MOXA AIG-301-T-AZU-LX Cloud-ready IIoT Edge Gateway User Guide

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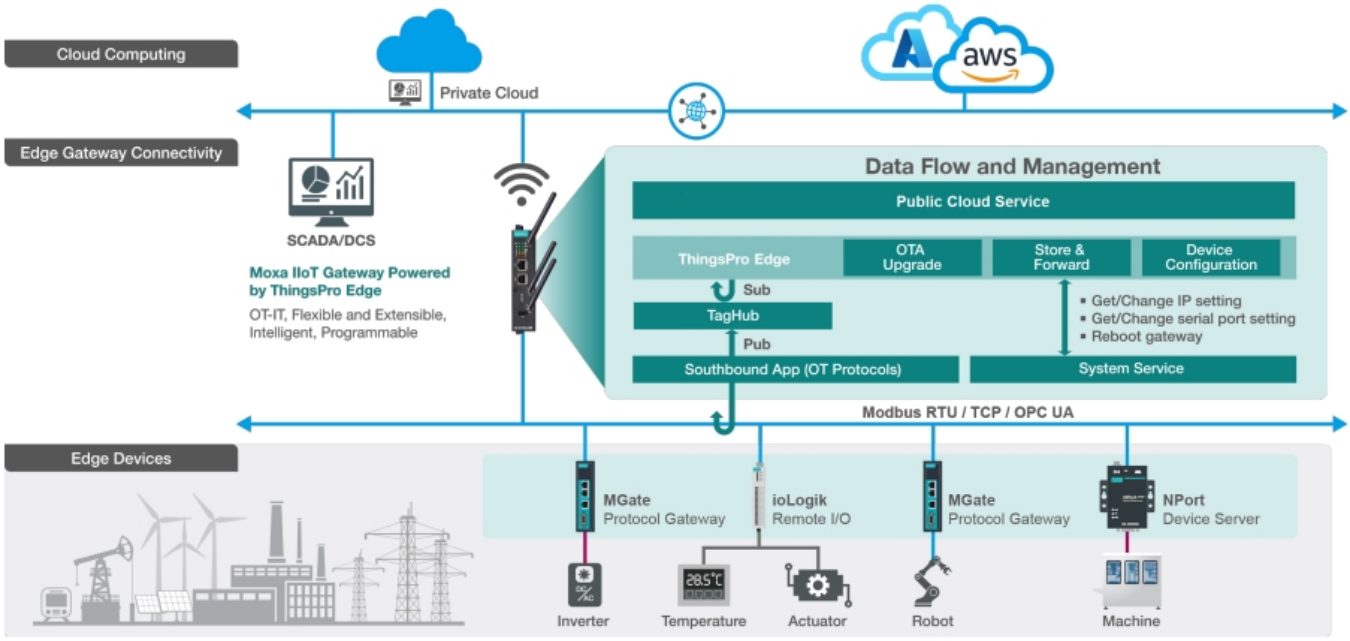
Overview

Secure Connections, Simple Management

Rapid globalization and information digitalization have led industrial operators to adopt IIoT applications for enhanced operational efficiency and to maximize revenue. Accelerating your IIoT development is essential to ensure that data transmission is accurate, secure, and fast. IIoT applications require a data acquisition solution that supports data logging and processing, is secure, and that can be implemented quickly and easily. For many system integrators and engineers, a key challenge in IIoT is achieving robust and secure data transfer from operational technology (OT) devices to IT-based cloud services. Moxa‘s robust, cloud ready IIoT gateways and value-added, long-lifecycle software are the perfect combination to provide secure and reliable IIoT solutions that can be rapidly developed and deployed in the field. ThingsPro Edge software is a platform designed to workwith Moxa’s Industrial IoT gateways to simplify the development of data-acquisition solutions for large-scale IIoT deployments. And with the long-term support policy that comes with Moxa Industrial Linux (MIL), you have access to practical echnologies for you to realize your IIoT connectivity goals. |
Moxa’s intelligent IIoT gateway solutions, which are certified by AWS and Azure, not only help you speed up IIoT development, they also simplify the effort required to operate and maintain your IIoT gateways. Moxa’s IIoT gateways are perfect for missioncritical applications, including rail, power, marine, and oil & gas.



