DOOR OPENER Model SL

THE ADVANTAGES OF THE CONTACTLESS OPENING

The door opener is available in three models:

KR-REL-SL	Electronic board version
KR_REL-SL-ONDA	Enclosed version for external
KR_REL-SL-SHELL	Enclosed version for external
KR-REL-SL-WALL	Encashment version

All these models can use the:

A4002-SHELL	External Antenna for ONDA and SHELL
A4002-WALL	External Antenna for WALL.
EK-12	Hand held Programmer
KTU	Keys in form Keyfob or Card UNIQUE type. Easily found on the market.

For convenience we will use the Term **KR-REL** to indicate the all door opener models. The functions are the same.
The basic KR-REL door opener is composed by:
- One **KR-REL** module
- One **MASTER CARD**

How to enter

KR-REL-SL

KR-REL-SL-ONDA

KR-REL-SL-SHELL

A4002-SHELL

KR-REL-SL-WALL

A4002-WALL

ELECTRICAL

Power Supply	12 VAC+-10% 30 ma less lock solenoid current 12VDC +- 5% 30 ma " "
Output Relay Contact	Max 2 A at 24VAC/DC
Reading Distance from KR-REL module Reading Distance from Antenna A-4002	Keyfob min 3 cm Card min 5 cm Keyfob min 2 cm Card min 4 cm

MECHANICAL

Dimension electronic board KR-REL-SL	Height 40 x Length 66 x depth 15 mm
Dimension KR-REL-SL-SHELL	Height 77 x Length 112 x depth 30 mm
Dimension A-4002 – SHELL	Height 55 x Length 75 x depth 19 mm
Dimension KR-REL-SL –WALL	Height 48 x Length 74 x depth 29 mm
Dimension A4002 – WALL	Height 48 x Length 45 x depth 29 mm
Dimension KR-REL-SL-ONDA	Height 51 x Length 115 x depth 24 mm

ENVIRONMENT

Operating Temperature	-15°C a 60°C
Humidity	The SHELL, WALL, ONDA and the External Antenna are fully waterproof.

EXTERNAL ANTENNA A-4002

The external antenna A-4002 is provided of a low capacitance cable with a standard 2 meters length.
The user can shorten the cable.
For applications with more long cables contact us.

CONNECTION

The KR-REL-SL dispose of six wires at size **0,25 mm2** and **length 20 cm**.

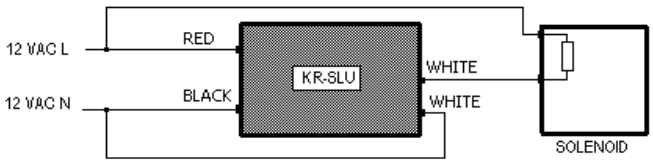
WIRE	DESCRIPTION
RED	12VAC L 12VDC +
BLACK	12VAC N 12VDC -
WHITE	SOLENOID COMMAND
WHITE	SOLENOID COMMAND
YELLOW	EXTERNAL ANTENNA A-4002 (OPTIONAL)
YELLOW	EXTERNAL ANTENNA A-4002 (OPTIONAL)

MOUNTING

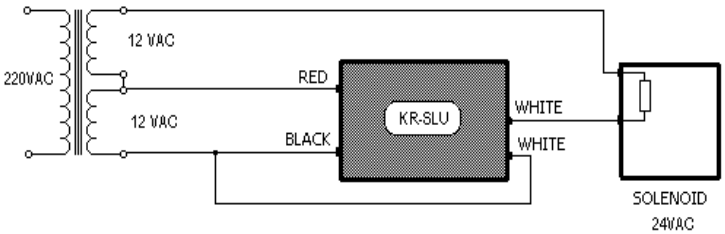
Connect the KR-REL as indicated in one of the following connection schematics.
- KR-REL in Stand- Alone Mode at 12VAC/DC.
- KR-REL in Stand- Alone Mode at 24VAC/DC.
- KR-REL with external antenna A-4002.

Due to the Radio Frequency emissions of the Reader Antenna is important to avoid the usage of metal panels in front and rear sides of the KR-REL module and External Antenna. Although the KR-REL provides an high resistance to EMC corruption, avoid to install it in high RF emission environments. The reading distance may result reduced or nulled.

