

- 1: 7-segment LED display
- 2: Programming buttons
- 3: internal thread M26 x 1.5



Product characteristics

Flow monitor

Can be calibrated for specific T-pieces

Quick disconnect

Function programmable

2 outputs

OUT1 = switching output

OUT2 = switching output or analog output

7-segment LED display

Application

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water*)
T-shape fittings (DIN 2353)
QL 18-18-18 (nominal diameter 15 mm) / QL 22-18-22 (nominal diameter 19 mm) /
QL 28-18-28 (nominal diameter 24 mm)

Pressure rating [bar]

30

Medium temperature [°C]

0...80

Electrical data

Electrical design

DC PNP/NPN

Operating voltage [V]

20...28 DC

Current consumption [mA]

< 80

Protection class

III

Reverse polarity protection

yes

Outputs

Output function

2 x normally open / closed programmable or 1 x normally open / closed programmable
+ 1 x analogue (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

Min. load [Ω]

2000

Measuring / setting range

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Flow monitoring		
Measuring range	[l/min]	0...10 (NW15) 0...20 (NW19) 0...40 (NW24)
Display range	[l/min]	0...12 (NW15) 0...24 (NW19) 0...48 (NW24)
Set point, SP	[l/min]	0.1...12.0 (NW15) 0.2...24.0 (NW19) 0.4...48.0 (NW24)
Reset point, rP	[l/min]	0.0...11.9 (NW15) 0.0...23.8 (NW19) 0.0...47.6 (NW24)
Analog start point, ASP	[l/min]	0.0...8.0 (NW15) 0.0...16.0 (NW19) 0.0...32.0 (NW24)
Analog end point, AEP	[l/min]	4.0...12.0 (NW15) 8.0...24.0 (NW19) 16.0...48.0 (NW24)
in steps of	[l/min]	0.1 0.1 0.1
Accuracy / deviations		
Flow monitoring		
Accuracy	[% of the final value]	max. ± 10
Repeatability	[% of the measured value]	3 (Q < 30%) / 7 (Q < 100%)
Max. temperature gradient of medium	[K/min]	200
Reaction times		
Power-on delay time	[s]	10
Flow monitoring		
Start-up delay	[s]	0...50
Response time	[s]	5 (10%...90%)
Software / programming		
Programming options		hysteresis / window function; N.O. / N.C; output polarity; current / voltage output; inside pipe diameter; start-up delay; calibration of displayed values; display can be rotated / deactivated; display unit
Environment		
Ambient temperature	[°C]	-20...60
Protection		IP 67
Tests / approvals		
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 EN 61000-4-6 HF conducted: 10 V
MTTF	[Years]	184
Mechanical data		
Materials (wetted parts)		stainless steel 316L / 1.4404; O-ring: FKM 16 x 1.5 gr 70° Shore A
Housing materials		stainless steel 316L / 1.4404; PBT (Pocan); PC (Makrolon); PA; EPDM/X (Santoprene); FPM (Viton)
Weight	[kg]	0.325
Displays / operating elements		
Display		Switching status 2 x LED red Measured values 7-segment LED display Programming 7-segment LED display
Electrical connection		
Connection		M12 connector; gold-plated contacts
Wiring		

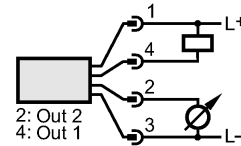
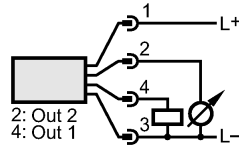
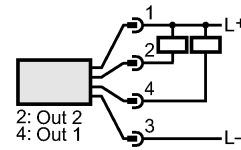
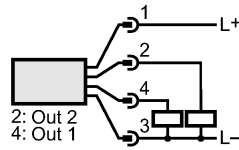
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Programming of the output function
(OUT1 / OUT2):

Hno = hysteresis / normally open
 Hnc = hysteresis / normally closed
 Fno = window function / normally open
 Fnc = window function / normally closed
 Complementary outputs:
 output 1: = Hno, output 2: = Hnc
 (with the same SP / rP)

Programming of the analog output (OUT2):

I = current output (4...20 mA)
 U = voltage output (0...10 V)



Remarks

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NW = nominal diameter
 *) Clean water without contamination and additives.
 Dirt/build-up on the sensor tip affects the measurement accuracy.
 Recommended maintenance: Check the sensor tip for build-up from time to time.
 If necessary, clean it with a soft cloth and a vinegar cleansing agent.

Pack quantity [piece]

1