

AIG-500 Series

Advanced IIoT gateways with Intel Atom® quad-core 1.91 GHz processor, 1 VGA port, ThingsPro Edge software, -40 to 70°C operating temperature



Features and Benefits

- Simplifies data acquisition and device management via the ThingsPro Edge software
- Seamless integration with ThingsPro Edge and Azure IoT Edge enables easy, reliable, yet secure cloud connectivity
- Supports easy device-provisioning with the ThingsPro Proxy utility
- Provides robust OTA function to prevent system failure during software upgrades
- Equipped with secure boot to prevent malicious software-injection attacks

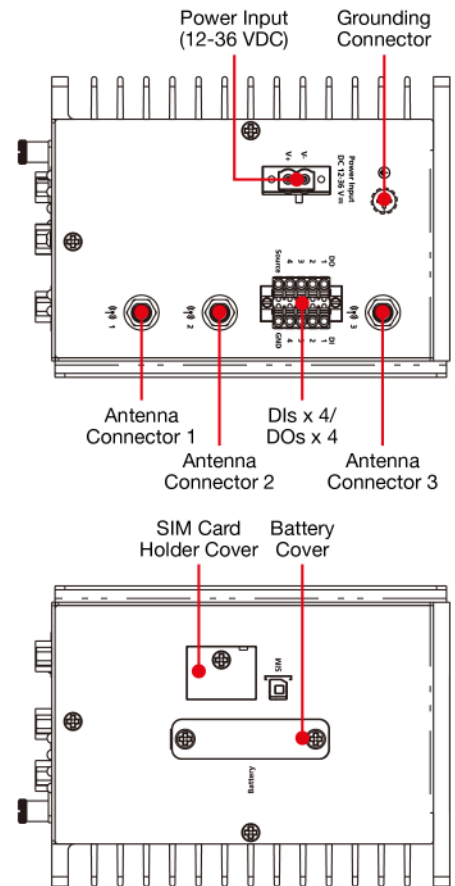
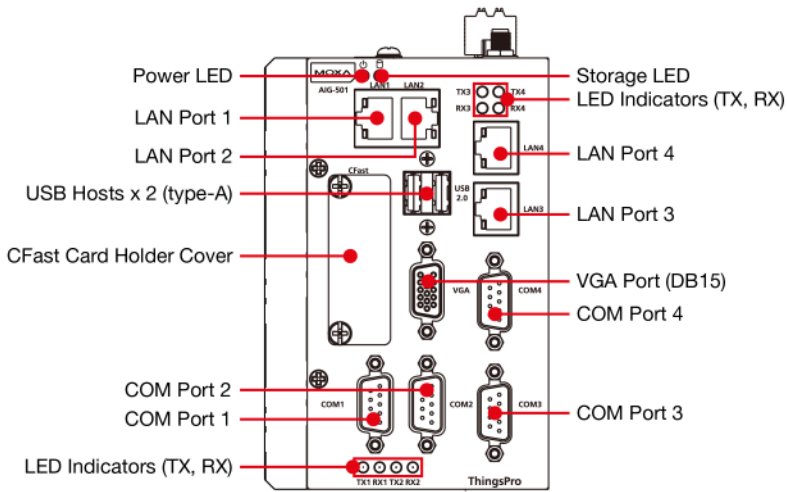
Certifications



Introduction

The AIG-500 Series advanced IIoT gateways are designed for Industrial IoT applications, especially for distributed and unmanned sites in harsh operating environments. ThingsPro Edge and Azure IoT Edge software are preloaded and seamlessly integrated with the AIG-500 Series to enable easy, reliable, yet secure sensor-to-cloud connectivity for data acquisition and device management using the Azure Cloud solution. With the use of the ThingsPro Proxy utility, the device provisioning process is easier than ever. Thanks to the robust OTA function, you never have to worry about system failure during software upgrades. With the secure boot function enabled, you can enable the booting process of AIG-500 Series to prevent malicious software-injection attacks.

