



mm P100



Description

- Measurement ranges from 0 ... 20 mm to 0 ... 600 mm
- Linearity $\pm 0.25\%$ (ranges over 450 mm: $\pm 0.5\%$)
- Multiple options for supply and output

The FDP100 is an affordable, durable, high-accuracy position sensor designed for demanding hydraulic or pneumatic cylinder position feedback applications where service life, environmental resistance and cost are important. It is particularly suitable for OEMs seeking good sensor performance for arduous applications such as industrial machinery. Overall performance, repeatability and stability are outstanding over a wide temperature range.

The unit is highly compact and space-efficient, being responsive along almost its entire length. Like all LIPS sensors it provides a linear output proportional to displacement. Each unit is supplied with the output calibrated to the travel required by the customer, from 20 ... 600 mm and with full EMC protection built in. The sensor is very rugged, being made of stainless steel with an inert fluoropolymer-sheathed probe and stainless steel target tube.

The sensor is easy to install in cylinders and has a wide range of mechanical and electrical options. Environmental sealing is to IP65 or IP67 depending on selected cable or connector options.

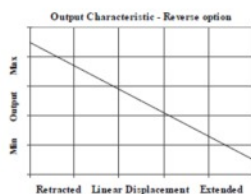
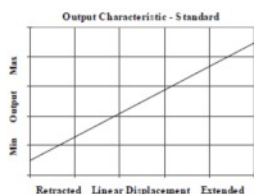
Features

- Non-contacting inductive technology to eliminate wear
- Travel set to customer's requirement
- Compact and self-contained
- High durability and reliability
- High accuracy and stability
- Sealing to IP65/IP67 as required

Applications

- Asset Monitoring
- Data Loggers
- Impact Monitoring
- Machine Health Monitoring
- System Wake-Up Switch
- Product R&D

Dimensions



Performance specifications

Measurement Ranges:	0 ... 20 mm to 0 ... 600 mm, factory-set in increments of 1 mm	
Supply voltage:	see options	
Output signal:	see options	
Independent Linearity at 20 °C:	<±0.25 % for ranges up to 450 mm <±0.5 % for ranges >450 mm	
Temperature Coefficients Gain:	<±0.01 %/K	
Temperature Coefficients Offset:	<±0.01 % FS/K	
Frequency Range:	0...>10 kHz (-3dB) 0...>300 Hz (-3 dB) 2 wire 4...20mA version	
Resolution:	infinite	
Noise:	<0.02 % FSO	
Operating Temperature Range:	-40 ... +125 °C standard version -20 ... +85 °C buffered versions	
Storage Temperature Range:	-40 ... +125 °C	
Environmental Sealing:	IP65 or IP67 depending on connector / cable option	
Hydraulic Pressure, max.:	350 bar	
EMC Performance:	EN61000-6-2, EN61000-6-3	
Vibration, max.:	IEC 68-2-6: 10 g	
Shock, max.:	IEC 68-2-29: 40 g	
MTBF:	350000 hours, 40 °C, Gf	
Electrical Connection	Connector or 0.5 m cable	

Options

Order Code	Output Signal	Supply Voltage	Output Load
Standard version:			
-A-	0.5 ... 4.5 V ratiometric	+5 VDC nom., ±0.5 V	5 kΩ min.
buffered versions:			
-G-	0.5 ... 4.5 V	24 VDC nom., +9 ... 28 VDC	5 kΩ min.
-B-	±5 V	±15 VDC nom., ±9 ... 28 VDC	5 kΩ min.
-C-	0.5 ... 9.5 V	+24 VDC nom., +13 ... 28 VDC	5 kΩ min.
-D-	±10 VDC	±15 VDC nom., ±13.5 ... 28 VDC	5 kΩ min.
Supply current		10 mA typ., 20 mA max.	
-E-	4 ... 20 mA (2-wire)	+24 VDC nom., +18 ... 28 VDC	300 Ω at 24 V
-F-	4 ... 20 mA (3-wire sink)	+24 VDC nom., +13 ... 28 VDC	950 Ω at 24 V
-H-	4 ... 20 mA (3-wire source)	+24 VDC nom., +13 ... 28 VDC	300 Ω max.

