



## ELECTRONIC VOLUME CONVERTER

Model EK220

### Product informations

**EK220**, the battery-powered electronic volume converter with flexible data logger function and configurable serial interface; this device detects low-frequency pulses of the measured gas volume under operating conditions from a gas meter, measures the operating pressure and temperature of the gas, calculates the compressibility coefficient  $K$  and the conversion factor  $C$ . Using these data it is possible to calculate the gas volumes at standard conditions, the flow rate values at standard conditions and the flow rate values at operating conditions.

### Product features

- consisting of a central unit equipped with an integrated or external pressure sensor and a temperature sensor
- the sensors are permanently connected to the unit
- the compressibility coefficient  $K$  can be programmed as a fixed value for all gases
- used for various applications in the field of natural gas measurement and station monitoring
- high accuracy
- four sealable and freely programmable digital outputs
- optical interface for parameterization and reading (IEC 62056-21)

### Applications

- conversion of gas volumes for billing purposes
- data storage (data logging) for various applications
- assembly of measured values and typical functions of a measuring station



## Technical Features

<b>METRIC APPROVALS</b>	<ul style="list-style-type: none"> <li>• COMPLIES WITH EUROPEAN STANDARD EN 12405-1:2005 + A1:2016</li> <li>• GAS VOLUME CONVERSION DEVICE MID DE-08-MI 002-PTB 001 (PTZ CONVERSION)</li> </ul>
<b>ATEX APPROVED</b>	ZONE 1, EEX IA IIC T4
<b>ENVIRONMENTAL CONDITIONS</b>	- 25°C ÷ + 55°C
<b>BATTERY POWERED</b>	ONE LITHIUM BATTERY (SERVICE LIFE > 5 YEARS UNDER NORMAL OPERATING CONDITIONS), OPTIONAL ADDITIONAL BATTERY TO DOUBLE THE LIFE OF THE MAIN BATTERY
<b>EXTERNAL POWER SUPPLY</b>	EXTERNAL SUPPLY UNIT 5 - 10 VDC, I < 30 MA (IN COMBINATION WITH A SERIAL INTERFACE)
<b>CONTROL PANEL</b>	4 BUTTONS KEYBOARD
<b>INPUT</b>	3 DIGITAL INPUTS FOR CONNECTING LOW-FREQUENCY PULSE TRANSMITTERS AND SIGNALING STATUS VIA MESSAGES (E.G.: ANTI-TAMPER CONTACT)
<b>TEMPERATURE SENSOR</b>	<ul style="list-style-type: none"> <li>• PT-500 (OR OPTIONALLY PT-100) RESISTANCE THERMOMETER ACCORDING TO DIN 60751, WITH THERMOWELL, FOR USE WITH THERMOWELL</li> <li>• INSTALLATION LENGTH 50 MM, Ø 6 MM, CABLE LENGTH 2.5 M</li> </ul>



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<b>STORAGE</b>	2 MONTHLY ARCHIVES, 1 DAILY ARCHIVE, 1 MEASUREMENT ARCHIVE (CONTENT AND LOGGING INTERVAL ARE FIXED) 1 PROCESS DATA ARCHIVE, 1 MEASUREMENT ARCHIVE, 4 FLEXIBLE ADDITIONAL ARCHIVES (CONTENT, LOGGING INTERVAL AND ADDITIONAL EVENTS CAN BE SELECTED THAT GENERATE A RECORD)
<b>LOGS</b>	EVENT LOG <ul style="list-style-type: none"> <li>• RECORDING OF NON-PERIODIC EVENTS (E.G. TIME CHANGES WITH TIMESTAMP) - MEMORY CAPACITY: 500 RECORDS</li> </ul> CHANGE LOG (AUDIT TRAIL) <ul style="list-style-type: none"> <li>• LOGGING OF ALL PARAMETERS AND VALUE CHANGES (TIMESTAMP, OLD AND NEW VALUES)</li> <li>• STORAGE CAPACITY: 200 RECORDS</li> </ul> CERTIFICATION DATA LOG <ul style="list-style-type: none"> <li>• RECORDING OF PARAMETER CHANGES AND VALUES (TIME STAMP, OLD AND NEW VALUES) WHICH ARE NORMALLY ACCESSIBLE UNDER THE CALIBRATION KEY</li> <li>• MEMORY CAPACITY: 50 RECORDS</li> </ul>
<b>PULSES OUTPUTS</b>	4 DIGITAL TRANSISTOR OUTPUTS, FREELY PROGRAMMABLE AND LOCKABLE WITH CALIBRATION LOCK SUCH AS <ul style="list-style-type: none"> <li>• PULSE OUTPUTS OF ALL OPERATING VOLUME COUNTERS OR STANDARD VOLUMES</li> <li>• OUTPUTS FOR SIGNALING ALARM AND/OR WARNING STATES</li> </ul>



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<b>DATA INTERFACE</b>	<ul style="list-style-type: none"> <li>• OPTICAL INTERFACE COMPLIANT WITH THE IEC 62056-21 STANDARD</li> <li>• INTERNAL SERIAL INTERFACE USABLE IN RS232 OR RS485 MODE</li> </ul>
<b>COMMUNICATION PROTOCOLS</b>	<ul style="list-style-type: none"> <li>• IEC 62056-21 (IEC 1107)</li> <li>• MODBUS ASCII / RTU</li> <li>• IDOM - SMS</li> </ul>
<b>CASE MATERIAL</b>	IN CAST ALUMINIUM, FOR WALL OR COUNTER MOUNTING
<b>DISPLAY</b>	TWO-LINE DOT MATRIX WITH DESCRIPTION IN TEXT FORMAT OF THE DISPLAYED VALUES; DISPLAY OF ALL PARAMETERS, SETTINGS AND VALUES STORED IN THE ARCHIVE
<b>DEGREE OF PROTECTION</b>	IP66 (PROTECTED AGAINST STRONG JETS OF WATER FROM ANY DIRECTION AND COMPLETELY SEALED AGAINST DUST AND FUMES) - SUITABLE FOR OUTDOOR INSTALLATION
<b>DIMENSIONS</b>	126 X 120 X 90 MM (HXLXP) CONNECTION EXCLUDED
<b>WEIGHT</b>	1,5 KG APPROX (BATTERIES INCLUDED)

SKU	MODEL	PRICE
00000050555	VOLUME CONVERTER - MOD. EK220	€3400.0 VAT EXCLUDED



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