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# **M2M Gateway ARM600**

## Product Guide



M2M Gateway	1MRS758481 H
ARM600	
Product version: 5.0.1	

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ARM600	
Product version: 5.0.1	Issued: 2022-01-11
	Revision: H

## 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.

ARM600SW is a software-only version of ARM600 with additional features such as a faster update cycle via a dedicated software repository and capability to be run in virtual machine environment.

ARM600 manages all Arctic 600 series wireless gateway connections and is the main interface between the field devices and the 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 use normal SIM cards with dynamic IP addresses from any operator. Thus different operators can be used 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.

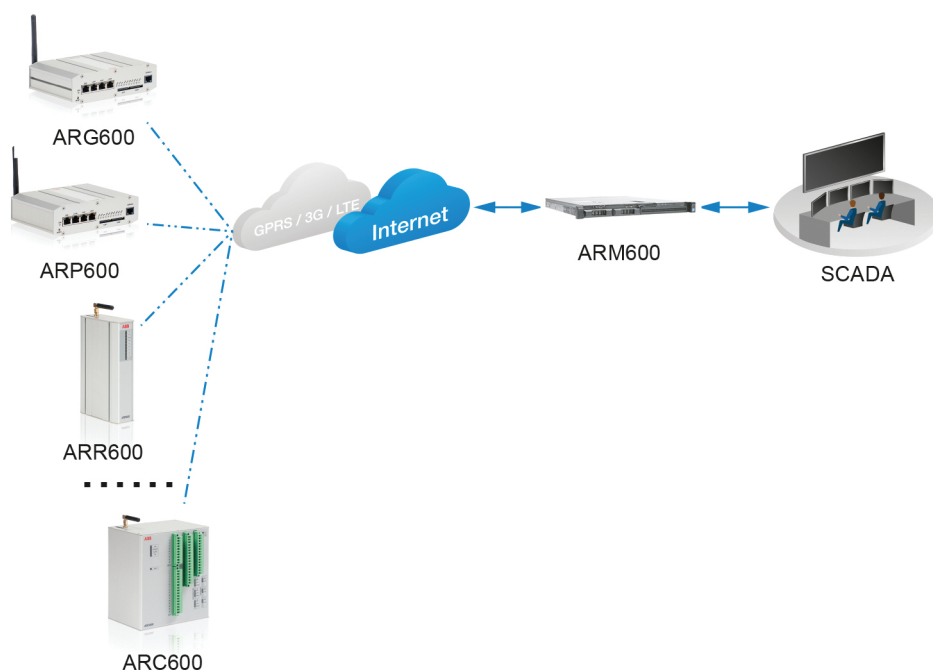


Figure 1. Communication system overview

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## 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 command line (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
- Supports virtual machine environment, for example, VMware vSphere ESXi 6.7 or later (only applies to ARM600SW)
- Software updates via a repository (only applies to ARM600SW)
- 19" rack mountable design (only applies to ARM600 hardware variants)

## 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. ARM600SW should only be installed behind the company firewall according to [Figure 3](#).

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.

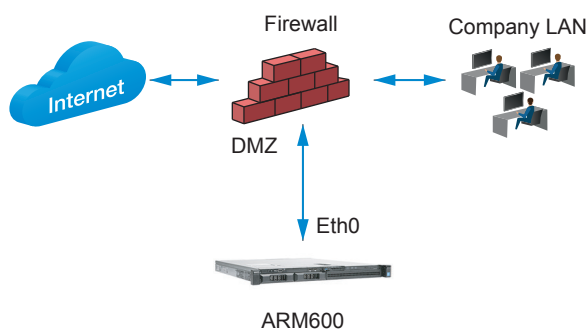


Figure 2. ARM600 installed in the company DMZ

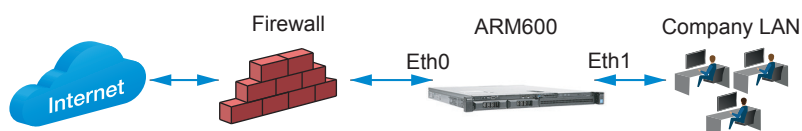


Figure 3. ARM600 installed behind the company firewall

#### 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

Status (total 10):  
☐ Errors 0  
☐ Warnings 0  
☒ OK 10

VPN (total 11):  
☐ Never connected 0  
☐ Down 0  
☒ Up 10

VPN Type:  
Filter:  
Page refresh:

(#)	Accept devices	Status	VPN	Name	Location	Firmware	Connection	Signal Level	IP Address	Uptime	Last Patrol Connection	VPN Status	VPN RX	VPN TX	Actions
#1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ATF116 1VHB71028431		3.4.9	Mobile WAN, SIM1 192.168.116.2	Very good SIM1	10.10.116.116/24 fe80::206:70ff:fe05:529/64	1 month	5 mins ago	Up 2 days OpenVPN 192.168.116.2	55.9 MB	53.3 MB	<a href="#">Web UI</a>
#2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ATF128 1VHB71010011		3.4.9	Mobile WAN, SIM1 192.168.128.2	Very good SIM1	fe80::206:70ff:fe04:14/64 10.10.128.128/24	8 months	37 secs ago	Up 7 days OpenVPN 192.168.128.2	190.5 MB	188.1 MB	<a href="#">Web UI</a>
#3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ATF130 1VHB71010007		3.4.9	192.168.130.2		fe80::206:70ff:fe04:c/64 10.10.130.130/24 fe80::206:70ff:fe04:c/64 172.30.29.130/24	8 months	1 min ago	Up 15 days OpenVPN 192.168.130.2	349.5 MB	329.8 MB	<a href="#">Web UI</a>
#4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ATF132 1VHB71010025		3.4.9	Mobile WAN, SIM1 192.168.132.2	Good SIM1	fe80::206:70ff:fe04:26/64 10.10.132.132/24	8 months	2 mins ago	Up 10 hours OpenVPN 192.168.132.2	12.2 MB	11.7 MB	<a href="#">Web UI</a>
#5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ATF134 1VHB71010022		3.4.9	Mobile WAN, SIM1 192.168.134.2	Normal SIM1	fe80::206:70ff:fe04:1a/64 10.10.134.134/24	6 months	4 mins ago	Up 10 hours OpenVPN 192.168.134.2	12.3 MB	11.6 MB	<a href="#">Web UI</a>
#6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ATF136 1VHB91000000		3.4.9	192.168.136.2		fe80::206:70ff:fe04:1/64 10.10.136.136/24 fe80::206:70ff:fe04:1/64 172.30.29.136/24	8 months	2 mins ago	Up 10 hours OpenVPN 192.168.136.2	6.7 MB	6.2 MB	<a href="#">Web UI</a>
#7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ATF138 1VHB91200003		3.4.9	Mobile WAN, SIM1	Very good SIM1	fe80::206:70ff:fe00:10/64 10.10.138.138/24	8 months	59 secs ago	Up 1 day OpenVPN 192.168.138.2	33.3 MB	33.6 MB	<a href="#">Web UI</a>
#8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ATF140 ARCMX28-454-128-029388		3.4.9	192.168.140.2		fe80::206:70ff:fe02:9388/64 10.10.140.140/24 fe80::206:70ff:fe02:9388/64 172.30.29.140/24	8 months	9 secs ago	Up 15 days OpenVPN 192.168.140.2	343.9 MB	324.6 MB	<a href="#">Web UI</a>
#9	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ATF142 AUG8248-400-328-022BE9		3.4.9	Ethernet WAN 192.168.142.2		10.10.142.142/24 fe80::206:70ff:fe02:2bea/64 172.30.29.142/24	8 months	4 mins ago	Up 15 days OpenVPN 192.168.142.2	211.2 MB	207.2 MB	<a href="#">Web UI</a>
#10	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	ATF144 AUG8248-400-328-0304CA		3.4.9	Ethernet WAN 192.168.144.2		10.10.144.144/24 fe80::206:70ff:fe03:4cb/64 172.30.29.144/24	8 months	3 mins ago	Up 15 days OpenVPN 192.168.144.2	117.3 MB	93.0 MB	<a href="#">Web UI</a>

Figure 4. Arctic Patrol user interface

### 5. Physical interfaces (only for ARM600 hardware variants)

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 2000 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.