Appearance



Specifications

Computer

CPU	Intel Atom® Processor E3845 (2M Cache, 1.91 GHz)
Graphics Controller	Intel® HD Graphics
DRAM	4 GB DDR3L
Storage Pre-installed	32 GB CFast GB eMMC
Pre-installed OS	Linux Debian 9, Kernel 4.9

Computer Interface

TPM	TPM v2.0
Ethernet Ports	Auto-sensing 10/100/1000 Mbps ports (RJ45 connector) x 4
Serial Ports	RS-232/422/485 ports x 4, software selectable (DB9 male)
Digital Input	DiS x 4
Digital Output	DOs x 4
USB 2.0	USB 2.0 hosts x 2, type-A connectors
Wi-Fi Antenna Connector	AIG-501-T-AZU-LX: RP-SMA x 2
Cellular Antenna Connector	AIG-501-T-US-AZU-LX: SMA x 2 AIG-501-T-EU-AZU-LX: SMA x 2 AIG-501-T-AP-AZU-LX: SMA x 2
GPS Antenna Connector	AIG-501-T-US-AZU-LX: SMA x 1, AIG-501-T-AP-AZU-LX: SMA x 1, AIG-501-T-EU-AZU-LX: SMA x 1

Number of SIMs	1
Expansion Slots	AI-G-501-T-AZU-LX: mPCIe slot x 1
SIM Format	Mini
Video Output	VGA x 1, 15-pin D-sub connector (female)
Ethernet Interface	
Magnetic Isolation Protection	1.5 kV (built-in)
Serial Interface	
Connector	DB9 male
Baudrate	300 bps to 921.6 kbps
Data Bits	5, 6, 7, 8
Flow Control	ADDC® (automatic data direction control) for RS-485, RTS/CTS, XON/XOFF
Parity	None, Even, Odd, Space, Mark
Stop Bits	1, 1.5, 2
Isolation	N/A
Serial Signals	
RS-232	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
RS-422	Tx+, Tx-, Rx+, Rx-, GND
RS-485-2w	Data+, Data-, GND
RS-485-4w	Tx+, Tx-, Rx+, Rx-, GND
Digital Inputs	
Connector	Spring-type Euroblock terminal
Sensor Type	Dry contact
Dry Contact	Off: open On: short to GND
Isolation	None
Digital Outputs	
Connector	Spring-type Euroblock terminal
Current Rating	10 mA (max.) total for all channels
I/O Type	Sink
Isolation	None
Cellular Interface	
Cellular Standards	LTE CAT-4
Band Options (US)	LTE Band 2 (1900 MHz) / LTE Band 4 (1700 MHz) / LTE Band 5 (850 MHz) / LTE Band 12 (700 MHz) / LTE Band 13 (700 MHz) / LTE Band 14 (700 MHz) / LTE Band 66 (1700 MHz) / LTE Band 71 (600 MHz) UMTS/HSPA Band 2 (1900 MHz) / Band 4 (1700 MHz) / Band 5 (850 MHz) Carrier Approval: Verizon, AT&T

Band Options (EU)	LTE Band 1 (2100 MHz) / LTE Band 3 (1800 MHz) / LTE Band 7 (2600 MHz) / LTE Band 8 (900 MHz) / LTE Band 20 (800 MHz) / LTE Band 28A (700 MHz) UMTS/HSPA Band 1 (2100 MHz) / Band 3 (1900 MHz) / Band 8 (900 MHz)
Band Option (APAC)	LTE Band 1 (2100 MHz) / LTE Band 3 (1800 MHz) / LTE Band 5 (850 MHz) / LTE Band 8 (900 MHz) / LTE Band 9 (MHz) / LTE Band 18 (850 MHz) / LTE Band 19 (850 MHz) / LTE Band 28 (700 MHz) UMTS/HSPA Band 1 (2100 MHz) / Band 5 (850 MHz) / Band 6 (800 MHz) / Band 8 (900 MHz) / Band 19 (800 MHz)

GPS Interface

Receiver Types	GPS/GLONASS/BeiDou/Galileo/QZSS
Accuracy	0.8 m
Acquisition	-147 dBm
Sensitivity	Cold starts: -145 dBm Tracking: -160 dBm

LED Indicators

System	Power x 1 Storage x 1
LAN	2 per port (10/100/1000 Mbps)
Serial	2 per port (Tx, Rx)

ThingsPro Software

ThingsPro Proxy Utility	Yes
Azure IoT Edge Preintegrated	Yes
ThingsPro Edge Preloaded	Yes

