M2M Gateway ARM600

Product Guide

Contents

1. Description

M2M Gateway ARM600 is a member of ABB's Arctic product family. ARM600 is a communication server, a VPN concentrator and firewall and is typically placed in the same location as the central control and monitoring system, such as SCADA. ARM600 manages all Arctic 600 series wireless gateway connections and is the main interface between the field devices and central control and monitoring system.

ARM600 includes the Arctic Patrol application for condition monitoring and centralized device management. Centralized device management is essential to ensure the network operability in large-scale or geographically dispersed communication systems.

ARM600 provides static IP addressing for the central control and monitoring system. This means that the Arctic 600 series wireless gateways in remote locations can utilize normal SIM cards with dynamic IP addresses from any operator. This allows the user to utilize different operators depending on the coverage and pricing. Both standard (public) and private APN type SIM cards can be used in this communication system.

ARM600 is typically part of a complete communication system which consists of Arctic 600 series wireless gateways and a central Arctic M2M Gateway ARM600 communication server. ARM600 is an essential part of the total communication solution. The communication solution is application independent, that is, any type of remote application can be connected to any type of centralized control and monitoring application.

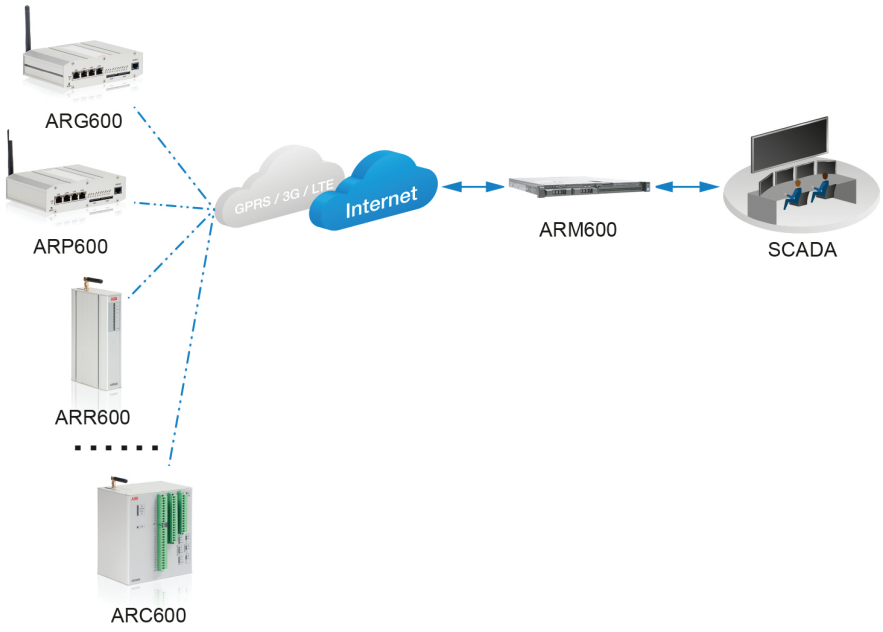

Figure 1. Communication system overview

2. Key features

- VPN concentrator manages VPN tunnels to Arctic 600 series wireless gateways
  - Supports OpenVPN, L2TP and SSH-VPN tunnels
  - OpenVPN bridging
  - Connection to ARM600 with a PC from any location via VPN
- Firewall to restrict unauthorized access
- Provides static IP addressing of Arctic 600 series wireless gateways for SCADA
- Full routing capability allows integrating remote LAN into a central LAN
- Configuration via Web UI and console (SSH) access
- Arctic Patrol offers condition monitoring and centralized device management application that supervises the cellular connections to the connected Arctic 600 series wireless gateways and enables advanced remote management of all connected Arctic gateways and ABB's RIO600 devices
- 19" rack mountable design

3. Deployment

ARM600 is typically installed in the same location as the central control and monitoring system. ARM600 can be installed, for example, in the company DMZ (demilitarized zone) between the company LAN and the public Internet or directly behind the company firewall.

