

twilight

INSTRUMENTOS DE MEDICIÓN INDUSTRIAL

Torquimetro tipo Des- armador electrico IM-GLK500E

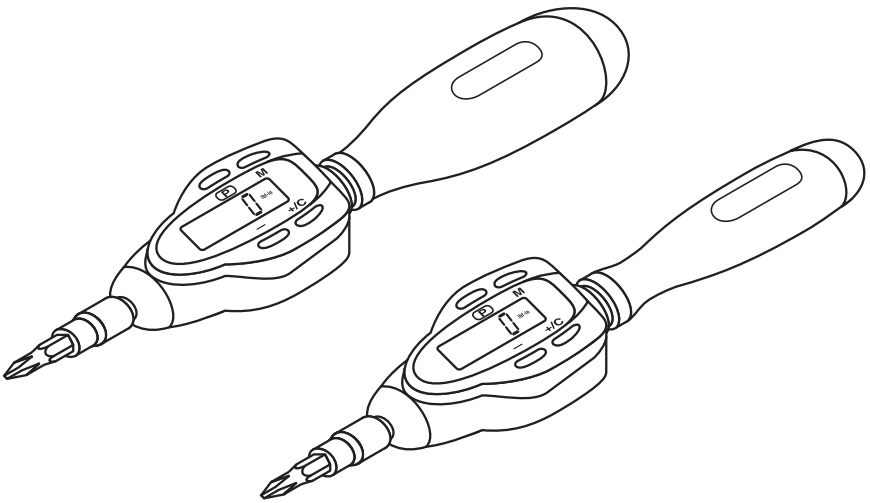
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Compact, Ergonomic Digital Torque Screwdrivers



Models: GLK060E, GLK250E, GLK500E

INSTRUCTION MANUAL

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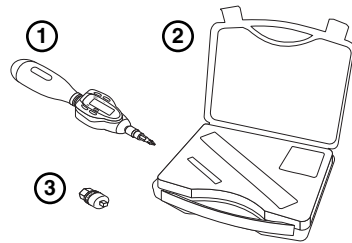
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1 INTRODUCTION

GLK Digital Torque Screwdrivers combine ergonomic grips, digital accuracy and five Go/No Go torque presets that alert users with an intermittent signal at 90% and a continuous signal at 100% of the preset using LED and audible alerts (presets cannot be set at less than 10% of capacity). These torque screwdrivers measure in peak mode, peak with auto zero reset, and real time. The Go/No Go Counter counts the number of fasteners tightened within programmed high and low torque limits. Selectable units of lbf-in, lbf-ft, and cN-m.

2 LIST OF EQUIPMENT

- ① Torque Screwdriver
- ② Carrying case and Calibration certificate traceable to NIST
- ③ Optional ratchet (RA2) with 1/4" drive, CW, CCW and fixed operation



3 READ FIRST: SAFETY INFORMATION

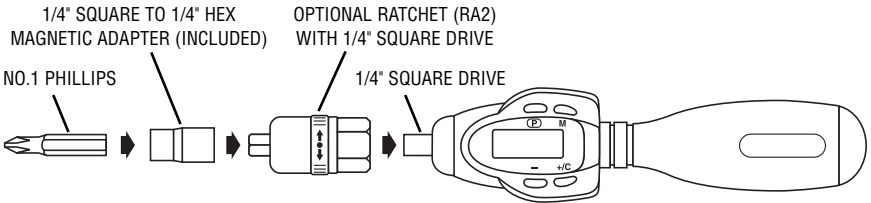
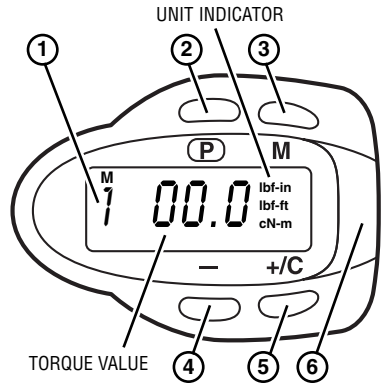
For safety, and for damage avoidance, be sure to read this manual thoroughly. The warranty is only valid when the product is used following the instructions provided within this manual.

