

The SP-4006 optical-acoustic outdoor siren is designed for intruder alarm systems. It comes in two versions: SP-4006 and SP-4006 BL, which differ by the color of optical signaling (red in the SP-4006, blue in the SP-4006 BL). As the light source in the siren, two sets of LEDs are used. The sound signal is generated by means of a piezoelectric transducer. Design of the siren housing, as well as the inner cover made from galvanized metal sheet, ensure a high degree of tamper protection (against opening and/or pull-off from the mounting surface). Electronic circuit is made in SMD technology and impregnated against adverse effect of weather conditions, thus ensuring a high reliability of the equipment. The outer housing of the siren is made of PC LEXAN high-impact polycarbonate, so it features a very high mechanical strength and guarantees esthetic look of the equipment even after many years of service.

1. Installation

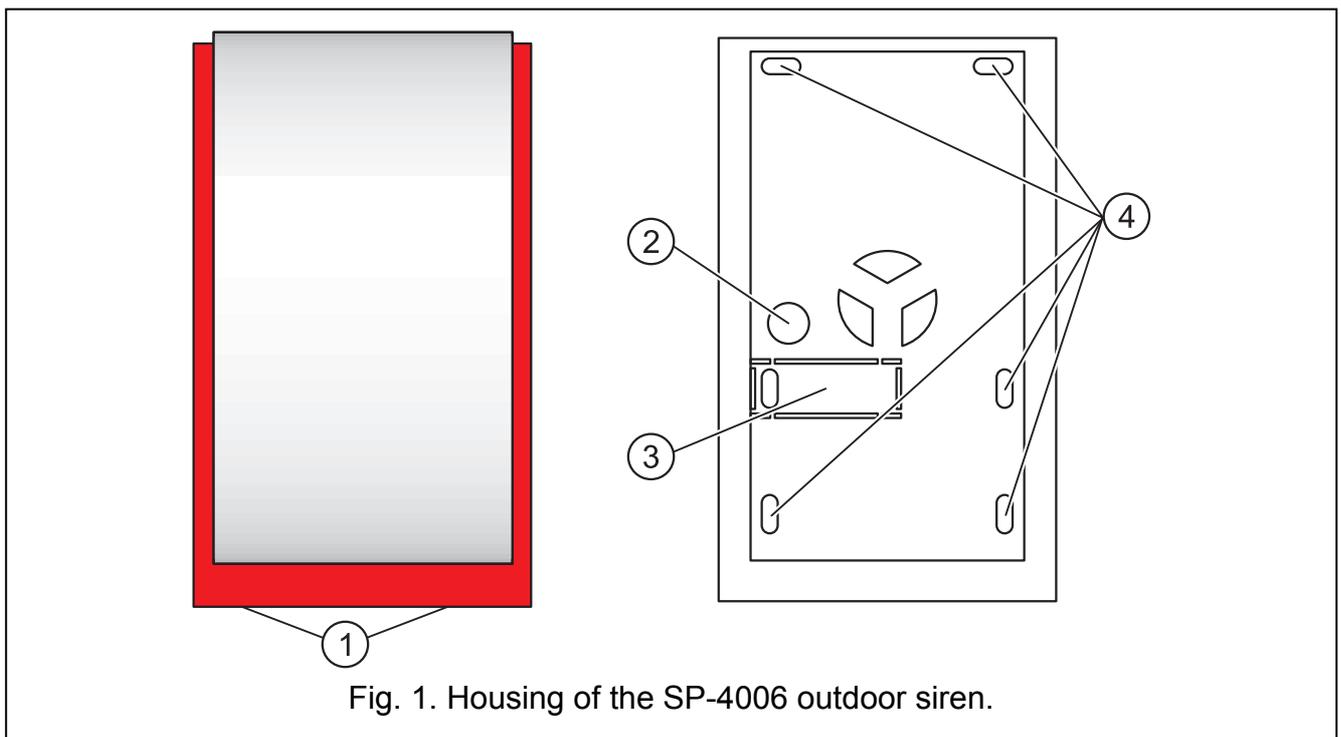


Fig. 1. Housing of the SP-4006 outdoor siren.

Explanations for Figure 1:

- 1 - cover retaining screws.
- 2 - cable entry hole.
- 3 - tamper element of the housing (should be screwed to the mounting surface; do not apply excessive force, so as not to break the narrowings).
- 4 - mounting holes.

The SP-4006 outdoor siren should be mounted on a flat surface, at a place which is as hard to access as possible, so as to minimize the risk of tampering. The device must be attached to the surface by means of screws and expansion plugs. In order to take off the cover,

remove the two locking screws and lift it by an angle of approx. 60°. Be particularly careful when dismounting and remounting the inner sheet metal cover.

