Elpro S50-T3

IT PROGRAMMATORE ELETTRONICO MONOFASE/TRIFASE
PER TRE DISSUASORI A SCOMPARSA ANTITERRORISMO TALOS M50

GB SINGLE-PHASE/THREE-PHASE ELECTRONIC CONTROLLER
FOR THREE TALOS M50 ANTI-TERRORISM RETRACTABLE BOLLARDS

FR PROGRAMMATEUR ÉLECTRONIQUE MONOPHASÉ-TRIPHASÉ
POUR TROIS BORNES ESCAMOTABLES ANTI-TERRORISME TALOS M50

DE EINPHASIGE-DREIPHASIGE ELEKTRONISCHE STEUERUNG
FÜR DREI TALOS M50 ANTI-TERROR VERSENKBARE POLLER

IT
- PREDISPOSTO PER SEMAFORO A 3 LUCI
- AUTOMATICO O SEMIAUTOMATICO
- PREDISPOSIZIONE PER OROLOGIO ESTERNO
- FUNZIONE PASSO-PASSO
- UOMO PRESENTE

GB
- PRE-SET FOR A TRAFFIC LIGHT WITH 3 LAMPS
- AUTOMATIC OR SEMI-AUTOMATIC
- PRE-SET FOR EXTERNAL TIME CLOCK
- STEP BY STEP FUNCTION
- DEADMAN (HOLD-ON-SWITCHED) CONTROL

FR
- PREPARE POUR FEU DE CIRCULATION A 3 VOYANTS
- AUTOMATIQUE OU SEMI-AUTOMATIQUE
- PREPARE POUR HORLOGE EXTERNE
- FONCTION PAS-PAS
- HOMME MORT

DE
- FÜR AMPEL MIT 3 LICHTERN VORGESEHEN
- AUTOMATISCH ODER HALBAUTOMATISCH
- FÜR EXTERNE UHR VORGESEHEN
- SCHRITT FÜR SCHRITT FUNKTION (IMPULSBETRIEB)
- TOTMANN-BETRIEB

GENERAL WARNINGS FOR PEOPLE SAFETY

THANK YOU

Thank you for purchasing a Fadini product.
Please read these instructions carefully before using this appliance. The instructions contain important information which will help you get the best out of the appliance and ensure safe and proper installation, use and maintenance. Keep this manual in a convenient place so that you can always refer to it for the safe and proper use of the appliance.

INTRODUCTION

This operator is designed for a specific scope of applications as indicated in this manual, including safety, control and signaling accessories as minimum required with Fadini equipment. □ Any applications not explicitly included in this manual may cause operation problems or damages to properties and people. □ Meccanica Fadini S.r.l. is not liable for damages caused by the incorrect use of the equipment, or for applications not included in this manual or for malfunctioning resulting from the use of materials or accessories not recommended by the manufacturer. □ The manufacturer reserves the right to make changes to its products without prior notice. □ All that is not explicitly indicated in this manual is to be considered not allowed.

BEFORE INSTALLATION

Before commencing operator installation assess the suitability of the access, its general condition and the structure. □ Make sure that there is no risk of impact, crushing, shearing, conveying, cutting, entangling and lifting situations, which may prejudice people safety. □ Do not install near any source of heat and avoid contacts with flammable substances. □ Keep all the accessories able to turn on the operator (transmitters, proximity readers, key-switches, etc) out of the reach of the children. □ Transit through the access only with stationary operator. □ Do not allow children and/or people to stand in the proximity of a working operator. □ To ensure safety in the whole movement area of a gate it is advisable to install photocells, sensitive edges, magnetic loops and detectors. □ Use yellow-black strips or proper signals to identify dangerous spots. □ Before cleaning and maintenance operations, disconnect the appliance from the mains by switching off the master switch. □ If removing the actuator, do not cut the electric wires, but disconnect them from the terminal box by loosening the screws inside the junction box.