- Do not use tester in high temperature, high humidity, or in damp or wet areas.
- Recommended operating temperature is between 0-42°C (32-100°F).
- Do not apply torque exceeding the rated capacity, regardless of whether the unit is On or Off. Avoid shock load.
- Do not use lacquer thinner or any solvent to clean the unit.
- Do not disassemble or modify the unit.

TORQUE MEASUREMENT

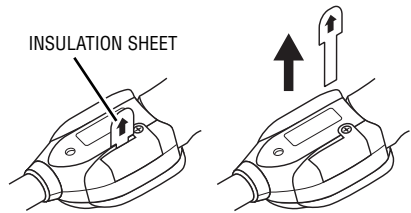
4 CONTROL PANEL

- ① Displays preset and program numbers, and errors
- ② **P button** press and release (do not hold) to power ON, press and hold more than two seconds to power OFF.
- ③ **M button** stores torque values and advances program functions.
- ④ **- button** decreases values
- ⑤ **+/C button** increases values, resets the screen to zero and clears errors.
- ⑥ **LED Indicator** signals power on, values stored and alerts during Go/No Go presets and counter operations.



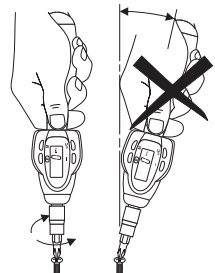
5 PREPARATION

Pull the insulation sheet from the battery cover before turning ON the power.



6 APPLYING TORQUE

The angle of the screwdriver must be inline with the fastener to ensure accurate torque readings. For proper torquing, apply load gradually.



7 INITIAL PROGRAMMING

Program 1 Modes

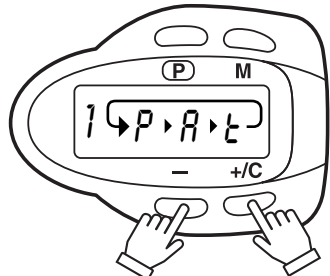
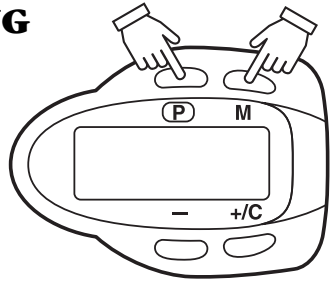
With the power OFF, press and hold the **M** button and then press and release (do not hold) the **P** button. When 1 appears on the left side of the screen, press **-** or **+/C** to cycle:

P Peak mode captures peak torque

A Peak mode w/auto zero reset captures peak torque and resets to zero at programmed interval

t Real time mode displays transient torque values and peak is not held.

Press and release the **M** button to advance to the next setting.

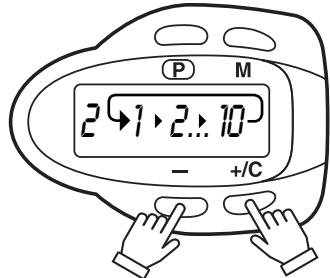


CYCLE WITH - OR +/C KEYS

Program 2 Auto zero reset duration.

If peak mode w/auto zero reset (1 A) has not been previously selected, press and release the **M** button to skip this step.

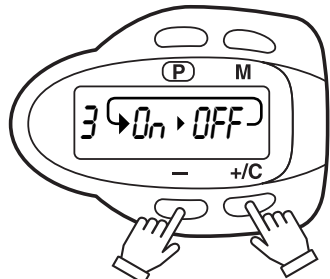
If peak mode w/auto zero reset has been selected, press **-** or **+/C** to change the duration a peak value remains on screen before it resets to zero 1~10 seconds, (factory default is 2 seconds). Press and release the **M** button to advance to the next setting.



CYCLE WITH - OR +/C KEYS

Program 3 Audible beep

Confirms ready mode and selections, alerts to torque presets and limits. Press **-** or **+/C** to turn ON or OFF. Press and release the **M** button to advance to the next setting.

