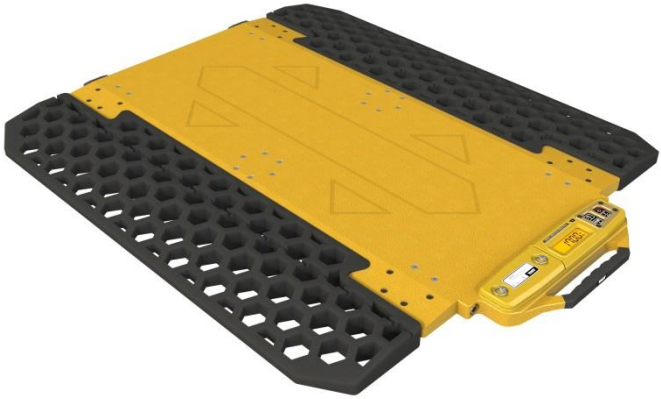
TXDi- series VER 201

Vehicle Weighing Scale

OWNER'S MANUAL



NOTE

(1) The unauthorized copying of some or all of this manual is prohibited.
(2) The information contained herein is subject to change without notice.
(3) If there are any questions such as wrong or missing parts of the contents listed in this manual, please contact us.
(4) To improve the product performance, functions can be changed with no notice.
(5) Please understand that TMT does not have responsibility for a demand related to loss, lost profit etc. caused by operating the product, regardless of the third clause.

WARNING DEFINITIONS

	This is warning & caution mark
	This is hazard alert mark
	This is useful information mark

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1. Precautions

⚠ Please be informed that we're not responsible for any incident or mishap caused by partial modification of this product. To avoid such situation, customers need to contact our customer service team or system installation staff in advance, and any modification should be conducted under our surveillance.

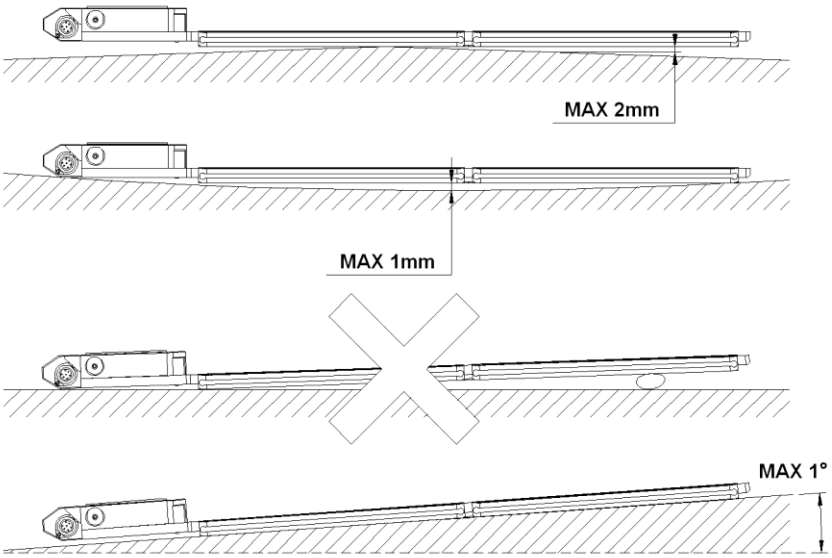
- Use only approved enhancements and batteries. Do not connect incompatible products. Use only batteries, chargers, adaptor, and enhancements approved by TMT for use with this particular model.
  The use of any other types may invalidate any approval or warranty, and may be dangerous. For availability of approved enhancements, please check with your dealer.
- Do not install the scale in strong direct sunlight and dust.
- Please confirm that the local voltage is correct for the power adapter.
- Do not use inflammable substances for cleaning.
- Avoid sudden changes of temperature if possible
- Do not use the product in a place with a high-voltage current or severe electronic noise.
- Do not use the product in a place with severe vibration.
- Do not put too much pressure to keys.
- Avoid from the shock of excessive weight.
- MICRO USB-B port is for firmware update.
  Do not connect for any other purpose.

