



# **RTG - TPMS - 8 INSTALL MANUAL**

**Revision : V 1.04**

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## RTG-TPMS-8 OVERVIEW

RTG-TPMS-8 is the tire pressure monitoring system for the gantry crane, it monitors the pressure of tire full-time and alerts the driver with sound and light, at the same time the system can mutually interchange information with PLC, PC via communication socket.

The system is made up of sensors, repeater and master. It can offer monitoring for 8 tires at most.



Figure 1 Master



Figure 2 Repeater



Figure 3 Sensor

### 1. Master Install Manual

#### 1.1 Master overview



Figure 4 Master

## 2 . Accessories of Master

- ( 1 ) Power Wire  
3-metre long power wire
- ( 2 ) Communication Wire

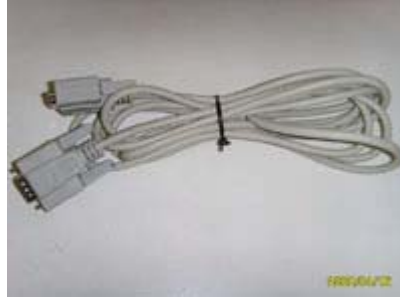


Figure 4 Communication Wire

## 3 . Installation Step

### 1 . Fasten the Master on right position in the cab

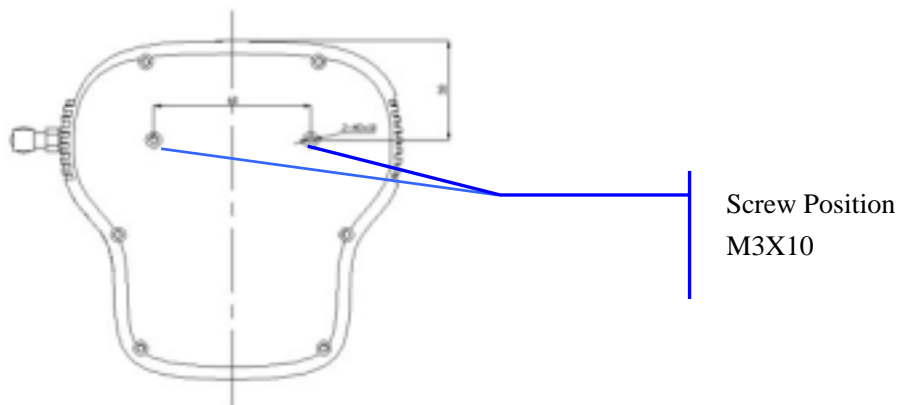
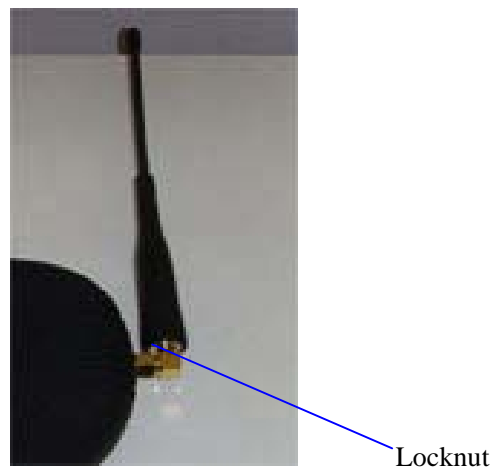


Figure 6 Screw Positions for Installing the Master

### 2 . Adjust the angle of antenna to be vertical to master, screw the locknut on the antenna tightly.



### 3 . Connect the power wire

Plug power plug into master power socket, and fasten power wire with tie.

*Note: Connect the red wire to anode 24V and black wire to cathode, screw the nut tightly.*



Figure 8 Power Wire Socket

### 4 . Connect the communication wire

Plug DB9 connector into the Master socket, screw the nut tightly



Figure 9 Communication Wire Socket

*Note: If no request, communication wire may not be installed.*

### 5 . Error sign wire connection with PLC

Connect one end (DB9 pin) of the error sign wire to the DB9 socket and fasten the screw. another end to the PLC I/O contact.

*Note: Connect the red wire to contact end of the PLC I/O module, black wire to the PLC GND.*



**Caution Power Polar !**

## 4 . Introduction of LED indication

When the pressure information transmitted by Sensors inside 1-8 tires are received, LED corresponding with tires on the Master will offer the corresponding indication. LED indicates green when pressure is normal. When pressure of any tire is lower than the low threshold of pressure, LED corresponding with tire will indicate red, at the same time LED light will flash with buzzer beep.

