

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

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3/08/26

Revision History

This amendment replaces the following specifications:

SDI 210 – Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear Am. 3

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Document Control

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1 Purpose

This standard provides technical and reference information to assist with the safe design, installation, commissioning, operation and decommissioning of Siemens 8DJH, 8DJ10 and 8DJ20 switchgear.

This instruction deals only with the standard units approved for use by Endeavour Energy for use in the distribution network as detailed in section 5.1.2.

2 Scope

The scope of this document provides reference to the various lifecycle stages of the switchgear and therefore should be read in conjunction with:

- Mounting and construction requirements: refer MCI 0006
- Earthing design, construction and testing: refer EDI 100
- Specification of new equipment: refer ETS 0068
- General details and minimum design requirements: MDI 0028
- Testing and commissioning: refer SDI120
- Ongoing maintenance requirements: refer SMI 101
- Standard drawing requirements: SAD 0001

This document shall be read in conjunction with the manufacturer's installation instructions available on the Endeavour Energy standards website document numbers 07897073EN and 07897071EN, dated March 2007 for 8DJ10 / 8DJ20. Document number 500-8384.9 shall be referred to for 8DJH.

3 References

External Regulations

NSW Work Health and Safety Act 2011

NSW Work Health and Safety Regulation 2025

External Standards

Standard No.	Year	Title
ENA Doc 01	2019	ENA National Electricity Network Safety Code
AS 60265.1	2001	Switches for rated voltages above 1kV and less than 52kV

Company Policies and Procedures

Company Policy (Network) 9.1.6	Approved material list
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Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

Company Policy (Network) 9.2.5	Network Asset Design
Company Policy (Network) 9.7.1	Network Asset Construction
Company Policy (Network) 9.8.3	Network Operations
Company Policy (Network) 9.9.1	Network Asset Maintenance
Company Procedure (Procurement & Logistics) GSU 0012	Selection and Approval of a Disposal Method
Division Procedure GNV 1026	Equipment Register
Division Procedure GNV 1044	Commissioning Network Electrical Assets
Division Procedure GNV 1061	Transmission and High Voltage Distribution Network Switching

Company Standards	
Earthing Design Instruction EDI 100	Distribution earthing design
Environmental Management Standard EMS 007	Waste Management
Equipment Technical Specification ETS 0068	Distribution indoor and padmount substation 12-24kV switchgear
Mains Construction Instruction MCI 0006	Underground Distribution: Construction standards manual
Mains Design Instruction MDI 0028	Underground distribution network design
Standard Asset Data SAD 0001	Project drawing standard
Substation Design Instruction SDI 120	Testing and commissioning for distribution systems
Substation Maintenance Instruction SMI 101	Minimum requirements for maintenance of distribution equipment
Substation Maintenance Instruction SMI 122	Use and handling of sulphur hexafluoride (SF6)
Regional Branch Workplace Instruction WRG 0526	Handling of SF6 (Sulphur Hexafluoride)

4 Definitions and Abbreviations

Term	Definition
ADMS	Automated Distribution Management System
ASP	Accredited Service Provider

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

BIL	Basic impulse level
HRC	high rupturing capacity
LBS	Load break switch
LHS	left hand side
RHS	right hand side
RMS	root mean square
RMU	ring main unit
RTU	remote terminal unit
SF ₆	sulphur hexafluoride
SFU	switch fuse unit
TRF	transformer
SWMS	Safe Method Work Statement
XLPE	cross-linked polyethylene

5 Actions

5.1 General

5.1.1 Background

Siemens switchgear 8DJH and 8DJ10 / 8DJ20 are metal enclosed switchgears for use in secondary distribution applications. Both switchgears are factory assembled and type tested. They are suitable for installation in padmount substations/switching stations, or in indoor substations.

The main technical features of the switchgear are:

- Three-pole metal enclosed.
- SF₆ gas is used for insulation and interruption.
- Gas tight, welded stainless steel vessel, with weld in bushing.
- Three-position switch - closed/opened/earthed. The switch is featured with break before make facility. Operation of the switch straight from closed position to earth position is mechanically prevented but there is nothing to prevent closing of the switch to earth position when the incoming feeder is live.
- HRC fuses and cable-sealing ends accessible when the circuit is earthed.
- The approved switchgear cannot be extended.
- In the case of a single fuse blow out, all three phases of the switch are opened through a striker pin provided on each of the fuses.

Further description, operation and maintenance instructions on switchgear 8DJ10 and 8DJ20 can be found in Operating Instruction no. 817- 6638.0 from Siemens. This instruction forms an integral part of this document.

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

5.1.2 Approved products

Endeavour Energy purchases only 24kV rated switchgear for use on both 11kV and 22kV networks. Endeavour Energy has approved the following assemblies rated at 24kV.

Since 2014, Endeavour Energy purchased the 24kV 8DJH switchgear manufactured in Siemens, China. The RTRR-C unit replaces the 8DJ10-71 model. The following ring main units are approved to be used in Endeavour Energy's network:

Table 1: Approved manual RMUs from Siemens

Material number	Siemens part number	Description
1000005266	8DJH-RT	22kV Switch-Fuse
1000005284	8DJH-RTR	22kV Switch-Fuse-Switch
1000006286	8DJH-RTRR	22kV Switch-Fuse-Switch - For Indoor use ONLY
1000005273	8DJH-RTRR-C*	22kV Switch-Fuse-Switch-Switch - For Padmount use ONLY
1000006287	8DJH-RL	22kV Switch-CB
1000005285	8DJH-RLR	22kV Switch-CB-Switch
1000006285	8DJH-RLRR	22kV Switch-CB-Switch -Switch - For Indoor use ONLY
1000005271	8DJH-RRR	22kV Switch-Switch-Switch
1000006284	8DJH-RRRR	22kV Switch-Switch-Switch-Switch

* Effective May 2024, Siemens discontinued the production of 8DJH RTRR-C.

Effective 2014, Siemens has ceased the production of 8DJ10 / 8DJ20 switchgear which was previously used on Endeavour Energy's network so these approvals will no longer be valid.

