

# A300 Gateway

Rugged, solid-state, communications solution

Alstom's A300 communications protocol gateway is an advanced solution for interfacing substation networks with digital control systems and network management systems.



Combining full IEC 61850 compliance, hot standby redundancy and simple commissioning, the A300 is a powerful solution for interfacing bay level devices (protection, control or measurement devices), station level devices (digital control system client/servers) and upper level systems (network management systems or digital control systems).

The A300 is ruggedised and solid-state - designed to work within stringent substation environmental conditions (EMC compliance as per IEC 61850-3 etc.).

### Full compliance with IEC 61850

Alstom Grid's A300 provides a dedicated interface to any other IEC 61850 enabled device, either with a single or dual-redundant communications architecture. The A300 is also fully compliant with the different editions of IEC 61850, which ensures backward compatibility and interoperability - ideal for substation refurbishment or upgrades.

### Simple commissioning and maintenance

The A300 gateway has flexible communications interfaces enabling multiple, separate redundant substation ethernet architectures. This helps to guard against the repercussions of network failure and facilitates a clear separation of network functions, simplifying commissioning and maintenance activities.

### Hot stand-by redundancy

A300 is equipped with two native independent ethernet ports which can support Alstom's H-series dual-redundant ethernet switches and/or multiple LAN/WAN connections. Two A300 gateways can also be physically connected in a redundant hot-standby configuration for high communications data integrity.

### Customer benefits

- Fully compliant with IEC 61850
- Simple commissioning and maintenance
- Hot standby redundancy
- Available with additional cyber security tools

### Communications protocols

Alstom's A300 gateway is compatible with the most popular communications standards at IED, DCS and NMS levels: IEC 61850 Client and Server, DNP3.0 serial and IP, MODBUS serial and TCP/IP, Profibus DP, HNZ 66, IEC 60870-5-101 & 101 NUC, IEC 60870-5-104 & 104 NUC, OPC, etc.

### Tools and cyber security

The A300 is delivered with all required engineering and maintenance tools for local and remote configuration, settings, logs and advanced traces. It is also compatible with different Alstom Grid cyber security kits to secure the substation and IED access (firewall, anti-virus, account management, automatic configuration changes, detailed log activity, etc.)

### Technical specifications

- Dimensions: (W x D x H) 180 x 237 x 179
- Mounting kits (optional): wall/ panel/ stand
- Weight: 6 kg
- Power consumption typical: typical 27 W
- Power supply: 24 Vdc; 36 - 60 Vdc; 90 - 350 Vdc; 100 - 240 Vac/ 50-60 Hz

### System hardware

- Processor: CPU Celeron M 1.0 GHz or Pentium M 1.8 GHz
- Memory: 1 GB SDRAM
- Operating system: Microsoft WINDOWS XP
- Battery backup RAM: 512 KB
- Expansion slots: 4 x PCI V 2.2
- Indicator LEDs: power input 1, power input 2, power fault, IDE, diagnosis, 4 COM ports Tx/Rx
- Video: VGA DB15 VGA connector, 1600 x 1200 @ 85 Hz
- Storage: internal solid state drive

### Communications

- LAN: 2 x 10/100Base-T RJ-45 ports
- Ethernet switches (optional): 2 x MiCOM H152 or H162 redundant ethernet boards
- Serial Ports: 2 x RS-232, 2 x RS-232/422/485
- USB ports: 4 x USB Rev. 2.0 compliant

### Environmental conditions

- Humidity: IEC 60068-2-3, 95% @ 40°C (non-condensing)
- Operating temperature: IEC 60068-2-1&2, -20°C to 55°C
- Storage temperature: IEC 60068-2-1&2, -40°C to 60°C
- Shock protection: IEC 60068 2-27
- Vibration protection: IEC 60068 2-64
- Electromagnetic compatibility: EN55022, EN55011, EN61000

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