



## **CCM - Communication Center Module**

### **User Manual**

	<b>Note</b>
	<ul style="list-style-type: none"><li>▪ The Quick Guide provided to you with your CCM shows the configuration for your CCM.</li><li>▪ It is strongly recommend that you read this manual carefully and in its entirety before using the CCM.</li></ul>

The CCM can communicate with the MC with LAN (internet) connection.

The measurement devices can communicate with the CCM in three different ways: serial communication (using port 1 and port 2), USB or Bluetooth.

This user manual describes all the available communication for the CCM.

The quick guide provided to you with your CCM shows the communications available in your package.

	<b>Warning</b>
	<ul style="list-style-type: none"><li>• <b>You can only use the CCM with devices provided by SHL.</b></li></ul>

**If you have any questions about how to use this device, do not hesitate to call our customer service for support:**



**1-800-221818**

**This telephone number appears at the bottom of each page.**



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## 1. Indications for use

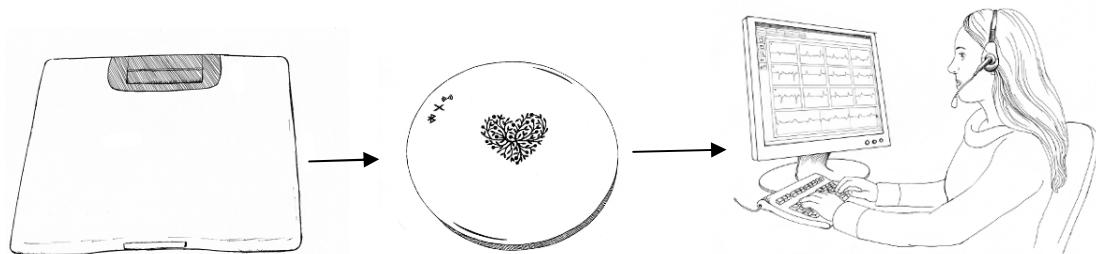
The CCM device is intended to receive and transmit measurements from one or more medical devices to a remote location. The data from the medical device can be received via Bluetooth, a Serial port or a USB port. The CCM device can transmit the data to the remote location via LAN.

 A yellow triangular warning icon with a black exclamation mark in the center.	Warning
	<ul style="list-style-type: none"><li data-bbox="504 848 1176 907">The use of the device should always be in conjunction with a receiver capable of receiving the data.</li></ul>

## 2. Description of the CCM

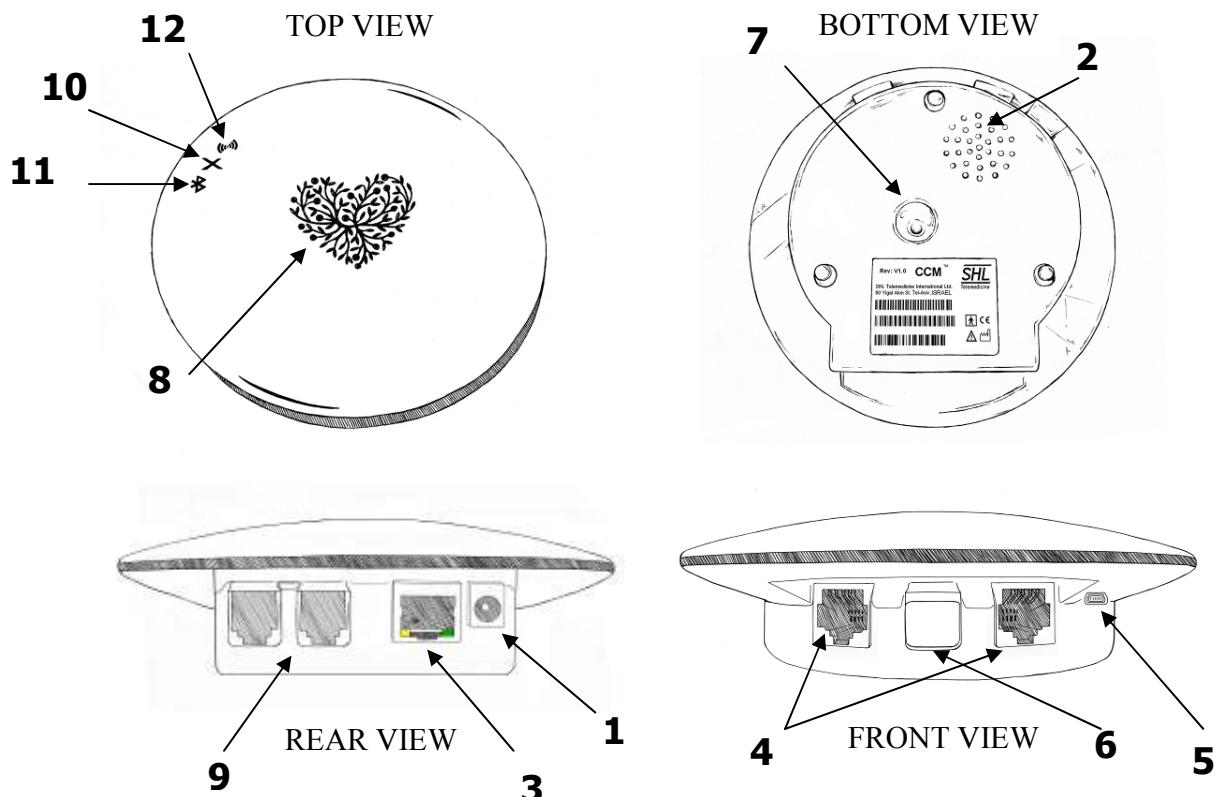
The Communication Center Module (CCM) is a stand-alone device that receives data from measurement devices at a remote location (for example, the patient's home) and transmits the data to the Medical Center (MC).