Table 2: Discontinued 8DJ10 / 8DJ20

Siemens part number	Description
24kV 8DJ10 – 10	Two feeder switches and one transformer switch fuse
24kV 8DJ10 – 71	Three feeder switches and one transformer switch fuse
24kV 8DJ20 – 21	One radial feeder switch and one transformer switch fuse
24kV 8DJ20 – 10	Two feeder switches and one transformer switch fuse
24kV 8DJ20 – 32	Three load break switches (for use as a switching station)

Note: 8DJ10 has rear cable connections to the transformer switch fuse unit (in the upper compartment of the switchgear), where as 8DJ20 has front cable connections to the transformer switch fuse unit (in the lower compartment of the switchgear).

Single line diagrams are shown in clause 5.3.

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

Since 2021, the following 8DJH 24kV Automated RMUs were approved to use in Endeavour Energy's distribution network.

Table 3: Approved Automated RMUs from Siemens

Endeavour Energy material number	Siemens part number	Description
1000007283	8DJH-342539	Siemens 8DJH RTR 1 switch automated
1000007284	8DJH-344841	Siemens 8DJH RTR 2 switches automated
1000007291	8DJH-335189	Siemens 8DJH RTRR-C 3 switches automated* – for Padmount use only
1000007285	8DJH-342538	Siemens 8DJH RTRR-S 3 switches automated – for Indoor use only
1000007288	8DJH-344844	Siemens 8DJH RLR 1 switch automated
1000007289	8DJH-344845	Siemens 8DJH RLR 2 switches automated
1000007290	8DJH-344846	Siemens 8DJH RLRR 3 switches automated– for Indoor use only
1000007286	8DJH-344842	Siemens 8DJH RRR 3 switches automated
1000007287	8DJH-344843	Siemens 8DJH RRRR 4 switches automated

* Effective May 2024, Siemens discontinued the production of 8DJH RTRR-C

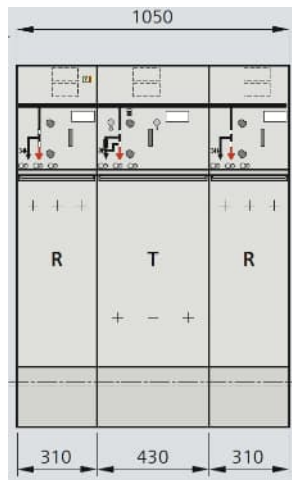
The following Siemens motorised RMUs are approved for used in Zone substations only and all wiring works are to be carried out by Endeavour Energy's Protection & Control employees.

Table 4: Motorised RMUs used in Zone substation only

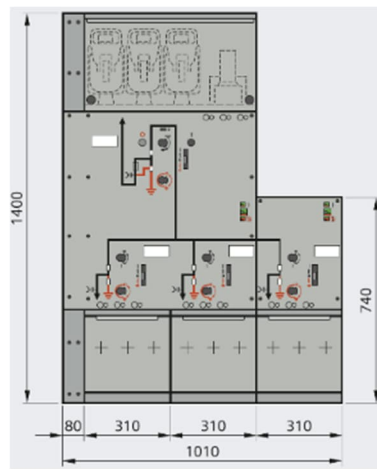
Endeavour Energy material number	Siemens part number	Description
1000006583	8DJH-245337	Siemens 8DJH RTR 1 switch motorised
1000006898	8DJH-238865	Siemens 8DJH RTRR-S 3 switches motorised – for indoor use only
1000006581	8DJH-245338	Siemens 8DJH RLR 1 switch motorised
1000006896	8DJH-245344	Siemens 8DJH RRR 3 switches motorised –
1000006897	8DJH-245352	Siemens 8DJH RRRR 4 switches motorised

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

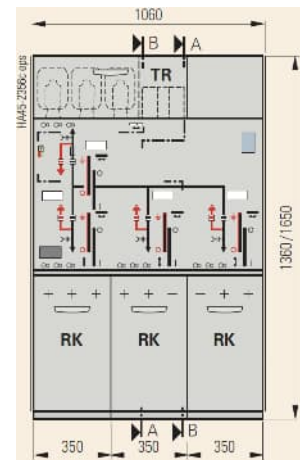
5.1.3 Dimensions, weight and description



