

## Paddle Flow Sensor for Liquids



measuring  
•  
monitoring  
•  
analyzing

DRG



- Economically Priced
- Perfect OEM Flow Sensor
- Five Material Combinations
- Flow Ranges 0.15...3 GPM to 3...37 GPM
- Frequency, 4-20 mA Transmitters or Compact Electronics
- All Plastic Versions Available



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**Description**

The KOBOLD series DRG has the winning combination of compact size, low cost, and versatility which makes it the perfect product for OEM flow measuring applications. It uses a Hall effect sensor to detect the passing of permanent magnets embedded in the rotating paddle. The DRG can be supplied with a frequency output, 4-20 mA output, or a versatile compact electronics package providing an LED display, 4-20 mA output or programmable setpoint switches. It is offered in five material combinations. An all plastic version is available which makes it suitable for use with high purity water and many types of aggressive chemicals.

**Technical Details**

- Accuracy:** ±3% of Full Scale.
- Output Frequency:** PNP, 25 mA max.  
14-28 V<sub>DC</sub>
- Analog:** 4-20 mA, 2-wire or 3-wire,  
24 V<sub>DC</sub> Power
- Electrical Protection:** NEMA 4X
- Electrical Connection:** Micro-DC Plug, 4-pin Male or  
DIN 43650 Plug
- Sensor Press. Drop:** 14.5 PSI at 100% Rated Flow
- Protection:** IP65
- Flow Orientation:** Horizontal

**Electronics**

**Frequency Output (..F300)**

- Power Supply:** 12-28 V<sub>DC</sub>
- Power Consumption:** 10 mA
- Pulse Output:** PNP, Open Collector, Max. 25 mA
- Electrical Connection:** Plug Connector M12 x 1



**Analog Output (..L34x, ..L442)**

- Power Supply:** 24 V<sub>DC</sub> ± 20%
- Output:** 4-20 mA, 2 or 3 Wire
- Max. Load:** 500 Ω
- Electrical Connection:** Plug Connector M12 x 1  
or DIN 43 650
- Option:** Plug-on Display (with Plug Connector  
DIN 43 650 and 4-20 mA Output  
Only), 2 Wire

**Compact Electronics (..C3xx)**

- Display:** 3-segment LED
- Analog Output:** 4-20 mA Adjustable,  
Max. 500 Ω
- Switching Output:** 1 (2) Semiconductor PNP  
Factory Set
- Contact Operation:** N/C, N/O Contact, Frequency  
Programmable
- Setting:** With 2 Buttons
- Supply:** 24 V<sub>DC</sub> ± 20 %, 3 Wire  
Technology, Approximately 100 mA
- Electrical Connection:** Plug Connector M12 x 1



**Electronic Weight**

Electronics	Weight (LB)
Frequency Output	app. 0.08
Analog Output (..L3..)	app. 0.08
Analog Output (..L4..)	app. 0.22
Compact Electronics	app. 1.43



**Material Combinations**

Material Combinations	DRG-11	DRG-12	DRG-14	DRG-15	DRG-18
Housing	Brass	Brass	316L SS	316L SS	Polypropylene
Housing Cover	Polysulfone	Brass	Polysulfone	316L SS	Polypropylene
O-ring	NBR	NBR	FKM	FKM	NBR
Paddle	PTFE	PTFE	PTFE	PTFE	PTFE
Axle	Ceramic	Ceramic	Ceramic	Ceramic	Ceramic
Axle Support	PTFE	PTFE	PTFE	PTFE	PTFE
Max. Temp.	176 °F	176 °F	176 °F	176 °F	176 °F
Max. Press.	230 PSIG	580 PSIG	230 PSIG	580 PSIG	100 PSIG
Sensor Weight	1.28 LB	1.28 LB	1.06 LB	1.06 LB	0.26 LB

**Order Details** (Example: **DRG-1150N1 F300**)

Flow Range (GPM)	Material Combination					Fitting (NPT)					Output
	DRG-11..	DRG-12..	DRG-14..	DRG-15..	DRG-18..	1/8"	1/4"	1/2"	3/4"	1"	
0.15...3	..50..	..50..	..50..	..50..	..50..	..N1..	-	-	-	-	..F300 = Frequency w/ Micro-DC Plug ..L342 = 4-20 mA, 2-wire Micro-DC Plug ..L343 = 4-20 mA, 3-wire Micro-DC Plug ..L442 = 4-20 mA ,DIN 43650 Plug ..C34P* = Compact Electronic, 4-20mA + 1 PNP Switch ..C30R* = Compact Electronic, 2 PNP Switches
0.15...6.6	..55..	..55..	..55..	..55..	..55..	-	..N2..	-	-	-	
0.3...8	..60..	..60..	..60..	..60..	..60..	-	..N2..	..N4..	-	-	
0.6...12	..65..	..65..	..65..	..65..	..65..	-	-	..N4..	..N5..	..N6..	
1.5...23	..70..	..70..	..70..	..70..	..70..	-	-	..N4..	..N5..	..N6..	
1.5...37	..75..	..75..	..75..	..75..	..75..	-	-	-	..N5..	-	
3...37	..80..	..80..	..80..	..80..	..80..	-	-	-	-	..N6..	

