ORS-01IC controller for sliding gate control units

Installation and operation manual

1 Safety guidelines

General guidelines

ORS-01IC receiver is factory configured to guarantee safe installation and operation, provided that all guidelines in this user manual and the safety and accident prevention regulations relevant to the application (e.g. sliding gate) are followed.
Installation and repairs must be carried out by trained and qualified professional only.
Do not modify or change the ORS-01IC receiver in any way. All warranty repairs must be carried out by the manufacturer. Use genuine spare parts and accessories only.
The operational safety of the ORS-01IC receiver can only be guaranteed if the device is used as intended. The limit values provided in the specifications must not be exceeded under any circumstances.

Additional safety regulations

Follow the safety and accident prevention regulations relevant for a specific application (e.g. sliding gate) when installing, commissioning and maintaining the control unit. In particular, observe the following:
1. Fire safety regulations
2. Accident prevention regulations

General information on hazards and safety measures

The following are the general guidelines for use of INEL controllers with other devices. Follow the guidelines when installing and operating the devices.

Caution - Failure to take precautions may result indamage to the control unit or property.

- Check if all screw connections are secure before installing the control unit and setting the limit positions.

Danger - Failure to take precautions may result in injury or death.

- Follow the safety and accident prevention regulations relevant to the application (e.g. sliding gate).
- ORS-01IC must be installed with the required safety and protection devices. The control units including crushing protection systems with a sensor installed at the gate (contact with the obstacle) must not cause any injuries due to the movement of the sliding gate.
- For INEL devices with permanent power connection to the controller, in addition to fuse protection, use an isolation switch for safe power supply disconnection (e.g. fuse cut-off switch) for all connections.
- Inspect the power wires and cables regularly for damaged insulation and conductor continuity.
- Turn off the power supply before replacing damaged cables.
- Check if the local voltage supply parameters correspond to the device specification.

Warning - important for the safety of personnel:

- do not let children play with the control devices;
- keep the control devices out of reach of children;
- observe the gate in motion at all times and keep other people away until it is fully opened or closed;
- Provide training and instructions for the users on device operation and related risks. The operator is deemed to have been trained if the employer, administrator or owner of the device have instructed and authorised the operator to operate the device.

2 Waste disposal

Do not dispose of with household waste. Dispose of waste in accordance with the relevant legislation. Households play a key role in the recycling of waste electrical and electronic equipment. Waste sorting, including waste equipment and batteries, guarantees that the equipment is not disposed of with domestic household waste but is handed to a designated collection point for the recycling of electrical and electronic waste.

3 Properties

ORS-01IC controller is one of the InelControl system devices used to control a driveway gate or garage door control unit. It is a single-channel receiver with a decoder and return channel. The radio link operates at 868.30 MHz.

Specifications

Operating frequency	868,30 MHz
Number of channels	1
Radio range	>100 m
Supply voltage	12 VDC or 24 VAC
Standby power input	36 mA
Protection rating	IP44
Enclosure (surface-mounted box)	ABB 00808
Dimensions	75 x 75 x 39 mm
Weight	90 g

4 Description

The commands send from the app installed on your smartphone to the InelControl control unit (locally - over the Access Point network, home Wi-Fi network or remotely over the Internet) will result in a signal being sent by the control unit. The signal received by ORS-01IC activates a relay with a contact connected to the OUT output. The output is connected to the manual control input and corresponds to the manual operation of the gate switch. The gate control panel on your smartphone includes a single control button for manual control. Open and closed position sensors must be installed to allow gate control and status indication. The sensors may include NO type reed switches installed at the gate and connected to the CON1 (closed) and CON2 (open) inputs. The open or closed position signal is sent over via the return channel to the InelControl control unit and to the smartphone app.

If the reed sensors are not installed, the remote control of a gate will be disabled.

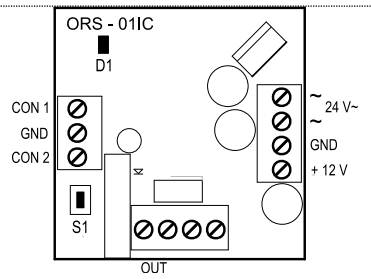

Fig. 1 Controller with cover removed

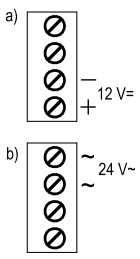

Fig. 2 Power supply

5 Installing the controller

Caution! The device must be installed by a qualified sliding gate installer.

5.1. Sliding gate

Installing the controller:

5.1.1 Installing the reed switches

The first and the most important task to ensure correct operation of the controller in the system is to install the reed switches.

Fig. 3 shows the operation of reed switches in the sliding gate.

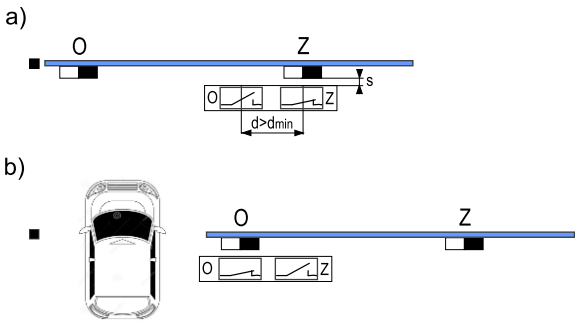

Fig. 3 Operation of open / closed switches: a) sliding gate closed – reed switch Z closed, b) sliding gate open – reed switch O closed

Installing the sliding gate reed switches:

5.1.2 Determining the minimum distance **dmin** between the reed switches.

A minimum distance providing selectivity (to prevent activation of reed switch Z placed opposite reed switch O, and vice versa). The test requires an ohmmeter with circuit continuity measurement function (with buzzer).

