

UniSec

Quick selection guide



Air-insulated medium voltage switchgear for secondary distribution up to 24 kV, 1250 A, 25 KA

UniSec offers the following features:

- Air insulation of all live parts
- SF₆ switch-disconnector
- LSC2A and LSC2B service continuity classification
- Removable and withdrawable vacuum and SF₆ circuit-breakers for LSC2A service continuity panel
- Withdrawable vacuum and SF₆ circuit-breakers for LSC2B service continuity panel
- Withdrawable vacuum contactor for LSC2B service continuity panel
- Multi-function apparatus with integrated vacuum circuit-breaker and gas-insulated disconnector
- Complete range of functional units and accessories
- Large selection of state-of-the-art protection relays, integrated on removable circuit-breakers or mounted for protection, control and measurement functions in LV compartment.

Reference Standards

The switchgear and the main equipment it contains comply with the following standards:

- IEC 62271-1 for the general application
- IEC/EN 62271-200 for the switchgear. With reference to the classifications established by the standards, UniSec switchgear is defined as described below:

- continuity of service classification: LSC2A and LSC2B
- classification of the segregations: PM (metallic partition) and PI (insulation partition) for withdrawable circuit-breakers at 24 kV only
- IEC 62271-102 for the earthing switch
- IEC 62271-100 for the circuit-breakers
- IEC 60071-2 for insulation co-ordination
- IEC 60470 for the contactors
- IEC 60265-1 for the switch disconnectors
- IEC 60529 for the protection classes
- IEEE 693 Seismic qualification testing of the switchgear
- IEC 62271-304 for severe climatic conditions⁽¹⁾
- IEC 62271-1 for IK07 for structure strength.

Fields of application

Medium voltage secondary power distribution

- Transformer substations
- Control and protection of feeders and power transformers
- Infrastructures, data centers, Small Power Generation
- Airports
- Hospitals and shopping centres
- Industries, renewable energy systems
- Marine.

(1) Please, contact ABB

Switchgear electrical characteristics

Rated voltage	kV	12	17.5	24
Test voltage (50-60 Hz x 1 min)	kV	28	38	50
Impulse withstand voltage	kV	75	95	125
Rated frequency	Hz	50-60	50-60	50-60
Rated main busbar current	A	630/800/1250	630/800/1250	630/1250
Rated current of apparatus:				
VD4/R-Sec - VD4/L-Sec - HD4/R-Sec - HD4/RE-Sec removable circuit-breaker	A	630/800	630/800	630
VD4/R-Sec - HD4/R-Sec withdrawable circuit-breaker	A	630	630	630
HySec multi-function apparatus	A	630	630	630
GSec gas switch-disconnector	A	630/800	630/800	630
VD4/P withdrawable circuit-breaker	A	630/1250	630/1250	–
VD4/Sec withdrawable circuit-breaker	A	–	–	630/1250
HD4/Sec withdrawable circuit-breaker	A	630/1250	630/1250	630/1250
VSC/P withdrawable vacuum contactor	A	400	–	–
Rated short time withstand current	kA (3s)	16 ⁽⁴⁾ /20 ⁽³⁾ /25 ⁽¹⁾⁽²⁾	16 ⁽⁴⁾ /20 ⁽³⁾ /25 ⁽²⁾	16 ⁽⁴⁾ /20 ⁽³⁾
Peak current	kA	40 ⁽⁴⁾ /50 ⁽³⁾ /62.5	40 ⁽⁴⁾ /50 ⁽³⁾ /62.5	40 ⁽⁴⁾ /50 ⁽³⁾
Internal arc withstand current (up to IAC AFLR)	kA (1s)	12.5/16 ⁽⁴⁾ /20 ⁽³⁾ /25 ⁽²⁾⁽⁵⁾	12.5/16 ⁽⁴⁾ /20 ⁽³⁾ /25 ⁽²⁾	12.5/16 ⁽⁴⁾ /20 ⁽³⁾
⁽¹⁾ 25 kA 2s for LSC2A service continuity classification ⁽³⁾ Contact ABB for 21 kA/52.5 kAp ⁽⁵⁾ If LSC2A unit, only with gas duct at 12kV, height 2000 mm and width 750 mm (further details on page 96)				
⁽²⁾ For LSC2B service continuity classification ⁽⁴⁾ For HySec 16 kA(1s)/40 kAp				

