

TELE RADIO TIGER G2

INDUSTRIAL RADIO REMOTE CONTROLS

Installation instructions



RECEIVERS: TG-RX-MXR12
TRANSMITTERS: TG-TX-MDR10, TG-TX-MNR6

LANGUAGE: English (original)

TELE RADIO[®]
REMOTE CONTROL

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CHAPTER 1: CUSTOMER INFORMATION

THANK YOU FOR PURCHASING A TELE RADIO AB PRODUCT

READ ALL INSTRUCTIONS AND WARNINGS CAREFULLY BEFORE MOUNTING, INSTALLING AND CONFIGURATING THE PRODUCTS.

These instructions are published by Tele Radio AB without any guarantee. The instructions may be removed or revised by Tele Radio AB at any time and without further notice. Corrections and additions will be added to the latest version of the instruction.

IMPORTANT! The instructions that contain information on the installation and configuration of the radio remote control unit on the machine are not intended to be passed on to the end user. Only such information may be passed on to the end user that is needed to operate the machine correctly by radio remote control.

Tele Radio AB products are covered by a guarantee/ warranty against material, construction or manufacturing faults. During the guarantee/ warranty period, Tele Radio AB may replace the product or faulty parts with new. Work under guarantee/ warranty must be carried out by Tele Radio AB or by an authorized service center specified by Tele Radio AB. Contact your Tele Radio AB representative if you need support or service.

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WARNINGS & RESTRICTIONS

IMPORTANT! Tele Radio remote controls are often built into wider applications. We recommend that the system is provided with a wired emergency stop where necessary.

NOTE! We recommend that the functionality of the STOP button is being tested at a regular basis: At a minimum, when used for 200 hours. Test the STOP button by pressing it and pulling it out.

INSTALLING, CONNECTING AND MOUNTING

- Allow only licensed or qualified personnel to install the product.
- Switch the power supply off to the receiver before connecting the equipment.
- Check that you have connected the power supply to the correct connection terminal.
- To utilize the safety of the system, use the stop relays in the safety circuitry of the object that you want to control.
- Use undamaged cables. No cables should hang loose.
- Avoid installing in areas affected by strong vibrations.
- Place the receiver well away from wind, damp and water.
- Cable glands and vent plugs must face down to prevent water from seeping in.

THE USER

- Make sure that the user is following the instructions.
- Make sure that the user has reached the certified age of your country to operate the equipment.
- Make sure that the user is not under the influence of drugs, alcohol and medicines.
- Allow only qualified personnel to have access to the transmitter and operate the equipment.
- Make sure that the user does not leave the transmitter unsupervised.
- Make sure that the user always turns the transmitter off when not in use.
- Make sure that the user keeps a good overview of the work area.

MAINTENANCE

- Use the stop button to start and turn off the transmitter as often as possible.
- When error messages are shown, it is very important to find out what caused them.
- If the stop button is mechanically damaged, contact your representative for service immediately.
- Always contact your representative for service and maintenance work on the product.
- Write down the serial numbers/ ID codes of the receivers and transmitters used. This information should be recorded on the “Settings document” for your product (download from our website).
- Avoid registering transmitters to receivers where it is not being used.
- Keep the safety instruction for future reference. Always download the configurations instruction from our web site for the latest version available.

CHAPTER 2: SYSTEM INFORMATION

APPLICATION AREA FOR THE TIGER SYSTEM

The Tele Radio AB Tiger remote control systems are aimed for remote controlling of lifting or mobile equipment where a high safety level is required.

AUTHORIZATION BY PIN CODE

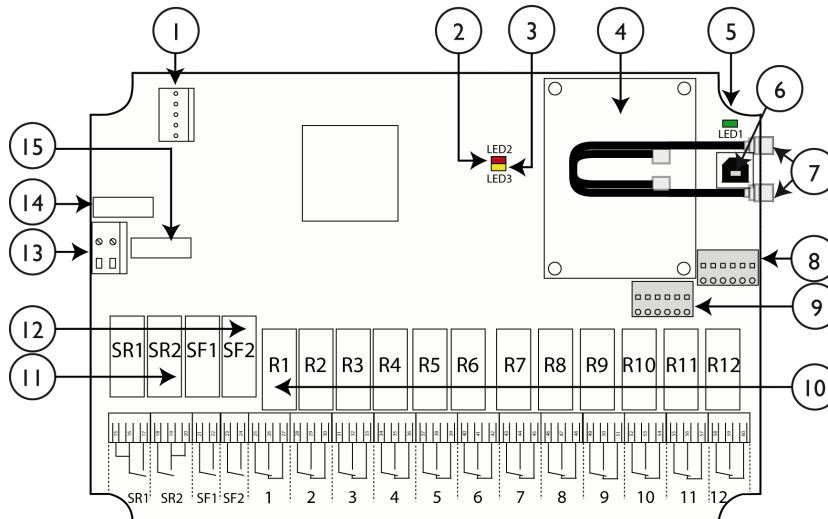
To prevent from unauthorized users being able to start the transmitter and control the receiver, you can enable PIN codes for start-up protection. 1-10 PIN codes can be stored in the TG-TX-MNR6 and TG-TX-MDR10 transmitters.

CHAPTER 3: PRODUCT PAGES

TG-RX-MXR12 RECEIVER

WARNING! The receiver must NOT be opened by any other than a qualified installer. Make sure to turn the electricity off before opening the receiver.

