WARRANTY CERTIFICATE

Customer Name :

_____

_____

_____

Phone:_____Mobile:_____+_____

Date of Purchase:_____ Invoice/DC No:_____

Model :_____Sl. No: _____

Dealers / Agent Name :_____

_____

The manufacturer warrants all products shipped against defects in MATERIAL and WORKMANSHIP for a period of one year for standard line of products. All OEM and custom build orders carry (1) year warranty for MATERIAL and WORKMANSHIP. Warranty will not be applicable for Battery and adaptors. Normal wear and tear, injury by natural forces, user neglect and purposeful destruction are NOT covered by this warranty. Technical Service MUST be performed by authorized staff or factory authorized personnel. Manufacturer's obligation is limited to replacement of parts that have been so returned and are disclosed to manufacturer's satisfaction to be defective. The provisions of these warranty clauses are lieu of all other warranties, expressed or implied, and of all obligations or liability in connection with sale of said articles. Manufacturer makes no warranty of merchantability or fitness for a particular purpose. By accepting the goods, the buyer acknowledges that the buyer has determined that the goods are suitable for the buyer's purposes. In no event shall the manufacturer be liable for any sub sequential or special damages. Any misuse, improper installation or tampering shall VOID this warranty.

Product that is malfunctioning within the 1-year warranty period for scale line and 1-year warranty period for OEM products may be returned to manufacturer for Warranty Evaluation at the customers' expense. Manufacturer reserves the right to repair OR replace the components free of charge as may qualify under this warranty. REMINDER!! WARRANTY DOES NOT COVER USER DAMAGE AND ABUSE. In addition to a listing of the repairs covered under warranty, if any, the customer will be billed accordingly for all parts and labor associated with any NON-WARRANTY repairs made to the product.

OWNERS MANUAL

Ti10 Series

PLATFORM SCALES / INDICATORS

Indicator Users Guide

Version 2.110

About Ti10 Series Weighing Indicators

We would like to thank you for choosing us as your preferred choice for your weighing requirements. The Ti10 series weighing indicator is an accurate, fast and versatile series of weighing indicators, loaded with time saving features and ease of customer use.

The indicator is loaded with features like, automatic zero tracking, overload alarm, low battery protection, "QUICK" weighing mode to display quick weighing results effects, pre-set tare and an accumulation function to add pieces being counted and finally recall the accumulated total.

The indicator feature auto zero tracking to automatically compensate for small fluctuations in zero such as a build up of material on the platform.

To extend battery life an auto-off feature is standard the operator can set the auto off timing to between 1 minute and 30 minutes of inactivity to suit the application. Alternatively the auto off function can be switched off, leaving the indicator permanently on until switched off by the operator.

1 TECHNICAL DATA

Measurement Data	TI-10
Capacity	Multiple (Configurable Capacity)
Tare range subtractive	100% subtractive
Repeatability	+- 1d
Display Resolution	3,000 ~ 75000 divisions
Application Modes	Weighing, Counting, Accumulation, Percentage
Product Features	Pre-Set Tare, Piece Counting, Glow Control
Keyboard	5 membrane keys (Count / Print, Mode, Tare and Zero)
Display Indicators	Stability, Zero Position, Tare, Charging LED, Accumulation,
Weighing Units	Kg
Calibration	Digital with external weight.
Weight	2.5kg Approx
Front Display Type	0.8" or 2" Bright red LED display
Communication	Optional RS232C for PC communication / Direct Printer Interface
Stabilization	2 seconds
Power	9V Adaptor / built in battery for backup to 35hrs. / 70 hrs with sleep mode active
Operating Temp.	50° to 98° F / 10° to 35° C
Dimensions	190 x 230 x 265 (w x d x h) – including pole.
Printer Interface	Optional direct printer interface to POS – Thermal Printer, Dot Matrix Printer. Option to interface with label printer SLP-3120T / Thermal Printer / Dot Matrix
PC Interface	RS232 interface for communication with RS232

