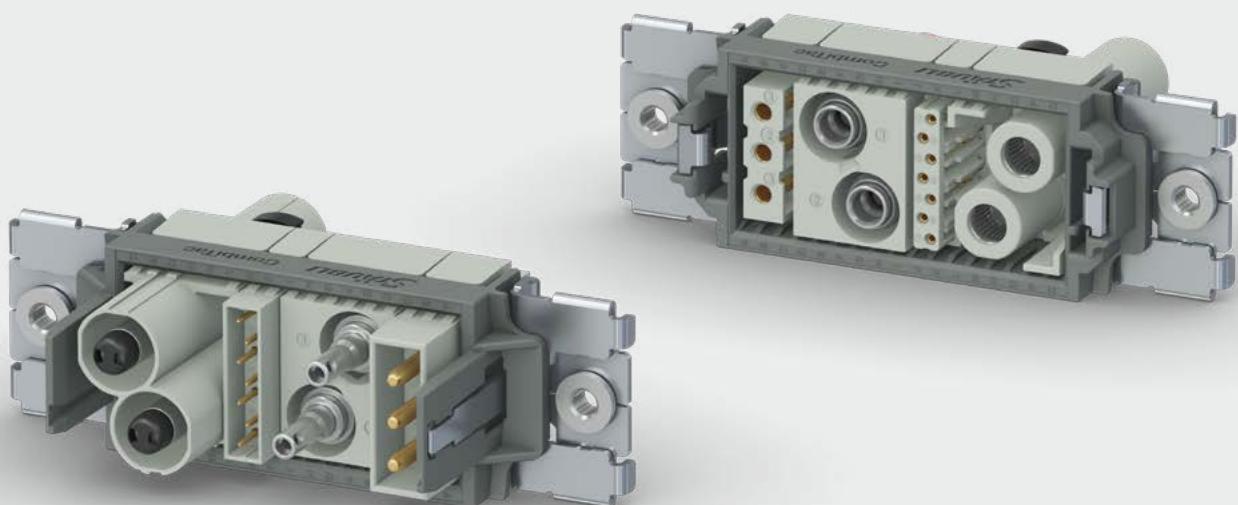


CombiTac direct Main catalog

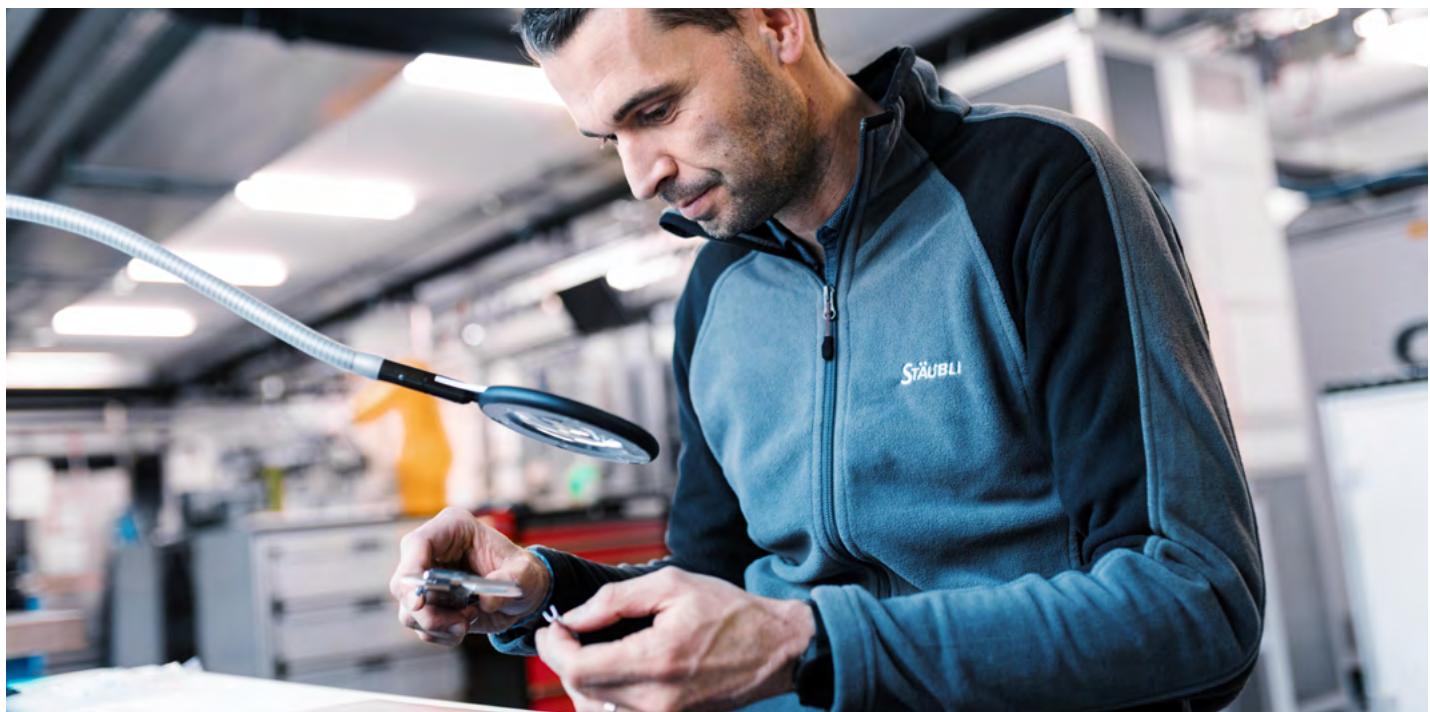
Modular connector solutions for up to 10,000 mating cycles

EN



STÄUBLI ELECTRICAL CONNECTORS

Connections for Life



Stäubli, as the international technology leader, offers innovative mechatronics solutions in its four divisions: Electrical Connectors, Fluid Connectors, Robotics, and Textile. At Stäubli Electrical Connectors, we develop advanced connection solutions based on the reliable MULTILAM contact technology.

Together for reliable and safe connections

We know that you entrust us with the functionality of your applications and we work hard to ensure this every single day. Thanks to our high level of expertise, our extensive experience and the multiple successful co-operation with our partners, numerous new developments have originated at Stäubli Electrical Connectors and subsequently have become worldwide standards. This includes our MC4 connector portfolio for which we are today the global market

We create connections for life – and our customers are at the center of these connections. We are convinced that solid and stable partnerships directly contribute to our mutual success.

We take on the needs of our partners and deal with the most extraordinary challenges. As a result, we always create, sell and

support reliable and long-lasting products for markets with the highest productivity and safety requirements in close cooperation with our customers.

leader in photovoltaic. As the Stäubli original, the MC4 represents the result of our constant quest for innovation, quality and safety.

Further examples are the CombiTac modular connector system or the Quick Charging Connector (QCC) for automatic charging systems.

We ensure connections for life together with our long-standing customers in a wide range of industries from renewable energies, power transmission and distribution and E-mobility to industrial automation applica-

tions, railway and welding automation, test and measurement and medical devices. Thus, developing reliable, efficient and safe solutions based on our proven MULTILAM contact technology, which guarantees a high service lifetime in addition to highly efficient power transmission.

Applications and advantages



CombiTac modular connectors combine various connection types in a single frame or housing and can be configured according to your exact specifications.

Depending on the requirements of your application, two product lines are available, the CombiTac direqt and the CombiTac uniq.

CombiTac direqt is ideal for applications that require fast, tool-free assembly and where electrical signal and power connections need to be combined with up to 10,000 mating cycles. This results in significant economic benefits. Contacts for data, coaxial and pneumatic connections are also available.

CombiTac uniq is designed for more demanding applications that require versatile long-life modular connector solutions, and where combination of power, signal, data, fiber optic, fluid and pneumatic connections are needed.

CombiTac uniq is 100 % customizable to meet exact technical and dimensional specifications. The MULTILAM Technology enables up to 100,000 mating cycles and currents of up to 300 A.

As a solution provider, we offer you full support in the configuration of your own 100% customized CombiTac connector. Depending on your requirements, we can also offer you complete cable assembly solution.

This product catalog is dedicated to the CombiTac direqt product line. Information about CombiTac uniq can be found in the CombiTac uniq main catalog.

Further information concerning product portfolio, special features as well as exemplary videos can be found at www.combitac.com

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Page 24	Last Mate First Break module	Page 67	Coding
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Page 32	Coaxial unit 6 GHz	Page 69	Appendix
	<ul style="list-style-type: none"> • Contact carrier • Contacts 		<ul style="list-style-type: none"> • Derating diagrams • Pneumatic flow/pressure drop diagrams and sliding forces • Technical information • Safety notes • Safety during the mating process • Index
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	<ul style="list-style-type: none"> • Contact carrier • Contacts 		

General information

Changes/provisos

All data, illustrations, and drawings in the catalog have been carefully checked. They are in accordance with our experience to date, but no responsibility can be accepted for errors.

We also reserve the right to make modifications for design and safety reasons. When designing equipment incorporating our components, it is therefore advisable not to rely solely on the data in the catalog but to consult us to make sure this information is up to date. It would be our pleasure to advise you.

Copyright

The use of this catalog for any other purpose, in whatever form, without our prior written consent is not permitted.

RoHS

European Directive 2011/65/EU incl. all related amendments (e.g. Delegated Directive (EU) 2015/863)

For further information please follow the link below

www.staubli.com/de/en/electrical-connectors/downloads/certificates/material-compliance.html



All products with the symbol are «UL recognized components».

Symbols



The assembly instructions MA000 are available for this product



Surface Ag



Surface Au

Abbreviations

CTD	= CombiTac direqt
S	= Socket
P	= Pin
C	= Carrier
C	= Crimp termination
PE	= Protective Earth
FP	= Frame panel
FH	= Frame housing
AWG	= American Wire Gauge

DIN housings

S	= Side cable entry
G, T	= Top cable entry
CH, TG	= Coupler hood
CHG	= Coupler housing
PW	= Protective wall
PC	= Protective cover
SM, AG	= Surface mount
PM, SG	= Pedestal mount
PS	= Park station
SSL	= Space saving locking

THE WORLD OF COMBITAC

Plug into more possibilities

Experience combined with quality and modularity leads to cost-efficient, and durable connection solutions. The modular connector system CombiTac can be easily configured online and adapted to meet the most

demanding requirements. Reliability when you need it. Flexibility, if you want it: The world of CombiTac's modular connector system meets your needs.

CombiTac direqt



Click & connect
Most assembly-effective
10,000 mating cycles

The latest generation of modular connectors for power, signal, and pneumatic connections up to 10,000 mating cycles. The new user-friendly, tool-free click-and-connect system allows you to assemble your modular connector system in the most time-saving way.

CombiTac uniq



100 % customizable
Highest performance
100,000 mating cycles

Modular connectors for power, signal, data, pneumatic and fluid connections up to 100,000 mating cycles. Offers the highest possible performance and can be customized to meet exact technical and dimensional specifications.

CombiTac Configurator

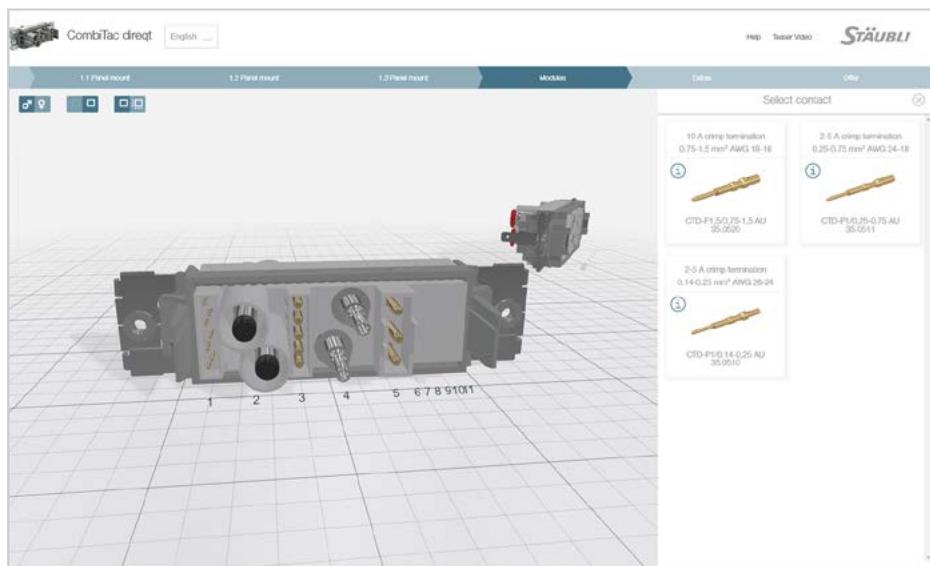
The CombiTac Configurator is a web application that enables you to put together your personalized CombiTac configuration

step by step on various end devices. It also allows you to receive a quotation for your selected CombiTac modular connector.



CombiTac Configurator

<https://configurator.combitac.com>



COMBITAC DIREQT

The modular connector system

Coupler hoods

- 6 different sizes
- IP65/67, IP68/69K
- Aluminum or plastic
- Available in gray or white

**Frames**

- 4 sizes for housing or panel mount
- Included in delivery

**Delivery status of the CombiTac**

- Contact carrier mounted on frames
- Contacts separately

**Possible connections**

- Electrical signal
- Electrical power
- Protective earth (PE)
- Data modules
- Coaxial unit
- Pneumatic

**Cable assembly**

- On request

Surface and pedestal mount housing

- 6 different sizes
- Aluminum or plastic
- Available in gray or white

**Mating cycles**

Panel mounted: up to 10,000

Housing: up to 10,000 depending on type



Ø 10 MM POWER UNIT UP TO 350 A

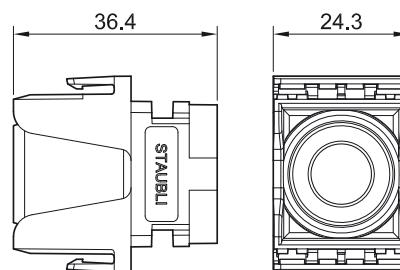
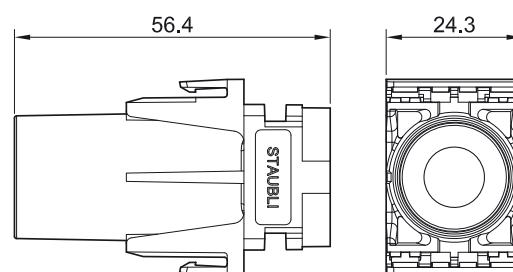
Contact carrier CTD-C10-1/...

1-pole contact carriers for 10 mm power contacts.

Features:

- Tool-free insertion in frames
- Quick removal with standard flat screwdriver

- Railway-compliant material
- Vibration and shock resistance
- Coded carriers for correct insertion

CTD-C10-1/S**CTD-C10-1/P**

Order No.	Type	Description
35.4101	CTD-C10-1/S	Socket carrier
35.4100	CTD-C10-1/P	Pin carrier
35.4109	CTD-RC10	Retaining clip (one retaining clip is required per carrier; not included with carriers)

Technical data

Number of poles	1		
Max. voltage RMS pin-to-pin and pin-to-GND ¹⁾	Pollution degree 1: 1000 V	Pollution degree 2: 1000 V	Pollution degree 3: 500 V
Max voltage Line-to-Neutral for pins energized directly from mains supply ¹⁾	Overvoltage category I: 1000 V	Overvoltage category II: 1000 V	Overvoltage category III: 600 V
Rated voltage UL	600 V		
Degree of protection (socket and plug front)	IP2X		
Clearances and creepage distance	IEC 60664-1:2020 and UL 1977		
Limiting temperature (IEC 61984:2008), upper lower	+125 °C -40 °C		
Contact carrier material	PA		
Fire behavior	EN45545-2:2015 (HL2 R22)		
Grid unit in frame	7		

**Assembly instructions MA417**

www.staubli.com/electrical

¹⁾ Voltage levels according to IEC 61984:2008 and IEC 60664-1:2020.



Ø 10 mm contacts

10 mm power contacts up to 350 A.

Features:

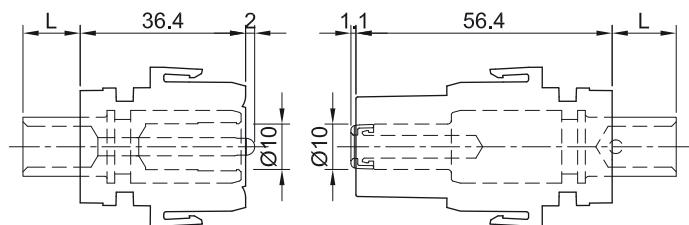
- Tool-free insertion in carriers
- Quick removal of contacts through removal of holding clip

- MULTILAM Technology in sockets
- IP2X on socket and pin side
- Vibration and shock resistance
- Crimp termination (C) for Cu conductors (class 5 and 6) according to IEC 60228:2023

CTD-S10/... AG



CTD-P10/... AG



Order No.	Type	Socket	Pin	Sur-face	Conductor cross section	Rated current ^{1), 2)}	Type of termination	
					mm ²	AWG	A	
35.0153	CTD-S10/35 AG	×			35	2	180	C
35.0553	CTD-P10/35 IP2X AG		×					
35.0152	CTD-S10/50 AG	×			50	1/0	225	C
35.0552	CTD-P10/50 IP2X AG		×					
35.0151	CTD-S10/70 AG	×			70	2/0	290	C
35.0551	CTD-P10/70 IP2X AG		×					
35.0150	CTD-S10/95 AG	×			95	4/0	350	C
35.0550	CTD-P10/95 IP2X AG		×					

Accessories

35.5656-04321	CTD-10-SRTU/43 ³⁾	Shrink tubing 43 mm (not included in delivery)		
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Technical data

Nominal-Ø socket/pin	10 mm
Average sliding force	15 N
Connector resistance	< 40 µΩ
Mating cycles	10,000
Vibrations and shock	IEC 61373:2010 Category 1B

¹⁾ IEC rated current for fully assembled frames size 4. Wires unbundled, free in air. See pages 69 – 72 for corresponding diagrams for multiple, bundled wires.

²⁾ Current rating for AWG cables can vary depending on cable manufacturer.

³⁾ Suitable for UL applications: UL-224 125 °C 600 V, file E48398

Ø 7 MM POWER UNIT UP TO 120 A

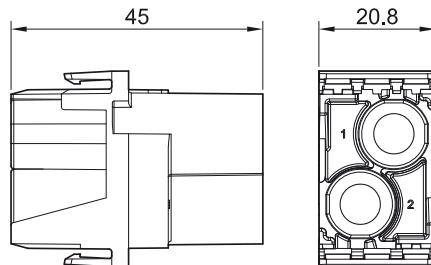
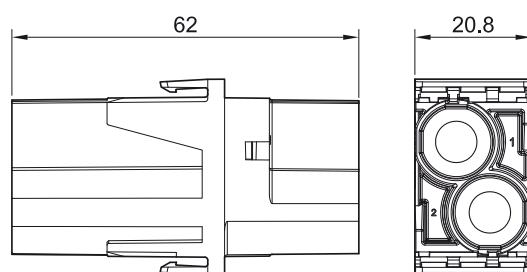
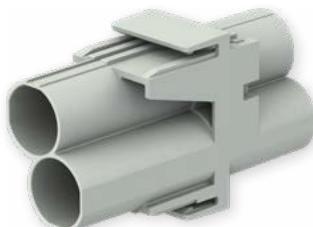
Contact carrier CTD-C7-2/...

2-pole contact carriers for 7 mm power contacts.

Features:

- Tool-free insertion in frames
- Quick removal with standard flat screwdriver

- Railway-compliant material
- Vibration and shock resistance
- Coded carriers for correct polarity insertion

CTD-C7-2 /S**CTD-C7-2 /P**

Order No.	Type	Description	
35.4071	CTD-C7-2/S	Socket carrier	
35.4070	CTD-C7-2/P	Pin carrier	
35.4079	CTD-RC7	Retaining clip (one retaining clip is required per carrier; not included with carriers)	

Technical data

Number of poles	2		
Max. voltage RMS pin-to-pin and pin-to-GND ¹⁾	Pollution degree 1: 1000 V	Pollution degree 2: 800 V	Pollution degree 3: 300 V
Max voltage Line-to-Neutral for pins energized directly from mains supply ¹⁾	Overvoltage category I: 1000 V	Overvoltage category II: 600 V	Overvoltage category III: 300 V
Rated voltage UL	600 V		
Degree of protection (socket and plug front)	IP2X		
Clearances and creepage distance	IEC 60664-1:2020 and UL 1977		
Limiting temperature (IEC 61984:2008), upper lower	+125 °C -40 °C		
Contact carrier material	PA		
Fire behavior	EN45545-2:2015 (HL2 R22)		
Grid unit in frame	6		

**Assembly instructions MA417**

www.staubli.com/electrical

¹⁾ Voltage levels according to IEC 61984:2008 and IEC 60664-1:2020.



Ø 7 mm contacts

7 mm power contacts up to 120 A.

