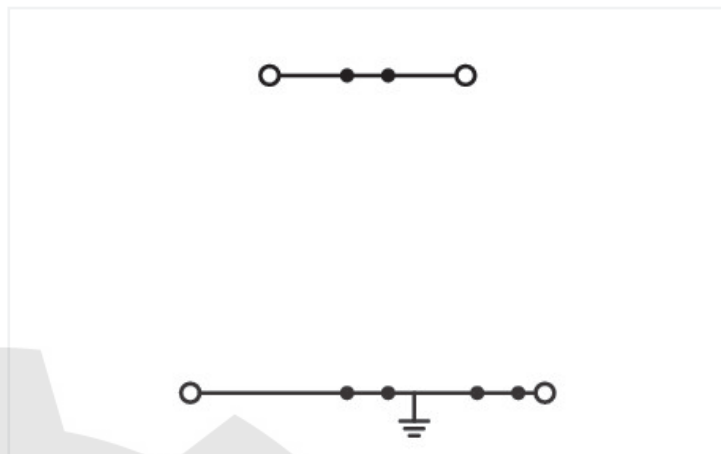# Data Sheet | Item Number: 2000-2228

Double-deck terminal block; Shield/through terminal block; 1 mm²; Shielding/L; without marker carrier; for DIN-rail 35 x 15 and 35 x 7.5; Push-in CAGE CLAMP®; 1,00 mm²; gray

https://www.wago.com/2000-2228

Color: gray

Similar to illustration

Similar to illustration

Electrical data

Ratings per IEC/EN

Ratings per	IEC/EN 60947-7-1
Nominal voltage (III/3)	500 V
Rated impulse voltage (III/3)	6 kV
Rated current	16 A
Current at conductor cross-section (max.) mm²	18 A
Legend (ratings)	(III / 3) ≙ Overvoltage category III / Pollution degree 3

Ratings per UL 1059

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	15 A
Rated voltage UL (Use Group C)	300 V
Rated current UL (Use Group C)	15 A

Ratings per CSA

Rated voltage CSA (Use Group B)	600 V
Rated current CSA (Use Group B)	10 A
Rated voltage CSA (Use Group C)	600 V
Rated current CSA (Use Group C)	10 A

Power loss

Power loss, per pole (potential)	0.8675 W
Rated current I_N for specified power loss	13.5 A
Resistance value for specified, current-dependent power loss	0.00238 Ω

Connection data

Connection points	4
Total number of potentials	2
Number of levels	2
Number of jumper slots	4
Anzahl Brückeraufnahmen Rang	1

Connection 1

Connection technology	Push-in CAGE CLAMP®
Number of connection points	2
Actuation type	Operating tool
Connectable conductor materials	Copper
Nominal cross-section	1 mm²
Solid conductor	0.14 … 1.5 mm² / 24 … 16 AWG
Solid conductor; push-in termination	0.5 … 1.5 mm² / 20 … 16 AWG
Fine-stranded conductor	0.14 … 1.5 mm² / 24 … 16 AWG
Fine-stranded conductor; with insulated ferrule	0.14 … 0.75 mm² / 24 … 18 AWG
Fine-stranded conductor; with ferrule; push-in termination	0.5 … 0.75 mm² / 20 … 18 AWG

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

Connection 1

Note (conductor cross-section)	Depending on the conductor characteristic, a conductor with a smaller cross-section can also be inserted via push-in termination.
Strip length	9 … 11 mm / 0.35 … 0.43 inches
Wiring direction	Front-entry wiring

Connection 2

Number of connection points 2	2

Physical data

Width	3.5 mm / 0.138 inches
Height	69.7 mm / 2.744 inches
Depth from upper-edge of DIN-rail	51.7 mm / 2.035 inches

Mechanical Data

Potential marking	Shield/L
Mounting type	DIN-35 rail
Marking level	Center/side marking

Material Data

Note (material data)	Information on material specifications can be found here
Color	gray
Material group	I
Insulation material	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0 MJ
Weight	9.5 g

Environmental requirements

Processing temperature	-35 … +85 °C
Continuous operating temperature	-60 … +105 °C

Commercial data

Product Group	22 (TOPJOB S)
eCl@ss 10.0	27-14-11-41
eCl@ss 9.0	27-14-11-41
ETIM 8.0	EC000901
ETIM 7.0	EC000901
PU (SPU)	50 pcs
Packaging type	Box
Country of origin	DE
GTIN	4055143869225
Customs tariff number	85369010000

WAGO

Approvals / Certificates

General approvals

Approval	Standard	Certificate Name
CCA DEKRA Certification B.V.	EN 60947	71-102841
CCA DEKRA Certification B.V.	EN 60947	NTR NL 7671
CSA DEKRA Certification B.V.	C22.2	2130762
UL Underwriters Laboratories Inc.	UL 1059	E45172

Declarations of conformity and manufacturer's declarations

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

Approvals for hazardous areas

Approval	Standard	Certificate Name
AEx Underwriters Laboratories Inc.	UL 60079	E185892 (AEx eb IIC resp. Ex eb IIC)
EAC Brjansker Zertifizierungs-stelle	TP TC 012/2011	RU C-DE.AM02.B.00127/19 (Ex e IIC Gb U)

