



Panorama for panel builders - 2019

Components for Medium Voltage switchgear

The widest range of components
to meet all your requirements

schneider-electric.ca/panel-builder

Life Is On

Schneider
Electric

In this overview, Schneider Electric presents all the Medium Voltage and Low Voltage components you need to build your Medium Voltage switchgear.

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How can digital make your switchgear smarter?



Better connectivity with great benefits

Connectivity combined with IoT, brings more value in Power management. More than remote control facilities, digital offers better versatility, especially when it comes to adapt or setup products quickly and to answer your customers specific needs.

Analytics and operational data allow enhanced asset management, and thus optimized operating conditions for end users that can now anticipate maintenance needs. Digitization benefits don't end at interoperability, data or predictive maintenance. It permits you to enhance safety, reliability and efficiency of the solution provided. Adding more connectivity, practicality and analytics will allow you to provide smarter switchgear and get a step ahead in a more competitive world.

	Easergy P3	Easergy T300
		
Simplicity	- Designed to save time at every step - Simplified configuration and testing from our new eSetup Easergy Pro setting tool - Embedded web server for fast setting changes	- Embedded web server configuration, compatible with PC, Smartphone and tablet computers - Complete applications for fault detection, monitoring and control of secondary distribution substations
Flexibility	- Over 40 Protection functions and 9 Communication protocols in one-box - Digital tools to help everyday life, configuration, testing and operation	- Flexible communication to control centers and wider networks - Simple configuration updates on site, and modular construction for solutions to your precise needs
Efficiency	- Built-in virtual injection testing to speed up installation and commissioning using eSetup Easergy Pro - One box – less spares, less stock with fast delivery	- Strengthen cyber security of the complete substation data with the latest connectivity and protocols - Reduce MV and LV outage durations (SAIDI)

How can digital bring more value at work?

Simplify your life at all steps of your business

Panel Builder Portal

The Schneider Electric™ Panel Builder Portal can help you find what you need to create better, more efficient Medium Voltage Switchboards, in less time.

You'll get:

- Productivity tools
- Personalized resources
- Collaborative sales support
- Trainings



Get support anytime

- 24/7 self-service, mobile catalog & access to expert help,
- Off line & on line catalog,
- Manage and track your orders,
- Advanced support.

MySchneider app

Discover, select and define



Experience our advanced WEB functionalities that help to:

- Select and compare components
- Build easily your technical documentation with ready to use tools (CAD, export files...)

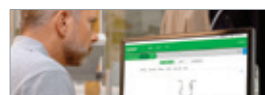
Schneider-Electric.com



Innovative and interactive way to discover our offers from anywhere:

- Select, design products or components or switchgear
- Get updated technical information

eCatalog 3D power*



Configure and quote

- Simplified and validated configuration
- Always updated technical content
- Ready to use data and documentation for your projects
- Last minute changes

SE Advantage *

With
Schneider Electric
Partner Program,
**get more
done!**

Think big.
Partner up!

* Available in 2019

Schneider Electric's commitments

High quality components

Based on our expertise in building Medium Voltage cubicles, all the proposed components are designed to be fully consistent with the others.

This assures complete interoperability, which has been tested in our own Medium Voltage cubicles equipped with these components.

Moreover, our industrialized processes and quality controls guarantee the highest level of component quality to meet your most demanding expectations.

Easy to integrate

Increase your product knowledge and ensure easy integration with our tools and training package, allowing you to be more efficient in your business.

All necessary information on mounting and assembly is supplied with each component.

Compatible with smart grid applications

Given the demand for an increasing number of energy production sources and the increasingly significant obligations of network adaptability, operators have to know, understand and act appropriately:

- Know the switchboards' status at all times.
- Act with full knowledge of the facts.

Medium Voltage switchboards demand more remote measurement and control capabilities.

You will find a whole range of modern monitoring and control devices acting in full complementarity with Medium Voltage switching devices.

Easy to source, continuous and worldwide availability

Thanks to Schneider Electric's direct presence in more than 100 countries, you can be sure to find the range of products that meet your needs and comply perfectly with local standards.

True Peace of Mind



- Fully type-tested products
- Compliance with the latest international and local standards
- Tools for your business performance:
 - Drawings
 - Configurators
 - Technical manuals (user guides, installation manuals, etc.)
 - Products catalogs
 - Maintenance guides and end-of-life manuals
 - Configure projects simply and get a quick quotation
 - A unique portal with dedicated useful information

Benefit from Schneider Electric brand image and know-how

The experience of a world leader in Medium Voltage

Schneider Electric has been manufacturing MV cubicles for more than 50 years and has an installed base of millions of products and devices.

The Schneider Electric brand is known worldwide and recognized.

A long history of innovation for a global offer

Based on this experience as a world leader, Schneider Electric has developed a large and comprehensive range of innovative Medium Voltage devices employing vacuum, air and SF6 technology.

You benefit from a global leader's experience and know-how in electric distribution, automation and power and control.

All the devices included in this overview have been designed and manufactured to incorporate the benefits of this extensive experience.

Quality certification: ISO 9001 and ISO 14001

In each of its units, Schneider Electric has an operating organization whose main role is to verify quality and ensure standards compliance.

This procedure is:

- Uniform for all departments
- Recognized by numerous customers and official organizations

The quality system for design and manufacturing is certified in compliance with the requirements of the ISO 9001 quality assurance model.

