ZUG
MEDICAL SYSTEMS

4 Channels IBP Module

Zug 4 channels IBP module, referred herein after as M4IBP/M603 module is used for adult, children and neonate invasive blood pressure measurement and shall be integrated in patient monitoring equipment.

The measurement method of M4IBP/M603 IBP module is using fluid to transmit the pressure of measured part to outer sensor, so as to get Systolic and Diastolic Blood Pressure, Mean Arterial Pressure and Pulse Rate by proprietary signal processing method and algorithm.

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M4IBP/M603

OVERVIEW

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FEATURES

- 4 channels IBP monitor with SBP, DBP, MAP and PR
- Response time setting

- Use ZUGMED protocol
- Support OEM, the best choice of multi-parameter monitor

APPLICATION

- IBP function of Patient Monitor

FUNCTIONS

MEASUREMENT RESULT

The measurement result contains SBP, MAP, DBP, PR and real time pressure wave.

CALIBRATION

The module provides continuous real time pressure to allow proper calibration.

PATIENT TYPES

The module provides three kind of measurement depending on the patient type: adult mode, children mode and neonate mode.

HIGH PERFORMANCE

The module high performance includes: real time module status, hardware status, software status, sensor status and alarm information.

PERFORMANCE

PRESSURE

Range	-50 ~ 400 mmHg
Accuracy	±2 mmHg or ±1% of the reading (whichever is greater)
Resolution	1 mmHg

PULSE RATE

Range	35 ~ 250 bpm
Accuracy	±3 bpm
Resolution	1 bpm

SENSOR

Sensitivity	5 µV / mmHg / V
Impedance	300 ~ 5000 Ω

Standards compliance description

| Standard NO.	Number of standard	Version
IEC60601-2-34	Medical Electrical Equipment – Part1: General Requirements for Safety – 2. Collateral Standard – Electromagnetic compatibility – Requirements and tests	2000

Electrical characteristics

Input Voltage.. *External power supply should provide +12 V DC, Voltage offset range should between ± 10% of voltage full range*

Power Consumption ....*≤ 5 W*

Environment characteristics

|	Operating environment	Storage environment
Temperature	10ºC to 40ºC (50ºF to 140ºF)	-20ºC to +70ºC (4ºF to 158ºF)
Humidity	15% - 90% non-condensing	15% - 90% non-condensing

Dimensions

The board dimensions are given in millimeters.
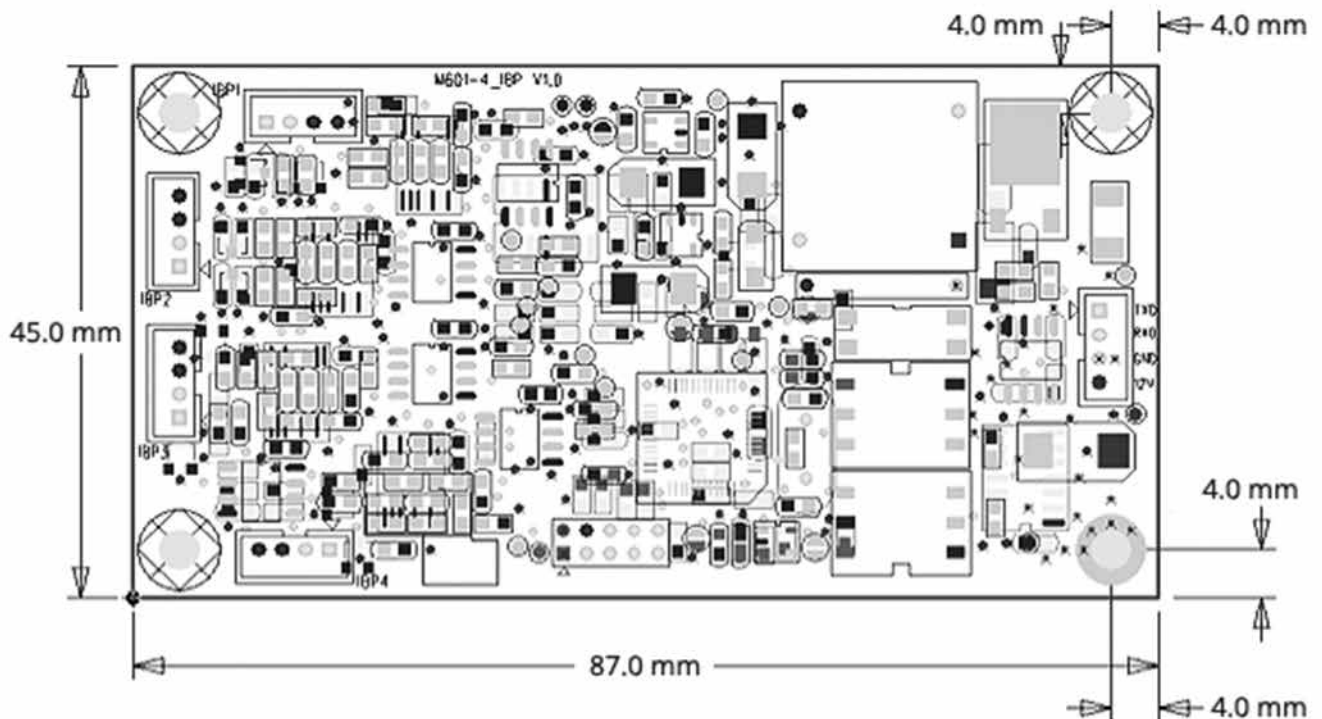
INTERFACES

THE INTERFACE OF POWER AND COMMUNICATION

The connector J3 shown below is used for the purpose of communication and power supply. The pin 1 is actually indicated by an arrow on the PCB.
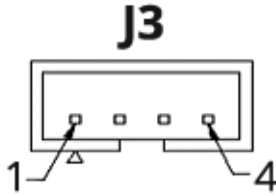
The table shows the pin assignment of this connector.

*Note: TXD pin is used for the data sent from the M4IBP/ M603 module to the host.*

Pin No	Signal	Description
1	TXD	*UART Sending data from module to host*
2	RXD	*UART Receiving data from host to the module*
3	GND	*Ground*
4	+12V	*Power Supply input 12V DC*

Sensor port and IBP channel:

Pin No	Sensor port	IBP channel
1	*J1*	*IBP1*
2	*J2-*	*IBP2*
3	*J4*	*IBP3*
4	*J5*	*IBP4*

TRANSDUCER INTERFACE

The connector J1 shown below is used for the purpose of IBP signal transmission supply. The pin 1 is actually indicated by an arrow on the PCB.
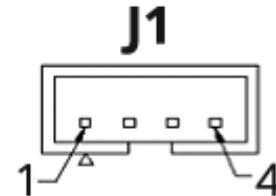
The table shows the pin assignment of this connector.

Note: The sensor has four ports: J1, J2, J4, J5, same definition of interface.

Pin No	Signal	Description
1	IBP+	*Sensor, positive input*
2	IBP-	*Sensor, Negative input*
3	GND	*Sensor Ground*
4	AVCC	*Sensor +5 V voltage input*

SENSOR

ZUG will recommend or supply appropriate sensors, which have been validated by our tests and approved by our quality assurance team.

ORDERING

Our 4 Channels IBP module part number is **M4IBP/M603**.

For ordering our module, please contact directly our sales team by email at **sales@zugmed.com** or refer to our website **www.zugmed.com** for further information.

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