10 TROUBLESHOOTING

SYMPTOM	POSSIBLE CAUSE	REMEDY
Scale will not power on	If running on battery, the battery may have fully discharged. AC Power cord not connected.	Connect scale to power source. Recharge battery
Battery does not give enough backup	The battery is defective. The battery may have past its useful life. (Generally 6months – 1 year)	Change the battery.
Weight reading on scale does not stabilize	External Rubbing / Friction A scale cannot measure accurately if an object is rubbing or pressing against the scale platform. Mobile interference, Vibration or wind could be other possible reasons	Move the scale away from mobile signal, breeze or vibration areas.
Scale does not show weight accurately	Improper calibration	Calibrate the scale again to and check for the problem again.
RS232 Not Working	# RS232 parameters not set correctly #Improper or loose connection	# Verify Parameters #Check Cable Connections

Put a known weight on the weighing pan (Ex.: 100kg). Press the Enter key. The display will now show full capacity of the scale.	500.00
Now enter the weight value that you have kept on the pan using "TARE" & "MODE" keys	100.00
Press the ZERO/ Enter key once again With the weight still on the pan, press Zero key once again to return to weighing mode. Check calibration.	100.00

9 ERROR CODES

ERROR – DISPLAY	Error	Solution
Err 01	• Zero not in range	Remove weight from pan and restart the machine. If the problem persists, the machine may have been overloaded.
Err 02	• Weight not enough for the selected setting	Keep weight or Add more weight on pan for correct results.
Err 03	• Internal / External calibration variance larger than 2%	You are trying to calibrate the scale with a incorrect weight.
--OL--	• Overload signaled by ADC	# Check if there is excess weight on the platform # Check if the loadcell cable is damaged / check connector # Perform Internal calibration
LO BAT	• LOW Battery. Machine displays message and turns off	Battery is low. Connect scale to power so that the battery can be charged.

2 INSTALLATION

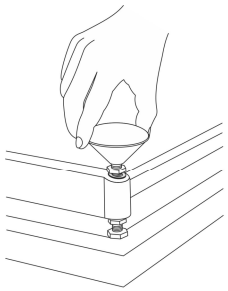
2.1 UNPACKING

Unpack and verify that the following components have been included:

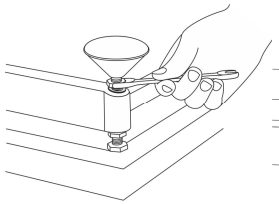
a) Ti10 Indicator with accessories and Instruction Manual
b) Power Adapter / Attached power cord (customer specific)
c) Platform Base (If bundled with a platform scales)
d) Attached Pole - Optional (If bundled with a platform scales)
e) Back Grill - Optional (If bundled with a platform scales)

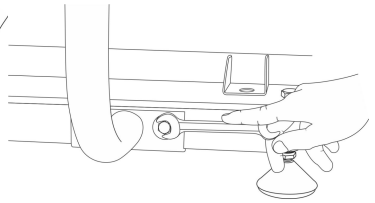
Save the packaging material for storage or future transportation of the product.