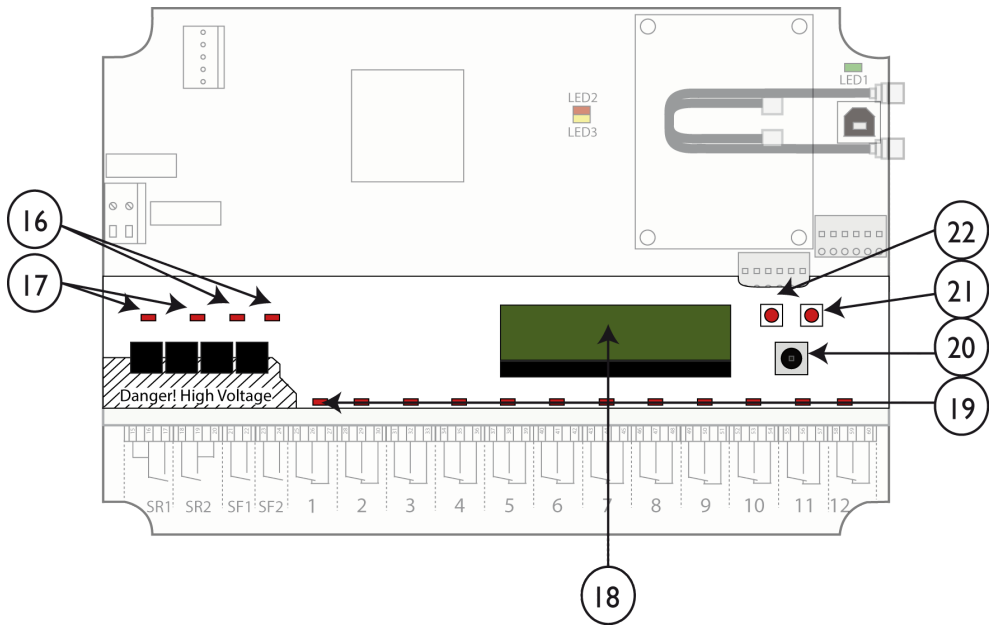
IMPORTANT! Tele Radio remote controls are often built into wider applications. We recommend that the system is provided with a wired emergency stop where necessary.



Base board- no display board mounted:

1. Rectifier bridge connector	9. Terminal block for digital I/O
2. Function LED 2 (red)	10. Function relays 1-12
3. Function LED 3 (yellow)	11. Stop relays 1-2
4. Radio module	12. Safe function relays 1-2
5. Function LED 1 (green)	13. Terminal block for input power
6. USB programming connector	14. Obligatory fuse: Ceramic 3.15A(T)
7. Antenna connectors	15. Optional fuse
8. Terminal block for RS232/ RS485	

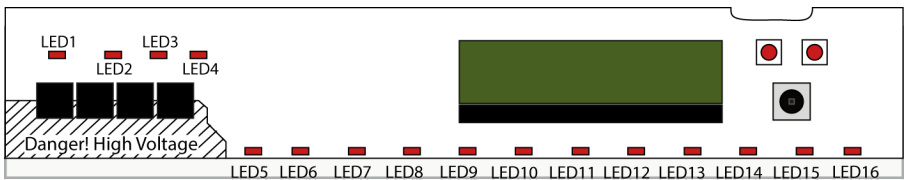
WARNING! Do not touch the area marked with danger when the receiver has been powered by electricity. Touching may be very hazardous.



Base board with display board mounted:

16. Safe function relay LEDs 3-4 (red)	20. Mini joystick
17. Stop relay LEDs 1-2 (red)	21. Right push button
18. Display	22. Left push button
19. Function relay LEDs (red)	

Relay LEDs on the display board

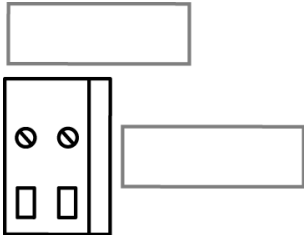


The relays on the base board are hidden under the display board. The corresponding relay LEDs are placed on the display board. LED 1+2 are the relay LEDs for the stop relays. LED 3+4 are the safe function relay LEDs. LED 5-16 are the LEDs for function relays 1-12.

LED 1= stop relay 1	LED 9 = function relay 5
LED 2= stop relay 2	LED 10 = function relay 6
LED 3= safe function relay 1	LED 11 = function relay 7
LED 4= safe function relay 2	LED 12 = function relay 8
LED 5 = function relay 1	LED 13 = function relay 9

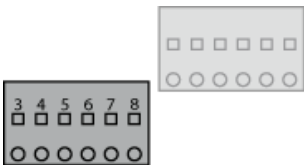
LED 6 = function relay 2	LED 14 = function relay 10
LED 7 = function relay 3	LED 15 = function relay 11
LED 8 = function relay 4	LED 16 = function relay 12

Terminal block for input power



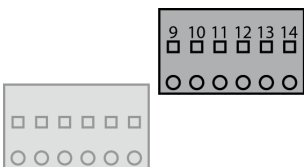
For input power 12-350V DC, 24-230V AC.

Terminal block for digital I/O



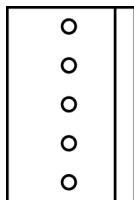
3. GND	6. Transistor output
4. Digital input 1	7. +12V DC
5. Digital input 2	8. +3.3V DC

Terminal block for RS232/RS485



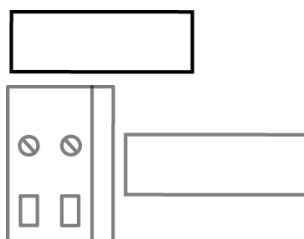
9. RS232 RX	12. +12V DC
10. RS232 TX	13. RS485 A-
11. GND	14. RS485 A+

Rectifier bridge connector



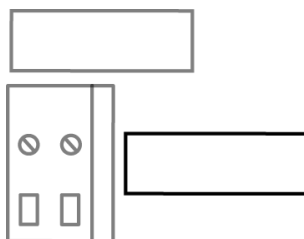
Can be used to improve the performance when the receiver is powered with low DC voltage (12-24 V DC). **NOTE! DO NOT USE FOR AC!**

Obligatory fuse



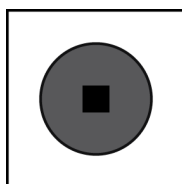
An obligatory ceramic fuse 3.15A(T). Must be used.

