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blue 8DJH 12



## 8DJH 12 – blue GIS

Ring-main unit for the Secondary distribution level

Catalog  
HA 1713  
Edition 2020

[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.

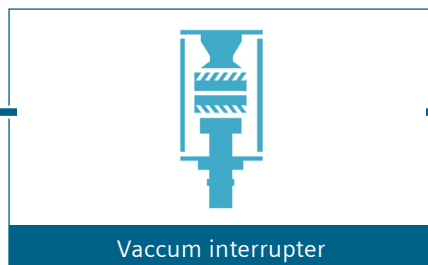
## blue GIS

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.

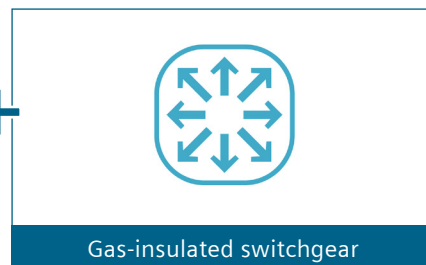
Clean Air consists of the natural elements of the ambient air and is therefore free of F-gases, with a global warming potential <1, highly stable, non-toxic, non-flammable, and suitable for every application temperature.



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# 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 – across the isolating distance	kV kV	20 23	28(42) 32(48)
	Rated lightning impulse withstand voltage $U_p$ – phase-to-phase, phase-to-earth, open contact gap – across the isolating distance	kV kV	60 70	75 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	150	
	Width	mm	430/500/840	
	Depth	mm	775	
	Height (without low-voltage compartment) <sup>1)</sup>	mm	1400	
	Ambient air temperature range <sup>2)</sup>	°C	– 25 °C to + 55 °C	
	Internal arc classification IAC		A FLR 20 kA 1 s A FL 20 kA 1 s	
	Partition class		PM	
	Loss of service continuity		LSC 2	
	Degree of protection <sup>3)</sup>		Primary part IP67 Switchgear enclosure IP3X	

## Technical data of general purpose switch

Rated voltage $U_r$	kV	7.2	12
Short-circuit making current $I_{ma}$ up to	kA	50	50
Classification – mechanical	Number of operating cycles / Class	1000 / M1	1000 / M1
Classification – electrical	Number of operating cycles / Class	100x $I_{load}$ & 5x $I_{ma}$ / E3	100x $I_{load}$ & 5x $I_{ma}$ / E3

## Technical data of vacuum circuit-breaker L2 with three-position disconnector

Rated voltage $U_r$	kV	7.2	12
Short-circuit breaking current $I_{sc}$	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 / M0	1000 / M0
Classification of make-proof earthing switch	Class	E2	E2
Number of short-circuit breaking operations	n	6 or 20	6 or 20