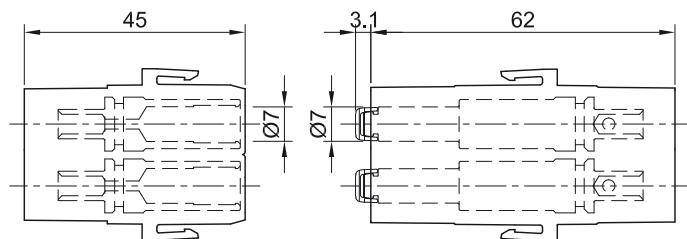
Features:

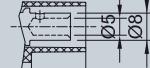
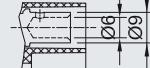
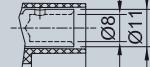
- Tool-free insertion in carriers
- Quick removal of contacts through removal of holding clip
- IP2X on socket and pin side
- Vibration and shock resistance
- Crimp termination (C) for Cu conductors (class 5 and 6) according to IEC 60228:2023
- MULTILAM Technology in sockets

CTD-S7/... AG



CTD-P7/... AG



Order No.	Type	Socket	Pin	Sur- face	Conductor cross section	Rated current ^{1), 2)}	Type of termination	
					mm ²	AWG	A	
35.0144	CTD-S7/6 AG	×			6	10	50	C
35.0544	CTD-P7/6 IP2X AG		×					
35.0143	CTD-S7/10 AG	×			10	8	70	C
35.0543	CTD-P7/10 IP2X AG		×					
35.0142	CTD-S7/16 AG	×			16	6	100	C
35.0542	CTD-P7/16 IP2X AG		×					
35.0141	CTD-S7/25 AG	×			25	4	120	C
35.0541	CTD-P7/25 IP2X AG		×					

Technical data

Nominal-Ø socket/pin	7 mm
Average sliding force	17 N
Connector resistance	< 150 µΩ
Mating cycles	10,000
Vibrations and shock	IEC 61373:2010 Category 1B

Note:

To guarantee IP2X protection when using 7 mm contacts in configurations which include a housing with side cable entry, you

must add a protective wall. This ensures protection of 7 mm contacts against damage in case housing falls on a hard surface.

¹⁾ IEC rated current for fully assembled frames size 4. Wires unbundled, free in air. See pages 69 – 72 for corresponding diagrams for multiple, bundled wires.

²⁾ Current rating for AWG cables can vary depending on cable manufacturer.

Ø 4 MM POWER UNIT UP TO 80 A

Contact carrier CTD-C-C4-2/...

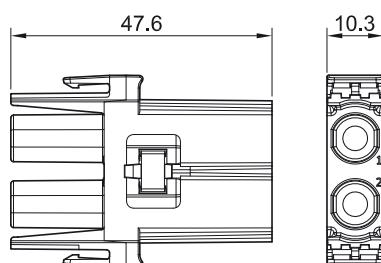
2-pole contact carriers for 4 mm power and protective earth (PE) contacts.

Features:

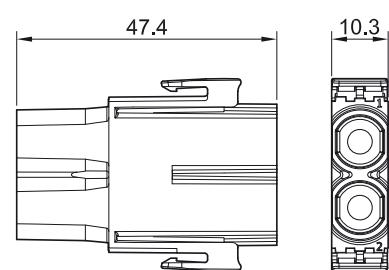
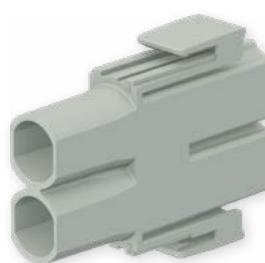
- Tool-free insertion in frames
- Quick removal with standard flat screwdriver

- Railway-compliant material
- Vibration and shock resistance
- Coded carriers for correct polarity insertion

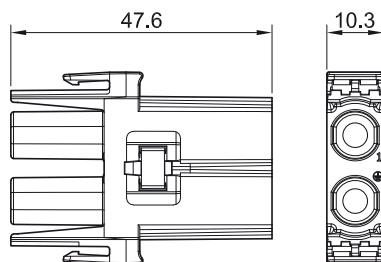
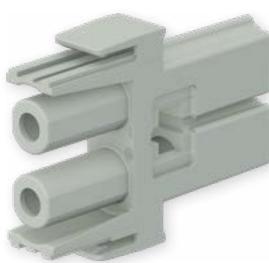
CTD-C-C4-2/S



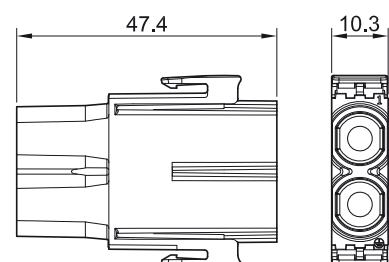
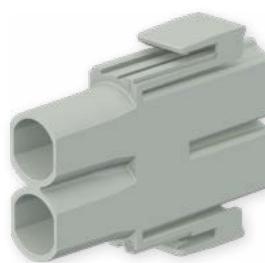
CTD-C-C4-2/P



CTD-C-C4-2/S PE



CTD-C-C4-2/P PE



CTD-RC4



Order No.	Type	Description
35.4043	CTD-C-C4-2/S	Socket carrier
35.4042	CTD-C-C4-2/P	Pin carrier
35.4045	CTD-C-C4-2/S PE	Socket carrier with \oplus
35.4044	CTD-C-C4-2/P PE	Pin carrier with \oplus
35.4049	CTD-RC4	Retaining clip (one retaining clip is required per carrier; not included with carriers)

Technical data			
Number of poles	2		
Max. voltage RMS pin-to-pin and pin-to-GND ¹⁾	Pollution degree 1: 1000 V	Pollution degree 2: 1000 V	Pollution degree 3: 600 V
Max voltage Line-to-Neutral for pins energized directly from mains supply ¹⁾	Overvoltage category I: 1000 V	Overvoltage category II: 1000 V	Overvoltage category III: 600 V
Rated voltage UL	600 V		
Degree of protection (socket and plug front)	IP2X		
Clearances and creepage distance	IEC 60664-1:2020 and UL 1977		
Limiting temperature (IEC 61984:2008), upper lower	+125 °C -40 °C		
Contact carrier material	PA		
Fire behavior	EN45545-2:2015 (HL2 R22)		
Grid unit in frame	3		

PE and Last Mate First Break (LMFB) Functionality

The plug contacts for 4 mm module are designed in **two variants**. Standard length (e.g., CTD-P4/4 IP2X AG) and short (designated as “**S**”, e.g., CTD-P4/4-**S** IP2X AG). The LMFB functionality does not work when the short “**S**” male pins are used as power.

Power + PE function

This function is achieved when PE is ensured via the standard length contact, in combination with the reduced length (S) contact for power transmission.

For 2x power contacts only (or with the LMFB function)

Both the contacts with standard length for power transmission are used (or in combination with the usual LMFB module, if LMFB is needed).

We recommend using standard plug contacts as long as PE function is not required.

- The female contacts are the same.
- The carriers have to be selected according to functionality, with or without PE.

Example for 4 mm contacts, with PE Function

Contact plug 1	Power contact CTD-P4/10-S IP2X AG (short)
Contact plug 2	PE contact CTD-P4/10 IP2X AG (inserted in PE labelled slot in carrier)
Contact socket 1 and 2	CTD-S4/4 AG
Socket carrier PE	CTD-C-C4-2/S PE
Pin carrier PE	CTD-C-C4-2/P PE

Example for 4mm contacts power only (option possible with LMFB functionality)

Contact plug 1	CTD-P4/10 IP2X AG
Contact plug 2	CTD-P4/10 IP2X AG
Contact socket 1 and 2	CTD-S4/4 AG
Socket carrier	CTD-C-C4-2/S
Pin carrier	CTD-C-C4-2/P
Option LMFB	Use standard LMFB from CombiTac direct (1 mm) with above combination
Option power only	If only two power contacts (without LMFB) are needed, the two short contact plugs can also be used.



Assembly instructions MA417

www.staubli.com/electrical

¹⁾ Voltage levels according to IEC 61984:2008 and IEC 60664-1:2020.



Ø 4 mm contacts

4 mm power contacts up to 80 A and protective earth (PE) contacts.

Features:

- Tool-free insertion in carriers
- Quick removal of contacts through removal of holding clip
- IP2X on socket and pin side

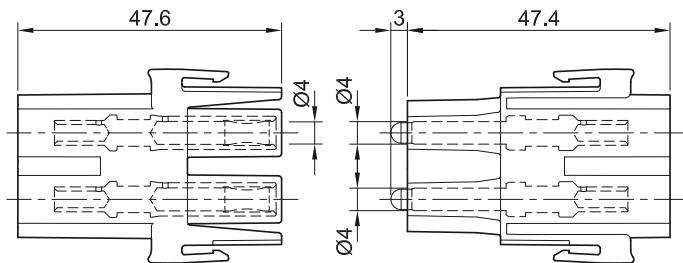
- Resistance to shock and vibrations
- Crimp termination (C) for Cu conductors (class 5 and 6) according to IEC 60228:2023
- MULTILAM Technology in sockets

Standard version

CTD-S4/... AG



CTD-P4/... IP2X AG



Special version with PE

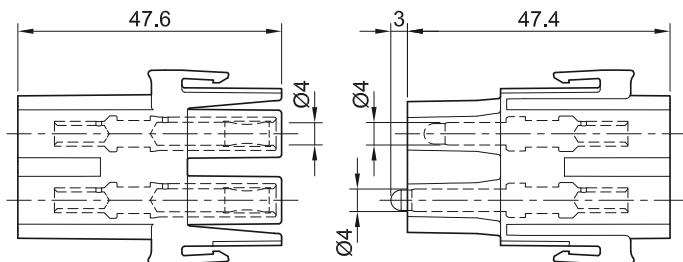
CTD-S4/... AG



CTD-P4/... IP2X AG



CTD-P4/...-S IP2X AG

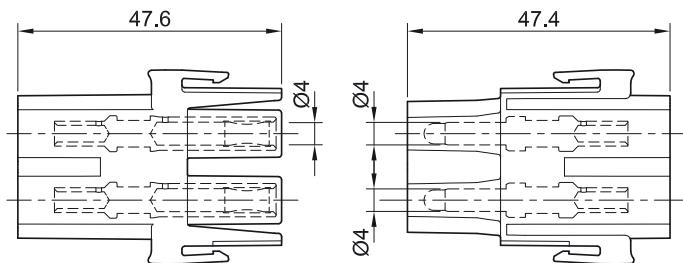


Further power modules in function with PE¹⁾

CTD-S4/... AG



CTD-P4/...-S IP2X AG



¹⁾ When more power contacts are needed with PE functionality, then add additional carriers with short contacts, CTD-P4/...-S IP2X AG.

Order No.	Type	Socket	Pin	Sur-face	Conductor cross section		Rated current ^{1), 2)}	Type of termination
					mm ²	AWG	A	
35.0138	CTD-S4/4 AG	x						C
35.0538	CTD-P4/4 IP2X AG		x		4	12	53	
35.0548	CTD-P4/4-S IP2X AG		x					
35.0137	CTD-S4/6 AG	x						C
35.0537	CTD-P4/6 IP2X AG		x		6	10	59	
35.0547	CTD-P4/6-S IP2X AG		x					
35.0136	CTD-S4/10 AG	x						C
35.0536	CTD-P4/10 IP2X AG		x		10	8	81	
35.0546	CTD-P4/10-S IP2X AG		x					

Technical data

Nominal-Ø socket/pin	4 mm
Average sliding force	9.5 N
Connector resistance	< 400 µΩ
Mating cycles	10,000
Vibration and shock resistance	IEC 61373:2010 Category 1B

¹⁾ IEC rated current for fully assembled frames size 4. Wires unbundled, free in air. See pages 69 – 72 for corresponding diagrams for multiple, bundled wires.

²⁾ Current rating for AWG cables can vary depending on cable manufacturer.

Ø 3 MM POWER UNIT UP TO 31 A

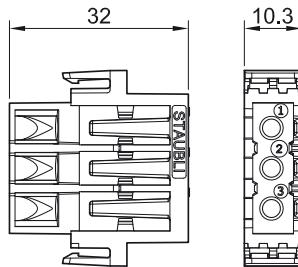
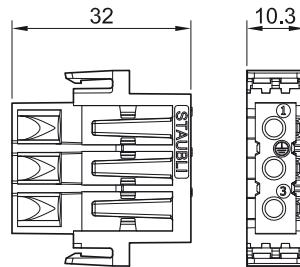
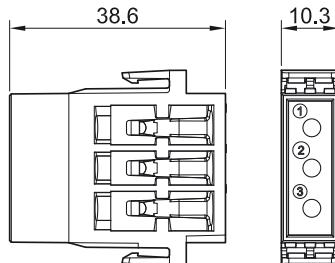
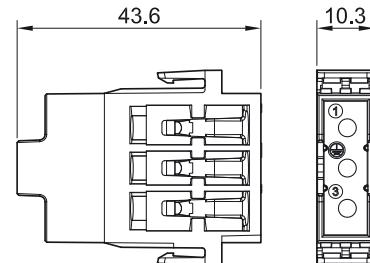
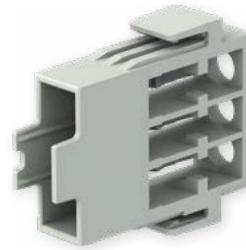
Contact carrier CTD-C3-3/...

3-pole contact carriers for 3 mm power contacts or 2 × 3 mm power contact and protective earth (PE) contacts.

Features:

- Tool-free insertion in frames
- Quick removal with standard flat screwdriver

- Railway-compliant material
- Vibration and shock resistance
- Coded carriers for correct polarity insertion
- PE version with marking

CTD-C3-3/S**CTD-C3-2+PE/S****CTD-C3-3/P****CTD-C3-2+PE/P**

Order No.	Type	Description
35.4031	CTD-C3-3/S	Socket carrier
35.4030	CTD-C3-3/P	Pin carrier
35.4035	CTD-C3-2+PE/S	Socket carrier with \oplus
35.4034	CTD-C3-2+PE/P	Pin carrier with \oplus

Technical data			
Number of poles	3		
Max. voltage RMS pin-to-pin and pin-to-GND ¹⁾	Pollution degree 1: 1000 V	Pollution degree 2: 600 V	Pollution degree 3: 250 V
Max voltage Line-to-Neutral for pins energized directly from mains supply ¹⁾	Overvoltage category I: 1000 V	Overvoltage category II: 600 V	Overvoltage category III: 300 V
Rated voltage UL	600 V		
Degree of protection (socket front)	IP2X		
Clearances and creepage distance	IEC 60664-1:2020 and UL 1977		
Limiting temperature (IEC 61984:2008), upper lower	+125 °C -40 °C		
Contact carrier material	PA		
Fire behavior	EN45545-2:2015 (HL2 R22)		
Grid unit in frame	3		

**Assembly instructions MA417**

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¹⁾ Voltage levels according to IEC 61984:2008 and IEC 60664-1:2020.



Ø 3 mm contacts

3 mm power contacts up to 31 A and protective earth (PE) contacts.

Features:

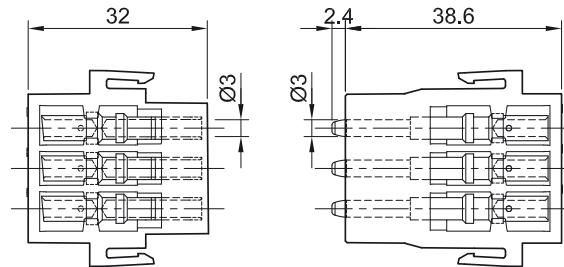
- Tool-free-insertion in carriers
- Quick removal with standard flat screwdriver
- Long pin PE version available

- Vibration and shock resistance
- Crimp termination (C) for Cu conductors (class 5 and 6) according to IEC 60228:2023

CTD-S3/2,5-4 AU



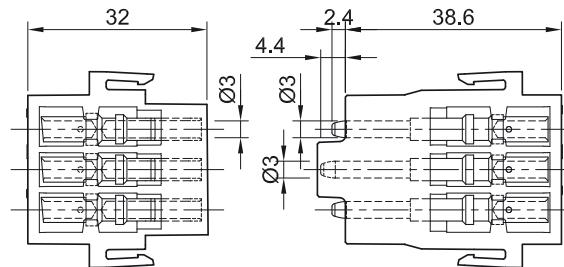
CTD-P3/2,5-4 AU



CTD-S3/2,5-4 AU



CTD-P3/2,5-4/PE AU



Order No.	Type	Socket	Pin	Sur-face	Conductor cross section		Rated current ^{1), 2)}	Type of termination
					mm ²	AWG	A	
35.0132	CTD-S3/2,5-4 AU	×			2.5	14	23	C
35.0532	CTD-P3/2,5-4 AU		×		4	12	31	
35.0534	CTD-P3/2,5-4/PE AU		×		2.5 4	14 12	— ³⁾	C

Technical data

Nominal-Ø socket/pin	3 mm
Average sliding force	3 N
Connector resistance	< 1.1 mΩ
Mating cycles	10,000
Vibrations and shock	IEC 61373:2010 Category 1B

¹⁾ IEC rated current for fully assembled frames size 4. Wires unbundled, free in air. See pages 69 – 72 for corresponding diagrams for multiple, bundled wires.

²⁾ Current rating for AWG cables can vary depending on cable manufacturer.

³⁾ Short circuit current 3s
2.5 mm²: 157 A
4 mm²: 252 A

Ø 1.5 MM SIGNAL UP TO 14 A

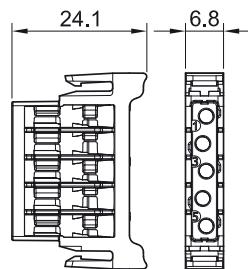
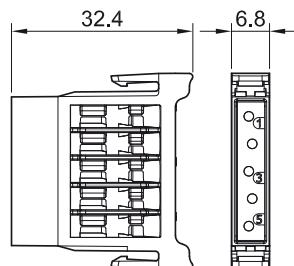
Contact carrier CTD-C1,5-5/...

5-pole contact carriers for 1.5 mm signal contacts.

Features:

- Tool-free insertion in frames
- Quick removal with standard flat screwdriver

- Railway-compliant material
- Vibration and shock resistance
- Coded carriers for correct polarity insertion

CTD-C1,5-5/S**CTD-C1,5-5/P**

Order No.	Type	Description	
35.4021	CTD-C1,5-5/S	Socket carrier	
35.4020	CTD-C1,5-5/P	Pin carrier	

Technical data

Number of poles	5		
Max. voltage RMS pin-to-pin and pin-to-GND ¹⁾	Pollution degree 1: 600 V	Pollution degree 2: 400 V	Pollution degree 3: 150 V
Max voltage Line-to-Neutral for pins energized directly from mains supply ¹⁾	Overvoltage category I: 600 V	Overvoltage category II: 300 V	Overvoltage category III: 150 V
Rated voltage UL	600 V		
Max. flow-soldering temperature/time	260 °C/3 s		
Degree of protection (socket front)	IP2X		
Clearances and creepage distance	IEC 60664-1:2020 and UL 1977		
Limiting temperature (IEC 61984:2008), upper lower	+125 °C -40 °C		
Contact carrier material	PA		
Fire behavior	EN45545-2:2015 (HL2 R22)		
Grid unit in frame	2		

**Assembly instructions MA417**

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¹⁾ Voltage levels according to IEC 61984:2008 and IEC 60664-1:2020.



Ø 1.5 mm contacts

1.5 mm signal contacts up to 14 A.

Features:

- Tool-free insertion in carriers
- Quick removal with standard flat screwdriver

- Resistance to shock and vibrations
- Crimp termination (C) for Cu conductors (class 5 and 6) according to IEC 60228:2023

CTD-S1,5/0,75-1,5 AU



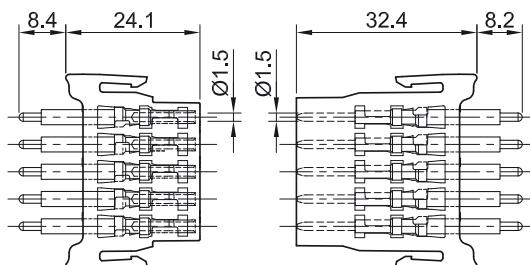
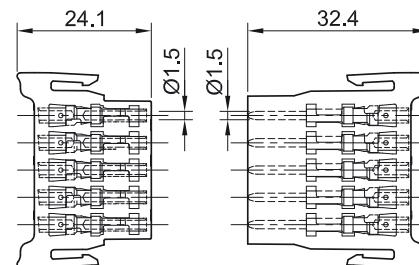
CTD-P1,5/0,75-1,5 AU



CTD-S1,5/PCB AU



CTD-P1,5/PCB AU



Order No.	Type	Socket	Pin	Sur-face	Conductor cross section		Rated current ^{1), 2)}	Type of termination
					mm ²	AWG	A	
35.0120	CTD-S1,5/0,75-1,5 AU	x	x		0.75	18	8	
	CTD-P1,5/0,75-1,5 AU				1.0	18	10	
					1.5	16	14	
35.0121	CTD-S1,5/PCB AU	x	x				14	
	CTD-P1,5/PCB AU							

Technical data

Nominal-Ø socket/pin	1.5 mm
Average sliding force	3 N
Connector resistance	< 2 mΩ
Mating cycles	10,000
Vibrations and shock	IEC 61373:2010 Category 1B

¹⁾ IEC rated current for fully assembled frames size 4. Wires unbundled, free in air. See pages 69 – 72 for corresponding diagrams for multiple, bundled wires.

²⁾ Current rating for AWG cables can vary depending on cable manufacturer.

