



**Bringing Visibility
to Deep Sea Equipment**

TopWorx™ Subsea Switches and Switchboxes

Proven automation solutions and local expertise to help you overcome your toughest challenges.





Bringing much-needed visibility to deep sea equipment

At several thousands of feet below sea level, reliable equipment performance is critical. Not only are these systems and components hard to reach, but maintenance or repairs could require highly skilled divers or other trained personnel. To avoid time-consuming, costly downtime, you need to know what's going on beneath the surface.

Emerson switches and switchboxes enable highly reliable direct-source feedback on subsea equipment so you can be sure everything is working as it should. Designed to be completely submerged in water, these devices can withstand corrosion and pressures equal to that of 10,000 feet below sea level over their lifetime.

From wastewater plants to off-shore platforms, deep sea applications involve demanding operating conditions where downtime isn't an option.



Engineers for submerged projects need reliable sensor solutions that can reduce their maintenance requirements on hard-to-reach equipment.



Existing switch solutions often can't handle submerged conditions on a regular basis and will eventually fail, resulting in costly equipment damage.



Enjoy direct equipment feedback and valve control—even in submerged areas

Emerson is a leading provider of deepwater project sensing and communication feedback solutions. With its sealed construction and simple internal design, our proven TopWorx **GO Switch** combines the best aspects of mechanical lever-arm switches and proximity sensors without the drawbacks. These units rely on proximity activation to activate dry contacts—gold flashed or palladium silver—and can reliably withstand harsh subsea conditions, including corrosive saltwater. For reliable valve control, our **K Series Switchboxes** integrate solid, water-proof enclosures, durable materials and various switch options. Together, these subsea products succeed in bringing the most accurate communications protocols to the world’s deepest submerged equipment.



Reliably receive direct-source feedback on critical subsea equipment

- Know the accurate, real-time status of rigs, valves, locks, dams and other equipment
- Avoid sensor failure with simple dry contact design—no calibration required
- Minimize component failure, reducing installation and maintenance costs

“At extreme depths, there’s no room for error. I need reliable position feedback on my equipment to avoid lengthy repairs.”
– Project manager, off-shore platform



Minimize subsea equipment downtime deep below the surface

- Receive smart diagnostic information on hard-to-access equipment
- Reduce maintenance with rugged construction and sealed, single-part switch design
- Withstand corrosion and water ingress with specialty enclosure materials and coatings

“ Proximity sensors and mechanical switches are unnecessarily complex. They fail too easily, especially when submerged in saltwater.”
– Offshore project engineer



Facilitate product installation with rugged, yet flexible switch design

- Adapt GO Switch to any circuit or monitoring system without conversion devices
- Enable optional wireless capabilities without having to relay, divert or convert signals
- Simplify installation with custom mounting brackets

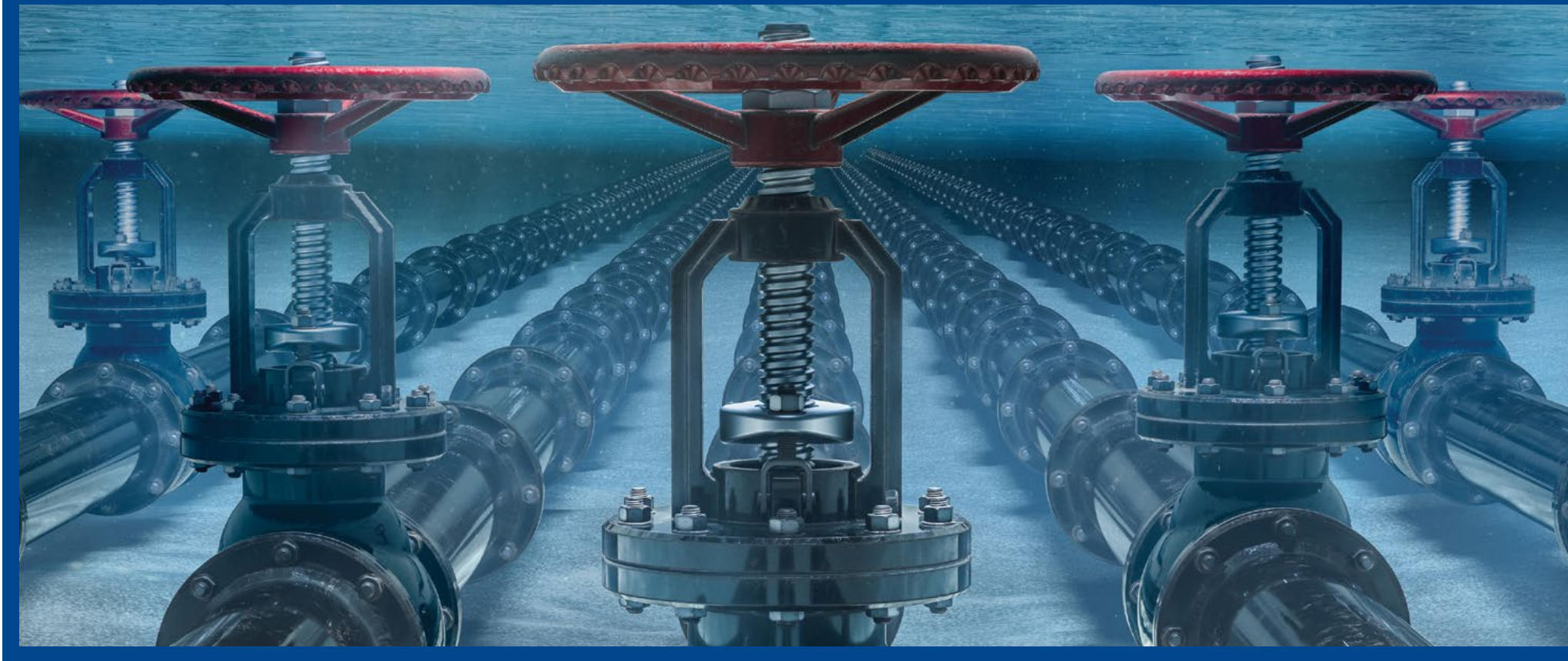
“ Deep sea equipment isn’t exactly easy to access. I need to be able to receive status updates in real time.”
– Systems engineer

