



KONGSBERG

KONGSBERG Temperature Sensors

Selection guide



www.kongsberg.com

Maximize performance by providing The Full Picture



Our mission

We shall earn the respect and recognition for our dedication to provide innovative and reliable marine electronics that ensure optimal operation at sea. By utilising and integrating our technology, experience and competencies in positioning, hydroacoustics, communication, control, navigation, simulation, and automation, we aim to give our customers The Full Picture. The Full Picture yields professional solutions and global services that make a difference enabling you to stay ahead of the competition.

Our philosophy

Our success depends on the success of our customers. Actively listening to our customers and truly understanding their needs, and then translating these needs into successful products and solutions is central to achieving our goal.

Our people are the key to our success and we empower them to achieve. Working together in a global network of knowledge, guided by our values, engenders innovation and world class performance. Every day we have to think a little differently, because every client is unique. We aspire to translate the imagination and dedication of our staff into successful technologies and solutions. Our commitment is to add value to your operations by providing you with The Full Picture.

For all purposes

Major supplier for more than 40 years

Kongsberg Maritime has been a major supplier of temperature sensors for more than 40 years. Most of our customers are in the maritime market and our sensors are mainly used for diesel engine and cargo/deck instrumentation. In addition we serve a base of reputed industrial clients with custom made sensor solutions.

Kongsberg Maritime provides you with high performance sensors for applications including:

- Marine and industrial engines
- Exhaust gas
- Cylinder liner
- Cargo and deck applications on ships
- Gears and gearboxes
- Bearings
- Lubrication systems
- Pumps and purifiers
- Compressors
- Boilers




















We can add to your success

Building on our broad portfolio of solutions and experience, we can assist in giving your products an additional competitive edge. We do this by providing our experience in the selection of innovative technological solutions and mechanical designs that will meet your requirements. By providing quality at every level of the process our customers acknowledge Kongsberg Maritime as a reliable and dependable long term partner.

SENSOR APPLICATION

SENSOR TYPE

SENSOR SPECIFICATION

Industry	x		x	x		x	x		x		x	x					
Marine approval	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Water and oil	x		x	x		x			x								
Exhaust	x	x												x			
Vapour											x						
Air	x			x		x									x		
Bearing					x		x	x		x		x	x				
Cargo											x						
Surface										x							
Cylinder liner														x			
																	
	MB1100	MB720	GC100 (2)	MN3700 MN524 MB286	MN1841	MN3724	MN4000	MN4119	MN4460	MN3238	MN1535	MN2682	MN2120	MB864	MB158	MN3670 MN46XX	
PT100			x	x	x	x	x	x	x	x	x	x	x			x	
PT1000				x	x	x					x						
Thermocouple	x	x												x	x		
Media temperature	0 - 800 °C	0 - 800 °C	-50 - 600 °C	-50 - 600 °C	-50 - 130 °C	-50 - 200 °C	-50 - 130 °C	-50 - 130 °C	-50 - 200 °C	-50 - 150 °C	-200 - 400 °C	-50 - 30 °C	-50 - 200 °C	0 - 600 °C	0 - 800 °C	-50 - 100 °C	
Protection well	x	x		x		x			x			x			x		
Reaction time (1)	15 sec.	15 sec.	20 sec.	20 sec.	15 sec.	20 sec.	15 sec.	10 sec.	15 sec.	15 sec.	15 sec.	20 sec.	15 sec.	5 sec.	15 sec.	20 sec.	
4 - 20 mA	x		x													x	

(1) Reaction time in water. Detects 63.2% of a sudden changes in temperature.

(2) EEx ia. must be connected to a zener barrier like the KONGSBERG DZ-110 to be used in explosive areas.

Our range of sensors have the following features:

- Internal connection box or hardwire type of sensors
- Easy exchangable by use of protection wells
- Customer specific insertion and cable lenghts
- All designs have marine classification approvals from all major societies

General purpose temperature

- For temperature measurement on diesel/gas engines and engine room instrumentation
- Available for low and high temperature applications
- Reliable design and high quality sensors for long lifetime performance

Exhaust gas temperature

- Our designs have proven with excellent performance towards violent vibrations and temperature peaks generated in the exhaust gas pipes of all types of large marine diesel engines.
- All our exhaust gas temperature sensors are installed in engine builder approved protection wells. This ensures proper adaption to the measuring point providing accurate and fast measurements.
- In addition Kongsberg Maritime offers an extensive range of signal amplifiers. These can be mounted directly on the engine or in cabinets.