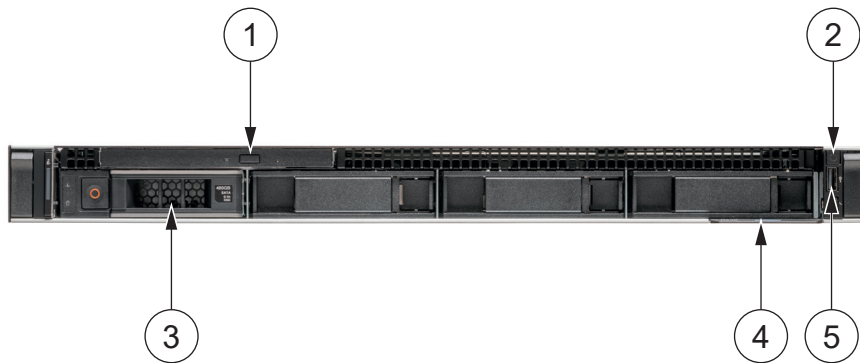


Figure 5. Front panel

- 1 Optical drive
- 2 Power on indicator, power button
- 3 Hard drive
- 4 Service tag (EST)
- 5 USB 2.0 port



Figure 6. Back panel

- 1 Ethernet port eth0 (Gb1)
- 2 Ethernet port eth1 (Gb2)
- 3 Power supply health/activity indicators
- 4 Video (VGA) port
- 5 iDRAC
- 6 Two USB 3.0 ports
- 7 Power supply unit (PSU)

**Enterprise edition**

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

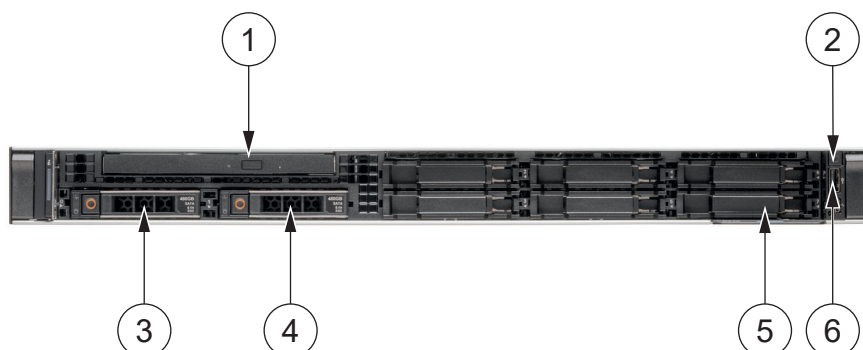


Figure 7. Front panel

- 1 Optical drive
- 2 Power on indicator, power button
- 3 Hard drive 1
- 4 Hard drive 2
- 5 Service tag (EST)
- 6 USB 2.0 port

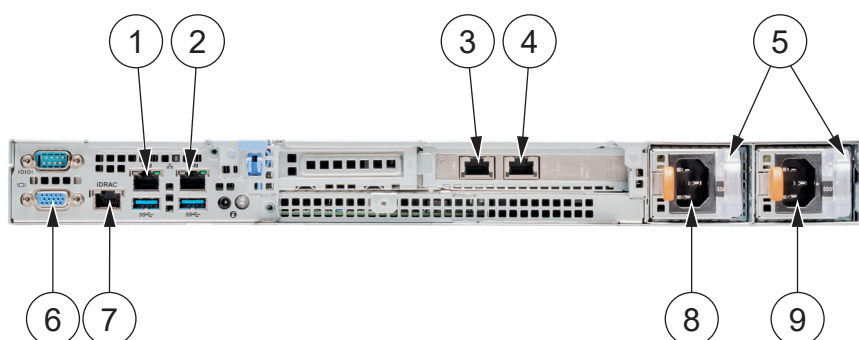


Figure 8. Back panel

- 1 Ethernet port eth2
- 2 Ethernet port eth3
- 3 Ethernet port eth1
- 4 Ethernet port eth0
- 5 Power supply health/activity indicators
- 6 Video (VGA) port
- 7 iDRAC
- 8 Power supply bay 1
- 9 Power supply bay 2

