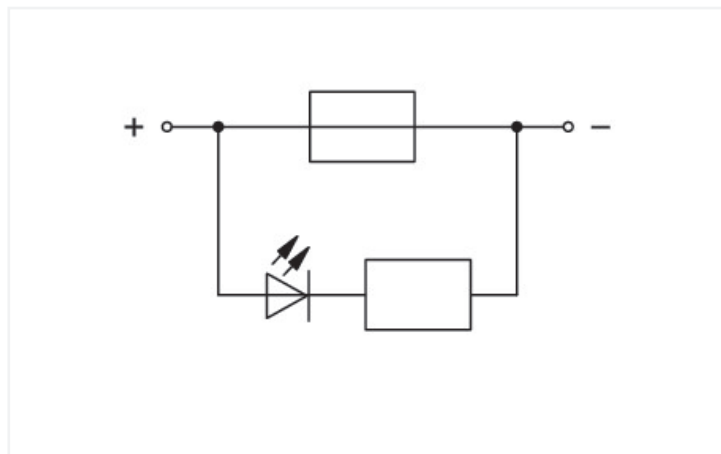
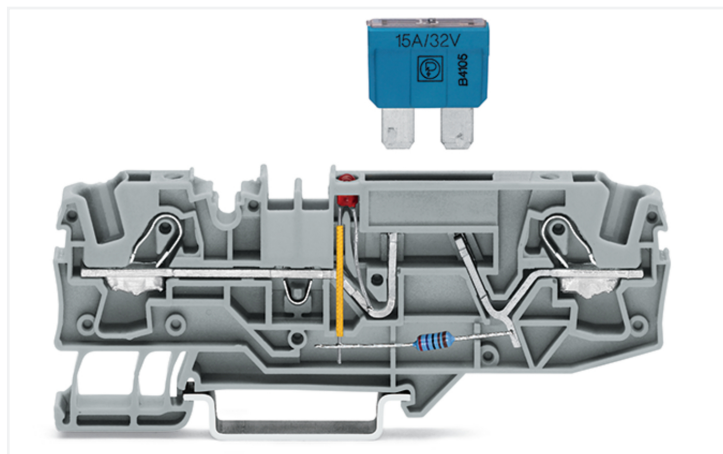


Data Sheet | Item Number: 2006-1681/1000-449

2-conductor fuse terminal block; for automotive blade-style fuses; with test option; with blown fuse indication by LED; 12 V; for DIN-rail 35 x 15 and 35 x 7.5; 6 mm²; Push-in CAGE CLAMP®; gray



<https://www.wago.com/2006-1681/1000-449>



Color: ■ gray

Similar to illustration

Fuse terminal block, 2006 Series, operating tool

Connecting conductors is quick and easy with this fuse terminal block (item number 2006-1681/1000-449). Strip lengths must be between 13 mm and 15 mm when connecting conductors to this fuse terminal block. Featuring conductor terminals along with Push-in CAGE CLAMP®, this connector outperforms the competition. Push-in CAGE CLAMP® technology provides a universal connection solution for any type of conductor. It allows both solid and fine-stranded conductors with ferrules to be inserted directly into the clamping point without the need for tools. This fuse terminal block is suitable for conductor cross sections ranging from 0.5 mm² to 10 mm². It has one level. Two potentials can connect using the two clamping points. The gray housing is made of polyamide (PA66) for insulation. These function terminal blocks are mounted using DIN-35 rails..

Notes

Safety Information

The 2 mm test slot is only approved for high impedance measurement up to max. 100 mA.

Electrical data

Ratings per	IEC/EN 60947-7-3		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Nominal voltage	500 V	-	-
Rated impulse withstand voltage	8 kV	-	-
Rated current	25 A	-	-
Current at conductor cross-section (max.) mm ²	30 A	-	-

Ratings per IEC/EN – Notes

Ratings (note) Electrical ratings are given by the fuse and blown fuse indication.

