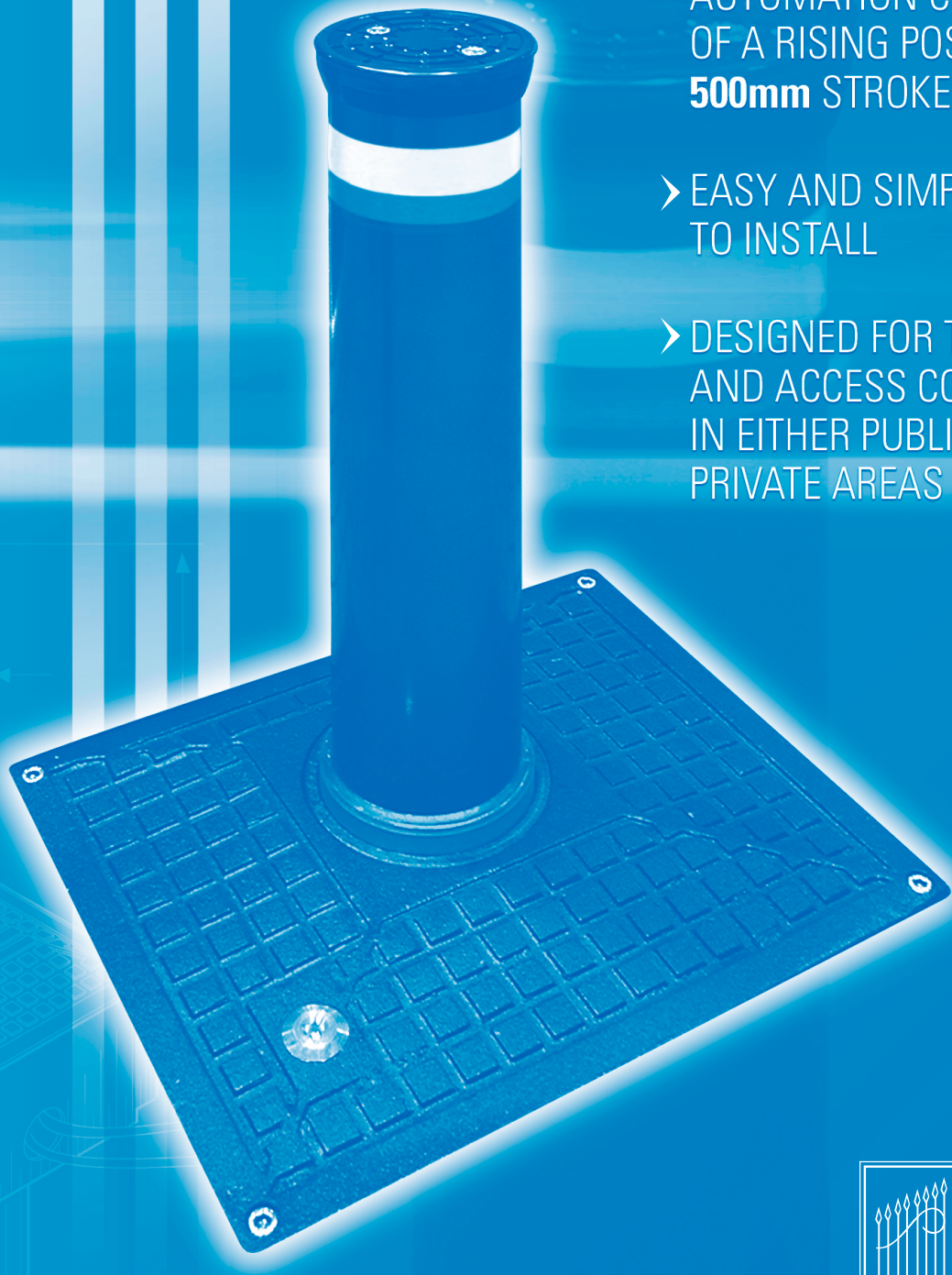


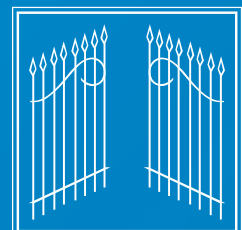
# CORAL<sup>®</sup> 1050



- ELECTRO-HYDRAULIC AUTOMATION CONSISTING OF A RISING POST Ø100 500mm STROKE
- EASY AND SIMPLE TO INSTALL
- DESIGNED FOR TRAFFIC AND ACCESS CONTROL IN EITHER PUBLIC OR PRIVATE AREAS

**FITTING INSTRUCTIONS**

GB



**FADINI**<sup>®</sup>  
the gate opener

# CORAL 1050

**FOR A PERFECT APPLICATION AND CORRECT PERFORMANCE OF THE EQUIPMENT IT IS RECOMMENDED TO FOLLOW THESE INSTRUCTIONS AND DIAGRAMS**

**IMPORTANT: THE INSTALLATION IS TO BE CARRIED OUT BY A QUALIFIED TECHNICIAN IN COMPLIANCE WITH THE SAFETY NORMS EN 12453 - EN 12445, AND THE MACHINE DIRECTIVE 98/37/CE. A COMPLETE RISK ANALYSIS IS TO BE MADE IN COMPLIANCE WITH THE EXISTING SAFETY REGULATIONS**

## GENERAL FEATURES

This product can be classified as a type of automated bollard, fully retractable into the ground. It is easy and simple to install as no special adjusting or calibration is required. The main application is traffic control. CORAL 1050 is an electro-hydraulically operated post having a  $\varnothing 100$  mm diameter and a max. stroke of 500 mm.

