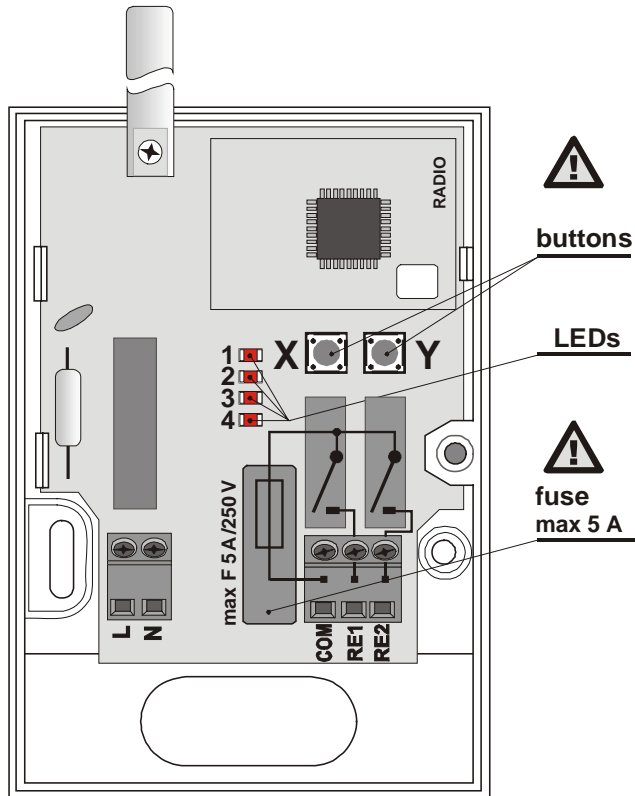# The AC-82 wireless relay output module

The AC-82 is a component of Jablotron's Oasis JA-80 system. It is mains-powered (230V AC) and it provides 2 relays which can be controlled by radio signals and offers the following:

- Remotely controllable relay outputs which follow JA-80 control panel programmable PG outputs
- Remote control of appliances using RC-8x controllers
- Relay output of JA-8x wireless detectors
- Relay output of TP-8x wireless thermostats

The enrollment of transmitters

The X and Y relays are totally independent. Jablotron Oasis devices with transmitters can be enrolled to them individually using the X and Y enrollment buttons. Each relay offers 4 different enrollment modes (1 to 4, see the following table). The reaction of a relay to a transmitter signal depends on which enrollment mode the transmitting device has been enrolled to.

Enrollment procedure

- Use the **X or Y button** depending on which relay you want to enroll a device to.
- **Repeatedly press the relevant X or Y button** to select the desired enrollment mode 1 to 4 as indicated by the flashing of corresponding LEDs 1 to 4 (see the table for guidance on choosing the right enrollment mode).
- Activate the transmitter while the LED is flashing, as follows:
  - **key fob** – press a button
  - **detector or thermostat** – connect its battery up (if it has already been connected, first disconnect it, and then wait 10 seconds)
  - **Control panel PG output** – key in 299 in service mode
- **Enrollment is confirmed** by a short flash from all the AC-82 indicators
- If **no enrollment signal has been received within 10 sec.,** enrollment mode automatically ends.
- If you wish to enroll **another device**, repeat the above enrollment procedure.

Notes:
- If a device does not enroll, either it is too far from the receiver, or there is another device already enrolled which cannot be combined with the new one, or the maximum number of devices has been exceeded.
- Each device can have its own individual reaction (it is possible to combine different reactions for a single relay = enrolling different devices in different enrollment modes to the same relay).
- The relay always performs the last received instruction (e.g. if the relay is already on and a signal for a 2 minute pulse is received, the relay will stay on for another 2 minutes and then it will turn off).
- Each transmitting device (keyfob, detector, control panel, etc.) can be enrolled to an unlimited number of different receivers.
- Devices are enrolled to a non-volatile memory, so the AC-82 will not forget them if its power is disconnected

Use with RC-8x remote controllers

- **Up to 60 remote controllers** can be enrolled to each relay.
- To **operate garage door or parking gate actuators,** use the 1 sec. pulse mode and connect the NC relay contact to the push button input of the actuator unit.