Options Connector / Cable:

-J	Hirschmann connector, IP65
-L50	Cable with M12 gland, IP67, 50 cm,
-M50	Cable with short gland, IP67, 50 cm
	Other cable lengths available

Flange Options at Target:

-U	No flange
-V	Penny & Giles HLP100
-W	Temposonics (M4 fixing)
-X	Parker Hannifin Cylinder

Target Options:

-R	Stainless steel (standard), ID 7.7 mm, OD 9.45 mm
-S	Aluminium, ID 7.1 mm, OD 9.53 mm

Potentiometer Option:

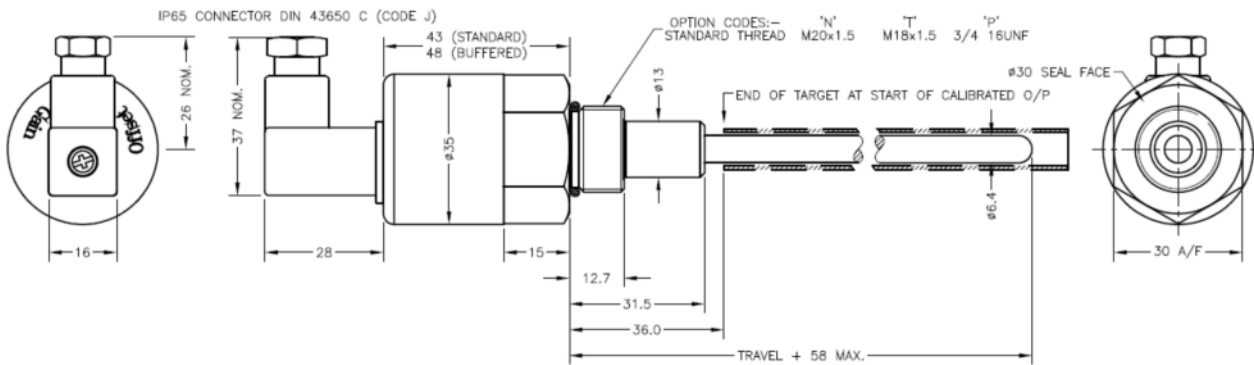
-Y	Trim potentiometers for zero and span, sealed
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Thread Options:

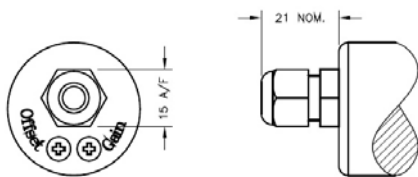
-T	Thread M18 x 1.5
-N	Thread M20 x 1.5
-P	Thread 3/4"-16UNF

Performance specifications

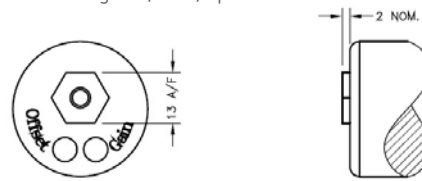
Connector version IP65, option J:



Cable gland, IP67, option Lxx

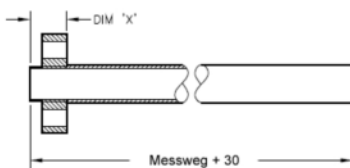


Short cable gland, IP67, option Mxx:



Sealed potentiometers (Code -Y)

Target (with Temposonics flange, Code -W):



Target

- Stainless steel (Code -R): ID 7.7 mm, OD 9.45 mm
- Aluminium (Code -S): ID 7.1 mm, OD 9.53 mm

Dim ,X': Where target flanges are required the minimum ,X' dimension is equal to the flange thickness.

All dimensions in mm, approx. values.

These drawings are for information only and not intended for construction purpose.

Please ask for detailed drawings

Electrical Connection

Cable (Options Lxx or Mxx):

- 3-core screened PUR cable, 0.2 mm², Ø 4 mm,
- 4-core screened PUR cable, 0.2 mm², Ø 4.6 mm
- Standard length 50 cm

Connector (Option J): maximum conductor cross section 0.75 mm²

Connections:

3-core Cable	4-core Cable	Connector	Function
red	red	pin 1	+ supply voltage
black	green	pin 3	0 V
	yellow	pin 4	- supply voltage (code B or D)
white	blue	pin 2	output signal
screen	screen	pin 4	body (code A, C, E, F, G, H)