

## TYPE: TR150



# TR150 Handheld Battery Powered Load Cell Indicator

## Description

The TR150 is a completely portable, precision instrument packaged in a small, robust IP65 (NEMA 4) enclosure, weighing only 260 grams. The TR150 accepts an input range of up to 50mV/V. For simplified use, the operator only has access to six keys; on/off, gross/net, peak, trough, hold and shunt cal. Calibration and configuration can be performed from the front panel, with protection against accidental or unintentional changes. The configuration menu is very simple and enables the setting of a tare value, display resolution, filter rate, auto power off and selection of low power mode.

There are 3 calibration options; a single pass auto-calibration, entering of load cell sensitivity and corresponding display value and entering of offset and gain values for corresponding display values.

Two separate ranges are available, which enable the instrument to read and display two separate parameters; i.e. lbs/kg, tonne/kN, high/low resolution, fast/slow response etc. The menu options offer the engineer the ability to tailor the instruments response to the application. In each range all the variables can be set, including zero and filtering. Annunciators on the display give a constant indication of the operating mode of the TR150.

The TR150 features an innovative power saving facility which, when enabled can offer up to 450 hours of battery life with a 350 ohm bridge connected. In normal power mode up to 45 hours battery life is achieved with a 350 ohm bridge. It also incorporates an auto power off facility, which can be set during configuration in 1 minute increments up to 99 minutes, or it can be disabled so the instrument is powered on until the off key is depressed. The TR150 can be supplied with a number of options including a leather carry case, which enables the full operation of the indicator whilst fitted in the case.

## Specification

Input type	Strain gauge full bridge sensors
Input range	Up to $\pm 5\text{mV/V}$ ( $\pm 50\text{mV/V}$ can be supplied with factory set option)
Non linearity	$\pm 0.005\%$ FSD
Thermal drift	$< 5 \text{ ppm}/^\circ\text{C}$
Excitation voltage	5Vdc ( $\pm 4\%$ ), 59mA maximum current
Minimum bridge resistance	85 $\Omega$ (4 off 350 $\Omega$ sensors in parallel)
Internal battery	2 off AA size alkaline. Access via sealed rear compartment
Battery life	45 hours (typical 450 hours in low power mode), with 350 $\Omega$ sensor
Update rate	Up to 40mS (can be set in configuration menu)
Display type	7½ digit LCD display, 8.8mm high digits
Display resolution	1 part in 250,000 at 1Hz update rate 1 part in 65,000 at 10Hz update rate
Annunciators	Low battery warning, peak, trough, hold, net, shunt cal, range
Electrical connection	5 pin Binder socket (mating plug supplied)
Legends	Insert legends for engineering unit identification (supplied)
Enclosure type	ABS, dark grey (leather carry case optional)
Operating temperature	-10 $^\circ\text{C}$ to +50 $^\circ\text{C}$
Environmental rating	IP65 (when mating plug fitted)
Low Voltage Directive	2006/96/EC
EMC Directive	2004/108/EC

## Available Options

- Leather carry case
- TEDS compatible

## Features

- Powered by 2 x AA batteries
- Handheld and portable
- Environmentally sealed to IP65 (NEMA 4)
- Microprocessor based, allowing single pass calibration facility
- 7 digit LCD display
- Tactile keyboard with dual range selection
- Auto sleep facility which can be set to suit or disabled
- RS232 output option available
- TEDS compatible (IEEE 1451 - template 33)

## Typical Applications

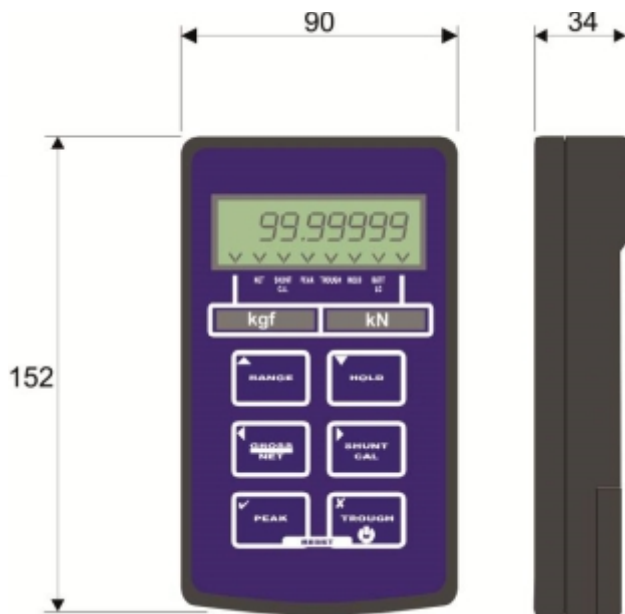
- Portable load cell system
- Load shackle display
- Load link display
- Hire fleet load cell display
- Portable calibration systems

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# TR150 Handheld Battery Powered Load Cell Indicator

## Dimensions



All dimensions are in mm  
Weight: 260g



## Control Variables

Front panel user keys	ON/OFF	Switches TR150 power on/off
	RANGE	Selects between two ranges
	HOLD	Hold the current display value, press again to release
	GROSS/NET	Zero's display ( $\pm 100\%$ range)
	SHUNT CAL	Generates simulated input for indicator testing
	PEAK	Enables peak hold
	TROUGH	Enables valley/trough hold

Settable parameters	Tare/zero value; display resolution/decimal point position, display update rate, low power mode, auto power off
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## Options Available

RS232 Output	Order code - TR150-RS232
Dual Parallel Input	Order code - TR150-C5

Due to continual product development, LCM Systems Ltd reserves the right to alter product specifications without prior notice.

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**Issue No. 1**

Issue date: 28/03/2014

APPROVED

(unapproved if printed)