

MEC^{flexS} Volume and Energy Conversion

Applications

Battery powered gas volume conversion device with option of external power supply. It provides for a full solution for custody transfer measuring and telemetric data collecting.

Main features

- High performance valuable product
- Basic telemetric functions
- Battery lifetime more than 6 years
- Typical error under reference conditions < 0.15 % of measured value
- Graphical LCD display with backlighting.
Possibility to connect 2nd pressure or temperature sensor
- Basic parameters setting via keypad
- Large capacity of different type of archives
- Designed for hazardous area ZONE 1 and ZONE 2
- Microsoft Windows compatible software
- Remote reading option



Basic description

MEC^{flexS} is designed for converting of gas volume in operating conditions to gas volume in standard conditions according to statutory equations acc. to EN 12405. For that purpose it reads pulses from gas meter and measures gas temperature and pressure.

The gas volume corrector can be used as PTZ, PT, TZ or T type corrector. The device supports the algorithms for calculation of compressibility factors according to the standards AGA 8-92DC, AGA NX-19 mod, AGA 8-G1, AGA 8-G2, SGERG-88 or fixed factor calculations.

The basic concept of the device is selected to operate as a single channel corrector. The device configuration also enables measuring and monitoring other factors or signals.

MEC^{flexS} gas volume corrector is designed on the latest microprocessor technology which enables measuring of pressure and temperature using analog transducers. The device provides large capacity archives and enables flexibly to change the period of data recording.

As a standard function the device offers generating of digital output pulses which respond to operating and standard volume and an alarm signal. Protection of data is secured either by hardware switch or by using programmable passwords.

MEC^{flexS} is designed for full solutions based on a flexible modular system. The device is battery power supplied with option of external power supply. All required actual and calculated values are presented on the back lighted graphical LCD display by use of the 6-button keypad. It is also possible to set all basic parameters through the keypad.

Communication with external supervisory of billing system can be realized through the serial interface RS-232/RS-485 or infrared head.

Technical specifications	
Housing	UV stabilized polycarbonate
Dimensions (w x h x d)	193 x 160 x 73 mm
Weight	1.2 kg
Protection class	IP 66 (EN 60529)
Working temperature	-25°C to +70°C
Control panel	6 button keypad
Display	graphical LCD display with backlighting (also in battery mode), 128 x 64 pixels
Power supply	lithium battery, operating time more than 6 years in defined condition with option of intrinsic safe power supply (JBZ-02)
Type of battery	SAFT standard lithium battery (D size, 3.6V/17Ah)
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 - 10; 0.8 - 20; 0.8 - 35; 0.8 - 70
Accuracy	<0.5 % from measured value (MID) <0.15 % typically from measured value
Communication interface	RS-232 / RS-485 serial interface optical interface (IEC 62056-21:2002) GSM/GPRS modem (AMR ^{flexS})
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, HF or binary)
Digital outputs	4 digital outputs (configurable as pulse or binary output)
Analog outputs	up to 4 analog outputs by using external CL1 module; 4-20mA

Approvals	
Approved according to the European metrology standard	TCM 143/09-4664 EN 12405-01 and 2004/22/EC (MID)
ATEX approval for installation into hazardous area	FTZÜ 14 ATEX 0136X (Directive 94/9/EC)
Classification (according to EN 60 079-0, EN 60 079-11)	
MEC^{flexS}	II 1G Ex ia IIC T4/T3 Ga (ZONE 0)
Accessories	
Standard delivery	user's manual
Optional accessories	
Installation material	thermowell, mounting kit, three-way tap (type DN 3 PN 100)
Power supply	intrinsically safe power supply JBZ-02
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)
GSM/GPRS communicators	AMR ^{flexS} , AMR ^{flexM} , AMR ^{flexV/M/S}
Expansion module for digital transducer connection	Expansion module RS-485
SCR+ encoder expansion module	Expansion module for connection of SCR+ encoder
Device variants	
MEC^{flexS}	standard