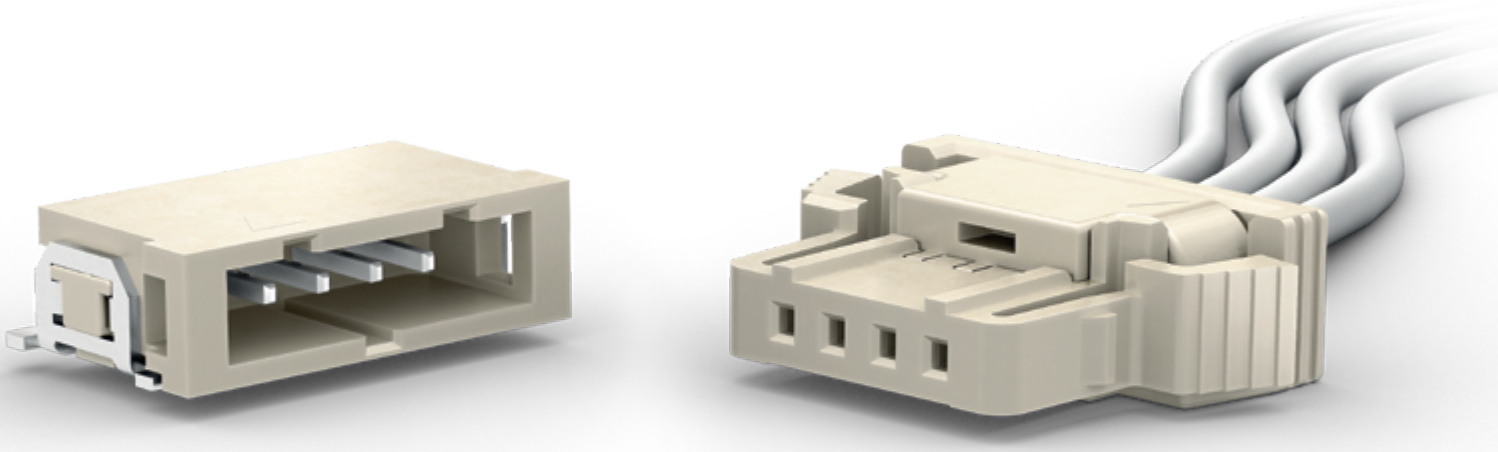
iBridge Ultra

2 mm Cable to Board Connectors

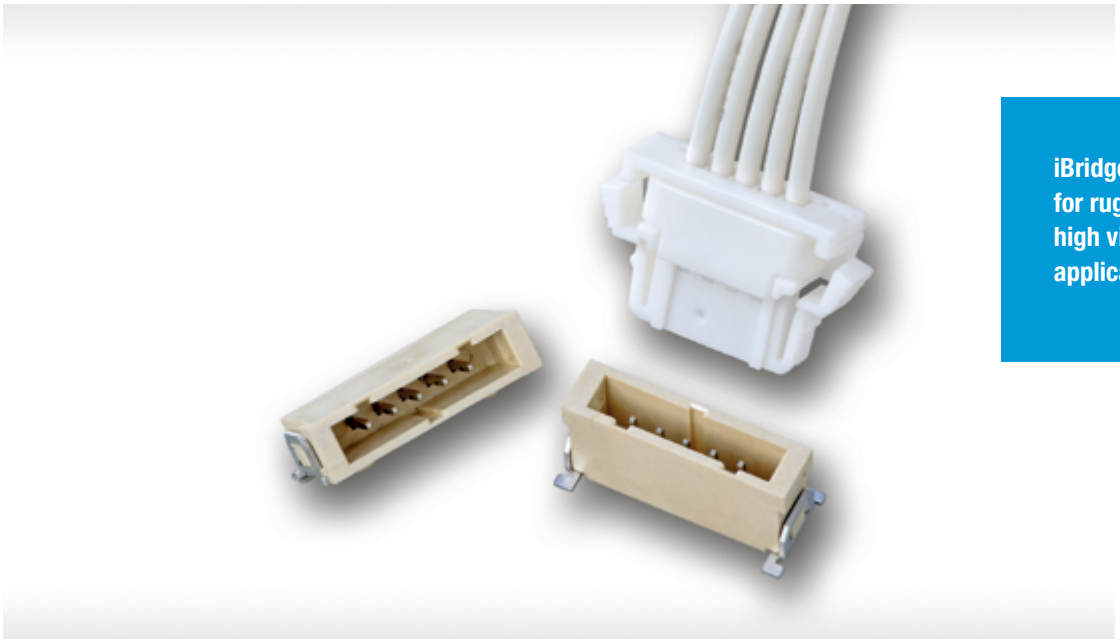


ED. 08 I 05.2020
Catalog E 074683

iBridge Ultra

CABLE TO BOARD CONNECTOR

GENERAL



iBridge Ultra for rugged high vibration applications

The iBridge Ultra connector family offers extensive Cable-to-Board solutions. It is designed for applications which need reliable and robust connection systems. A TPA (Terminal Position Assurance) retainer serves as a secondary lock for the female contact in the housing. The secondary lock makes the connections particularly resistant against strong vibrations, such as those that occur in an automotive application. iBridge Ultra is not limited to automotive and is a great choice for applications in industrial automation, telecommunications and healthcare.
iBridge Ultra's compact design supports all applications between control units and local components such as sensors, motors, switches, fans, heating elements, fuses or LEDs.

