# TeamConnect
## SL TeamConnect CU1, Central Unit
## SL TeamConnect CB1, Combox

## FEATURES

- Connectivity via landline and PC/VoiP for tele- and web conferencing
- One solution with high flexibility for end-users
- Easy to use with iOS app or any network device via web server application
- Hassle free operation with nearly any personal mobile device
- Sennheiser well known audio quality
- High efficiency of remote meetings because of high speech intelligibility and audio quality
- Complete audio solution for standard meeting rooms
- Minimum effort of administration and maintenance

With **TeamConnect** Sennheiser provides a professional complete audio system for meeting rooms which require a web and telephone conference infrastructure. Due to the optimization for speech intelligibility all TeamConnect components such as microphones and loudspeakers match perfectly. By using your business devices such as your iPad or your notebook you will be able to start the meeting immediately. All necessary components are provided by Sennheiser with the main objective: you care for your business, Sennheiser for your conversations at meetings.



CU1



CB1

## ARCHITECT'S SPECIFICATIONS
### SL TeamConnect CUCB1

A complete professional audio system for web and teleconferencing applications in standard meeting rooms, comprised of a central unit, a combox and other devices such as microphones and active loudspeakers.

The central unit shall be an automatic mixer for professional quality audio in multiple microphone web and teleconferencing applications. It shall provide advanced mixing capabilities and configuration options. All devices used in the system shall be connected to the central unit. The combox shall be the audio interface of the system. It shall be used to add USB and headset audio to the system and to process computer audio as well as telephone headset

## TECHNICAL DATA
### SL TeamConnect CU1

**HOUSING**

| | |
|---|---|
| Dimensions (W x H x D) | 17" x 7.5" x 2" (43.2 cm x 19.1 cm x 5.1 cm) |
| Weight | 4.5 lbs. (2.25 kg) |

**AUDIO PERFORMANCE**

| | |
|---|---|
| Conditions | Unless otherwise specified, all measurements are performed with a 20 Hz to 22 kHz |
| Frequency response | 20 Hz to 22 kHz |
| Noise (EIN) | −124 dBu, 22 kHz, max gain Rs = 150 Ω |
| THD+N | < 0.02 % |
| Dynamic range | 100 dB (non A-weighted) |
| Crosstalk | < −91 dB, rel 17 dBu |
| Sampling rate | 48 kHz |
| A/D – D/A converters | 24-bit |

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# TeamConnect  SL TeamConnect CU1, SL TeamConnect CB1

or enterprise telephone audio in the system. The connection between the central unit and the combox shall be made by means of a standard CAT5 cable.

The central unit shall have a frequency response of 20 – 22,000 Hz. Equivalent input noise (EIN) shall be −124 dBu, 22 kHz max gain Rs = 150 Ω. THD plus noise shall be less than 0.02 %, the dynamic range shall be 100 dB (non A-weighted) and crosstalk shall be less than −91 dB (rel. 17 dBu). The sampling rate shall be 48 kHz and the A/D – D/A converters shall be 24 bit.

The central unit shall be equipped with a TELCO telephone interface with two RJ-11 sockets: one for connecting to the analog landline network, the other for connecting an analog telephone. An Ethernet port (RJ-45) shall be provided for network connections. The central unit shall feature an RS-232 control port for connecting a third party media control system (Creston, AMX, etc.) and a link input (RJ-45) for connecting the combox. The central unit shall have a USB 2.0 port for connecting a PC for configuration purposes and shall also be configurable via the RS-232 port or the network (Ethernet port). The required "Configuration Manager" PC software for configuring the central unit and all other components shall be supplied.

The central unit shall be equipped with eight mic/line inputs for connecting microphones and/or line sources. The mic/line inputs shall accept maximum input levels from −65 dBu to +17 dBu. 24 V phantom power shall be available on each mic/line input. In addition, two audio inputs shall be provided for connecting line level devices only. The line level inputs shall accept a maximum input of 17 dBu. Input impedance shall be 10 kΩ balanced.

The central unit shall feature eight audio outputs for outputting audio to active loudspeakers or other audio devices. The output terminal shall deliver a nominal level of 0 dBu and a maximum level of 17 dBu, with an output impedance of 50 Ω.

