SHOOMS

DEVICE 02 / 08

TECHNICAL DOCUMENTATION

sp-rb_jrc

Target release module

16 channels | Referee remote | Wi-Fi 2.4 GHz | IP65

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



DOCUMENT	VERSION	FIRMWARE	DATE
DOC-RB-EN	1.0	1.7	09.2026

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DOC-RB-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

16	1,000 ms	12 V	12 mo
Release channels	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 target release module is the SHOOMS unit that closes the release circuits of the trap machines on command from the server. The referee remote also connects to this module: its button presses are sent to the server.

16	4	IP65
Trap release channels	Referee remote buttons	Enclosure rating

Purpose

- Target release: on a command from the SHOOMS server the module closes the contact of the selected channel for a set time — 1,000 ms by default.
- Referee remote: four buttons for the referee's work during a series — misses, repeat, target release.
- Connectivity: 2.4 GHz Wi-Fi to the range's outdoor router; the link state is shown on the indicators.

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Device layout

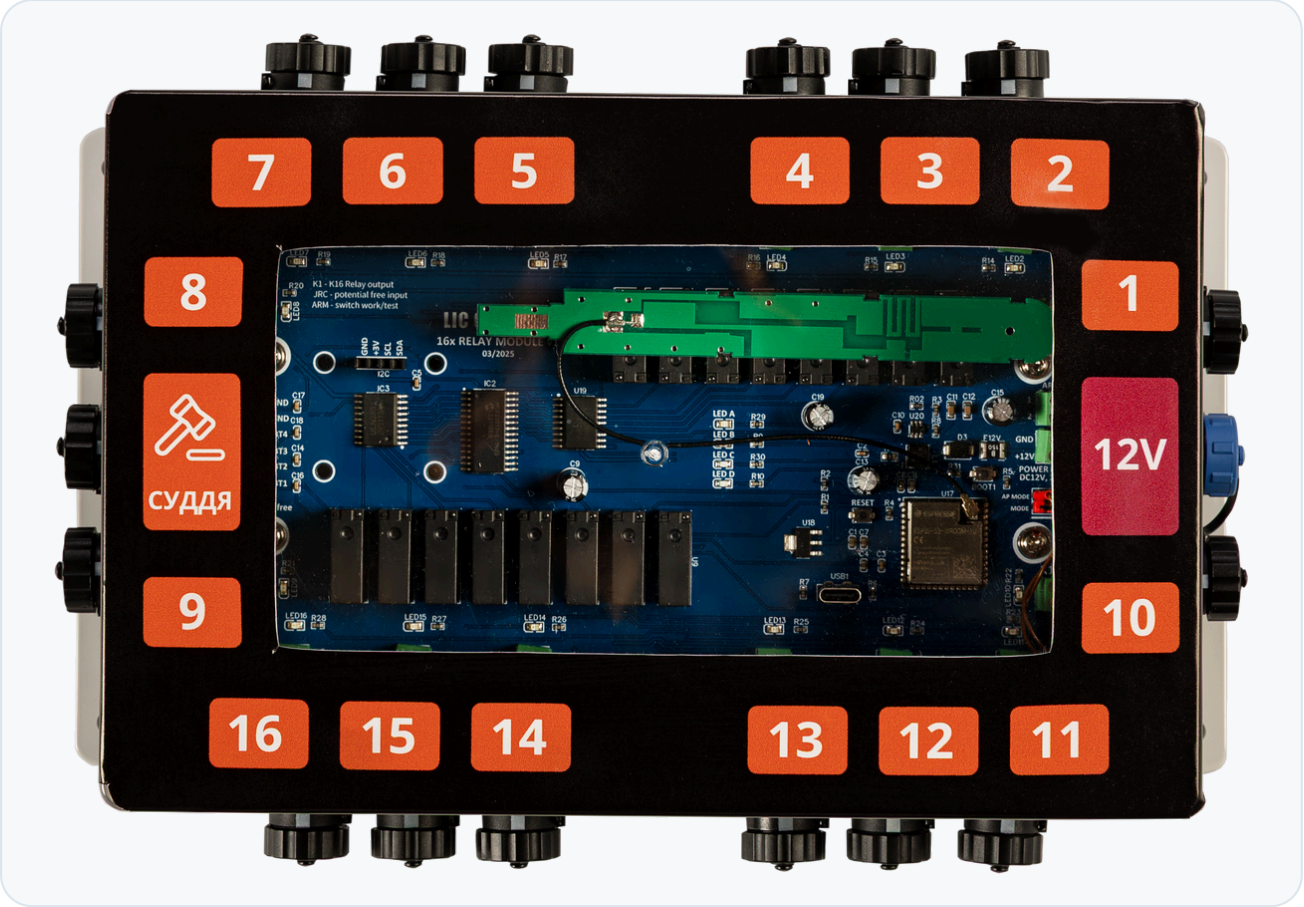


Fig. 1. Release module: port numbering on the lid and on the board

MARKING	ELEMENT	DESCRIPTION
1–16	Channel ports	Sealed SP13 connectors, 2 pins. Each takes a channel cable, which in turn is joined to the cable of one trap. The port number is marked on the lid and on the board; it equals the channel number in the SHOOMS settings.
СУДДЯ	Referee remote port	SP13, 5 pins. The button backlight is powered from the module. The label «СУДДЯ» is Ukrainian for “referee”.
12V	Power inlet	12 V DC from the supplied power adapter. Depending on the version — a 5.5 × 2.1 mm jack or a sealed 2-pin SP13 connector.

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MARKING	ELEMENT	DESCRIPTION
DEBUG	Latching service button	Used by SHOOMS support only. Must stay released during normal operation.
A–D	Status indicators	Four LEDs on the board, visible through the transparent lid (section 07).
LED 1–16	Channel indicators	The LED next to each channel lights while that channel's contact is closed.

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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	Target release module sp-rb_jrc in an IP65 enclosure
1	12 V / 2 A power adapter with a 5.5 × 2.1 mm plug, or with a cable and the mating SP13 connector — depending on the module version
1	Referee remote with a 15 m cable and SP13 connector (5 pins)
16	Channel cables with an SP13 connector (2 pins), ready to join the trap cable

NOTE

The cable from the trap to the channel cable and the adapter for a specific trap model (Promatic, Nasta) are defined during range design and are not part of the basic kit.

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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.

WARNING

Channel contacts may switch 230 V (Nasta traps). Trap cables are connected only by a qualified electrician with the trap and the module powered off.

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General rules

While the module is powered, any connected trap can fire. Disconnect a trap's cable from the module before servicing that trap.

Switch the trap's release circuit only. Do not connect a motor or any other load above 3 A to the contacts.

