

# Atlas Hydra

Multifunctional processing computer

## Application

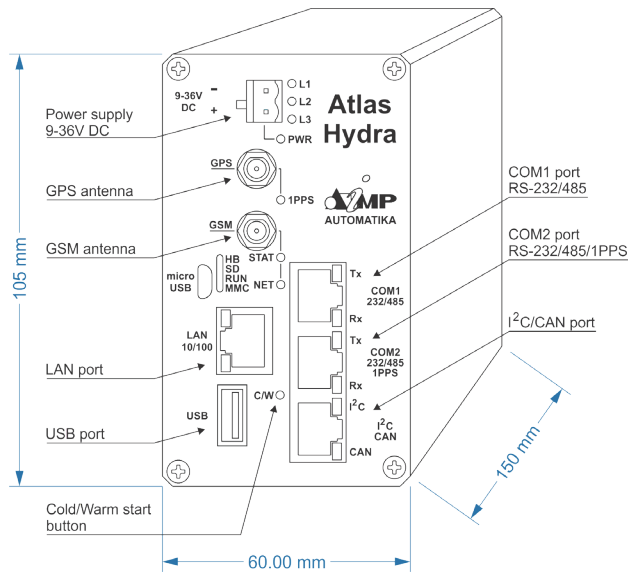
Atlas Hydra presents gateway process computer comprising data concentrator and protocol converter functions. Built-in GPRS modem provides wireless communication using GPRS and/or SMS. Time and position information acquired from GPS/GLONASS enables Atlas Hydra to serve as time server.

Atlas Hydra provides reliable data acquisition from various devices using different communication directions and protocols. Collected and processed data can be visualised locally (HMI touchscreen) and/or sent to supervising SCADA server.

## Technical characteristics

- Processor AM3358 1GHz ARM Cortex-A8
- 4GB 8-bit eMMC on-board flash storage
- 16GB micro SD card
- Simultaneous communication with 2 master SCADA/DCS centers
- 2 x RS-232/485 port (isolated)
- 1 x I2C & 1x CAN (isolated)
- Ethernet port 10/100Mbps
- Supported protocols:
  - IEC 61850 Client/Server
  - IEC 60870-5-101 Master/Slave
  - IEC 60870-5-102 Master
  - IEC 60870-5-103 Master
  - IEC 60870-5-104 Client/Server
  - Atlas IEC Master/Slave
  - MODBUS RTU i TCP Master/Slave
  - MODBUS TCP Client/Server
  - NTPv4 Server/Client
  - PTP (IEEE 1588) Master/Slave
  - IRIG-B (B002, B003, B006, B007) Generator/ Receiver
  - SPA Master
  - DNP3 Master/Slave
  - Hart Master
  - BACNET Master
  - GOOSE
  - NEO Master
  - FINS Master
  - DLMS
- GPRS protocols:
  - PPP/TCP/ UDP/ HTTP/ SSL
- Distribution of exact time received using GPS receiver
- 3G modem integrated
- Creating PLC algorithm using Function Block Diagram environment
- Power supply: 9.36 VDC
- Power consumption: 5W
- Dimensions – 60 mm x 105 mm x 150 mm
- Aluminum case for DIN rail mounting





Pinout					
COM1		COM2		I <sup>2</sup> C/CAN	
Pin	Function	Pin	Function	Pin	Function
1	RS-485 A	1	RS-485 A	1	CAN H
2	RS-232 RX	2	RS-232 RX / IRIG-B Input (RS-232 or TTL level)	2	I2C SCL
3	RS-232 TX	3	RS-232 TX / IRIG-B Output (RS-232 or TTL level)	3	I2C SDA
4	-	4	-	4	-
5	GND	5	GND	5	GND
6	RS-485 B	6	RS-485 B	6	CAN L
7	RS-232 RTS	7	1PPS (RS-232 voltage level)	7	#RST TBUS
8	RS-232 CTS	8	-	8	-

LED Indicators	
<b>PWR</b>	Power supply OK
<b>L1</b>	Atlas software started
<b>L2</b>	Not used
<b>L3</b>	Not used
<b>1PPS</b>	1PPS from GPS/GLONASS receiver (100ms ON – 900ms OFF)
<b>STAT</b>	GSM modem powered ON
<b>NET</b>	GSM network status indication 200ms ON / 1800ms OFF – Searching for network  1800ms ON / 200ms OFF – Idle & Data transfer
<b>HB</b>	Heart Beat signal – Operating system started indication
<b>SD</b>	microSD card activity
<b>RUN</b>	CPU activity
<b>MMC</b>	Internal FLASH memory activity
<b>Tx</b>	Serial port transmitting
<b>Rx</b>	Serial port receiving
<b>I2C</b>	Active I2C communication
<b>CAN</b>	Active CAN communication

## Atlas Hydra as time server

Atlas Hydra can be used as time server for true time distribution and for conversion of time synchronization protocols. True time can be obtained:

- From satellites using built-in GPS and GLONASS receivers,
- Via network from another NTP or PTP server,
- From unmodulated IRIG-B signal.

Following time synchronization protocols are supported:

- NTPv4 Server/Client
- PTP (IEEE 1588) Master/Slave
- IRIG-B (B002, B003, B006, B007) Generator/Receiver

## Web interface for true time server configuration.

Atlas Time Server

System  
Network  
NTP & PTP & IRIG  
Statistics

Hostname:

Time zone:

Save

Time:

Date:

15:08:29  
26.06.2020  
UTC time: 13:08:29

Set Time and Date

Messages:  
[25.06.2020 05:14:25] NTP started  
[25.06.2020 05:14:26] Start finished

Apply Settings