

Electromagnetic flowmeter

Proline Promag 10D



€ 648.-
11-35 pcs.



Complete product information:
www.e-direct.endress.com/10d

- Easy, fast centering of the sensor
- High degree of accuracy and measuring stability
- No pressure loss, thus energy-saving

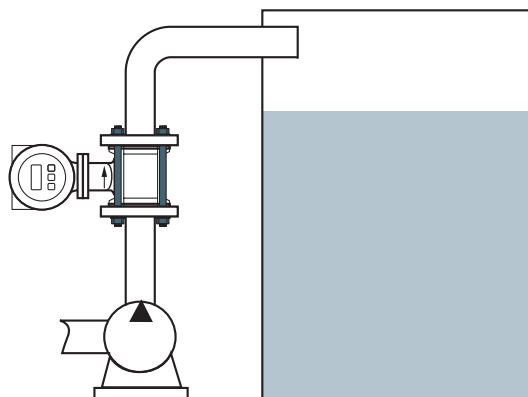
i Specs at a glance:

- **Flow measurement:**
up to 10 m/s (26.4 gal/min)
- **Minimum conductivity:**
≥50 µS/cm
- **Fluid temperature:**
up to +60 °C (140 °F)
- **Lining material:**
Polyamide
- **Process pressure:**
up to 16 bar (232 psi)

Application Proline Promag 10D is an electromagnetic flowmeter for bidirectional measurement of conductive liquids. It is used for flow measurements in water or service water applications. Due to its easy installation and operation, its robust design and low price it can be used in applications where only limited principles could be used before. Drinking water approvals according to KTW/W270, WRAS BS 6920, ACS and NSF 61 are available.

Function Following Faraday's law of magnetic induction, a voltage is induced in a conductor moving through a magnetic field. In the electromagnetic measuring principle, the flowing fluid is the moving conductor. By measuring the induced voltage, the flow velocity of the medium can be measured. The flow volume is calculated by means of the pipe cross-section area.

Application example



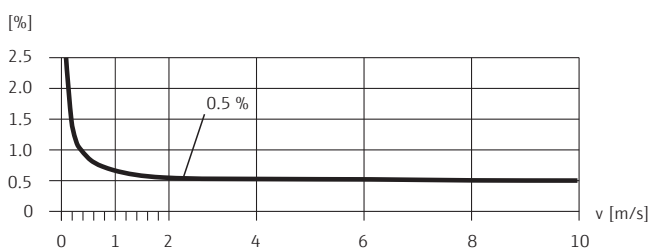
Proline Promag 10D for inflow measurement

Technical data

Input	
Measuring ranges	Typically $v = 0.01$ to 10 m/s (0.033 to 33 ft/s) with the specified accuracy
Output signal	
Current output	Active: 4 to 20 mA, $R_L < 700 \Omega$ (for HART®: $\geq 250 \Omega$)
Pulse/status output	Passive: 30 V DC/250 mA; Open Collector
Power supply	
Supply voltage	85 to 250 V AC, 45 to 65 Hz; 20 to 28 V AC, 45 to 65 Hz; 11 to 40 V DC
Power consumption (incl. sensor)	85 to 250 V AC: < 12 VA; 20 to 28 V AC: < 8 VA; 11 to 40 V DC: < 6 W
Accuracy	
Reference operating conditions	as per DIN EN 29104 and VDI/VDE 2641
Fluid temperature	$+28^\circ\text{C} \pm 2\text{K}$ ($+82^\circ\text{F} \pm 2\text{K}$)
Ambient temperature	$+22^\circ\text{C} \pm 2\text{K}$ ($+72^\circ\text{F} \pm 2\text{K}$)
Maximum measured error (Current output)	$\pm 0.5\%$ of full scale value add. typically $\pm 5 \mu\text{A}$
Maximum measured error (Pulse output)	$\pm 0.5\%$ of reading ± 2 mm/s
Repeatability	Max. $\pm 0.2\%$ o.r. ± 2 mm/s (o.r. = of reading)
Inlet and outlet run	
If possible, install the sensor well clear of assemblies such as valves, T-pieces, elbows, etc.	
Inlet run	$\geq 5 \times \text{DN}$
Outlet run	$\geq 2 \times \text{DN}$
Operating conditions: Environment	
Ambient temperature	-20 to $+60^\circ\text{C}$ (-4 to $+140^\circ\text{F}$)
Storage temperature	-20 to $+60^\circ\text{C}$ (-4 to $+140^\circ\text{F}$)
Degree of protection	IP 67 (NEMA 4X) for transmitter and sensor
Shock and vibration resistance	Acceleration up to 2 g following IEC 600 68-2-6
EMC	As per IEC/EN 61326 and NAMUR Recommendation NE 21; Emission: to limit value for industry EN 55011