Ø 1 MM SIGNAL UP TO 5 A

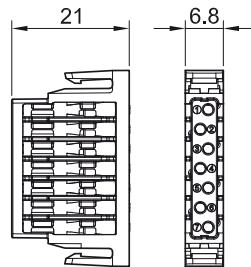
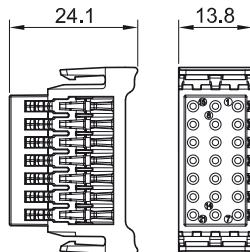
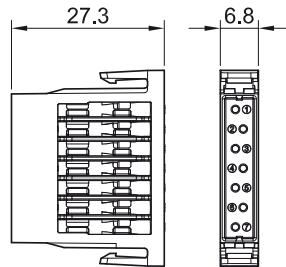
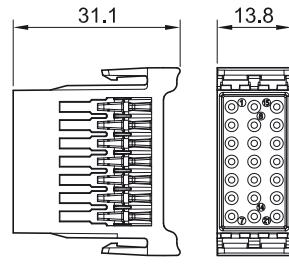
Contact carrier CTD-C1...

7- or 21-pole contact carriers for 1 mm signal contacts.

Features:

- Tool-free insertion in frames
- Quick removal with standard flat screwdriver

- Railway-compliant material
- Vibration and shock resistance
- Coded carriers for correct polarity insertion

CTD-C1-7/S**CTD-C1-21/S****CTD-C1-7/P****CTD-C1-21/P**

Order No.	Type	Description
35.4011	CTD-C1-7/S	Socket carrier
35.4010	CTD-C1-7/P	Pin carrier
35.4013	CTD-C1-21/S	Socket carrier
35.4012	CTD-C1-21/P	Pin carrier

Technical data			
Number of poles	7 or 21		
Max. voltage RMS pin-to-pin and pin-to-GND ¹⁾	Pollution degree 1: 600 V	Pollution degree 2: 400 V	Pollution degree 3: 150 V
Max voltage Line-to-Neutral for pins energized directly from mains supply ¹⁾	Overvoltage category I: 600 V	Overvoltage category II: 300 V	Overvoltage category III: 150 V
Rated voltage UL	600 V		
Max. flow-soldering temperature/time	260 °C/3 s		
Degree of protection (socket front)	IP2X		
Clearances and creepage distance	IEC 60664-1:2020 and UL 1977		
Limiting temperature (IEC 61984:2008), upper lower	+125 °C -40 °C		
Contact carrier material	PA		
Fire behavior	EN45545-2:2015 (HL2 R22)		
Grid unit in frame	2 for 7 poles or 4 for 21 poles		

**Assembly instructions MA417**

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¹⁾ Voltage levels according to IEC 61984:2008 and IEC 60664-1:2020.



Ø 1 mm contacts

1 mm signal contacts up to 5 A.

Features:

- Tool-free insertion in carriers
- Quick removal with standard flat screwdriver

- Resistance to shock and vibrations
- Crimp termination (C) for Cu conductors (class 5 and 6) according to IEC 60228:2023

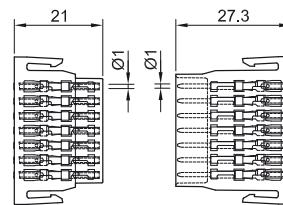
CTD-S1/... AU



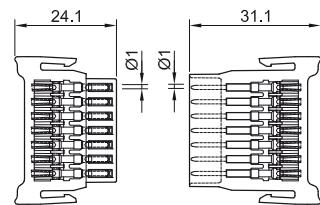
CTD-P1/... AU



CTD-C1-7/...



CTD-C1-21/...



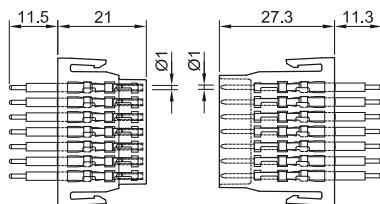
CTD-S1/PCB AU



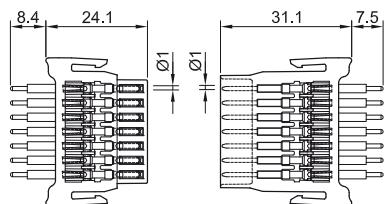
CTD-P1/PCB AU



CTD-C1-7/...



CTD-C1-21/...



Order No.	Type	Socket	Pin	Sur-face	Conductor cross section		Rated current ^{1), 2)}	Type of termination
					mm ²	AWG	A	
35.0110	CTD-S1/0,14-0,25 AU	×			0.14	26	2	C
35.0510	CTD-P1/0,14-0,25 AU		×		0.25	24	3	
35.0111	CTD-S1/0,25-0,75 AU	×			0.25	24	3	C
35.0511	CTD-P1/0,25-0,75 AU		×		0.5	20	4	
					0.75	18	5	
35.0114 ³⁾	CTD-S1/PCB AU	×						PCB
35.0514 ³⁾	CTD-P1/PCB AU		×				5	

Technical data

Nominal-Ø socket/pin	1 mm
Average sliding force	1 N
Connector resistance	< 3 mΩ
Mating cycles	10,000
Vibrations and shock	IEC 61373:2010 Category 1B

¹⁾ IEC rated current for fully assembled frames size 4. Wires unbundled, free in air. See pages 69 – 72 for corresponding diagrams for multiple, bundled wires.

²⁾ Current rating for AWG cables can vary depending on cable manufacturer.

³⁾ PCB contacts can also be used in LMFB contact carriers.

LAST MATE FIRST BREAK MODULE

Module CTD-LMFB-...

Last Mate First Break (LMFB) contacts are intended for monitoring purposes, and show whether a CombiTac is fully connected or not. Each CombiTac LMFB module consists of two LMFB contacts.

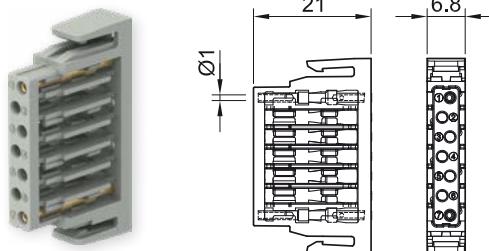
Suitable for panel mount and housing applications.

Note:

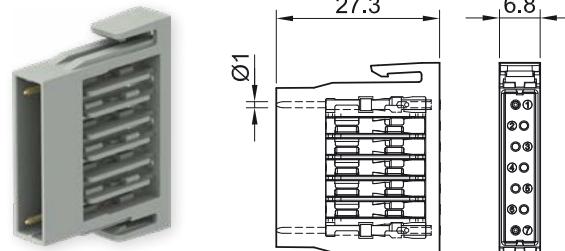
- Size 1 frames require one LMFB module, which can be placed in any position in the frame.

- Size 2 – 4 frames require two LMFB modules which are positioned at the edge positions of the frame. The outermost corner positions are dedicated for LMFB contacts, empty carrier slots may be used with 1 mm signal contacts (page 23).

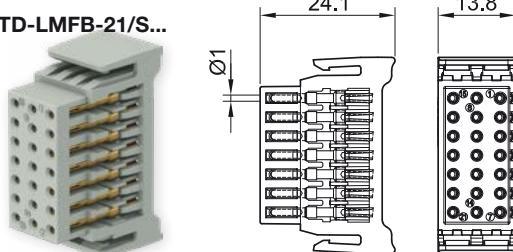
CTD-LMFB-S...



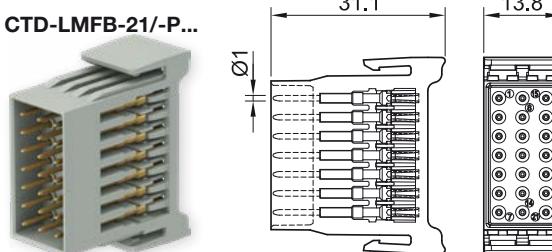
CTD-LMFB-P...



CTD-LMFB-21/S...



CTD-LMFB-21/-P...



Order No.	Type	Description
35.4017	CTD-LMFB-S/0,14-0,25	Socket module
35.4016	CTD-LMFB-P/0,14-0,25	Pin module
35.4019	CTD-LMFB-S/0,25-0,75	Socket module
35.4018	CTD-LMFB-P/0,25-0,75	Pin module
35.4025	CTD-LMFB-21/S/0,14-0,25	Socket module
35.4024	CTD-LMFB-21/P/0,14-0,25	Pin module
35.4027	CTD-LMFB-21/S/0,25-0,75	Socket module
35.4026	CTD-LMFB-21/P/0,25-0,75	Pin module

Technical data

Number of poles	7 poles with 2 LMFB contacts or 21 poles with 2 LMFB and 19 standard Ø 1 mm contacts
Limiting temperature (IEC 61984:2008), upper lower	+125 °C -40 °C
Contact carrier material	PA
Fire behavior	EN45545-2:2015 (HL2 R22)
Grid unit in frame	2 for 7 poles or 4 for 21 poles



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E229145

Last Mate First Break contacts CTD-LMFB...

To be used with contact carrier CTD-C1-7/... for monitoring the connection status of electrical contacts Ø 3 mm – Ø 10 mm. The LMFB modules are delivered including contacts. Please note the information on the previous page.

Features:

- Tool-free insertion in carriers
- Quick removal with standard flat screwdriver

- Vibration and shock resistance
- Crimp termination (C) for Cu conductors (class 5 and 6) according to IEC 60228:2023

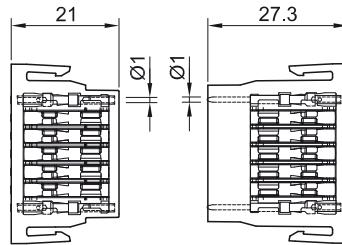
CTD-LMFB-S...



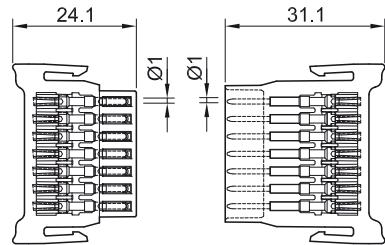
CTD-LMFB-P...

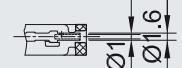
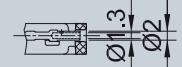


CTD-LMFB-...



CTD-LMFB-21/...



Order No.	Type	Socket	Pin	Sur- face	Conductor cross section	AWG	Type of termination
35.0112	CTD-LMFB-S1/0,14-0,25 AU	×			0,14	26	C
35.0512	CTD-LMFB-P1/0,14-0,25 AU		×		0,25	24	
35.0113	CTD-LMFB-S1/0,25-0,75 AU	×			0,25	24	C
35.0513	CTD-LMFB-P1/0,25-0,75 AU		×		0,5 0,75	20 18	

Technical data

Rated voltage/system voltage	U _{DC} 29,5 V
Max. signal current	100 mA
Nominal-Ø socket/pin	1 mm
Average sliding force	1 N
Connector resistance	< 3 mΩ
Mating cycles	10,000
Vibration and shock resistance	IEC 61373:2010 Category 1B

Note:

When using empty slots with Ø 1 mm Signal contacts, the technical specifications of carriers and contacts apply; see pages 22 – 23.

DATA MODULES

1 Gbit module CTD-1GBIT AG AU

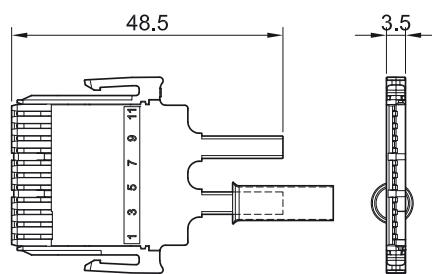
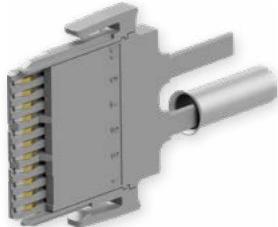
The new 1 Gbit data module with IDC terminals provides Ethernet communication up to 1 Gbit/s (with Cat5e cable or better) in a very small size, width of only 3.5 mm.

The module can also be used to carry signal with current up to 400 mA.

Features:

- Up to 10,000 mating cycles
- Ultra slim design
- Same part as plug and socket
- Contacts already assembled
- Fast insertion into the frame
- Competitive design for high volume applications

- Up to 1 Gbit and more depending on cable type and cable length
- Quick removal of carriers with standard flat screwdriver
- Applications: data communication, machine-to-machine communication (M2M), real time facility data sharing
- Can be used as signal contacts module with high contact density

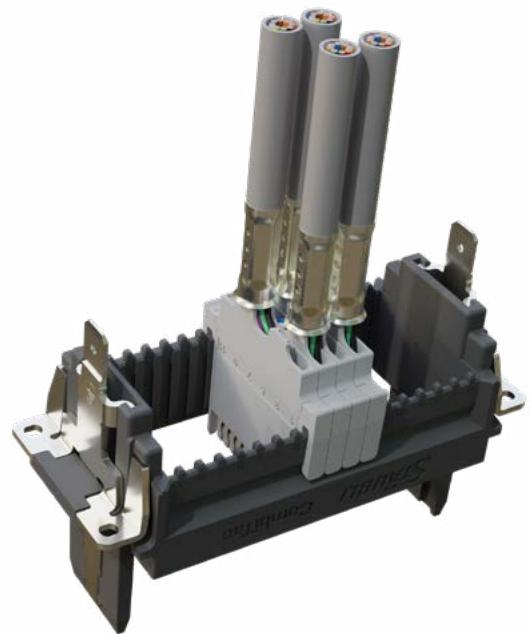
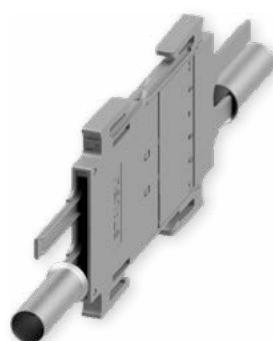
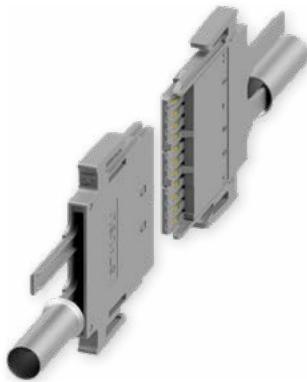
CTD-1GBIT NI AU

Order No.	Type
35.4005	CTD-1GBIT AG AU

Technical data

Data transmission	Ethernet up to 1 Gbit/s (with Cat5e cable or better) ¹⁾ Protocols with partly lower data rates, depending on the cable type: Profibus, Profinet, Interbus, CAN-BUS, USB 2.0, PoE ²⁾
Mating cycles	Up to 10,000
Limiting temperature (IEC 61984:2008), upper lower	+125 °C -40 °C
Contact carrier material	PA
Fire behavior	EN45545-2:2015 (HL2 R22)
Grid unit in frame	1
Number of poles	11
Average sliding force (for full connection)	22 N
Connector resistance per contact	10 mΩ
Max. outer diameter cable	6 mm
Max. operating voltage	50 V
Max. current	400 mA
Pollution degree	1 and 2
Conductor cross section	0.14 mm ² – 0.34 mm ² (26 AWG – 22 AWG)
Vibration and shock resistance	IEC 61373:2010 Category 1B

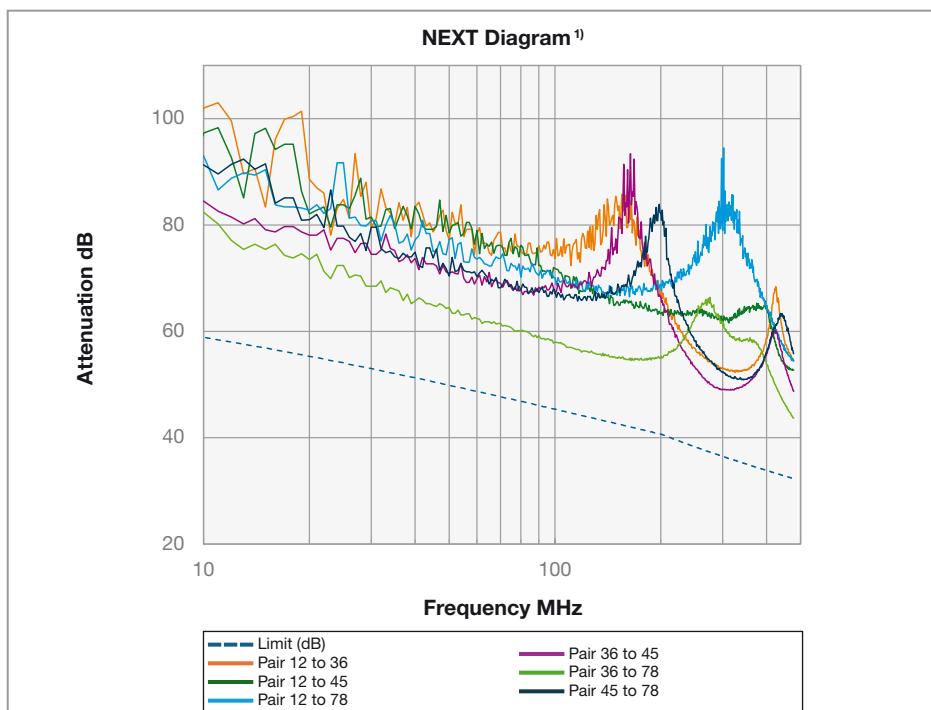
As the contacts are already assembled in the carrier the customer can terminate his cable to the module in a very fast and efficient way, needing only one crimp tool.



Same part on both male and female sides.

Alternating sides of cable entry must be used when multiple modules are assembled in a row.

Attenuation characteristics for CTD-1GBIT AG AU



Assembly instructions MA417-1

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¹⁾ Further technical specifications:
<https://www.staubli.com/global/en/electrical-connectors/downloads/technical-info.html>

²⁾ According to the IEC 60512-99-001 (2000 mating cycles)

1 Gbit module CTD-NET...

This data module is part of the CombiTac direct rectangular modular connector system. 1 Gbit crimp data modules are used, among other things, for Ethernet communication up to 1 Gbit/s (CAT5e or higher).

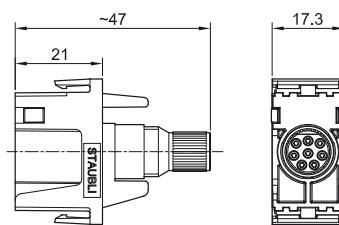
Features:

- 10,000 mating cycles
- Up to 1 Gbit/s depending on cable type
- Tool-free insertion in frames
- Quick removal of carriers with standard

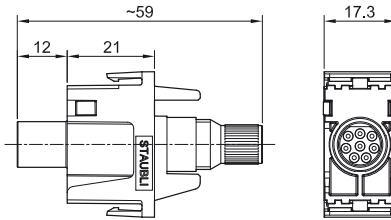
flat screwdriver

- Applications: data communication, machine-to-machine communication (M2M), real time facility data sharing

CTD-NET-1/S



CTD-NET-1/P



CTD-RC-UDM-NET



Order No.	Type	Number of contacts
35.4151	CTD-NET-1/S	Contacts not included in carrier.
35.4150	CTD-NET-1/P	Selection of number of contacts and contact arrangement depending on application (see next page).
35.4143	CTD-RC-UDM-NET	Retaining clip (included in carrier)

Technical data

Data transmission	Ethernet up to 1 Gbit/s (Cat5e or higher) ¹⁾ Protocols with lower data rates in some cases, depending on the cable type: Profibus, Profinet, Interbus, CAN-BUS, USB 2.0, PoE ²⁾
Mating cycles	10,000
Limiting temperature (IEC 61984:2008), upper lower	+125 °C -40 °C
Contact carrier material Insulation	PA PEEK
Fire behavior	EN45545-2:2015 (HL2 R22)
Grid unit in frame	5



Assembly instructions MA417-1

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¹⁾ Further technical specifications:
<https://www.staubli.com/global/en/electrical-connectors/downloads/technical-info.html>

²⁾ According to the IEC 60512-99-001 (100 mating cycles)

Contacts for data transfer CTD-NET...

For contact carrier CTD-NET... Sockets fitted with MULTILAM.

Features:

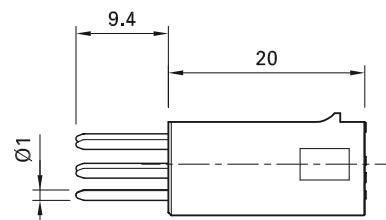
- Tool-free insertion in frames
- Quick removal of contacts with extraction tool

- Crimp termination (C) to a Cu conductor (class 5 and 6)

CT-NET-B...



CT-NET-S...



Order No.	Type	Socket	Pin	Surface	Conductor cross section		Rated current	Type of termination
					mm ²	AWG	A	
33.0148	CT-NET-BP1 ET/0,14-0,75 AU	×			0.14 0.25 0.34	26 24 22	1 2 3	C
33.0548	CT-NET-SP1/0,14-0,75 AU		×		0.5 ¹⁾ 0.75 ¹⁾	20 18	3 5	
33.9589	CT-NET-BS ²⁾	Blind plug						
33.3048	CT-NET-AWZ	Extraction tool						

Technical data

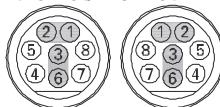
Nominal-Ø socket/pin	Ø 1 mm
Average sliding force per connection (8 pins and shield)	10.5 N
Connector resistance	1.8 mΩ
Max. outer diameter per wire	2.3 mm
Maximum outer diameter over the whole cable with special nut CT-NET-MU.PFB; Order No. 13009834 and pliers CT-NET-Z-PFB; Order No. 13009832	7.5 mm 8.5 mm

Contact arrangement of the contact carrier

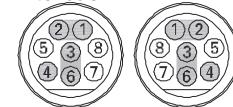
Left: socket side; right: pin side
(Viewed from the termination side)

CAT5

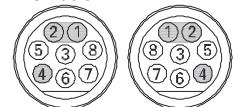
Ethernet/Profinet



Interbus



Profibus

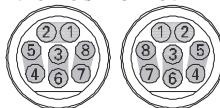


¹⁾ Maximal four wires per connector

²⁾ Unused contact slots should be closed with blind plugs.

