S-band Radar Sensors

The Kongsberg series of S-band (10 cm) radar sensors are available in both masthead (up-mast) and bulkhead (down-mast) mounted transceivers. The S-band solution is the best solution under adverse weather conditions.

Features

- Modular and solid state design
- Built-in power supply unit
- Powered directly from ship’s mains via a control unit
- Built-in performance monitor (required for IMO SOLAS vessels)

S-band Advantages

- Smaller attenuation and back scattering from rain, hail and snow
- Less sensitive to sea clutter returns

Options for Standard Models

- Masthead (up-mast) or bulkhead (down-mast) mounted transceiver

Standards applied

The equipment meets in full or exceeds the requirements of IEC 60945 and IEC 60936-1.

Type Approval

The equipment conforms to the relevant EU MED directives.
Technical Specifications

Transmitter characteristics
Magnetron Nominal Peak Power: 30 kW
Magnetron Frequency: 3050 MHz

Pulse Length / PRF
0.05 µs / 1760 Hz Nominal
0.25 µs / 1760 Hz Nominal
0.75 µs / 785 Hz Nominal

Pulse Generator
Solid-state with pulse forming network driving a magnetron.

Receiver characteristics
Logarithmic
Low noise front end
Automatic or manual tuning
IF centered at 60 MHz
IF bandwidth 20 MHz (Short pulse) nominal
IF bandwidth 20 MHz (Medium pulse) nominal
IF bandwidth 3 MHz (Long pulse) nominal
Noise factor 5 dB nominal

Radar Scanner:

Turning Unit Power Supplies
Nominal input
Single phase 110V or 220V, 50/60 Hz, 710 VA
Three phase 110V, 220V or 440V, 50/60 Hz, 440 VA
Power consumption figures assume 100 knots wind.

Transceiver Power Supplies
Nominal input
AC 92 V to 276 V RMS at 47 Hz to 64 Hz 120 W

Scanner Characteristics
Aperture length: 12 ft. (3.5m)
Horizontal beamwidth: 2° max
Vertical beamwidth: 30° nom
Sidelobes within 10° - min: -23 dB
Sidelobes outside 10° - min: -30 dB
Gain (nominal): 26 dB
Polarization: Horizontal
Rotation: 50 Hz: 25 rpm
60 Hz: 30 rpm
Limiting relative wind speed: 100 knots

Environmental Specification
In compliance with IEC 60945.
Minimum operating temperature - 40°C.

Down-mast Transceiver:

All dimensions are in millimetres.

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