

BeneView Installation Manual



Interfacing the Sentec Digital Monitor (SDM) with Mindray BeneView T-Series and BeneVision N-Series

(SDM Software Version SMB V08.00 or higher)

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Introduction

The Sentec Digital Monitor (SDM) supports communication with Mindray BeneView T-Series patient monitors series (T5, T8 or T9) and Mindray BeneVision N-Series patient monitors by using a Mindray-specific ID Adapter.

Once the connection between the SDM and the BeneView / BeneVision patient monitor is established, the SDM 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 online. However, the SDM's status messages/ status codes are not transmitted to the BeneView / BeneVision patient monitor.

The connection procedure has to be followed only once, afterwards the SDM and BeneView / BeneVision patient monitor should communicate even after disconnecting / reconnecting the SDM or after power OFF/ON.

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

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

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

 **WARNING:** Accessory equipment connected to the SDM'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 SDM 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.

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

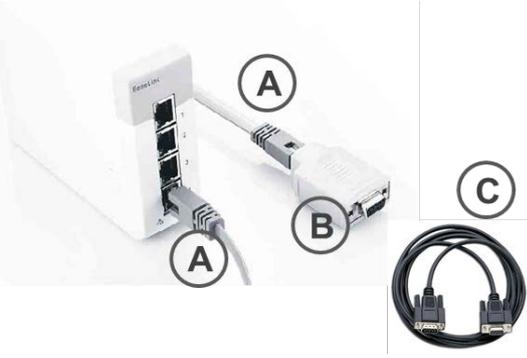
 **WARNING:** The mains power supply of the Sentec Digital Monitor (SDM) is separated by two Means of Patient Protection (MOPPs) between the sensor port (for the applied part, the sensor) and the interface connectors. The three interface connectors – serial data port, Multipurpose I/O port (analog outputs, nurse call), LAN port – of the SDM are not separated from each other. If at a time accessory equipment is connected to only one of the three interface connectors no additional safety measures are necessary to comply with the requirements of IEC 60601-1. If however accessory equipment is simultaneously connected to two or three of the SDM's interface connectors additional safety measures may be required to be compliant with the requirements of IEC 60601-1. In case of doubt, consult qualified technicians.

Required Components / System Requirements

Components required from Sentec

 A photograph of the Sentec Digital Monitor (SDM) device. It is a grey, rectangular unit with a large color LCD screen on the left side. The screen displays several data points: a green '39.4' at the top, a red '96' in the middle, and a black '84' at the bottom. There are also some smaller text labels and icons on the screen. To the right of the screen is a control panel with several buttons and a prominent orange circular button. The Sentec logo is visible on the top left of the device.	<p>Sentec Digital Monitor Product Code: SDM</p> <p>Software version SMB SW-V08.00.xx or higher is needed to connect to BeneView / BeneVision Systems via SentecLink Protocol using Baud Rate 115`200.</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 01-06 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 SDM 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: 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 SDM. Note: Example picture shown. 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 BeneView T5 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 SDM to the BeneView System proceed as follows:

1. Switch the BeneView System OFF.
2. Localize the module rack on your BeneView 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 SDM.



6. Switch the BeneView patient monitor ON.

Configurations

Configuration of the SDM

Set the menu-parameter "Interfaces / Serial Interface " to "SentecLink". Select Baud Rate 115`200.

Note: Other Baud Rates than 115`200 will not work in conjunction with the BeneView / BeneVision patient monitor.

Configuration of the BeneView / BeneVision Patient Monitor

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

In order 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 SDM-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 SDM 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) from the SDM can be displayed on the BeneView / BeneVision patient monitors. However, the SDM status messages/ status codes are not transmitted to the BeneView / BeneVision patient monitors.



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