

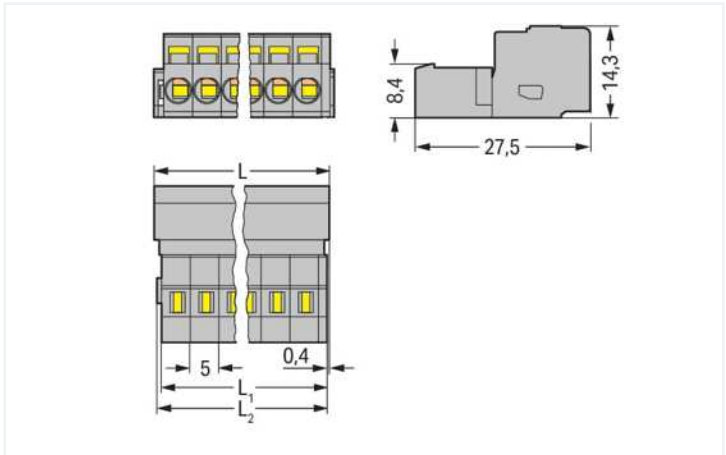
Data Sheet | Item Number: 231-615

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole;
2,50 mm²; gray

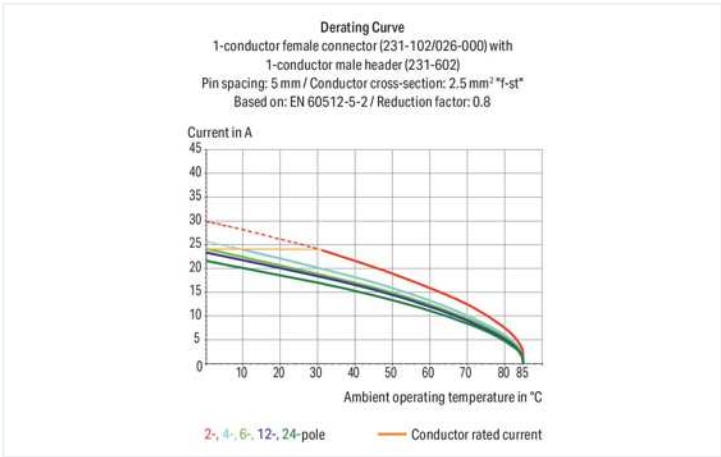
<https://www.wago.com/231-615>



Color:  gray



Dimensions in mm
 $L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$
 $L1 = L - 1.7 \text{ mm}$
 $L2 = L - 1.2 \text{ mm}$



- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- For wire-to-wire and board-to-wire connections
- Versions available with snap-in mounting feet or flanges for panel or through-panel mounting
- With coding fingers

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	
Ratings per	IEC/EN 60664-1
Nominal voltage (III/3)	320 V
Rated impulse voltage (III/3)	4 kV
Rated voltage (III/2)	320 V
Rated impulse voltage (II/2)	4 kV
Nominal voltage (II/2)	630 V
Rated surge voltage (II/2)	4 kV
Rated current	12 A
Legend (ratings)	(III / 2) ≙ Overvoltage category III / Pollution degree 2

Ratings per UL 1977	
Rated voltage (UL 1977)	600 V
Rated current UL 1977	15 A

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 D)	300 V
Rated current UL (Use Group D)	10 A

Ratings per CSA	
Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V
Rated current CSA (Use Group B)	15 A
Rated voltage CSA (Use Group D)	300 V
Rated current CSA (Use Group D)	10 A

Connection data			
Connection points	15	Connection 1	
Total number of potentials	15	Connection technology	CAGE CLAMP®
Number of connection types	1	Actuation type	Operating tool
Number of levels	1	Actuation direction 1	Operation parallel to conductor entry
		Actuation direction 2	Operation perpendicular to conductor entry
		Solid conductor	0.08 ... 2.5 mm² / 28 ... 12 AWG
		Fine-stranded conductor	0.08 ... 2.5 mm² / 28 ... 12 AWG
		Fine-stranded conductor; with insulated ferrule	0.25 ... 1.5 mm²
		Fine-stranded conductor; with uninsulated ferrule	0.25 ... 2.5 mm²
		Strip length	8 ... 9 mm / 0.31 ... 0.35 inches
		Pole number	15
		Conductor entry direction to mating direction	0°

Physical data	
Pin spacing	5 mm / 0.197 inches
Width	78.2 mm / 3.079 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
Mismating protection		No

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
Clamping spring material		Chrome-nickel spring steel (CrNi)
Contact material		Electrolytic copper (E _{Cu})
Contact plating		Tin
Fire load		0.584 MJ
Weight		22.5 g

Environmental requirements		
Limit temperature range		-60 ... +100 °C
Processing temperature		-35 ... +60 °C

Commercial data		
Product Group		3 (Multi Conn. System)
eCl@ss 10.0		27-44-03-09
eCl@ss 9.0		27-44-03-09
ETIM 8.0		EC002638
ETIM 7.0		EC002638
PU (SPU)		25 pcs
Packaging type		Box
Country of origin		DE
GTIN		4044918258661
Customs tariff number		85366990990

