

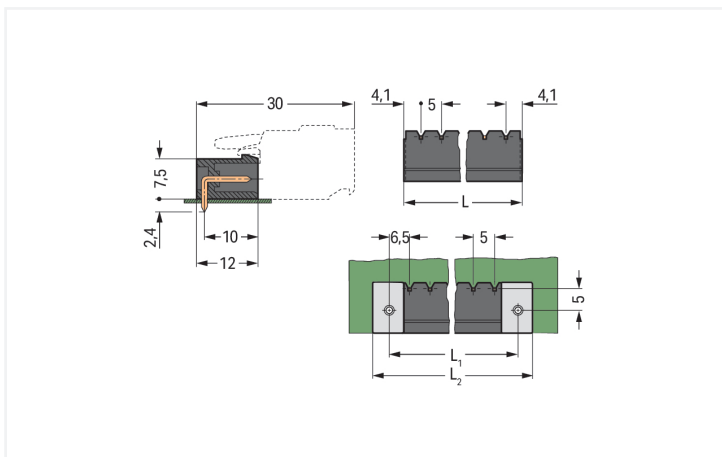
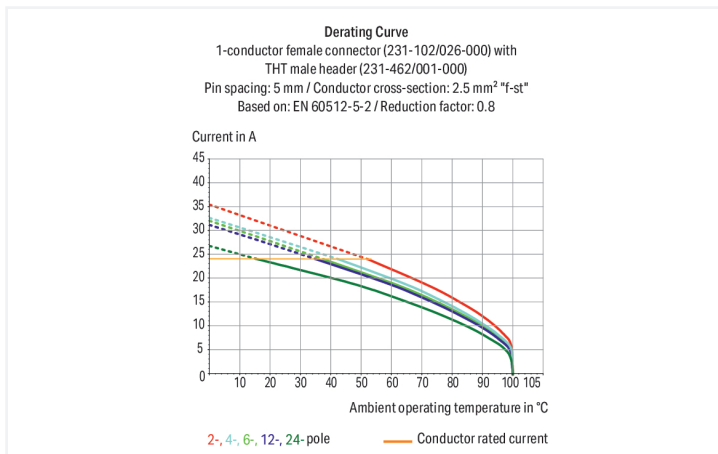
**Data Sheet | Item Number: 231-471/001-000/105-604/997-409**  
 THR male header; 1.2 x 1.2 mm solder pin; angled; in tape-and-reel packaging; Pin spacing 5 mm; 11-pole; black

