

ELECTRONIC CONTROL UNIT FOR SLIDING GATES WITH REVERSE LOGIC

(cod. 23001105)

Circuit board layout

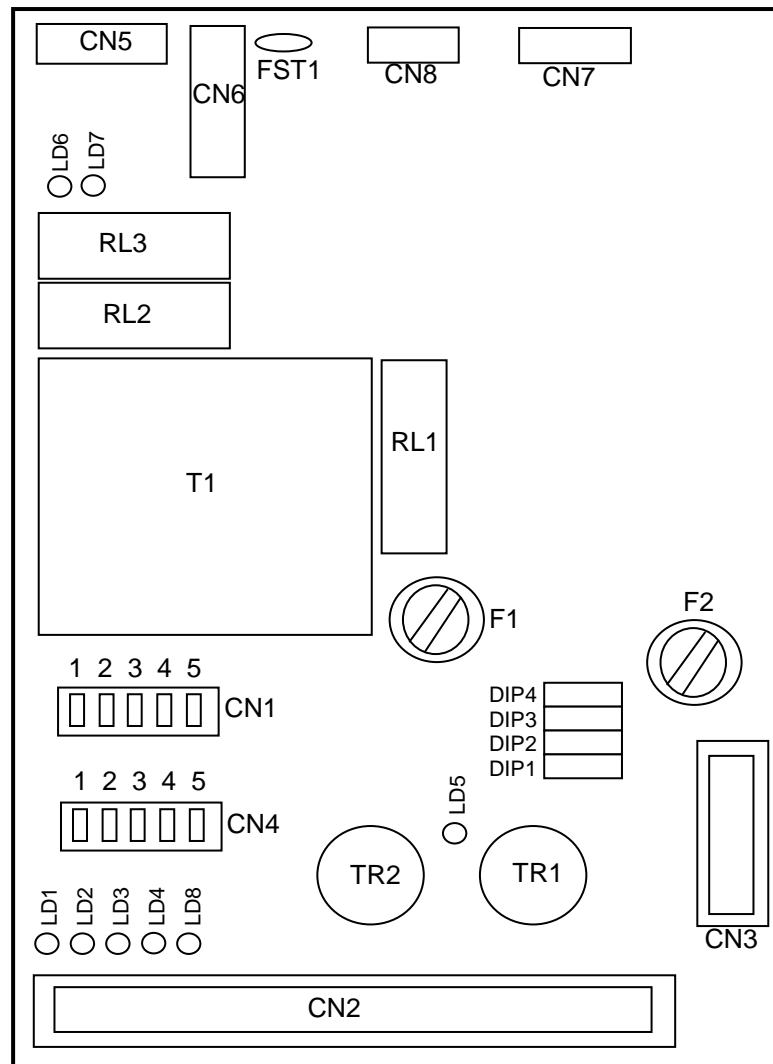
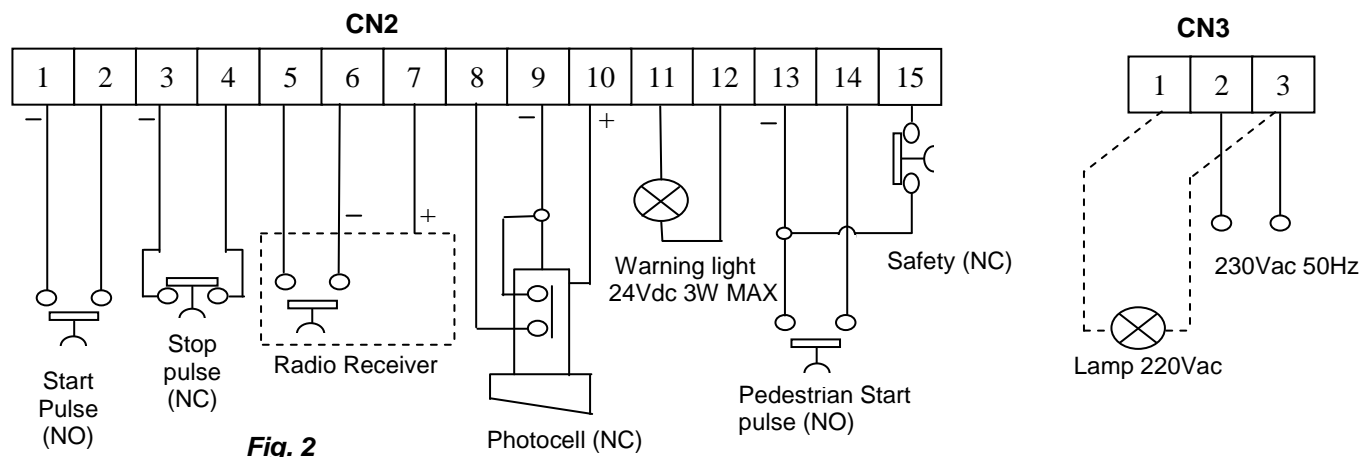


