

piko Atlas®-RTL Modular RTU/PLC

The piko Atlas®-RTL device is miniature modular remote terminal unit (RTU) for data acquisition and control, with possibility of PLC algorithm implementation. It consists of one master CPU module and several I/O slave modules, maximum 8 modules of each type. All modules are connected through I2C bus.

piko Atlas®-RTL has these kinds of I/O slave modules:

- Digital Input Module that can be configured as simple digital inputs or digital inputs counter with 1ms synchronization for simple digital inputs (max 8 digital input modules, 8 digital inputs per each module).
- Digital Output Module that can be configured as permanent duration commands, single- step pulse commands or two-step pulse commands.
- Analogue Current Input Module has 8 inputs that can be [0÷+20]mA or [0÷+10]mA.
- Analogue Current Input Module with 4 galvanic separated inputs with software configurable input range.
- Analogue Current Output Module has 2 outputs, [0÷20]mA.
- Analogue Voltage Output Module, [-10÷10]V.
- GPS module.

The unit is connected with the rest of the system through two serial ports, one Ethernet and one CAN port.

It supports: IEC 60870-5-101 Master/Slave, IEC 60870-5-102 Master, IEC 60870-5-103 Master, IEC 60870-5-104 Client/Server, MODBUS RTU i TCP Master/Slave, MODBUS TCP Client/Server, SPA Master, IEC 61850 Client/Server. DNP3 Master/Slave, Hart Master, Probus Master, BACNET Master...

PLC function is realized through specialized FBD (Function Block Diagram) editor. For station setup and basic monitoring special application called pATLAS Setup and Monitoring is used.

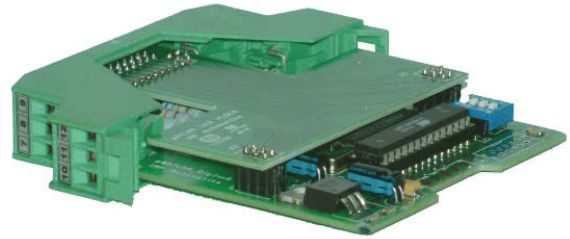


CPU Module

- Processor AM3358 1GHz ARM Cortex-A8
- 4GB 8-bit eMMC on-board ash storage
- microSD card (up to 16GB)
- real time clock
- 4 serial ports (2xRS-232/485, 2xRS-232) (isolated)
- 1 x CAN (isolated)
- Ethernet port 10/100Mbps
- input for external time synchronization from GPS receiver

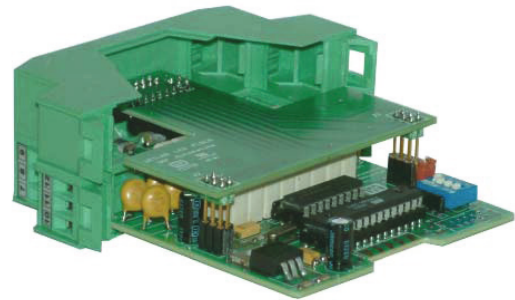
Digital Input Module (DI4)

- number of inputs: 8
- connection mode: in groups of 2 inputs
- interface type: optocoupler
- galvanic separation: 2kV persistent and 5kV impulse between output and electronics
- input voltage: $V_s = 24/48/110$ VDC



Digital Output Module (CEO)

- number of outputs: 8
- galvanic separation: 2kV persistent and 5kV impulse between output and electronics
- output specifications:
 - maximal voltage: 300VDC, 250VAC
 - maximal current: 4A
- command pulse duration: $[100\text{ms} \div 25.5\text{s}]$, selectable

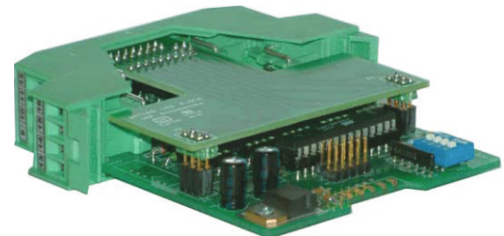


Current Analog Input Module (AI4)

- number of inputs: 4
- input current: configured by software in range $[-20 \div 20]$ mA; by default $[4 \div 20]$ mA
- resolution: 21-bit
- sample rate: 12.5s/second
- input resistance: 50 Ohms
- all channels with separate ground

Analog Current Outputs Module (AOi)

- number of outputs: 2
- galvanic separation: 1kV between input and electronics
- output current: $[0 \div 10]$ mA or $[0 \div 20]$ mA
- maximum load resistance: 500 Ohms



Resistance Analog Input Module (RI4)

- 4-channel temperature measurement module using RTD sensors
- Connection: 4-wire
- Input type: Pt100, Pt1000, ...
- A/D converter: 24 bits
- Conversion time: 20 ms

GPS Module

- protocols: NMEA, TSIP, TAIP, IRIGB
- synchronization pulse: PPS, PPM, PPH on RS-485 or TTL
- serial connection: RS-232/RS-485

I2C Termination

- active termination of I2C bus

Power Supply

- +12VDC
- consumption: 1.5A for +12V