8DJH - RTR



8DJH-C - RTRR



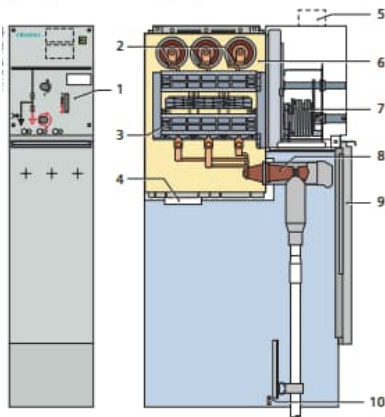
8DJ10-71 - RTRR

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

Ring-main feeder

Type R

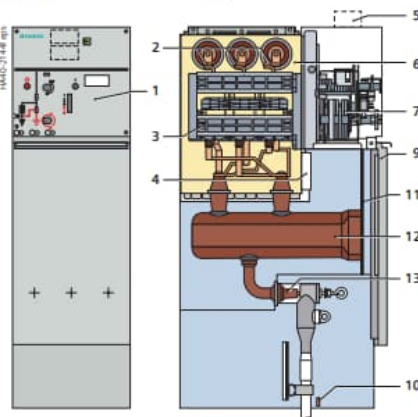
Section



Transformer feeder

Type T

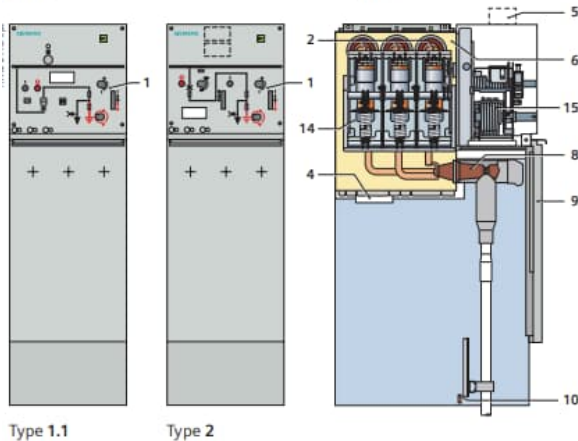
Section



Circuit-breaker feeder

Type L

Section



Type 1.1

Type 2

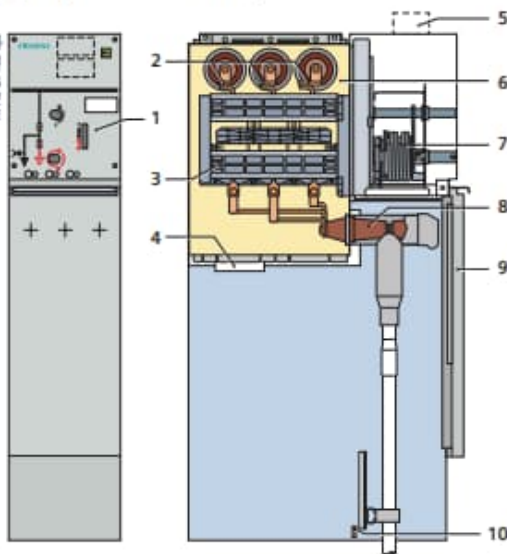
- 1 Control board
- 2 Busbar arrangement
- 3 Three-position switch-disconnector
- 4 Pressure relief device
- 5 Wiring duct, removable, for protection cables and/or bus wires
- 6 Switchgear vessel, filled with gas
- 7 Operating mechanism of switching device
- 8 Bushing for cable plug with bolted contact (M16)
- 9 Cable compartment cover
- 10 Earthing busbar with earthing connection (design option)
- 11 Partition
- 12 HV HRC fuse assembly
- 13 Bushing for cable plug with plug-in contact, optionally bolted contact (M16)
- 14 Vacuum circuit-breaker
- 15 Circuit-breaker operating mechanism, operating mechanism for three-position disconnector

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

Ring-main feeder

Type R

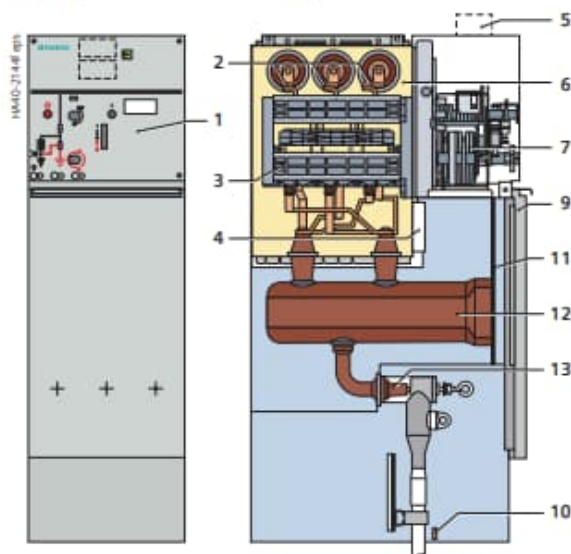
Section



Transformer feeder

Type T

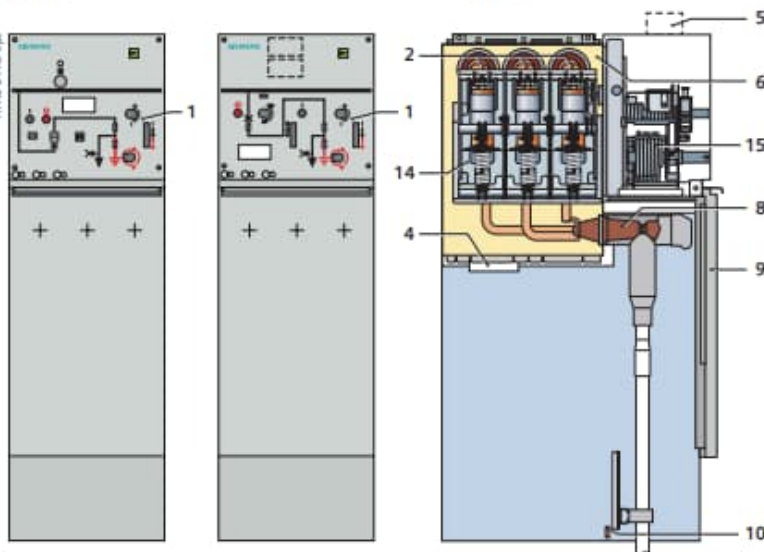
Section



Circuit-breaker feeder

Type L

Section



Type 1.1

Type 2

- 1 Control board
- 2 Busbar arrangement
- 3 Three-position switch-disconnector
- 4 Pressure relief device
- 5 Wiring duct, removable, for protection cables and/or bus wires
- 6 Switchgear vessel, filled with gas
- 7 Operating mechanism of switching device
- 8 Bushing for cable plug with bolted contact (M16)
- 9 Cable compartment cover
- 10 Earthing busbar with earthing connection (design option)
- 11 Partition
- 12 HV HRC fuse assembly
- 13 Bushing for cable plug with plug-in contact, optionally bolted contact (M16)
- 14 Vacuum circuit-breaker
- 15 Circuit-breaker operating mechanism, operating mechanism for three-position disconnector

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

Table 5: Dimensions and weight

8DJ10/20	8DJ10-10	8DJ10-71	8DJ20-21	8DJ20-10	8DJ20-32
Width, mm	710	1060	710	1060	1060
Depth, mm	775	775	775	775	775
Height, mm	1360	1360	1200	1200	1200
Weight, kg	270	340	200	280	210

8DJH	RT	RTR	RTRR*	RRR	RRRR	RL	RLR	RLRR	RTRR C**
Width, mm	740	1050	1360	930	1240	740	1050	1360	1010
Depth, mm	775	775	775	775	775	775	775	775	775
Height, mm	1200	1200	1200	1200	1200	1200	1200	1200	1400
Weight, kg	230	330	430	300	400	230	320	430	475
Weight of SF6, kg	1.6	2.2	3.1	1.9	2.5	1.6	2.2	2.8	2.8

R = ring main feeder T = transformer feeder L = circuit breaker feeder

C = compact

* used only in indoor substations ** used only in padmount substations

5.2 Technical specification

Switchgears 8DJH and 8DJ10 / 8DJ20 are rated at 24kV. The same switchgear can be used for 12kV applications.

