

# MaxiBridge

2.54 mm Wire-to-Board Connectors

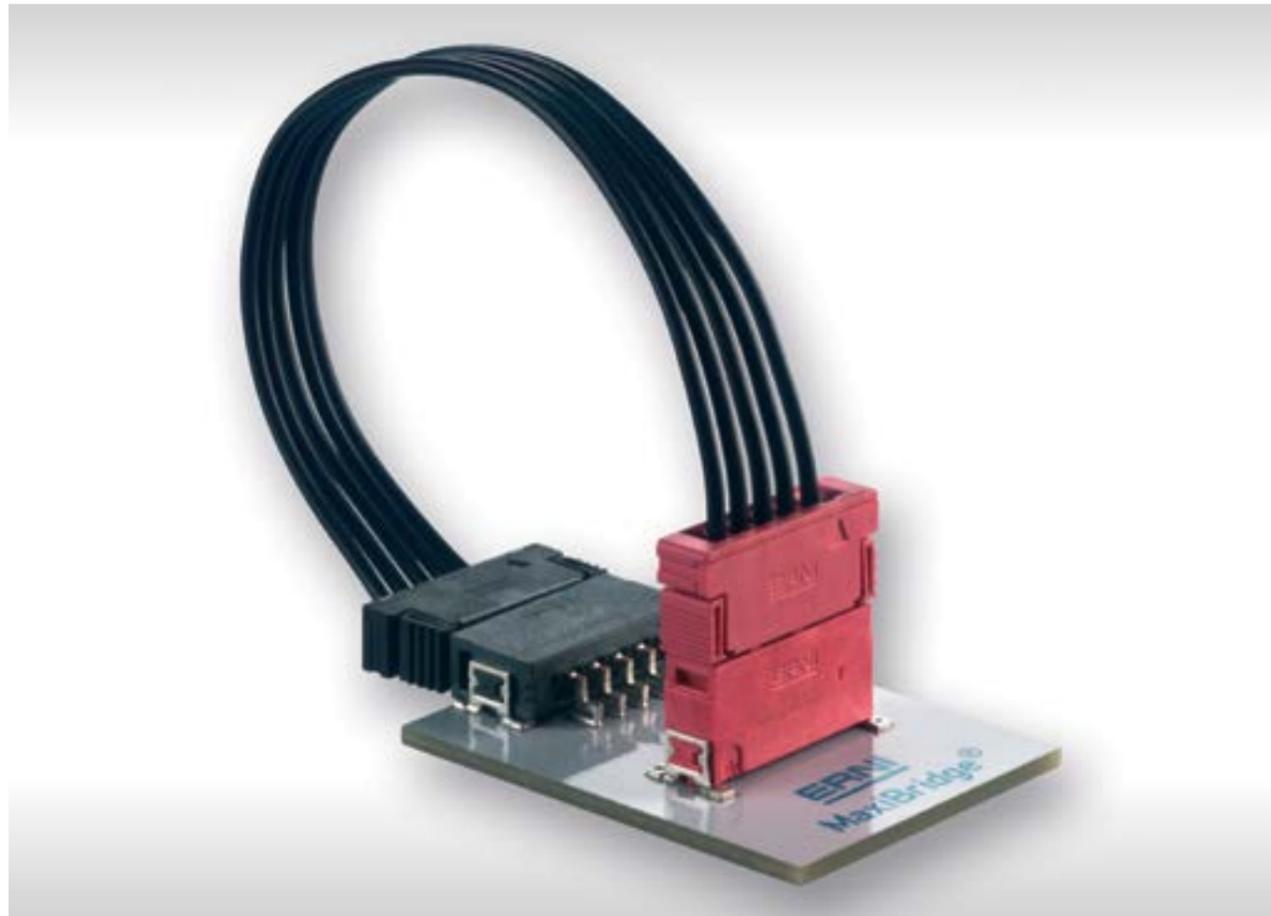


# MaxiBridge - CABLE CONNECTOR SYSTEM

The 2.54 mm single and dual row cable connector system is excellently suitable for reliable and space saving connections between Printed Circuit Boards (PCB) and decentral units, e.g. lamps or info panels, front plate elements like buttons, switches or LEDs, motors, fans etc. The cable system can be used in different applications, for example: automotive, industrial, medical or even lighting technology. Thanks to the availability of vertical and right angle male connectors and female connectors with 180° cable outlet the system can be used in a versatile manner. Emphasis is put on flexibility of the usable cable sizes. Thus the required current rating can be adjusted over a wide range.

The vertical and right angle male connectors provide Surface Mount Technology (SMT) terminals and the female connector has contact cavities according to the crimp contacts. The plastic material used is suitable for lead-free reflow soldering. Tape and reel packaging and pick and place pad for automatic assembly is a standard.

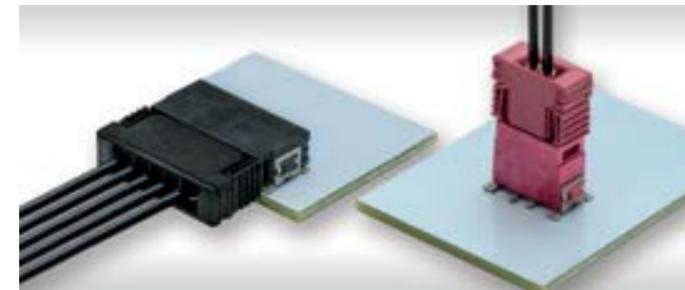
The crimp contacts are secured twice and reach high retention forces. For each pin number, there are four mechanical and different colored coding versions with high blocking forces against mismatching available. Cable and male connector have a locking system on both sides, which helps prevent the contact from loosening due to vibration. The robust interlocking can be manually released without tools.



