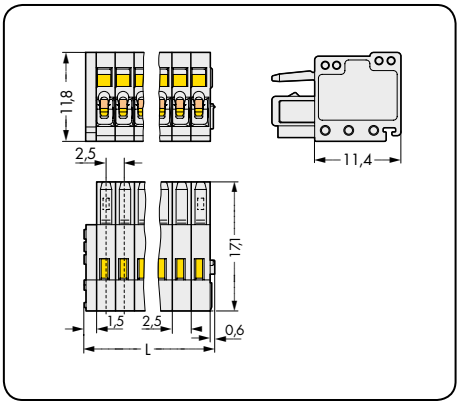
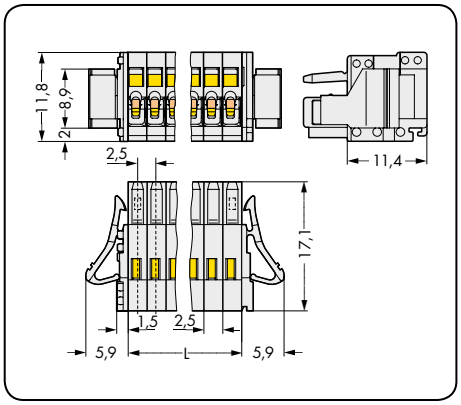
Pin spacing 2.5 mm / 0.098 in		With locking levers Pin spacing 2.5 mm / 0.098 in		
0.08 – 0.5 mm² 160 V/2.5 kV/2 6 A	AWG 28 – 20 150 V/4 A	0.08 – 0.5 mm² 160 V/2.5 kV/2 6 A	AWG 28 – 20 150 V/4 A	



L = (pole no. x pin spacing) + 2.1 mm



L = pole no. x pin spacing

Pole No.	Item No.	Pack. Unit	Pole No.	Item No.	Pack. Unit
Female connector, light gray			**Female connector with locking levers,** light gray		
2	**733-102**	200	2	**733-102/037-000**	100
3	**733-103**	200	3	**733-103/037-000**	100
4	**733-104**	200	4	**733-104/037-000**	100
5	**733-105**	100	5	**733-105/037-000**	100
6	**733-106**	100	6	**733-106/037-000**	100
7	**733-107**	100	7	**733-107/037-000**	50
8	**733-108**	100	8	**733-108/037-000**	50
9	**733-109**	100	9	**733-109/037-000**	50
10	**733-110**	100	10	**733-110/037-000**	50
12	**733-112**	50	12	**733-112/037-000**	50

For other lengths, please contact factory.

Male Headers with Solder Pins and Press-In Pins
Pin Spacing 2.5 mm
MCS-MICRO

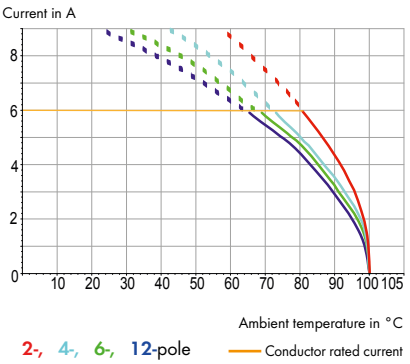
- Horizontal or vertical PCB mounting via straight or angled solder pins
- Also available with press-in pins for solder-free connection to the PCB
- 100 % protected against mismating; only mating halves with the same pole number can be connected together
- With coding keys

Technical data:

Pin Spacing	2.5 mm / 0.098 in			Press-In Technology 2.5 mm / 0.098 in		
Rating per	IEC/EN 60664-1			IEC/EN 60664-1		
Overvoltage category	III	III	II	III	III	II
Pollution degree	3	2	2	3	2	2
Rated voltage	80 V	160 V	320 V	80 V	160 V	320 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV	2.5 kV	2.5 kV	2.5 kV
Nominal current	6 A	6 A	6 A	4 A	4 A	4 A
Approvals per	UL/CSA			UL/CSA		
Use group UL 1059	B	C	D	B	C	D
Rated voltage	150 V	–	–	150 V	–	–
Nominal current UL	4 A	–	–	4 A	–	–
Nominal current CSA	4 A	–	–	4 A	–	–

Derating Curve

773-102 female connector with 733-362 male header
Pin spacing: 2.5 mm / Conductor size: 0.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Solder and press-in pin data:

Solder pin: length/width	4.6 mm / 0.8 x 0.8 mm (straight)
Solder pin: length/width	3.7 mm / 0.8 x 0.8 mm (angled)
Solder pin: drilled hole diameter	$1.1^{+0.1}$ mm
Press-in pin: length/width	3.2 mm / 0.6 x 1.2 mm
Press-in pin: drilled hole diameter	$1.15^{\pm 0.025}$ mm
Press-in pin: metal-plated hole	1.0 mm (HAL Sn)
Press-in pin: metal-plated hole	1.0 mm (Chem. Sn)

Material data:

Material group	I
Insulating material	Nylon 6.6 (PA 6.6)
Flammability rating per UL 94	V0
Lower/Upper temperature limit	–60 °C / +100 °C / Press-in pin: –40 °C / +85 °C
Contact material	Electrolytic copper (E_{Cu}) / Press-in pin: copper alloy
Contact plating	tin-plated
MCS connectors are also available upon request with gold-plated or partially gold-plated contact surfaces.	
Depending on the version requested, **"item no. suffix . . . /010-000"** is added to the "basic item no."	

