## Operating Instructions RFI 1000 / RFI 1000-2

## Please read the operating instructions before starting the device

The device is able to memorize 99 RFI keys (either in form of a card or a tag) as opening keys and one key as programming key at a maximum. If, in addition, a manual terminal is applied 999 RFI keys can be memorized as opening keys and one as programming key. Any number between 0 and 999 may be assigned to each key to store it thereunder. Such number may be selected by means of two turn switches on the printed-circuit board or by a manual terminal, this is the „RFI MASTER" (0-999). Turn switch „A" sets the digits and turn switch „B" the decimals.
Each key may as well be deleted individually. Moreover, all stored keys may be deleted completely. Only one number can be assigned to each key.
Keys to which an odd number was assigned (1,3,5 etc.) activate relay 1 and keys an even number ( $2,4,6$ etc.) was assigned to activate relay 2 (only on model RFI 1000-2). A key to which figure „ $\mathrm{O}^{\text {" }}$ is assigned may be used as programming key.
The device consists of two parts these are reading device and evaluation unit.
The installation of the device is quite simple. A separate transformer is not necessary. An A.C.-door opener ( 12 V ) usual in the trade may be connected directly. Operating voltage, 230 V A.C. and reading device being connected, the whole device is ready for use. As connecting line between reading device and evaluation unit, a commercial ringing wire (2-wire cable) is sufficient.
The length of the cable may be up to 100 m . Polarity does not have any importance.
Using a manual terminal the entering and deleting of keys is quite easy. In this case, the whole operation is done via the manual terminal which is held on to the reading device. Up to three reading devices may work together with one evaluation unit.

Power supply 230 V AC
2 potential free relay exits with one break contact each, 1 make contact 230 V 5 A
12 V A.C. exit to connect an electric door opener
999 keys at a maximum may be entered
decoder RFI 1000 does not have a second relay exit and no 12 V A.C. exit
decoder-protective system: IP40 or IP65 optional
reading-device protective system: IP65

## Normal working order

The turn switches should not be in „0" position. A RFI key is brought into the reading area of the reading device (distance : 1 to 5 cm , according to each type). Please make sure the RFI key is held as parallel to the surface of the reading device as possible. If the RFI key is accepted to be valid, the red luminous diode on the reading device beams and the red and the green luminous diode on the evaluation unit and on relay 1 attract resp. the red and the yellow luminous diode and relay 2 attract as long as the RFI key remains within the reading area.
As soon as the RFI key leaves the reading area the luminous diodes go out and the relay tapers off after a delay time. The length of delay time may be adjusted. If a card is not accepted and regarded to be invalid, the red luminous diode on the reading device and the red luminous diode on the evaluation unit flash in short intervals. None of the relays does attract. If the luminous diodes remain dark, there is no RFI key recognized.

## Abridged version : „Entering a key"

1. Set the number with the turn switches.
2. Press the programming pushbutton once for a moment or hold the program key on to the reading device ( 1 sec . approx.) and remove it again.
3. Hold the RFI key parallel to the reading device ( 1 sec . approx.) and remove it again.

Now the RFI key is entered under the adjusted number.
When the just entered RFI key is held to the reading device again, the relay must attract now. Should this not be the case, please read the detailed version of the operating instructions and repeat the action.

## Entering the RFI key without manual terminal

## 1 Entering the programming key

The programming key is a key , 0, , is assigned to.
A programming key may serve to put the device into „entering position" thus, it is not necessary to press the programming pushbutton on the printed-circuit board. It is not absolutely necessary, but may perhaps simplify the operation.
1.1 Put both turn switches to , 0 " position
1.2 Press the programming pushbutton once for a moment. The red luminous diode starts flashing very slowly (2 seconds on and 2 seconds off). But, if the luminous diode starts flickering, a programming key was entered already and has to be deleted first. See „Deleting a programming or an opening key".
1.3 Any RFI key is taken into the reading area. The red luminous diode starts flashing faster. However, if the red lumious diode only begins to flicker, this RFI key has already been assigned to another number as an opening key. Then this key must either be deleted first or another one must be applied.
1.4 The RFI key is removed from the reading area. The red luminous diode flashes once for a moment and once for a longer while to demonstrate acceptance. Now the RFI key is put in as programming key.

