

# **Application Reference**

# Reliable level technology for ship loader protection

# Application problem:

A ship loader at a large coal export terminal required reliable, all weather operator warning of potential collisions and automatic controls able to stop machine drives safely before a collision could occur.

Continued operation was required very close to objects presenting a collision risk, such as cranes, hatch covers, bridge structures etc.

#### Solution:

An array of Sultan Acoustic Wave sensors positioned at intervals along the boom detect approaching targets before they become hazardous. Sensor beans overlap so full coverage is achieved. At a selected distance from any target, a proximity warning is generated by the control system to the operator, and the drive speed of the machine is reduced. Normal loading can continue at the safer reduced travel speed. Closer to the boom, a line of protection is formed by a Gladiator series Microwave Barrier Switch. If any object breaks the line between sender and receiver at such a close distance, then the machine is immediately stopped from continuing toward the hazard by control system and a collision is avoided. Sensors are made of durable polypropylene or stainless steel for marine environments.

## Ordering information:

Sultan Acoustic Wave sensors (every 2 metres along each side of the boom): AWR234SUXXXX + AWRT20T4XXXC6XX + FA4B-4 Gladiator Microwave sensors parallel to boom - each side (fixed separation from sender - receiver) GSASUS+GMSB102XX+GMRR102XX (variable separation from sender - receiver) GSASUS + GMSB102XX + GMRRS103XX

## **Application guaranteed!**

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Contact

Hawk Measurement Systems Australia Phone: +61 3 9873 4750 info@hawk.com.au







Hawk Measurement US Phone: +1 888 429 5538 info@hawkmeasure.com For global representatives: www.hawkmeasure.com