## FEATURES

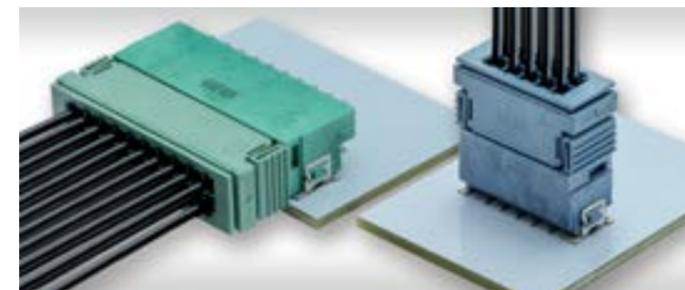
Description	MaxiBridge (Au)	MaxiBridge QT (Sn)
Pitch	2.54 mm	
No. of Pins	2, 3, 4, 5, 6, 8, 10, 2x5, 2x10	
Current rating per contact	up to 12 A (depends on cable)	up to 7 A
Termination technology	Male connector SMT, female connector crimp	
Cables	American Wire Gauge (AWG) 18, AWG 20, AWG 22, AWG 24 & AWG 26 Metric 0.35 mm <sup>2</sup> , 0.5 mm <sup>2</sup> , 0.75 mm <sup>2</sup>	AWG 20, AWG 22 Metric 0.35 mm <sup>2</sup> , 0.5 mm <sup>2</sup>
Packaging	Male Tape and Reel Female pre-assembly or poly-bag	
Variants	Single row male connectors, vertical and right angle Dual row male connectors, vertical and right angle Cable assemblies: Female connectors crimp, single and dual row, vertical	
Coding	black, blue, green, red	black
Automotive standard	LV214 and USCAR 2 for automotive connectors	

## CAPABILITIES



### Single Row Variants

- right angle male - female with 180° cable outlet
- vertical male - female with 180° cable outlet



### Dual Row Variants

- right angle male - female with 180° cable outlet
- vertical male - female with 180° cable outlet

## FEATURES

### Housing Guide

- The rugged insulation body of the male connector provides an highly reliable cable connector guide.



