

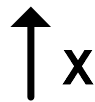
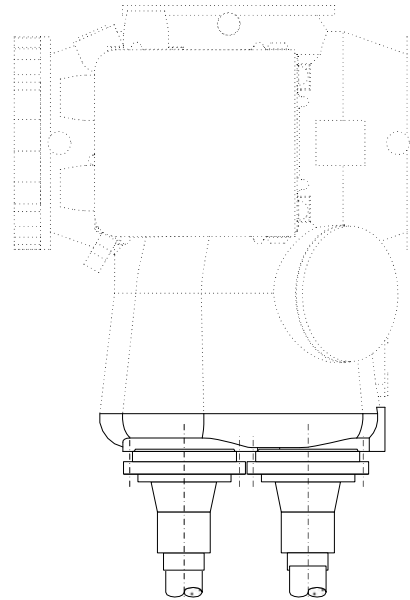
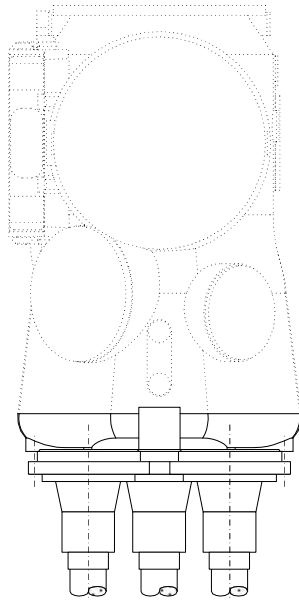
Preparation Time: 10 min

**SIEMENS**  
**ENERGY**

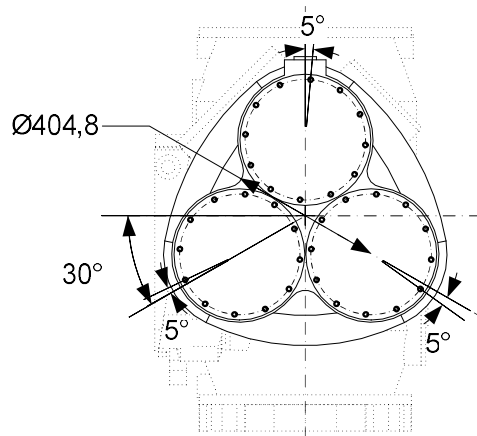
Kunde  
Stichwort

Manual Input

## Cable connection module 145 kV



**View X**



For cable termination system according to

IEC 62271-209 Edition 2.0 (02-2019)

Clause 9.3 Figure 5, Dry-type cable-terminations

Offer No. Manual Input

## Technical Data

Rated voltage	145	kV
Rated power frequency withstand voltage	275	kV
BIL (1.2/50 µs) Rated lightning impulse withstand voltage	650	kV
SIL (250/2500 µs) Rated switching impulse withstand	---	kV
Rated normal current	800/1250/1600/2000/2500/3150	A
Rated short-time withstand current, 3/1 seconds	25/31.5/40/50	kA
Rated peak withstand current	65/81/104/130/62/78/100/125	kA
Rated frequency	60/50	Hz
SF <sub>6</sub> pressures <sup>2)</sup> :		
-Filling pressure (at 20 °C)	450	kPa
-Min. service pressure range (Dielectric test pressure) at 20 °C	400	kPa
-Design pressure of the adapter housing	600	kPa
-Test pressure of the adapter housing	1200	kPa
-Rupture diaphragm bursting pressure	845 - 935	kPa
-Bursting pressure of the adapter housing	≥3000	kPa
Volume of the adapter housing	≈434	l
Weight of the adapter housing	≈185	kg
Loss of gas (type tested)	per year and compartment	<0.1 %
Temperature rise of enclosures at rated current:		
-which have to be touched during normal operation	max. 30	K <sup>1)</sup>
-which need not be touched during normal operation	max. 40	K <sup>1)</sup>
-which are not accessible to the operator	max. 65	K <sup>1)</sup>
Ambient temperature range:		
-indoor <sup>3)</sup>	-30 to +40 (55)	°C
-outdoor <sup>3)</sup>	-30 to +40 (55)	°C
Mounting location of cable connection module	horizontal, vertical	