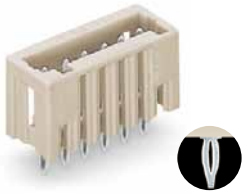
MCS-MICRO accessories: **Page:**

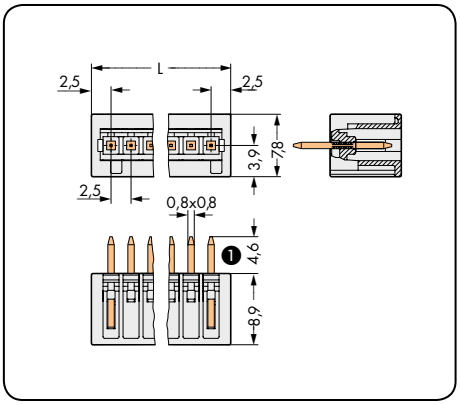
Coding keys	237

MCS – MULTI CONNECTION SYSTEM includes connectors **without** breaking capacity in accordance with IEC 61984. When used as intended, these connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live in unmated condition.

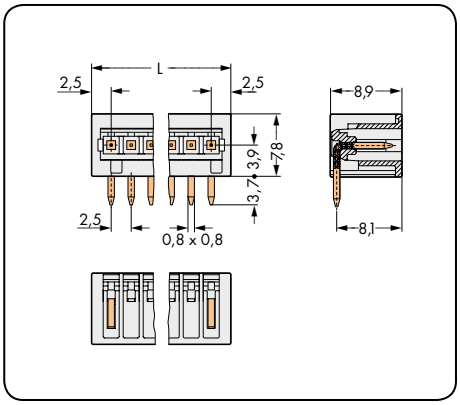
Male Headers with Solder Pins and Press-In Pins
MCS-MICRO

With straight solder pins Pin spacing 2.5 mm / 0.098 in		With angled solder pins Pin spacing 2.5 mm / 0.098 in		With press-in pins* Pin spacing 2.5 mm / 0.098 in	
160 V/2.5 kV/2 6 A	150 V/4 A	160 V/2.5 kV/2 6 A	150 V/4 A	160 V/2.5 kV/2 4 A	150 V/4 A

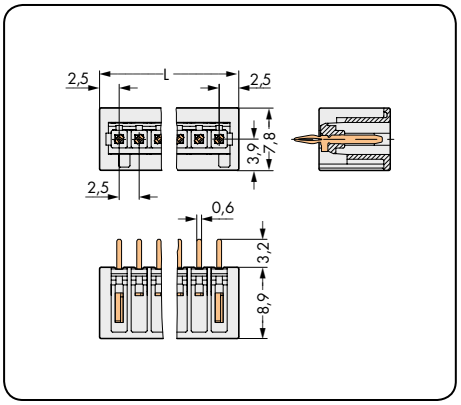




L = (pole no. + 1) x pin spacing



L = (pole no. + 1) x pin spacing



L = (pole no. + 1) x pin spacing

Pole No.	Item No.	Pack. Unit
Male header with straight solder pins, light gray		
2	**733-332**	200
3	**733-333**	200
4	**733-334**	200
5	**733-335**	200
6	**733-336**	200
7	**733-337**	200
8	**733-338**	200
9	**733-339**	200
10	**733-340**	200
12	**733-342**	100

Pole No.	Item No.	Pack. Unit
Male header with angled solder pins, light gray		
2	**733-362**	200
3	**733-363**	200
4	**733-364**	200
5	**733-365**	200
6	**733-366**	200
7	**733-367**	200
8	**733-368**	200
9	**733-369**	200
10	**733-370**	200
12	**733-372**	100

Pole No.	Item No.	Pack. Unit
Male header for press-in technology*, with straight press-in pins, light gray		
2	**733-332/100-000**	200
3	**733-333/100-000**	200
4	**733-334/100-000**	200
5	**733-335/100-000**	200
6	**733-336/100-000**	200
7	**733-337/100-000**	200
8	**733-338/100-000**	200
9	**733-339/100-000**	200
10	**733-340/100-000**	200
12	**733-342/100-000**	100

For information on press-in tool design, please contact factory.

