

## Data sheet | Item number: 288-413

Safety relay module; Nominal input voltage: 12 VDC; 2,50 mm<sup>2</sup>; gray

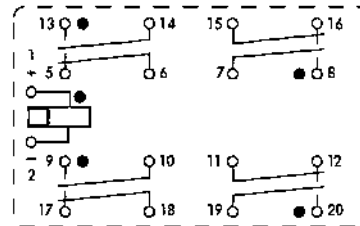
[www.wago.com/288-413](http://www.wago.com/288-413)



RoHS Compliant

[BOMcheck.net](https://www.bomcheck.net)

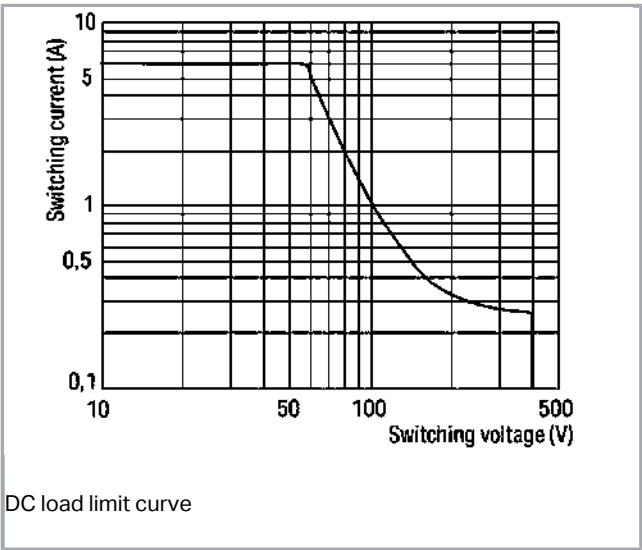
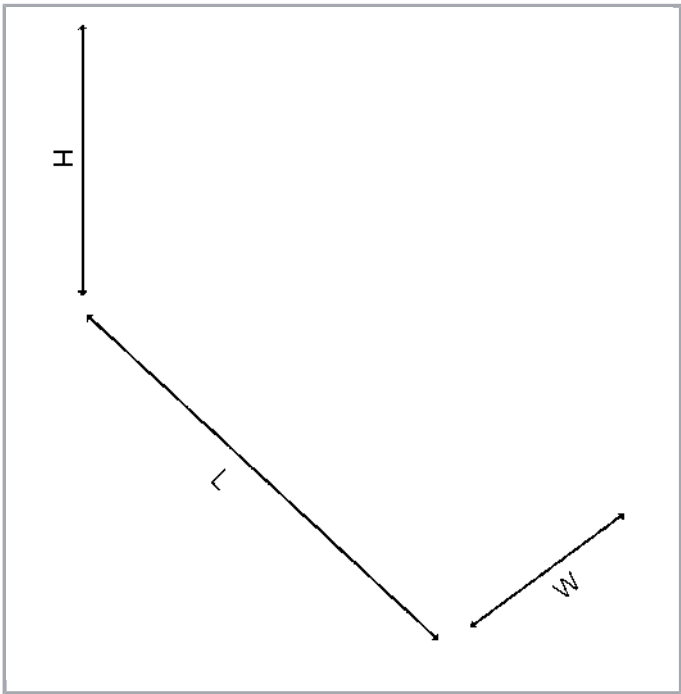
Color:



Subject to changes. Please also observe the further product documentation!

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Item description

Note:

If required a ventilation hole can be made in the cover, reducing the degree of protection from IP67 to IP30.

If an outer contact (20) should weld then the forced operated inner contact (12) driven by the actuator remains open. The rotating armature remains free to move. The unaffected contact pairs can operate normally, (i. e. their function to make or break remains unaffected).

If an inner contact should weld (12) then the movement of the rotating armature is blocked via the operator. Open contacts of all four contact pairs remain open. This arrangement corresponds to conventional, forced contact operation.

Data  
Technical Data

Control circuit

Nominal input voltage $U_N$	DC 12 V
Input voltage range	-15 ... +20 %
Nominal input current at $U_N$	41.6 mA

Subject to changes. Please also observe the further product documentation!

**Load circuit:**

Number of break contacts/switch off contacts	4
Number of make contacts/switch on contacts	4
Contact material (relay)	AgSnO <sub>2</sub>
Limiting continuous current	6 A
Max. make current (resistive)	(AC) 20 A
Max. switching voltage	AC 250 V
Max. switching power (resistive)	AC 1500 VA
Recommended minimum load	10 V / 10 mA
Pull-in time (typ.)	18 ms
Drop-out time (typ.)	21 ms
Bounce time (typ.)	4 ms
Electrical life (N.O.; resistive load; 23 °C)	100 x 10 <sup>3</sup> switching operations
Mechanical life	10 x 10 <sup>6</sup> switching operations
Forced operation	Type B

