TECHNICAL SPECIFICATION

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Programmable OpenWRT LTE IoT Gateway with RS485 and digital inputs

AG-207

Features

- **OpenWRT system**
- **Fully programmable Linux environment**
- **Additional 512MB memory as overlay**
- **4G LTE, GSM, WiFi and Ethernet**
- **GNSS**
- **2 opt-isolated digital inputs**
- **Serial interface RS485**
- **USB host with storage support**
- **Wide power supply range**
- **Aluminium enclosure**
- **DIN rail mounting**

AG-207 is a RS485 4G LTE Cellular Gateway with 2 digital inputs and WiFi. By using the OpenWRT system has a huge programming and functional potential. With range of advanced functions and support of many protocol it is perfect for IoT or M2M applications. USB host provides the ability to connect many types of extensions and storage. It supports MQTT and other network protocols.

Description	Specification
Processor	
Type	MIPS24KEc
Clock	580MHz
RAM Memory	
Memory size	256MB DDR2
Memory speed	1066max
Storage	
Internal flash	64MB flash + 512MB NAND ExtRoot support (overlay)
USB	
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)

Description	Specification
USB overload	500mA
Serial Interface RS485	
Port number	1
Interface Type	RS485
Data Rate	600 – 460800 bps
Signals	A and B
Connector	Pluggable screw terminal
Protection	IEC 61000-4-2 level 4: – 15 kV (air discharge) – 8 kV (contact discharge) Fail-safe receiver for bus open, short and idle
Ethernet	
Port number	1
Type	10/100M port
Ethernet connector	RJ45 with LED indicators

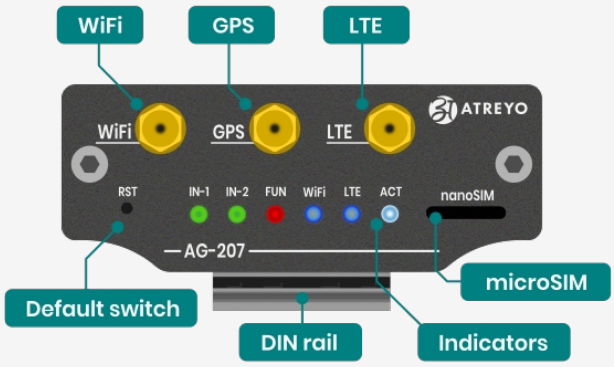
Description	Specification
WiFi	
WiFi type	2.4GHz
WiFi standard	IEEE 802.11/a/b/g/n, Access Points
Antenna connector	SMA female
LTE/GSM Interface[1]	
Band	Please refer table of cellular network
SIM card	microSIM
	3V/1.8V
Antenna connector	SMA female
GNSS[2]	
GNSS systems	GPS, BDS, Galileo, GLONASS, QZSS
Antenna connector	SMA female
Digital Inputs	
Input number	2
Input type	Opto-isolated 2.5kV
Configuration	Common IN-GND
Connector	Pluggable screw terminal
Max $_{Vin}$	30V DC
Logic 1 Voltage	3.5V to max $_{Vin}$
System Functions Indicators	
Indicators	ACT – activity
	Custom use
	Cellular
	WiFi
	IN-1 and IN-2
System	
Operating systems	OpenWRT 23.05, Kernel 5.15.71, Atreyo Environment V1.01.07
Booting source	Flash memory
Power Supply	
Power supply	8-36V DC
Power consumption	1.6W (24V without cellular on)
Connector	Pluggable screw terminal
PoE	Passive PoE over spare pairs. Not compatible with IEEE802.3af, 802.3at and 802.3bt standards
Protection	Reverse polarity, over voltage
Physical Characteristics	
Installation	DIN-Rail, clamp
Housing	Aluminium
Weight	220g
Dimensions	88mm x 65mm x 35mm
Environmental Specification	

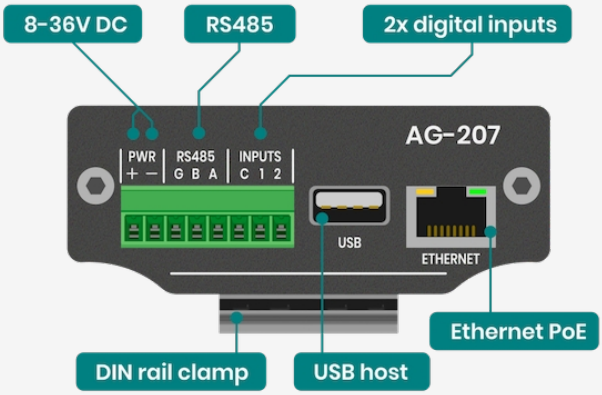
Description	Specification
Operating temp.	-20 ~ 65°C (-4 ~ 149°F)
Storage temp.	-40 ~ 85°C (-40 ~ 185°F)
Ambient RH	5% ~ 95% (non-condensing)

1 Apply to LT models. Refer model selection chart. LTE/GSM Bands are mentioned for in Cellular table section on page 3 and 4.

