SHOOMS

DEVICE 07 / 08

TECHNICAL DOCUMENTATION

sp-wrb_mini

Wireless release transmitter

Radio 868 MHz | Wi-Fi 2.4 GHz | 12 V | Serves several traps

Installation, connection, daily operation and maintenance guide for range technicians and range operators.



DOCUMENT	VERSION	FIRMWARE	DATE
DOC-WT-EN	1.0	1.4	09.2026

© SHOOMS. ALL RIGHTS RESERVED

DOC-WT-EN · V1.0

Contents

For everyone 01-03

01 Overview and key specs
02 What's in the box
03 Safety and warranty

For the installer 04-05

04 Installation and mounting
05 Connection

For the operator 06-09

06 Daily operation
07 The 868 MHz radio link
08 Troubleshooting
09 Maintenance and cleaning

Reference 10-A

10 Technical specifications
11 Firmware and changelog
A Appendix: SHOOMS device family

CHECK THE CONTENTS BEFORE INSTALLATION

Check the contents immediately after unpacking. Report any missing or damaged item to your supplier before installation.

AT A GLANCE

868 MHz	1,000 ms	12 V	12 mo
Radio link	Release pulse	Power	Warranty

COLOUR CODING

Warning
Important information that needs particular attention. Read it before you act.

Note
A clarification or useful additional information.

Tip
Useful recommendations.

© SHOOMS. ALL RIGHTS RESERVED

01 / 11

01 Overview and key specs

The wireless transmitter is the link between the SHOOMS system and traps that have no cable run to them. It receives commands from the server over Wi-Fi and passes them on over the 868 MHz radio link to the wireless modules mounted on the traps.

868	2.4	001
MHz, out to the traps	GHz, Wi-Fi to the server	Module addressing

Purpose

- Receiving release commands from the SHOOMS server over the range network.
- Passing a command to the right on-trap module over the radio link, addressed by its ID.
- Holding the radio settings shared by all modules: pulse length and link range.

How many transmitters you need

One transmitter serves several traps. If the shooting stands sit close together, a single transmitter covers all of them. If the stands are spread out and the radio link does not reach across the whole site, several transmitters are installed.

© SHOOMS. ALL RIGHTS RESERVED



Fig. 1. The wireless pair: range transmitter and on-trap module

MARKING	ELEMENT	DESCRIPTION
12V	Power inlet	12 V DC from the supplied power adapter.
ANT	Antenna connector	SMA, external 868 MHz antenna.
Service buttons	Buttons on the enclosure	Used by SHOOMS support only. They play no part in daily work.

NEVER POWER IT UP WITHOUT THE ANTENNA

Powering the transmitter with the antenna disconnected destroys the radio transmitter. Check that the antenna is screwed on before every power-up.

© SHOOMS. ALL RIGHTS RESERVED

02 / 11

02 What's in the box

CHECK THE CONTENTS BEFORE INSTALLATION

Check the contents immediately after unpacking. Report any missing or damaged item to your supplier before installation.

QTY	ITEM
1	Wireless release transmitter sp-wrb_mini in a plastic enclosure 120 × 80 × 41 mm
1	868 MHz antenna with SMA adapter
1	12 V / 2 A power adapter with a 5.5 × 2.1 mm plug

IT ONLY WORKS AS A PAIR

The transmitter releases nothing by itself. It works together with the wireless modules on the traps (sp-wr_mini), each of which has its own ID.

© SHOOMS. ALL RIGHTS RESERVED

03 / 11

03 Safety and warranty

ONLY SHOOMS STAFF OPEN AN ENCLOSURE

Removing a lid and doing anything inside the enclosure of any device in the system is for authorised SHOOMS personnel only. The customer and third parties must not open an enclosure, press buttons on the board, move any parts, or unplug connectors or cables inside it. Interfering breaks the enclosure's seal, voids the warranty and can cause a trap to fire unexpectedly.

A COMMAND FROM THE TRANSMITTER FIRES A TRAP

While the transmitter is powered and receiving commands from the server, any trap with a wireless module can fire. Before servicing a trap, switch off the module on that trap itself, not just the transmitter.

