

ATEX data logger for Zone 1 and 2 with integrated 4G communication – remote meter reading, process and level monitoring

ATEX ZONE 1 + 2

EX II 2G Ex ib IIA T2 Gb

4G LTE WITH 3G/2G FALLBACK

BATTERY UP TO 6 YEARS

4 DI · 3 AI · 2 DO

RS232 · RS485 · TTL

FTP · MQTT · HTTP · SMS

Readings from the hazardous area – without a power connection

The **VERIBOX-MINI** is a battery-powered data logger with ATEX approval for Zone 1 and Zone 2. It reads meters, volume converters and sensors, stores the values locally and transmits them over the mobile network – with no power supply at the measuring point and no gateway.

Devices are connected through four digital inputs, three analogue inputs, encoder and serial interfaces; common volume converters are read directly. Two digital outputs handle switching and alarm functions on site.

Transmission runs over **4G LTE** with fallback to 3G and 2G. If the connection fails, the device buffers the values and retransmits them with their time stamp – the load profile stays complete.



Zone 1

Ex II 2G Ex ib IIA T2 Gb, intrinsically safe, type examination TÜV-A 04 ATEX 0001X. Zone 2 as well.

6 years

Battery life with daily transmission. Lithium primary cell, no mains or auxiliary power connection.

4G LTE

Automatic fallback to 3G UMTS and 2G GPRS. Transmission via FTP, MQTT, HTTP or SMS.

39,500+

Devices in service worldwide; the product family has been proven in the field for over 30 years.

Product features

- ATEX approval for Zone 1 and 2, type of protection intrinsic safety (Ex ib)
- Fully battery-powered – no mains or auxiliary power at the measuring point
- 4 digital inputs for pulse, reed, S0 and Namur
- 3 analogue inputs 0 – 10 V and 0 – 20 mA plus PT1000
- Encoder inputs for absolute and Grey code registers
- Serial reading via RS232, RS485 and TTL (Modbus RTU/ASCII)
- Direct protocol support for common volume converters (section 07)
- 2 digital outputs for switching and for alarm signalling on site
- Load profile at hourly intervals, buffer with automatic retransmission
- Limit, event and device alarms by SMS or to the backend
- Commissioning and diagnostics via LC display and 4-button menu
- Sealable enclosure for measuring points subject to metrological control

Typical applications

- **Gas networks** – volume converters at transfer, regulator and metering stations
- **Water supply** – remote meter reading, pressure and level measurement
- **Tank and vessel monitoring** – fill levels in hazardous areas
- **Process monitoring** – pressure, temperature and flow via analogue signals
- **Remote measuring points** – without power supply or network infrastructure
- **Industry and chemicals** – data acquisition in Zone 1 and Zone 2
- **Submetering** – pulse and meter data as the basis for billing
- **Fault signalling** – alarms by SMS to the standby service and to the backend

IN THE SYSTEM

VERILOG web portal (evaluation, alerting, export) · NB IoT Box Lite and Mini for NB-IoT measuring points · VUSWM ultrasonic water meters · export to HES, MDM and ERP systems

01 Inputs and outputs

Digital inputs	4 × pulse, reed, S0 or Namur
Encoder	Absolute and Grey code registers, Namur
Analogue inputs	3 × 0 – 10 VDC and 0 – 20 mA
Temperature	PT1000
Serial interfaces	RS232, RS485 and TTL; Modbus RTU and ASCII
Digital outputs	2 × switching and alarm output

02 Data acquisition and alarms

Load profile	Hourly intervals, 24 values per day
Buffering	Local memory with automatic retransmission including time stamp
Alarms	Limit, event and device alarms
Signalling	SMS to the standby service and message to the backend
Switching	Two digital outputs, controllable on site

03 Explosion protection and approvals

Marking	Ex II 2G Ex ib IIA T2 Gb
Zones	Zone 1 and Zone 2
Type examination	TÜV-A 04 ATEX 0001X
Standards	EN 60079 (explosion protection), CE marking

07 Volume converters and meters supported directly

The serial interface reads the device protocols of common volume converters directly – meter readings, load profiles and status information. Further devices on request.

- Honeywell / Elster EK260 and EK280
- ITRON Corus and Evo+
- Plum MacBat
- Instromet 444 and 999
- Dresser MicroSeries
- Elgas Elcor
- RMG / Kamstrup TME-400
- American Meter iMeter
- Gas, water and energy meters with pulse or encoder output
- SICK Flowsick
- Flonidan UniFlo
- Pressure, temperature and level sensors with an analogue signal

08 Platform, data retention and support

Operation	Servers of VERAUT GmbH in Linz, Austria, GDPR compliant; no public cloud	Backup	Daily automatic backups, restore at system and data level
Tenant separation	Every customer sees only their own data	Encryption	TLS transport encryption; AES-256 of stored data optional
Data retention	5 years as standard, longer retention optional	Support	German, English and Hungarian; response within 3 working days

09 From the field



VERIBOX-MINI on a gas line, enclosure sealed



Gas metering point: VERIBOX-MINI at the volume converter