

SPOTTRACK



KONGSBERG



LASER-BASED RELATIVE POSITIONING SENSOR

SpotTrack is a high performance laser-based relative positioning reference sensor. The sensor is developed for use in offshore applications in need of high accuracy range and bearing measurements.

Dynamic positioning reference system

SpotTrack is primarily used as a reference system for relative positioning in dynamic positioning operations. The SpotTrack sensor is a robust motion stabilized rotating laser sensor which measures range and bearing to one or several retro-reflective targets installed on the target platform or vessel.

Automatic wave motion stabilization provides optimum target lock. All calculations are carried out within the SpotTrack sensor.

The onboard control unit runs the application software which makes configuration and monitoring of the SpotTrack system easy and efficient.

Robust multi-target tracking

The innovative design of the signal processing circuits secures lock on true targets at different heights.

In addition to a high bearing resolution, SpotTrack introduces a vertical resolution of the same magnitude, which reduces the risk of false reflections and rejects outliers. This, combined with real time adjustments in dynamic environments, provides robust target tracking.

Robust target tracking combined with true horizontal distance measurements provides a high integrity reference solution, with accurate range and bearing input for dynamic positioning operations.

Close-by operations

Due to its unique design, SpotTrack is capable of target tracking in close-by operations. By utilizing roll and pitch stabilization, SpotTrack has a wide vertical field of regard which keeps track of targets even at high elevation angles.

Increased availability

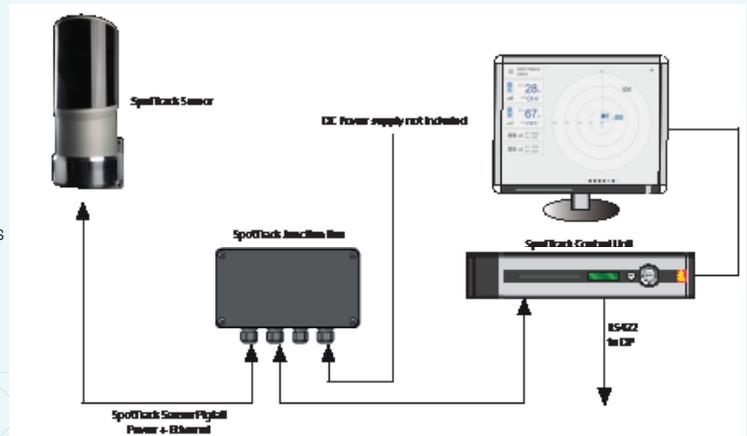
When connected to a Motion Reference Unit (MRU), SpotTrack obtains increased accuracy and robustness when operating in extreme weather conditions/high dynamic environment. This yields a more precise horizontal target distance.

Easy setup - low maintenance

The SpotTrack system is easy to install and operate. All moving parts are enclosed within the sensor housing. The mechanical wear due to harsh weather conditions is thus kept at a minimum, allowing for low maintenance costs.

FEATURES

- Advanced multi-target tracking
- Wide vertical field of regard for close-by operations
- Interfaces to all DP systems
- Easy to install and operate
- Roll/pitch stabilization for high dynamic environments
- True 3D positioning system
- Vertical field-of-view stabilized for roll and pitch
- Automatic data recording
- Optional MRU interface
- Fanbeam and CyScan replacement kit available



TECHNICAL SPECIFICATIONS

SPOTTRACK

PERFORMANCE

Laser classification	Eye Safe Class 1 IEC 60825
Laser wavelength	905 nm
DP range prism reflector	10 to 1500 ¹ m
DP range tape reflector	10 to 350 ¹ m
Horizontal pos. accuracy (2σ)	1 m @ 1000 m range
Bearing accuracy (2σ)	1 mrad
Horizontal angular coverage	360°
Vertical angular accuracy (2σ)	0.2°
Vertical angular coverage forward	-40° to 60°
Vertical angular coverage aft	-26° to 54°
Instantaneous vertical FOV	10°
Vertical stabilization accuracy	<0.5° for roll/pitch <20°
Scanning frequency	1 Hz

INTERFACES

SpotTrack sensor

Serial ports	1 x RS-422
Ethernet/LAN	1

Control Unit

Serial ports	8 isolated ports, 6 configurable between RS-232 and RS-422
Ethernet/LAN	4
USB	3

DATA OUTPUTS

Message formats	Proprietary NMEA 0183
Message types	PSXST, PSXRAD, PGNKM, FanBeam MDL

WEIGHT AND DIMENSIONS

SpotTrack sensor	6 kg, Ø 173, 455 mm
Control Unit	5.4 kg, 89 x 485 x 357 mm

POWER

SpotTrack sensor

Input voltage	12 to 35 V DC
Max. power consumption	30 W

Control Unit

Input voltage	100 to 240 V AC, 50/60 Hz
Max. power consumption	60 W

ENVIRONMENTAL SPECIFICATIONS

SpotTrack sensor

Operating temperature range	-25 °C to +55 °C
Storage temperature range	-40 °C to +70 °C
Operating humidity	100 %
Storage humidity	90 %
Enclosure material	Anodised aluminium and hardcoated acrylic
Enclosure protection	IP66

Control Unit

Operating temperature range	-15 °C to +55 °C ²
Storage temperature range	-20 °C to +70 °C short term +5 °C to +35 °C long term
Operating humidity	Max. 95 % non-condensing
Storage humidity	Less than 55 %
Enclosure material	Aluminium
Enclosure protection	Front IP42, rear and sides IP21

Mechanical

Vibration	IEC 60945/EN 60945
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Electromagnetic compatibility

Compliance to EMC, immunity/emission	IEC 60945/EN 60945
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PRODUCT SAFETY

Compliance to LVD	IEC 60950/EN 60950
Eye safe Class 1	IEC 60825

¹ Depending on reflector type, size and atmospheric conditions.

² Recommended +5 to 40 °C

Specifications subject to change without any further notice.

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