

E//direct

Picomag

The plug-and-play flowmeter for utilities



 IO-Link

Electromagnetic flowmeter for conductive liquids

Picomag

€ 385.-
11–35 pcs.



 IO-Link



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

- Simultaneous measurement of flow and temperature
- Flexible integration into all fieldbus systems via IO-Link
- Commissioning and operation via Bluetooth and SmartBlue App

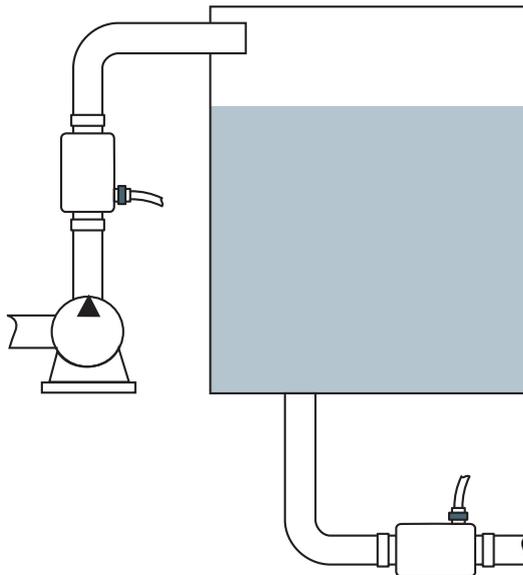
Specs at a glance:

- **Flow measurement:**
Up to 10 m/s (26.4 gal/min)
- **Minimum conductivity:**
≥20 µS/cm
- **Fluid temperature:**
–10 to +70 °C (+14 to +158 °F)
- **Materials in contact with medium:**
Stainless steel (1.4404), PEEK, FKM
- **Process pressure:**
Max. 16 bar (870 psi)

Application Picomag 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.

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



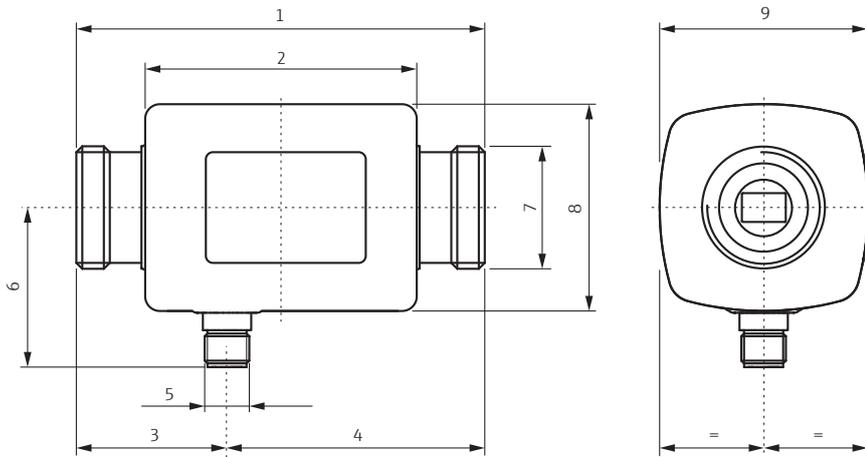
Picomag is used for measurement of inlet as well as outlet flow of different applications:

- monitoring of cooling circuits
- monitoring of cleaning and rinsing water
- Secondary circuits for drinking water
- Submetering in utility water networks