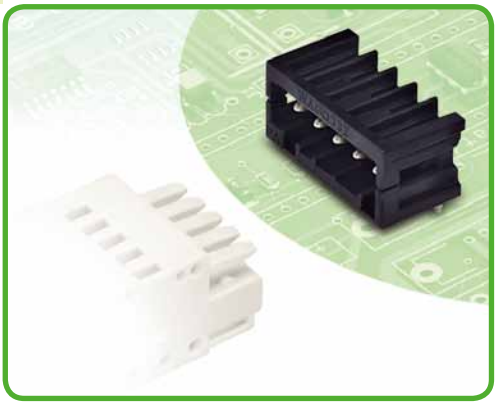
❶ MCS-MICRO male headers with straight solder pins are also available with 3.8 mm pin projection.
Add **item no. suffix . . . /046-000.**

***Unique features of WAGO press-in technology:**

- Press-in pin features spring-loaded style expanding contact zone to provide greater retention and stability
- Suitable for all printed circuit boards with the correct tin plating for press-in connectors
- Metal-plated hole with optimum diameters
  – 1.0 or $1.45^{+0.09}_{-0.06}$ mm (HAL Sn)
  – 1.0 or $1.45^{+0.09}_{-0.00}$ mm (Chem. Sn)
- Press-in pin for PCB thickness from 1.4 to 3 mm
- Press-in length of approx. 3.2 mm – no unnecessary projection on underside of PCB
- Low press-in force required – reduces wear and tear on PCB and components
- High retention force within the PCB – doubles the values required by DIN EN 60352-5
- Robust bonded connection
- Excellent elastic spring behavior
- No deformation of the metal-plated end hole
- Length of contact area ≥ 1.3 mm
- No deformation of multilayer PCBs
- Minimal tin removal in the contact hole - reduces wear and tear on PCB and contact points

For other lengths, please contact factory.

Male Headers with Solder Pins, THR (Through-Hole Reflow*)
Pin Spacing 2.5 mm
MCS-MICRO

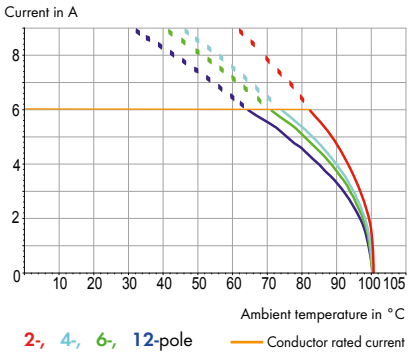


- THR male headers for reflow soldering in SMT production
- Available in tape-and-reel packaging for automated pick-and-place assembly
- Optimal thermal penetration via pin enclosure design provides lower soldering temperatures
- 100% protected against mismating
- With coding keys

Technical data:

Pin Spacing	2.5 mm 0.098 in			
Rating per	IEC/EN 60664-1			
Overvoltage category	III	III	II	
Pollution degree	3	2	2	
Rated voltage	80 V	160 V	320 V	
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV	
Nominal current	6 A	6 A	6 A	
Approvals per	UL/CSA**			
Use group UL 1059	B	C	D	
Rated voltage	–	–	–	
Nominal current UL	–	–	–	
Nominal current CSA	–	–	–	

Derating Curve
733-102 female connector with
733-332/105-604 male header
Pin spacing: 2.5 mm / Conductor size: 0.5 mm² "f-st"
Based on: EN 60512-5-2 / Reduction factor: 0.8



Solder pin data:

Solder pin: length/width	2.4 mm / 0.8 x 0.8 mm
Solder pin: metal-plated hole diameter	$1.2^{+0.1}$ mm
For other pin lengths, please contact factory	

Material data:

Material group	I
Insulating material	Glass fiber-reinforced polyphthalamide (PPA-GF)
Flammability rating per UL 94	V0
Lower/Upper temperature limit	–60 °C / +100 °C
Contact material	Electrolytic copper (E_{Cu})
Contact plating	tin-plated
MCS connectors are also available upon request with gold-plated or partially gold-plated contact surfaces.	
Depending on the version requested, **"item no. suffix . . . /010-000"** is added to the "basic item no."	

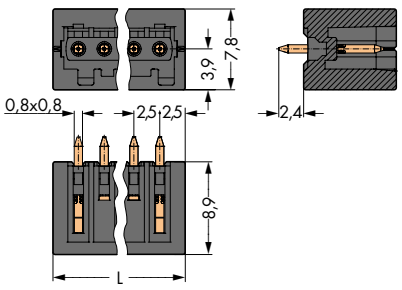
MCS-MICRO accessories:

	Page:
Coding keys	237

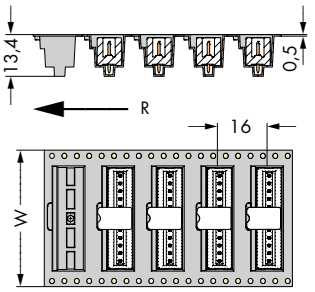
MCS – MULTI CONNECTION SYSTEM includes connectors **without** breaking capacity in accordance with IEC 61984. When used as intended, these connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live in unmated condition.