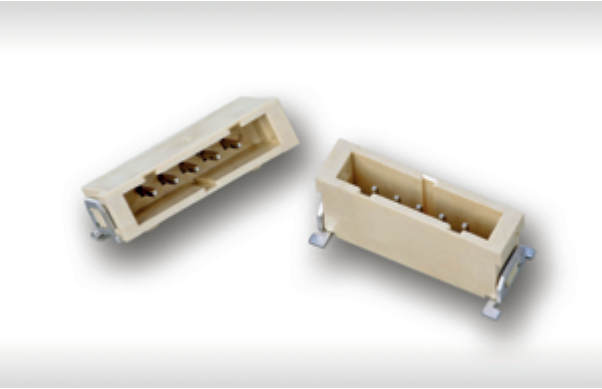
- current rating up to 8 A per contact
- compact due to a pitch of 2 mm
- different numbers of pins available
- crimp contacts for AWG 22 and AWG 24
- secondary locking of the crimp contacts in the housing (TPA)
- polarity reversal protection design
- double-sided interlocking
- specifications are tested according to requirements of USCAR-2 and USCAR-21

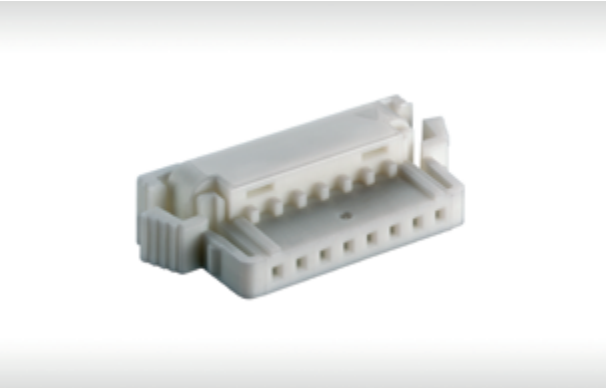
iBridge Ultra

CABLE TO BOARD CONNECTOR

TECHNICAL DETAILS

Pitch	2 mm
No. of Pins	2, 3, 4, 5, 6, 8, 10, 12 possible
Current rating per contact	up to 8 A (depends on cable)
Termination	Male connector with SMT or DIP solder termination Female connector with crimp termination
Cable	Discrete wire AWG 22 and AWG 24
Variants	Vertical male connector Right angle male connector Female connector with 180° cable outlet



