



Digital Turn Plate 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 Digital Turn Plate 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
2006/42/EC - on machinery, and amending Directive 95/16/EC (recast)
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 'B' and 'r' that are particularly prominent.

Mark Browne / Quality Manager
June 26, 2014

Specifications

Controls

General:	Zero, On/Off, Backlight
Display:	4 digit, .5" LCD character

Electrical

Batteries:	1 (9-volt) size alkaline recommended.
Resolution:	24 bit A/D delivers over 16,000,000 internal counts
Battery life:	1000 hours of continuous use with an alkaline battery. Use of backlight with reduce battery life
Low battery indication:	Flashes 'L.BAT' when battery is running low; Automatically turns off when battery power is low enough to affect reliability.

Performance

Accuracy:	$\pm 0.5\%$ of reading or $\pm 0.1^\circ$, whichever is greater
Range:	0-30° each direction

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:	Base: 17" X 15" X 1.6" / 43cm X 38cm X 4.0cm
Weight:	18.5 lb / 8.5 kg

Operations

Controls

On/Off

Press this button to turn the unit on. When the Turn Plate has completed the 'self test' successfully, the turn plate will display an angular displacement of 0°. Press this button again to turn the unit off.

ZERO

Tells the turn plate to display zero degrees. You should zero the turn plate in this fashion before you turn the wheels to their desired positions for caster or *Ackerman measurement*.

Backlight

Press this key to toggle the backlight on and off.

Direction Indicator

The display will show positive numbers when the plate is turned clockwise. It will show negative numbers (indicated by a '-' minus sign) when the plate is turned counter-clockwise

Changing the Battery

1. Turn the unit off.
2. Using a Philips head screwdriver, remove the two screws holding the battery plate which is directly to the right of the display.
3. Remove the plate and slide the battery out of it's compartment. Replace the battery with a new alkaline 9V battery.
4. Replace the battery cover plate.

User Tips

Measuring Caster

When measuring caster, it is important to turn the wheel equidistant both fore and aft. For example, if the wheel is turned 15° left from the straight position, it should then be turned 15° right from the straight position. Turning the wheel 15° one direction, then 20° the other will give a false caster reading.

Measuring Ackerman

Ackerman is the relationship of the turning ratios between the two front tires. The left front tire on a circle track car for example, will generally turn quicker than the right front tire. When the left front is turned 10° , the right front may only turn 8° . This is because the inside tire is tracking on a tighter radius circle than the right front, so it needs to turn more to reduce scrub.

Error Messages

Message	Meaning
'EEPE'	EEPROM FAILURE Calibration information lost or corrupted
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'	A/D converter failure
The A/D circuit board has indicated a fault and needs to be repaired or replaced.	
'Lb I'	Power-up Self-Test has detected a load cell error
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'	Run-time checking has detected a load cell error
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'	Low battery voltage
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'	Overload or calibration information lost or bad load cell
The control panel has detected a weight reading that is larger than expected. This may be caused by the application of too much weight to the scale. If this display is seen when there is no weight on the scale, 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 scale. If this does not clear the problem, then replace the control panel.	
'ZEro'	Zero Range Error
Scale tried to zero off a load outside the range specified in the zero range setting. Remove any load and press zero.	
'HELD'	Key is held down
If this message is displayed with no key pressed examine the key pad and key pad connector ribbon.	
'd .SP'	Number can't be displayed
The most common cause of this error is pressing the zero key with a full load on the scale. 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.	

How to reach Intercomp Service

Inform the Service Dept. that the product is a Digital Turn Plate.

When was the unit purchased?

Where was the unit 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

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