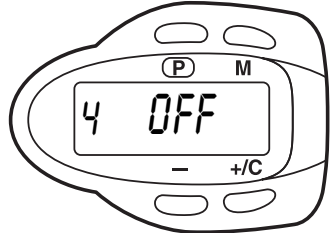


CYCLE WITH - OR +/C KEYS

TORQUE MEASUREMENT

Program 4 Leave OFF

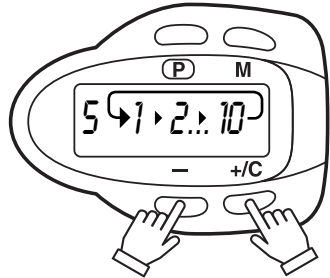
If not OFF, press **-** or **+/C** to select OFF (see page 11, for special applications using the Pass/Fail counter). Press and release the **M** button to advance to the next setting.



LEAVE OFF, SEE PAGE 11

Program 5 Auto shutoff duration

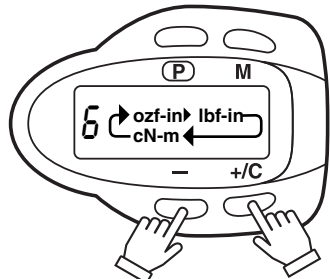
Press **-** or **+/C** to cycle: 1~10 minutes (Factory default is 2 minutes). Press and release the **M** button to advance to the next setting.



CYCLE WITH - OR +/C KEYS

Program 6 Change default unit

Press **-** or **+/C** to cycle: lbf-in, lbf-ft, or cN-m. Press and hold the **P** button for more than two seconds to power OFF. The selected unit becomes the default and is displayed when the screwdriver powers up.



CYCLE WITH - OR +/C KEYS

8 GENERAL OPERATION

1. Peak Mode

Set to peak *1P* (see page 5).

1. Press and release (do not hold) **P** to turn on the power.
2. The display shows ----, the LED flashes and a beep sounds
(If an error code appears see page 14).
3. Do not apply torque until '0' appears.
4. Apply torque gradually.
5. The peak torque is held on the display until greater torque is applied.
6. To clear the peak reading press the **+|C** button.
7. Press and hold the **P** button for more than two seconds to turn OFF the power.

2. Peak Mode with Auto Reset

Set to peak w/auto zero *1R* (see page 5).

1. Press and release (do not hold) **P** to turn on the power.
2. The display shows ----, the LED flashes and a beep sounds
(If an error code appears see page 14).
3. Do not apply torque until '0' appears.
4. Apply torque gradually.
5. The peak torque is held on the display until greater torque is applied.
6. After torquing, the display clears automatically when the auto zero reset duration expires.
7. Press and hold the **P** button for more than two seconds to turn OFF the power.

3. Real Time Mode

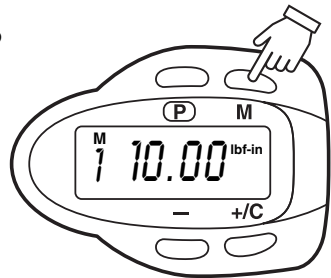
Set the mode to real time *1t* (see page 5).

1. Press and release (do not hold) **P** to turn on the power.
2. The display shows ----, the LED flashes and a beep sounds (If an error code appears see page 14).
3. Do not apply torque until '0' appears.
4. Apply torque gradually.
5. Torque values are displayed but peak torque values are not held on the display.
6. Press and hold the **P** button for more than two seconds to turn OFF the power.

4. Setting GO/NO GO Presets

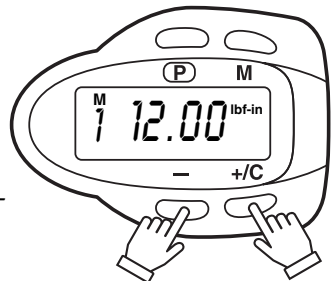
Digital torque screwdrivers save five Go/No Go presets. The presets alert the user with intermittent alerts at 90% of the preset torque value and continuous alerts at 100% and over. Presets cannot be set at less than 10% of capacity.