Operating conditions: Process	
Medium temperature	0 to $+60^\circ\text{C}$ (32 to 140°F)
Minimum conductivity	$\geq 50 \mu\text{S/cm}$
Medium pressure	PN16
Pressure tightness	Measuring tube: 0 mbar abs (0 psi abs) with a fluid temperature of $\leq 60^\circ\text{C}$ ($\leq 140^\circ\text{F}$)
Material	
Ground disks	1.4301/304
Sensor housing	powder-coated die-cast aluminum
Measuring tube	polyamide, O-rings: EPDM
Electrodes	1.4435/316L
Fitted electrodes	Two electrodes made of 1.4435/316L
Mounting kit	
Included for wafer version	
Contents	Mounting bolts, seals, nuts, washers and flange seals
Human interface	
Display elements	Liquid crystal display: unilluminated, two-line, 16 characters per line
Display	Display (operating mode) preconfigured: volume flow and totalizer status
Operating elements	Local operation via three keys
Remote operation	Operation via HART® protocol and FieldCare
Approvals	
Drinking water approval WRAS BS 6920	

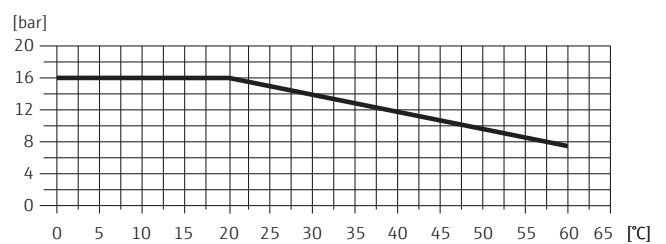
Maximum measured error



Max. measured error in % of reading.

Fluctuations in the supply voltage do not have any effect within the specified range.

Pressure-temperature ratings



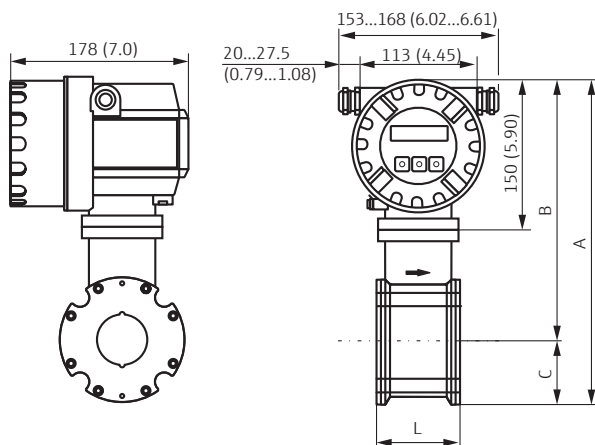
Permitted process pressure

Flow characteristic values [SI units (US units)]