## TECHNICAL DATA

### MIC / LINE INPUTS 1-8

Impedance ...............................................10 kΩ balanced
Maximum level .......................................−65 dBu to +17 dBu
Echo cancellation....................................128 ms tail time
(works with 12 dB of room gain)
Phantom power.......................................24 V DC at 10 mA

### LINE INPUTS 1-2

Impedance ...............................................10 kΩ balanced
Maximum level .......................................17 dBu

### LINE OUT OUTPUTS 1-8

Impedance ...............................................50 Ω
Nominal level ..........................................0 dBu
Maximum level .......................................17 dBu

### TELEPHONE INTERFACE

Telephone audio performance conditions.........Unless otherwise specified, all measurements are performed withTransmit Limiter and Receive ALC disabled
Frequency response ..............................250 Hz to 3.3 kHz ±1 dB
THD+N ....................................................< 0.30 % re-max level 250 Hz to 3.3 kHz
SNR .........................................................> 62 dB re-max level
Telco line echo cancellation..................Tail time: 32 ms Null: 55 dB nominal
Telephone noise cancellation ..............6–15 dB attenuation

### RS-232 CONTROL PORT

Connector...............................................DB9 female
Baud rates ..............................................9,600 / 19,200 / 38,400 / 57,600 (default) / 115,200
Protocol ..................................................8-bit / 1 stop / no parity
Hardware flow control...........................ON (default)/OFF

### SL TeamConnect CB1

### HOUSING

Dimensions (W x H x D).........................4.7" x 5.6" x 1.7"
(11.9 cm x 14.3 cm x 4.4 cm)
Weight.....................................................1.51 lbs. (0.75 kg)

### AUDIO PERFORMANCE

Frequency response ..............................40 to 3,300 Hz THD
Noise ......................................................< 0.04 % re-max level with 0 dB gain at 1 kHz
Dynamic range.......................................> 84 dB (non A-weighted)

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The central unit shall operate on 12 V DC power supplied by an external power supply (100-240 V AC, 47/63 Hz).

The central unit shall be rack-mountable and shall come complete with two 19" rack-mount ears.

Using the ''Configuration Manager'' software, the central unit's mic/line inputs shall be configurable to the following settings:

1. Echo cancellation – effectively eliminates echo in order to improve audio quality. Two out of the eight outputs shall be selectable as the acoustic echo cancellation reference. If all eight output channels do not suit the echo cancellation needs, two virtual reference channels shall be selectable as the reference for echo cancellation.
2. Push to talk – configures the PTT mode of a connected microphone
3. Noise cancellation – reduces background noise in the meeting room
4. Automatic level control – maintains a constant audio level to ensure the audio is intelligible
5. Non-linear processing – options: Aggressive, Medium, Soft or Off, can be set depending on the noise level in the room

The software shall allow the configuration of three processing channels with different audio settings (filter, compressor, etc.).

The settings of the processing channels may be applied to one or several selected inputs or outputs.

The software shall feature a Device Toolbox and a Mixer Console. The Device Toolbox shall contain a list of common audio devices with their audio setting presets. The audio setting presets of the listed devices may be applied to the audio channels of the central unit.

The Mixer Console shall allow routing of the input audio to the desired audio outputs using a matrix array. All configuration settings adjusted with the software shall be savable as presets in one of four preset slots.

## TECHNICAL DATA

**EXTERNAL POWER SUPPLY**

| | |
|---|---|
| DC output voltage | +12 V |
| AC input voltage | 100 to 240 V AC |
| AC input frequency | 47 to 63 Hz |
| Input current | 0.8 A (RMS) max. at 115 V AC |
| | 0.5 A (RMS) max. at 240 V AC |
| Leakage current | 3.5 mA max. |
| Output power | 30 W |
| Temperature | Operation: 0 to +40 °C |
| | Storage: −30 to +85 °C |
| Relative air humidity | 20 to 90 % |

## DELIVERY INCLUDES

1 Central Unit SL TeamConnect CU1
1 Combox SL TeamConnect CB1
1 mains cable (EU, UK or US)
1 power adapter
4 rack mount screws
4 rubber washers for the rack mount screws
8 3-pin orange terminal connectors
2 3-pin green terminal connectors
8 3-pin black terminal connectors
1 6-pin black terminal connector
1 RJ-9 cable
1 RJ-11 cable
2 RJ-45 cables
1 RJ-45 patch cable
1 USB cable
1 quick guide
1 quick guide sticker
1 room sticker
1 safety guide

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Using the ''TeamConnect'' mobile dialer iOS app for iPad/iPhone or a browser-based dialer for computers, the central unit shall be remote controllable. The dialer used shall be capable of establishing the telephone connection for teleconferencing and shall include functions such as selecting and applying previously saved configuration presets, adjusting the volume and accessing a phone book.