1. Press and release (do not hold) **P** to turn on the power.
2. After '0' appears, press and release the **M** button. The first Go/No Go preset indicator *1* appears with torque value and unit.
See pages 5-6 to change units.



PRESS AND RELEASE M TO DISPLAY THE FIRST PRESET

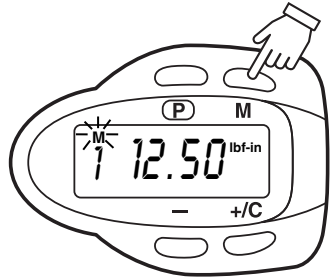
3. While the torque value appears on the display, press the **-** or **+/C** buttons to change the value. Hold (rather than press) the **-** or **+/C** buttons to change values rapidly. If no button is pressed for three seconds the display zeros. Press **M**, **-**, or **+/C** buttons to return.



CHANGE VALUE WITH - OR +/C KEYS

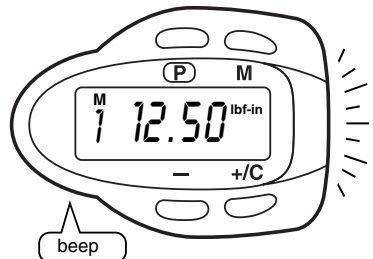
TORQUE MEASUREMENT

- The **M** indicator blinks if the value has been changed and not saved. Press and hold the **M** button, until the LED flashes and the alert beeps to save the preset. The display then returns to zero with the preset indicator.



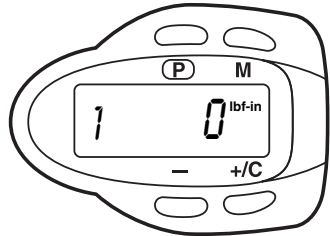
WHEN M INDICATOR BLINKS PRESS AND HOLD M TO SAVE CURRENT VALUE.

- To set other Go/No Go presets press and release the **M** button to advance to presets two through five. Check the preset indicator on the left side of the display and follow steps 3 and 4.



LED FLASHES AND UNIT BEEPS TO CONFIRM SAVE

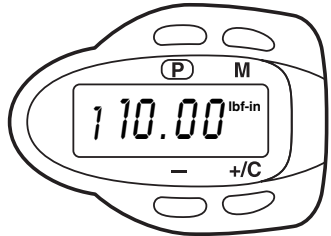
- Press **P** and hold for more than two seconds to turn OFF the wrench.



DISPLAY RETURNS TO ZERO WITH PRESET INDICATOR

5. GO/NO GO Preset Operation

Press and release (do not hold) **P** to turn on the power. After '0' appears, press and release the **M** button to select a preset. Apply torque gradually and indicators appear as follows:



Between 90% - 99% of the preset value the LED indicator flashes and an intermittent beep sounds.



INTERMITTENT FLASH AND BEEP
AT 90% OF PRESET

At 100% and over the LED indicator stays lit and a continuous beep sounds.



CONTINUOUS LIGHT AND BEEP
AT 100% OF PRESET

Applying Torque

1. Stop when you see or hear the intermittent alert if you do not want to exceed the preset torque value of 10.00 lbf-in. or
2. Stop after the alert becomes continuous to tighten to a minimum of 10.00 lbf-in.

TORQUE MEASUREMENT

For General Operation Skip this Section

9 SPECIAL APPLICATION PASS/FAIL COUNTER

Special applications may require counting fasteners correctly torqued between low and high setpoints. Counter operates in peak mode.

With the power OFF, press and hold the **M** button and then press and release (do not hold) **P**. When *l* appears, press **M** again until *4* appears.

1. Press **-** or **+ / C** to change to:

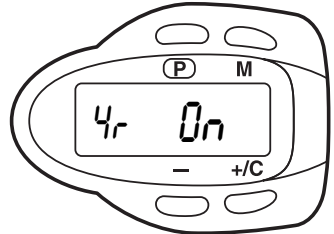
4r 0n Counts correctly torqued fasteners between low and high limits in the clockwise direction (for right hand threads).

4L 0n Counts correctly torqued fasteners between low and high limits in the counterclockwise direction (for left hand threads).

