

RADIUS 700X



KONGSBERG



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EX CERTIFIED BATTERY OPERATED TRANSPONDER

The RADIUS 700X transponder is a part of the short-distance relative positioning system RADIUS, developed for use in applications where the need for a robust and highly accurate relative positioning system is crucial. The system comprises an interrogator, installed on a vessel, operating in the 5.5 GHz band and transponders that are deployed on the target. RADIUS 700X has an operating range of up to 1000 metres.

The RADIUS 700X transponder is an intrinsically ATEX safe product (category 2) suitable to be installed in hazardous locations where there may be an explosive mixture of flammable gases belonging to gas groups IIB and/or IIA. The transponder can be used in hazardous zones 1 and 2. IECEx classification is Ex ib IIB T4 Gb.

The RADIUS 700X is powered from an intrinsically safe encapsulated battery with an integral current limiting resistor and has no wired connection to external equipment.

Unique ID

The transponders are coded with unique IDs ensuring reliable identification and tracking of vessels in demanding environments. Several interrogators can approach the same transponders, ensuring multi-user capabilities. Up to five transponders can be tracked simultaneously by the interrogator. The transponder is suited with dip switches for easy setting of the transponder ID.



TECHNICAL SPECIFICATIONS RADIUS 700X

Range

Operational range	Up to 1000 m *)
DP range	< 550 m **)

Opening angle

Vertical	± 45°
Horizontal	± 45°

Weight and dimensions

Transponder with battery connection box	564 x 562 x 214 mm
Weight without clamps	7.4 kg
Weight with clamps	9.1 kg

Power

Current consumption transponder	Approx. 0.9 mA
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Environmental specifications

Humidity

Operational	10 to 100 % RH
Storage	20 to 70 % RH (recommended)

Ingress protection

Transponder electronic unit	IP 66
Battery connection box	IP 66

Temperature range

Operational	-20 °C to +55 °C
Storage short term	+5 °C to +40 °C
Storage long term	+5 °C to +30 °C (due to battery)

IS battery module data

Type	Primary cell, D-size, IEC 60086-1 type E
Open loop battery voltage	Max. 3.7 V DC
Capacity	19 Ah (one cell)
Expected service life	18 months continuous
Storage time	Over 10 years at temperatures between +5 °C to +30 °C
Self discharge rate	1 to 2 % per year at room temperature
Short circuit current	Max. 9.7 mA

Electromagnetic compatibility

Compliance to EMCD, immunity/emission	IEC 60945 ed. 4
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ATEX, IECEx and Inmetro certificates

EC type examination certificate, DNV-2005-OSL-ATEX-0040
IECEX certificate of conformity, IECEx DNV 13.0002X
Inmetro certificate DNV 13.0035 X

*) Possible to acquire the signal, typically range only in order to verify that your reference system is available. At a certain range, the system will track both range and bearing with a large probability. However, the bearing will have limited accuracy.

**) The system will be fully operational both in range and bearing.

Specifications subject to change without any further notice.

