Door sensor connection and configuration

Introduction

In this user guide we will describe how to connect a door sensor to the Ruptela FM device and how to configure your device so that it can transmit door state information to the server.

Feature is compatible with these FM devices:
- FM-Tco4 HCV
- FM-Tco4 LCV
- FM-Pro4
- FM-Eco4
- FM-Eco4 S

You can get the latest firmware and configurator from our documentation website: doc.ruptela.lt

Legal notice

Document change log

Date	Version	Change details
2017-03-13	1.0	Initial draft.
2018-11-15	1.1	Compatible device list updated.

Description

TZ-8166 door sensor is a limit switch. It is operated by the motion of a machine part or presence of an object. A limit switch is an electromechanical device that consists of an actuator mechanically linked to a set of contacts. When an object comes into contact with the actuator, the device operates the contacts to make or break an electrical connection.

There are two sets of contacts inside the sensor. One set is called NO (normally open), another NC (normally closed).

NO contacts

In one case we could take two wires connected to the positive and negative poles of the power supply unit. If we connect these wires to the NO contacts, the current flow starts only when the actuator is in contact with an object (i.e. door).

NC contacts

If we connect power supply wires to the NC contacts, operation principle will be reversed. It means that the current flow stops only when actuator is in contact with an object (i.e. door).
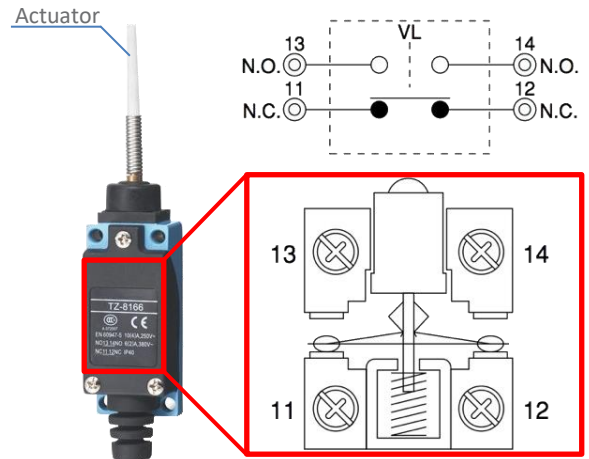
Mounting example

Door sensor can be used in a number of different ways. One common example is to use it to monitor trailer doors. Mounting example is shown in the picture below.


Connection to the FM device

One way to set up your FM device to track door senor state would be like this:

Open the door sensor casing. Take a wire leading from the positive (+) pole of the power supply unit and connect it to the first NC contact. Now take digital input 1 (DIN1 - pink) wire from the 12 pin connector and connect it to the second NC contact.

This way DIN1 state "1" will represent open doors and DIN1 state "0" will represent closed doors.
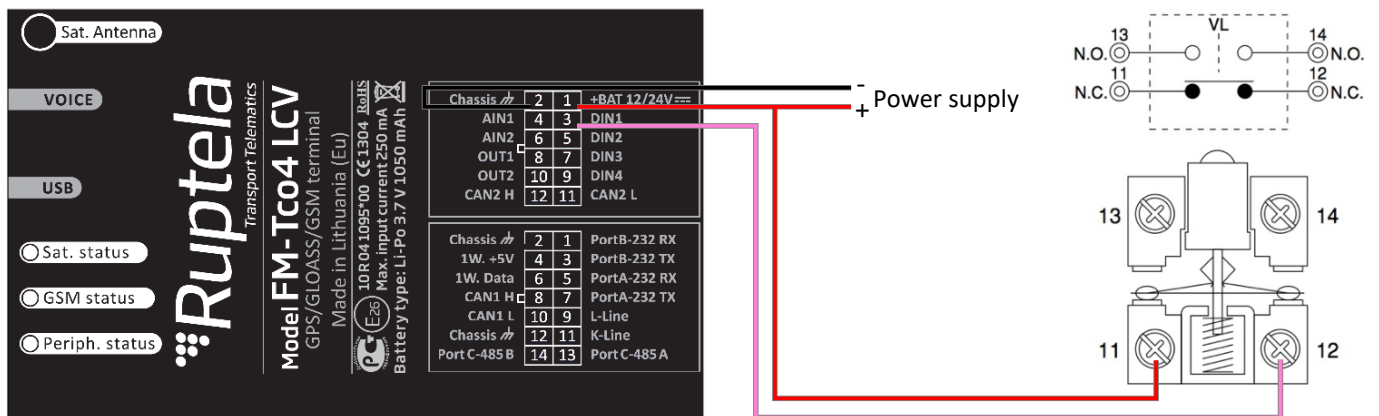
You could also use an alternative method and connect to the NO contacts. Then DIN1 state "1" would represent closed doors and DIN1 state "0" would represent open doors.

Configuration

1. In the main configurator window choose your device.
2. In the **I/O events** section click on the "Options" button.
3. Select a slot that you want to enable.
4. In the **IO properties** section tick the **Enable** check box, otherwise the slot will remain empty.
5. **ID** contains the parameters list. Choose a parameter you want to enable for the selected slot. For door sensor that was connected to the 1st digital input you should enable "DIN1" IO parameter.
6. It is recommended to set record generation with **Event on** *Change* and **Priority** *High*. This way you will get notifications about DIN1 status changes as soon as they happen.

Once all the steps are complete, you should be able to track door status. DIN1 state will be shown in TrustTrack reports (open: 1 and closed: 0).