

vhfBridge

Module for connecting Ajax Security Systems to third-party VHF transmitters

Instant alarm transmission without Internet

vhfBridge is a transponder that provides a hub with an additional channel to communicate with a monitoring station. With **vhfBridge** you can use Ajax systems in cities where Internet connection is unstable, in nature reserves, mountain and desert areas.

Alarms and events of the system are transmitted via VHF radio waves over tens of kilometres¹. **vhfBridge** can be used as a primary or a backup communication channel.

Reliability and versatility by design

- Place for a backup battery² 150 × 64 × 94 mm
- Perforated areas in the casing³ for accurate cable management
- 8 adjustable positive/negative trip outputs for sending events to a VHF transmitter
- VHF transmitter power supply 12 V DC, 2 A
- Casing protected from sabotage tampers detecting opening and removal from the surface³

Elaborate autonomy

You can build in a 7 Ah backup battery inside a vhfBridge casing. It will feed a VHF transmitter with up to 2A current consumption. Therefore, the transmitter doesn't need to have a separate battery, which makes maintenance less frequent. In case of a power outage at a facility, the transponder and the transmitter operate on a backup battery for up to 75 hours⁴ while still transmitting events to a central monitoring station.

- Up to 75 hours⁴ of autonomous operation
- Place for a 7 Ah backup battery

Adjustable signalling

Get only events you need. You can configure each **vhfBridge** output in the Ajax app: set an event or disable it.

Uncompromised security of communication

vhfBridge communicates with a hub via an encrypted Jeweller radio protocol. It guarantees continuous interaction of all security system devices. The radio protocol uses frames to synchronize device communication sessions, authentication to prevent forgery, and encryption to protect against data theft.

- Connection with a hub at a distance of up to 1,800 meters

- Alarm transmission within 0.15 seconds
- Hub ping interval from 12 seconds

Hassle-free installation

Similar to other Ajax devices, **vhfBridge** connects to a hub in the app by scanning a QR-code. The transponder casing has perforated areas for more organized wiring. Outputs are configurable with Ajax apps for smartphones and computers.

Tech specs

Colour	White and black
Classification	Transponder for communication with the monitoring station via a VHF transmitter
Installation	Indoors
Number of potential outputs	8
Output types	Positive trip and negative trip (depends on the settings)
Transmission types	Pulse and bistable (depends on the settings)
Compatible with Ajax central units	Operates with Hub 2 , Hub Plus , Hub 2 Plus
Compatible with Ajax range extenders	+
Compatibility with third-party VHF radio transmitters	vhfBridge connects to any VHF transmitter with relay inputs Recommended models
Support for photo verification of alarms	No
Primary power supply	100–240 V, 50/60 Hz
Backup power supply	12 V DC, up to 75 hours of power for a transponder and a transmitter
Supported battery type	12 V battery with a full charge cycle of up to 30 hours. The maximum battery size installed in the casing should be 150 × 64 × 94 mm
Recommended battery type	12 V battery with a capacity of 4 Ah or 7 Ah Backup battery is not included in the set
VHF transmitter power	12 V DC, 2 A
Anti-sabotage	Protecting against forgery Jamming notifications Tampers against opening and removal

	Backup battery
Jeweller radio protocol	Communication range — up to 1,800 meters in a line of sight Two-sided communication between devices Operating frequencies: 868.0–868.6 MHz or 868.7 – 869.2 MHz (depending on the region of sale) Auto-regulated radio signal power: ≤ 25 mW Blocking encryption based on the AES algorithm Detector ping interval: 12–300 seconds Frequency hopping
Maximum radio signal power	≤ 25 mW
Protection class	IP50
Operating temperature range	From –10°C to +40°C
Operating humidity	Up to 75%
Overall dimensions	196 × 238 × 100 mm (with casing) 145 × 89 × 51 mm (without casing)
Weight	840 g (with casing) 165 g (without casing)
Warranty	Warranty service for 24 months from the date of sale.
Complete set	vhfBridge Power cable 12 V battery connection cable Installation kit Casing (depends on a set) Quick start guide

¹ The distance depends on the transmitter, the terrain, and the weather. The maximum range varies in each particular case.

² A backup battery is not included in the set

³ vhfBridge can be sold without a casing

⁴ When using a 7 Ah battery