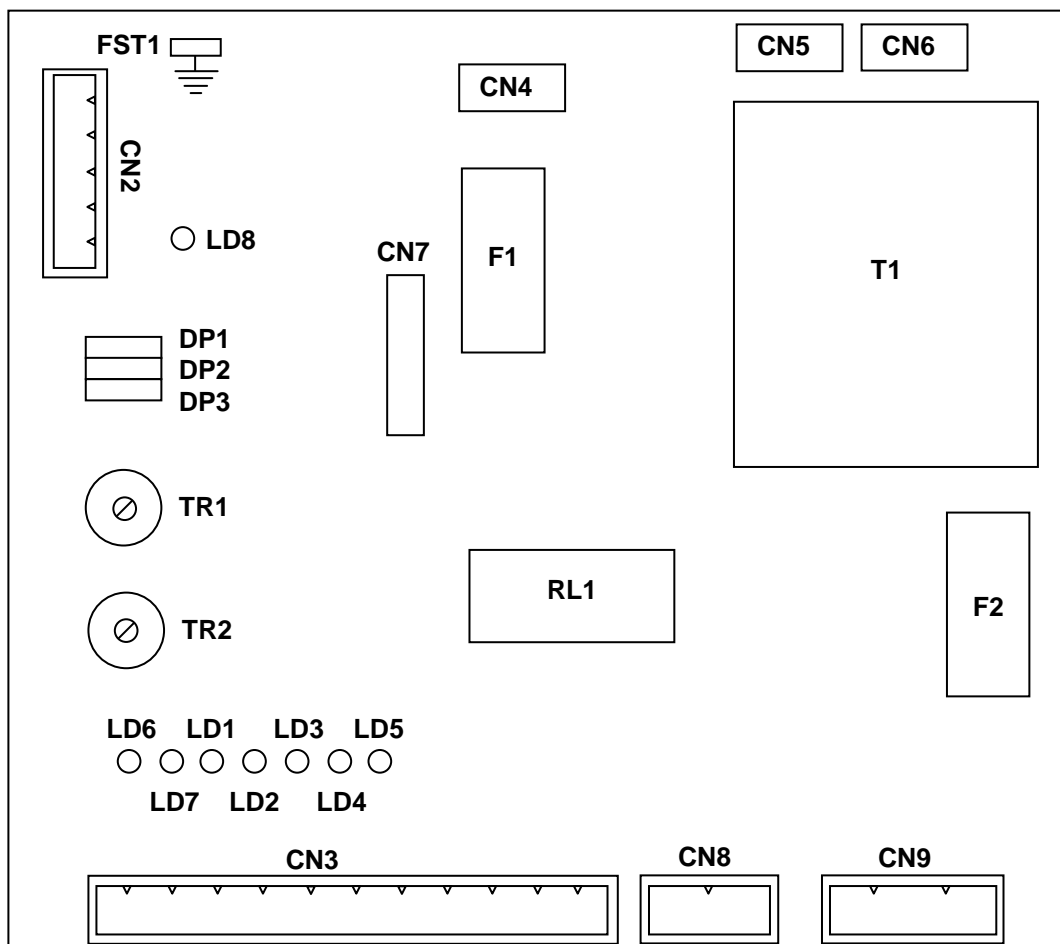


## MPU/EC ELECTRONIC CONTROL UNIT

FOR LEPUS CIVIC

(code 23001020)



**LD1:** Stop led  
**LD2:** Photocell led  
**LD3:** Close limit led (DIP3 = ON)  
 Open limit led (DIP3 = OFF)  
**LD4:** Open limit led (DIP3 = ON)  
 Close limit led (DIP3 = OFF)  
**LD5:** Indicator led  
**LD6:** Pedestrian start led  
**LD7:** Start led  
**LD8:** Security led  
**F1:** Accessory fuse 2A  
**F2:** Motor fuse 6,3A  
**T1:** Transformer  
**FST1:** Earth tag

**CN2:** Pedestrian start and security entrance connector  
**CN3:** Main terminals  
**CN4:** Limit terminals  
**CN5:** Motor condenser terminals  
**CN6:** Motor terminals  
**CN7:** Radio receiver terminals  
**CN8:** Power supply connector 220/240V  
**CN9:** Motor terminals  
**RL1:** Motor relay  
**DIP1:** Excludes brake  
**DIP2:** Selects functioning logic  
**DIP3:** Selects gate direction  
**TR1:** Pause time regulation trimmer  
**TR2:** Brake regulation trimmer