Accessories:

Part Number **807.037** = Mating 4-PIN Micro-DC plug with 6ft. cable for output F300, L342, & L343

Part Number **807.007** = Mating 5-PIN Micro-DC plug with 6ft. cable for output C34P and C30R

\* Please specify flow direction when ordering

**Order Details: Plug-on Display (for Model DRG-..L442)**

Description	Model Number
4 Digit LED DIN 43 650 Connector 2-Wire Supply Through Analog Output	<b>AUF-1000</b>
Same Specs as Above Additional Open Collector Output	<b>AUF-1001</b>

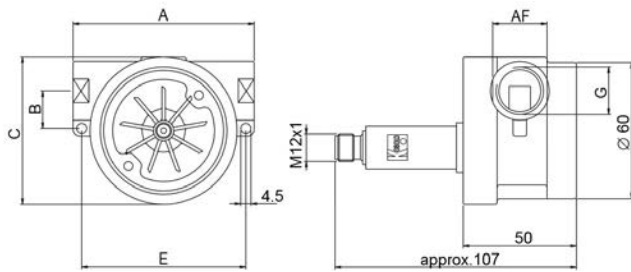




## Paddle Flow Sensor Model DRG

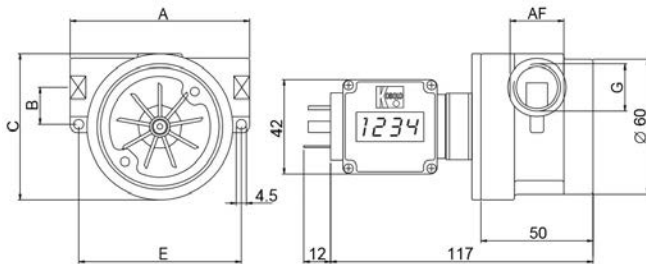
### Dimensions

#### DRG-..F300 (Frequency Output), DRG-..L34x (Analog Output)



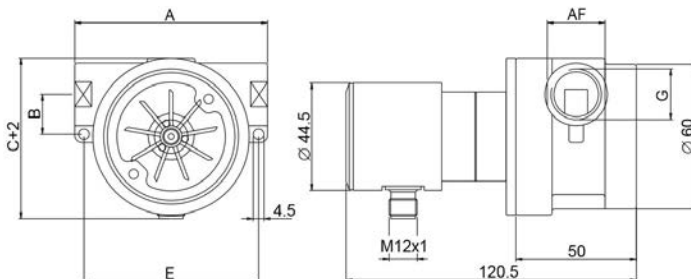
NPT	A	B	C	E	AF
1/8"	3.15"	0.65"	2.48"	2.85"	0.94"
1/4"	3.15"	0.65"	2.48"	2.85"	0.94"
1/2"	3.15"	0.65"	2.48"	2.85"	0.94"
3/4"	3.93"	0.98"	2.73"	3.54"	1.49"
1"	3.93"	0.98"	2.73"	3.54"	1.49"

#### DRG-..L442 (Analog Output and Plug-on Display)



NPT	A	B	C	E	AF
1/8"	3.15"	0.65"	2.48"	2.85"	0.94"
1/4"	3.15"	0.65"	2.48"	2.85"	0.94"
1/2"	3.15"	0.65"	2.48"	2.85"	0.94"
3/4"	3.93"	0.98"	2.73"	3.54"	1.49"
1"	3.93"	0.98"	2.73"	3.54"	1.49"

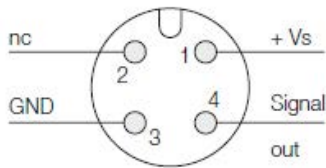
#### DRG-..C3xx (Compact Electronics)



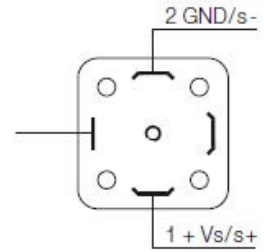
NPT	A	B	C	E	AF
1/8"	3.15"	0.65"	2.48"	2.85"	0.94"
1/4"	3.15"	0.65"	2.48"	2.85"	0.94"
1/2"	3.15"	0.65"	2.48"	2.85"	0.94"
3/4"	3.93"	0.98"	2.73"	3.54"	1.49"
1"	3.93"	0.98"	2.73"	3.54"	1.49"

Electrical Connection

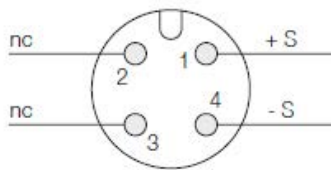
DRG-..F300, DRH-..L34x 3-wire



DRG-..L442



DRG-..L342 2-wire



DRG-..C3xx

