

MINING ► FLOW MEASUREMENT

MID-EX-E with CANopen

DESCRIPTION



The MID-EX-E is a robust and safe magnetic flow meter for general mining applications.

The flow transducer is designed for measuring the flow of electrically conductive fluids such as water, emulsions, sludges, slurries and pastes in closed pipe systems.

The mounting position is arbitrary and with its compact dimensions, the device can be mounted on the most difficult installation locations and put into operation.

The device MID-EX-E is a compact device with integrated signal output (CANopen) without local display.

- For connection to the Kirchgaesser multi channel signal converter and display unit COMBA-EX, please take a look at our device MID-EX-C (see ka052100en for more information).
- The flow meter is available with further signal outputs (maximum two current 4 - 20 mA, frequency 5 - 15 Hz or voltage 1 - 10 V, see ka052000en for more information).

The flow meter is completely filled with casting compound except for connection area inside.

Occasional cleaning may be required in the case of media that tend to form heavy buildup depending on the level of buildup, therefore are special brushes available separately.

- Flow measurement ranges:
 - minimum 0 - 10 l/min
 - maximum 0 - 600 l/min
- Pressure measurement ranges, optional:
 - minimum 0 - 40 bar (4 MPa)
 - maximum 0 - 400 bar (40 MPa)
- Temperature measurement range, optional:
0 - 100°C (32 - 212°F)
- Nominal pressure:
PN100 ... PN500
- Measuring uncertainty:
 - Flow:
 - max. \pm 2% of end value
 - typ. \pm 1% of end value
 - Pressure:
 - max. \pm 2% of end value
 - typ. \pm 1% of end value
 - Temperature:
 - max. \pm 0.5% of end value
 - typ. \pm 0.2K of measurement
- Process connection:
 - Female screw thread G $\frac{3}{4}$ ", G1" or G $\frac{1}{2}$ "
 - Plug coupler DN10, DN12, DN19, DN25 or DN31
 - Socket nipple DN32 or DN50, type SSKV (heavy version)
- Protection (acc. to EN 60529):
IP67
- Power supply:
 - 8.0 ... 9.0 VDC
 - 8.0 ... 13.5 VDC
- Signal output:
CANopen (pin assignment acc. to CiA DR303 part 1, diagnostics functions acc. to CiA DR303 part 3, device profile DS404)
- Electrical connection:
Circular connector M12x1 (Binder series 763)
- Approved according to ATEX and IECEx

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ORDER CODE

10	Device version	70	Process connection
E	Compact device	A	Female screw thread G ³ / ₄ "
20	Additional measuring	B	Female screw thread G1"
S	Without	C	Female screw thread G1 ¹ / ₄ "
P	With integrated pressure measuring	D	Plug couplers DN10
M	With integrated pressure and temperature measuring (power supply 8.0 ... 9.0 VDC)	E	Plug couplers DN12
T	With integrated pressure and temperature measuring (power supply 8.0 ... 13.5 VDC)	F	Plug couplers DN19
Y	Special version, to be specified	G	Plug couplers DN25
		H	Plug couplers DN31
		J	Socket nipple DN32 type SSKV (heavy version)
		K	Socket nipple DN50 type SSKV (heavy version)
		Y	Special version, to be specified
30	Nominal width	80	Inside coating
010	DN10	1	Polyacetal (POM)
019	DN19	9	Special version, to be specified
025	DN25		
999	Special version, to be specified		
40	Nominal pressure	90	Electrical connection
L	PN100	P	1x Circular connector M12x1 (Binder series 763)
M	PN160	R	2x Circular connector M12x1 (Binder series 763)
N	PN250	Y	Special version, to be specified
O	PN320		
A	PN420		
P	PN500		
Y	Special version, to be specified		
50	Flow measuring range	100	Output function
Y	Special measuring range, to be specified	7	Serial output
		9	Special version, to be specified
60	Pressure measuring range	110	Output signal
000	Without	7	CANopen
040	0 - 40 bar	9	Special version, to be specified
060	0 - 60 bar		
100	0 - 100 bar		
160	0 - 160 bar		
250	0 - 250 bar		
400	0 - 400 bar		
999	Special version, to be specified		
120	Special equipment		
		A	Without
		Y	Special version, to be specified

Completed order code	10	20	30	40	50	60	70	80	90	100	110	120		Flow measurement range
MID-EX-	E				Y			1		7	7	A	-	three digits, acc. to table available measuring ranges



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NOTES ON THE ORDER CODE

Available measuring ranges

Nominal width	Flow measuring range * ^{1,2}						Nominal pressure	Pressure measuring ranges
	minimum		standard		maximum			
DN10	010	0 - 10 l/min	030	0 - 30 l/min	050	0 - 50 l/min	100 bar	0 - 40 bar
DN19	050	0 - 50 l/min	100	0 - 100 l/min	200	0 - 200 l/min	160 bar	0 - 60 bar
DN25	100	0 - 100 l/min	200	0 - 200 l/min	600	0 - 600 l/min	250 bar	0 - 100 bar
							320 bar	0 - 160 bar
							420 bar	0 - 250 bar
							500 bar	0 - 400 bar

*¹ The flow measuring range can be reduced by half using a switch.

*² Higher measuring ranges are available on request

Available versions

- Nominal width + process connection:
 - The nominal width DN10 is available with plug coupler DN10 and DN12, the nominal width DN19 is available with plug coupler DN19 and the nominal width DN25 is available with plug coupler DN25 and DN31.
 - The nominal width DN25 is also available with socket nipple DN32 and DN50 (type SSKV heavy version).
- Additional measuring:
The temperature measuring range (option M and T) is set to 0 - 100°C.
- Nominal pressure + process connection:
 - Please take notice of the maximum pressure of the plug couplers (according to DIN 20043)!
 - DN10: Pmax = 530 bar
 - DN12: Pmax = 500 bar
 - DN19: Pmax = 450 bar
 - DN25: Pmax = 400 bar
 - DN31: Pmax = 300 bar
 - The maximum nominal pressure of the socket nipples DN32 and DN50 (type SSKV heavy version) is 420 bar.
- Flow measuring range:
You need to select the option Y, because you can choose any flow measuring range (three digits for the order code) for the nominal width according to the table available measuring ranges.

Ordering example

Magnetic flow transducer MID-EX-E, flow measuring range (halved with switch): 0 - 30 l/min, additional measuring: with integrated pressure and temperature measuring (0 - 100°C), pressure measuring range: 0 - 250 bar, nominal width: DN10, nominal pressure: PN250, process connection: plug couplers DN10, inside coating: polyacetal (POM), electrical connection: 2x circular connector M12x1 (Binder series 763), output signal: 1x serial output, CANopen, certificated acc. to ATEX (marking: I M2 Ex ia I Mb) and IECEx (marking: Ex ia I Mb), power supply: 8,0 - 13,5 VDC

→ MID-EX-ET010NY250D1R77A-030

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DIMENSIONS

