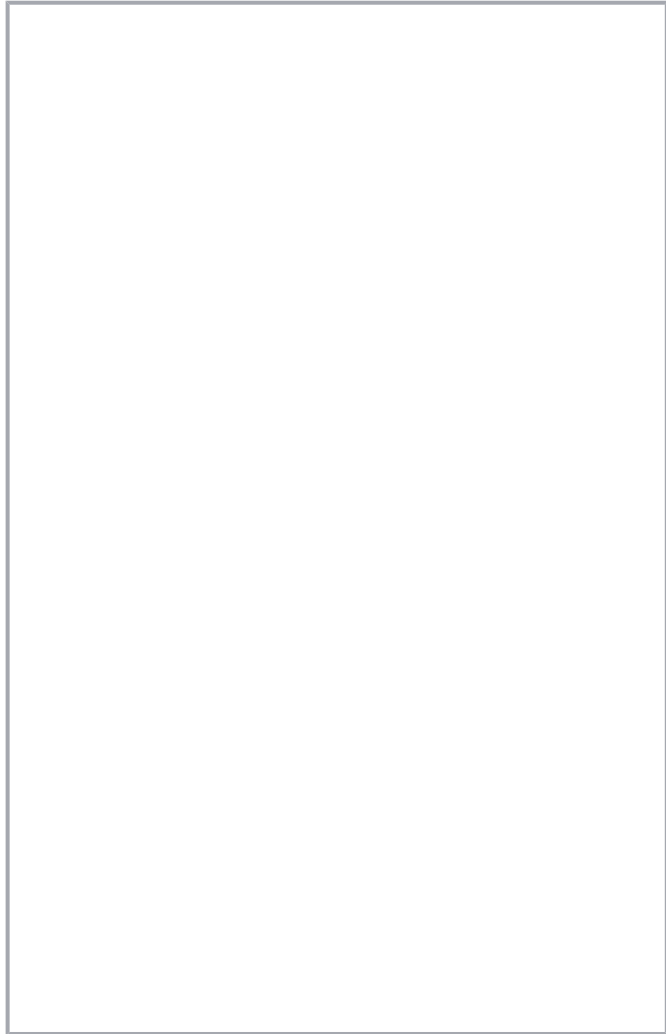
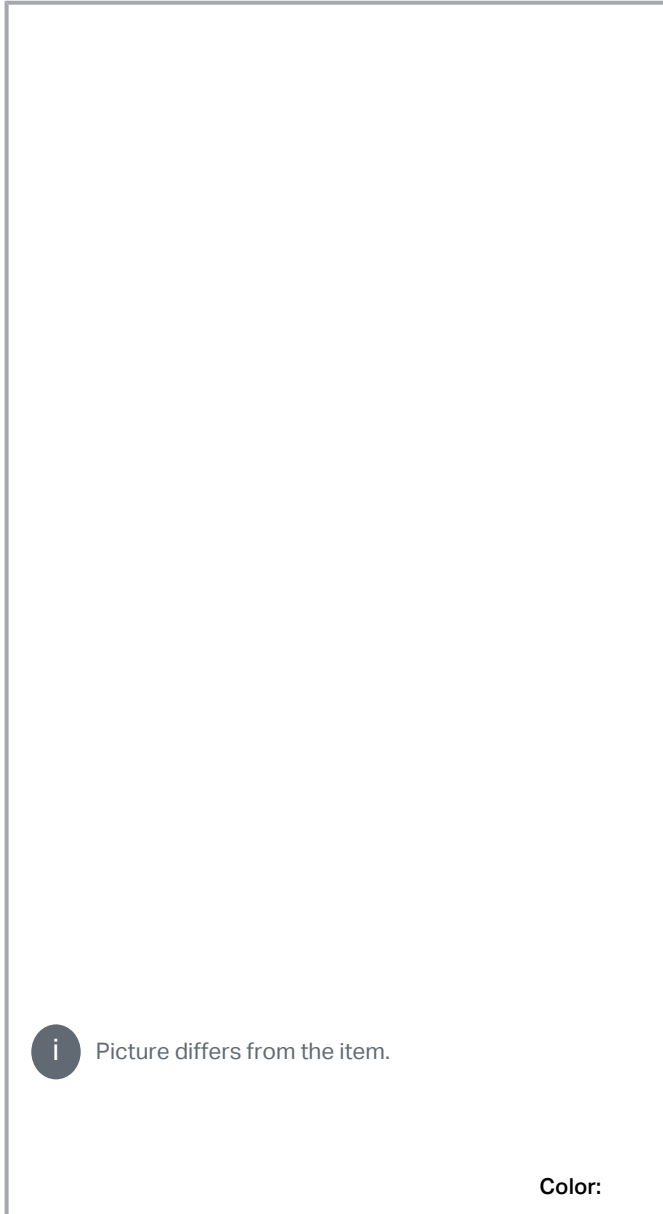