Optional fuse



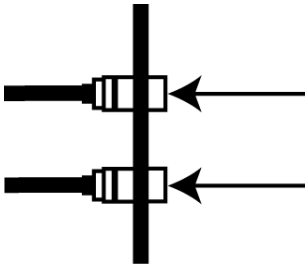
An optional ceramic fuse 3.15A(T). Can be used for connecting input power from the power supply connector with the relay outputs. Select a fuse that match the application, max. 16A.

Joystick



The mini joystick is used for navigating and selecting in the display menu. It can be pressed up, down, left and right. Keep pressed in the same direction to scroll several steps in the menu. Can also be used as a button.

Antenna connectors



The receiver has 2 connectors for antennas. If you want to use only one antenna, connect the antenna to any one of the antenna connectors. If you want to use 2 antennas, one of them has to be connected through a coaxial cable (at least 1 m./ 39 in.) to avoid radio disturbances. Using two antennas may improve the radio communication as well as increase the range. NOTE! Use 1/2 wave antennas for optimum performance.

Technical data

Number of stop relays	2 (potential free* 16A, 250V AC)*
Number of safe relays	2 (potential free* 16A, 250V AC)*
Number of function relays	12 (potential free*, 16A, 250V AC)
Digital inputs	2
Transistor output	1
Duplex communication	Duplex or simplex communication possible
Max. number of transmitters	15
Operating frequency	903.0125-926.9875 MHz
Number of frequency banks	15
Channel separation	25 kHz
IP class	66
Size	256 x 175 x 85 mm./ 10.1 x 6.9 x 3.3 in.
Weight	1800 g./ 3.9 lbs.
Radiotype	Low IF topology
Sensitivity	Better than -110 dBm
Antenna	2 external RPSMA antennas possible
Operating temperature	-20- +55°C/ -4-+130°F
Range of wire for cable glands	Ø14-18mm

* potential free means that you have to supply voltage to get voltage out of a relay (e.g. via the included connection comb).

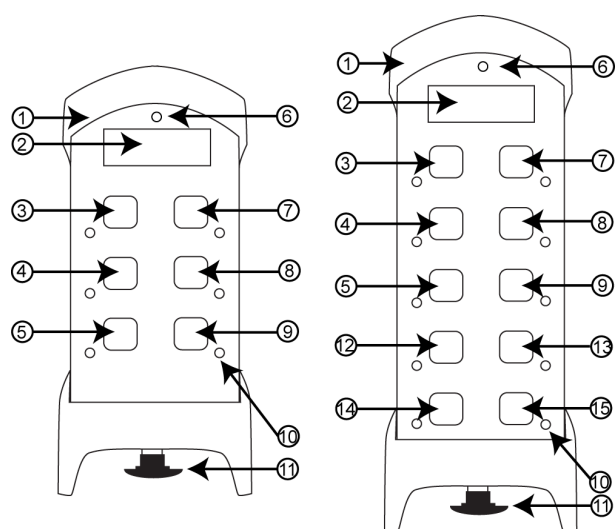
Current consumption

Input power	Min.*	Max.**
12V AC	-	-
24V AC	0.2A	0.5A
48V AC	0.06A	0.4A
115V AC	0.02A	0.08A
230V AC	0.02A	0.05A
12V DC	0.3A	1.1A
24V DC	0.2A	0.5A

* Minimum current consumption= Receiver powered, no radio session established, nothing else activated on the receiver

** Maximum current consumption= All relays activated on the receiver

TRANSMITTERS TG-TX-MNR6, TG-TX-MDR10



1. Rubber cover

2. Display

3. Button 1

4. Button 3

5. Button 5 (TG-TX-MNR6 : left start button)

6. Top LED

7. Button 2

8. Button 4

9. Button 6 (TG-TX-MNR6: right start button)

10. Button LEDs

11. Stop button

12. Button 7*

13. Button 8*

14. Button 9 (left start button)*

15. Button 10 (right start button)*

*Only on TG-TX-MDR10

Technical data

	TG-TX-MNR6	TG-TX-MDR10
No. of buttons	6 x 2-step buttons	10 x 2-step buttons
On/off switch	Yes	No
Max. no of receivers	4	8
Size	160 x 76 x 37 mm./6.3 x 3 x 1.4 in.	210 x 76 x 37 mm./8.2 x 3 x 1.4 in.
Weight	295 g./ 0.6 lbs.	400 g./ 0.9 lbs.
No. of frequency banks	15	15
Operating frequency	903.0125-926.9875 MHz	903.0125-926.9875 MHz
Channel separation	25 kHz	25 kHz
Operating time (with continuous usage)	16 h.	16 h.
Antenna	1 internal PCB antenna	1 internal PCB antenna
Radio type	Low IF topology	Low IF topology

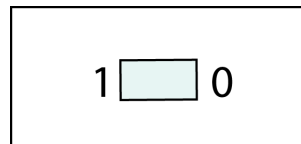
On/off switch

The TG-TX-MNR6 transmitter has an on/off switch on the backside. The on/off switch has 2 positions:

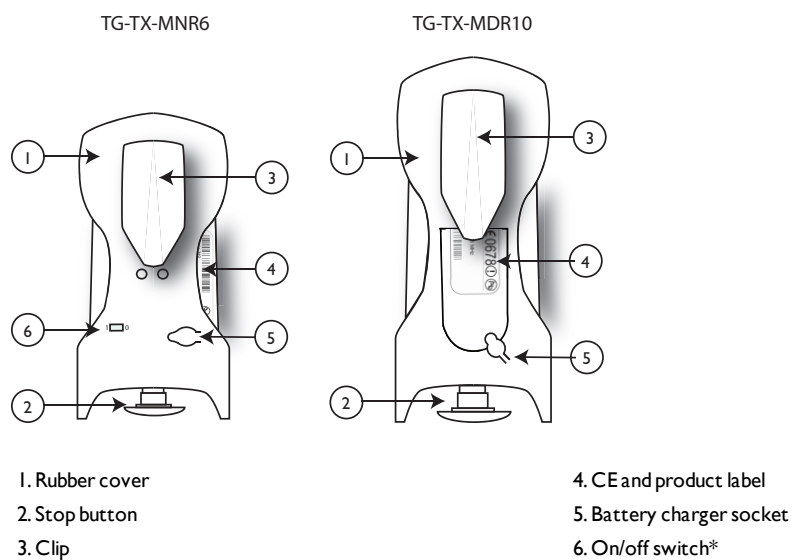
I = on

0 = off

The on/off switch breaks the power supply from the battery. When in position 0/off, the transmitter can not be started unless you connect the charger plug.



Transmitter backside



*only on TG-TX-MNR6

CHAPTER 4: FCC/ IC INFORMATION

FCC/IC INFORMATION FOR TG-TX-MNR6, TG-TX-MDR10, TG-RX-MXR12

FCC statement

Statement for warning:

To satisfy FCC RF exposure requirements, a separation distance of 20 cm or more should be maintained between the antenna of this device and persons during device operation.

To ensure compliance, operations at closer than this distance is not recommended.

Les antennes installées doivent être situées de façon à ce que la population ne puisse y être exposée à une distance de moins de 20 cm. Installer les antennes de façon à ce que le personnel ne puisse approcher à 20 cm ou moins de la position centrale de l'antenne.

La FCC des États-Unis stipule que cet appareil doit être en tout temps éloigné d'au moins 20 cm des personnes pendant son fonctionnement.

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Industry Canada licence-exempt RSS standard(s) and 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.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence et la partie 15 des Règles FCC. L'exploitation est autorisée aux deux conditions suivantes :

- (1) l'appareil ne doit pas produire de brouillage, et
- (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This equipment complies with FCC and IC radiation exposure limits set forth for an uncontrolled environment. End user must follow the specific operating instructions for satisfying RF exposure compliance. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Cet appareil est conforme aux limites d'exposition au rayonnement RF stipulées par la FCC et l'IC pour une utilisation dans un environnement non contrôlé. L'utilisateur final doit suivre les instructions de fonctionnement spécifiques pour le respect d'exposition aux RF. Les émetteurs ne doivent pas être placés près d'autres antennes ou émetteurs ou fonctionner avec ceux-ci.

Note: this equipment has been tested and found to comply with the limits for a class b digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- reorient or relocate the receiving antenna.
- increase the separation between the equipment and receiver.
- connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- consult the dealer or an experienced radio/TV technician for help.

The radio module in this product is labelled with its own FCC ID and IC number. The FCC ID and IC is not visible when the radio module is installed inside another device. Therefore, the outside of the device into which the module is installed must also display a label referring to the radio module. The final end device must be labelled in a visible area with the following:

“Contains FCC ID: ONFCI 303A”

“Contains IC: 4807A-CI 303A”

or

“Contains FCC ID: ONFCI 203B”

“Contains IC: 4807A-CI 203B”

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication. Conformément à la réglementation d'Industrie Canada, le présent émetteur radio peut fonctionner avec une antenne d'un type et d'un gain maximal (ou inférieur) approuvé pour l'émetteur par Industrie Canada. Dans le but de réduire les risques de brouillage radioélectrique à l'intention des autres utilisateurs, il faut choisir le type d'antenne et son gain de sorte que la puissance isotrope rayonnée équivalente (p.i.r.e.) ne dépasse pas l'intensité nécessaire à l'établissement d'une communication satisfaisante.

This radio transmitter has been approved by Industry Canada to operate with the antenna types listed below with the maximum permissible gain and required antenna impedance for each antenna type indicated. Antenna types not included in this list, having a gain greater than the maximum gain indicated for that type, are strictly prohibited for use with this device.

Gain of antenna: 3.0dBi max.

Type of antenna: 50ohm, Omni-directional

Le présent émetteur radio a été approuvé par Industrie Canada pour fonctionner avec les types d'antenne énumérés ci-dessous et ayant un gain admissible maximal et l'impédance requise pour chaque type d'antenne.

Les types d'antenne non inclus dans cette liste, ou dont le gain est supérieur au gain maximal indiqué, sont strictement interdits pour l'exploitation de l'émetteur.

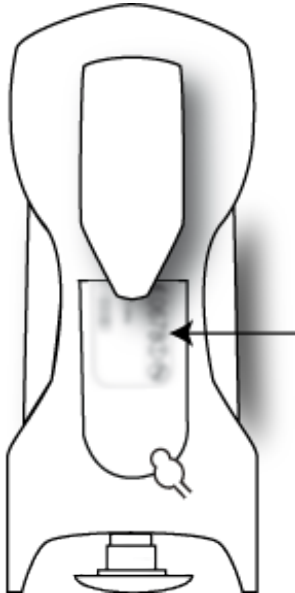
Gain d'antenne: 3.0dBi maximal

Type d'antenne: 50 ohm, Omni-directionnel

Product label and placement on the transmitter

TG-TX-MNR6, TG-TX-MDR10

You will find the product label with the FCC/IC information in the back of the transmitter (see picture below).