INSTALLATION

All installation operations must be performed by a qualified technician, in observance of the Machinery Directive 2006/42/CE and safety regulations EN 12453 - EN 12445. □ Verify the presence of a thermal-magnetic circuit breaker 0,03 A - 230 V - 50 Hz upstream the installation. □ Use appropriate objects to test the correct functionality of the safety accessories, such as photocells, sensitive edges, etc. □ Carry out a risk analysis by means of appropriate instruments measuring the crushing and impact force of the main opening and closing edge in compliance with EN 12445. □ Identify the appropriate solution necessary to eliminate and reduce such risks. □ In case where the gate to automate is equipped with a pedestrian entrance, it is appropriate to prepare the system in such a way to prohibit the operation of the engine when the pedestrian entrance is used. □ Apply safety nameplates with CE marking on the gate warning about the presence of an automated installation. □ The installer must inform and instruct the end user about the proper use of the system by releasing him a technical dossier, including: layout and components of the installation, risk analysis, verification of safety accessories, verification of impact forces and reporting of residual risks.

INFORMATION FOR END-USERS

The end-user is required to read carefully and to receive information concerning only the operation of the installation so that he becomes himself responsible for the correct use of it. □ The end-user shall establish a written maintenance contract with the installer/maintenance technician (on -call).

□ Any maintenance operation must be done by qualified technicians. □ Keep these instructions carefully.

WARNINGS FOR THE CORRECT OPERATION OF THE INSTALLATION

For optimum performance of system over time according to safety regulations, it is necessary to perform proper maintenance and monitoring of the entire installation: the automation, the electronic equipment and the cables connected to these. □ The entire installation must be carried out by qualified technical personnel, filling in the Maintenance Manual indicated in the Safety Regulation Book (to be requested or downloaded from the site www.fadini.net/supporto/downloads). □ Operator: maintenance inspection at least every 6 months, while for the electronic equipment and safety systems an inspection at least once every month is required. □ The manufacturer, Meccanica Fadini S.r.l., is not responsible for non-observance of good installation practice and incorrect maintenance of the installation.

DISPOSAL OF MATERIALS

Dispose properly of the packaging materials such as cardboard, nylon, polystyrene etc. through specializing companies (after verification of the regulations in force at the place of installation in the field of waste disposal). Disposal of electrical and electronic materials: to remove and dispose through specializing companies, as per Directive 2012/19/UE. Disposal of substances hazardous for the environment is prohibited.

UE DECLARATION OF CONFORMITY (DoC)

Manufacturer: Meccanica Fadini S.r.l.
Address: Via Mantova, 177/A - 37053 Cerea - VR - Italy

