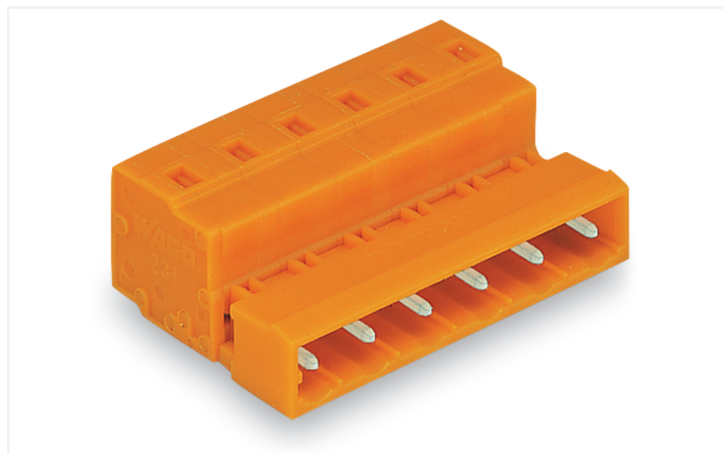


Data Sheet | Item Number: 731-642

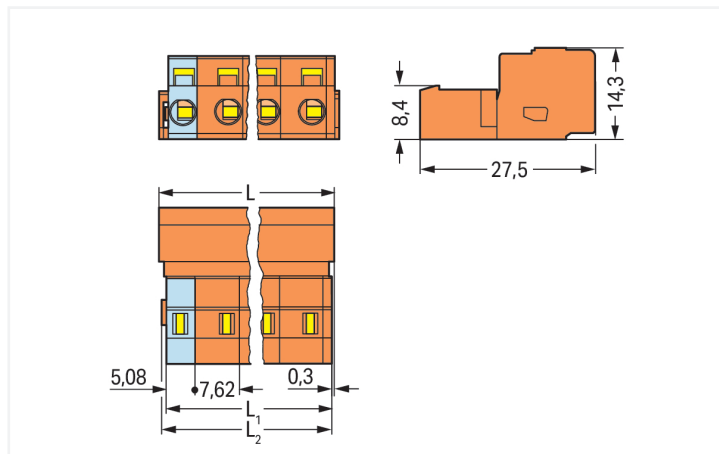
1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 12-pole; 2,50 mm²; orange

<https://www.wago.com/731-642>



Color: ■ orange

Similar to illustration



Dimensions in mm

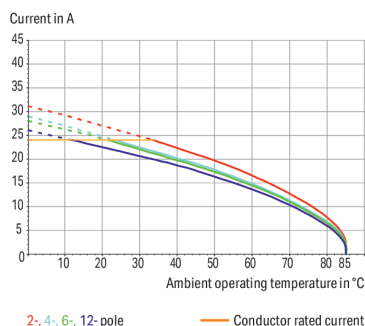
$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$

$L1 = L - 1.7 \text{ mm}$

$L2 = L - 1.2 \text{ mm}$

Derating Curve

1-conductor female connector (231-202/026-000) with
1-conductor male connector (731-602)
Pin spacing: 7.5 mm / Conductor cross-section: 2.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Stiftleiste Serie 731 mit CAGE CLAMP®