Note: *Make sure there is a suitable distance (minimum 2.5 cm) between the upper edge of the siren housing and the ceiling or another element which restricts the mounting position from the above. Otherwise, replacement of the cover may be impossible.*

After installation of the outdoor siren mounting holes as well as the cable inlet should be sealed with silicone compound.

2. Description of siren operation

The SP-4006 outdoor siren can interface with any alarm signal source. The signaling is triggered by a voltage change at the control input. The STA input controls acoustic signaling, while the STO input - optical signaling. How the signaling is to be triggered is set by means of the PLA and J7 jumpers and the PLO and J6 jumpers.

The siren has been designed so that at the moment of power-up it is inactive, irrespective on how the STA, STO inputs are set. Signaling can only be triggered after 20 seconds in the stable inactive state (constant presence of supply voltage from the control panel and input signals according to the jumper setting). On each power-up / power-off, the time is counted from the beginning. This function makes it possible to avoid an accidental triggering of the siren during installation of the system.

The test mode enables the signaling to be triggered without the necessary 20-second wait. For this purpose, remove the O+A jumper before power-up, turn the power supply on and replace the jumper within 5 seconds.

The TMP and R terminals are used to connect the device to the tamper circuit of the security system, while the SENS and TMP terminals are provided for connecting the inner tamper contact of the housing (see Fig. 2 and 3).

The tamper circuit of the outdoor siren will be open on removing the outer housing or detaching the siren from the wall. For the tamper contact to function correctly during pull-off, the tamper element (see Fig. 1) must be screwed down to the mounting surface.

The siren is suitable for operation with a built-in 6 V battery, but it can also work without it. A T3,15 A fuse is included in the battery circuit.

Notes:

- *The battery to be connected to the siren must be fully charged.*
- *The current consumed by the siren to charge the battery depends on the battery degree of discharge.*
- *The battery charging system, as used in the siren, is intended for recharging a partially discharged battery, not for charging a fully discharged one.*

External power supply of the siren is to be connected to the +12V and GND terminals. Voltage loss at these terminals (with the siren battery connected) will generate the tamper alarm, duration of which depends on how the TM0, TM1 jumpers are set. The type of signaling is to be set by using the O+A jumper. Supply voltage restoration will stop the tamper signaling. Having installed the siren, check this function for operational capability by disconnecting and reconnecting the supply voltage.

Note: *The TM0 and TM1 jumpers are used for setting the maximum active time of acoustic signaling. After expiry of this time, the siren will go silent, irrespective of the value programmed in the control panel. The signaling can only be triggered again after the signal controlling the STA input is disabled.*

The SP-4006 BL siren has the two indicator LEDs situated on the opposite ends of housing sides, which are blinking alternately 1 s / 1 s when supply voltage is available at the +12V input. This function cannot be disabled.

The SP-4006 BL siren has an indicator LED situated in the middle of the lower edge of enclosure. The LED is blinking when supply voltage is present at the +12V input. Removal of the jumper designated as **LED** will disable the LED function.

3. Connection

There are two types of alarm outputs which are used in alarm control systems: common ground outputs and common supply outputs. The siren can be activated by any type of output, provided that suitable connections are made.

Note: *The converter supplying the acoustic siren system generates a very high voltage which can cause electric shock when touched. Hence, all connections may only be made when the battery is disconnected and the +12 V wire is to be connected last.*

