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CloudGate Probe

The Ultimate Smart Metering companion

- Compact DIN rail mountable metering device.
- Monitor assets like utility meters remotely.
- Read data from devices via the built in Modbus (RTU), M-Bus (Wired), Digital or Analog Input.
- Control assets via 1x Digital Output (ex. relay or actuator) or 2x Analog Outputs.
- Available in two versions: Cellular (LTE-CATM, NB-IoT) and LoRa (EU868, US915 or AS923).



General description

CloudGate Probe is a compact DIN rail mountable metering device that can connect devices over Modbus (RS-485), M-bus, Digital & Analog Input to a LoRaWAN or Cellular (NB-IoT/LTECatM) networks. This permits to monitor assets and buildings remotely in a convenient way.

As a low cost and compact device, the CloudGate Probe can read and transmit data of nearly any meter to any IoT platform. The device can also be used to change settings or the state of an actuator like an HVAC device, control valve, relay, etc.

CloudGate Probe comes in two versions: a Cellular (LTE-CATM, NB-IoT) version and a LoRa version. The LoRa version is intended to be used in building use cases (i.e. smart building and building management platforms). The Cellular version is intended to be used in asset monitoring (i.e. pumps, generators, etc.)

Use case: Smart Building

CloudGate Probe can be used as an aggregator that can receive and transmit data from, and to, a master device in a building. Reading multiple meters, via interfaces like Modbus, Mbus or pulse counters, controlling HVAC actuators like heat pumps, ventilation and heating systems and to a limited and safe extent adjusting parameters like temperature, ventilation power, lights, shading, etc.

Use case: Assets monitoring

CloudGate Probe can be built into HVAC assets to allow efficient pro-active maintenance. It also enables a service engineer to know what the situation is like before going on-site. This way service interventions can be scheduled more efficiently.

Combination with CLOUDGATE GATEWAY or CLOUDGATE Probe

In combination with a CloudGate Gateway, the CloudGate Probe can be used as a slave device to capture the data of multiple assets and send this to a CloudGate gateway. Here local, or Edge, processing can be applied in such a way that only the most essential part of information is filtered and transferred to a centralized server application that can run on a myriad of Cloud platforms.

Technical Specifications

Mechanical information	Formfactor / Mounting	DIN-rail mountable device 2 U wide
	Colour	?
	Material	PC/ABS
	Weight	?
Electrical information	Option A: AC-powered	85-305Vac
	Option B: DC-powered	24Vdc +/-1c0%
	Max. power consumption	4W
Technical information	Modem	- LoRaWAN variant 868 MHz or 915 MHz regions - External antenna (SMA-RP) - LoRaWAN protocol 1.0.3 - LoRaWAN class C - Cellular variant - LTE Cat M1 / Cat NB2 - EU bands: B3/B8/B20 - International coverage (on demand) - Integrated GNSS receiver 2x External antenna (SMA)
	M-Bus mini-master	34V bus power - up to 4 Unit Loads - Screw terminal connection
	Modbus interface	- RS485 - Half duplex - Screw terminal connection
	Analog input	- Configurable 0-3.3V input conversion 0-10V input conversion
	Digital input	- Configurable - CMOS input 0-3.3V - Dry contact input
	Analog outputs	0-10V output +/-0.01V 4-20mA output +/-1%
	Digital output	- Configurable - CMOS output 0-3.3V - Open Drain output (<250mA)
	Optional Last-Gasp backup power	Offering >10s operation following power-outage. -20°C to 60°C
Environmental information	Operating temperature	-20°C to 60°C
	Humidity	5% to 95% relative humidity (noncondensing)
	IP Class	IP20
Certificates	CE Radio Equipment Directive (RED) 2014/53/EU, RoHS/REACH, WEEE	