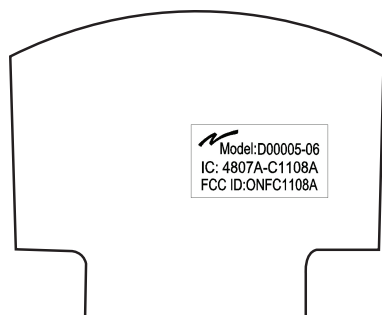
Product label and placement on the receiver

TG-RX-MXR12

You will find the product label with the FCC/IC information on the outside of the enclosure of the receiver.

FCC/IC label and placement on the transmitter

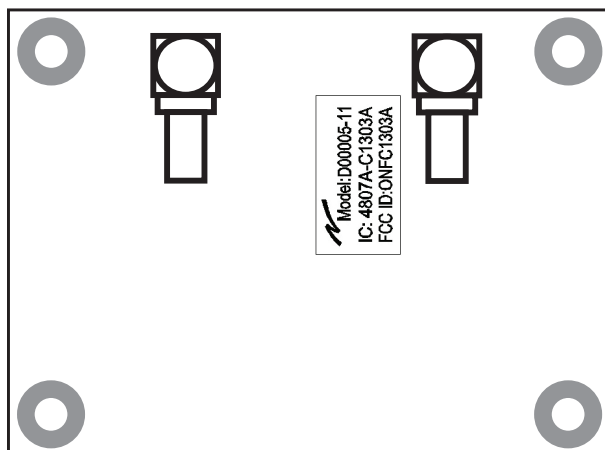
TG-TX-MNR6, TG-TX-MDR10



The FCC/ IC label is placed on the radio module. The radio module is mounted inside the transmitter.
L'étiquette FCC/IC est placée sur le module radio. Le module radio est monté à l'intérieur du récepteur.

FCC/ IC label placement on the receiver

TG-RX-MXR12



The FCC/ IC label is placed on the radio module. The radio module is mounted inside the receiver.
L'étiquette FCC/IC est placée sur le module radio. Le module radio est monté à l'intérieur de l'émetteur.

The radio module

Function

Each receiver and transmitter unit in the Tele Radio Tiger product range, contains a radio module that is specifically designed to match a Tele Radio Tiger unit in terms of physical dimensions, connection points, voltage levels, signal interface etc. To use the radio modules in non Tele Radio products is not permitted.

The radio modules are designed to interface directly to the main board of the receiver/transmitter unit. They are power supplied by the main board and the radio circuit operates strictly according to instructions from a microprocessor on the main board. The radio circuit configuration is stored in a flash memory on the radio module.

A receiver/transmitter unit with a defective/no radio module will give an error message immediately after power up, and it will not be possible to start a radio session.

Cross reference

Cross reference of radio modules and corresponding products:

TG-TX-MNR6	D00005-06
TG-TX-MDR10	D00005-06
TG-RX-MXR12	D00005-11

CHAPTER 5: INSTALLERS GUIDE

CREATE PIN CODES

NOTE! You can store up to 10 PIN codes in the transmitter.

NOTE! '0000' is not a valid PIN code.

1. Make sure that the stop button is pressed.
2. Pull out the stop button.
The top LED lights (green when the battery capacity is good, red when the battery capacity is poor).
3. Press the right start button. Keep pressed.
4. Press the stop button.
5. Release the right start button.
The top LED flashes (green when the battery capacity is good, red when the battery capacity is poor) when in menu mode.
6. Go to [Enter PIN].
7. Select what position in the list that you want to store the new PIN code in by pressing the left start button.
8. Enter the new PIN code (4 digits) by pressing the buttons 1-4:

PRESS BUTTON	TO
1	step up
2	step down
3	step right
4	step left

9. Confirm by pressing the left start button.

ERASE PIN CODE

1. Make sure that the stop button is pressed.
2. Pull out the stop button. The LEDs light (green when the battery capacity is good, red when the battery capacity is poor).
3. Press the right start button. Keep pressed.
4. Press the stop button.
5. Release the right start button.
The LEDs light (green when the battery capacity is good, red when the battery capacity is poor) when in menu mode.
6. Go to [Erase PIN].

7. Scroll the list to select the PIN code that you want to erase.

MOVE JOYSTICK	TO
up	step up
down	step down

8. Select by pressing the left start button.

9. Confirm by pressing the left start buttons.

SHOW REGISTERED PIN CODES

1. Make sure that the stop button is pressed.

2. Pull out the stop button.

The top LED lights (green when the battery capacity is good, red when the battery capacity is poor).

3. Press the right start button. Keep pressed.

4. Press the stop button.

5. Release the right start button.

The top LED flashes (green when the battery capacity is good, red when the battery capacity is poor) when in menu mode.

6. Go to [Show PIN].

7. The display shows a list of all registered PIN codes.

START THE TRANSMITTER IN OPERATING MODE

1. Make sure that the stop button is pressed

2. Pull out the stop button.

The top LED lights (green when the battery capacity is good, red when the battery capacity is poor).

3. If PIN codes are used for authorization: Go to the next section.

4. WITHIN 3 MINUTES FROM PULLING OUT THE STOP BUTTON:

Press a button to select the receiver(s) that you want to operate.

The receiver(s) that was selected in the last session will be automatically selected, which is indicated by the corresponding LED(s) that light red. If no receiver(s) has been selected, the LEDs for all available receivers will flash red. If a receiver is selected, the LEDs next to the left and the right start buttons flash red. If no receiver(s) are selected, only the LED next to the right start button flashes red.

5. Press both start buttons at the same time.

The buzzer beeps.

6. Release the start buttons.

The buzzer stops beeping. The top LED flashes (green when the battery capacity is good, red when the battery capacity is poor).

