



## RANGEGUARD

### WHY USE AN ANTI-COLLISION SYSTEM?

**Many accidents in the workplace are caused by collisions between moving machinery.**

**A reliable system that accurately provides distance measurement for early warning and prevention of probable collision can help avoid these accidents.**

Current Anti-collision systems have considerable limitations.

For example:

- Ultrasonics: relatively short range and affected by environmental factors
- Laser: affected by dust, smoke and fog and very directional and thus difficult to set up
- Infrared: very short range

RangeGuard overcomes all these limitations.

Carrying out more than 15000 measurement per second the RangeGuard is the ultimate in Anti-collision protection.

RangeGuard can be programmed via PC Laptop or Palm for up to three different Detection Zones and provides relay outputs for each Zone to interface into your control system.

RangeGuard's technology is the result of three years of Research and Development. It uses "Radio Frequency Time of Flight" technology in order to measure accurately the distance to another Transponder which could be another Machine, Crane or even personnel. RangeGuard can help to reduce the risk of potential accidents, provide a safer work environment, lower machinery downtime, reduce liability risks and save capital.

RangeGuard has been developed primarily for OHT Crane applications. It can also be used in a variety of industrial applications. These include Ship-loading Cranes, Tower Cranes, Shiploader Booms, Stackers and Reclaimers. In different configurations it can be mounted on mobile equipment, such as Truck mounted Cranes, Tyre Handling machines, Forklifts. If worn on a person's body it can protect them from any moving machinery.

Customised solutions can be developed for your application.



## KEY FEATURES

### Accurate measurement with a timely response:

- more than 15,000 measurements per second
- typical distance measurement of +/- 0.5m
- 0-m to 75-m in range
- hardware outputs instantly notify if a warning barrier is crossed
- closest unit distance and velocity hardware outputs

### Reliability and failsafe mechanisms:

- self-test on every measurement cycle
- warning outputs for self-test, measurement quality and number of measurements

- differentiates between measurement drop-outs and migration out-of-range

### Easy to install:

- uses 2.4GHz licence-free LIPD international bands
- automatically calibrates out antenna cable lengths and offset distances

### Flexible:

- multiple protection zones for increasing levels of danger
- scaleable system for one crane or multiple crane systems
- allowances for a management information system to see operational distances



## TECHNICAL SPECIFICATIONS

### Physical:

- IP65 rated ruggedised enclosure

### Power:

- input voltage range – 10v to 36 VDC or 85V to 260V AC
- current consumption – 15W

### Interface:

- 7 relay potential free relay contact outputs individually configurable
- 2 x loop current 4-20mA outputs for closest unit distance and velocity

- 2 x DB9 RS232 ports used for configuration and/or system monitoring
- 2 or 4 x transponder SMA connectors
- 1 x management channel BNC connector

### Radio:

- operates in the 2.4GHz unlicensed ISM band
- management channel operates in 433MHz unlicensed band (frequency hopping)



21 Milrose Dr, Malaga,  
Western Australia  
Phone : +61 8 9242 1159  
Fax : +61 8 9242 1458



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