AC-88 smart wireless socket

The AC-88 wireless socket is a component of Jablotron's JA-8x series OASiS systems. It contains one independent, wirelessly controlled power relay. The device is mains-powered and it can be used as:

- a remotely-controlled appliance switch (max. 230V/ 50Hz/ 16A)
- a wireless switch for electric heaters and boilers
- an automatic wireless switch for appliances in "standby" mode
- a wireless controller for lighting, ventilation, etc.

It is ideal for use in home automation in flats where construction work would be undesirable. The AC-88 can be controlled with:

- a built-in button on the socket,
- RC-8x OASiS wireless remote controls,
- JA-8x OASiS wireless detectors,
- TP-8x OASiS wireless thermostats,
- wireless PG output control signals:
  - o from JA-8xK OASiS alarm control panels,
  - o from GD-04 DAViD GSM controllers and diallers,
  - o from EYE-02 security cameras.

Warning: The switch is intended to single pole switching, does not ensure safety disconnection

Installation

The wireless socket is installed by plugging it into a mains socket (230V) which can be done by the user. The button on the wireless socket is used to set its properties and to switch the connected appliance on/off. The LED indicator under the button shows active status of the socket. Up to 8 transmitters using Jablotron OASiS protocol can be enrolled to the socket to switch the connected appliance on/off or switch it on for a set period of time. When the appliance is switched on/off, the socket also transmits status change information to other devices or sockets.

Programming mode selection

Firstly enrol the control devices in the desired mode and set the timer if desired according to the table below.

Plug the socket into the mains. The LED indicator will flash for a short moment. Press the button on the socket within 10 seconds after plugging in (the LED indicator will flash once) and hold it until the LED indicator starts flashing repeatedly once per second. When you release the button while the indicator is flashing once per second, you enter the 1st enrolment mode – switching on. If you hold the button for five more seconds without releasing, the LED starts flashing twice per second and you can release the button to enter 2nd enrolment mode – switching off. If you hold it for five more seconds, the flashing frequency changes to three flashes per second and releasing the button triggers timer setting mode. When the button is released when there are four flashes per second, you enter reset mode.

#	Indication	Mode	Notes
1	1 flash per sec.	Switch on (normal)	• Status devices (JA-81M, RC-86) switch the socket on when activated and off when deactivated. • Impulse devices (e.g. JA-80P) switch the socket on for a time set on the timer. • The socket copies status of the control panel's PG output.
2	2 flashes per sec.	Switch off (inverse)	• Status devices switch the socket off when activated. • The inverse mode should not be used for periodically transmitting impulse devices • The PG output triggers an opposite reaction in the socket (triggering PG causes the socket to switch off).
3	3 flashes per sec.	Timer setting	• You can set activation time from 1 minute to 24 hours. One second set during setting corresponds to 1minute in the real operation time, *see Timer Use chapter* (default setting is 2 minutes)
4	4 flashes per sec.	Reset	• Erases all enrolled devices and sets the timer to default settings, *see Device reset*

Switch-on mode

Open the 1st (switch-on) enrolment mode and enroll desired transmitters:

- o **a remote control**
  - By pressing any button – when you exit enrollment mode the enrolled button can be used to switch the socket on/off.
  - By pressing the + or + buttons simultaneously – when you exit enrollment mode, the socket will only react to simultaneous pressing the + or + buttons. Pressing these buttons activates the socket for a period of time which has been set on the timer (default setting is 2 minutes), *see "Timer Use"*.
  - By simultaneously pressing the + or + buttons for about 5 seconds (confirmed by three quick flashes of the LED indicator on the remote control) – pressing or activates the socket while pressing or deactivates it. Simultaneous pressing of both buttons (+ or +) activates the socket for a period of time set on the timer (default setting is 2 minutes).