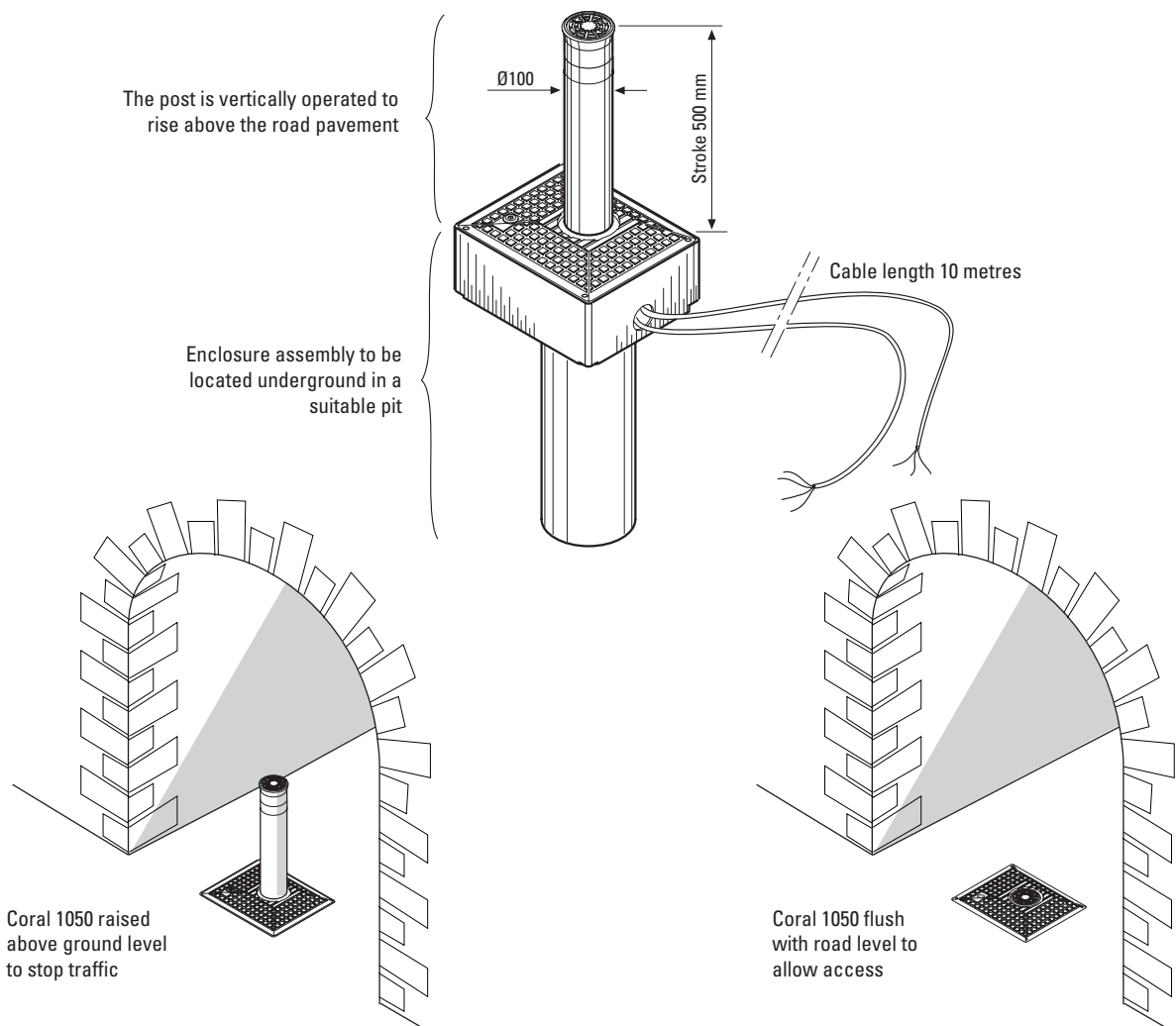
The main advantage of this product is simplicity of installation: soon after fixing the location enclosure, fit the mechanism into it, carry out the electrical connections and the system is ready to work.

Once a pulse is given (either by keyswitch or remote control), the post starts rising. A reflecting sticker makes it well visible, and an optional flashing lamp or traffic lights ensure clear indication of the post movements or status. An electronic control panel fitted with a microprocessor allows full automatic operations as required (optional sensing loops, photocells etc. ...) can be connected).

## PRELIMINARY LOCATION CONSIDERATIONS

Before commencing installation ensure that:

- The area where the enclosure is to be located is free from underground services, which may interfere with installation.
- The properties of the soil are adequate to the required application.
- No obstruction interferes with the post movements.

