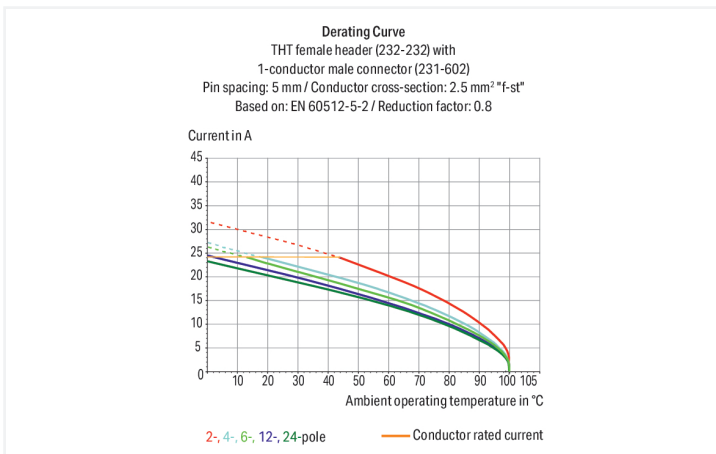


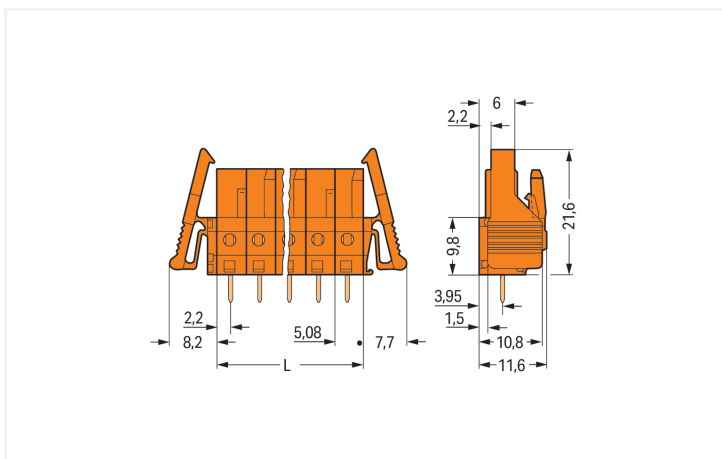
Data Sheet | Item Number: 232-180/039-000

THT female header; straight; Pin spacing 5.08 mm; 20-pole; Locking lever; 0.6 x 1.0 mm solder pin; orange

<https://www.wago.com/232-180/039-000>



Color: ■ orange



Dimensions in mm

L = pole no. x pin spacing 2- to 3-pole female connectors – one latch only

Female connector, 232 Series, solder pin dimensions 0.6 x 1 mm

Seamless electrical installations are guaranteed with this female connector (item number 232-180/039-000). The item's dimensions are (117.5 x 26.6 x 11.6) 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		
Overtoltage category	III	III	II
Pollution degree	3	2	2
Nominal voltage	320 V	320 V	630 V
Rated impulse withstand 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	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	20
Total number of potentials	20
Number of connection types	1
Number of levels	1

Connection 1	
Pole number	20

Physical data

Pin spacing	5.08 mm / 0.2 inches
Width	117.5 mm / 4.626 inches
Height	26.6 mm / 1.047 inches
Height from the surface	21.6 mm / 0.85 inches
Depth	11.6 mm / 0.457 inches
Solder pin length	5 mm
Solder pin dimensions	0.6 x 1 mm
Drilled hole diameter with tolerance	1.3 (+0.1) mm

Mechanical data

Variable coding	Yes
Anti-rotation protection	Yes

Plug-in connection

Contact type (pluggable connector)	Female connector/socket
Connector (connection type)	for PCB
Mismating protection	No
Mating direction to the PCB	90 °
Locking of plug-in connection	Locking lever

PCB contact

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

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
Contact material	Copper alloy
Contact Plating	Tin
Fire load	0.346 MJ
Weight	19.3 g

Environmental requirements

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

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	$f_1 = 5 \text{ Hz}$ 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

Environmental Testing	
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	
PU (SPU)	10 pcs
Packaging type	Box
Country of origin	DE
GTIN	4055143579513
Customs tariff number	85366990990

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

Approvals / Certificates

General approvals



Approval	Standard	Certificate Name
CSA CSA Group	C22.2	1466354
UL UL International Germany GmbH	UL 1977	E45171
UL 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
DNV DNV GL SE	-	TAE000016Z

Downloads

Environmental Product Compliance

Compliance Search

Environmental Product Compliance 232-180/039-000	↓
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Documentation

Additional Information

Technical Section	03.04.2019	pdf 2027.26 KB	↓
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CAD/CAE-Data

CAD data

2D/3D Models 232-180/039-000	↓
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CAE data

ZUKEN Portal 232-180/039-000	↓
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PCB Design

Symbol and Footprint via SamacSys 232-180/039-000	↓
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Symbol and Footprint via Ultra Librarian 232-180/039-000	↓
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1 Compatible Products

1.1 System counterpart

1.1.1 Male connector/plug



Item No.: [231-650](#)

1-conductor male connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5.08 mm; 20-pole; orange

1.2 Optional Accessories

1.2.1 Test and measurement

1.2.1.1 Testing accessories



Item No.: [231-661](#)

Test plugs for female connectors; for 5 mm and 5.08 mm pin spacing; 2,50 mm²; light gray