2.1 ASSEMBLY OF SCALE (IF INCLUDED WITH PLATFORM BASE)

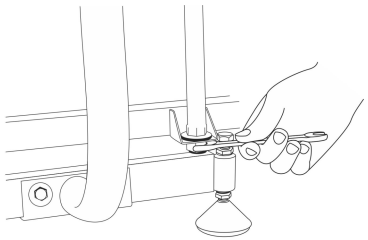


1. MOUNT THE RUBBER FEET

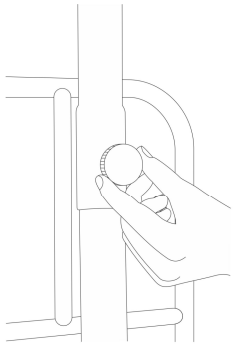




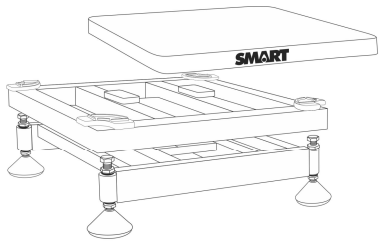
2. MOUNT THE L-POLE



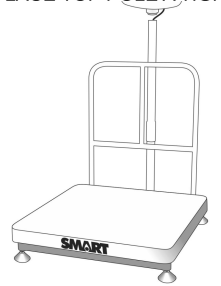
3. TIGHTEN THE BACK RAIL



4. PLACE TOP POLE A TIGHTEN



5. PLACE THE PLATTER ON TOP

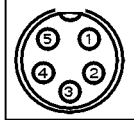


6.PLACE INDICATOR

2.2 POWER SOURCE

The unit works through 8.5V universal DC Adaptor to take input 110VAC~220VAC, or, through a Power cord to take an input of 180VAC~240VAC. The scale is fitted with a built in 6V 4.5Ah battery which provides backup of more than 30 ~ 45 hours depending on glow setting and sleep mode setting.

2.3 LOADCELL CONNECTIONS

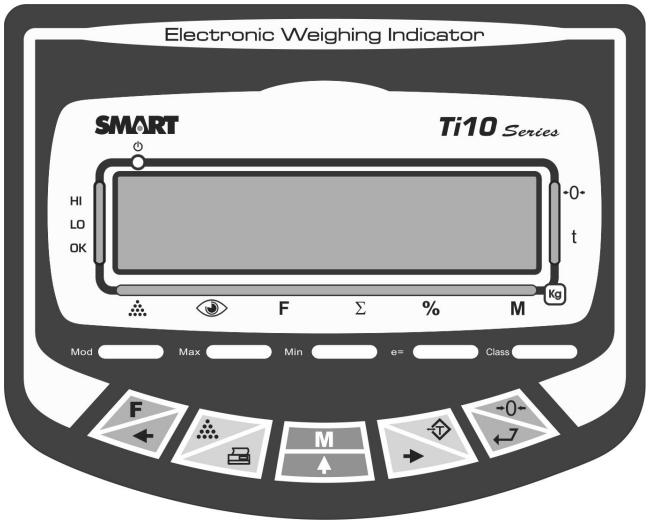
Technical Note	Connection Diagram
For 6 wire load cell, connect the load cell +Excitation and +Sense to pin4 and Sense & --Excitation to Pin 5	**Loadcell Connections** 

1	2	3	4	5
S-	E-	SH	E+	S+
WHT	BLK	SHLD	RED	GRN

2.4 SAFETY & PRECAUTIONS

- Away from direct sunlight. Not exposed to high temperature variations
- Stable, vibration-free base as horizontal as possible
- Do not place near open windows, air vents that may cause a draft &unstable readings.
- Keep free from vibration. Do not place near heavy or vibrating machinery.
- The best location is a stable surface away from direct drafts, doors, windows, radiators and air conditioner vents
- External Rubbing / Friction: A scale cannot measure accurately if an object is rubbing or pressing against the platform.

3 DISPLAY / KEYS & FUNCTIONS



Protocol	Pin Out
Standard Scale Response Message <X> <XXXXX.X> <=> where • **<X> Start of response message,** This is sent as "L" for litre mode and <SPACE> in kg weighing mode • <XXXXX.X> weight data this field is fixed at 7 characters. The decimal position is determined by parameter setting. • <=> End of response message. The = sign is the delimiter for continuous data strings. **The serial output in litre mode is** L00500.0= L00500.0= L00500.0= L00500.0= L00500.0= L00500.0= L00500.0= **The output in kg mode is** 00500.0=<SPACE>00500.0=<SPACE>00500.0=<SPACE>00500.0=<SPACE>00500.0=<SPACE>00500.0=<SPACE>00500.0	

8 CALIBRATION

All weighing scales come pre-calibrated from the factory. However the scale may require re-calibration. Temperature changes, geographic gravity variations, altitude changes and abuse are few reasons why a scale may need recalibration. The scales can be calibrated using a known external weight.