Male Headers with Solder Pins, THR
MCS-MICRO

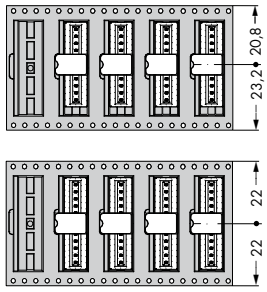
With straight solder pins Pin spacing 2.5 mm / 0.098 in		Male headers in tape-and-reel packaging Pin spacing 2.5 mm / 0.098 in		
160 V/2.5 kV/2 6 A		160 V/2.5 kV/2 6 A		



L = (pole no. + 1) x pin spacing



W = Tape width
R = Feed direction



Position with odd number of poles

Position with even number of poles

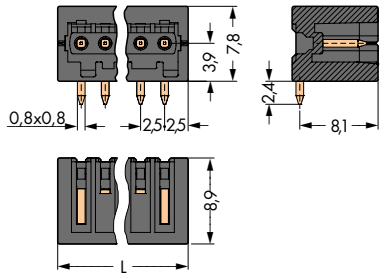
Pole No.	Item No.	Pack. Unit
Male header with straight solder pins, black		
2	**733-332/105-604**	200
3	**733-333/105-604**	200
4	**733-334/105-604**	200
5	**733-335/105-604**	200
6	**733-336/105-604**	200
7	**733-337/105-604**	200
8	**733-338/105-604**	200
9	**733-339/105-604**	200
10	**733-340/105-604**	200
12	**733-342/105-604**	100

Pole No.	Item No.	W
Male header with straight solder pins, in tape-and-reel packaging acc. to IEC 60286-3, black		
		(mm)
2	**733-332/105-604/997-446**	44
3	**733-333/105-604/997-446**	44
4	**733-334/105-604/997-446**	44
5	**733-335/105-604/997-446**	44
6	**733-336/105-604/997-446**	44
7	**733-337/105-604/997-446**	44
8	**733-338/105-604/997-446**	44
9	**733-339/105-604/997-446**	44
10	**733-340/105-604/997-446**	44
12	**733-342/105-604/997-446**	44
Reel diameter: 330 mm, 290 pieces per reel		

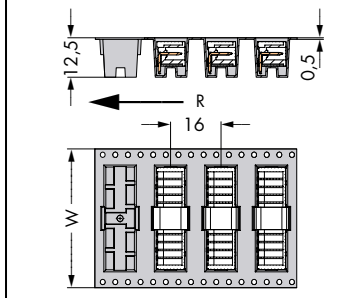
For other lengths, please contact factory.

Male Headers with Solder Pins, THR
MCS-MICRO

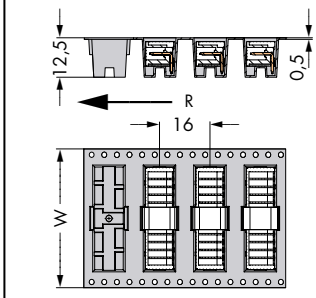
With angled solder pins Pin spacing 2.5 mm / 0.098 in		Male headers in tape-and-reel packaging Pin spacing 2.5 mm / 0.098 in		
160 V/2.5 kV/2 6 A		160 V/2.5 kV/2 6 A		



L = (pole no. + 1) x pin spacing



W = Tape width
R = Feed direction



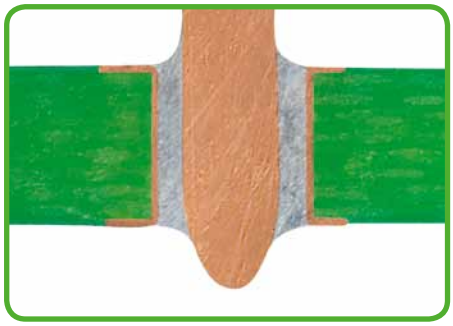
W = Tape width
R = Feed direction

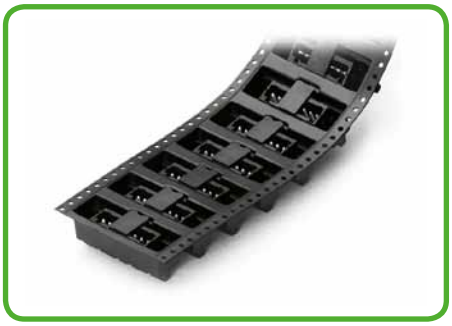
Pole No.	Item No.	Pack. Unit
Male header with angled solder pins, black		
2	**733-362/105-604**	200
3	**733-363/105-604**	200
4	**733-364/105-604**	200
5	**733-365/105-604**	200
6	**733-366/105-604**	200
7	**733-367/105-604**	200
8	**733-368/105-604**	200
9	**733-369/105-604**	200
10	**733-370/105-604**	200
12	**733-372/105-604**	100

Pole No.	Item No.	W
Male header with angled solder pins, in tape-and-reel packaging acc. to IEC 60286-3, black		
		(mm)
2	**733-362/105-604/997-406**	44
3	**733-363/105-604/997-406**	44
4	**733-364/105-604/997-406**	44
5	**733-365/105-604/997-406**	44
6	**733-366/105-604/997-406**	44
7	**733-366/105-604/997-406**	44
8	**733-368/105-604/997-406**	44
9	**733-368/105-604/997-406**	44
10	**733-370/105-604/997-406**	44
12	**733-372/105-604/997-406**	44
Reel diameter: 330 mm, 300 pieces per reel		

For other lengths, please contact factory.