Ratings per IEC/EN 2

Ratings (note) Blade-style fuses: Observe touch-proof protection for 42 V and higher voltages!

Approvals per

UL 1059

	B	C	D
Use group	B	C	D
Rated voltage	12 V	12 V	-
Rated current	30 A	30 A	-

Approvals per

CSA 22.2 No 158

	B	C	D
Use group	B	C	D
Rated voltage	12 V	12 V	-
Rated current	30 A	30 A	-

General information

Fuse receptacle pluggable
 Fuse type Standard flat plug-in fuse; 19.1 x 5.1 x 18.5 mm

Connection data

Clamping units	2
Total number of potentials	2
Number of levels	1
Number of jumper slots	2

Connection 1

Connection technology	Push-in CAGE CLAMP®
Actuation type	Operating tool
Connectable conductor materials	Copper
Nominal cross-section	6 mm ²
Solid conductor	0.5 ... 10 mm ² / 20 ... 8 AWG
Solid conductor; push-in termination	2.5 ... 10 mm ² / 14 ... 8 AWG
Fine-stranded conductor	0.5 ... 10 mm ² / 20 ... 8 AWG
Fine-stranded conductor; with insulated ferrule	0.5 ... 6 mm ² / 20 ... 10 AWG
Fine-stranded conductor; with ferrule; push-in termination	2.5 ... 6 mm ² / 16 ... 10 AWG
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	13 ... 15 mm / 0.51 ... 0.59 inches
Wiring direction	Front-entry wiring

Physical data

Width	7.5 mm / 0.295 inches
Height	96.3 mm / 3.791 inches
Depth from upper-edge of DIN-rail	32.9 mm / 1.295 inches

Mechanical data

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 (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Fire load	0.323 MJ
Weight	17.7 g

Environmental requirements

Processing temperature	-35 ... +85 °C	Environmental Testing	Test specification: Railway applications – Rolling stock – Electronic equipment	DIN EN 50155 (VDE 0115-200):2022-06
Continuous operating temperature	-60 ... +105 °C			
			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 Hz to f ₂ = 150 Hz
			Acceleration	0.101g (highest test level used for all axes)
			Test duration per axis	10 min.

Environmental Testing

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	Box
Country of origin	DE
GTIN	4045454789824
Customs tariff number	85369095000

Product Classification

UNSPSC	39121410
eCl@ss 10.0	27-14-11-16
eCl@ss 9.0	27-14-11-16
ETIM 9.0	EC000899
ETIM 8.0	EC000899
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
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Approvals / Certificates

General approvals



Approval	Standard	Certificate Name
CCA DEKRA Certification B.V.	IEC 60947	71-122840 REV.1
CCA DEKRA Certification B.V.	EN 60947	NTR NL 7925/1
CSA CSA Group	C22.2 No. 158	1543858
UR Underwriters Laboratories Inc.	UL 1059	E45172

Declarations of conformity and manufacturer's declarations



Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
Railway WAGO GmbH & Co. KG	-	Railway Ready
UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Approvals for marine applications



Approval	Standard	Certificate Name
ABS American Bureau of Shipping	EN 60947	24-0152298-PDA
DNV GL Det Norske Veritas, Germanischer Lloyd	-	TAE00001V2
LR Lloyds Register	EN 60947	LR23325966TA

Downloads

Environmental Product Compliance

Compliance Search	
Environmental Product Compliance 2006-1681/1000-449	↓

Documentation

Bid Text			
2006-1681/1000-449	18.04.2019	xml 4.58 KB	↓
2006-1681/1000-449	17.04.2019	docx 15.76 KB	↓

