

Easiprox

Stand-Alone Proximity Access Control System

GENERAL DESCRIPTION

The "Easiprox" system is a low cost stand-alone programmable access control system based on the EM400x proximity tags and cards.

The system consists of one combined controller/ reader. The memory and relay circuitry are located in the main unit. The read head is rated **IP67** and can be installed in outdoor locations.

The system can store the codes of 2000 unique tags.

Adding and deleting tags is done by simple use of a Master Tag.

The optional Tag Simulator / Programming Unit allows the programming (adding & deleting) of lost tags.

The Relay can operate in Pulse or Toggle mode.

Normal Operation (Run State)

The Easiprox has two states, Programming and Run. The Run state is the normal operating state of the Easiprox. The LED's behave as follows depending on the Relay mode - Pulse or Toggle. The Programming state is explained in the next section.

Run State - Pulse Mode

In this state, the **YELLOW** lamp is always on and the **GREEN/RED** lamp is off.

Whenever a valid tag is read, the **GREEN** lamp will go on and the relay will operate, for the pre-set Relay Pulse time.

If a card is not recognized the **RED** lamp will go on for 1.5 seconds.

Run State - Toggle Mode

On power-up, the **YELLOW** and **RED** lamps will be on and the relay will be off.

Whenever a valid tag is read the **GREEN/RED** lamp will change state.

When the lamp is **GREEN**, the relay is energized (the NO contact will be closed). When the lamp is **RED**, the relay is not energized (the NO contact will be open).

Programming

The Master Tag is the first tag presented to the Easiprox when it is in the Add Master state. All programming is done by using this Master Tag.

To select a program function:

Make successive reads of the Master Tag (each read must be no more than 2 seconds apart).

Each read of the Master Tag sets the Easiprox to a new programming function.

Once the required function has been reached, wait for the lamp(s) to start flashing, (approximately 3 seconds), indicating that the Easiprox is now in the selected function.

Add Master Tag

If the **GREEN** and **YELLOW** lamps are flashing, it indicates that the memory is empty and that there is no Master Tag.

In this state the first tag read will be stored as the Master Tag.

Add Tags

To select this function:

1. Read the Master Tag once.
2. Only the **GREEN** lamp will light.
3. Wait for the **GREEN** lamp to start flashing.

The Easiprox is now in the ADD state.

In this state every tag that is presented to the reader will be stored in the system memory. (Tags can now also be added by using the optional Tag Simulator.)

If a large number of tags have to be added, the ADD-ON-THE-RUN method can be used by leaving the Easiprox in the Add Tags state. In this state every tag presented to the Easiprox will operate the relay and be added to memory.

Once all the required tags have been presented, read the Master Tag to return to the RUN state.

Delete Tags

To remove a tag from the system, that tag must be available or the Tag Simulator must be used. If these are not available, the system memory must be cleared and all valid tags re-added.

To select this function:

1. Read the Master Tag twice with a time between reads of less than 2 seconds.
2. The **RED** lamp will light.
3. Wait for the **RED** lamp to start flashing.

The Easiprox is now in the **DELETE** state.

In this state every tag that is presented to the reader will be deleted from the system memory. (Tags can now also be deleted by using the optional Tag Simulator.)

Once the tag or a group of tags have been deleted, read the Master Tag to return to the RUN state.

Clear Memory

To delete all the tags from the memory including the Master Tag and Strike time, place the unit in the **CLEAR MEMORY** state.

1. Read the Master Tag three times with a time between reads of less than 2 seconds.
2. The **YELLOW** and **RED** lamps will light.
3. Wait for the **YELLOW** and **RED** lamps to start flashing.

The Easiprox is now in the **CLEAR MEMORY** state. Now present any tag except the Master Tag to the reader and all memory will be cleared.

Alternatively, read the Master Tag to abort this function.

Once the memory is cleared the **YELLOW** and **GREEN** lamps will flash to indicate that the memory is empty.

Time Adjust

This function sets the relay operating time for a push-button input and a valid card read.

To select this function:

1. Read the Master Tag 4 times with a time between reads of less than 2 seconds.
2. All the lamps will go off.
3. Wait for the **YELLOW** lamp to start flashing.

The Easiprox is now in the **TIME ADJUST** state and each flash of the **YELLOW** lamp equates to 1 second of relay operation time.