The specifications at 12kV and 24kV for 8DJH are:

Table 6: 8DJH RMU technical details

Rated voltage of use		12kV	24kV
50Hz one (1) minute power frequency withstand	Phase to earth	28 kV rms	50 kV rms
	Across isolating distance	32kV rms	60kV rms
1.2/50 μ s lightning impulse withstand (BIL)	Phase to earth	75 kVp	125 kVp
	Across isolating distance	85kVp	145kVp
Rated current of busbars		630 A	630 A
Rated current of cable feeders		630 A	630 A
Rated current of transformer feeders		200 A	200 A
Rated current of circuit breaker feeders		630A	630A
Rated short time withstand current for one (1) second		25kA	20 kA
Rated peak withstand current		63kA	50kA
Rated short circuit making current - cable feeder		63kA	50kA

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

Rated short circuit making current - transformer feeder	25kA	25kA
Rated short circuit making current - circuit breaker feeder	63kA	50kA
Internal arc fault classification	AFLR 21kA 1 s	AFLR 21kA 1 s

The specifications at 12kV and 24kV for 8DJ10 / 8DJ20 are:

Rated voltage of use	12kV	24kV
50Hz one (1) minute power frequency withstand	50 kV rms	50 kV rms
1.2/50 μ s lightning impulse withstand (BIL)	125 kVp	125 kVp
Rated current of busbars	630 A	630 A
Rated current of cable feeders	630 A	630 A
Rated current of transformer feeders	200 A	200 A
Rated short time withstand current for one (1) second	20kA	16 kA
Peak withstand and making current	50 kA	40 kA

5.2.1 Fuse details

Siemens 8DJH and 8DJ10/20 switchgear are designed for 12kV and 24kV operation. When used on a 12kV system, an extension fuse link is required so that it will accept standard 12kV 292mm long DIN fuses.

All 8DJH units are supplied with the fuse extension units.

Siemens switchgear will accept standard 22kV 442mm long DIN fuses. No modification is required for this purpose.

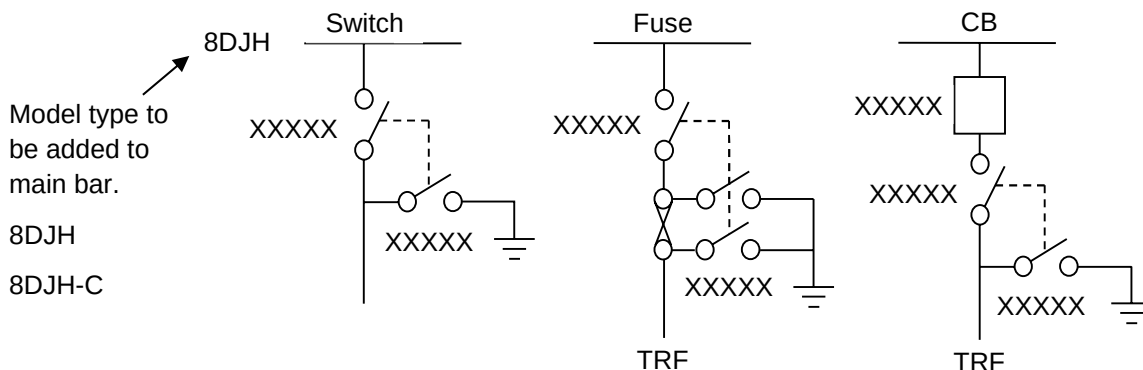
Warning: Make sure the striker is in the direction of the fuse sealing cap.



Fuse Extender

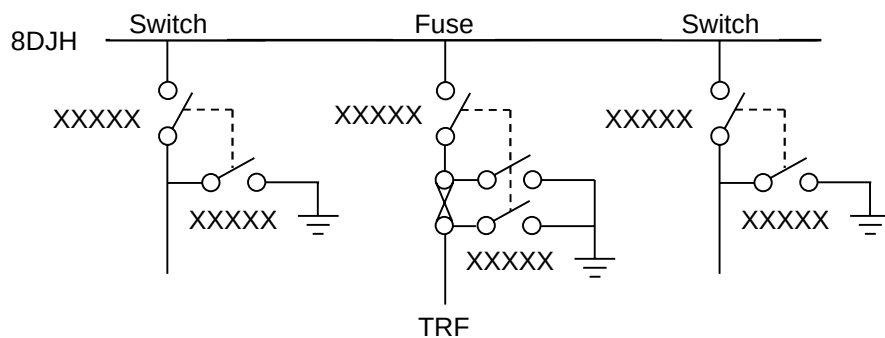
5.3 Single line diagrams – Operating diagram symbol

The operating diagram symbols to be shown on projects drawings for the 8DJH switchgear shall be a combination, in accordance and aligned with the switchgear configuration, of the following basic types as shown below. More detail on the actual mechanism is provided in installation and operating instructions. Project drawing standards must be in accordance with SAD00001.

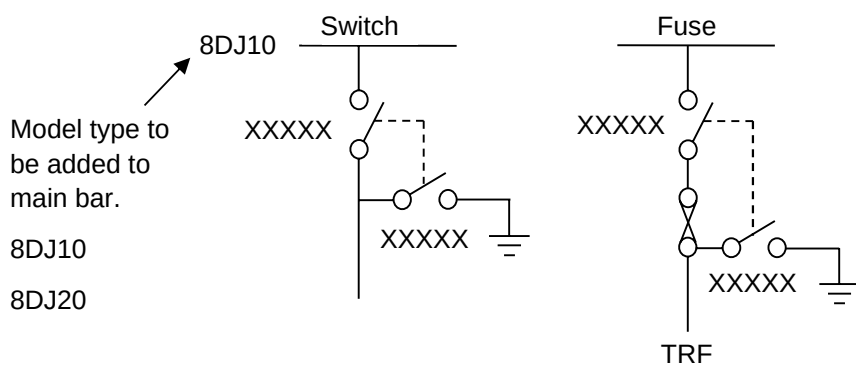


Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

Example Switch-Fuse-Switch combination



8DJ10 and 8DJ20 operating diagrams are provided below.