CAD/CAE-Data

CAD data

2D/3D Models
2006-1681/1000-449

CAE data

EPLAN Data Portal
2006-1681/1000-449

WSCAD Universe
2006-1681/1000-449

ZUKEN Portal
2006-1681/1000-449

1 Compatible Products

1.1 Required Accessories

1.1.1 End plate

1.1.1.1 End plate



Item No.: 2006-1691
End and intermediate plate; 1 mm thick; gray



Item No.: 2006-1692
End and intermediate plate; 1 mm thick; orange

1.2 Optional Accessories

1.2.1 Cover

1.2.1.1 Cover



Item No.: 2006-191
Lockout cap; for wire insertion and actuating opening; gray

1.2.2 DIN-rail

1.2.2.1 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.: 210-508
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; slotted; galvanized; similar to EN 60715; silver-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.: 210-506
Steel carrier rail; 35 x 15 mm; 1.5 mm thick; 2 m long; unslotted; galvanized; 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.: 210-504
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; slotted; galvanized; according to EN 60715; 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



Item No.: 210-505
Steel carrier rail; 35 x 7.5 mm; 1 mm thick; 2 m long; unslotted; galvanized; according to EN 60715; silver-colored

1.2.3 Installation

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; incl. fixing/retaining screws and knurled nut; suitable for 279 to 282 and 880 Series rail-mounted terminal blocks; suitable for 264 Series miniature rail-mounted terminal blocks; suitable for 270 Series sensor and actuator terminal blocks; gray

1.2.4 Jumper

1.2.4.1 Jumper



Item No.: 2006-402

Jumper; 2-way; insulated; light gray



Item No.: 2006-403

Jumper; 3-way; insulated; light gray



Item No.: 2006-404

Jumper; 4-way; insulated; light gray



Item No.: 2006-405

Jumper; 5-way; insulated; light gray



Item No.: 2006-433

Jumper; from 1 to 3; insulated; light gray



Item No.: 2006-434

Jumper; from 1 to 4; insulated; light gray



Item No.: 2006-435

Jumper; from 1 to 5; insulated; light gray



Item No.: 2006-405/011-000

Star point jumper; 3-way; insulated; light gray

1.2.5 Marking

1.2.5.1 Group marker carrier



Item No.: 2009-191

Group marker carrier; gray



Item No.: 2009-192

Group marker carrier; gray



Item No.: 2009-193

Group marker carrier; gray

1.2.5.2 Marker



Item No.: 2009-145/000-006

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue



Item No.: 2009-145/000-007

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray



Item No.: 2009-145/000-023

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green



Item No.: 2009-145/000-012

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange



Item No.: 2009-145/000-005

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; red



Item No.: 2009-145/000-024

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet



Item No.: 2009-145

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white



Item No.: 2009-145/000-002

Mini-WSB Inline; for Smart Printer; 1700 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow



Item No.: 248-501/000-006

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; blue



Item No.: 248-501/000-007

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; gray



Item No.: 248-501/000-023

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; green



Item No.: 248-501/000-017

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; light green

1.2.5.2 Marker



Item No.: 248-501/000-012

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; orange



Item No.: 248-501/000-005

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; red



Item No.: 248-501/000-024

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; violet



Item No.: 248-501

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; white



Item No.: 248-501/000-002

Mini-WSB marking card; as card; not stretchable; plain; snap-on type; yellow



Item No.: 793-5501/000-006

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; blue



Item No.: 793-5501/000-007

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; gray



Item No.: 793-5501/000-023

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; green



Item No.: 793-5501/000-017

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; light green



Item No.: 793-5501/000-012

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; orange



Item No.: 793-5501/000-005

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; red



Item No.: 793-5501/000-024

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; violet



Item No.: 793-5501

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; white



Item No.: 793-5501/000-002

WMB marking card; as card; for terminal block width 5 - 17.5 mm; stretchable 5 - 5.2 mm; plain; snap-on type; yellow