7. When radio communication has been established, the top LED lights (green when the battery capacity is good, red when the battery capacity is poor).
If radio communication is not established within 25 seconds, the transmitter turns off.

START THE TRANSMITTER IN OPERATING MODE WITH A PIN CODE

1. Make sure that the stop button is pressed.
2. Pull out the stop button.
The top LED lights (green when the battery capacity is good, red when the battery capacity is poor).
3. WITHIN 3 MINUTES : Enter the PIN code (4 digits) by pressing the buttons according to the table.

FOR DIGIT:	1	2	3	4	5	6	7	8	9	0
TG-TX-MNR6, PRESS BUTTON:	1	2	3	4	-	-	-	-	-	-
TG-TX-MDR10, PRESS BUTTON:	1	2	3	4	5	6	7	8	-	-

4. WITHIN 3 MINUTES FROM PULLING OUT THE STOP BUTTON:
Press a button to select the receiver(s) that you want to operate.
The receiver(s) that was selected in the last session will be automatically selected, which is indicated by the corresponding LED(s) that light red. If no receiver(s) has been selected, the LEDs for all available receivers will flash red. If a receiver is selected, the LEDs next to the left and the right start buttons flash red. If no receiver(s) are selected, only the LED next to the right start button flashes red.
5. Press both start buttons at the same time.
The buzzer beeps.
6. Release the start buttons.
The buzzer stops beeping. The top LED flashes (green when the battery capacity is good, red when the battery capacity is poor).
7. When radio communication has been established, the top LED lights (green when the battery capacity is good, red when the battery capacity is poor).
If radio communication is not established within 25 seconds, the transmitter turns off.

NAVIGATE IN MENU MODE

To navigate when in menu mode, press:

Button 1	Step down
Button 2	Step up
Button 3	Step left/ go back
Button 4	Step right
The left start button	Select/ confirm
The right start button	Exit

LOGIN/LOGOUT

Quick logout

NOTE! When the transmitter has established radio communication with one or more receivers, you can make a Quick logout from those receivers. Note that the Quick logout will log the transmitter out from all receivers that are participating in the session.

NOTE! If you need to log out a transmitter that is lost or damaged, it is possible to log out from the receiver. We do not recommend this way of logging out. Contact your representative for assistance.

NOTE! To be able to control a receiver, the transmitter must be registered in the receiver, and logged in to the receiver. If another transmitter is already logged in to the receiver, it has to be logged out before any other transmitter can be logged in. If no transmitter is logged in to a receiver, a registered transmitter will automatically log in when sending radio signals to the receiver. The transmitter will stay logged in until it is manually logged out. More than one transmitter can be registered in the receiver, but only one transmitter can be logged in at a time.

1. Make sure that the transmitter is started in operating mode.

NOTE! The transmitter must have established a radio session with one or more receivers.

2. Press the left start button. Keep pressed.

3. Press the stop button.

4. Release the left start button.

The top LED lights red.

The display shows [Logging out].

The transmitter turns off after logging out.

LOGOUT FROM MENU MODE

1. Make sure that the stop button is pressed.

2. Pull out the stop button.

The top LED lights (green when the battery capacity is good, red when the battery capacity is poor).

3. Press the right start button. Keep pressed.

4. Press the stop button.

5. Release the right start button.

The top LED flashes (green when the battery capacity is good, red when the battery capacity is poor) when in menu mode.

6. Go to [Logout].

7. Select by pressing the left start button.

8. Select a receiver to log out from.

9. Confirm by pressing the left start button.

The display shows [Logging out...] while the process is ongoing.

If logout fails, the display shows [FAILED]. The transmitter turns off.
If logout succeeds, the display shows [OK]. The transmitter turns off after logging out.

TURN THE TRANSMITTER OFF

1. Press the stop button.
The transmitter turns off. All relays deactivate.

REGISTER

IMPORTANT! Do not perform this when the receiver is in a session with another transmitter. The radio communication may become disturbed or broken.

NOTE! Before starting to perform these settings, make sure that the stop relays are deactivated!

Register the transmitter in the receiver

1. On the receiver: Select [Register Tx] from the display menu.
2. On the transmitter: Make sure that the stop button is pressed.
3. On the transmitter: Pull out the stop button.
The top LED lights (green when the battery capacity is good, red when the battery capacity is poor).
4. On the transmitter: Press the right start button. Keep pressed.
5. On the transmitter: Press the stop button.
6. On the transmitter: Release the right start button.
The top LED flashes (green when the battery capacity is good, red when the battery capacity is poor) when in menu mode.
7. On the transmitter: Go to [Register] in the menu. Step down in the menu by pressing button 1. Step up in the menu by pressing button 2. Select by pressing the left start button.
8. On the receiver: Select [Yes] to start registering. The receiver will stay in registering mode for 1 minute or until a transmitter has been registered.
9. On the receiver: Confirm registering of the Tx by pressing the receiver joystick.
10. The receiver restarts.

ERASE

Erase a transmitter from the receiver

NOTE! If a transmitter is lost or becomes seriously damaged, it is possible to erase it from the receiver. We do not recommend this way. Contact your representative for assistance.

NOTE! If the transmitter already have receivers registered, we recommend that you erase all receivers from the transmitter before starting the replacement. The receiver will automatically be stored in the same position as it was stored in the old transmitter. If this position is not available, the replacement will not take place.

1. Make sure that the stop button is pressed.

2. Pull out the stop button.

The top LED lights (green when the battery capacity is good, red when the battery capacity is poor).

3. Press the right start button. Keep pressed.

4. Press the stop button.

5. Release the right start button.

The top LED flashes (green when the battery capacity is good, red when the battery capacity is poor) when in menu mode.

6. Go to [Erase].

7. Select by pressing the left start button .

8. Select a receiver. Confirm by pressing the left start button. The display shows [Erasing] while the process is ongoing.