Technical data

Input	
Measured values	Volume flow, Temperature, Totalizer
Measuring range	<ul style="list-style-type: none"> - DN 15 (½"): 0.4 to 25 l/min (0.1 to 6.6 gal/min) - DN 20 (¾"): 0.75 to 50 l/min (0.2 to 13.2 gal/min) - DN 25 (1"): 1.2 to 100 l/min (0.3 to 26.4 gal/min) - DN 50 (2"): 5 to 750 l/min (1.3 to 198.1 gal/min)
Output	
Current output	4 to 20 mA (500 Ω, the load may not be any greater)
Voltage output	2 to 10 V (500 Ω, the load resistance may not any smaller)
Switch output	PNP or NPN, max. 250 mA <ul style="list-style-type: none"> - Signal on alarm - Limit value - Range value
Pulse output	PNP, max. 250 mA
Digital input	5 to 30 V _{DC} <ul style="list-style-type: none"> - Totalizer reset - Value suppression
IO-Link	Version: 1.1 Speed: COM2 (38.4 kBaud)
Signal on alarm	<ul style="list-style-type: none"> - Status signal (as per NAMUR Recommendation NE 107) - Plain text display with remedial action
Power supply	
Supply voltage range	18 to 30 V _{DC} (SELV, PELV, Class 2)
Power consumption	Max. 3 W (excluding outputs IO1 and IO2)
Volume flow measurement	
Maximum measured error	±2 % o.r. ±0.5 % o.f.s.
Repeatability	±0.2 % o.r. (95% confidence interval, measuring time 30 s)
Response time	The response time depends on the configuration (damping)
Medium temperature measurement	
Maximum measured error	±2.5 °C
Repeatability	±0.5 °C (95% confidence interval, measuring time 30 s)
Inlet and outlet runs	
Inlet run	≥3 × DN
Outlet run	≥1 × DN
Environment	
Ambient temperature range	-10 to +60 °C (+14 to +140 °F)
Storage temperature	-25 to +85 °C (-13 to +185 °F)
Degree of protection	IP65/67
Shock resistance	20 g (11 ms) as per IEC/EN60068-2-27
Vibration resistance	Acceleration up to 5 g (10 to 2 000 Hz) as per IEC/EN60068-2-6
Electromagnetic compatibility (EMC)	In accordance with IEC/EN61326 and/or IEC/EN55011 (Class A)
Process	
Medium temperature range	-10 to +70 °C (+14 to +158 °F)
Medium properties	Liquid, conductivity > 20 μS/cm
Pressure	Max. 16 bar _{rel}
Materials	
Measuring tube	PEEK
Electrodes, temperature sensor	1.4404/316L
Process connection	1.4404/316L
Housing	1.4404/316L
Seal	FKM
Display window	Polycarbonate
Operability	
Operating concept	Bluetooth wireless technology The device has a Bluetooth wireless technology interface and can be operated and configured via the SmartBlue App. <ul style="list-style-type: none"> - The range under reference conditions is 10 m (33 ft) - Incorrect operation by unauthorized persons is prevented by means of encrypted communication and password encryption - The Bluetooth wireless technology interface can be deactivated
Approvals	
Drinking water approvals (in preparation)	
UL-listed (cUL _{US})	

Dimensions



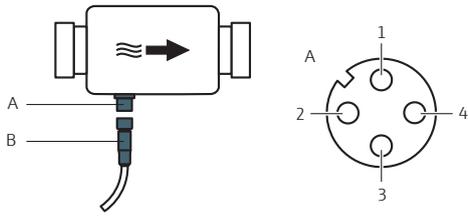
Dimensions in SI units

DN [mm]	1 [mm]	2 [mm]	3 [mm]	4 [mm]	5 [mm]	6 [mm]	7 [mm]	8 [mm]	9 [mm]
15, 20, 25	110	73	40.5	69.5	M12 × 1	43	½", ¾", 1"	56	56
50	200	113	80	120	M12 × 1	58	2"	86	86

Dimensions in US units

DN [in]	1 [in]	2 [in]	3 [in]	4 [in]	5 [in]	6 [in]	7 [in]	8 [in]	9 [in]
½, ¾, 1	4.33	2.87	1.59	2.74	M12 × 1	1.69	½", ¾", 1"	2.20	2.20
2	7.87	4.45	3.15	4.72	M12 × 1	582.28	2"	3.39	3.39