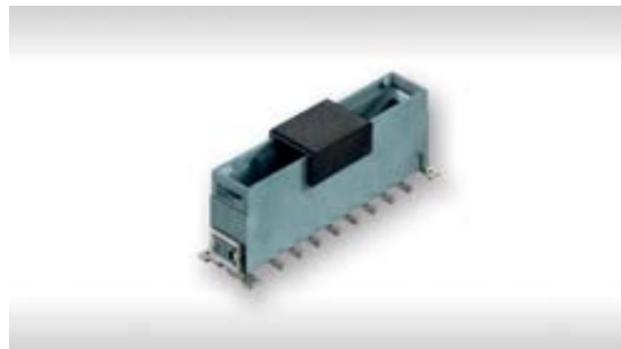
### Locating Pegs

- Two pegs (round and oval) provides exact positioning on the PCB. In addition, they enable a compensation of the PCB hole tolerances.



### Easy Assembly

- Pick-and-place cover for automatic assembly of the vertical male connectors with a vacuum pipette.



### Robust Solder Clips

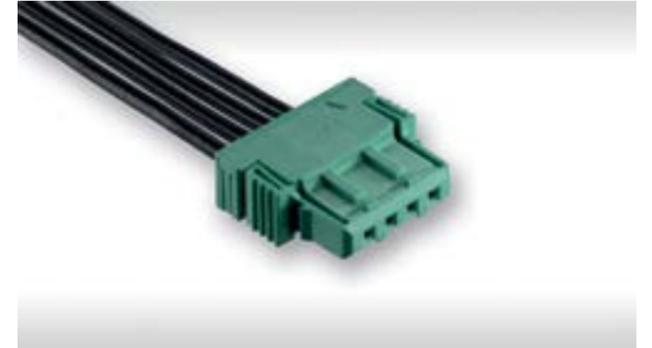
- Reliable retention force on the PCB due to ruggedized solder clips. In addition, they serve as an integrated strain relief.



## FEATURES

### Locking for Housing

- The robust locking system with latches on both sides can be manually released without tools and resist high vibrations. During the locking process, there is an audible latching.



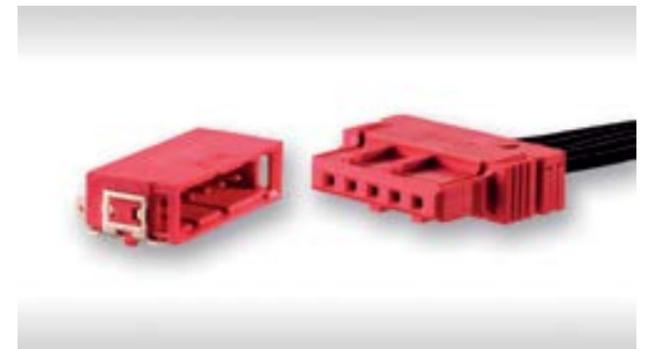
### Contact Locking

- Primary and secondary locking of the crimp contact inside the connector housing.



### Coding

- Four different colored codings per pin number. With high blocking forces against mismatching.



### SSL-Lighting Technology

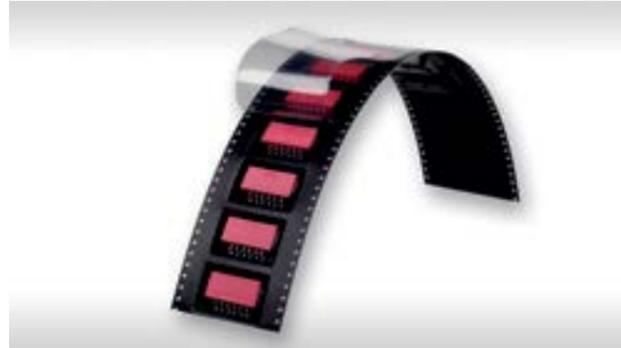
- Connectors with colorless insulation bodies help prevent shadow formation in lighting applications, e.g. LED strips with transparent diffusion disks. Thus providing uniform light distribution.



