

Radar Systems for Anti-Collision  
Reliable  
Approved in different industries  
Even **less** expensive than many laser systems



**Sensors from the *RadarRanger®* series: Data, facts, features for use.**

Sensors from the *RadarRanger®* series detect objects at distances of up to 100 m.

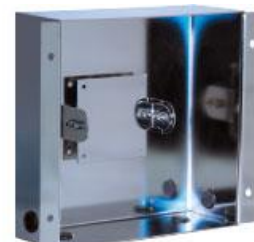
The adjustment of the particular range needed is carried out in 1 metre steps. This value corresponds to the resolution of *RadarRanger®*. Depending on the model, the sensors can detect either moving or stationary objects, or both.

The systems report the detection of objects via open collector outlets, which are allocated to a 5-pole standard RSF4 connection. Each sensor has three of these outlets. These transmit commands to stop and slow down, for example, and other commands for deceleration. In addition, the specific values needed are preprogrammed to suit the intended use.

Collision protection sensors from the *RadarRanger®* series are available with a wide variety of transmission frequencies, and take into account the different national and regional frequency ranges authorised for use throughout the world. They thereby fulfil not only the general international standard but also special requirements in the countries and regions of Great Britain, France, USA, and Canada.

#### **Key features:**

- Wide ranges
- Unsusceptible to environmental influences
- Wide operating temperature range
- High degree of protection
- Heavy-duty casing





The programming unit for **RadarRanger®** enables users to adjust the range in accordance with the specific task

### Examples for harbour / terminal crane applications:

	<p>Example: Ship-to-shore crane, collision protection scenarios: Crane to crane and crane to obstacle</p> <p>Required switching distance:</p> <p>Up to 20 m (standard beam angle)</p>
	<p>Example: RTG crane, collision protection scenarios: Crane to crane and crane to obstacle</p> <p>Required switching distances:</p> <p>Up to 40 metres (standard beam angle) for »crane to crane«</p> <p>Up to 10 metres (standard beam angle) for »crane to obstacles«</p> <p>Up to 10 metres (wide beam angle) in »cross travel«</p>
	<p>Example: RMG crane with high driving speeds, collision protection scenarios: Crane to crane and crane to obstacle</p> <p>Required switching distances:</p> <p>Up to 60 metres (standard beam angle) for »crane to crane«</p> <p>Up to 20 metres (narrow beam angle) for »crane to obstacles«</p>
	<p>Example: ARMG (automated RMG, with very high driving speeds of up to 300 m/ min, braking distances of up to approx. 40 metres</p> <p>Collision protection scenario: Crane to crane</p> <p>Required switching distances:</p> <p>Up to 100 m (narrow beam angle)</p>

What do you or your customer need? Crane to Crane or / and Crane to Obstacle or even “cross travel”?

Send us your inquiry and we are sure, we can find a solution!

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Technology	Fog	Strong sunshine	Heavy rain	Storm	Noisy environment	Heavy snow	High temperature	Dust	Reliability	Costs
Infra-Red	✗	✗	✗	✓	✓	✗	✓	✗	☹	☺
Ultra Sonic	✗	✓	✗	✗	✗	✗	✗	✗	☹	☺
Laser	✗	✗	✗	✓	✓	✗	✓	✗	☹	☹
Mechanical switch	✓	✓	✓	✓	✓	✓	✓	✓	☹	☺
Active Radar	✓	✓	✓	✓	✓	✓	✓	✓	☺	☹
Passive Radar	✓	✓	✓	✓	✓	✓	✓	✓	☺	☺