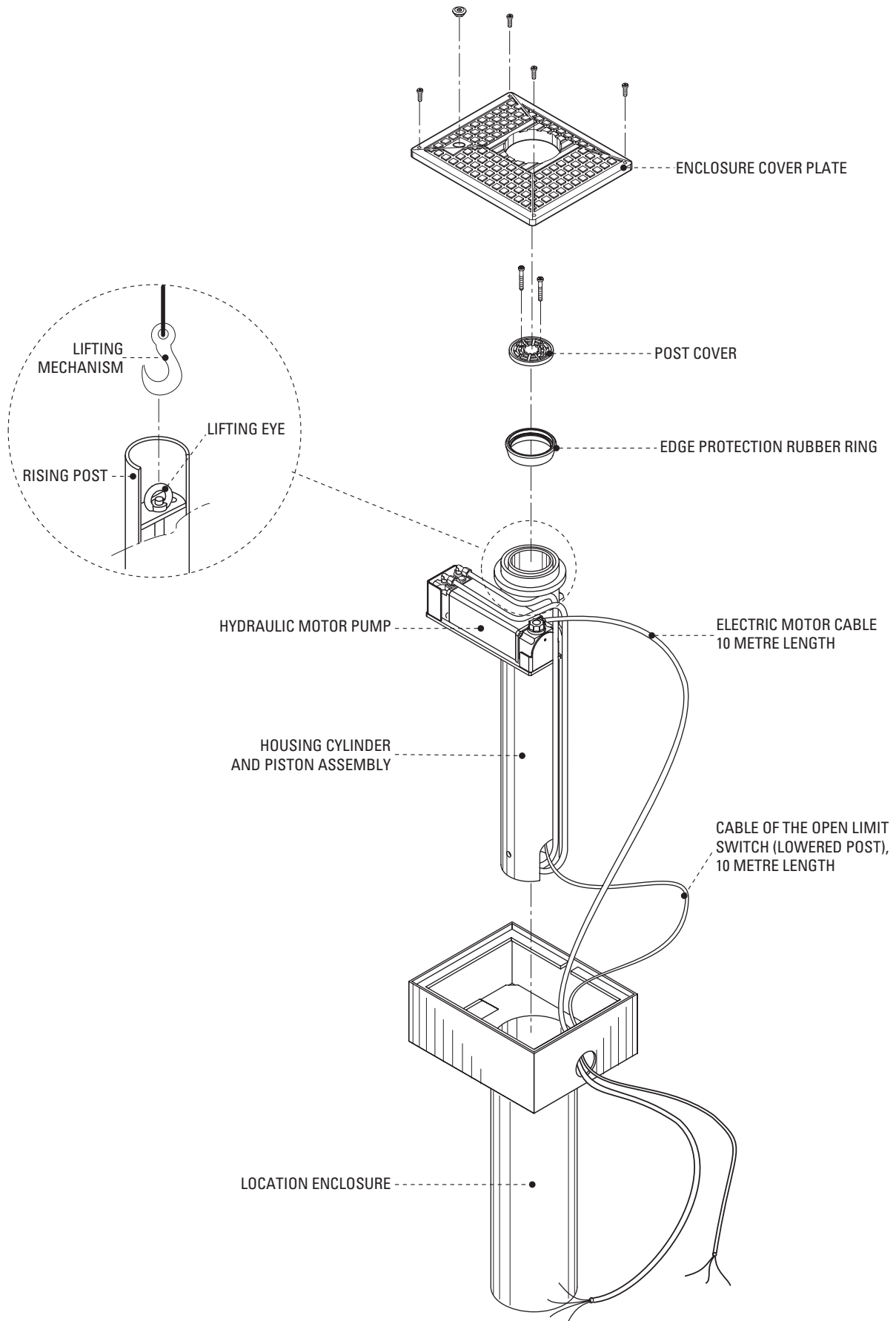


**PIC. 1**

## PRELIMINARY OPERATION: SEPARATION OF THE POST ASSEMBLY

First operation. Once the enclosure cover plate is removed, you can have access to the mechanism, and the components ie. the inner motor pump and actuator assembly can be easily lifted out using mechanical aid. Pic.2

**IMPORTANT:** make sure the electric cables are not damaged or accidentally removed from termination

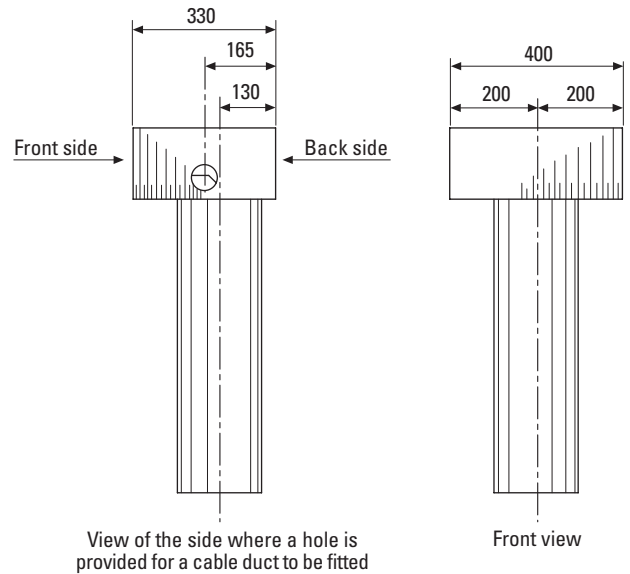
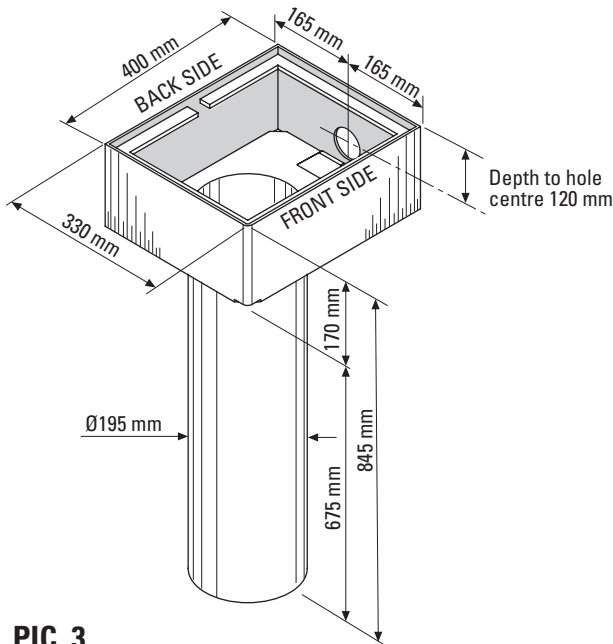


➤ **PIC. 2**

# INSTALLATION OF THE LOCATING ENCLOSURE

The foundation enclosure is the component that is designed to house the automation and it should be set into the ground so that the top of it is at ground level.

