ Separate true/false colour configuration.
- Print labels to insert into operator interface.



Example of Panel Configuration Tool

Advanced Detection/ Sectionalising Features

Fault Detection

PHASE FAULT DETECTION

Phase fault detection monitors all three phases and makes event log entries on through-fault detection.

■ Phase Faults Setting Range:	10 - 1260 A
■ Setting resolution:	1A
■ Detection Time range:	0.01 - 100 sec
■ Time resolution:	0.01 sec

EARTH FAULT DETECTION

Earth fault detection monitors earth faults and makes event log entries on through-fault detection.

■ Earth Faults Setting Range:	10 - 1260 A
■ Setting resolution:	1A
■ Detection Time range:	0.05 - 100 sec
■ Time resolution:	0.01 sec

SENSITIVE EARTH FAULT (SEF)

SEF causes a fault to flag when the earth current rises above a set level for longer than the set time.

■ SEF current range:	4 - 20A
■ SEF operating time range:	0.1 - 999 sec
■ SEF current setting resolution:	1 A
■ SEF operating time resolution:	0.1 sec

DEFINITE TIME PROTECTION

Definite Time works by flagging a fault at a fixed time after pick-up.

■ Setting current range:	10 - 1260A
■ Definite time resolution:	0.01 sec
■ Definite time range:	0.01 - 100 sec
■ Setting current resolution:	1A

INRUSH RESTRAINT

Inrush restraint raises the phase and earth threshold currents for a short period of time to allow for short duration inrush currents when closing onto a load.

■ Multiplier range:	1 - 30
■ Multiplier resolution:	0.1
■ Time range:	0.05 - 30 sec
■ Time resolution:	0.05 sec

SEQUENCE COMPONENTS

Negative, positive and zero phase sequence currents and voltages can be monitored and logged.

In addition, the negative phase sequence current detection can be used for detection of low-level phase-to-phase faults in the presence of high level three-phase loads.

■ Setting Current Range:	10 - 1260 A
--------------------------	-------------

LIVE LOAD BLOCKING

Live Load Blocking detection operates independently of the detection elements. It prevents the RL switch from closing when voltage is detected on the load side bushings.

- Live Load Threshold Voltage range: 2 - 15kV

COLD LOAD PICK-UP

Cold load pick-up allows for a loss of diversity when a load has been without supply for a period of time.

- Multiplier range: 1 - 5
- Multiplier resolution: 0.1
- Time Constant range: 1 - 480 min.
- Time constant resolution: 1 min.

MULTIPLE DETECTION GROUPS

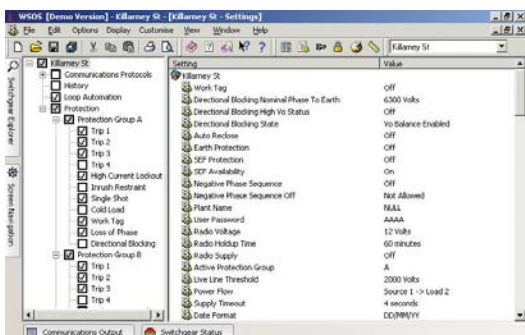
The ADVC supports up to 10 detection groups (protection groups with an ACR). Each group can be configured with completely separate detection characteristics with different trip counts and setting currents. The number of detection groups available to the operator can be configured using WSOS, thereby restricting or enabling access to detection settings as required.

- Range of Detection Groups: A - J

AUTOMATIC DETECTION GROUP SELECTION

Automatic Detection Group Selection is used to change the detection group depending on the direction of power flow. This allows the LBS / Sectionaliser to be correctly graded with devices downstream regardless of the power flow direction.

- Range of Detection Group Pairs: A&B; C&D; E&F; G&H; I&J



WSOS offers a quick, easy way to configure the detection groups.
(Protection Groups on ACRs)

Sectionalising

SUPPLY INTERRUPTION

- Supply Interruption Count Range: 1 - 4

SEQUENCE RESET TIME

- Sequence Reset Time: 1 - 180 sec
- Timing resolution: 1 sec

Measurement Features

The RL-Series uses the CTs, voltage sensors and advanced control electronics to provide the following measurement features:

VOLTAGE

True RMS voltage is measured on all six terminals. A user-configured threshold indicates a live terminal (accuracy $\pm 2.5\%$).