When buzzer alarm, press any key on Master to stop beep, red LED will return into green until pressure of tire recover normality and Master receive data of normal pressure.

When one of the sensors fails to work or Master could not receive the data for the interference from RF in the certain time, LED corresponding with the sensor will go out

automatically. LED light will return into green or red depended on pressure value until information of the sensor can be received.

## 5 . Setting Guide

### 1 ) Sensor ID Setting

- 1) Press **ID** key and hold it for 3 seconds long, then release the key, as shown below. Digital "1" began to flash, at this time you can adjust it to the tire number you want by key ,such as **▲** , **▼** , and then press **ENTR** . If you want to exit the setting of ID modified, adjust to" E" and then press **ENTR** to exit.



- 2) Then come into the interface of the tire unique ID you have chosen, the first digit on the right will flash, adjust the digit by **▲** , **▼** and adjust the position of digit by **▲** , **▼**



After adjustment, press **ENTR** to save the specified unique ID, then automatically come into next tire number, repeat step 1 to set other ID.

### 2 ) Low Threshold Pressure Setting

Press **P** Key and hold it for 3 seconds long, then release it, picture will be shown like as below, the first digit on the right will flash, adjust the digit flashing by **▲** , **▼** and adjust the position of digit by **▲** , **▼** After adjustment, press **ENTR** to save current setting.

Note:

1. Unit of pressure is indicated to be P or b, representing Psi or bar.
2. Value set is relative pressure value.
3. It is suggested that pressure value of tire on crane is set to be 9.50bar.



### 3) Setting Pressure Unit

Press  key and hold it 3 seconds long, then release it. picture like down will be shown, digit 1 will flash, at this time adjust the digit to 2 by  、 , then press .



At this time enter the step as below. You can press  、  key to choose one from two alternation pressure unite in Psi (abbr. P) and bar (abbr. b) , then press  to exit .



### 4) Setting PLC type

Press  key for more than 3 seconds, picture like down will be shown, digit 1 will flash, at this time adjust the code of function you require by  、 , then press .



Then come into the picture shown down, select the code of PLC required by  、 , then press .



Index	Index Type of PLC	PLC Model
1	0	PC
2	1	Anchun PLC- CP370
3	2	Fiji PLC( not support currently )

### 5) Display Pressure Value in turn

Pressure value of all tires will be displayed in turn when no action of pressing key on Master. The first digit on the left indicates current tire number (1-8). The second digit indicates current unit of pressure, “P” stands for “psi”, “b” for “bar”. The back four digits indicate current pressure.





## 2. Repeater Installation Manual

### 1. Assemble position sketch map

The four repeaters should be installed on the I-section Beam of the equipment. They are on upper and lower side of the RTG separately.

### 2. Installation Step:

Prepare Tool: screwdriver, M13 aid-spanner, M10 spanner, 3M insulating tape, fastening tie.

1. Fixing repeater at bottom board of the I-section beam, place proof-water connector adown. Fill up rubber gasket and fasten screws.
2. Connect the power wire, then fasten power wire and avoid wire loosening.

*Note : Brown wire stand for +24V, Blue wire stand for cathode.*

### 3. Indicator Light



Indicator Light Position

There are three red LED lights on the side cover of the repeater. As shown in the above figure, from left to right, they are Power Indicator Light, Emitting Indicator Light and Receiving Indicator Light.

**Power Indicator Light:** It will be on all the time when the repeater is connected with the power and the system is powered on.