FIG. 1

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|--|---|
| LD1: Start Led | CN3: Power supply Terminal 220/240V |
| LD2: Pedestrian Start Led | CN4: Self-testing photocell Terminal |
| LD3: Stop Led | CN5: Limit stop Terminal |
| LD4: Safety Led | CN6: Earth Tag |
| LD5: Warning light Led | CN7: Motor Connector |
| LD6: Open limit Led (with DIP3=ON)
Close limit Led (with DIP3=OFF) | CN8: Motor Condenser Connector |
| LD7: Close limit Led (with DIP3=ON)
Open limit Led (with DIP3=OFF) | RL1: Brake Relay |
| LD8: Photocell Led | RL2: Isolating Relay |
| F1: Accessory fuse 1A | RL3: Direction Relay |
| F2: Motor fuse 3.15A (T) | DIP1: Selects functioning Logic |
| T1: Transformer | DIP2: Excludes Brake |
| CN1: Radio receiver Terminal | DIP3: Selects Gate Direction |
| CN2: Main Terminals | DIP4: Excludes Reverse |
| | TR1: Brake Regulation Trimmer |
| | TR2: Pause Time Regulation Trimmer |

ELECTRICAL CONNECTIONS

1 – MAIN TERMINALS (CN2/CN3)



N.B. Terminals 3 and 4 (STOP), 8 and 9 (PHOTOCELL), 13 and 15 (SAFETY) are normally closed inputs. These terminals must be wire linked if a stop button or photocell is not being used.

2 – BLADE TYPE MAINS EARTH CONNECTION (FST1)

To be connected to the incoming mains earth: this connection provides an earth for the double sided earth barrier tracks that are situated between mains and low voltage tracks.

FUNCTIONING DESCRIPTION

The 23001105 control unit has been designed to automate sliding gates with a maximum weight of 400 Kg. Its characteristics are:

1 . Electronic brake adjustment

The electronic braking action can be adjusted to give either a slow/soft or rapid/hard stop to the gate movement (depending on the weight of the gate and on the position of the limit plates) by adjusting Trimmer TR1 (see Fig.3). The trimmer position is detected at the any working cycle.

2 . Electronic reverse device

The friction clutch is located on the top of the motor and should be adjusted as lightly as practical, the maximum force recommended to be exerted at the leading edge of the gate is 15 Kg. The emergency release key can be used to adjust the clutch. If the gate is obstructed while closing, the obstacle is detected by the motor revolution counter and the gate is stopped and reversed. If an obstacle is detected when the gate is opening, the gate is stopped. The electronic reverse device is activated by the slipping action of the friction clutch that is coupled to the electric motor. The clutch should be adjusted so to be allowed to slip when the gate comes into contact with minimal obstruction. To decrease the clutch pressure, turn the adjusting screw anti-clockwise; to increase the clutch pressure, turn the adjusting screw in a clockwise direction. The clutch pressure must always be adjusted in every instance to take into account the weight and running condition of the gate being automated. The pressure must never be excessive. This function can be excluded by turning DIP4 = OFF (see Fig. 4).

3 . Functioning Logic

Logic is selected by DIP1.

* With DIP1 = OFF, SEMI-AUTOMATIC or "push to open / push to close logic is selected.

* DIP1 = ON selects AUTOMATIC logic and adjusts the pause before closing time (5 – 120 s.).

A pedestrian opening input is available on terminals 13 and 14 if required.

SETTING UP THE GATE STOPPING POSITION

1. Limit switch position:
 - a) Manually close the gate up to its physical stop.
 - b) Open back 3 cm. to 5 cm. and fix the limit plate on top of the drive rack, paying attention that it is correspondent to the sign on the “closing limit switch sensor”.
 - c) Fix the opening limit plate correspondent to the sign on the “opening limit switch sensor”, so to have a complete gate opening.
2. Complete wiring following the drawing (see Fig. 2) and connect the system to the power supply.

BRAKE ADJUSTMENT

To achieve an efficient adjustment of the braking action proceed as follows:

1. Turn the power supply off.
2. Fully turn the brake regulating trimmer (TR1) clockwise.
3. Manually move the gate to about half its way (the limit switches are free) by acting on the motor release.
4. Replace the motor release (see instructions).
5. Replace the power supply.
6. Give a Start input.
7. The gate will close and stop roughly at the limit stop.
Now adjust the stopping speed by using Trimmer TR1.

Note: 1) The Trimmer position is detected at the end of any closing cycle if the gate closes towards left. The Trimmer position is detected at the end of any opening cycle if the gate closes towards right.
2) In case the gate doesn't slide easily, fully turn Trimmer TR1 clockwise first, then turn back for about 1/3 turn.

