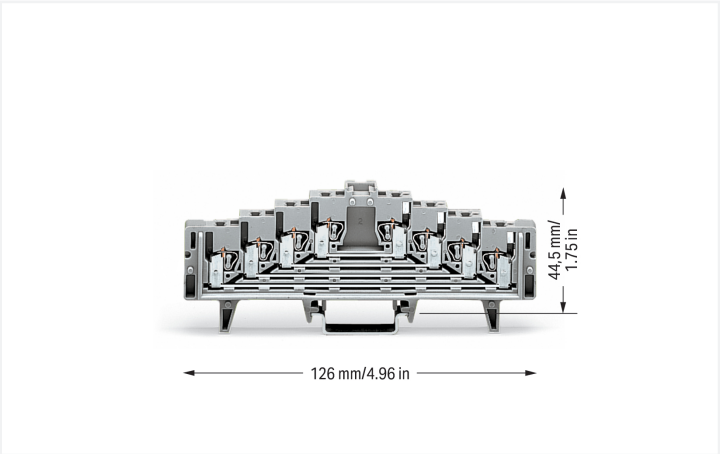
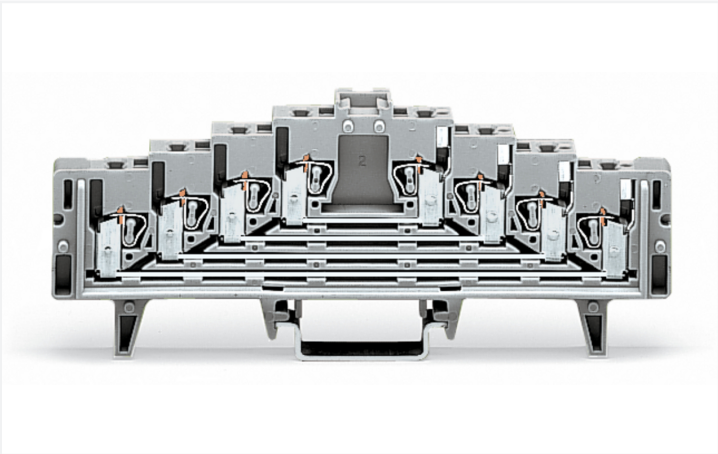
Data Sheet | Item Number: 727-220

4-level terminal block for matrix patching; without locking clips; one potential per level; with 2.3 mm Ø test port; for 35 x 7.5 mounting rail; 1.5 mm²; gray

https://www.wago.com/727-220





Color: gray

Terminal block for matrix patching, 727 Series, gray

Error-free electrical installations are guaranteed with this terminal block for matrix patching (item number 727-220). Ensure that the strip lengths are between 8 and 10 mm when connecting conductors to this terminal block for matrix patching. This product features conductor terminals and utilizes CAGE CLAMP®. Our highly-rated and maintenance-free CAGE CLAMP® connection makes it easy to connect all types of conductors without having to prepare the conductor. For example, you don't need to crimp ferrules. This terminal block for matrix patching is suitable for conductor cross sections ranging from 0.08 mm² to 1.5 mm².

Electrical data

Ratings per IEC/EN

Nominal voltage (III/3)	250 V
Rated impulse withstand voltage (III / 3)	4 kV
Rated current	12 A
Legend (ratings)	(III / 3) ≙ Overvoltage category III / Pollution degree 3

General information

Wiring direction	Front-entry wiring

Connection Data

Clamping units	16
Total number of potentials	4
Number of levels	4

Connection 1

Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Connectable conductor materials	Copper
Solid conductor	0.08 … 1.5 mm² / 28 … 16 AWG
Fine-stranded conductor	0.08 … 1.5 mm² / 28 … 16 AWG
Strip length	8 … 10 mm / 0.31 … 0.39 inches
Wiring direction	Front-entry wiring

Physical data

Width	7.62 mm / 0.3 inches
Height	126 mm / 4.961 inches
Depth from upper-edge of DIN-rail	44.5 mm / 1.752 inches

Mechanical data

Marking	plain
Design	horizontal type
Mounting type	DIN-35 rail
Marking level	Center 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	0.495 MJ
Weight	32.3 g

Environmental requirements

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

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 Hz to f_2 = 150 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 Hz to f_2 = 150 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.

Continued on next page

Environmental Testing

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

PU (SPU)	50 pcs
Packaging type	Box
Country of origin	DE
GTIN	4045454188559
Customs tariff number	85369010000

Product Classification

UNSPSC	39121410
eCl@ss 10.0	27-14-11-20
eCl@ss 9.0	27-14-11-20
ETIM 9.0	EC000897
ETIM 10.0	EC000897
ECCN	NO US CLASSIFICATION

Environmental Product Compliance

RoHS Compliance Status	Compliant,No Exemption

Approvals / Certificates

General approvals

Approval	Standard	Certificate Name
CCA DEKRA Certification B.V.	EN 60947	NTR NL 7485
CSA DEKRA Certification B.V.	C22.2 No. 158	70048845
KEMA/KEUR DEKRA Certification B.V.	EN 60947	2192101.01
UL Underwriters Laboratories Inc.	UL 1059	UL-US-L45172-618717-50402891-1

Declarations of conformity and manufacturer's declarations

Approval	Standard	Certificate Name
EU-Declaration of Conformity WAGO GmbH & Co. KG	-	-
Railway WAGO GmbH & Co. KG	-	Z00004427.000
UK-Declaration of Conformity WAGO GmbH & Co. KG	-	-