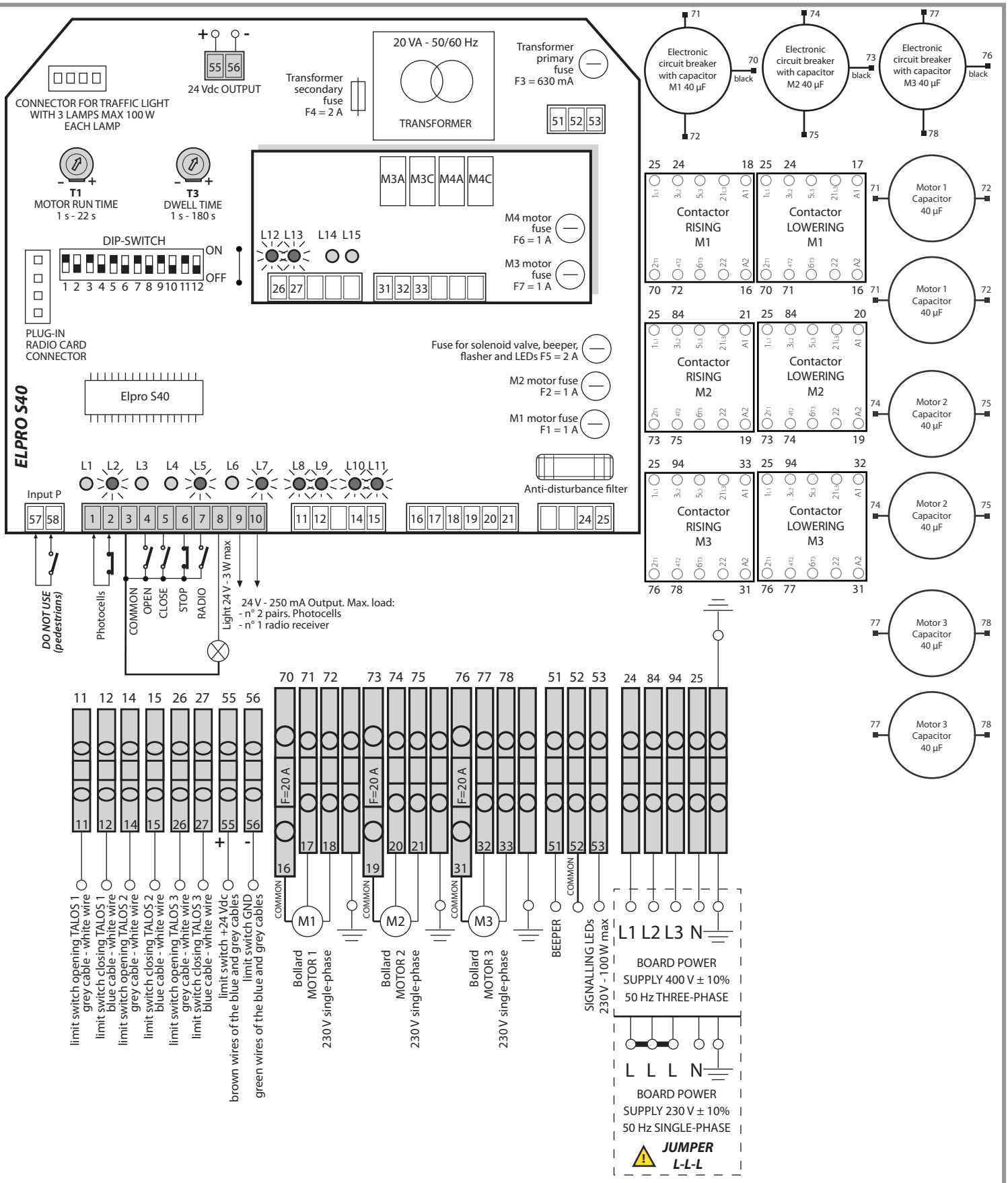
declare that the DoC is issued under our sole responsibility and belongs to the following product:

Control unit model **ELPRO S50-T3**

is in conformity with the relevant Union harmonisation legislation:
- Electromagnetic Compatibility Directive 2014/30/UE
- Low Voltage Directive 2014/35/UE

Cerea, 13/10/2017

Meccanica Fadini S.r.l.
Responsible Manager



Note well: whenever **Elpro S50-T3** is re-powered, wait 10 seconds for the logic to become fully operating again.

NOTE WELL:
- The control panel must be installed in a sheltered, dry place.
- Fit the mains to the control panel with a 0,03 A high sensitivity magneto-thermal circuit breaker.
- Use a multipole cable type BUT FLESSIBILE FG 70R 12x1,5 mm^2, up to a recommended distance of 20 m maximum between TALOS M50 and ELPRO S50-T3.
- For distances longer than 20 m use cables having an adequate section in compliance with the rules of good installation praxis.
- Use 1 mm^2 section wires for command and safety accessories.

N.W: To fit extra accessories such as lights, CCTV etc. use only solid state relays to prevent interference with the microprocessor.

GB Elpro S50-T3

CONTROLLER FOR TALOS M50
ANTI-TERRORISM RETRACTABLE BOLLARDS

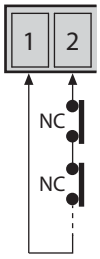
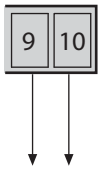
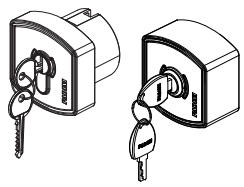
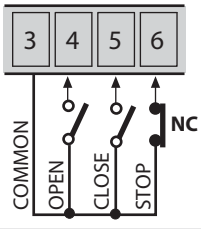
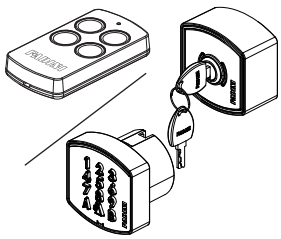
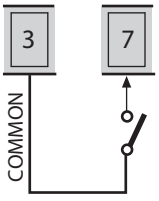
IN CASE OF FAILURE OF THE CONTROL BOARD:
- Make sure voltage supply to the electronic board is 230 V ±10% - 50 Hz
- Make sure voltage supply to the electric motor is 230 V ±10% - 50 Hz
- For distances beyond 20 meters increase wire section
- Check power supply 230 V single-phase
- Check fuses
- Check all NC contacts of the control board
- Check that no voltage drop has occurred from the control board to the electric motor

