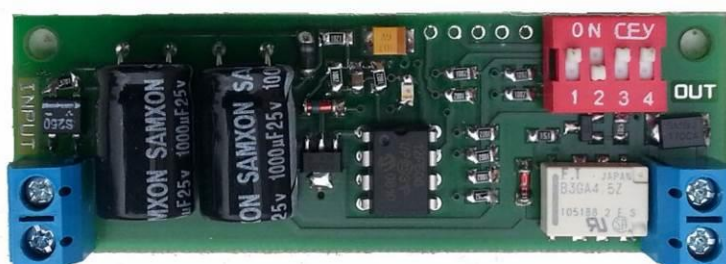




# Code Switch board

the code relay pcb for a safe activation of an electrical lock



Installation guide



## 1 Features

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The IP BOLD doorphone can active the relay contact in a secure way in case you use the COSW board.

The principle is the transmission of serial combination of IP BOLD to the COSW board where the code is compared with the combination of the DIP switch. If they match, then it activates the lock connected to the COSW board.

This method prevents the possibility of breaking into buildings by simply by-passing the relay in the IP BOLD (voltage connection or disconnection will not open the lock).

The transfer is secured by your own code, so the combination (4 bits) to the DIP switch does not transfer serial combination (transmitted code is longer).

It is necessary to activate this feature in IP BOLD. It is also necessary to set the appropriate codes in the IP BOLD and on COSW board (DIP switch). Connected electric lock to COSW board then performs the same function as if it were connected directly (without security). The only difference is the response time when switching is delayed by about 1 sec (transfer time of the serial code).



The code relay COSW can be connected in parallel to increase the number of switches, but can never be combined electric lock connection and parallel code relay!!

## 2 Installation and connection

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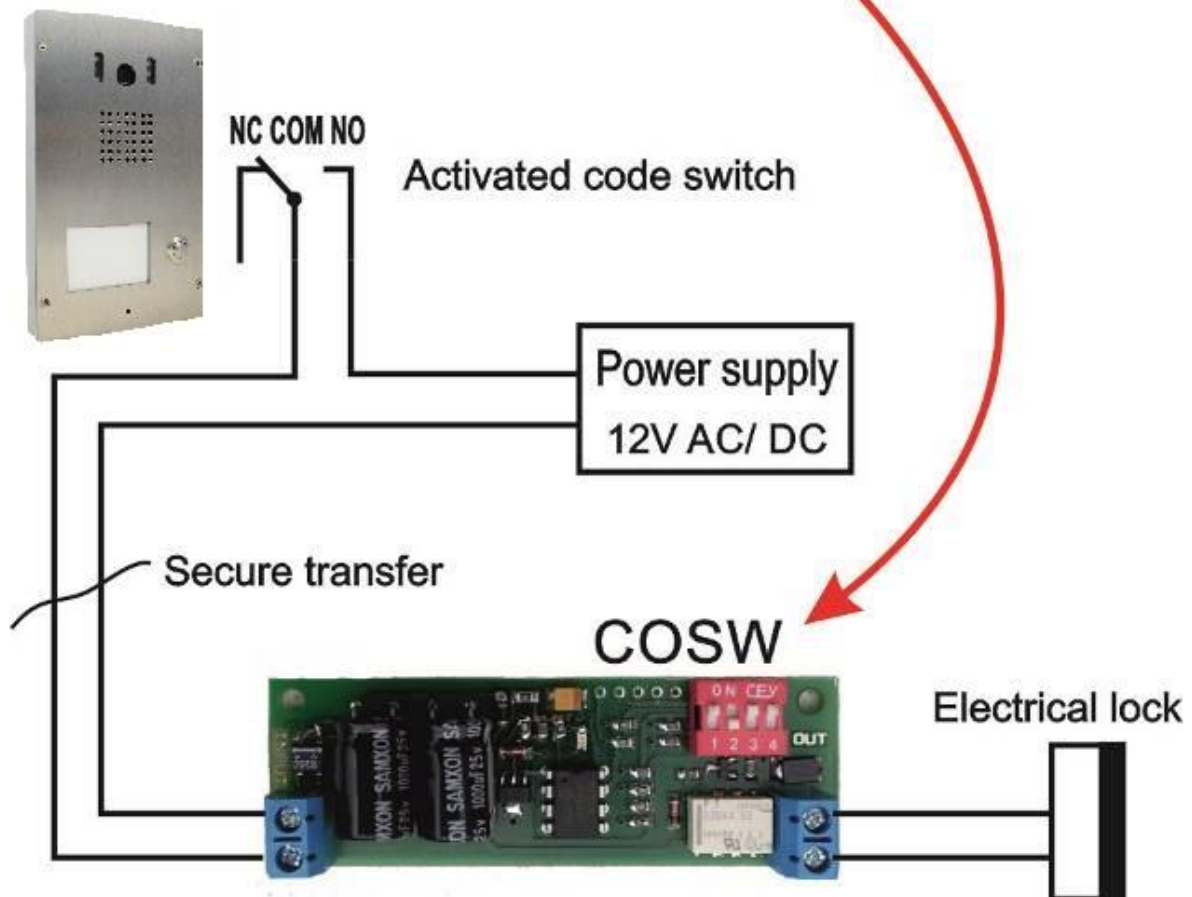
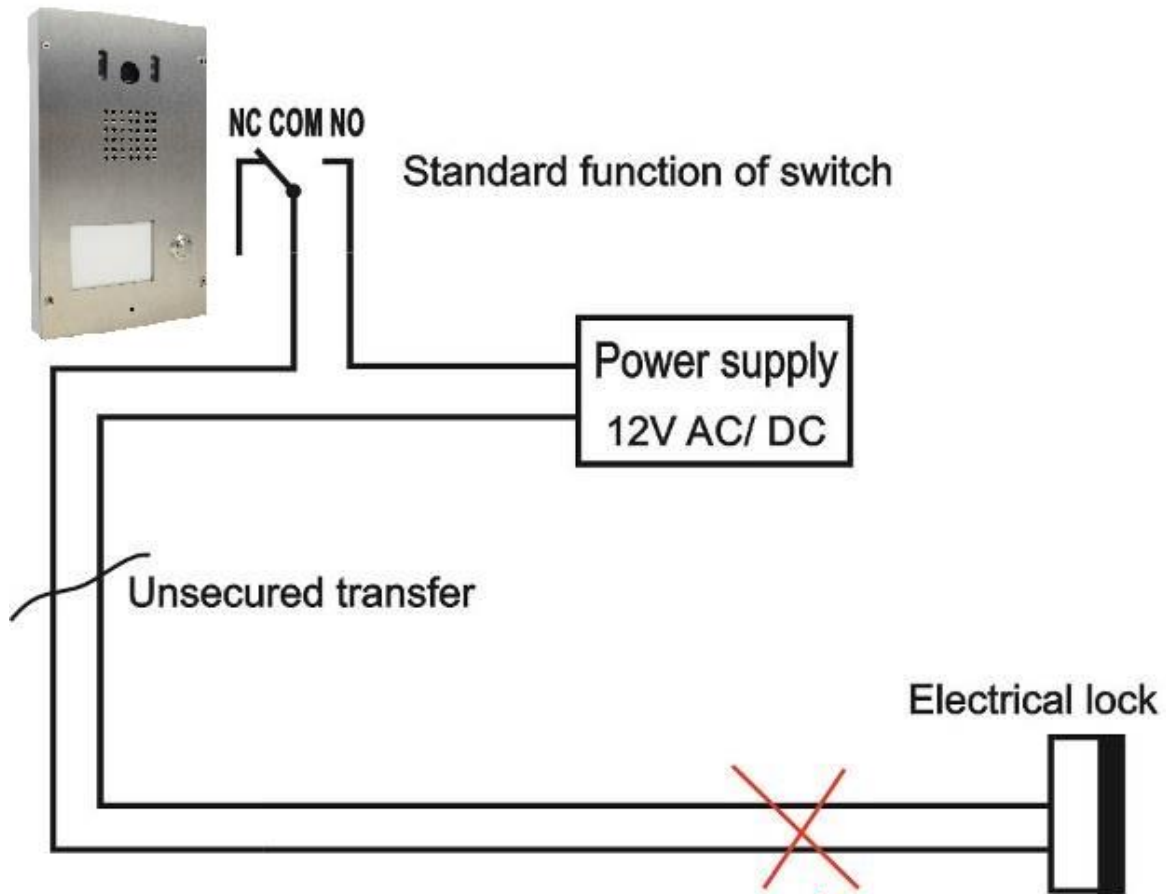
The connection is simple and consists in connecting the board COSW close to the opener, so that COSW and leads to the lock are not accessible from outside of the object/building (otherwise it would lose the security sense – potential hackers could get to the COSW board too easily).