CURRENT

RMS current is measured on three phases (accuracy $\pm 2.5\%$, reading 2.5-630A).

REAL POWER (SIGNED OR UNSIGNED)

Real power is determined by multiplying the line voltage and line current in real time and averaging over 2 seconds (accuracy $\pm 5\%$ of reading, within limits of V and I above).

POWER FACTOR

The power factor of the line is determined from the line voltage and the line current phase relationship and the previously calculated real power (accuracy $\pm 5\%$ of reading, within limits of V and I above).

DEFAULT HISTORICAL MEASUREMENTS

Power flow is integrated over 5, 15, 30, or 60 minute intervals (kWh) and recorded for two months at the default setting. This can be viewed on the operator control panel, computer, or compatible SCADA system. Additionally, data can be uploaded into a portable computer or a compatible SCADA system.

CONFIGURABLE HISTORICAL MEASUREMENTS

Average demand profiles may be configured using WSOS. Customised configuration enables the user to specify only the parameters that are required, negating unnecessary information capture. Parameters such as line voltages and currents, power, kWh, battery voltage and cubicle temperature can be recorded in intervals selectable between 1 and 1,440 min.

EVENT HISTORY

- Maximum number of typical events stored in the event history: 30,000 events

GAS PRESSURE MEASUREMENT

- Gas Pressure Display Resolution: 5kPa
- Gas Pressure Display Accuracy: $\pm 10\text{kPa}$
- Gas Low Alarm Setting: 65kPa Gauge @ 20°C
- Gas Low Alarm/Interlock Accuracy: $\pm 10\text{kPa}$

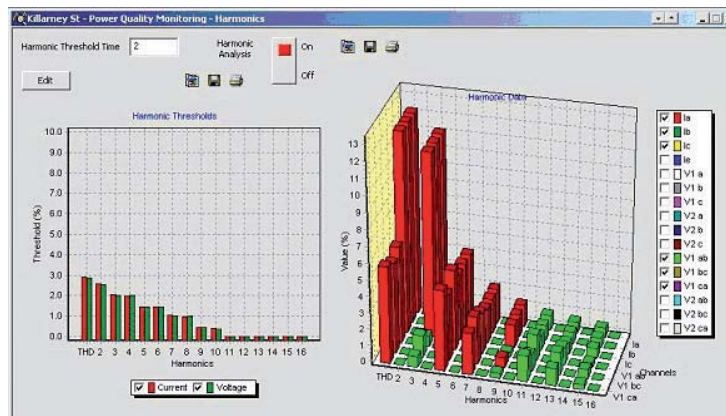
POWER QUALITY TOOLKIT

■ Supply outage measurement:

- ☐ The Supply Outage Measurement feature utilises built-in switch features to record the number and duration of outages. These statistics are recorded in the controller and are available to the Utility to help calculate system outage customer minutes.
- ☐ The controller records:
 - cumulative total number of outages,
 - cumulative total outage duration, and
 - the time and duration of each outage event in the Event Log.
- ☐ These records are accessible to the user and can be retrieved using the operator control panel, WSOS or a SCADA System.

■ Harmonic analysis:

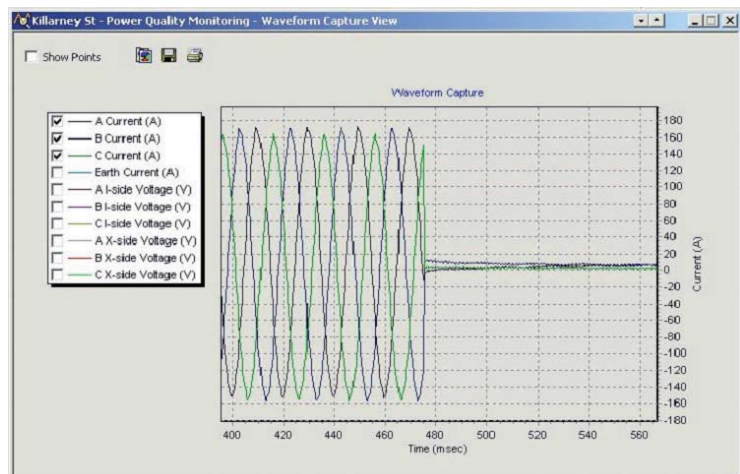
- ☐ Harmonics 2 to 16 and the Total Harmonic Distortion (THD) are calculated over an 80 ms period for four currents, six line-line voltages and six line-earth voltages. These harmonics are available via WSOS.