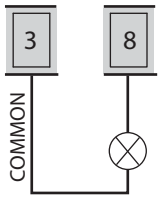
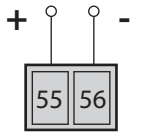
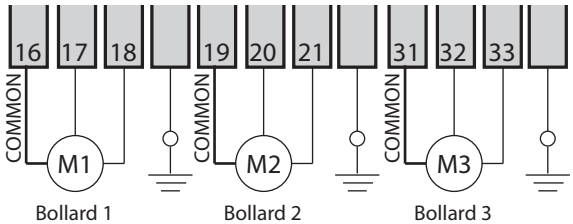
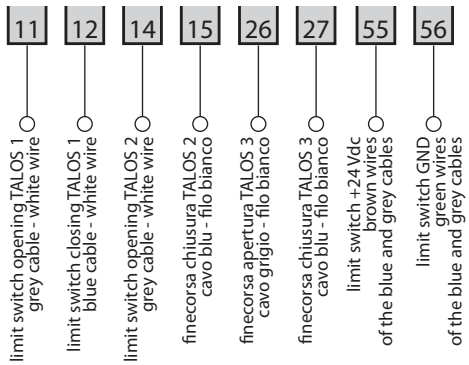
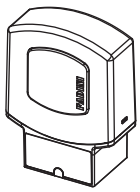
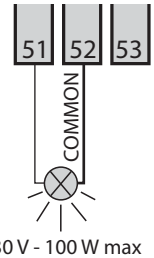
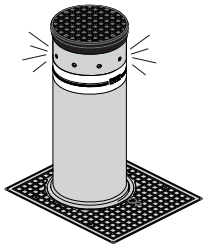
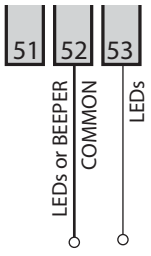
LED DIAGNOSTICS
L1 = Open for pedestrians, normally **OFF**, *do not use*
L2 = Photocells, normally **ON**, it goes off in case of obstruction
L3 = Open, normally **OFF**, it goes on by pulsing to open
L4 = Close, normally **OFF**, it goes on by pulsing to close
L5 = Stop, normally **ON**, it goes off by pulsing to stop
L6 = Radio, normally **OFF**, it goes on by pulsing the radio
L7 = Normally **ON**, line voltage and integrity of F1, F2, F3, F4 fuses
L8 = M1 limit switch open, normally **ON**, off with post 1 in down position
L9 = M1 limit switch close, normally **ON**, off with post 1 in raised position
L10 = M2 limit switch open, normally **ON**, off with post 2 in down position
L11 = M2 limit switch close, normally **ON**, off with post 2 in raised position
L12 = M3 limit switch open, normally **ON**, off with post 3 in down position
L13 = M3 limit switch close, normally **ON**, off with post 3 in raised position
L14 = Deactivated
L15 = Deactivated

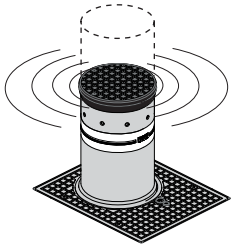
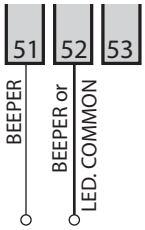
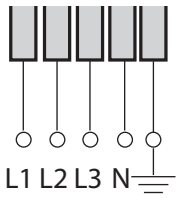
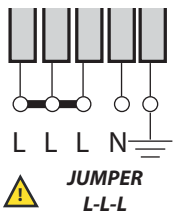
Symbols

