



TTDS

TWIN-TWENTY DETECTION SYSTEM

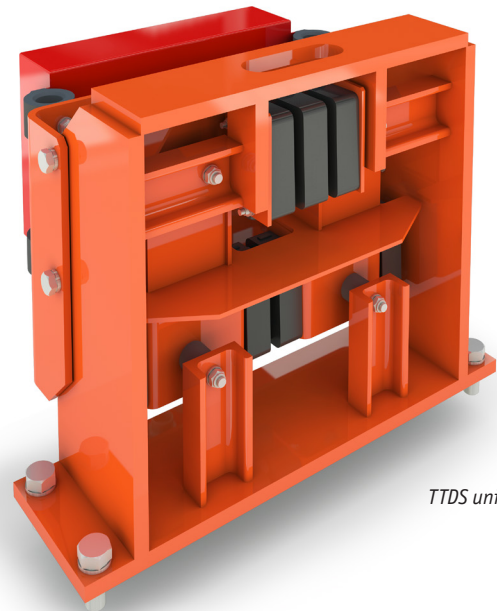
DESCRIPTION

Bromma's TTDS - Twin-Twenty Detection System assists the crane operator in detecting a dangerous situation of two 20 foot containers under a spreader positioned in the 40 foot position - a very real risk and a potentially dangerous lifting situation.

The "costs" associated with a twin-twenty accident can be high:

- Risk of possible injury.
- Damage to containers and to the spreader.
- Resulting damage to the container ship, with a subsequent delay in the shipping schedule.
- Financial damages due to loss or breakage of the container contents.
- Risk of legal liability.

The TTDS is available both as an option for new spreaders, or as an upgrade on spreaders already in operation.



TTDS unit

SCOPE OF WORK

The scope of work in the supply and installation of the TTDS upgrade are as listed below:

- Modify the spreader (or group of spreaders) program.
- Check the TTDS bracket and sensors.
- Revise the existing drawings.
- Wire the X13 CANopen.
- Revise the spreader manuals.
- Test all functions.
- Wire the TTDS to the spreader's electrical system.
- Conduct training.
- Weld the bracket (if unavailable).

PARTS INCLUDED

The following parts are included in the TTDS upgrade offer:

- Attachment for kit
- Cover assembly
- Seven (7) infrared sensors
- Hardware
- Buffers
- Clamps
- Bolting plates
- Cables
- Markings

ADDITIONAL ITEMS INCLUDED IN WORK SCOPE

The following additional items are included in the TTDS upgrade:

- Software update on port's computer that will be used to connect to the spreader
- Firmware update of components to the spreader control systems.
- TTDS training.

NOTE!

- Crane software: the crane control logic will need to react to the TTDS fault (by others).
- If no brackets exist, then these will need to be mounted by the port personnel.
(Instructions will be provided)

MATERIAL & INSTALLATION LEADTIME

Material leadtime: 5 weeks (Exw Bromma Malaysia)

Installation leadtime: 3 days (per spreader)

PRICE & DELIVERY

Please connect with your local Bromma representative for price and delivery leadtime.