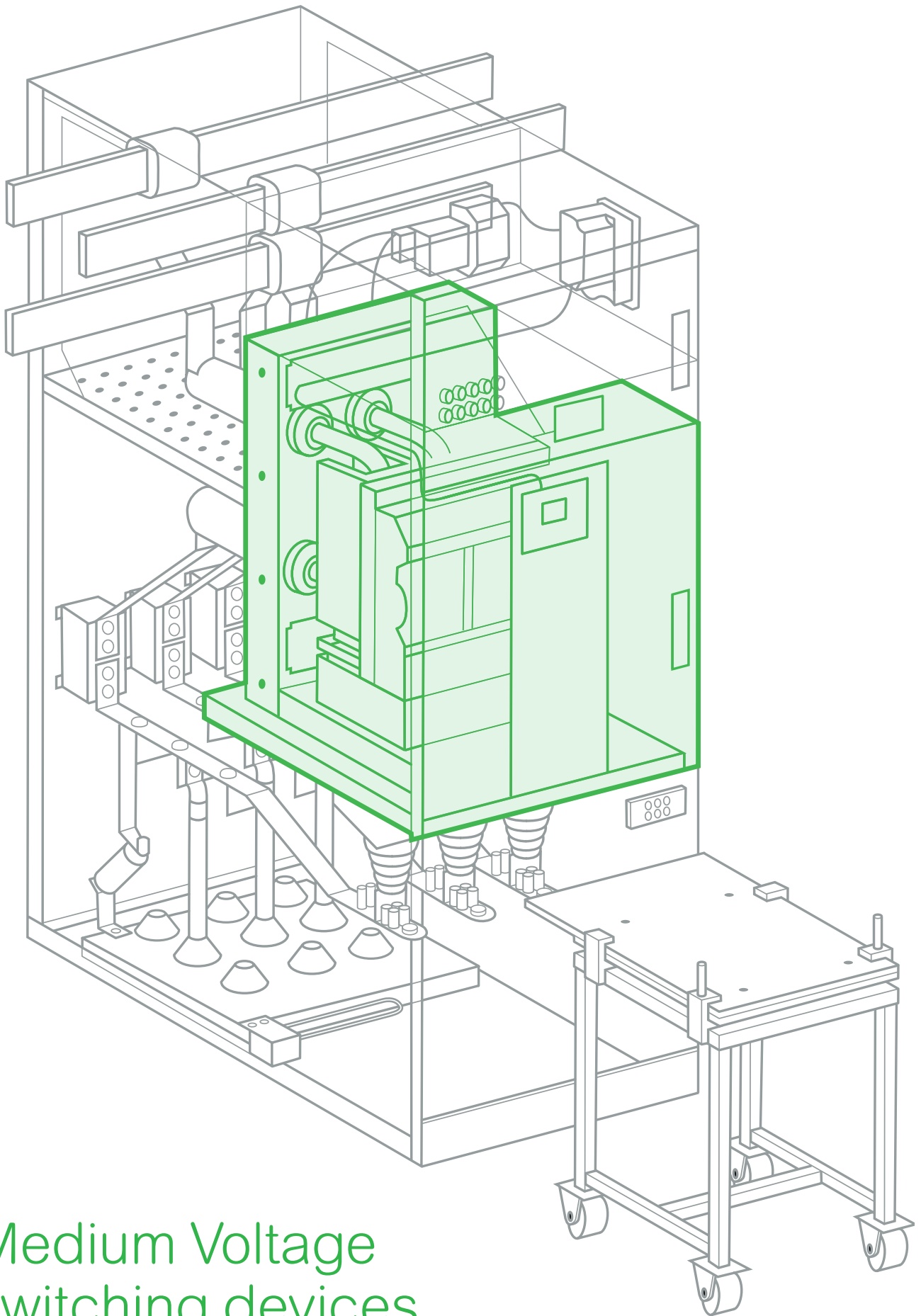
Schneider Electric: A brand you can trust

Schneider Electric's policy has always been to provide its customers with very close support in their daily activities to enable them to achieve operational excellence.



- **Our common values**
 - Quality
 - Safety
 - Professionalism
- **5% of sales** devoted to R&D
- **Local support** all over the world
- **140,000** people in more than **100** countries
- Over **100 years** of protection relay **experience**

There are always
Schneider Electric
experts to support you!



Medium Voltage switching devices

Medium Voltage switching devices

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Circuit-Breakers

Vacuum circuit-breakers

Protection and operation of network

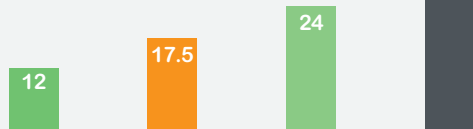
	Evolis 17.5		Evolis 24	VR		
						
Rated voltage (kV)	12 17.5		24	5 15 27		
Max. rated short-circuit current	31.5 kA	31.5 kA	25 kA	63 kA	63 kA	40 kA
Max. rated current	2 500 A		1 250 A	3 000 A /	3 000 A /	2 750 A
Versions	• Fixed • Withdrawable		• Fixed • Withdrawable (Frontal)	• Withdrawable		
Number of poles	3p		3p	3p		
Mechanical switching cycles (ON/OFF)	up to 10 000		up to 10 000	up to 10 000		
Mounting	Frontal		Lateral and Frontal	Frontal		
Mechanism	Conventional spring		Conventional spring	Spring - charged, stored energy operating mechanism		
Standards	• IEC • CSA*		• IEC • CSA*	• ANSI, UL		
Benefits						
	• Compact dimensions • Attractive price		• Compact dimensions • Reliable spring mechanism for open pole technology			

* Not all Models

Circuit-Breakers

SF6 Circuit-Breakers

Protection and operation of network

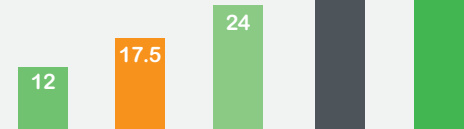
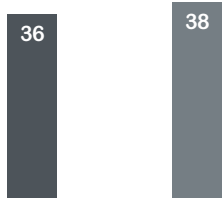
	LF		SF1				SF2	
								
Rated voltage (kV)								
Max. rated short-circuit current	50 kA	40 kA	25 kA	25 kA	25 kA	25 kA	40 kA	31.5 kA
Max. rated current	3 150 A		1 250 A				3 150 A	2 500 A
Versions	• Fixed • Withdrawable		• Fixed				• Fixed	
Number of poles	3p		3p				3p	
Mechanical switching cycles (ON/OFF)	10 000		10 000				10 000	
Mounting	Frontal		Frontal and lateral				Frontal	
Mechanism	Conventional spring		Conventional spring				Conventional spring	
Standards	• IEC • GOST		• IEC				• IEC	
Benefits								
	• Referenced product for Nuclear Power plants • Marine solutions certified • Seismic version available		• Integrated VIP trip unit (without auxiliary power supply) in SFset up to 24 kV • Well suited for capacitor bank and inductive load applications				• Particularly adapted for high voltage ratings and harsh environment • Well suited for capacitor bank and inductive load applications	

