TECHNICAL SPECIFICATION

ATREYO ®
SOLUTIONS THAT SIMPLIFY

Industrial IoT Gateway / Industrial Computer	AG-6401

Features

- Quad-core ARM Cortex-A53 Processor
- LTE, LAN, WiFi and Bluetooth connectivity
- Support of Linux: Debian, Ubuntu, etc.
- 1 opto-isolated digital inputs
- 1 potential free output
- RS485
- USB host
- HDMI display up to 4096×4096 pixels
- Ethernet
- Wide power supply range
- Battery backup
- DIN rail mounting
- Aluminium enclosure

The AG-6401 is multipurpose Industrial IoT Gateway / Industrial Computer based on four core ARM processor. Support many distribution of Linux systems. It has low power consumption, LTE/GSM, WiFi, Ethernet connectivity and battery backup. The internal memory can be easy extended by microSD card.

AG-1612 has RS485, digital input and digital output. This gateway can run Raspberry PI OS, Debian, Ubuntu Linux and many other Linux distributions. The powerful processor, wide power supply range up to 36V and battery backup and very small size make AG-6401 perfect choice for industrial control systems. 4K Display support and audio out make this gateway useful for LED walls, LCD display and multimedia control.

Description	Parameter
Processor	
ARM	Quad-core ARM Cortex-A53 Processor
L1 cache	32KB for data, 32KB for instruction
L2 cache	512KB
Maximum frequency	1GHz
RAM	
Memory size	1GB (optional 2GB[1])
Memory speed	667MHz
Graphics	
GPU	ARM Mali400MP2 GPU
Standard support	OpenGL ES 2.0 and OpenVG 1.1 standard

Description	Parameter
HDMI	HDMI1.4 with HDCP1.2 up to 4K@30fps (up to 4096×4096 pixels)
Storage	
MicroSD card	Verson1.0 to 3.0
eMMC	8Gb (optional 16Gb[2])
USB	
USB port number	1
USB	1x USB 2.0
Connector	USB type A (vertical)
Protection	IEC 61000-4-2 level 4: − 15 kV (air discharge) − 8 kV (contact discharge)
USB overload	1.6A

1 Selected models with 2G only

2 Only 2GB RAM version models

Description	Parameter
Serial RS485	
Port number	1
Interface Type	RS485
Data Rate	1200bps ~ 921600bps
Signals	A and B
Connector	Pluggable screw socket
Protection	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
LTE/GSM Interface	
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	MicroSIM, push-pull type holder 3V/1.8V
Antenna Connector	SMA female
GNSS	
GNSS Systems	GPS, BAIDOU
Antenna Connector	SMA female
Ethernet	
Number	1
Type	10/100M port
Ethernet Connector	RJ45 with LED indicators
WiFi	
Data speed	Up to 150Mbps
Bands	2.4 GHz ISM
Standards	IEEE 802.11a/b/g/n
Modulation schemes	DSSS, DBPSK, DQPSK, CCK, OFDM, BPSK, QPSK, 16QAM, 640QAM
Security	WEP, TKIP, and AES, WPA, WPA2
Bluetooth	
Standard	V4.2+EDR, 2.1/3.0, BLE dual mode
Antenna	Simultaneous BT/WLAN
Digital Inputs	
Input number	1

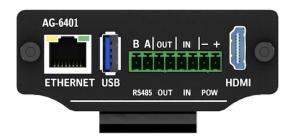| Description	Parameter
Input type	Opto-isolated 2.5kV
Configuration	AC/DC up to 60V
Connector	Pluggable screw socket
Max Vin	60V DC/AC
Logic 1 Voltage range	3.5V to max $_{Vin}$
Outputs	
Output number	1
Output type	NO/ SSR type
Load$_{max}$	100mA 60V DC
Connector	Pluggable screw socket
Audio[3]	
Line output	Stereo
System Functions Indicators	
Indicators	ACT – activity – dual colour LTE/GSM signal 4 – yellow Internet connection – blue LTE modem activity – green Digital output indicator – red Digital input indicator – green RS485 data transfer – yellow
System	
Operating systems	Debian Linux, Rassberian, Yokto Linux, Ubuntu Linux.
Booting source	eMMC, microSD
Power Supply	
Power Voltage range	8-36V DC
Power consumption	6W average
Connector	2 pin (+, -) Pluggable screw socket common for RS485 and I/O.
Protection	Reverse polarity Over voltage
Battery backup[4]	
Battery type	LiOn
Battery voltage	3.7V
Backup time	0.5h (approx)
Charging type	DC/DC system with current control
Battery protection	Over voltage, over temperature, low battery
Physical Characteristics	
Installation	DIN-Rail, clamp
Housing	Aluminium
Weight	290g

3 Selected AU (sound) models only
4 Selected B (battery) models only

Description	Parameter
Dimensions	88mm x 35mm x 87mm (W x H x D)
Environmental Specification	
Operating Temp.	0 ~ 70°C (-13 ~ 158°F)

Description	Parameter
Storage Temp.	-20 ~ 85°C (-40 ~ 176°F)
Ambient RH	5% to 95% (non-condensing)

Available models

Models	Hardware options					
	RAM		eMMC		Battery	Audio
	1GB	2GB	8GB	16GB		
AG-6401-1G-8G	√		√			
AG-6401-2G-16G		√		√		
AG-6401-1G-8G-B	√		√		√	
AG-6401-2G-16G-B		√		√	√	
AG-6401-1G-8G-AU	√		√			√
AG-6401-2G-16G-AU		√		√		√
AG-6401-1G-8G-B-AU	√		√		√	√
AG-6401-2G-16G-B-AU		√		√	√	√

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