Diameter		Recommended flow min./max. full scale value (v ~ 0.3 or 10 m/s)	Factory settings		
[mm]	[inches]		Full scale value current output (v ~ 2.5 m/s)	Pulse value (~ 2 Pulse/s)	Low flow cut off (v ~ 0.04 m/s)
25	1"	9 to 300 dm ³ /min (2.5 to 80 gal/min)	75 dm ³ /min (18 gal/min)	0.50 dm ³ (0.20 gal)	1 dm ³ /min (0.25 gal/min)
40	1 ½"	25 to 700 dm ³ /min (7 to 190 gal/min)	200 dm ³ /min (50 gal/min)	1.50 dm ³ (0.50 gal)	3 dm ³ /min (0.75 gal/min)
50	2"	35 to 1100 dm ³ /min (10 to 300 gal/min)	300 dm ³ /min (75 gal/min)	2.50 dm ³ (0.50 gal)	5 dm ³ /min (1.25 gal/min)
65	-	60 to 2000 dm ³ /min (16 to 500 gal/min)	500 dm ³ /min (130 gal/min)	5.00 dm ³ (1.00 gal)	8 dm ³ /min (2 gal/min)
80	3"	90 to 3000 dm ³ /min (24 to 800 gal/min)	750 dm ³ /min (200 gal/min)	5.00 dm ³ (2.00 gal)	12 dm ³ /min (2.5 gal/min)
100	4"	145 to 4700 dm ³ /min (40 to 1250 gal/min)	1200 d m ³ /min (300 gal/min)	10.00 dm ³ (2.00 gal)	20 dm ³ /min (4 gal/min)

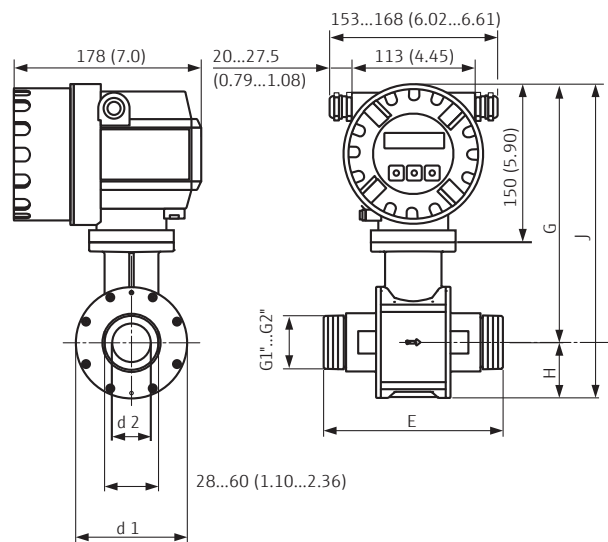
Dimensions in mm (inches)

Compact version Promag D as wafer version



Installation according to instruction manual.

Compact version Promag D with threaded connection

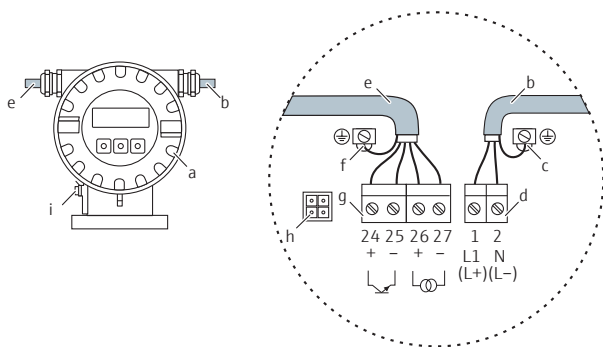


Installation according to instruction manual.

DN		L	A	B	C	Weight
EN (DIN)/JIS [mm]	ANSI [inch]	[mm (inch)]	[mm (inch)]	[mm (inch)]	[mm (inch)]	[kg (lbs)]
25	1"	55 (2.17)	283 (11.1)	240 (9.45)	43 (1.69)	2.9 (6.4)
40	1 ½"	69 (2.72)	303 (11.9)	251 (9.88)	52 (2.05)	3.5 (7.7)
50	2"	83 (3.27)	324 (12.8)	262 (10.3)	62 (2.44)	4.3 (9.5)
65	-	93	342	272	70	5.1 (11.3)
80	3"	117 (4.61)	351 (13.8)	276 (10.9)	75 (2.95)	6.1 (13.5)
100	4"	148 (5.83)	379 (14.9)	290 (11.4)	89 (3.50)	8.8 (19.4)