**Emitting Indicator Light:** It flashes rapidly when the repeater is under emitting status.

**Receiving Indicator Light:** It flashes when the system receives effective RF information.

### 4 . Mechanism Characteristic

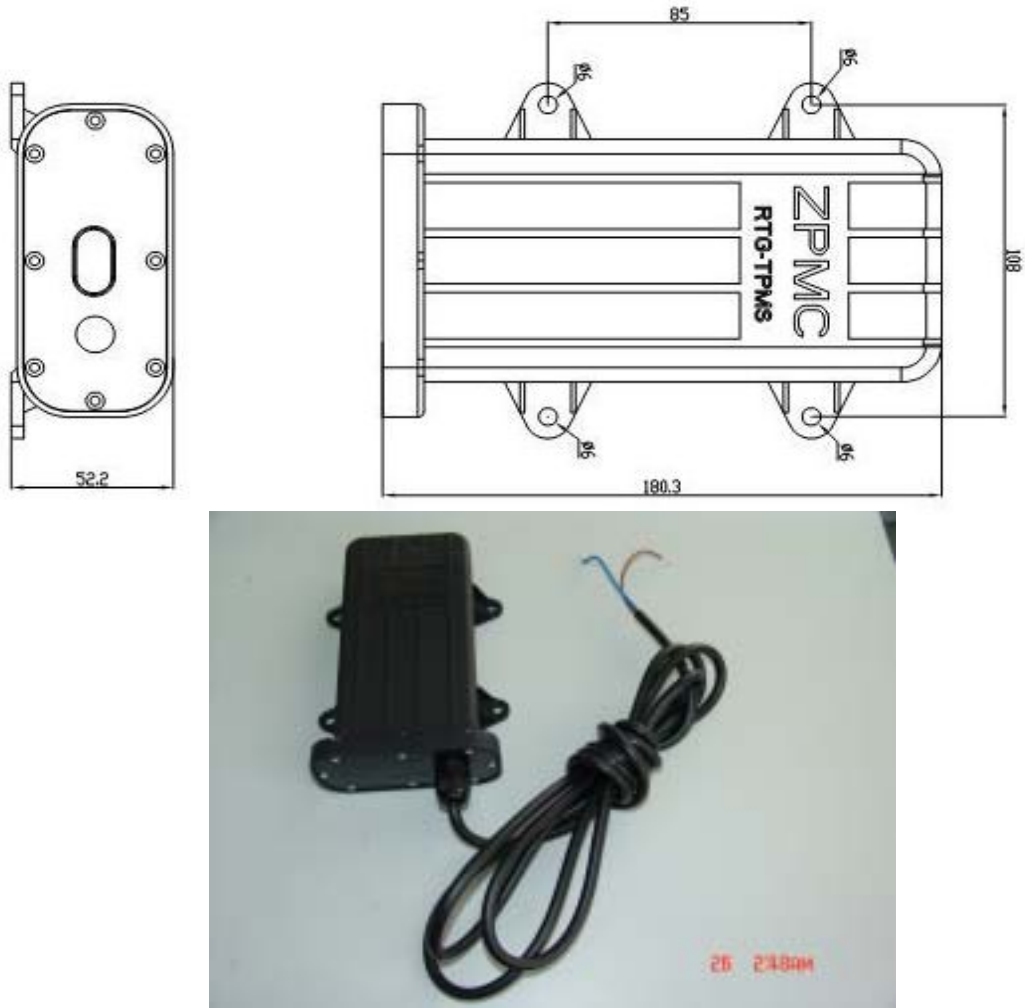


Figure 10 Repeater Size

## 3. Sensor Installation Manual

### 1. Installing the triple-valve accessories



End for inflating

Locknut

Sensor

Figure 11 Sensor with Triple-Vale Accessories

## 2. Installation Step

1) All the 8 Sensors are labeled with tire position numbers and ID code numbers, shown as below:



Figure 12 ID Code: 012012

2) Enter the corresponding Sensor ID Codes into the Master according to the tire position numbers shown below. Refer to Step 5.1 for the way to enter the codes.

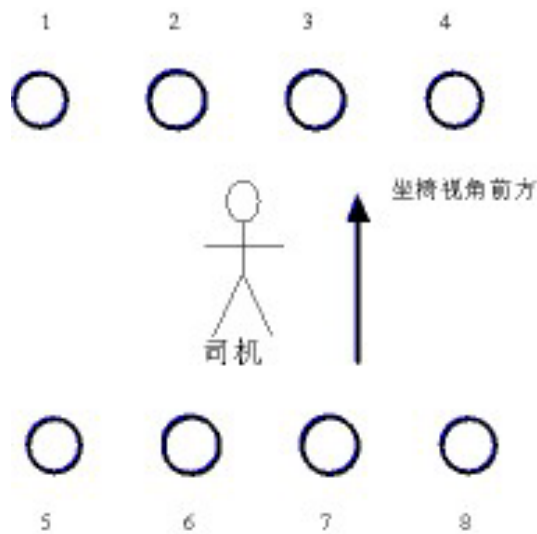


Figure 13 Tire Position Number

3) Screw the cap off the valve, then screw on the provided M14 locknut toward the tire valve. Next, screw on the triple-valve assembly to the tire valve until it is against the M14 locknut. Screw the M14 locknut reversely until it is against the top surface of the triple-valve.