2.3 External User Calibration

Step Description	Display
To start calibration turn the scale off and then turn it on. During the count down, press and hold down the Zero button (do not release until the display shows "CAL" Make sure there is no weight on the pan. Press Zero key and the display shows "noLoAd" momentarily and shows the counts at zero level.	noLoAd
Pause for 2 seconds at the previous step and press Zero key. The display shows "LoAd" momentarily and shows the internal counts.	322332 LoAd

2.2 *Company Name Setup (USED IN PRINTING OPTIONS) OPTIONAL*

Step Description	Display
Switch off the indicator. Press & hold down the COUNT button and switch on the scale. The display will show Name momentarily and show stored name. A dot will blink on the character to be edited. Use the left and the right arrow key to select character to be edited. Use the Up arrow and the COUNT button to change the character to be printed.	nAmE CybEr
Maximum length of the company name can be 26 characters.	tECH
Make sure to move the CURSOR on the last character which is to be printed and press Zero. Characters after this position where enter is pressed will not be printed and will be treated as End of Text. Incase you wish to setup the name CYBERTECH INDIA. You must press enter at "A" the last character in the word CYBERTECH INDIA.	I ndI A

7 *RS232 COMMUNICATION (OPTIONAL)*

This menu can be accessed by pressing the ZERO and the TARE buttons together. This will allow user to setup multiple parameters like PRE-TARE, Sleep Mode, Glow Control etc using this menu, Options in this menu are explained below.

7.1 *User Command Table*

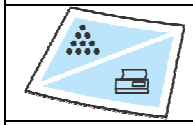
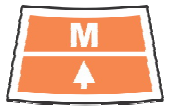
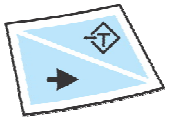
Step Description	Display
Tare The Scale	T
Zero The Scale	Z
Return Weight displayed on the pan	W

7.2 *RS232 Pin Out / Protocol*

Protocol	Pin Out
Baud Rate: 9600 Parity : None Data Bits : 8 Stop Bits : 1	1. NC 2. Data In (RXD) 3. Data Out (TXD) 4. NC 5. Ground 6, 7, 8 , 9 N / C

7.3 *RS232 Output*

3.1 *KEYS & FUNCTIONS*

SYMBOL	*PRIMARY FUNCTION*	*SECONDARY FUNCTION*
Power Switch	Power on & off machine	
 F / Left Shift	• Normal Press – Enable 10 times display function (Test mode).	• Long Press – Switch between normal weighing mode and Quick Weighing Mode • Left shift the selected digit during cal or other setup modes
	• Switch to piece counting mode	• Long Press – Initiate the Print Command • Switch to print data entry mode. Hold the C button and switch on the scale.
	• Switch to auto weight accumulation	• Long Press –Switch to Accumulation Model enable or Clear Accumulated valued • Up Shift to change option of selected digit. Ex change 0 to 1 to 2 to 3 etc & A to B to C etc.
	• Tare the weight kept on the pan • Manual Accumulation	• Right Left shift the selected digits during cal or other setup modes • Auto Zero Setting – Press, Hold the Tare button and switch on the machine.
	• Zero the weight kept on the pan.	• Enter Key – Accept the selected setting and exit from setting mode.

3.2 *ENUNCIATORS / SYMBOLS*

⏻	**Power LED** – Turn on to Green when power source is connected
HI	**HI Limit** – Turns on when the set Hi limit is crossed
LO	**LO Limit** – Turns on when the reading is below the set low limit
OK	**OK** – Turns on when the weight is within set limits
	**COUNTING** – The scale is in counting mode
	**STABLE** – The weight is stable
F	**FUNCTION** – Special function like SMART mode is on
Σ	**ACCUMULATION MODE** – The scale is in accumulation mode
%	**PERCENTAGE MODE** – The scale is in percentage weighing mode
M	**M** –The scale is in high resolution weighing mode
	**ZERO POSITION** - The scale is at zero
t	**TARED** – The scale has been tared with some value

4 USER FUNCTIONS

4.1 SWITCHING SCALE - ON / OFF

The scale is switched ON / OFF by using the Power switch located on the back side of the scale. Note: Make sure there is no weight on the scale before turning on the scale.