Bearing temperature

- Our range of custom designed main bearing temperature sensors can be fitted into any type of 2- and 4-stroke diesel engines.
- In addition we have a comprehensive range of spring loaded/flexible tube type of bearing sensors that are applicable for a high number of applications. These sensors can be used for measurement of bearing metal temperatures or the temperature of the oil flowing out of the bearings.

Installed onboard more than 15000 vessels

Kongsberg Maritime has been in the marine sensor market for more than 40 years. Close relations with customers, tailor made products and world-wide service makes Kongsberg Maritime an attractive sensor and spare part supplier.

During this extensive period of operation we have created a range of sensors and accessories that have been designed specifically for ship and offshore use. Our product range consists of more than 2000 different sensors and our equipment is installed onboard more than 15000 vessels.

SENTRY - Wireless Temperature Monitoring

- The ultimate method for monitoring temperature; on crank- and crosshead bearings for both diesel and gas engines
- Based on low energy radar technology
- Requires no external power sources

Please see dedicated brochure for more information.



We make the sensor you need

We are a customer oriented company, and our flexible production facilities are designed to provide quality custom projects. Our product experts and technological capabilities are utilised to develop sensor solutions with inherent high quality and long lifetime performance.

We are dependable

We recognise the importance of good customer relationships. To maintain them we keep local stocks to reduce delivery times, provide fast custom tailoring, aid problem solving and provide detailed installation guides. There is no substitute for quality, reliability or service.

We are innovative

We are always incorporating the latest technologies, in order to increase value for our customers. We look beyond conventional approaches and established methods to find new reliable solutions. Our competence is used to push back boundaries and to create new solutions.

Sensor spare parts

Kongsberg Maritime has designed a new sensor spare part supply program. Through this initiative we offer our customers the following commitments and services:

- ISO-9001 certified production
- Engine manufacturer approved design
- Class approval by all major classification societies

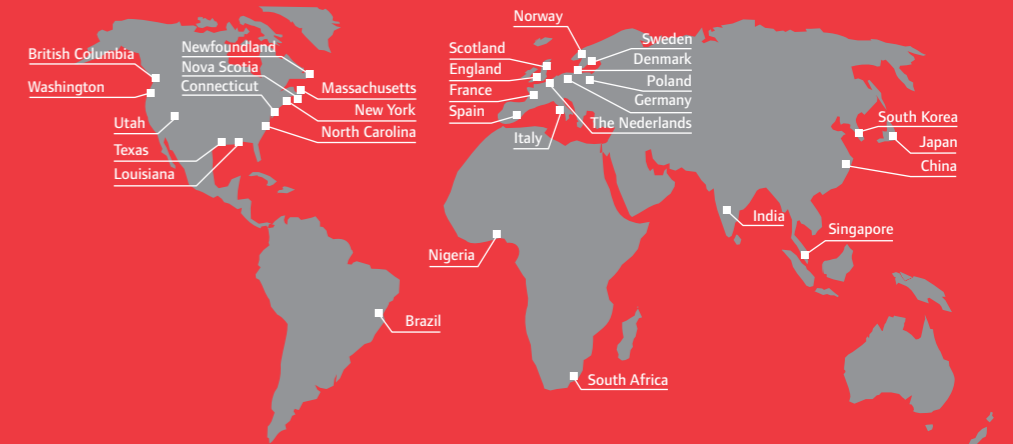
We are always there, wherever you need us

KONGSBERG customer services organisation is designed to provide high-quality, global support, whenever and wherever it is needed. We are committed to providing easy access to support and service, and to responding promptly to your needs. Support and service activities are supervised from our headquarters in Norway, with service and support centres at strategic locations around the globe – where you are and the action is.

As part of our commitment to total customer satisfaction, we offer a wide variety of services to meet individual customers' operational needs. KONGSBERG support 24 is a solution designed to give round-the-clock support. For mission-critical operations, KONGSBERG support 24 can be extended to include remote monitoring. We can adapt the level of support needs by offering service agreements, on-site spare part stocks and quick on-site response arrangements.

Global and local support

We provide global support from local service and support facilities at strategic locations world wide. Service and support work is carried out under the supervision of your personal account manager, who will ensure that you receive high-quality service and support where and when you need it. Your account manager will ensure continuity and work closely with your personnel to improve and optimise system availability and performance. Under the direction of your account manager, and with a local inventory of spare parts, our well-qualified field service engineers will be able to help you quickly and effectively.



Solid competence reduces cost

We have always recognised the importance of supporting our products and systems with professional training. A wide range of courses are therefore offered to ensure that you achieve the goal of full system utilisation with safe and efficient operation.

Upgrading that pays

Product and system upgrades can improve your vessel's operations and reduce your overall maintenance costs. We will ensure that existing products and systems can be extended or upgraded based on standard upgrade kits.



Support 24

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