



**Intercomp**<sup>®</sup>

advanced weighing technology . . . by any measure

**Torque Wrench Calibrator  
Users Manual**

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# Declaration of Conformity



We, Intercomp Company  
3839 County Road 116  
Medina, Minnesota 55340 USA

Declare under sole responsibility that the Torque Wrench Calibrator to which this declaration relates meets the essential health and safety requirements and is in conformity with the relevant EC Directives listed below using the relevant section of the following standards and other normative documents.

2001/95/EC - on general product safety  
2004/108/EC - relating to electromagnetic compatibility and replacing Directive 89/336/EEC  
EN 55011:2009, Class B - Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement  
EN61000-6-1:2007 - Generic standards, Residential, commercial and light industry environment  
EN 61000-6-2:2005 - Immunity for industrial environments  
EN 61000-6-3:2007 - Emission standard for residential, commercial and light-industrial environments  
2012/19/EU - on waste electrical and electronic equipment (WEEE) (Directive 20/96/EC Recast)  
2013/56/EU amending Directive 2006/66/EC on batteries and accumulators

This product complies with all safety-relevant provision referring to protection against electrical hazards and other hazards, such as mechanical hazards, fire hazards, noise and vibration. The safety issues of this measurement equipment have been evaluated under the self-certification provisions of the relevant directives.

The related technical construction files are held for inspection in the U.K. at Intercomp Europe Limited.

The CE mark and WEEE marks must be affixed as required in the directives.

A handwritten signature in black ink that reads 'Mark Browne'. The signature is written in a cursive style with a small '#' symbol below the 'n'.

Mark Browne / Quality Manager  
June 26, 2014

# Introduction

This manual contains specifications and operation instructions for Intercomp's Torque wrench calibrator.

## Specifications

### Controls

General:	Zero, backlight, On/Off.
Display:	4 digit LCD.

### Electrical

Batteries:	1 (9-volt) size disposable alkaline or rechargeable Nickel-Cadmium cell.
Resolution:	14 bit A/D delivers over 16,000 internal counts.
Auto-Zero:	Automatically zeros off errors of zero-force.
Battery life:	300 hours with an alkaline battery 100 hours when in peak mode 20 hours with backlight on
Low battery indication:	Flashes 'batt' when battery is running low; Automatically turns off when battery power is low enough to affect reliability.

### Performance

Accuracy:	$\pm 0.25\%$ of applied force or $\pm$ display graduation, whichever is greater.
Capacity:	200 lb·ft / 2400 lb·in / 271 N·m

### Environmental

Humidity:	10 to 95% Non-Condensing.
Temperature:	Operating: -10 C to +40 C. / +15 F to +105 F.
	Storage: -40 C to +75 C. / -40 F to +170 F.

### Physical

Dimensions:	9" x 6" x 2 1/8"
	Weight: 3.76 lb

# Operations

## Basic Operation

Turn the torque wrench calibration on and wait for the unit to zero. Insert wrench into socket. Apply clockwise torque to compare the wrench's readings to the calibrator's reading. Adjust the torque wrench at any point the value is not exact.

## Controls



### On/Off

Press this button to turn the torque calibrator on. The unit tests itself; when these tests have completed successfully, the system begins measurement. Press this button again to turn the unit off.

### ZERO

Tells the torque calibrator to display a zero force. If you press ZERO with torque applied, that force becomes the zero condition for the calibrator. When this force is removed, a negative force shows until the system is zeroed again. **NOTE:** If this negative number is too large to fit on the display, the tester will display 'diSP' until you press ZERO.

The tester contains a feature called Auto Zero Tracking (AZT), which corrects for slight zero changes during normal operation. If small force is added slowly, the torque calibrator could zero them off.

### Backlight

Press this key to toggle the backlight on and off.

## Units Switching

The torque wrench calibrator can toggle between foot-pounds, inch-pounds, and Newton-meters. To switch units: simultaneously press and hold the ZERO and backlight keys. After pressing and holding these keys for a few seconds, the unit will momentarily display:

- *FtLb*, if you have now switched to display in foot-pounds.
- *nn.n*, if you have now switched to display in Newton-meters.
- *inLb*, if you have now switched to display in inch-pounds.

