DATA SHEET

rH-AC15R4S4

Module for integration with alarm systems of the
F&Home RADIO system.

F&F Filipowski Sp. J.

95-200 Pabianice, ul. Konstantynowska 79/81   phone +48 42 215 23 83   www.fif.com.pl

The rH-AC15R4S4 module is designed for integration with alarm control units of any manufacturer. It has 15 high-resistance analog inputs, four low-voltage relay outputs and four 5 - 10 V optocoupler inputs. Communication with the server is done by radio. The module performs a measurement of voltage on analog inputs and compares the value of that voltage with the reference voltage. Any deviation of more than 0.6 V up or down compared to the reference voltage is treated as a state of excitation and logical state „1" is generated on the output. With deviation lower than 0.6 V the output of a compactor assumes logical state „0". The reference voltage is treated as a voltage of inactive state (logical state „0" on the output). The state of compactor is indicated by a LED placed at each input. If the compactor output logical state is „1" the LED is lighted. The value of the reference voltage for each input individually is measured and stored for all inputs simultaneously after pressing CAL button. With reference voltage value saved it can cooperate with any voltage range of motion sensors. Relays and contact inputs operate in the same way as in the module rH-R3S3 (without the autonomous mode).
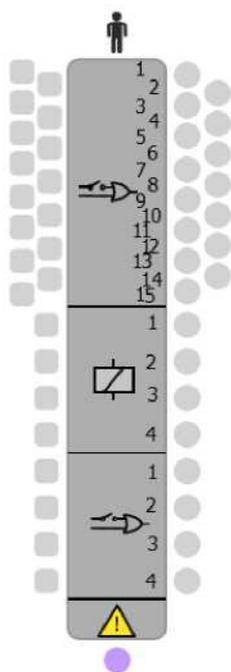
The rH-AC15R4S4 module is represented by an object that is composed of 15 output channels on which the comparison result appears in binary form. The comparison of input voltage with reference voltage is done in the, individually for each channel. By deviating from the reference voltage by less than +/-0,6 V, the logical state „0" is generated on the corresponding output. Larger deviation causes that the logical state „1" is generated on the corresponding output.

The module is also equipped with four binary inputs and four binary (bi-state) outputs of the relay, separate for each physical input. Input of the object is used for controlling the channels of the relay, and the information about current operational state of the given channel of the relay is passed to the output. Four consecutive entries are used for direct changing of the logical status on appropriate outputs by closing or opening the contact. In addition, the module has byte output "Error code", which has a value of '1' if the object loses connectivity with the module. As soon as the transmission is unlocked the signal returns to ' 0 '.

INPUTS			OUTPUTS		
Figure	Name	Type	Figure	Name	Type
	presence detection channel 1-15	binary		presence detection channel 1-15	binary
	relay control channel 1,2,3,4	binary		confirmed relay status channel 1,2,3,4	binary
	channel 1,2,3,4	binary		status of the contacts 1,2,3,4	binary
				error number	byte
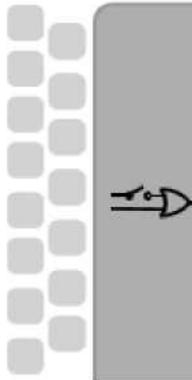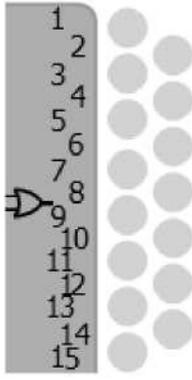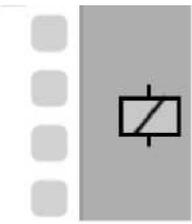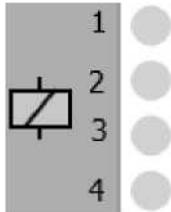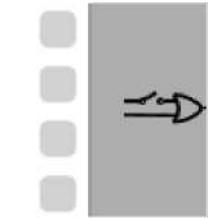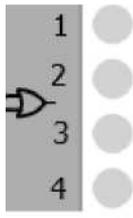
Installer settings in the configuration program

Feature name	Description	Range	Unit / Description
Connection monitoring	Sets action in case of loss of connection to the server (information about the modules out of reach)	Standard module	Information on the standard output SX 752
		Alarm module	Information on the alarm output SX 752
		Unmonitored module	No connection correctness control
The delay in signaling a lack of coverage	Sets the delay after which the module is reported that it is beyond the coverage range of the server	1 - 5	

Module operation indication	
Mode	Description
Online (registered)	LED STSTUS lights, dims during radio transmission
Registration	LED STATUS pulsating quickly
Offline	LED STATUS flashes every half a second - a module has lost the radio connection to the server or is not registered
Not programmed	LED BOOT flashes: lights, dims for 100 ms every 1 second LED STATUS switched off. The module should be returned to the manufacturer.