Downloads

Environmental Product Compliance

Compliance Search	
Environmental Product Compliance 2000-2228	↓

Documentation

Additional Information		
Technical Section	pdf 2142.18 KB	↓
EU-Declaration of Conformity	pdf 121.96 KB	↓

Bid Text			
2000-2228	19.02.2019	xml 3.81 KB	↓
2000-2228	07.08.2018	docx 14.62 KB	↓

CAD/CAE-Data

WAGO

CAD data	
2D/3D Models 2000-2228	↓

CAE data	
EPLAN Data Portal 2000-2228	↓
WSCAD Universe 2000-2228	↓
ZUKEN Portal 2000-2228	↓

1 Compatible Products

1.1 Required Accessories

1.1.1 End plate

1.1.1.1 End plate

Item No.: 2000-2291
End plate; 0.7 mm thick; gray

Item No.: 2000-2292
End plate; 0.7 mm thick; orange

1.2 Optional Accessories

1.2.1 DIN-rail

1.2.1.1 Mounting accessories

Item No.: 210-196
Aluminum carrier rail; 35 x 8.2 mm; 1.6 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored

Item No.: 210-198
Copper carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; copper-colored

Item No.: 210-197
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; similar to EN 60715; silver-colored

Item No.: 210-114
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; similar to EN 60715; silver-colored

Item No.: 210-118
Steel carrier rail; 35 x 15 mm; 2.3 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored

Item No.: 210-115
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 18 mm; silver-colored

Item No.: 210-112
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; according to EN 60715; "Hole width 25 mm; silver-colored

Item No.: 210-113
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; according to EN 60715; silver-colored

1.2.2 Ferrule

1.2.2.1 Ferrule

Item No.: 216-241
Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white

Item No.: 216-242
Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray

Item No.: 216-243
Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red

1.2.3 Installation

Version 11.01.2023

WAGO

1.2.3.1 Cover

Item No.: 709-156
Cover; Type 3; suitable for cover carrier, type 3; 1 m long; transparent

