MARINE ELECTRIC SYSTEMS proximity sensors are position sensing devices. They are electrical devices with no moving parts which makes them extra-ordinarily reliable. Proximity sensors are designed to replace ordinary mechanical limit switches and employ one of two technologies, Eddy Current Loss (ECL) or Variable Reluctance (VR).

ECL devices “sense” metals and when a metal target is brought into the proximity of alternating magnetic field generated by the sensor, a solid state output device is actuated. A VR sensor detects metal targets attracted to a magnet and therefore can detect through non-magnetic materials like titanium or stainless steel.

Proximity sensors are non-invasive. For example, they can be used to detect the position of a piston inside a hydraulic cylinder under pressure - there is no need to penetrate the cylinder wall. They’re also fast. ECL sensors can detect 200 actuations per second without switch bounce, and VR sensors 10,000 actuations per second - a feat no mechanical device can match. Finally, proximity sensors offer an extended life cycle, added capabilities and a lack of moving parts for a considerable value advantage.
PROXIMITY SENSORS

Marine Electric Systems Models MPS Ø.5 ANO, Ø.5 ANC, 1.Ø ANO, 1.Ø ANC
Proximity Sensors (All Metal Sensing two Wire AC) 0.5” to 1.00” Sensing Range:
Marine Electric Models MPS Ø.5 ANO, Ø.5 ANC, 1.Ø ANO, 1.Ø ANC are two wire AC, solid state
self-contained electronic proximity switches designed for hostile shipboard environments. Stainless steel
construction, as well as watertight integrity, makes these switches ideal for applications where reliable,
accurate position sensing is required. The wide range of operating voltages allows multiple units in series.
High EMI immunity enables units to be used topside in the presence of high power radio or radar
transmitters. Simple two wire configuration allows direct replacement of mechanical switches.

Typical Uses: Elevators, bow ramps, winches, davits, cranes, engine clutch position. Amusement park
rides, automatic car washes oil well pumping, railroad yard sensing and positioning, conveyor controls,
indexing tables, cylinder positions and valve position.

These rugged and reliable sensors offer the following feature:
- Operating voltage 24 to 124 VAc for series switch application
- 1.25 amp rms switch load rating
- High EMI resistance (high immunity to radio or radar interference)
- Two wire operation (direct replacement of mechanical switches)
- Over-current protection in case of shorted load

Marine Electric Systems Models MPS 1.5 DOC
Proximity Sensor (All Metal Sensing DC)
The Marine Electric Model MPS 1.5 DOC is a solid state, self-contained electronic proximity switch designed
especially for rugged shipboard environments. Stainless steel construction, as well as watertight integrity,
makes this switch ideal for shipboard applications where accurate, reliable, maintenance free position sensing
is required.

The MPS 1.5 DOC has a 1.5” sensing range. It also has simultaneously active normally open/closed outputs
which have short circuit protection.

The Model MPS 1.5 DOC sensor features:
- Two year warranty
- Input voltage 10 to 30 VDC
- 0.250 ampere switch load rating
- High EMI resistance for topside operation
- Output short circuit protection

Both AC and DC switches feature:
- Specifically designed for severe marine environments
- Meet MIL-PRF-24711 requirements
- Normally open and normally closed outputs
- Corrosion resistant 316 L stainless steel construction standard

As with all Marine Electric System’s sensor devices, the electronics in this product features optional
Power Over Ethernet (POE) capability with industry standard Small
Network Management Protocol (SNMP), interface software.

Custom Proximity Switches can be configured for your specific
requirements. Please speak with our sales representative.