Atlas Max®

Multifunctional processing computer

Atlas Max® presents a modern multipurpose process computer for monitoring and control of the electric power facilities. The acquisition of needed process data is achieved through the direct management of the subordinated process equipment and I/O modules, including underlying protective devices. Therefore, an efficient control of the crucial parts of the power system could be fully accomplished. Finally, Atlas Max® is SCADA compliant, providing full support toward higher-layer Control Centers.

Atlas Max® is ported on Real-Time VRTX platform, which allows complex system configurations with large number of manageable slave devices.

Technical characteristics

- I/O modules mounted in standard 6U 19“ racks
- Robust metal casing to reduce impact of electromagnetic interference
- Modular architecture, up to 12 modules in one 6U 19“rack
- Expanding capacity by adding racks with I / O modules
- Galvanic isolation of all input and output signals
- Support to standard industrial communication protocols
- Current and voltage effective value measurements
- Real time error detection
- Communication via GPRS modem
- PLC algorithm
- Recording Sequence of events (SOE) with 10 ms resolution using buffer of 16000 changes
- Relay digital outputs: single-stage and two-stage - SBO (Select Before Operate)
- Optofetic digital outputs
- Possibility of local/remote control
- LEDs on all modules for indication of acquisition process activity and error indication.

CPU module Atlas

- Processor AMD Geode LX800 (500MHz) and GX500 (366 MHz)
- Simultaneous communication with 4 master SCADA centres
- 2 x RS-232 port
- 1 x Ethernet port 10/100Mbps
- 1 x PS2 port
- SSD - Compact Flash Type II
- VGA output
- Supported protocols:
  - IEC 60870-5-101 Master/Slave
  - MODBUS RTU Master/Slave
- Distribution of exact time using GPS receiver
- Creating PLC algorithm using Function Block Diagram

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Modem

- GPRS

Modul BIS32 – digital input

- 32 galvanically isolated inputs
- Voltage levels: 24VDC, 48VDC, 110VDC, 220VDC
- Acquisition period: 10 ms

Module BOF32 – opto-fet digital outputs

- 32 galvanically isolated outputs
- Command voltage: 24 VDC, 48 VDC

Module DOR16 – relay digital outputs

- 16 relay outputs
- Control voltage: 12VDC, 24VDC, 48VDC, 110VDC, 220VDC, 230VAC
- Maximum allowed current per output: 100 mA
- Possibility to issue two-stage commands – Select Before Operate

Module BAO08 – current outputs

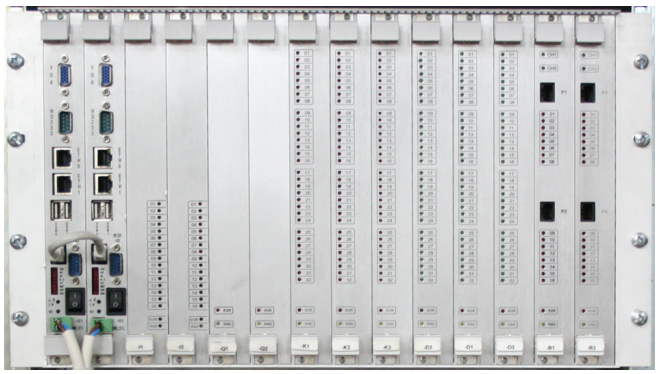
- 8 galvanically isolated outputs
- Range -20..20mA, 0..20mA, 4..20mA, -10..10mA, 0..10mA, -5..5mA
- Maximum load per output: 500Ω
- Minimum period of issuing output: 30ms
- Resolution: 12 bits

Module BI16 – measurements of direct currents

- 16 galvanically isolated measurement channels
- Measurement range: -20..20mA, 0..40mA, 0..20mA, 4..20mA, -10..10mA, 0..10mA, 1..10 mA, 0..5mA, -5..5mA, -2.5..2.5mA
- Input resistance: 25Ω
- Resolution: 16 bits
- Acquisition period: 200 ms

Module BR16 – resistance measurement

- 16 galvanically isolated measurement channels
- Probe types: Pt100, Pt200, Pt500, Pt1000, Cu10, Cu100, Cu53, Ni100, Ni120, Ni150
- Resolution: 16 bits
- Acquisition period: 200 ms



Module BV16 – voltage measurement

- 16 galvanically isolated measurement channels
- Measurement range: -1..1 V, -0.5..0.5 V, -0.1..0.1 V, -50..50 mV
- Thermocouple types: J, K, T, R, S, U, L, F, N, E, B
- Input resistance: more than 100MΩ
- Resolution: 16 bits
- Acquisition period: 200 ms

Power supply

- 100-240VDC (VAC) / 12 VDC, 15A
- 100-240VDC (VAC) / 24 VDC, 10A

UPS module Gaus GPSS24V300W

- Power supply: 87-264VAC
- Outputs: 12VDC, 24VDC, 230VAC

Environmental conditions and compliance with standards

- Operating temperature: 0˚C to 50˚C
- Humidity: 5% - 95% non-condensing
- EMC in compliance with EN 61000-6-4, EN 61000-6-2, EN 61000-4

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