## ELECTRICAL CONNECTIONS

### 1 – MAIN TERMINAL CONNECTION BLOCK (CN3)

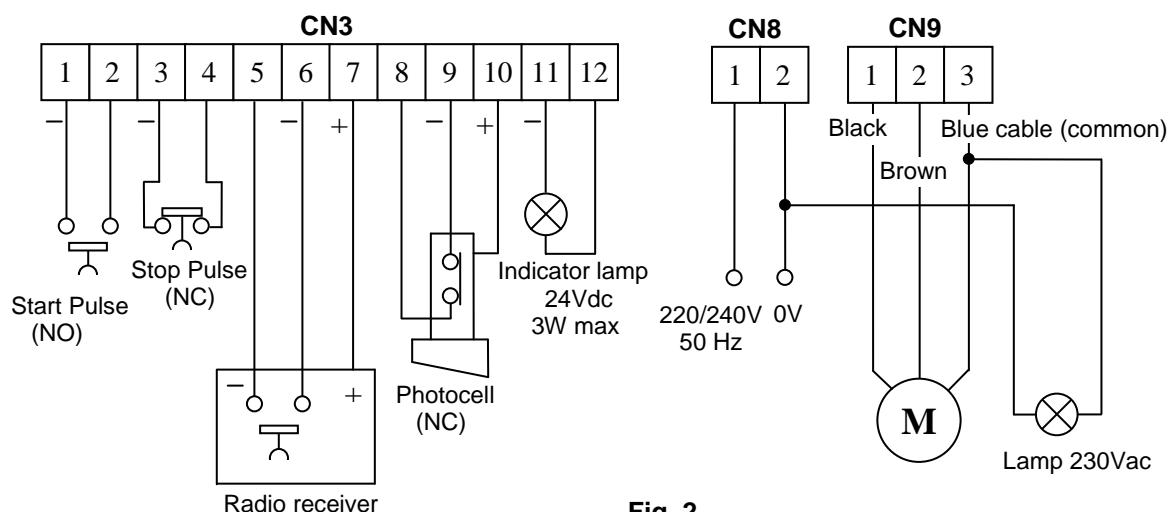
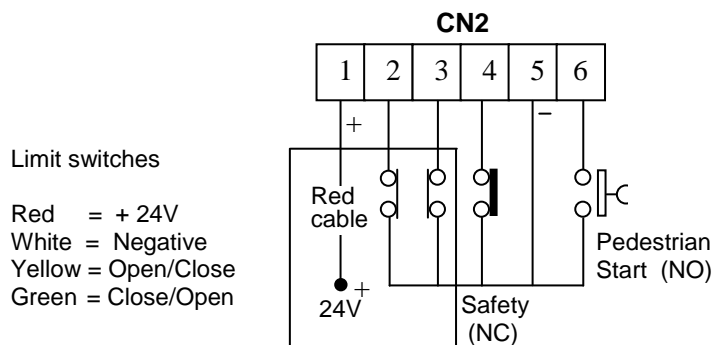


Fig. 2

### 2 – PEDESTRIAN START AND SECURITY ENTRANCE CONNECTOR (CN2)



**N.B. Terminals 3 with 4, 8 with 9 of CN3; 4 with 5 of CN2 (Stop, Photocells and Safety) are normally closed inputs. These terminals must be wire linked if a stop button or photocell is not being used.**

### MPU/EC FUNCTION DESCRIPTION

The MPU/EC is a microprocessor type control unit designed to control sliding gates.

Contact your supplier if you have any queries. The gate must run freely and not have any side to side play. It must also have open and close physical travel stops fitted before the automation is carried out. Plan the cabling requirements before installing the foundation plate. Leaving a spare cable duct into the unit can often be helpful. Mains and low voltage cables should be run separately.

### Electronic brake adjustment

The electronic braking action can be adjusted to give either a slow/soft or rapid/hard stop to the gate movement by adjusting Trimmer (TR2). The electronic braking action is started by the proximity limit switch registering the presence of the limit plate.

### PHOTOCELL SAFETY IS RECOMMENDED FOR ALL SLIDING GATE LOGIC SELECTIONS

### LOGIC

Logic is selected by DIP2.