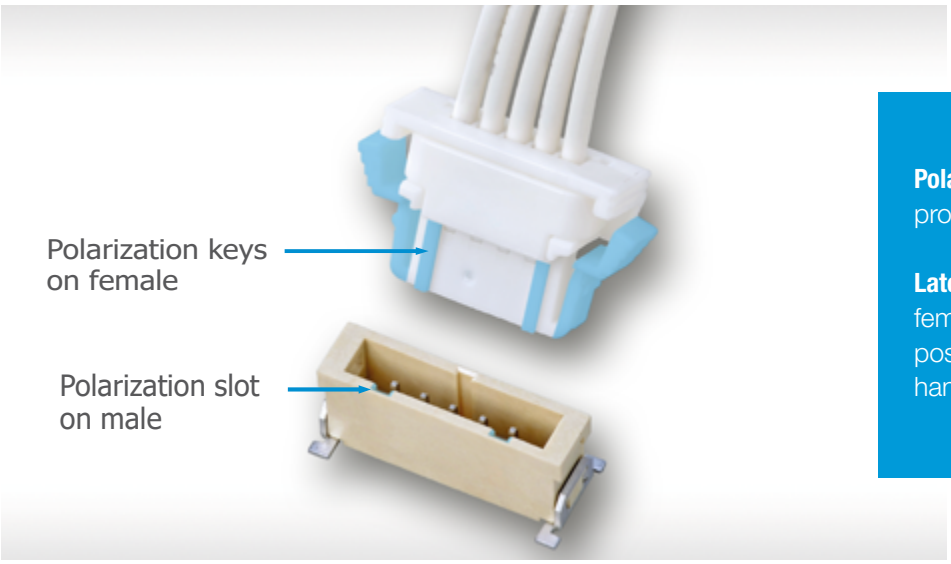


FEATURES

DOUBLE LOCKING SYSTEM

Includes **TPA (a retainer)** feature which serves as a secondary lock to increase reliability by safe-guarding against acci-dental wire pulling and limits female contact movement in housing cavity, ultimately enhancing performance in high vibration and mechanical shock environments

POLARIZATION AND LOCKING FEATURE



Polarization feature for error proof mating

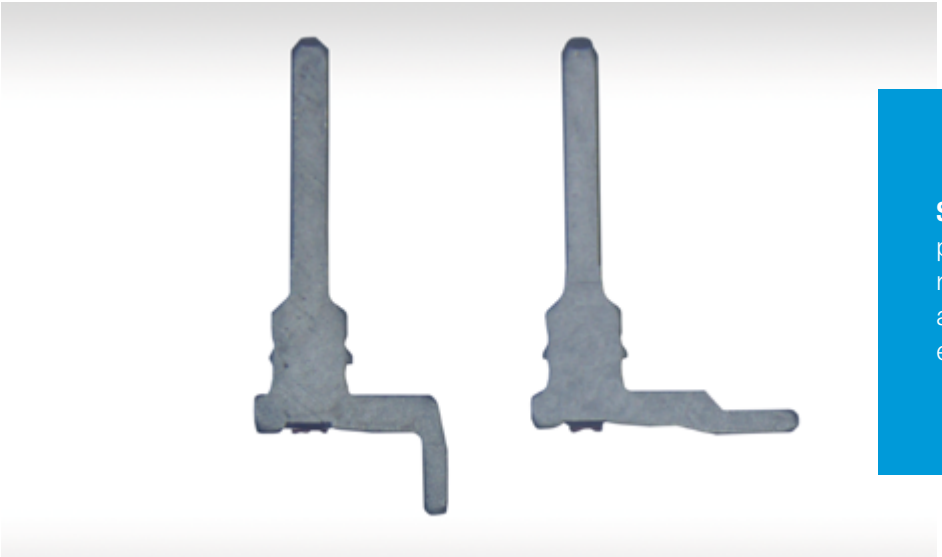
Latches on both sides of female connectors provide positive locking and easy handling

FEATURES

CLOSE BOX AND DUAL BEAM FEMALE CONTACT

Close box female contact design make sure male contact in secure position.
Dual contact beam compensates misalignment mating tolerance

