

CAR LIFT INFRA-RED REMOTE CONTROL SYSTEMS

WHY REMOTE CONTROL?

Because it's much more convenient not to have to get out of your car, and it's more secure.

With your remote control you can

- Open secure access gates
- Call the lift car
- Transfer to a different level

all without leaving your car or even opening a window.

WHY USE INFRA-RED?

Since Infra Red (IR) behaves similarly to light, it will pass through your car windscreen; however, because it's like light it won't travel through walls and floors. When you call a lift it comes to **your** floor, a pretty useful characteristic. Radio signals pass through masonry and are reflected and refracted by metals – with a radio remote it's easy to get a response from the “wrong” receiver with the result that the lift goes to the wrong floor.

The range of a TE IR transmitter is about 15m, which is more than sufficient for car lift applications. A radio remote could offer greater range, but do you want to call a lift from 400m?

WHAT DOES TE ELECTRONICS OFFER?

We produce a range of transmitters, receivers and lift interface units which can be tailored to your individual needs.

TRANSMITTERS:

- **Single button keyfobs** which can be used in simple two floor systems to call a lift.

When the vehicle is fully inside the lift car, either the lift doors close automatically and the lift car transfers to the other level, or a second burst from the keyfob initiates the door closing and transfer

Alternatively, the user can press buttons which are mounted on the inside of the lift car side wall and are accessible via the driver's door window. This technique also allows access to multiple levels.



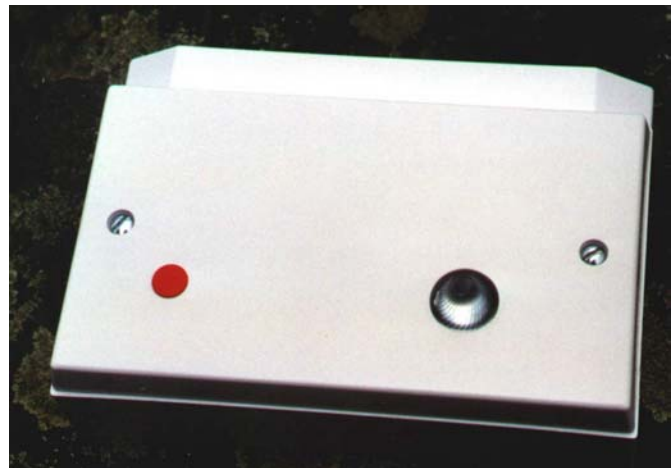
- **Two button keyfobs** which allow two or three functions to be selected (the third function is obtained when *both* buttons are pressed). Your custom legend is engraved on the front.



INTERNAL RECEIVERS:

Internal Receivers are for use within areas of the car park that are protected from the weather. Types are available for surface mounting, ceiling mounting and flush mounting.

- The **surface mounting** types are housed in Polycarbonate enclosures or in standard BS1363 type double mains plates. The Polycarbonate housings are similar to the ones shown in the "External Receiver" section below.
- **Ceiling mounting** types are useful inside lift cars. They are mounted in the centre of the ceiling and activated by signals reflected from either door of the lift car; this allows the vehicle to face either way and still need only one receiver.



- **Flush mounting** types can be built into matching lift furniture housings, eg stainless steel, or can be housed in standard BS1363 type double mains plates. The BS1363 type needs a standard double back box of 25mm depth.



EXTERNAL RECEIVERS:

External receivers are for situations exposed to the elements.

The external receivers are housed in IP66 Polycarbonate enclosures and are mounted on an assembly which has an adjustable hood and tilts the receiver slightly downwards.

The downward tilt is optimised for mounting heights of around 3m.

The hood shields the Infra Red sensor from direct sunlight (the sun is a powerful Infra red transmitter and can swamp the receiver with “signals”).

The mounting plate is compatible with standard conduit outlet boxes or can be fixed directly to any surface.



LIFT INTERFACES:

The Remote Control System interfaces with the lift system via Lift Interfaces.

Generally each receiver will have an interface, although there are situations where two receivers drive one interface on an “either/or” basis.

