Automatic Circuit Reclosers/ Sectionalisers

Switchgear Solutions

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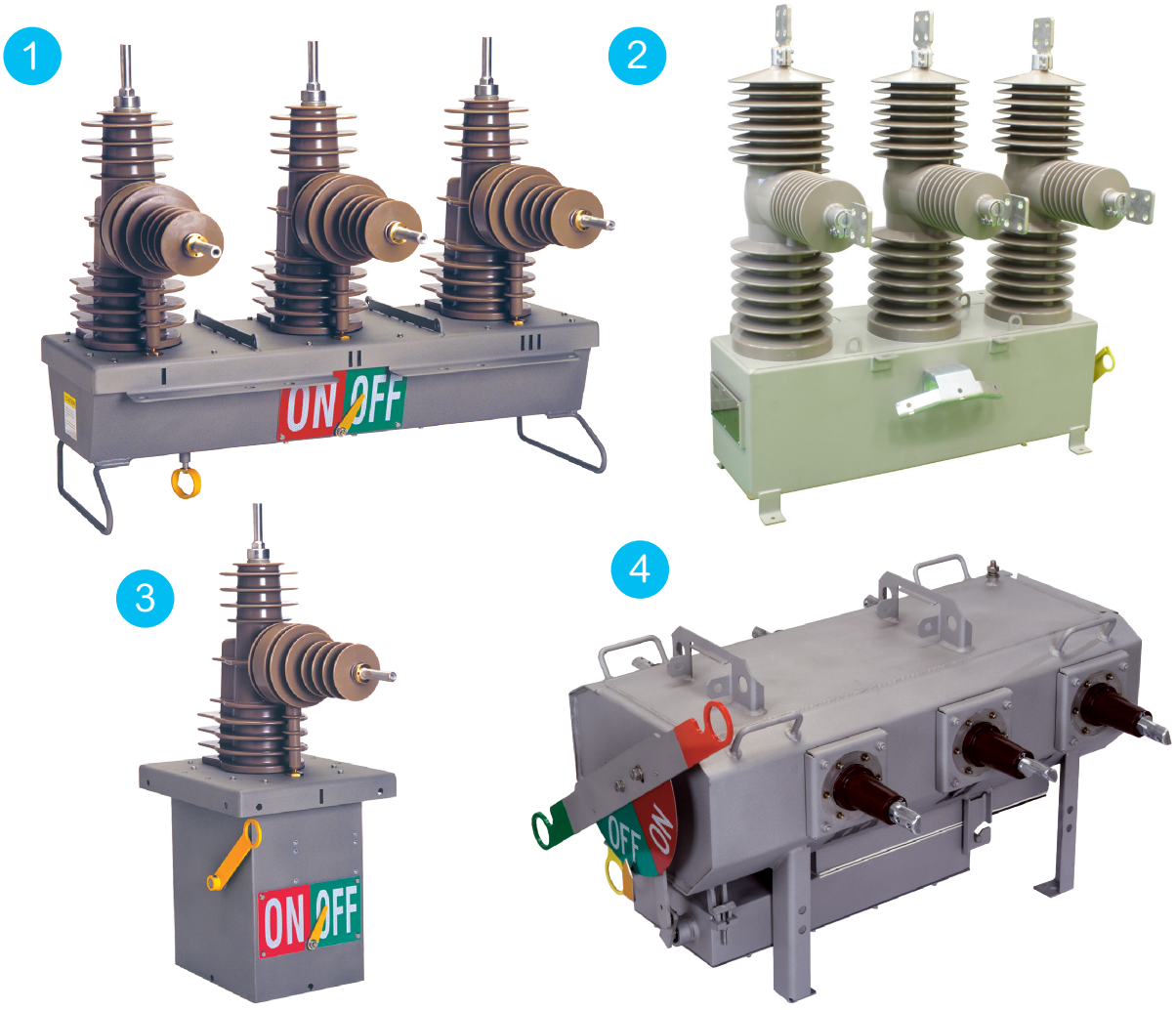


Increased revenue with reduced costs

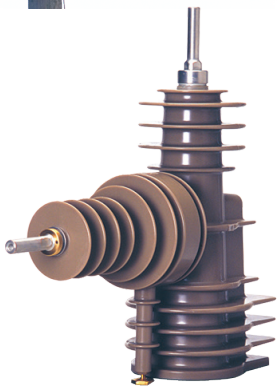
A comprehensive range of Medium Voltage Overhead Switchgear gives you overall control of your electricity distribution network with minimal maintenance.

Make the Switch!

What's in a Range?

- Substation Solutions
- Feeder Solutions
- SWER Applications
- Load Break Switches/ Sectionalisers
- Single and 3-Phase
- Loop Automation

1 Light-weight Solutions with U-Series recloser upto 27 kV and 125 kV BIL



Reduced purchasing, installation and operating costs, with intelligent solid-dielectric switchgear.

