TECHNICAL SPECIFICATION

ATREYO®
SOLUTIONS THAT SIMPLIFY

Compact industrial computer / IoT gateway — AG-1621



Features

- **Cortex-A7 quad core**
- **4G LTE, LAN and connectivity**
- **GNSS**
- **Debian, OpenWRT Linux support**
- **Opto-isolated RS485 and RS232**
- **USB host**
- **2 opto-isolated digital inputs**
- **1 potential free relay output**
- **HDMI display support**
- **Wide power supply range**
- **DIN rail mounting**
- **Aluminium enclosure**

Small size multipurpose Industrial IoT Gateway/ Industrial Computer based on four core powerful ARM processor. For edge computing working on Debian and also support OpenWRT. In Debian, under the control of the NodeRED system, it gives unlimited possibilities for easy creation of gateway operation logic. It also has a 4G LTE cellular modem. It has LAN, has opto-isolated RS485, RS232, two digital inputs and one relay output.

Description	Specification
Processor	
Type	ARM Cortex-A7
Number of cores	Quad core
Clock	Up to 960Mhz
RAM Memory	
Memory size	512MB DDR3
Memory speed	1066MHz maximum
Storage	
Internal memory	8, 16 or 32GB eMMC
SD card	One microSD card slot (up to 256Gb)
Graphics	
HDMI	1.4, resolution up to 720P
USB	
USB port number	1
USB type	USB 2.0, host with storage support
Connector	USB type A

Description	Specification
Protection	IEC 61000-4-2 level 4: – 15 kV (air discharge) – 8 kV (contact discharge)
USB overload	600mA
Serial RS485	
Port number	1
Interface Type	RS485
Data Rate	1200 bps ~ 460800 bps
Signals	A and B
Connector	Pluggable screw socket
Protection	Opto-isolated 1.5kV RMS per UL 1577
	IEC 61000-4-2 level 4: – 15 kV (air discharge) – 8 kV (contact discharge)
	Fail-safe receiver for bus open, short and idle

Description	Specification
Serial RS232	
Port number	1
Interface Type	RS485
Data Rate	200bps ~ 921600bps
Signals	RX, TX, RTS, CTS
Connector	Pluggable screw socket
Protection	Opto-isolated 1.5kV RMS per UL 1577 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
Ethernet connector	RJ45 with LED indicators
PoE	PoE (spare pare)
Cellular Modem[1]	
Cellular bands	Refer cellular specification chart
SIM card	MicroSIM, push-pull type 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 socket
Max $_{Vin}$	30V DC
Logic 1 Voltage	3.5V to max $_{Vin}$
Digital Output	
Output number	1
Output type	Relay, NO (normal open)
Load$_{max}$	3A230VACor3A30VDC
Connector	Pluggable screw socket
System Functions Indicators	
Indicators	ACT – activity (dual color)
System	
Operating systems	Linux Debian OpenWRT
Booting source	Ibuilt eMMC memory microSD

Description	Specification
Applications	
Language support	C, Python, Java and all supported by Linux
Local logic apps	NodeRED (on Debian) Any other custom app
Web interface	Luci app in OpenWRT Webmin in Debian Any other custom made
Power Supply	
Power supply	8-36V DC
Power consumption	Average 6W
Connector	3 pin (+, -, earthing) pluggable screw socket
PoE	Passive PoE over spare pairs. Not compatible with IEEE802.3af
Protection	Reverse polarity, surge, over Voltage
Physical Characteristics	
Installation	DIN-Rail, clamp
Housing	Aluminium
Weight	240g approx
Dimensions	88mm x 87mm x 35mm
Environmental Specification	
Operating temp.	-20 ~ 85°C (-4 ~ 185°F)
Storage temp.	-40 ~ 85°C (-40 ~ 185°F)
Ambient RH	5% ~ 95% (non-condensing)

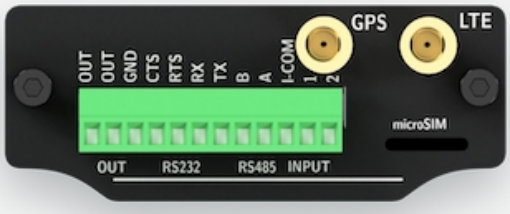
1 Apply to LT models. Refer ordering chart and cellular modem specification chart..

2 Apply to LT models.

Gateway


LTE
GPS IN
RS485
RS232
OUT
AG-1621
ATREYO
INDUSTRIAL IOT GATEWAY / COMPUTER
HDMI
USB
SD
POW
ETHERNET


HDMI
USB
ACT
RES
microSD
POWER
ETHERNET
AG-1621


OUT
OUT
GND
CTS
RTS
RX
TX
B
A
I-COM
1
2
GPS
LTE
microSIM
OUT
RS232
RS485
INPUT


AG-1621
INDUSTRIAL IOT GATEWAY / COMPUTER

Standard model list

Standard gateway models that are in regular production. If you have requirements for a different configuration, then select a specific specification from the table "Table with model structure for ordering".

Model	Hardware Options					More information
AG-1621	Memory	RAM	Cellular Network			
	GB	GB	GPRS	3G	LTE	
AG-1621-8G	8GB	512				Without cellular
AG-1621-8G-LT-EU	8GB	512	✓		✓	For India and EU
AG-1621-8G-LT-GL	8GB	512	✓	✓	✓	Global model

Cellular modem specification of EU (Europe and India) version

EU version of gateway	Cellular network interface 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 interface 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)

Table with model structure for ordering

This table is applicable when ordering larger quantities of gateways and to optimize the selection of certain components. Standard specifications are in the table of standard models.

Model Structure	
Model example	**AG-1621- 8G- LT- EU- DEB**

Base model name

AG-1621

Internal memory

8G, 16G, 32G, 64G (eMMC)

Cellular modem

LT (cellular modem present)

Cellular regional information

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

Pre-installed OS

DEB – Debian
WRT – OpenWRT

For more details scan or click on QR code

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