Item No.: 793-501/000-006

WMB marking card; as card; not stretchable; plain; snap-on type; blue



Item No.: 793-501/000-007

WMB marking card; as card; not stretchable; plain; snap-on type; gray



Item No.: 793-501/000-023

WMB marking card; as card; not stretchable; plain; snap-on type; green



Item No.: 793-501/000-017

WMB marking card; as card; not stretchable; plain; snap-on type; light green



Item No.: 793-501/000-012

WMB marking card; as card; not stretchable; plain; snap-on type; orange



Item No.: 793-501/000-005

WMB marking card; as card; not stretchable; plain; snap-on type; red



Item No.: 793-501/000-024

WMB marking card; as card; not stretchable; plain; snap-on type; violet



Item No.: 793-501

WMB marking card; as card; not stretchable; plain; snap-on type; white



Item No.: 793-501/000-002

WMB marking card; as card; not stretchable; plain; snap-on type; yellow



Item No.: 2009-115/000-006

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; blue



Item No.: 2009-115/000-007

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; gray



Item No.: 2009-115/000-023

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; green



Item No.: 2009-115/000-017

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; light green



Item No.: 2009-115/000-012

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; orange



Item No.: 2009-115/000-024

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; violet



Item No.: 2009-115

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; white



Item No.: 2009-115/000-002

WMB-Inline; for Smart Printer; 1500 pieces on roll; stretchable 5 - 5.2 mm; plain; snap-on type; yellow

1.2.5.3 Marker carrier



Item No.: 2002-121

Adaptor; gray



Item No.: 2009-198

Adaptor; gray

1.2.5.4 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.: 2006-115

Protective warning marker; for 5 terminal blocks; with high-voltage symbol, black; yellow

1.2.7 Screwless end stop

1.2.7.1 Mounting accessories



Item No.: 249-117

Screwless end stop; 10 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; gray



Item No.: 249-116

Screwless end stop; 6 mm wide; for DIN-rail 35 x 15 and 35 x 7.5; 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.: 210-136

Test plug; 2 mm Ø; with 500 mm cable; red



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.: 210-721

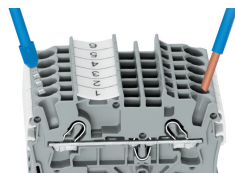
Operating tool; Blade: 5.5 x 0.8 mm; with a partially insulated shaft; multicoloured

Installation Notes

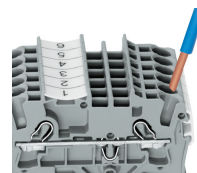
Conductor termination



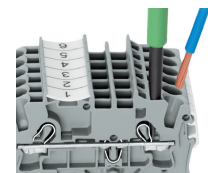
All conductor types at a glance



Push-in termination of solid and ferruled conductors

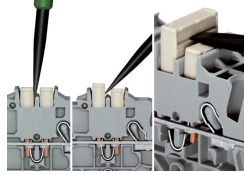
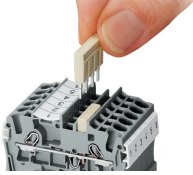


Inserting a conductor via push-in termination:
Solid conductors with cross-sections from either one size above, or up to two sizes below, the rated cross-section can be simply pushed in – no tools needed.



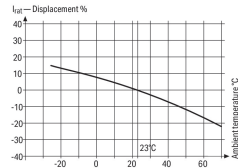
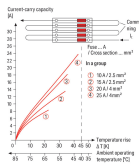
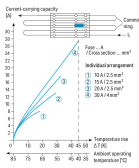
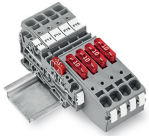
Inserting a conductor via operating tool:
Connecting fine-stranded conductors without ferrules, or small cross-sectional conductors that cannot be pushed in, is performed similarly to the original CAGE CLAMP® – just use an operating tool.
Advantage:
To open the clamp, the operating tool is inserted vertically. The conductor entry is less than 15 degrees for easier wiring.

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.