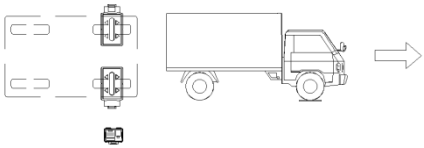
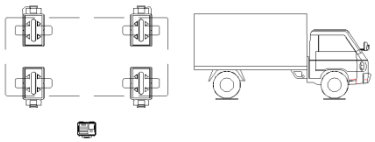
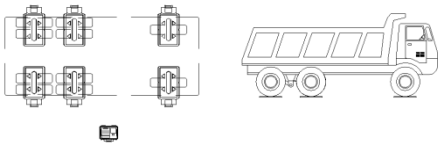
2. Introduction

- Easy to exchange the battery pack.
- Slim(34mm) type.
- Weigh-In-Motion(WIM)
- Outstanding water resistant(IP66) and vibration proof effect.
- Wireless communication: ZigBee
- Long battery lifetime by one time charging

3. Installation

Be cautious of below situations, when placing the product on the road.



Weighing method	Description
Sequential 2 Axle, 2 Plate Accuracy: ±1~3% (WIM: ±3%) **[Scale ID]** Axle 1☞ Left: 1 / Right: 2	 ⚠ In case of Weigh-In-Motion (WIM), you must install the dummy pad (longer to the length of the vehicle) back and forth on scale.
Synchronous 2 Axle, 4 Plate Accuracy: ±0.1% **[Scale ID]** Axle 1☞ Left: 1 / Right: 2 Axle 2☞ Left: 3 / Right: 4	
Synchronous 3 Axle, 6 Plate Accuracy: ±0.1% **[Scale ID]** Axle 1☞ Left: 1 / Right: 2 Axle 2☞ Left: 3 / Right: 4 Axle 3☞ Left: 5 / Right: 6	 ⓘ Can be installed up to maximum 6 axles

ⓘ As shown above, if it is used with the indicator, please refer to indicator's operating manual.

4. Use of Battery Pack

Use only approved power adaptor and batteries.

Do not connect incompatible products.

The use of any other types may invalidate any approval or warranty, and may be dangerous. For availability of approved enhancements, please check with your dealer.

4.1. Indicate battery level

The battery level is displayed for a while when the power is turned on.
(Display in 10% increments)
Ex : bAt 70 (70%)

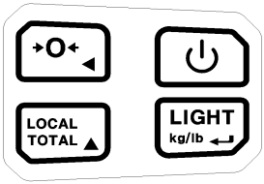
4.2. Battery charging

Step1. Turn clamps that exit on both sides of battery cover to the right in a quarter.
Step2. Pull out a battery.
Step3. Check the battery polarity and insert it into the charger.
Step4. The RED lamp lights up when charging.
Step5. If a charging is completed, the GREEN lamp is on.
Step6. The battery charging time takes about 3~6 hr.
(Charging time is subject to be changed according to battery condition & capacity.)

4.2. Battery lamp

In order to prevent the electric discharge, after r is on**,** the power will be turned off automatically after about 1~5 hours.
(It's subjected to be changed according to using conditions.)

5. Description of Panels and Symbols



Display	
88888	Indicates weight and status
-	Displayed when the weight is minus
	Indicates when a battery has to be recharged
ZERO	Displayed when the weight is zero
LO	Slip mode (Only works in static mode)
OK	Indicates in-motion mode(TXI-500F + TXDi) Communication between pads (TXDi + TXDi)
HI	Total weight display pads (TXDi + TXDi)
kg	Indicates the weighing unit kg
lb	Indicates the weighing unit lb
O	Displayed when the weight is stable

Key	
	Turn on and off the scale.
	Return the display to zero (Operate within 10% of capacity)
LOCAL TOTAL	Total display mode on and off ⚠Total display mode can't be run one or more and can't be operated in WIM mode.
LIGHT kg/lb	Press and hold this key for 2 seconds, Use to change weight unit ⚠ The scale's unit is also changes Press this key , use to back light on and off