Offering solid-dielectric insulation in a cost effective solution, **U-Series Automatic Circuit Reclosers** provides the updated technology in vacuum interrupters, encased in an hydrophobic epoxy resin moulding.

The switching mechanism and switchgear microelectronics are enclosed in a 316 stainless steel tank.

Current and voltage transformers molded into the **I**-side terminal allow easy monitoring for your overhead voltage network, and with optional voltage measurement on the **X**-side terminal, you have automation capabilities for your electricity distribution network or substation.

A mechanical lockout and visible On/Off indicator provides instant visual indication of the switchgear state.

This solution offers protection technology and low maintenance Automatic Circuit Recloser.

Available in 15 kV and 27 kV models, the U-Series has a rated continuous current of 630 A.

2 Light-weight Solutions with E-Series reclosers upto 38 kV and 170 kV BIL

Reduced purchasing, installation and operating costs, with intelligent solid-dielectric switchgear.

Offering solid-dielectric insulation in a cost effective solution, **E-Series Automatic Circuit Reclosers** provides the updated technology in vacuum interrupters, encased in an hydrophobic epoxy resin moulding.

The switching mechanism and switchgear microelectronics are enclosed in a stainless steel tank.

Current transformers molded into the I-side terminal allow easy monitoring for your overhead voltage network, and voltage transformers molded into the I-side terminal and X-side terminal for voltage measurement. You have automation capabilities for your electricity distribution network or substation.

A mechanical lockout and visible On/Off indicator provides instant visual indication of the switchgear state.

This solution offers protection technology and low maintenance Automatic Circuit Recloser.

Available in 15kV, 27kv and 38kV models, the E-series has a rated continuous current of 630A/800A* for 15/27kV and 800A/1250A* for 38kV with 150kv BIL for 15/27kV and 170kV BIL for 38kV.

* To be consult with Schneider Electric

3 Single Phase Solutions with W-Series reclosers upto 24 kV

Automated protection for single phase or SWER (Single Wire Earth Return) applications.

Using the updated technology in solid-dielectric insulation and vacuum arc interruption, the **W-Series Single Phase ACR** provides automation and remote control on one phase.

Housed in a 316 stainless steel tank, and including features such as manual trip, visible external On/Off indicators, the W-Series is suitable for any single phase requirement.

Available as a 24 kV model with a rated continuous current of 400 A.

4 Manual or Automated LBS with RL-Series load break switches upto 38 kV

Easy installation with the choice of manual switching or overall automation.

RL-Series Load Break Switches/Sectionalisers provide a simple low cost solution for your electricity distribution network.

Contained in a hard wearing, SF_6 gas-filled, 316 stainless steel enclosure is the updated arc quenching technology, short arcing times (within half a cycle), plus tulip-type contacts with arc-resistant (Cu-W) material providing a long switching life and extended short circuit making capability.

This innovative design provides a quick manual tripping using the hookstick and the closed switch arm, irrespective of fast or slow movement of the switch arm.

The RL-Series LBS is available in bare terminal or fully insulated bushing arrangement, and 15 kV, 27 kV or 38 kV models (rated continuous current - 630 A).

Features

Increased revenue with lower operating costs makes this intelligent switchgear the appropriate choice.

From manual sectionalising and single phase protection, up to large scale DSA/SCADA controlled electricity distribution networks and substations, you have the solution for your every overhead medium-voltage need.

1 U-Series ACR

- 15 kV and 27 kV options
- 316 grade stainless steel tank
- Updated technology in solid dielectric and vacuum arc interruption
- I-terminal current and voltage measurement
- Optional X-terminal voltage measurement
- Mechanical lockout
- 630 A continuous rated current

2 E-Series ACR

- 15 kV, 27 kV and 38kV options
- Stainless steel tank
- Updated technology in solid dielectric and vacuum arc interruption
- I-terminal and X-terminal voltage measurement
- I-terminal current measurement
- Mechanical lockout
- 630A/800A* for 15kV/27kV and 800A/1250A* for 38kV continuous rated current
  (* To be consult with Schneider Electric)

3 W-Series ACR

- 24 kV phase to ground
- 316 grade stainless steel tank
- Updated technology in solid dielectric and vacuum arc interruption
- Single phase applications
- SWER (Single Wire Earth Return) applications
- 400 A continuous rated current

4 RL-Series Sectionaliser

- 15 kV, 27 kV and 38 kV options
- 316 grade stainless steel tank
- Bare terminal or insulated bushing arrangement
- Updated technology in SF_6 arc interruption
- Choice of manual or automated operation
- 630 A continuous rated current

Advanced Monitoring and Control

The U-Series, E-Series and W-Series automatic circuit reclosers and RL-Series sectionalisers are all compatible with the updated ADVC Controller Range and WSOS 5 software.
Combining switchgear reliability and flexibility with powerful monitoring and analysis tools means you have your medium voltage electricity distribution challenges under control.