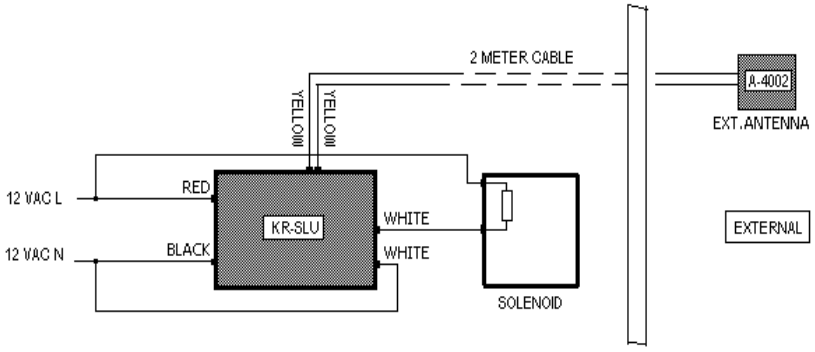
KR-REL STAND-ALONE MODE 12VAC/DC



KR-REL STAND-ALONE MODE 24VAC/DC



KR-REL WITH EXTERNAL ANTENNA A-4002



FUNCTION

The KR-REL works in a full stand-alone mode. It can operate all the functions, INSTALL and RUN, with no need of the external antenna A-4002.
The antenna A-4002 is an optional device to use in high security level applications.
In this case the antenna A-4002 has to be mounted externally to the door and the KR-REL module internally in the protected area.
All the INSTALL operations are executed on the KR-REL-SL module. The antenna A-4002 only detect the KTU keys for access.
To memorise the KTU keys into the KR-REL module the user dispose of:
- One **MASTER CARD**, with an **EXCLUSIVE INSTALL CODE.**
- More **KTU** keys.
- HAND-HELD **EK12** (optional) for :
  - **Single Key Erase.**
  - **Setting the Solenoid activation time between 0.5 to 9 seconds.**

INSTALL

EXCLUSIVE INSTALL CODE MEMORISATION INTO KR-REL MODULE (one time operation)

1) At first the LED is orange lighted indicating the KR module is waiting for the memorisation of the EXCLUSIVE INSTALL CODE.
2) Approach the MASTER CARD to the KR-REL.. The LED will turn OFF after 5 seconds of RED flashing indicating the KR-REL has correctly memorised your EXCLUSIVE INSTALL CODE.
3) From now the LED will be normally OFF and **only** your EXCLUSIVE MASTER CARD will be recognized for any other INSTALL operation.

KTU KEYS MEMORISATION INTO KR-REL MODULE

1) Approach the MASTER CARD. The LED goes GREEN.
2) From now you dispose of 10 seconds to memorise all your KEY CODES. Any time you insert a new KEY the 10 second time restart.
3) To memorise the KEY CODE approach the KEY, one at time, to the KR-REL module. The LED will turn OFF for about 1 second to indicate the CODE was correctly memorised. Extract the KEY and insert another and so on.
4) If no insert for more than 10 seconds the LED will turn OFF and the KR-REL enters the RUN MODE. Another way to exit is to approach the MASTER CARD.
5) The KR-REL module prevents you from doing errors:
   - If you try to insert an existing CODE or the internal memory is full, the LED will turn OFF for a short time (200msec).
   - If you try to insert a non conform key the LED remain GREEN.

IMPORTANT: To permit the **SINGLE CODE ERASE**, the operator has to record on paper the order of introductio of any KEY CODE.
Example: 1st KEY) John 2nd KEY) Paul 3rd KEY) Tom 4th KEY) Jerry …. and so on.

GLOBAL ERASE OF ALL MEMORISED CODES IN THE KR-REL MODULE

1) Approach the MASTER CARD to KR-REL. The LED light GREEN.
2) Within 10 seconds approach twice the MASTER CARD to the KR-REL. The LED goes RED.
3) Approach for the third time the MASTER CARD. The LED will flash quickly to indicate the GLOBAL ERASE is running.

How to program with EK12

SINGLE CODE ERASE with hand-held EK12

1) **Referring to the introduction order** the operator set on the EK-12 the number of the PERSONAL CODE to be erased. For example, if you want erase **Paul** insert the **number 2**.
2) Approach the MASTER CARD. The LED goes GREEN.
3) Within 10 seconds approach the EK12 to KR-REL and press **E**.
4) The LED goes RED for 1 sec to indicate the SINGLE ERASE was correctly executed.
5) When LED turn OFF extract the EK-12, the KEY CODE is erased. We suggest the operator to record on paper any operation.

Example: 1st KEY) John 2nd KEY) ERASED 3rd KEY) Tom 4th KEY) Jerry …. and so on.

IMPORTANT: If you introduce a new KEY CODE after a SINGLE ERASE, the KR-REL module will memorize it in the FIRST position found ERASED. In the example the new KEY CODE will be memorized in Position 2).

SETTING THE SOLENOID ACTIVATION TIME with hand-held EK12

1) Set on the EK12 the time value desired from 0.5 to 9 seconds.
6) Approach the MASTER CARD. The LED goes GREEN.
7) Approach the EK12 to KR-REL module and press **E**.
8) The LED goes RED for 1 sec to indicate the TIME SETTING was correctly executed. When LED turn OFF extract the EK12.

IMPORTANT: The KR-REL module at first delivery has a default activation time of 0.5 second.

RUN

1) Approach the KEY to the KR-REL module or the Antenna A-4002 if mounted.
2) If the KEY CODE is recognized the solenoid will turn ON and the LED on the KR-REL module goes GREEN for 1 second
3) If the KEY CODE wasn't recognized, the LED on the KR-REL module goes RED for 1 second.

CE CERTIFICATION

The KR-REL module is CE certified.

INOUT srl Via Milano,14/H 20064-Gorgonzola (Italy) **Phone:**+39 02.95138.139 **Fax:**+39 02.95.158.694
Email: info@inoutsrl.it Web: www.inoutsrl.it