6. Setting Mode

How to enter	When the display is off, press [⏻] key while pressing [LOCAL TOTAL ▲] key then this setting mode is stared.
Used keys	[→0←]:Used to set up an initial zero value / Increase the digit of value (F03) [LOCAL TOTAL ▲] : Used to increase the setting constant one by one. [LIGHT kg/lb ↵] : Used to move next menu after completing input value.
F01 (01 ~ 09)	Adjustment the speed of weight change (Initial value : 5) ex) F01-1: Very fast ~ F01-9: Very slow
F02 (00 ~ 99)	Automatic zero condition (Initial value : 2) ex) F02-0 : Not used F02-3: Compensation for gradual change below 1.5division. F02-9: Compensation for gradual change below 4.5division.
F03 (01 ~ 99)	Scale ID number (Initial value : 1) ex) F03-1: ID 1 , F03-12 : ID 12
F04 (0, 1)	Weighing-In-Motion (WIM) (Initial value : 0) ex) F04-0: Not used / F04-1: Used In the WIM mode When "SLo", "FASt" message occurs, in order to initialize, press [LOCAL TOTAL ▲] key. Then, must be measured weight again. Maximum vehicle speed: 10km/h (6mi/h)
F05 (0 ~ 5)	Adjusting the brightness of the backlight (Initial value : 2) ex) F05-0: 0% brightness ~ F05-3: 60% brightness
F06 (0 ~ 9)	Display speed (Initial value : 5) ex) 50msec, ~ 9 : 500msec
F07 (0 , 1)	Backup mode (Initial value : 0) ex) F07-0: normal, F07-1 : backup

F08 (00 ~ 99)	Stable division (Initial value : 2) ex) F08-04 : 1division , F08-08 : 2division
F09 (00 ~ 99)	Stable time (Initial value : 20) ex) F08-02 : 0.2sec , F08-20 : 2sec
F 10 (0 , 1)	Zero key (Initial value : 0) ex) 0: steady, 1 : Anytime
F 11 (0 , 1)	Backlight color (Initial value : 1) 0 : ember , 1 : green
F 12	No function
F 13	No function
F 14 (0 , 1)	Sleep mode buzzer (Initial value : 0) ex) 0: Not used , 1 : Used
F 15 (00 ~ 99)	Sleep mode time (Initial value : 0) ex) 0: Not used , 1 : 5sec , 6 : 30sec
F 16 (01 ~ 99)	Sleep mode weight division (Initial value : 3) ex) 1 : 5division , 5 : 5division
F 17 (00 ~ 16)	Number of pads to be linked wireless (Initial value : 0) ex) 0: Not used(TXI-500F + TXDi), 4: 4 Pads linked (TXDi + TXDi)

7. Power Saving Mode

Up to 120 hours(static) of use(in motion 70 hours)
Based on using Power Saving mode, 3.7V 3500m
(When not using power saving mode Max 50 hours)

◆Enter Power Saving mode
Condition 1 : Weight stable
Condition 2 : Weight is within zero point + set value (F16)
Condition 3 : When condition 1 is satisfied for the set time(F15)

◆Exit Power Saving mode
Condition 1 : Unstable weight
Condition 2 : or or Key press
(static : When key is pressed for more than 0.5 seconds)
Condition 3 : When the weight exceeds the zero point + set value(F16)

◆Confirmation or precautions when using power saving mode

- During power saving mode, the zero key command sent by the indicator(TXI-500F) is not recognized.
- The indicator's(TXI-500F) power off synchronization does not work during power saving mode.
- During power saving mode, the * key mode switch function of the indicator(TXI-500F) does not work. (TXI-500F, F19-1)
- While the pad is in power saving mode, turning on the indicator(TXI-500F) will display a communication error with the pad.
- When exiting the power saving mode, there may be a slight error from the set value(F16).
  (At this time, the weighing is for exiting the power saving mode and there is no error in the weight if it is not in the power saving mode.)
- While the pad is in power saving mode, the pad does not operate on the indicator(TXI-500F) commands.
-

⚠ If there is a pad that has entered the power saving mode, do not use LIGHT key(Unit change key)
(It changes to the unit of weigh of the pad that wakes up in power saving mode)