# PROCESSING

## Tape and Reel Packaging

- transport safe packaging
- automatic assembly.



## Automatic Assembly and Reflow Soldering

- for efficient processing on modern assembly lines.



# ELECTRICAL AND MECHANICAL CHARACTERISTICS

## Technical Data

Description	Standard	MaxiBridge	MaxiBridge	MaxiBridge QT	MaxiBridge QT
		Male, Single and Dual Row	Female, Single and Dual Row	Male, Single and Dual Row	Female, Single and Dual Row
Climate category	DIN EN 60068-1 test b	55 / 150 / 56			
Temperature range		-55 / 150 °C		-40 / 105 °C *	
Current rating per contact	IEC 60512 test 5b	up to 12 A (depends on cable)		max. 7 A at 20 °C	
Air- and creepage distance		contact - contact min. 1.2 mm			
Operating voltage	IEC 60664	The permissible operating voltages depend on the customer application and on the applicable or specified safety requirements. Insulation coordination according to IEC 60664-1 has to be regarded for the complete electrical device. Therefore, the maximum creepage and clearance distances of the mated connectors are specified for consideration as a part of the whole current path. In practice, reductions in creepage or clearance distances may occur due to the conductive pattern of the printed board or the wiring used, and have to be taken into account separately. As a result the creepage and clearance distances for the application may be reduced compared to those of the connector.			
Dielectric strength	IEC 60512 test 4a	contact - contact 1000 V <sub>rms</sub>			
Contact resistance	IEC 60512 test 2a	≤ 20 mΩ		< 25 mΩ	
Insulation resistance	IEC 60512 test 3a	≥ 10 <sup>4</sup> MΩ			
Broadband noise	DIN EN 60068-2-64	10 - 1000 Hz 27.8 m/s <sup>2</sup>		TBC	
Contact disturbance (while broadband noise)	DIN EN 60068-2-64	< 1 μs		TBC	
Shock half sine	IEC 60068-2-27	30 g 6 ms		TBC	
Contact disturbance (while shock test)	IEC 60512 test 2e	< 1 μs		TBC	
Mechanical operation	IEC 60512 test 9a	500 mating cycles		20 mating cycles	
Insertion and withdrawal force	IEC 60512 test 13b	≤ 1 N per contact		1 N per contact	
Gauge retention force	IEC 60512 test 16e	> 0.15 N		TBC	

# ELECTRICAL AND MECHANICAL CHARACTERISTICS

## Technical Data

Description	Standard	MaxiBridge Male, Single and Dual Row	MaxiBridge Female, Single and Dual Row	MaxiBridge QT Male, Single and Dual Row	MaxiBridge QT Female, Single and Dual Row
<b>Processing Conditions</b>					
Hand soldering temperature max	IEC 60068-2-20	3.5 s at 350 °C		3.5 s at 350 °C	
Reflow soldering temperature max.	JEDEC J-STD-020	30 s at 260 °C		> 30 s at 260 °C	
Coplanarity		< 0.1 mm		< 0.1 mm	
<b>Housing Material</b>					
Insulation body		LCP	PA46	LCP	PA46
CTI value	IEC 112	175	225	175	
UL flame rating		UL 94 V-0			
UL file plastic material		E83005	E47960	E83005	E47960
<b>Contact Material</b>					
Base material		Cu alloy			
Mating area		gold plating		Sn	
Termination area		Sn			
<b>Environment Compatibility</b>					
Recycling		no flame-retardant additives, no toxic additives allow easy recycling			
<b>Product Approval</b>					
UL		E84703		TBC	