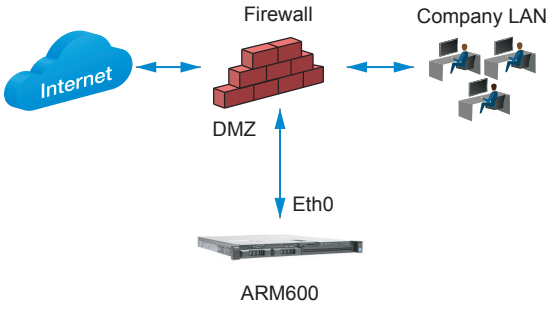

Figure 2. ARM600 installed in the company DMZ

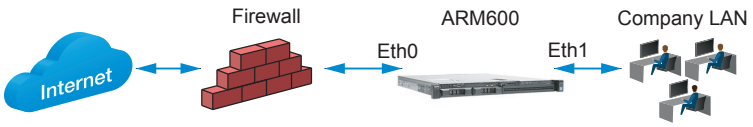

Figure 3. ARM600 installed behind the company firewall

ARM600 requires a fixed line Internet connection with a public and static IP address. A public IP address is required so that the data from the connected Arctic 600 series wireless gateways can be routed to ARM600 via the public Internet. A fixed IP address is required because the data connection between the Arctic 600 series wireless gateways and ARM600 is initiated by the Arctic devices. The IP address of ARM600 must be configured into the Arctic device and, thus, a static IP address is required instead of a dynamic one.

Users with private APN contract SIM cards in the Arctic devices can benefit from using ARM600. In this case, static IP addressing is not required from ARM600 as the cellular operator provides fixed IP addresses for the SIM cards. The added value of ARM600 comes from the added security, end-to-end routing from central LAN to remote LAN and centralized device management. Therefore, using private APN type SIM cards and ARM600 are complementary to each other. This offers the best possible reliability and security in a cellular-network based communication system.

4. Arctic Patrol

ARM600 includes the Arctic Patrol centralized device management application. Arctic Patrol provides condition monitoring of the cellular connections, statistical data of network usage, direct access to the connected Arctic 600 series wireless gateway user interfaces, automatic backup of Arctic 600 series wireless gateway configurations and alarms from any faults in the availability of the Arctic 600 series wireless gateways. The Arctic Patrol interface can be accessed via ARM600. It offers information about the entire communication system status at a glance.

- Pre-installed in M2M Gateway ARM600
- Condition monitoring of cellular connections
- Statistical data of network usage
- Direct access to the connected Arctic 600 series wireless gateway user interfaces
- Automatic backup of Arctic 600 series wireless gateway configurations
- Communication network faults generate alarms
- Individual or mass updates of all connected Arctic 600 series gateway firmware
- Individual or mass updates of all connected RIO600 firmware

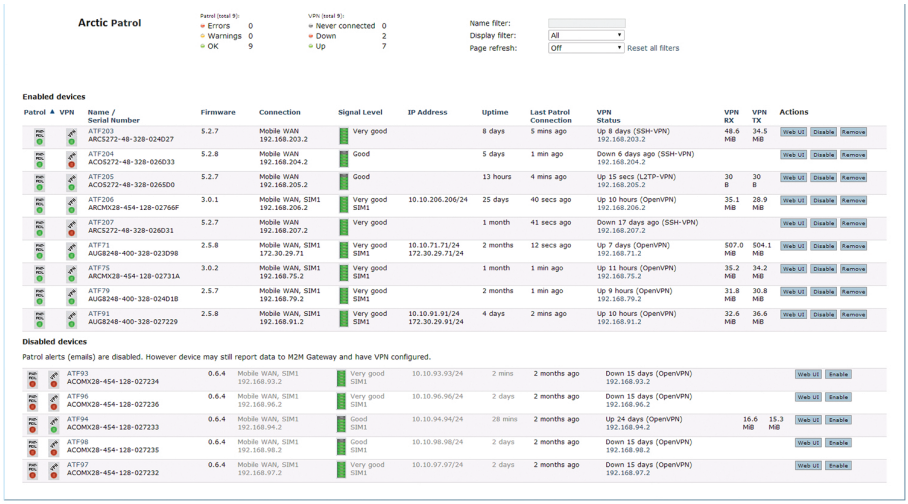

Figure 4. Arctic Patrol user interface

5. Physical interfaces

ARM600 is available in two variants, standard and enterprise edition. Standard edition can be connected to a maximum of 300 Arctic 600 series wireless gateways, whereas the enterprise edition can take up to 3000 connections. The enterprise edition also offers hardware-level redundancy with dual hot-swappable hard drives and dual power supplies. The functionality of both variants is identical apart from the number of connected devices.

Standard edition

The ARM600 standard edition is designed to be mounted into a 19” rack.