8. Test Mode

How to use	When the display is off, press ⏻ key while pressing →0← key then this test mode is stared.
Used keys	→0← LOCAL TOTAL : Used to test the scale. LIGHT : Used to move next menu.
tESt 1 0	TEST 1 : Key test Initial display is '0'. Press a key that you want to test, and then the display message will be shown. (→0←:1 / LOCAL TOTAL: 2 / LIGHT: 3)
tESt 2 	TEST 2 : Display test It operates automatically and the whole display is ON.
tESt3 5138	TEST 3 : Load cell test The value is the conversion constant for A/D. The value may be different according to scale models. Please check if the displayed number is easily changed with giving force to a scale. If the displaying number is not changed or remains '0', then it needs the service after sales.
tESt4 L iGht	TEST 4 : Back light test →0← : Turn on and off the back light. LOCAL TOTAL : Change color
tESt5	BATTERY TEST(%)

9. Paring Mode

Step 1	turn on the power during you press LIGHT Key.
Step 2	When you can see G-CAL on the screen, press LIGHT Key once again
Step 3	**F17 – 2~16 :** After SEL appear on screen, if you can press LIGHT Key once again on Master, there will appear nSt. In this case, press LOCAL TOTAL key, SLU appear on screen. **F17 – 0 :** rFSEt appear and wait (Waiting for indicator(master) pairing signal)
Step 4	When you press LIGHT key on MASTER and finish PAIRING mode, move to weight measurement mode.

* The Equipment numbers for each pad designate on F03 and total connect pad quantity designate on F17.

* You can see the total amount of the weight for each pads when you press LOCAL TOTAL key.

10. Pad to Pad Communication(F17 - 2~16)

- It does not neter power saving mode while Lamp OK displayed
- When OK is displayed all keys are synchronized between pads

  (If you want to use keys that apply only to each pad, use LOCAL TOTAL key to terminate the communication)
- Changed to the unit weight of the pad showing the total weight

  (changed to the unit weight of the pad pressing LOCAL TOTAL key

11. Specifications

◆ TXDi - 501F / 502F / 505F

Model	TXDi -501F	TXDi 502F	TXDi -505F	TXDi-505F (NTEP CLASS IIII)
Capacity	2,000 lb / 1,000 kg	4,000 lb / 2,000 kg	10,000 lb / 5,000 kg	10,000 lb / 4,540 kg
Division	2 lb / 1 kg	5 lb / 2 kg	10 lb / 5 kg	50 lb / 20 kg
Dimensions	674 x 532 x 50 (mm)			
Platform size	500 x 380 x 34 (mm)			
Net weight	Approx. 17 kg (Included ramp)			
Operating time	Approx. 50 hr , 120hr(power save mode)			

◆ TXDi - 710F / 715F

Model	TXDi -705F (NTEP CLASS IIII)	TXDi -710F (NTEP CLASS IIII)	TXDi -710F	TXDi -715F
Capacity	10,000 lb / 4,540 kg	20,000 lb / 9,080 kg	20,000 lb / 10,000 kg	30,000 lb / 15,000 kg
Division	50 lb / 20 kg	50 lb / 20 kg	20 lb / 10 kg	20 lb / 10 kg
Dimensions	886 x 730 x 50 (mm)			
Platform size	700 x 500 x 34 (mm)			
Net weight	Approx. 23.5 kg			
Ramp weight	Approx. 1.6 kg x 2 pcs			
Operating time	Approx. 50 hr , 120hr(power save mode)			

◆ TXDi - 910F / 915F / 920F

Model	TXDi -910F	TXDi -910F (NTEP CLASS IIII)	TXDi -915F	TXDi -920F
Capacity	20,000 lb / 10,000 kg	20,000 lb / 9,080 kg	30,000 lb / 15,000 kg	40,000 lb / 20,000 kg
Division	20 lb / 10 kg	50 lb / 20 kg	20 lb / 10 kg	50 lb / 20 kg
Dimensions	1066 x 840 x 50 (mm)			1066 x 940 x 50
Platform size	900 x 500 x 34 (mm)			900 x 600 x 34
Net weight	Approx. 28 kg			Approx. 36 kg
Ramp weight	Approx. 2.9 kg x 2 pcs			
Operating time	Approx. 50 hr , 120hr(power save mode)			

