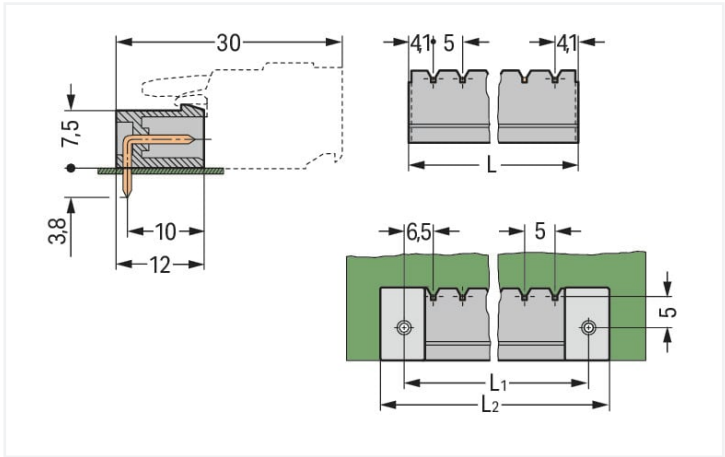




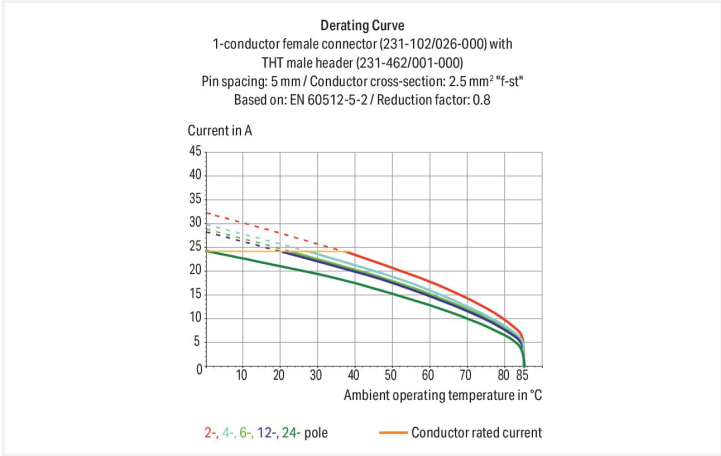
<https://www.wago.com/231-448/001-000>



Color: ■ gray



Dimensions in mm
 $L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$
 $L1 = L + 5 \text{ mm}$
 $L2 = L1 + 7.4 \text{ mm}$



- Horizontal or vertical PCB mounting via straight or angled solder pins
- Pin cross-section: 1 x 1 mm
- 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 3.8 mm pin projection for male headers with straight solder pins 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		320 V	320 V	630 V
Rated surge voltage		4 kV	4 kV	4 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		10 A	-	10 A

Approvals per		UL 1977		
Rated voltage		600 V		
Rated current		10 A		

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

Connection data				
Total number of potentials	18	Connection 1		
Number of connection types	1			
Number of levels	1			
		Pole number	18	

Physical data		
Pin spacing		5 mm / 0.197 inches
Width		93.2 mm / 3.669 inches
Height		12.2 mm / 0.48 inches
Height from the surface		8.4 mm / 0.331 inches
Depth		12 mm / 0.472 inches
Solder pin length		3.8 mm
Solder pin dimensions		1 x 1 mm
Drilled hole diameter with tolerance		1.4 (+0.1) mm

Mechanical data		
Variable coding		Yes
Anti-rotation protection		Yes

Plug-in connection		
Contact type (pluggable connector)		Male connector/plug
Connector (connection type)		for PCB
Mismating protection		No
Mating direction to the PCB		0°

PCB contact		
PCB contact		THT
Solder pin arrangement		over the entire male connector (in-line)
Number of solder pins per potential		1



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
Contact material	Electrolytic copper (E _{CU})
Contact plating	Tin
Fire load	0.194 MJ
Weight	5.7 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	27-44-04-02
eCl@ss 9.0	27-44-04-02
ETIM 8.0	EC002637
ETIM 7.0	EC002637
PU (SPU)	50 pcs
Packaging type	Box
Country of origin	PL
GTIN	4044918866576
Customs tariff number	85366990990

Environmental Product Compliance	
RoHS Compliance Status	Compliant, No Exemption

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			
UL Underwriters Laboratories Inc.	UL 1059	E45172			
UR Underwriters Laboratories Inc.	UL 1977	E45171			



Approvals for marine applications

		
Approval	Standard	Certificate Name
ABS American Bureau of Ship- ping	-	19-HG1869876-PDA
BV Bureau Veritas S.A.	IEC 60998	11915/D0 BV
DNV GL Det Norske Veritas, Ger- manischer Lloyd	-	TAE000016Z

Downloads

Environmental Product Compliance

Compliance Search
Environmental Product Compliance 231-448/001-000



Documentation

Additional Information
Technical Section
03.04.2019
pdf 1949.09 KB



CAD/CAE-Data

CAD data
2D/3D Models 231-448/001-000



CAE data
EPLAN Data Portal 231-448/001-000
ZUKEN Portal 231-448/001-000



1 Compatible Products

1.1 System counterpart

1.1.1 Female connector/socket



Item No.: 232-118/026-000 1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 18-pole; 2,50 mm²; gray



Item No.: 232-218/026-000 1-conductor female connector, angled; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 18-pole; 2,50 mm²; gray



Item No.: 231-118/026-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 18- pole; 2,50 mm²; gray
--



Item No.: 231-118/027-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 18- pole; clamping collar; 2,50 mm²; gray



Item No.: 231-118/031-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 18- pole; clamping collar; 2,50 mm²; gray



Item No.: 231-118/037-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 18- pole; Lateral locking levers; 2,50 mm²; gray



Item No.: 231-118/102-000 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 18- pole; with integrated end plate; 2,50 mm²; gray
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Item No.: 2231-118/026-000 1-conductor female connector; push-but- ton; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 18-pole; 2,50 mm²; gray



1.1.1 Female connector/socket



Item No.: 2231-118/031-000
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 18-pole; clamping collar; 2,50 mm²; gray



Item No.: 2231-118/037-000
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 18-pole; Lateral locking levers; 2,50 mm²; gray



Item No.: 2231-118/102-000
1-conductor female connector; push-button; Push-in CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 18-pole; with integrated end plate; 2,50 mm²; 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

1.2.1.2 Intermediate plate



Item No.: 231-500
Spacer; for formation of groups; light gray

1.2.2 Installation

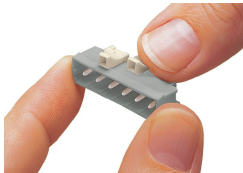
1.2.2.1 Mounting accessories



Item No.: 231-193
Locking device; for male connectors; 1 part; gray

Installation Notes

Coding



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