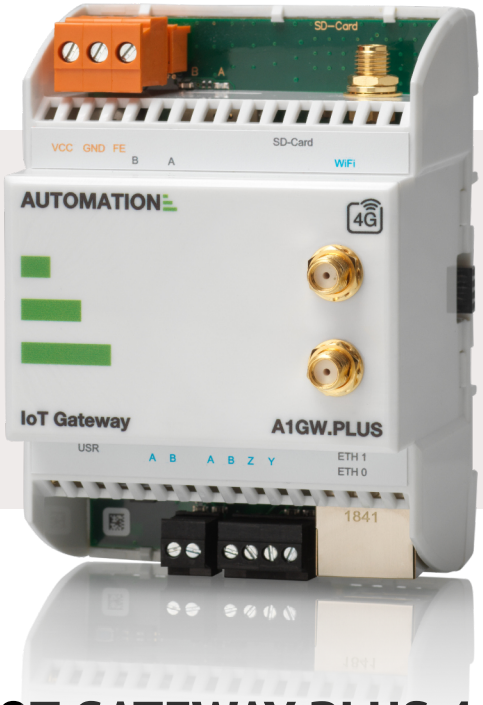

AUTOMATION

A1 IOT GATEWAY PLUS 4G

RADIO-BASED INTERNET CONNECTION OF FIELD DEVICES

The A1 IoT Gateway Plus 4G transports data flexibly and securely between devices installed in the field and an on-site server or an Internet-based cloud service.

Two Ethernet interfaces with separate MAC addresses support a LAN / WAN topology. Two serial interfaces allow the connection to field devices in master and / or slave operation or the parallel operation of two different protocols such as modbus RTU and Mbus. The gateways communicate wirelessly via WLAN / BT LE or 4G.

The LINUX based open source operating system and the Github maintained YOCTO toolchain offer the greatest possible flexibility for software creation. A Python software development kit supports a quick introduction to programming.

The EdgeLock® secure element offers advanced edge-to-cloud security.

Typical use is reading and transferring meter readings or monitoring devices or systems for data delivery to a digital twin.

POWERFUL

- Powerful Arm® Cortex®-A7 CPU
- Generous memory expansion
- Two Ethernet interfaces (2x MAC)
- RS485 and RS485 / RS422 interfaces
- 4G cellular modem
- WLAN / BT Low Energy
- Flexible expansion options

OPEN SOURCE

- GitHub-maintained embedded Linux platform for customer-specific application programs
- YOCTO toolchain for easy creation of your own OS image
- Plug & Play image for Python scripting with pre-installed Python libraries such as pymodbus

IOT WITH SECURITY

- EdgeLock® plug & trust IoT secure element
- Root-of-trust option at IC level
- Advanced edge-to-cloud security for IoT applications
- EAL 6+ security certification up to the OS level

SECURE MANAGEMENT OF YOUR IOT DEVICES

Part number	A1GW.PLUS.4G
CPU	i.MX 6ULL(Cortex®-A7 @800 MHz), 512MB DDR3-RAM, 1MB NOR-Flash , 512MB NAND-Flash
Real-Time clock	buffered by lithium battery
Ethernet interface	2 x 10 / 100BaseT, 2x MAC address, RJ45 connectors, link and traffic LEDs
Serial interface	1 x RS485, 1 x RS485 / RS422 galvanically isolated
WLAN / BT LE function	WLAN and Bluetooth low energy communication (Redpine chipset)
4G Mobilfunk function	Cellular connection to 4G network
SD card interface	1 x microSD card, SD / SDHC, push/push slot
M.2 interface	Internal M.2 socket to accommodate expansion modules (occupied with optional cellular function)
IoT security	EdgeLock® plug & trust secure element, separate circuit for encryption and identification of the hardware
USB, CAN, I2C, PWM, SPI	Internal pin header with additional interfaces of the i.mx6
Power supply	24 VDC, max. 7W
Operating temperature (Top)	-5 °C to +55°C (K55)
Sizes (W x L x H)	71 x 97 x 62 mm
Material	Plastic housing made of polycarbonate (UL94V0 certification)
Mounting	DIN rail mounting (35mm top hat rail), suitable for installation in electrical distribution cabinets
CE conformity	2014/35/EU, 2014/53/EU, IEC 61000-6-3, IEC 61000-6-2, IEC 62368-1, RoHS
Software	**Comment**
Operating system	YOCTO Linux distribution a1-embedded-linux-platform for creating your own operating system images (https://github.com/Automation-One)
Python SDK	Ready-to-go image for installation on the gateway with Python3 and useful Python libraries for IoT applications such as pymodbus and paho-mqtt

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