DATASHEET

Industrial Gateway

Wesfin EMS

An industrial gateway for sites with many devices: ten isolated RS-485 ports, three CAN, four Ethernet and 4G in one fanless enclosure. It runs Wesfin Edge, the local controller of Wesfin EMS.

Status: In preparation



A rendering of the Wesfin EMS Industrial Gateway. The production unit may differ.

Serial ports	Network	Power	Operating temperature
10× RS-485, 3 kV isolation	4× Ethernet, 4G/5G, Wi-Fi	DC 12–36 V	−40…+70 °C

The gateway connects to the local EMS/BMS of an energy storage system or directly to inverters, meters, storage and PLCs. A quad-core 64-bit processor and onboard eMMC leave room to collect data from dozens of devices and to buffer it when the connection drops.

Over a mutually authenticated (mTLS) connection the gateway sends data to the Wesfin EMS cabinet: energy flows in kW, history and reports in kWh. Decisions are made on site, so the gateway keeps working without internet.

In preparation: we plan to supply this hardware platform with Wesfin EMS. Specifications may change before deliveries start.

Hardware platform protocols (per its manufacturer)

Modbus RTU · Modbus TCP · MQTT · IEC 60870-5-101 · IEC 60870-5-104 · IEC 61850 · OPC UA · BACnet/IP

Wesfin EMS today

- Reading inverters, storage and meters over Modbus RTU (RS-485) and Modbus TCP.
- Sending data to the Wesfin EMS cabinet over MQTT with mTLS, read-only.
- An on-site data buffer while the connection is down.

Equipment control is off

The hardware platform has relay outputs and control protocols, but equipment control in Wesfin EMS is off today: the system only reads data and shows schedules as a simulation. Other protocols are connected after they are qualified on a given site.

Wesfin Flex (market, optional): Aggregator licence granted · commercial services not yet launched.

Supplier

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Specifications

Interfaces

RS-485	10× isolated, 3 kV isolation (2 channels shared with RS-232)
RS-232	2× (shared with RS-485, selected in hardware)
Ethernet	4× RJ45, 10/100/1000 Mbit/s
CAN	3× isolated
Analogue inputs	4×, 4–20 mA or 0–10 V
Digital inputs	18×, dry or wet contact
Relay outputs	8×, 5 A 220 V AC / 28 V DC (off in Wesfin EMS)
USB	1× USB 2.0 Type A, 1× USB 3.0 Type A
HDMI	1×

Electromagnetic compatibility

Surge	EN 61000-4-5, level 3
Electrostatic discharge	GB/T 17626.2-2006, level 3
Conducted disturbances	EN 61000-4-6, level 3
Radiated RF field	EN 61000-4-3, level 3
Electrical fast transients (burst)	EN 61000-4-4, level 3
Power-frequency magnetic field	EN 61000-4-8, 400 A/m horizontal and vertical (above level 3)
Ring wave	EN 61000-4-12, level 3

Computing

Processor	Quad-core 64-bit, up to 2.0 GHz
Memory	LPDDR4 2 GB (optional 4 or 8 GB)
Storage	eMMC 16 GB (optional 32 or 256 GB)

Communication

Cellular	Standard 3G, 4G or 5G modules
Wi-Fi	IEEE 802.11 a/b/g/n/ac, 2T2R
Bluetooth	Compatible with Bluetooth 2.1, 3.0 and 5.0

Other

SIM card	1× drawer-type slot
Indicators	Power, status, LAN, 4G, Wi-Fi, serial ports, CAN, digital inputs
Watchdog	1× CPU, 1× external hardware

Power and environment

Power supply	DC 12–36 V, 10 kV ESD protection
Operating temperature	−40…+70 °C
Humidity	0–90 % RH, non-condensing
Drop	IEC 60068-2-32
Shock	IEC 60068-2-27
Vibration	IEC 60068-2-6

The hardware platform's specifications are provided by its manufacturer and may change without notice.