  Sending Panic signal from controllers (RC-87, RC-89, RC-86, etc) will result in socket activation for a period of time set on the timer (default setting is 2min).
- o **a detector / thermostat** – by inserting a battery into the device. In normal operation the socket copies the detector / thermostat status – activation of the device switches the appliance plugged into the socket on and deactivation of the device switches the appliance off. Impulse reaction detectors (e.g. JA-80P, JA-85P, JA-8xM detectors with adjustable impulse reaction, etc.) activate the socket for a period of time set on the timer (default setting is 2 minutes),
- o **PGX control panel output** – by keying in 299 on the OASiS keypad in service mode – the socket copies the status of the control panel's PGX output,
- o **PGY control panel output** – by keying in 299 on the OASiS keypad in service mode twice in a row – the socket copies the status of the control panel's PGY output,
- o **GD-04 communicator** – by pressing the XY button on the GD-04R radio module once – the socket copies the status of the X relay in the communicator, by pressing the XY button on the GD-04R radio module twice - the socket will copy the status of the Y relay,
- o **another AC-88 socket** – by plugging in another AC-88 socket to an mains (230V) – the original AC-88 socket copies the second AC-88

- **Enrolment of each transmitter is confirmed by a long flash of the LED on the socket**.
- The socket will exit the enrollment mode automatically if no enrolment signal is received **within 5 minutes after entering the enrollment mode** or by pressing the socket button briefly (the flashing will stop).

Notes:

- *If you want to enrol a detector which has already been connected to a battery, first disconnect the battery, then press the tamper contact in the cover several times to discharged the capacitors and then start the enrolment.*
- *If device enrollment fails, the device is either too far from the receiver or 8 devices have been already enrolled..*
- *Devices can be enrolled during multiple enrollment cycles.*
- *If the same device is enrolled repeatedly, the socket will react according to the latest setting.*
- *Each transmitter (remote control, detector, control panel, etc) can be enrolled to more receivers.*
- *The socket always follows the latest command (e.g. if it is switched on permanently by a button and then receives a command to switch on for 2 minutes, it remains active for 2 minutes and then switches off).*
- *All devices are enrolled into non-volatile memory and remain saved when the socket is unplugged from the mains or when enrollment mode is entered repeatedly.*
- *Detailed information about device enrollment is available in its installation manual.*
- *When the power supply is restored after a power failure, the socket remains switched off due to safety reasons until any valid signal is received.*

Inverse (switch-off) mode

If an inverse function of the wireless socket is required (e.g. switching-off the appliances when nobody is at home and the alarm system is activated), the transmitter can be enrolled in a switch-off mode:

- Enter the 2nd enrollment (switch-off) mode,
- Send an enrollment signal from the control device according to description in *Switch-on chapter,*
- The inverse mode should not be used for periodically transmitting impulse devices
- When the signal has been received, it is indicated with a long flash of the LED indicator on the socket
- You can exit enrollment mode by pressing the button on the wireless socket.

The wireless socket will react inversely. Activation of transmitters enrolled in the inverse mode switches the socket off, deactivation of the device switches it on.

Timer use

The timer can only be used with transmitters with pulse reaction (JA-8xP, JA-8xM) or devices sending panic signals (RC-87, RC-88, RC-89, RC-86). Activation of an pulse or panic device enrolled to the socket switches the socket on for preset period of time (factory default is 2 minutes). If it is requested to change the timer settings, enter the timer setting mode (unplug the socket from the mains, plug it in again, hold the button until the LED indicator starts flashing 3 times per second, then release the button). The first press of the button in the timer setting mode starts counting the desired switch-on time where one second corresponds to one minute in normal operation. The counting is indicated by the flashing of the LED indicator on the socket in 1-second intervals. Another press of the button stops the counting and exits the timer setting mode. If you want the socket to remain active for 5 minutes, press the button 5 seconds after the first press in timer setting mode (indicated with 5 flashes of the LED). The time value is saved and the wireless socket switches to normal operating mode.

Use with RC-8x remote controls

- **Up to 8** remote control devices can be enrolled **to each socket**.
- Remote control devices work in the same way as status devices. However, if they send a panic code, the socket will be switched for preset period of time.
- To control the stair lighting set the timer for the period of time which you need and then use the RC-88 wireless button in panic mode to control the socket.