	SDC	SDS	SDM	SDD
Width [mm]	Feeder with switch-disconnector	Coupler with switch-disconnector	Coupler with switch-disconnector for measure	Feeder with double switch-disconnector
375	⑨ ⑫	③ ⑦ ⑧ ⑫		
500	① ③ ⑨ ⑫	① ② ③ ⑤ ⑦ ⑧ ⑫		
600				
750	① ② ③ ⑨ ⑫	① ② ③ ⑤ ⑦ ⑧ ⑪	① ② ③ ⑨	⑨
190				

	UMP	SFC	SFS
Width [mm]	Universal Metering Unit	Feeder with fused switch-disconnector	Coupler with fused switch-disconnector
375		⑥ ⑫	③ ⑥ ⑦
500		③ ⑥ ⑪ ⑫	③ ⑥ ⑦ ⑫
600			
750	① ②	① ③ ⑥ ⑫	
190			

	SBC	SBC-W	SBS	SBS-W	SBM
Width [mm]	Feeder with circuit-breaker and switch-disconnector	Feeder with withdrawable circuit-breaker and switch-disconnector	Coupler with circuit-breaker and switch-disconnector	Coupler with withdrawable circuit-breaker and switch-disconnector	Coupler with circuit-breaker and double switch-disconnector
375					
500					
600					
750	① ② ③ ④ ⑨ ⑪ ⑫	① ② ③ ④ ⑨ ⑪ ⑫	① ③ ④ ⑦ ⑧ ⑫	① ③ ④ ⑧ ⑫	① ②
190					

	SBR	HBC	SFV	DRC	DRS
Width [mm]	Reversed feeder with circuit-breaker and switch-disconnector	Feeder with integrated circuit-breaker and disconnector	Measure with switch-disconnector	Direct feeder with measurement and busbar earthing	Riser with measurement
375				⑨	⑦ ⑧ ⑫
500		① ② (**) ⑨ ⑪ ⑫	② ③ ⑥ (***) ⑪ ⑫	① ② (*) ③ ④ ⑨ ⑪	① ⑤ ⑦ ⑧ ⑫
600					
750	① ③ ④ ⑥				
190					

	RLC	RRC	WBC	WBS	BME
Width [mm]	Left lateral cable riser	Right lateral cable riser	Feeder with withdrawable frontal circuit-breaker	Coupler with withdrawable frontal circuit-breaker	Direct feeder with measurement and busbar earthing
375					
500					
600			① ② ④ ⑨ ⑩	① ③ ④ ⑦ ⑧	① ② ③ ④ ⑨
750			① ② ④ ⑨	① ③ ④ ⑦ ⑧	
190	○	○			

(*) VTs not available in case of CTs
(only for panel H = 1700 mm)

(**) Only for 12-17.5 kV

(***) As option

① Current transformers (CT)

② Voltage transformers (VT)

③ Busbar earthing

④ Separate lower earthing switch

⑤ Voltage transformers with left busbar exit only
(only for panel H = 1700 mm)

⑥ Separate lower earthing switch without making capacity

⑦ Direction of lower busbar exit, left

⑧ Direction of lower busbar exit, right

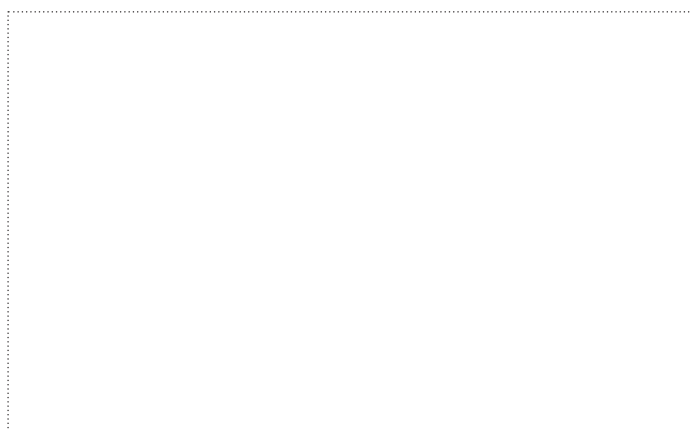
⑨ Surge arresters

⑩ Contactor

⑪ Adaptor panel for LSC2A and LSC2B panels

⑫ Top application please refer to UniSec Catalog

For more information please contact:



More product information:

abb.com/mediumvoltage

Your contact center:

abb.com/contactcenters

More service information:

abb.com/service