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## 868 SLH SYSTEM

The 868 SLH Series is a patented 868 Mhz radio-control system with encrypted self-learning Rolling Code. At every transmission, the transmitter code changes according to a complex algorithm, synchronised with data awaited by the receiver.

### TECHNICAL SPECIFICATIONS

RECEIVER MODEL	PLUS 868	RP 868 SLH
Power supply voltage	20 ÷ 30 Vdc / 24 Vac ± 10%	20 ÷ 30 Vdc
Nominal absorbed current	10 mA dc / 25 mA ac	20 mA
Max N° channels	50	1
Storable codes	/	250
Reception frequency	868.35 MHz ± 200KHz	
Ambient temperature	-20 ÷ +55 °C	
Nominal capacity	100 m *	50 m *
Protection class	IP 44	IP 00
Dimensions	175x90x40 mm	50x46 mm

DECODING CARDS	DECODER SLH	MINIDEC SLH
Power supply voltage	20 ÷ 30 Vdc	20 ÷ 30 Vdc
Nominal absorbed current	30 mA	10 mA
Output	relay (NO/NC)	open-collector
Storable codes	1000	250
Ambient temperature	-20 ÷ +55 °C	
Max N° channels	1	
Signalling LED	code recognition	
Dimensions	50x50 mm	40x35 mm

TRANSMITTERS	T2 868 SLH	T4 868 SLH
N° channels	2	4
Transmission frequency	868.35 MHz ± 200KHz	
Type of coding	self-learning encrypted rolling code	
Combinations	> 72 million billions	
Power supply	Two 3V lithium batteries mod. CR2032	
Approx. battery life	4/5 years	
Ambient temperature	-10 ÷ +55 °C	
Protection class	IP 40	
Dimensions and weight	34 x 64 x 14 mm / 20g	

\* External factors such as atmospheric disturbances, within-range obstacles, and charge level of transmitter batteries, can affect nominal capacity (significantly in some cases).

### 868 SLH TRANSMITTERS

The transmitters (2/4 channel) can be of two types: *master* and *slave*.

#### How to recognise a master/slave transmitter

- *master*: if you press any key of a master TX, the LED flashes before becoming steady.
- *slave*: if you press any key of a slave TX, the LED goes on immediately with steady light.

#### Differences between master and slave TX

- *master*: only a master TX can transfer its "system code" to decoding cards/RP receivers and to other TXs (master or slave).
- *slave*: unable to transfer its "system code" and, therefore, cannot be either duplicated, or used for coding systems.  
Can learn the "system code" from a master TX.

## 868 RECEIVERS

- **Plus 868:** a radio receiver for connection to one or more decoding cards (one decoding card for each channel).
- **RP 868 SLH:** single-channel radio receiver with built-in decoding facility, and rapid connector for connection to FAAC equipment. Stores up to 250 TXs.

## 868 DECODING CARDS

- **SLH Minidec:** decoding card with open-collector output and rapid connector for connection to FAAC equipment. Stores up to 250 TXs.
- **SLH Decoder:** decoding card with relay output and rapid connector to connection to FAAC equipment, plus terminal board for wired connection. Stores up to 1000 TXs.

## OPERATION DESCRIPTION

The 868 SLH system is based on initial self-learning by the decoding card or RP receiver of a "system code" received from a master TX.

The decoding card or RP receiver is able to store and recognise only TXs with the same "system code" (albeit with a different serial code): every TX (master or slave) must therefore learn the "system code" from the master TX used for coding the decoding card/RP receiver.

The TX is stored on the decoding card/RP receiver by self-learning, at the second consecutive channel activation.

Under normal operating conditions, the transmitter is immediately recognised by the decoding card/RP receiver, providing 32 consecutive unsuccessful activation operations are not exceeded; above this number, the transmitter's channel must be pressed twice in succession within a maximum of 5 seconds, in order to re-synchronise the system.

## PROGRAMMING SEQUENCE

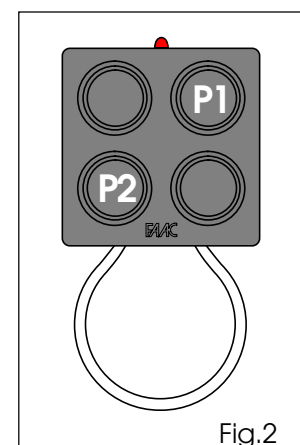
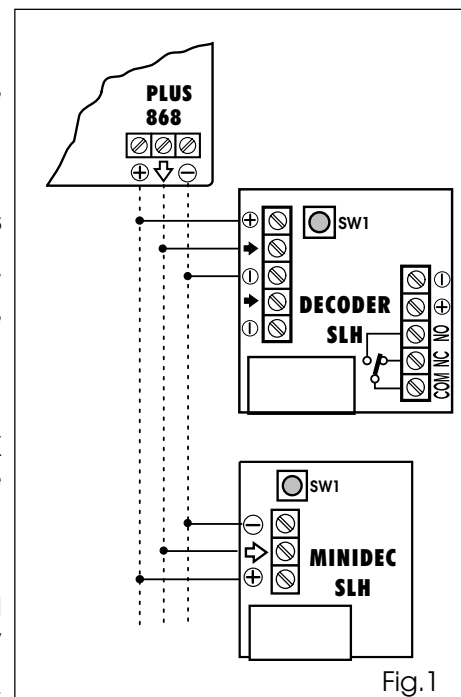
- 1) Power up the system after installing and connecting the electrical components of the 868 SLH System (fig. 1).
- 2) Use a master TX to set the "system code" on the decoding card/RP receiver (see "system coding").
- 3) Use the same master TX to set the system code on the system's other TXs (See "TX coding").
- 4) Coded TXs are automatically stored in the decoding card/RP receiver by simply activating the transmitter channel twice in succession within 5 seconds.