Circuit-Breakers

Specific Applications Circuit-Breakers

Protection and operation of network

Vacuum Circuit-Breaker

	VAH			HVX			VXC			
										
Function	Protection for generator			Protection for generator			Arc furnace			
Rated voltage (kV)										
Max. rated short-circuit current	63 kA	63 kA	63 kA	50 kA	50 kA	31.5 kA	31.5 kA	31.5 kA	40 kA	40 kA
Max. rated current	5 000 - 8 000 A*			3 150 A / 4 000 A ⁽¹⁾		2 500 A	2 500 A / 3 150 A ⁽¹⁾		2 500 A	4 000 A
Versions	• Fixed			• Fixed • Withdrawable			• Fixed • Withdrawable			
Number of poles	3p			3p			3p			
Mechanical switching cycles (ON/OFF)	10 000			10 000			25 000			
Mounting	Frontal			Frontal			Frontal			
Mechanism	Conventional spring			Conventional spring			Conventional spring			
Standards	• IEC • ANSI • IEEE C37.013			• IEC • GB (Chinese) • GOST ⁽²⁾			• IEC			
Benefits	• Extremely robust design • Optimized maintenance			• Embedded pole for better dielectric & environmental pollution withstand			• Extremely robust and simple construction • Extra high mechanical and electrical switching capacity • Designed for high operating cycles • Minimum maintenance			
(1) Need forced cooling (2) Only 36 kV & 40.5 kV										

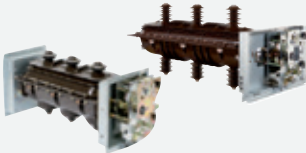
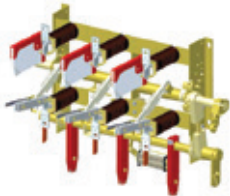
(1) Need forced cooling
(2) Only 36 kV & 40.5 kV

Switches and Disconnectors

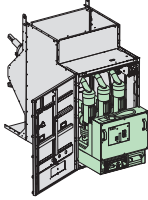
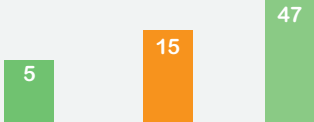
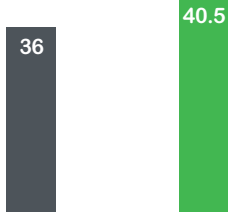
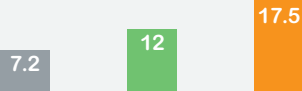
SF6 and Air - Indoor load break switch,
disconnecter

SF6 switch & disconnecter

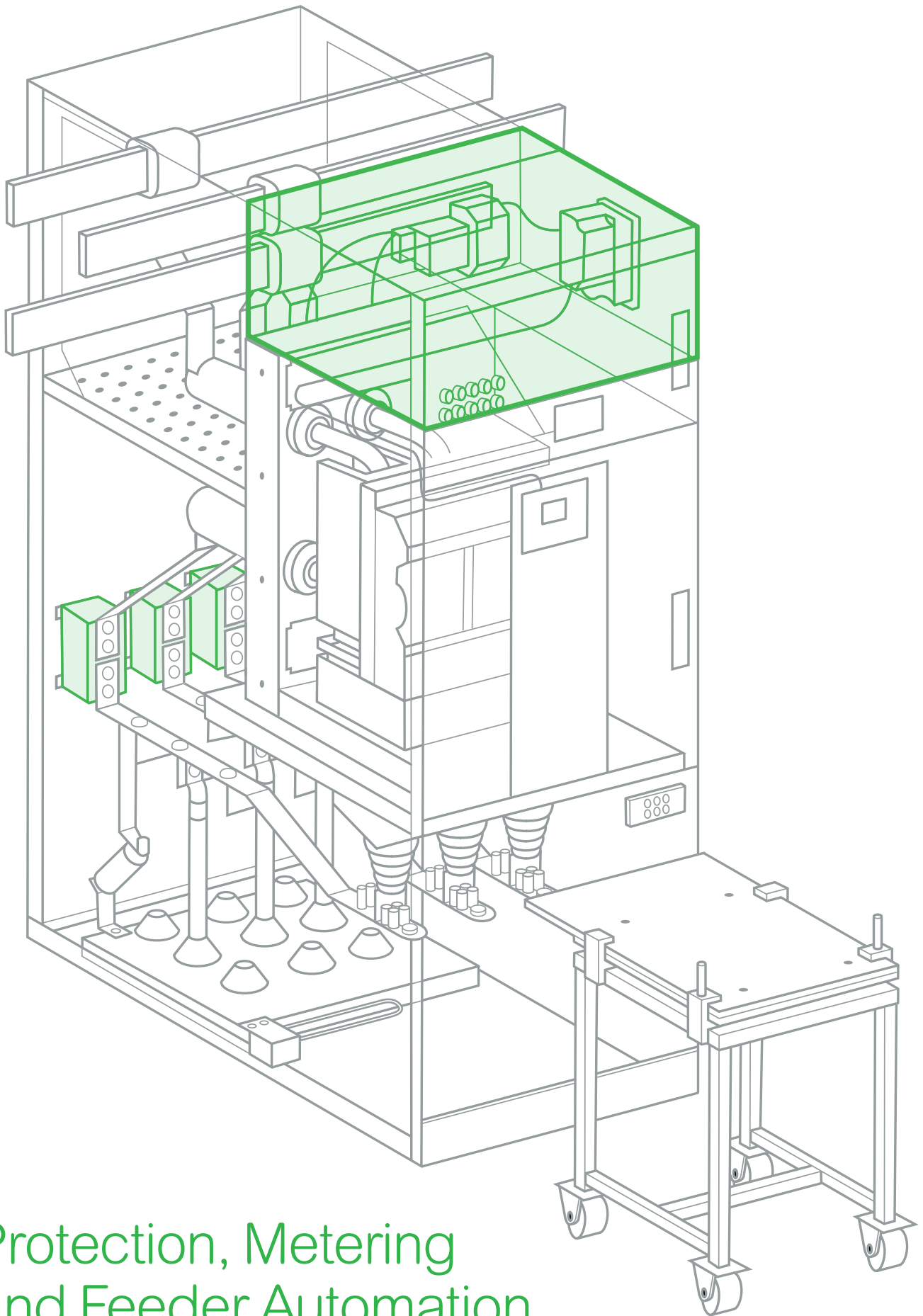
Air switch & disconnecter

	HVLcc		LTRI		
					
Function	Indoor load break switch, disconnecter and accessories		Indoor load break switch, disconnecter and accessories		
Rated voltage (kV)	5	36	12	17.5	27
Max. rated short-circuit current	25 kA/1 s	25 kA/1s	<31.5 kA	<50 kA	<40 kA
Max. rated current	1 250 A	1 250 A	1 250 A		
Pole center distance			165	210	165
			210	250	215
			250	270	250
			275		
			300		
Standards	IEC/ANSI		IEC/CSA (for certain models)		
Benefits	• Insensitive to environment • Reduced maintenance		• Very compact • Robustness		

