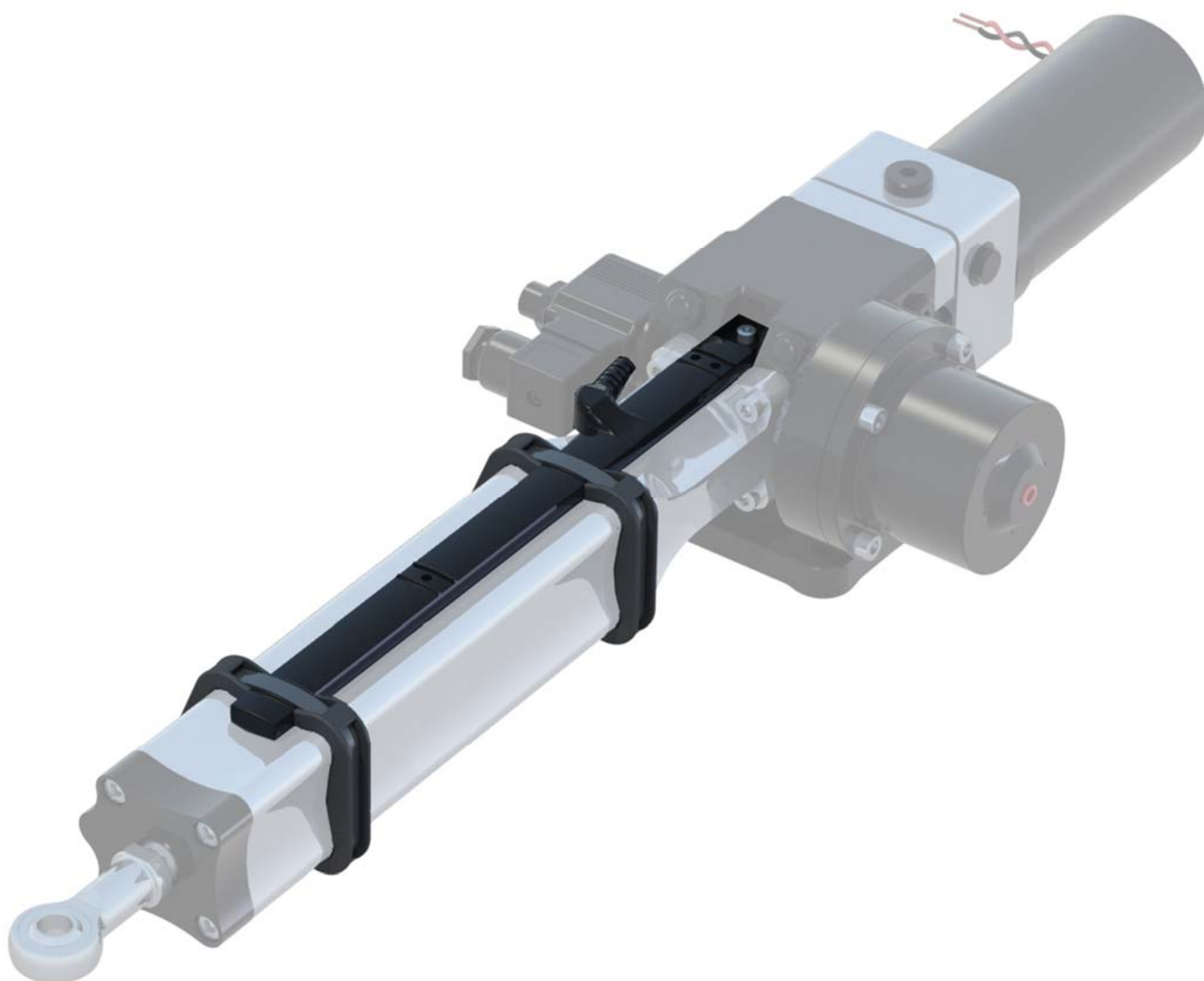


Linear feedback Sensor - Analogue Output-



Description

The Hy-ProDrive R4660-a is a non-contact, absolute rudder position sensor. There are no moving parts inside and it is fully sealed to IP67 to ensure a long, trouble free life. It works by sensing the position of a magnet which is attached to the hydraulic cylinder piston. This information is then fed to the course computer where it is used to keep the vessel on a precise heading. The mounting kit is simple and effective, allowing the sensor to be mounted to your ML+40 in just a few minutes.

