mm P103

Description

Internally Mounted Cylinder Sensor with External Electronics

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

The P106 LIPS® (Linear Inductive Position Sensor) 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 where the internal length or diameter is limited.

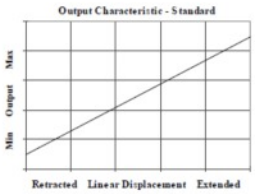
Overall performance, repeatability and stability are outstanding over a wide temperature range. The unit is highly compact and space-efficient, being responsive along almost its entire length. Like all LIPS® sensors it provides a linear output proportional to displacement, each unit is supplied with the output calibrated to the travel required by the customer, from 20 to 600 mm and with full EMC protection built in.

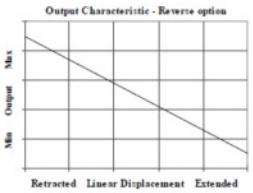
The P106 is very rugged, being made of stainless steel with an inert fluoropolymer-sheathed probe with the option of either an aluminium or stainless steel target tube. The probe and target are easy to install, as is the electronics module which has a range of mounting and electrical options. Sealing 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

Dimensions





04.2016 | version 201208 - Rev 1.01

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

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

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

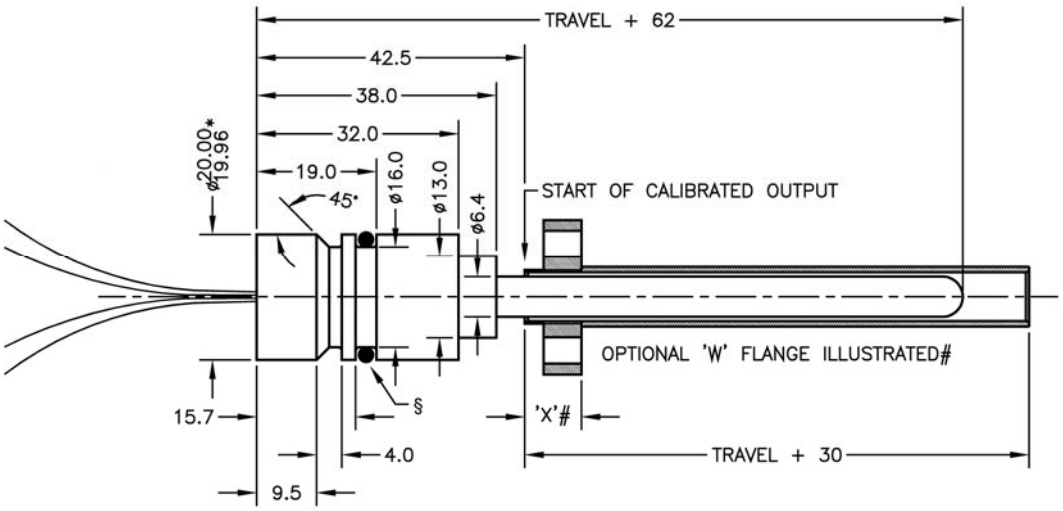
Potentiometer Option:	
-Y	Trim potentiometers for zero and span sealed

Mounting Options (Electronics Module):	
-T	Flange (Standard)
-P	Thread M18 x 1.5

04.2016 | version 201208 - Rev 1.01

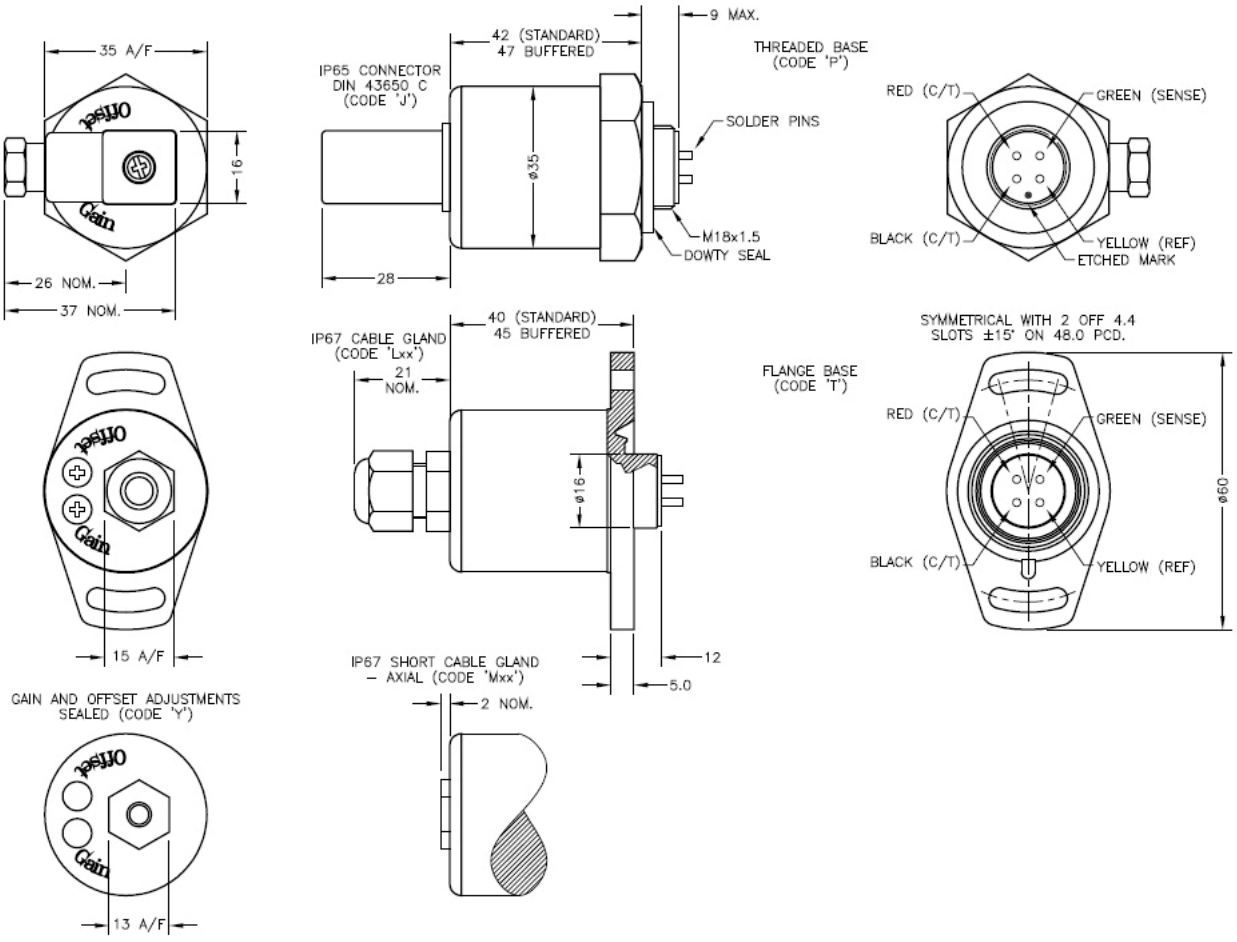
Dimensions

Probe Assembly (with optional 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

Electronics Module:



All dimensions in mm, approx. values.
These drawings are for information only and not intended for construction purpose.
Please ask for detailed drawings

04.2016 | version 201208 - Rev 1.01

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)

04.2016 | version 201208 - Rev 1.01

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