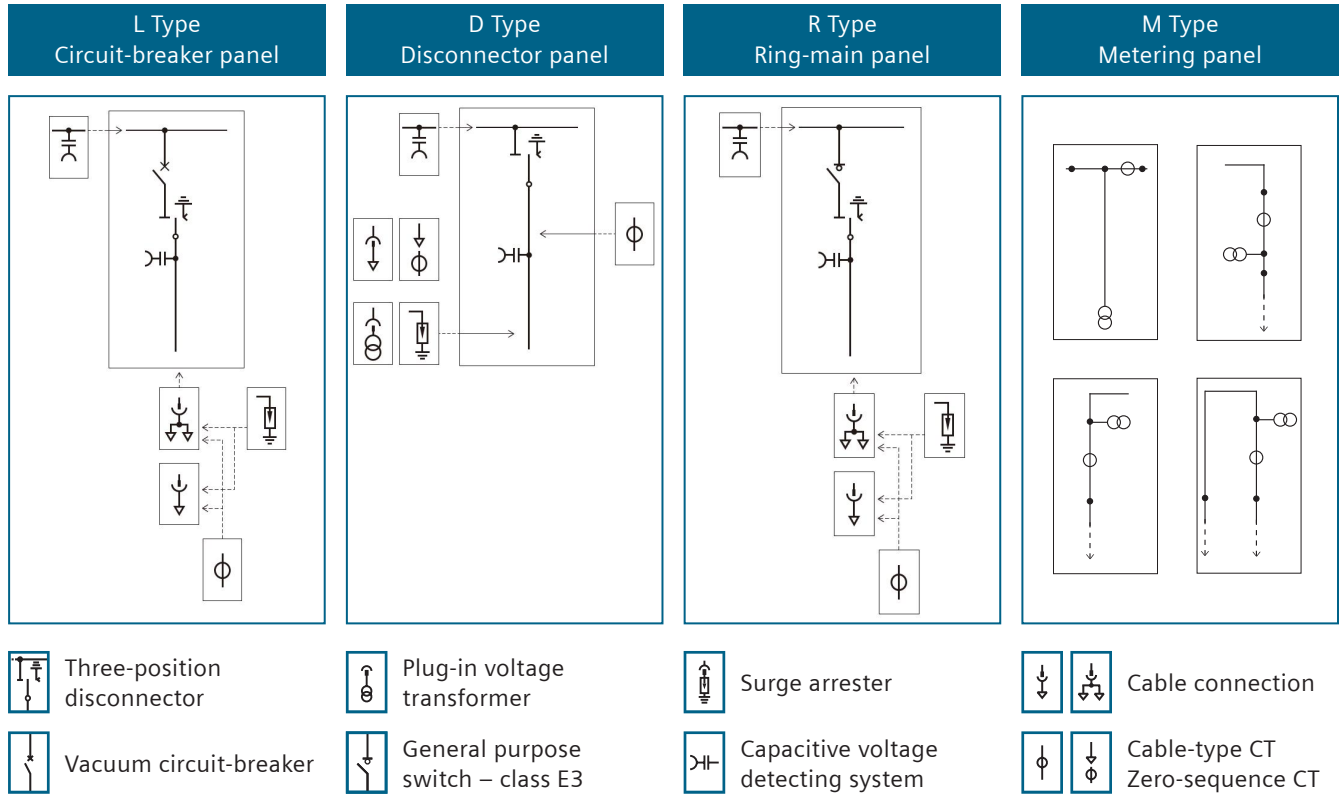
## Technical data of vacuum circuit-breaker L1.1 with three-position disconnector

Rated voltage $U_r$	kV	7.2	12
Short-circuit breaking current $I_{sc}$	kA	20	20
Rated operating sequence		O-0.3s-CO-3min-CO	O-0.3s-CO-3min-CO
Classification of circuit-breaker – mechanical	Number of operating cycles / Class	10000/M2	10000/M2
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 / M0	1000 / M0
Classification of make-proof earthing switch	Class	E2	E2
Number of short-circuit breaking operations	n	25 or 50	25 or 50