Power the module only from the supplied 12 V / 2 A adapter. Install the adapter in a dry place — it is not rated for rain.

Do not open the lid during operation. There are no user-serviceable parts inside.

Keep unused ports closed with their caps; otherwise the IP65 rating is void.

The DEBUG button must stay released. If it is latched, the module will not join the range network after a restart.

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, lightning, overvoltage in the trap circuits, water entering through uncapped ports, or mechanical tampering with the enclosure.

For a warranty claim provide: the serial number (four digits on the enclosure sticker), a description of the fault and, if possible, a photo or video.

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04 Installation and mounting

Choosing the location

- On a wall or post outside the fall zone of clay fragments and shot, preferably shaded or under a canopy: the transparent lid heats the enclosure in direct sun.
- Within good signal range of the range's outdoor router, with no metal obstacles between the router and the module.
- A 230 V socket for the power adapter must be nearby in a dry place — in a cabinet or a weatherproof socket.



Fig. 2. Channel ports on the long side of the enclosure

Mounting steps

1. Fix the enclosure by its four mounting lugs with screws suited to the base material. Check it is level.

2. Connect the channel cables to ports 1–16 and join the trap cables to them according to the range layout. Tighten the coupling nuts fully. Write down which trap is on which channel.

3. Connect the referee remote to the «СУДДЯ» port.

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4 Make sure the DEBUG button is released.

5 Plug the adapter into the «12V» port (jack or SP13 connector, depending on the version), then into a 230 V socket. Within 10–20 s the indicator should change to slow blue blinking — the module is online.

TIP

Write down the module's serial number and the channel number of every trap — you will need them for the SHOOMS settings and when contacting support.

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05 Connection

The module ships already configured for the range network: once powered it joins the outdoor router on its own and becomes reachable by the SHOOMS server. Channel-to-trap assignment and the pulse length are set by SHOOMS engineers in the system settings during commissioning.

CHANNEL NUMBER

The port number is marked on the lid and on the board; it equals the channel number in the SHOOMS settings.

1–16

Promatic traps

The trap cable ends in the standard 4-pin Promatic connector: two pins are the release circuit, two are 12 V power, which the wired module does not use. The trap cable is joined to the channel cable and the connector plugs into the socket on the trap.

Nasta traps

In the Nasta control box the release circuit is two wires at 230 V. They are joined to the two cores of the channel cable; the contact is rated 3 A at 250 V AC. The work is done by an electrician with the trap powered off.

WARNING

The contacts of a channel wired to a Nasta trap carry 230 V even when the module itself is unpowered. Switch off the trap before disconnecting its cable.

Referee remote

The remote connects to the «СУДДЯ» port with a 15 m cable. The buttons are vandal-resistant and backlit while the module is powered. Every press is sent to the server.