With DIP2/SW1 = OFF, Semi-automatic or "push to open/push to close" logic is selected.

DIP2/SW1 = ON selects Automatic logic and TR1 adjusts the pause before closing time (3 – 120 s.). A Pedestrian opening input is available on terminals 2 and 3 of CN2.

## Security Entrance

Further to the specific security entrance for photocells, the control unit has a security entrance (terminals 4/5 of CN2) acting (N.C.) to stop the movement and start its partial inversion for 2 seconds.

## SETTING UP THE GATE STOPPING POSITION

Only tack weld the Limit Plate to rack while setting up. A gap of 5-8 mm. is required between the Limit Plate and the Limit Switch. The Limit Switch is located on the side of the casing directly above the pinion. The Limit Switch is an Induction type and contains separate sensing areas located at each end of the switch. As the steel Limit Plates pass in front of the switch a signal is sent to the Circuit Board. The Limit Plates are required to activate each relevant limit – 50 mm. ( $\pm 10$  mm.) before the gate physically strikes a travel stop. Open and Close Limit Led indicators on the circuit board will assist in this setting up process. Fully weld the Limit Plate in position after satisfactory testing. First fully close the gate up to its physical stop. Then open back 3 to 5 cm. Position the Limit Plate on top of the drive rack in a position that will register and activate the closed limit switch and tack weld in place. Then repeat the process for the open limit. Only fully weld the limit plates in place when satisfactory testing has taken place.

## GATE CLOSING DIRECTION SELECTION

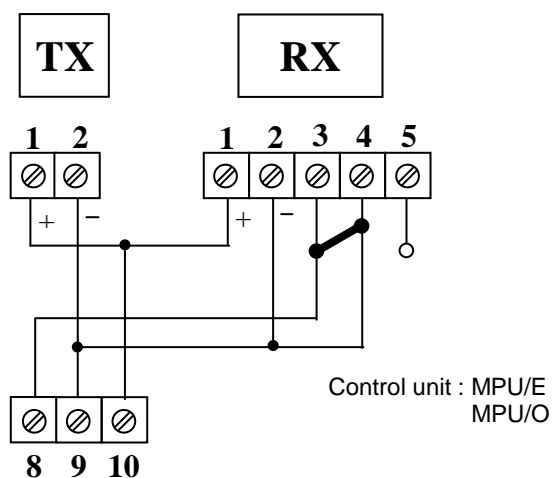
This selection is made on DIP Switch 3. Looking at the gate from inside:

- put DIP3 ON if the gate closes towards the right hand side.
- put DIP3 OFF if the gate closes to the left.

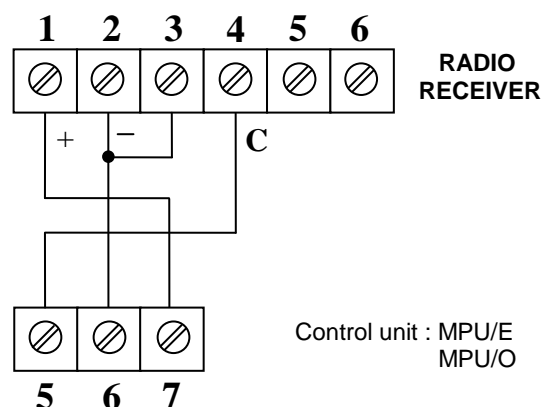
## DIAGNOSTIC FUNCTION

The micro-processor control unit has a diagnostic feature that will flash Led 5 every 2 seconds if a limit fault is detected.

