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Specialised Designs

We have considerable experience in solving specific application problems by developing our standard designs to suit individual requirements. Custom-designed solutions are also provided where standard equipment does not fully meet our customer's needs.

ICS 100 In-Cylinder Sensors

Suitable for actuator strokes up to 1100mm

A range of In-Cylinder linear position sensors designed for integration into hydraulic and pneumatic actuators where the sensor is fitted inside the pressurised environment. Using the proven benefits of Hybrid Track Technology and including a number of unique design features, the ICS100 range is ideally suited to high volume OEM actuator manufacturers, where design engineers can specify an affordable alternative for applications where non-contacting technologies may prove too expensive.

Ask for our **ICS100 In-Cylinder Sensors** brochure for full details and designers guide. It can also be downloaded from our website at www.pennyandgiles.com



SLS 320 for heavy duty-cycle dynamic applications

A number of specialist applications have demanded an enhanced operating life beyond that capable of the standard SLS320 sealed linear sensor. To meet this requirement, we have developed an oil-filled version of the SLS320, which provides optimum lubrication for the track and sliding mechanism for increased operating life.

Typically the sensors are mounted parallel to actuators fitted to hydraulic motion bases operating leisure ride cabins at amusement parks around the world. Typically the motion bases run a three minute cycle time for up to 12 hours per day. This sensor is ideally suited to similar applications subjected to heavy duty dynamic movements.



SPECIFICATION SUMMARY

Refer to page 12 and 13 for full performance specification and dimensions

Electrical stroke E	mm	250 to 1100mm only
Sealing		IP66
Shaft seal life		20 million operations (10 x 10 ⁶) - replaceable
Shaft velocity - maximum	m/s	10

OPTIONS

Compact shaft	Compact shaft will reduce dimension D (page 13) by 50mm
Cabled socket	1m or 10m cabled socket assemblies available
Mounting	Self aligning rod ends standard. Body clamp and flange kits available
Protective sleeve	For 250 to 1100mm stroke lengths - self aligning bearings only.

AVAILABILITY

Can be supplied within five days from the factory

ORDERING CODES

D45566/...../..... K/...../ 66 /.....

Electrical stroke	_____	Cabled socket	00 = None
Resistance	_____		01 = 1m
Shaft L = long, C = compact	_____		10 = 10m

Accessories (order separately)

Mounting kits	Body clamp kit - SA59661
	Flange kit - SA59660

Protective sleeve kit - SA200991/MK

Clamp sleeve (to allow SLS 320 to replace Penny & Giles HLP 350 in existing installations) - P200863 (2 per sensor)

Special SLS 190

This specially developed SLS 190 variant offers the same mounting dimensions as earlier HLP190 models, but incorporates additional shaft sealing not previously available. M5 steel rod end bearings are fitted, which has become a standard requirement in US NASCAR data acquisition systems. An optional LEMO connector can also be supplied fitted to the cable if required. These potentiometers are ideally suited for retrofit in existing suspension and throttle position applications and will provide high performance and reliability under extreme operating conditions.

PERFORMANCE

Electrical stroke E	mm	25	50	75	100	125	150	200	250
Resistance $\pm 10\%$	k Ω	1	2	3	4	5	6	8	10
Independent linearity	$\pm\%$	0.25	0.25	0.15	0.15	0.15	0.15	0.15	0.15
Power dissipation at 20°C	W	0.5	1.0	1.5	2.0	2.5	3.0	4.0	5.0
Applied voltage maximum	Vdc	22	44	67	74	74	74	74	74
Electrical output		Minimum of 0.5% to 99.5% applied volts							
Resolution		Virtually infinite							
Hysteresis (repeatability)	mm	Less than 0.01							
Operational temperature	°C	-30 to +100							
Output smoothness		To MIL-R-39023 grade C 0.1%							
Insulation resistance		Greater than 100M Ω at 500V d.c.							
Operating mode		Voltage divider only - see Circuit Recommendation on page 2							
Wiper circuit impedance		Minimum of 100 x track resistance or 0.5M Ω (whichever is greater)							
Operating force maximum	gf	500 in horizontal plane							
Life at 250mm per second		Typically greater than 100 million operations (50 x 10 ⁶ cycles) at 25mm stroke length							
Dither life		200 million operations (100 x 10 ⁶ cycles) at ± 0.5 mm, 60Hz							
Shaft seal life		20 million operations (10 x 10 ⁶ cycles) - replaceable							
Shaft velocity maximum	m/s	10							



OPTIONS

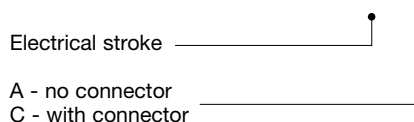
Connector Can be supplied with LEMO PHGOB304 CYMD42Z connector and sleeve GMAOB035DG

AVAILABILITY

Please consult our sales office for details

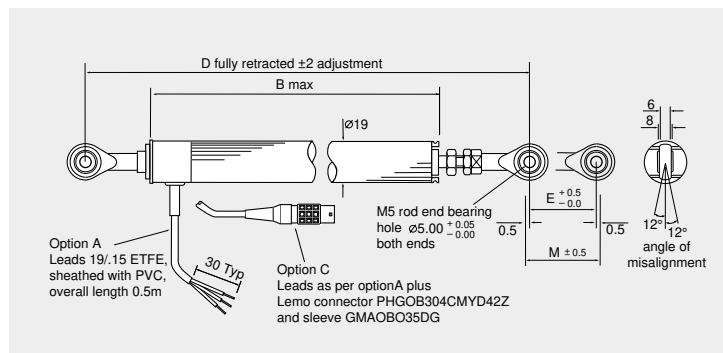
ORDERING CODES

D45190/...../.....



DIMENSIONS

All dimensions shown in mm



Note: Drawings not to scale

Electrical stroke E	mm	25	50	75	100	125	150	200	250
Mechanical stroke M	mm	29	54	79	104	129	154	204	254
Body length B	mm	107.0	132.0	157.0	207.0	232.0	257.0	307.0	357.0
Between centres D	mm	173.6	198.6	223.6	273.6	298.6	323.6	373.6	423.6
Weight approximate	gm	105	130	145	175	190	205	230	260

Available from Penny+Giles

A wide range of instrumentation for measurement and control solutions in industrial and aerospace applications. Please ask for more details.

Penny+Giles quality systems meet the requirements of ISO9001, the Civil Aviation Authority and numerous customer's certification standards.

Quality is at the heart of all our systems ensuring the reliability of our products from initial design to final despatch.

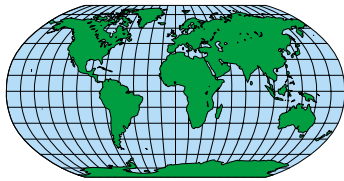


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- Solenoids ■ Rotary Potentiometers ■ Joystick Controllers ■ In-Cylinder Transducers

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