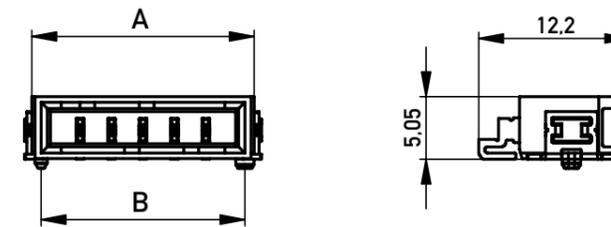
# MAXIBRIDGE RIGHT ANGLE MALE, SINGLE ROW

## Product Specification

- SMT termination
- single row connectors
- current rating up to 12 A per contact
- automated board assembly
- four different colored codings
- for available part numbers please refer to our website

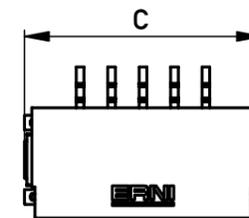


## Dimensional Drawings

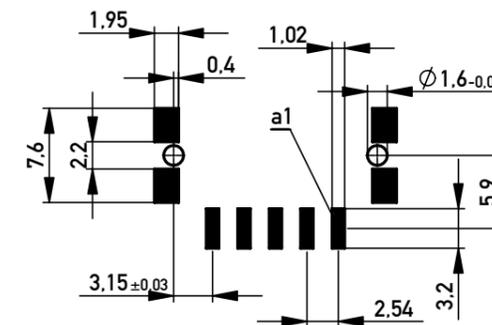


No. of Contacts	A	B	C
2	10.34	8.84	11.54
3	12.88	11.38	14.08
4	15.42	13.92	16.62
5	17.96	16.46	19.16
6	20.50	19.00	21.70
8	25.58	24.08	26.78
10	30.66	29.16	31.86

All dimensions in mm



## Recommended Layout



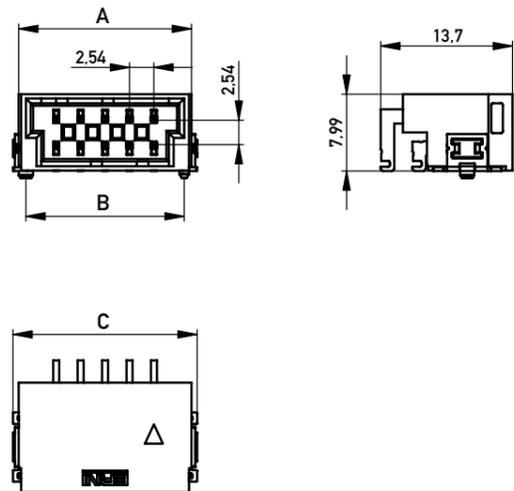
# MAXIBRIDGE RIGHT ANGLE MALE, DUAL ROW

## Product Specification

- SMT termination
- dual row connectors
- current rating up to 12 A per contact
- automated board assembly
- four different colored codings
- for available part numbers please refer to our website