NO Contact
NC Contact
Led **ON**
Led **OFF**
Indication light or lamp
Flasher

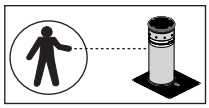
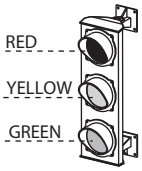
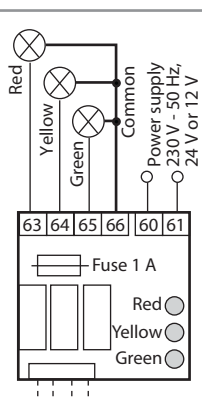
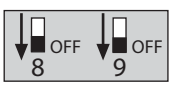
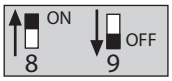
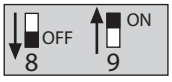
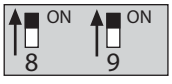
DIP-SWITCHES
1 = ON Photocells. Stop in opening
2 = ON Radio. No travel reversing in opening
3 = ON Automatic closing
4 = ON Pre-flashing. Flasher activated
5 = ON Radio step by step, stop in between
6 = *do not use*
7 = ON deadman (hold-on-switched) control
8 = Traffic lights control (see functions box)
9 = Traffic lights control (see functions box)
10 = ON Flasher off in dwell time
11 = ON Close in dwell time after passing between photocells
12 = ON Motor run time max. 90 s. OFF = 18 s

Accessory	*Electrical connections*	*Dip-switches and LED status of the various functions*
Photocells: 	 Photocells  24 V - 250 mA Output - max. load: - n° 2 pairs of photocells - n° 1 radio receiver	***DIP-SWITCH N° 1:*** **ON:** Photocells. Stop while opening, reverse in closing once obstacle is removed. **OFF:** Photocells. No stop while opening, reverse in closing in case of an obstacle ***DIP-SWITCH N° 11:*** **ON:** During dwell time, automatic mode, (Dip-Switch 3 = ON) after engaging the photocells, it closes after 5 s. **OFF:** no closing after engaging the photocells **L2 ON** = no obstruction. It goes off in case of an obstacle
Key-switch: 	 NO and NC contacts to be connected to the respective terminals of the key-switches or push-buttons. All possible configurations are described in the instructions attached to the respective control accessory	**L3 OFF** = no contact to open, it goes on whenever a pulse to open is given **L4 OFF** = no contact to close, it goes on whenever a pulse to close is given **L5 ON** = stop contact closed, it goes off whenever a pulse to stop is given
Radio contact: 	 RADIO CONTACT With any NO contact to the two terminals, the following is performed on each pulse: - Opening only: **Dip 2 = ON** and **Dip 5 = OFF** - Travel reversing **Dip 2 = OFF** and **Dip 5 = OFF** - Step by step: open - stop - close - stop **Dip 2 = OFF** and **Dip 5 = ON** - No further command accepted on opening. Stop and reversing performed on dwell time and closing: **Dip 2 = ON** and **Dip 5 = ON**	***DIP-SWITCH N° 2:*** **ON:** No reversing in opening. **OFF:** Travel reversing on each pulse ***DIP-SWITCH N° 5:*** **ON:** Step by step mode with stop in between. **OFF:** Standard functioning **L7 OFF** = no RADIO contact, it goes on henever a radio pulse is given

Accessory	*Electrical connections*	*Dip-switches and LED status of the various functions*
24 V - 3 W max. Light indicating bollard in motion :	 Light **on** = post down, gateway cleared Light **off** = post up, gateway closed Flashing **0,5 s (fast)** = post moving up Flashing **1 s (normal)** = post moving down With an external time clock: **2 short flashes** followed by a longer pause	
24 Vdc output:	 Output for any possible 24 Vdc application 200 mA for the accessories	
Motors:	 Bollard 1 MOTOR 1 Bollard 2 MOTOR 2 Bollard 3 MOTOR 3	***DIP-SWITCH N° 12:*** **ON:** Motor run time max. 90 s 12 **OFF:** Motor run time max. 18 s  **T1** MOTOR RUN TIME 1 s - 22 s  **T3** DWELL TIME 1 s - 180 s
Limit switches:		**L8 ON** = it goes off with post 1 down **L9 ON** = it goes off with post 1 up **L10 ON** = it goes off with post 2 down **L11 ON** = it goes off with post 2 up **L12 ON** = it goes off with post 3 down **L13 ON** = it goes off with post 3 up
External flasher: 	 230 V - 100 W max It is possible to connect an external flashing lamp to the bollard in addition to the incorporated LED lights. The flasher will be on during the rising and lowering movements and during the dwell time (if pre-selected)	***DIP-SWITCH N° 4:*** **ON:** Pre-flashing 4 **OFF:** No pre-flashing ***DIP-SWITCH N° 10:*** **ON:** Flasher. Deactivated during dwell time, automatic mode 10 **OFF:** Flasher. Activated during dwell time, automatic mode
Signalling LED lights: 	 Output for the LED lights that are always on blinking during the rising and lowering movements of the post and with the post in standing position. They go off with post in down position.	

