

Data Sheet | Item Number: 2002-410

Jumper; 10-way; insulated; light gray

<https://www.wago.com/2002-410>



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 | 50.4 mm / 1.984 inches |
| Height | 4.1 mm / 0.161 inches |
| Depth | 19 mm / 0.748 inches |
| Jumper assignment | 1-2-3-4-5-6-7-8-9-10 |

Material data

| | |
|----------------------|--|
| Note (material data) | Information on material specifications can be found here |
| Color | light gray |
| Fire load | 0.032 MJ |
| Weight | 5 g |

Environmental requirements

| Environmental Testing | | Environmental Testing | |
|---|--|---|--|
| Test specification: Railway applications – Rolling stock – Electronic equipment | DIN EN 50155 (VDE 0115-200):2022-06 | Frequency | f ₁ = 5 Hz to f ₂ = 150 Hz |
| Test procedure: Railway applications – Rolling stock equipment – Vibration and shock tests | DIN EN 61373 (VDE 0115-0106):2011-04 | Acceleration | 0.101g (highest test level used for all axes) |
| Spectrum/Mounting location | Service life test, Category 1, Class A/B | Test duration per axis | 10 min. |
| Functional test with noise-like oscillations | Test passed according to Section 8 of the standard | Test directions | X, Y and Z axes |
| | | Monitoring of contact faults and interruptions | Passed |
| | | Voltage drop measurement before and after each axis | Passed |

Environmental Testing

| | |
|---|---|
| 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 | 4055143690386 |
| 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 |
|------------------------|-------------------------|

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 2002-410 ↓ |

Documentation

| Bid Text | | | |
|----------|------------|-----------------|-------------------|
| 2002-410 | 19.02.2019 | xml 2.52 KB | ↓ |
| 2002-410 | 27.04.2017 | doc 23.50 KB | ↓ |

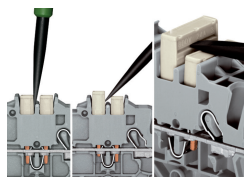
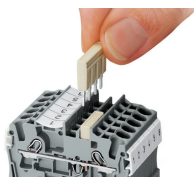
CAD/CAE-Data

| CAD data |
|--|
| 2D/3D Models 2002-410 ↓ |

| CAE data |
|---|
| EPLAN Data Portal 2002-410 ↓ |
| WSCAD Universe 2002-410 ↓ |
| ZUKEN Portal 2002-410 ↓ |

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.

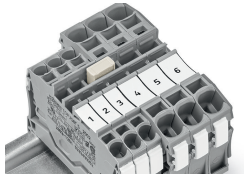
Commoning



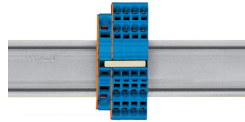
Custom jumpers are created by breaking and removing jumper contacts (2000, 2001, 2002, 2004 Series).

Marking with a felt-tip pen.

Commoning

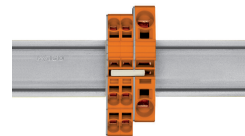


Stepping down via push-in type jumper bar.



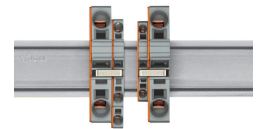
Stepping down via push-in type jumper bar:

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.