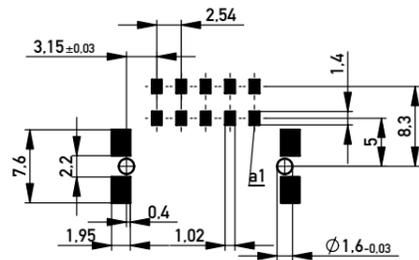
## Dimensional Drawings



No. of Contacts	A	B	C
10	17.96	16.46	19.16
20	30.66	29.16	31.86

All dimensions in mm

## Recommended Layout



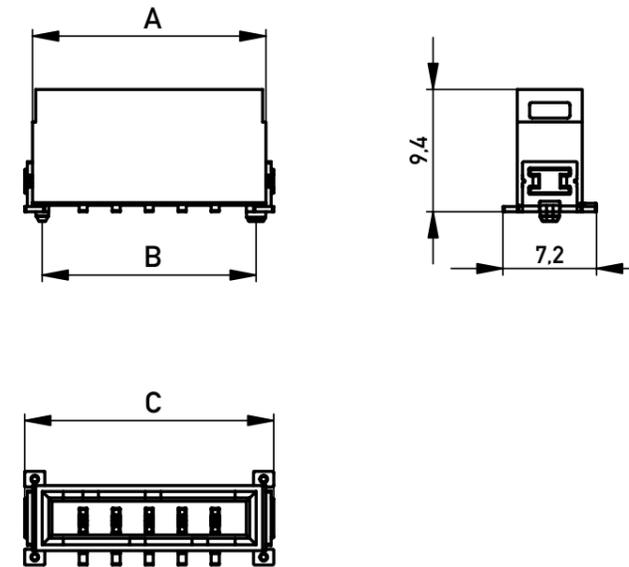
# MAXIBRIDGE VERTICAL MALE, SINGLE ROW

## Product Specification

- SMT termination
- single row connectors
- current rating up to 12 A per contact
- automated board assembly
- four different colored codings
- for available part numbers please refer to our website



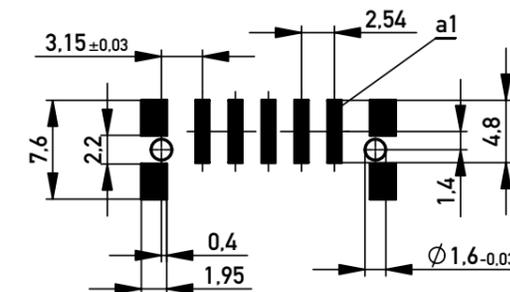
## Dimensional Drawings



No. of Contacts	A	B	C
2	10.34	8.84	11.54
3	12.88	11.38	14.08
4	15.42	13.92	16.62
5	17.96	16.46	19.16
6	20.50	19.00	21.70
8	25.58	24.08	26.78
10	30.66	29.16	31.86

All dimensions in mm

## Recommended Layout



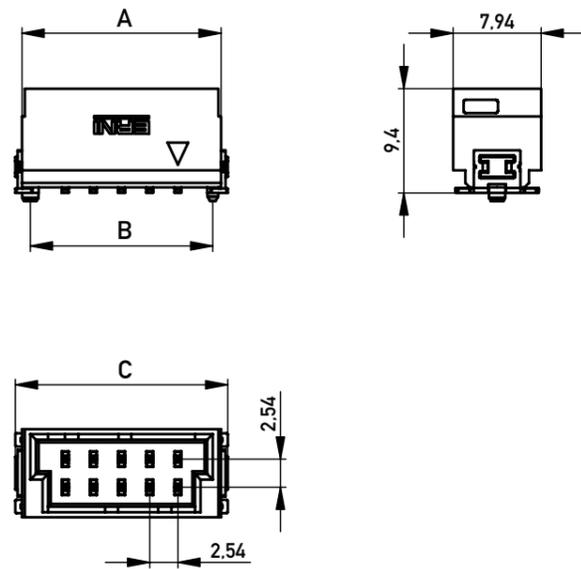
# MAXIBRIDGE VERTICAL MALE, DUAL ROW

## Product Specification

- SMT termination
- dual row connectors
- current rating up to 12 A per contact
- automated board assembly
- four different colored codings
- for available part numbers please refer to our website



