

RCI-1550 Tower Crane System

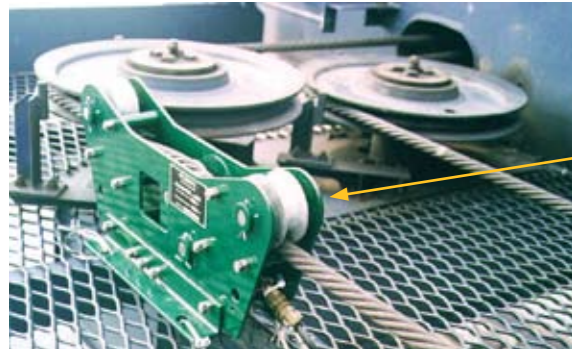
Internationally Recognised Certification

Load Sensor Input

Robway supplies various types of Hoist Rope Tension-based load sensors to suit different types of tower cranes.

HRT Dynamometer

This is a 3-sheave pulley type load sensor (Robway Part Nos. DYNHRT3MM, DYNHRT3) which is usually rigidly-mounted at a suitable location along the hoist rope on the boom. Fabricated brackets may be required to attach the dynamometer to the boom lacings or frames and align it to the hoist rope. Some cranes may necessitate using an articulating arm mounting to allow the dynamometer to follow the natural fleeting of the hoist rope.



HRT Dynamometer



Tension Plate Type Cell

A dead-end tension plate type load-cell may be fitted into the attachment of the hoist rope at the termination socket (or hoist rope dead-end) to sense the load-line line-pull. Any specially prepared safety plates should provide for the existing rope wedge socket and pin to be re-used.



Tension Plate Type Cell with Adapter Plate Assembly



Crane Types

The Robway RCI-1550 Tower Crane System has proven ruggedness and reliability and has been installed on many Tower Cranes worldwide including Liebherr, Potain, Comansa, and Comedil cranes to name a few.

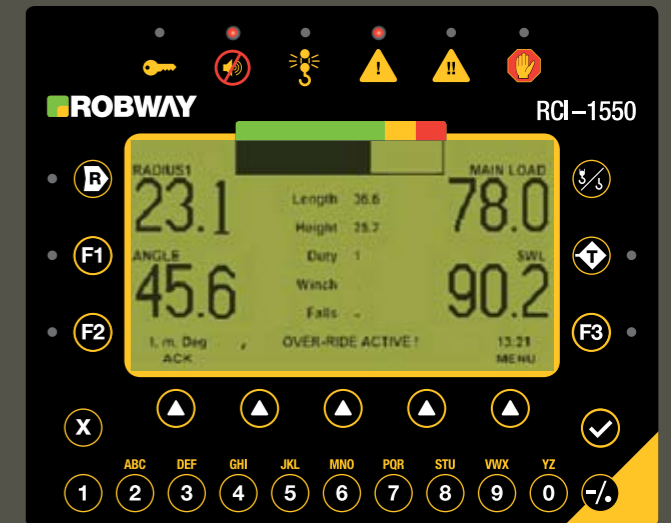


RCI-1550 Tower Crane System



Cost-effective solutions / World-wide support / Quality and innovation

- ▶ Suits ALL types of tower cranes (Hammerhead/Saddle Jib, Luffing & Fixed Jibs)
- ▶ Easy to use, operator-friendly
- ▶ Rugged & Reliable, operating over wide range of temperature, humidity, and vibration
- ▶ Data logging
- ▶ Extensive load chart memory
- ▶ Comprehensive fault reporting
- ▶ Simple on-board calibration
- ▶ CE certified
- ▶ Backlit display for night operation