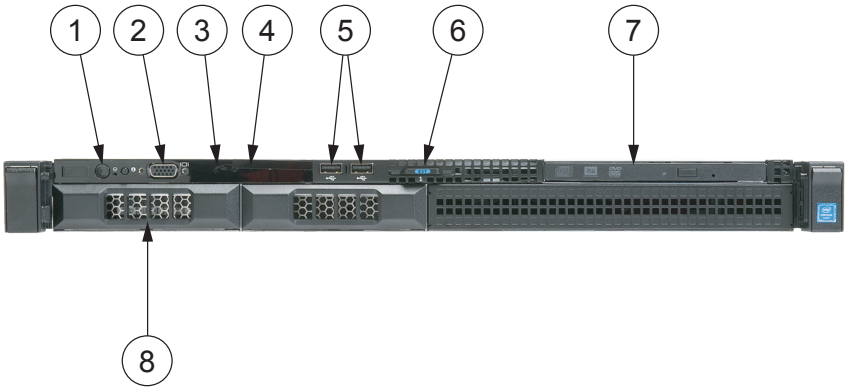

Figure 5. Front panel

1 Power on indicator, power button
2 Video (VGA) connector
3 LCD menu buttons
4 LCD panel
5 Two USB 2.0 connectors
6 Service tag (EST)
7 Optical drive
8 Hard drive

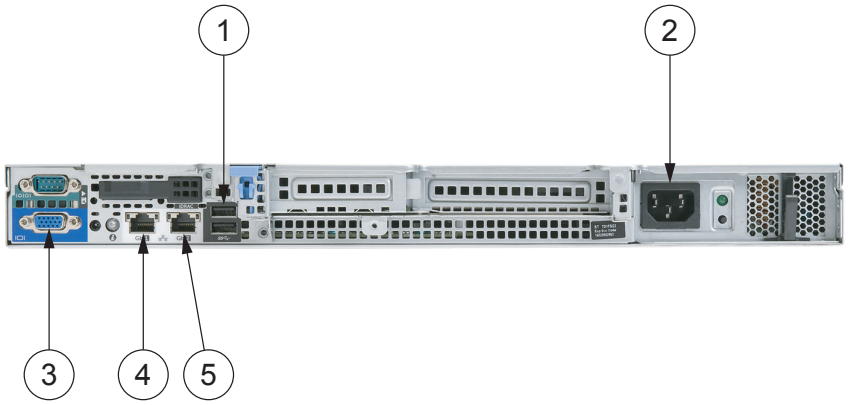

Figure 6. Back panel

1 Two USB 3.0 connectors
2 Power supply unit (PSU)
3 Video (VGA) connector
4 Ethernet connector for WAN #1 (Gb1)
5 Ethernet connector for LAN #2 (Gb2)

Enterprise edition

The ARM600 enterprise edition is designed to be mounted into a 19” rack.

