ReliaGATE 15A-14

MODULAR GATEWAY - Energy and Industrial IoT – NXP i.MX 8M Plus with NPU – LTE / 5G RedCap / LoRa / SFP – IEC 62443





- **Ideal for Industrial Applications**
- **Certified for Energy and Grid**
- **Modular: Compact and Extended**
- **i.MX 8M Plus with NPU for Edge AI**
- **LTE, 5G RedCap, Wi-Fi, LoRaWAN**
- **IEC 62443-4-2 SL2 Cybersecurity**
- **Fanless, DIN Rail Optimized**

Compact Version

Extended Version

Features

IDEAL FOR INDUSTRIAL APPLICATIONS : Connects PLCs, drives, meters and building systems over Modbus, OPC UA, Siemens S7, Ethernet/IP, BACnet and M-Bus. Fanless and DIN rail mounted, with isolated I/O, CAN-FD and serial ports, it brings machine data securely from the edge to the cloud for monitoring, predictive maintenance and AI-driven quality control.

ENERGY & GRID READY : Connects grid-edge assets, such as distribution automation, renewable generation and metering sites, to the control centre and the cloud. Grid protocols are available as ESF add-ons: IEC 61850, IEC 60870-5-101/-104, DNP3, DLMS/COSEM, IEC 62056-21, IEEE C37.118 and OCPP 1.6. Dual SFP fibre uplink and isolated I/O are available as modules. Energy-sector certifications are available.

EXPANDABLE MODULAR GATEWAY : One platform in two widths. The Compact size combines the CPU module with two expansion modules; the Extended takes four. Modules include LoRa concentrator and endpoint, isolated I/O, multi-serial, Ethernet RJ45, dual SFP, LTE/GNSS/Wi-Fi and 5G RedCap. Standard configurations are listed in this datasheet; other combinations are available to order.

ARM POWERED WITH EDGE AI : NXP i.MX 8M Plus Quad: four Cortex-A53 cores at 1.6 GHz and a Cortex-M7 real-time core, with an integrated NPU of up to 2.3 TOPS for local inference.

GLOBAL CONNECTIVITY : LTE Cat 4 Global, 5G RedCap with LTE fallback, Wi-Fi 5, Bluetooth 5 (BLE), multi-constellation GNSS and LoRaWAN concentrator and endpoint. Carrier-certified LTE.

OPEN PLATFORM : Everyware Software Framework (ESF), Eurotech's Java/OSGi edge middleware, with ready-to-use field protocols, MQTT and web-based visual data-flow programming. Native Docker support for containerized applications.

ACCELERATED DEVELOPMENT & DEPLOYMENT : With Everyware GreenEdge, onboarding to Everyware Cloud and provisioning on AWS IoT take minutes rather than days, and a first edge application such as a store-and-forward datalogger is up and running almost immediately: a fraction of the time a traditional gateway integration requires.

CLOUD CERTIFIED : Native connectors to Eurotech Everyware Cloud, AWS IoT Core, AWS IoT Greengrass and other cloud services.

BEST IN CLASS CYBERSECURITY : IEC 62443-4-2 SL2 certification, EN 18031-1 (RED-DA) and California SB-327 compliance; designed to meet the requirements of the EU Cyber Resilience Act (CRA). Hardware security includes TPM 2.0, TrustZone and an always-on, power-independent anti-tamper monitor and logger.