Values

Give Your Business a Boost With Our Industrial IoT Solutions

Connecting all your industrial equipment allows you to unleash the potential of industrial intelligence. To accelerate project development and speed up your time to market, Moxa provides programmers with a variety of

user-friendly software tools, making it easy to develop customized data acquisition, wireless/cellular communication, and remote device management applications. Moxa's edge-to-cloud solutions simplify IIoT connectivity, allowing you to gain real-time insights from your devices, prepare for any possible network interruption, and achieve to successfully transform your business.

Secure and Reliable IIoT Gateways for Life-cycle Management
In the Industrial IoT world, a key challenge for many system integrators and engineers is finding a secure and reliable IIoT gateway that has prompt access to securitypatches and bug fixes. With Moxa's commitment tosecurity and technical support for the entire product lifecycle and long-term support policies for Moxa Industrial Linux (MIL) and ThingsPro Edge software, end users can devise an effective plan for software utilization, development, testing, upgrade, and migration.

Designed for Cloud Integration
Intelligent IIoT gateway solutions are designed to make devices smarter for achieving robust and secure data transfer from operational technology (OT) devices to IT-based cloud services. Moxa's ThingsPro Edge software is a platform designed to work with Moxa's Industrial IoT gateways to simplify the development of data-acquisition solutions from OT devices to Azure or AWS cloud services. In addition, Moxa's Industrial IoT gateways, designed for various harsh environments and mission-critical applications, are now certified and ready to be integrated with Azure and AWS, helping users speed up IIoT development and simplify operation and maintenance.

Qualified IIoT Gateway for Mission-critical IIoT Applications
Mission-critical applications require an IIoT gateway that is both reliable and robust. Moxa's IIoT gateway is designed for distributed, automated, and harsh environment applications, including solar power, smart grids, oil tanks, water tanks, oil and water pipelines, and railway tracksides. Moxa's IIoT gateways are designed for industrial vertical markets that require products with specific industrial certifications, such as the CID2 or ATEX standards.

Guidance

Choose an IIoT Edge Gateway That Meets Your Needs

Moxa's IIoT gateway is designed for distributed, automated, and harsh environment applications, including solar power, smart grids, oil tanks, water tanks, oil or water pipelines, and railway tracksides. Mission critical applications require an IIoT gatewaythat is both reliable and secure. The gateway not only connects OT systems to IT clouds, it must operate reliably at remote edge sites and under harsh environments.

Choosing the Right Hardware
Moxa's IIoT gateways are designed for industrial vertical markets that require products with specific industrial certifications, like CID2 and ATEX. If your application requires these industrial certifications, this is the first thing you should consider when choosing which model of Moxa IIoT gateway to use. You should also take into account operating temperature, and select Moxa IIoT gateways that are designed to operate in a -40 to 70°C (-40 to 158°F) wide operating temperature environment. If yourb application only requires products with general industrial standards, like EMC, then look at hardware performance and which I/O interfaces are supported. In either case, keep in mind that Moxa's Arm-based 0 computers come with a 5-year warranty and our x86-based computers come with a 3-year warranty. The industry average for industrial grade computers is a 2-year warranty. Choosing the Right Software The software functionality of Moxa's IIoT gateway is flexible enough to meet your software needs. If you are using complete software solutions, all you need to do is download the Moxa IIoT gateway drivers from Moxa's Github. In addition, most of Moxa's IIoT gateways are certified by Azure or AWS. Both systems provide the functionality needed to build IIoT applications quickly. If you're using the Moxa Industrial Linux (MIL) operating system, you can rest assured due to the 10 years of long-term support that Moxa provides. You can keep your Moxa IIoT gateway reliable and secure throughout the entire MIL life cycle. If you would like to focus on your domain knowledge and rely on Moxa's OT and IT software integration, check out ThingsPro Edge, an innovative software solution that helps you enable your IIoT application quickly and easily. With ThingsPro Edge, all you need to do is carry out a few simple configuration steps via a web-based user interface to connect your OT and IT systems. ThingsPro Edge also provides an abundance of RESTful APIs for executing either data acquisition or device management tasks. Moreover, ThingsPro Edge integrates an Azure device twin to quickly leverage direct method, report property or desired property commands to complete data acquisition or device management tasks through Azure IoT Hub. Another important software utility is ThingsPro Proxy, which greatly simplifies troublesome but critical device provisioning tasks. In this case, the IIoT gateway handles connecting your OT system to an IT cloud. Since the identity of the gateway needs to be authorized before connecting to the