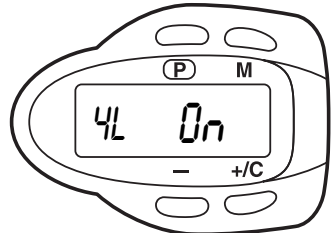
OFF No counter, general operation

After selecting *4r 0n* or *4L 0n* press and hold the **P** button for more than two seconds to power OFF and store the setting.

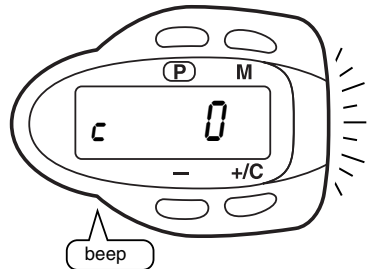
2. Press and release (do not hold) **P** to turn ON the power, and *c* appears on the left-side of the display to indicate Pass/Fail counter is ON. Press the **M** button to set the low torque limit.



CYCLE WITH - or +/C KEYS



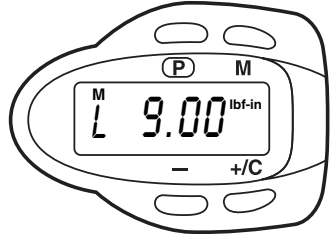
CYCLE WITH - or +/C KEYS



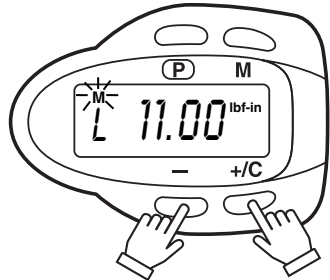
TORQUE MEASUREMENT

For General Operation Skip this Section

3. **M**L appears on the left-side of the display. Press the **-** or **+C** buttons to set the low limit (The **M** indicator blinks when the value is changed and not yet stored). Press and hold the **M** button until the LED flashes and the alert beeps. Press the **M** button again to set the high limit.



4. **M**H appears on the left-side of the display. Press the **-** or **+C** buttons to change the high limit (**M** blinks). Press and hold the **M** button until the LED flashes, the alert beeps and the display returns to zero.

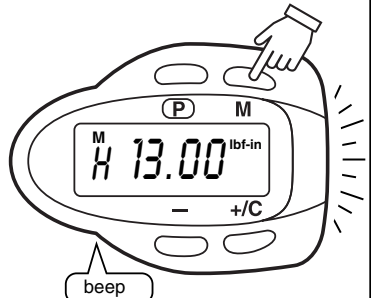


CYCLE WITH - OR +/C KEYS

Press and release the **M** button at any time to check or change the limits.



WHEN M INDICATOR BLINKS PRESS AND HOLD M TO STORE CURRENT VALUE.



PRESS M TO SET THE HIGH LIMIT

TORQUE MEASUREMENT

For General Operation Skip this Section

PASS/FAIL COUNTER OPERATION

Only torque values within the low and high limits are counted. When torque is applied a *J* appears on the left-side of the screen. Values under 90% of the low limit are not signaled or counted.

Note: The preset alert starts at or above 10% of driver capacity.

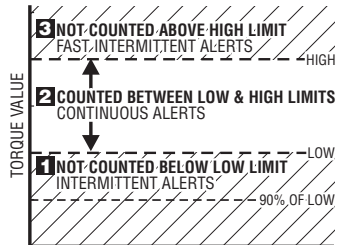
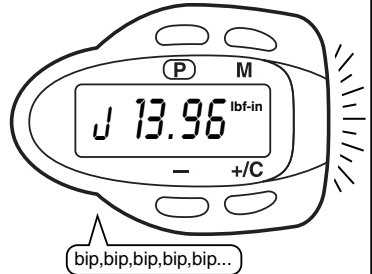
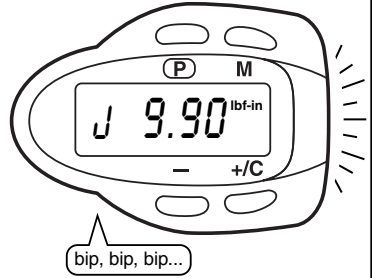
- 1** Values between 90% and 100% of the *low limit* are indicated by intermittent LED and audible alerts and are not counted.
- 2** Values between the *low and high limits* are indicated by a continuous LED and audible alert and are counted.
- 3** Values *above the high limit* are indicated by a fast intermittent signal with LED and audible alerts and are not counted

Press **+C** to clear the value, press again to clear the count.