Description

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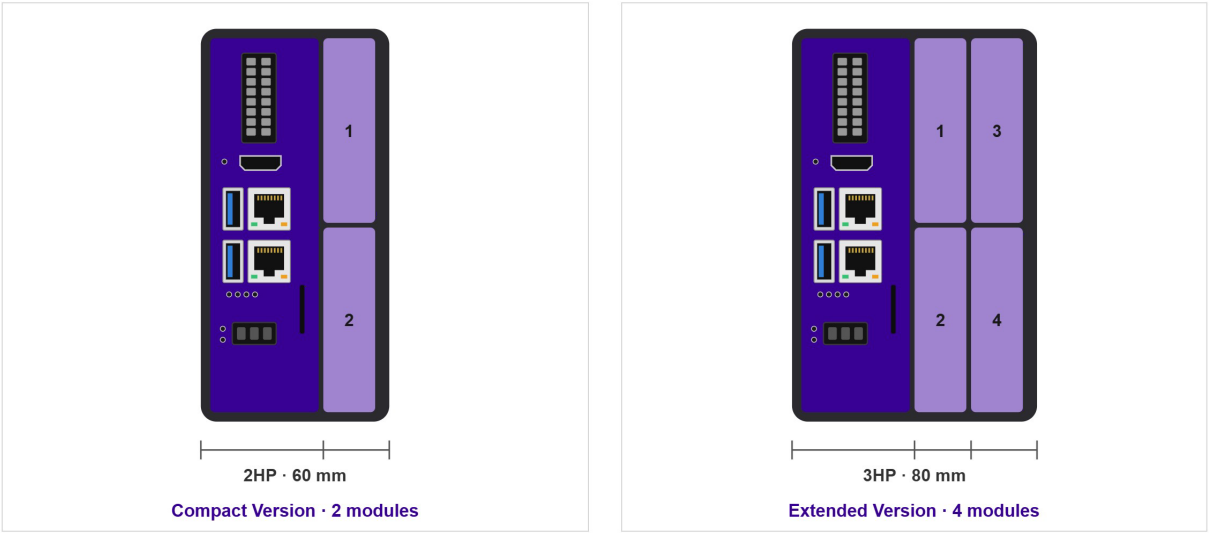
The ReliaGATE 15A-14 is a modular, multi-service edge gateway purpose-built for energy, grid and industrial environments. It combines an NXP i.MX 8M Plus processor with integrated NPU, global cellular and LoRaWAN connectivity, grid and industrial protocols, and certified cybersecurity in a compact, fanless, DIN rail enclosure.

One platform, two widths. Every ReliaGATE 15A-14 is configured in the factory from a CPU module and a set of standard internal modules on a common backplane. Width is expressed in HP units (Horizontal Pitch): the first HP houses the CPU module, and each additional HP adds a column of two module slots. The **Compact (2HP, 60 mm wide)** takes two modules; the **Extended (3HP, 80 mm wide)** takes four. The modules are defined at order time and cannot be changed in the field.
Standard configurations are listed in this datasheet with their certifications. Other combinations of library modules are available to order, and Eurotech offers customization and certification services for needs beyond the library. Eurotech can also design new modules to fit the particular needs of your project.

Built for every role in an edge project:

- **Energy and grid integrators:** speak the grid's language out of the box, with IEC 61850, IEC 60870-5-104 and DNP3.
- **Industrial integrators:** connect machines, PLCs and building systems over Modbus, OPC UA, S7 and BACnet, and bring their data to the edge and the cloud.
- **Hardware developers:** get a tailored, certified gateway at a fraction of the cost and time of a custom design.
- **Application developers:** build faster on Everyware Software Framework (ESF), with ready-made field protocols, MQTT and visual data-flow programming.
- **Container developers:** deploy their applications with native Docker support.
- **Cloud developers:** connect natively to Eurotech Everyware Cloud, AWS and other clouds.
- **DevOps teams:** roll out and run fleets with Zero Touch Provisioning, advanced diagnostics and full remote management.
- **CISOs:** rely on IEC 62443 security, SB-327 compliance and always-on anti-tamper protection, kept current by an optional update service.

Modular architecture



ReliaGATE 15A-14 Modular Architecture

Ideal for Industrial Applications

Turns industrial equipment into connected, secure and intelligent data sources, without changing what already works.

- **Speaks the plant's language:** Modbus, OPC UA, Siemens S7, Ethernet/IP, BACnet and M-Bus, ready to use.
- **Rugged by design:** fanless, ?25 to +70 °C, isolated I/O, CAN-FD and serial, DIN rail: made for cabinets, not offices.
- **Intelligence at the edge**: the integrated NPU runs AI models on site for predictive maintenance and quality inspection.

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- **One platform, many machines:** the modular design delivers the exact mix of I/O and connectivity each application needs.

Typical applications: machine connectivity and retrofit, predictive maintenance, production monitoring, building automation

Ideal for Energy and Grid Applications

Connects grid-edge assets to control centres and the cloud, securely and in the protocols utilities already use.

- **Speaks the grid's language:** IEC 61850, IEC 60870-5-101/-104, DNP3, DLMS/COSEM, IEC 62056-21, IEEE C37.118 and OCPP 1.6.
- **Certified for critical infrastructure:** energy-sector certifications and IEC 62443 cybersecurity.
- **Connected wherever the grid goes:** dual SFP fibre, LTE and 5G RedCap, and LoRaWAN for field sensors.
- **Cabinet-ready I/O:** 5 kV optoisolated digital I/O, analog inputs with 4–20 mA option, fanless, DIN rail.