**Data sheet | Item number: 713-1110**

1-conductor female connector, 2-row; CAGE CLAMP®; 1.5 mm<sup>2</sup>; Pin spacing 3.5 mm; 20-pole; 100% protected against mismatching; 1,50 mm<sup>2</sup>; black

[www.wago.com/713-1110](http://www.wago.com/713-1110)



Subject to changes. Please also observe the further product documentation!

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## Item description

- Universal connection for all conductor types
- Unique, compact, double-row connector system for conductor cross-sections up to 1.5 mm<sup>2</sup>
- High-density, wire-to-board connections in very confined spaces
- Centered strain relief plate anchors conductors, while acting as convenient connection and disconnection handle. It also provides easy access to operating slots – even when wired.
- Coding fingers provide 100% protection against mismatching

Subject to changes. Please also observe the further product documentation!

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## Data

### 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 <https://configurator.wago.com/>.

## Electrical data

### Ratings per IEC/EN

Ratings per	IEC/EN 60664-1
Nominal voltage (III/3)	80 V
Rated impulse voltage (III/3)	2.5 kV
Rated voltage (III/2)	160 V
Rated impulse voltage (III/2)	2.5 kV
Nominal voltage (II/2)	250 V
Rated surge voltage (II/2)	2.5 kV
Rated current	10 A
Legend (ratings)	(III / 2) ≙ Overvoltage category III / Pollution degree 2

### Ratings per UL

Approvals per	UL 1059
Rated voltage UL (Use Group B)	300 V
Rated current UL (Use Group B)	10 A
Rated voltage UL (Use Group C)	50 V
Rated current UL (Use Group C)	10 A

### Ratings per CSA

Approvals per	CSA
Rated voltage CSA (Use Group B)	300 V

Subject to changes. Please also observe the further product documentation!

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Rated current CSA (Use Group B)	10 A
---------------------------------	------

### Connection data

Connection points	20
Total number of potentials	20
Number of connection types	1
Number of levels	2

### Connection 1

Connection technology	CAGE CLAMP®
Actuation type	Operating tool
Actuation direction 1	Operation perpendicular to conductor entry
Solid conductor	0.08 ... 1.5 mm <sup>2</sup> / 28 ... 16 AWG
Fine-stranded conductor	0.08 ... 1.5 mm <sup>2</sup> / 28 ... 16 AWG
Fine-stranded conductor; with insulated ferrule	0.25 ... 1 mm <sup>2</sup>
Fine-stranded conductor; with uninsulated ferrule	0.25 ... 1 mm <sup>2</sup>
Strip length	6 ... 7 mm / 0.24 ... 0.28 inches
Pole number	20
Conductor entry direction to mating direction	0°

### Physical data

Pin spacing	3.5 mm / 0.138 inches
Width	36.5 mm / 1.437 inches
Height	18.8 mm / 0.74 inches
Depth	16 mm / 0.63 inches

### Mechanical Data

Variable coding	Yes
Anti-rotation protection	Yes

### Plug-in connection

Contact type (pluggable connector)	Female connector/socket
Connector (connection type)	for conductor
Mismating protection	Yes
Plugging without loss of pin spacing	No
Locking of plug-in connection	none

Subject to changes. Please also observe the further product documentation!

