

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 to +20 mA or 0 to +10 mA.
- Analogue Current Input Module with 4 galvanic separated inputs with software configurable input range.
- Analogue Current Output Module has 2 outputs, 0 to 20 mA.
- Analogue Voltage Output Module, -10 to 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, Profibus Master, BACNET Master...

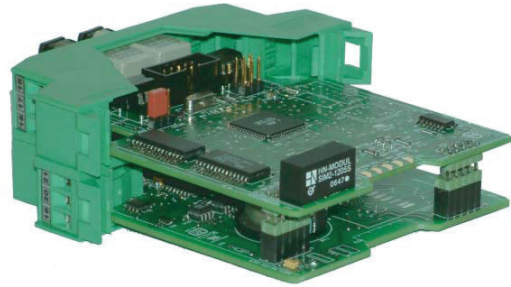
PLC function is realized through specialized FBD (Function Block Diagram) editor. For station setup and basic monitoring special application called pATLAS Setup and Monitoring is used.

CPU Module

- Processor AM3358 1GHz ARM Cortex-A8
- 4GB 8-bit eMMC on-board flash 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

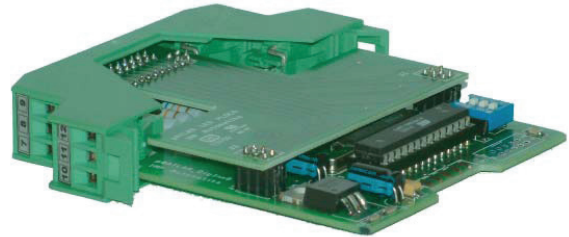
Digital Input Module

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



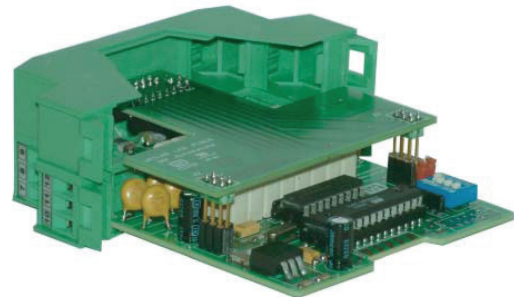
Digital Output Module (CO-permanent, CO1-single-step pulse, CO2-two-step pulse)

- number of outputs: 8
- galvanic separation: 2 kV persistent and 5 kV impulse between output and electronics
- output specifications:
 - maximal voltage: 300 VDC, 250 VAC
 - maximal current: 4 A
- command pulse duration: from 100 ms to 25.5 s, selectable



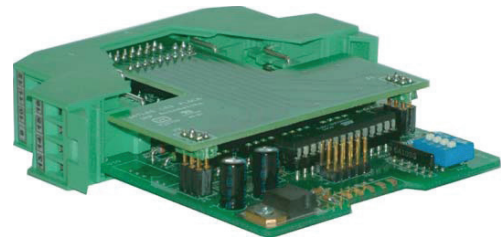
Analog Input Module (AI)

- number of inputs: 8
- connection type: single ended
- current input: 0 to 10 mA or 0 to 20 mA
- resolution: 12-bit
- sample rate: 110 Ks/ second
- input resistance: 205 Ohms (0-10mA) or 412 Ohms (0-20mA)
- common ground



Module with galvanic separated analog inputs (AI4)

- number of inputs: 4
- input current: configured by software in range from -20 mA to 20 mA
- resolution: 21-bit
- sample rate: 12.5 s/ second
- input resistance: 50 Ohms
- all channels with separate ground



Analog Current Outputs Module

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

Analog Voltage Outputs Module

- number of outputs: 4
- galvanic separation: 1 kV between input and electronics
- output voltage: -10 to 10 V

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

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