SHOOMS

DEVICE 06 / 08

TECHNICAL DOCUMENTATION

sp-wr_mini

Wireless release receiver

Radio 868 MHz | 2 relay outputs | 12 V | Mounted on the trap

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



DOCUMENT	VERSION	FIRMWARE	DATE
DOC-WR-EN	1.0	2.2	09.2026

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DOC-WR-EN · V1.0

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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.

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01 Overview and key specs

The wireless release module is mounted directly on the trap machine. It receives a release command over the 868 MHz radio link from the range transmitter and closes the contact of the trap's release circuit. It is used wherever running a cable to the trap is impractical — on distant or portable traps.

868	2	001
MHz, radio link	Relay outputs	Module's own ID

Purpose

- Receiving the release command from the range transmitter over the radio link, at distances Wi-Fi cannot cover.
- Closing the contact of the trap's release circuit for a set time — 1,000 ms by default.
- Addressing: every module has its own ID, so one transmitter serves several traps.

What makes up the pair

The module works only together with the wireless release transmitter (sp-wrb_mini), which sits within range of the range network and receives commands from the SHOOMS server. One transmitter serves several on-trap modules.

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

MARKING	ELEMENT	DESCRIPTION
POWER	**Power terminals**	12 V DC: +12V and GND.
RELAY1	**Release output**	A dry contact that closes for the duration of the pulse. The trap's release circuit connects here.
RELAY2	**Second output**	A spare contact for a second trap function; not used in the basic configuration.
ANT	**Antenna connector**	SMA, external 868 MHz antenna.

NEVER POWER IT UP WITHOUT THE ANTENNA

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

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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 module sp-wr_mini in a plastic enclosure 120 × 80 × 41 mm
1	868 MHz antenna with SMA adapter
1	6-core connecting cable, 2 m, with an industrial connector
1	Cable gland fitted on the enclosure

POWER DEPENDS ON THE TRAP

The module runs on 12 V DC. On Promatic traps this power comes through the trap's own connector. Nasta traps have no 12 V supply, so a separate converter to 12 V is needed — it is selected during range design.

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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.

THE MODULE FIRES THE TRAP

While the module is powered and within range of the transmitter, the trap can fire at any moment. Before servicing the trap, switch the module off by removing power or disconnect its power.

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General rules

- Do not switch the module on without the antenna fitted.
- The cable to the trap's release circuit is connected only by a qualified electrician with the trap powered off.
- Do not switch any load above 3 A with the module's contact.
- Mount the module on the trap outside the sweep of the throwing arm and outside the target's path.
- Do not open the enclosure during operation. There are no user-serviceable parts inside.
- The cable gland must be tightened, otherwise moisture gets in.

Warranty

The warranty period is 12 months from the date the module is put into service. It does not cover damage from shot and clay fragments, vibration beyond the normal level for the mounting position, lightning, overvoltage in the trap circuits, water entering through an untightened cable gland, or operation without the antenna.

For a warranty claim provide: the module ID (which is also its serial number), a description of the fault and, if possible, a photo or video.

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04 Mounting on the trap

Choosing the position

- On the trap frame or on a separate bracket, outside the sweep of the throwing arm and outside the target's path.
- Antenna vertical, with no metal screening around it: the metal of the trap body reduces range considerably.
- Route the cable so that it cannot reach moving parts of the trap and is not pulled tight when the trap is moved.

Mounting steps

1. Fix the module's enclosure to the trap. It must sit firmly: trap vibration should not reach the cable and connectors.
2. Screw the antenna fully onto the SMA connector and set it vertical.
3. Connect the trap's release circuit to output RELAY1 (see section 05).
4. Connect 12 V power: from the Promatic trap connector or from a separate converter.
5. Switch the power on. Ask the transmitter operator to send a test command and confirm that this trap is the one that fires.

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CHECK THE LINK FIRST

Before fixing everything down, check the link at the working distance. If commands come through unreliably, move the antenna or the module first, and only then tighten the mounting.

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05 Connection

The module closes the trap's release circuit exactly as the wired release module does: with a dry relay contact. Only the power supply and the way it attaches to a given trap model differ.

RELEASE OUTPUT

The trap's release circuit connects to contact RELAY1; RELAY2 is unused in the basic configuration.

RELAY1

Promatic traps

The standard 4-pin Promatic connector is used: two contacts for the release circuit, two for 12 V power. The module connects with a single cable — it draws power from the trap connector and closes the trap's release circuit with contact RELAY1.