General rules

- Do not switch the transmitter on without the antenna fitted.
- Power the transmitter only from the supplied 12 V / 2 A adapter. Install the adapter in a dry place.
- Do not open the enclosure during operation. There are no user-serviceable parts inside.
- Do not press the service buttons on the enclosure: after a restart the transmitter may fail to rejoin the range network.
- Route the power cable where it cannot be caught or pulled out.

© SHOOMS. ALL RIGHTS RESERVED

Warranty

The warranty period is 12 months from the date the transmitter is put into service. It does not cover damage from lightning, mains overvoltage, water ingress, mechanical tampering with the enclosure, or operation without the antenna.

For a warranty claim provide: the serial number, a description of the fault and, if possible, a photo or video.

© SHOOMS. ALL RIGHTS RESERVED

04 / 11

04 Installation and mounting

Choosing the location

- On the shooting stand or higher — on a post, a mast or a building wall. The higher the antenna, the greater the range and the steadier the link to the traps.
- Within good Wi-Fi coverage of the range: this is the network the transmitter receives server commands on.
- Antenna vertical, with no metal structures around it. A clear line of sight to the traps gives the best result.
- A 230 V socket for the power adapter must be nearby in a dry place.

Mounting steps

1. Fix the transmitter enclosure in the chosen position. It must sit firmly, with the antenna vertical.
2. Screw the antenna fully onto the SMA connector.
3. Plug the adapter into the «12V» socket, then into a 230 V socket.
4. With a SHOOMS engineer, confirm that the transmitter has joined the range network and that the server can see it.
5. Test the release of every trap fitted with a wireless module and check against the installation log.

© SHOOMS. ALL RIGHTS RESERVED

TEST ON SITE BEFORE YOU FIX IT DOWN

Check the link to the most distant trap before final mounting. Raising the transmitter by a metre or two often does more than any setting change.

© SHOOMS. ALL RIGHTS RESERVED

05 / 11

05 Connection

The transmitter has no wired connection to the traps: the only cable running to it is power. Everything else is wireless.

TWO RADIO LINKS

Wi-Fi 2.4 GHz to the range network and the SHOOMS server. The 868 MHz radio link to the modules on the traps.

Wi-Fi + 868 MHz

The range network

The transmitter joins the range's outdoor router as an ordinary Wi-Fi client. The network settings are entered by SHOOMS support during commissioning; nothing needs configuring on the customer's side.

The link to the traps

Every on-trap module has its own ID — up to four characters; in practice these are sequential numbers, 001, 002 and so on. The transmitter addresses a command to a specific ID, so one command from the server fires exactly the trap it should. IDs are assigned by support during commissioning.

TRAP POWER IS SEPARATE

The transmitter does not power the traps or their modules. Power for an on-trap wireless module is arranged locally — see the manual for the wireless release receiver.

© SHOOMS. ALL RIGHTS RESERVED

06 / 11

06 Daily operation

Switching on

Check the antenna and apply power. The transmitter joins the range network by itself and is then ready to receive commands; its settings survive a power-down.

During a series

The series is run from the terminal. The transmitter only relays server commands to the traps; it has no manual release controls.

Loss of connection

If Wi-Fi drops, the transmitter receives no commands and the traps do not fire; once the network returns it reconnects by itself. If the radio link to one trap is lost, the other traps carry on as normal.

Switching off

The transmitter may be powered down overnight or for the season. Settings are retained.

Indication

There are no indicators on the enclosure: the device's state is visible only in the SHOOMS system. If the link or the power needs checking, contact support.

THE TRANSMITTER NEVER RELEASES ON ITS OWN

It passes on only the commands it receives from the SHOOMS server.

© SHOOMS. ALL RIGHTS RESERVED

07 / 11

07 The 868 MHz radio link

The link to the traps works in the 868 MHz band: more range and better interference tolerance than Wi-Fi, at a low data rate — which is all a short release command needs.

What is set at the transmitter

PARAMETER	WHAT IT DOES
Module ID	The address of one trap. A command goes only to the ID given.
Pulse length	How long the contact on the trap stays closed. 1,000 ms by default.
Distance setting	The distance-versus-speed trade-off, 7 to 12. A higher value reaches further and more reliably, but transmits more slowly.