Registration in the system

1. Select the registration method in the configurator.
2. Press and hold the PROG button on the board.
3. After 5 seconds the module will register itself in the system or the program will report an error in case of failure.

F&F Filipowski Sp. J.

95-200 Pabianice, ul. Konstantynowska 79/81   phone +48 42 215 23 83   www.fif.com.pl
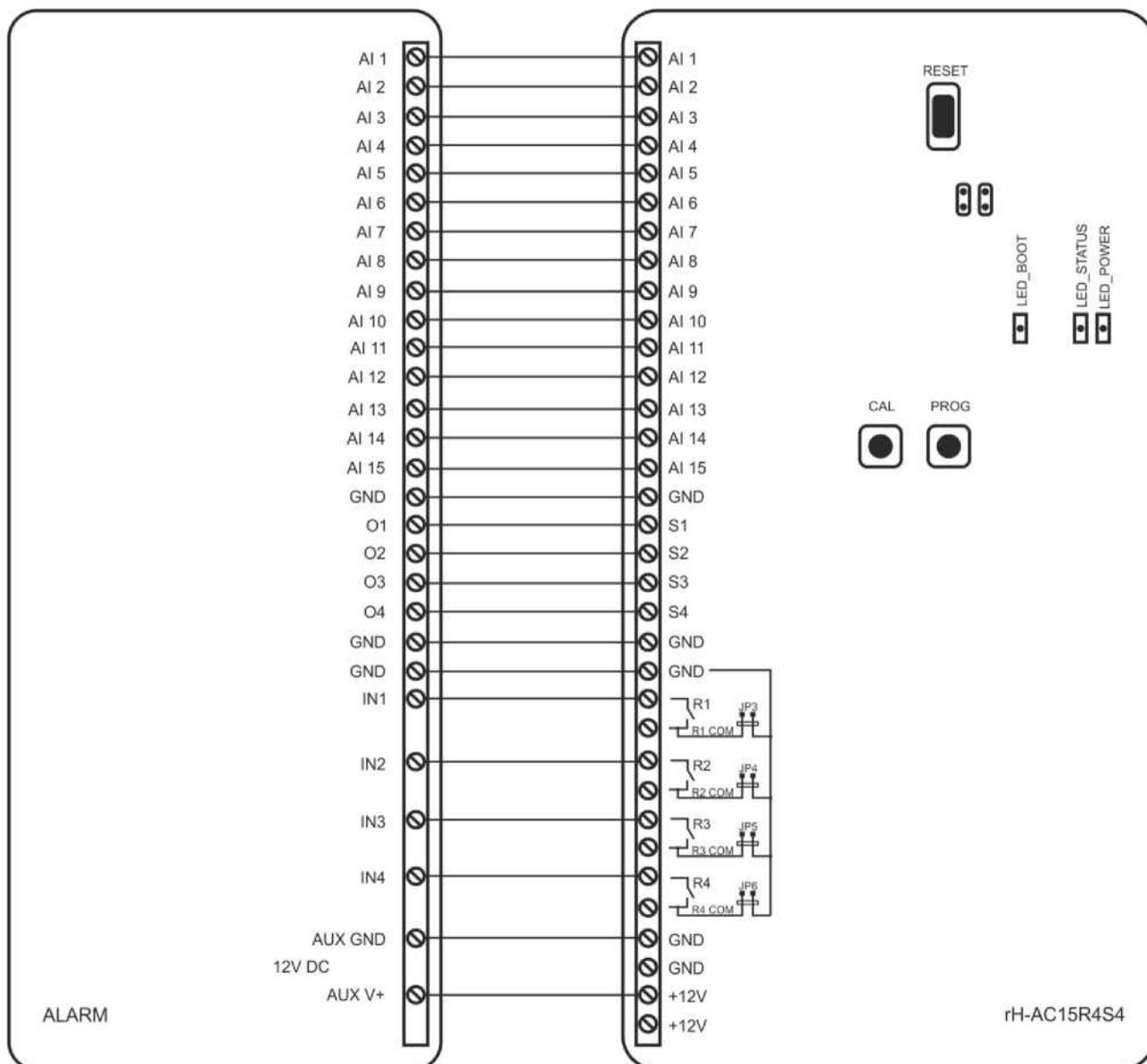
- Connect the GND (ground) wire to the module.
- Connect the motion sensors to AI inputs (in parallel to the alarm control unit).
- Switch on power.
- Make sure that there are no people within the coverage of the motion sensors (all sensors must be switched off).
- Press the CAL button for 3 seconds (until the LEDs AI1 — AI15 stop pulsating - go out), for the module to save the value of reference voltage.
- Register the rH-AC15R4S4 module in the system.

