DM01A

Compact Magnetic Inductive Flowmeter

- **independent of viscosity, density, pressure and temperature**
- **maintenance free**
- **practically no pressure loss**
- **high measuring accuracy**
- **measuring range span up to 1:50**
- **smallest dimensions**
- **frequency and analogue output**
- **measuring ranges 0,05...2 l/min to 5...250 l/min**
- **max. pressure: 10 bar, max. temperature: 60 °C**

Description:

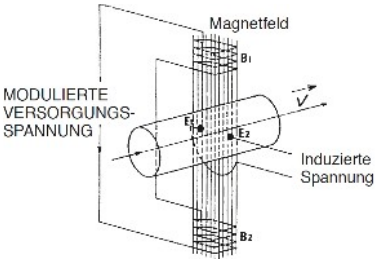
The electromagnetic compact flow meter DM01A works without moving parts thanks to the electromagnetic measuring principle. It is specially designed for low flow rates and tight installation conditions. Measuring ranges from 0,05 l/min to 250 l/min are available, as are process connections from 3/8" to 1 1/4". A push-pull frequency output is available as an output signal. An analogue 4...20 mA or 0,5...10 V signal is also available as an option.

Advantages:

- no moving parts, therefore the DM01A is maintenance and wear free.
- no components protrude into the measuring tube, thus the pressure loss is kept very small and is not larger than with a pipeline of the same length.
- the measuring is independent of temperature, viscosity, concentration and pressure under normal operating conditions.
- the very wide measuring span of 1:50 makes the DM01A universally applicable.
- foreign bodies carried along in the flow and viscous media interspersed with solids are also unproblematic.
- due to the compact design and the favourable price the DM01A is suitable for serial applications.

PKP Prozessmesstechnik GmbH
Borsigstr. 24 • D-65205 Wiesbaden
+49 (0) 6122-7055-0 • +49 (0) 6122 7055-50
info@pkp.de • www.pkp.de

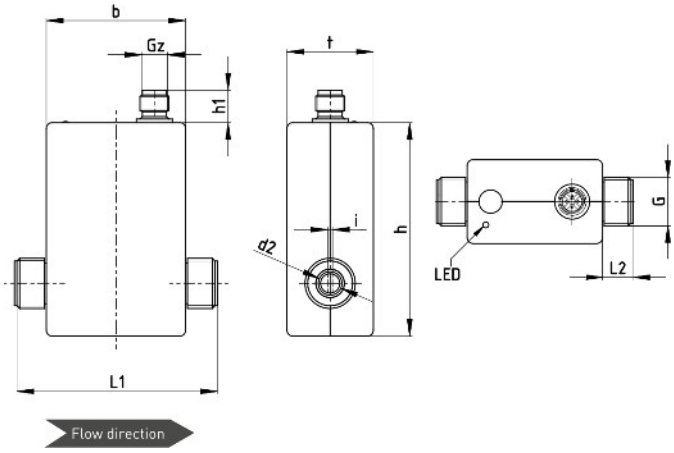
Operating principle:



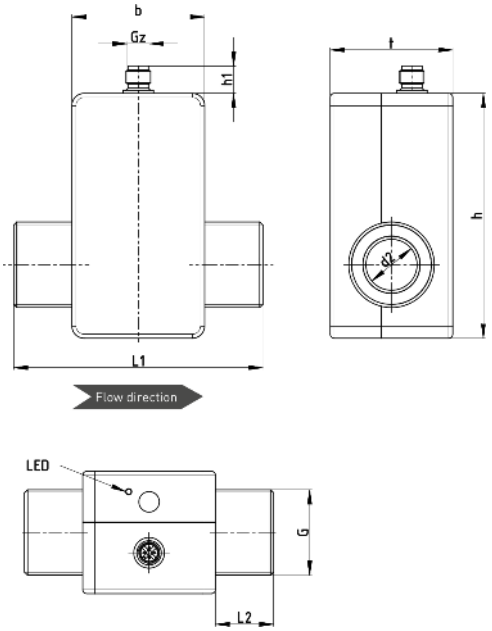
Magnetic-inductive flow measurement is based on Faraday´s law of induction. The liquid to be measured (electrically conductive) flows perpendicular to a magnetic field. This induces an electrical voltage in the liquid. This voltage is picked up by two electrodes inserted in the measuring tube and further processed by the downstream electronics. The level of the voltage is proportional to the flow velocity.