STAMPED MALE CONTACTS



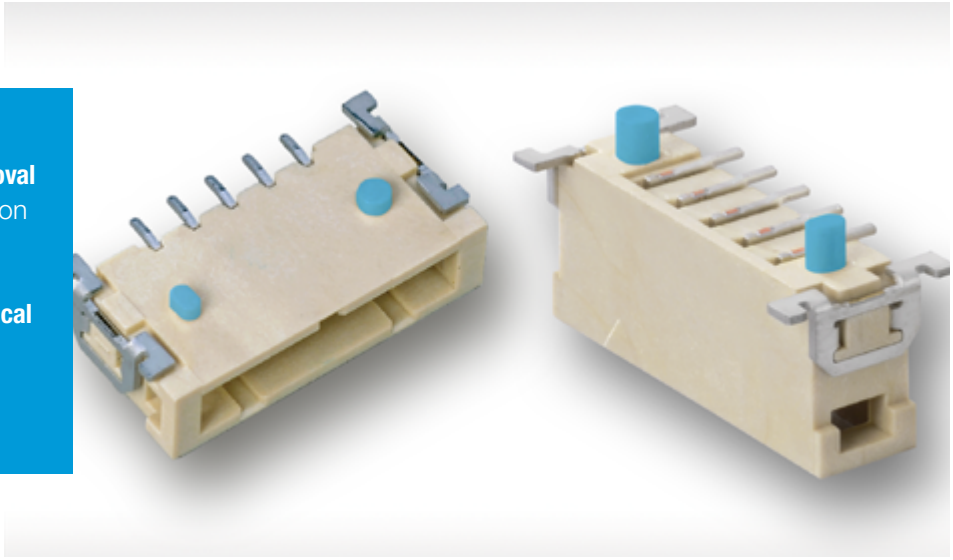
Stamped contacts without post bending ensure robustness, coplanarity and current carrying efficiency

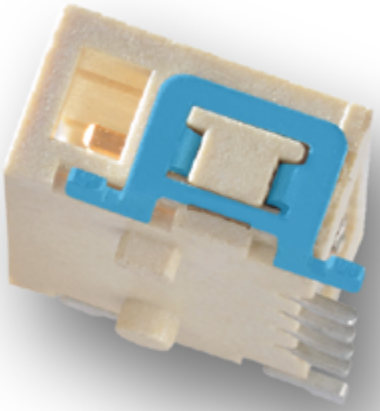
FEATURES

PCB RETENTION AND ERROR PROOF

2 location pegs round and oval - for accurate placement on PCB

Long locating pegs for vertical male - enhance retention force





Metal soldering clip for SMT - provides PCB retention and strain relief for contacts

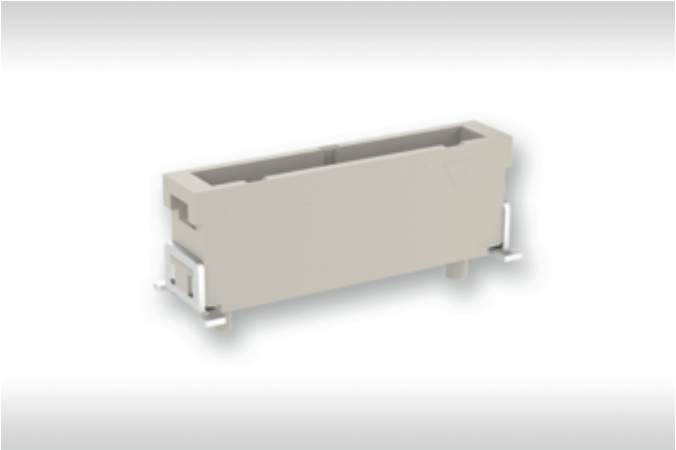
CHARACTERISTICS

TECHNICAL DATA

Description	Standard	Male Connector (DIP, SMT)	Female Connector (Crimp)
Temperature range (USCAR)	USCAR-2	-40 – +100 °C, 1008hrs at 100 °C (USCAR-2 T2)	
Current rating per contact	IEC60512 test 5b	up to 8 A (depends on cable)	
Air and creepage distance		0.7 mm	
Operating voltage	IEC 60664	300 V r.m.s. (pollution degree 1), 95 V r.m.s. (pollution degree 2)	
Mechanical operation	IEC 60512 test 9a	> 20 mating cycles	
Process Conditions			
Hand soldering temperature max.	IEC 60068-2-20	3.5 s at 350 °C	
DIP soldering temperature max.	JEDEC J-STD-002	10 s at 260 °C	
Reflow soldering temperature max.	JEDEC J-STD-002	20 - 40 s at 260 °C	
Coplanarity		< 0.1 mm	
Housing Material			
Plastic material		LCP natural	PA natural
Tracking resistance (CTI)	IEC 60112	175 V	600 V
UL flame rating	UL	94 V-0	
Contact Material			
Base material		Cu alloy	
Mating area		Sn plating over Ni underplating	
Termination area		Sn plating over Ni underplating	
Soldering Bracket Material			
Base material		Cu alloy	
Plating		Sn plating over Ni underplating	
Product Approval			
Validation testing		USCAR-2, USCAR-21	
UL		E472031	