1. Reading the status of the alarm control unit - optocoupler inputs:
    The alarm control unit provides statuses on universal outputs of the OC (open collector) type. Type of the signal on each of the outputs can be freely programmed in the control unit. To receive the information from the central unit, connect the central unit outputs to the optocoupler inputs of rH-AC15R4S4 module.
2. Controlling the alarm control unit - relay outputs:
    The central unit has analogical inputs of the OC type, contact closing to ground causes the given input to become inactive. Type of the signal on each of the inputs can be freely programmed in the control unit. To change the state of the central unit, connect the control unit inputs to relay outputs of the rHAC15R4S4 module. This allows you to quickly arm the alarm without using the keypad, for example using a single button.

Jumpers JP_P1 and JP_P2 must be put on for the module to operate properly.

Buttons and receivers connection to the receivers of the rH-AC15R4S4 module. The module acts similarly to the rH-R3S3 module. Since relays are separated from each other and from the board power supply, any voltage can be applied on them. In the arrangement presented on the diagram, jumpers from JP3 to JP6 should be open. Do not apply voltage on the inputs. Inputs short to GND.

F&F Filipowski Sp. J.

95-200 Pabianice, ul. Konstantynowska 79/81   phone +48 42 215 23 83   www.fif.com.pl
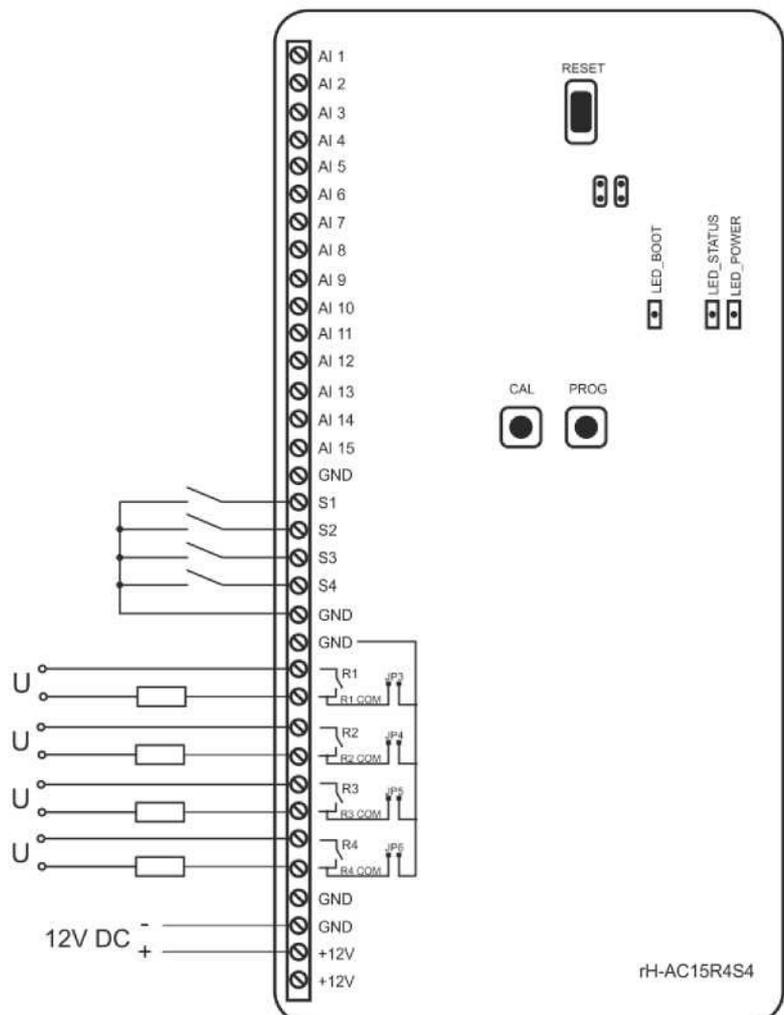
Technical specifications table	
Rated supply voltage	12V DC
Supply voltage tolerance	-20%, +10%
Rated power consumption	Rest - 30 mA, full load - 130 mA
Radio link (operating frequency)	868 MHz
Signal strength	9 mW
Transmission type	two-way
Coding	yes
Range in open space	100 m
Period of logging in the system	30 seconds
Number of relays	4
Maximum load current per relay	1 A / 250 V
Inputs	4 pieces with galvanic isolation
Input voltage	12 V
Input current	1 mA
Storage temperature	-20°C to +50°C
Working temperature	0°C, +45°C
Humidity	<=85% (without condensation and aggressive gases)
Dimensions	145 x 100 mm
Ingress protection	IP00
Operating position	any
Enclosure type	No enclosure

WARNING

The connection method is specified in this manual. Any activities related to installation, connection and regulation should be carried out by persons with electrical qualifications who are familiar with this manual and features of the module. Manner of transport, storing and using the module affects its proper operation. Installation of the module is not recommended in the following cases: missing components, damage to the module or its deformation. In case of malfunction the module should be returned to the manufacturer.