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Medium voltage products

# ABB Electrification Products Division Technical Specification - UniSec

**Project:**  
**Customer:**  
**Issuer:**  
**Ref.:**



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# 1 General Specification: Unisec (CCCF)24KV

## 1.1 General Data / Type of apparatus

### Air insulated MV switchgear for secondary distribution type UniSec



- |   |                              |
|---|------------------------------|
| • Type:   | Complete switchgear          |
| • Application:  | Standard IEC 62271-200       |
| • Additional technical requests:  |                              |
| • Degree of protection:   | IP3X                         |
| • Internal Arc Classification (IAC):  | Front Accessibility (AF)     |
| <b>ATTENTION: IAC A-F version - No access to rear and sides of the Swg while is in service. Installation distances to be respected.</b> |                              |
| • Type of apparatus:  | Switch disconnecter type SF6 |
| • Packing:  | Domestic                     |
| • FAT Factory acceptance test:  | ABB standard FAT (One day)   |
| • Customer approval of documents  | Yes                          |
| • Ambient temperature (Mim/Max):  | -5°C /40°C                   |
| • Storage temperature:  | -5°C                         |
| • Altitude:   | ≤1000 m                      |

## 1.2 Electrical Data

- |   |       |
|---|-------|
| • Rated voltage:                                    | 24kV  |
| • Service voltage:                                  | 22kV  |
| • Power frequency withstand voltage:                | 50kV  |
| • BIL:  | 125kV |
| • Rated frequency:                                  | 50Hz  |
| • Rated busbar current:                             | 630A  |
| • Rated short circuit current:                      | 20kA  |
| • Rated short circuit current duration:             | 1s    |
| • Peak current:                                     | 50kA  |
| • Arc test current 1s (According to IEC 62271-200): | 16 kA |

### 1.3 Additional Data

• Internal lighting	Yes
• Anti-Condensation heater of self-regulating type	Yes, in cable compartment
• Voltage presence indicating system	Fixed lamps, type VPIS
• Address labels on functional units	Yes
• Mimic diagrams	Yes
• Routine test reports	Yes
• Our ABB standard drawing template	Yes
• Switchgear colour	RAL 7035
• Busbars treatment	Insulated

### 1.4 Auxiliary supply and wiring data

• Local control voltage:	230VAC
• Auxiliary control voltage for Electromechanical lock on ES mechanism:	230VAC
• Control circuits cross section	1 mm <sup>2</sup>
• Voltage circuits cross section	1.5 mm <sup>2</sup>
• Current circuits cross section	2.5 mm <sup>2</sup>
• Earthing circuits cross section	2.5 mm <sup>2</sup>
• Interconnection circuits cross section	2.5 mm <sup>2</sup>
• Wiring cable type	Standard, PVC
• Wiring cable rated voltage	ABB standard
• Wiring cable colors	STANDARD
• Colour of Auxiliary AC	Black
• Colour of Auxiliary DC	Black
• Colour of CT circuits	Black
• Colour of VT circuits	Black
• Colour of Earthing circuits	Yellow/Green

### 1.5 Switchgear Accessories

1	Operating handle for switch disconnecter
1	Lifting hooks
1	Left end cover - 1700 mm, painted
1	Right end cover - 1700 mm, painted

## 1.6 Switchgear Composition: Unisec (CCCF)24KV

Description	Qty	Weight (Kg)	Overall dimensions (*)		
			Width (mm)	Depth (mm)	Height(mm)
<b>SDC (630 A)</b> <i>H01, H02, H03</i>	<b>3</b>	263	500	1070	1700
<b>SFC (630A)</b> <i>H04</i>	<b>1</b>	286	500	1070	1700
Sidewalls			54		
		<b>975</b>	<b>2054</b>	<b>1070</b>	<b>1700</b>

*(\*) Dimensions calculate panel + accessories, lv box, IAC protection, .... For additional details, please refers to UniSec catalogue.*