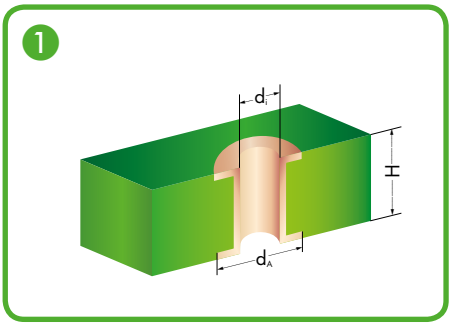
THR (Through-Hole Reflow) Soldering Process



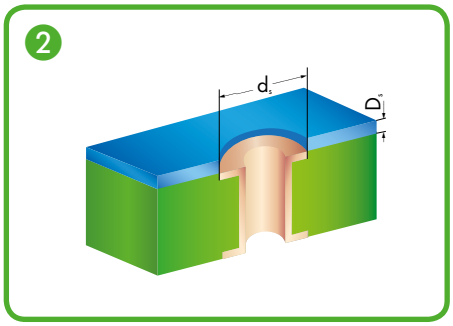


By using high-temperature resistant plastic and a streamlined pin design, the WAGO **T**hrough-**H**ole **R**eflow headers and PCB terminal blocks meet requirements for SMT process capability while maintaining necessary stability.
The THR headers and THR PCB terminal blocks are simply pushed into the solder paste-filled PCB holes and then soldered along with the SMT components using the reflow soldering technique. The previous wave soldering process is no longer necessary. The result is a perfect connection – both mechanically and electrically.

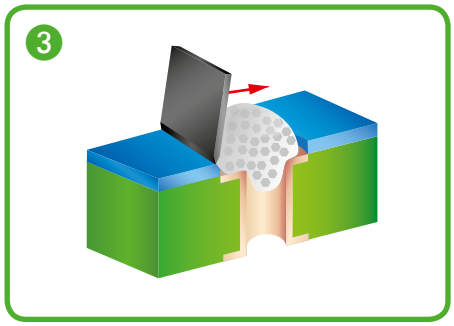
Male headers with additional suction pad
in tape-and-reel packaging acc. to IEC 60286-3



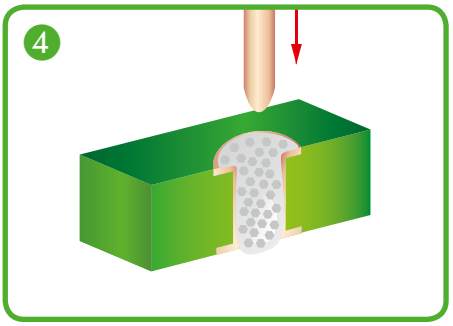
Metal-plated PCB bore hole



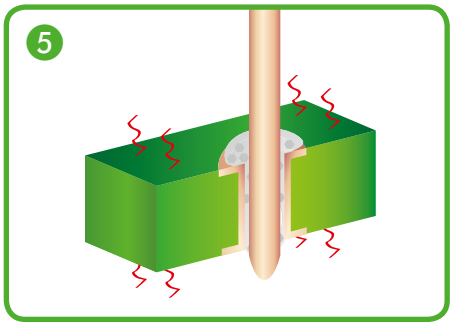
SMD positioning pattern



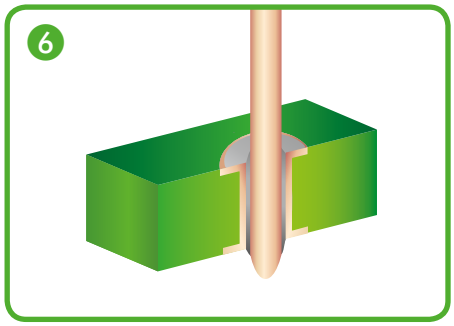
Application of solder paste



Component assembly automatic/by hand

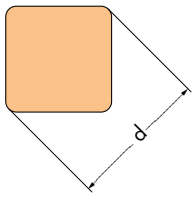


Reflow soldering process



THR soldering joint

Series	d_i(mm)	d_A(mm)	H(mm)	d_s(mm)	D_s(µm)	d(mm)	L(mm)
231 (1 x 1 mm)	$1,4^{+0,1}$	2,5	< 2	2,4	150	1,2	2,4
231 (1,2 x 1,2 mm)	$1,7^{+0,1}$	2,8	< 2	2,7	150	1,5	2,4
713	$1,2^{+0,1}$	1,9	< 2	1,8	150	1,0	2,4
733	$1,2^{+0,1}$	1,9	< 2	1,8	150	1,0	2,4
734	$1,4^{+0,1}$	2,5	< 2	2,4	150	1,2	2,4

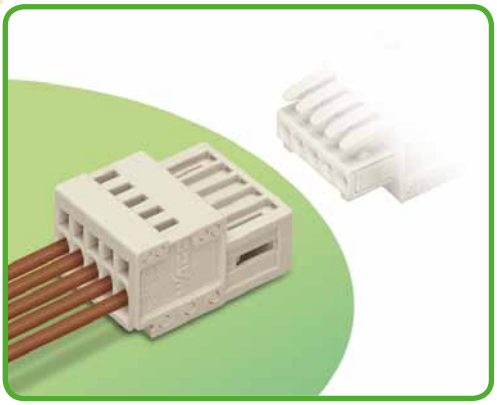


d_i: Inner diameter of metal-plated PCB bore hole
d_A: Outer diameter of metal-plated PCB bore hole*
H: PCB thickness
d_s: Pattern hole diameter
D_s: Pattern thickness
d: Pin diagonal
L: Pin length

* When laying out the metal-plated bore holes, the clearance and creepage distance requirements – as specified in the equipment standards – must be considered.