If the erasing fails, the display shows [FAILED]. The transmitter turns off.

If the erasing succeeds, the display shows [OK]. The transmitter turns off.

REPLACE

You can replace a registered transmitter with another transmitter without having access to the receiver.

IMPORTANT! If the transmitter that needs to be replaced is registered in more than one receiver, it will only be replaced in one receiver at a time. If you want to replace a transmitter in more than one receiver, you need to perform a replacement for each receiver.

IMPORTANT! Do not perform this when the receiver is in a session with another transmitter. The radio communication may become disturbed or broken.

NOTE! If the transmitter already have receivers registered, we recommend that you erase all receivers from the transmitter before starting the replacement. The receiver will automatically be stored in the same position as it was stored in the old transmitter. If this position is not available, the replacement will not take place.

Replace a transmitter with a new transmitter

1. Make sure that the stop button is pressed.
2. Pull out the stop button.
The top LED lights (green when the battery capacity is good, red when the battery capacity is poor).
3. Press the right start button. Keep pressed.
4. Press the stop button.
5. Release the right start button.
The top LED flashes (green when the battery capacity is good, red when the battery capacity is poor) when in menu mode.
6. Go to [Replace]. Select by pressing the left start button.
7. Enter the serial number/ID code for the transmitter that you want to replace by pressing the buttons according to the table below:

PRESS BUTTON	TO
1	count -1
2	count +1
3	go left
4	go right

8. Press the left start button.
The display shows [Replacing] while the process is ongoing.
If the replacement fails, the display shows [FAILED]. The transmitter turns off.
If the replacement succeeds, the display shows [OK]. The transmitter turns off.

AUTOMATIC SHUTDOWN

Turning on automatic shutdown can save battery capacity by automatically turning the transmitter off when no function has been activated for a set time.

Set the time for automatic shutdown

1. Start the transmitter.
2. Enter menu mode.
3. Go to [Auto Shutdown]. Select by pressing the left start button.
4. Select the time that you want for automatic shutdown: 0-255 minutes. If you want to turn off automatic shutdown, select 0. Confirm by pressing the left start button.

FREQUENCIES & CHANNELS

NOTE! If your system is transmitting on the frequency bands 433MHz or 2.4 GHz, the receiver will automatically detect and switch to the same channel that the transmitter is using. If your system is transmitting the 915 MHz frequency band, you have to switch bank in the receiver by using the PC program Settings manager. Contact your representative for assistance.

Switch frequency bank on the transmitter

1. Make sure that the stop button is pressed.
2. Pull out the stop button.
The top LED lights (green when the battery capacity is good, red when the battery capacity is poor).
3. Press the right start button. Keep pressed.
4. Press the stop button.
5. Release the right start button.
The top LED flashes (green when the battery capacity is good, red when the battery capacity is poor) when in menu mode.
6. Go to [Channel/Bank].
7. Select a bank. Confirm by pressing the left start button.

Frequency band 915 MHz

Frequency-hopping spread spectrum (FHSS) is a method of transmitting radio signals by rapidly switching a carrier among many frequency channels, using a pseudorandom sequence known to both transmitter and receiver. For further information about the frequencies used in this frequency band and about frequency-hopping, please contact your representative.

RELAY FUNCTIONALITY

NOTE! Contact your representative for assistance.

NOTE! Momentary relay functionality is default. That means that the relay will only be activated when you press a button on the transmitter. When the button is released, the relay deactivates. Setting a relay to latching means that the relay gets activated every time that you press a button, but in this case the relay remains active until the button is pressed again.

NOTE! Before starting to perform these settings, make sure that the stop relays are deactivated!

Momentary and latching relay functionality

Momentary and latching relays are set in the PC program Settings manager. Contact your representative for further assistance.

Interlocking

What function relays that are available for interlocking, i.e. that can be blocked or prioritized when pressed at the same time, are set in the PC program Settings manager. Contact your representative for further assistance.

CHAPTER 6: BATTERY GUIDE

BATTERY PRECAUTIONS

Observe the following general battery warnings:

- As batteries contains flammable substances such as lithium or other organic solvents, they may cause heating, rupture or ignition.
- Risk of explosion if battery is replaced with a battery of an incorrect type.
- Do not short circuit, disassemble, deform or heat batteries.
- Never try to charge a visibly damaged or frozen battery.
- Keep batteries out of reach of small children. Should a child swallow a battery, consult a physician immediately.
- Avoid direct soldering to batteries.
- When discarding batteries, insulate the + and - terminals of batteries with insulating/ masking tape. Do not put multiple batteries in the same plastic bag.
- When improperly disposed, lithium batteries may short circuit, causing them to become hot, burst or ignite.
- Store in a cool location. Keep batteries away from direct sunlight, high temperature, and high humidity.
- Do not throw batteries into fire.

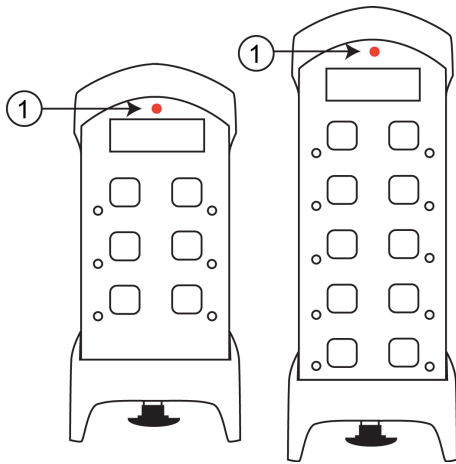
BATTERY INFORMATION

IMPORTANT! Electronics and batteries must be physically separated before disposal. Make sure that electronics or batteries are not thrown in the household waste.

