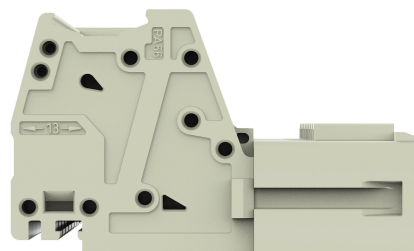
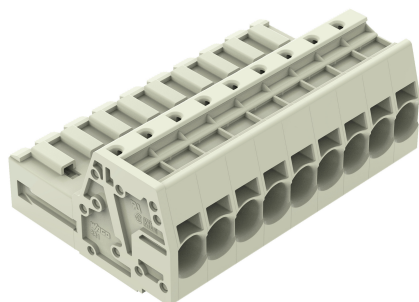


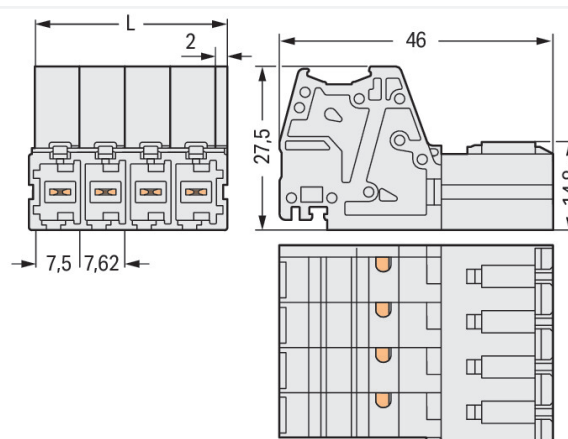
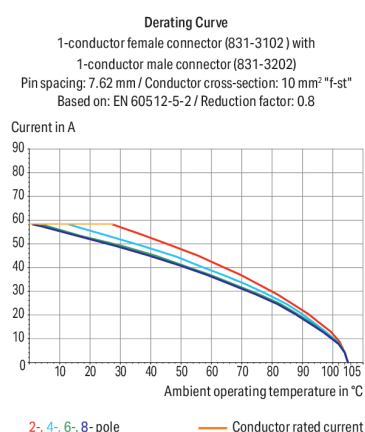
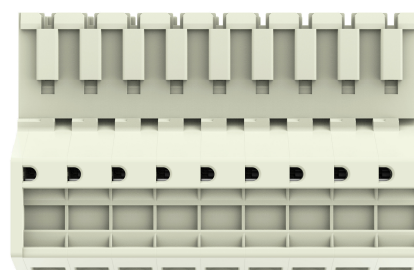
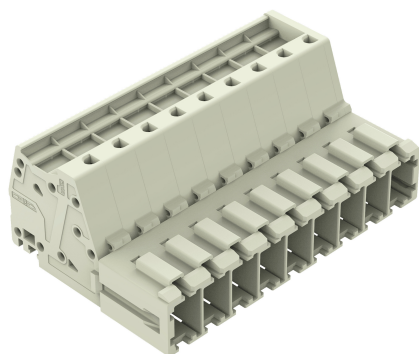
Data Sheet | Item Number: 831-3209

1-conductor male connector; Push-in CAGE CLAMP®; 10 mm²; Pin spacing 7.62 mm; 9-pole; 100% protected against mismatching; 10,00 mm²; light gray

<https://www.wago.com/831-3209>



Color: ■ light gray



Dimensions in mm
 $L = (\text{pole no.} - 1) \times \text{pin spacing} + 9.5 \text{ mm}$

Male connector, 831 Series, with 7.62 mm pin spacing

Our male connector (item number 831-3209) ensures effortless electrical installations. Ensure that the strip lengths are between 13 and 15 mm when connecting conductors to this male connector. This product features one conductor terminal and utilizes Push-in CAGE CLAMP®. Push-in CAGE CLAMP® technology provides a universal connection solution for all conductor types. It allows both solid and fine-stranded conductors with ferrules to be inserted directly into the clamping

point without the need for tools. Dimensions: (70.46 x 27.5 x 46) mm (width x height x depth). This male connector is suitable for conductor cross sections ranging from 0.5 mm² to 10 mm².

Tin is used for coating the contact surfaces.

Notes	
Safety Information	The MCS – MULTI CONNECTION SYSTEM includes connectors without breaking capacity in accordance with DIN EN 61984. When used as intended, these connectors must not be connected/disconnected when live or under load. When used as intended, these connectors must not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live when unmated.
Variants:	Other pole numbers Other versions (or variants) can be requested from WAGO Sales or configured at https://configurator.wago.com/ .