WAGO recommends both a temperature profile that adheres to EN 61760-1 and the use of forced convection ovens for processing THR components.

Male Connectors
Pin Spacing 2.5 mm
MCS-MICRO



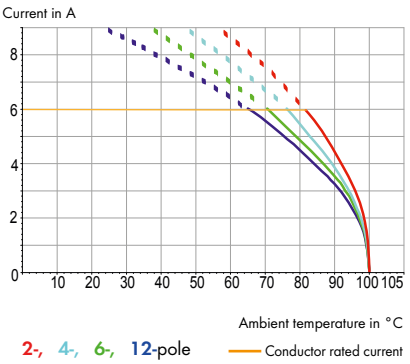
- Universal connection for all conductor types
- Easy cable pre-assembly and on-unit wiring via vertical and horizontal CAGE CLAMP® actuation
- For “wire-to-wire” connections
- 100 % protected against mismating
- With coding keys

Technical data:

Pin Spacing	2.5 mm 0.098 in		
Rating per	IEC/EN 60664-1		
Overvoltage category	III	III	II
Pollution degree	3	2	2
Rated voltage	100 V	160 V	320 V
Rated surge voltage	2.5 kV	2.5 kV	2.5 kV
Nominal current	6 A	6 A	6 A
Approvals per	UL/CSA		
Use group UL 1059	B	C	D
Rated voltage	150 V	–	–
Nominal current UL	4 A	–	–
Nominal current CSA	4 A	–	–

Derating Curve

733-102 female connector with 733-202 male connector
Pin spacing: 2.5 mm / Conductor size: 0.5 mm² “f-st”
Based on: EN 60512-5-2 / Reduction factor: 0.8



Conductor data:

Connection technology	CAGE CLAMP®
Conductor size: solid	0.08 – 0.5 mm²
Conductor size: fine-stranded	0.08 – 0.5 mm²
Conductor size: fine-stranded	0.25 – 0.34 mm² (with insulated ferrule)
Conductor size: fine-stranded	0.25 – 0.34 mm² (with uninsulated ferrule)
AWG	28 – 20
Strip length	5 – 6 mm / 0.20 – 0.24 in

Material data:

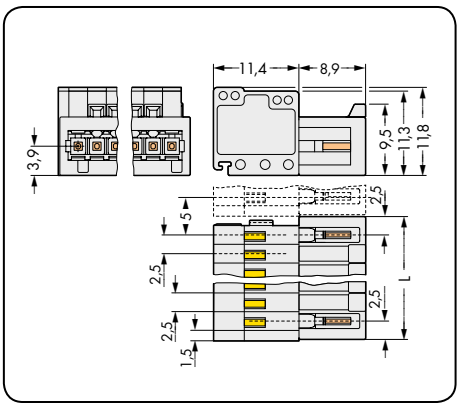
Material group	I
Insulating material	Nylon 6.6 (PA 6.6)
Flammability rating per UL 94	V0
Lower/Upper temperature limit	–60 °C / +100 °C
Clamping spring material	Chrome-nickel spring steel (CrNi)
Contact material	Electrolytic copper (E_{Cu})
Contact plating	tin-plated
MCS connectors are also available upon request with gold-plated or partially gold-plated contact surfaces.	
Depending on the version requested, **“item no. suffix . . . /010-000”** is added to the “basic item no.”	

MCS-MICRO accessories:

	Page:
Marking accessories	540 – 543
Operating tools	236 – 237
Direct marking	239
Coding keys	237
Test pin	538
Strain relief plates	238

MCS – MULTI CONNECTION SYSTEM includes connectors **without** breaking capacity in accordance with IEC 61984. When used as intended, these connectors shall not be connected/disconnected when live or under load. The circuit design should ensure header pins, which can be touched, are not live in unmated condition.

Pin spacing 2.5 mm / 0.098 in			
0.08 – 0.5 mm² 160 V/2.5 kV/2 6 A	AWG 28 – 20 150 V/4 A		



L = (pole no. + 1) x pin spacing

Pole No.	Item No.	Pack. Unit
Male connector, light gray		
2	**733-202**	200
3	**733-203**	200
4	**733-204**	200
5	**733-205**	100
6	**733-206**	100
7	**733-207**	100
8	**733-208**	100
9	**733-209**	100
10	**733-210**	100
12	**733-212**	50

For other lengths, please contact factory.