Nasta traps

In the Nasta control box the release circuit is two wires at 230 V; they connect to contact RELAY1 (3 A at 250 V AC). Nasta traps have no 12 V supply, so a separate converter from the range mains to 12 V DC is fitted. The work is done by an electrician with the trap powered off.

THE CONTACTS MAY CARRY 230 V

With a Nasta trap, contact RELAY1 carries 230 V even when the module is switched off. Switch off the trap before disconnecting its cable.

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06 Daily operation

Switching on

Check the antenna and switch the power on. The module is ready to receive commands immediately: its settings are stored in memory and survive a power-down.

During a series

Commands come from the SHOOMS server through the range transmitter. There are no manual release controls on the module; every button on it is a service control used only by support.

Switching off

Switch the module off by removing power before servicing the trap — that is the quickest way to rule out an accidental release. Overnight or for the season it can be powered down completely.

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 MODULE NEVER RELEASES ON ITS OWN

It only executes commands received over the radio link from the range transmitter.

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07 The 868 MHz radio link

The link between the transmitter and the on-trap modules works in the 868 MHz band. It reaches considerably further than Wi-Fi and copes better with interference, at a low data rate — which is all a short release command needs.

Addressing

Every 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 several traps with wireless modules can work on one range. IDs are assigned by SHOOMS support during commissioning.

Distance and link reliability

- Distance depends on terrain, buildings and antenna placement. A clear line of sight between antennas gives the best result.
- The distance setting (7–12) is set at the transmitter for all modules at once: a higher value means more range and robustness at a lower data rate.
- Metal structures around the antenna cut the reach more than distance does.

SETTINGS LIVE AT THE TRANSMITTER

Module IDs, pulse length and Distance setting are all set from the transmitter. Nothing needs configuring on the module itself.

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08 Troubleshooting

SYMPTOM	LIKELY CAUSE	FIX
The trap does not fire on any command	No power to the module	**Check the power, the power cable and the trap connector or converter.**
This trap does not fire, others do	The module is out of reliable radio range	**Check the antenna (screwed on, vertical, not screened by metal). Tell support — the Distance setting may need changing.**
The trap fires only every other time	Weak or unstable radio signal	**Move the antenna or the module; check whether new metal obstacles have appeared.**
The wrong trap fires	Two modules have the same ID	**Contact SHOOMS support to reassign the IDs.**
The contact closes but the trap throws nothing	A fault in the trap or its release circuit	**Check the trap's power and release circuit; fire the trap with its own control.**

WHAT TO TELL SUPPORT

The module ID, the trap model, the distance to the transmitter and how the fault shows itself — constantly or from time to time.

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09 Maintenance and cleaning

INTERVAL	TASK
Weekly	Inspect the enclosure, antenna and cable for damage from shot, fragments and vibration. Check that the antenna is screwed fully home.
Monthly	Check the tightness of the cable gland and of the module's mounting on the trap.
Each season	Check the condition of the cable where it bends and at the connectors.
Before winter	If the range is idle for over 2 months, switch the module off; store portable traps with modules fitted indoors in a dry place.

DO NOT PRESSURE-WASH

Do not aim a water jet at the module and do not use solvents. Remove dust and clay residue with a dry or slightly damp cloth.

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10 Technical specifications

PARAMETER	VALUE
POWER	
Input voltage	12 V DC
Power source	Promatic trap connector or a separate 12 V converter
Switch	On the module enclosure
RADIO LINK	
Band	868 MHz
Antenna	External, SMA connector
Distance setting	7–12, set from the transmitter
Addressing	Module ID — also its serial number, up to 4 characters (typically 001, 002 …)
OUTPUTS	
Count	2 relay outputs (RELAY1, RELAY2)
Output type	Dry relay contact
Contact rating	3 A at 250 V AC or 3 A at 30 V DC
Pulse length	1,000 ms by default; set from the transmitter
ENCLOSURE AND ENVIRONMENT	
Enclosure	ABS plastic, 120 × 80 × 41 mm, IP65
Ingress protection	IP65
Cable gland	PG9
Placement	On the trap machine, outdoors
Operating temperature	–20 … +50 °C

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PARAMETER	VALUE
CONTROL	
Controller	ESP32-S3
Identification	Module ID (the serial number), assigned by support

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11 Firmware and changelog

The firmware version is shown on the cover. Updates are performed by SHOOMS support, which requires access to the module on site. There is no self-service update.

VERSION	DATE	CHANGES
2.2	09.2026	Admin page updated: nine languages, SHOOMS branding, radio-link tab.
2.1	08.2026	First production release.

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APPENDIX 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

This document

7 · DOC-WT

Transmitter

Wireless release transmitter

8 · DOC-BS

Base station

Range server and network

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