## Material Data

Note (material data)

Information on material specifications can be found here

Color	black
Material group	II
Insulation material	Glass fiber-reinforced polyamide (PA66 GF)
Flammability class per UL94	V0
Clamping spring material	Chrome-nickel spring steel (CrNi)
Contact material	Copper alloy
Contact plating	Tin
Fire load	0.151 MJ
Weight	10.2 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	27-14-11-06
eCl@ss 9.0	27-14-11-06
ETIM 8.0	EC001284
ETIM 7.0	EC001284
PU (SPU)	25 pcs
Packaging type	box
Country of origin	PL
GTIN	4045454667375
Customs tariff number	85366990990

## Environmental Product Compliance

RoHS Compliance Status	Compliant, No Exemption
------------------------	-------------------------

## Approvals / Certificates

### General approvals

Certificate

Subject to changes. Please also observe the further product documentation!



Logo	Approval	Additional Approval Text	name
	<b>CCA</b> DEKRA Certification B.V.	EN 61984	2169947.01
	<b>CCA</b> DEKRA Certification B.V.	IEC 61984	NL-30980
	<b>CSA</b> DEKRA Certification B.V.	C22.2	2315087
	<b>UR</b> Underwriters Laboratories Inc.	UL 1059	E45172

## Counterpart

<b>Item no.713-1410</b> THT male header, 2-row; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismatching; Pin spacing 3.5 mm; 20-pole; black	<a href="http://www.wago.com/713-1410">www.wago.com/713-1410</a>
<b>Item no.713-1410/105-000/997-407</b> THR male header, 2-row; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismatching; in tape-and-reel packaging; Pin spacing 3.5 mm; 20-pole; black	<a href="http://www.wago.com/713-1410/105-000/997-407">www.wago.com/713-1410/105-000/997-407</a>
<b>Item no.713-1430</b> THT male header, 2-row; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismatching; Pin spacing 3.5 mm; 20-pole; black	<a href="http://www.wago.com/713-1430">www.wago.com/713-1430</a>
<b>Item no.713-1410/105-000</b> THR male header, 2-row; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismatching; Pin spacing 3.5 mm; 20-pole; black	<a href="http://www.wago.com/713-1410/105-000">www.wago.com/713-1410/105-000</a>
<b>Item no.713-1430/105-000</b> THR male header, 2-row; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismatching; Pin spacing 3.5 mm; 20-pole; black	<a href="http://www.wago.com/713-1430/105-000">www.wago.com/713-1430/105-000</a>
<b>Item no.713-1430/105-000/997-407</b> THR male header, 2-row; 0.8 x 0.8 mm solder pin; angled; 100% protected against mismatching; in tape-and-reel packaging; Pin spacing 3.5 mm; 20-pole; black	<a href="http://www.wago.com/713-1430/105-000/997-407">www.wago.com/713-1430/105-000/997-407</a>
<b>Item no.713-1470</b> THT male header, 2-row; 0.8 x 0.8 mm solder pin; straight; 100% protected against mismatching; with orientation nose; Pin spacing 3.5 mm; 20-pole; black	<a href="http://www.wago.com/713-1470">www.wago.com/713-1470</a>

## Optional accessories

### Strain relief

Strain relief plate	
<b>Item no.: 713-127</b> Strain relief plate; for female connectors; 25 mm wide; 1 part; Pin spacing 3.5 mm; black	<a href="http://www.wago.com/713-127">www.wago.com/713-127</a>

### Tool

Operating tool	
<b>Item no.: 210-647</b> Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft; multicoloured	<a href="http://www.wago.com/210-647">www.wago.com/210-647</a>

Subject to changes. Please also observe the further product documentation!

