



Applications – Speed Sensors

Speed sensors are typically installed into the casings of rotating equipment such as hydraulic motors, pumps or other custom designed housings. By picking up on a rotating steel target wheel the sensor facilitates high speed frequency measurement of the shaft rotation including the ability to detect shaft rotation direction (if this option is specified).

Typical applications for use include:

- Water and dredge pumps to determine operating points on pressure / flow curves
- Cutting units to allow speed parameters to be monitored and tuned and highlight potential stalls.
- Thrusters for closed loop control
- Track motors to determine forward (or reverse) speed
- Other subsea rotating parts.

The operator gains significant operational insights from such sensors giving him a clear picture of how the machine is performing whilst operating remotely and in low to zero visibility conditions subsea. This allows him to react quickly to potentially reduce machine damage (such as a stalled cutter) and also engineers in tuning systems for optimal performance and/or progress rates.

DME Speed Sensor Range

The DME range of speed sensors is available to interface to a wide range of OEM pumps and motors including:

DME SPEED SENSOR RANGE		
DME P/N	OEM Interface	Notes
A1028-MD	Bosch – HDD 32mm	Speed & Direction MCIL4MG2 subsea connector
A1031-MD	Bosch – DSA 18mm	Speed & Direction MCIL4MG2 subsea connector
A1455-MD	Bosch – DSA 32mm	Speed & Direction MCIL4MG2 subsea connector
A1687-MD	Poclain	Speed MCIL4MG2 subsea connector
Custom package designs also available on request: sales@dme-systems.com		

For full specification details please refer to the individual drawings and specification tables.

Typical Speed Sensor Specification

Depth Rating	Operational depth 3000m (Test depth 4000m; 6000m available on request)	
Sensor measuring range	0.5 - 1mm (The size and design of the target is an application consideration)	
Operating temperature	-20°C → +60°C	
Storage temperature	-40°C → +60°C	
Maximum differential pressure	10 Bar	
Material	Titanium	
Weight	~200g	
Sealing	O-ring seal - NBR	
Target detail	Material	Low carbon steel
	Target width	>6 mm
	Preferred target ratio	1:1 (on/off)
	Target tooth depth	3 mm

Electrical

Connection details	Subsea connector or pre-moulded harness tail	
Supply Voltage (Vcc)	12 – 24V DC	
Output signal – Speed	Speed represented by square wave output, 0V to Vcc	
Output signal – Direction	0V signal	= Forward rotation (indicated on sensor by F engraving)
	Vcc	= Reverse rotation
Detecting frequency	20kHz as standard (40kHz upon request)	
Current Draw	10mA @ 24V DC (approximate)	

specification details please refer to the individual drawings and specification tables.

For
full