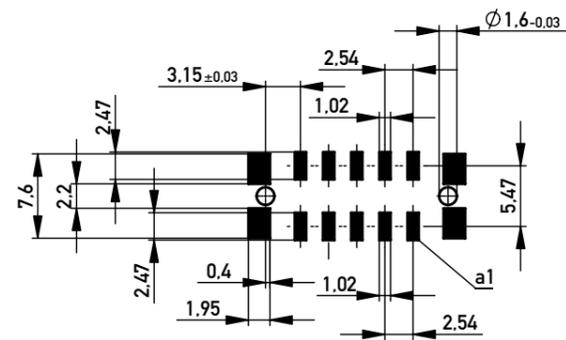
## Dimensional Drawings



No. of Contacts	A	B	C
10	17.96	16.46	19.16
20	30.66	29.16	31.86

All dimensions in mm

## Recommended Layout



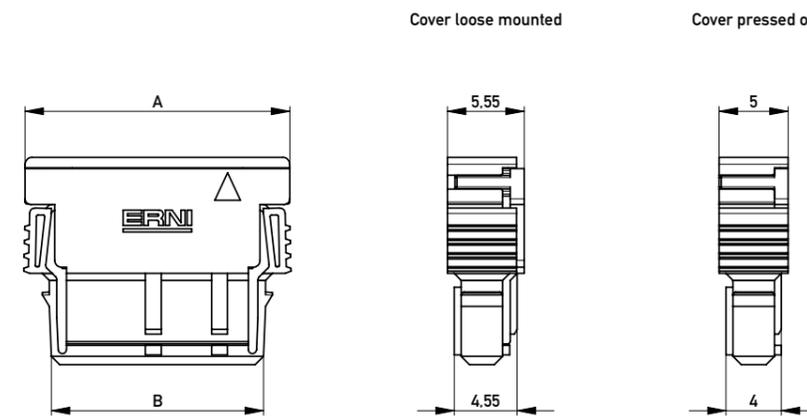
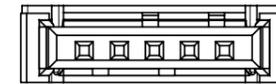
# MAXIBRIDGE VERTICAL FEMALE, SINGLE ROW

## Product Specification

- crimp contact with primary and secondary locking
- single row connectors
- current rating up to 12 A per contact
- four different colored codings
- for available part numbers please refer to our website



## Dimensional Drawings



No. of Contacts	A	B
2	11.54	7.74
3	14.08	10.28
4	16.62	12.82
5	19.16	15.36
6	21.70	17.90
8	26.78	22.98
10	31.86	28.06

All dimensions in mm

## Crimp contact

- AWG 20
- AWG 22
- AWG 24
- AWG 26
- Metric 0.35 mm<sup>2</sup>
- Metric 0.5 mm<sup>2</sup>
- Metric 0.75 mm<sup>2</sup>



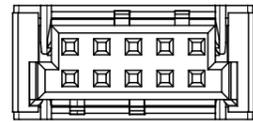
# MAXIBRIDGE VERTICAL FEMALE, DUAL ROW

## Product Specification

- crimp contact with primary and secondary locking
- single row connectors
- current rating up to 12 A per contact
- four different colored codings
- for available part numbers please refer to our website

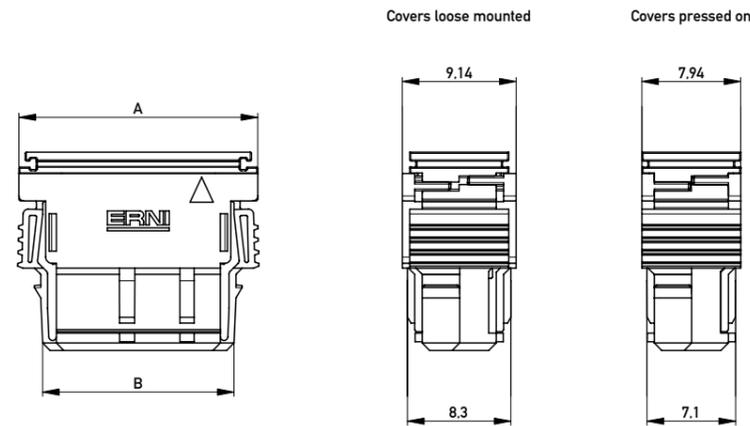


## Dimensional Drawings



No. of Contacts	A	B
10	19.16	15.36
20	31.86	28.06

All dimensions in mm



## Crimp contact

- AWG 20
- AWG 22
- AWG 24
- AWG 26
- Metric 0.35 mm<sup>2</sup>
- Metric 0.5 mm<sup>2</sup>
- Metric 0.75 mm<sup>2</sup>