Power Parameters

Input Voltage	12 to 36 VDC
Power Connector	Screw-fastened Euroblock terminal
Power Consumption	30 W (max.)
Input Current	2.5 A @ 12 VDC

Reliability

Automatic Reboot Trigger	External WDT (watchdog timer)
--------------------------	-------------------------------

Physical Characteristics

Housing	Metal
Installation	DIN-rail mounting (with optional kit), Wall mounting (with optional kit)
IP Rating	IP20
Dimensions	132 x 122 x 87 mm (5.2 x 4.81 x 3.43 in)
Weight	1,340 g (2.95 lb)

Environmental Limits

Ambient Relative Humidity	5 to 95% (non-condensing)
Operating Temperature	-40 to 70°C (-40 to 158°F)

Storage Temperature (package included)	-40 to 75°C (-40 to 167°F)
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-64

Standards and Certifications

Safety	EN 62368-1, UL 60950-1
EMC	EN 55032/35, EN 61000-6-2/-6-4
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 4 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV IEC 61000-4-5 Surge: Power: 1 kV; Signal: 1 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
RED	EN 300 328 EN 301 893 EN 301 489-1/17/19/52 EN 301 511 EN 301 908-1 EN 303 413 EN 62311
Green Product	RoHS, CRoHS, WEEE
Hazardous Locations	Class I Division 2, ATEX

MTBF

Time	441,032 hrs (AIG-501-T-US-AZU-LX, AIG-501-T-EU-AZU-LX, AIG-501-T-AP-AZU-LX) 453,637 hrs (AIG-501-T-AZU-LX)
Standards	Telcordia (Bellcore) Standard TR/SR

Warranty

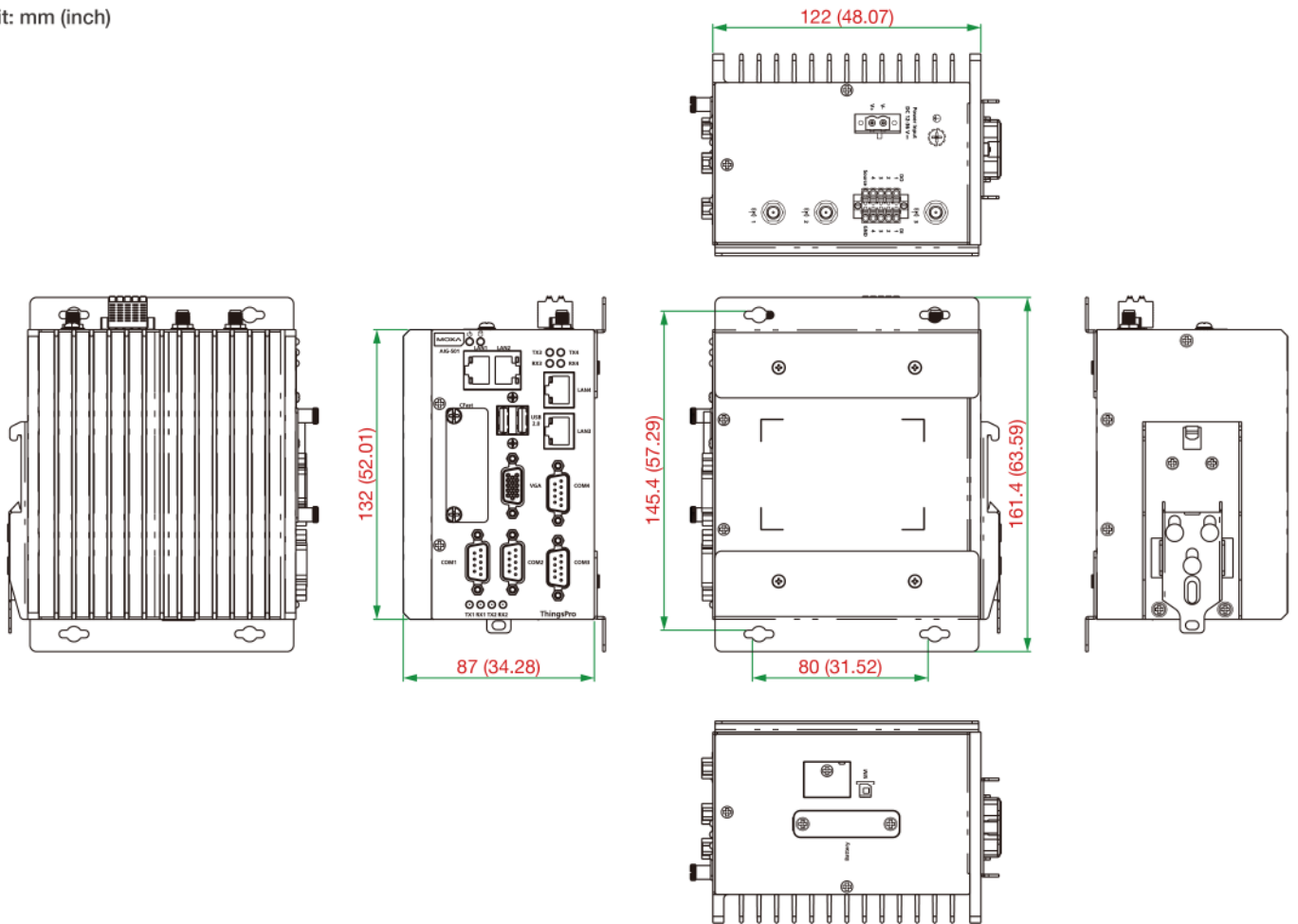
Warranty Period	3 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x AIG-500 Series computer
Documentation	1 x quick installation guide 1 x warranty card
Installation Kit	1 x power jack