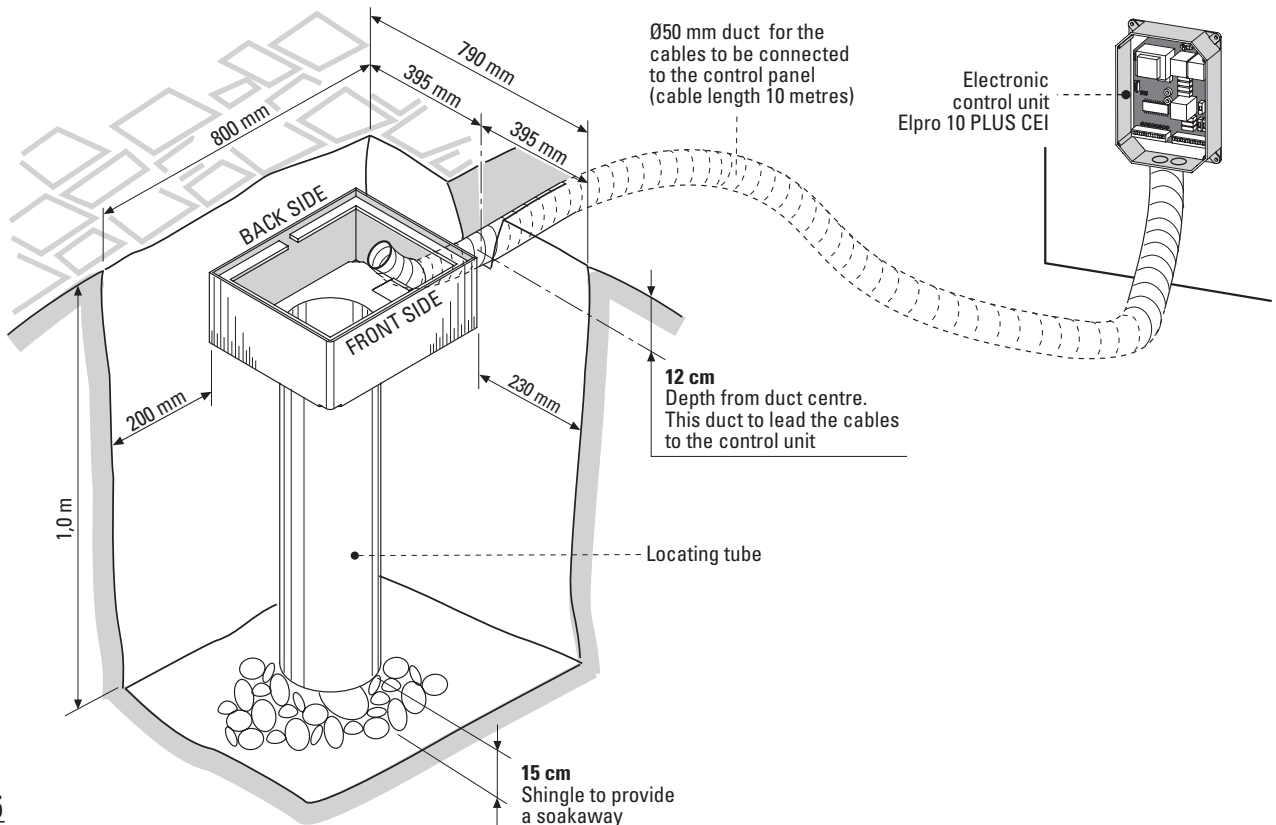
**IMPORTANT:** the upper square section of the foundation enclosure (where the motor pump unit is to be fitted) is not centered to the lower tube where the guide tube and piston assembly are to be located: there is a distance of 13 cm from the "back side" of the enclosure to the tube centre line (Pic. 13 and 14).



**PIC. 3**

**PIC. 4**

- A hole will be required in the road surface where Coral 1050 is to be located, as indicated in Pic. 5. Provision is made within the unit for the entry of a Ø 50 mm duct to the electronic control unit (the cables are 10 m long). Provide a soakaway by pouring shingle into the hole up to 15 cm from bottom level.



**PIC. 5**

- Once located the enclosure into the pit, it is important that the top edge is flush with the ground level.

- Fill with soil up to 55 cm and the remaining 30 cm with concrete  
Pic. 6

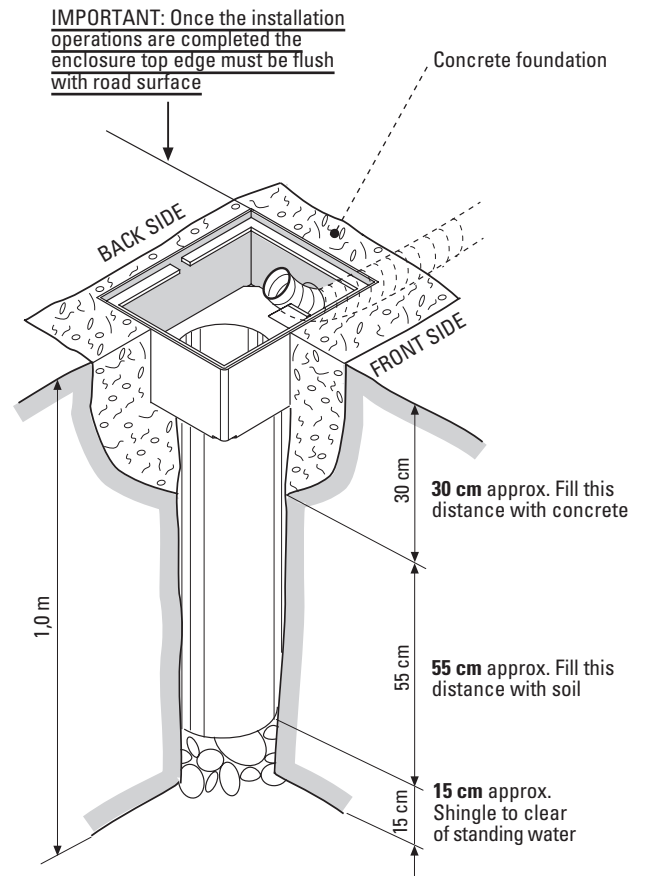
### INNER ASSEMBLY INSTALLATION

For this operation it is fundamental that the location enclosure is very firmly set in its foundation, therefore it has to be carried out only after you are satisfied that the concrete is well set and the electrical duct coupled to the enclosure and laid under the ground.