### System diagram



<b>Device</b>	<b>To CCM</b>	<b>To MC</b>
<b>Blood pressure</b>	Bluetooth	LAN
<b>Weight</b>	Serial Port	
<b>Glucometer</b>	USB	
Etc.		

### CCM diagram



### CCM Components

**Note:** The CCM contains several LEDs (light-emitting diodes) that serve as indicator lamps.

**Note:** All the CCM sockets are labelled on to bottom side of the CCM.

- 1** **Power Supply (PWR).**
- 2** **Speaker**
- 3** **LAN Socket (LAN).**
- 4** **Serial Ports (Port 1, port 2).**
- 5** **USB Port (USB).**
- 6** **Multifunction Button**
- 7** **Reset button**
- 8** **SHL Heart Logo**

**9** Telephone sockets (Line, Phone) – Not in use.

Three LEDs on top of the CCM.

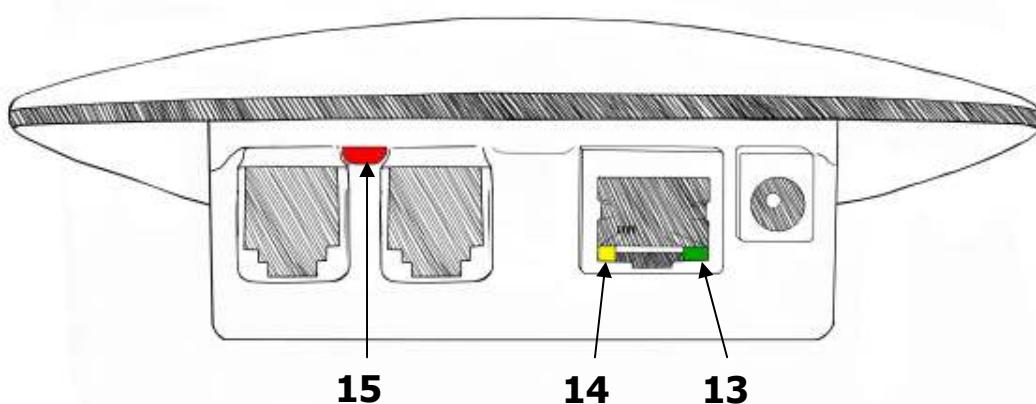
**10** Red indicates an error

**11** Blue indicates a Bluetooth connection

**12** Yellow indicates a cable connection (serial or USB), and shows if there are untransmitted measurements.

Two LAN LEDs.

**13 and 14** Green and Yellow indicates a LAN connection



**15** Red LED not in use

### 3. Communication Options

	<b>Caution</b>
	<ul style="list-style-type: none"><li>▪ The User Manual describes all the ways a measurement device can communicate with the CCM.</li><li>▪ The User Manual also describes the way the CCM can communicate with the MC.</li><li>▪ Please refer to the communication options available at your CCM as defined in the quick guide.</li></ul>

#### How does the CCM communicate with the MC?

The CCM can communicate with the MC in one way:

**LAN Interface:** Connects the CCM to the MC using your local area network (LAN) - (see component **3** on the CCM diagram above). This way is the fastest way to send the data to the MC.

#### How does a measurement device communicate with the CCM?

A measurement device can communicate with the CCM in one of three different ways:

**Serial Port:** This is a cable connection to the CCM. The CCM can communicate with two 2 devices at the same time (see component **4** on the CCM diagram above).

**Bluetooth Wireless:** This is wireless communication to the CCM. It can communicate with up to 7 devices at the same time.

**USB:** This is also a cable connection to the CCM. It connects to a USB port on your CCM (see component **5** on the CCM diagram above).

