



## Low Volume Rotating Vane Flow Meter

for Low Viscous Liquids



measuring  
•  
monitoring  
•  
analysing



- Measuring ranges:  
0.05 to 0.6 to 1.0 to 12 L/min water
- Measuring accuracy:  $\pm 2\%$  f. s.
- $p_{max}$ : 30 bar,  $t_{max}$ : 140 °C
- Process connection:  
G  $\frac{1}{4}$  and  $\frac{1}{4}$  NPT
- Housing material: Stainless steel



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KOBOLD Messring GmbH  
Nordring 22-24  
D-65719 Hofheim/Ts.  
☎ +49(0)61 92 299-0  
Fax +49(0)61 92 233 98  
E-Mail: info.de@kobold.com  
Internet: www.kobold.com

Model:  
DTK

### 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 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 butching.

### 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% f. s. ± 5% f. s. (OEM-version)
Linearity:	± 1% f.s.
Repeatability:	± 0.25%
Medium temperature:	-15 °C to +80 °C -15 °C to +140 °C (DTK-...0S00)
Ambient temperature:	-15 °C to +60 °C
Max. pressure:	30 bar
<b>Materials</b>	
Housing:	Stainless steel 1.3955
Orifice:	Stainless steel 1.4404
Axle:	Stainless steel 1.4404
Rotating vane:	PVDF
Gasket:	FPM
Connection:	G ¼ female thread ¼ NPT female thread
Installation position:	horizontal
Protection type:	IP 65

### Technical Data

#### 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)

Display:	4-segment red LED
Temperature range:	-20 to +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 DC
Current input:	10 mA
Pulse output:	PNP, open collector, max. 20 mA
Electrical connection:	plug connector M12x1

#### DTK-...F390

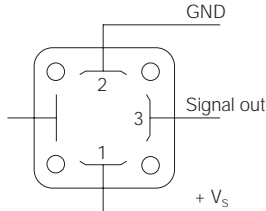
Power supply:	24 V <sub>DC</sub> ± 20%
Current input:	15 mA
Pulse output:	PNP, open collector, max. 20 mA
Frequency divider:	1...1/128, factory setting
Electrical connection:	plug connector M12x1

#### DTK-...L303; DTK-...L343

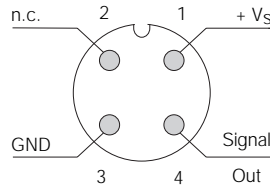
Power supply:	24 V <sub>DC</sub> ± 20%
Output:	0(4)-20 mA, 3-wire
Max. load:	500 Ω
Electrical connection:	plug connector M12x1

**Electrical connection**

**Plug connection**  
DTK-...0400



**Plug connection**  
DTK-...F3; DTK-...L3



**Cable connection**  
DTK-...0P00; DTK-...0S00

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

**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 1/4 ..N2.. = 1/4 NPT	<b>OEM frequency output without CE</b> ..0P00 = NPN, 1.5 m PVC cable ..0S00 = NPN, 1.5 m silicone cable ..0400 = NPN, plug connector DIN 43650 <b>Frequency output</b> ..F300 = plug connector M12x1, PNP ..F320 = plug con. M12x1, PNP, divider 1:2 ..F340 = plug con. M12x1, PNP, divider 1:4 ..F390 = plug con. M12x1, PNP, divider 1... <sup>1</sup> /128 <b>Analogue output</b> ..L303 = plug con. M12x1, 0-20 mA, 3-wire ..L343 = plug con. M12x1, 4-20 mA, 3-wire
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	56 Hz	1.0 bar	DTK-1250..		
1.0-12.0	6.0	44 Hz	0.9 bar	DTK-1260..		

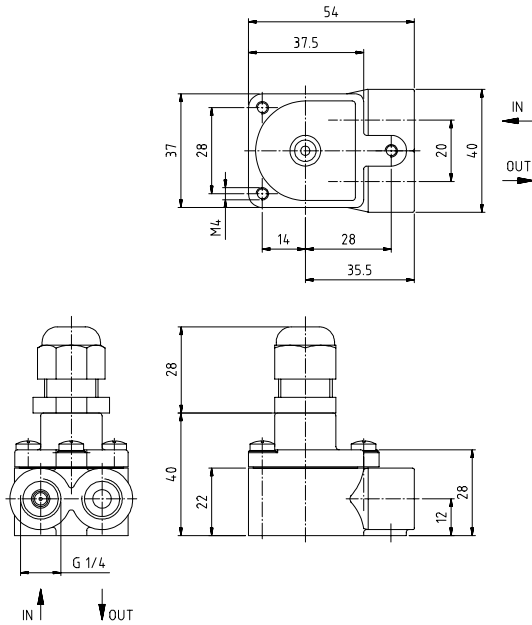
**Plug-on display**  
for model DTK-...0400 (with DIN plug connector)

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	<b>AUF-4000</b>

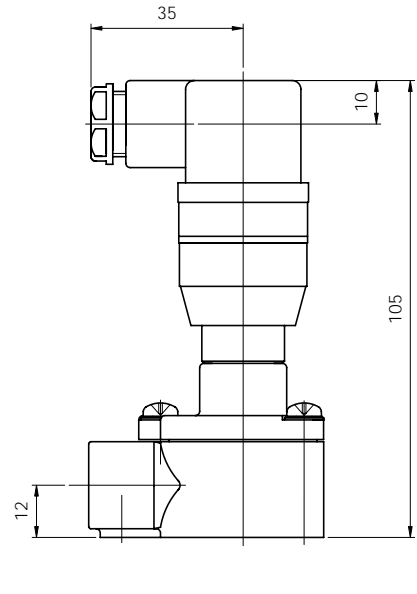


**Dimensions**

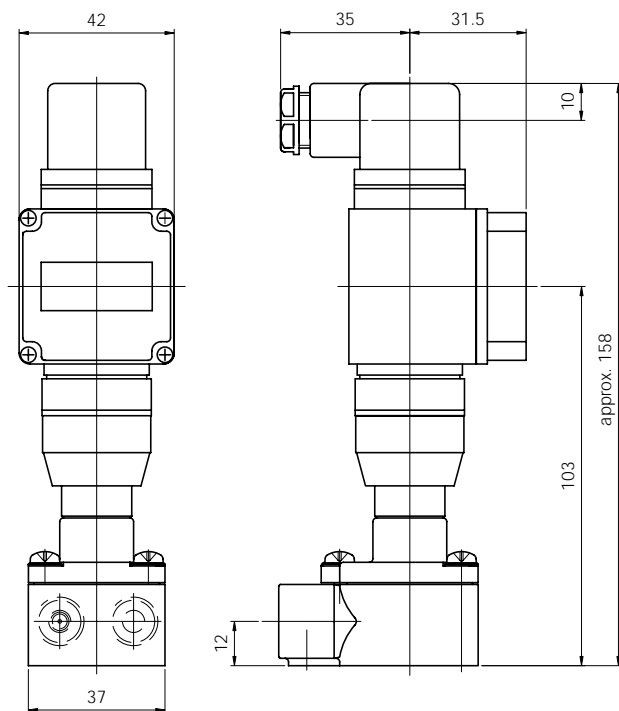
DTK-...0P00; DTK-...0S00



DTK-...0400



DTK-...0400 with AUF-4000



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