- 4) Use M3 socket head wrench to tighten the 6 locknuts.

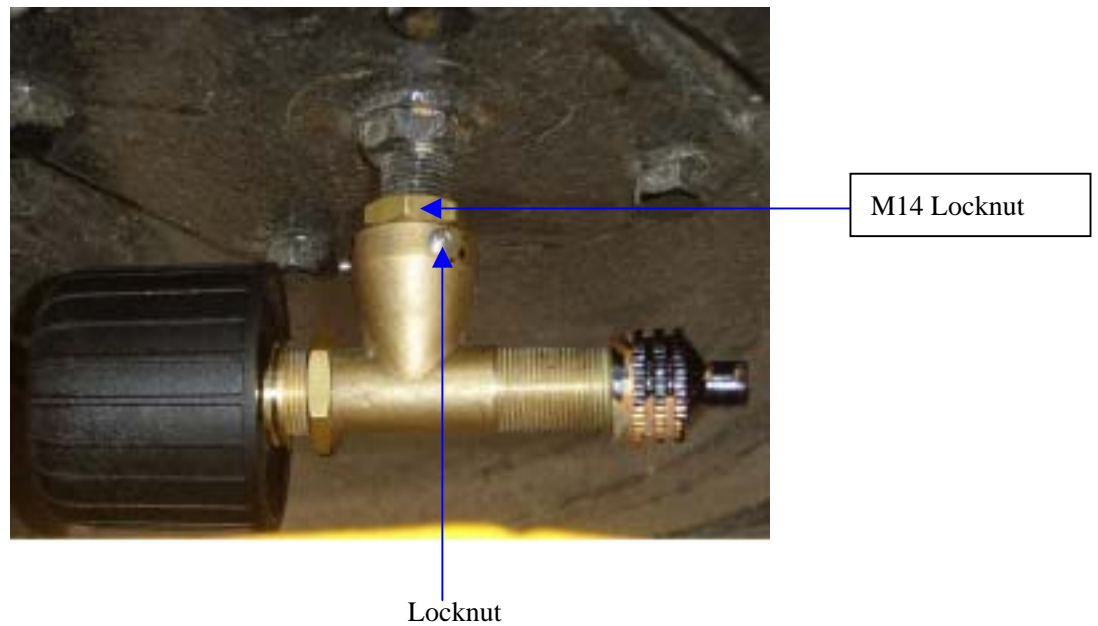


Figure 14 Installation of the triple-valve assembly for Sensor

- 5) Screw on the tire valve cap to the inflating end of the triple-valve.  
6) Check if there is air leakage through soap bubbles.

### 3. Notes:

- 1) Check if all accessories are all ready before installation and if it is tight between rubber washer and plug, whether it is trim on the side.
- 2) If it is not airproof, screw sensor off, and screw it on again to ensure airproof.
- 3) Sensors must be installed after the installation of the Master and transmitter.

## 4. Maintenance Guide

### 1 . Sensor

- 1) Master issues Sensor trouble alarm

Reason:

- A . Sensor hasn't transmitted the data during the 24 hours
- B . The signal transmitted by sensor is very weak, not being received.

Solution:

- 1 . Connect RTG-TPMS to the power.
- 2 . Screw off the sensor and wait for 30 seconds.
- 3 . Ask the driver if Master offers alarm. (At this time LED corresponded with tire number is red.)
- 4 . If not, then screw the sensor on the valve, redo the operation several time. If there is no alarm yet, the sensor must fail to work. Please change the Sensor.

### 2 . Repeater

1. power indication light does not light

Reason:

- 1 . The power of repeater does not connect well
- 2 . Light fails to work.

Solution:

- 1 . Measure by multimeter whether input voltage is 24V.  
(1) No, check the power supply of system      ( 2 ) Yes, next step
2. Replace transmitter, and hand it in the technologist.

### **3 . Master**

- 1 . No display and No sound of Key

Reason: power is not connected well.

Solution

- 1 . Check the power
  - a. yes, replace the Master
  - b. no. check system of power supply.
2. LED light has no indication.

Reason:

IC of LED driver fails to work

Solution:

1. Return to repair

#### FCC Caution

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

#### FCC Notes:

The manufacturer is not responsible for and radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.