5.3.1 ADMS symbology

A typical symbology for Siemens 8DJH in ADMS is as follows:



Siemens 8DJH RTR

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear



Siemens 8DJH RTRR-C

5.4 Gas indicator

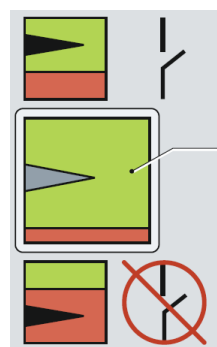
There is no gauge as such in the Siemens switchgear.

There is a needle that indicates that the gas pressure is either correct or incorrect.

The indicator is not affected by temperature or altitude.

When the indicator is in the green, the switch is ready for service.

When the indicator is in the red, the switch is not ready for service.



8DJH indicator



8DJ10 & 20 indicator

The auxiliary switch of the ready-for-service indicator can latch tight in the red area due to extreme shocks during transport.

- Remove the front plate of the switchgear. Push the roller lever of the auxiliary switch carefully towards the switch.
- The auxiliary switch must return automatically so that the pointer of the ready-for service indicator is in the green area again. If not, please raise a defect.

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

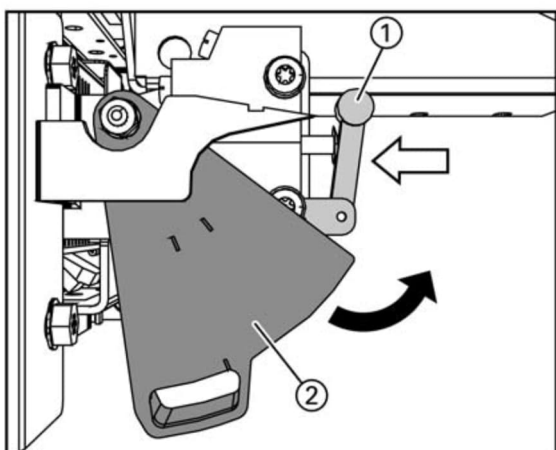


Fig. 1 Roller lever 1 at the auxiliary switch 2 plastic of the ready for service indicator

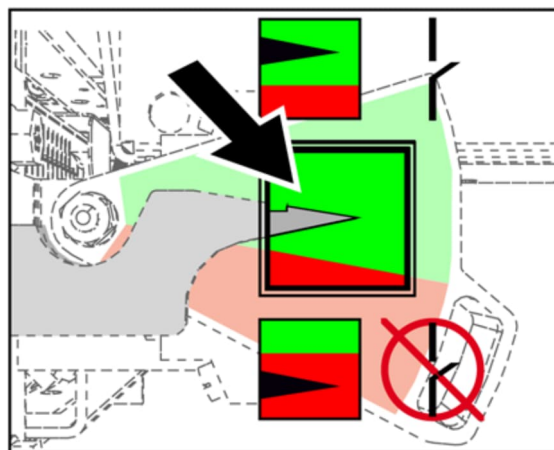


Fig. 2 Pointer position after operation of the part of the auxiliary switch

5.5 Accessories

5.5.1 Fault indicators

Horstmann ALPHA E short circuit indicators are used with the 8DJ10/8DJ20 switchgears and Horstmann Sigma F&E 3.0 are used with the 8DJH switchgears. Sigma F&E 3.0 indicates both short circuit and earth faults.



Alpha E



Sigma F+E 3

On the initial 8DJH switchgear the Sigma F&E 3.0 fault indicator CTs are fitted around the feeder cables. The CTs required to power the Sigma F&E relays needs to be larger than the normal CT for the Alpha E to allow for low earth fault detection.

Since 2015, the CTs are pre-fitted around the bushings of the switchgear.

Refer to Siemens installation instruction: 526-5044.9 for retrofitting voltage indicators.

5.5.2 Phase concordance unit

The phase concordance unit can be used with the voltage indicator lamps supplied as standard on all units to Endeavour Energy. The unit can be purchased directly from the manufacturer.

5.5.3 Capacitive voltage indicator

Capacitive voltage dividers check the presence of voltage on each phase. Sockets for the connection of an indicator are located on the front plate. Before starting the test, remove the earthing links and refit them immediately after disconnecting the tester.

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

5.5.4 Phase balance indicator

A phase balance indicator is available and uses the same capacitive test points as the capacitive voltage indicator.

5.6 Installation

5.6.1 General

Siemens switchgear 8DJH, 8DJ10 and 8DJ20 are designed for installation in a padmount substation/switching station, and in an indoor substation. The switchgear is suitable for installation on the standard plinth, as set out in MCI 0006 and ETS 0068.

8DJH switchgear is mounted on a riser bracket that is used to bolt down the unit and to allow the transformer cables to exit the rear and connect to the transformer.

The switchgear does not require the installation of space heaters for operations. For further installation details, refer to Operating Instructions no. 817-6638.0 for 8DJ10/8DJ20 and Operating instructions no.: 500-8384.9 for 8DJH.

5.6.1.1 Circuit breaker units

The 8DJH RL, RLR and RLRR are with circuit breaker units and are pre-fitted with a self powered IKI-30 relay. The IKI 30 self-powered protection relay supplied by KRIES is used in this switchgear to operate the circuit breaker under fault conditions based on current sensing by the non-conventional instrument transformer installed in the cable box. These switchgears must be bench tested by Protection & Control team prior installation.

Initial supply of circuit breaker units was supplied with a black colour CT that need to be fitted during assembly of the cable tail and the core balanced CT was not used.

Effective February 2020, all circuit breakers units are supplied with factory fitted blue colour CTs and an unfitted large core balanced blue colour CT. The core balance CT is used to detect earth faults. The core balanced blue colour CTs used in a RL, RLR & RLRR switchgear must be installed in accordance to Figure 4 and the manufacturer's instructions. It is important that the earth cable run through the core balance CT window as shown in Figure 5.

Please confirm the cable ties are securely fitted during installation. If the cable ties are unsatisfactory, utilise standard cable ties from the stores.

CT's must be checked to be secured prior to commissioning and shall be inspected during routine maintenance.