Dimensions:

Measuring ranges 0MG, 01G, 02G, 03G, 05G (G 3/8 … G 1):



Measuring range 06G (G 1 1/4):



Order Code:

Order number:	DM01A.	3.	P.	01G.	F.	0

Compact magnetic inductive flow meter

Power supply:
3 = 12...24 VDC (± 10 %)
16...24 VDC (at output 0,5...10 V)

Material meas. tube / electrodes / O-ring:
P = PVDF / stainless steel 1.4404 / EPDM
PH = PVDF / Hastelloy C276 (2.4819) / FKM
M = POM / stainless steel 1.4404 / EPDM
MH = POM / Hastelloy C276 (2.4819) / FKM

Measuring range, connection size:
0MG= 0,05...2 l/min, G 3/8“ male (from 0,1 l/min in tol.*)
01G = 0,1...5 l/min, G 1/2“ male (from 0,25 l/min in tol.*)
02G = 0,25...20 l/min ,G 1/2“ male (from 1 l/min in tol.*)
03G = 1...50 l/min, G 3/4“ male (from 2,5 l/min in tolerance*)
05G = 4...200 l/min, G 1“ male (from 5 l/min in tolerance*)
06G = 5...250 l/min, G 1 1/4“ male (from 12,5 l/min in tol.*)
NPT thread on request

Output signal:
F = frequency (Push-Pull)
A = frequency (Push-Pull) and analogue signal 4...20 mA
V = frequency (Push-Pull) and analogue signal 0,5...10 V
P = pulses
PA = pulses and analogue signal 4...20 mA
PV = pulses and analogue signal 0,5...10 V

Options:
0 = without
9 = please specify in plain text

Accessories:

SM12.: M12-plug connector with PVC cable
length: 2 m, 5 m, 10 m
design: straight/angled
(see accessories, type: SM12)

Dimension table:

	0MG	01G	02G	03G	05G	06G
L1	85	85	85	90	90	122
L2	13	13	13	16	16	28,5
G	G 3/8 B	G ½ B	G ½ B	G ¾ B	G 1 B	G 1 ¼ B
d2	Ø 3	Ø 3	Ø 3	Ø 3	Ø 3	Ø 3
b	58	58	58	58	58	65
Gz	M12x1	M12x1	M12x1	M12x1	M12x1	M12x1
h	89	89	89	89	89	120
h1	13,5	13,5	13,5	13,5	13,5	13,5
t	36	36	36	36	36	60
i		2				

PKP Prozessmesstechnik GmbH
Borsigstr. 24 • D-65205 Wiesbaden
+49 (0) 6122-7055-0 • +49 (0) 6122 7055-50
info@pkp.de • www.pkp.de

Technical Data:

Order code range:	0MG	01G	02G	03G	05G	06G
Nominal Diameter:	DN 3	DN 6	DN 8	DN 15	DN 20	DN 25
Process connection (male)	G 3/8	G 1/2	G 1/2	G 3/4	G 1	G 1 1/4
Inner diameter [mm]	3	6	8	14	18	25
Measuring range [l/min]	0,05...2	0,1...5	0,25...20	1...50	4...200	5...250
Range in tolerance [l/min]	0,1...2	0,25...5	1...20	2,5...50	5...200	12,5...250
Accuracy [1]	± 0,7 % of reading, ± 0,3 % of range					
Repeatability:	± 1 %					
Response time:	< 100 ms					
Signal output starting at [l/min]:	0,05	0,1	0,25	1	4	5
Max. flow rate:	2,5	6	25	60	240	300
Medium:	Water and other conductive liquids					
Min. conductivity of medium:	20 µS/cm					
Medium temperature:	PVDF-pipe: -15...+80 °C (non-freezing) POM-pipe: 15...+60 °C (non freezing)					
Ambient temperature:	-15...+60 °C					
Storage temperature:	-15...+60 °C					
Max. pressure rating:	10 bar at 20 °C, 8 bar at 40 °C, 6 bar at 60 °C, 5 bar at 80 °C					
Materials wetted parts:	Measuring tube: PVDF or POM Electrodes / O-ring: stainless steel 1.4404 / EPDM or Hastelloy C276 (2.4819) / FKM					
Indications:	LED green,flow proportional flashing					
Degree of protection EN 60529:	IP65 (with attached cable socket)					

Electrical Data:

Electrical connection:	4 pin plug connector M12x1
Power supply:	12...24 VDC (± 10 %) 16...24 VDC (± 10 %) with analogue output 0,5...10 V
Power consumption:	Typical 1,1 W, max. 3,6 W
Electrical protection measures:	Short-circuit proof and polarity protection

Frequency and pulse output:

Pulse rate [pulses/l] [2]	10 000	4000	1000	400	200	80
Resolution [ml/pulse] [2]	0,1	0,25	1	2,5	5	12,5
Signal shape:	Square wave signal, pulse duty ratio 50:50, Push-Pull NPN open collector, PNP open collector					
Signal current:	Max. 100 mA					

Analogue output 4...20 mA or 0,5...10 V:

Corresponds to flow rate [l/min] [3]	0...2	0...5	0...20	0...50	0...200	0...250
Max. burden:	250 Ω against GND					

[1] Test conditions: Ex works, water 23 °C
[2] Other pulse rates/resolutions available on request, optional: output signal with lower frequency, designed specifically for connection to digital PLC inputs
[3] Other ranges available on request

PKP PROZESSMESSTECHNIK
PKP Prozessmesstechnik GmbH
Borsigstr. 24 • D-65205 Wiesbaden
+49 (0) 6122-7055-0 • +49 (0) 6122 7055-50
info@pkp.de • www.pkp.de