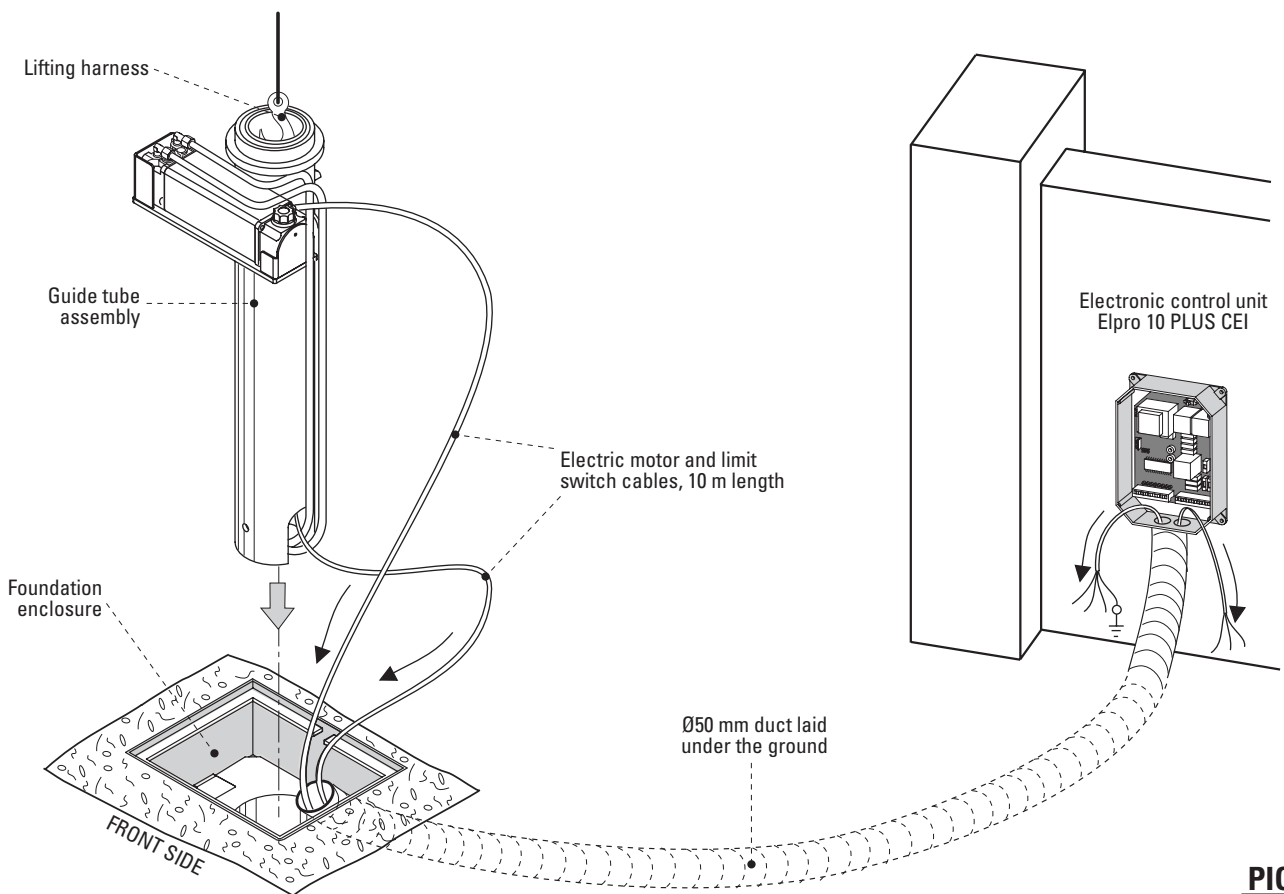
- A suitable lifting harness should be passed through the eye in the bollard top and attached to a lifting mechanism. The assembly should be raised from the ground and positioned directly above the location enclosure.

- Next step. The motor and the limit switch cables should be pulled through the duct (a rope pull-through previously inserted), and the inner assembly gently lowered onto the location enclosure.

IMPORTANT: Pull the electric motor and limit switch cables through the duct to the control unit. Be careful not to damage or remove the cables from their termination Pic. 7