1) Optionally 1200 mm, 1700 mm

2) Optionally -40 to +70 without secondary equipment

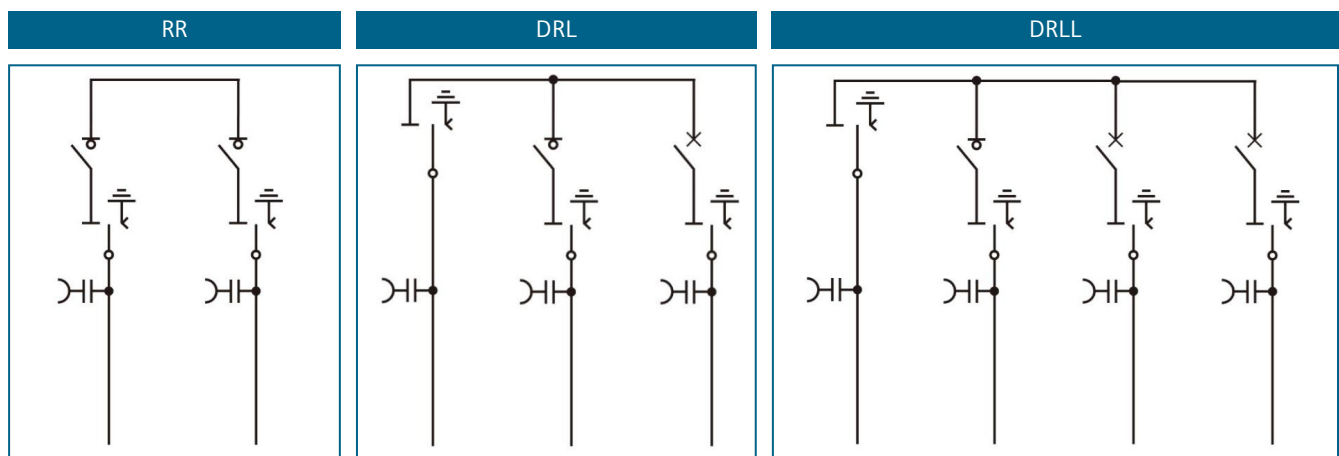
# Built-in and built-on components



## Available configurations

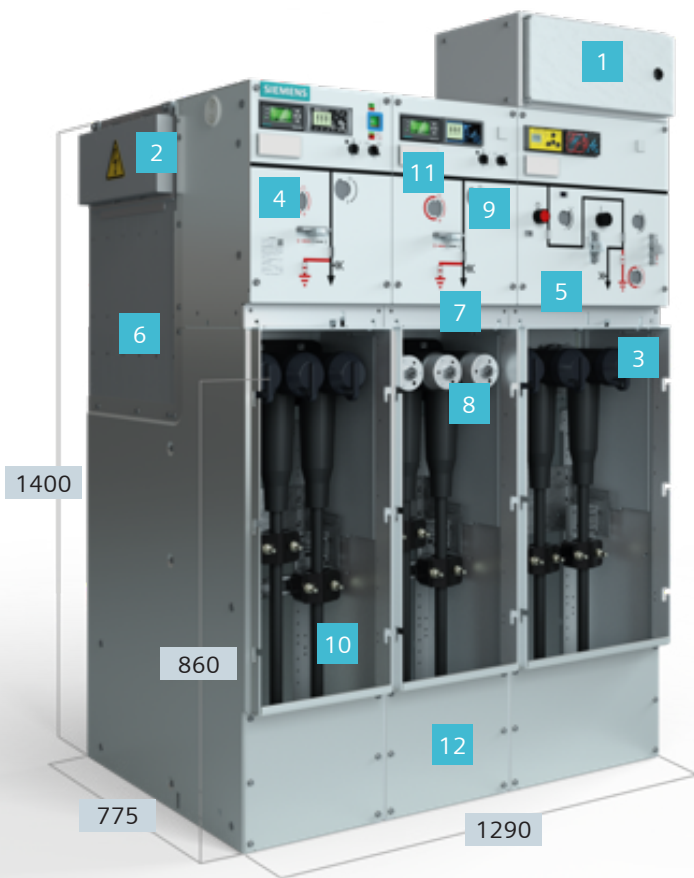
- Up to 4 feeders per block
- Flexible feeder combination
- Left / right extension available

### Typical panel blocks:





# 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 left/right as option
- Plug-in unit consisting of contact coupling and screened silicone coupling
- Insensitive to pollution and condensation
- Easy switchgear installation, extension or panel replacement

## 3 Temperature & humidity monitoring

- Can provide cable plug temperature monitoring, measurement range: -25°C ~ 125°C
- Environment temperature and humidity monitoring

## 4 Three-position disconnecter

- Switch positions: CLOSE – OPEN – EARTHED
- Designed as a three-position disconnecter incorporating the functions of a disconnecter and a make-proof earthing switch
- Optional with or without motor

## 5 Vacuum circuit-breaker

- Consisting of a vacuum interrupter unit with integrated three-position disconnecter and the associated operating mechanisms
- According to IEC/EN 62271-100 / GB 1984
- Optional 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 Gas vessel

Hermetically sealed, laser-welded switchgear vessel made of stainless steel

## 7 Current sensor

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

## 8 Voltage sensor

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

## 9 Motor operation circuit monitoring

- Encapsulated design, insensitive to environmental variations
- Self-check function to avoid maloperation
- Communication: Modbus RTU / RS485

## 10 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

## 11 Feeder fault monitoring

- Directional short-circuit / earth-fault indicator
- Measurement:  $U / I / P / Q / S / \cos \varphi / f$
- Communication: Modbus RTU / RS485

## 12 Pressure relief

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

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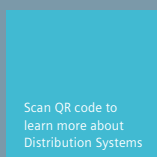
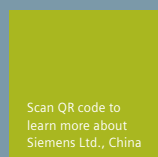
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