Use with JA-8x wireless detectors

- Detectors can be enrolled to pulse modes 1 and 2 (up to 60 detectors to each relay). The 2 minute mode is suitable for **automatically switching on lights, ventilators** etc.
- If a **detector(s) is enrolled in mode 3**, then the relay will be switched if the detector's tamper sensor is triggered. In this mode up to 8 detectors can be enrolled to a single relay (which will be switched if any of the detectors is tampered with), but no other kind of device can be enrolled, only detectors.
- **If a detector(s) is enrolled in mode 4**, then the relay triggers if the detector's

Installation

Installation of this module shall only be undertaken by technicians holding a certificate issued by an authorized distributor..

Warning: this device is galvanically connected to the mains.

Open the module's cover (1 screw) and take out the circuit board (2 tabs). Install the back part of the housing to the desired place, re-install the circuit board, connect the wires and enroll the desired wireless devices.

Terminals

L,N Power: 230V AC/50Hz
COM Common terminal for the output contacts X and Y (fused by a 5 Amp fuse)
RE1 Normally open relay X contact
RE2 Normally open relay Y contact

No.	Reaction	Device	Enrollment method	Max. number	Notes
1	1 sec. pulse	keyfob	button pressing	60	• key fobs and detectors can be combined • the relay stays on 1sec, turns off and is then ready to be activated again (the pulse is not extended if another 1 sec. pulse activation signal is received while the relay is still on)
		detector	connecting battery up		
2	2 min. pulse	keyfob	button pressing	60	• key fobs and detectors can be combined • if another 2min. activation signal is received while the relay is on for 2 min., then the relay stays on 2 min. more (the 2 minute pulse is extended if re-activated during the pulse)
		detector	connecting battery up		
3	Latch	keyfob	button pressing	60	• impossible to combine keyfobs with detectors • * latch = on – off – on – off….
	Tamper = on	detector	connecting battery up	8	• Tamper = on= relay turns on when a detector's tamper sensor is triggered.
4	On / off	keyfob	button pressing enrolls a pair of buttons	60	• impossible to combine key fobs with detectors or with a control panel PG output
		PG output of control panel	entry of 299 in Service mode	1	• impossible to combine PG output with detectors or with keyfobs
		thermostat	connecting battery up	8	• can be combined with keyfobs, detectors and a control panel PG output
	Triggering = on	detector	connecting battery up	8	• impossible to combine detectors with keyfobs or with a control panel PG output

sensor is triggered. In this mode up to 8 detectors can be enrolled to a single relay (which triggers if any of the detectors is triggered), but no other kind of device can be enrolled, only detectors.

- If **the same detector is enrolled to relay X in mode 4 and to relay Y in mode 3,** then relay X will work as its sensor trigger output and the relay Y as its tamper output.

Using the AC-82 with control panel PG output signals

- if the control panel is enrolled to the X relay (in mode 4 by entering 299) then the **X relay works as a control panel PGX output.**
- if the control panel is enrolled to the Y relay (in mode 4 by entering 299) then the **Y relay works as a control panel PGY output.**
- Only one **control panel PG output** can be enrolled **to each relay.** No other transmitting devices can be enrolled to a relay already occupied by a control panel PG output.