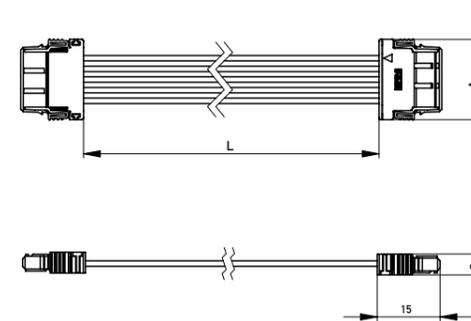
# MAXIBRIDGE CABLE ASSEMBLIES, SINGLE ROW

## Product Specification

- cable assemblies with crimp female connectors
- single row connectors
- different cable types
- connectors with four different colored codings
- wire cross sections AWG 20, 22, 24 and 26
- for available part numbers please refer to our website



## Dimensional Drawings



No. of Contacts	A
2	11.54
3	14.08
4	16.62
5	19.16
6	21.70
8	26.78
10	31.86

All dimensions in mm

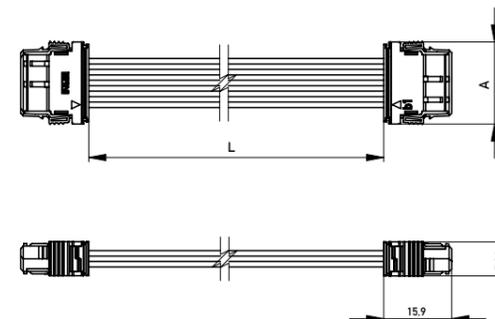
# MAXIBRIDGE CABLE ASSEMBLIES, DUAL ROW

## Product Specification

- cable assemblies with crimp female connectors
- single row connectors
- different cable types
- connectors with four different colored codings
- wire cross sections AWG 20, 22, 24 and 26
- for available part numbers please refer to our website



## Dimensional Drawings



No. of Contacts	A
10	19.16
20	31.86

All dimensions in mm

## MAXIBRIDGE QT MALE CONNECTORS

### Product Specification

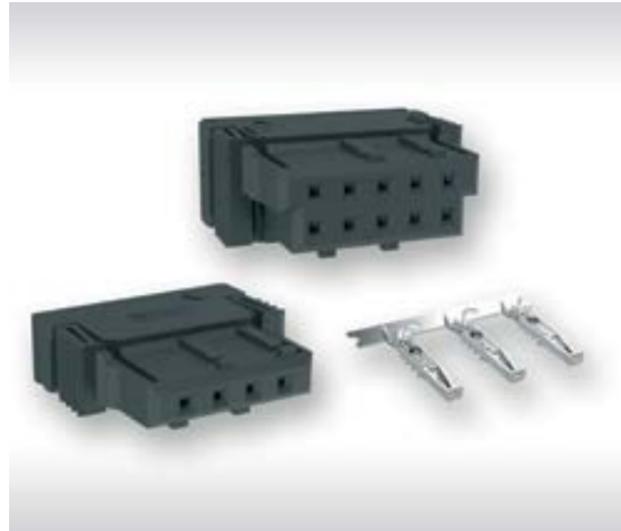
- vertical and right angle
- 2, 3, 4, 5, 6, 8, 10 and 20 pins
- single and dual row
- SMT termination
- tape and reel packaging
- available part numbers and current drawings on request



## MAXIBRIDGE QT FEMALE CONNECTORS

### Product Specification

- 180 ° cable outlet
- 2, 3, 4, 5, 6, 8, 10 and 20 pins
- single and dual row
- crimp contacts
- pre-assembly or poly-bag packaging
- available part numbers and current drawings on request



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