

MEC^{flexM} Volume and Energy Conversion

Applications

Battery powered gas volume conversion device with integrated GSM/GPRS modem.
The optimal solution for custody transfer measurement.



Main features

- Single channel gas volume conversion device
- Integrated GSM/GPRS modem
- ATEX approved for hazardous area ZONE1 and ZONE2
- Battery lifetime more than 5 years
- Typical error under reference conditions < 0.15 % of measured value
- Graphical backlit LCD display
- Remote firmware update
- Optional P or T transducer for monitoring purposes
- Compliant with MID according EN12405
- Microsoft Windows compatible service and communication software

Basic description

MEC^{flexM} compact volume conversion device with integrated GSM/GPRS modem is based on modern components ensuring accurate calculation of volume and measurement of pressure and temperature with high accuracy. MEC^{flexM} is designed for converting of gas volume under operating conditions into gas volume in standard conditions according to statutory equations acc. to EN 12405. For that purpose, it reads pulses from the gas meter, measures gas temperature and pressure.

MEC^{flexM} belongs to the new generation of electronic volume conversion devices and it is designed on the latest microprocessor technology. The device provides large capacity archives and enables flexibly to change period of data recording.

The device supports various algorithms for compressibility calculation. As a standard function the device offers generating of output digital pulses which respond to primary and standard volume and flow, alarm signals or other items or signals selected by service software. Protection of data is secured either by hardware switch or by using programmable passwords.

MEC^{flexM} is battery power supplied with the possibility to connect an external power source. All required actual and calculated values are presented on back lighted graphical LCD display by using the 6 button keypad. It is possible to set all basic parameters through the keypad. Communication with an external supervisory or billing system can be realized via the serial interface RS232/RS485, optical port or via integrated GSM/GPRS modem.

Technical specifications	
Housing	UV stabilized polycarbonate
Dimensions (w x h x d)	225 x 220 x 82 mm
Weight	2.4 kg
Protection class	IP 65 (EN 60529)
Working temperature	-25°C to +70°C
Control panel	6 button keypad
Display	graphical backlit LCD display (also in battery mode), 128 x 64 pixels
Power supply	2 lithium battery packs, operating time more than 5 years in defined condition with option of intrinsic safe power supply (JBZ02)
Measuring temperature range	-25°C to +60°C
Measuring pressure ranges (bar, absolute)	
MID certified	<ul style="list-style-type: none"> standard ranges 0.8 - 2.5; 0.8 - 5.2; 2 - 10; 4 - 20; 7 - 35; 14 - 70 enhanced ranges 0.8 - 10; 4 - 70
without MID	<ul style="list-style-type: none"> standard ranges 0.8 - 20; 0.8 - 35; 0.8 - 70
Accuracy	<0.5 % of measured value (MID) <0.15 % typically of measured value
Communication interface	RS-232 / RS-485 serial interface optical interface (IEC 62056-21:2002) GSM/GPRS modem
Communication speed	RS232/RS485: 9.6 - 57.6 kbit/sec optical interface: 9.6 - 38.4 kbit/sec
Digital inputs	4 digital inputs (configurable as LF or binary)
Digital outputs	4 digital outputs (configurable as pulse or binary output)
Analog outputs	4 digital outputs (configurable as pulse or binary output)

Approvals	
Approved according to the European metrology standard	TCM 143/11 - 4848 EN 12405-01 and 2004/22/EC (MID)
ATEX approval for installation into hazardous area	FTZÜ 14 ATEX 0137X
Classification (according to EN 60 079-0, EN 60 079-11)	ZONE 1, ZONE 2
Accessories	
Standard delivery	user's manual TELVES - service and data collection software
Optional accessories	
Installation material	thermowell, mounting kit, three-way valve (type DN 3 PN 100)
Power supply	intrinsically safe power supply JBZ-02, MPU ^{flexM}
Module of current loop	CL-1 (4 - 20mA)
Separation and communication modules	DATCOM-K3, DATCOM-K4
Digital transducers	pressure transmitter EDT 23, temperature transmitter EDT 34
Optical probes	infrared head HIE-03 (RS-232), infrared head HIE-04 (USB)
Expansion module for digital transducer connection	expansion module RS-485