Typical applications: distribution automation, secondary substations, renewables and DER, EV charging, smart metering.

Built for Cloud-based Applications

One gateway, any cloud, from day one: from a device on the desk to a managed fleet in production.

- **Zero Touch Provisioning:** gateways onboard themselves to Everyware Cloud securely and with minimum user effort.
- **Cloud certified, cloud agnostic:** native AWS IoT Core and Greengrass, Everyware Cloud and other platforms over MQTT.
- **Full fleet lifecycle:** remote configuration, updates, diagnostics and secure remote access from a single console.
- **Reliable data flows:** visual data-flow programming and store-and-forward, even over intermittent links.

Typical applications: remote asset monitoring, fleet-wide analytics, digital twins, centrally managed edge deployments.

Secure by Design: IEC 62443-4-2 SL2 and CRA

Security is built into the hardware, the software and the product lifecycle, not added afterwards.

- IEC 62443-4-2 SL2 certified: product-level certification for industrial automation and control systems, with hardened software.
- Ready for the Cyber Resilience Act: designed to meet EU CRA requirements, EN 18031-1 (RED-DA) compliant.
- Tamper monitoring that never sleeps: physical intrusion events are detected, time-stamped and logged, even when the gateway is powered off.
- Hardware root of trust: TPM 2.0, TrustZone architecture and California SB-327 compliant credentials.

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ReliaGATE 15A-14 - Compact (2HP)



ReliaGATE 15A-14 – Compact (2HP).

Ordering Code: REGATE-15A-14-xx-yy

Hardware Configuration (-xx)		-03	-06	-08
BODY STYLE	Width	Compact (2HP)		
MODULES	Slot #1	Not Populated	I/O Module Type 1	
	Slot #2	Radio Module (LTE): LTE + GNSS	Radio Module (LTE): Wi-Fi/BT	Radio Module (LTE): Full radio
	Slot #3	N/A (Available only in Extended Model Only)		
	Slot #4	N/A (Available only in Extended Model Only)		
CPU MODULE	Processor	NXP i.MX 8M Plus Quad with NPU (up to 2.3 TOPS)		
	Memory/Storage	4 GB LPDDR4 / 32 GB eMMC		
	Base I/O	2x GbE, 2x USB 3.0, 1x RS-232/422/485, 1x CAN-FD, 2x DI, 2x DO, 1x HDMI – see CPU Module Table		
CYBER (HW)	TPM	TPM 2.0		
	Anti-tamper	Always-on physical tampering monitoring, reporting and time-stamped event logging; TrustZone architecture		
	IEC 62443-4-2 SL2	See Software Configurations		
POWER	Input	Nominal 12 or 24 VDC; range 9–30 VDC with transient protection; ignition key sense		
	Consumption	Idle: 3.5 W; typical: 7.5 W		
ENVIRONMENT	Operating Temp.	-25 to +70°C, Fanless		
	Storage Temp.	-40 to +85°C		
	Humidity	RH 5...95% Operating Non Condensing (40°C)		
CERTIFICATIONS	Regulatory	CE, FCC, ISED, JATE/TELEC		
	Safety	CB, IEC 62368-1, cULus; designed to be compliant with ANSI-UL 62368-1		
	Radio	RED		
	Cellular Carriers	PTCRB, AT&T, Verizon, T-Mobile (§), Rogers (§), Telus (§), SoftBank (§), KDDI (§), NTT DoCoMo (§)	-	PTCRB, AT&T, Verizon, T-Mobile (§), Rogers (§), Telus (§), SoftBank (§), KDDI (§), NTT DoCoMo (§)
	Cybersecurity	EN 18031-1 (RED-DA) – Off-the-shelf compliance		
	Automotive	E-Mark R10		
	Energy	IEC 61850-3 (In Progress)		
	Environmental	ROHS3, REACH		
	Ingress	IP40		
MECHANICAL	Enclosure	Material: Aluminum - Color: Dark Grey/Purple		
	Dimensions	117x60x132mm (LxWxH) - Excluding Connectors, DIN Bar Mounting Bracket		
	Weight	< 0.7 kg (depending on configuration)		
	Mounting	DIN Rail Adapter (Included)		

§ Contact Eurotech.

The above configurations are examples of what can be achieved by mixing and matching modules. Configuration to order and the addition of new functionality are possible. Contact Eurotech to discuss your needs.