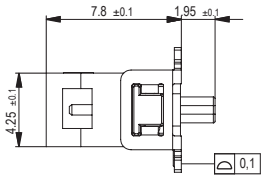
VERTICAL MALE CONNECTOR, SMT —

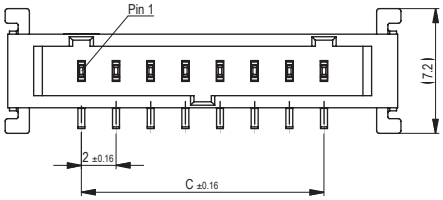
PRODUCT SPECIFICATION

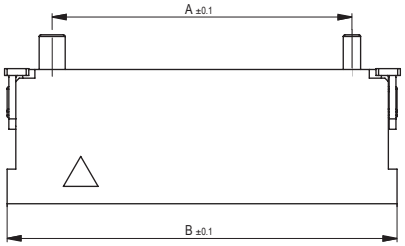


- SMT termination
- 2, 3, 4, 5, 6, 8, 10, 12 pins possible
- tape and reel packaging for fully automated assembly process
- for available part numbers please refer to our website

DIMENSIONAL DRAWINGS

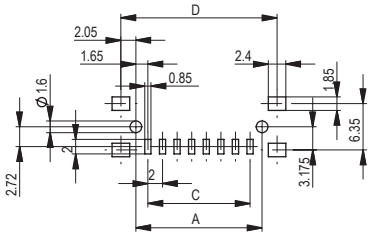






Layout:

vorgeschlagene Toleranz für PCB Layout ± 0,05
recommended PCB layout tolerance ±0,05

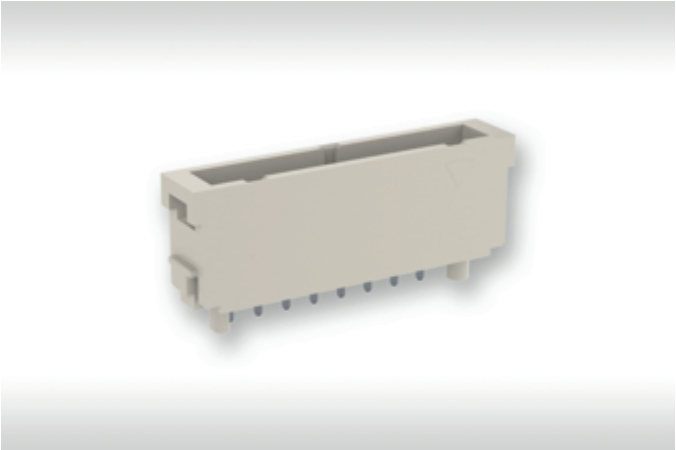


12	25.3	30.5	22	29.4	44
10	21.3	26.5	18	25.4	44
8	17.3	22.5	14	21.4	44
6	13.3	18.5	10	17.4	44
5	11.3	16.5	8	15.4	32
4	9.3	14.5	6	13.4	32
3	7.3	12.5	4	11.4	24
2	5.3	10.5	2	9.4	24
Polzahl *position*	Mass A *Dim A*	Mass B *Dim B*	Mass C *Dim C*	Mass D *Dim D*	Mass E *Dim E*

iBridge Ultra

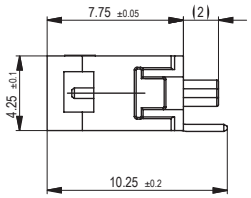
VERTICAL MALE CONNECTOR, DIP —

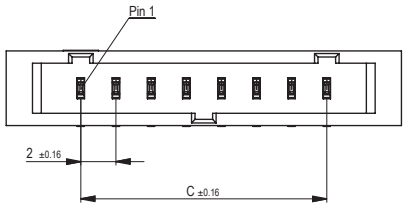
PRODUCT SPECIFICATION



- DIP solder termination
- 2, 3, 4, 5, 6, 8, 10, 12 pins possible
- tube packaging
- for available part numbers please refer to our website