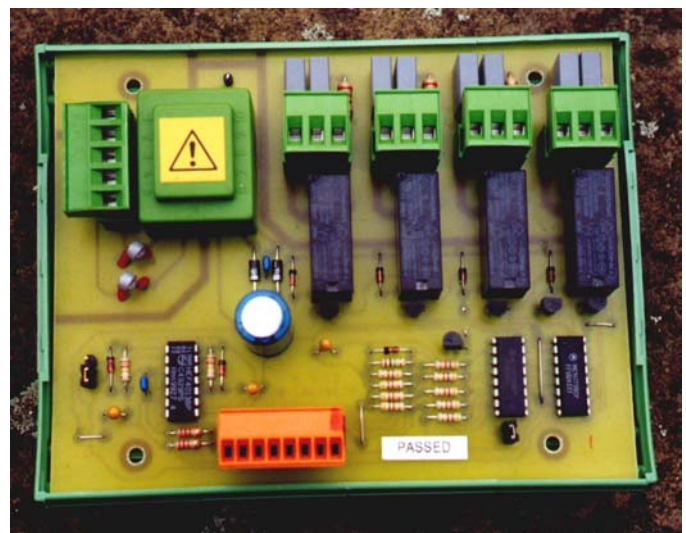
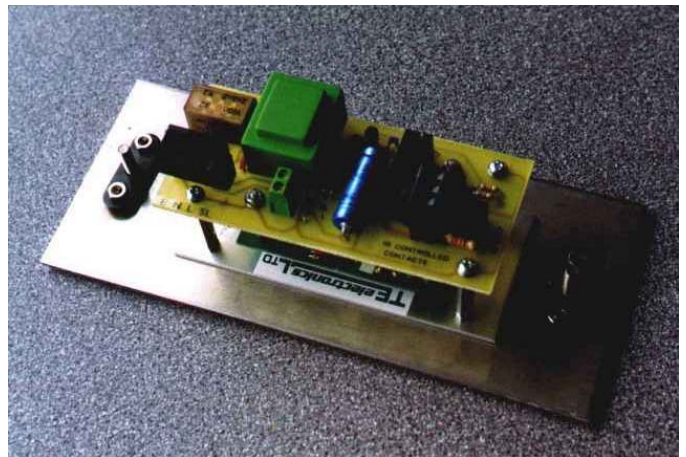
Interfaces can be independently housed or can be housed with the receiver in the lift furniture or Polycarbonate housing.

Alternatively, they can be supplied for DIN rail mounting. These would typically be mounted with other Lift Control equipment within the Lift Control cabinet.

The electrical connection to the Lift system is via volt-free relay contacts.

Each interface will have from one to four change-over relays with gold flashed contacts and RC contact suppression. These can be used in any circuits from “dry” to 240V ac at 8A.

The interface is powered by 230V/115V ac mains and provides the power for the receiver(s). If the receiver is remote, it connects to the interface via a lightweight low voltage signal cable. This has from three to eight conductors, depending on the system.



CHOOSING A MOUNTING SITE FOR THE RECEIVERS

The Infra Red signals act in the same way as visible light. The receivers should be in direct line of Sight from the keyfobs for normal operation. Reflected IR signals can be used but the range will reduce depending on the nature of the surface. White or shiny metal surfaces are good reflectors.

Although resistant to optical interference, it is still best to mount the receivers to minimise direct illumination by tungsten or fluorescent lighting or sunlight.

The external receiver has an adjustable hood which should be set to allow direct line of site for normal keyfob signals but obscure other inputs. Be sure to mount the external receiver in "Portrait" mode with the receiver lens at the top. The internal receivers can be mounted in any orientation.

INSTALLATION

The receivers should each be wired to an Interface unit in accordance with the supplied Connection Diagram.

All units have 2 part screw terminal connectors allowing cables to be pre-wired if convenient.

Remote receiver cables are not critical. 7/0.2 stranded is convenient and will give operation up to several 10s of metres. If the run is near to mains cables it would be best to use screened cable.

The receivers and keyfobs can be set to one of 16 possible addresses. The receiver address is set by SIL switch. The keyfob address is set by solder links. The delivered units are pre-set to address 2.

TYPICAL OPERATION

The keyfob is used to call the lift or request transfer in the same way as the equivalent buttons on a wall but with the convenience of remote operation. Approach the lift, point the keyfob at the lift receiver and press the "CALL" button. On receipt of the signal the receiver front panel LED will change from green to red for the duration of the received signal and the lift will be called. When within the lift car press the "TRANSFER" button.

The keyfob transmits the signal for a minimum of 1.5seconds. In systems that need secure operation, the receiver checks again for the presence of a valid signal about 0.7s after receipt and if it is still present it operates the appropriate lift control relay for 0.7s. This checking and short delay is by-passed in the case of an emergency STOP signal.

The keyfob LED indicator ceases to show if the battery is down to 50% terminal voltage (the transmitter OP is then 80%). This gives *advance* warning of the need to change the battery. The battery life is in excess of 12 months normal operation. Replacements, type GP23A or equivalent, are available from tobacconists, car accessory and photographic shops, or from T E Electronics.