Cradle

	VR Cradle	M1-M2 Cradle	NEX Cradle
			
Function	Integration of switching device	Integration of switching device	Integration of switching device
Rated voltage (kV)			
Max. rated short-circuit current	50 kA 50 kA	40 kA 31.5 kA	50 kA
Max. rated current	3 000 A 2 750 A	2 500 A 1 250 A	3 150 A
Recommended cubicle width	1 000 mm 1 000 mm	1 100 mm	570 - 900 mm
Integration of switching device	VR 	SF 400 	LF & Evolis 17.5 
Version	Without earthing switch	Without earthing switch	With earthing switch in option
Benefits	Fully assembled by Schneider Electric	Two different arrangements for HV connection using the upper and lower bushings	Full type tested solution including internal arc protection with MV door
Option with Cassette			MC Cassette LF & Evolis 17.5 

Notes



Protection, Metering and Feeder Automation

Protection, Metering and Feeder Automation

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Protection relays

Easergy range

		Easergy MiCOM P116	Easergy Sepam series 20 / series 40	Easergy MiCOM P20
				
Application				
Feeder	Phase and earth-fault	self/dual power	•	•
	With directional		• ⁽¹⁾	•
	With line differential			•
	With distance			
Voltage	Voltage and frequency		• ⁽¹⁾	•
Transformer	Phase and earth-fault	self/dual power	•	•
	With transformer differential			
Motor	Phase and earth-fault		•	•
	With voltage		• ⁽¹⁾	•
	With machine differential			
Generator	Phase and earth-fault		•	
	With directional		• ⁽¹⁾	
	With machine differential			
Busbar	With busbar differential			
Capacitor bank				
Sensors		CT (1 or 5 A)	• CT (1 or 5 A) or LPCT • VT	• CT (1 or 5 A) • VT
Display		Standard UMI	• Standard UMI • Remote UM	Standard UMI
Other characteristics		Withdrawable hardware		Withdrawable hardware
Input/Output (up to)		6/6	10/8	12/11
I/O terminals		Screw type	• Screw type • Ring lug	Ring lug
Temp. sensors (up to)			8 or 16 ⁽¹⁾	10 (motor)
Communication protocol		• Modbus RTU • IEC 60870-5-103	• Modbus RTU • IEC 60870-5-103 • DNP3 • Modbus TCP/IP • IEC 61850 ^{(1) (2)} • RSTP	• Modbus RTU • IEC 60870-5-103 • DNP3
Logic equations			Comprehensive logic equations ⁽¹⁾	Basic logic equations
Standards		IEC, EAC, CSA ⁽³⁾	IEC, EAC, CE, UL, CSA	IEC, EAC, CE, UL, CSA

(1) Easergy Sepam 40 series

(2) Without GOOSE message

(3) CSA Request a Special Inspection



Protection relays

Easergy range

		Easergy P3 Standard	Easergy P3 Advanced
			
Application			
Feeder	Phase and earth-fault	•	•
	With directional	•	•
	With line differential		•
	With distance		•
Voltage	Voltage and frequency	•	•
Transformer	Phase and earth-fault	•	•
	With transformer differential		•
Motor	Phase and earth-fault	•	•
	With voltage	•	•
	With machine differential		•
Generator	Phase and earth-fault	•	•
	With directional	•	•
	With machine differential		•
Busbar	With busbar differential		
Busbar voltage protection		•	•
Capacitor bank		•	
Sensors		• CT (1 or 5 A) or VT	• CT (1 or 5 A) or VT
Arc flash protection			•
Display		• LCD type display with single-line diagram (mimic)	• LCD type display with single-line diagram (mimic) • Remote HMI
Other characteristics		• Web server • Smartphone application	• Web server • Smartphone application
Input/Output (up to)		16/8	36/21
Connection terminals		Screw or ring type, pluggable	Screw or ring type, pluggable
Temp. sensors (up to)		12 RTDs, 1 PTC, accessory module	12 RTDs, 1 PTC, accessory module
Communication protocol		• IEC61850 ed.1, ed.2 with GOOSE • IEC 60870-5-101 • IEC 60870-5-103 • Modbus RTU • Modbus TCP/IP • DNP3.0 • DNP3.0 oe • Profibus • Devicenet • SPA-Bus • RSTP / PRP redundancy protocols	• IEC61850 ed.1, ed.2 with GOOSE • IEC 60870-5-101 • IEC 60870-5-103 • Modbus RTU • Modbus TCP/IP • DNP3.0 • DNP3.0 oe • Profibus • Devicenet • SPA-Bus • RSTP / PRP redundancy protocols
Logic equations		•	•
Standards		IEC, EAC and cUL*	IEC, Marine, EAC and cUL*

* available in 2019

Easergy Sepam series 80	Easergy MiCOM P30	Easergy MiCOM P40
		
•	•	•
•	•	•
	•	•
	•	•
•	•	•
•	•	•
•	•	•
•	•	•
•	•	•
•		•
•		•
•		•
•		•
		•
		•
•		
• CT (1 or 5 A) or LPCT • VT	• CT (1 or 5 A) • VT	• CT (1 or 5 A) • VT
• Standard UMI • Remote UM • Mimic based UMI	• Standard UMI • Remote UMI • Mimic based UMI	• Standard UMI
Removable SW cartridge	• Bay controller • High firmware/hardware variability	
42/23	80/45	32/32
• Screw type • Ring lug	• Screw type • Ring lug	Ring lug
8 to 16	10	10
• Modbus RTU • IEC 60870-5-103 • DNP3 • Modbus TCP/IP • IEC 61850 with GOOSE • RSTP	• Modbus RTU • IEC 60870-5-101/103 • DNP3 • IEC 61850 with GOOSE • RSTP/SHP/DHP • PRP	• Modbus RTU • IEC 60870-5-103 • DNP3 serial/DNP3oE • IEC 61850 with GOOSE • RSTP/SHP/DHP • HSR/PRP
Control logic by ladder diagram	Comprehensive logic equations	Comprehensive logic equations
IEC 61508-SIL2, UL, CSA, EAC, ATEX	• Cyber security • IEC, UL, CSA, EAC, ATEX	• Cyber security (IEC 62351) • IEC, UL, CSA, EAC, ATEX

Arc fault detection and protection

Easergy Arc Vamp range

Function

The arc protection unit detects an arc flash in an installation and trips the feeding breaker. An arc flash protection maximizes personnel safety and minimizes material damage caused by arc faults.

