

INSTALLATION MANUAL

Interfacing the tCOM+ with Mindray BeneView and BeneVision Patient Monitors

tCOM+ Software Version V01.03.00 or higher



sentec.

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Introduction

The Sentec tCOM+ supports communication with Mindray BeneView T-Series patient monitors (T5/T6/T8/T9) and Mindray BeneVision N-Series patient monitors (N12/N15/N17/N19/N22) by using a Mindray-specific ID Adapter.

Once the connection between the tCOM+ and the BeneView / BeneVision patient monitor is established, the tCOM+ transfers all patient data (PCO₂, PO₂, SpO₂, PR, heating power) as well as the sensor temperature and alarm limits of physiological monitoring parameters to the BeneView / BeneVision patient monitor. However, the tCOM+ status messages/ status codes are not transmitted to the BeneView / BeneVision patient monitor.

The connection procedure must be followed only once, afterwards the tCOM+ and BeneView / BeneVision patient monitor will communicate even after disconnecting / reconnecting the tCOM+ or after power OFF/ON.

Note: The BeneView and BeneVision patient monitor can display data received from the tCOM+ but cannot remotely control the tCOM+.

Note: Due to the specific features of the SentecLink Interface Protocol, the data transmission from the tCOM+ to the BeneView / BeneVision System may be delayed by several seconds.

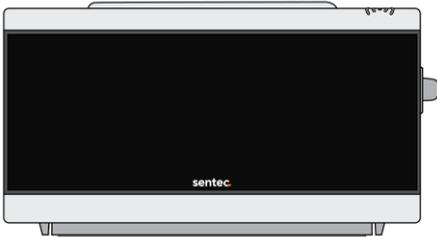
Note: Mindray is responsible to ensure the correct display of the tCOM+ monitoring data and physiological alarm conditions on the BeneView / BeneVision patient monitor.

Note: Accessory equipment connected to the tCOM+'s data ports must be certified according to the IEC 60950 standard. All resulting combinations of equipment must be in compliance with the IEC standard 60601-1 systems requirements. Anyone who connects accessory equipment to the tCOM+ configures a medical system and is, therefore, responsible for ensuring that the resulting system complies with the requirements of standard IEC 60601-1 and the electromagnetic compatibility standard IEC 60601-1-2.

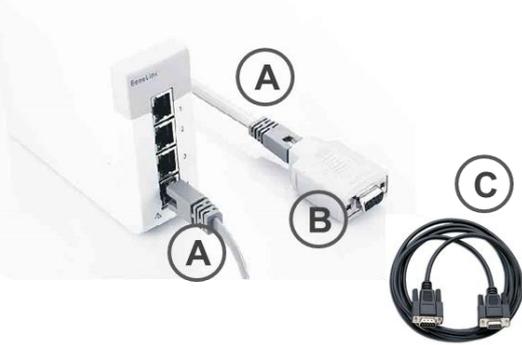
! **CAUTION:** When connecting/mounting the tCOM+ to accessory equipment (e.g. PCs, PSG-Systems, (wireless) networks, roll stands, mounting plates, incubators, etc.), verify proper operation before clinical use of the tCOM+ and accessory equipment. In certain cases it may be required that the tCOM+ and the accessory equipment must be connected to a grounded AC outlet. In case of doubt consult qualified technicians.

Required Components / System Requirements

Components required from Sentec

 A line drawing of a Sentec tCOM+ terminal device. It is a rectangular unit with a large black display screen in the center. The screen has the word "sentec" printed at the bottom. The device has a light-colored bezel and a small protrusion on the right side. It is supported by four small feet at the bottom.	<p>Sentec tCOM+ REF: 103164</p> <p>Software version V1.03.00 or higher is required to connect to BeneView / BeneVision Systems via SentecLink Protocol using Baud Rate 115200.</p>
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BeneView / BeneVision Components required from Mindray

	<p>Mindray Beneview / BeneVision Series Patient Monitors</p> <p>Connection is possible to the following systems: BeneView T5, T6, T8, T9 BeneVision N12, N15, N17, N19, N22</p> <p>Software requirements: Beneview Patient Monitors: SW Version 5.25 or higher BeneVision Patient Monitors: SW Version 2.0 or higher Benelink Module: SW Version 1.6 or higher</p>
	<p>Benelink Module Product Code*: 115-011464-00</p> <p>The Benelink Module is inserted into the module rack of the BeneView / BeneVision Patient Monitor. SW Version 1.6 or higher is required for interfacing the tCOM+ with the BeneView / BeneVision System.</p>
	<p>ID adapter kit: Benelink ID Adapter with RJ45 Cable and Cable C Product Code*: PN-115-011468-00.</p> <p>The kit contains the following items: RJ45 Cable (A): required to connect the selected port of the Benelink Module with the ID-Adapter (B). Sentec specific ID-Adapter Mindray type C serial port adapting cable (PN*: 009-001769-00): a black cable to connect the ID-Adapter with the female RS-232 connector on the rear of the tCOM+ (C). Note: Example image, real cable may look different.</p>

*Sentec assumes no liability for correctness of stated Mindray order codes

Setting up the connection

Note: The instructions below refer to the BeneVision N17 patient monitor. The procedure to set up the connection can slightly vary for other BeneView or BeneVision models.

