

Data Sheet | Item Number: 2002-409

Jumper; 9-way; insulated; light gray

<https://www.wago.com/2002-409>



Color: ■ light gray



Electrical data

Ratings per IEC/EN		Ex information	
Nominal voltage (III/3)	800 V	Rated current (Ex e II)	20 A
Rated current	25 A		

Physical data

Width	45.2 mm / 1.78 inches
Height	4.1 mm / 0.161 inches
Depth	19 mm / 0.748 inches
Jumper assignment	1-2-3-4-5-6-7-8-9

Material data

Note (material data)	Information on material specifications can be found here
Color	light gray
Fire load	0.028 MJ
Weight	4.5 g

Environmental requirements

Environmental Testing

Test specification: Railway applications – Rolling stock – Electronic equipment	DIN EN 50155 (VDE 0115-200):2022-06
Test procedure: Railway applications – Rolling stock equipment – Vibration and shock tests	DIN EN 61373 (VDE 0115-0106):2011-04
Spectrum/Mounting location	Service life test, Category 1, Class A/B
Functional test with noise-like oscillations	Test passed according to Section 8 of the standard
Frequency	$f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$
Acceleration	0.101g (highest test level used for all axes)
Test duration per axis	10 min.
Test directions	X, Y and Z axes
Monitoring of contact faults and interruptions	Passed
Voltage drop measurement before and after each axis	Passed
Simulated service life test through increased levels of noise-like oscillations	Test passed according to Section 9 of the standard
Frequency	$f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$
Acceleration	0.572g (highest test level used for all axes)
Test duration per axis	5 h
Test directions	X, Y and Z axes
Extended testing: Monitoring of contact faults and interruptions	Passed
Extended testing: Voltage drop measurement before and after each axis	Passed
Shock test	Test passed according to Section 10 of the standard
Shock pulse form	Half sine
Acceleration	5g (highest test level used for all axes)
Shock duration	30 ms
Number of shocks (per axis)	3 pos. und 3 neg.
Test directions	X, Y and Z axes
Extended testing: Monitoring of contact faults and interruptions	Passed
Extended testing: Voltage drop measurement before and after each axis	Passed
Vibration and shock stress for rolling stock equipment	Passed

Commercial data

Product Group	22 (TOPJOB S)
PU (SPU)	25 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4055143690379
Customs tariff number	85366990990

Product Classification

UNSPSC	39121421
eCl@ss 10.0	27-14-11-40
eCl@ss 9.0	27-14-11-40
ETIM 9.0	EC000489
ETIM 10.0	EC000489
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
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Approvals / Certificates

Declarations of conformity and manufacturer's declarations



Approval	Standard	Certificate Name
Railway WAGO GmbH & Co. KG	-	Railway Ready

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 2002-409 ↓

Documentation

Bid Text			
2002-409	19.02.2019	xml 2.51 KB	↓
2002-409	27.04.2017	doc 23.50 KB	↓

CAD/CAE-Data

CAD data

2D/3D Models 2002-409



CAE data

EPLAN Data Portal
2002-409



WSCAD Universe
2002-409

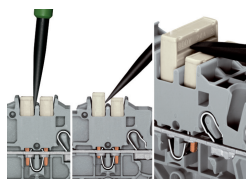
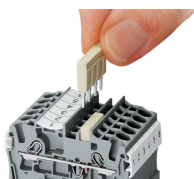


ZUKEN Portal 2002-409



Installation Notes

Commoning



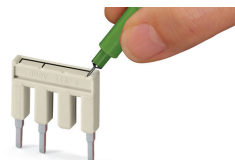
Insert push-in type jumper bar and push down until it hits backstop.

Removing a push-in type jumper bar:
Insert the operating tool between the jumper and partition wall of the dual jumper slots, then lift up the jumper. Place the operating tool in the center of jumpers for up to five contacts (see above), or alternately on both sides for jumpers with more than five contacts.

Commoning

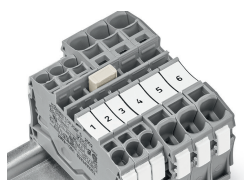


Custom jumpers are created by breaking and removing jumper contacts (2000, 2001, 2002, 2004 Series).

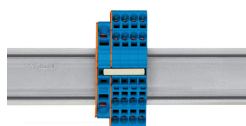


Marking with a felt-tip pen.

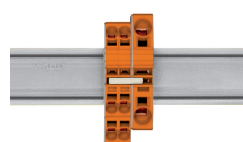
Commoning



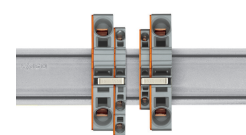
Stepping down via push-in type jumper bar.



Stepping down via push-in type jumper bar:
Commoning via closed terminal side with end plate allows jumpering over two cross-section sizes, e.g., from 16 mm² (6 AWG) to 6 mm² (10 AWG) or from 6 mm² (10 AWG) to 2.5 mm² (14 AWG) (see illustration above).



Stepping down via push-in type jumper bar:
Commoning via open terminal side with end plate allows jumpering over two cross-section sizes for 16 mm² (6 AWG) and 10 mm² (8 AWG) and one cross-section size for 6/4/2.5 mm² (10/12/14 AWG). An example: from 16 mm² (6 AWG) to 6 mm² (10 AWG) (see illustration above) or from 10 mm² (8 AWG) to 4 mm² (12 AWG).



Note:
The total current of the outgoing circuits must not exceed the nominal current of the step-down jumper/push-in type jumper bar.