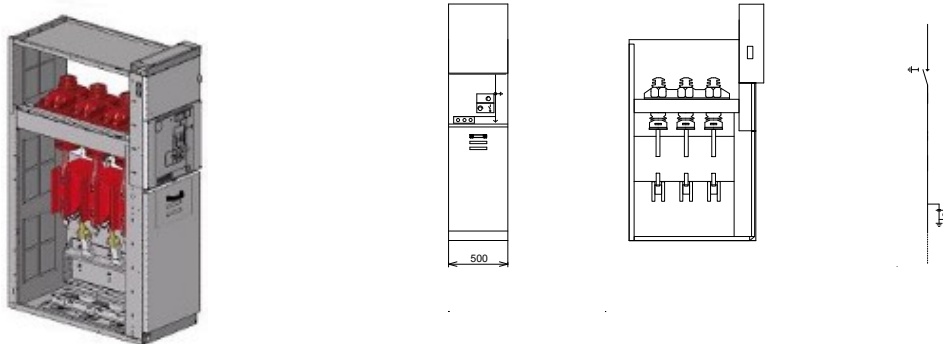
*ABB wishes to highlight that values of dimensions and weights provided herein are preliminary and may change after final design preparation, based on final scope of supply and installation details of the switchgear. As a consequence, provided values of dimensions and weights are NOT to be considered as final but only for standard reference purposes.*

*ACCORDINGLY, YOU EXPRESSLY ACKNOWLEDGE AND AGREE THAT VALUES OF DIMENSIONS AND WEIGHTS PROVIDED HEREIN ARE NEITHER FINAL NOR BINDING AND THAT THE RESULT OF THEIR USE IS NEITHER FEASIBLE NOR ACCURATE NOR ERROR FREE*

## 2 Typical Unit Description

### 2.1 Panel: SDC

(630 A, 2: H01, H02, H03)



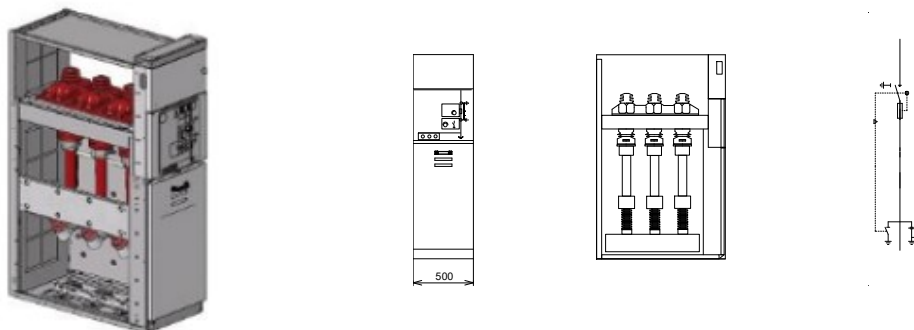
- 1 Panel type SDC, LSC2A - Switch disconnecter unit - 500 mm
- 1 Cable entry for 1-phase cables up to 300 mm<sup>2</sup> (Single core)
- 1 Voltage presence indicator with fixed lamps type VPIS
- 1 Anti condensation heater for cable compartment 230VAC
- 1 Internal light
- 1 Installation and operating manual in English
- 1 Insulated bar
  
- 1 GSec - Three position switch-disconnector and with earthing switch and 1-spring operating device
  
- 1 low voltage compartment for 500 mm functional unit
- 1 Necessary auxiliary circuit and MCBs are automatically included as per factory stds according panel configuration/selections.

#### Additional Data

- 1 EARTH FAULT INDICATOR

## 2.2 Panel: SFC

(630 A, 1: H04)



- 1 Panel type SFC, LSC2A - Switch-fuse combination unit with cable - 500 mm
- 1 Cable entry for 1-phase cables up to 95 mm<sup>2</sup> (Single core)
- 1 Voltage presence indicator with fixed lamps type VPIS
- 1 Operating Handle for Switch-disconnector and Earthing switch
- 1 Anti condensation heater for cable compartment 230VAC
- 1 Internal light
- 1 Insulated bar
  
- 1 GSec - Three position switch-disconnector and with earthing switch and 2-spring operating device
  
- 3 HV fuse 24kV – UP to 80 A - ABB CEF
- 1 Downstream earthing switch with limited making capacity (2kA)
- 1 Fuse base
- 1 Fuse tripping
- 1 Indication of fuse status
  
- 1 Low voltage compartment for 500 mm functional unit
- 1 Necessary auxiliary circuit and MCBs are automatically included as per factory stds according panel configuration/selections.