Low Volume Rotating Vane Flow Meter

for liquids

measuring • monitoring • analysing

DPL

Model: DPL

Model: POD (optional electronics)

- Measuring ranges: 0.025 - 0.5 ... 1 - 25 l/min water
- Linearity: ± 1%
- p_{max}: 10 bar; t_{max}: 70 °C
- Viscosity range: low viscosity
- Connection: G ½ male, hose connector
- Material of case: PP
- Output: pulse
- Without magnets or metal parts
- Medium: infrared light transmissive

Model: DPL with compact electronics

S4

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Application

The KOBOLD flow meter models DPL are used to measure and monitor liquids. Its compact design allows it to be used in equipment where space is at a premium. The large number of pulse evaluation options offered means that the system is suited for a wide range of applications.

Areas of Application

- Low viscosity liquids
- Non-conductive liquids
- Volume dosing with external electronics
- Filter aid
- Beverage industry

Technical Details

Accuracy:	± 2,5% of full scale ± 5% of full scale (OEM version)
Linearity:	1% of full scale
Medium temperature:	-40 ... +70 °C
Ambient temperature:	-30 ... +60 °C
Max. operating pressure:	10 bar
Protection:	IP 65

Materials

Housing:	polypropylene
Rotating vane:	polypropylene
Axle/bearing:	sapphire
Vane mount:	polysulfone
Gasket:	NBR, FPM or EPDM

Operating Principles

The medium flows through a specially shaped flow housing and causes a vane to rotate. This rotary motion is sensed by optoelectronics in a non-contacting manner, and converted to an asymmetric frequency signal or an analogue signal. A frequency divider with symmetrical output is available as an option. The frequency is proportional to the flow velocity.

The vane is sapphire-supported: this ensures a high degree of linearity and long service life.

Electronics

Frequency output (OEM without CE-Sign)

Power supply:	4.5 - 12 V_{DC}
Supply current:	typ. 7 mA
Signal amplitude high:	approx. power supply
Signal amplitude low:	≤0.2 V
Transmitter cut-off voltage:	3 V max.
Transmitter supply current:	8 - 12 mA
Output loss:	max. 2.5 mWatt
Electrical connection:	solder pins
Pulse output:	NPN, Open Collect., max.10 mA

Frequency output (option frequency divider)

Power supply:	24 V_{DC} ±20%
Supply current:	40 - 50 mA
Signal amplitude high:	approx. power supply
Signal amplitude low:	≤0.2 V
Output loss:	max. 2.5 mWatt
Electrical connection:	plug M12x1 (option: 2 m PVC cable)
Division ratio (option):	1...1/128 factory set
Pulse output:	PNP, open collector, max. 20 mA

Analogue output (option plug-on display)

Power supply:	24 V_{DC} ±20%
Output:	0-20 mA or 4-20 mA, 3-wire technology
Max. load:	500 Ω
Electrical connection:	plug connector M12x1 or DIN 43 650
Option:	plug-on display (with plug connector DIN 43 650 only)

Compact electronics

Display:	3-position LED
Analogue output:	(0)4...20 mA adjustable, max. 500 Ω
Switching outputs:	1 (2) semiconductor PNP or NPN, factory set
Contact operation:	programmable N/C/ N/O contact
Setting:	via 2 buttons
Power supply:	24 V_{DC} ±20%, approx. 100 mA, 3-wire technology
Electrical connection:	plug connector M12x1

No responsibility taken for errors;
subject to change without prior notice.

1/10 - 2026

Order Details (Example: **DPL-1P05 G4 0000**)

