

CMS Smart Switch Technology Block

Rugged, Compact and Robust Sensor Interface

Designed for Demanding Shallow-Water Subsea Operations, such as Breakwater Construction and Crane Deployment Operations.

The CMS Smart Switch Technology Block has been developed to provide a rugged, compact and robust interface for integrating the 3D Connect 5G system with key positioning and imaging sensors used during breakwater construction and crane deployment operations. Supported sensors include the Echoscope PIPE® 3D Sonar, the 4G ISAR Tilt Unit and F280® Series Systems).

The CMS Smart Switch Technology Block integrates the communications interfaces and power distribution for the Echoscope PIPE®, ISAR Tilt Unit, and CodaOctopus® Motion Sensor into a single Ethernet and power connection. This enables a single, lightweight tether between the subsea sensor frame and the operator cabin, significantly simplifying installation and deployment on crane platforms. Supporting cable lengths of up to 100m, the CMS Smart Switch Technology Block replaces the three or more individual cables traditionally required, reducing cable handling, minimizing installation time, and improving operational reliability.

The CMS Smart Switch Technology Block distributes power to each connected sensor and combines all sensor data into a single Ethernet connection to the operator cabin. The Smart Switch is mounted on the subsea frame, with short, dedicated cables connecting each sensor. As these short cables are located in the area most exposed to mechanical damage, they are designed to be easily replaced in the field, eliminating the need to replace the main tether and minimizing system downtime and maintenance costs.

Designed for demanding shallow-water subsea operations, with deployment depths of up to 10 m, the CMS Smart Switch Technology Block is rated beyond IP68 for ingress protection, and the associated cabling employs industry-proven wet-mateable subsea connectors to ensure reliable power distribution and high-speed data communications in harsh marine environments. The modular connector design enables rapid deployment, simplifies maintenance, and allows damaged components to be quickly replaced in the field, minimizing operational downtime.



The CMS Smart Switch Technology Block presents many key benefits:



Simple Deployment

One lightweight tether instead of multiple cables



Greater Reliability

Fewer connections and reduced risk of cable damage



Lower Operating Cost

Reduced installation effort and inexpensive field-replaceable sensor cables and tether.



Higher Availability

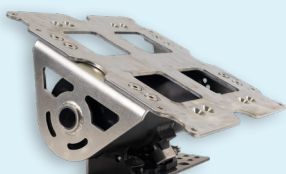
Rapid maintenance minimizes downtime providing higher project productivity

Applicable Components



Echoscope PIPE® Sonar Series

Forming part of our range of Real-Time 3D Volumetric Imaging Sonars, the Echoscope PIPE® is the world's only Real-Time Sonar for Vision, Mapping and 3D Measurement of moving objects in zero visibility water conditions. With an adjustable, but typically 52° x 52° swath, the Echoscope PIPE® allows for full coverage of the underwater target, including 'seeing' around objects - providing the operator exceptionally dense images of the highest fidelity, which could not be achieved with traditional narrow swath multi-beam sonars. The CMS Smart Switch Technology Block is compatible with all members of the Echoscope PIPE® Sonar range, including C500 Compact Range.



4G ISAR (Integrated Single Axis Rotator)

The 4G Integrated Single Axis Rotator ("ISAR") is a high-performance unit designed to meet the demanding requirements of accurate orientation and position control for real-time 3D Coda Octopus sonar products. The ISAR operates as an integrated solution with all CodaOctopus® software applications. Its seamless integration with Echoscope® realtime 3D sonar eliminates the need for multiple patch testing during mapping and inspection tasks. All angular and positional offsets are dynamically calculated within the software, ensuring accurate, efficient, and simple operation.



F280 Series®

CodaOctopus® GNSS-aided (inertial) attitude and positioning systems are high quality, robust packages for the marine hydrographic and laser survey market. Defined to meet the exacting requirements of the multibeam survey market, the F280 Series® systems are easy to install, easy to use and produce very accurate positioning, heading and MOTION data in the most dynamic offshore conditions. Additionally, for extremely rapid deployments, a Pre-Calibrated Housing accessory is available to significantly reduce the installation and calibration phases of operation.



3D Connect 5G

The 3D Connect 5G unit is versatile, seamlessly working with various sensors like dual sonars, rotators, cameras, and GNSS systems. Whether you have one sensor or many, it is up to the task. Handling data and control for all Coda Octopus sonars, single and dual-axis rotators, above-water cameras (e.g., Echoscope® AIR LiDAR 2.0), and GPS/motion sensors, the 3D Connect 5G allows easy integration of extra sensors like sound velocity profilers via its onboard serial ports.

Power Input

24 V DC

Connectors

MCBH12F (to Motion System)
MCBH6F (to 3D Sonar & Rotator)
DBH13M (to 3D Connect 5G)

Dimensions (h x w x d)

125 mm x 81 mm x 59 mm
4.92" x 3.18" x 2.32"

Weight

0.94 kg
(2.07lbs)