IT cloud, ThingsPro Proxy is designed for you to quickly conduct batch configurations and provisioning of IIoT gateways that are using ThingsPro Edge, based on your cloud authorization. With the ThingsPro Proxy utility, you can easily install ThingsPro Edge on multiple Moxa IIoT gateways

About Moxa Industrial Linux (MIL)

Moxa Industrial Linux is an industrial-grade Linux distribution developed by Moxa and released for use with Moxa computer platforms in 2018. MIL is based on the Debian distribution and the standard Linux kernel, making it easy to deploy applications on multiple systems. Moxa is working with industry leaders to create a reliable and secure Linux-based embedded software platform. Moxa is a member of The Linux Foundation® and works with its Civil Infrastructure Platform (CIP) project, which aims to create an open-source platform to make industrial projects secure, reliable, scalable, and sustainable. For more information, refer to the **life-cycle policy** on our **MIL product page** .

Debian Compatibility

- Access to the comprehensive repository of packages from Debian
- Field-proven OS stability

Robust File System

- Guaranteed system operation when there are power losses during firmware upgrades/downgrades
- Fast and secure reset-to-default function built into the system

Over-the-air (OTA) Software Updates

- Supports an Advanced Packaging Tools (APT) software-upgrade mechanism for remote upgrades

About ThingsPro Edge and ThingsPro Proxy Software

ThingsPro Edge (TPE) is an edge-gateway software that runs on Moxa's IIoT gateways (industrial computing platforms) to enable efficient data acquisition and bridge the data-transmission gaps between field devices and cloud applications. TPE offers an intuitive user interface to acquire data from end devices, manipulate/filter data locally before sending it out to applications, and enable secure data transmission. With the functions available as built-in RESTful APIs, integrating these capabilities into your systems is more straightforward and easier than ever. The Things Pro Proxy provides effortless provisioning of devices, including software upgrades, cloud enrollment, and device configuration. This Windows-based utility can be downloaded from the Moxa website and installed on a Windows 10 or later OS version environment.

Integration With Public and Private Cloud Platforms

- Supports Azure IoT Device, AWS IoT Core, and MQTT client
- Supports remote device management via cloud portals such as Azure Direct Method enabling device reboots and configuration updates.

Streamlined Sensor-to-cloud Data Transmission

- Modbus master for acquiring data from edge devices and publishing tagged data to cloud connectivity applications.
- Caching of device-to-cloud messages in a specified location and defining policies to send these messages to the cloud.

Device Management

- Dashboard overview to monitor resource consumption and device configurations such as GPS settings and cellular strength signal
- Supports keep-alive check and default route priority to ensure continuous network connectivity

How to find AWS or Azure certified IIoT Gateways
Refer to the Moxa IIoT gateway compatibility table to determine which devices are Azure-certified and which devices are AWS certified. **Click here to view the table**

Useful Tech Notes
Refer to the tech notes we created to help you better understand Moxa IIoT gateway solutions. The tech notes include useful tips as well as step-by-step instructions on how use the gateways for various applications. **Click here to view the tech notes.**

Your Trusted Partner in Automation

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Documents / Resources

	**MOXA AIG-301-T-AZU-LX Cloud-ready IIoT Edge Gateway** [pdf] User Guide AIG-301-T-AZU-LX, Cloud-ready IIoT Edge Gateway, IIoT Edge Gateway, Edge Gateway, Gateway, AIG-301-T-AZU-LX

References

- **Moxa - Your Trusted Partner in Automation**