To Return to General Operation

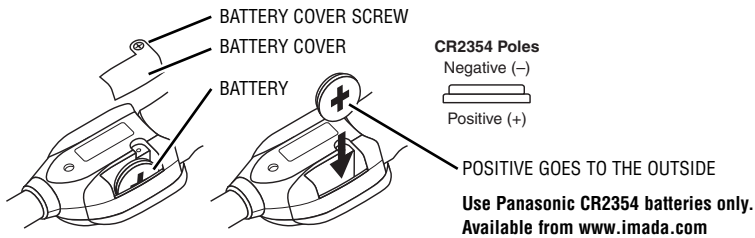
Press and hold the **M** button and then press **P** to turn ON. When *l* appears, press **M** repeatedly until *4* appears.

1. Press **-** or **+C** to select *OFF* for no counter and general operation.
2. Press and hold **P** for more than two seconds to power OFF and save.



10 REPLACING THE BATTERY

When the display starts flashing, the battery needs replacement. Turn the driver over and loosen the battery cover screw with a Phillips screwdriver. Remove the battery cover and the old battery. Replace it only with a lithium ion coin battery (Panasonic CR2354). **Do not use equivalents.** Note the polarity when installing. Wrap the old battery with adhesive tape to insulate it from other objects before recycling.



11 ERROR CODES

When applied torque exceeds capacity an E appears on the display along with LED and audible alerts. Press and release the **+C** button to clear the error.

If an error code appears after the screwdriver is turned ON with flashing LED and intermittent beep, refer to the following table.

Code	Action
E1	Turn the power OFF and ON again
E2	Turn the power OFF and ON again
E3	Requires repair
E4	Requires repair
E5	Requires repair
E6	Turn the power OFF and ON again
E7	Turn the power OFF and ON again

Note: E1, E2 and E6 may appear when using the driver near strong electromagnetic sources. Turn the power OFF and move away from them. If the condition persists the screwdriver may need to be repaired.

12 REPAIR & RECALIBRATION

Go to www.imada.com and click on Repair/Calibration. Fill out the form to receive an RGA number. Or call and send your unit to Imada, Inc., Suite 707, 3100 Dundee Rd., Northbrook, IL 60062

TORQUE MEASUREMENT

13 SPECIFICATIONS

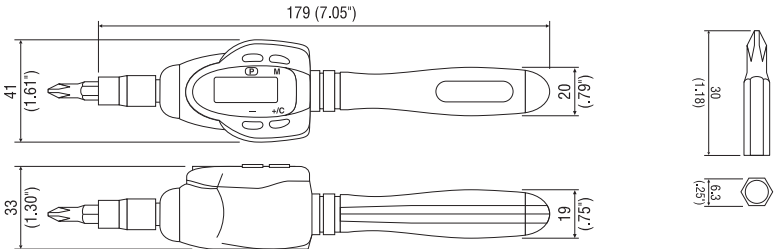
Accuracy	±1.5% F.S.
Measuring direction	CW and CCW
Measuring unit	Selectable: ozf-in, lbf-in, cN-m
Go/No Go Presets	5 storable preset torque values, Preset alerts start at or above 10% of wrench capacity
Auto Shut OFF	Automatic shut off after selectable interval of non-use (1~10 min.)
Operating Temp.	-5° to 40°C
Storage Temp.	-20° to 60°C
Battery	Lithium coin battery (Panasonic CR2354 only)
Battery Life	Approx. 2 months (100 usages per day)