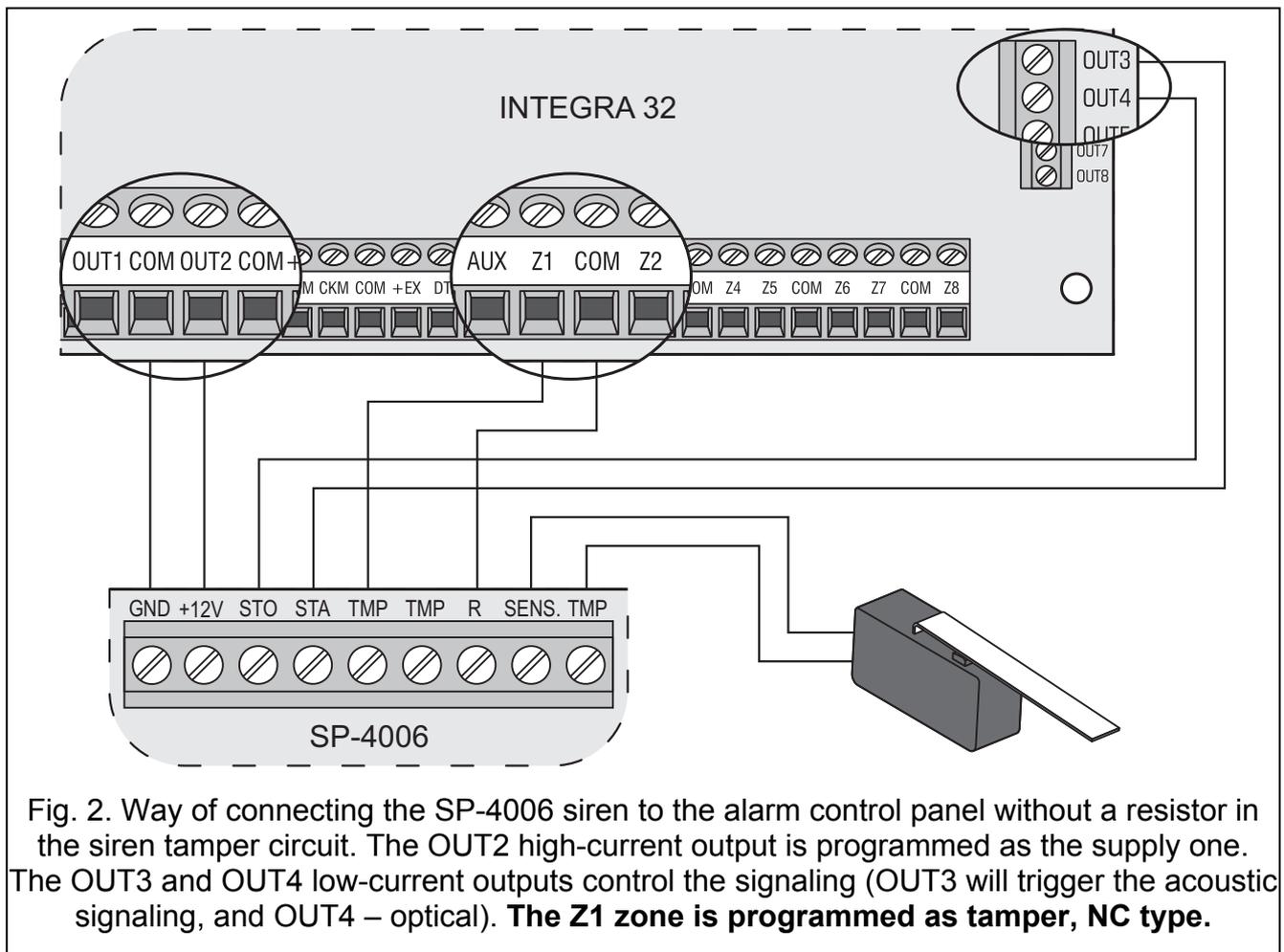


Fig. 2. Way of connecting the SP-4006 siren to the alarm control panel without a resistor in the siren tamper circuit. The OUT2 high-current output is programmed as the supply one. The OUT3 and OUT4 low-current outputs control the signaling (OUT3 will trigger the acoustic signaling, and OUT4 – optical). **The Z1 zone is programmed as tamper, NC type.**