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ReliaGATE 15A-14 - Extended (3HP)



ReliaGATE 15A-14 – Extended (3HP).

Ordering Code: REGATE-15A-14-xx-yy – EXTENDED (3HP)					
Hardware Configuration (-xx)		-21	-34	-35	-42
BODY STYLE	Width	Extended (3HP)			
MODULES	Slot #1	LoRa Endpoint Module (EU868)	I/O Module Type 1		
	Slot #2	Radio Module (LTE): LTE + GNSS	Radio Module (LTE): Full radio		Radio Module (5G RedCap)
	Slot #3	Multi-Serial Module (front panel spans slots #3–#4)	Not Populated		Ethernet Dual SFP Module
	Slot #4	LoRa Concentrator Module, EU868	LoRa Concentrator Module, US915	Ethernet Dual RJ45 Module	Not Populated
CPU MODULE	Processor	NXP i.MX 8M Plus Quad with NPU (up to 2.3 TOPS)			
	Memory / Storage	4 GB LPDDR4 / 32 GB eMMC			
	Base I/O	2x GbE, 2x USB 3.0, 1x RS-232/422/485, 1x CAN-FD, 2x DI, 2x DO, 1x HDMI – see CPU Module Table			
CYBER (HW)	TPM	TPM 2.0			
	Anti-tamper	Always-on physical tampering monitoring, reporting and time-stamped event logging; TrustZone architecture			
	IEC 62443-4-2 SL2	See Software Configurations			
POWER	Input	Nominal 12 or 24 VDC; range 9–30 VDC with transient protection; ignition key sense			
	Consumption	Idle: 3.5 W; typical: 7.5 W			
ENVIRONMENT	Operating temp.	?25 to +70 °C, Fanless			
	Storage temp.	?40 to +85 °C			
	Humidity	RH 5–95% Operating, Non-condensing (40 °C)			
CERTIFICATIONS	Regulatory	CE; FCC, ISED, JATE/TELEC			
	Safety	CB, IEC 62368-1, cULus			
	Radio	RED			
	Cellular Carriers	PTCRB, AT&T, Verizon, T-Mobile (§), Rogers (§), Telus (§), SoftBank (§), KDDI (§), NTT DoCoMo (§)			Carrier Certifications in Progress
	Cybersecurity (HW)	EN 18031-1 (RED-DA) – Off-the-shelf compliance			
	Automotive	E-Mark R10			
	Energy	IEC 61850-3 (In Progress)			
	Ingress protection	IP40			
MECHANICAL	Enclosure	Material: Aluminum – Color: Dark Grey/Purple			
	Dimensions (L×W×H)	117×60×132 mm – Excluding Connectors, DIN Rail Mounting Bracket			
	Mounting	DIN Rail Mounting Bracket (Included)			
	Weight	< 0.7 kg (Depending on Configuration)			

§ Contact Eurotech.

The above configurations are examples of what can be achieved by mixing and matching modules. Configuration to order and the addition of new functionality are possible. Contact Eurotech to discuss your needs.

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CPU MODULE

PROCESSOR	CPU	NXP i.MX 8M Plus Quad: 4x Cortex-A53 @ 1.6 GHz, 1x Cortex-M7 @ 800 MHz
	AI Accelerator	Integrated NPU, up to 2.3 TOPS
MEMORY	RAM	4 GB LPDDR4
STORAGE	Embedded	32 GB eMMC
I/O INTERFACES	Ethernet	2x 10/100/1000 Mbps, RJ-45
	USB	2x USB 3.0 (5 Gbps) Host, Type A (Noise and Surge Protected)
	Serial	1x RS-232/422/485 (not Isolated, SW Termination Resistor and Mode Selection)
	CAN bus	1x CAN-FD (Protected and Isolated, SW Termination and Fail-Safe Resistors)
	Digital Input	2x 0–36 V, 1 kV Isolated
	Digital Output	2x 40 VAC/DC, 500 mA Sink, 1 kHz Max Switching, Isolated
	Video Out	1x HDMI (v1.4/v2.0, Supports 4Kp30)
OTHER	RTC	Yes (SuperCAP Backup)
	Watchdog	Yes (Independent Discrete Watchdog)
	EEPROM	256 Kbit
	Sensors	Temperature
	LEDs	1x Power, 4x User Configurable, 1x Cellular (Cellular Configurations)
	Buttons	1x Reset, 1x Programmable