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BUTTON	ACTION
1	Miss on the first target
2	Miss on the second target
3	Repeat
4	Target release (default setting; can be configured as “next target without release”)



Fig. 3. Referee remote with cable and SP13 connector

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06 Daily operation

Power-on

Apply power. At power-on all channel contacts are open. For a few seconds the indicator blinks red quickly, then changes to slow blue blinking — the module is online. There is no power switch: to power the module down, unplug the adapter.

During a series

The series is run from the terminal; the module only executes server commands and closes the contact of the required channel for the set time. The module itself has no manual release controls: a target is released by the server or by the referee with button 4 on the remote.

Referee remote

A button press is sent to the server; after the press the indicator flashes blue briefly. Button actions are listed in section 05.

Loss of connection

If the link to the router is lost, the indicator blinks red. The module reconnects on its own; while offline, no releases are executed and remote presses are not sent.

Power-off

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

NOTE

The module only executes commands from the SHOOMS server. It never releases a target on its own.

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07 Status indicators

Four status LEDs on the board are visible through the transparent lid. Each channel port has its own indicator.

LED	PATTERN	MEANING	ACTION
	**Red, fast blink**	Module starting — first seconds after power-on	Wait
	**Blue, slow blink**	Connected to the range network, ready	—
	**Blue, short flash**	Remote button press processed	—
	**Red, slow blink**	No Wi-Fi connection	Section 08
	**Red, green, blue in turn**	Service setup mode — DEBUG button latched	Release DEBUG, restart power
	**Green, fast blink**	Receiving settings from support	Do not power off
	**Red and amber, fast blink**	Internal fault; the module restarts after 15 s	If it recurs — section 08
	**Channel indicator lit**	Channel contact closed — release pulse in progress	—

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08 Troubleshooting

SYMPTOM	LIKELY CAUSE	FIX
No indicators lit	No power	Check the socket, the power adapter and the connection at the «12V» port.
Red blinks slowly	No link to the range router	Check that the outdoor router is running. Power the module off for 10 s and on again. If that does not help, contact support.
Red, green, blue blink in turn	Module is in service mode	Release the DEBUG button and restart power.
Trap does not fire, channel indicator flashes	Broken cable or trap fault	Check the connector on the module and on the trap, the trap's power and its release circuit.
Trap does not fire, channel indicator does not flash	Channel not assigned to the trap	Check the channel number in the SHOOMS settings.
Wrong trap fires	Cables plugged into the wrong ports	Compare port numbers with the range layout and move the cables.
Remote buttons have no effect	Remote not connected or module offline	Check the «СУДДЯ» connector and the button backlight. The module indicator must blink blue.
Red and amber blink fast	Internal fault	Power the module off for 30 s. If it recurs — service.

NOTE

If the problem persists, contact SHOOMS support with the module's serial number and the state of the indicators.

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09 Maintenance and cleaning

INTERVAL	TASK
Weekly	Inspect the enclosure, lid and cables for shot and fragment damage. Check that caps on unused ports are closed.
Monthly	Wipe the lid with a damp, solvent-free cloth. Check the tightness of the connector coupling nuts.
Each season	Check the enclosure fixing and the condition of the trap cables at the connectors.
Before winter	If the range is idle for over 2 months, power the module down and store the adapter indoors in a dry place.

WARNING

Do not pressure-wash the module and do not use alcohol, acetone or abrasives — they damage the connector seals and the transparent lid.

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10 Technical specifications

PARAMETER	VALUE
POWER	
Input voltage	12 V DC
Consumption	up to 1.5 A
Power inlet	5.5 × 2.1 mm jack or SP13, 2 pins, IP68 — depending on the version
Power adapter	12 V / 2 A, 230 V, 50 Hz input
RELEASE CHANNELS	
Count	16
Output type	Dry relay contact, normally open
Contact rating	3 A at 250 V AC or 3 A at 30 V DC
Pulse length	1,000 ms by default; set by the server
Connectors	SP13, 2 pins, IP68
REFEREE REMOTE	
Buttons	4, vandal-resistant, backlit
Cable	15 m
Connector	SP13, 5 pins, IP68
CONNECTIVITY	
Wi-Fi	IEEE 802.11 b/g/n, 2.4 GHz
Antenna	Internal
Network name	sp-rb_jrc-‹serial number›
ENCLOSURE AND ENVIRONMENT	

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PARAMETER	VALUE
Enclosure	Gainta G218CMF, polycarbonate, transparent lid
Dimensions	222 × 146 × 55 mm without connectors
Ingress protection	IP65 with ports capped
Mounting	Four mounting lugs
Placement	Outdoor; canopy recommended
Operating temperature	–20 … +50 °C
CONTROL	
Controller	ESP32-S3
Serial number	Four digits, sticker on the enclosure

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11 Firmware and changelog

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

VERSION	DATE	CHANGES
1.7	09.2026	First production release.

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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

This document

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

8 · DOC-BS

Base station

Range server and network

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