Meas. range [l/min] water	approx. frequency [Hz] at max. value	approx. pressure [bar] at max. value	Gasket model NBR	Gasket model FPM	Gasket model EPDM	Connection	Electronic analyser
0.025 - 0.5	272	0.77	**DPL-1P05**	**DPL-1V05**	**DPL-1E05**	**G4..**= G ½ male **S4..**= Hose connector (for inner Ø of hose 12 mm + 14 mm)	**Frequency output** **..0000** = frequency output, NPN, without cable (OEM), no CE **..0500** = as 0000 but with 2 m cable **..F300** = frequency output, plug M12x1, PNP **..F320** = frequency divider 1:2, plug M12x1, PNP **..F340** = frequency divider 1:4, plug M12x1, PNP **..F390** = freq. divider 1...$^{1}/_{128}$, plug M12x1, PNP **..F500** = frequency output, PNP, 2 m PVC cable **..F520** = frequency divider 1:2, 2 m PVC cable, PNP **..F540** = frequency divider 1:4, 2 m PVC cable, PNP **..F590** = freq. divider 1...$^{1}/_{128}$, 2 m PVC cable, PNP **Analogue output** **..L303** = 0-20 mA output, M12x1 plug **..L343** = 4-20 mA output, M12x1 plug **..L403** = 0-20 mA output, plug DIN 43 650 **..L443** = 4-20 mA output, plug DIN 43 650 **Compact electronics*** **..C30R** = LED display, 2x open collector, PNP, plug M12x1 **..C30M** = LED display, 2x open collector, NPN, plug M12x1 **..C34P** = LED display, 4-20 mA, 1x open collector, PNP, plug M12x1 **..C34N** = LED display, 4-20 mA, 1x open collector NPN, plug M12x1
0.05 - 1.8	471	0.77	**DPL-1P10**	**DPL-1V10**	**DPL-1E10**		
0.2 - 6	505	0.70	**DPL-1P15**	**DPL-1V15**	**DPL-1E15**		
0.4 - 12	265	1.0	**DPL-1P20**	**DPL-1V20**	**DPL-1E20**		
1 - 25	399	1.3	**DPL-1P25**	**DPL-1V25**	**DPL-1E25**		

* Please specify flow direction in writing

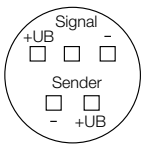
Plug-on Display

for model DPL...L443... (with 4 -20 mA output and DIN plug connector)

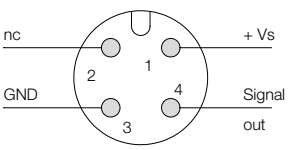
Description	Order number
4-position LED, plug connector DIN 43 650, 3-wire, power supply through analogue output	**AUF-3000**

Electrical Connection

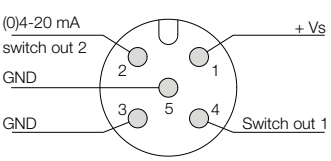
DPL..0000



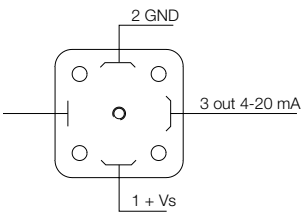
DPL..L3 / DPL..F3



DPL..C



DPL..L4



DPL...F5...

brown: +Vs
blue: GND
black: signal

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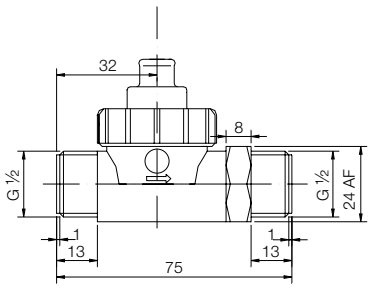
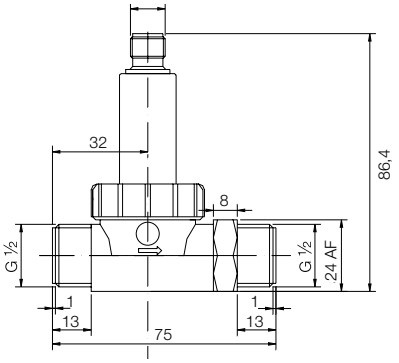
Dimensions [mm]

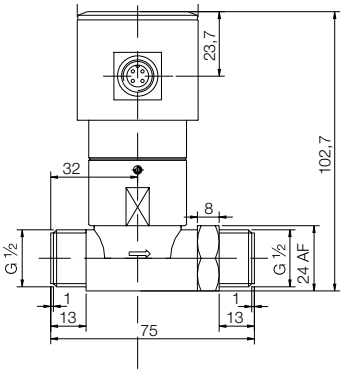
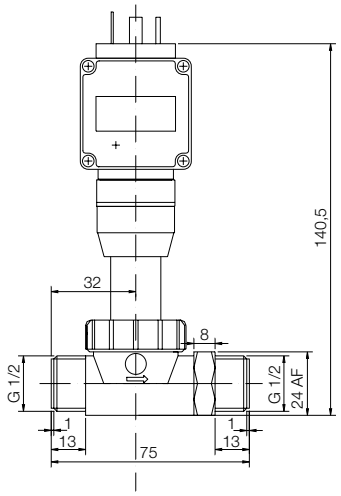
DPL-...0000



DPL-...F3..; DPL-...L3...



DPL-...C with compact electronics



DPL-...L4... with analogue output and plug-on display