### Note:

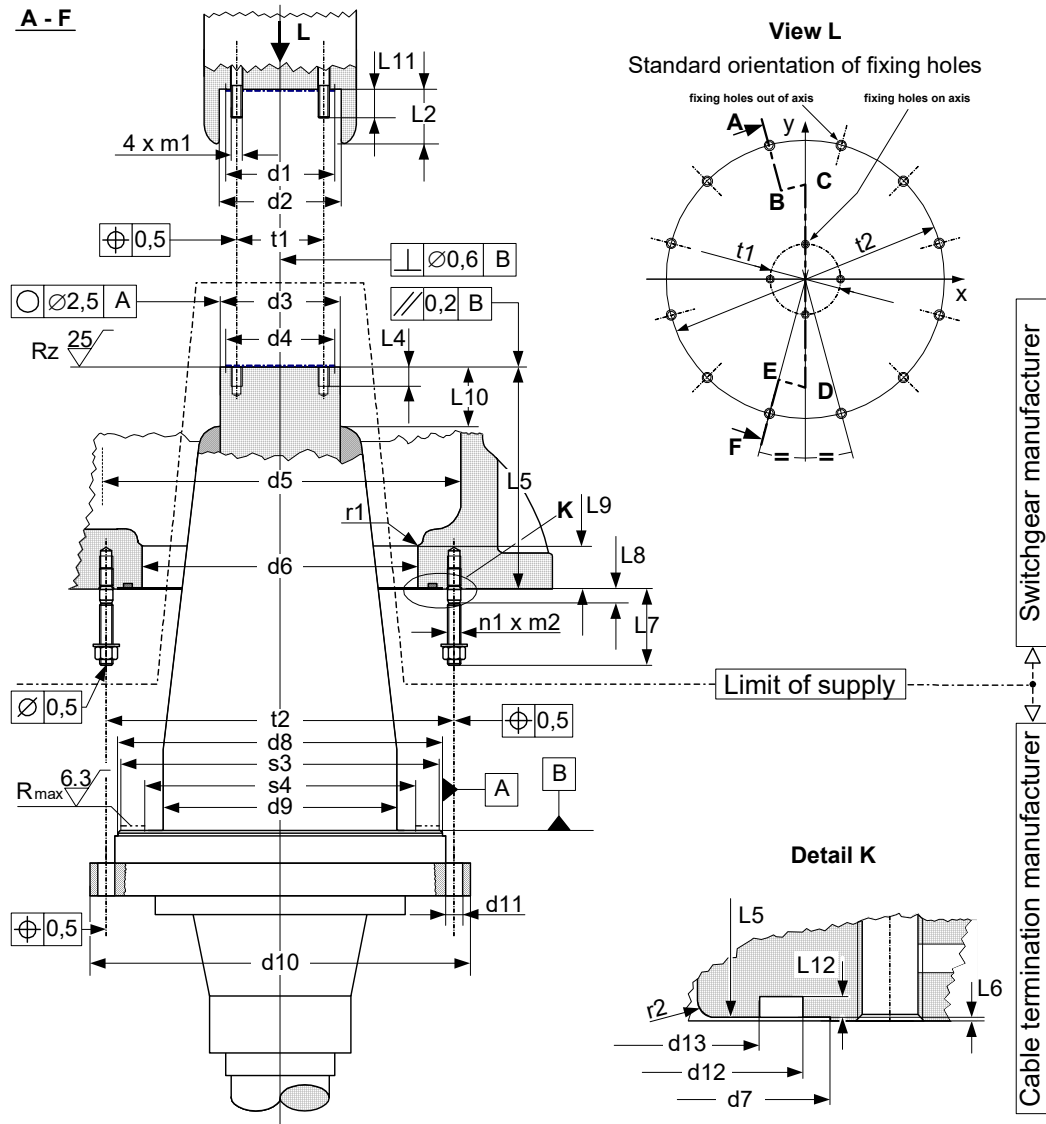
- Mechanical forces on cable-terminations see IEC 62271-209:2019, Clause 6.104.
- The overpressure relief device for the gas compartment including the cable connection enclosure is designed for covering possible internal faults within that compartment; it is not designed to cover internal faults within the cable termination as this component is not part of the GIS.
- According to IEC 62271-209, the insulation between the gas compartment of the gas-insulated cable connection enclosure and the cable termination serves as a barrier to prevent the flow of insulating gas between the components. Cable terminations which allow a flow of gas (e.g. SF<sub>6</sub>) between the components are not in conformity with the standard and are not appropriate for installation into the cable connection enclosure. Installation using a cable termination without an insulating barrier conforming to the requirements of IEC 62271-209 may lead to death, personal injury and/or property damage.
- Neither Siemens, nor any of its affiliates, subsidiaries, successors or assigns, shall be responsible or liable for any claims, losses, or damages, including, but not limited, to death, personal injury or property damage, resulting from or relating to an improper installation of the cable termination into the cable connection enclosure.