Accessory	*Electrical connections*	*Dip-switches and LED status of the various functions*
Beeper, post in motion: 	 The acoustic device is inside the post and is on only during the rising and lowering movements of the post.	
Board power supply:	BOARD POWER SUPPLY 400 V ± 10% 50 Hz THREE-PHASE  BOARD POWER SUPPLY 230 V ± 10% 50 Hz SINGLE-PHASE  ***JUMPER L-L-L***	

FUNCTIONS

Description	*Dip-switches and LED status of the various functions*
Automatic / semiautomatic: **Automatic cycle:** after a pulse to open, the bollard goes down, it stays stopped as long as the dwell time lasts, as pre-set by T3 trimmer, and on expiring of such time it goes up automatically. **Semi-Automatic cycle:** after a pulse to open, the bollard goes down. Another pulse is needed to close the gateway.	***DIP-SWITCH N° 3:*** **ON:** Automatic closing 3 **OFF:** No automatic closing. Semi-automatic mode  **T3** DWELL TIME 1 s - 180 s
Deadman control: Open and Close operations are achieved "by holding a switch on" (no relay self-holding is involved). Therefore, a physical attendance is required during the entire cycle of movements until either the button or key is released. 	***DIP-SWITCH N° 7:*** **ON:** Deadman control 7 **OFF:** Standard operating mode
External time clock (optional): CLOCK: the Elpro S50-T3 controller allows for a normal clock to be connected to it commanding the post to rise and lower. Connections: parallel connect the NO contact of the clock to the terminals No. 4 open and No. 3 common, and set the controller to automatic mode by Dip-Switch n° 3 = ON. How it works: set the clock to the required opening time. On the pre-set time the post is automatically lowered (the indication light emits 2 short flashes followed by a longer pause). Any further command/pulsing (even by remote control) is not accepted by the system until the time pre-set on the clock is expired. On expiring of it, and after the pre-set dwell time, the post rises automatically.	***DIP-SWITCH N° 3:*** **ON:** Automatic closing 3 **OFF:** No automatic closing. Semi-automatic operating mode  **T3** DWELL TIME 1 s - 180 s
Plug-in traffic lights card (optional): The power supply of the traffic lights card is independent from that of the electronic control board: - **230 V - 50 Hz** with an output of 100 W at 230 V ea. lamp. - **24 V** with an output of 25 W each lamp. - **12 V** with an output of 22 W each lamp. Functioning applies also to traffic lights with 2 lamps, red and green (Dip Switch 8 = OFF and 9 = OFF). **Functioning logic:** - **GREEN** Light= post down, gateway **OPEN** - **RED** Light = post moving or standing, gateway **CLOSED** - **YELLOW** Light = it switches on before green turns to red light.   (**Optional:** plug-in traffic lights card at a 230 V, 24 V or 12 V). Item Code No. **7282L**	***DIP-SWITCHES N° 8 and N° 9:***  Dip-Switch **8 = OFF** and **9 = OFF** Yellow turns on for **0 s** and after **0 s** red turns on and **the post starts rising immediately**  Dip-Switch **8 = ON** and **9 = OFF** Yellow turns on for **2 s**, then red turns on and **after 2 s the post starts rising**  Dip-Switch **8 = OFF** and **9 = ON** Yellow turns on for **6 s**, then red turns on and **after 5 s the post starts rising**  Dip-Switch **8 = ON** and **9 = ON** Yellow turns on for **10 s,** then red turns on and **after 7 s the post starts rising**