Harmonic analysis

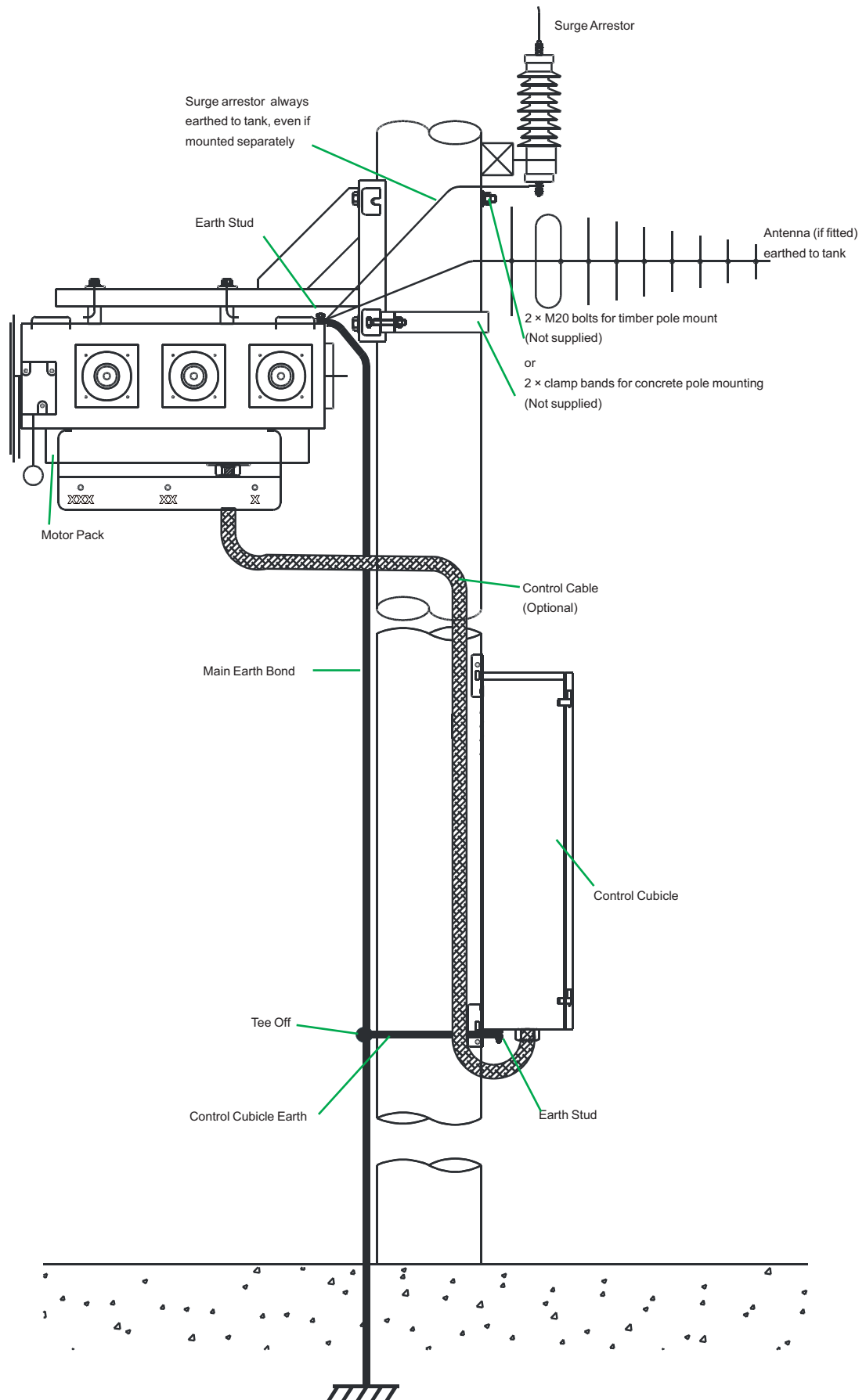
■ Waveform capture:

