

SIEMENS

Ingenuity for life



8DJH 12 – blue GIS

Ring-main unit for the
secondary distribution level

[siemens.com/8djh12](https://www.siemens.com/8djh12)

Features



The 8DJH product family has convinced customers worldwide for more than ten years. Now, the 8DJH 12 expands this portfolio. It is a switch-gear using Clean Air – an insulating gas exclusively consisting of natural elements of the ambient air.

The use of “Clean Air” ensures easy operation throughout the entire lifecycle. Thus, the new 8DJH 12 combines the sustainability of the “blue GIS” portfolio with the advantages of the proven 8DJH product family.



The gas-insulated load-break switch-gear with compact dimensions is environmentally friendly and maintenance-free for life, featuring a high level of operational reliability, personal safety, and availability. The hermetically sealed welded switchgear vessel makes the parts carrying high voltage insensitive to ambient conditions, and prevents the ingress of foreign objects. The factory-assembled, type-tested, and 3-pole metal-enclosed 8DJH 12 using Clean Air is a ring-main unit up to 12 kV, 20 kA and 630 A.



The switchgear is used in public and industrial energy systems of the secondary distribution level. Possible applications are secondary transformer substations, customer transfer substations, and switching substations, as well as industrial and infrastructure facilities that benefit from the proven properties of GIS in their networks and want to use insulating media free of fluorine gas at the same time.

8DJH 12 can be controlled from remote, is communication-capable, and can be linked with IoT platforms such as MindSphere, the cloud-based, open IoT operating system from Siemens, and with other systems as well.

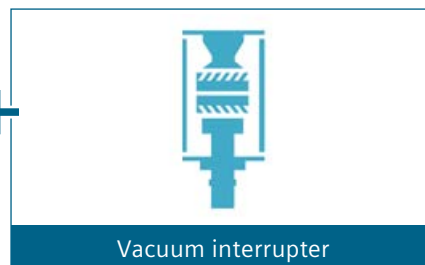
Furthermore, it offers a possibility for the integration of components for condition monitoring and distribution grid automation, an innovation with far-reaching benefits.

blue GIS

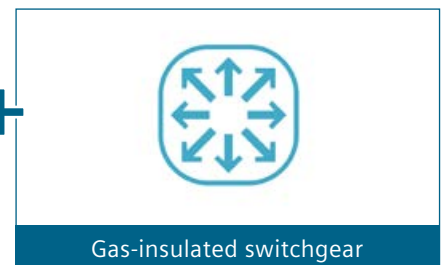
The new 8DJH 12 belongs to the “blue” portfolio of Siemens AG. Every GIS of this portfolio is equipped with Clean Air and the proven Siemens vacuum technology. It meets the expectations of the Siemens customers further on, for example, with respect to switchgear availability, maintenance-free design, personal safety, environmental independence and cost-efficiency. Clean Air consists of the natural elements of the ambient air and is therefore free of F-gases, with a global warming potential <1, highly stable, non-toxic, non flammable, and suitable for every application temperature.



Clean Air



Vacuum interrupter



Gas-insulated switchgear

Technical data

Common technical data	Rated voltage U_r	kV	7.2	12
	Rated short-duration power-frequency withstand voltage U_d – phase-to-phase, phase-to-earth, open contact gap	kV	20	28
	– across the isolating distance	kV	23	32
	Rated lightning impulse withstand voltage U_p – phase-to-phase, phase-to-earth, open contact gap	kV	60	75
	– across the isolating distance	kV	70	85
	Rated frequency f_r	Hz	50	
	Rated normal current I_r – busbar	A	630	
	Rated normal current I_r – feeders	A	630	
	Rated peak withstand current I_p	up to kA	50	
	Rated short-circuit making current I_{ma}	up to kA	50	
	Rated short-time withstand current I_k (up to 3 s)	kA	20	
	Rated short-circuit breaking current I_{sc}	kA	20	
	Insulating medium		Clean Air	
	GWP (Global Warming Potential)		< 1	
	Rated filling level	kPa	160	
	Width	mm	1050	
	Depth	mm	775	
	Height (without low-voltage compartment) ¹⁾	mm	1400	
	Ambient air temperature range ²⁾	°C	– 25 °C to + 55 °C	
	Internal arc classification IAC		IAC A FLR 20 kA 1 s IAC FL 20 kA 1 s	
Partition class		PM		
Loss of service continuity		LSC 2		
Degree of protection ³⁾		Primary part IP65 Switchgear enclosure IP2X		