## SYSTEM CODING

- Simultaneously press push-buttons P1 and P2 of the master TX and release them when the LED flashes (after about one second);
- Press and hold down the learning button on the decoding card/RP receiver: the LED must flash;
- While the master transmitter's LED is flashing, press and hold down a channel (the transmitter's LED goes on with steady light);
- Before releasing the learning button on the decoding card/RP receiver, check if the LED goes on with steady light for a couple of seconds to confirm that the "system code" was saved.
- Release the button of the Master TX channel.

## TX CODING

- Simultaneously press push-buttons P1 and P2 of the master TX used for coding the system and release them when the LED flashes (after about one second);
- Frontally bring into contact the master TX and the TX to be coded (master or slave) as shown in figure 3;



- On the master TX (while its LED is flashing), press and hold down the same channel used for coding the system: the LED goes on with steady light;
- Press the required channel on the TX to be coded and release it when the LED goes off after flashing twice to confirm the "system code" was saved;
- Release the button of the Master TX channel;
- Repeat this procedure for every TX to be coded.

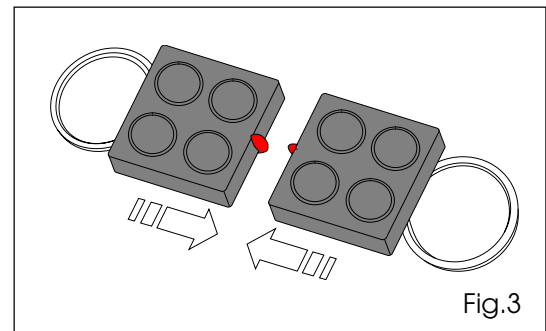


Fig.3

## CONVERTING A TX FROM MASTER TO SLAVE

Procedure for converting a master transmitter into a slave transmitter:

- Simultaneously press push-buttons P1 and P2 of the master TX and release them when the LED flashes (after about one second);
- Again simultaneously press push-buttons P1 and P2 of the master TX and release them when the LED flashes faster(after about one second);
- Press push-buttons P1-P2-P1 in sequence: the LED will flash twice before going off to confirm the operation was performed.

## RANDOMING THE SYSTEM CODE (master/slave TX)

"System codes" of all channels on a TX (master or slave) can be changed, by randomly generating them with the following procedure:

- Simultaneously press push-buttons P1 and P2 of the master TX and release them when the LED flashes (after about one second);
- Again simultaneously press push-buttons P1 and P2 of the master TX and release them when the LED flashes faster(after about one second);
- Press push-buttons P1-P2 in sequence and then simultaneously (P1+P2): the LED will flash twice before going off to confirm the operation was performed.

## DELETING DECODER/MINIDEC/RP RECEIVER

**Important:** if this procedure is carried out, the "system code" and all stored serial codes for transmitters will be deleted!

- Press and hold down the learning button on Decoder/Minidec/RP Receiver: the LED starts to flash;
- 10 seconds later, the LED starts to flash more quickly;
- After another 10 seconds, the LED goes on with steady light for 5 seconds, and then goes off;
- When the LED goes off, release the learning button.

Note: If you release the push-button while the LED is flashing (slow or fast), deletion will not be executed.

## REPLACING THE BATTERY

If transmitter capacity drops, we recommend you to change the batteries. Procedure:

- Open the TX by unscrewing the screw at the rear;
- Replace the two mod. CR2032 3V lithium batteries, fitting them in the compartment and observing correct polarity as shown in figure 4;
- Fit the base on the housing (ref. 1 fig. 4) before closing (ref.2 fig.4) and then secure with the screw (ref.3 fig. 4).

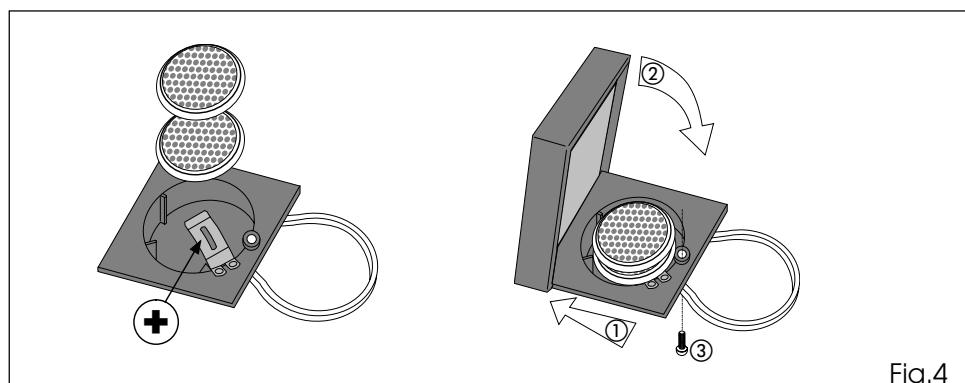


Fig.4