Die Stiftleiste mit der Artikelnummer 731-642 ermöglicht eine fehlerfreie Elektroinstallation. Unsere Leiterplatten-Steckverbinder ermöglichen Ihnen die größtmögliche Flexibilität bei verschiedenen Montagearten. Bei dieser Stiftleiste ist für den Leiteranschluss eine Abisolierlänge im Bereich von 8 bis 9 mm nötig. Dieses Produkt ist mit der CAGE CLAMP®-Technologie ausgestattet. Mit dem CAGE CLAMP® Universalanschluss steht Ihnen eine zuverlässige und wartungsfreie Anschlussstechnik zur Verfügung, um sämtliche Leiterarten mithilfe einer Käfigzugfeder anzuschließen. Es ist keine Vorbehandlung der Leiter notwendig, beispielsweise durch das Aufcrimpen von Aderendhülsen. In Breite x Höhe x Tiefe betragen die Maße (92,1 x 14,3 x 27,5) mm. In Abhängigkeit von der Leiterart ist diese Stiftleiste geeignet für Leiterquerschnitte von 0,08 mm² bis 2,5 mm². Für die Oberfläche der Kontakte wurde Zinn verwendet. Über ein Betätigungswerkzeug wird diese Stiftleiste/Stecker betätigt. Das MCS – "Multi Connection System" von WAGO ist ein vielfältiges Steckverbindersystem für Ihre durchgängige Systemverdrahtung. Es ermöglicht Ihnen eine vereinfachte Verdrahtung in der Kabelvorkonfektionierung und auf Geräten durch zwei Betätigungsrichtungen für die CAGE CLAMP®-Varianten.

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
Gold-plated or partially gold-plated contact surfaces
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	500 V	630 V	1000 V
Rated impulse withstand voltage	6 kV	6 kV	6 kV
Rated current	12 A	12 A	12 A

Approvals per	UL 1059		
Use group	B	C	D
Rated voltage	300 V	-	300 V
Rated current	15 A	-	10 A

Approvals per	UL 1977
Rated voltage	600 V
Rated current	15 A

Approvals per	CSA		
Use group	B	C	D
Rated voltage	300 V	-	300 V
Rated current	15 A	-	10 A

Connection data

Clamping units	12
Total number of potentials	12
Number of connection types	1
Number of levels	1

Connection 1	
Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Actuation direction 1	Operation parallel to conductor entry
Actuation direction 2	Operation perpendicular to conductor entry
Solid conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG
Fine-stranded conductor	0.08 ... 2.5 mm ² / 28 ... 12 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 1.5 mm ²
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 2.5 mm ²
Strip length	8 ... 9 mm / 0.31 ... 0.35 inches
Pole number	12
Conductor entry direction to mating direction	0°

Physical data

Pin spacing	7.62 mm / 0.3 inches
Width	92.1 mm / 3.626 inches
Height	14.3 mm / 0.563 inches
Depth	27.5 mm / 1.083 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
Mismatching protection	No

Material data

Note (material data)	Information on material specifications can be found here
Color	orange
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	0.93 MJ
Weight	38 g

Environmental requirements

Limit temperature range	-60 ... +100 °C	Environmental Testing	
Processing temperature	-35 ... +60 °C	Test specification:	DIN EN 50155 (VDE 0115-200):2022-06
		Railway applications – Rolling stock – Electronic equipment	
		Test procedure:	DIN EN 61373 (VDE 0115-0106):2011-04
		Railway applications – Rolling stock equipment – Vibration and shock tests	
		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	$f_1 = 5 \text{ Hz}$ to $f_2 = 150 \text{ Hz}$
		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	$f_1 = 5 \text{ Hz}$ 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	3 (Multi Conn. System)
PU (SPU)	25 pcs
Packaging type	Box
Country of origin	DE
GTIN	4044918268394
Customs tariff number	85366930000

Product Classification

UNSPSC	39121409
eCl@ss 10.0	27-44-03-09
eCl@ss 9.0	27-44-03-09
ETIM 9.0	EC002638
ETIM 8.0	EC002638
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
CB DEKRA Certification B.V.	IEC 61984	NL-113351
KEMA/KEUR DEKRA Certification B.V.	EN 61984	71-130478 REV.1
UR Underwriters Laboratories Inc.	UL 1977	E45171
UR 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 marine applications



Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	-	24-0095975-PDA
DNV DNV GL SE	-	TAE000016Z
LR Lloyds Register	IEC 61984	96/20035 (E5)