CAT5e

Ethernet/Profinet



Assembly instructions MA417-1

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1 Gbit module CTD-RJ45...

1 Gbit RJ45 data modules are used for Ethernet communication up to 1 Gbit/s (CAT5e or higher). Suitable network cables with a RJ45 connectors can be directly connected to the module. The 1 Gbit RJ45 module is delivered completely assembled.

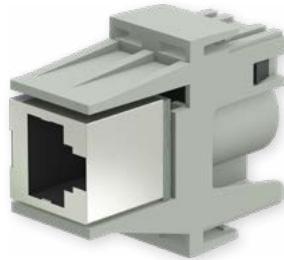
Features:

- 10,000 mating cycles
- Up to 1 Gbit/s depending on cable type
- Vibration and shock resistance
- Quick removal of carriers with standard

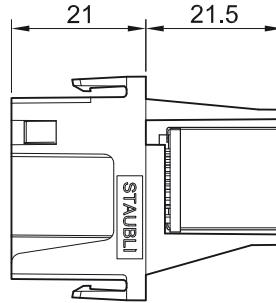
flat screwdriver

- Applications: data communication, machine-to-machine communication (M2M), real time facility data sharing

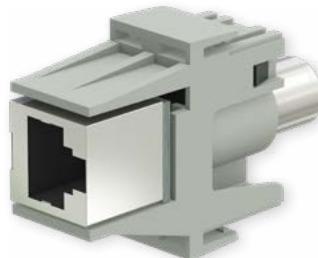
CTD-RJ45-1/S



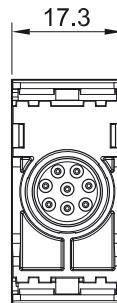
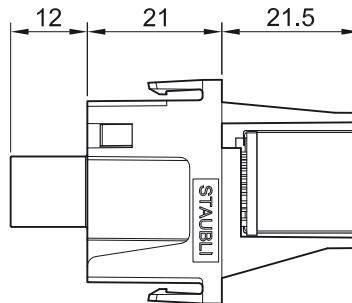
View from rear view



CT-RJ45-1/P



View from rear view



CTD-RC-UDM-RJ45

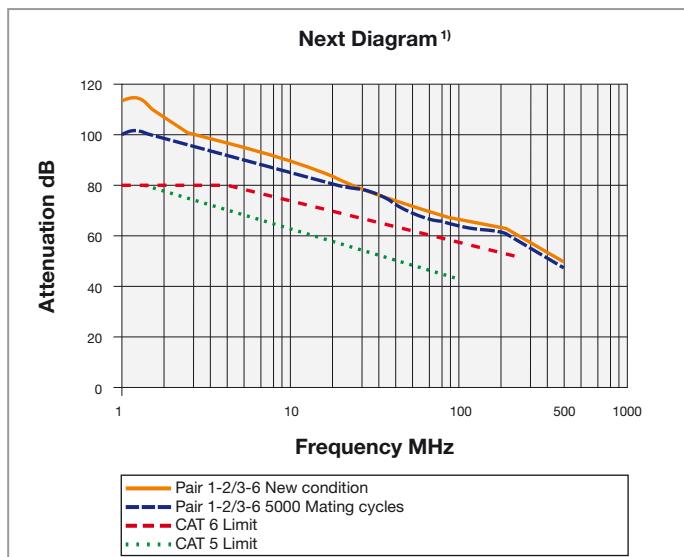


Order No.	Type	
35.4161	CTD-RJ45-1/S	Complete RJ45 carrier with connector Socket Side
35.4160	CTD-RJ45-1/P	Complete RJ45 carrier with connector Pin Side
35.4142	CTD-RC-UDM-RJ45	Retaining clip (included in carrier)

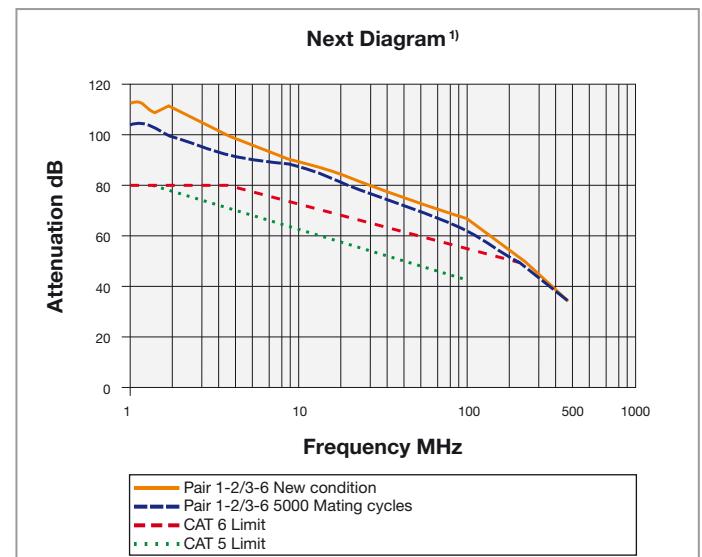
Technical data

Data transmission	Ethernet up to 1 Gbit/s (Cat5e or higher) ¹⁾ Protocols with lower data rates in some cases, depending on the cable type: Profibus, Profinet, Interbus, CAN-BUS, USB 2.0, PoE ²⁾
Mating cycles	10,000
Average sliding force	9.5 N
Limiting temperature (IEC 61984:2008), upper lower	+125 °C -40 °C
Contact carrier material	PA
Insulation	PEEK
Fire behavior	EN45545-2:2015 (HL2 R22)
Vibration and shock resistance	IEC 61373:2010 Category 1B
Grid unit in frame	5

Attenuation characteristics for CTD-NET...



Attenuation characteristics for CTD-RJ45...



Assembly instructions MA417-1

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¹⁾ Further technical specifications:
<https://www.staubli.com/global/en/electrical-connectors/downloads/technical-info.html>

²⁾ According to the IEC 60512-99-001 (100 mating cycles)

COAXIAL UNIT 6 GHZ

Contact carrier

The Coaxial units are used for data as well as digital audio and video transmission.

Two types of termination are possible, crimp and SMA.

A crimp version is available for RG316/U cable types which is also suitable for RG174 and RG188 cable.

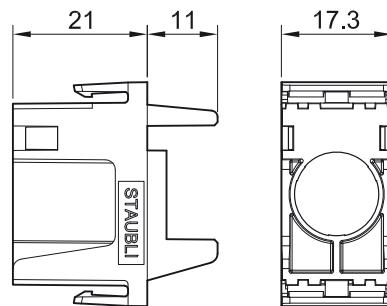
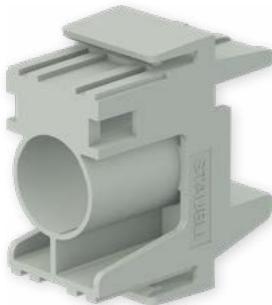
An SMA termination version allows the connection of various cable types up to 6 GHz levels.

Features:

- Suitable for various 50 Ω RG cable types up to 6 GHz (depending on RG cable type)
- Crimp for RG58 cables up to 2.4 GHz
- Crimp for RG316/U, RG174, RG188 cables up to 2.4 GHz
- SMA up to 6 GHz
- Vibration and shock resistance

- Tool-free insertion in frames
- Quick removal of carriers with standard flat screwdriver
- Applications: data transmission, digital audio and video, HF measurement, radio communication.

CTD-CUDM-SH



CTD-RC-UDM-COAX



Order No.	Type	Designation
35.4139	CTD-CUDM-SH	One pole coax carrier
35.4141	CTD-RC-UDM-COAX	Retaining clip (one retaining clip is required per carrier); not included

Technical data

Number of poles	1
For connectors	Coaxial crimp and SMA
Limiting temperature (IEC 61984:2008), upper lower	+125 °C -40 °C
Contact carrier material	PA
Fire behavior	EN45545-2:2015 (HL2 R22)
Grid unit in frame	5

Coaxial connectors

For contact carrier CTD-CUDM.

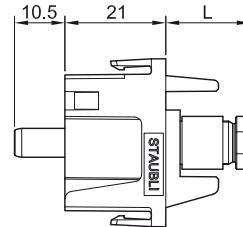
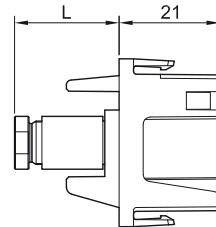
Type of termination:

- Crimp termination (C)
- SMA Termination (SMA)

CT-B-COAX-RG316/U



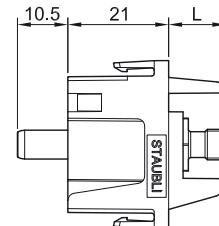
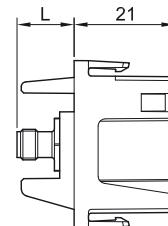
CT-S-COAX-RG316/U



CT-B-COAX-SMA



CT-S-COAX-SMA



Order No.	Type	Socket	Pin	Suitable for cable types	Type of termination
33.0230	CT-B-COAX-RG316/U	×		RG316/U, RG174, RG188	C
33.0630	CT-S-COAX-RG316/U		×		
33.0231	CT-B-COAX-RG58	×		RG58	C
33.0631	CT-S-COAX-RG58		×		
33.0250	CT-B-COAX-SMA	×		RG58, RG316/U, RG174, RG188, other 50 Ω RG cable types up to 6 GHz	SMA
33.0750	CT-S-COAX-SMA		×		

Technical data

Average sliding force per contact	8 N
Surface, Inner conductor Shield	Au Ag
Max. frequency	Crimp: 2.4 GHz SMA: 6 GHz
Voltage standing wave ratio (VSWR)	Crimp: 1.4 at 2.4 GHz SMA: 1.3 at 6 GHz
Pollution degree/overvoltage category	2/CAT II
Rated voltage IEC 60664-1	300 V
Rated voltage UL	250 V
Rated current	250 mA
Impedance	50 Ω
Mating cycles	10,000
Vibrations and shock	IEC 61373:2010 category 1B
Degree of protection (socket front)	IP2X



Assembly instructions MA417-1

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COAXIAL UNIT 1.5 GHZ

Contact carrier

This coaxial unit is used for data as well as digital audio and video transmission.

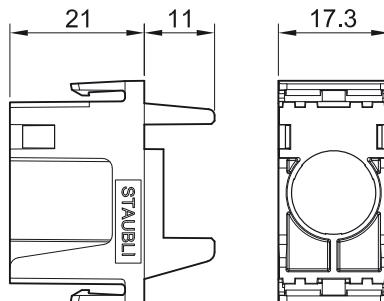
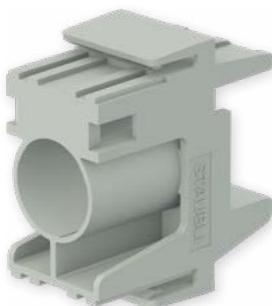
This coaxial module is designed for RG58 type cables for applications up to 1.5 GHz.

Features:

- Suitable for various 50 Ω RG cable types
- Crimp for RG58 cables up to 1.5 GHz
- Vibration and shock resistance
- Tool-free insertion in frames

- Quick removal of carriers with standard flat screwdriver
- Applications: data transmission, digital audio and video, HF measurement, radio communication.

CTD-CUDM-SH



CTD-RC-UDM-RJ45



Order No.	Type	Designation
35.4139	CTD-CUDM-SH	One pole coax carrier
35.4142	CTD-RC-UDM-RJ45	Retaining clip (one retaining clip is required per carrier); not included

Technical data

Number of poles	1
For connectors	Coaxial crimp
Limiting temperature (IEC 61984:2008), upper lower	+125 °C -40 °C
Contact carrier material	PA
Fire behavior	EN45545-2:2015 (HL2 R22)
Grid unit in frame	5

Coaxial connectors

For contact carrier CTD-CUDM-SH.

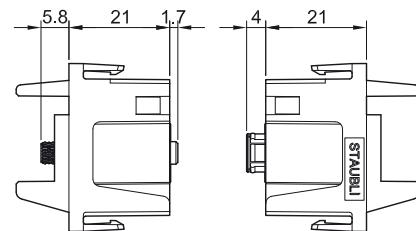
Type of termination:

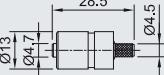
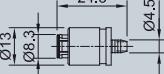
- Crimp termination (C)

CTD-S/COAX58



CTD-P/COAX58



Order No.	Type	Socket	Pin	Suitable for cable types	Type of termination
35.0158	CTD-S/COAX58	×		RG58	C  
35.0558	CTD-P/COAX58		×	RG58	C  

Technical data

Average sliding force per contact	20 N
Surface, Inner conductor Shield	Au Ni
Max. frequency	1.5 GHz
Voltage standing wave ratio (VSWR)	≤1.25 at f < 1.5 GHz
Pollution degree/overvoltage category	2/CAT II
Rated voltage acc. to IEC 61010	300 V
Rated current	1 A
Impedance	50 Ω
Mating cycles	acc. to IEC 61984: 5000
Degree of protection (socket front)	IP2X
acc. to IEC 61169-8: 1000	



Assembly instructions MA417-1

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PNEUMATIC UNIT 4 MM AND 6 MM

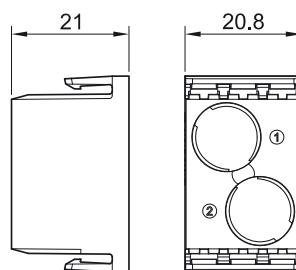
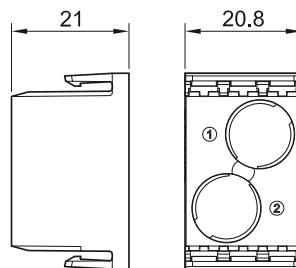
Contact carrier CTD-CP-2/...

2-pole contact carriers for pneumatic couplings.

Features:

- Tool-free insertion in frames
- Quick removal with standard flat screwdriver

- Railway-compliant material
- Vibration and shock resistance
- Coded carriers for correct polarity insertion

CTD-CP-2/S**CTD-CP-2/P**

Order No.	Type	Description
35.4121	CTD-CP-2/S	Socket carrier
35.4120	CTD-CP-2/P	Pin carrier

Technical data

Number of poles	2
Contact carrier material	PA
Fire behavior	EN45545-2:2015 (HL2 R22)
Grid unit in frame	6

**Assembly instructions MA417**

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Compressed air and vacuum modules

4 mm and 6 mm pneumatic couplings.

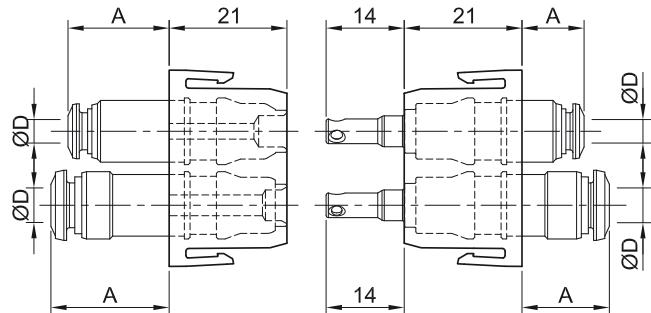
Features:

- With or without shut-off valve
- The connections are pre-assembled in the carrier and cannot be removed.

CT-B...-RCT03/...



CT-S...-RCT03/...



							Shut-off		
Order No.	Type	Socket	Plug	Outer-Ø D of the tube		A	without	with	Press ring color
				mm	"	mm	←	→	
33.0180	CT-B-RCT03/4	×		4	($\frac{5}{32}$)	14	×		●
33.0181	CT-BV-RCT03/4	×		4	($\frac{5}{32}$)	14		×	○
33.0580	CT-S-RCT03/4		×	4	($\frac{5}{32}$)	7	×		●
33.0182	CT-B-RCT03/6 ¹⁾	×		6		17	×		●
33.0183	CT-BV-RCT03/6 ¹⁾	×		6		17		×	○
33.0582	CT-S-RCT03/6 ¹⁾		×	6		11.5	×		●

Technical data

Nominal bore (mm)	03
Max. working pressure (bar)	15
Min. working pressure (mbar)	14
Operating temperatures	-15 °C ... +90 °C
Sealing materials	NBR
Mating cycles	10,000

¹⁾ For flow, head loss diagrams, and sliding forces, see page 73.

SINGLE PARTS

Spacers

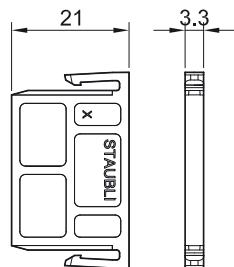
Dips for filling up empty frame spaces.

Features:

- Tool-free insertion in frames
- Quick removal with standard flat screwdriver

- Railway-compliant material
- Vibration and shock resistance

CTD-DIP3,5



Order No.	Type
35.4135	CTD-DIP3,5

Technical data

Contact carrier material	PA
Fire behavior	EN45545-2:2015 (HL2 R22)
Vibrations and shock	IEC 61373:2010 Category 1B
Grid unit in frame	1



E229145

Frames

4 types of frames for housings or panel mount applications.

Features:

- Coded frames for correct polarity during connection (male/female)
- Coded frames for correct polarity carrier insertion

- Grounding connection up to 6 mm² earth conductors
- Type of termination: Flat connector termination 6.3 mm x 0.8 mm
- Numbered frames for position identification
- Float mounting panel mount frames for +/- 1 mm misalignment absorption

Panel mounted

CTD-FP.../S



Housing assembly

CTD-FH.../S



Panel mounted		Housing assembly		Description	No. of grid units in frame
Order No.	Type	Order No.	Type		
35.4291	CTD-FP1/S	35.4221	CTD-FH1/S	Assembled frame socket side	7
35.4281	CTD-FP1/P	35.4201	CTD-FH1/P	Assembled frame plug side	
35.4292	CTD-FP2/S	35.4222	CTD-FH2/S	Assembled frame socket side	11
35.4282	CTD-FP2/P	35.4202	CTD-FH2/P	Assembled frame plug side	
35.4293	CTD-FP3/S	35.4223	CTD-FH3/S	Assembled frame socket side	17
35.4283	CTD-FP3/P	35.4203	CTD-FH3/P	Assembled frame plug side	
35.4294	CTD-FP4/S	35.4224	CTD-FH4/S	Assembled frame socket side	24
35.4284	CTD-FP4/P	35.4204	CTD-FH4/P	Assembled frame plug side	

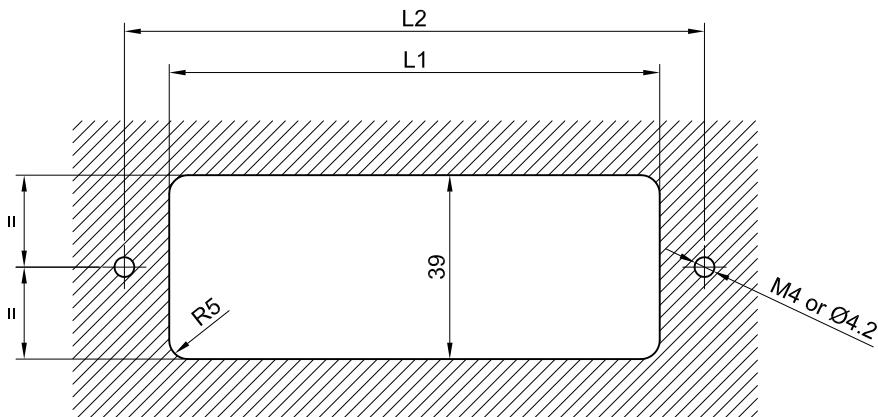
Technical data

Contact carrier material	PA
Fire behavior	EN45545-2:2015 (HL2 R22)
Vibrations and shock	IEC 61373:2010 Category 1B