The combox shall be ''plug and play''. It shall have a link output (RJ-45) for connecting to the central unit and shall feature a USB 2.0 port for connecting a PC for processing audio in web conferencing applications. A headset socket (RJ-9) shall be provided for connecting a telephone headset or the headset connector of an enterprise telephone.
In addition, the combox shall be equipped with a GPIO port for connecting external switches or status indicators. The pin allocation of the GPIO port shall be as follows: pin 1: microphone mute control, pin 2: microphone mute status, pin 3: on/off hook control, pin 4: on/off hook status, pin 5: 5 V DC power supply, pin 6: ground.
The combox shall have a ''power on'' indicator on the front panel.

The frequency response of the combox shall range from 40 – 3,300 Hz (THD). Noise shall be less than 0.04 % re-max level with 0 dB gain at 1 kHz, dynamic range shall be more than 84 dB (non A-weighted).

Housing dimensions shall be as follows: central unit: 432 x 191 x 51 mm (17" x 7.5" x 2"), combox: 119 x 143 x 44 mm (4.7" x 5.6" x 1.7"). Approximate weights shall be as follows: central unit: 2.25 kg (4.5 lbs.), combox: 0.75 kg (1.51 lbs.).
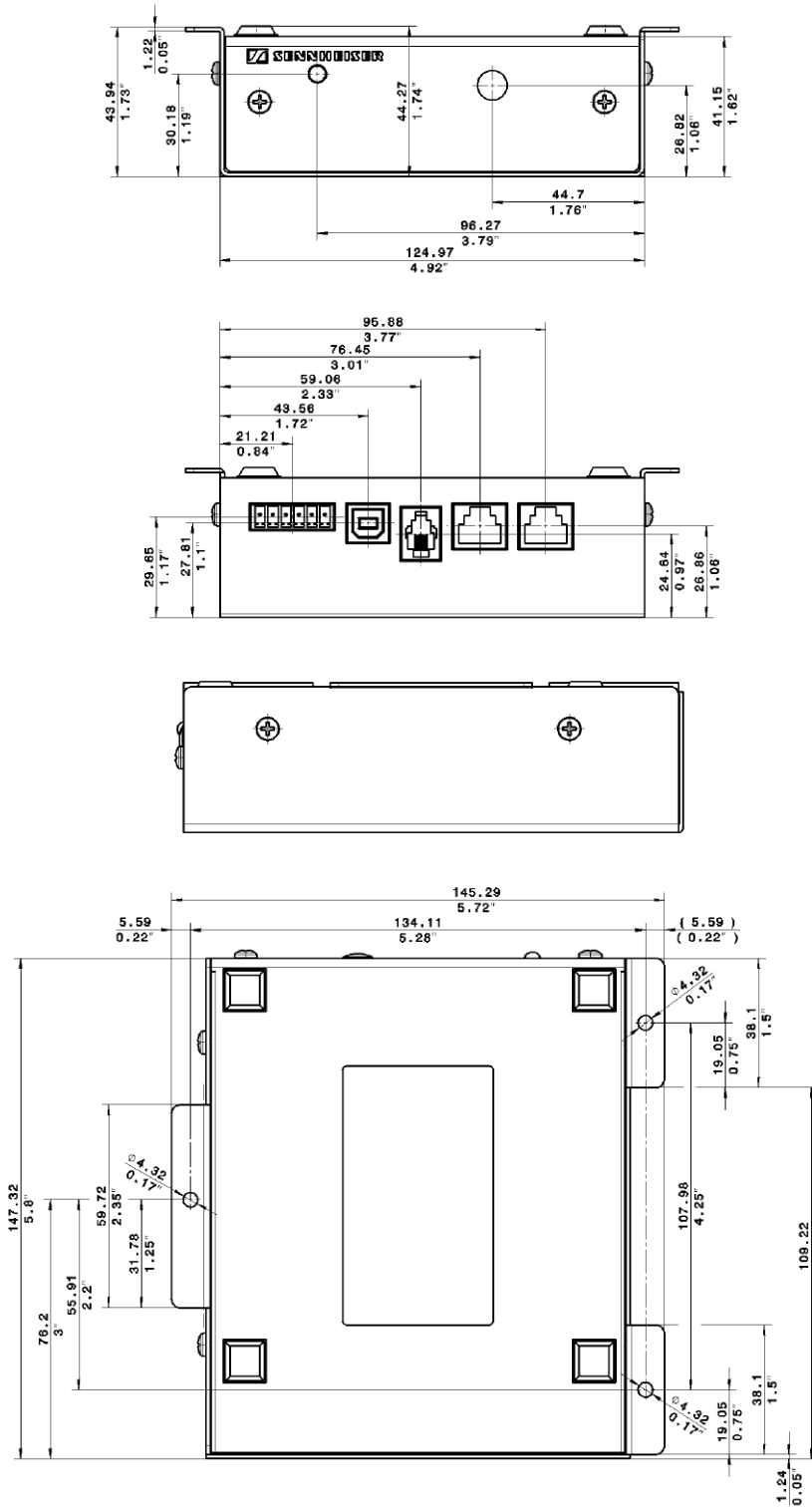The system shall be the Sennheiser SL TeamConnect CUCB1.