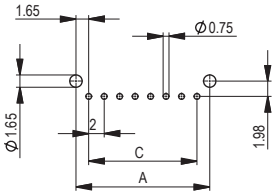
DIMENSIONAL DRAWINGS

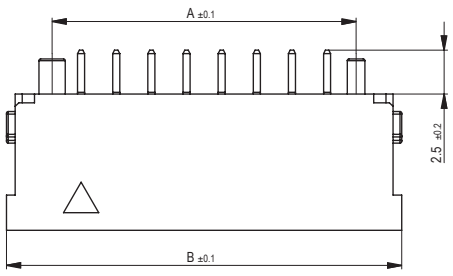




Layout:

vorgeschlagene Toleranz für PCB Layout ± 0,05
recommended PCB layout tolerance ±0,05





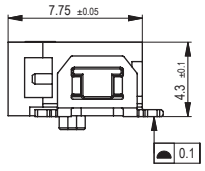
12	25.3	30.5	22
10	21.3	26.5	18
8	17.3	22.5	14
6	13.3	18.5	10
5	11.3	16.5	8
4	9.3	14.5	6
3	7.3	12.5	4
2	5.3	10.5	2
Polzahl *position*	Mass A *Dim A*	Mass B *Dim B*	Mass C *Dim C*

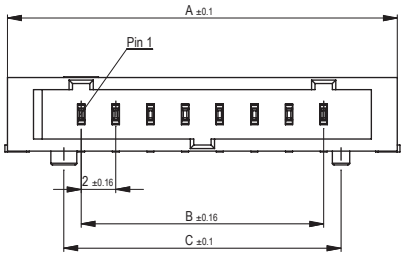
RIGHT ANGLE MALE CONNECTOR, SMT

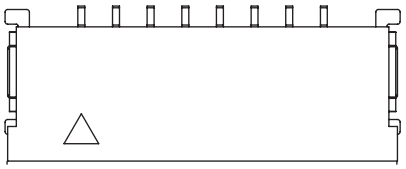
PRODUCT SPECIFICATION

- SMT termination
- 2, 3, 4, 5, 6, 8, 10, 12 pins possible
- tape and reel packaging for fully automated assembly process
- for available part numbers please refer to our website

DIMENSIONAL DRAWINGS

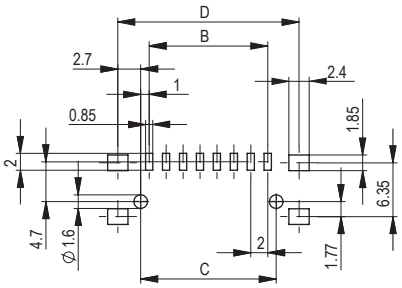






Layout:

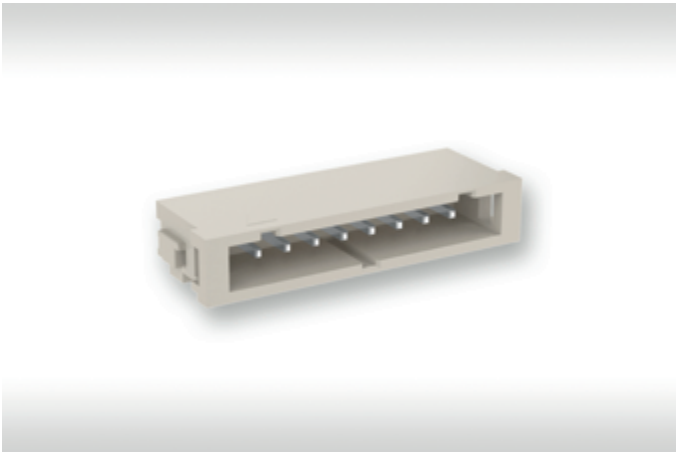
vorgeschlagene Toleranz für PCB Layout ± 0,05
recommended PCB layout tolerance ±0.05