1) at 40 °C according to IEC 62271-1 Edition 2.0 (07-2017), Table 14

2) Note: 'kPa' means kPa gauge

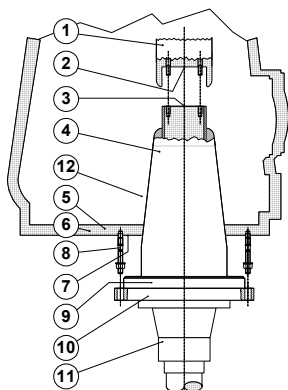
3) Ambient temperatures higher than +40°C only possible with lower rated current

**Diameters and Linear Sizes:**



d1= 97 <sup>+0.3</sup> <sub>-0.3</sub> mm	d9≤ 250 mm	L5= 470 <sup>+1.0</sup> <sub>+1.0</sub> mm	r1≥ 10 mm
d2= 112.3 <sup>+0.2</sup> <sub>-0.2</sub> mm	d10≤ 350 mm	L6≤ 1.0 <sup>+0.5</sup> <sub>-0.5</sub> mm	r2≥ 1.5 mm
d3≤ 110 mm	d11≥ 12.5 mm	L7≥ 90 mm	s3≥ 295 mm
d4≥ 100 mm	d12= 288 mm	L8≤ 30 mm	s4≤ 266 mm
d5≥ 300 mm	d13= 272 mm	L9≤ 50 mm	t1= 80 <sup>+0.3</sup> <sub>-0.3</sub> mm
d6= 255 <sup>+0.5</sup> <sub>-0</sub> mm		L10≥ 55 mm	t2= 320 <sup>+0.5</sup> <sub>-0.5</sub> mm
d7= 299 <sup>+0.5</sup> <sub>-0</sub> mm	L2≤ 50 mm	L11≤ 17 mm	m1= M10
d8= 298 <sup>+0.3</sup> <sub>-0.3</sub> mm	L4≥ 18 mm	L12= 3.8 mm	n1 x m2= 12 x M12

## Limits of supply



	Switchgear Manufacturer	Cable Termination Manufacturer
Main circuit end terminal	①	
Connection interface	②	
Connection interface		③
Insulator		④
Cable connection enclosure	⑤	
Flange	⑥	
Seal	⑦	
terminal screw connection, washers, nuts (galvanized steel)	⑧	
cpl. sealing end		⑨
Flange (if needed)		⑩
remaining parts of sealing end		⑪
SF <sub>6</sub> -gas	⑫	

## Assembling

- Screws thread to be lubricated with –Centoplex 24DL- (Messrs. Dow. Corring, Munich) before assembling ①, tightening torque M10 = 40 ± 4 Nm
- Tightening torque for pressure vessel screw connection (galvanized bolt)  
M12 = 40 ± 4 Nm ⑧, terminal screw connection locked by liquid plastic 3 according to SN 46800 – Loctite 243
- Tightening torque for pressure vessel nuts M12 = 40 ± 4 Nm ⑧; (lower torque possible by the cable termination manufacturer)
- Flange surface exposed to air (outside the O-ring diameter) coated with –TECTYL 506-grease (Messrs. Valvoline, Hamburg). Sealing zone (groove and surface contacting O-ring) as well as flange surface exposed to SF<sub>6</sub> (inside of O-ring diameter) coated with - WD40 - (WD40 Company Ltd., Milton keynes, GB)
- Contact surface in the current path (main circuit-cable termination) to be copper-sprayed with 40 to 100 µm

**Note: Consider mating material – terminal screw connection ↔ pressure ring**

## Shipment

- Parts protected against mechanical damage and corrosion
- Contact surfaces in current path treated with easily removable anti-corrosion compound (e.g. Centoplex 24 DL, Messrs. Klüber, Munich)
- Cable connection housing with factory-assembled SF<sub>6</sub>-tight endplates