IMPORTANT! For transmitters with an on/off switch, the switch must be in on position when charging.

	TG-TX-MNR6	TG-TX-MDR10
Battery type	Internal, rechargeable lithium-ion battery	External, rechargeable lithium-ion battery
Operating time	Approx. 16 h. with continuous usage	Approx. 16 h. with continuous usage
Charge	Charger plug in the back of the transmitter	Charger plug in the back of the transmitter or in the Tele Radio 5 V DC charger unit
Charging temperature	0- 45°C/ 32-113 °F	0- 45°C/ 32-113 °F

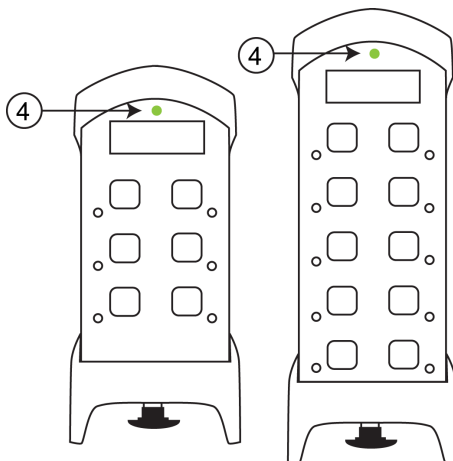
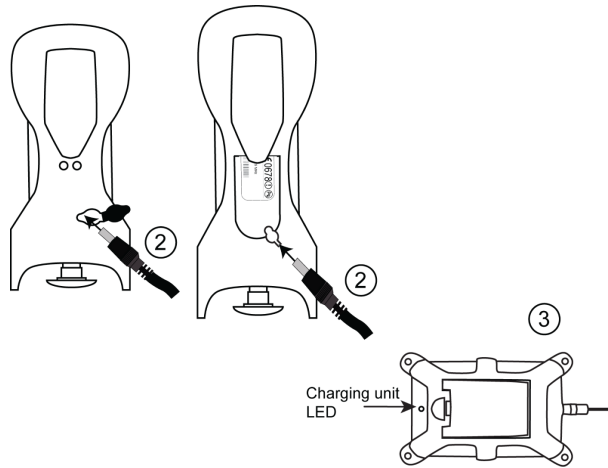
Charge the battery



1. When approx. 10% of the battery capacity remains, the top LED lights red and the internal buzzer beeps 3 times.

2. Put the charger plug into the socket in the back of the transmitter. While charging, the top LED flashes red.

3. The external battery can also be charged in a Tele Radio AB charger unit.



4. When fully charged, the top LED lights green.

NOTE! For lithium-ion batteries, overcharging is not a problem. Lithium-ion batteries do not need to be fully discharged before being recharged. Charging the battery before fully discharged will not cause premature loss of function. Lithium-ion batteries are designed for operating environments from 0°C to 60°C/ 32°F to 140°F. Note that the environmental temperature and the operating temperature are not necessarily the same. The higher the temperatures, the faster the discharge. When you do not intend to use the transmitter for a longer period of time, we recommend that you remove the battery from the transmitter. The transmitter uses current even when being turned off. Leaving the battery in the transmitter may affect the battery life span. Improper long term storage of lithium-ion batteries can reduce their effective life. New lithium-ion batteries should be stored in a location with ambient temperatures between 20°C to 38°C/ 70° to 100°F at a 40% state of charge or lower. After use, batteries can be stored at higher charge levels. After a longer period of storage, we recommend recharging of batteries prior to being placed back into service or use. Batteries stored in cold environments may need to be stabilized within normal temperature ranges prior to recharging and use. Batteries can be replaced when they are no longer capable of holding 80% of their original capacity. Users should consider how frequently an old battery is recharged compared to when it was new. We recommend that you check with your representative if you need further details.

REMOVAL OF INTERNAL BATTERY

IMPORTANT! Electronics and batteries must be physically separated before disposal. Make sure that electronics or batteries are not thrown in the household waste.

1. Remove the clip. Remove the rubber cover by hand. Use a screwdriver to unscrew the 2 screws.
2. Use a screwdriver to unscrew the 4 screws. Remove the front encapsulation by hand. Turn the transmitter around, so that the buttons face up.
3. Use a screwdriver to unscrew the screw in the middle of the transmitter. Lift the circuit board up by hand.
4. The battery pack is placed behind the circuit board. Remove the battery by hand.

ROHS AND WEEE

In accordance with Directive 2011/65/EU on restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) and Directive 2002/96/EC on waste electrical and electronic equipment (WEEE), Tele Radio AB strives to minimize the use of hazardous materials, promotes reuse and recycling, and reduces emissions to air, soil and water. When a commercially viable alternative is available, Tele Radio AB strives to restrict or eliminate substances and materials that pose an environmental, health or safety risk.

GUARANTEE, SERVICE, REPAIRS AND MAINTENANCE

The Tele Radio AB products are covered by a guarantee/warranty against material, construction and manufacturing faults. During the guarantee/warranty period, Tele Radio AB may replace the product or faulty parts. Work under guarantee/warranty must be carried out by Tele Radio AB or by an authorized service centre specified by Tele Radio AB.

This is not covered by the guarantee/ warranty:

- Faults resulting from normal wear and tear
- Parts of a consumable nature
- Products that have been subject to unauthorized modifications
- Faults resulting from incorrect installation and use
- Damp and water damage

Maintenance:

- Repairs and maintenance must be carried out by qualified personnel
- Use spare parts from Tele Radio AB only
- Contact your representative if you require service or other assistance
- Keep the product in a dry, clean place
- Keep contacts and antennas clean
- Wipe off dust using a slightly damp, clean cloth

IMPORTANT! Never use cleaning solutions or high-pressure water.



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