With Emerson, you can overcome your subsea application's toughest challenges.

Subsea Applications

- Deep-sea rigs
- Off-shore platforms
- Locks
- Dams
- Tanker loading and balancing
- Emergency shutdown valves
- Submerged saltwater applications
- Wastewater plants
- Hydroelectric and alternate deepwater energy
- Military (Navy)
- Autonomous underwater vehicles
- Diver operated underwater switches





Endure the Deep Sea

TopWorx switches and switchboxes can withstand submersion pressures equal to that of 10,000 feet below sea level, which is where many critical equipment is located for deep sea operations.

Maintain Constant Submersion

Designed for submersion, TopWorx subsea products will perform as reliably as TopWorx industrial and process products. Specialty enclosure materials and coatings protect sensing and communication components from corrosion, saltwater and wastewater.

Receive Real-Time Diagnostics and Data

Compatible with HART, Foundation Fieldbus and Profibus, TopWorx products bring the most accurate and dependable communications protocols to some of the world's deepest submerged equipment.

Improve Your Mean Time Between Failure

TopWorx subsea products provide reliable, direct-source feedback on critical equipment so you can be confident your systems are working as they should. This capability reduces the need for maintenance, which in many cases, requires highly skilled divers.

TopWorx GO Switches and Switchboxes

Until now, it has been difficult to bring reliable position sensing to submerged equipment. In these environments, other sensors are prone to fail, leading to unnecessary downtime and high maintenance costs.

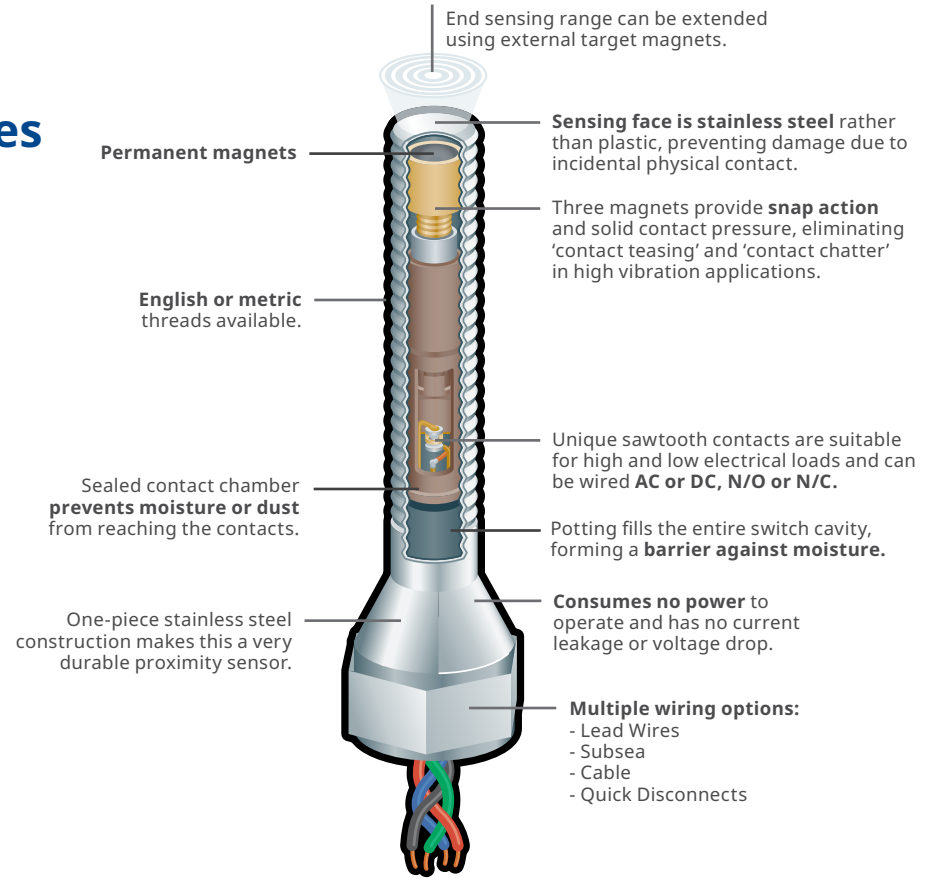
TopWorx GO Switch eliminates these pain-points with an elegantly simple design, offering a true maintenance-free sensor at extreme depths.