**Item no.: 210-719**

Operating tool; Blade: 2.5 x 0.4 mm; with a partially insulated shaft

[www.wago.com/210-719](http://www.wago.com/210-719)**Ferrule**

## Ferrule

**Item no.: 216-101**Ferrule; Sleeve for 0.5 mm<sup>2</sup> / AWG 22; uninsulated; electro-tin plated; silver-colored[www.wago.com/216-101](http://www.wago.com/216-101)**Item no.: 216-102**Ferrule; Sleeve for 0.75 mm<sup>2</sup> / AWG 20; uninsulated; electro-tin plated; silver-colored[www.wago.com/216-102](http://www.wago.com/216-102)**Item no.: 216-103**Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; uninsulated; electro-tin plated[www.wago.com/216-103](http://www.wago.com/216-103)**Item no.: 216-123**Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; uninsulated; electro-tin plated; silver-colored[www.wago.com/216-123](http://www.wago.com/216-123)**Item no.: 216-122**Ferrule; Sleeve for 0.75 mm<sup>2</sup> / AWG 20; uninsulated; electro-tin plated; silver-colored[www.wago.com/216-122](http://www.wago.com/216-122)**Item no.: 216-142**Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92[www.wago.com/216-142](http://www.wago.com/216-142)**Item no.: 216-132**Ferrule; Sleeve for 0.34 mm<sup>2</sup> / AWG 24; uninsulated; electro-tin plated[www.wago.com/216-132](http://www.wago.com/216-132)**Item no.: 216-121**Ferrule; Sleeve for 0.5 mm<sup>2</sup> / AWG 22; uninsulated; electro-tin plated; silver-colored[www.wago.com/216-121](http://www.wago.com/216-121)**Item no.: 216-143**Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92[www.wago.com/216-143](http://www.wago.com/216-143)**Item no.: 216-131**Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; uninsulated; electro-tin plated; silver-colored[www.wago.com/216-131](http://www.wago.com/216-131)**Item no.: 216-141**Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; uninsulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 1/08.92[www.wago.com/216-141](http://www.wago.com/216-141)**Item no.: 216-152**Ferrule; Sleeve for 0.34 mm<sup>2</sup> / AWG 24; uninsulated; electro-tin plated[www.wago.com/216-152](http://www.wago.com/216-152)**Item no.: 216-203**Ferrule; Sleeve for 1 mm<sup>2</sup> / AWG 18; insulated; electro-tin plated; red[www.wago.com/216-203](http://www.wago.com/216-203)**Item no.: 216-202**Ferrule; Sleeve for 0.75 mm<sup>2</sup> / 18 AWG; insulated; electro-tin plated; gray[www.wago.com/216-202](http://www.wago.com/216-202)**Item no.: 216-151**Ferrule; Sleeve for 0.25 mm<sup>2</sup> / AWG 24; uninsulated; electro-tin plated[www.wago.com/216-151](http://www.wago.com/216-151)**Item no.: 216-201**Ferrule; Sleeve for 0.5 mm<sup>2</sup> / 20 AWG; insulated; electro-tin plated; white[www.wago.com/216-201](http://www.wago.com/216-201)