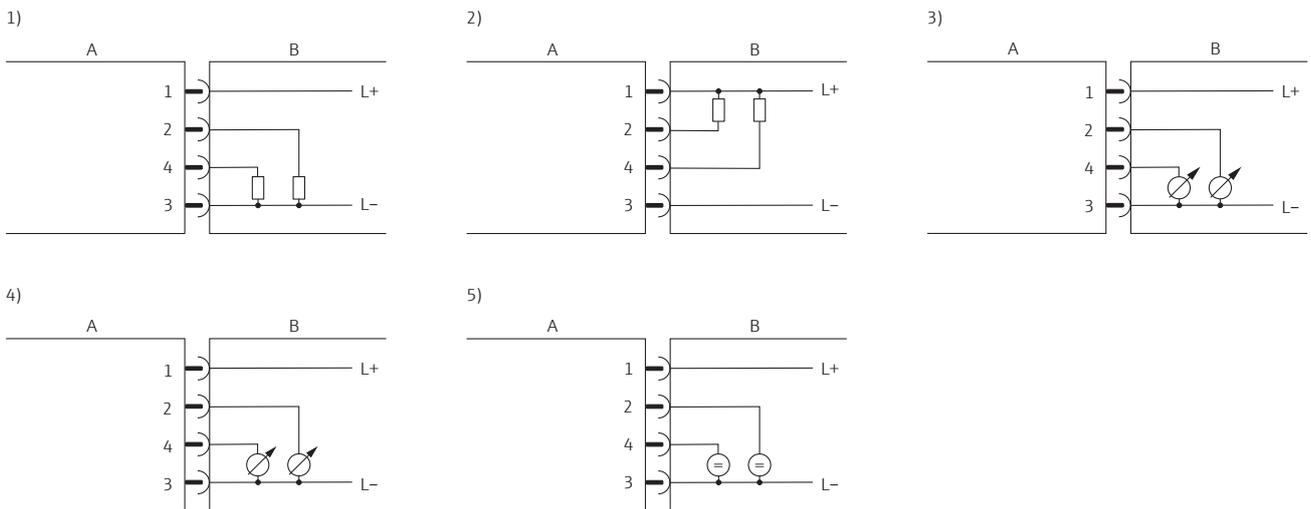
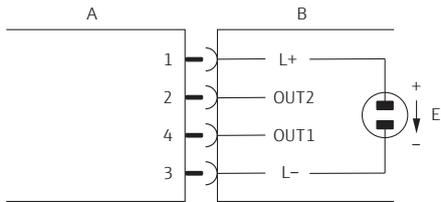
Electrical connection



Pin assignment, device plug

A	Socket
B	Connector

Pin	Assignment	Description
1	L+	Supply voltage + (18 to 30 V _{DC} /max. 3 W)
2	Output 2	Output 2, can be configured independently of output 1
3	L-	Supply voltage -
4	Output 1	Output 1, can be configured independently of output 2



A	Socket
B	Connector
L+	Supply voltage +
L-	Supply voltage -

Switch/pulse output configuration version

- 1) pnp
- 2) npn

Current output configuration version, active, 4 to 20 mA

3) The maximum load may not exceed 500 Ω. A bigger load distorts the output signal.

Voltage output configuration version, active, 2 to 10 V

4) The load must be at least 500 Ω. The output is overload-resistant.

Status input configuration version

- 5) - Switch-on threshold: 15 V
- Switch-off threshold: 5 V
- Internal resistance: 7.5 kΩ

Price table

Picomag Device model	Order no.	Price/pcs. in €		
		1 to 3	4 to 10	11 to 35
Picomag DN 15 (1/2"): 0.4 to 25 l/min (0.1 to 6.6 gal/min)	DMA15-AAAAA1	469.–	422.–	385.–
Picomag DN 20 (3/4"): 0.75 to 50 l/min (0.2 to 13.2 gal/min)	DMA20-AAAAA1	539.–	485.–	442.–
Picomag DN 25 (1"): 1.2 to 100 l/min (0.3 to 26.4 gal/min)	DMA25-AAAAA1	629.–	566.–	516.–
Picomag DN 50 (2"): 5 to 750 l/min (1.3 to 198.1 gal/min)	DMA50-AAAAA1	799.–	719.–	655.–

Accessories	Order no.	Price/pcs. in €
Set cable 2 m (6.5 ft), straight, 4 × 0.34, M12	71349260	9.29
Set cable 5 m (16.4 ft), straight, 4 × 0.34, M12	71349261	9.29
Set cable 10 m (32.8 ft), straight, 4 × 0.34, M12	71349262	14.04
Set cable 2 m (6.5 ft), 90°, 4 × 0.34, M12	71349263	9.29
Set cable 5 m (16.4 ft), 90°, 4 × 0.34, M12	71349264	9.29
Set cable 10 m (32.8 ft), 90°, 4 × 0.34, M12	71349265	14.04
Set earthing terminal	71345225	12.96