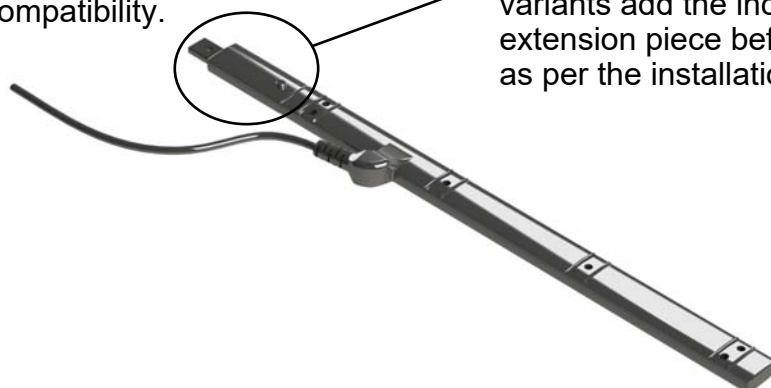


Compatibility

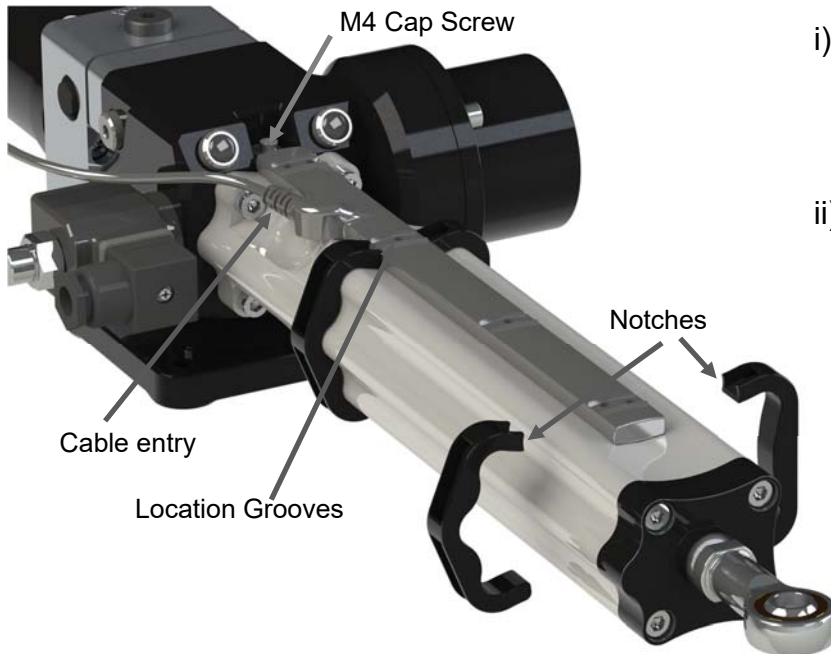
The R4660-a will fit the following drives. Check the units label for compatibility.

ML+40 S xx xx 200mm
 ML+40 M xx xx 250mm
 ML+40 L xx xx 300mm *
 HS+40 M xx xx 250mm

* For the ML+40 L xx xx 300mm variants add the included sensor extension piece before proceeding as per the installation instructions.



Installation



i) Lay the sensor onto the upper surface of the ML+40 cylinder with the cable entry as shown. Fit the M4 cap screw but do not tighten at this stage.

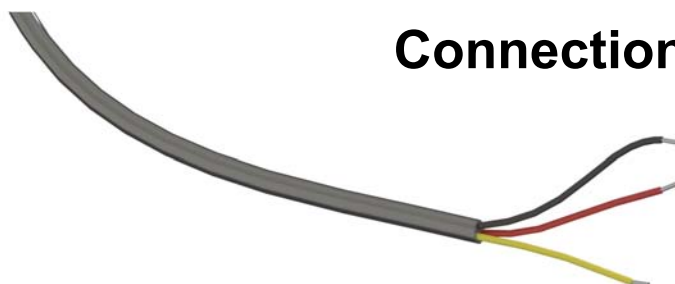
ii) Fit the mounting clamps with the notches at the top. Note that they are sculpted to fit the cylinder body. Align them with the outer pair of location grooves

iii) Thread each cable-tie through the clamps so that the head of the tie is underneath the cylinder. Tighten them evenly being careful not to distort the clamps. Cut off the excess tie close to the head.

iv) Finally, tighten the M4 cap screw, Torque 2Nm.



Connection



Black = Ground

Red = Vsupply

Yellow = Output

Specification

Mass		80 g	
Ingress protection		IP67	
Electromagnetic compatibility		BS EN 60945:2002	
Safe distance from (4) ;- Steering compass Standard compass			
		1.0 m	
		1.5 m	
Power-up time (3)		300 ms	
Measurement delay		10 ms	
RMS deviation from linear		0.3 mm	
Output resistance		1.2 KΩ	
Wire colours	Black	Gnd	
	Red	Vsupply	
	Yellow	Output	
Supply current		20 mA	
	Min	Typ	Max
Supply voltage (Vsupply)	3.0 V	5.0 V	15.0 V
Output voltage range Vsupply ≤5.5V (1)	0.04 x Vsupply (Fully extended)		0.96 x Vsupply (Fully retracted)
Output voltage range Vsupply >5.5V (2)	0.22 V (fully extended)		5.28 V (fully retracted)

1) For Vsupply in the range 3.0V to 5.5V the sensor emulates a potentiometer (the output is ratiometric)

2) For Vsupply above 5.5V the output range is the same as it is at 5.5V

3) Time from Vsupply reaching 3.0V to output becoming valid

4) Per BS EN 60945 11.2

Full technical details of our entire range are available to download from our website

www.hypro.co.uk