1.2.3.2 Cover carrier

Item No.: 709-169
Cover carrier; Type 3; gray

1.2.4 Jumper

1.2.4.1 Jumper

Item No.: 2000-406/020-000
Delta jumper; insulated; light gray

Item No.: 2000-410/000-006
Jumper; 10-way; insulated; blue

Item No.: 2000-410
Jumper; 10-way; insulated; light gray

Item No.: 2000-410/000-005
Jumper; 10-way; insulated; red

Item No.: 2000-402/000-006
Jumper; 2-way; insulated; blue

Item No.: 2000-402
Jumper; 2-way; insulated; light gray

Item No.: 2000-402/000-005
Jumper; 2-way; insulated; red

Item No.: 2000-402/000-018
Jumper; 2-way; insulated; yellow-green

Item No.: 2000-403/000-006
Jumper; 3-way; insulated; blue

Item No.: 2000-403
Jumper; 3-way; insulated; light gray

Item No.: 2000-403/000-005
Jumper; 3-way; insulated; red

Item No.: 2000-404/000-006
Jumper; 4-way; insulated; blue

Item No.: 2000-404
Jumper; 4-way; insulated; light gray

Item No.: 2000-404/000-005
Jumper; 4-way; insulated; red

Item No.: 2000-405/000-006
Jumper; 5-way; insulated; blue

Item No.: 2000-405
Jumper; 5-way; insulated; light gray

Item No.: 2000-405/000-005
Jumper; 5-way; insulated; red

Item No.: 2000-406/000-006
Jumper; 6-way; insulated; blue

Item No.: 2000-406
Jumper; 6-way; insulated; light gray

Item No.: 2000-406/000-005
Jumper; 6-way; insulated; red

Item No.: 2000-407/000-006
Jumper; 7-way; insulated; blue

Item No.: 2000-407
Jumper; 7-way; insulated; light gray

Item No.: 2000-407/000-005
Jumper; 7-way; insulated; red

Item No.: 2000-408/000-006
Jumper; 8-way; insulated; blue

Item No.: 2000-408
Jumper; 8-way; insulated; light gray

Item No.: 2000-408/000-005
Jumper; 8-way; insulated; red

Item No.: 2000-409/000-006
Jumper; 9-way; insulated; blue

Item No.: 2000-409
Jumper; 9-way; insulated; light gray

Item No.: 2000-409/000-005
Jumper; 9-way; insulated; red

Item No.: 2000-440
Jumper; from 1 to 10; insulated; light gray

Item No.: 2000-433/000-006
Jumper; from 1 to 3; insulated; blue

Item No.: 2000-433
Jumper; from 1 to 3; insulated; light gray

Item No.: 2000-433/000-005
Jumper; from 1 to 3; insulated; red

Item No.: 2000-434
Jumper; from 1 to 4; insulated; light gray

Item No.: 2000-435
Jumper; from 1 to 5; insulated; light gray

Item No.: 2000-436
Jumper; from 1 to 6; insulated; light gray

Item No.: 2000-437
Jumper; from 1 to 7; insulated; light gray

Item No.: 2000-438
Jumper; from 1 to 8; insulated; light gray

Item No.: 2000-439
Jumper; from 1 to 9; insulated; light gray

Item No.: 2000-405/011-000
Star point jumper; 3-way; insulated; light gray

Item No.: 2000-492
Vertical jumper; insulated; light gray

Item No.: 210-103
Wire commoning chain; insulated; black

Item No.: 210-123
Wire commoning chain; insulated; blue

1.2.5 Marking

1.2.5.1 Marker

Item No.: 793-3501
WMB marking card; as card; plain; snap-on type; white

Item No.: 2009-113/000-006
WMB-Inline; for Smart Printer; 2300 pieces on roll; plain; snap-on type; blue

Item No.: 2009-113/000-007
WMB-Inline; for Smart Printer; 2300 pieces on roll; plain; snap-on type; gray

Item No.: 2009-113/000-023
WMB-Inline; for Smart Printer; 2300 pieces on roll; plain; snap-on type; green

Item No.: 2009-113/000-017
WMB-Inline; for Smart Printer; 2300 pieces on roll; plain; snap-on type; light green

Item No.: 2009-113/000-012
WMB-Inline; for Smart Printer; 2300 pieces on roll; plain; snap-on type; orange

Item No.: 2009-113/000-005
WMB-Inline; for Smart Printer; 2300 pieces on roll; plain; snap-on type; red

Item No.: 2009-113/000-024
WMB-Inline; for Smart Printer; 2300 pieces on roll; plain; snap-on type; violet

Item No.: 2009-113
WMB-Inline; for Smart Printer; 2300 pieces on roll; plain; snap-on type; white

Item No.: 2009-113/000-002
WMB-Inline; for Smart Printer; 2300 pieces on roll; plain; snap-on type; yellow

1.2.5.2 Marker carrier

Item No.: 2000-121
Adaptor; gray

1.2.5.3 Marking strip

Item No.: 2009-110
Marking strips; for Smart Printer; on reel; not stretchable; plain; snap-on type; white

1.2.6 Protective warning marker

1.2.6.1 Cover

Item No.: 2000-115
Protective warning marker; for 5 terminal blocks; with high-voltage symbol, black; yellow

1.2.7 Push-in type wire jumper

1.2.7.1 Jumper

Item No.: 2009-404
Push-in type wire jumper; 0.75 mm²; insulated; 110 mm long; gray

Item No.: 2009-406
Push-in type wire jumper; 0.75 mm²; insulated; 250 mm long; gray

Item No.: 2009-402
Push-in type wire jumper; 0.75 mm²; insulated; 60 mm long; gray

1.2.8 Test and measurement

1.2.8.1 Testing accessories

Item No.: 2009-174
Test plug adapter; for 4 mm Ø test plugs; for testing TOPJOB®S rail-mounted terminal blocks; gray

Item No.: 2009-182
Testing tap; for max. 2.5 mm²; tool-free connection for individual test wires 0.08 - 2.5 mm; gray
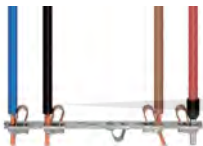
1.2.9 Tool

1.2.9.1 Operating tool

Item No.: 210-719
Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft

Item No.: 210-648
Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; angled; short

Item No.: 210-647
Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; multicoloured
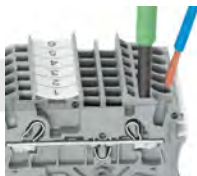
Installation Notes

Conductor termination

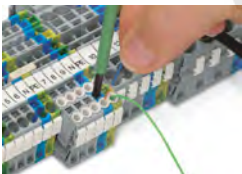All conductor types at a glance

Push-in termination of solid and ferruled conductors

Inserting a conductor via push-in termination:
Solid conductors with cross-sections from either one size above, or up to two sizes below, the rated cross-section can be simply pushed in – no tools needed.
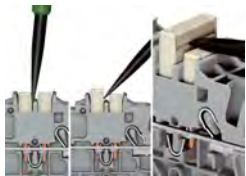
Inserting a conductor via operating tool: Connecting fine-stranded conductors without ferrules, or small cross-sectional conductors that cannot be pushed in, is performed similarly to the original CAGE CLAMP® – just use an operating tool.
Advantage:
To open the clamp, the operating tool is inserted vertically. The conductor entry is less than 15 degrees for easier wiring.

Conductor termination – insulation stop
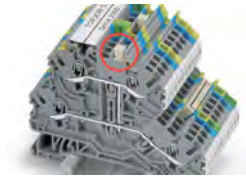
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Commoning

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.

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

Commoning

Commoning two levels via double-deck vertical jumper (2000-492).

Marking

Snapping WMB Inline markers into marker slots.

Double-Deck Terminal Blocks A double-deck marker carrier (2000-121) can be retrofitted to double-deck terminal blocks without a marker carrier.