## 4. Setting up the CCM

### Step 1: Power up the CCM

Connect the power cord plug into an electrical outlet (Figure 1) and the transformer cable (Figure 2) into the back side of the CCM (Figure 3).

All the LED's on the CCM light up and stay lit for 2 seconds.

The orange SHL heart logo stays lit as long as the CCM is connected.

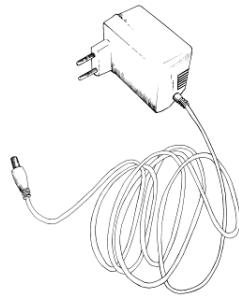


Figure 1

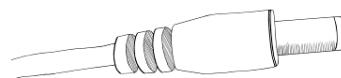


Figure 2

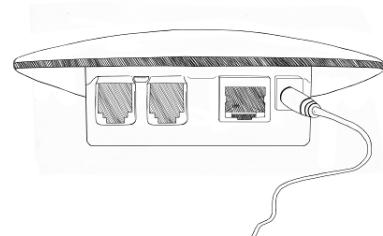


Figure 3

### Step 2: CCM to MC Communication

**LAN Interface:** This is a LAN connection to the MC. Connect one end of the LAN cable into the LAN socket on the rear side of the CCM (Figure 4) and the other end (Figure 5) into the home router (Figure 6). This way is the fastest way to send the data to the MC.

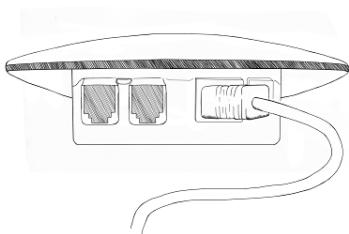


Figure 4



Figure 5

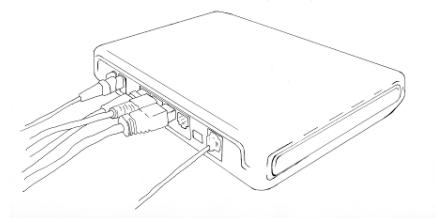
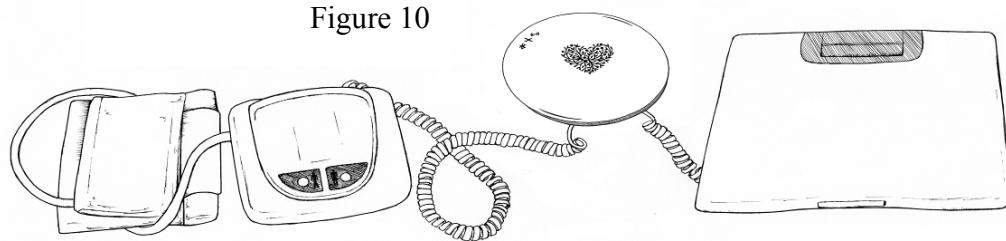


Figure 6

### **Step 3: Measurement Device to CCM Communication**

**Serial Port:** This is a cable connection from your device to the CCM (Figure 10). Plug the cable into one of the two ports according to the setup instructions in your Quick Setup Guide.

Figure 10



**Bluetooth Wireless:** The measurement data is automatically transmitted to your CCM. No action is needed.

**USB Port:** This is a cable connection from the measurement device to the CCM. Plug the cable (Figure 11) into the USB port on the front side of the CCM (Figure 12).

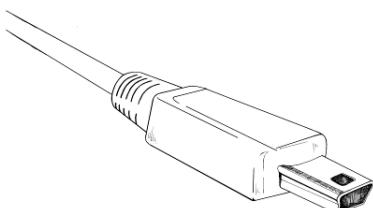


Figure 11

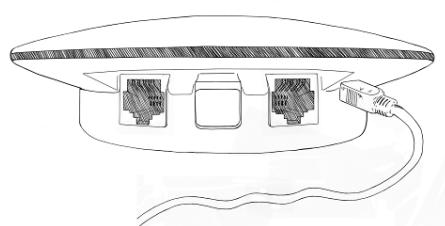


Figure 12

## 5. Taking a measurement

### ***Step 1: Check that the CCM is operating***

The SHL orange heart logo on top of the CCM is lit.

### ***Step 2: Take measurements on your device***

Connect the device to the CCM and take the measurements.

### ***Step 3: Check that measurements get to your CCM***

**Bluetooth Wireless:** The blue LED is blinking for three seconds.

**Serial Communication:** The yellow LED is blinking for three seconds.

**USB Communication:** The yellow LED is blinking for three seconds.

### ***Step 4: Check that the data gets to the MC***

As long there are untransmitted measurements stored in the CCM the Yellow LED is lit.