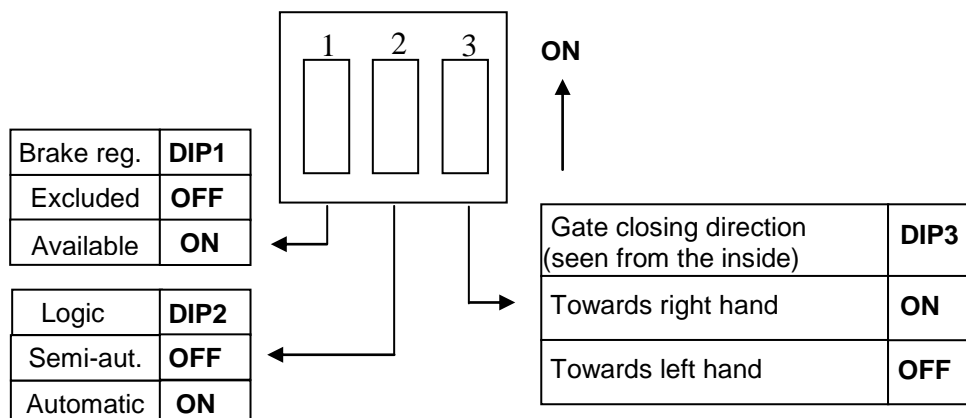
## PHOTOCELLS CONNECTION DETAILS



## RADIO RECEIVER CONNECTION



## PROGRAMMING TABLES



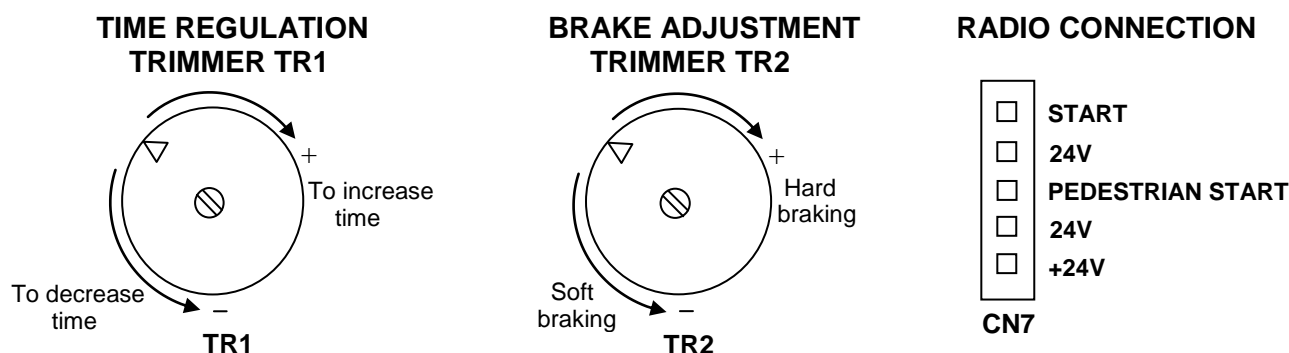


Fig. 3

### SAFETY PRECAUTIONS

All electrical installation work should conform to current regulations. A 16A - 0,030A differential switch must be incorporated into the source of the gate main electrical supply and the entire system must be properly earth bonded. Always run separate mains (240 V) carrying cables (supply and motors). Also all low voltage control (push button, photocell, radio etc.) cables should be run in separate ducts to prevent from mains interference.

**Note:** Use "cable clips" and/or "duct/box pipes" fitting close to the control panel box so to protect the interconnection cables against pulling efforts.

### SPARE PARTS

To obtain spare parts contact: **SEA s.r.l. – ZONA Ind.le, 64020 S.ATTO – Teramo – Italia**

### INTENDED USE

The MPU/EC electronic control unit has been designed to be solely used as a control unit for the automation of sliding gates.

### SAFETY AND ENVIRONMENTAL COMPATIBILITY

We recommend not to spoil the environment with product and circuit packing material.

### CONFORMITY REQUIREMENTS

The electronic control unit MPU/EC conforms to the following:

89/336/CEE (Rule on the Electromagnetic Compatibility)

73/23/EC (Electric Safety)

### STORAGE

STORAGE TEMPERATURES			
$T_{min}$	$T_{max}$	Humidity <sub>min</sub>	Humidity <sub>max</sub>
-40 °C	+85 °C	5% no condensation	90% no condensation

When being transported this product must be properly packaged and handled with care.

### MAINTENANCE AND OUT OF SERVICE

The decommission and maintenance of this unit must only be carried out by specialised and authorised personnel.

### LIMIT OF GUARANTEE

The MPU/EC electronic control unit is guaranteed for a period of 24 months. The guarantee period starts from the date stamp printed on the unit. The MPU/EC guarantee will be void if the unit has been incorrectly installed, not used for the purpose intended, tampered with or modified in any way. The validity of this guarantee only extends to the original purchaser of the unit.

**NOTE: THE MANUFACTURER CAN NOT BE DEEMED RESPONSIBLE FOR ANY DAMAGE OR INJURY CAUSED BY IMPROPER USE OF THIS PRODUCT.**

*SEA reserves the right to do changes or variations that it considers necessary to its products with no obligation to notice.*