4.2 TARE

Step Description	Display
This function is to subtract the weight of actual tare. A Tare value is indicated by the "T" LED on the panel also referred as Tare LED	0.00
Place a container on the weighing pan (say 500g), then press the TARE button. The weight is tared and the machine will display zero and the tare LED will be ON.	0.50 0.00
To recall the tared weight, simply press the TARE button again. To TARE the value, again press the TARE button.	0.50

4.3 MANUAL ACCUMULATION

Step Description	Display
This function is to allow manual accumulation of weight. It will work only if the ACC option is selected to 0 in the MODE button setting. Keep a weight on the weighing pan(ex 500g). The display will show the weight.	0.50
Now press TARE. The display will show 0.00 Now keep another weight (ex 1kg), the display will show its weight. Now press TARE button. The display will show the total of the first value tared and the second weight tared.	0.00 1.50
Press TARE button again, the display will show 0.00. Now keep another weight, the display will show the weight. Press TARE button, the display will show the total of all the three weights (2.00g), press TARE button, the display will show 0.00	0.00 2.00

4.4 ZERO FUNCTION

Step Description	Display
Center of Zero is indicated by the "0" enunciator. You can press the ZERO / ENTER key to set the zero point from which all other weighing and counting is	0.00

6 OTHER SETTINGS

6.1 AUTO ZERO

Step Description	Display
Press and hold the TARE button and then switch on the indicator. The display will show A0 – X (0, 1, 2, 3).This is the auto zero setting. You can select the value using the MODE button. 3 mean 3d Default setting of Auto-Zero mode is 3d.	A-0 0
Press Zero to save the setting.	

6.2 CLOCK SETUP (NEW VERSION BOARD – 16 BIT) (OPTIONAL FUNCTION)

Step Description	Display
Switch off the indicator. Press & hold down the F button and switch on the scale. The scale after displaying startup version will show the time on the display, Make sure the clock is ticking..	19.07.00
To set the clock press Zero / Enter key and the display will show minutes value. Set the value by pressing the MODE / up button	08
Press Zero again to setup hours value	H 18
Press Zero again to setup Date value	dd 01
Press Zero again to setup Month value	MM 09
Press Zero again to setup Year value	YY 10
Switch off the indicator the clock is now set up	

reverse direction set the value of REV to 1. Possible value 0 -> Forward direction 1-> Send string reverse direction	
Press Zero again to move to the next option to setup delimiter for serial data output	dLi -0

5.7 DELIMITER FOR CONTINUOUS MODE

Step Description	Display
In the serial – continuous stream mode, the data sent can delimited by carriage return "CR" or "=" 0 -> Select Delimiter as "=" 1-> Select Delimiter as "CR"	dLi -0 dLi -1
Press Zero again to move to the next option to setup high resolution weight	F- 0

5.8 INTELLIGENT DUMMY ZERO

Step Description	Display
This function allows to enable or disable the dummy zero. The functions appends a dummy 0 at the end weight reading. Eg. 100.01 which represents 100kg 10g can will be displayed as "100.010" Possible values 0 -> Disable (By Default) 1 -> Enable	dUmy0 dUmy1
Press Zero again to move to the next option to setup keyboard lock setting	LOCh 0

5.9 KEYBOARD LOCK

Step Description	Display
This function allows the user to lock all buttons except tare and zero. The only buttons operational under this mode are TARE and Zero. The setting can be changed by pressing the M button when the display is in LOCK setting mode. LOC 0 means setting inactive and LOCK 1 means setting is active and keyboard is locked.	LOCh 0 LOCh 1
Press Zero again to move to the next option to setup second display setting.	S-d 0

measured. The zero will function within 20% of the internal zero setting. The indicator has an automatic auto-zeroing function to account for minor drifting or accumulation of material on the platform. This auto-zero range can be configured in the user setup. However you may need to press the ZERO / ENTER key to re-zero the indicator if small amounts of weight are shown when the platform is empty.	