Once the desired time is reached (max 60 seconds), read the Master Tag to store the time and return to the Run state. If **TOGGLE** mode is required simply allow the **YELLOW** lamp to flash until it stops automatically (after 61 flashes). The unit will now be in **TOGGLE** mode.

INSTALLATION

POWER

Connect 8-12V AC or 10-14V DC to the 12V AC/DC terminals on the controller. The polarity of the connection is not important.

ELECTRIC DOOR LOCK

The unit provides a relay output rated at 24 VDC at 3A . The following contacts, that are isolated from the rest of the board, are provided; normally open (NO) contact, normally closed (NC) contact and a common (COM).

Typical connections to a door strike are shown on the drawing.

Note: When using a strike with DC, the relay contacts will be damaged by arcing due to back EMF when the contact opens. Use a **IN4001 diode** as shown on the drawing to prevent this damage.

Push-button

A push-button may be connected to allow remote operation of the door strike relay in the same manner as if a tag is read.

The push button must be normally open and is wired between the two **Exit** terminals.

Warning: *The installer should earth himself before making contact with the controller board to avoid electrostatic discharge into the unit.*

Position

The Easiprox read head works on the principle of radiating a magnetic field from a coil.

The field generated by the coil will be affected by the close proximity of metal.

Ideally the Easiprox read head should be mounted on non metallic materials. If the unit is mounted on a metal surface the reading distance will be reduced. (approx. 70 %)

Multiple read heads

The radiated field of the Easiprox coil extends in all directions including through brick walls. The coil of one Easiprox will interfere with another if they are mounted within 400mm of each other.

Clear SYSTEM Memory

To clear the system memory:

1. Remove power from the controller.
2. Reconnect power to the controller.
3. Short the **CLEAR** pins momentarily. This must be done before 5 seconds have elapsed since power up. See drawing on page 3 for position of **CLEAR** pins.
4. The LEDs on the read head will flicker during the memory clear operation.
5. When **GREEN** and **YELLOW** lamps are flashing, it indicates that the memory is empty and that there is no Master Tag. In this state the first tag read will be stored as the Master Tag.

Warning: *The installer should earth himself before shorting the CLEAR jumper to avoid electrostatic discharge into the unit.*

Pulse/Toggle Mode

The Easiprox relay can operate in 2 modes:

Pulse Mode:

This mode is selected by selecting a pulse time 1-60 seconds. See Time Adjust programming function.

Toggle Mode:

This mode is selected by selecting a pulse time >60 seconds. See Time Adjust programming function.

Tag Simulator / Programmer (optional)

The Tag Simulator allows adding and removing any card/tag number from the reader memory when the tag is lost or not available. One unit can be utilized at different sites but for security reasons it will operate only in conjunction with the Master Tag.

The Tag Simulator / Programmer cannot be used to gain access. It will only operate together with the reader's MASTER tag

Battery

The unit is powered by a PP3 9V battery. Undo the 2 screws at the back of the unit to gain access to the battery.

Setting Tag Number

To set the tag number to be deleted or added:

Hold the On/Off button down.

1. Use the RIGHT ARROW key to move the cursor to the digit to be changed.
2. Use the UP ARROW key to change the number at the cursor.
3. Repeat the above until all the digits of the number are correct.
4. This number is stored in memory and the On/Off button may now be released.

Deleting Tags

The MASTER tag must be used to put the 980-20 into the Delete mode.

Once in Delete mode:

1. RED lamp flashes
2. Place the Tag Simulator close to the reader
3. Hold down the On/Off button and check the displayed number
4. Press the Send button
5. The GREEN lamp will flash to verify that the selected number is deleted and then the RED lamp will continue flashing.
6. Once the tag or a group of tags have been deleted, read the Master Tag to return to the RUN state.

Adding Tags

The MASTER tag must be used to put the 980-20 into the Add mode.

Once in Add mode:

1. GREEN lamp flashes
2. Place the Tag Simulator close to the reader
3. Hold down the On/Off button and check the displayed number
4. Press the Send button
5. The GREEN lamp will go steady and the relay will operate to verify that the selected number is added. The GREEN lamp will then continue flashing.
6. Once the tag or a group of tags have been added, read the Master Tag to return to the RUN state.