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## 6. Technical data (only for ARM600 hardware variants)

Table 1. Dimensions

Description	Standard edition	Enterprise edition
Height × Width × Depth	4x 3.5" chassis <ul style="list-style-type: none"> <li>• 42.8 × 434.0 × 596 mm (without bezel)</li> <li>• 1.67 × 17.09 × 23.5 in</li> </ul>	8x 2.5" chassis <ul style="list-style-type: none"> <li>• 42.8 × 434.0 × 545 mm (without bezel)</li> <li>• 1.67 × 17.09 × 21.5 in</li> </ul>

Table 2. Hardware

Description		Standard edition	Enterprise edition
Processor environment	Processor	Intel Pentium	Intel Xeon
	Memory	8 GB UDIMM	32 GB UDIMM
HDD		480 GB SSD SATA 6Gbps 2.5in hot-plug	Dual, 480 GB SSD SATA 6Gbps 2.5in hot-plug
Power supply		Single power supply 350 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	Temperature: Continuous operation (for altitude less than 950 m or 3117 ft)	10...35°C (50...95°F)	10...35°C (50...95°F)
	Relative humidity: operating	10...80% relative humidity with 29°C (84.2°F) maximum dew point	10...80% relative humidity with 29°C (84.2°F) maximum dew point



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## 7. Mounting (only for ARM600 hardware variants)

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

## 8. Ordering data (only for ARM600 hardware variants)

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

Table 3. Ordering data

Description	Standard edition ARM600C2500NA	Enterprise edition ARM600C2505NA
Ethernet ports	2	4
Power supply	single	dual
HDD	single	dual
RAID	no	yes
CPU type	Intel Pentium	Intel Xeon
RAM	8 GB	32 GB
Max Arctic connections	300	2000 <sup>1)</sup>
Size	1U 19"	1U 19"

1) With the hardware listed in [Table 2](#)

## 9. Tools

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

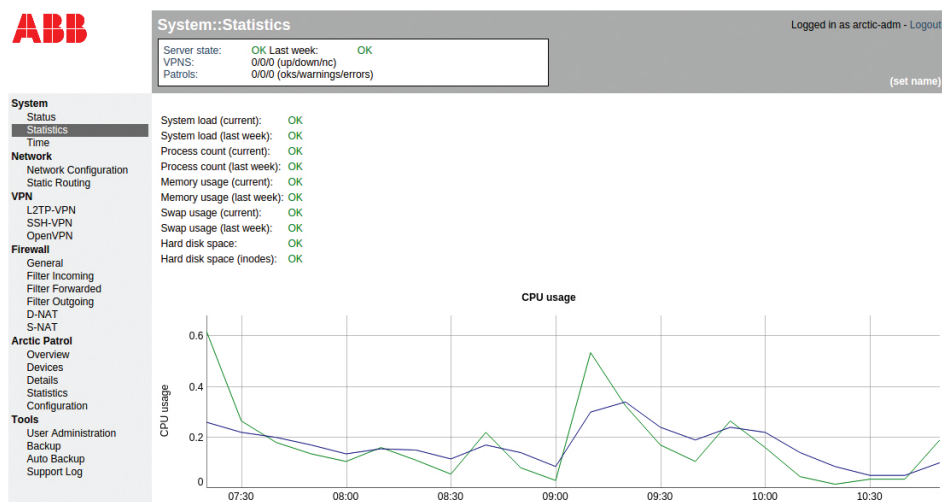


Figure 9. ARM600 user interface

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#### 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
D/2019-04-24	4.5.1	Content updated to correspond to the product version
E/2020-03-02	4.5.3	Content updated to correspond to the product version
F/2021-01-19	4.5.3	Content updated
G/2021-06-28	5.0.1	Content updated to correspond to the product version
H/2022-01-11	5.0.1	Content updated





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