Place the reed switches (O and Z) in a plastic tray in contact with each other. Touch the reed switch O with a magnet and connect the ohmmeter to the reed switch Z outputs. If the ohmmeter shows that the reed switch Z is activated, move it away from the reed switch O until it deactivates. The distance reached at the moment the reed switch deactivates is a minimum distance between the reed switches.

5.1.3 Preliminary installation of the reed switches and magnets in the sliding gate

Note: turn off the power supply before completing step 2 and 3.

Place a plastic tray with the reed switches (horizontal) and magnets at the same level. Install the reed switches near the sliding gate control unit and install the magnets at the toothed bar or the sliding gate spokes. If the magnets are already installed, adjust the height of the bar with reed switches. The gap **s** between the magnet and the reed switch should provide reliable operation of the reed switches and smooth sliding gate movement. For B-1 type reed switches by Satel, the gap should not exceed 3 cm. The gap can be adjusted with plastic spacers or blocks.

5.1.4 Positioning the magnets in relation to the reed switches

- Open the sliding gate,
- attach the tray with the reed switches with reed switch O (CON2) opposite magnet O. The reed switch should not be fixed in the tray. Connect the ohmmeter to the reed switch. Gently move the reed switch left and right to determine the middle of its operating range. Fix the reed switch in place.
- Close the sliding gate. Move reed switch Z (CON1) in the tray and place it opposite magnet Z. Do not fix the reed switch. Connect the ohmmeter to the reed switch. Gently move the reed switch left and right to determine the middle of its operating range. Fix the reed switch in place.

5.1.5 Installing and connecting the controller

Install the controller and the tray with reed switches inside the sliding gate control unit. If this is not feasible, install the controller and the tray with reed switches close to the sliding gate control unit. Secure the controller, the reed switches and the insulated cables against mechanical damage and weather conditions.

Fig. 4 shows the connection diagram. Route the cables to the controller enclosure by the grommets to ensure proper sealing and arrange in loops to prevent water ingress.

Connect the OUT output to the manual control input of the sliding gate control unit.

The controller may be supplied with 12 V DC or 24 V AC (from the sliding gate control unit or the external power supply). Fig. 2 shows the wiring diagram for both cases. Fig. 5 shows 12 V power supply from the control unit.

The cables must not block the control unit's enclosure and must not affect its weather protection components.

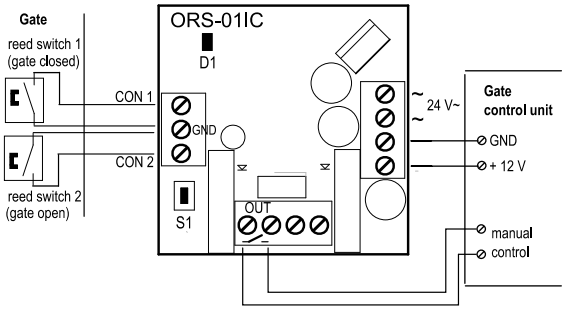

Fig. 4 Controller wiring diagram

5.1.6 Registering and configuring the controller in InelControl system

To register and configure of the controller in InelControl system, see "Control unit user manual and InelControl system configuration".

The device will be automatically detected by the system. Press and hold S1 on the controller board for approx. 1 second. If the device is not automatically detected, change the controller position and try again.

After configuring the controller, check the received signal level in **Advanced device information** tab in InelControl app. For correct communication, the level should be min. -90 dBm

5.2 Sectional gate

Similar to the sliding gate, installation of reed switches is required.

Fig. 5 shows the operation of reed switches in the sectional gate.

The magnet is attached to the carriage (C) and the reed switches are attached to the bar (R).

The reed switches are at a distance that will prevent nonselective operation. Choose the optimal position of the reed switches in relation to the magnet (see the sliding gate section).

Install he controller near the gate control unit. Fig. 4 shows the wiring diagram.

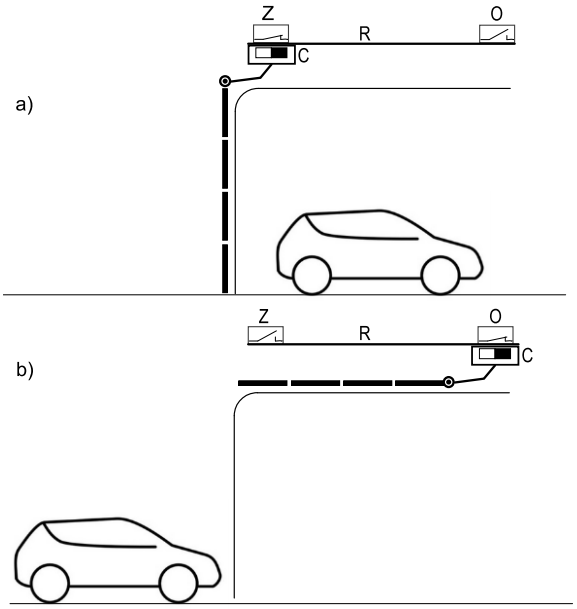

Fig. 5 Operation of open/close switches of the sectional gate: a) door closed - reed switch Z closed, b) door open – reed switch O closed