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Infra-Red & Radio
Remote Control
Crane Systems

COMMANDER™
COMMANDER

Horizontal & Vertical
Collision Avoidance
Crane Systems

Sales Specification for TruTandem™ Infra-Red Crane to Crane Communicator System for Safe Multi-Crane Lifting Operations



The **COMMANDER™ TruTandem™** Crane to Crane Bi-directional Communicator System provides the safest way of performing **twin or multi crane** lifting operations from a single ground based operator. The system incorporates bi-directional communication using the **COMMANDER™ Duplex-50™** parallel communicators. Using Infra-Red as the communications medium for radio or infra-red remote control systems, the standard system will communicate up to 40M crane to crane as standard, longer distance operation also available. The system provides instant response, less than 50mS, and therefore will simultaneously respond to partner systems and initiate operator commands to one or more cranes on demand. It makes no difference how many commands are transmitted, the system can be applied to 3, 4 or 5 motion cranes with single speed, two speed or multi speed control stepped or step-less (such as inverter drive signalling) and with various auxiliary commands such as magnets systems, vacuum systems or grabs, all being commanded at will. Usually one crane is designated 'Master Crane' and the other as 'Slave Crane'. With a 3 crane scheme, one crane would be master and the other two would be slave cranes. Typically, the applied to cranes will require a contactor arrangement for the control of motors (via inverters if required), speeds and auxiliary functions, and must incorporate a main line contactor arrangement (CAT 3) for overall crane and system protection. Individual, intermediate and full speeds of the cranes must be identically set to ensure safe load movement. Travel speed control is inhibited to single speed for safe lifting operations.

Specialist Designers & Manufacturers of Industrial **Infra-Red & Radio** Remote Control; **Infra-Red, Ultrasonic & Microwave** Crane Detection Systems for Horizontal & Vertical (multi-level) applications; Simplex & Duplex Data Communicators; High Integrity Control Systems, Eddy Current Brakes & Closed Loop Controllers for High Integrity Heavy Lift Cranes & other Material Handling Applications: **U.K. Designed & Manufactured.**

TP TechPoint™

Technical Details for TruTandem™ Infra-Red Crane to Crane Communicator System for Safe Multi-Crane Lifting Operations



Specification continued...

Travel speeds above step (speed) one are inhibited for safety reasons but subject to specific applications buyer can make alternative requests. **COMMANDER™** use a well proven system called **WatchMe™** to continually monitor the status of the Cranes' Main Line Contactor (MLC). The purpose of this device is to shut the system down in the event of MLC contacts weld in or mechanical failure such as jamming. This is particularly important where systems incorporate dual channel safety to CAT 3 EM Stop (formally EN954-1). The use of the **WatchMe™** system is particularly beneficial with **TruTandem™** systems thus to prevent one crane continuing to operate (any motion) when the other has failed or tripped out for some reason. Any break with the handshake link will cause both/all cranes to stop and will cease to execute commands until the fault has been rectified on the defective crane. There are a number of ways that the **COMMANDER™ TruTandem™** can be invoked. The most common is the utilisation of the slave crane transmitter remote control key-switch key which is inserted into the master crane transmitter. This action disables the slave crane transmitter and receiving hardware of the slave crane which is electronically disabled. Some client users prefer a dedicated master transmitter which can be provided, this means that both the master and slave crane transmitters will be disabled on initiation. Crane selection 'Master' 'Both' 'Slave' can be invoked using a 3 position (or more as required) rotary switch or can be selected by push to operate buttons. Similar applies for cranes with twin crabs (trolleys). More information available on request.

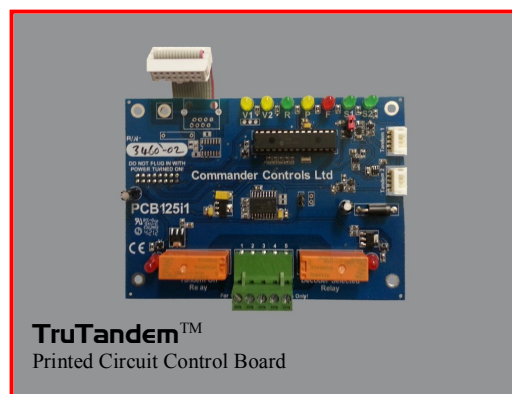


Duplex-50™ Infra-Red Transceiver (1 required per crane)

Enclosure construction	Extruded Aluminium.
Size	200W x 140H x 34D (mm)
Finish	Anodised in Red
Interface	Qty 1, 6.0M long ready connected & with fitted connector.
Indicators	Green LED (transmitting) Red LED (receiving)
Operating range	For TruTandem™ application, 40 Metres.
Voltage	N/A (power derived form RD-17 connection).
Environmental	-10°C to +55°C IP55

TruTandem™ Printed Circuit Control Board (1 required per crane)

Single PCA (PCB) With on board microcomputer & diagnostics plugs directly into the ready provisioned, **RD-17™** Receiver Decoder unit.



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