Vamp 125		Vamp 4C - RL
		
System features Stand-alone arc flash protection – light detection for typical configurations: • 4 Arc inputs (point sensors) • Integrated 24...230Vac/dc power supply • High speed trip output (1 to 2 ms operation time) • 1 self supervision output • D-rail or flush mounting • Master trip I/O for simple arc selectivity • Direct installation with basic comissioning • Front status LEDs		This Extension Current Module is used with the VAMP 125.Main characteristics: • I/O unit address selectable with dip switch • Three (3) current measurements • Current pick-up setting by potentiometer • One trip output • 2 modular cable connections for interfacing with a central and other I/O units (CAN-bus) • Optionally Ring Logs for current inputs • Din-rail and door model available

Sensors

Point sensor - Surface	• Arc detection from compartments • Self-monitored • 6 m and 20 m cable lenghts available, shielded or not shielded	
Point sensor - pipe	• Self-monitored • 6 m and 20 m cable lenghts available, shielded or not shielded	
Portable sensor		
Loop sensor (fibre)		

Standards	IEC, cUL	IEC, cUL
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Benefits		
• Personnel safety • Reduces production losses • Extended switchgear life cycle • Reduced insurance costs • Low investment costs and fast installation • Reliable operation		

MV-LV substation remote control & monitoring

Easergy T300

Advanced Supervision and Control of MV-LV Distribution system

Easergy T300: A modular RTU solution for any kind of applications



The Easergy T300 Feeder RTU is compliant with IEC 62351 and IEEE 1686 standards. It offers SCADA communication security and a role-based access control (RBAC) system to help protect your electrical infrastructure from cyber attacks.

Main functions	• MV network remote control of All UG and OH equipment : Fault Location Isolation system and restoration for all neutral system - centralized and decentralized network management • LV switchboard monitoring • Voltvar optimisation support • MV and LV power and quality measurement • Thermal monitoring and asset management
Main modules	• HU250 - Head unit communication/gateway • SC150 - MV Switch controller • LV150 - Transformer and LV monitoring • PS100/PS50/PS25 - Wide range of backup power supply
Protocols	• IEC 60870-5-101/104 slave and master (standard and secure) • Modbus serial and TCP slave and master (standard and secure) • DNP3 serial and TCP slave and master • IEC 61850 slave and master
Transmission system	• Two flexible communication ports accommodated with modem boxes: - RS232/RS485 modem box for WAN or LAN communication - 2G/3G modem box for WAN communication - 3G/4G modem box for WAN communication • Two Ethernet ports (for WAN and LAN communication) - 1 Ethernet port for WAN communication - 1 Ethernet port for LAN communication with third party devices • 1 serial RS232/RS485 for Modbus LAN communication • Secure WiFi for local connection
Standards	IEC, cUL*

Benefits	• Easergy T300 is a modular FRTU platform, hardware, firmware and an application building block for Medium Voltage and Low Voltage public distribution network management • Modular approach ensures T300 will be configurable to your exact needs e.g. packaged solutions, embedded solutions, open solutions • This open architecture supports different applications, from a single communication gateway to large substation management • Built-in web server for commissioning and maintenance with local and remote access, compatible with PC, tablet and smartphone devices • High availability back up power supplies range PS100/50/25 for control and monitoring applications
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* available in 2019

* Consult us for availability

MV-LV substation remote control & monitoring

Easergy T300

	Easergy HU250 Head unit communication - Gateway	Easergy SC150 MV Switch controller
		
Functions	• Flexible communication to control centre and other customers' IT applications • Open peer-to-peer communication for self-healing applications * • Open to third-party devices with many protocol capabilities • Embedded IEC 601131-3 PLC for automation design • Cyber security management: Compliance to the security standards/regulations (IEC 62351/IEEE 1686) • Configurable Sequence of Events (SOE) for data logs	• Controlling and monitoring of all switchgear type • Advanced fault Passage Indicator (FPI) algorithms: - P-P, P-E, O/C, 50/51, 50/51N - Directional P-P, P-E, O/C, 67/67N • Broken conductor detection 47BC • Advanced voltage monitoring: Current and voltage measurements according to IEC 61557-12 • Power quality according to IEC 61000-4-30, Class S • Large voltage and current measurement capabilities: Standard CT, VT, LPVT, VDS, VPIS and capacitor interface for voltage

* Consult us for availability

	Easergy LV150 Transformer and LV monitoring
	
Functions	• Current and voltage measurements according to IEC 61557-12 • Broken conductor detection 47BC • Power quality according to IEC 61000-4-30, Class S • Transformer temperature monitoring

Substation power supply

Easergy PS 100/50/25



Functions

The Easergy PS100/PS50/PS25 power supplies, associated with a backup battery, are designed to maintain control (except PS25) & monitoring of the entire MV substation during long power supply interruptions (up to 48 hours). They are designed to supply:

- MV switchgear motor mechanism and circuit-breaker coils
- Transmission equipment (e.g. radio)
- Electronic modules of T300
- All other devices in MV/LV substations (Protection relays, Fault Passage Indicators or others IEDs, low voltage breakers, PLC concentrators, etc.)

Power supply outputs

- | | | |
|--|--|---|
| <ul style="list-style-type: none"> • 12 VDC, 18 W permanent and 100 W/20 s (for modem, radio, RTU, etc.) • 48 VDC or 24 VDC 90 W permanent (for protection relays, electronic devices, etc.) and 300 W/1min. (for switchgear operating mechanism motors) | <ul style="list-style-type: none"> • 12 VDC, 18 W permanent for telecom equipment • 12 VDC, 36 W permanent for IEDs • 48 VDC or 24 VDC 10 W permanent (for protection relays, electronic devices, etc.) and 300 W/1min. (for switchgear operating mechanism motors) | <ul style="list-style-type: none"> • 12 VDC or 24 VDC, 48 W permanent for IEDs |
|--|--|---|

Protocols

Modbus RS485	Modbus RS485	
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Standards

IEC, cUL*	IEC, cUL*	IEC, cUL*
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Benefits

- | | | |
|---|--|---|
| <ul style="list-style-type: none"> • High availability due to the separate voltage output for telecom and motor | <ul style="list-style-type: none"> • High availability due to the separate voltage output for IEDs, telecom and motor | |
| <ul style="list-style-type: none"> • High efficiency and high energy backup autonomy • Designed for severe environment with higher insulation (10 kV) • Easy maintenance with only one battery, 24 Ah or 38 Ah robust life span (> 10 years) • Modbus communication for battery monitoring to allow optimised maintenance operations | | <ul style="list-style-type: none"> • High autonomy with smaller battery • Easy maintenance with only one battery, 2.5 Ah, 5 years life span or 5.5 Ah, 12 years life span |
| <ul style="list-style-type: none"> • Battery charging and monitoring for longer battery life • Battery end-of-life monitoring and anticipated maintenance • Designed for long outage time | | |