The wires (pair) for electric lock interrupt the wires leading to the IP BOLD is connected to the input COSW (INPUT) and leads to the lock is connected to the output (OUT).

LED on the COSW board shows an input voltage (lock is activated) and it is flashing serial transmission combination. If it does not blink, then there is an error in the connection.

- Voltage for lock may be in the range 10V – 18V AC and 12V – 24V DC.
- Lead wire - length up to 100m, wire cross section is given by the lock used.
- Tested with 100m pair 0.5 mm<sup>2</sup>:
  - Electric lock standard (12V / 0,8 A) worked from 15V DC
  - Low-power electric lock (12V/250mA) worked throughout the defined range

The figure on the next page shows the simple connection of the COSW board. Connection (2 wires) for electric lock (top figure) with an unsecured transfer should be interrupted and connect between the ends the board COSW. Next, it is necessary to activate the IP BOLD the code switching and code set - eventually load the appropriate firmware.





**Paralell connection:**

On Output 1 switches for code relay can be connected two code switches COSW (see figure).

**1. COSW 1 and COSW 2 has set same code on the DIP switch**

- Lock connection must be low power (risk of overload relay in the unit)
- To calculate the loss on the same cable must be doubled consumption

**2. COSW 1 a COSW 2 has set different code on the DIP switch**

- connected locks are never closed simultaneously, so you can use a standard electric locks
- Codes for switching can be chosen differently
  - o on either one switch responds to the codes of the buttons and the other on code from phone
  - o or one of the switch control codes for one pulse and a second codes for two pulses



On cable "secure transfer" must not connect anything other than the inputs of COSW boards.

**3 Electrical parameters**

Input voltage	10V – 18V AC
	12V – 24V DC
Maximal current	1A AC / DC
Number of code combination	16
Dimensions	76 x 25,5 mm
Operating temperature	-20°C / +50°C