The following IKI 30 relays are compatible with either the black or blue colour CTs:

Relay Art. No.	Phase CT	Core balance CT
2500287	Black*	Black**
2500287_S092_DIW	Blue#	Blue ##

* - Phase CT installed by EE/ASP

** - Core balanced CT never used

- Phase CT pre-installed in factory

- Core balanced CT installed by EE/ASP

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

Earth cable must go through the phase CT



Installed black colour phase CT

Fig. 3 Installed black colour CTs (pre-February 2020)



Installed blue colour core balance CT

Fig. 4 Installed blue colour CTs (post-February 2020)

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

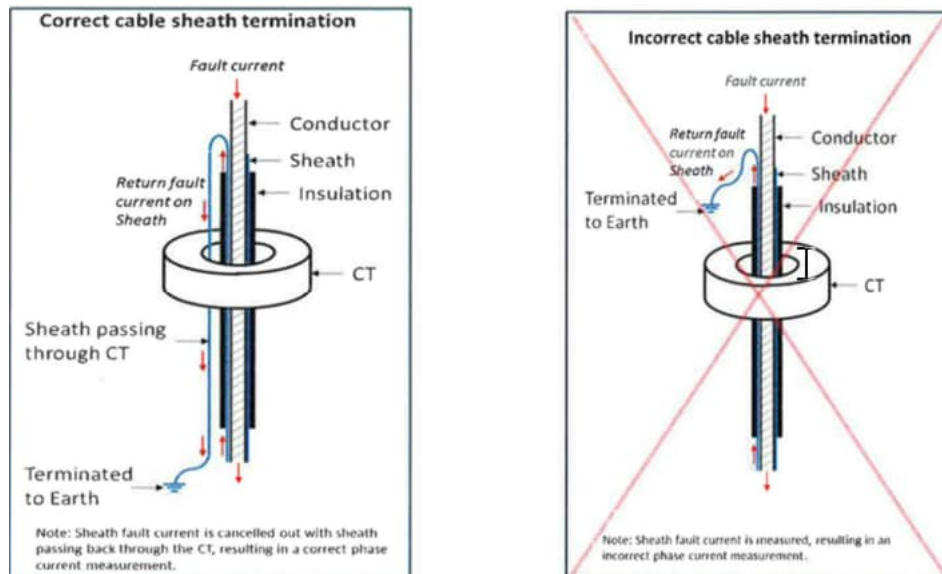


Fig. 5 Cable sheath termination

5.6.1.2 Photos of installed manual 8DJH units



RTR in a padmount



RLR in an indoor substation

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear



RLR in a padmount



RTRR-C in a padmount

5.6.2 Automated 8DJH units

Automated 8DJH units are installed together with its relevant RTU and LV supply panel for 230V to the RTU from the auxiliary fuse strip of the LV switchgear. The RTUs are mounted on the LHS of the LV switchgear while the LV supply control panel is on the RHS. Padmounts with automated 8DJH use galvanised steel plinth to allow the control cable to be laid from HV to LV end via the steel channel. The antenna must be mounted on the top RHS of the side door cubicle.

In indoor substations, the RTU is to be mounted on the wall and ensure the cables are laid properly to avoid a trip hazard.

5.6.2.1 Switching station

Automated 8DJH switching station units require a special cubicle as shown in the picture below. An additional built-in cubicle in a standard switching station cubicle is required to install the RTU. The current easement size (2.75m x 2.75m) must be extended by 500mm to the back of the switching station and ensure no fences or permanent structures are hindering the opening of the back cubicle door. An extended switching station galvanised steel plinth must be installed to the back of the switching station plinth.

LV supply is required either via a LV pillar or directly from the LV auxiliary fuse strip if the padmount is adjacent to the switching station.



Photos of switching station cubicle with RTU cubicle

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

5.6.2.2 Photos of automated Siemens 8DJH



Automated RTRR-C



Automated RRRR

5.6.2.3 Material numbers for automated 8DJH units

Table 7: Material numbers

Endeavour Energy material number	Manufacturer / Supplier part number	Description
1000007294	RTU1-S	Schneider T300 RTU 1 switch
1000007295	RTU2-S	Schneider T300 RTU 2 switches
1000007296	RTU3-S	Schneider T300 RTU 3 switches
1000007297	RTU4-S	Schneider T300 RTU 4 switches
1000007259	IR1101-K9-DNA	Modem
1000008736	LTE-G-MLP-4M-SMA	Antenna
1000009103	ANTBKT510	Antenna bracket
1000007209	EE.AHSLS1P20	Automated sw gear LV supply panel
1000000226	EBGR04A10030 GAA (1.5MM)	3 core 30/.25 Cu PVC orange cable
1000010150	END 603	Size 16 switching station cubicle + RTU cubicle
1000010181	2429	Extension galvanised steel plinth for automated switching station

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

5.6.3 Cabling

5.6.3.1 Switch unit

Each feeder switch unit is fitted with 630 Amp bushings according to standards EN 50181/DIN/EN50181 with outside cone. Dead break, termination elbows are to be used with XLPE cables up to 300mm² (either 11kV or 22kV as required). These bushings are capable of accepting a range of plug-in elbows, depending on the cable size, including:

- Euromold/Elastimold - K430TB18-300-EE01 (main unit now)
- NKT - CB 24-630
- Kabledon- SOC 630-2-TP <300mm²

22kV elbows shall be used for all installations including 12kV areas (refer to Siemens instruction no. 817.6638.0 for complete details of acceptable terminations). A Unistrut is provided for clamping of feeder cables.

Double cabling on a feeder switch is possible in the standard cable box configuration but approval from the **Network Planning Manager** is required.