Technical data of three-position switch-disconnector

Voltage U_r	kV	7.2	12
Current I_r	A	630	630
Short-circuit making current I_{ma}	Load breaking	up to kA	50
	Earthing		50
Classification – mechanical	Disconnecting	Number of operating cycles / Class	1000 / M1
	Earthing		1000 / M0
Classification – electrical	Load breaking	Number of operating cycles / Class	100x I_{load} & 5x I_{ma} / E3
	Earthing		5x I_{ma} / E2

Technical data of vacuum circuit-breaker with three-position disconnector

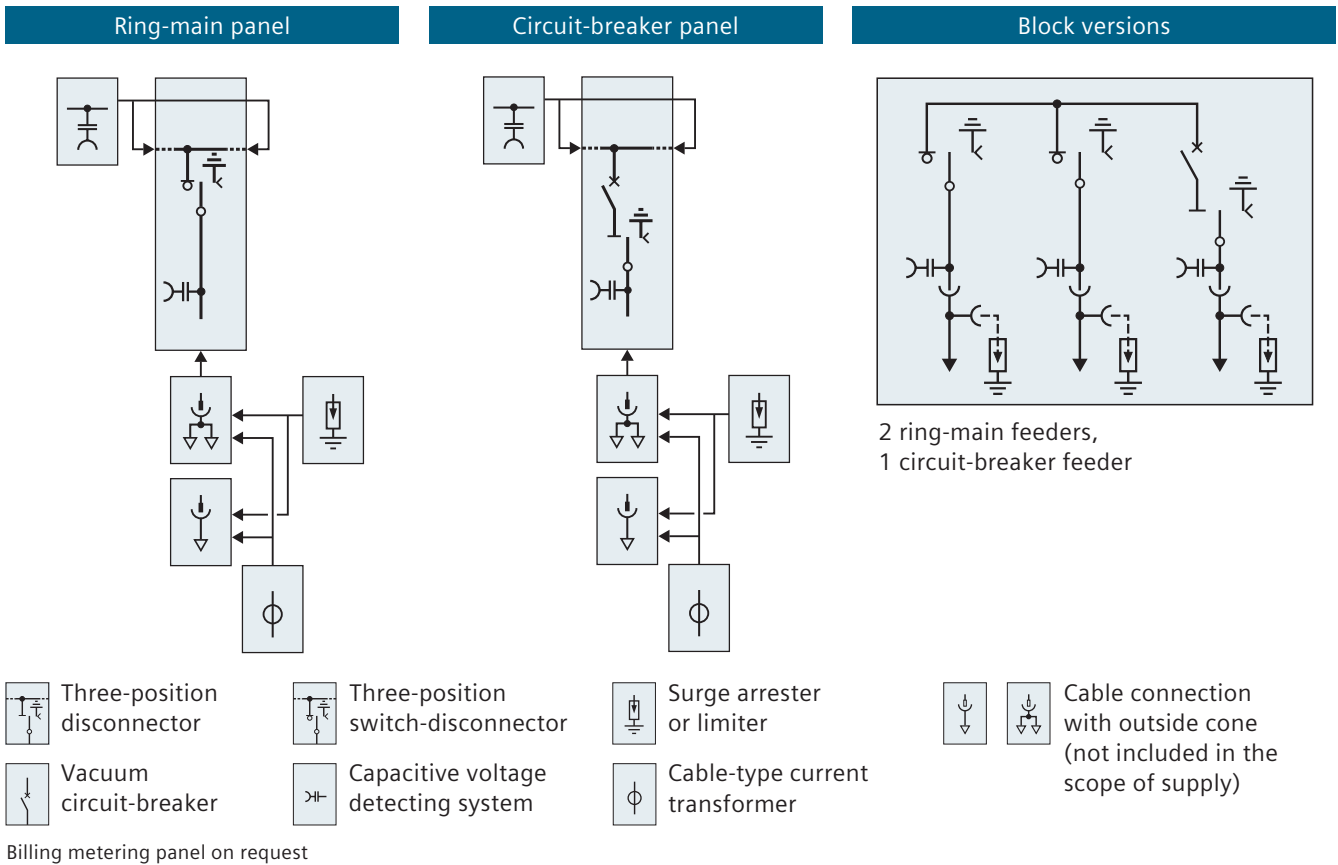
Voltage U_r	kV	7.2	12
Current I_r	A	630	630
Short-circuit breaking current I_{sc}	up to kA	20	20
Rated operating sequence		O-3 min-CO-3 min-CO	O-3 min-CO-3 min-CO
Classification of circuit-breaker – mechanical	Number of operating cycles / Class	2000 / M1	2000 / M1
Classification of circuit-breaker – electrical	Class	E2	E2
Classification of disconnector – mechanical	Number of operating cycles / Class	1000 / M0	1000 / M0
Classification of earthing switch – mechanical	Number of operating cycles	1000	1000
Classification of make-proof earthing switch	Class	E2	E2
Number of short-circuit breaking operations	n	6 or 20	6 or 20