Using the AC-82 with TP-8x wireless thermostats

- If a thermostat is enrolled to a relay (enrolled in mode 4 by connecting its battery up), then this relay can be used to control the heating.
- **The enrollment of a thermostat** to a relay is indicated by **LED 1 for relay X** and **LED 3 for relay Y**.
- **Up to 8 thermostats** can be enrolled to each relay. A relay energizes if any of the thermostats requires the heating to be on.
- **Other devices can be combined** with a thermostat and all be enrolled to the same relay (a total of 8 devices, including the thermostat).
- Wireless devices enrolled together with a thermostat to a single relay can be used to determine how that relay reacts signals from the wireless thermostat. If desired, the relay can react only to the freezing protection signal from the thermostat to turn on the heating when the temperature gets below about +6C, or alternatively it can react to the thermostat signal which demands heating when the room temperature is lower than that pre-programmed in the thermostat. The relay can be switched between these two modes by operating the wireless devices.
- If enrolled with a thermostat, the wireless devices have following functions:
- **Key fob RC-8x:** A pair of buttons is enrolled. Pressing one button switches the relay to regulating the heating to the pre-programmed temperature, and pressing the other button switches the relay to regulating the heating to +6C to avoid freezing. Multiple key fobs can be enrolled and can also be combined with window detectors (see below).
- **Window detectors:** If a window is open, the relay reacts to the signals from the JA-80M or JA-82M window detectors by switching to regulating the heating to +6C to avoid freezing. Multiple window detectors can be enrolled and they can be combined with key fobs too.
- **Control panel (CP) PG outputs:** To switch the relay between regulating the temperature to the pre-programmed temperature or to +6C, the CP PG outputs should be programmed in the CP to have an ON/OFF function (see the CP manual). The heating mode can then be selected from devices able to switch the CP PG output such as the alarm system keypad, keyfob or even a detector programmed to control the PG output. It could also be done remotely by phone or the Internet (if a suitable communicator is used in the control panel). Remember that PGX can only be enrolled to the X relay, and PGY to the Y relay (see the above section), and it is not recommended to enroll key fobs or detectors to the same relay to which thermostat(s) and PG outputs are enrolled as the control panel repeats currently valid PG signals every 9 minutes. If you wish to combine keypad operation with keyfobs, it is best to enroll the keyfobs to the control panel and program them to control the PG output which is enrolled to the relevant relay.
- If the relay is in the mode which regulates the heating to a pre-programmed temperature, this is indicated by LED 1 for relay X, and LED 4 for relay Y. The

current contact status of relay X is shown by LED 2, with relay Y's being shown by LED 4.

- The **thermostat repeats its signal every 9 minutes,** so if the AC-82 power is turned off for a while, and then on again, the relay will synchronize with the thermostat within 9 minutes.
- If you switch the relay to the mode for regulating the heating to the pre-programmed temperature (e.g. by keyfob etc.), then the mode is changed instantly, however, the relay will only switch the heating on after the thermostat has sent an instruction to turn the heating on (i.e. the heating system's reaction can be delayed by up to 9 minutes after the request has been sent).

Resetting the AC-82 unit

New AC-82 units are sold with factory-default settings (i.e. both relays have nothing enrolled). To reset a particular relay, do the following:

- Repeatedly press the X button (or the Y button for the Y relay) to achieve the highest number LED flashes (4, or if not possible, then 3).
- Then, continuously press the same button and keep pressing it until all the LEDs flash a couple of times (= reset). Then release the button.

Inverting the relay function (to a N.C. contact)

Both relays have only normally open contacts. If a normally closed contact function is required (e.g. to turn off an appliance if the alarm system is armed), then you can invert the relay function as follows:

- First reset the AC-82 unit.
- Using button X for relay X (or button Y for relay Y) makes LED number 4 flash.
- Now keep both the X and Y buttons pressed until all the LEDs flash a couple of times.
- The relay now has a normally closed contact function.
- To return it to its normal function, reset the AC-82 unit.

Note: Please remember, that if a relay has a normally closed contact function, the relay will switch off if the AC-82 power is turned off.

Technical specifications

Power supply:	230V AC/50Hz, class protection II
Consumption	about 1W
Relay contact rating	
resistive load	max. 2,5A / 250V AC
inductive (capacitive), lamp load	max. 0,5A / 250V AC
Required fuse rating	max. 5A
Communication band	868 MHz, Oasis protocol
Minimum distance from transmitting devices	1 meter
Dimensions, weight:	76 x 110 x 33 mm, antenna 35 mm, 120 g
Operating environment	general, indoor –10 to +40 °C
Enclosure	IP40 EN 60529
Mechanical immunity	IK08 EN 50102
Complies with	ETSI EN 300220, EN-50130-4, EN-55022 and EN 60950-1
Can be operated according to	ERC REC 70-03

CE JABLOTRON ALARMS a.s. hereby declares that the AC-82 is in compliance with the essential requirements and other relevant provisions of Directive 99/5/EC The original of the conformity assessment can be found at www.jablotron.com, Technical Support section

Note: Although this product does not contain any harmful materials we suggest you return the product to the dealer or directly to the producer after use.