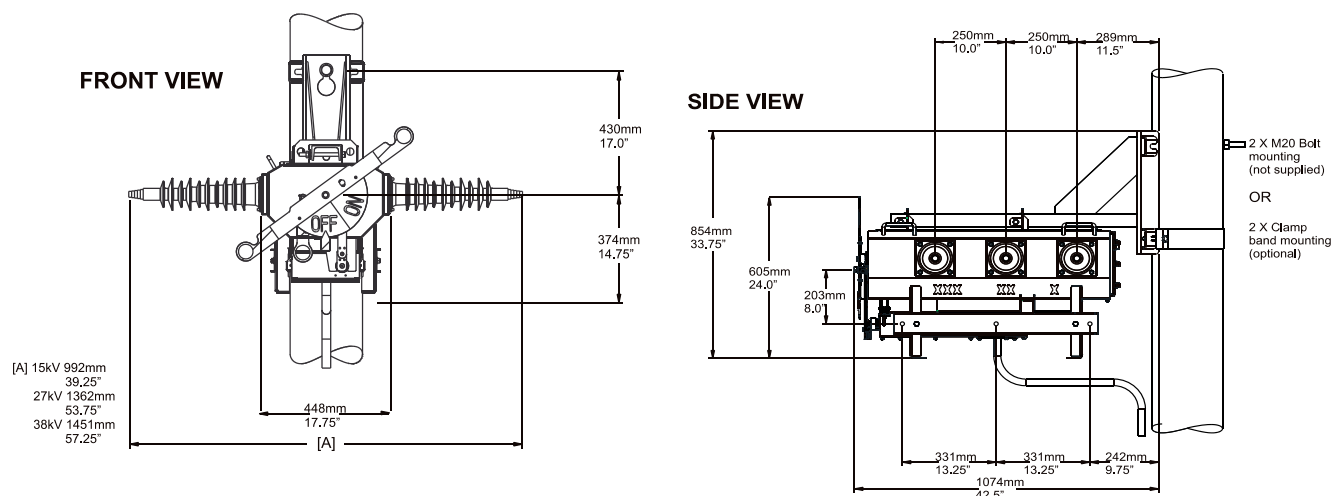
- ☐ Based on a user-defined trigger, the ADVC captures and stores, in non-volatile memory, scaled raw data (10 x 3200 samples per second) of the six line-earth voltages and four currents for a predefined time window either side of a user-defined trigger.
- ☐ The user can configure a pre and post trigger time ratio for data to be stored. This defaults to 50% pre-trigger and 50% post-trigger.
- ☐ The captured data can be uploaded at anytime in COMTRADE (IEEE Std C37.111-1999) format via WSOS.