CHANGING THE DISTANCE SETTING AFFECTS EVERY MODULE

The setting applies to the whole wireless pair. All on-trap modules must be powered on while it is changed, otherwise a module that was off keeps the old value and stops receiving commands. Only SHOOMS support changes this setting.

Range

- Antenna height affects range more than anything else.
- Metal structures and dense buildings between the transmitter and a trap reduce range.
- If the most distant trap fails consistently, support can raise the Distance setting.

© SHOOMS. ALL RIGHTS RESERVED

08 / 11

08 Troubleshooting

SYMPTOM	LIKELY CAUSE	FIX
No wireless trap fires at all	No power to the transmitter	**Check the socket, the power adapter and the plug in the «12V» inlet.**
No wireless trap fires, but there is power	The transmitter is not on the range network	**Check that the range router is running. Power the transmitter off for 10 s and on again. If that does not help, contact support.**
One trap does not work, the rest do	The problem is at that trap's module	**See the on-trap module manual: power, antenna, ID.**
Releases work only every other time	Weak radio signal	**Raise or reorient the transmitter antenna; tell support — a different Distance setting may be needed.**
Nothing works after a thunderstorm	Damage to the radio section	**Power the transmitter down and contact service.**

WHAT TO TELL SUPPORT

Whether other traps still work, the distance to the problem trap, and whether anything changed on site — new buildings, machinery, metal structures.

© SHOOMS. ALL RIGHTS RESERVED

09 / 11

09 Maintenance and cleaning

INTERVAL	TASK
Monthly	Inspect the enclosure, antenna and power cable. Check that the antenna is screwed fully home and vertical.
Each season	Check the enclosure fixing and the condition of the cable where it bends.
Before winter	If the range is idle for over 2 months, power the transmitter down and store the adapter indoors in a dry place.
After a thunderstorm	Check the link to the most distant trap.

DO NOT PRESSURE-WASH

Do not aim a water jet at the transmitter and do not use solvents.

© SHOOMS. ALL RIGHTS RESERVED

10 / 11

10 Technical specifications

PARAMETER	VALUE
POWER	
Input voltage	12 V DC
Power inlet	5.5 × 2.1 mm jack
Power adapter	12 V / 2 A, 230 V, 50 Hz input
RADIO LINK TO THE TRAPS	
Band	868 MHz
Antenna	External, SMA connector
Distance setting	7–12, shared by all modules
Addressing	Module ID — also its serial number, up to 4 characters (typically 001, 002 …)
Pulse length	1,000 ms by default; shared by all modules
LINK TO THE SYSTEM	
Wi-Fi	IEEE 802.11 b/g/n, 2.4 GHz
Network role	Client of the range network
Network name	sp-wrb_mini-‹serial number›
ENCLOSURE AND ENVIRONMENT	
Enclosure	ABS plastic, 120 × 80 × 41 mm, IP65
Ingress protection	IP65
Placement	Outdoors, on the stand or higher; a canopy is recommended
Operating temperature	–20 … +50 °C
CONTROL	

© SHOOMS. ALL RIGHTS RESERVED

PARAMETER	VALUE
Controller	ESP32-S3
Serial number	Four digits, sticker on the enclosure

© SHOOMS. ALL RIGHTS RESERVED

11 / 11

11 Firmware and changelog

The firmware version is shown on the cover. Updates are performed by SHOOMS support; the client provides access to the range network for this. There is no self-service update.

VERSION	DATE	CHANGES
1.4	09.2026	First production release.

© SHOOMS. ALL RIGHTS RESERVED

APPENDIX A

A Appendix: SHOOMS device family

Every SHOOMS device has its own manual in the same structure (sections 01–11).

1 · DOC-MM

Media module

Media module: TV and sound

2 · DOC-RB

Release module

Target release module

3 · DOC-MC

Microphone

Microphone module

4 · DOC-RF

Card reader

Shooter card reader

5 · DOC-TR

Terminal

Self-service terminal

6 · DOC-WR

Wireless receiver

Wireless release receiver

7 · DOC-WT

Transmitter

Wireless release transmitter

This document

8 · DOC-BS

Base station

Range server and network

© SHOOMS. ALL RIGHTS RESERVED