CALCULATION OF INSTALLATION DIMENSIONS

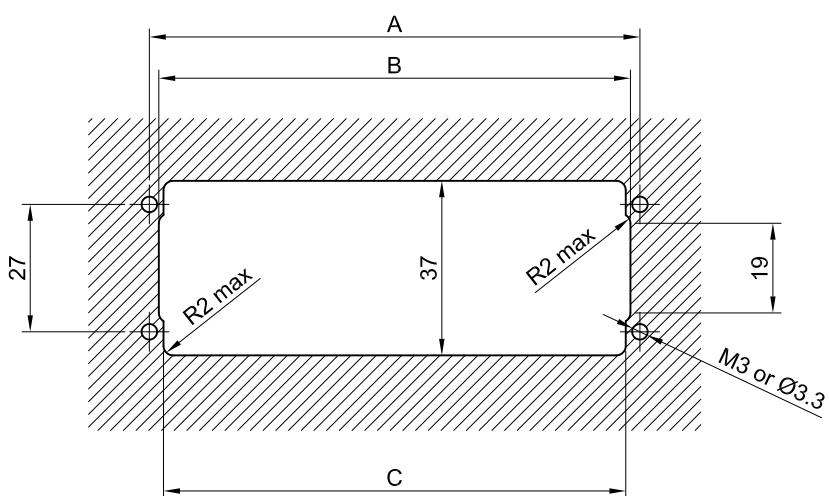
Drilling plan

for frame panel mounting



Size	Frame size (mm)			
	1	2	3	4
L1	44	57	78	104
L2	63	76	97	123

for frame housing assembly

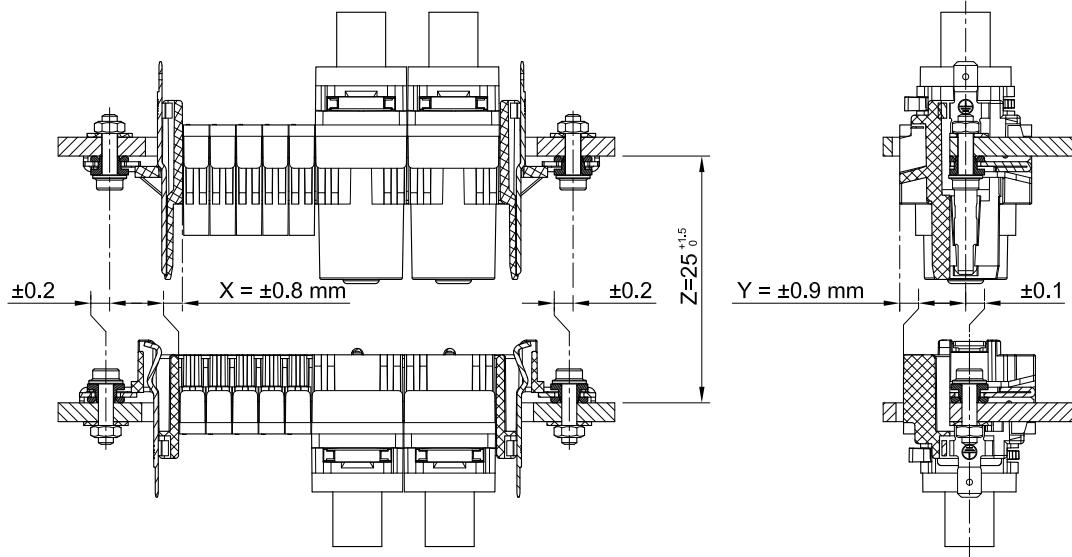


Size	Frame size (mm)			
	1	2	3	4
A	44	57	78	104
B	40	53	74	100
C	38	51	72	98

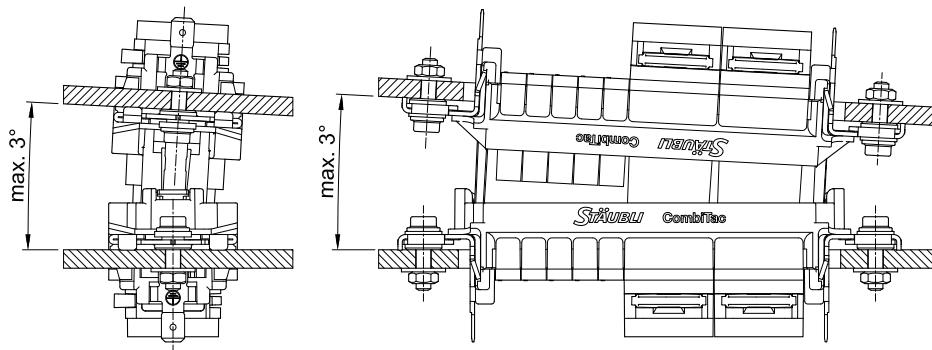
PANEL MOUNTING

Panel mounting

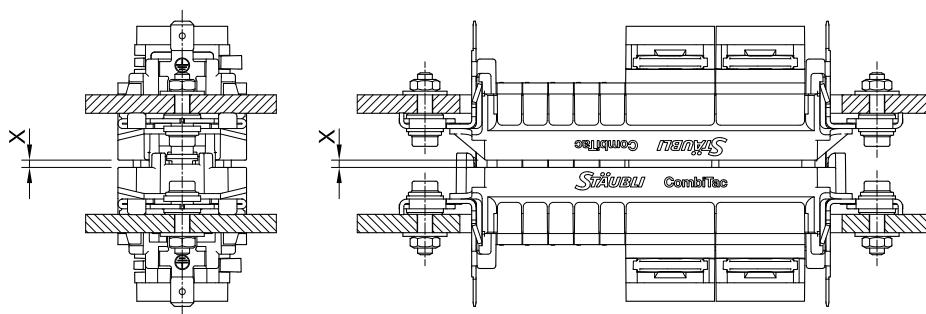
Max. permissible mounting offset



Max. permissible mounting angular misalignment during mating



Max. permissible distance between the contact carriers when mated



Contacts	Sizes X
	max. mm
CTD 10	6
CTD 7	6
CTD 3	6
CTD 1,5	3
CTD 1	2
RCT03	1.5

DIN ALUMINUM HOUSINGS IP65/67

Standard housings

Aluminum housings are designed to serve general industrial, healthcare and railway applications. Both standard and space saving locking systems are available. Available in grey and white color depending on size. Other colors available upon request. Housings with cable entries available in other sizes and numbers on request.

Features depending on type (see table page 43 for details):

- Up to 10,000 mating cycles
- IP65 and IP67 in mated condition
- 6 coding possibilities
- Quick and easy replacement of sealing
- Vibration and shock resistance
- IP2X during connecting/disconnecting process when using protective walls
- Ergonomic locking mechanism
- Space saving locking available to save space when placing a high number of housings next to each other

Benefits:

- Minimum service costs
- Added user safety
- Low maintenance costs
- Reliable solution
- Easy handling

Coupler hoods/Surface and pedestal mount housings



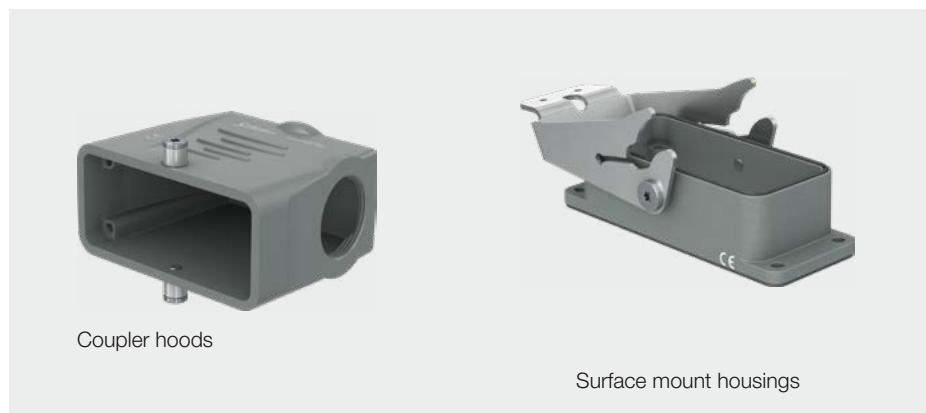
Coupler hoods

Can be used with a surface or pedestal mount housing. Available with side or top cable entry, with or without protective wall.

Surface and pedestal mount housings

Both types are used with coupler hoods. The choice of mount housing depends on the cable entry type. Available with or without protective wall or cover.

Coupler hoods and surface housings with space saving locking



Coupler hoods

Can be used with a surface mount housing. Available with side or top cable entry.

Surface mount housings

Used with coupler hoods.

Accessories



Park stations

- For parking coupler hoods when not in use

Replacement seals (depending on type)

- Available upon request

Technical data DIN housings

Technical data	
Housing material	Aluminum
Seal material	NBR
Locking mechanism material	Stainless steel
Vibrations and shock	IEC 61373:2010 Category 1B

Comparison chart of the different housings

Size	IP65	IP67	Mating cycles	Color	Limiting temperature ²⁾	Vibration and shock resistance	Replaceable seal
1	x		5,000	Grey RAL9006	-40 °C to +90 °C	IEC 62847:2016	
2	x	x	10,000	Grey RAL7012 White RAL9003	-40 °C to +125 °C short-term operation -40 °C to +90 °C continuous operation	x	x
3	x	x	10,000	Grey RAL7012 White RAL9003	-40 °C to +125 °C short-term operation -40 °C to +90 °C continuous operation	x	x
4	x	x	10,000	Grey RAL7012 White RAL9003	-40 °C to +125 °C short-term operation -40 °C to +90 °C continuous operation	x	x
5	x		5,000	Grey RAL9006	-40 °C to +90 °C		
6	x		5,000	Grey RAL9006	-40 °C to +90 °C		

¹⁾ Follow maintenance instructions according to MA213

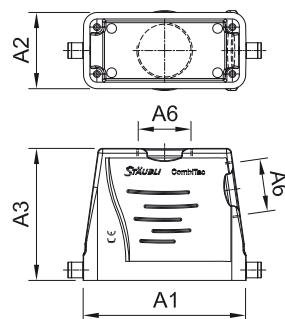
²⁾ Maximum temperature permitted on the surface of the housing

Coupler hood

Coupler hoods can be combined with surface or pedestal mount housing. Available with side or top cable entry.

Note for sizes 2, 3, 4:

For white housing please add the color code number 29, e.g. 33.2402-**29**. Other colors available upon request.

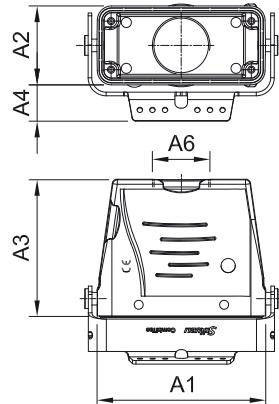


Size	Order No.	Type	IP65	IP67	Cable entry		Sizes (mm)				Standard color
1	33.1551	CT-CH1-S	×		×		60	43	72	M32	
	33.1571	CT-CH1-T	×			×					
2	33.2402	CT-CH2-S	×	×	×		73.8	43.9	70	M32	29
	33.2362	CT-CH2-T	×	×		×					
3	33.2403	CT-CH3-S	×	×	×		93.8	43.9	76	M32	29
	33.2363	CT-CH3-T	×	×		×					
4	33.2404	CT-CH4-S	×	×	×		120.4	43.9	78	M32	29
	33.2364	CT-CH4-T	×	×		×					
5	33.0365	CT-CH5-S	×		×		94	82.5	79	M40	
	33.0355	CT-CH5-T	×			×					
6	33.0366	CT-CH6-S	×		×		132	90	94	M50	
	33.0356	CT-CH6-T	×			×					

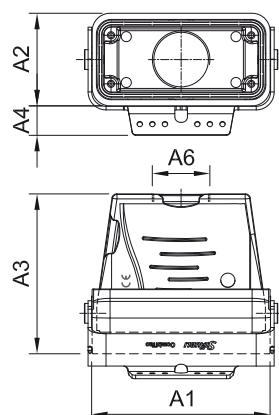
Coupler housing

Coupler housings can be combined with coupler hoods. Available with top cable entry.

CT-CHG...-T



CT-CHG...-T/PW



Size	Order No.	Type	IP65	IP67	Cable entry	Protective wall	Sizes (mm)					Standard color
					Top		A1	A2	A3	A4	A6	
1	33.1501	CT-CHG1-T	x		x		60	43	75	20	M32	
2	33.5082	CT-CHG2-T	x	x	x		73.8	43.9	70	33.4	M32	29
	33.5092	CT-CHG2-T/PW	x	x			78.5	51.5	82.9	29.6		
3	33.5083	CT-CHG3-T	x	x	x		93.8	43.9	76	33.4	M32	29
	33.5093	CT-CHG3-T/PW	x	x		x	99	51.5	88.9	29.6		
4	33.5084	CT-CHG4-T	x	x	x		120.4	43.9	78	33.4	M32	29
	33.5094	CT-CHG4-T/PW	x	x		x	125.2	51.5	90.9	29.6		
5	33.0415	CT-CHG5-T	x		x		95	83.5	82.5	33	M40	



Assembly instructions MA213

www.staubli.com/electrical

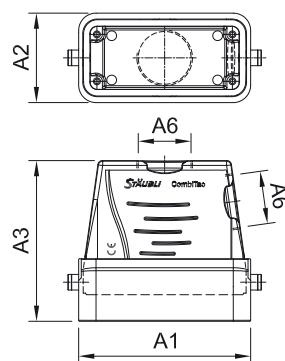
Coupler hood with protective wall, IP2X

Coupler hoods with protective walls offer additional damage protection to contacts along with IP2X protection during the connecting/disconnecting process. Protective walls are in black.

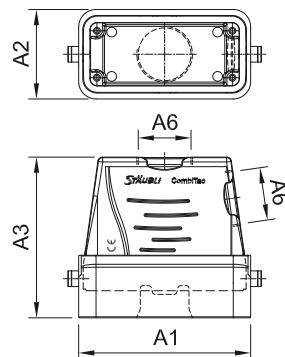
Note for sizes 2, 3, 4:

For white housing please add the color code number 29, e.g. 33.2952-**29**. Other colors available upon request.

CT-CH...PW



CT-CH...PW-PC



Size	Order No.	Type	IP65	IP67	Cable entry		Sizes (mm)				Standard color
					Side	Top	A1	A2	A3	A6	

For use with housings, without protective covers

2	33.2952 33.2912	CT-CH2-S/PW CT-CH2-T/PW	×	×	×	×	78,5	51,5	86,5	M32	 29
3	33.2953 33.2913	CT-CH3-S/PW CT-CH3-T/PW	×	×	×	×	99	51,5	92,5	M32	 29
4	33.2954 33.2914	CT-CH4-S/PW CT-CH4-T/PW	×	×	×	×	125,2	51,5	94,5	M32	 29
5	33.3255 33.3275	CT-CH5-S/PW CT-CH5-T/PW	×	×	×	×	101	91,2	95,8	M40	
6	33.3256 33.3276	CT-CH6-S/PW CT-CH6-T/PW	×	×	×	×	136,5	96,5	118,5	M50	

For use with housings, with protective covers

2	33.2972 33.2932	CT-CH2-S/PW-PC CT-CH2-T/PW-PC	×	×	×	×	78,5	51,5	86,5	M32	 29
3	33.2973 33.2933	CT-CH3-S/PW-PC CT-CH3-T/PW-PC	×	×	×	×	99	51,5	92,5	M32	 29
4	33.2974 33.2934	CT-CH4-S/PW-PC CT-CH4-T/PW-PC	×	×	×	×	125,2	51,5	94,5	M32	 29
5	33.3295 33.3225	CT-CH5-S/PW-PC CT-CH5-T/PW-PC	×	×	×	×	101	91,2	95,8	M40	
6	33.3296 33.3226	CT-CH6-S/PW-PC CT-CH6-T/PW-PC	×	×	×	×	136,5	96,5	118,5	M50	

Surface mount housing

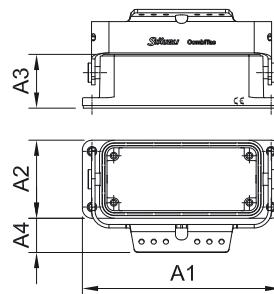
Surface mount housings are used for bottom cable entry. They are combined with coupler hoods and are available with or without protective wall or cover. Protective walls are in black.

Coupler hoods with protective walls offer additional damage protection to contacts along with IP2X protection during the connecting/disconnecting process.

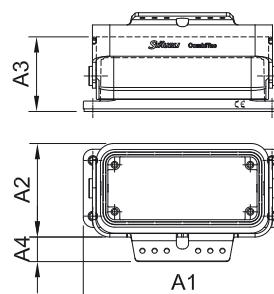
Note for sizes 2, 3, 4:

For white housing please add the color code number 29, e.g. 33.2302-**29**. Other colors available upon request.

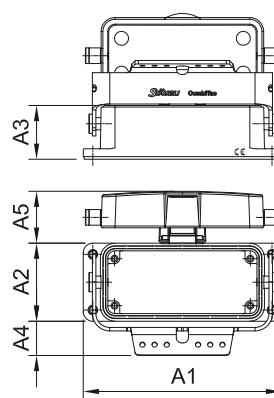
CT-SM...



CT-SM...PW



CT-SM...PC



Size	Order No.	Type	IP65	IP67	Protective cover	Protective wall	Sizes (mm)					Standard color
							A1	A2	A3	A4	A5	
1	33.1561	CT-SM1	×				82	47	29	20.9	–	24.5
	33.1591	CT-SM1-PC	×		×						24.5	
2	33.2302	CT-SM2	×	×				44.9	28.5	32.9	–	
	33.2852	CT-SM2/PW	×	×		×	94	51.5	41.4	29.6	–	29
	33.2332	CT-SM2-PC	×	×	×			44.9	28.5	32.9	29.8	
3	33.2303	CT-SM3	×	×				44.9	28.5	32.9	–	
	33.2853	CT-SM3/PW	×	×		×	114	51.5	41.4	29.6	–	29
	33.2333	CT-SM3-PC	×	×	×			44.9	28.5	32.9	29.8	
4	33.2304	CT-SM4	×	×				44.9	28.5	32.9	–	
	33.2854	CT-SM4/PW	×	×		×	141	51.5	41.4	29.6	–	29
	33.2334	CT-SM4-PC	×	×	×			44.9	28.5	32.9	29.8	
5	33.0375	CT-SM5	×					89	38	28.9	–	
	33.3235	CT-SM5/PW	×			×	126.6	91.2	52	27.8	–	29
	33.0385	CT-SM5-PC	×		×			89	37.8	28.9	23	
6	33.0376	CT-SM6	×				167.7	96.7	41.5	51	–	26
	33.0386	CT-SM6-PC	×		×						26	

Pedestal mount housing

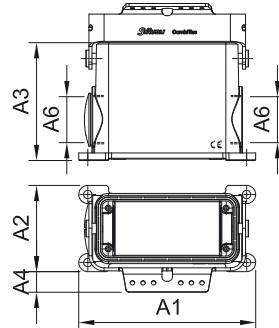
Pedestal mount housings are used for left and/or right side cable entry. They are combined with coupler hoods and are available with or without protective wall or cover. Protective walls are black.

Pedestal mount with protective walls offer additional damage protection to contacts along with IP2X protection during the connecting/disconnecting process.

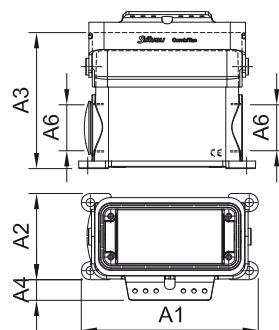
Note for sizes 2, 3, 4:

For white housing please add the color code number 29, e.g. 33.2462-**29**. Other colors available upon request.

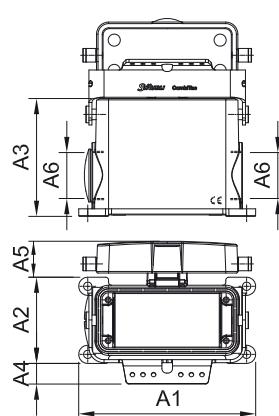
CT-PM...



CT-PM...PW



CT-PM...PC



Size	Order No.	Type	IP65	IP67	Protective cover	Protective wall	Sizes (mm)						Standard color
							A1	A2	A3	A4	A5	A6	
1	33.1541	CT-PM1	×				82	54.5	74	13.5	— 20	M32	
	33.1581	CT-PM1-PC	×		×								
2	33.2462	CT-PM2	×	×					74		—		
	33.2872	CT-PM2/PW	×	×		×	94	57	86.9	26.9	— 23.8	M32	
	33.2702	CT-PM2-PC	×	×	×				74				
3	33.2463	CT-PM3	×	×					77		—		
	33.2873	CT-PM3/PW	×	×		×	117	57	90	26.9	— 23.8	M32	
	33.2703	CT-PM3-PC	×	×	×				77				
4	33.2464	CT-PM4	×	×					79		—		
	33.2874	CT-PM4/PW	×	×		×	144	57	92	26.9	— 23.8	M32	
	33.2704	CT-PM4-PC	×	×	×				79				
5	33.1025	CT-PM5	×						79		—		
	33.2085	CT-PM5/PW	×			×	130.5	92.5	92.8	27.2	— 21.4	M32 ¹⁾	
	33.1035	CT-PM5-PC	×		×				79				
6	33.0396	CT-PM6	×				138	120	100	39.4	— 14.5	M40	
	33.0406	CT-PM6-PC	×		×								

¹⁾ M40 without adapter

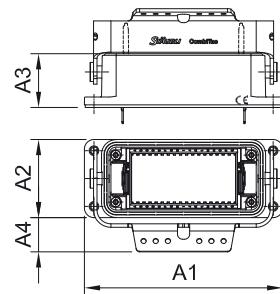
Park stations

Used for parking coupler hoods when they are not connected to mount housings.

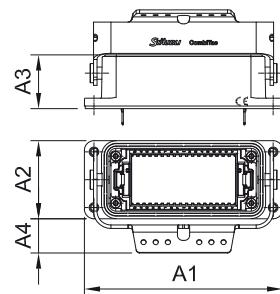
Note for sizes 2, 3, 4:

For white housing please add the color code number 29, e.g. 35.1742-**29**. Other colors available upon request.