4.5 SWITCHING BETWEEN Kg/Litre Mode

Step Description	Display
Press M button to switch between kg weighing mode and litre mode.	0.00
When the scale is working in the litre weighing mode, the weight kept on the scale will be displayed prefixed with L.. This function is more helpful when the scale is being used for packing pre-defined quantities. NOTE: The present working unit is indicated by the F enunciators	L 0.00

5 SCALE SETTINGS / USER PARAMETERS

This menu can be accessed by pressing the ZERO and the TARE buttons together. This will allow user to setup multiple parameters like PRE-TARE, Sleep Mode, Glow Control etc using this menu, Options in this menu are explained below.

5.1 PRE TARE

Step Description	Display
Pre-set Tare is a known tare value. Pre-set Tare is indicated by the "P-TARE" display message followed by the tared value during startup of the machine.	0.00
Setting Pre –Tare: With an empty pan Press Zero + TARE - "P-tArE" will flash on the display, press ZERO key once again all zeroes will be displayed. Now enter a value (ex.200g), using M key to change the blinking digit & F key to shift the blinking digit to the left. Exit the setup menu by pressing the Zero / Enter key 16 times till the scale comes to the weighing mode. The Pre-set Tare will be displayed as a negative value (no weight on the pan).	P tArE 0.00 -0.200

Note: The pre set tare value when entered becomes permanent that is when scale is switched off and then switched on the display will show the "P- tare" momentarily and then the entered value in – 0.200. To clear the Pre-set Tare value, you will again have to go in the setting mode by pressing ZERO + TARE and change the pre tared entered value to 000000 with the pan empty.	
Press Zero, the scale will move to the next setting to setup sleep mode	SLEEP0

5.2 SLEEP MODE

Step Description	Display
The indicator has a power saving mode called the SLEEP MODE. The default value is 0., meaning the indicator does not go to sleep. The Normal backup time when the sleep mode is switched off is 20 to 30 Hours, and with the SLEEP mode switched on, the battery back-up time increases to more than 60 Hrs depending on the sleep mode setting.	SLEEP0
To set up power saving mode set the value of Sleep from a range of 1-9 meaning 1 to 9 minutes. Set the value by pressing the M button. Press the M button twice to set the value at 2. Now if the indicator is idle for 2 minutes, that is there is no weighing being done, the display will simply show the decimal point of the right most digit on the display. Whenever any weight is kept, the indicator will automatically come out of the SLEEP MODE and start displaying the weight. It is important to know that SLEEP mode increases the battery back-up time by double. To disable sleep mode set the value at 0.	SLEEP0 SLEEP1 SLEEP2
Press Zero again to move to the next option to setup Glow setting	GLOW 0

5.3 LED GLOW

Step Description	Display
The display GLOW strength can be increased or decreased depending upon the user requirement. Increasing the GLOW of the display will effect the Battery back up time, and the battery life. The GLOW setting is set to minimum by Default. If the user wants to increase the GLOW of the display, it can be	GLOW 1

done as follows. Default value is 0. You can set the value from 0-2	
In the setting mode when the display shows "GLOW 0" press the MODE button, and you will notice the GLOW of the display is increased as Glow 1 2.	GLOW 2
Press Zero again to move to the next option to setup averaging filter setting	FILT-2

5.4 MOTION / AVERAGING FILTER

Step Description	Display
This setting allows you to set the filter intensity for digital readings from the ADC. This is helpful in optimizing the performance of indicator weighing when minor vibration are there in the environment. If weak filter is set, the response will be fast, but will be more sensitive to external influences such as vibration.	FILT-2
In the setting mode when the display shows "FILT-2" press the MODE button, and you will notice the value of filter is increased. The value can be set from 1=5	FILT-5
Press Zero again to move to the next option to setup serial port mode	Cmd 0

5.5 SERIAL MODE

Step Description	Display
This is the serial port mode setup as command (bidirectional) or continuous stream mode. The value can be be set as 0 -> Continuous Stream mode 1-> Command Mode	Cmd 0
You can change value from 0 to 1 by pressing the Mode button	Cmd 1
Press Zero again to move to the next option to setup serial port mode	rEU 0

5.6 SERIAL MODE DATA REVERSE

Step Description	Display
The data in the continuous mode can sent in forward or reverse direction. If the data needs to sent in the	rEU 1