Switchgear Comparison Table

	U-SERIES		E-SERIES		RL-SERIES			W-SERIES
	15 kV 12.5 kA	27 kV 12.5 kA	15 kV/27 kV 12.5 kA	38 kV 16 kA	15 kV 12.5/16 kA	27 kV 12.5/16 kA	38 kV 12.5/16 kA	24 kV 6 kA
RATINGS								
Rated Maximum Voltage	15.5 kV	27 kV	15/27 kV	38 kV	15.5 kV	27 kV	38 kV	24 kV
Rated Nominal Voltage (phase to ground)								21 kV
Rated Continuous Current	630 A	630 A	630 A	800 A	630 A	630 A	630 A	400 A
Fault Make Capacity (RMS)	12.5 kA	12.5 kA	12.5 kA	16 kA	12.5/16 kA	12.5/16 kA	12.5/16 kA	6 kA
Fault Make Capacity (Peak)	31.5 kA	31.5 kA	32.5 kA	41.6 kA	31.5/40 kA	31.5/40 kA	31.5/40 kA	15 kA
Power Operating Time (Close/Open)	0.1/0.05 s	0.1/0.05 s	0.1/0.05 s	0.1/0.05 s	< 2 s	< 2 s	< 2 s	0.1/0.05 s
Mechanical Operations	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Rated full load operations	10,000	10,000	10,000	10,000	600	600	400	10,000
Short time current	12.5 kA	12.5 kA	12.5 kA	16 kA	12.5/16 kA	12.5/16 kA	12.5/16 kA	6 kA
BREAKING CAPACITY								
Mainly Active (0.7pf)	630 A	630 A	630 A	800 A	630 A	630 A	630 A	400 A
Fault break capacity	12.5 kA	12.5 kA	12.5 kA	16 kA				6 kA
Cable charging	25 A	25 A	25 A	40 A	25 A	25 A	25 A	25 A
Line charging	5 A	5 A	5 A	5 A	10 A	10 A	10 A	5 A
Capacitor bank								
LIGHTNING IMPULSE WITHSTAND LEVEL								
Phase to Phase					125 kV	150 kV	170 kV	
Phase to Earth	110 kV	125 kV	150 kV	170 kV	125 kV	150 kV	170 kV	125 kV
Across Interrupter	110 kV	125 kV	150 kV	170 kV	145 kV	170 kV	200 kV	125 kV
POWER FREQUENCY WITHSTAND VOLTAGE								
Phase to Earth	50 kV	60 kV	60 kV	70 kV	40 kV	60 kV	70 kV	60 kV
Across Interrupter	50 kV	60 kV	60 kV	70 kV	50 kV	60 kV	80 kV	60 kV
SERVICE CONDITIONS								
Ambient Temperature[a] (ºC)	-40 to 50	-40 to 50	-40 to 50	-40 to 50	-30 to 50	-30 to 50	-30 to 50	-30 to 50
Ambient Temperature[a] (ºF)	-40 to 122	-40 to 122	-40 to 122	-40 to 122	-22 to 122	-22 to 122	-22 to 122	-22 to 122
Radiation (Max)	1.1 kW/m^2	1.1 kW/m^2	1.1 kW/m^2	1.1 kW/m^2	1.1 kW/m^2	1.1 kW/m^2	1.1 kW/m^2	1.1 kW/m^2
Humidity	0 to 100%	0 to 100%	0 to 100%	0 to 100%	0 to 100%	0 to 100%	0 to 100%	0 to 100%
Altitude meters (Max)[b]	3000	3000	3000	3000	3000	3000	3000	3000
Altitude feet (Max)[b]	9840	9840	9840	9840	9840	9840	9840	9840
NET WEIGHTS								
Circuit breaker with pole mount bracket (kg/lbs)	146/322	146/322	170/375	205/452	128/282	128/282	128/282	75/165
Control cubicle with control cable (kg/lbs)	41/90	41/90	41/90	41/90	41/90	41/90	41/90	41/90
Gross weight of crate (kg/lbs)	263/580	263/580	275/606	350/771	285/628	285/628	285/628	196/432
External VT (kg/lbs) (N series Only)	60/132	60/132	60/132	60/132	60/132	60/132	60/132	60/132
CRATE DIMENSIONS								
Width (mm/in)	960/37.8	960/37.8	1140/44.8	1140/44.8	1200/47.2	1200/47.2	1200/47.2	1150/45.3
Depth (mm/in)	1020/40.2	1020/40.2	1080/42.5	1080/42.5	1150/45.3	1150/45.3	1150/45.3	1150/45.3
Height (mm/in)	1160/45.7	1160/45.7	1140/44.8	1220/48	755/29.7	755/29.7	755/29.7	570/22.4
IEC and IEEE STANDARDS								
Applicable Standards	IEC62271-111 and IEEE C37.60				IEC62271-103			IEC62271-111 and IEEE C37.60

a. Option when cubicle battery heater is fitted (-10ºC to 50ºC {-14ºF to 122ºF} without heater)
b. For altitudes above 1000 m (3280 feet), derate in accordance with IEEE C37.60 for reclosers (IEEE C37.63 for LBS)

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