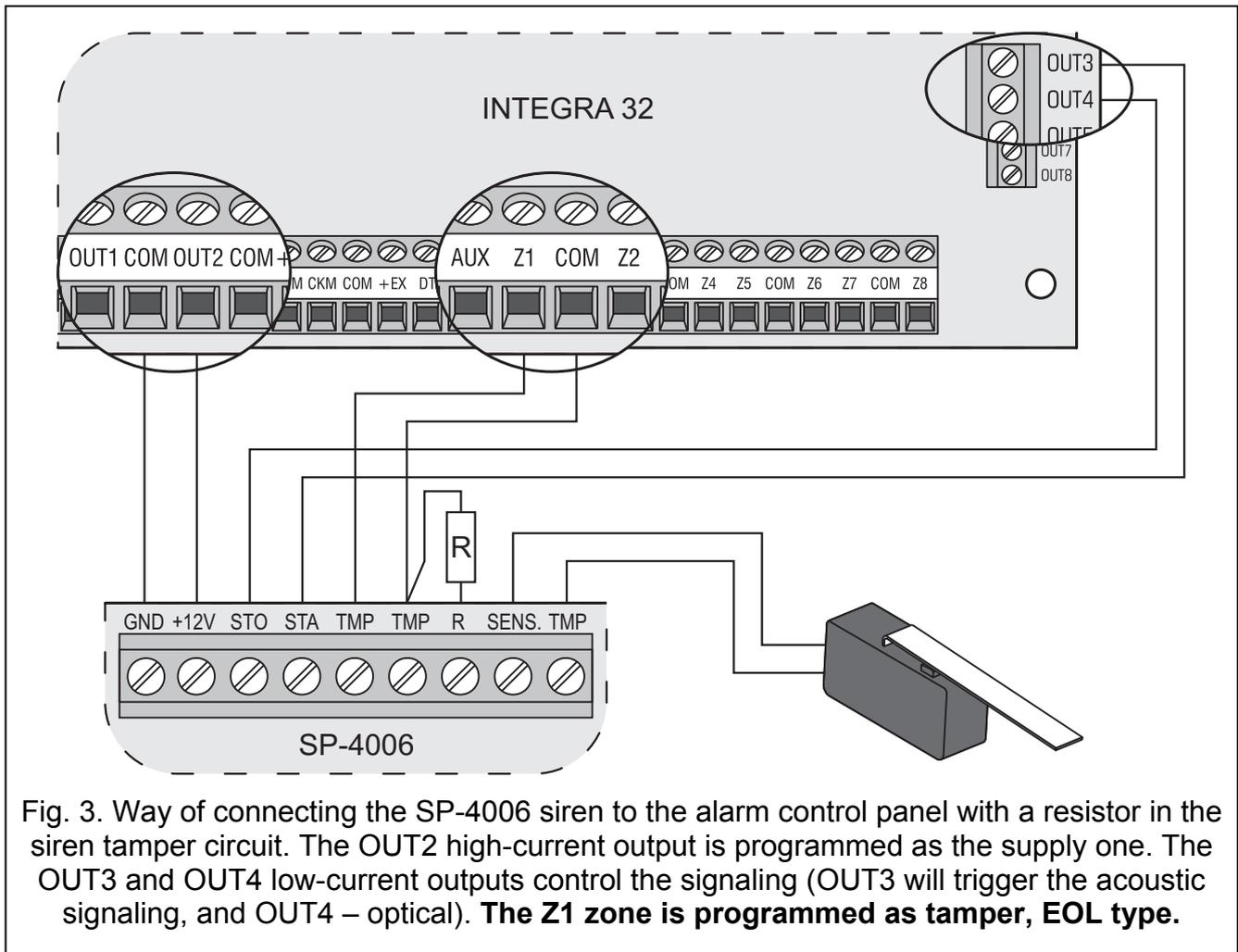


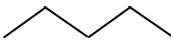
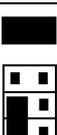
Fig. 3. Way of connecting the SP-4006 siren to the alarm control panel with a resistor in the siren tamper circuit. The OUT2 high-current output is programmed as the supply one. The OUT3 and OUT4 low-current outputs control the signaling (OUT3 will trigger the acoustic signaling, and OUT4 – optical). **The Z1 zone is programmed as tamper, EOL type.**

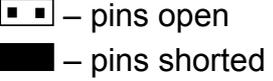
4. Jumper settings

Installed on the electronics board are 10 pairs of pins for configuration of the siren operation. The settings are to be selected by shorting or opening the suitable pair of pins. Description of the possible settings is shown in the table below.

The SP-4006 siren has an additional LED jumper.

Note: For effective signaling, the triggering inputs must be properly polarized. Settings of the PLA and PLO jumpers is closely connected with those of the J6 and J7 jumpers (if used).

SELECTION OF ACOUSTIC SIGNAL TYPE		
ML0 ML1		Two-tone signal, step modulated 
		Steplessly modulated signal 
		Steplessly modulated signal 
		Steplessly modulated signal 
LIMITATION OF ACOUSTIC ALARM DURATION TO:		
TM0 TM1		Approx. 1 minute
		Approx. 5 minutes
		Approx. 10 minutes
		Approx. 15 minutes
SIGNALING MODE AFTER POWER SUPPLY LOSS		
O+A		Acoustic and visual alarm
		Acoustic alarm only
STA INPUT POLARIZATION (acoustic)		
PLA and J7		Acoustic alarm will be triggered when +12 V voltage is applied to STA terminal
		Acoustic alarm will be triggered when 0 V voltage is applied to STA terminal
STO INPUT POLARITZATION (visual)		
PLO and J6		Visual alarm will be triggered when +12 V voltage is applied to STO terminal
		Visual alarm will be triggered when 0 V voltage is applied to STO terminal

Designation of pins status:


 – pins open
 – pins shorted

5. Specification

Power supply	12 V DC \pm 20%
Current consumption, stand-by	40 mA
Current consumption, maximum:	
optical signaling	250 mA
acoustic signaling.....	190 mA
optical and acoustic signaling	400 mA
Built-in battery	6V/1.3 Ah
Built-in battery protection	fuse T 3.15 A
Sound pressure.....	up to 120 dB
Working temperature range	-35...+55 °C
Housing dimensions.....	148x254x64 mm
Weight.....	1.14 kg

Latest EC declaration of conformity and product approval certificates can be
downloaded from our web site www.satel.pl



SATEL sp. z o.o.
ul. Schuberta 79
80-172 Gdańsk
POLAND
tel. + 48 58 320 94 00
info@satel.pl
www.satel.pl