Electrical data				
Ratings per		IEC/EN 60664-1		
Overvoltage category		III	III	II
Pollution degree		3	2	2
Nominal voltage		800 V	1000 V	1000 V
Rated impulse withstand voltage		8 kV	8 kV	8 kV
Rated current		41 A	41 A	41 A
Approvals per		UL 1059		
Use group		B	C	D
Rated voltage		-	600 V	-
Rated current		-	42 A	-

Approvals per		CSA		
Use group		B	C	D
Rated voltage		-	600 V	-
Rated current		-	41 A	-

Connection Data	
Clamping units	9
Total number of potentials	9
Number of connection types	1
Number of levels	1

Connection 1	
Connection technology	Push-in CAGE CLAMP®
Actuation type	Operating tool
Actuation direction 1	Operation parallel to conductor entry
Solid conductor	0.5 ... 10 mm ² / 20 ... 8 AWG
Fine-stranded conductor	0.5 ... 10 mm ² / 20 ... 8 AWG
Fine-stranded conductor; with insulated ferrule	0.5 ... 6 mm ²
Fine-stranded conductor; with uninsulated ferrule	0.5 ... 6 mm ²
Strip length	13 ... 15 mm / 0.51 ... 0.59 inches
Pole number	9
Conductor entry direction to mating direction	0 °

Physical data		
Pin spacing		7.62 mm / 0.3 inches
Width		70.46 mm / 2.774 inches
Height		27.5 mm / 1.083 inches
Depth		46 mm / 1.811 inches

Mechanical data		
Variable coding		Yes
Anti-rotation protection		Yes

Plug-in connection		
Contact type (pluggable connector)		Male connector/plug
Connector (connection type)		for conductor
Mismating protection		Yes

Material data		
Note (material data)		Information on material specifications can be found here
Color		light gray
Material group		I
Insulation material (main housing)		Polyamide (PA66)
Flammability class per UL94		V0
Clamping spring material		Chrome-nickel spring steel (CrNi)
Contact material		Electrolytic copper (E _{Cu})
Contact Plating		Tin
Fire load		0.936 MJ
Weight		57.6 g

Environmental requirements																																		
Limit temperature range	-60 ... +105 °C	<table><tr><th colspan="2">Environmental Testing</th></tr><tr><td>Test specification: Railway applications – Rolling stock – Electronic equipment</td><td>DIN EN 50155 (VDE 0115-200):2022-06</td></tr><tr><td>Test procedure: Railway applications – Rolling stock equipment – Vibration and shock tests</td><td>DIN EN 61373 (VDE 0115-0106):2011-04</td></tr><tr><td>Spectrum/Mounting location</td><td>Service life test, Category 1, Class A/B</td></tr><tr><td>Functional test with noise-like oscillations</td><td>Test passed according to Section 8 of the standard</td></tr><tr><td>Frequency</td><td>f₁ = 5 Hz to f₂ = 150 Hz</td></tr><tr><td>Acceleration</td><td>0.101g (highest test level used for all axes)</td></tr><tr><td>Test duration per axis</td><td>10 min.</td></tr><tr><td>Test directions</td><td>X, Y and Z axes</td></tr><tr><td>Monitoring of contact faults and interruptions</td><td>Passed</td></tr><tr><td>Voltage drop measurement before and after each axis</td><td>Passed</td></tr><tr><td>Simulated service life test through increased levels of noise-like oscillations</td><td>Test passed according to Section 9 of the standard</td></tr><tr><td>Frequency</td><td>f₁ = 5 Hz to f₂ = 150 Hz</td></tr><tr><td>Acceleration</td><td>0.572g (highest test level used for all axes)</td></tr><tr><td>Test duration per axis</td><td>5 h</td></tr><tr><td>Test directions</td><td>X, Y and Z axes</td></tr></table>	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
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																																	
Processing temperature	-35 ... +60 °C																																	



Environmental Testing	
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	3 (Multi Conn. System)
PU (SPU)	12 pcs
Packaging type	Box
Country of origin	PL
GTIN	4066966839562
Customs tariff number	85366930000

Product Classification	
UNSPSC	39121409
eCl@ss 10.0	27-14-11-06
eCl@ss 9.0	27-14-11-06
ETIM 9.0	EC001284
ETIM 10.0	EC001284
ECCN	NO US CLASSIFICATION

Environmental Product Compliance	
RoHS Compliance Status	Compliant, No Exemption

Approvals / Certificates		
General approvals		Declarations of conformity and manufacturer's declarations
  		
Approval	Standard	Certificate Name
CB DEKRA Certification B.V.	IEC 61984	NL-124478
DEKRA DEKRA Certification B.V.	EN 61984	71-173515
KEMA/KEUR DEKRA Certification B.V.	EN 61984	71-129589 REV.1
UR Underwriters Laboratories Inc.	UL 1059	UL-US-2426356-0
Approval	Standard	Certificate Name
Railway WAGO GmbH & Co. KG	-	Railway Ready

Approvals for marine applications



Approval	Standard	Certificate Name
LR Lloyds Register	IEC 61984	96/20035 (E5)