Approvals / Certificates

General approvals			Declarations of conformity and manufacturer's declarations		
  					
Approval	Standard	Certificate Name	Approval	Standard	Certificate Name
CB DEKRA Certification B.V.	IEC 61984	NL-39756/A1	Railway WAGO GmbH & Co. KG	-	Railway Ready
CSA DEKRA Certification B.V.	C22.2	1466354			
KEMA/KEUR DEKRA Certification B.V.	EN 61984	71-121453			
UR Underwriters Laboratories Inc.	UL 1977	E45171			



Approvals for marine applications



Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	-	19-HG1869876-PDA
DNV GL Det Norske Veritas, Ger- manischer Lloyd	-	TAE000016Z
LR Lloyds Register	IEC 61984	96/20035 (E5)

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 231-615



Documentation

Additional Information
Technical Section
03.04.2019
pdf
1949.09 KB



CAD/CAE-Data

CAD data
2D/3D Models 231-615



CAE data
EPLAN Data Portal 231-615



ZUKEN Portal 231-615



1 Compatible Products

1.1 System counterpart

1.1.1 Female connector/socket



Item No.: 232-115/026-000 1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; 2,50 mm²; gray
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Item No.: 232-215/026-000 1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; 2,50 mm²; gray
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Item No.: 731-515/031-000 1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; clamping collar; DIN-35 rail/ panel mounting; 2,50 mm²; gray



Item No.: 731-515/008-000 1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; Snap-in mounting feet; 2,50 mm²; gray
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Item No.: 231-115/026-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15- pole; 2,50 mm²; gray



Item No.: 231-115/027-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15- pole; clamping collar; 2,50 mm²; gray
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Item No.: 231-115/031-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15- pole; clamping collar; 2,50 mm²; gray
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Item No.: 231-115/026-000/054-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15- pole; direct marking; 2,50 mm²; gray



1.1.1 Female connector/socket

 Item No.: 231-115/037-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; Lateral locking levers; 2,50 mm²; gray	 Item No.: 231-115/125-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; Snap-in flange; 2,50 mm²; gray	 Item No.: 231-115/008-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; Snap-in mounting feet; 2,50 mm²; gray	 Item No.: 231-115/102-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; with integrated end plate; 2,50 mm²; gray
 Item No.: 2231-115/026-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; 2,50 mm²; gray	 Item No.: 2231-115/031-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; clamping collar; 2,50 mm²; gray	 Item No.: 2231-115/037-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; Lateral locking levers; 2,50 mm²; gray	 Item No.: 2231-115/008-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; Snap-in mounting feet; 2,50 mm²; gray
 Item No.: 2231-115/102-000 1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; with integrated end plate; 2,50 mm²; gray	 Item No.: 231-2115/037-000 2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; Lateral locking levers; 2,50 mm²; gray	 Item No.: 231-2115/026-000 2-conductor female connector; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 15-pole; with integrated end plate; 2,50 mm²; gray	 Item No.: 232-245/005-000/039-000 Female connector for rail-mount terminal blocks; 0.6 x 1 mm pins; angled; Locking lever; Pin spacing 5 mm; 15-pole; gray
 Item No.: 232-245/005-000 Female connector for rail-mount terminal blocks; 0.6 x 1 mm pins; angled; Pin spacing 5 mm; 15-pole; gray	 Item No.: 232-145/005-000/039-000 Female connector for rail-mount terminal blocks; 0.6 x 1 mm pins; straight; Locking lever; Pin spacing 5 mm; 15-pole; gray	 Item No.: 232-145/005-000 Female connector for rail-mount terminal blocks; 0.6 x 1 mm pins; straight; Pin spacing 5 mm; 15-pole; gray	 Item No.: 232-245 THT female header; angled; Pin spacing 5 mm; 15-pole; 0.6 x 1.0 mm solder pin; gray
 Item No.: 232-245/031-000 THT female header; angled; Pin spacing 5 mm; 15-pole; clamping collar; 0.6 x 1.0 mm solder pin; gray	 Item No.: 232-245/039-000 THT female header; angled; Pin spacing 5 mm; 15-pole; Locking lever; 0.6 x 1.0 mm solder pin; gray	 Item No.: 232-245/047-000 THT female header; angled; Pin spacing 5 mm; 15-pole; Spacer flange; 0.6 x 1.0 mm solder pin; gray	 Item No.: 232-145 THT female header; straight; Pin spacing 5 mm; 15-pole; 0.6 x 1.0 mm solder pin; gray
 Item No.: 232-145/031-000 THT female header; straight; Pin spacing 5 mm; 15-pole; clamping collar; 0.6 x 1.0 mm solder pin; gray	 Item No.: 232-145/039-000 THT female header; straight; Pin spacing 5 mm; 15-pole; Locking lever; 0.6 x 1.0 mm solder pin; gray	 Item No.: 232-145/047-000 THT female header; straight; Pin spacing 5 mm; 15-pole; Spacer flange; 0.6 x 1.0 mm solder pin; gray	