To set-up a connection from the tCOM+ to the BeneVision System, proceed as follows:

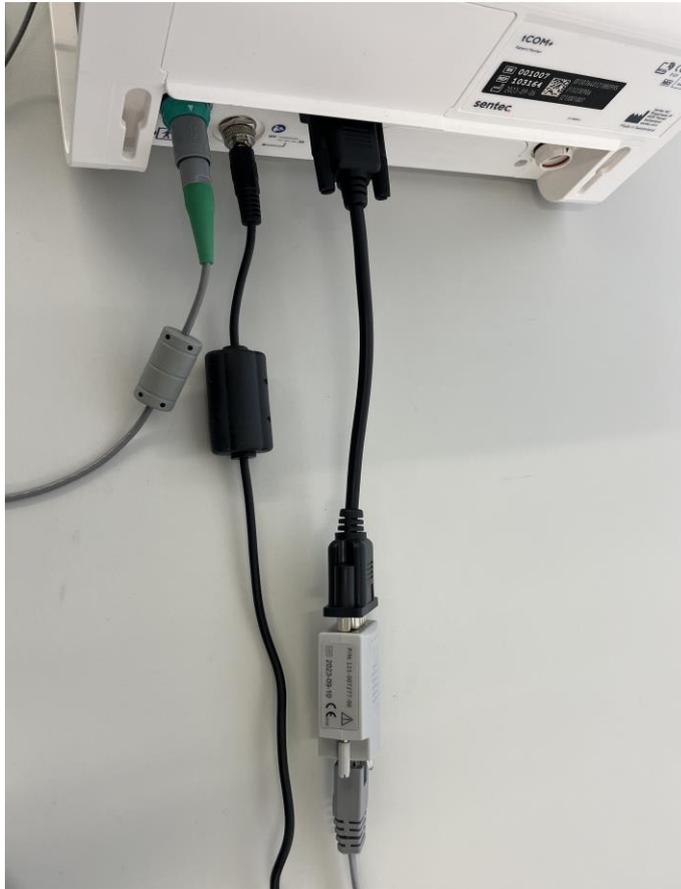
1. Switch the BeneVision System OFF.
2. Localize the module rack on your BeneVision monitor with the BeneLink Module.
3. Connect the Mindray RJ45 Cable to the BeneLink Module.



4. Connect the free end of the RJ45 Cable to the BeneLink ID Adapter (grey box).



5. Use the Mindray type C serial port adapting cable (black cable) to connect the ID-Adapter with the female RS-232 connector on the rear of the tCOM+.

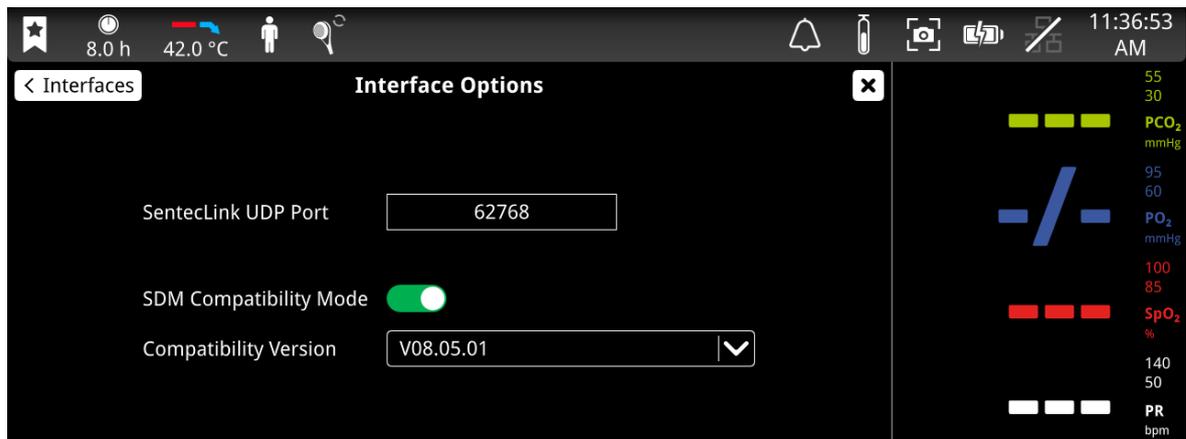


6. Switch the BeneVision patient monitor ON.

Configurations

Configuration of the tCOM+

- Select the serial communication protocol 'SentecLink' in the menu 'Advanced Settings / Interfaces / Serial Interface'. Select Baud Rate 115` 200.
Note: Other Baud Rates than 115` 200 are not supported in conjunction with the BeneView / BeneVision patient monitors.
- Enable 'SDM Compatibility Mode' in menu 'Advanced Settings / Interfaces / Interface Options'



- Disable Encryption for serial communication in menu 'Advanced Settings / Interfaces / Encryption'



Configuration of the BeneView / BeneVision Patient Monitor

To establish a connection between the BeneView or BeneVision patient monitor and the tCOM+, the correct port of the BeneLink-Module must be assigned on the BeneView or BeneVision patient monitor.

To assign the correct port, enter the “ID-Module upgr.” menu, select the correct port of the BeneLink-Module (i.e., the port the RJ45 Cable is connected to) and assign the tCOM+ specific communication ID to the selected port (5354acac).

Note: Assignment of the correct port to establish the connection between the BeneView or BeneVision patient monitor and the tCOM+ can only be done by Mindray Service Technicians or trained authorized personnel.

Configuration of the Display of the BeneView/ BeneVision Patient Monitor

Refer to the operation manual of the BeneView patient monitor for further information.

Alarms

All physiological alarms (high/low alarm limit violations) of the tCOM+ can be displayed on the BeneView / BeneVision patient monitors. However, the tCOM+ status messages/ status codes are not transmitted to the BeneView / BeneVision patient monitors.



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