



## Low Volume Rotating Vane Flow Meter for Low Viscous Liquids



measuring  
•  
monitoring  
•  
analysing

DTK



- Measuring range:  
0.05 ... 0.6 L/min ... 1.0 ... 12 L/min water
- Accuracy:  $\pm 2\%$  of full scale
- $p_{\max}$ : 30 bar,  $t_{\max}$ : 140 °C
- Process connection:  
G 1/4 and 1/4 NPT
- Housing material: Stainless steel



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**Description**

The KOBOLD flow meters model DTK are used to measure and monitor liquids of low viscosity. Its compact design allows it to be used in equipment where space is at a premium.

**Working principle**

The medium flows through a specially shaped flow housing and causes a vane to rotate. Two magnets in the paddle wheel provide electrical pulses in Hall sensor. The frequency is directly proportional to the flow velocity. The evaluating electronic uses these signals for measurement, monitoring and batching.

**Areas of Application**

- Low viscosity liquids
- Non conductive liquids
- Volume dosing with external electronics
- Laundry machines
- PCB manufacture machines
- Agricultural machinery



**Technical Data**

Measuring accuracy:	± 2% of full scale ± 5% of full scale (OEM-version)
Linearity:	±1% of full scale
Repeatability:	± 0.25 %
Medium temperature:	-15 °C ... +80 °C -15 °C ... +140 °C (DTK-...0S00)
Ambient temperature:	-15 °C ... +60 °C
Max. pressure:	30 bar

**Materials**

Housing:	Stainless steel 1.3955
Orifice:	Stainless steel 1.4404
Axle:	Stainless steel 1.4404
Rotating vane:	PVDF
Gasket:	FPM
Connection:	G 1/4 female thread 1/4 NPT female thread
Installation position:	horizontal
Protection:	IP65

**Electrical data**

**OEM frequency output (DTK-...0\*00) without CE-sign**

Power supply:	4-24 V <sub>DC</sub>
Current input:	typ. 5 mA
Pulse output:	NPN, max. 20 mA, open collector
Electrical connection:	1.5 m PVC cable 1.5 m silicone cable plug connector DIN 43650

**AUF-4000 (option for DIN plug connector connection)**

(option for DIN plug connector connection, can only be calibrated with factory-mounted sensor)

Display:	4-segment red LED
Temperature range:	-20 ... +80 °C
Power supply:	24 V <sub>DC</sub> ± 20%
Input:	Pulses of DTK (NPN-Hall effect sensor)
Output:	4-20 mA, 3-wire
Load:	250 Ω

**DTK-...F300**

Power supply:	12-28 V <sub>DC</sub>
Current input:	10 mA
Pulse output:	PNP, open collector, max. 20 mA
Electrical connection:	plug connector M12x1

**DTK-...F390**

Power supply:	24 V <sub>DC</sub> ± 20%
Current input:	15 mA
Pulse output:	PNP, open collector, max. 20 mA
Frequency divider:	1...1/128, factory setting
Electrical connection:	plug connector M12x1

**DTK-...L303; DTK-...L343**

Power supply:	24 V <sub>DC</sub> ± 20%
Output:	0(4)-20 mA, 3-wire
Max. load:	500 Ω
Electrical connection:	plug connector M12x1

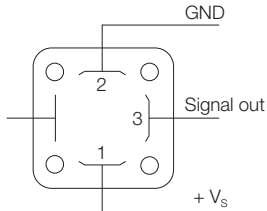
**Compact electronics**

Display:	3-segment LED
Analogue output:	(0) 4...20 mA adjustable, max. 500 Ω
Switching outputs:	1 (2) semiconductor PNP or NPN, factory set
Contact operation:	N/C / N/O contact frequency programmable
Setting:	via 2 buttons
Power supply:	24 V <sub>DC</sub> ± 20%, 33-wire technology approx. 100 mA
Electrical connection:	plug connector M12x1

