

# TECHNICAL SPECIFICATION

Programmable OpenWRT LTE IoT gateway with RS485, RS232 and I/O

AG-702



## Features

- OpenWRT system
- Expanded memory for applications
- LTE, GSM, WiFi and dual ethernet
- GNSS
- 2 opto-isolated digital inputs
- 1 potential free relay output
- Opto-isolated RS485 and RS232
- USB host with storage support
- Cellular signal strength indicator
- Wide power supply range up to 60V
- DIN rail mounting
- Aluminium enclosure

Industrial IoT Gateway AG-702 powered by the OpenWRT system. With OpenWRT, you gain access to an expansive repository of over 6000 ready-to-use applications, along with the freedom to integrate your own custom solutions. This cutting-edge gateway, AG-702 features opto-isolated RS485

and RS232 ports, coupled with two digital inputs and a relay output. Boasting enhanced built-in memory and RAM, the Gateway unlocks limitless programming potential, empowering your projects like never before.

Description	Parameter
<b>Processor</b>	
MIPS	MIPS24KEc 580MHz
<b>RAM</b>	
Memory size	256MB DDR2
Memory speed	1066max
<b>Storage</b>	
Internal flash	32MB+512MB ExtRoot support (overlay)
<b>USB</b>	
USB port number	1
USB type	USB 2.0, host with storage support
Connector	USB type A
Protection	IEC 61000-4-2 level 4: - 15 kV (air discharge) - 8 kV (contact discharge)
USB overload	500mA

Description	Parameter
<b>Serial RS485</b>	
Port number	1
Interface Type	RS485
Data Rate	600 - 460800 bps
Signals	A and B
Connector	Pluggable push-in
Protection	Opto-isolated 2.5kV RMS per UL 1577
	IEC 61000-4-2 level 4: - 15 kV (air discharge) - 8 kV (contact discharge)
	MIL STD 883C-method 3015-6: class 3. (human body model)
	Fail-safe receiver for bus open, short and idle

Description	Parameter
<b>Serial RS232</b>	
Port number	1
Interface type	RS232
Data rate	300 – 230400 bps
Signals	RX, TX, RTS, CTS
Connector	Pluggable push-in
Protection	Opto-isolated 2.5kV RMS per UL 1577
	IEC 61000-4-2 level 4: – 15 kV (air discharge) – 8 kV (contact discharge)
	MIL STD 883C-method 3015-6: class 3. (human body model)
<b>Ethernet</b>	
Number	2
Type	10/100M port
PoE	PoE (spare pare on one connector)
Ethernet connector	RJ45 with LED indicators
PoE	Spare pare on ETH-1 (12-60V)
<b>WiFi</b>	
WiFi type	2.4GHz
WiFi standard	IEEE 802.11/a/b/g/n
Antenna connector	SMA female
<b>LTE/GSM Interface<sup>1</sup></b>	
Band LTE FTD	B1/B3/B5/B8
Band LTE TDD	B34/B38/B39/B40/B41
Band GSM	900/1800MHz
GPRS slot	Multi-slot class 12/10
Link	GPRS class 12: max. 85.6 kbps (downlink/uplink)
Power	Compliant to GSM phase 2/2+ – Class 4 (2 W 900MHz) – Class 1 (1 W 1800MHz)
SIM card	Dual nanoSIM, tray type anti-loss holder
	3V/1.8V
Antenna connector	SMA female
<b>GNSS<sup>2</sup></b>	
GNSS systems	GPS, BDS, Galileo, GLONASS, QZSS
Antenna connector	SMA female
<b>Digital Inputs</b>	
Input number	2
Input type	Opto-isolated 2.5kV

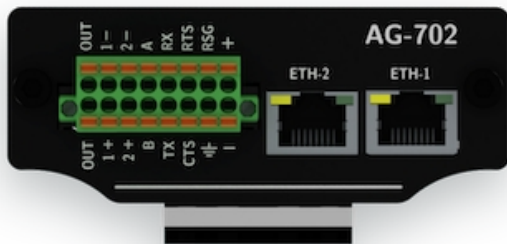
<sup>1</sup> Apply to LT models. Refer model selection chart. LTE/GSM Bands are mentioned for IN version of LTE modem. For EU and GL please contact support.

<sup>2</sup> Apply to LT models. Refer ordering chart.

Description	Parameter
Configuration	Separate IN-GND
Connector	Pluggable push-in
Max $v_{in}$	30V DC
Logic 1 Voltage range	3.5V to max $v_{in}$
<b>Relay Outputs</b>	
Output number	1
Output type	NO (normal open)
Load <sub>max</sub>	3A 160V AC or 3A 30V DC
Connector	Pluggable push-in
<b>System Functions Indicators</b>	
Indicators	ACT – activity
	LTE signal level – 4 LED
	RS232 and RS485 (or custom use)
	Out enable
	LTE
	WiFi
	IN-1 and IN-2
	SIM-1 and SIM-2
<b>System</b>	
Operating systems	OpenWRT 23.05, Kernel 5.15.71, Atreyo Environment V1.01.02
Booting source	Flash memory
<b>Power Supply</b>	
Power Voltage range	14-60V DC (or 8-36V DC <sup>3</sup> )
Power consumption	1.6W (24V without LTE and relay on)
Connector	Pluggable push-in (+, -, earthing)
Protection	Reverse polarity, over voltage
<b>Physical Characteristics</b>	
Installation	DIN-Rail, clamp
Housing	Aluminium
Weight	240g
Dimensions	88mm x 35mm x 87mm
<b>Environmental Specification</b>	
Operating temp.	-20 ~ 65°C (-13 ~ 131°F)
Storage temp.	-40 ~ 85°C (-40 ~ 176°F)
Ambient RH	5% to 95% (non-condensing)

<sup>3</sup> Apply to V36 models. Refer ordering chart.

# Gateway



**Selected model list**

Models		Hardware Options			More Info
Model	Cellular Network		GNSS		
AG-702	GPRS	3G	LTE		
AG-702					Without LTE module
AG-702-LT-IN	✓		✓	✓	Model for India
AG-702-LT-EU	✓		✓	✓	Model for India and EU
AG-702-LT-GL	✓	✓	✓	✓	Global model

**Table with model structure for ordering**

Model Structure	
<b>Model structure example</b>	<b>AG-702- LT- EU-V60</b>
<b>Base model name</b>	
AG-702	
<b>Cellular communication modem</b>	
LT (LTE communication module present)	
<b>LTE/GSM module regional information</b>	
IN (certification of LTE module for India)	
EU (certification of LTE module for India and Europe)	
GL (global certification of LTE module)	
<b>Power supply range</b>	
V60 (from 14V to 60V DC)	
V36 (from 8V to 36V DC)	

For more details  
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Atreyo Research  
& Development LLP

+91 9727741417  
info@atreyo.in

414, Sunrise Mall, Mansi Circle,  
Vastrapur  
Ahmedabad 380015, India