Use with TP-8x thermostats

- For convenient controlling of a convector heater the TP-8x thermostat can be used. Place a thermostat in each room and enroll each one to a socket for every convector. Plug one convector into each socket.
- The thermostat transmits its status every 9 minutes. Therefore **when the power supply is terminated the AC-88 module returns to the required status within 9 minutes** after the power supply is restored.
- A thermostat can be enrolled to a socket in switch-on (heating – el. boiler control) or switch-off mode (ventilation and air-conditioning control).
- Besides thermostat it is possible to enroll another status transmitter (e.g. JA-8xM, PG output of the OASIS control panel, etc) in switch-on mode performing so-called blocking function. Then if the blocking device is activated (e.g. JA-8xM by an open window) the socket ignores signals from the thermostat and will be activated only when the thermostat reports that the temperature limit has been exceeded (e.g. if there is a danger of freezing or overheating). If the blocking device such as PG output should have inverse function (to block the heater while it is deactivated), then it must be enrolled in the socket in the switch-off mode.

Use with JA-8x detectors

- JA-8xP motion detectors trigger an pulse reaction and therefore they are enrolled in the switch-on mode to the AC-88 allowing to switch the socket on for the time set on the timer. The suitable use is for example the automatic switching of lights, ventilation etc.
- JA-8xM detectors can send status (blocking of heating or air conditioning when the window is open) or pulse signals (switching ventilation, lights, etc).

Use with OASiS control panel PG outputs

- When the control panel's PGX or PGY output is enrolled in switch-on mode to the socket, the socket copies its status.
- If any of the PG outputs is enrolled in the inverse mode, the socket remains switched on when the corresponding PG output is switched off and vice versa.
- The socket reacts the same way to signals from control panel PG outputs as from GD-04 David equipped with GD-04R radio module, and from EYE-02 GSM security camera (e.g. to switch the external lighting on during an alarm).

Other devices along with the PG output can be enrolled to the wireless socket. However, the devices with status reaction except the remote controllers send repeatedly information about their status every 9 minutes. Therefore enrolling of 2 status devices periodically transmitting signals to the socket, will result in an undesirable periodical on/off switching of the socket when one transmitter is activated and the other one deactivated.. We therefore do not recommend enrolling 2 and more devices with status reaction and periodical signal transmission.

The socket as a controller

The socket is also equipped with a built-in transmitter which when the socket is switched on/off automatically sends on/off signals to another devices. The button of one socket can thus be used to control other AC-88 sockets or other OASiS system devices (AC-82, UC-82, GD-04R wireless relays or JA-8xK control panels with JA-82R radio modules). It thus enables the creation of a chain of sockets and their control from one place (e.g. from a control panel, a remote control or a master socket). The slave sockets then react to the commands of the master device. It is thus possible to switch off the requested appliances (e.g. TV, satellite, video etc.) or switch the electric heating to an economic mode by activating the house alarm. The socket transmits its own enrollment signal for other devices when it is plugged in.

Device RESET

If you need to reset the socket, unplug it from the mains first. Then plug it in again and hold the button until the LED indicator starts flashing four times per second then release the button to enter the reset mode. Then to perform the reset press the button and hold it again until the LED indicator goes off (approx. 3 seconds).

"Low battery" signalling

If the battery in an enrolled device is low, the LED indicator signals this by continuous rapid flashing. In such a case replace the battery according to manual of that device.

Technical specification

Power supply	*230V/50Hz, protection class II*
Power consumption	*approx 1W*
Relay contact loadability	
Resistive load (cosφ=1)	*max.16A / 250VAC*
Inductive (capacitive) load (cosφ=0.4)	*max.8A / 250VAC*
Electrical Outlet	*Type E*
Communication band	*868 MHz, OASiS protocol*
The devices are enrolled into non-volatile memory and they remain enrolled even when the power supply is terminated	
Maximum number of enrolled devices	*8*
Minimum transmitter distance	*1m*
Environment	*II. indoor general (–10 to +40°C)*
Class of protection	*IP40 according to EN 60529*
Mechanical resistance	*IK08 according to EN 6626*
Dimensions:	*64 x 91 x 45mm,*
Weight:	
Comply with ETSI EN 301489-1, 3, EN 61000-6-2, 6-3, EN 60950-1	
Conditions for operation	*ERC REC 70-03*

JABLOTRON ALARMS hereby declares that the AC-88 is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/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.

JABLOTRON ALARMS a.s.
Pod Skalkou 4567/33
46601 Jablonec nad Nisou
Czech Republic
Tel.: +420 483 559 911
Fax: +420 483 559 993
Internet: www.jablotron.com