Accessories Picomag DN 15	Order no.	Price/pcs. in €
Set adapter G1/2"/G3/8" ext.	71355698	35.10
Set adapter G1/2"/R3/8" AG	71355699	35.10
Set adapter G1/2"/NPT3/8" ext.	71355700	35.10
Set adapter G1/2"/G1/2" int.	71355701	35.10
Set adapter G1/2"/R1/2" ext.	71355702	35.10
Set adapter G1/2"/NPT1/2" ext.	71355703	35.10
Set adapter G1/2"/1/2" TriClamp	71355704	35.10
Set seal DN 15 Cent. 3820	71354741	2.33

Accessories Picomag DN 20	Order no.	Price/pcs. in €
Set adapter G3/4"/R3/4" AG	71355705	40.50
Set adapter G3/4"/NPT3/4" ext.	71355706	40.50
Set adapter G3/4"/G3/4" int.	71355707	40.50
Set seal DN 20 Cent. 3820	71354742	2.33

Accessories Picomag DN 25	Order no.	Price/pcs. in €
Set adapter G1"/R1" ext.	71355709	45.90
Set adapter G1"/NPT1" ext.	71355710	45.90
Set adapter G1"/G1" int.	71355711	45.90
Set adapter G1"/1" TriClamp	71355712	62.10
Set seal DN 25 Cent. 3820	71354745	2.33

Accessories Picomag DN 50	Order no.	Price/pcs. in €
Set adapter G2"/R1 1/2" ext.	71355713	116.10
Set adapter G2"/R2" ext.	71355714	116.10
Set adapter G2"/NPT1 1/2" ext.	71355715	116.10
Set adapter G2"/NPT2" ext.	71355716	116.10
Set adapter G2"/G1 1/2" ext.	71355717	116.10
Set adapter G2"/G2" int.	71355718	116.10
Set adapter G2"/2" TriClamp	71355719	116.10
Set adapter G2"/2" Victaulic	71355720	116.10
Set seal DN 50 Cent. 3820	71354746	5.04

Prices are applicable for Germany until 31/08/2018, in Euro per unit, net excluding value added tax (VAT), cost of packing and dispatch. The terms of sales and delivery of Endress+Hauser are applicable. Delivery times: 48 hours or 5 working days – please check www.e-direct.endress.com for exact delivery times. Endress+Hauser retains the right to change or modify pricing at any time. Prices can be verified prior to ordering on www.e-direct.endress.com.

E-direct on the Internet

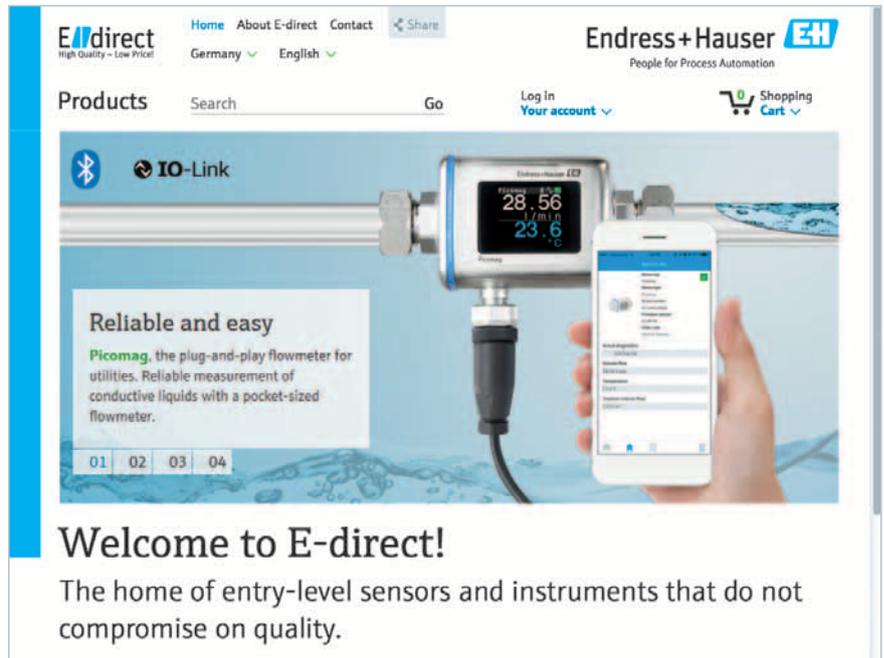
Purchase measurement instrumentation at economic prices online – 24/7. The complete E-direct product range is available at www.e-direct.endress.com

All information needed to choose the right product such as detailed technical data and drawings is available.