**Safety and protection:**

Rated voltage	250 V
Rated impulse voltage	2.5 kV
Pollution degree	2
Dielectric strength, control/load circuit (AC, 1 min)	2 kVrms
Dielectric strength open contact (AC, 1 min)	1.3 kVrms
Dielectric strength, load/load circuit (AC, 1 min)	1.5 kVrms

**Connection data**

Connection technology	CAGE CLAMP®
Solid conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 2.5 mm <sup>2</sup> / 28 ... 12 AWG
Strip length	5 ... 6 mm / 0.2 ... 0.24 inch

**Geometrical Data**

Width	63.5 mm / 2.5 inch
Height from upper-edge of DIN-35 rail	40 mm / 1.575 inch
Depth	85 mm / 3.346 inch

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## Mechanical data

Type of mounting	DIN-35 rail
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## Material Data

Fire load	0.854 MJ
Weight	108.7 g

## Environmental Requirements

Surrounding air (operating) temperature at U <sub>N</sub>	-40 ... 70 °C
Surrounding air (storage) temperature	-40 ... 80 °C
Processing temperature	-25 ... +50 °C

## Standards and specifications

Standards/specifications	EN 60664-1; EN 50205; EN 61810-1; ESTI (SEV): 09.1133; UL 508: E120782; TÜV: 968/EZ 116.02/09
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## Commercial data

Product Group	6 (Interface Electronics)
Packaging type	BOX
Country of origin	DE
GTIN	4045454192556
Customs Tariff No.	85364900990

## Counterpart

## Compatible products

### Marking accessories

	<b>Item no.: 709-177</b> Marking strips; on reel; 7.5 mm wide; not stretchable; plain; snap-on type; translucent	<a href="http://www.wago.com/709-177">www.wago.com/709-177</a>
	<b>Item no.: 709-178</b> Marking strips; on reel; 7.5 mm wide; not stretchable; plain; snap-on type; white	<a href="http://www.wago.com/709-178">www.wago.com/709-178</a>
	<b>Item no.: 709-196</b> Marking strips; for laser printer; translucent	<a href="http://www.wago.com/709-196">www.wago.com/709-196</a>

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Item no.: 709-198  
Marking strips; white

[www.wago.com/709-198](http://www.wago.com/709-198)

#### tools



Item no.: 210-720  
Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft

[www.wago.com/210-720](http://www.wago.com/210-720)

## Downloads

### Documentation

#### Instruction Leaflet

pdf  
1.3 MB  
[Download](#)

#### Additional Information

Disposal; Electrical and electronic equipment, Packaging	V 1.0.0	pdf 265.8 kB	<a href="#">Download</a>
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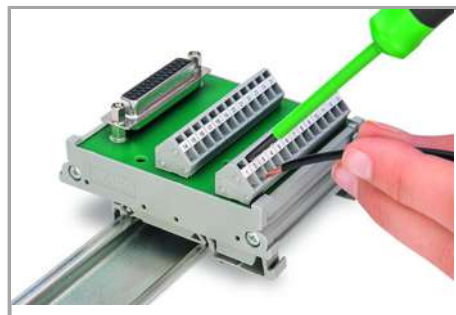
## CAD/CAE-Data

### CAD data

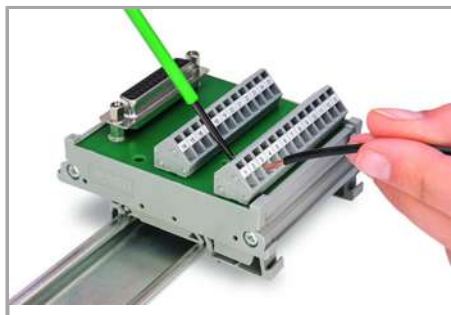
2D/3D Models 288-413	URL	<a href="#">Download</a>
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## Installation Notes

### Inserting a conductor



Connection of conductor – Operating tool actuation parallel to conductor entry.



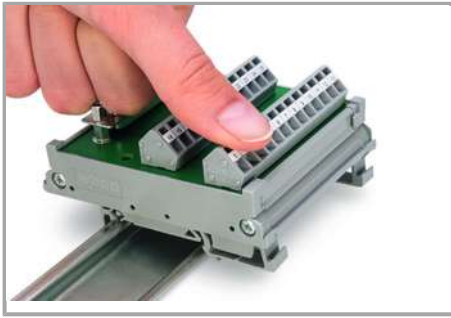
Connection of conductor – Operating tool actuation perpendicular to conductor entry.

### Assembly

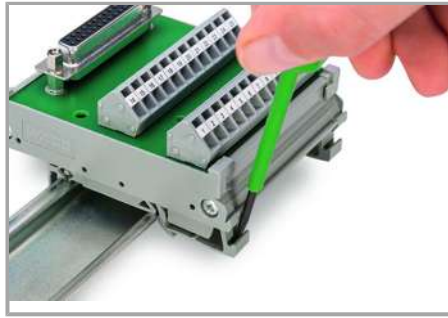
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Assembly of a module on the carrier rail



Removing a module from the DIN-rail.

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