And for ON/OFF valve indication, our **K-Series Switchboxes** are a compact, robust subsea solution that conforms to the latest European Directives. Available in aluminum or 316 Stainless Steel, these durable units successfully seal themselves from the environment, protecting the sensing and communication components from water ingress and corrosion.



What's your opportunity?

- Maintain component reliability at extreme pressures (equal to that of 10,000 feet below sea level)
- Receive real-time position feedback on subsea valves and equipment
- Reduce sensor maintenance, lowering your costs and downtime
- Adapt to various monitoring systems with flexible wiring design
- Simplify switch installation with custom mounting brackets
- Avoid switch failure and calibration issues, thanks to magnetic activation
- Partner with a global supplier that offers local technical and sales support



Model 73



Maintain confidence under pressure.

With its TopWorx switches and switchboxes, Emerson enables the more efficient, intelligent management and control of equipment in off-shore, wastewater, hydroelectric and alternate deepwater energy applications. A global leader in deepwater project sensing solutions, our experts can help you avoid the pitfalls that come with subsea equipment operation.



Services offered...

- Global support with Emerson locations in three countries
- Local support with over 200 certified product partners
- Ongoing technical and sales assistance

Featured Subsea Switchboxes

TopWorx™ K1P and K1S Switchboxes



Part of our K-Series of switchboxes, these compact, reliable enclosures successfully withstand subsea applications and meet the latest EU, NEC, IEC and CSA codes for electrical equipment.

- Aluminum (K1P) or stainless steel (K1S) enclosure
 - Type 4X; IP 66/67/68 ratings
 - IP68 up to 30 meters, optional 150 meters
 - Conduit entries: two 1/2 NPT or M20
 - Unique two-point cover reduces commissioning time
- Available with two switches or a 4-20 mA analog or HART transmitter

Featured Subsea Sensors

TopWorx™ Stroke-to-GO™ Cylinder Position Sensors



These cylinder proximity sensors provide precise end-of-stroke position indication on pneumatic and hydraulic cylinders and include GO™ Switch Models 7C, 7D, 7E and 7F.

- Stainless steel housing
- SPST or SPDT contacts
- Operating pressure: 3,000 PSI (206 bars)
- Temperature range: -50° to +105°C

Featured Subsea Sensors

TopWorx™ GO™ Switch 70 Series



The 70 series includes all of our threaded barrel style GO™ Switches, which are designed to provide ultra-reliable precision feedback in tough, subsea applications

- Sensing Distance up to 2.5mm (13mm with target magnet)
- Sawtooth Palladium Silver SPDT/DPDT dry contacts
- Hermetic Seal, Environmental Seal, Cable Gland and Waterproof Connector Options
- Temperature ratings -65°C to 204°C
- 316L Stainless Steel Enclosure
- Global & Regional Hazardous Area Approvals
- Pressure ratings up to 10,000 psi

TopWorx™ GO™ Switch 10, 20 and 80 Series



An ideal replacement for traditional limit switches, the 10, 20 and 80 Series GO™ Switches feature sealed contacts, no touch sensing and snap action response.

- Sensing Distance up to 10 mm (96mm with target magnet)
- Gold Plated Snap Action Contacts
- Environmental Seal, Cable Gland and SubSea Connector Options
- Optional 316L Stainless Steel Enclosure
- Global & Regional Hazardous Area Approvals
- Pressure ratings up to 10,000 psi
- Temperature ratings -50°C to 204°C



To learn more about our subsea products and expertise, visit [Emerson.com/TopWorx](https://www.emerson.com/TopWorx)

Get started



Emerson delivers time-tested and innovative process automation, valve control and proximity sensing solutions to subsea equipment. With TopWorx GO Switch and Switchboxes, we can optimize your operation by improving sensor reliability and equipment visibility in submerged saltwater and wastewater areas. Contact us today for world-class technologies and services that can maximize your marine operation.

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