1) Optionally 1200 mm

2) Optionally -40 to +70 without secondary equipment

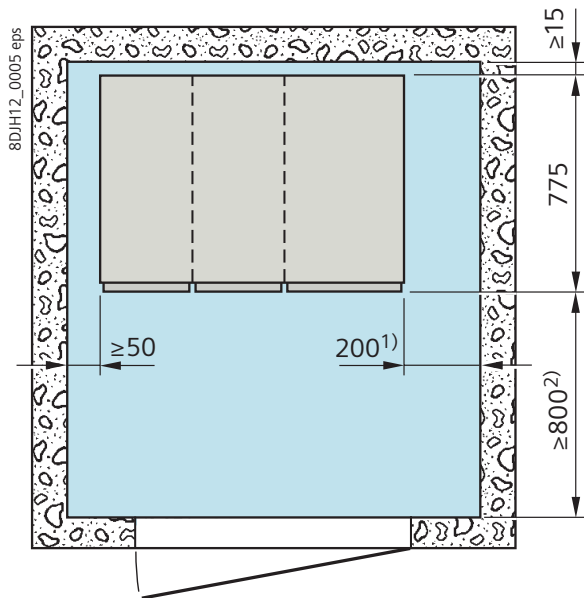
3) Optionally IP3X

Built-in and built-on components



Room planning

Wall-standing and free-standing arrangement



- 1) For lined up switchgear
 - 2) Depending on national requirements
- For extension or panel replacement, a control aisle of at least 1000 mm is recommended

Product range



1 Low-voltage compartment

Customer-specific options in different heights, 200 mm, 400 mm and 600 mm

2 Busbar extension, modularity

- Busbar extension as ordering option
- Plug-in unit consisting of contact coupling and screened silicone coupling
- Insensitive to pollution and condensation
- Switchgear installation, extension or panel replacement is possible without gas work

3 Indicators

Voltage detecting systems, short-circuit / earth-fault indicator and transformer monitor from various manufacturers

4 Three-position switch-disconnector

- Switch positions: CLOSE – OPEN – EARTHED
- Switching functions as general-purpose switch-disconnector according to IEC/EN 62271-103/VDE 0671-103 and IEC/EN 62271-102/VDE 0671-102
- Designed as a three-position switch incorporating the functions of a switch-disconnector and a make-proof earthing switch
- Possible with and without motor

5 Vacuum circuit-breaker

- Consisting of a vacuum interrupter unit with integrated three-position disconnector and the associated operating mechanisms
- According to IEC/EN 62271-100/VDE 0671-100
- Possible with and without motor
- Auxiliary switch with 6 NO + 6 NC or 2 NO + 3 NC + 2 changeover contacts
- Options: Closing solenoid, shunt release, c.t.-operated release, low-energy magnetic release, undervoltage release, circuit-breaker tripping signal, varistor module, position switches and operations counter

6 Enclosure

- Hermetically tight, welded switchgear vessel made of stainless steel
- Enclosure made of sendzimir-galvanized sheet steel

7 Current sensor

Single-phase or three-phase inductive current sensor according to IEC 60044-8

8 Cable compartment

- Access to the cable compartment only if the feeder has been disconnected and earthed
- Bushings according to DIN EN 50181 with outside cone and bolted connection M16 as interface type C

Connection of:

- Cable elbow plugs or cable T-plugs with bolted contact M16 for 630 A
- Paper-insulated mass-impregnated cables via customary adapters
- Thermoplastic-insulated cables (1-core and 3-core cables)
- Option: Mounted cable clamps on cable bracket
- Surge arresters and surge limiters

9 Voltage sensor

Voltage sensor (resistor divider) according to IEC 61869-11

10 Dimension options

- Switchgear heights 1200 mm and 1400 mm
- Deep cable compartment cover with 105 mm and 250 mm

11 Cable-type current transformer

- According to IEC/EN 61869-1 and -2/VDE 0414-9-1 and -2
- Designed as ring-core current transformer, 1-pole
- Free of dielectrically stressed cast-resin parts
- Insulation class E
- Inductive type
- Secondary connection by means of a terminal strip in the panel

12 Pressure relief

- Pressure relief downwards
- Up to IAC A FL 20 kA/1 s or IAC A FLR 20 kA/1 s

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