

**CMK-03** is a modern, high-class measuring instrument with battery supply, fully conforming to **MID** directive. It combines the requirements of the Polish market with experience based on our devices sold worldwide.

The corrector is designed for operation at gas measuring stations and pressure reducing and measuring stations. It can be operated together with any gas meter (e.g. rotary, turbine type, ultrasonic) providing information on the measured volume in the form of pulses.

**CMK-03** is mainly battery-supplied with external supply possible as well. Installed batteries enable continuous maintenance-free measurements and data recording for a minimum of 6 years.



CMK-03 is a gas volume corrector type 1. This means that it

is a complete measuring system equipped with pressure / temperature transducers, pulse / volume input from the gas meter and algorithms for calculating the measured gas volume in terms of basic (standard) conditions.

**CMK-03** is designed so that it provides many additional inputs necessary for process-related as well as measuring and control purposes. These include in particular: control inputs **LFb**, **LFc**, **Encoder** input, **HF** transmitter input in **Namur** standard, dual **ExtCPC** input for external process related pressure transducers (CPC-03), binary alarm outputs **OUT** type, binary alarm inputs **IN** type, **IN inputs** in **Namur** standard.

For reading out the information and supplying power to the **CMK-03** corrector, there are three independent communication ports in **RS-GAZ2** standard: COM1 ("Tuchel/ OPTO-GAZ") and COM2 and COM3 (terminal strip).

The **IP66/67** enclosure is made of aluminium providing durability, resistance and high leak tightness. The cover is hinged and provided with a limiter, allowing for easy and convenient access to ergonomic terminals and batteries supplying the device.

The cover holds an LCD display with a keyboard, an OPTO-GAZ port and a RS-GAZ2 connector (Tuchel). The enclosure base holds up to two internal pressure transducers P1 and P2. The P1 transducer is also available as external, fix-connected with a cable. Metal glands in the enclosure base are adapted to mounting screened cables, and as such they increase resistance of the device and circuits to electromagnetic interference. CMK-03 is equipped with an LCD display legible within the entire temperature range as well as an intuitive graphical/text menu. Display backlight is provided by an additional battery which is independent from the corrector's main batteries.



# Technical data

# Sensors and measuring transducers

- Temperature sensor with compensation of connecting cables PT1000, class 2/3A; max length 10 m
- Max two internal pressure transducers P1, P2 (the internal one in P1 standard). The P1 transducer can be supplied as external, fixconnected with cable (see the figure below)



- Up to two additional external CPC-03 pressure transducers connected to the dedicated ExtCPC input
- LF input (max cable length 10 m)

# **Extension inputs**

- 8 extension inputs (LFb, LFc, 4x binary input IN type, 2x binary/Namur inputs IN type)
- HF input in Namur standard

#### Extension outputs

- Four binary alarm outputs OUT type (programmable alarms)
- Frequency output
- ByPass LF output (LF repeating)
- ByPass HF output (HF repeating)

# Communication

- Three RS-GAZ2 ports: COM1 ("Tuchel/OPTO"), COM2 and COM3
- Two ExtCPC ports for connecting external CPC-03 pressure transducers
- ENC input that may be operated together with a digital CWSL encoder of the gas meter (Namur interface)
- Supported interfaces: Gaz-Modem2/3, Modbus

# User Interface

- Legible graphic and text display with
- independent power supply for LED backlight
- User-friendly keyboard

# Enclosure & power supply

- Explosion-proof design 🖾 II 2G Ex ia IIB T4 Gb
- Aluminium enclosure, IP 66/67, EMC/EMV cable glands
- Operating temperature (-25 to +55) °C
- Max relative humidity 95% @ 55 °C
- Height (w/o glands) x width x depth 195 x 175 x 70; weight 2.4 kg
- Two lithium batteries (one battery or two batteries can be used)
- External power supply for the corrector V+ (5 to 7.14 V)
- External power supply for Namur circuits: +8V (8.2 V ± 10%)

# Compliance with directives and standards

- MID confirming to PN-EN 12405-1+A2:2010
- Energy calculations conforming to PN-EN 12405-2:2012
- **ATEX** conforming to PN-EN 60079-0:2013-03+A11:2014-03, PN-EN 60079-11:2012

# Calculation method for the compressibility factor

• SGERG-88, AGA8-92DC, K1 = fixed is possible

Pressure ranges P1, P2			P2			
3A	-0.5 to 3	bar abs	G10	0 -	10	kPa G
6A	-0.9 to 6	bar abs	G17	0 -	17	kPa G
17A	-2.5 to 17	bar abs	1G	0 -	100	kPa G
40A	-6 to 40	bar abs	6G	0 -	600	kPa G
70A	-10 to 70	bar abs	16G	400 -	1600	kPa G
			63G	1400 -	6300	kPa G

COMMON SPÓŁKA AKCYJNA ul. Aleksandrowska 67/93 91-205 Łódź, POLAND Tel.: +48 42 253 66 00 Mobile: +48 601 255 580 Fax: +48 42 253 66 99 E-mail: common@common.pl WWW: www.common.pl







KK:CMK-03/PL/10.04.15