12	30.5	22	24	29.4	44
10	26.5	18	20	25.4	44
8	22.5	14	16	21.4	44
6	18.5	10	12	17.4	32
5	16.5	8	10	15.4	32
4	14.5	6	8	13.4	32
3	12.5	4	6	11.4	24
2	10.5	2	4	9.4	24
Polzahl *position*	Mass A *Dim A*	Mass B *Dim B*	Mass C *Dim C*	Mass D *Dim D*	Mass E *Dim E*

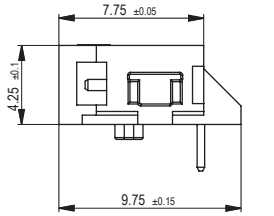
RIGHT ANGLE MALE CONNECTORS, DIP

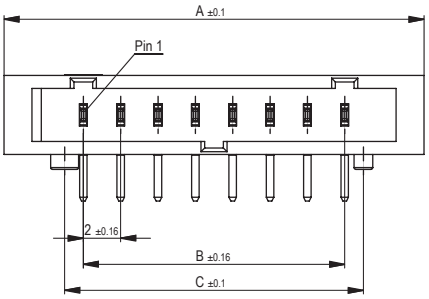
PRODUCT SPECIFICATION

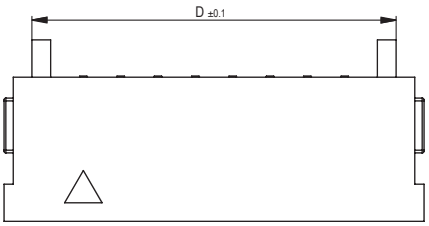


- DIP solder termination
- 2, 3, 4, 5, 6, 8, 10, 12 pins possible
- tube packaging
- for available part numbers please refer to our website

DIMENSIONAL DRAWINGS

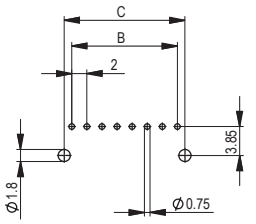






Layout:

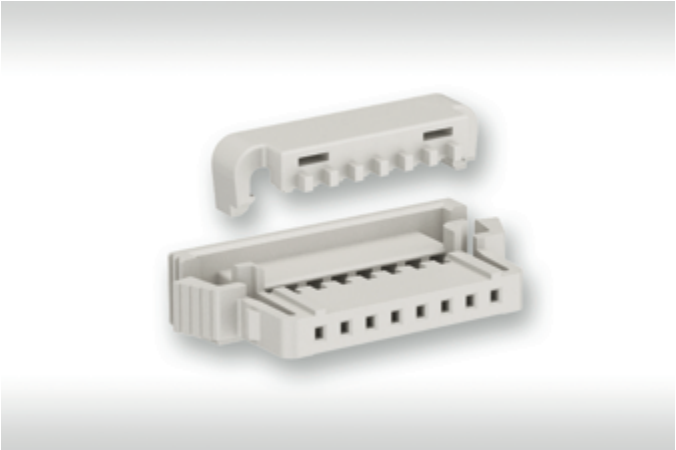
vorgeschlagene Toleranz für PCB Layout ± 0,05
recommended PCB layout tolerance ±0,05



Polzahl *position*	Mass A *Dim A*	Mass B *Dim B*	Mass C *Dim C*	Mass D *Dim D*
12	30.5	22	24	27.5
10	26.5	18	20	23.5
8	22.5	14	16	19.5
6	18.5	10	12	15.5
5	16.5	8	10	13.5
4	14.5	6	8	11.5
3	12.5	4	6	9.5
2	10.5	2	4	7.5

FEMALE CABLE CONNECTOR

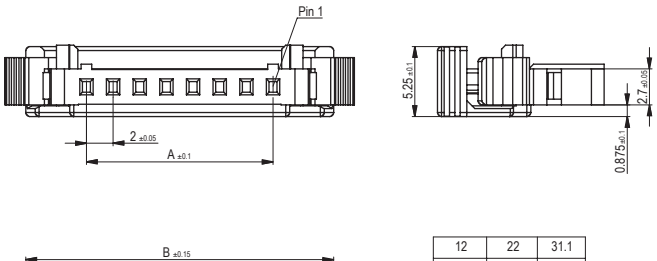
PRODUCT SPECIFICATION



- cable connector housing and retainer
- 2, 3, 4, 5, 6, 8, 10, 12 pins possible
- 180° cable outlet
- for female crimp contacts
- AWG 22 and AWG 24
- for available part numbers please refer to our website