Waveform capture

RL-Series Pole Mounting Details

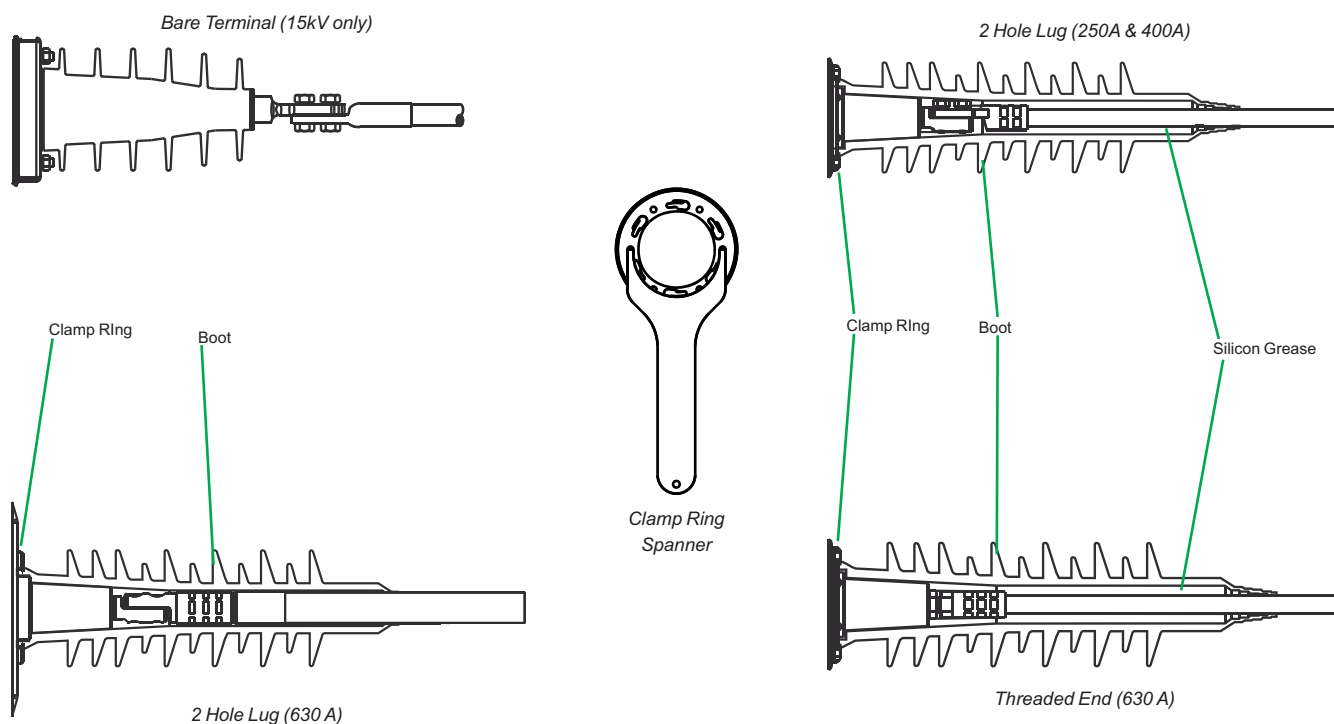




Notes

- (1) Details given in this illustration are subject to change without notice. For full details see the Installation Manual.
- (2) Switch can be mounted closer to pole if lightning arresters are pole-mounted.

TERMINAL / BUSHING OPTIONS



RL-Series LBS / Sectionaliser Specifications

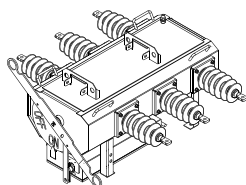
	RL-SERIES		
	15kV 12.5 / 16kA	27kV 12.5 / 16kA	38kV 12.5 / 16kA
RATINGS			
Rated Maximum Voltage	15.5kV	27kV	38kV
Rated Continuous Current	630A	630A	630A
Fault Make Capacity (RMS)	12.5 / 16kA	12.5 / 16kA	12.5 / 16kA
Fault Make Capacity (Peak)	31.5 / 40kA	31.5 / 40kA	31.5 / 40kA
Power Operating Time (Close/Open)	< 2s	< 2s	< 2s
Mechanical Operations	10,000	10,000	10,000
Rated full load operations	600	600	400
Short time current	12.5 / 16kA	12.5 / 16kA	12.5 / 16kA
BREAKING CAPACITY			
Mainly Active (0.7pf)	630A	630A	630A
Cable charging	25A	25A	25A
Transformer magnetising	22A	22A	22A
LIGHTNING IMPULSE WITHSTAND LEVEL			
Phase to Phase	125kV	150kV	170kV
Phase to Earth	125kV	150kV	170kV
Across Interrupter	145kV	170kV	200kV
On Loss of SF ₆	50kV	70kV	70kV
POWER FREQUENCY WITHSTAND VOLTAGE			
Phase to Earth	40kV	60kV	70kV
Across Interrupter	50kV	60kV	80kV
SERVICE CONDITIONS			
Ambient Temperature ^a (°C)	-30 to 50	-30 to 50	-30 to 50
Ambient Temperature ^a (°F)	-22 to 122	-22 to 122	-22 to 122
Solar Radiation (Max)	1.1kW/m ²	1.1kW/m ²	1.1kW/m ²
Humidity	0 to 100%	0 to 100%	0 to 100%
Altitude meters (Max) ^b	3000	3000	3000
Altitude feet (Max) ^b	9840	9840	9840
NET WEIGHTS			
Circuit breaker with pole mount bracket (kg/lbs)	128 / 282	128 / 282	128 / 282
Control cubicle with control cable (kg / lbs)	41 / 90	41 / 90	41 / 90
Gross weight of crate (kg / lbs)	285 / 628	285 / 628	285 / 628
External VT (kg / lbs) (N series Only)	60 / 132	60 / 132	60 / 132
CRATE DIMENSIONS			
Width (mm / in)	1200 / 47.2	1200 / 47.2	1200 / 47.2
Depth (mm / in)	1150 / 45.3	1150 / 45.3	1150 / 45.3
Height (mm / in)	755 / 29.7	755 / 29.7	755 / 29.7

a. Option when cubicle battery heater is fitted (-10°C to 50°C [-14°F to 122°F] without heater)

b. For altitudes above 1000m (3280 feet), derate in accordance with ANSI C37.60 for reclosers (ANSI C37.63 for LBS)

RL-Series Load Break Switch / Sectionalizer

Required details for order RL- Series LBS / Sectionalizer



Only one of the boxes (ticked ☐ or filled ☒ with the required value) have to be considered between each horizontal line. Red Circle ☒ lead-time should be requested from your distributor.