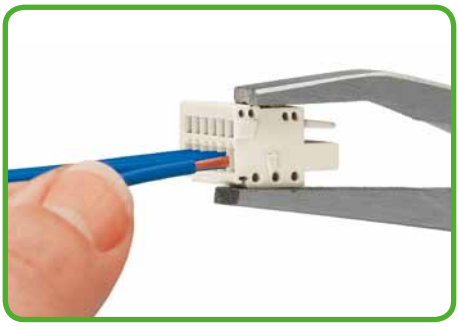
Accessories
Operating Tools
MCS-MICRO

Operating tool	Operating levers	Operating tools
for male and female connectors with CAGE CLAMP® connection	for male and female connectors with CAGE CLAMP® connection	for male and female connectors with CAGE CLAMP® connection

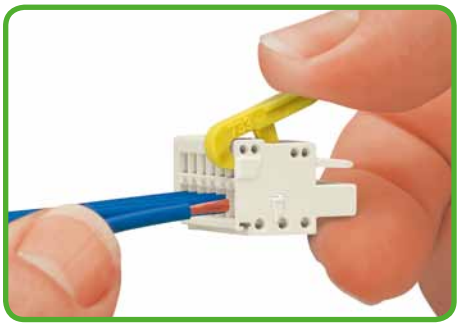
Color	Item No.	Pack. Unit
Operating tool, 2.5 mm, 3.5 mm and 3.81 mm pin spacing		
yellow	**210-251**	1

Color	Item No.	Pack. Unit
Operating lever, 2.5 mm pin spacing		
natural	**733-130**	100 (4 x 25)
yellow	**733-191**	100 (4 x 25)

Color	Item No.	Pack. Unit
Operating tool, 2.5 mm pin spacing		
natural	**233-332**	25
yellow	**233-331**	25



Inserting conductor via operating tool.



Inserting conductor via operating lever.

Inserting conductor via 233-331 operating tool.
Operation parallel to conductor entry.

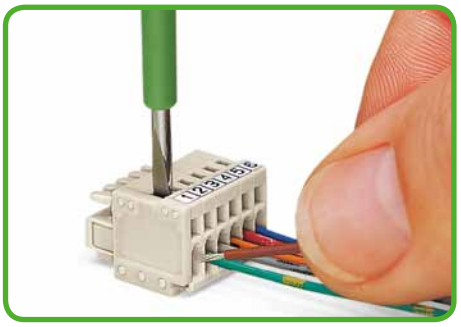
Accessories
Operating Tools and Coding Keys
MCS-MICRO

Operating tool with partially insulated shaft Type 1	Operating tool with partially insulated shaft for male and female connectors with CAGE CLAMP® connection	Coding keys for male headers

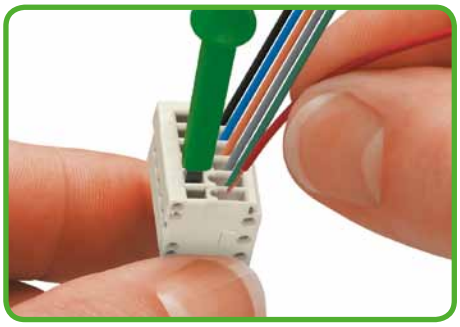
Item No.	Pack. Unit
Operating tool with partially insulated shaft, type 1, (2.5 x 0.4) mm blade	
210-719	1

Item No.	Pack. Unit
Operating tool with partially insulated shaft	
233-335	1

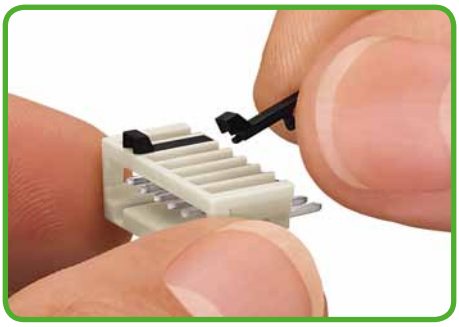
Color	Item No.	Pack. Unit
Coding key		
white	**733-330**	100
black (suitable for THR soldering)	**733-331**	100



Inserting conductor via (2.5 x 0.4) mm screwdriver.
Actuation perpendicular to conductor entry.



Inserting conductor via 233-335 operating tool.
Operation parallel to conductor entry.



Coding via snap-on coding keys for male headers.

Accessories
Strain Relief Plates
MCS-MICRO

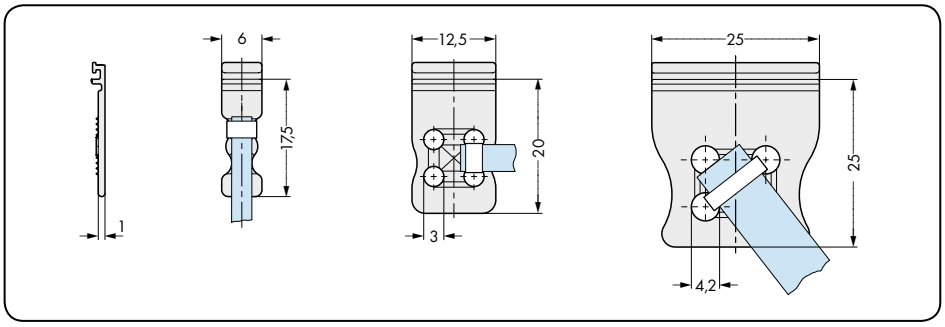
Strain relief plates for in-the-field assembly	Strain relief plates, factory-assembled	
for male and female connectors with CAGE CLAMP® connection	for male and female connectors with CAGE CLAMP® connection	