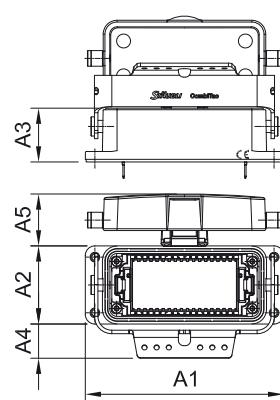
CTD-PS...SM/P



CTD-PS...SM/S



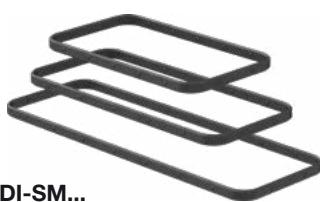
CTD-PS...PC-SM/S



Size	Order No.	Type	IP65	IP67	Pin end pieces	Socket end pieces	Protective cover	Sizes (mm)					Standard color
								A1	A2	A3	A4	A5	
1	35.1741	CTD-PS1-SM/P	×		×			82	47	29	20.9	—	
	35.1731	CTD-PS1-SM/S	×			×						—	
	35.1721	CTD-PS1/PC-SM/S	×			×	×					24.5	
2	35.1742	CTD-PS2-SM/P	×	×	×			94	44.9	28.5	32.9	—	
	35.1732	CTD-PS2-SM/S	×	×		×						—	
	35.1722	CTD-PS2/PC-SM/S	×	×		×	×					29.8	
3	35.1743	CTD-PS3-SM/P	×	×	×							—	
	35.1733	CTD-PS3-SM/S	×	×		×		114	44.9	28.5	32.9	—	
	35.1723	CTD-PS3/PC-SM/S	×	×		×	×					29.8	
4	35.1744	CTD-PS4-SM/P	×	×	×							—	
	35.1734	CTD-PS4-SM/S	×	×		×		141	44.9	28.5	32.9	—	
	35.1724	CTD-PS4/PC-SM/S	×	×		×	×					29.8	
5	35.1745	CTD-PS5-SM/P	×		×							—	
	35.1735	CTD-PS5-SM/S	×			×		126.6	89	38	28.9	—	
	35.1725	CTD-PS5/PC-SM/S	×			×	×					23	
6	35.1746	CTD-PS6-SM/P	×		×							—	
	35.1736	CTD-PS6-SM/S	×			×		167.7	96.7	41.5	51	—	
	35.1726	CTD-PS6/PC-SM/S	×			×	×					26	

Replacement seals

Replacement housing seals made of NBR can be reordered.



CT-DDI-SM...



CT-PDI-SM...

Size	Order No.	Type	Description				
2	33.2782	CT-DDI-SM2	Upper seal				
3	33.2783	CT-DDI-SM3					
4	33.2784	CT-DDI-SM4					
2	33.2792	CT-PDI-SM2	Lower seal				
3	33.2793	CT-PDI-SM3					
4	33.2794	CT-PDI-SM4					

Selection of special DIN housings for CombiTac Ø 10 mm contacts

Step 1: Select the number of Ø 10 mm poles of your CombiTac connector (e.g. 2 × Ø 10 mm pole)

Step 2: Select the outer insulation diameter of your cable (e.g. 17 mm)

Step 3: Select the appropriate cable gland (e.g. order No. 33.4126 or 33.4122)

Step 4: Select a suitable DIN housing (e.g. size 3, order No. 33.2713)

Number of poles	For Ø cable	3				4			
		Cable gland				Suitable housing			
		Size	Order No.	Type	Wrench size max.	Size	Order No.	Type	Position of cable glands
	mm	M			mm				
1	14 – 17	32	33.4123	CT-K-VSH M32x14-17 MS	36	2	33.2362	CT-CH2-T	
	17 – 21		33.4124	CT-K-VSH M32x17-21 MS					
	21 – 25		33.4125	CT-K-VSH M32x21-25,5 MS					
2	9.5 – 12.5	25	33.4120	CT-K-VSH M25x9,5-12,5 MS	30	3	33.2713	CT-CH3-T/2xM25	
	10 – 17		33.4126	CT-K-VSH M25x10-17 MS	28				
	16 – 20.5		33.4122	CT-K-VSH M25x16-20,5 MS	30				
	14 – 17	32	33.4123	CT-K-VSH M32x14-17 MS	36	4	35.1204	CT-CH4-T/2xM32	
	17 – 21		33.4124	CT-K-VSH M32x17-21 MS					
	21 – 25		33.4125	CT-K-VSH M32x21-25,5 MS					
3	10 – 17	25	33.4126	CT-K-VSH M25x10-17 MS	28	4	33.2744	CT-CH4-T/3xM25	
	14 – 17	32	33.4123	CT-K-VSH M32x14-17 MS	36	6	33.3196	CT-CH6-T/3xM32	
	17 – 21		33.4124	CT-K-VSH M32x17-21 MS					
	21 – 25		33.4125	CT-K-VSH M32x21-25,5 MS					
4	9.5 – 12.5	25	33.4120	CT-K-VSH M25x9,5-12,5 MS	30	5 ¹⁾	33.3175	CT-CH5-T/4xM25	
	10 – 17		33.4126	CT-K-VSH M25x10-17 MS	28				
	16 – 20.5		33.4122	CT-K-VSH M25x16-20,5 MS	30				
5	9.5 – 12.5	25	33.4120	CT-K-VSH M25x9,5-12,5 MS	30	6 ¹⁾	33.3186	CT-CH6-T/6xM25 ²⁾	
	10 – 17		33.4126	CT-K-VSH M25x10-17 MS	28				
	16 – 20.5		33.4122	CT-K-VSH M25x16-20,5 MS	30				

¹⁾ Rated as IP00, IP65 available on request

²⁾ Close one gland opening with cap (not provided).



DIN ALUMINUM HOUSINGS IP65/67 WITH SPACE SAVING LOCKING

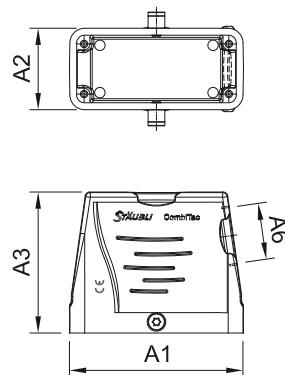
Coupler hood

Coupler hoods can be combined with surface mount housing. Available with side or top cable entry.

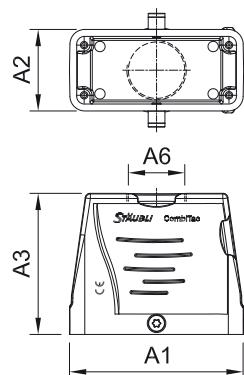
Note for sizes 2, 3, 4:

For white housing, please add the color code number 29, e.g. 35.1242-**29**. Other colors available upon request.

CT-CH...-S/SSL



CT-CH...-T/SSL



Size	Order No.	Type	IP67	Cable entry		Sizes (mm)				Standard color
				Side	Top	A1	A2	A3	A6	
2	35.1242	CT-CH2-S/SSL	×	×		73.8	43.9	70	M32	29
	35.1232	CT-CH2-T/SSL	×		×					
3	35.1243	CT-CH3-S/SSL	×	×		93.8	43.9	76	M32	29
	35.1233	CT-CH3-T/SSL	×		×					
4	35.1244	CT-CH4-S/SSL	×	×		120.8	43.9	78	M32	29
	35.1234	CT-CH4-T/SSL	×		×					

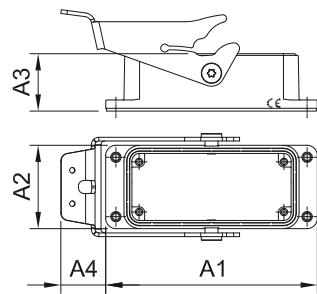
Surface mount housing

Surface mount housings are used for bottom cable entry. They are combined with coupler hoods.

Note for sizes 2, 3, 4:

For white housing, please add the color code number 29, e.g. 35.1252-**29**. Other colors available upon request.

CT-SM...



Size	Order No.	Type	IP67	Sizes (mm)					Standard color
				A1	A2	A3	A4		
							Locked	Unlocked	
2	35.1252	CT-SM2/SSL	×	94	44.9	28.5	3.3	26	29
3	35.1253	CT-SM3/SSL	×	114	44.9	28.5	7.8	31	29
4	35.1254	CT-SM4/SSL	×	141	44.9	28.5	3.9	30	29

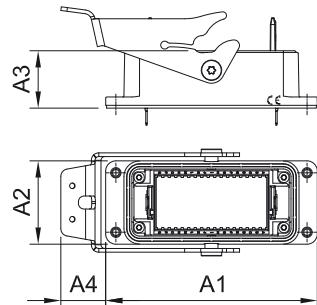
Park stations

Used for parking coupler hoods when they are not connected to mount housings. Include CombiTac direct frames.

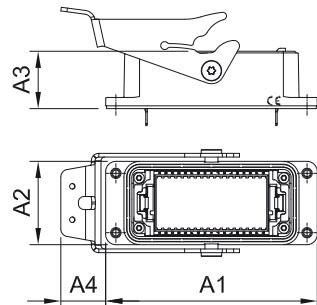
Note for sizes 2, 3, 4:

For white housing, please add the color code number 29, e.g. 35.1762-**29**. Other colors available upon request.

CTD-PS...-SM/SSL/P



CTD-PS...-SM/SSL/S



Size	Order No.	Type	IP67	Pin end pieces	Socket end pieces	Sizes (mm)					Standard color
						A1	A2	A3	A4		
2	35.1762	CTD-PS2-SM/SSL/P	×	×		94	44.9	28.5	3.3	26	29
	35.1752	CTD-PS2-SM/SSL/S	×		×						
3	35.1763	CTD-PS3-SM/SSL/P	×	×		114	44.9	28.5	7.8	31	29
	35.1753	CTD-PS3-SM/SSL/S	×		×						
4	35.1764	CTD-PS4-SM/SSL/P	×	×		141	44.9	28.5	3.9	30	29
	35.1754	CTD-PS4-SM/SSL/S	×		×						

Replacement seals

Replacement housing seals made of NBR can be reordered.



CT-DDI-SM...

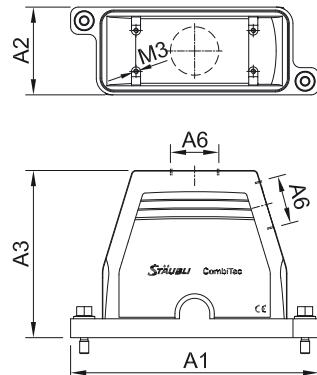


CT-PDI-SM...

Size	Order No.	Type	Description
2	33.2782	CT-DDI-SM2	Upper seal
3	33.2783	CT-DDI-SM3	
4	33.2784	CT-DDI-SM4	
2	33.2792	CT-PDI-SM2	Lower seal
3	33.2793	CT-PDI-SM3	
4	33.2794	CT-PDI-SM4	

DIN ALUMINUM HOUSING IP68/69K

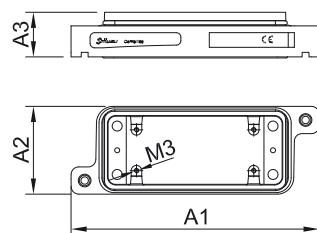
Coupler hood



The all-round contact of the two housing halves of the IP68/69K enclosures provides a 360° shielding against electromagnetic influence according to VG 95373-41.

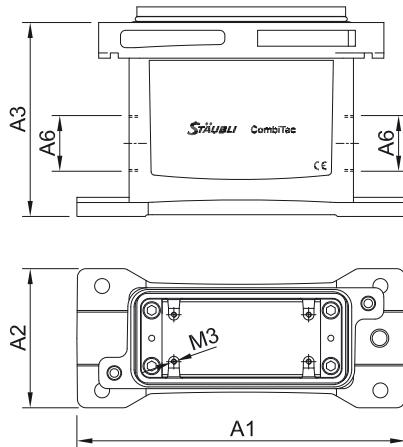
Size	Order No.	Type	Cable entry		Sizes (mm)			
			Side	Top	A1	A2	A3	A6
1	33.6871	CT-TG1-S IP68 HE	×		132	58	100.5	M32
	33.6881	CT-TG1-G IP68 HE		×				
2	33.6872	CT-TG2-S IP68 HE	×		144	58	100.5	M32
	33.6882	CT-TG2-G IP68 HE		×				
3	33.6873	CT-TG3-S IP68 HE	×		164	58	110.5	M40
	33.6883	CT-TG3-G IP68 HE		×				
4	33.6874	CT-TG4-S IP68 HE	×		191	58	110.5	M40
	33.6884	CT-TG4-G IP68 HE		×				

Surface mount housing



Size	Order No.	Type	Sizes (mm)		
			A1	A2	A3
1	33.6851	CT-AG1 IP68 HE	132	58	29.5
2	33.6852	CT-AG2 IP68 HE	144	58	29.5
3	33.6853	CT-AG3 IP68 HE	164	58	29.5
4	33.6854	CT-AG4 IP68 HE	191	58	29.5

Pedestal mount housing



Size	Order No.	Type	Sizes (mm)			
			A1	A2	A3	A6
1	33.6861	CT-SG1 IP68 HE	156	80	100.5	2×M32
2	33.6862	CT-SG2 IP68 HE	169	80	100.5	2×M32
3	33.6863	CT-SG3 IP68 HE	189	80	111.5	2×M32
4	33.6864	CT-SG4 IP68 HE	216	80	111.5	2×M40

Protective cap



Size	Order No.	Type
1	33.6891	CT-PC1 IP68 HE
2	33.6892	CT-PC2 IP68 HE
3	33.6893	CT-PC3 IP68 HE
4	33.6894	CT-PC4 IP68 HE

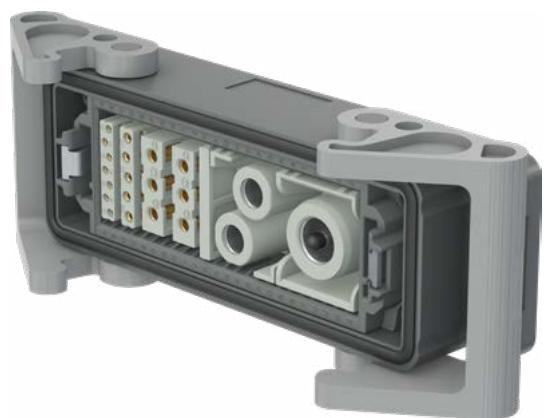
DIN PLASTIC HOUSING IP65

Plastic housing

The plastic housing is primarily intended for industrial use or for applications where a high resistance to chemical environmental influences is required.

In addition, the plastic housing is mechanically robust.

As the housing is made of antistatic thermoplastic material, there is no need for additional grounding.



Technical data

Housing material	Thermoplastic
Housing seal	Elastomer
Locking element	Thermoplastic
Degree of protection mated/locked	IP65

Plastic housing – Resistance to aggressive media		
	Resistant	Limited resistance
1-Pentanol		x
Alum	x	
Amide, aqueous	x	
Ammonia gas		x
Ammonia, 10 % aqueous solution	x	
Ammonium acetate	x	
Ammonium carbonate	x	
Ammonium chloride	x	
Ammonium nitrate	x	
Ammonium phosphate	x	
Ammonium sulfate	x	
Aniline		x
Asphalt		x
Beer	x	
Borated water	x	
Borax		x
Boric acid, 10 % aqueous solution	x	
Boric acid	x	
Butane gas		x
Butane, liquid		x
Calcium chloride, 10 % aqueous solution	x	
Calcium chloride	x	
Calcium nitrate	x	
Calcium sulfate	x	
Chlorinated lime, diluted	x	
Copper sulfate, 10 % aqueous solution	x	
Cresol acids		x
Cresol solution		x
Cutting oil		x
Cyclohexane		x
Diesel		x
Diisononyl phthalate	x	
Di-Octyl-Phthalate	x	
Diluted glucose	x	
Diluted glycerol	x	
Diluted glycol	x	
Diluted phenol		x
Ethanol, non-denaturized	x	
Ethylene glycol or propylene glycol	x	
Fatty acids	x	
Fruit juices	x	
Gasoline		x

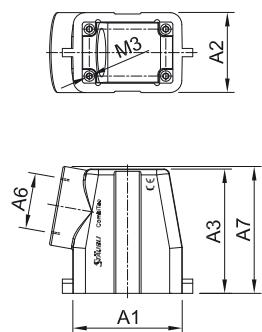
Plastic housing – Resistance to aggressive media		
	Resistant	Limited resistance
Glycerol	x	
Grinding oil		x
Gypsum (see calcium sulfate)	x	
Heptane		x
Hexane		x
Hydrogen sulfide		x
Ink	x	
Isopropyl alcohol		x
Lactic acid	x	
Linseed oil	x	
Lubricating oil	x	
Mercury	x	
Methanol, diluted by 50 %		x
Mineral oil	x	
Mineral spirits (Avio)		x
Mineral-based oil	x	
Mothballs		x
Motor oil		x
n-Butanol	x	
Naphthalene		x
Octane		x
Oil IRM 901, 20 °C	x	
Oil IRM 902, 20 °C		x
Oil IRM 903, 20 °C		x
Oil		x
Oleic acid	x	
Oxalic acid	x	
Paraffin oil	x	
Petroleum	x	
Phthalate	x	
Potassium carbonate	x	
Potassium chlorate	x	
Potassium chloride	x	
Potassium chromate		x
Potassium cyanide, aqueous solution	x	
Potassium iodide		x
Potassium nitrate		x
Potassium persulfate		x
Potassium sulfate		x
Seawater	x	
Silicone oil	x	
Soap solution		x

Plastic housing – Resistance to aggressive media

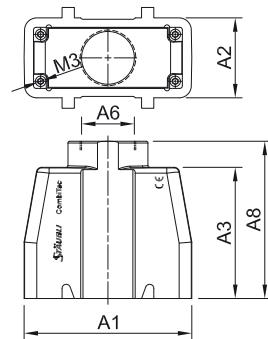
	Resistant	Limited resistance
Sodium bicarbonate	x	
Sodium carbonate	x	
Sodium chlorate	x	
Sodium chloride (table salt)	x	
Sodium hydrogen sulfate, aqueous solution	x	
Sodium hydroxide 12.5 % (alkaline solution)		x
Sodium nitrate	x	
Sodium nitrite		x
Sodium perborate	x	
Sodium phosphate	x	
Sodium silicate	x	
Sodium sulfate	x	
Sodium sulfide	x	
Sodium thiosulfate (fixing salt/developing film)	x	
Solution for developing photographs	x	
Stearic acid	x	
Succinic acid	x	
Sulfur dioxide		x
Sulfur	x	
Table salt, aqueous solution	x	
Tallow	x	
Tartaric acid	x	
Tar		x
Transformer oil	x	
Tricresyl phosphate	x	
Turpentine substitute		x
Urea, diluted	x	
Urine	x	
Vegetable oil	x	
Water	x	
White spirits (isopropanol and ethanol)		x

Coupler hood

CT-TG1-S TP



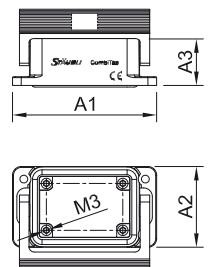
CT-TG...-G TP



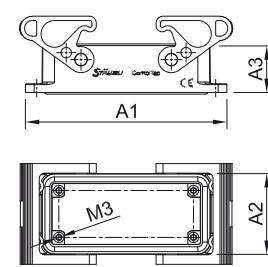
Size	Order No.	Type	Cable entry		Sizes (mm)					
			Side	Top	A1	A2	A3	A6	A7	A8
1 ¹⁾	33.6011	CT-TG1-S TP	×		63	46	71.5	M32	73	86.5
	33.6021	CT-TG1-G TP		×						
2	33.6012	CT-TG2-S TP	×		76	46	71.5	M32	73	86.5
	33.6022	CT-TG2-G TP		×						
3	33.6013	CT-TG3-S TP	×		96.5	46	75.5	M32	79	90.5
	33.6023	CT-TG3-G TP		×						
4	33.6014	CT-TG4-S TP	×		123	46	75.5	M32	79	90.5
	33.6024	CT-TG4-G TP		×						

Surface mount housing

CT-AG1 TP



CT-AG...TP

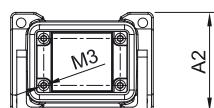
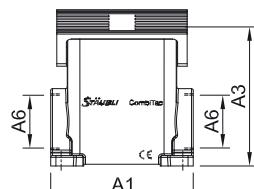


Size	Order No.	Type	Sizes (mm)		
			A1	A2	A3
1 ¹⁾	33.6041	CT-AG1 TP	83	46	27
2	33.6042	CT-AG2 TP	96	46	27
3	33.6043	CT-AG3 TP	116	46	27
4	33.6044	CT-AG4 TP	143	46	27

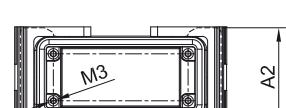
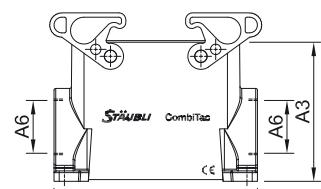
¹⁾ Size 1: housings only have a single locking device.