* For details about the manual RL-Series Switch contact your local distributor.

Certain configurations may attract additional cost. To clarify these details, please consult your local distributor.

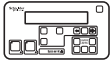
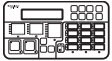
Switch Unit				Quantity
Rating (System Voltage / Interrupt / BIL)	15.5 kV / 12.5 kA / 125 kV ☐	27 kV / 12.5 kA / 150 kV ☐	38 kV / 12.5 kA / 170 kV ☐	
	15.5 kV / 16 kA / 125 kV ☐	27 kV / 16 kA / 150 kV ☐	38 kV / 16 kA / 170 kV ☐	
Rated Current (A)				630 A ☐
Frequency	50 Hz ☐			60 Hz ☐
Rating Plate Language	English ☐	Spanish ☒	Portuguese ☒	
Switch State Indication	ON / OFF ☐			I / O ☐
Accessories				
Mounting Arrangement	None ☐	Pole Mount:	Standard ☐	
Surge Arrester Brackets	Not Applicable ☐			Standard Inclusion ☐
Concrete Pole Clamps	Not Applicable ☐	230 - 270 mm ☐	270 - 310 mm ☐	310 - 360 mm ☐
Control Cable Length	4 Metres ☐	7 Metres (Default) ☐	(Max) 11 Metres ☐	Other ☒
Options				
Terminal Cable length (Set of 6)	Not Applicable ☐	3 Metres ☐	4 Metres ☐	5 Metres ☐
			6 Metres ☐	Other ☒
Terminal Cable Rating	Not Applicable ☐	250A (Aluminium) ☐	400A (Aluminium) ☐	630A (Aluminium) ☐
Medium Voltage Terminals Options (Set of 6)	Bare Terminal (15 kV Only) ☐	Bushing Boots	770 mm (15-27 kV) ☐	1100 mm (38 kV) ☐
	HV Cable Current rating	250 A ☐	400 A ☐	630 A ☐
Surge Arresters	Not Applicable ☐			Surge Arresters ☒
VT Mounting	Not Applicable ☐			Pole Mounted ☐
Dressing (Australia Only)	Not Applicable ☐			Dressed ☒

Special notes

Required details for order

ADVC Controller

Only one of the boxes (ticked ☐ or filled ☒ with the required value) have to be considered between each horizontal line.
Red Circle ☒ lead-time should be requested from your distributor.

ADVC Controller		Quantity	
Model <i>(Features Highlighted are only available on ULTRA)</i>	COMPACT ☐	ULTRA ☐	
Operator Interface (O.I.)		setVUE  ☐	flexVUE  ☐
Ambient Temperature (°C)		Standard	-10°C to 50°C ☐
		Extended <i>With Battery Heater</i>	-40°C to 50°C ☐
Auxilliary Supply Type		Single AC Supply:	
		115 Vac ☐	230 Vac ☐
		add 27.8 Vac Integrated Supply to above ☐	
		Dual AC ☐	DC Supply ☒
Maximum Battery Hold Up Time		26 Hours ☐	44 Hours ☐
Language	English ☐	US English ☐	Spanish ☒
			Portugese ☒
Standard Protocol		MODBUS ☐	IEC ☐
			DNP3 ☐
Options			
FTIM <i>(Ultra FTIM cable only)</i>		Not Applicable ☐	Yes ☒
IOEX		Not Applicable ☐	Yes ☒
General Purpose IEC Socket		Not Applicable ☐	Yes ☐
GPO 10A max.			
<i>Only with IEC Socket</i>			
None ☐	AUS  ☐	EU-A  ☒	EU-B  ☒
Other ☐	UK  ☒	USA  ☒	Sth Africa  ☒

Special notes *(For other available Accessories, contact local suppliers)*

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As standards, specifications and designs change from periodically, please ask for confirmation of the information given in this publication.