# TeamConnect  SL TeamConnect CU1, SL TeamConnect CB1

## DIMENSIONS

**SL TeamConnect CU1**



Dimensions
in
mm
inch

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## DIMENSIONS
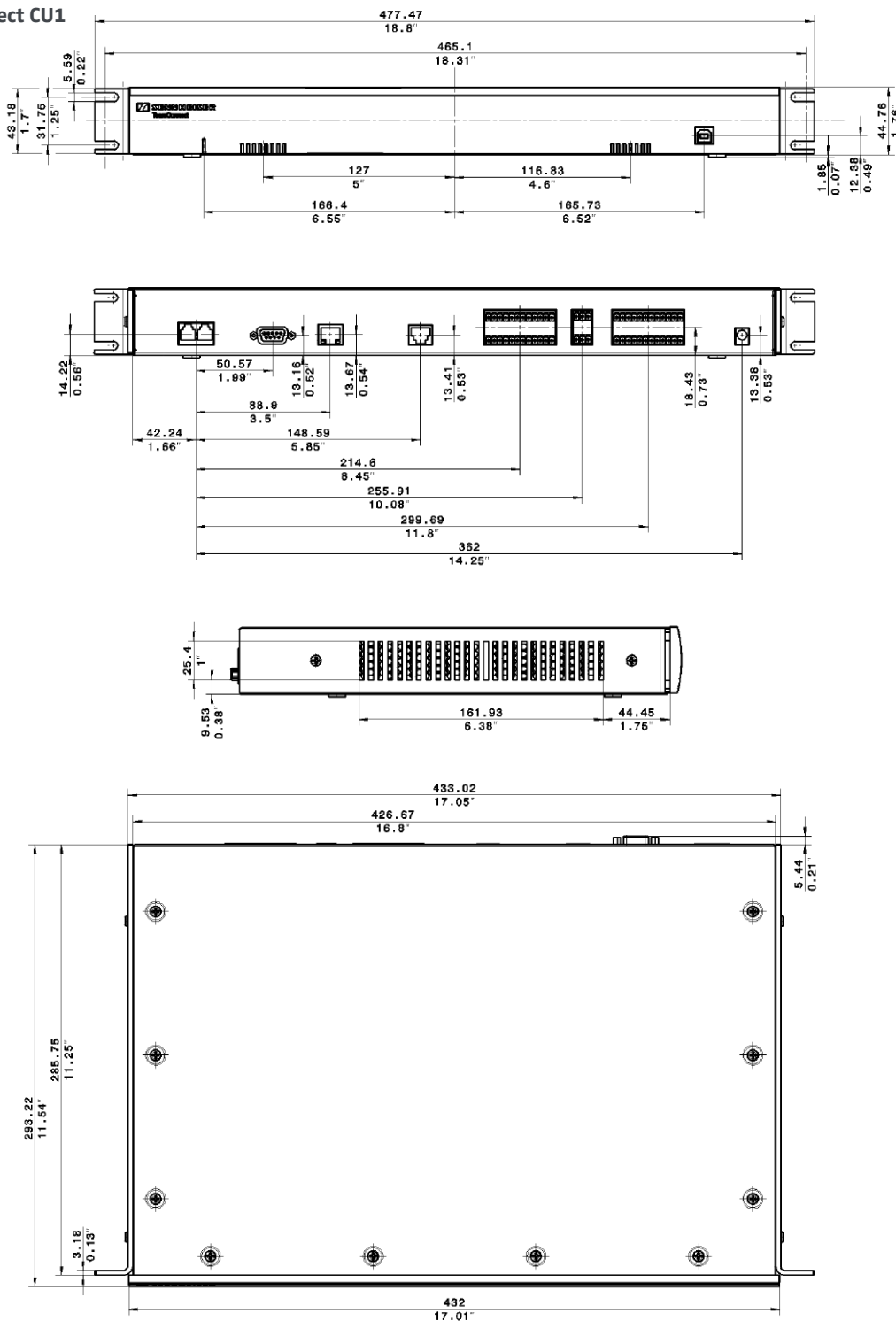
**SL TeamConnect CB1**
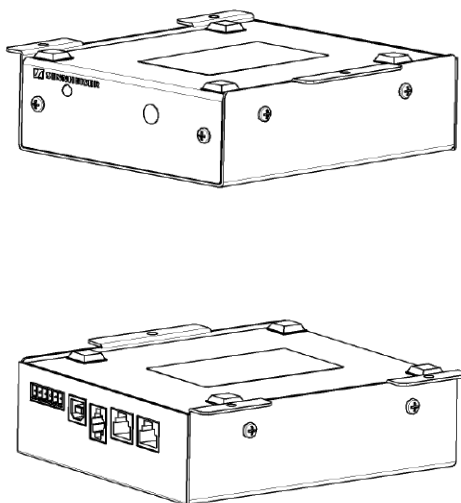