Information from the mini-automotive, blade-type fuse manufacturers

Temp °C	Displacement %	I_T
-20	14	0.877
-10	13	0.885
0	12	0.893
10	11	0.901
20	10	0.909
30	9	0.917
40	8	0.925
50	7	0.933
60	6	0.941
70	5	0.949
80	4	0.957
90	3	0.965
100	2	0.973
110	1	0.981
120	0	0.989
130	-1	0.997
140	-2	1.005
150	-3	1.013
160	-4	1.021
170	-5	1.029
180	-6	1.037
190	-7	1.045
200	-8	1.053
210	-9	1.061
220	-10	1.069
230	-11	1.077
240	-12	1.085
250	-13	1.093
260	-14	1.101
270	-15	1.109
280	-16	1.117
290	-17	1.125
300	-18	1.133
310	-19	1.141
320	-20	1.149
330	-21	1.157
340	-22	1.165
350	-23	1.173
360	-24	1.181
370	-25	1.189
380	-26	1.197
390	-27	1.205
400	-28	1.213
410	-29	1.221
420	-30	1.229
430	-31	1.237
440	-32	1.245
450	-33	1.253
460	-34	1.261
470	-35	1.269
480	-36	1.277
490	-37	1.285
500	-38	1.293
510	-39	1.301
520	-40	1.309
530	-41	1.317
540	-42	1.325
550	-43	1.333
560	-44	1.341
570	-45	1.349
580	-46	1.357
590	-47	1.365
600	-48	1.373
610	-49	1.381
620	-50	1.389
630	-51	1.397
640	-52	1.405
650	-53	1.413
660	-54	1.421
670	-55	1.429
680	-56	1.437
690	-57	1.445
700	-58	1.453
710	-59	1.461
720	-60	1.469
730	-61	1.477
740	-62	1.485
750	-63	1.493
760	-64	1.501
770	-65	1.509
780	-66	1.517
790	-67	1.525
800	-68	1.533
810	-69	1.541
820	-70	1.549
830	-71	1.557
840	-72	1.565
850	-73	1.573
860	-74	1.581
870	-75	1.589
880	-76	1.597
890	-77	1.605
900	-78	1.613
910	-79	1.621
920	-80	1.629
930	-81	1.637
940	-82	1.645
950	-83	1.653
960	-84	1.661
970	-85	1.669
980	-86	1.677
990	-87	1.685
1000	-88	1.693
1010	-89	1.701
1020	-90	1.709
1030	-91	1.717
1040	-92	1.725
1050	-93	1.733
1060	-94	1.741
1070	-95	1.749
1080	-96	1.757
1090	-97	1.765
1100	-98	1.773
1110	-99	1.781
1120	-100	1.789

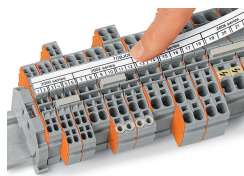
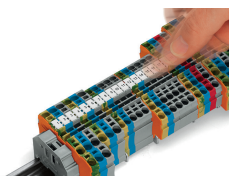
Application Notes on Terminal Blocks for Glass Cartridge Fuses
 Diagram: "Individual Arrangement"

Application Notes on Terminal Blocks for Glass Cartridge Fuses
 Diagram: "Block Arrangement"

Application Notes on Terminal Blocks for Glass Cartridge Fuses
 Nominal current ratings for fuse cartridges are defined differently in international standards. This is why the recommended continuous current-carrying capacity of the fuses is a max. 80% of their nominal current according to DIN 72581/Part 3 (for a surrounding air temperature of 23°C).
 Selecting the correct fuse cartridge is important for product safety within applications, as well as for fuse cartridge service life and reliability. Fuse cartridges will only operate perfectly as protection components (break-off point) if they are properly selected and used as intended (i.e., according to the state of the technology and valid specifications, as well as data sheet characteristics), according to basic safety requirements (i.e., persons, animals and property must be protected against hazards).

Concerning product safety, fuse cartridges must generally be tested under both normal and faulty operating conditions within your application.

Marking



Snapping WMB Inline markers into marker slots.

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

Current addresses can be found at: www.wago.com