* available in 2019

Basic panel meters

Basic energy meters

	AMP/VLT	IEM3000 series	PM5100/5300/5500
			
Function		kW/h meters	Metering & sub-metering • IEC 62053-22 Class 0.5S • IEC 62053-22 Class 0.2S (PM55xx) • IEC 62053-23 Class 2
Applications			
Panel instrumentation	 I/U	 I, U, F, P, Q, S, PF, E	 I, U, F, P, Q, S, PF, E (Power demand & current demand)
Energy efficiency and cost			
Sub-billing & cost allocation			
Demand and load management			
Billing analysis			
Power availability and reliability			
Harmonics			
Dip/swell, transient			
Compliance monitoring			
Revenue metering			
Characteristics			
Measurement accuracy (active energy)	• Class 1.5	• Class 0.5S/Class 1	• Class 0.2S (PM55xx) • Class 0.5S
Installation	Flush mounted 72 x 72 mm 96 x 96 mm	• DIN rail - 5 or 7 x 18 mm modules	• Flush mounted 96 x 96 mm
Voltage measurement	VLT: 500 VAC direct or external VT	• 50 V to 330 V (Ph-N) • 80 V to 570 V (Ph-Ph) • Up to 1 MVAC (ext VT)	20V L-N/35V L-L to 277V L-N /480V L-L /600V L-L (PM55xx)
Current measurement	AMP: external CT	40 to 125 A direct or external CT	External CT
Communication ports		1	2
Inputs/Outputs		2 I/O	• 4 I/O • 6 I/O (PM55xx)
Memory capacity			• 256 kB • 1.1 MB (PM55xx)

Intermediate metering

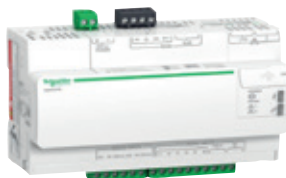
Advanced metering

Advanced utility metering

PM8000	ION9000	ION8650 A/B/C
		
Energy and basic power quality meter • IEC 61557-12 • IEC 62053-22 • IEC 61000-4-30 Class S • IEC 62856 PQI-S • ANSI C12.20 Class 0.2 • PMD /Sx/K70/0.2	Energy and power quality meter • IEC 62053-22 Class 0.1S • ANSI C12.20 Class 0.1 • IEC 61000-4-30 Class A • IEC 62856-1 / -2 • IEC 61557-12 PMD /Sx/K70/0.2 • IEC / UL 61010-1	Energy and power quality meter • IEC 62052-11 • IEC 62053-22/23 Class 0.2S • IEC 61000-4-30 Class A
 I, U, F, P, Q, S, PF, E, THD, min/max, harm., alarm, I/O (I, U, unbalance, demand, clock/cal)	 I, U, F, P, Q, S, PF, E, THD, Min/Max, harm., alarm, I/O (I, U, unbalance, demand, clock/cal, dip/swell,transients, flicker	 I, U, F, P, Q, S, PF, E (demand, minimum and maximum values)
		
		
		
		
		
		
		
• IEC 61053-22 Class 0.2S • ANSI C12.20 Class 0.2S	• IEC 61053-22 Class 0.1S • ANSI C12.20 Class 0.1	• Class 0.2S
• Flush & DIN rail mounted 96 x 96 mm	• Flush & DIN 160 mm x 160 mm Display 96 mm or 197 mm x 175 mm	• ANSI socket mounting 9S, 35S, 36S, 39S and 76S • FT21 switchboard case
57-400 VAC L-N 3P (100-690 VAC L-L)	57-400 V L-N AC or 100-690 V L-L AC	57-277 V L-N AC (9S, 36S); 100-480 V L-L AC (35S)
External CT	External CT	External CT
2	4	6
Up to 27 DI, 9 DO Up to 16 AI, 8 AO	Up to 32 DI, 4 DO, 10 RO (relay) Up to 16 AI, 8 AO	Up to 22 I/O
512 MB	Up to 2 GB	A: 128 MB B: 64 MB C: 32 MB

Energy management and control

Communication

	Link 150	Com'X 200/210	Com'X 510
			
Function	The Link 150 serves as an Ethernet gateway for PowerLogic system devices and any other communicating devices utilising the Modbus protocol. The Link 150 gateway offers complete access to status and measurement information provided by the connected devices via software.	• Auto discovery of Modbus devices • Data Logger - Push to Cloud • Remote data push to a hosted platform • Software as a service support • Modbus gateway	• Auto discovery of Modbus devices • Data Logger - Push to Cloud • Remote data push to a hosted platform • Software as a service support • Modbus gateway • Entry-Level Energy Management in a Box (embedded) • View web pages and dashboards using only your web browser • Site server for Schneider Electric Smart Panels™
Characteristics			
Storage temperature	-40°C to +85°C	-40°C to +85°C (- 40°F to 185°F)	
Operating temperature	-25°C to +70°C	-25°C to +60°C (-13°F to +140°F) Com'X200 -25°C to +70°C (-13°F to +158°F) Com'X210/510	
Humidity	5% to 95% @ +55°C	5% to 95% relative humidity (without condensation) @ +55°C	
Pollution degree	Class 2	Class III	
Accessories		GPRS dongle operating temperature: -20°C to +60°C (-4°F to +140°F)	
		GPRS dongle storage temperature: -40°C to +85°C (-40°F to +185°F)	
		WiFi dongle operating temperature: 0°C to +50°C (32°F to +122°F)	
		WiFi dongle storage temperature: - 20°C to +80°C (-4°F to +176°F)	
Communication	• Power Over Ethernet • Dual Ethernet • DNS support • IP V6 support • Master or Slave mode • RS232 or RS485 via RJ45 port	• Connect isolated sites via GPRS (3G available in 2016) • WiFi/Zigbee connectivity • Dual Ethernet Ports - RJ45 • Power Over Ethernet • Modbus Serial - RS485 • 6 Digital Inputs • 2 Analog Inputs	
Standards	• Safety - IEC: IEC 60950 • Safety UL: UL 60950 UL 61010-2-201 • EMC: IEC 61000-6-2 • Australia: Ctick - RCM • Sustainability: Green Premium • EMC: FCC Class A	Safety standards/regulations: • International (CB scheme): IEC 60950 • USA: UL 508 • USA: UL 60950 (Com'X 210 - Com'X 510 only) • Canada: cUL 60950 (Com'X 210 - Com'X 510 only)/cULus 508 • Europe: EN 60950 Quality brands: CE, UL	
Benefits			
	• Easy to install - Easy to setup - Easy to maintain • Compatible with PowerLogic software (PowerSCADA Expert, Power Monitoring Expert, etc.) • Reliable Modbus to Ethernet protocol conversion	• Easy to install - Easy to configure • Compatible with Schneider Electric Software & Hosted Cloud Platforms • Cost effective solution to log data to the cloud (hosted platform)	• Easy to install - Easy to configure • Embedded Entry-Level Power Monitoring Software and Dashboards - No software to install • Compatible with Schneider Electric Software & Hosted Cloud Platforms