Width	Pole No.	Item No.	Pack. Unit
Strain relief plate			
6 mm	2 – 4	**734-127**	100 (4 x 25)
12.5 mm	5 – 9	**734-128**	100 (4 x 25)
25 mm	10 – 12	**734-129**	100 (4 x 25)

Width	Pole No.	Item No. Suffix	Pack. Unit
Strain relief plate, pre-assembled			
6 mm	2 – 4	**.../032-000**	
12.5 mm	5 – 9	**.../033-000**	
25 mm	10 – 12	**.../034-000**	

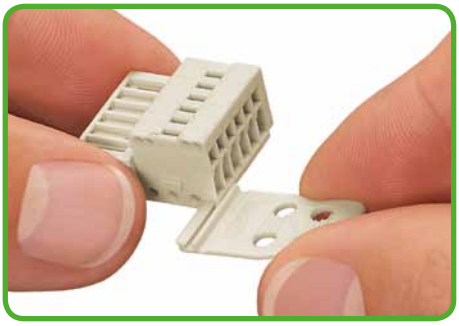
Ordering example:
Female connector with strain relief plate,
2.5 mm pin spacing, 2-pole, light gray:
733-102/032 -000

An “item no. suffix”, referring to the width of the strain relief plate, is added to the “basic item no.” and determines the type of male or female connector.



The arrangement of the attachments for cable ties allows single conductors or multi-core cables to be secured in different ways. The width of the cable ties must correspond to the hole dimensions of the strain relief plates shown above.

WAGO does not offer the recommended cable ties and cable binding tools; those are available from suppliers such as Hellermann.

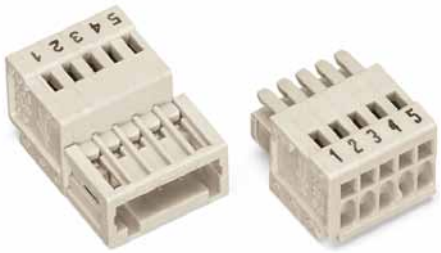


734-128 734-128 strain relief plate, for in-the-field assembly.

Pre-assembled strain relief plate,
female connector, 2.5 mm pin spacing, light gray, 2-pole,
with **733-102/032-000** strain relief plate.

Pre-assembled strain relief plate,
female connector, 2.5 mm pin spacing, light gray, 12-pole,
with **733-112/034-000** strain relief plate.

Direct marking	Direct marking 1 – pole no.	Direct marking Pole no. – 1
of male and female connectors for conductor termination	of female connectors for conductor termination	of male connectors for conductor termination



MCS-MICRO direct marking:

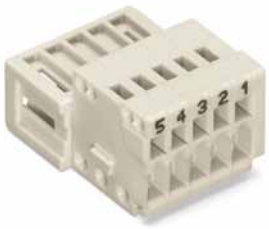
Male and female connectors for conductor termination can be marked with "1 - pole no." via factory direct printing.

Two standard marking axes are available:
1. Marking perpendicular to conductor entry
2. Marking parallel to conductor entry

Other customized marking options are available upon request.

Direct marking is not suitable for MCS male headers with solder pins. WAGO recommends PCB pole marking for these headers.

Marking Perpendicular to Conductor Entry Item No. Suffix: /. . . - 047	Marking Perpendicular to Conductor Entry Item No. Suffix: /. . . - 044
Ordering examples:	**Ordering examples:**
Female connector, 2.5 mm pin spacing, 5-pole, light gray **733-105/000-047**	**Male connector,** 2.5 mm pin spacing, 5-pole, light gray **733-205/000-044**
Female connector with locking levers, 2.5 mm pin spacing , 5-pole, light gray **733-105/037-047**	**Male connector with strain relief plate,** 2.5 mm pin spacing, 5-pole, light gray **733-205/033-044**
Female connector with strain relief plate, 2.5 mm pin spacing, 5-pole, light gray **733-105/033-047**	
Female connector with locking levers and strain relief plate, 2.5 mm pin spacing, 5-pole, light gray **733-105/037-047/033-000**	



Marking Parallel to Conductor Entry Item No. Suffix: /. . . - 9037	Marking Parallel to Conductor Entry Item No. Suffix: /. . . - 9034
Ordering examples:	**Ordering examples:**
Female connector, 2.5 mm pin spacing, 5-pole, light gray **733-105/000-9037**	**Male connector,** 2.5 mm pin spacing, 5-pole, light gray **733-205/000-9034**
Female connector with locking levers, 2.5 mm pin spacing , 5-pole, light gray **733-105/037-9037**	**Male connector with strain relief plate,** 2.5 mm pin spacing, 5-pole, light gray **733-205/033-9034**
Female connector with strain relief plate, 2.5 mm pin spacing, 5-pole, light gray **733-105/033-9037**	
Female connector with locking levers and strain relief plate, 2.5 mm pin spacing, 5-pole, light gray **733-105/037-9037/033-000**	