Pedestal mount housing

CT-SG1 TP



CT-SG...TP



Size	Order No.	Type	Sizes (mm)			
			A1	A2	A3	A6
1 ¹⁾	33.6601	CT-SG1 TP	82	57	73	M32
2	33.6602	CT-SG2 TP	94	57	80	M32
3	33.6603	CT-SG3 TP	117	57	80	M32
4	33.6604	CT-SG4 TP	144	57	80	M32

Protective cap

CT-SD-AG1 TP



CT-SD-AG... TP



Size	Order No.	Type
1 ¹⁾	33.6031	CT-SD-AG1 TP
2	33.6032	CT-SD-AG2 TP
3	33.6033	CT-SD-AG3 TP
4	33.6034	CT-SD-AG4 TP

¹⁾ Size 1: housings only have a single locking device.

CODING

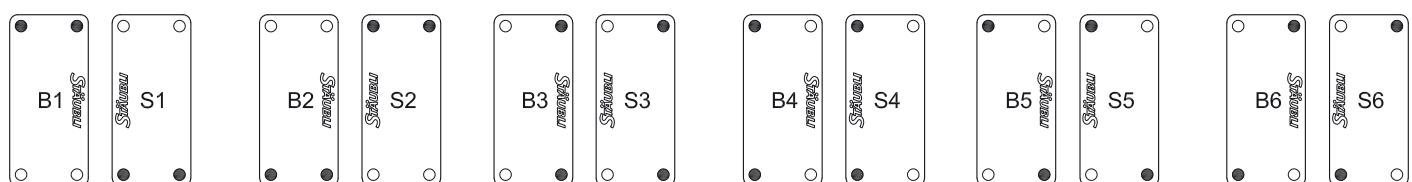
Coding

CombiTac in housings can be coded by fitting coding pins in place of the fixing screws. A total of 6 coding variants are possible.



Order No.	Type
35.2886	CT-CN-GF-UVB-TORX

Coding variants



S = Pin side

B = Socket side

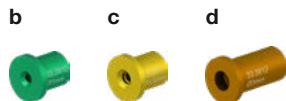
• = Coding pin CT-CN-GF-UVB-TORX
standard delivery

Note:

Coding B2/S2 is standard delivery, unless ordered customized.

CRIMPING PLIERS

Crimping the electric contacts



Pos.	Order No.	Type	Conductor cross section	Description	MA
a	33.3900	CTD-M-CZ		Crimping pliers	MA417 MA419
b	33.3910	MES-CZ-CTD1	0.14 mm ² – 0.75 mm ²	Locator	
c	33.3911	MES-CZ-CTD1,5	0.75 mm ² – 1.5 mm ²	Locator	
d	33.3912	MES-CZ-CTD3	2.5 mm ² – 4 mm ²	Locator	
e	18.3700	M-PZ13		Crimping pliers	MA224
f	18.3702	MES-PZ-TB 8/10	10 mm ²	Crimping die	
g	18.3703	MES-PZ-TB 9/16	16 mm ²	Crimping die	
h	18.3704	MES-PZ-TB11/25	25 mm ²	Crimping die	
i	18.3707	MPS-PZ13		Test insert	
j	18.3708	MALU-PZ13		Round test rod	
k	18.3710	M-PZ-T2600		Crimping pliers with case	
l	18.3711	TB8-17	10 mm ² + 70 mm ²	Crimping die	MA213-01 MA226
m	18.3712	TB9-13	16 mm ² + 35 mm ²	Crimping die	
n	18.3713	TB11-14,5	50 mm ²	Crimping die	
o	18.3714	TB7-20	95 mm ²	Crimping die	
p	33.3930	CT-CP		Crimping pliers	MA417 MA420
q	33.3931	CT-I-CP-4	4 mm ²	Crimping die	
r	33.3932	CT-I-CP-6	6 mm ²	Crimping die (standard option)	
s	35.0115	CTD-CP-1GBT		Crimping pliers	MA417-1
t	35.0116	CTD-I-CP-1GBT	0.14 mm ² – 0.34 mm ²	Crimping die	

APPENDIX

Derating diagrams

The following derating curves are based on measurements according to IEC 60512-5-2:2002.

The measurements were carried out on a fully assembled frame size 4. The wires were unbundled, free in air. A reduction factor of 0.9 (derating) was applied to the measured currents.

These diagrams show examples of the rated current as a function of the various ambient temperatures up to 125 °C.

The derating curves for several bundled wires from example 2 onwards were created using the conversion factors from IEC 60364-5-52:2009 table B.52.17.

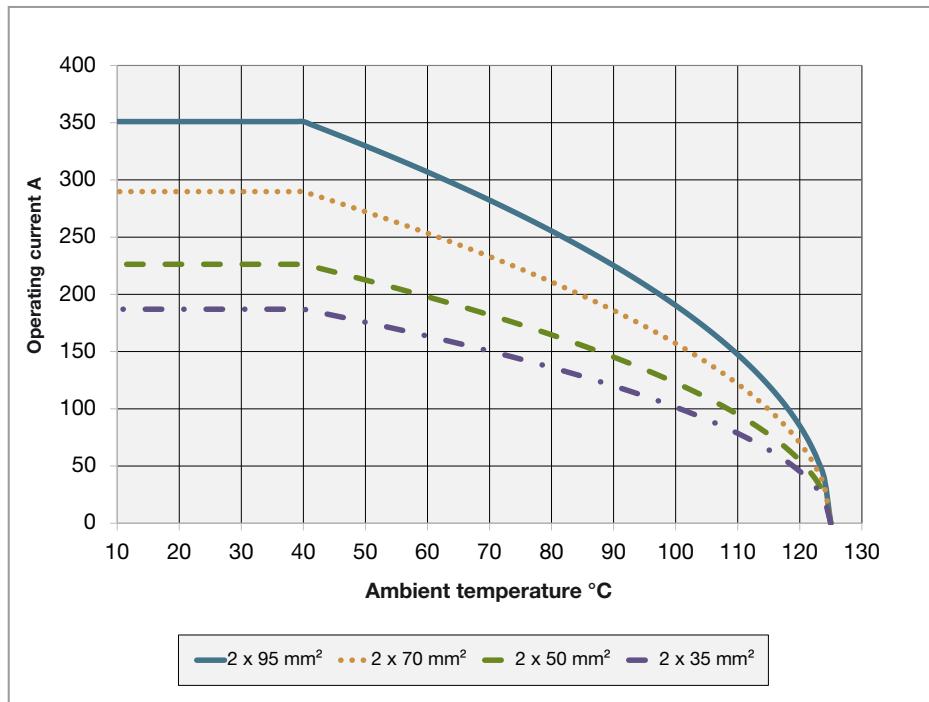
If a CombiTac is used to equip machines, the standard IEC 60204-1:2016 applies.

Note:

The legend of the derating diagrams does not indicate the number of circuits, but the number of conductors. This differs from the IEC 60364-5-52:2009 standard, which always refers to the number of circuits. For example, if IEC refers to a 95 mm² circuit, this is written as 2 x 95 mm².

Ø 10 mm modul:

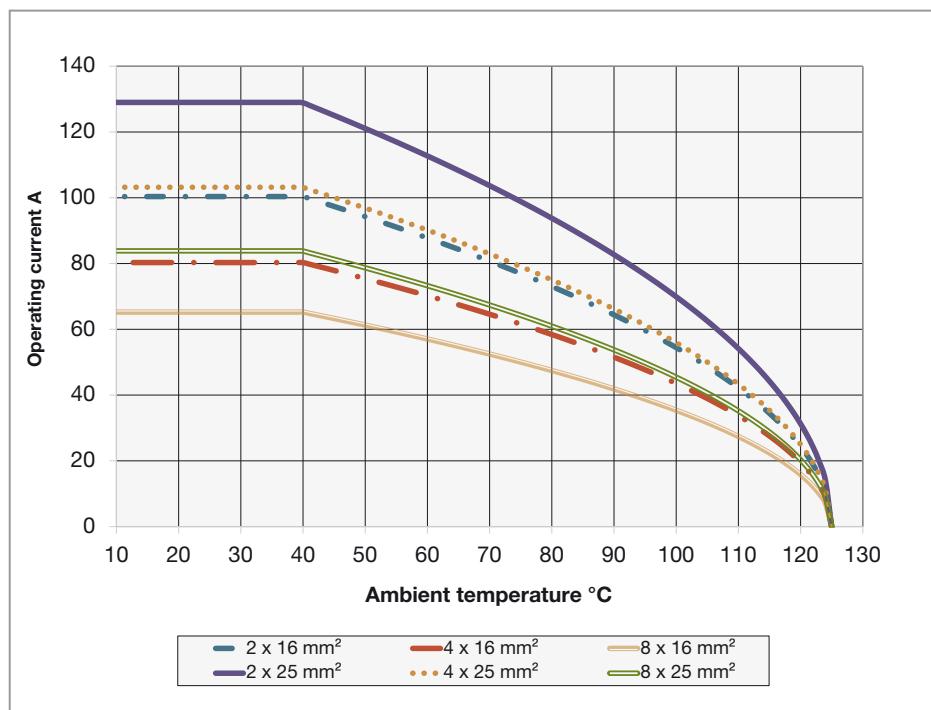
Derating curves for wires with cross sections of 35 mm², 50 mm², 70 mm² and 95 mm². The maximum permissible conductor temperature is 125 °C.



Ø 7 mm modul:

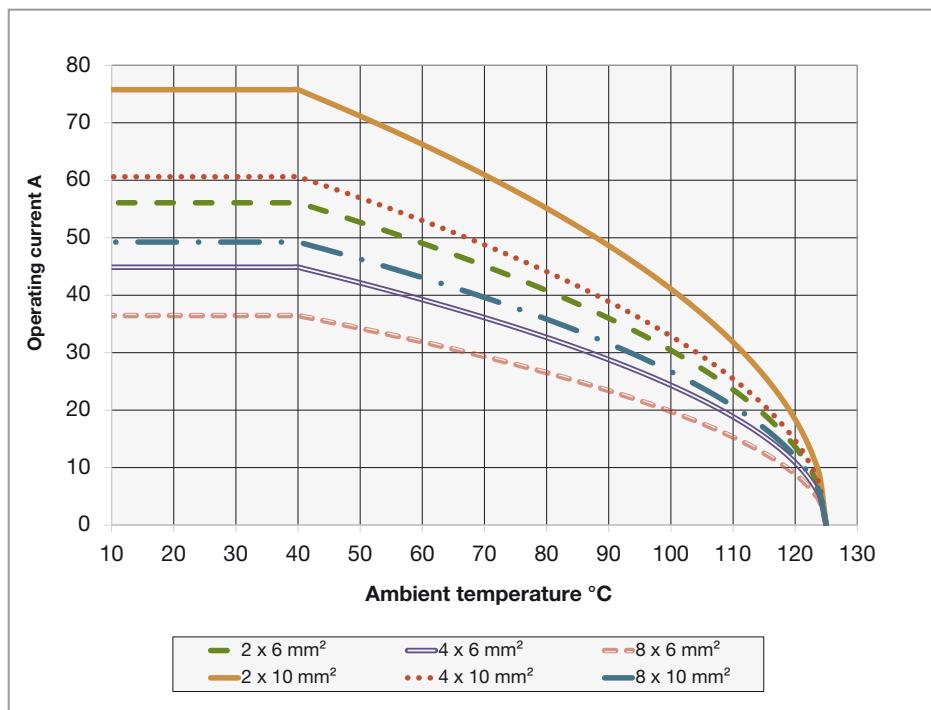
Derating curves for 2, 4 and 8 bundled wires each with the cross sections 16 mm² and 25 mm². The maximum permissible conductor temperature is 125 °C.

The curves were calculated according to IEC 60364-5-52:2009 table B.52.17.

**Ø 7 mm modul:**

Derating curves for 2, 4 and 8 bundled wires each with the cross sections 6 mm² and 10 mm². The maximum permissible conductor temperature is 125 °C.

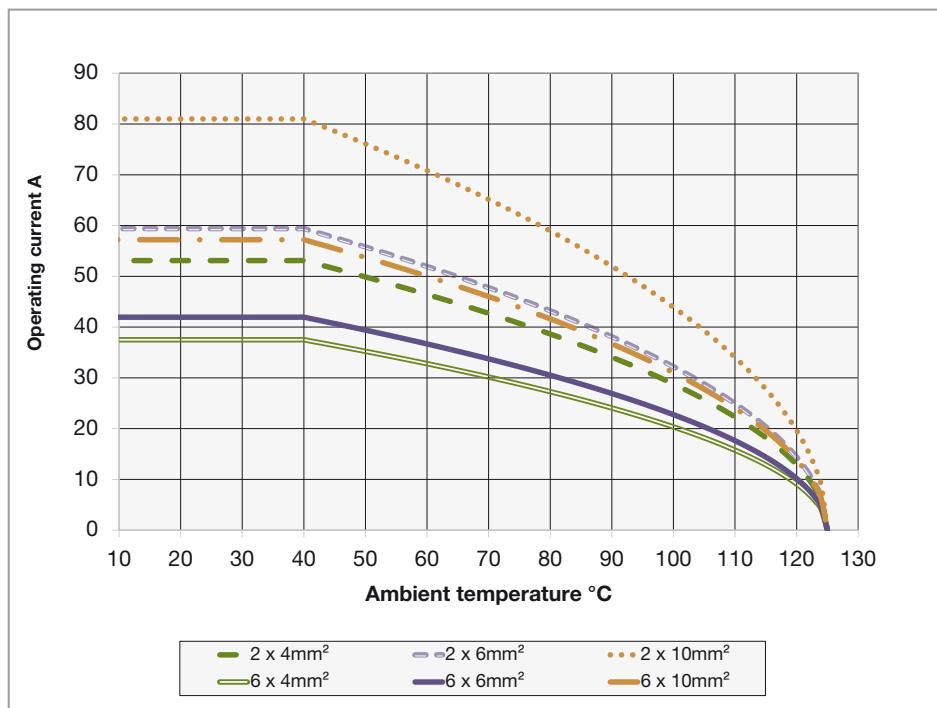
The curves were calculated according to IEC 60364-5-52:2009 table B.52.17.



Ø 4 mm modul:

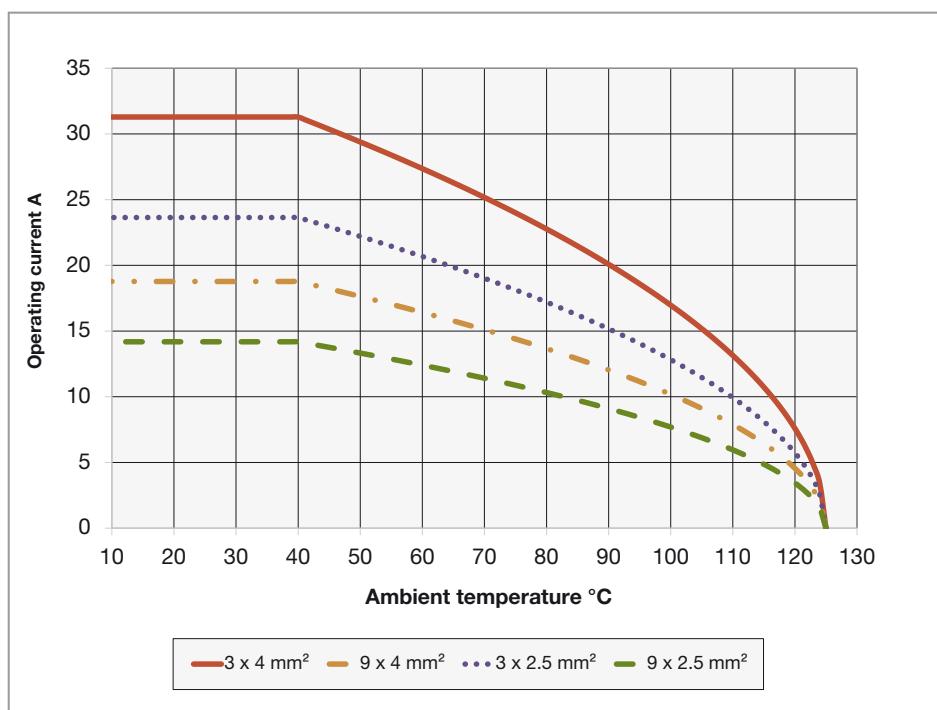
Derating curves for 2 and 6 bundled wires with the cross sections 4 mm^2 , 6 mm^2 and 10 mm^2 . The maximum permissible conductor temperature is $125\text{ }^\circ\text{C}$.

The curves were calculated according to IEC 60364-5-52:2009 table B.52.17.

**Ø 3 mm modul:**

Derating curves for 3 and 9 bundled wires with the cross sections 2.5 mm^2 and 4 mm^2 . The maximum permissible conductor temperature is $125\text{ }^\circ\text{C}$.

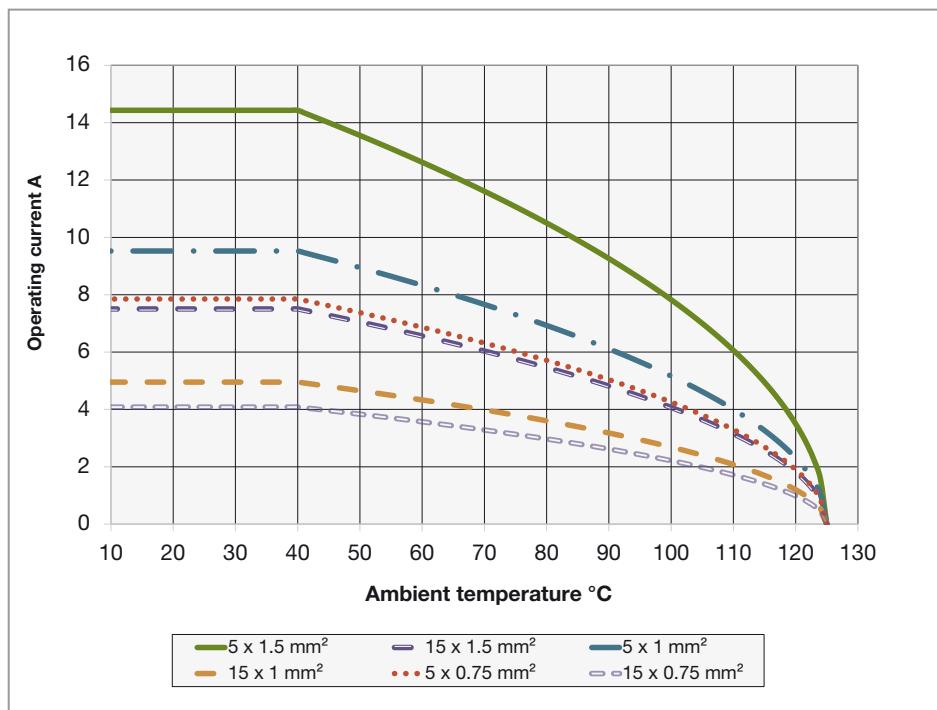
The curves were calculated according to IEC 60364-5-52:2009 table B.52.17.



Ø 1,5 mm modul:

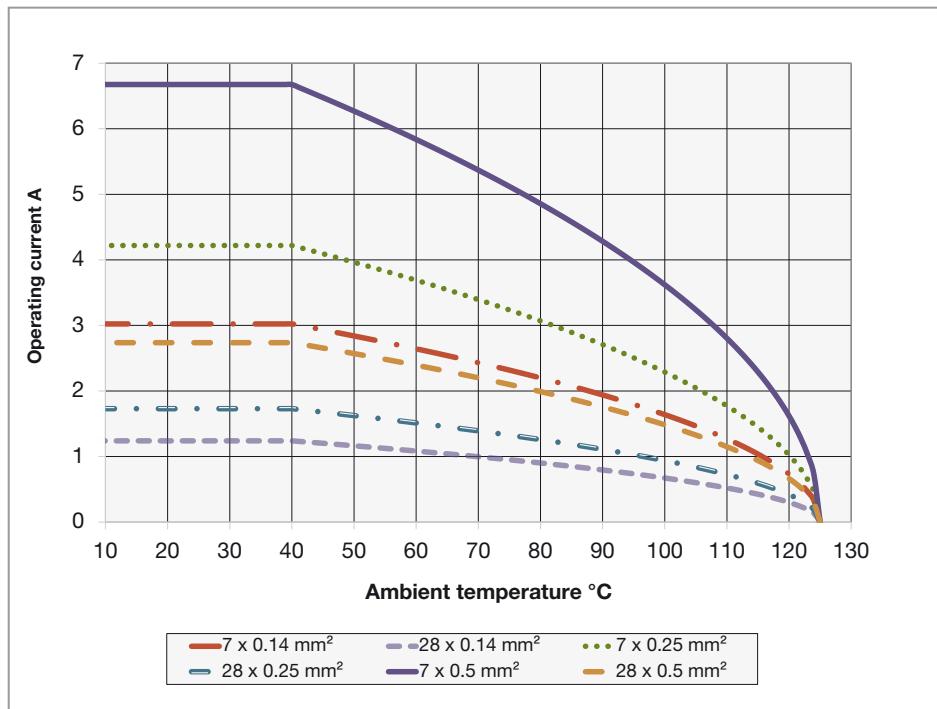
Derating curves for 5 and 15 bundled wires with the cross sections 0.75 mm^2 , 1 mm^2 and 1.5 mm^2 . The maximum permissible conductor temperature is 125°C .

The curves were calculated according to IEC 60364-5-52:2009 table B.52.17.