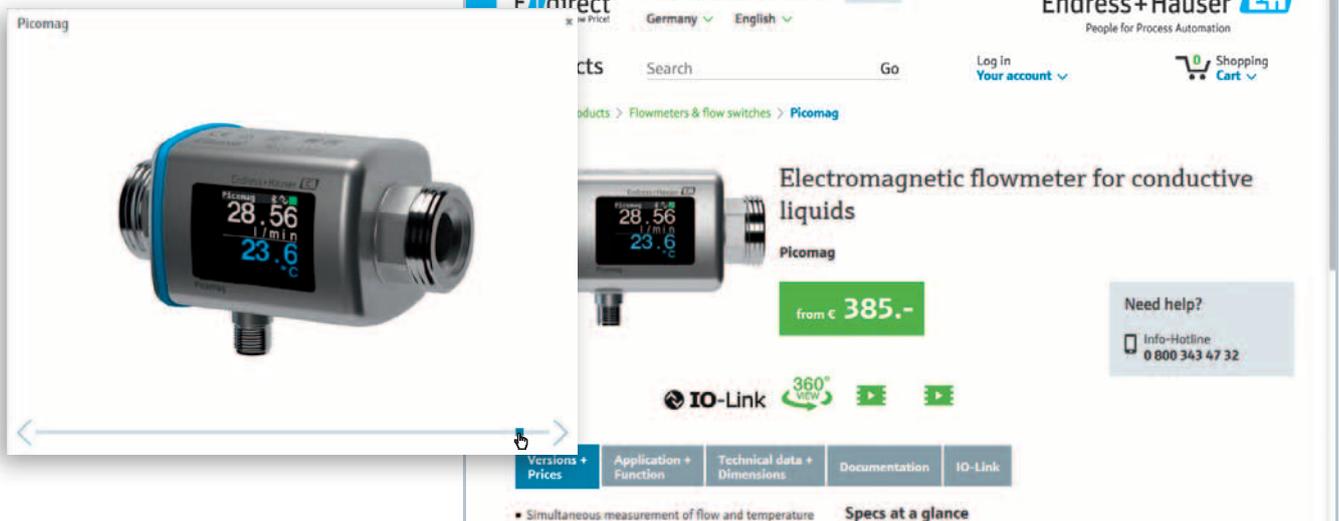
Find and order the right product – so easy, so fast with just a few clicks.

 Shop now!
www.e-direct.endress.com

The advantages of online shopping at www.e-direct.endress.com allow you to order safely and fast – saving you time and money. Benefit from the advantages of an online order at E-direct today.



Welcome to E-direct!
The home of entry-level sensors and instruments that do not compromise on quality.



Electromagnetic flowmeter for conductive liquids
Picomag
from € 385.-

Need help?
Info-Hotline
0 800 343 47 32

IO-Link 360° view

• Simultaneous measurement of flow and temperature **Specs at a glance**

Product details

360° product view

- All product details
- Complete rotation around the product's axis

At a glance

- Important technical data
- Options
- Application limits

Choosing options – made easy

- Pre-configured device options for easy selection
- Differences between devices are clearly displayed
- Easy selection of additional product parameters

Fast and easy order

- Create and save product lists for repeating orders
- Reference numbers allow for a clear identification in your ERP system

Contact

Endress+Hauser
Messtechnik GmbH+Co. KG
Colmarer Straße 6
79576 Weil am Rhein
Phone +49 7621 975 01
Fax +49 7621 975 555
info@de.endress.com
www.e-direct.endress.com

IN01116E/11/EN/01.18