**PIC. 6** ←

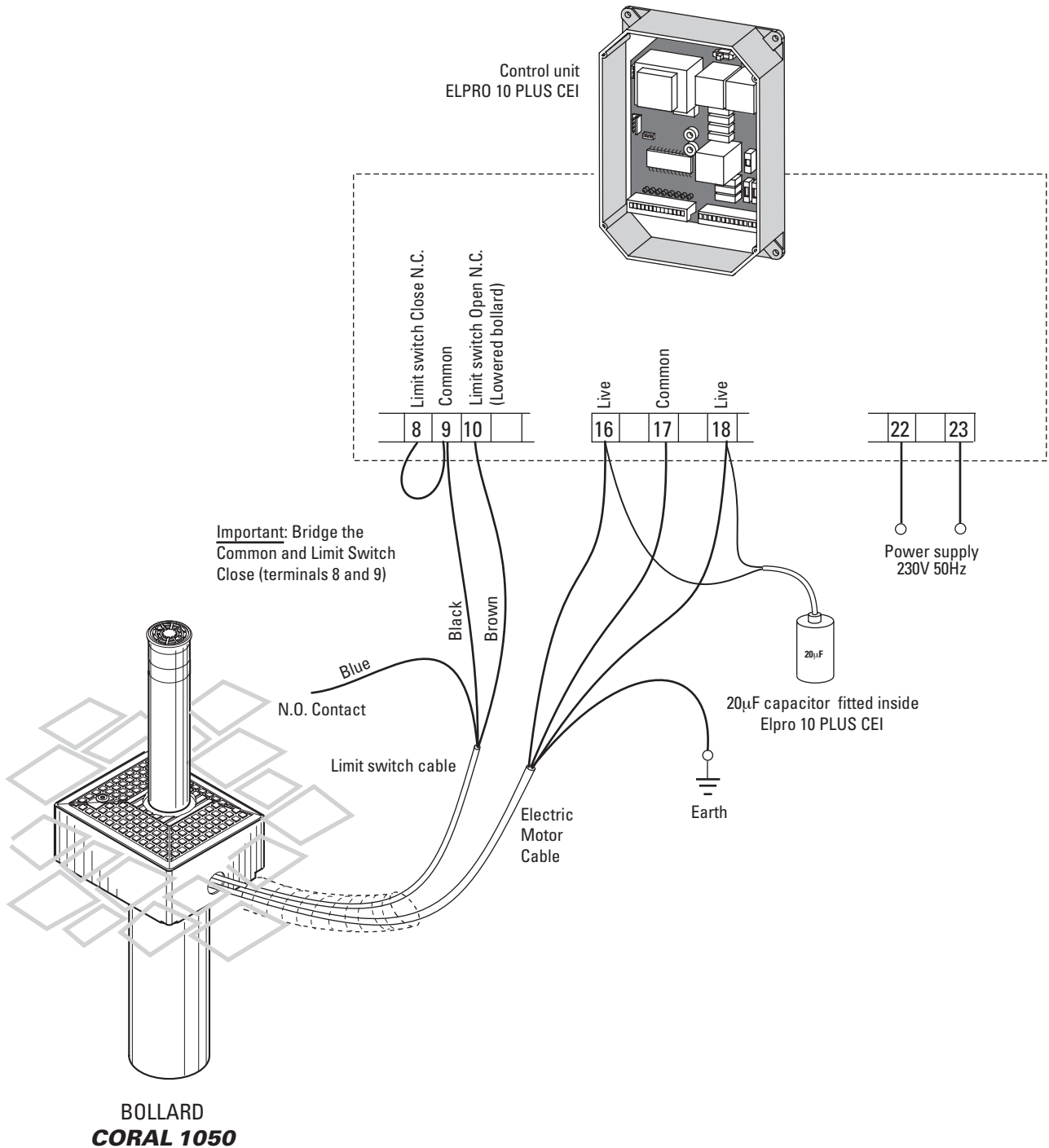


**PIC. 7** ←

Once satisfied that the guide tube assembly is properly fitted inside the location enclosure, fit back the bollard lid and the enclosure cover plate (Pic. 8 on page 6).

# ELECTRICAL CONNECTIONS TO THE CONTROL UNIT ELPRO 10 PLUS CEI

Coral 1050 is supplied fitted with two cables: one for the 230V 50Hz electric motor, the other cable should be connected to terminals 9 and 10, limit switch Open (Pic.8). The electric motor should be connected as indicated in the diagram, a 20 $\mu$ F capacitor in parallel with the two live terminals.



**PIC. 8**

Drwg. 4377

Read the description of the electronic control unit Elpro 10 PLUS CEI on page 8 Pic. 10

# ELECTRICAL WIRING DIAGRAM

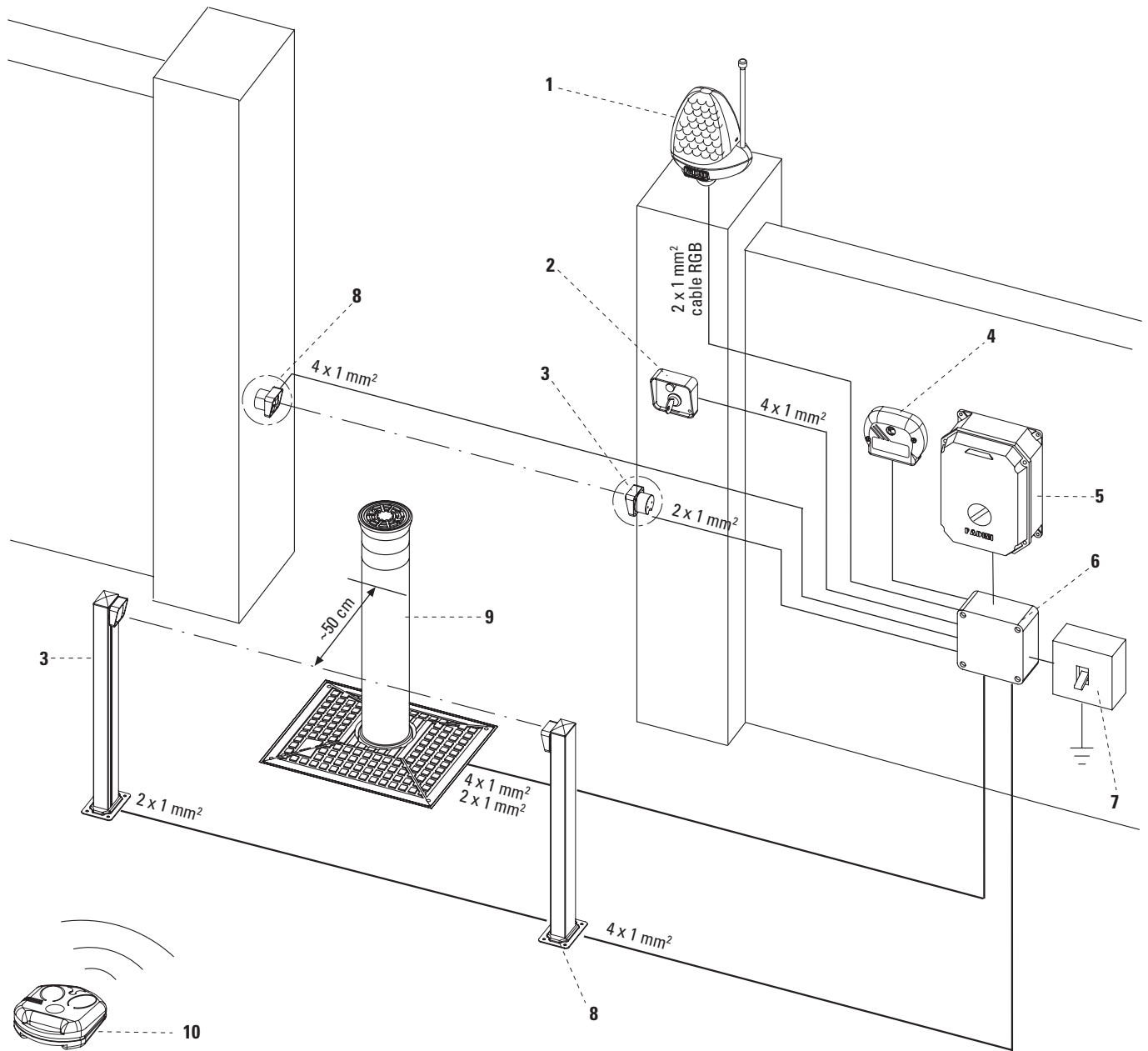
Read the diagrams that follow carefully and familiarise yourself with their contents before starting the electrical connections (Pic. 9 and Pic. 10)

**IMPORTANT:** All the electrical components should be properly earthed (Pic.9).

- For **the power supply, electric motor and flashing lamp** use wires having a square section of 1,5 mm<sup>2</sup> for a distance not superior to 50 m. For longer distances use 2 mm<sup>2</sup> wires.