I/O MODULE TYPE 1

EXTRA I/O INTERFACES	Serial	1x RS-232/422/485 (1 kV Isolated, SW Termination Resistor and Mode Selection)
	CAN bus	1x CAN-FD (Protected and Isolated, SW Termination and Fail-safe Resistors)
	Digital Input	4x 0–36 V, 5 kV (2.7 kV RMS) Optoisolated
	Analog Input	4x Single-ended, 0–36 V, 12-bit, Isolated; Factory Option: 4–20 mA Current Loop
	Digital Output	3x 40 VAC/DC, 500 mA Sink, 1 kHz Max Switching, 5 kV (2.7 kV RMS) Optoisolated

I/O MODULE TYPE 2

EXTRA I/O INTERFACES	Digital Input	4x 0–36 V, 5 kV (2.7 kV RMS) Optoisolated
	Analog Input	4x Single-ended, 0–36 V, 12-bit, Isolated; Factory Option (§): 4–20 mA Current Loop
	Digital Output	3x 40 VAC/DC, 500 mA Sink, 1 kHz Max Switching, 5 kV (2.7 kV RMS) Optoisolated

RADIO MODULE (LTE)

Variant		Full radio	LTE + GNSS	Wi-Fi/BT
CELLULAR	Cellular	4G LTE Cat 4 Global		-
	SIM/eSIM	1x microSIM (user accessible); Option (§): 1x eSIM		-
GNSS	Constellations	GPS, GLONASS, BeiDou, Galileo, QZSS		-
WI-FI/BT	Wi-Fi	802.11 a/b/g/n/ac (2.4 GHz, 5 GHz)	-	802.11 a/b/g/n/ac (2.4 GHz, 5 GHz)
	Bluetooth	Bluetooth 5 (BLE), 2.4 GHz	-	Bluetooth 5 (BLE), 2.4 GHz
ANTENNAS	External Antennas	2x SMA cellular; 1x SMA GNSS; 1x RP-SMA Wi-Fi/BT	2x SMA cellular; 1x SMA GNSS	1x RP-SMA Wi-Fi/BT

RADIO MODULE (5G REDCAP)

CELLULAR	Cellular	5G RedCap with LTE fallback
	SIM/eSIM	1x microSIM (user accessible); Option (§): 1x eSIM
ANTENNAS	External Antennas	2x SMA cellular

MULTI-SERIAL MODULE

INTERFACES	Serial	4x RS-232/422/485 (Not Isolated, SW Mode Selection)

ETHERNET MODULE (RJ45)

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ETHERNET	GbE Ports	2x 10/100/1000 Mbps - RJ45

ETHERNET MODULE (SFP)		
ETHERNET	SFP Ports	2x 1000Base-LX transceiver with duplex LX receptacle - SFP. Factory option§ 1000Base-T

LORA ENDPOINT MODULE		
LORA FEATURES	LoRA Class Support	LoRa Class A and C
	LoRaWAN Support	LoRaWAN 1.0.3
RADIO INTERFACES	LoRa Endpoint	Dual LoRa Endpoint (EU868)
	Antennas	2x SMA LoRa endpoint

LORA CONCENTRATOR MODULE		
LORA FEATURES	Communication Class	Class A, B and C End-Node Support
	LoRaWAN Support	LoRaWAN 1.0.3
	LoRa Basics Station	LoRa Basics Station v2 Compatible
RADIO INTERFACES	LoRa Concentrator	LoRa Data Concentrator (Factory option§ EU868 or US915)
	Antennas	2x SMA LoRa endpoint

§ Factory option: contact Eurotech.

Eurotech can develop custom modules with additional capabilities. Contact Eurotech to discuss your requirements.

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Ordering Code: REGATE-15A-14-xx-yy						
Software Configuration (-yy)		-02	-03	-04	-09	-10
OS	Eurotech Everyware Linux	Yes				
IOT FRAMEWORK	Everyware Software Framework (Includes Zero-Touch-Provisioning)(*)	-	Yes			
SUITE and SERVICES	Everyware GreenEdge (EGE)	-		Yes	-	Yes
SOFTWARE HARDENING	Hardening	-			Yes	
CERTIFICATIONS	Cybersecurity	-			ISASecure/IEC 62443-4-1/-4-2 SL2 Host†	
	IoT Platform	-		AWS IoT Core, AWS IoT GreenGrass	-	AWS IoT Core, AWS IoT GreenGrass

* Requires Everyware Cloud

† additional Professional Service might be required depending on customer requirements

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