Continued on next page

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 727-220

Documentation

Bid Text

727-220	19.02.2019	xml 3.36 KB
727-220	21.02.2019	docx 15.18 KB

CAD/CAE-Data

CAD data

2D/3D Models 727-220

CAE data

EPLAN Data Portal 727-220

WSCAD Universe 727-220

ZUKEN Portal 727-220

1 Compatible Products

1.1 Required Accessories

1.1.1 End plate

1.1.1.1 End plate



Item No.: 727-214
4-level end plate; plain; 7.62 mm thick; blue



Item No.: 727-213
4-level end plate; plain; 7.62 mm thick; gray



Item No.: 727-217
4-level end plate; plain; 7.62 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.: 210-508
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

Continued on next page

1.2.1.1 Mounting accessories



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

1.2.2 Ferrule

1.2.2.1 Ferrule

Item No.: 216-301
Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow

Item No.: 216-302
Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise

Item No.: 216-201
Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; electrolytic copper; acc. to DIN 46228, Part 4/09.90; white



Item No.: 216-101
Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; electro-tin plated; silver-colored

Item No.: 216-202
Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray



Item No.: 216-102
Ferrule; Sleeve for 0.75 mm² / 18 AWG; uninsulated; electro-tin plated; silver-colored

Item No.: 216-203
Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; red



Item No.: 216-103
Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated



Item No.: 216-204
Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black



Item No.: 216-104
Ferrule; Sleeve for 1.5 mm² / AWG 16; uninsulated; electro-tin plated; silver-colored

1.2.3 Installation

1.2.3.1 Mounting accessories



Item No.: 249-109
Wire harness support; gray

1.2.4 Insulation stop

1.2.4.1 Insulation stop



Item No.: 727-197
Insulation stop; 0.08 - 0.2 mm² "s" (0.14 mm² "f-st"); 8 pieces/strip; white



Item No.: 727-199
Insulation stop; 0.25 - 0.5 mm² "s+f-st"; 8 pieces/strip; dark gray



Item No.: 727-198
Insulation stop; 0.25 mm² “s”; 0.14 - 0.25 mm² “f-st”; 8 pieces/strip; light gray

Continued on next page

1.2.5 Jumper

1.2.5.1 Jumper



Item No.: 709-107
Wire commoning chain; 0.5 mm²; insulated; gray

1.2.6 Marking

1.2.6.1 Double marker carrier



Item No.: 209-128
Adaptor; gray

1.2.6.2 Marker



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

Continued on next page

1.2.7 Test and measurement

1.2.7.1 Testing accessories



Item No.: 210-297
Step-down test plug; from 4mm socket to 2mm plug; red

1.2.8 Tool

1.2.8.1 Operating tool



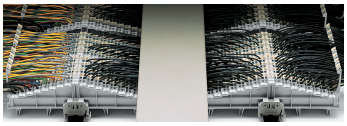
Item No.: 210-719
Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft



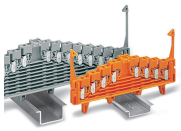
Item No.: 210-647
Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; multicoloured

Installation Notes

Installation



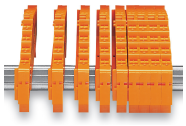
Example of matrix patching assembly
Left: Main cables fed through locking clips on the field side
Right: Control cables fed between locking clips
Center: Wiring of both patching sides



Terminal blocks for DIN-35 x 7.5 mm or DIN-35 x 15 mm rails are available.



Snap individual 4- or 8-level terminal blocks onto the DIN-rail.

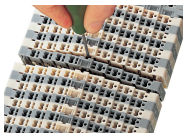


Slide terminal blocks together.

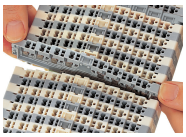


Grip end plate at both sides and:

- push down (assembly)
- pull up (removal)

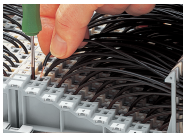


Open the assembly by laterally sliding a block via operating tool (2.5 x 0.4 mm blade).



Slide terminal block and remove from the rail with a levering action.

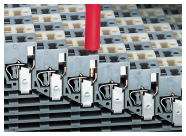
Conductor termination



CAGE CLAMP® connection
Inserting a conductor via 210-719 Operating Tool (2.5 x 0.4 mm blade).
Max. cross-section for uninsulated ferrules 1 mm² (18 AWG), for insulated ferrules 0.75 mm² (20 AWG)

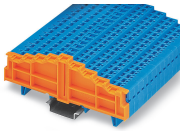
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Testing

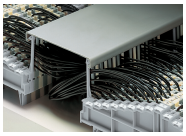


Special test contact for step-down test plug; from 4 mm socket to 2 mm plug; max. 42 V

Ex application

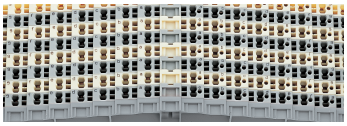


Blue terminal blocks for matrix patching are suitable for Ex i applications.

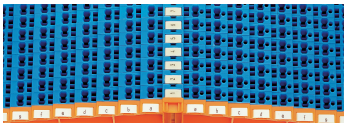


Using terminal blocks with locking clips, the wiring space between the terminal strips can be covered with a wiring duct cover.

Marking



Connection points identified via factory-direct printing



Marking coordinates via WMB Multi Marking System.