GATE CLOSING DIRECTION SELECTION

This selection is made on DIP3. Looking at the gate from inside (see Fig. 4):

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

DIP3 position is detected every time the gate is still.

DIAGNOSTIC FUNCTION

The 23001105 device has a diagnostic feature that flashes the warning light and LD5 every 2 seconds if a limit fault is detected. If a revolution counter fault is detected the warning light and LD5 will flash twice every second.

It is possible to temporarily exclude the reverse device (DIP4 = OFF, see Fig. 4) in case you can not change the revolution counter. The gate works but the braking adjustment is not at its best.

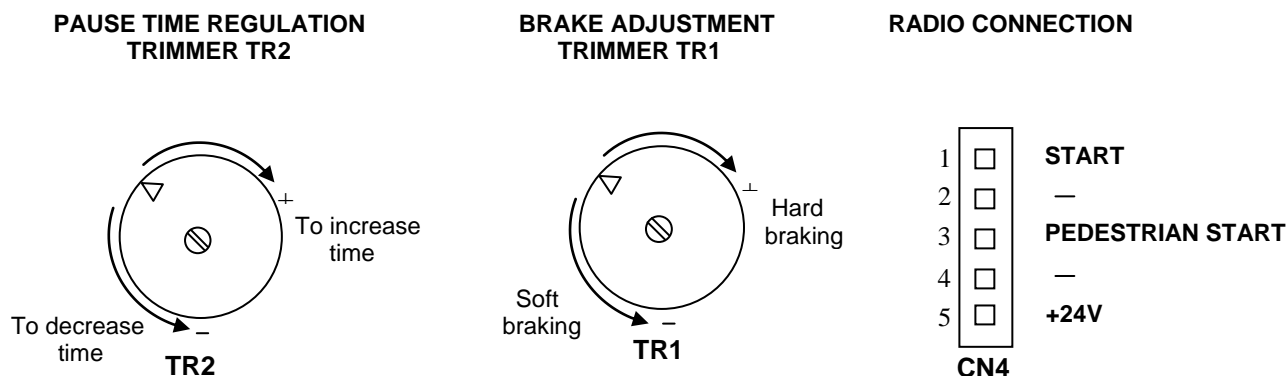


Fig. 3

PROGRAMMING TABLES

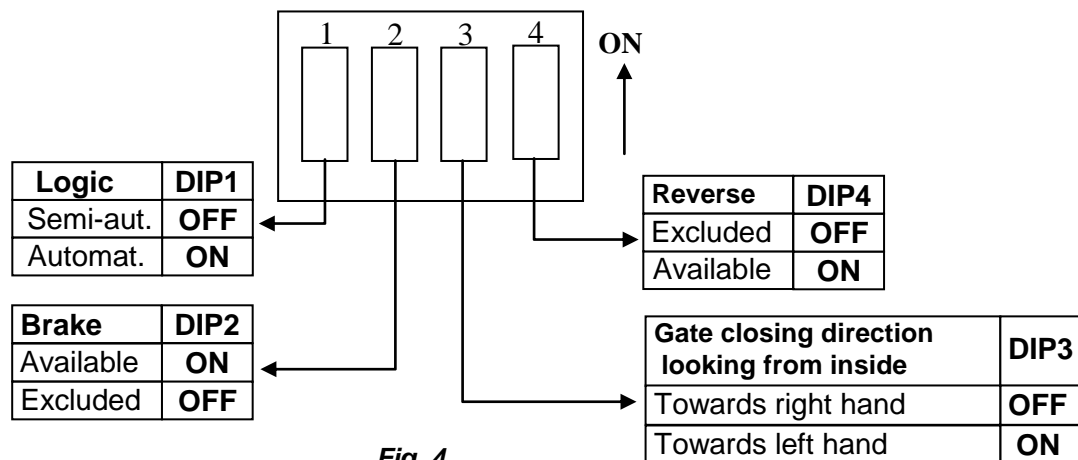


Fig. 4

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.

Remember to 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 23001105 electronic control unit has been designed to be solely used as control unit for the automation of sliding gates with SEA operators mod. Orion and Lepus.

SAFETY AND ENVIRONMENTAL COMPATIBILITY

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

CONFORMITY REQUIREMENTS

The 23001105 electronic control unit conforms to the following:

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

73/23/EC (Electric Safety)

STORAGE

STORAGE TEMPERATURE			
T _{min}	T _{Max}	Humidity _{min}	Humidity _{Max}
- 40°C	+ 85°C	5% non-condensing	90% non-condensing

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 23001105 electronic control unit is guaranteed for a period of 24 months. The guarantee period starts from the date stamp printed on the unit. The 23001105 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 may be necessary to its products with no obligation to notice.