Dimensions in
mm
inch

## DIMENSIONS
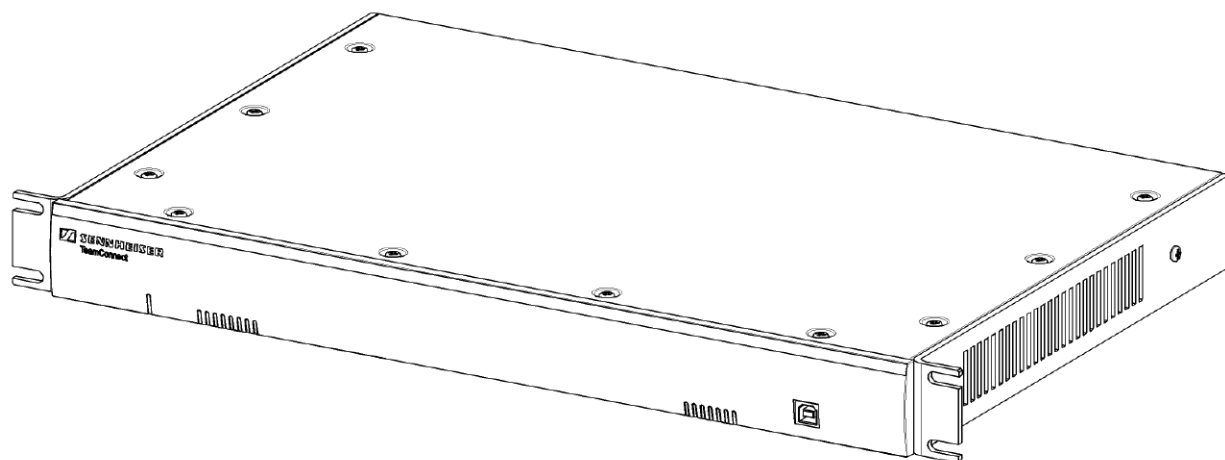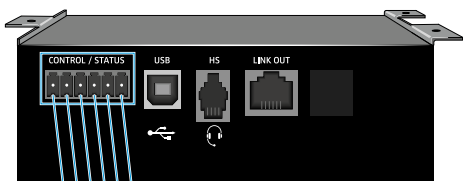
**SL TeamConnect CU1**



## DIMENSIONS

**SL TeamConnect CB1**

# TeamConnect   SL TeamConnect CU1, SL TeamConnect CB1

## Serial Commands

### SL TeamConnect CB1, Combox

Pin: 6 5 4 3 2 1

| Pin | Allocation | Function |
|-----|-----------|----------|
| Pin 1 | Microphone mute control | Master mute function for all microphones |
| Pin 2 | Microphone mute status | Status of the master mute function |
| Pin 3 | On/Off hook control | Opens or closes the telephone line |
| Pin 4 | On/Off hook status | Sends the status of the telephone line |
| Pin 5 | 5 V DC (up to 40 mA) | Power supply |
| Pin 6 | Ground | Ground |

### SL TeamConnect CU1, Central Unit

1   2   3   4   5   6   7   8
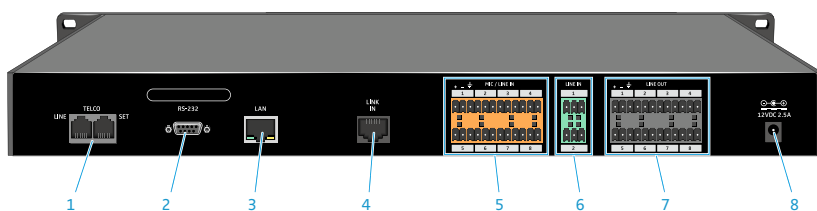
| | | |
|---|---|---|
| 1 | TELCO telephone interface | LINE: RJ-11 socket for connecting the CU1 to the analog landline network |
| | | SET: RJ-11 socket for connecting an analog telephone set to the CU1 |
| 2 | RS-232 control port | Control port for connecting a 3rd party media control system (e.g. AMX or Crestron) |
| 3 | LAN RJ-45 socket | Ethernet port (10/100 Mbps) for connecting the CU1 to a network |
| 4 | LINK IN RJ-45 socket | Link input for connecting the CB1 to the CU1 |