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<b>Item no.: 216-223</b> Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated; red	<a href="http://www.wago.com/216-223">www.wago.com/216-223</a>
<b>Item no.: 216-241</b> Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; white	<a href="http://www.wago.com/216-241">www.wago.com/216-241</a>
<b>Item no.: 216-242</b> Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray	<a href="http://www.wago.com/216-242">www.wago.com/216-242</a>
<b>Item no.: 216-222</b> Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated; gray	<a href="http://www.wago.com/216-222">www.wago.com/216-222</a>
<b>Item no.: 216-221</b> Ferrule; Sleeve for 0.5 mm <sup>2</sup> / 20 AWG; insulated; electro-tin plated; white	<a href="http://www.wago.com/216-221">www.wago.com/216-221</a>
<b>Item no.: 216-243</b> Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red	<a href="http://www.wago.com/216-243">www.wago.com/216-243</a>
<b>Item no.: 216-263</b> Ferrule; Sleeve for 1 mm <sup>2</sup> / AWG 18; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; red	<a href="http://www.wago.com/216-263">www.wago.com/216-263</a>
<b>Item no.: 216-262</b> Ferrule; Sleeve for 0.75 mm <sup>2</sup> / 18 AWG; insulated; electro-tin plated; electrolytic copper; gastight crimped; acc. to DIN 46228, Part 4/09.90; gray	<a href="http://www.wago.com/216-262">www.wago.com/216-262</a>
<b>Item no.: 216-301</b> Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow	<a href="http://www.wago.com/216-301">www.wago.com/216-301</a>
<b>Item no.: 216-321</b> Ferrule; Sleeve for 0.25 mm <sup>2</sup> / AWG 24; insulated; electro-tin plated; yellow	<a href="http://www.wago.com/216-321">www.wago.com/216-321</a>
<b>Item no.: 216-322</b> Ferrule; Sleeve for 0.34 mm <sup>2</sup> / 22 AWG; insulated; electro-tin plated; light turquoise	<a href="http://www.wago.com/216-322">www.wago.com/216-322</a>
<b>Item no.: 216-302</b> Ferrule; Sleeve for 0.34 mm <sup>2</sup> / 22 AWG; insulated; electro-tin plated; light turquoise	<a href="http://www.wago.com/216-302">www.wago.com/216-302</a>

## Downloads

### Documentation

#### Additional Information

2019 年4月3日

pdf  
2.0 MB

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## CAD/CAE-Data

### CAD data

2D/3D Models 713-1110

URL

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#### CAE data

ZUKEN Portal 713-1110

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### Environmental Product Compliance

#### Compliance Search

Environmental Product Compliance 713-1110

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1-conductor female connector, 2-row; CAGE CLAMP®; 1.5 mm<sup>2</sup>; Pin spacing 3.5 mm;  
20-pole; 100% protected against mismatching; 1,50 mm<sup>2</sup>; black

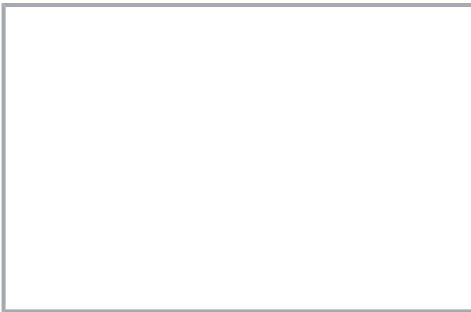
### Installation Notes

#### Conductor termination



Inserting a conductor via (2.5 x 0.4) mm  
screwdriver.

#### Locking system



Lever as a lock – when closed, female  
connector is locked.

Subject to changes. Please also observe the further product documentation!

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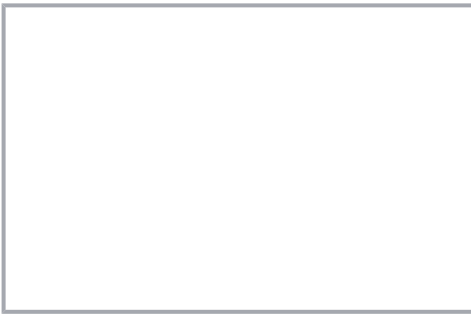


Lever as a disconnection aid – when opened, female connector is disconnected. Rotating the lever lifts the female connector out of the male header.



Screw interlock can only be disconnected using a tool.

### Coding



Coding a female connector by removing coding finger(s).

### Installation



Centered strain relief plate anchors conductors for easy disconnection.

### Product family

Subject to changes. Please also observe the further product documentation!



**MCS MINI HD**

[Show all products from the family](#)

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