2 Entering opening keys by means of the programming key
2.1 The turn switches are put to the number which shall be assigned to the RFI key, (not to ,"0"), odd number for relay No. 1, even number for relay No. 2 (only on model RFI 1000-2).
2.2 The programming key is brought to the reading area. The red luminous diode starts flashing.
2.3 The programming key is removed from the reading area. The red luminous diode starts flashing very slowly ( 2 seconds on, 2 seconds off). However, if the luminous diode starts flickering, the selected number was assigned to another opening key. The opening key assigned to this number first has to be deleted. See „Deleting an opening key or a programming key."
2.4 Any RFI key is brought to the reading area. The red luminous diode starts flashing faster.
However, if the red luminous diode only begins to flicker, this RFI key was already assigned to another number. Then, this key either must be deleted or another one has to be used.
2.5 The RFI key is removed from the reading area. The red luminous diode flashes once for a moment and once for a longer time to demonstrate acceptance. Now the RFI key is put in as opening key.

3 Entering an opening key without programming key
3.1 Set the turn switches to the number, the RFI key shall be assigned to. (not to „0")
3.2 Press the programming pushbutton once for a moment. The red luminous diode begins to flash very slowly ( 2 seconds on, 2 seconds off). However, if the luminous diode starts flickering , an opening key was already put in at the selected storage location. The set storage location has to be deleted first. See „Deleting an opening key or a programming key".
3.3 Any RFI key is taken to the reading area. The red luminous diode begins to flash faster. But, if the red luminous diode only begins to flicker, this RFI key was already assigned to another number. Then this key must either be deleted or another one has to be applied.
3.4 The RFI key is removed from the reading area. The red luminous diode flashes for acceptance once for a moment and once for a longer time. Now the RFI key is put in as opening key.

Deleting an opening key or a programming key without manual terminal Please read first!

1. Set the turn switches to the number which was assigned to the RFI key to be deleted.
2. Press the programming pushbutton once for a moment and then once again and keep it pressed. The red luminous diode flashes three times and keeps flashing constantly.
3. When the red luminous diode flashes constantly, stop pressing the button. The red luminous diode flashes once for a moment and once for a longer period to demonstrate acceptance. Thus, the RFI key memorized under this figure is deleted. If you do not stop pressing the pushbutton, after a few seconds the luminous diode starts flickering. Then you may let the pushbutton off without deleting the RFI key. You may also avoid a deleting of the RFI key if you let the pushbutton off while the diode is flashing.
To delete a key it must not necessarily be available but, lost keys can also be blocked.

## Modification of operational adjustments

The following adjustments of operation may be done:
All entered keys attract relay No. 1.
The keys assigned to odd numbers (1-3-5) cause relay No. 1 to be attracted and the even ones (2-4-6) attract relay No. 2 (only on type RFI 1000-2)
Setting the relay-operating time (impuls length)
Feeding the manual terminal, RFI Master
Deleting manual terminal RFI Master (Becomes necessary, if another or a new terminal shall be applied.)
Deleting of all storage locations
Setting jumper A brings the device into adjusting mode. Now each pressing of the programming pushbutton causes the luminous diodes to show what may be modified. After pressing, let it off again. As long as you keep on pressing the pushbutton, the red luminous diode keeps on flickering. The modification becomes effective as soon as the jumper is removed again. Then the device changes to its normal working order.

Setting jumper A: The red luminous diode keeps beaming constantly. If the jumper is taken off again, no change to the adjustments takes place.
First pressing of the pushbutton: The green and the red luminous diode are beaming. If the jumper is taken off now, all keys fed in cause relay 1 to attract.
Second pressing of the pushbutton: The red, the green and the yellow luminous diode are beaming. If the jumper is taken off now, the keys fed in to odd storage locations (1-3-5...), cause relay 1 to attract. The keys entered in even storage locations (2-4-6...) cause relay 2 to attract.

Third pressing of the pushbutton. The red luminous diode flashes, the yellow one and the green one do not beam.
Now the relay operating time can be adjusted by the turn switches. Turn switch A sets the digits, B sets the decimals.
If the jumper is taken off now, the adjusted time is adopted.
Fourth pressing of the pushbutton: The red and the green luminous diode are flashing. If now the terminal which has been switched on is held into the reading area and then the jumper is removed, the terminal is fed.
Fifth pressing of the pushbutton: The red luminous diode and the green one are flickering. If the jumper is taken off now, the fed terminal is erased.
Sixth pressing of the pushbutton: The red, the yellow and the green luminous diode start flickering. If jumper $\boldsymbol{A}$ is taken off now, all storage locations (except the terminal) are erased. Erasing action is demonstrated by the flashing of all luminous diodes.

Pressing the button once again, only the red luminous diode beams. Now the jumper can be taken off again without changing the adjustments.
Pressing one more time - again item 3 and so on come into effect..

