

Multiparameter OEM Board for Patient Monitors



Quickstart Manual



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Version 1.02

Medlab medizinische Diagnosegeräte GmbH Helmholtzstrasse 1a 76297 Stutensee Germany Tel. +49(0)7244 741100 oemsales@medlab.eu www.medlab.eu

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Hardware



The MP01000 is tested using two additional PCBs which are included in the testkit:

On the left side, a board that hosts the interface and power connections, on the right side a board that adapts to the patient cables.

In the final product, these boards should be part of the medical product of the customer.

The interface board has two jumpers:

The left jumper, normally closed, allows to measure the total power consumption of the system when connecting a current meter instead of the jumper.

The right jumper, open during normal operation, allows reloading the firmware of the module, if software updates should become available.

The board is connected to the RS-232 interface of a PC for the test. Please see the next page for a brief description of the test program.

Due to the increased current requirements during NIBP measurement, because of pump and valves, the power supply should be able to supply at least 3W of power. Connection is done over standard 4mm connectors. A medical grade power supply is recommended for testing, and absolutely necessary for a final medical product.

PC Software

ledlab Mul	tiparameter Decoder						
About							
lues Curve	<u>}</u>						
Block count 8529	ECG wave		CRC errors	Block count	NIBP cuff pressure (dec.)	CRC	CRC errors
Block count 37	ECG num (dec.)	CRC	CRC errors	Block count	NIBP num (dec.)	CRC	CRC errors
Block count	ECG stat	CRC	CRC errors	Block count	NIBP stat	CRC	CRC errors
20	Jao 17 20 00	Command		Block count	NIBP timer	CRC	CRC errors
	<stx> 0xA3 0x00 0x03 "E"</stx>	E Ack	CRC Send	3	J2 0	8C	100000000
<stx> 0xA</stx>	い3 0x00 0x03 "EC" マママ R C aVF	avLavRIII I	CRC Send		<st>> 0xA3 0x02 0x03 "N"</st>	S1	73 <etx></etx>
						E Ack	CRC Send
Block count 2877	SpO2 wave	CRC B8	CRC errors				
Block count 29	SpO2 num (dec.)	CRC 1E	CRC errors	Block count 29	Temperature num (dec.) 0,0 0,0 38,8	CRC 2E	CRC errors
Block count 29	SpO2 stat 02 0A 00	CRC	CRC errors	Block count 29	Temperature stat	CRC 93	CRC errors
	<stx> 0xA3 0x01 0x03 "S"</stx>	Command	CRC <etx></etx>		<stx> 0xA3 0x03 0x03 "T"</stx>	Command	CRC <etx></etx>
		🗖 Ack	CRC Send			E Ack	CRC Send
Block.count	Board stat	CRC	CRC errors	ECG-Base-	Address Base-Address CM	1D-Base-Addres	35
Block count	Board version	CRC	CRC errors	TIDON	f	0	252
Block count	Board sernum	CRC	CRC errors	TXDON	<stx> 0xA3 0x04 0x03 "M"</stx>	Command	<pre>CRC <etx></etx></pre>
			Contraction of the contraction of the				

The software allows to transmit commands to the module, including the generated CRC values, and to display the transmitted blocks of the board in numerical form. A second tab show the curves that are coming from the MP01000 in graphical format also.

When transmitting a command, the first character of the respective command is automatically added, as shown in the text left of the command window.

Example: To transmit a "start NIBP measurement, the board needs to receive the data block:

0x02	0xA3	0x02	0x03	0x4E	0x53	0x31	<crc8></crc8>	0x03
STX	Count+0xA0	Addr low	Addr high	'N'	'S'	'1'	CRC	ETX

(Please see page 28 -29 of the user manual for a description of the available commands)

In the test program, one only has to enter "S1" in the right top NIBP command window, and press the "CRC" button, which generates the CRC8 value for the complete block. Then, presse "Send" to transmit the block. If the command is recognized, the board sends back an "ACK" command, which can be checked in the marker box below the command window, and executes the command..

The tick boxes on the left side, in the ECG window allow for easy selection of the curves the user wants to receive: tick the boxes you want to select for reception, press "CRC" and "Send". In the "curve" tab on the program, one can see the curves in graphical form.

The software is written in Visual C# and is supplied in source form to customers, as a VisualC# project folder.

History:

Rev. 1.00: Rev. 1.01: Rev. 1.02: Initial Revision Added new picture Corrected layout

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