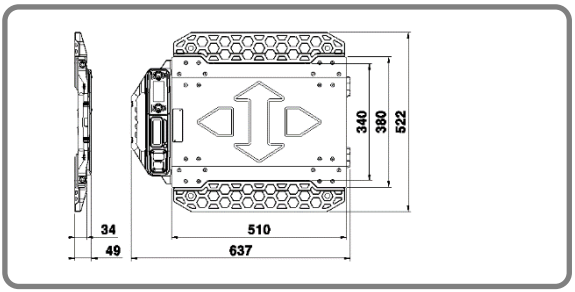
◆ General specification

Operating time	120hr (static) , 70hr(in motion)
Safe overload	150% of capacity
Display	6 digit FSTN LCD (Height: 15mm)
Backlight	Amber LED backlight
Output data rate	10 times/sec(Static), 100 times/sec (WIM)
Temperature	-20℃~60℃
Operating humidity	85% R.H. (No condensation)
Power	3.7V⎓ 3.5A Lithium ion battery (18650)

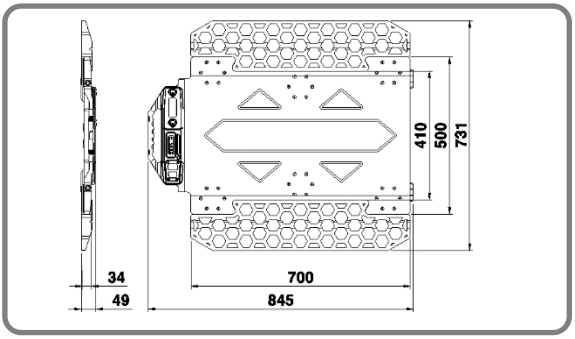
◆ Wireless specification

Wireless method	ZigBee
RF frequency range	2400 ~ 2483.5 MHz
Output power	Max. 6.479dBm
Channel width	5 MHz
Frequency offset	< ±30ppm
Transmit data rate	250Kbps,500Kbps
Receiver sensitivity	-99dBm (PER <1%)
Maximum input level	0dBm
RF In/out impedance	50 ohm (TXRF, RXRF)
Spurious (2nd harmonics)	< -30dBm
Radio link effective range	Approx. 30M (Open space)

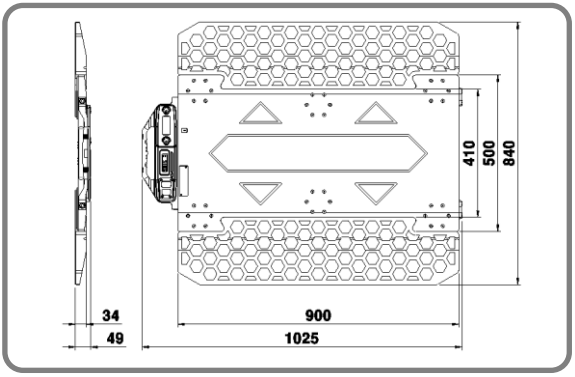
◆ **TXDi-501F / 502F / 505F Dimensions [mm]**



◆ **TXDi- 710F / 715F Dimensions [mm]**



◆ **TXDi-910F / 915F Dimensions [mm]**



12. Check Message

Code	Description
Ch 01	Calibration resolution over 1/30000
Ch 02	A/D not stable
Ch 03	When the weight value is not correct in the calibration
Ch 04	When there is something wrong with the stored memory
Ch 05	When the entered value is out of range
Ch 06	When there is error more than 20% of calibration zero point when power is ON
Error0	System error(Remove and reinsert the battery)
FASt	In the WIM, occur when the vehicle's speed is too fast. Please pass the vehicle with 10km/h(6mi/h) or less.
SLo	In the WIM, occur when the vehicle's speed is too slow.
ouEr	The scale's weight is over maximum capacity. Don't load the article whose weight is heavier than the maximum capacity.
CELL	No load cell connection
rF-Err	Pairing Error
rF-XX	No wireless connection (XX : pad number) (TXDi + TXDi : Last pad number that could not be communicated)
bAt Lo	Low battery level(Power turns off after display)

[MEMO]