**Ø 1 mm modul:**

Derating curves for 7 and 28 bundled wires each with the cross sections 0.14 mm^2 , 0.25 mm^2 and 0.5 mm^2 . The maximum permissible conductor temperature is 125°C .

The curves were calculated according to IEC 60364-5-52:2009 table B.52.17.

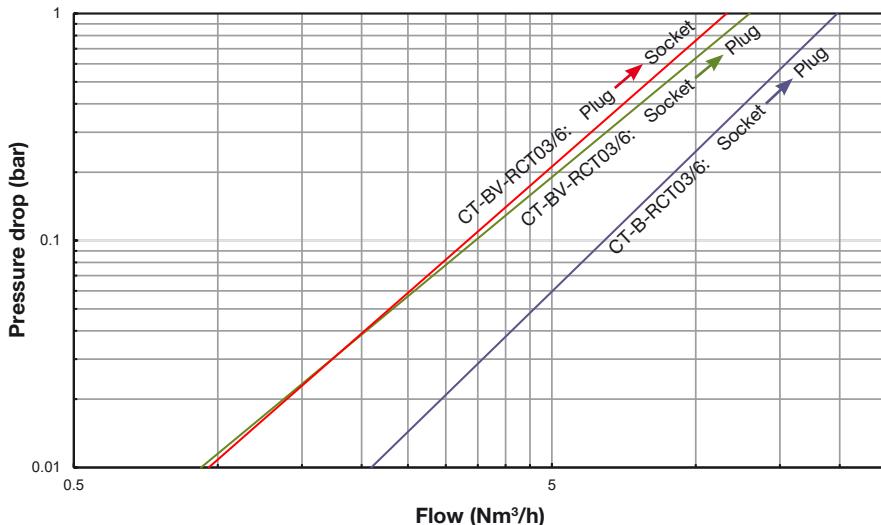


Pneumatic flow/pressure drop diagrams and sliding forces

Pneumatic flow charts:

Under standard conditions 0 °C, 1013 mbar

CT-...-RCT03/6



Flow direction:

- CT-BV-RCT03/6 ← CT-S-RCT03/6
- CT-BV-RCT03/6 → CT-S-RCT03/6
- CT-B-RCT03/6 → CT-S-RCT03/6

	Max. sliding force		Input pressure
	0 bar	15 bar	bar
←	12 N	35 N	6
→	10 N	33 N	6

Technical information

Sliding forces

The average sliding force of a CombiTac connector is the sum of all average sliding forces of the single contacts. The stated values are guideline values, and may be reduced by 30 % after a number of mating cycles.

Locking cycles DIN housing

Max. 500 locking cycles without lubrication. For up to 5,000 locking cycles, a lubrication must be executed. See note about lubrication, assembly instructions MA213.

Mating speed

CombiTac was tested at a mating speed of 600 mm/min by an automatic process. Plugging force is equal to 1.5 times the sliding force.

Rated current (IEC 61984:2008)

The rated current is a value specified by Stäubli for a current that the connector can carry continuously at an ambient temperature of 40 °C without interruption. It flows simultaneously through all contacts that are connected to the largest possible specified conductors without exceeding the upper limiting temperature of the contacts.

Bundled wires (IEC 60364-5-52:2009)

If the CombiTac is used together with bundled wires, a reduction factor must be applied to the wires. The derating diagrams on pages 69 – 72 show various examples for bundled copper wires with different cross sections that are suitable for use with CombiTac.

The listed wires are heat-resistant up to 125 °C. A conversion factor according to IEC 60364-5-52:2009, table B52.17 must be used for a certain number of bundled wires or wire types.

Rated voltage (IEC 60664-1:2020)

The rated voltage is a voltage value specified by Stäubli for connectors to which the operating and performance characteristics are related. Note: Connectors may have more than one rated voltage value.

The rated voltages listed below correlate normatively with the following impulse withstand voltages. This is subject to the overvoltage category to be met.

Overvoltage categories

The concept of overvoltage categories is used for equipment energized directly from the low-voltage mains.

CAT I: Equipment with an impulse withstand voltage corresponding to overvoltage category I shall not have direct connection to a mains supply.

Measures shall be taken to ensure that the temporary overvoltages that could occur are sufficiently limited so that their peak value does not exceed the relevant rated impulse voltage.

Unless the circuits are designed to take the temporary overvoltages into account, equipment of overvoltage category I cannot be directly connected to the mains supply. Examples of such equipment are devices with electronic circuits and corresponding protection level.

CAT II: Equipment of the overvoltage category II is energy consuming equipment to be supplied from the fixed installation.

Examples of such equipment are appliances, portable tools, and other household and similar loads.

IEC 60664-1:2020			IEC 61984:2008	
Rated voltage	Impulse withstand voltage		Test voltage: r.m.s withstand voltage 1 min, 50/60 Hz	
	Overvoltage category II	Overvoltage category III	Overvoltage category II	Overvoltage category III
< 51 V	500 V	800 V	370 V	500 V
51 V – 100 V	800 V	1500 V	500 V	840 V
101 V – 150 V	1500 V	2500 V	840 V	1390 V
151 V – 300 V	2500 V	4000 V	1390 V	2210 V
301 V – 600 V	4000 V	6000 V	2210 V	3310 V
601 V – 1000 V	6000 V	8000 V	3310 V	4260 V

CAT III: Equipment of overvoltage category III is equipment in fixed installations and for cases where the reliability and the availability of the equipment is subject to special requirements.

Examples of such equipment are switches in the fixed installation and equipment for industrial use with a permanent connection to the fixed installation.

Protective conductor PE (IEC 61140:2016)

The protective conductor is used for safety, for example as protection against electric shock, and can be recognized by letters PE, or color combination green-yellow, or graphical symbol on the potential equalization clamp. The CombiTac has the grounding connection in the frame and various protective earth (PE) contacts. Connect these to the protective-equipotential-bonding system of the installation.

Pollution degree (IEC 60664-1:2020)

Pollution degree 1

No pollution or only dry, non-conductive pollution occurs. The pollution has no influence.

Pollution degree 2

Only non-conductive pollution occurs except that occasionally a temporary conductivity caused by condensation is to be expected.

Pollution degree 3

Conductive pollution occurs or dry non-conductive pollution occurs which becomes conductive due to condensation which is to be expected.

Connector resistance

The connector resistance is determined by means of the voltage drop, measured between the lead terminations of the pin and socket. The values given are average values determined at rated current.

Mating cycles

The maximum number of mating cycles per module is noted in the product catalog. The contacts are lubricated on delivery. In cases where relubrication is possible, it is carried out in accordance with the relevant assembly instructions (MA). Mating cycle tests with CombiTac connectors are carried out under laboratory conditions.

Safety notes

Protection against electric shock

A connector shall be so designed that, after mounting, its live parts are not accessible by the IEC test finger in accordance with clause 5 of IEC 60529:2013 using a test force of 20 N. These products are designed to be built into a housing that guarantees the relevant IP protection for cable connections (at least IP2X). Protection against electric shock must be provided by the end product and ensured by the users themselves. This requirement does not apply to a connector operated with a safety extra-low voltage (SELV) of a maximum AC 50 V eff. or DC 120 V. The customer must take appropriate measures when fitting the connectors to ensure that the cable connection is protected against tension and twisting and is responsible for correct implementation of the contact-protection measures.

Connecting and disconnecting when live is permitted.

Connecting and disconnecting under load is not permitted.

Enclosure

An enclosed connector is a connector for which the protection against electric shock is ensured by the housing of the connector itself. An unenclosed connector is a connector for which the protection against electric shock is provided by the enclosure of the equipment in which the connector is mounted.

In relation to the direction of power flow, connectors should be incorporated in the circuit wiring in such a way that pins that can be touched are not live in the unmated state (IEC 61984:2008).

Protection wall

In order to meet the requirement for protection against accessibility of live parts during connecting and disconnecting, CombiTac is provided with a specially designed protection wall.

Electrical contacts in close proximity to connectors for liquids and gases

Defect electrical contacts or connectors that leak gas or liquids can be a safety hazard to personnel, the environment, as well as affecting the proper function of the system. It is the responsibility of the end-user to ensure that both safety and proper function in the end-use is guaranteed. The result of a risk analysis requires that the end-user of CombiTac connectors must ensure the following:

- All relevant national and international standards and regulations must be complied with in the end-use.
- Field-tested techniques must be applied and, a risk assessment must be carried out in order to identify and reduce the risks.
- The use of flammable or explosive liquids or gases is prohibited.
- Exclusively CT-...-SCT; CT-...-LCT couplings with both male and female-sided locking systems are permitted to be used for liquids.
- Automatic disconnection of power supply in the event of indirect contact, overload, or short circuit is required according to IEC 60364-4-41:2017.
- If the voltage is higher than AC 50 V or DC 120 V, all simultaneously accessible conductive parts that do not carry current during normal operation must be connected to the protective conductor (protective equipotential bonding according to IEC 60364-4-41:2017).
- If the voltage is higher than AC 50 V or DC 120 V, all electric circuits have to be protected by a residual-current-operated protective device (RCD) with a rated residual operating current not exceeding 30 mA according to IEC 60364-4-41:2017.
- Connecting or disconnecting under load or live is not allowed (connector without breaking capacity according to IEC 61984:2008).

- On permanently fixed installations, electrical contacts have to be placed above liquid couplings.
- In CombiTac housing applications, the housing has to be connected to the protective conductor according to IEC 60364-4-41:2017.
- The fluid couplings must be replaced if a leak is detected.

Underwriters Laboratories

Standard UL 1977 states:

A connector operated above 30 V (42 V peak) up to AC/DC 600 V intended for usage external to the end equipment shall have live parts protected against exposure to contact by persons when assembled, installed, and mated as intended, as determined by the use of the articulate probe with web stop (UL test finger).

Mating devices operated above 30 V up to AC/DC 600 V intended for usage external to the end equipment shall not have exposed live contacts during engagement or withdrawal, as determined by the use of the articulate probe with web stop (UL test finger).

Engineering considerations according to UL File E229145

File E229145, Vol. 1, Sec. 4

ENGINEERING CONSIDERATIONS:

Use For use only in complete equipment where the acceptability of the combination is determined by Underwriters Laboratories Inc.

Conditions of Acceptability In order to be judged acceptable as a component of electrical equipment, the following conditions should be met. These devices have not been tested for interrupting the flow of current by connecting or disconnecting the mating connector. These devices should be used only where they will not interrupt the flow of current.

These devices have been subjected to the temperature test within the provided housings with the rated currents. The conductors terminated by the device and other associated components are to be reviewed in the end use to determine whether the temperature rise from the connector exceeds their maximum operating temperature ratings.

Carrier (Pin side)	Contact (Plug/Pin)	Carrier (Socket side)	Contact (Socket)	Conductor Sizes, Str		Ampere (A)
				mm ²	AWG	
CTD-C1-7/P	CTD-P1/0,14-0,25 AU	CTD-C1-7/S	CTD-S1/0,14-0,25 AU	0.14	26	3
CTD-C1-7/P	CTD-LMFB-P1/0,14-0,25 AU	CTD-C1-7/S	CTD-LMFB-S1/0,14-0,25 AU	0.14	26	0.1
CTD-C1-7/P	CTD-LMFB-P1/0,14-0,25 AU	CTD-C1-7/S	CTD-LMFB-S1/0,14-0,25 AU	0.25	24	0.1
CTD-C1-7/P	CTD-P1/0,14-0,25 AU	CTD-C1-7/S	CTD-S1/0,14-0,25 AU	0.25	24	3
CTD-C1-7/P	CTD-P1/0,25-0,75 AU	CTD-C1-7/S	CTD-S1/0,25-0,75 AU	0.25	24	3
CTD-C1-7/P	CTD-P1/0,25-0,75 AU	CTD-C1-7/S	CTD-S1/0,25-0,75 AU	0.34	22	3
CTD-C1-7/P	CTD-P1/0,25-0,75 AU	CTD-C1-7/S	CTD-S1/0,25-0,75 AU	0.5	20	5
CTD-C1-7/P	CTD-P1/0,25-0,75 AU	CTD-C1-7/S	CTD-S1/0,25-0,75 AU	0.75	18	5
CTD-C1-7/P	CTD-LMFB-P1/0,25-0,75 AU	CTD-C1-7/S	CTD-LMFB-S1/0,25-0,75 AU	0.25	24	0.1
CTD-C1-7/P	CTD-LMFB-P1/0,25-0,75 AU	CTD-C1-7/S	CTD-LMFB-S1/0,25-0,75 AU	0.34	22	0.1
CTD-C1-7/P	CTD-LMFB-P1/0,25-0,75 AU	CTD-C1-7/S	CTD-LMFB-S1/0,25-0,75 AU	0.5	20	0.1
CTD-C1-7/P	CTD-LMFB-P1/0,25-0,75 AU	CTD-C1-7/S	CTD-LMFB-S1/0,25-0,75 AU	0.75	18	0.1
CTD-C1,5-5/P	CTD-P1,5/0,75-1,5 AU	CTD-C1,5-5/S	CTD-S1,5/0,75-1,5 AU	1	18	10
CTD-C1,5-5/P	CTD-P1,5/0,75-1,5 AU	CTD-C1,5-5/S	CTD-S1,5/0,75-1,5 AU	1.5	16	14
CTD-C3-3/P	CTD-P3/2,5-4 AU	CTD-C3-3/S	CTD-S3/2,5-4 AU	2.5	14	23
CTD-C3-3/P	CTD-P3/2,5-4 AU	CTD-C3-3/S	CTD-S3/2,5-4 AU	4	12	31
CTD-C4-2/P	CTD-P4/4 IP2X AG	CTD-C4-2/S	CTD-S4/4 AG	4	12	31
CTD-C4-2/P	CTD-P4/6 IP2X AG	CTD-C4-2/S	CTD-S4/6 AG	6	10	50
CTD-C4-2/P	CTD-P4/10 IP2X AG	CTD-C4-2/S	CTD-S4/10 AG	10	8	70
CTD-C4-2/P	CTD-P4/4-S IP2X AG	CTD-C4-2/S	CTD-S4/4 AG	4	12	31
CTD-C4-2/P	CTD-P4/6-S IP2X AG	CTD-C4-2/S	CTD-S4/6 AG	6	10	50
CTD-C4-2/P	CTD-P4/10-S IP2X AG	CTD-C4-2/S	CTD-S4/10 AG	10	8	70
CTD-C7-2/P	CTD-P7/6 IP2X AG	CTD-C7-2/S	CTD-S7/6 -AG	6	10	50

Carrier (Pin side)	Contact (Plug/Pin)	Carrier (Socket side)	Contact (Socket)	Conductor Sizes, Str		Ampere (A)
				mm ²	AWG	
CTD-C7-2/P	CTD-P7/10 IP2X AG	CTD-C7-2/S	CTD-S7/10 AG	10	8	70
CTD-C7-2/P	CTD-P7/16 IP2X AG	CTD-C7-2/S	CTD-S7/16 AG	16	6	120
CTD-C7-2/P	CTD-P7/25 IP2X AG	CTD-C7-2/S	CTD-S7/25 AG	25	4	120
CTD-C10-1/P	CTD-P10/35 IP2X AG	CTD-C10-1/S	CTD-S10/35 AG	35	2	225
CTD-C10-1/P	CTD-P10/50 IP2X AG	CTD-C10-1/S	CTD-S10/50 AG	50	1	225
CTD-C10-1/P	CTD-P10/50 IP2X AG	CTD-C10-1/S	CTD-S10/50 AG	-	1/0	225
CTD-C10-1/P	CTD-P10/70 IP2X AG	CTD-C10-1/S	CTD-S10/70 AG	70	2/0	290
CTD-C10-1/P	CTD-P10/95 IP2X AG	CTD-C10-1/S	CTD-S10/95 AG	95	3/0	350
CTD-C10-1/P	CTD-P10/95 IP2X AG	CTD-C10-1/S	CTD-S10/95 AG	95	4/0	350
CTD-C1-21/P	CTD-P1,5/0,14-0,25 AU	CTD-C1-21/S	CTD-S1,5/0,14-0,25 AU	0.14	26	3
CTD-C1-21/P	CTD-LMFB-P1/0,14-0,25 AU	CTD-C1-21/S	CTD-LMFB-S1/0,14-0,25 AU	0.14	26	0.1
CTD-C1-21/P	CTD-LMFB-P1/0,14-0,25 AU	CTD-C1-21/S	CTD-LMFB-S1/0,14-0,25 AU	0.14	26	0.1
CTD-C1-21/P	CTD-P1/0,14-0,25 AU	CTD-C1-21/S	CTD-S1/0,14-0,25 AU	0.25	24	3
CTD-C1-21/P	CTD-P1/0,25-0,75 AU	CTD-C1-21/S	CTD-S1/0,25-0,75 AU	0.25	24	3
CTD-C1-21/P	CTD-P1/0,25-0,75 AU	CTD-C1-21/S	CTD-S1/0,25-0,75 AU	0.34	22	3
CTD-C1-21/P	CTD-P1/0,25-0,75 AU	CTD-C1-21/S	CTD-S1/0,25-0,75 AU	0.5	20	5
CTD-C1-21/P	CTD-P1/0,25-0,75 AU	CTD-C1-21/S	CTD-S1/0,25-0,75 AU	0.75	18	5
CTD-C1-21/P	CTD-LMFB-P1/0,25-0,75 AU	CTD-C1-21/S	CTD-LMFB-S1/0,25-0,75 AU	0.25	24	0.1
CTD-C1-21/P	CTD-LMFB-P1/0,25-0,75 AU	CTD-C1-21/S	CTD-LMFB-S1/0,25-0,75 AU	0.34	22	0.1
CTD-C1-21/P	CTD-LMFB-P1/0,25-0,75 AU	CTD-C1-21/S	CTD-LMFB-S1/0,25-0,75 AU	0.5	20	0.1
CTD-C1-21/P	CTD-LMFB-P1/0,25-0,75 AU	CTD-C1-21/S	CTD-LMFB-S1/0,25-0,75 AU	0.75	18	0.1

These devices, except otherwise documented in this Report may be used at potentials not exceeding 600 V based on dielectric voltage-withstand testing conducted between adjacent poles and between live parts and dead metal at 2,200 V ac. These devices meet the minimum 1/8 inch (3.2 mm) spacings required by UL 1977 for devices not exceeding 600 V.

The operating temperature of these devices should not exceed the temperature ratings of the insulating materials. These materials may be used interchangeably at a maximum temperature of 90 °C. Mold stress relief testing was conducted at a temperature of 100 °C.

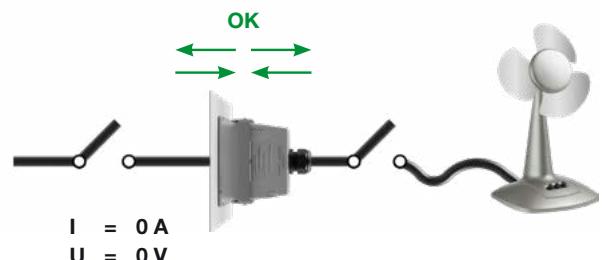
The acceptability of the quick-connect tab as a grounding terminal shall be determined in the end use.

The printed-wiring-board terminals have not been evaluated for mechanical secureness. The construction of the connector is to be reviewed when it is assembled to the particular printed wiring board used in the end use application.

The strain relief device on the housing of the connectors has not been evaluated. This construction shall be determined in the end use.

Safety during the mating process

Connecting and disconnecting when CombiTac is isolated from supply.



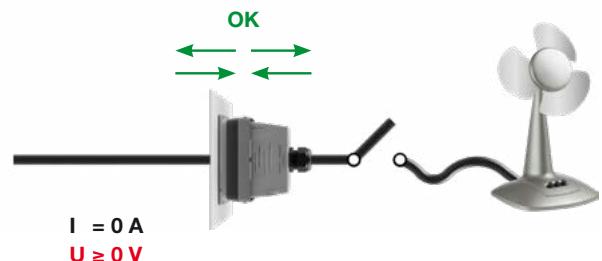
Connecting and disconnecting when live and without load is permitted.

⚠ Attention

When disconnected, the socket side is touch protected, i.e. has IP2X protection according to IEC 60529 (test finger)

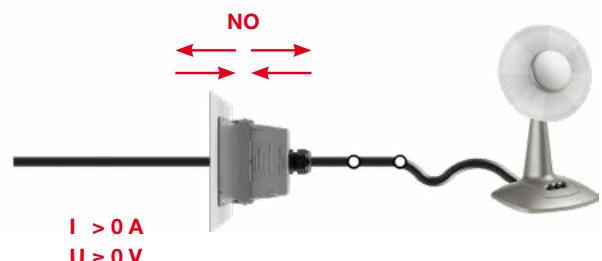
See also page 76, section "Underwriters Laboratories standard UL 1977".

With protection wall



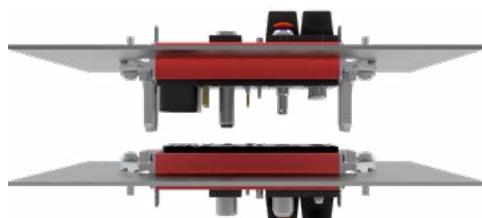
Connecting and disconnecting under load not permitted.

With or without protection wall



Panel mounting

The protection against electric shock is provided by the enclosure of the equipment in which it is installed. This is provided by the CombiTac end-user.



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