Auxiliary Contacts

	C60BP		C60SP	C60H-DC	OF	SD
						
Function	DIN rail miniature circuit-breakers. Circuit-breaker used in auxiliary power supply circuits providing overload and short-circuit protection				Open/Closed indication	Fault signalisation contact
Rated voltage	• 120V, 240V and 277/480V	• 120V, 240V and 277/480V	• 250Vdc and 500Vdc			
Number of poles	1, 2, 3	1, 2, 3, 4	1, 2			
Nominal current	up to 63A	up to 63A	up to 63A	Maximum operating current: 10 mA mini, 6 A maxi 24 VDC 6 A 48 VDC 2 A 60 VDC 1.5 A 130 VDC 1 A 24 to 240 VAC 6 A 415 VAC 3 A		
Connection	Screw	Screw	Screw	Screw		
Standard	Branch Protection UL489- CSA C22.2 No 5	Branch Protection UL4	Supplementary Protection UL1077	UL1077		
Type of loads						
Tripping curves						
Standard	Z, C, D (=K) AIC up to 14kA	B, C, D (=K) AIC up to 14kA	B, C, D (=K) AIC up to 5kA			

Direct Current power supply

Phaseo

Function

The electronic switch mode power supply is designed to provide the direct current voltage necessary for automation system equipment control units

	ABL8REM/ABL7RP	ABL8RP	ABL8WP
			
Rated input voltage	100 to 240 VAC	100 to 500 VAC	400 to 500 VAC
Input type	1 phase	1 or 2 phases	3 phases
Output voltage and current	• 12 VDC/5A • 24 VDC/3A & 5A • 48 VDC/2.5A	24 VDC/3A, 5A, 10A, 20A	24 VDC/20A, 40A
Power output	72 to 144 W	72 to 960 W	72 to 960 W
Standards	• IEC • UL, RMC, EAC, CSA	• IEC • UL, RMC, EAC, CSA	• IEC • UL, RMC, EAC, CSA
Benefits			
	Compact size	• Wide input voltage (100 - 500 VAC) • Power boost • Manual or automatic reset mode • Advanced diagnostic with functional modules	• Power boost • Manual or automatic reset mode • Advanced diagnostic with functional modules

Low Voltage relays

Zelio relays

Function Designed for the adaptation, amplification, multiplication and processing of information in automated systems	Miniature relays RXM	Universal relays RUM
		
Switching voltage	12/240 VAC/DC	12/230 VAC/DC
Number of contacts	2, 3 or 4 CO	2 or 3 CO
Current	3 - 6 - 10 - 12 A	10 A
Mounting	Plugs into socket (DIN rail)	Plugs into socket (DIN rail)
Standards	IEC61810-1, UL 508, CSA C22.2	IEC61810-1, UL 508, CSA C22.2
Benefits		
• Wide choice of number of contacts (up to 4) • Simplicity of installation and maintenance • Standardization of relay pin arrangement on its socket • Lockable test button to close manually the contacts and test the application during commissioning or debugging phase • Clear indication of the contact status by mechanical flag, and power on coil by LED		

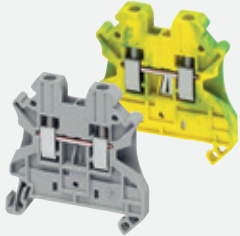
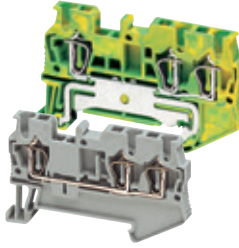
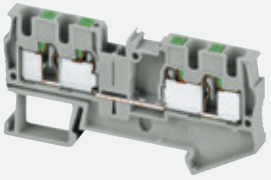
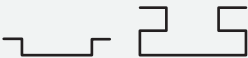
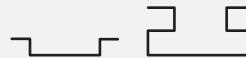
Low Voltage control and signalling

Pushbuttons & Switches

	XB7	ZB5/XB5	ZB4/XB4	K1/K2
Standard version				
Function: Enables operation of the Low Voltage circuits of the Medium Voltage cubicle				
Illuminated version: Pushbuttons/Pilot lights/Switches				
Function: Provides status information and enables control of Low Voltage circuits				
Mounting hole	22	22	22	16/22
Material	Plastic	Plastic	Metallic	Plastic or metallic
Head shape	●	● ■	●	■
Composition type	Unibody	Modular	Modular	Modular
Panel fixing	Plastic nut	Plastic nut	3 points metal	Plastic nut or 4 screws
Degree of protection	IP 65	IP66, IP67, IP69, IP69K	IP66, IP67, IP69, IP69K	IP 40/IP 65
Rated insulation voltage	250 V	600 V	600 V	690 V
Standards	250 V	600 V	600 V	690 V
Standard & Illuminated versions	UL/CSA, IEC, CCC, UAC	- UL/CSA, IEC, CCC, EAC - Marine: BV, RINA, LROS, DNV, GL	- UL/CSA, IEC, CCC, EAC - Marine: BV, RINA, LROS, DNV, GL	UL/CSA, IEC
Benefits				
Standard version	• Easy to select and install • A wide choice of functions • Robustness and mechanical durability • High protection degree • Excellent aesthetics and ergonomics			
Illuminated version	• Long life resistance (LED technology) • True colors and excellent brightness • A wide choice of voltages • High protection degree • Easy mounting			