2 Apply to LT models. Refer ordering chart.

Gateway





Cellular modem specification of IN (India) version

IN version of gateway	Cellular network modem details	
Band LTE FTD	B1/ 3/ 5/ 8	
Band LTE TDD	B34/ 38/ 39/ 40/ 41	
Band GSM	B3/ 8 (900/1800MHz)	
GPRS slot	Multi-slot class 12/10	
Bandwidth	1.4/ 3/ 5/ 10/ 15/ 20 MHz	
Output power	LTE-FDD	Class 3 (23 dBm ±2 dB)
	LTE-TDD	Class 3 (23 dBm ±2 dB)
	EGSM900	Class 4 (33 dBm ±2 dB)
	DCS1800	Class 1 (30 dBm ±2 dB)
Maximum data rate	LTE-FDD	10 Mbps (DL)/ 5 Mbps (UL)
	LTE-TDD	8.96 Mbps (DL)/ 3.1 Mbps (UL)
	GPRS	85.6 kbps (DL)/ 85.6 kbps (UL)

Cellular modem specification of EU (Europe and India) version

EU version of gateway	Cellular network modem details	
Band LTE FTD	B1/3/5/7/8/20/28	
Band LTE TDD	B38/ 40/ 41	
Band GSM	B2/3/5/8 (900/1800MHz)	
GPRS slot	Multi-slot class 12/10	
Bandwidth	1.4/ 3/ 5/ 10/ 15/ 20 MHz	
Output power	LTE-FDD	Class 3 (23 dBm ±2 dB)
	LTE-TDD	Class 3 (23 dBm ±2 dB)
	EGSM900	Class 4 (33 dBm ±2 dB)
	DCS1800	Class 1 (30 dBm ±2 dB)
Maximum data rate	LTE-FDD	10 Mbps (DL)/ 5 Mbps (UL)
	LTE-TDD	8.96 Mbps (DL)/ 3.1 Mbps (UL)
	GSM	85.6 kbps (DL)/ 85.6 kbps (UL)
Power	Compliant to GSM phase 2/2+	
	– Class 4 (2 W 900MHz)	
	– Class 1 (1 W 1800MHz)	

Cellular modem specification of GL (global) version

GL version of gateway	Cellular network modem details	
Band LTE FTD	B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28	
Band LTE TDD	B38/B39/B40/B41	
Band WCDMA	B1/B2/B4/B5/B6/B8/B19	
Band GSM	B2/B3/B5/B8	
Output power	GSM850	Class 4 (33 dBm ±2 dB)
	EGSM900	Class 4 (33 dBm ±2 dB)
	DCS1800	Class 1 (30 dBm ±2 dB)
	PCS1900	Class 1 (30 dBm ±2 dB)
	GSM850 8-PSK	Class E2 (27 dBm ±3 dB)
	EGSM900 8-PSK	Class E2 (27 dBm ±3 dB)
	DCS1800 8-PSK	Class E2 (26 dBm ±3 dB)
	PCS1900 8-PSK	Class E2 (26 dBm ±3 dB)
	WCDMA	Class 3 (24 dBm +1/-3 dB)
	LTE-FDD	Class 3 (23 dBm ±2 dB)
	LTE-TDD	Class 3 (23 dBm ±2 dB)
Maximum data rate LTE	LTE-FDD	150 Mbps (DL)/Max. 50 Mbps (UL)
	LTE-TDD	130 Mbps (DL)/Max. 30 Mbps (UL)
Maximum data rate UMTS	DC-HSDPA	42 Mbps (DL)
	HSUPA	5.76 Mbps (UL)
	WCDMA	384 kbps (DL)/Max. 384 kbps (UL)
Maximum data rate GSM	EDGE	296 kbps (DL)/Max. 236.8 kbps (UL)
	GPRS	107 kbps (DL)/Max. 85.6 kbps (UL)

Standard model list

These are models in regular production. Other models are only made on order with a minimum order quantity. Please contact us if you require a custom order.

Model	Hardware Options				More information
AG-207	Cellular Network			GNSS	
	GPRS	3G	LTE		
AG-207					Without cellular modem
AG-207-LT-IN	✓		✓	✓	Model for India
AG-207-LT-EU	✓		✓	✓	Model for India and EU
AG-207-LT-GL	✓	✓	✓	✓	Global model

Table with model structure for ordering

Model Structure	
Model structure example	**AG-207- LT-EU**

Base model name

AG-207

Cellular communication modem

LT (cellular communication modem present)

LTE/GSM module regional information

IN (cellular modem for India)
EU (cellular modem for India and Europe)
GL (global cellular modem)

Standard package list

1	AG-207 Gateway	
2	Cellular antenna[1]	Magnet with 3m cable
3	WiFi antenna	Magnet with 1.5m cable
4	GNSS antenna	Magnet with 3m cable
5	DIN rail clamp with screws	
6	Female 8 pin main connector without cable	

Please note: The set does not include a power supply.

1 Models without a cellular modem will also not include cellular and GNSS antennas.

For more details scan or click on QR code

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