

# MODUS

Dual channel volume converter with data logging capabilities

**Modus is a MID certified Electronic Volume Converter with integrated communication module suitable to installation in ATEX Zone 0 classified areas**



**Modus** manages up to 2 PTZ channels, with dedicated inputs for the acquisition of pulse inputs from primary gas meter, pressure and temperature measurements. Moreover the device provides additional input channels to support extended station monitoring applications.

The device is designed to be remotely controlled by the centralised data collection system (SCADA/SAC) using communication protocols such as Modbus and UNITS 11291-3 (CTR) protocols.

**Modus** is a battery operated very Low Power device with a typical battery lifetime of more than 5 years.

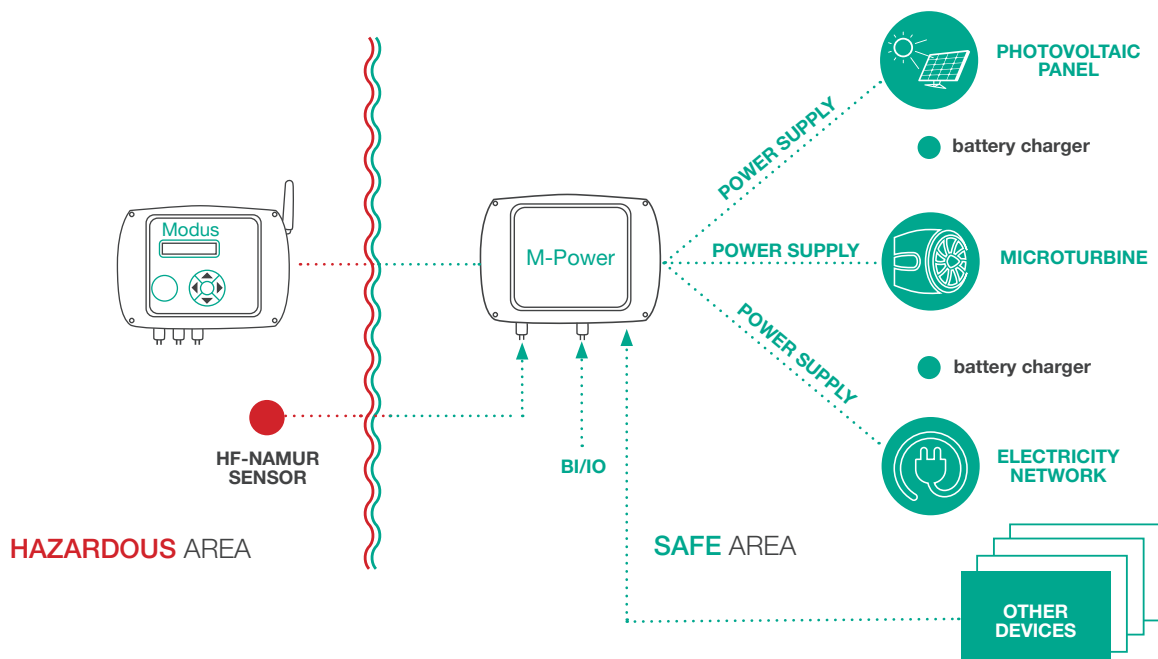
For energy demanding application, such as real time “always-on” communications, the device can be powered by the associated intrinsic safety barrier **MPower**.

MPower can then be powered by:

- AC Electricity Mains
- PV panels
- Microturbine systems

Installation and local setup are supported by user friendly local communication software Modus Configurator, for timeless alignment to operational SCADA database.

**Modus** operates over -25°C to + 60°C temperature range and supports a wide range of field configurations for the best fit to application requirements; whenever supplied by MPower external power supply it can interface NAMUR (IEC 60947-5-6) emitters.



### Technical Characteristics

Measurement channels	<p>2 independent channels configured as follows:</p> <ul style="list-style-type: none"> <li>• LF volume input up to 3 Hz</li> <li>• Input from piezoresistive absolute pressure sensor with 3 m standard cable, accuracy &lt; 0.25%, standard process connection ¼ G male</li> <li>• PT1000 class A temperature sensor input, 3 m standard cable.</li> </ul> <p>The second channel also accepts HF signals up to 5 KHz MID Certification, Annex MI-002, according to EN12405 1:2005+A2:2010 Conversion factor in compliance with EN12405</p>
Z Formulas	ISO12213-2 (AGA8-DC92)   ISO12213-3 (SGERG-88)   AGA-NX19
Temperature range	-25 °C ÷ +60 °C
Pressure range	0.8 ÷ 2 barA   0.6 ÷ 3.5 barA   0.9 ÷ 10 barA   5 ÷ 24 barA   10 ÷ 40 barA   20 ÷ 80 barA
Analogue inputs	<p>Also available:</p> <ul style="list-style-type: none"> <li>• 1 input from absolute or relative piezoresistive pressure sensor with 3 m cable standard, accuracy &lt; 0.25%, standard process connection ¼ G male</li> <li>• 2 generic inputs 0-5 V</li> </ul>
Digital inputs	10 voltage-free contacts
Digital outputs	4 DO Open Collector
Enclosure	IP65 / IP67 polycarbonate (EN 60529) Dimensions 210 x 150 x 80 mm Weight Kg. 1.6
Environmental conditions	Temperature range: -25 °C ≤ T ≤ +60 °C Humidity range: 10% - 93% without condensation
Power	Internal: from primary battery, 5 years lifetime with 1 daily comm. External: by means of associated device MPower
Local interfaces	Alphanumeric display 2x20, 5 keys Optical port compliant to EN 62056-21 ( ZVEI ) RS485 serial communication port
Wireless communication	2G GSM/GPRS/SMS
Communication protocols	Modbus RTU, UNITS 11291-3 (CTR). Note: Data availability is strictly related to selected communication protocol. For specific applications please contact your local dealer.
Atex certification	<p><b>Version A:</b> with integrated modem and battery power supply <b>Version T:</b> with integrated modem and external power supply ⊕ II 1 G Ex ia IIA T3 Tamb = -25°C ÷ +60 °C <b>Version B:</b> without modem and with battery power supply ⊕ II 1 G Ex ia IIB T3 Tamb = -25°C ÷ +60 °C Certificate No. 0425 ATEX 004371-00 X</p>
MID certification	Certificate No. IT-025-21-MI002-NB2213

\* Specifications are subject to change without notice.