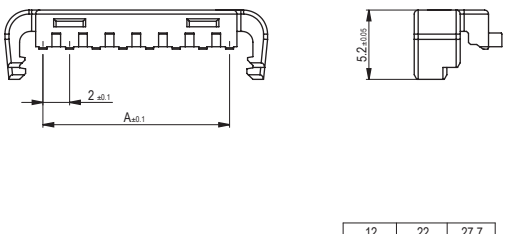
DIMENSIONAL DRAWINGS

CABLE CONNECTOR HOUSING



12	22	31.1
10	18	27.1
8	14	23.1
6	10	19.1
5	8	17.1
4	6	15.1
3	4	13.1
2	2	11.1
Polzahl *position*	Mass A *Dim A*	Mass B *Dim B*

RETAINER



12	22	27.7
10	18	23.7
8	14	19.7
6	10	15.7
5	8	13.7
4	6	11.7
3	4	9.7
2	2	7.7
Polzahl *position*	Mass A *Dim A*	Mass B *Dim B*

FEMALE CRIMP CONTACT

PRODUCT SPECIFICATION

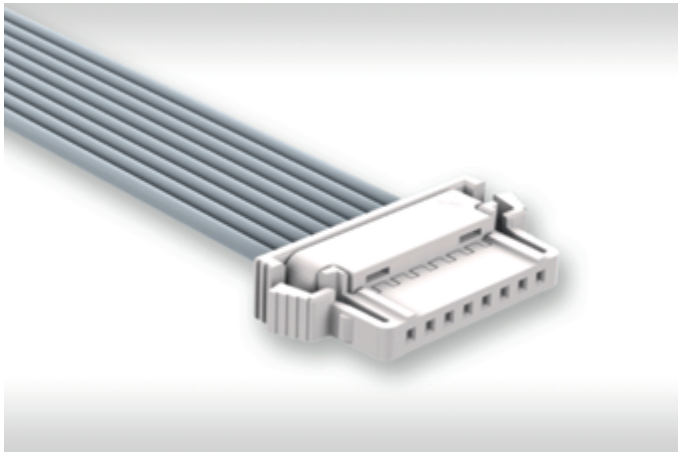
- female crimp contact
- AWG 22 and AWG 24
- Reel packaging
- for available part numbers please refer to our website

ORDERING INFORMATION

Contacts	Cable Type	Termination	Packaging
Female Contact	AWG 22, 24	Crimp	Reel / 10000 pcs

CABLE ASSEMBLIES

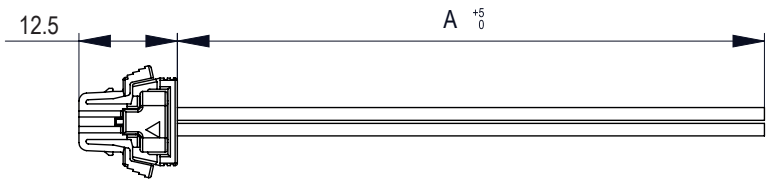
PRODUCT SPECIFICATION



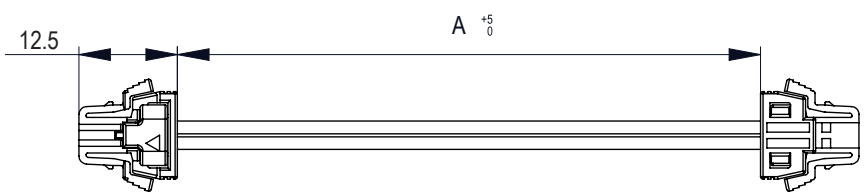
- standard cable assemblies
- 2, 3, 4, 5, 6, 8, 10, 12 pins possible
- 180° cable outlet
- female connectors
- cable length 100 mm (200 mm and 300 mm on request)
- AWG 22 and AWG 24
- single- und dual-ended
- for available part numbers please refer to our website

DIMENSIONAL DRAWINGS

Single-Ended



Dual-Ended



Find your correct contact person
on **erni.com/locations**