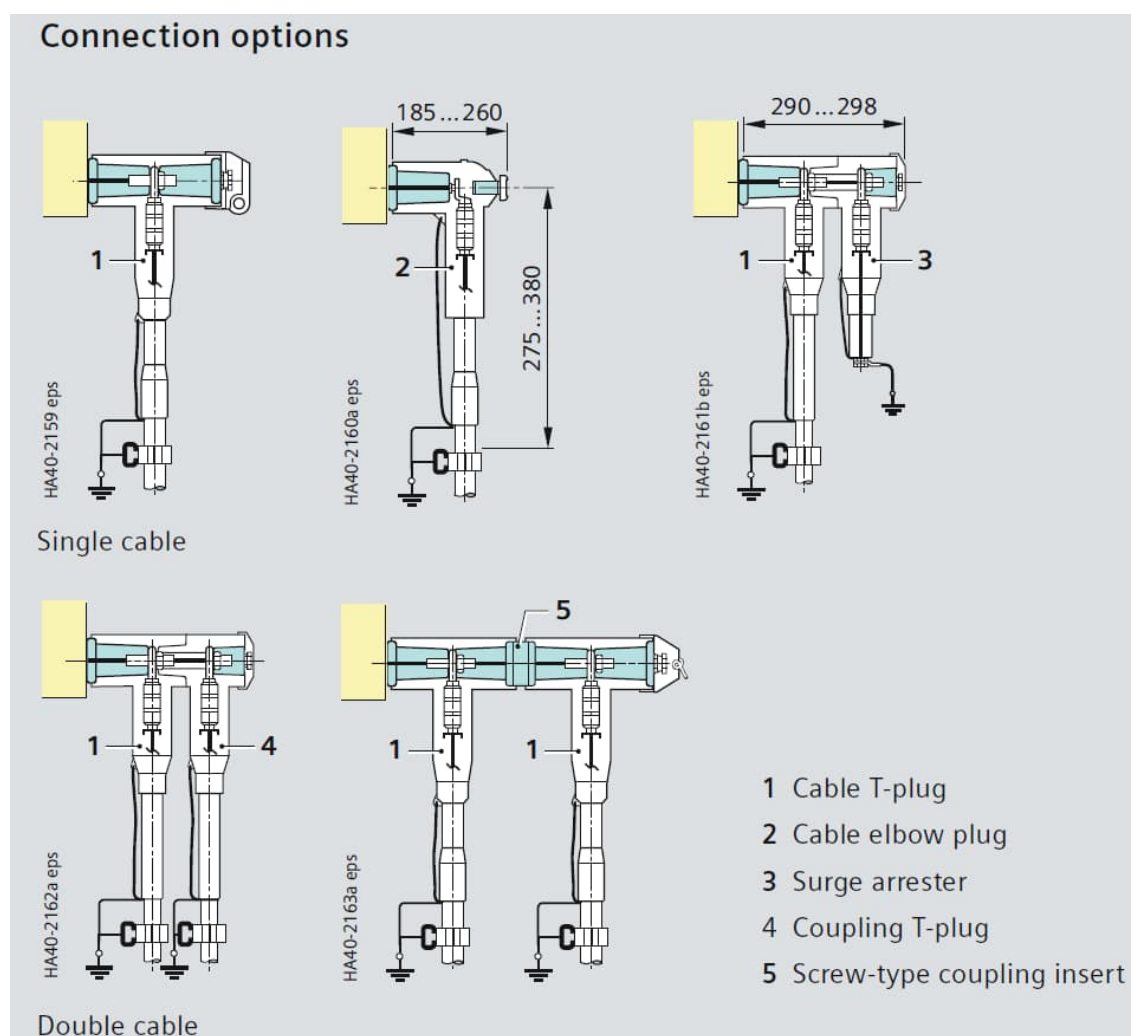


Fig. 6 Connection options

Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

Termination kits required for double cabling are as follows:

Table 8: Double cabling termination kits

Endeavour Energy material number	Nexans part number	Description
1000004996	K480TB18-300-EE01-3	22kV 3 x single core (120 -300mm ²) 630A screened elbow connector for "C" bushing profile
1000007218	3x(K800PB/G-S-18-120 -300-14-5)CW	22kV 3 x single core (185 -300mm ²) 1250A screened elbow (Piggyback) coupler

5.6.3.2 Fuse switch unit

Each fuse-switch unit is fitted with 200Amp bushings manufactured in accordance with EN 50181/DINEN50181 (content is similar to AS 2629). Dead break 200A elbows connectors are to be used with the bushings. Minimum cable size will be 25mm² copper conductor XLPE insulated (In padmounts only Feltotflex or similar approved cable can be used). These bushings are capable of accepting the following plug-in elbow connectors:

- Elastimold - 156LR
- Pirelli - FMCE250

22kV elbows and cables shall be used for all installations including 12kV areas (refer to Siemens instruction no. 817.6638.0 for complete details of acceptable terminations).

Pre-made cable tails for padmount installations are as follows:

Table 9: Pre-made cable tails

Endeavour Energy material number	Nexans part number	Description
1000006821	IT6661	35mm Cu. 2.35m RT, RTR & RTRR
1000006823	IT6090	35mm Cu. 2.9m RL, RLR & RLRR
1000006822	IT6660	35mm Cu. 1.55m RTRR-C

5.7 Operation

5.7.1 Interlocks and mimic diagram

Siemens switchgear 8DJH, 8DJ10 and 8DJ20 are fitted with a switch in the main circuit, with three-positions, closed-opened-earthed. This arrangement prevents the closing of the switch when the earth switch is applied.

