control solutions
TERACOM



ACT210-F-v2 INDUSTRIAL RFID SWITCH

Revision 1.1 / September 2023

USER MANUAL

www.teracomsystems.com

Short description

ACT210-F-v2 is an industrial RFID switch. It is intended to control the access to electronic and electrical devices. The product supports EM4102 compatible 125kHz RFID tags and can be easily installed on a panel due to its cylindrical construction.

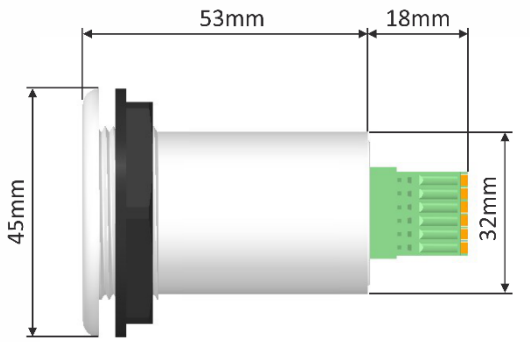
Specifications

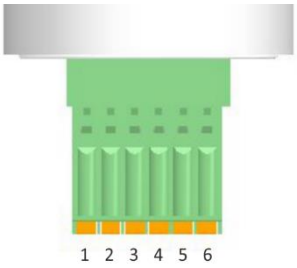
- Operating voltage range (including -15/+20% according to IEC 62368-1) — 8-26VDC;
- Current consumption (with relay ON) — 50mA @ 12V;
- Maximum switchable voltage/current — 30VAC/24VDC 0.5A;
- Operating temperature range — -20 to +60°C;
- Dimensions — Ø 45mm x 71mm;
- Installation hole — Ø 32mm;
- Ingress protection for the device (except the connector) — IP65;
- Reading range — ≤ 3cm;
- RS-232 interface settings — 19200bps, 8 bits, 1 stop bit, No parity;
- RFID tags — 125kHz, EM4102 compatible;
- Nonvolatile memory for up to — 500 tags;
- Connector — 2.5mm pluggable screwless push in.

⚠ **Caution!** The device does not contain any internal overcurrent protection facilities on the relays' contact lines. External fuses or short circuit current limiting circuit breakers, rated to 0.63 Amps, are to be used for overcurrent protection of the connecting lines.

⚠ **Caution!** In case of switching an inductive load, an RC or diode snubber are to be used for relay contact protection (arc suppression).

Dimensions and pin-out





1. Positive power supply
2. Negative power supply (GND)
3. Relay NO contact
4. Relay COM contact
5. RS-232 Rx
6. RS-232 Tx

LEDs:

ACT210-F-v2 has one red and one green LED shining in the center. They show the status of the device.

Modes:

ACT210-F-v2 operates in the following modes:

- Normal operating mode;
- Adding new identifiers (service mode);
- Deleting all identifiers (service mode);
- Programming by LockyMonitor-3 software (service mode).

Normal operating mode

In this mode, the device expects a valid RFID tag to toggle the status of its relay contacts. The new status is permanent until the next valid tag placing. The device acts as a trigger.

For the non-active status of the relay (NO and COM contacts are not connected), the red LED blinks shortly twice per second.

For the active status of the relay (NO and COM contacts are connected) the green LED illuminates continuously with two short dimmers per second.

If an invalid tag is placed within the range of the antenna, the red LED flashes 6 times. The relay is not activated.

If a service tag is put in the range of the antenna, ACT210-F-v2 goes in Adding/Deleting service mode.

Adding new identifiers

The controller enters into this mode when the service tag is put in the range of the antenna for a short time (less than 5 seconds). In this mode, the red and green LEDs blink together once per second.

In this mode, each new tag that is placed in the range of the antenna will be added as a valid one in the memory of the controller. On every added tag the green LED blinks twice.

If the tag is already in the memory or the memory is full, the red LED blinks 3 times.

To return to the normal operating mode, the service tag should be placed again for a short time. The device will return automatically to the normal operation mode if there is no activity for 60 seconds.

Deleting all identifiers

ACT210-F-v2 enters in this mode when the service tag is put and hold within range of the antenna for more than 10 seconds. After this time the controller will start deleting all identifiers from its memory. During the deleting the red and green LEDs blink fast.

At the end of the process, the red and green LEDs blink slowly 2 times. The device is returned to normal operating mode.

The service tag will not be deleted from the controller's memory.

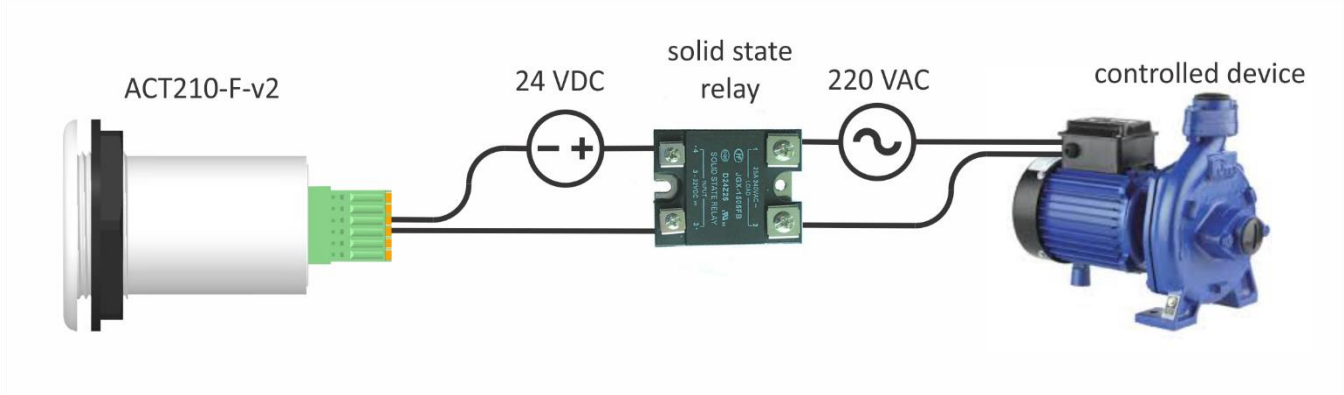
Programming by LockyMonitor-3 software

LockyMonitor-3 software allows add/remove/enable/disable tags, change the mode (P/F/T), and change the firmware of the controller.

The controller should be connected with a standard RS-232 cable or RS-232-to-USB converter to the computer. In the second variant, an appropriate driver should be installed.

The software can be downloaded from www.teracomsystems.com.

Typical application:



Package content:

- ACT210-F-v2
- Service tag
- User manual