RANGES

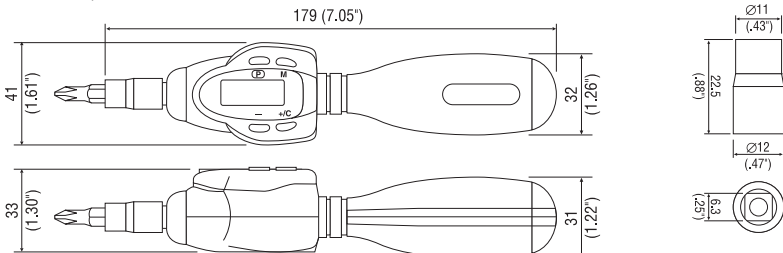
Model No.	ozf-in	lbf-in	cN-m (same as N-cm)
GLK060E	0.9~85.0	0.05~5.31	0.60~60.00
GLK250E	3.5~354.0	0.22~22.13	2.5~250.0
GLK500E	7.1~708.0	0.44~44.25	5.0~500.0

14 DIMENSIONS

GLK060E



GLK250E, GLK500E



LIMITED WARRANTY

TWO-YEAR LIMITED WARRANTY AND LIMITATION OF LIABILITY: Imada, Inc., for itself and its related companies (hereinafter described collectively as "Imada") warrants that all Imada products sold, except for those specific products identified below, will be free of defects in materials and workmanship for a period of two (2) years from date of delivery to end-user. The foregoing two (2) year warranty shall not be extended or changed by Imada furnishing any replacements, additions, attachments, accessories or repairs to the products subsequent to the date of delivery or acceptance. The foregoing warranty is the sole and exclusive warranty of Imada regarding the products.

ONE-YEAR LIMITED WARRANTY FOR SPECIFIC PRODUCTS: Notwithstanding the foregoing, for Cedar Torque Testers and KTC Torque Wrenches, the limited-warranty period is one (1) year from date of delivery to end-user.

PRODUCTS EXPRESSLY NOT COVERED BY WARRANTY: Batteries, cables, attachments, adapters, and fixtures regardless of the manufacturer of the product, that are sold or provided for by Imada are not covered by the foregoing warranties. Warranties of the respective manufacturers for such products shall apply.

DISCLAIMER OF OTHER WARRANTIES: Other than the foregoing warranties, there are no express or implied warranties or any affirmations of fact or promises by Imada with respect to the products. Imada disclaims any warranties, express, implied or statutory, not specifically set forth above. Without limiting the generality of the foregoing, Imada expressly disclaims any implied warranties of merchantability, fitness for any particular purpose, infringement or any representations of fact or quality not expressly set forth herein.

LIMITATION OF LIABILITY AND REMEDIES: Imada's sole responsibility and liability incurred as a result of the sale and/or use of the products, and the purchaser's exclusive remedy against Imada under any warranty shall be limited to the repair or replacement, at Imada's option, of product components not conforming to the warranty. The total liability of Imada shall in no event exceed the amount actually paid to Imada by purchaser with respect to the products. This limitation of remedy is intended by the parties to survive even if the remedy is claimed to have failed of its essential purpose. Purchaser's full and complete performance of all obligations of purchaser recited in this agreement is a condition precedent to Imada's warranty obligations and liabilities herein.

PURCHASER'S DAMAGES AND LIMITATIONS: In no event shall Imada be liable to purchaser, its assigns or agents, for economic loss, incidental or consequential damages, in contract or in tort, including but not limited to, any damages for lost profits, down-time, lost production, failure to meet purchaser's sales contracts, or defects in purchaser's materials or workmanship arising directly or indirectly from the use of the products. Imada's limited warranty is terminated in the event of product overload, shock load, misuse, negligence, accident, or if repairs are attempted by the customer or third-parties without notice to and authorization by Imada.

INSTRUCTIONS FOR OBTAINING WARRANTY REPAIR OR REPLACEMENT: Please contact our customer service department for a return authorization number. After you have obtained the authorization number, please return the subject product to Imada with all freight, duty and brokerage costs prepaid. You will be notified by Imada regarding the repair or replacement of the product. In some instances, Imada may require proof of purchase.



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