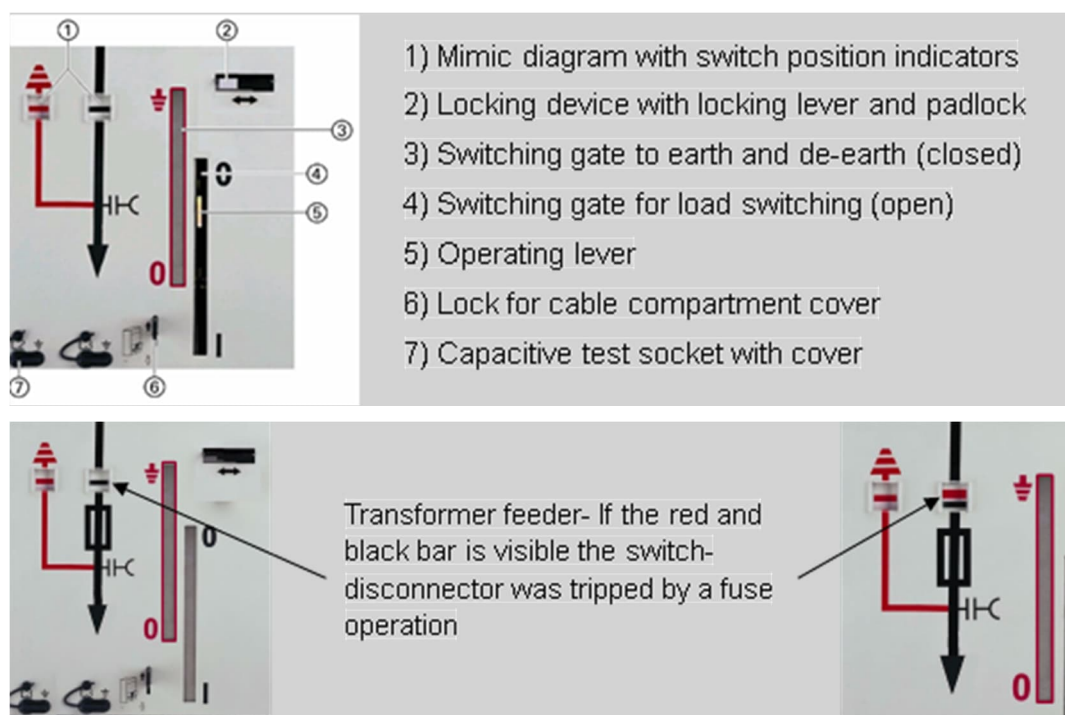
Siemens switchgear 8DJH, 8DJ10 and 8DJ20 are equipped with interlocks to prevent opening of the upper or lower compartments unless the respective switch or switch fuse is in the earthed position.

For further details, refer to Siemens operating instruction no. 817-6638.0.

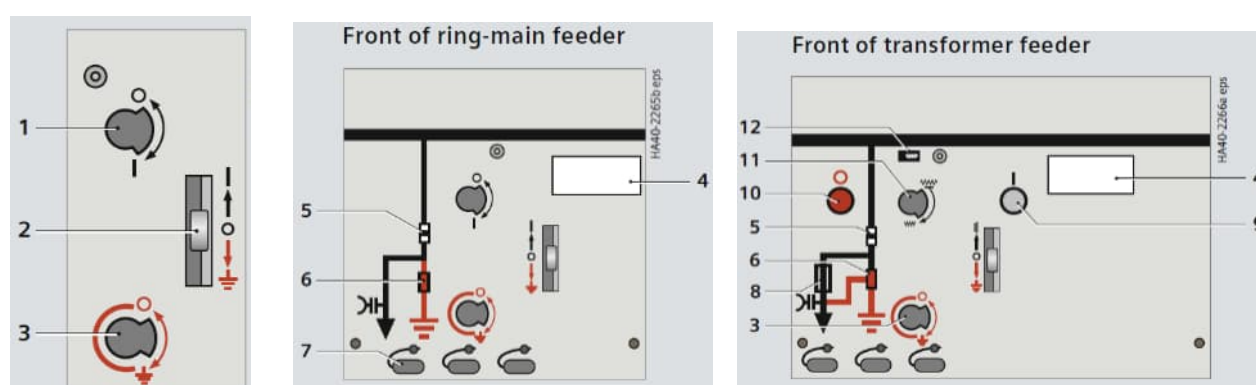
Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

A mimic diagram (as shown in clause 5.3) is provided on the front plate of the switchgear. The mimic shows the position of the switch, that is, in closed, open or earth position. On 8DJ10 and 8DJ20 switchgear a red horizontal bar in the mimic diagram indicates that a fuse has blown.

Siemens switchgear 8DJH, 8DJ10 and 8DJ20 are designed so that they can be retrofitted for remote operation if required in future operation. This will require the use of a motorisation kit that can be purchased from the manufacturer. Appropriate modifications can be carried out in the field (refer to the manufacturer for further details, or refer to attached instruction, Siemens no. 817.6638.0).

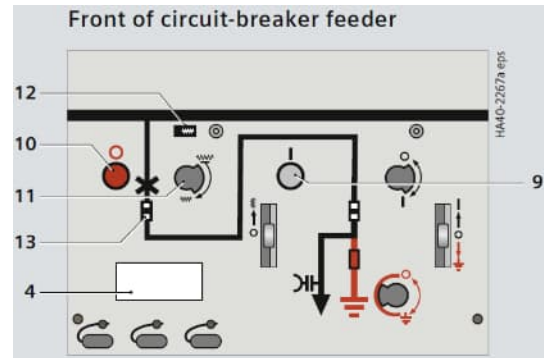


5.7.2 8DJH operating mechanism



Siemens 8DJH and 8DJ10 & 20 12 -24kV switchgear

- 1) Manual operation of load-break function
- 2) Locking function (option for ring-main fdrs)
- 3) Manual operation of earthing function
- 4) Panel designation label
- 5) Position indicator for switch-disconnector
- 6) Position indicator for earthing switch
- 7) Sockets of capacitive voltage detecting system
- 8) "Fuse tripped" indicator
- 9) ON pushbutton for transf. or circuit-breaker function
- 10) OFF pushbutton for transf. or circuit-breaker function
- 11) Manual spring charging
- 12) Spring charged" indicator
- 13) Position indicator for circuit-breaker



5.8 Switching

Important: Only authorised employees may carry out switching operations.

Refer also to the operations symbols in section 5.3.

6 Authorities and Responsibilities

Listed below are the positions or groups of positions that have specific authorities and responsibilities associated with this specification.

General Manager Future Grid and Asset Management has the authority and responsibility for:

- approving major changes to this instruction in accordance with Table 4 of GAM 0001;
- making all decisions concerning compliance with this document;
- delegating any of these authorities and responsibilities to the Head of Asset Management and Digital.

Head of Asset Management and Digital has the authority and responsibility for:

- approving minor changes to this document in accordance with Table 4 of GAM 0001;
- making recommendations to the General Manager Future Grid & Asset Management for major changes in respect to this standard.

Manager Asset Engineering has authority and responsibility for:

- reviewing this document for suitability in Endeavour Energy's network;
- making recommendations to the Head of Asset Management and Digital based on industry best practice;

Head of Field Operations has authority and responsibility for:

- confirming that all installations carried out by Regional employees conform to the requirement of this instruction.

Head of Customer Network Solutions has authority and responsibility for:

- confirming that all design and installations carried out by Level 3 ASPs conform to the requirement of this instruction.

