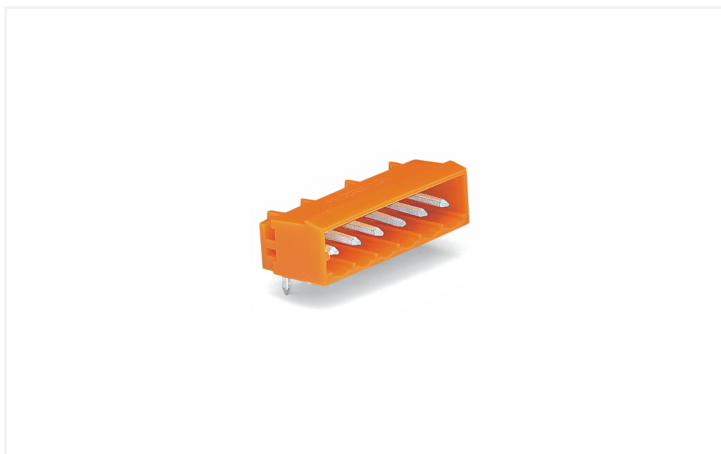


# Data Sheet | Item Number: 231-580/001-000

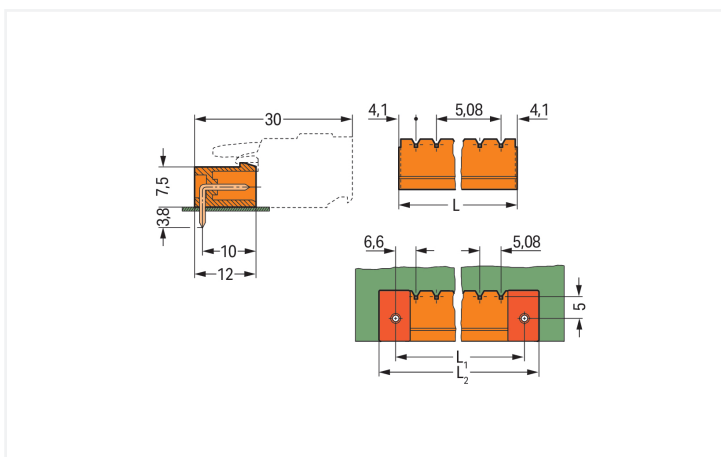
THT male header; 1.2 x 1.2 mm solder pin; angled; Pin spacing 5.08 mm; 20-pole; orange

<https://www.wago.com/231-580/001-000>



Color: ■ orange

Similar to illustration



Dimensions in mm

$L = (\text{pole no.} - 1) \times \text{pin spacing} + 8.2 \text{ mm}$   
 $L_1 = L + 5 \text{ mm}$   
 $L_2 = L_1 + 7.4 \text{ mm}$

Male connector, 231 Series, solder pin dimensions 1.2 x 1.2 mm

This male connector (item number 231-580/001-000) simplifies electrical installations. The item's dimensions are (104.72 x 12.2 x 12) mm (width x height x depth).

Tin is used for coating the contact surfaces. THT is used to assemble the pcb connector.

## 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			Approvals per	UL 1059		
Overvoltage category	III	III	II	Use group	B	C	D
Pollution degree	3	2	2	Rated voltage	300 V	-	300 V
Nominal voltage	250 V	320 V	630 V	Rated current	15 A	-	10 A
Rated impulse withstand voltage	4 kV	4 kV	4 kV				
Rated current	16 A	16 A	16 A				

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

## Connection Data

Total number of potentials	20	<b>Connection 1</b>	
Number of connection types	1	Pole number	20
Number of levels	1		

## Physical data

Pin spacing	5.08 mm / 0.2 inches
Width	104.72 mm / 4.123 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	1.2 x 1.2 mm
Drilled hole diameter	1.7 <sup>(+0.1)</sup> 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)	<a href="#">Information on material specifications can be found here</a>
Color	orange
Material group	I
Insulation material (main housing)	Polyamide (PA66)
Flammability class per UL94	V0
Contact material	Electrolytic copper (E <sub>Cu</sub> )
Contact Plating	Tin
Fire load	0.102 MJ
Weight	7.6 g

### Environmental requirements

Limit temperature range	-60 ... +100 °C	<h4>Environmental Testing</h4>	
Processing temperature	-35 ... +60 °C		
		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 <sub>1</sub> = 5 Hz to f <sub>2</sub> = 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 <sub>1</sub> = 5 Hz to f <sub>2</sub> = 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

**Environmental Testing**

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)	50 pcs
Packaging type	Box
Country of origin	PL
GTIN	4044918931564
Customs tariff number	85366930000

**Product Classification**

UNSPSC	39121409
eCl@ss 10.0	27-44-04-02
eCl@ss 9.0	27-44-04-02
ETIM 9.0	EC002637
ETIM 10.0	EC002637
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
CSA DEKRA Certification B.V.	C22.2	1466354
KEMA/KEUR DEKRA Certification B.V.	EN 61984	71-130478 REV.1
UL UL International Germany GmbH	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
BV Bureau Veritas S.A.	IEC 60998	11915/E0 BV

Downloads

Environmental Product Compliance

Compliance Search	
Environmental Product Compliance 231-580/001-000	<a href="#">↓</a>

Documentation

Additional Information			
Technical Section	03.04.2019	pdf 2027.26 KB	<a href="#">↓</a>

CAD/CAE-Data

CAD data	
2D/3D Models 231-580/001-000	<a href="#">↓</a>

CAE data	
EPLAN Data Portal 231-580/001-000	<a href="#">↓</a>
ZUKEN Portal 231-580/001-000	<a href="#">↓</a>

PCB Design

Symbol and Footprint via SamacSys 231-580/001-000	<a href="#">↓</a>
Symbol and Footprint via Ultra Librarian 231-580/001-000	<a href="#">↓</a>

## 1 Compatible Products

### 1.1 System counterpart

#### 1.1.1 Female connector/socket



**Item No.:** [231-320/026-000](#)

1-conductor female connector; CAGE CLAMP®; 2.5 mm<sup>2</sup>; Pin spacing 5.08 mm; 20-pole; orange

### 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.:** [231-393](#)

Locking device; for male connectors; 1 part; orange

## Installation Notes

### Coding



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