While the CCM is communicating with the MC the orange heart logo on top of the CCM is blinking.

In case all measurements were transmitted to the MC the Yellow LED will turn off.

## 6. Handling Errors

Whenever the CCM detects an error, the **Red LED** on top of the CCM lights up or blinks (see component **10** on the CCM diagram above).

### **Step 1: Identify the error**

Press the multifunction button on the CCM (see component **6** on the CCM diagram above). The speaker will tell you the number of the error that has occurred. Write down the number. If the action required is to notify SHL customer service, tell them the error number.

### **Step 2: Deal with the error**

Proceed as instructed in the table below:

Error number	Red LED	Error description	Action required
1	ON	Power supply error	Disconnect the power supply, wait 10 seconds, reconnect the power supply.
2	ON	Current consumption	Disconnect all the serial measurement devices from ports 1 & 2.
4	ON	USB power supply	Make sure that there is no PC or power supply connected to the CCM USB port.
5	Blinking	Low battery in the last measurement device used	Replace the battery in your measurement device
6	ON	Error from a BT device	Take another measurement, in case the same error appears again, Call customer service.
7	ON	Error from a serial device	Take another measurement, in case the same error appears again, Call customer service.
8	On	No IP for LAN communication	Check your LAN cable connections
10	On	Communication error	Call Customer Service
11	On	Various internal error	Call Customer Service

## 7. Troubleshooting

### **Red LED on top of the CCM is 'On' or 'Blinking'**

See above in **6 Handling Errors**.

### **After turning on the CCM the SHL orange heart logo blinks continuously**

Press the Reset button (see component **7** on the CCM diagram above).

### **SHL orange heart logo is not lit**

See above in **section 4 "Setting Up the CCM", Step 1**.

### **Blue LED is lit**

Press the Reset button (see component **7** on the CCM diagram above).

### **Yellow LED is lit**

A measurement is in memory, which hasn't been sent yet to the MC.

**LAN Interface:** Call customer service if the yellow LED stays lit for more than five minutes.

## 8. Maintaining your CCM

### Cleaning the device

	<b>Caution</b>
	<ul style="list-style-type: none"><li>• The CCM is not waterproof.</li></ul>

- Clean off dust with a dry cloth. Do not scratch with abrasive cleaners or abrasive cleaning pads for cleaning. Damage to plastic parts will result.
- The device generally does not require cleaning.
- If in doubt, contact customer service for support:

## 9. Equipment classification

 0344	
Type of Protection Against Electrical Shock	Type B: 
Mode of operation	continuous
Degree of protection against ingress of liquids	Not protected (IP30)
Degree of protection against flammable gasses	The equipment is not protected against the presence of a flammable anesthetic mixture of air, oxygen or nitrous oxide.

	<b>Caution</b>
	<ul style="list-style-type: none"> <li>The CCM is not designed against the ingress of liquids. Do not submerge during cleaning.</li> </ul>

	<b>FCC Standard</b> FCC ID: U6VCCM
	<ul style="list-style-type: none"> <li>This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</li> <li>The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by SHL Telemedicine International Ltd. may void the user's authority to operate the equipment.</li> </ul>

## 10. Operating and storage conditions

<b>Storage</b>	Temperature	-20° C to +65° C (-4° F to +149° F)
	Relative Humidity	10-90% non condensing
	Atmospheric Pressure	500hPa - 1060hPa
<b>Operating</b>	Temperature	+10° C to +40° C (+50° F to +104° F)
	Relative Humidity	10-90% non condensing
	Atmospheric Pressure	700hPa - 1060hPa

	<b>Caution</b>
	<ul style="list-style-type: none"><li>• Do not leave the device in an enclosed and warm space where temperature can exceed 70° C.</li></ul>

## 11. Technical specifications

ITEM	SPECS
<b>Current Drain:</b>	Transmission: LAN 200mA avg. Standby: 100 mA avg.
<b>Power supply</b>	Ac/Ac adaptor, input: 230V~50Hz, output 12V~1A
<b>BT</b>	Class 1
<b>Serial port baud rate</b>	Up to 115Kpbs, auto baud rate detection
<b>USB</b>	USB 2.0
<b>USB connector</b>	Mini USB type B
<b>Ethernet</b>	Fully Compatible with 10/100/1000Base-T Networks



## 12. Limited warranty

The CCM is warranted, under normal use, to be free from any manufacturing defects for one year from the date of purchase. Limitations related to this warranty are as follows:

- Tampering with the CCM device or opening the device by anyone other than a qualified SHL technician voids the warranty.
- The warranty is only extended to the original purchaser - it is not transferable.

If you can't operate the CCM, contact customer service at **1-800-221818** to confirm that the device is not working and arrange to receive a replacement.

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