<https://www.wago.com/231-471/001-000/105-604/997-409>

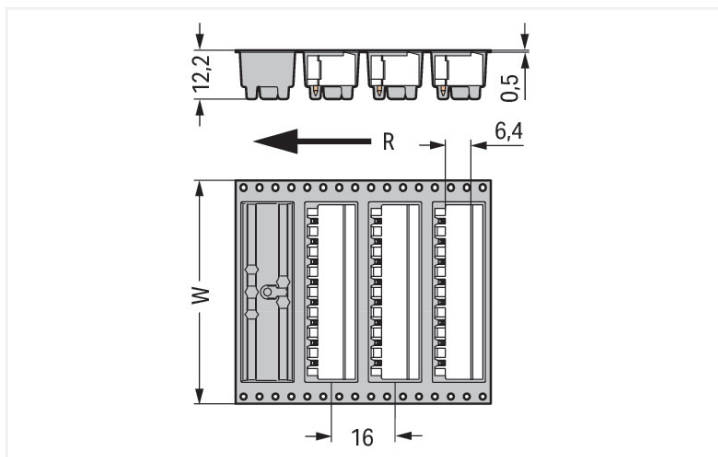


Color: ■ black

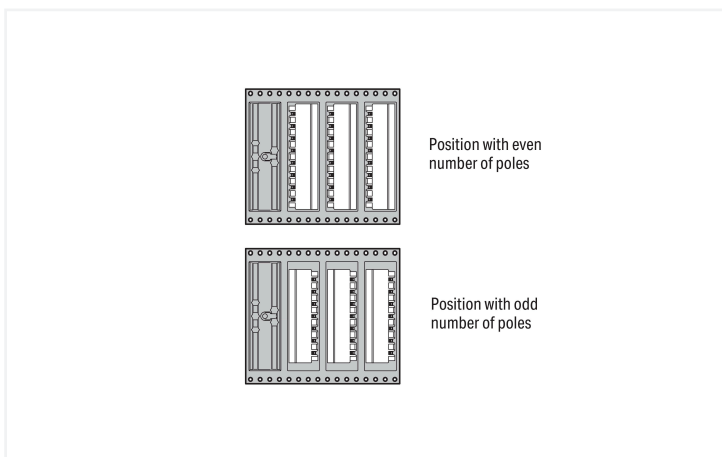
Similar to illustration



Dimensions in mm  
 $L = (\text{pole no.} \times \text{pin spacing}) + 3.2 \text{ mm}$   
 $L_1 = L + 4.8 \text{ mm}$   
 $L_2 = L_1 + 7.2 \text{ mm}$



Dimensions in mm  
 W = tape width  
 R = feed direction



Dimensions in mm  
 Pin position in tape-and-reel packaging



Male connector, 231 Series, black

Enjoy error-free electrical installations with this male connector (item number 231-471/001-000/105-604/997-409). The item's dimensions are (58.2 x 10.8 x 12) mm (width x height x depth).

The contact surface is coated with tin. The pcb connector is designed for THR soldering.

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 <a href="https://configurator.wago.com/">https://configurator.wago.com/</a> .

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	10 A	-	10 A
Rated impulse withstand voltage		4 kV	4 kV	4 kV				
Rated current		16 A	16 A	16 A				

Approvals per		UL 1977		Approvals per		CSA	
Rated voltage		600 V		Use group	B	C	D
Rated current		15 A		Rated voltage	300 V	-	300 V
				Rated current	10 A	-	10 A

Connection Data						
Total number of potentials	11	<table border="1"> <thead> <tr> <th colspan="2">Connection 1</th> </tr> </thead> <tbody> <tr> <td>Pole number</td> <td>11</td> </tr> </tbody> </table>	Connection 1		Pole number	11
Connection 1						
Pole number	11					
Number of connection types	1					
Number of levels	1					

Physical data	
Pin spacing	5 mm / 0.197 inches
Width	58.2 mm / 2.291 inches
Height	10.8 mm / 0.425 inches
Height from the surface	8.4 mm / 0.331 inches
Depth	12 mm / 0.472 inches
Solder pin length	2.4 mm
Solder pin dimensions	1.2 x 1.2 mm
Plated through-hole diameter (THR)	1.7 (+0.1) mm
Reel diameter of tape-and-reel packaging	330 mm
Tape width	88 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	THR
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	black
Material group	I
Insulation material (main housing)	Polyphthalamide (PPA GF)
Flammability class per UL94	V0
Contact material	Electrolytic copper (E <sub>Cu</sub> )
Contact Plating	Tin
Fire load	0.072 MJ
Weight	9.2 g
MSL per J-STD 020D	1

### Environmental requirements

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

### Commercial data

PU (SPU)	170 pcs
Packaging type	Bag
Country of origin	DE
GTIN	4066966881011
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
CSA DEKRA Certification B.V.	C22.2	1466354

**Downloads**

**Environmental Product Compliance**

**Compliance Search**



**Documentation**

**Additional Information**

Technical Section	03.04.2019	pdf 2027.26 KB	
		pdf 535.32 KB	

**CAD/CAE-Data**

**CAD data**



**PCB Design**



**1 Compatible Products**

**1.1 System counterpart**

**1.1.1 Female connector/socket**



**Item No.: 231-111/026-000**  
 1-conductor female connector; CAGE CLAMP®; 2.5 mm²; Pin spacing 5 mm; 11-pole; 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

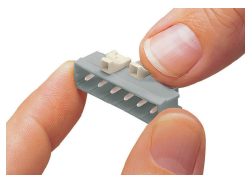


Item No.: [231-500](#)

Spacer; for formation of groups; light gray

## Installation Notes

### Coding



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