Low Voltage control and signalling

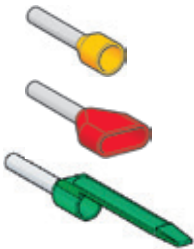
Lineryg TR - Terminal blocks

	NSY TRV	NSY TRR	NSY TRP
			
Function	Ensures connection of Low Voltage cables or wires	Ensures connection of Low Voltage cables or wires	Ensures connection of Low Voltage cables or wires
Technology	Screw clamp technology	Spring clamp technology	Push-in technology
Connection functions	• Passthrough (2.5 - 150 mm²) • Protective earth • Disconnect type (blade or fuse) • Double deck, multi-pole • Multifunction • Neutral disconnect	• Passthrough (2.5 - 35 mm²) • Protective earth • Disconnect type (blade or fuse) • Double deck, multi-pole	• Passthrough (2.5 - 4 mm²) • Protective earth • Disconnect type (blade or fuse) • Double deck, multi-pole
Conductor nominal c.s.a. (cross section area)	2.5 mm ² to 150 mm ²	2.5 mm ² to 35 mm ²	2.5 mm ² and 4 mm ²
Number of poles	1 - 1 x 1/1 - 2 x 2 2 - 1 x 1/3 - 1 x 1	1 - 1 x 1/1 - 1 x 2/1 - 2 x 2 2 - 1 x 1/2 - 1 x 2/3 - 1 x 1	1 - 1 x 1/1 - 1 x 2/1 - 2 x 2 2 - 1 x 1/2 - 1 x 2/3 - 1 x 1
Clip-on mounting on rail type			
Certifications	UL, CSA, VDE, ATEX, LR, GL, DNV, EAC	UL, CSA, VDE, ATEX, LR, GL, DNV, EAC	UL, CSA, VDE, ATEX, LR, GL, DNV, EAC
Benefits			
	Rugged and reliable This technology not only provides quality, safety and availability of equipment but optimizes installation setup and operation with their simple integrated functions	Cost effective (quick and reliable) Spring technology is a maintenance-free connection method assuring separation of mechanical and electrical functions. It also eliminates the need for regular re-tightening	Quick and innovative Solid conductors or conductors with cable-ends can be directly inserted into the terminal block without tools. The actuation lever can be operated with any tool for releasing conductors

Low Voltage control and signalling

Linergy TR - Terminal blocks

Cable ends



Function	- Facilitates the insertion of wires into the terminals and assures the insulation between adjacent connection - Allows the identification of the wires
Technology	Insulated cable ends
Connection functions	Four available versions: - Single conductor cable ends - Single conductor markable cable ends - Uninsulated cable ends - Twin conductor cable ends
Conductor nominal c.s.a. (cross section area)	0.25 mm ² to 50 mm ²
Certifications	UL, CSA
Benefits	Fast and reliable wiring Use the AZ5 and DZ5 ranges of cable ends to simplify wiring and provide optimum electrical continuity between wire and terminal block.

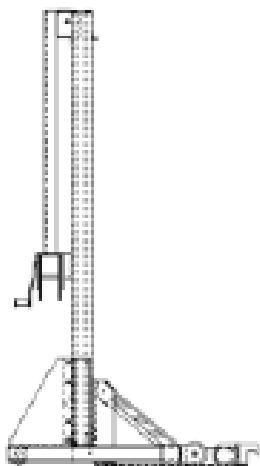
Notes

Accessories

Breaker Lift Truck	40
Electrical Racking Device (ERD)	40

Accessories

Characteristics and references



Breaker Lift Truck

Function

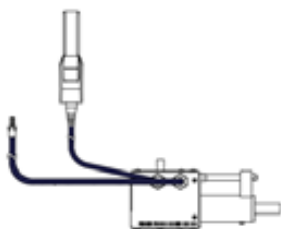
- The lift truck is used to elevate a VR breaker at a certain height for easy installation in the cells. It can be used to move the VR breaker around in the substation.

Technical specifications • Height: 82.3 in

Reference numbers

- **Catalog Number: BLT5**
- **Outline Number: 46008-636**

Benefits • Mechanical robustness



Electrical Racking Device (ERD)

Function

The equipment is used to insert or remove a VR breaker or ground and test (G&T) device into a cell compartment remotely.

Technical specifications • 120V operation
• 50ft long cord

Reference numbers ERD's Catalog Number: 4601592050
Door Apdater's Catalog Number: 4600823250
(mandatory to order along with the ERD)

Benefits Remote and safer operation

Notes

Contact

Schneider Electric Transactional Team

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Schneider Electric Transactional Team

Peace of mind throughout your
installation life cycle

When it comes to your MV
electrical equipment design,
we can help you:

- Increase reliability, and safety
- Mitigate risk
- Keep equipment up to date
- Cut cost and increase savings
- Improve your return on investment

Function

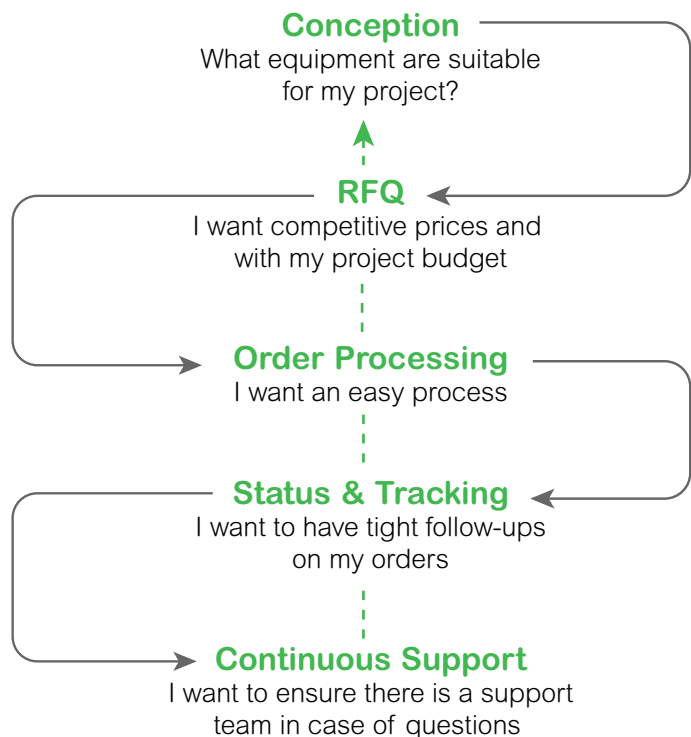
The Transactional group is a customer-centric dynamic team that provides quotes, process orders and manages your projects for loose MV equipment.

The Transactional group provides first-class sales support centered on the quality and responsiveness of our services. Covering the entire Canada, the sales support specialists work with each individual customer account to ensure the selected equipments meet their projects requirements (ANSI/IEC).

The Request For Quotation (RFQ) and Order Processes are handled by the same team to facilitate customer follow-ups and to ensure your project margins and delivery dates are met.

CONTACT US!

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Life Is On



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