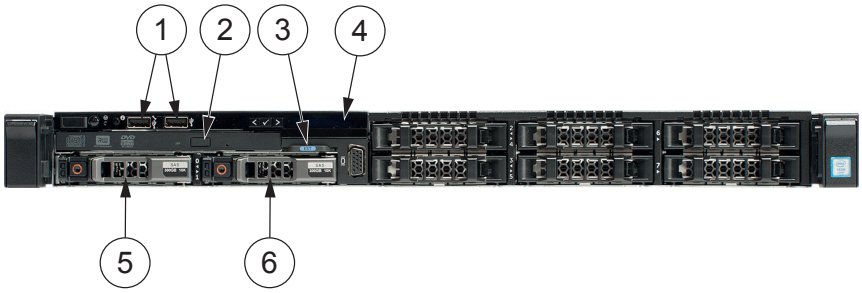

Figure 7. Front panel

1 Two USB connectors
2 Optical drive
3 Service tag (EST)
4 LCD panel
5 Hard drive 1
6 Hard drive 2

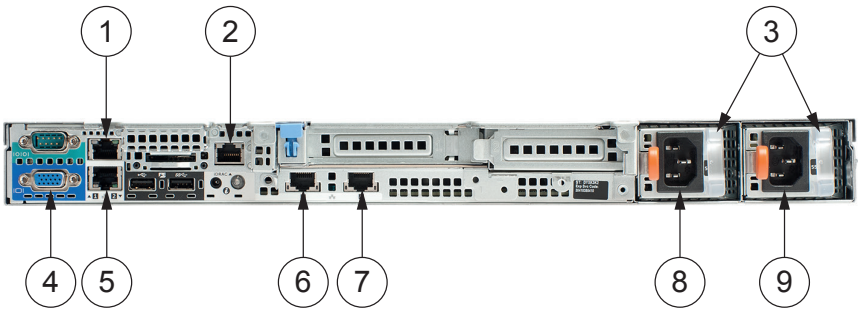

Figure 8. Back panel

1 Ethernet connector for LAN #1 (eth0)
2 iDRAC
3 Power supply health/activity indicators
4 Video (VGA) connector
5 Ethernet connector for WAN #2 (eth1)
6 Ethernet connector #3 (eth2)
7 Ethernet connector #4 (eth3)
8 Power supply bay 1
9 Power supply bay 2

6. Technical data

Table 1. Dimensions

Description	Standard edition	Enterprise edition
Height × Width × Depth	42.8 × 434.0 × 495.0 mm 1.69 × 17.09 × 19.49 in	42.8 × 434.0 × 607.0 mm 1.69 × 17.09 × 23.90 in

Table 2. Hardware

Description		Standard edition	Enterprise edition
Processor environment	Processor	Intel Pentium G4500, 3M Cache, 3.50 GHz, 2C/2T, 51W	Intel Xeon E5-2620 v4, 20M Cache, 2.10 GHz, 8C/16T, 85 W
	Memory	8 GB UDIMM	32 GB RDIMM
HDD		500 GB 7.2 RPM SATA 3 Gbps 3.5”	300 GB 10K RPM SAS 12 Gbps 2.5in hot-plug
Power supply		Single power supply 250 W	Dual, hot-plug, redundant power supply (2 ×), 550 W
Casing		Metal, 19" rack mountable (1U)	Metal, 19" rack mountable (1U)
Approvals		Global CB Scheme, CE , FCC	Global CB Scheme, CE , FCC
Environmental conditions	Operational temperature	5...35°C at 5...85% relative humidity with 29°C dew point	5...40°C at 5...85% relative humidity with 29°C dew point
	Humidity	5...85% (noncondensing) at a maximum wet bulb temperature of 29°C (84.2°F)	5...85% (noncondensing) at a maximum wet bulb temperature of 29°C (84.2°F)

7. Mounting

Both variants are designed to be mounted into a 19” rack.

8. Ordering data

The product label contains basic information about the unit such as product name and service tag.

Table 3. Ordering data

Description	Standard edition ARM600B2500NA	Enterprise edition ARM600B2505NA
Ethernet ports	2	4
Power supply	single	dual
HDD	single	dual
RAID	no	yes
CPU type	Intel Pentium G4500	Xeon
RAM	8 GB	32 GB
Max Arctic connections	300	3000
Size	1U 19"	1U 19"

9. Tools

The devices can be configured using a graphical user interface via a Web based browser. A conventional console interface is also provided.

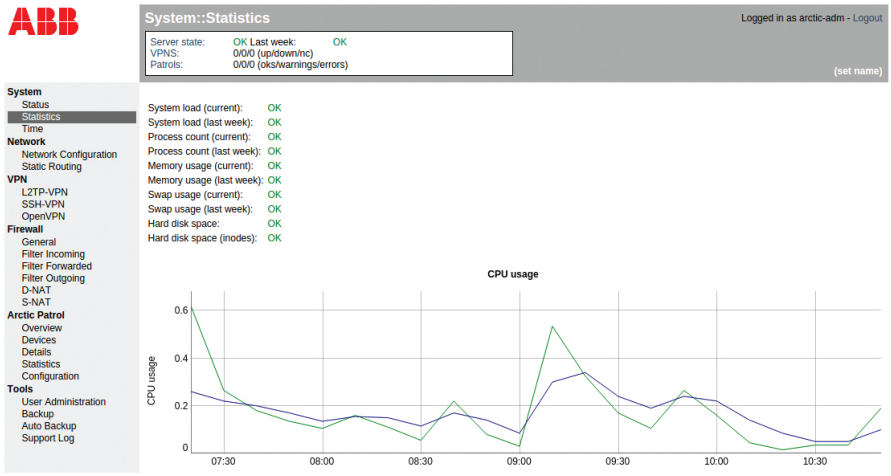

Figure 9. ARM600 user interface

10. Document revision history

Document revision/date	Product version	History
A/2015-12-18	A	First release
B/2017-09-29	4.3	Content updated to correspond to the product version
C/2018-06-29	4.4.1	Content updated to correspond to the product version

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