

Flexible Solutions, Reaching the Target



R M C – B5

MODULAR RTU

Bilko Automation

RMC-B5 Modular RTU boards:

- » DI-16 :Digital Input Board
- » DO-16 :Digital Output Board
- » AIPT-6 :Analog Input Board
- » AO-4
 » RS485-1
 :RS485 & Prog. Board
 - RS485-1 :RS485 & Prog. Board
- » RS232-2
- » EtherCAN-3 » PWR-533
- » CPU-A32
- » BP-5/8/10

:RS232 COM Board :Ethernet & CAN Board (*) :Main Power Board :CPU Board :Backplane (*)

Digital Input Board (DI-16)

» DI-16 has isolated 16 digital inputs.

» Digital inputs are used for reading the external devices' states (Ex. working/stops, open/closed, manual/automatic).

» DI-16 have LED indications at each inputs.

Digital Output Board (DO-16)

» DO-16 has isolated 16 digital outputs.

» Digital outputs are used for determining/controlling the external devices' states (Ex. work/stop, open/close, move forward/backward).

» DO-16 have LED indications at each outputs.



Analog Input Board (AIPT6)

» AIPT6 has 4-Channel 12-bit analog inputs with configurable voltage and current ranges and optional 2-Channel 16-bit PT100 Sensor Measurement.

» Analog inputs are used for reading the information from the external sensors (Ex. flowmeter, manometer etc.).

RS485 & Programming Board (RS485-1)

» RS485-1 board has one RS232 port with DB9 connector for programming and one configurable half or full duplex RS485 port.

» LED indications exist for RS485 interface and programming.



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RS232 COM Board (RS232-2)

» RS232-2 board has two identical RS232 Port with DB9 male connector.

» RMC-B5 can communicate with another device via RS232-2 board.

» The board communicates in compliance with the RS-232 standard.



Main Power Board (PWR-533)

» PWR-533 board supplies power to the RTU.

» PWR-533 needs 7-36 VDC supply to operate. It regulates the voltage to 5V and 3.3V.

» The board has reverse polarity protection for power input.

Microprocessor Board (CPU-A32)

» CPU-A32 board contains the microprocessor.

» 32 bit ARM[®] microprocessor with DSP and FPU is used.

» The microprocessor has RTC with CR3220 coil battery and fully configurable RTOS support.







» It is used to connect electronic board modules together to make up an RTU.

» On request, number of connectors can be configured as 5,8 or 10. Customized top can be designed for more than 50 orders.





Front & Top view of a design example of RMC-B5 Modular RTU.





Technical Specifications	
Power Supply (Logic)	7 VDC to 36 VDC
Power Consumption (for logic)	90 mA nominal
Current Consumption for Digital Inputs (at standby)	20 mA
Current Consumption for Digital Outputs (at standby)	40 mA
CPU Isolated Side Power Consumption @24VDC	90mA
Ambient Temperature Range	-20 °C +60 °C
Storage Temperature Range	-40 °C +70 °C
Dimensions	197.7 mm x 112.4 mm x 111.9 mm

Board Moduls' Specifications	
Digital Input Board (DI-16) Each input supports IEC61131-2 Type 1/2/3 Characteristics Each input supports configurable filter Under voltage can be detected and shown with a LED Optional Wire break detection for each digital input 500VAC Isolation at each input Reverse polarity protection for isolation sensor voltage isolation sensor voltage is between 10V DC and 32V DC	Digital Output Board (DO-16) Under voltage can be detected and shown with a LED 500V AC Isolation at each output Reverse polarity protection for isolation output voltage İsolation output voltage is between 10V DC and 32V DC Short circuit protection Overvoltage protection Each digital output can handle load currents up to 0.5A
 Analog Input Board (AIPT6) Current and Voltage selection is fully software configurable and no hardware changes is necessary during the commissioning. Up to ±25V DC voltage protection 12 KV ESD protection at each analog input Software programmable analog channel inputs: ±10V, ±5V, 0-5V, 0-10V, 4-20mA, 0-20mA, -20mA to +20mA Each channel supports 2-wire, 3-wire and 4-wire PT100 configuration 2500V isolation voltage 	EtherCAN-3 Board (Optional) • One 10/100Mbps Ethernet MAC that supports IEEE 1588v2 • Supports Modbus TCP • TCP/IP stack supports Web server, TFTP server, TCP client/server, UDP client/server • One RJ 45 Connector for Ethernet • 2 RJ45 connector for CAN Bus multidrop connection ±16 kV ESD protection at CAN bus pins • CAN Bus allows connection of up to 120 nodes on a bus • Data rates up to 1Mbps
 RS232 COM Board (RS232-2) Supports Modbus-RTU at each port Fully configurable RS232 communication parameters ±15 kV ESD protection at RS232 pins Each port operates at maximum 250kbps 2500V isolation voltage 	RS485 & Programming Board (RS485-1) Supports Modbus-RTU at each port Fully configurable RS232 and RS485 communication parameters ±15 kV ESD protection at RS232 and RS485 pins RS232 port operates at maximum 250kbps RS485 port operates at maximum 10Mbps Maximum 256 nodes can be connected to RS485 port 2500V isolation voltage

Long Distance Digital I/O Transmission

The transmission of digital I/O signals between a master and a slave station is the typical configuration of remote supervision and control applications. RMC-B5 provides very efficient and economical solution for large number of remote I/O signal transmission. In the master station, a RMC-B5 run in "Modbus Master" mode and at the remote station another RMC-B5 is used in "Modbus slave" mode.

Two radio modems make the radio connection. Point to point communication distance may reach 50 km (depending on modems and geographical conditions).

Since RMC-B5 is an intelligent unit, it's possible to program it to easily access any remote field equipment. RMC-B5 can also be used for cost effective and flexible I/O extension module or as a protocol conversion module in various SCADA projects.



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