**Electrical connection**

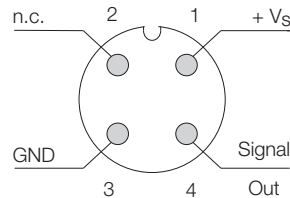
**Plug connection**

DTK-...0400



**Plug connection**

DTK-...F3; DTK-...L3

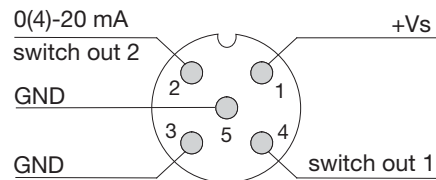


**Cable connection**

DTK-...0P00; DTK-...0S00

- white: +Vs
- brown: GND
- green: Signal

**DTK-..C..**



**Order details** (Example: DTK-1206 G2 0000)

Meas. range [L/min]	Orifice Ø [mm]	Frequency at ME	Pressure loss at ME	Model	Connection	Evaluating electronics
0.05-0.6	1.0	21 Hz	1.0 bar	DTK-1210..	..G2..=G ¼ ..N2..=¼ NPT	<p><b>OEM frequency output without CE</b></p> <p>..0P00 = NPN, 1,5 m PVC cable                      ..0S00 = NPN, 1,5 m silicone cable                      ..0400 = NPN, plug connector DIN 43650</p> <p><b>Frequency output</b></p> <p>..F300 = plug connector M12x1, PNP                      ..F320 = plug connector M12x1, PNP, divider 1:2                      ..F340 = plug connector M12x1, PNP, divider 1:4                      ..F390 = plug conn. M12x1, PNP, divider 1...1/128</p> <p><b>Analogausgang</b></p> <p>..L303 = plug connector M12x1, 0-20 mA, 3-wire                      ..L343 = plug connector M12x1, 4-20 mA, 3-wire</p> <p><b>Kompaktelektronik</b></p> <p>..C30R = Compact electr., 2xPNP, plug M12x1                      ..C30M = Compact electr., 2xNPN, plug M12x1                      ..C34P = Compact electr., 4-20mA, 1xPNP                      ..C34N = Compact electr., 4-20mA 1xNPN</p>
0.1-1.3	1.5	30 Hz	1.0 bar	DTK-1215..		
0.2-2.0	1.8	36 Hz	1.1 bar	DTK-1218..		
0.3-3.5	2.5	41 Hz	0.9 bar	DTK-1225..		
0.3-5.0	3.0	47 Hz	0.9 bar	DTK-1230..		
0.5-7.0	3.5	51 Hz	1.0 bar	DTK-1235..		
0.5-10.0	5.0	50 Hz	1.0 bar	DTK-1250..		
1.0-12.0	6.0	44 Hz	0.9 bar	DTK-1260..		

**Plug-on display**

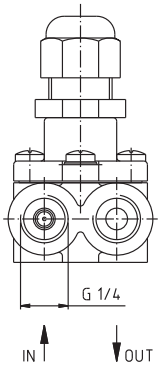
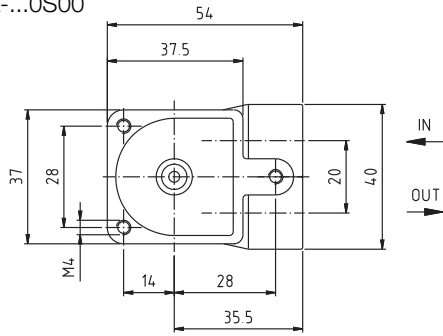
for model DTK-...0400 (with DIN plug connector)

Description	Order number
4-segment red LED display Input: pulses of DTK (NPN-Hall effect sensor), Power supply: 24 V <sub>DC</sub> Output: 4-20 mA, 3-wire, (max. 250 Ω) Plug connector DIN 43650 (can only be calibrated with factory-mounted sensor)	AUF-4000

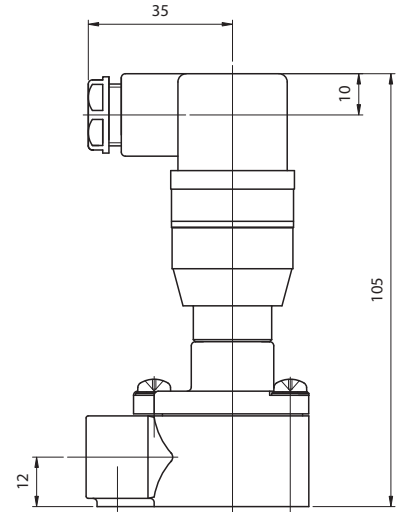
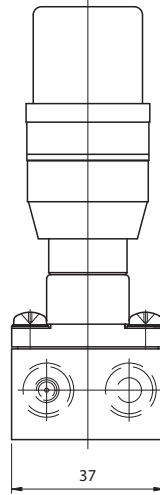


**Dimensions**

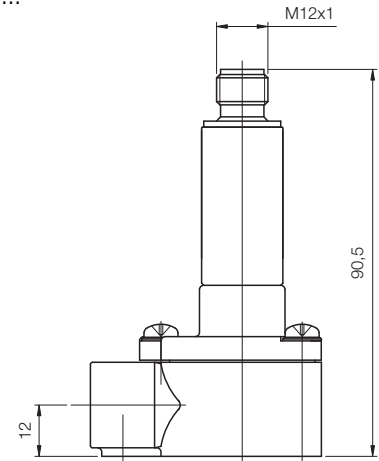
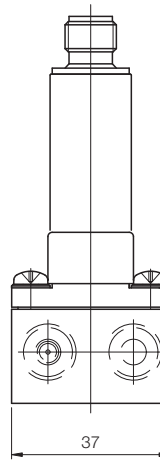
DTK-...0P00; DTK-...0S00



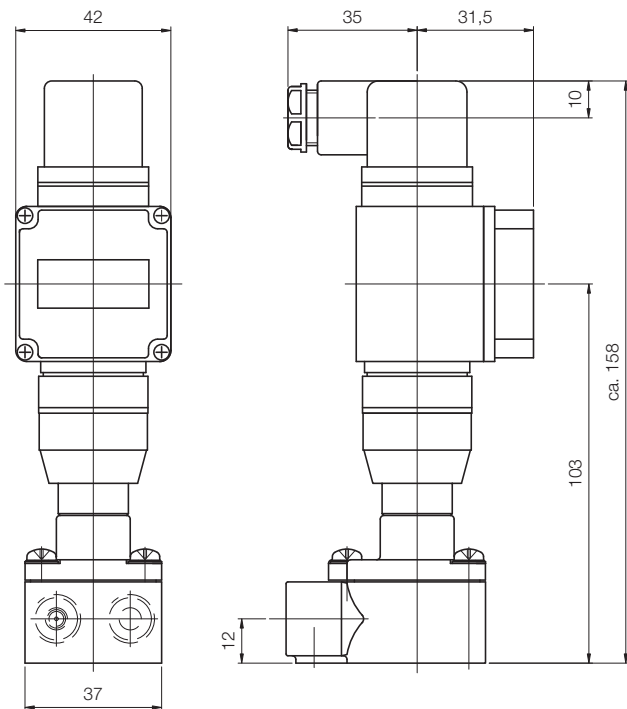
DTK-...0400



DTK-...F3.; DTK-...L3...



DTK-...0400 with AUF-4000



DTK-...with compact electronic