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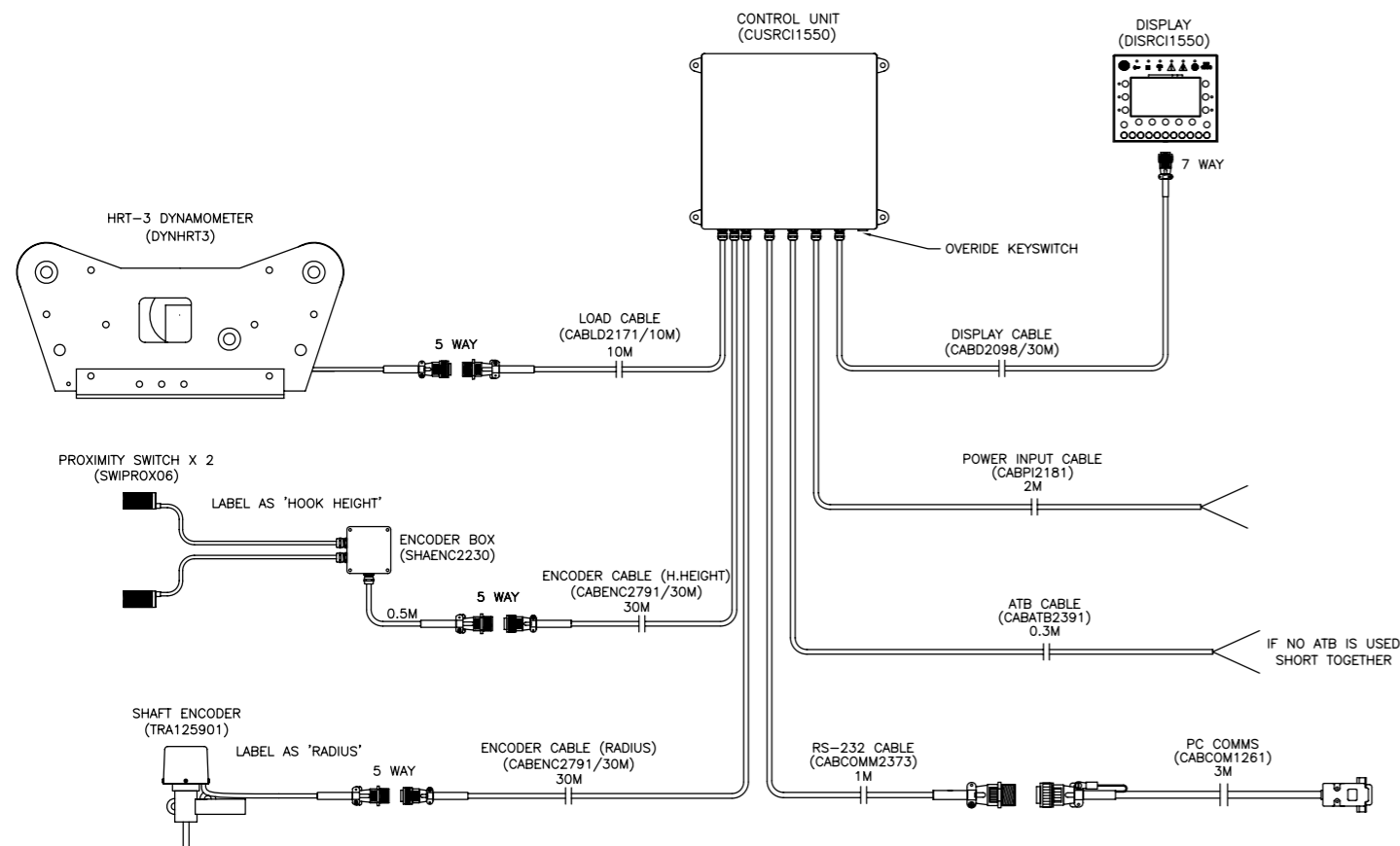
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Specifications

Display Format	Single large configurable LCD showing all functions on one screen
Power Supply Input	Nominal 10-40 VDC
Operating Temperature	-20°C to +60°C (tested to -30°C to +70°C)
Switch Inputs	8 x multi-purpose switch inputs to suit various requirements
Relay Outputs	8 x voltage-free contact relays to suit various requirements
Data Logging Capacity	Up to 4MB of memory allocated for data-logging
Unit Conversion	Standard on-board function for easy switching between Imperial and Metric units
Serial Interfaces	1 x RS-485 serial bus for interfacing multiple slave RCI displays, incremental encoders for radius and hook height monitoring, and radio device for special applications 1 x RS-232 for the data-logging facility

Configuration

*Drawing shown is for using HRT-3 Dynamometer for load sensing. Various types of load sensors are also available to suit different types of tower cranes.



Installation

Radius Encoder Input

The typical sensor used is a shaft encoder (Robway Part No. TRA125901) and is usually fitted directly onto the side or gear drive of the trolley winch drum (pls. see Fig. A & Fig. B below). Suitable mounting brackets must be fabricated to fit and hold the sensor to the drum. Photos below show typical installation of the radius encoder.



Fig. A

Trolley Winch Drum
Radius Shaft Encoder



Fig. B

Extension bracket fabricated with one end attached to the shaft of the encoder and other end bolted onto the gear drive shaft.
Bracket fastened to the base of the winch drum to support the encoder. Mounting brackets are usually fabricated on site to suit particular application.

Hook Height Encoder Input

The typical sensor used is a shaft encoder box (Robway Part No. SHAENC2230) with two proximity sensors (Robway Part No. SWIPROX06), and is usually fitted directly onto the side or gear drive of the hoist winch drum. The drum is usually fitted with bolts (or any similar metallic plates) around it which are used as strikers/contacts for the proximity sensors. The two proximity sensors are then mounted in such a way as they produce pulses when passing through the strikers/contacts. These pulses/signals are used by the system to determine direction of drum rotation, and therefore, the hook height which is proportional to the number of pulses on either direction. Fig. C below show typical installation of the hook height encoder.

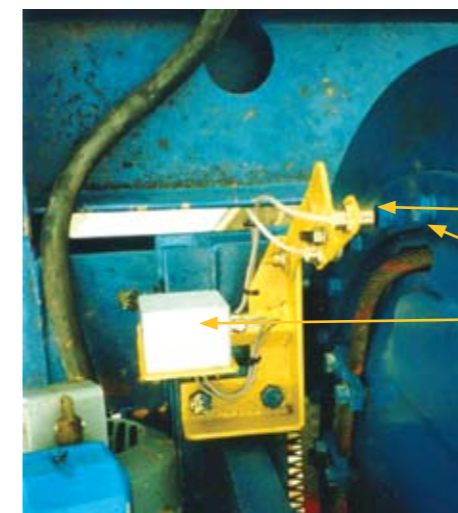


Fig. C

Suitable mounting brackets must be fabricated to fit and hold the sensor to the drum.
Proximity sensors
Striker/contact plates/bolts
Height encoder