1.2 Optional Accessories

1.2.1 Coding

1.2.1.1 Coding



Item No.: 231-129
Coding key; snap-on type; light gray

1.2.2 Cover



1.2.2.1 Cover



Item No.: 231-668
Lockout caps; for covering unused clamping units; gray

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.: 216-321
Ferrule; Sleeve for 0.25 mm² / AWG 24; insulated; electro-tin plated; yellow



Item No.: 216-151
Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated



Item No.: 216-131
Ferrule; Sleeve for 0.25 mm² / AWG 24; uninsulated; electro-tin plated; silver-colored



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



Item No.: 216-322
Ferrule; Sleeve for 0.34 mm² / 22 AWG; insulated; electro-tin plated; light turquoise



Item No.: 216-132
Ferrule; Sleeve for 0.34 mm² / AWG 24; uninsulated; electro-tin plated



Item No.: 216-152
Ferrule; Sleeve for 0.34 mm² / AWG 24; uninsulated; electro-tin plated



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.: 216-201
Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white



Item No.: 216-221
Ferrule; Sleeve for 0.5 mm² / 20 AWG; insulated; electro-tin plated; white



Item No.: 216-141
Ferrule; Sleeve for 0.5 mm² / 20 AWG; 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; uninsulated; electro-tin plated; silver-colored



Item No.: 216-121
Ferrule; Sleeve for 0.5 mm² / AWG 22; uninsulated; 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.: 216-222
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; uninsulated; 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; uninsulated; electro-tin plated; silver-colored



Item No.: 216-122
Ferrule; Sleeve for 0.75 mm² / AWG 20; uninsulated; 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.: 216-223
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.: 216-143
Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92



Item No.: 216-123
Ferrule; Sleeve for 1 mm² / AWG 18; uninsulated; electro-tin plated; silver-colored



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



Item No.: 216-224
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



1.2.3.1 Ferrule



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.: 216-124
Ferrule; Sleeve for 1.5 mm² / AWG 16; un-insulated; electro-tin plated



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.: 231-670
Insulation stop; 0.08-0.2 mm² / 0.2 mm² "s"; white



Item No.: 231-671
Insulation stop; 0.25 - 0.5 mm²; light gray



Item No.: 231-672
Insulation stop; 0.75 - 1 mm²; dark gray

1.2.5 Jumper

1.2.5.1 Jumper



Item No.: 231-910
Jumper; for conductor entry; 10-way; insulated; gray



Item No.: 231-902
Jumper; for conductor entry; 2-way; insulated; gray



Item No.: 231-903
Jumper; for conductor entry; 3-way; insulated; gray



Item No.: 231-905
Jumper; for conductor entry; 5-way; insulated; gray



Item No.: 231-907
Jumper; for conductor entry; 7-way; insulated; gray

1.2.6 Marking

1.2.6.1 Marking strip



Item No.: 210-331/500-103
Marking strips; as a DIN A4 sheet; MARKED; 1-12 (300x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white



Item No.: 210-332/500-202
Marking strips; as a DIN A4 sheet; MARKED; 1-16 (160x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white



Item No.: 210-332/500-205
Marking strips; as a DIN A4 sheet; MARKED; 1-32 (80x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white



Item No.: 210-331/500-104
Marking strips; as a DIN A4 sheet; MARKED; 13-24 (300x); Height of marker strip: 2.3 mm/0.091 in; Strip length 182 mm; Horizontal marking; Self-adhesive; white



Item No.: 210-332/500-204
Marking strips; as a DIN A4 sheet; MARKED; 17-32 (160x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white



Item No.: 210-332/500-206
Marking strips; as a DIN A4 sheet; MARKED; 33-48 (160x); Height of marker strip: 3 mm; Strip length 182 mm; Horizontal marking; Self-adhesive; white

1.2.7 Tool

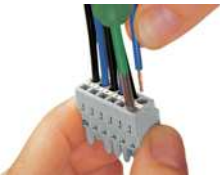


1.2.7.1 Operating tool

 Item No.: 231-231 Combination operating tool; red	 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.: 209-132 Operating tool; for connecting comb-style jumper bar; made of insulating material; 2-way; natural
 Item No.: 210-250 Operating tool; for MCS MINI and MIDI with CAGE CLAMP® connection; red	 Item No.: 280-440 Operating tool; made of insulating material; 10-way	 Item No.: 209-130 Operating tool; made of insulating material; 1-way; for 264 Series (1-/2-way), 280, 281 Series (up to 3-way); natural	 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	 Item No.: 280-432 Operating tool; made of insulating material; 2-way; white	 Item No.: 280-433 Operating tool; made of insulating material; 3-way	 Item No.: 280-434 Operating tool; made of insulating material; 4-way
 Item No.: 280-435 Operating tool; made of insulating material; 5-way; gray	 Item No.: 280-436 Operating tool; made of insulating material; 6-way	 Item No.: 280-437 Operating tool; made of insulating material; 7-way	 Item No.: 280-438 Operating tool; made of insulating material; 8-way
 Item No.: 231-159 Operating tool; natural			

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.
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Coding

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