## Peak hold mode

To get into peak hold mode press the ZERO and backlight keys simultaneously. The unit will momentarily display "Pk". In this mode the unit will display only the highest force applied, until you press the ZERO key. Pressing the ZERO key during Peak mode allows the peak to be reset. The force applied when the ZERO key is pressed will be the new zero point.

To exit peak hold mode press the MODE and ZERO keys simultaneously again. The unit will momentarily display "nor" to indicate that the indicator has switched back to normal operating mode.

**NOTE:** The unit will always turn on in 'normal' operating mode. During normal mode, the torque wrench calibrator takes 4 readings per second. During peak mode, the torque wrench calibrator is increased to 16 readings per second (in order to better capture the true peak torque).

**NOTE:** The peak mode value must be above these values to be captured:

- FtLb, 6.0 foot-pounds.
- nn.n, 8.0 Newton-meters.
- inLb, 71 inch-pounds.

## Error Messages

Message	Meaning
'EEPE'	<b>EEPROM FAILURE Calibration information lost or corrupted</b>
Calibration information is held in a special permanent memory area. A checksum code is generated and written to this memory during the calibration process. Each time the power is turned on this code is regenerated and compared to the stored value. If a change is found this error message is displayed. Recalibration may clear the error display, but if the problem persists the control panel will have to be replaced.	
'Ad I'	<b>A/D converter failure</b>
The A/D circuit board has indicated a fault and needs to be repaired or replaced.	
'Lb I'	<b>Power-up Self-Test has detected a load cell error</b>
The load cell may have failed or there is a bad connection. If the load cell resistance checks are good then the A/D circuit board has indicated a fault and needs to be repaired or replaced.	
'L I'	<b>Run-time checking has detected a load cell error</b>
The load cell circuit may have failed or there is a bad connection. . If the load cell resistance checks are good then the A/D circuit board has indicated a fault and needs to be repaired or replaced.	
'L.bAt'	<b>Low battery voltage</b>
This message displayed intermittently indicates that the control panel has measured the battery voltage and found it to be too low. The most likely cause is that the batteries may need to be changed. If a new set of batteries fail to correct the situation, then the control panel may need to be replaced. Also check the battery holder and wiring.	
'CAP'	<b>Overload or calibration information lost or bad load cell</b>
The control panel has detected a force reading that is larger than expected. This may be caused by the application of too much force to the unit. If this display is seen when there is no force on the unit, then the most likely causes are a defective load cell or defective control panel. To isolate the problem, measure the signal across pins two and three on the load cell connector on the control panel. This should be between zero and one millivolt. If found to be higher or lower, then the load cell system must be checked. See procedure elsewhere in this manual. If the signal is within this range then the calibration data may be lost. Attempt to recalibrate the unit. If this does not clear the problem, then replace the control panel.	
'ZE-0'	<b>Zero Range Error</b>
Unit tried to zero off a load outside the range specified in the zero range setting. Remove any load and press zero.	
'HELd'	<b>Key is held down</b>
If this message is displayed with no key pressed examine the key pad and key pad connector ribbon.	
'd ,SP'	<b>Number can't be displayed</b>
The most common cause of this error is pressing the zero key with a full load on the unit. When the load is removed, the full number with a minus sign will not fit on the display. Pressing the zero key again will clear this display.	

## Changing the Battery

Turn the power off. Slide the battery hatch up and pull it out. Remove the 9V battery from the battery holder. Insert the new 9V battery (noting the polarity), slide the holder in, and push down.

## How to reach Intercomp Service

Things to know:

Inform the Service Dept. that the product is a Torque wrench calibrator.  
When was the Torque wrench calibrator purchased?  
Where was the Torque wrench calibrator purchased?

For Intercomp Service call or fax:

FAX # (763)-476-2613  
(763)-476-2531  
**1-800-328-3336**

or fill out Service Support Form at:

[www.intercompcompany.com](http://www.intercompcompany.com)