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 831-3209 

Documentation

Additional Information
Technical Section03.04.2019pdf2027.26 KB 

CAD/CAE-Data

CAD data
2D/3D Models 831-3209 

CAE data
ZUKEN Portal 831-3209 

1 Compatible Products

1.1 System counterpart

1.1.1 Female connector/socket



[Item No.: 831-3109](#)
1-conductor female connector; Push-in CAGE CLAMP®; 10 mm²; Pin spacing 7.62 mm; 9-pole; 100% protected against mis-mating; 10,00 mm²; light gray



[Item No.: 831-3109/136-000](#)
1-conductor female connector; Push-in CAGE CLAMP®; 10 mm²; Pin spacing 7.62 mm; 9-pole; 100% protected against mis-mating; Gripping plate; 10,00 mm²; light gray



[Item No.: 831-3109/037-000](#)
1-conductor female connector; Push-in CAGE CLAMP®; 10 mm²; Pin spacing 7.62 mm; 9-pole; 100% protected against mis-mating; Lateral locking levers; 10,00 mm²; light gray



[Item No.: 831-3529](#)
THT female header; angled; Pin spacing 7.62 mm; 9-pole; 100% protected against mis-mating; 1.0 x 1.2 mm solder pin; light gray



[Item No.: 831-3509](#)
THT female header; straight; Pin spacing 7.62 mm; 9-pole; 100% protected against mis-mating; 1.0 x 1.2 mm solder pin; light gray

1.2 Optional Accessories

1.2.1 Coding

1.2.1.1 Coding



Item No.: 831-500

Coding pin carrier with six coding pins; orange

1.2.2 Marking

1.2.2.1 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

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

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



1.2.2.1 Marker



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

1.2.2.2 Marking strip



Item No.: 2009-110/762-852
Marking strips; for Smart Printer; cut to a defined length; MARKED; not stretchable; snap-on type; white



Item No.: 2009-110/762-853
Marking strips; for Smart Printer; cut to a defined length; MARKED; not stretchable; snap-on type; white



Item No.: 2009-110/762-854
Marking strips; for Smart Printer; cut to a defined length; MARKED; not stretchable; snap-on type; white



Item No.: 2009-110/762-855
Marking strips; for Smart Printer; cut to a defined length; MARKED; not stretchable; snap-on type; white



Item No.: 2009-110/762-856
Marking strips; for Smart Printer; cut to a defined length; MARKED; not stretchable; snap-on type; white



Item No.: 2009-110/762-857
Marking strips; for Smart Printer; cut to a defined length; MARKED; not stretchable; snap-on type; white



Item No.: 2009-110/762-858
Marking strips; for Smart Printer; cut to a defined length; MARKED; not stretchable; snap-on type; white



Item No.: 2009-110/762-859
Marking strips; for Smart Printer; cut to a defined length; MARKED; not stretchable; snap-on type; white



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

1.2.3 Mounting adapter

1.2.3.1 Mounting accessories



Item No.: 831-137
Mounting adapter; for DIN-35 rail/panel mounting; 3 parts; Pin spacing 7.62 mm; light gray

1.2.4 Strain relief

1.2.4.1 Strain relief plate



Item No.: 831-506
Strain relief plate; for female and male connectors; 51 mm wide; 1 part; Pin spacing 7.62 mm; light gray

1.2.5 Test and measurement

1.2.5.1 Testing accessories



Item No.: 210-136
Test plug; 2 mm Ø; with 500 mm cable; red

1.2.6 Tool

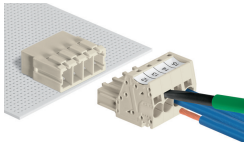
1.2.6.1 Operating tool



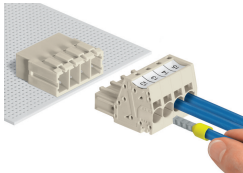
Item No.: 210-721
Operating tool; Blade: 5.5 x 0.8 mm; with a partially insulated shaft; multicoloured

Installation Notes

Conductor termination

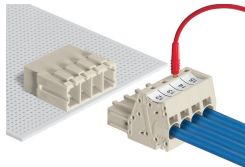


Inserting fine-stranded conductors via (5.5 x 0.8) mm screwdriver.



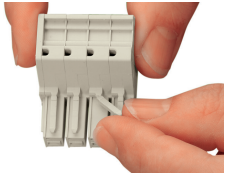
Solid and ferruled conductors are terminated by simply pushing them into unit.

Testing

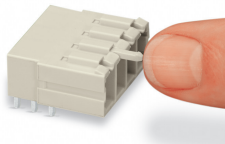


Testing with 2 mm Ø test plug.

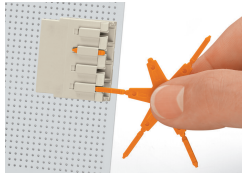
Coding



Break or cut off coding pin from female connector.



Insert coding pin into male header (break first) until it engages.



Coding a THT male header by inserting a coding pin.



Marking



Direct marking of female and male connectors

MCS MAXI male and female connectors can also be marked via Mini-WSB or WMB markers.