DN		E	G	H	J	Weight
EN (DIN)/JIS [mm]	ANSI [inch]	[mm (inch)]	[mm (inch)]	[mm (inch)]	[mm (inch)]	[kg (lbs)]
25	1"	110 (4.33)	240 (9.45)	43 (1.69)	283 (11.1)	2.9 (6.4)
40	1 ½"	140 (5.51)	251 (9.88)	52 (2.05)	303 (11.9)	3.5 (7.7)
50	2"	200 (7.87)	262 (10.3)	62 (2.44)	324 (12.8)	4.3 (9.5)

Electrical connection



Connecting the transmitter, cable cross-section max. 2.5 mm²

- a Electronics compartment cover
- b Power supply cable
- c Ground terminal for protective ground
- d Terminal connector for power supply cable
- e Signal cable
- f Ground terminal for signal cable
- g Terminal connector for signal cable
- h Service connector
- i Ground terminal for potential equalization

Terminal No.:

- 24 (+)/25 (-) = Pulse/status output
 - 26 (+)/27 (-) = HART[®] current output
- Functional values see "Output signal"
- 1 (L1/L+)/2 (N/L-) = Power supply
- Functional values see "Supply voltage"

Price table

Liner

Code

3	Polyamide
4	Polyamide, NSF 61 Drinking- + warm water approval
5	Polyamide, KTW/W270 Drinking water approval
6	Polyamide, ACS Drinking water approval
7	Polyamide, WRAS BS6920 Drinking water approval

Electromagnetic flowmeter Promag 10D (Wafer version)

Power Supply; Display	Diameter	Order no.	Price/pcs. in €		
85 to 250 V AC; 2-line, push buttons		↓ *	1 to 3	4 to 10	11 to 35
	DN25	10D25-□CGA1AA0A4AA+M1	755.-	702.-	665.-
	DN40	10D40-□CGA1AA0A4AA+M1	755.-	702.-	665.-
	DN50	10D50-□CGA1AA0A4AA+M1	755.-	702.-	665.-
	DN65	10D65-□CGA1AA0A4AA+M1	810.-	753.-	713.-
	DN80	10D80-□CGA1AA0A4AA+M1	810.-	753.-	713.-
	DN100	10D1H-□CGA1AA0A4AA+M1	859.-	798.-	755.-
20 to 28 V AC/ 11 to 40 V DC; 2-line, push buttons	DN25	10D25-□CGA1AA0A5AA+M1	755.-	702.-	665.-
	DN40	10D40-□CGA1AA0A5AA+M1	755.-	702.-	665.-
	DN50	10D50-□CGA1AA0A5AA+M1	755.-	702.-	665.-
	DN65	10D65-□CGA1AA0A5AA+M1	810.-	753.-	713.-
	DN80	10D80-□CGA1AA0A5AA+M1	810.-	753.-	713.-
	DN100	10D1H-□CGA1AA0A5AA+M1	859.-	798.-	755.-

Electromagnetic flowmeter Promag 10D (Threaded connection)

Power Supply; Display	Diameter	Order no.	Price/pcs. in €		
85 to 250 V AC; 2-line, push buttons		↓ *	1 to 3	4 to 10	11 to 35
	DN25	10D25-□UGA1AA0A4AA	737.-	685.-	648.-
	DN40	10D40-□UGA1AA0A4AA	737.-	685.-	648.-
	DN50	10D50-□UGA1AA0A4AA	737.-	685.-	648.-
20 to 28 V AC/ 11 to 40 V DC; 2-line, push buttons	DN25	10D25-□UGA1AA0A5AA	737.-	685.-	648.-
	DN40	10D40-□UGA1AA0A5AA	737.-	685.-	648.-
	DN50	10D50-□UGA1AA0A5AA	737.-	685.-	648.-

* Please add code for liner.

Prices are applicable for Malta until 30/06/2020, in euro per unit, net excluding value added tax (VAT), cost of packing and dispatch. Endress+Hauser retains the right to change or modify pricing at any time. The terms of sales and delivery of Endress+Hauser are applicable. Current prices and delivery times can be verified prior to ordering on www.e-direct.endress.com.

Complete product information:
www.e-direct.endress.com/10d

More products to complete your measuring point ...