Dimensions

Unit: mm (inch)



Ordering Information

Model Name	CPU	RAM	Storage	TPM	mPCIe Slot	Operating Temperature
AIG-501-T-AZU-LX	1.91 GHz	4 GB	32 GB	Built-in	Reserved for Wi-Fi module	-40 to 70°C
AIG-501-T-US-AZU-LX	1.91 GHz	4 GB	32 GB	Built-in	US region LTE module preinstalled	-40 to 70°C
AIG-501-T-EU-AZU-LX	1.91 GHz	4 GB	32 GB	Built-in	Europe region LTE module preinstalled	-40 to 70°C
AIG-501-T-AP-AZU-LX	1.91 GHz	4 GB	32 GB	Built-in	APAC region LTE module preinstalled	-40 to 70°C

Accessories (sold separately)

Power Wiring

CBL-PJTB-10	Non-locking barrel plug to bare-wire cable
Mini DB9F-to-TB	DB9 female to terminal block connector

Wi-Fi Wireless Modules

UC-8200-WLAN22-AC	Wireless package for UC-8200 V2.0 or later with Wi-Fi module, 2 screws, 2 spacers, 1 heat sink, 1 pad
-------------------	---

Antennas

ANT-LTEUS-ASM-01	GSM/GPRS/EDGE/UMTS/HSPA/LTE, 1 dBi, omnidirectional rubber-duck antenna
ANT-LTE-ASM-04 BK	704 to 960/1710 to 2620 MHz, LTE omnidirectional stick antenna, 4.5 dBi
ANT-LTE-OSM-03-3m BK	700-2700 MHz, multiband antenna, specifically designed for 2G, 3G, and 4G applications, 3 m cable
ANT-LTE-ASM-05 BK	704-960/1710-2620 MHz, LTE stick antenna, 5 dBi
ANT-LTE-OSM-06-3m BK MIMO	Multiband antenna with screw-fastened mounting option for 700-2700/2400-2500/5150-5850 MHz frequencies
ANT-WDB-ARM-0202	2 dBi at 2.4 GHz or 2 dBi at 5 GHz, RP-SMA (male), dual-band, omnidirectional antenna
ANT-GPS-OSM-03-3m BK	3 dBi at 1575.42 MHz, SMA (male), omnidirectional magnetic-base passive GPS antenna, 3 m cable
ANT-GPS-OSM-05-3M	26 dBi at 1575.42 MHz, SMA (male), omnidirectional active GPS antenna, 3 m cable

DIN-Rail Mounting Kits

MC-1100 DIN-Rail Kit	DIN-rail mounting kit, 4 screws
----------------------	---------------------------------

Wall-Mounting Kits

UC-8200 Wall-mounting Kit	Wall-mounting kit for UC-8200 with 4 M3 screws
---------------------------	--

© Moxa Inc. All rights reserved. Updated Jan 24, 2022.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.