Downloads

Environmental Product Compliance

Compliance Search			
Environmental Product Compliance 731-642			↓

Documentation

Additional Information			
Technical Section	03.04.2019	pdf 2027.26 KB	↓

CAD/CAE-Data

CAD data	
2D/3D Models 731-642	↓

CAE data	
EPLAN Data Portal 731-642	↓
ZUKEN Portal 731-642	↓

1 Compatible Products

1.1 System counterpart

1.1.1 Female connector/socket

<p>Item No.: 732-132/026-000 1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 12-pole; 2,50 mm²; orange</p>	<p>Item No.: 231-712/027-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 12-pole; clamping collar; orange</p>	<p>Item No.: 231-712/031-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 12-pole; clamping collar; orange</p>	<p>Item No.: 231-712/037-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 12-pole; Lateral locking levers; orange</p>
<p>Item No.: 231-712/026-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 12-pole; orange</p>	<p>Item No.: 231-712/008-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 12-pole; Snap-in mounting feet; orange</p>	<p>Item No.: 2231-712/026-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 12-pole; 2,50 mm²; orange</p>	<p>Item No.: 2231-712/031-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 12-pole; clamping collar; 2,50 mm²; orange</p>
<p>Item No.: 2231-712/037-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 12-pole; Lateral locking levers; 2,50 mm²; orange</p>	<p>Item No.: 2231-712/008-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 12-pole; Snap-in mounting feet; 2,50 mm²; orange</p>	<p>Item No.: 231-2712/037-000 2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 12-pole; Lateral locking levers; orange</p>	<p>Item No.: 231-2712/026-000 2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 7.62 mm; 12-pole; with integrated end plate; orange</p>
<p>Item No.: 232-872 THT female header; angled; Pin spacing 7.62 mm; 12-pole; 0.6 x 1.0 mm solder pin; orange</p>	<p>Item No.: 232-872/045-000 THT female header; angled; Pin spacing 7.62 mm; 12-pole; 0.6 x 1.0 mm solder pin; orange</p>	<p>Item No.: 232-872/031-000 THT female header; angled; Pin spacing 7.62 mm; 12-pole; clamping collar; 0.6 x 1.0 mm solder pin; orange</p>	<p>Item No.: 232-872/039-000 THT female header; angled; Pin spacing 7.62 mm; 12-pole; Locking lever; 0.6 x 1.0 mm solder pin; orange</p>
<p>Item No.: 232-872/047-000 THT female header; angled; Pin spacing 7.62 mm; 12-pole; Spacer flange; 0.6 x 1.0 mm solder pin; orange</p>	<p>Item No.: 232-772 THT female header; straight; Pin spacing 7.62 mm; 12-pole; 0.6 x 1.0 mm solder pin; orange</p>	<p>Item No.: 232-772/045-000 THT female header; straight; Pin spacing 7.62 mm; 12-pole; 0.6 x 1.0 mm solder pin; orange</p>	<p>Item No.: 232-772/031-000 THT female header; straight; Pin spacing 7.62 mm; 12-pole; clamping collar; 0.6 x 1.0 mm solder pin; orange</p>

1.1.1 Female connector/socket



Item No.: [232-772/039-000](#)

THT female header; straight; Pin spacing 7.62 mm; 12-pole; Locking lever; 0.6 x 1.0 mm solder pin; orange

Item No.: [232-772/047-000](#)

THT female header; straight; Pin spacing 7.62 mm; 12-pole; Spacer flange; 0.6 x 1.0 mm solder pin; orange

1.2 Optional Accessories

1.2.1 Coding

1.2.1.1 Coding



Item No.: [231-130](#)

Coding key; snap-on type; light gray

1.2.2 Cover

1.2.2.1 Cover



Item No.: [231-669](#)

Lockout caps; for covering unused clamping units; orange

1.2.3 Ferrule

1.2.3.1 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; gastight crimped; acc. to DIN 46228, Part 4/09.90; white



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.: [216-141](#)

