

Product characteristics

Ultrasonic flow meter

Quick disconnect

Process connection: G1 flat seal

Function programmable

Totalizer function

2 outputs

OUT1 = flow monitoring (binary), flow rate meter (pulse), preset meter (binary)

OUT2 = flow monitoring or temperature monitoring (analog or binary)

Input for counter reset

Measuring range

0...26.44 gpm

14...176 °F

Maximum permissible flow rate

31.7 gpm (1902 gph)

connection to pipe by means of an adapter

Application

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Liquids of the fluid group 2 according to the Pressure Equipment Directive (PED):  
water, glycol solutions, oils  
(low-viscosity oils with viscosity 7...40 mm<sup>2</sup>/s at 40°C;  
high-viscosity oils with viscosity 30...68 mm<sup>2</sup>/s at 40°C)

Pressure rating [psi]

232

Medium temperature [°F]

14...176

Electrical data

Electrical design

DC PNP/NPN

Operating voltage [V]

19...30 DC <sup>1)</sup>

Current consumption [mA]

100

Insulation resistance [MΩ]

> 100 (500 V DC)

Protection class

III

Reverse polarity protection

yes

Outputs

Output function

OUT1: normally open / closed programmable or pulse  
OUT2: normally open / closed programmable or analog (4...20 mA / 0...10 V, scaleable)

Current rating [mA]

2 x 250

Voltage drop [V]

< 2

Short-circuit protection

yes (non-latching)

Overload protection

yes

Analog output

4...20 mA; 0...10 V


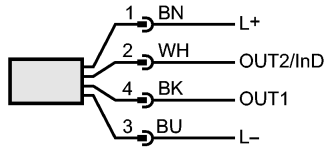
Max. load [Ω]

500

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Min. load	[Ω]	2000
Pulse output		flow rate meter
Measuring / setting range		
Flow monitoring		
Measuring range		0.00...26.44 gpm   0...1585 gph
Display range		0.00...31.72 gpm   0...1902 gph
Resolution		0.02 gpm   1 gph
Set point, SP		0.06...26.44 gpm   4...1585 gph
Reset point, rP		0.00...26.38 gpm   0...1581 gph
Analog start point, ASP		0.00...21.44 gpm   0...1285 gph
Analog end point, AEP		5.00...26.44 gpm   300...1585 gph
in steps of		0.02 gpm   1 gph
Volumetric flow quantity monitoring		
Pulse value		0.02...9000 * 10 <sup>3</sup> gal
in steps of		0.02 gal
Pulse length	[s]	0.3...2
Temperature monitoring		
Measuring range	[°F]	14.0...176.0
Resolution	[°F]	0.5
Set point, SP	[°F]	14.5...176.0
Reset point, rP	[°F]	14.0...175.5
Analog start point, ASP	[°F]	14.0...145.5
Analog end point, AEP	[°F]	44.5...176.0
in steps of	[°F]	0.5
Accuracy / deviations		
Flow monitoring		
Accuracy		< ± (3% MW + 0.2% MEW) *) / < ± (5% MW + 0.5% MEW) **)
Repeatability		0.05 gpm; 3 gph
Pressure loss (dP) / flow rate (Q)		<p>The graph plots pressure loss (dP) in mbar on the y-axis against flow rate (Q) in gpm on the x-axis. Both axes are on a logarithmic scale. The y-axis ranges from 10 to 1000 mbar with major ticks every 100 units and minor ticks every 20 units. The x-axis ranges from 1.0 to 150 gpm with major ticks at 1.0, 1.5, 2.5, 5, 10, 15, 20, 25, 30, 40, 50, 100, and 150. A solid line represents the relationship, showing that dP increases linearly with Q on this log-log scale.</p>
Temperature monitoring		
Accuracy	[K]	± 5.4 (Q > 0.26 gpm)
Reaction times		
Power-on delay time	[s]	10
Flow monitoring		
Start-up delay	[s]	0...50
Response time	[s]	< 0.250 (dAP = 0)
Damping, dAP	[s]	0.0...1.0
Temperature monitoring		
Response time	[s]	T09 = 70 (Q > 1 gpm) *)
Environment		
Ambient temperature	[°F]	14...140
Storage temperature	[°F]	-13...176
Protection		IP 67
Tests / approvals		
Pressure equipment directive		article 3, section 3 - sound engineering practice
EMC		EN 61000-4-2 ESD: 4 kV CD / 8 kV AD EN 61000-4-3 HF radiated: 10 V/m EN 61000-4-4 Burst: 2 kV

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	EN 61000-4-5 Surge:	0.5 kV
	EN 61000-4-6 HF conducted:	10 V
Shock resistance	DIN IEC 68-2-27:	20 g (11 ms)
Vibration resistance	DIN IEC 68-2-6:	5 g (10...2000 Hz)
MTTF [Years]		185
Mechanical data		
Process connection	G1 flat seal	
Materials (wetted parts)	stainless steel 316L / 1.4404; Viton; PES; Centellen 200	
Housing materials	housing: AlMgSi0.5 anodized; sealing: Viton; connector housing: brass Optalloy-plated; PA 6.6; cover film: polyamide	
Weight [kg]	1.689	
Displays / operating elements		
Display	Display unit	5 x LED green (gpm, gph, gal, °F, 10 <sup>3</sup> )
	Switching status	2 x LED yellow
	Measured values	4-digit alphanumeric display
	Programming	4-digit alphanumeric display
Electrical connection		
Connection	M12 connector; gold-plated contacts	
<b>Wiring</b>		
OUT1: 3 selection options	 	
- switching output volumetric flow monitoring		
- pulse output volumetric flow		
- switching output preset counter		
OUT2/InD: 5 selection options		
- switching output volumetric flow monitoring		
- switching output temperature monitoring		
- analog output volumetric flow		
- analog output temperature		
- input for an external reset signal		
Accessories		
Accessories (included)	2 x packing washer (Centellen)	
Accessories (optional)	adapter; order no. E40191 (for ½" NPT pipe, high-grade stainless steel) order no. E40192 (for ¾" NPT pipe, high-grade stainless steel); order no. E40155 (for ½" NPT pipe) order no. E40156 (for ¾" NPT pipe)	
Remarks		
Remarks	1) to EN50178, SELV, PELV *) for water **) for glycol solutions (35%) and oils (viscosity: 68 mm <sup>2</sup> /s at 40°C) MW = measured value MEW = final value of the measuring range sealing: only with supplied Centellen seals	
Pack quantity [piece]	1	