| 5 | MIC / LINE IN inputs | Audio input terminal for microphone and/or line level inputs |
| 6 | LINE IN inputs | Audio input terminal for line level inputs only |
| 7 | LINE OUT outputs | Audio output terminal |
| 8 | Power adapter input | 12 V DC 2.5 A |

### Serial Commands
### RS-232 control port

| Pin | User Definable | Control |
|-----|---------------|---------|
| Pin 1 | N | DCD |
| Pin 2 | N | TXD |
| Pin 3 | N | RXD |
| Pin 4 | N | DTR |
| Pin 5 | N | Ground |
| Pin 6 | N | DSR |
| Pin 7 | N | CTS |
| Pin 8 | N | RTS |
| Pin 9 | N | No Connection |

## PRODUCT VARIANTS

| | |
|---|---|
| TeamConnect CUCB1 EU | Art.-No. 506235 |
| TeamConnect CUCB1 GB | Art.-No. 506236 |
| TeamConnect CUCB1 US | Art.-No. 506237 |

## RECOMMENDED ACCESSORIES

| | |
|---|---|
| SL Loudspeaker 52 A W | Art.-No. 506243 |
| MEB 102-L W | Art.-No. 505604 |
| MEB 102-L G | Art.-No. 505605 |

| | |
|---|---|
| MEB 104 B | Art.-No. 505606 |
| MEB 104-L B | Art.-No. 505609 |
| MEB 104-L W | Art.-No. 505610 |
| MEB 104-L G | Art.-No. 505611 |
| MEB 114-S B | Art.-No. 505615 |
| MEB 114-S W | Art.-No. 505616 |
| MEB 114-S G | Art.-No. 505617 |
| MAS 1 B | Art.-No. 505618 |
| MAS 1 W | Art.-No. 505619 |
| MAS 1 G | Art.-No. 505620 |
| MAS 133 | Art.-No. 505621 |

## Contact your local Service Partner:

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