Ferrule; Sleeve for 0.5 mm² / 20 AWG; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92



Item No.: [216-101](#)

Ferrule; Sleeve for 0.5 mm² / AWG 22; un-insulated; electro-tin plated; silver-colored



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.: [216-262](#)

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.: [216-202](#)

Ferrule; Sleeve for 0.75 mm² / 18 AWG; insulated; electro-tin plated; gray



Item No.: [216-142](#)

Ferrule; Sleeve for 0.75 mm² / 18 AWG; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92



Item No.: [216-102](#)

Ferrule; Sleeve for 0.75 mm² / AWG 20; un-insulated; electro-tin plated; silver-colored



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



Item No.: [216-263](#)

Ferrule; Sleeve for 1 mm² / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red



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; un-insulated; electro-tin plated



Item No.: [216-143](#)

Ferrule; Sleeve for 1 mm² / AWG 18; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92

1.2.3.1 Ferrule



Item No.: 216-204

Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; black



Item No.: 216-244

Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black



Item No.: 216-264

Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black



Item No.: 216-284

Ferrule; Sleeve for 1.5 mm² / AWG 16; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; black



Item No.: 216-144

Ferrule; Sleeve for 1.5 mm² / AWG 16; un-insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92; silver-colored



Item No.: 216-104

Ferrule; Sleeve for 1.5 mm² / AWG 16; un-insulated; electro-tin plated; silver-colored



Item No.: 216-106

Ferrule; Sleeve for 2.5 mm² / AWG 14; un-insulated; electro-tin plated; silver-colored

1.2.4 Insulation stop

1.2.4.1 Insulation stop



Item No.: 231-673

Insulation stop; 0.08-0.2 mm² / 0.2 mm² "s"; white



Item No.: 231-674

Insulation stop; 0.25 - 0.5 mm²; light gray



Item No.: 231-675

Insulation stop; 0.75 - 1 mm²; dark gray

1.2.5 Marking

1.2.5.1 Marking strip



Item No.: 210-331/762-202

Marking strips; as a DIN A4 sheet; MARKED; 1-16 (100x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white



Item No.: 210-332/762-020

Marking strips; as a DIN A4 sheet; MARKED; 1-20 (80x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white

1.2.6 Tool

1.2.6.1 Operating tool



Item No.: 210-720

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; multicoloured



Item No.: 210-657

Operating tool; Blade: 3.5 x 0.5 mm; with a partially insulated shaft; short; multicoloured



Item No.: 231-291

Operating tool; made of insulating material; 1-way; loose; red

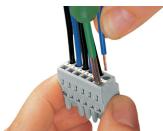


Item No.: 231-131

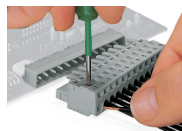
Operating tool; made of insulating material; 1-way; loose; white

Installation Notes

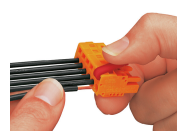
Conductor termination



Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation parallel to conductor entry.



Inserting a conductor via 3.5 mm screwdriver – CAGE CLAMP® actuation perpendicular to conductor entry.

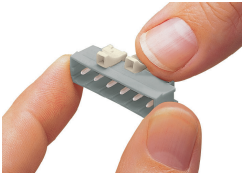


Inserting a conductor into CAGE CLAMP® unit via operating tool (231-291).



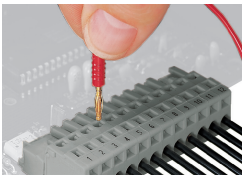
Inserting a conductor via operating tool.

Coding



Coding a male header – fitting coding key (s).

Testing



Testing – female connector with CAGE CLAMP®
Integrated test ports for testing perpendicular to conductor entry via 2 or 2.3 mm Ø test plug

Installation



Male connector with strain relief plate



Strain relief housing shown with a male connector equipped with CAGE CLAMP®

Marking



Labeling via direct marking or self-adhesive strips.