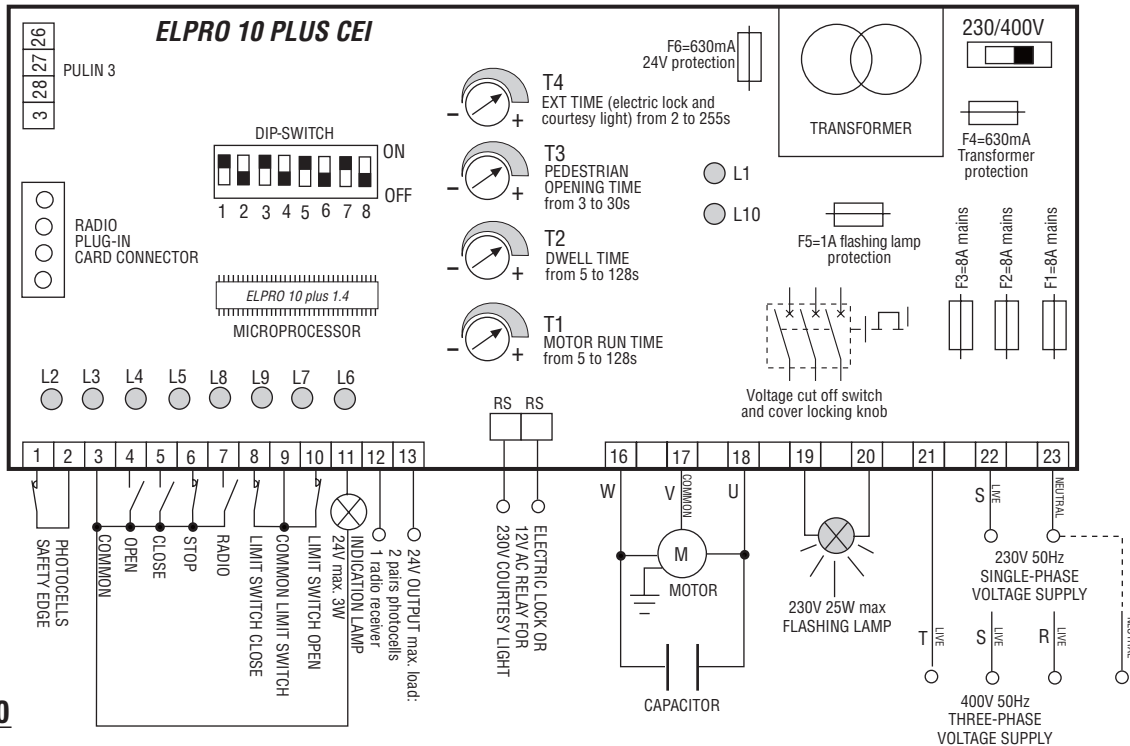
- To connect the **photo cells, key or button operated switches and other accessories**, 1 mm<sup>2</sup> wires can be used.

## ELECTRICAL WIRING DIAGRAM



### ESSENTIAL COMPONENTS OF THE INSTALLATION:

- 1 - Miri 4 flashing lamp with incorporated aerial
- 2 - Prit 19 keyswitch
- 3 - Polo 44 photo cell projector
- 4 - Jubi 433 receiver in weather-proof casing
- 5 - Elpro 10 PLUS CEI electronic control unit
- 6 - Electrical junction box
- 7 - Differential magnetic thermal mains switch (rating 30mA , protection 6-10A)
- 8 - Polo 44 photo cell receiver
- 9 - Bollard Coral 1050
- 10 - Jubi 433 transmitter



**PIC. 10**

The electronic control panel Elpro 10 Plus CEI, new generation, is designed to operate sliding gates. Power supply is 230/400V single-phase and three-phase. Built in full compliance with BT 93/68/CE Low/High Voltage and EMC 93/68/CE Electro-Magnetic Compatibility Regulations. Fitting operations are recommended by a qualified technician in conformity to the existing safety standards.

The manufacturing company declines any responsibility for incorrect handling and application; also, it reserves the right to change or update the control panel any time.

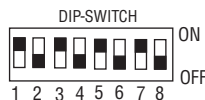
**PLEASE NOTE:**

- The control panel must be installed in a sheltered, dry place, inside the box provided with it.
- Fit the mains to the control panel with a 0.03A high performance circuit breaker.
- Use 1.5 mm<sup>2</sup> section wires for voltage supply, electric motor and flashing lamp. Maximum recommended distance 50 m. Use 1 mm<sup>2</sup> section wires for limit switches, photocells, push-buttons/key-switch and accessories.
- Bridge terminals 1 and 2 if no photocells are required.
- Bridge terminals 3 and 6 if no key- or push-button switches are required.

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

**Dip-Switch:**

- 1= ON. Photocells. Stop while opening
- 2= ON. Radio. No reversing while opening
- 3= ON. Automatic closing
- 4= ON. Preflashing activated
- 5= ON. Radio. Step by step. Stop in between
- 6= ON. Dead Man Control (Dip 4=OFF and Dip 3=OFF)
- 7= ON. No lamp on during dwell time
- 8= OFF. No function



**In case of failure of the panel:**

- Check voltage supply. It must be 230V or 400V 50Hz
- Check fuses
- Check photocells if contacts are normally closed
- Check all NC contacts
- Check that no voltage drop has occurred from the control panel to the electric motor

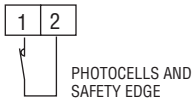
**Led Status Indication:**

- L1= 230V 50Hz power supply. A light
- L2= Photocells, if obstructed light goes off
- L3= Open. A light whenever an Open pulse is given
- L4= Close. A light whenever a Close pulse is given
- L5= Stop. It goes off on pulsing Stop
- L6= Radio. It goes on by pressing a transmitter button
- L7= Gate Status; it flashes on gate opening
- L8= Limit switch Close; off when gate is closed
- L9= Limit switch Open; off when gate is open
- L10= It stays on for a time equal to the time set on T4



## LOW VOLTAGE ELECTRICAL CONNECTIONS

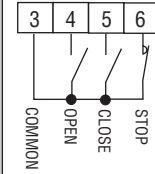
### Photocells and Safety Edge:



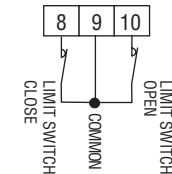
### DIP-SWITCH 1:

- ON: Photocells stop gate while opening, reverse it on closing once obstacle is removed
- OFF: Photocells do not stop gate while opening, reverse it on closing in case of an obstacle

### Button switch:

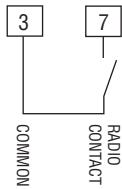


### Limit switch:



### Radio Contact:

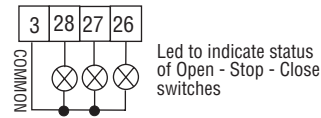
- Open/Close (Standard)
- Travel reversing on pulsing
- Step by step



### DIP-SWITCH 2 and 5 (NEVER set BOTH of them to ON at the same time):

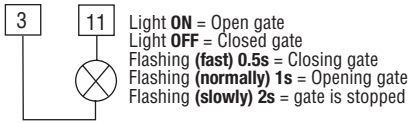
- ON: Gate is not reversed while opening
- OFF: Any pulse reverses the gate
- ON: Step by step. Stop in between
- OFF: Standard operating mode

### Push Button Switch Pulin 3:



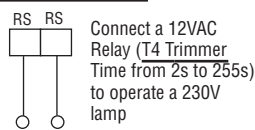
Led to indicate status of Open - Stop - Close switches

### 24V 3W Indication Light:

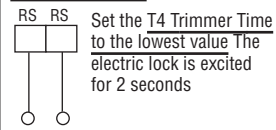


Light **ON** = Open gate  
Light **OFF** = Closed gate  
Flashing (**fast**) 0.5s = Closing gate  
Flashing (**normally**) 1s = Opening gate  
Flashing (**slowly**) 2s = gate is stopped

### Courtesy light:

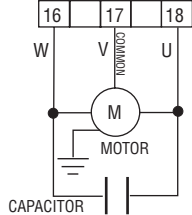
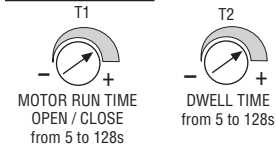


### Electric lock:

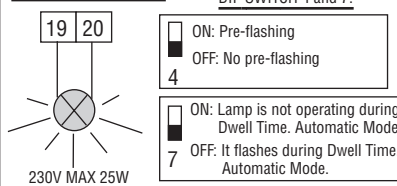


## ELECTRIC POWER CONNECTIONS

### Single- and Three-phase Motors:



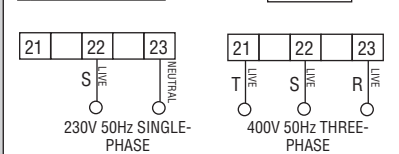
### Flashing lamp:



### DIP-SWITCH 4 and 7:

- ON: Pre-flashing
- OFF: No pre-flashing
- ON: Lamp is not operating during Dwell Time. Automatic Mode.
- OFF: It flashes during Dwell Time. Automatic Mode.

### Power supply:

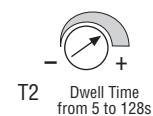


## OPERATING MODES

### Automatic / Semiautomatic:

**Automatic Operation:** any pulse opens the gate, the gate stays open as long as the Dwell time expires as set by T2 trimmer, then it closes automatically, no pulsing is required.

**Semi-automatic Operation:** any pulse opens the gate that stays open. A second pulse to Close is required for the gate to close.

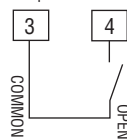


### DIP-SWITCH 3

- ON= Automatic Closing
- OFF= No Automatic. Semi-automatic closing by pulse

### Pedestrian Opening:

Trimmer T3 from 3 to 30s. It can be activated by any pulse (eg. by remote control) superior to 2s



### Hold on switched (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 to keep the gate opening or closing until either the button or key is released.

### DIP-SWITCH 6

- ON= Deadman Control. Dip-switch 4=OFF and Dip-switch 3=OFF
- OFF= Standard Operations

### Remote Controlled Operations Excluded during Dwell Time on Automatic Mode:

With this setting it is not possible to operate the gate by remote control during the dwell time on automatic mode. DIP-SWITCH 2=ON, 3=ON and 5=ON

- ON: No reversing on opening
- OFF: Travel reversing on any pulsing

- ON= Automatic Closing
- OFF= Closing by Pulse

- ON: Step by step. Stop in between
- OFF: Standard Operations

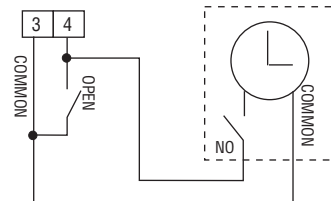
### Time clock:

How it works: Set the clock to the required time. On the pre-set time the gate is automatically opened and held open. Any further pulsing (even by remote control) is not accepted by the system until the time pre-set by the clock has expired. On expiring and after the pre-set dwell time the gate is closed automatically. T3 trimmer on to zero, Dip-Switch 3=ON.



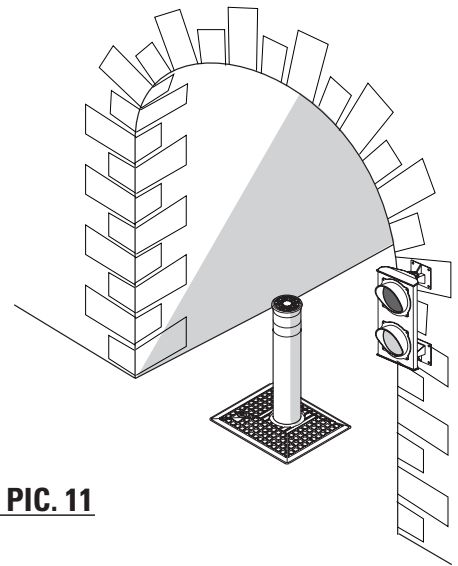
### DIP-SWITCH No.3=ON Automatic Closing

- ON= Automatic Closing
- OFF= No Automatic. Semi-automatic closing by pulse

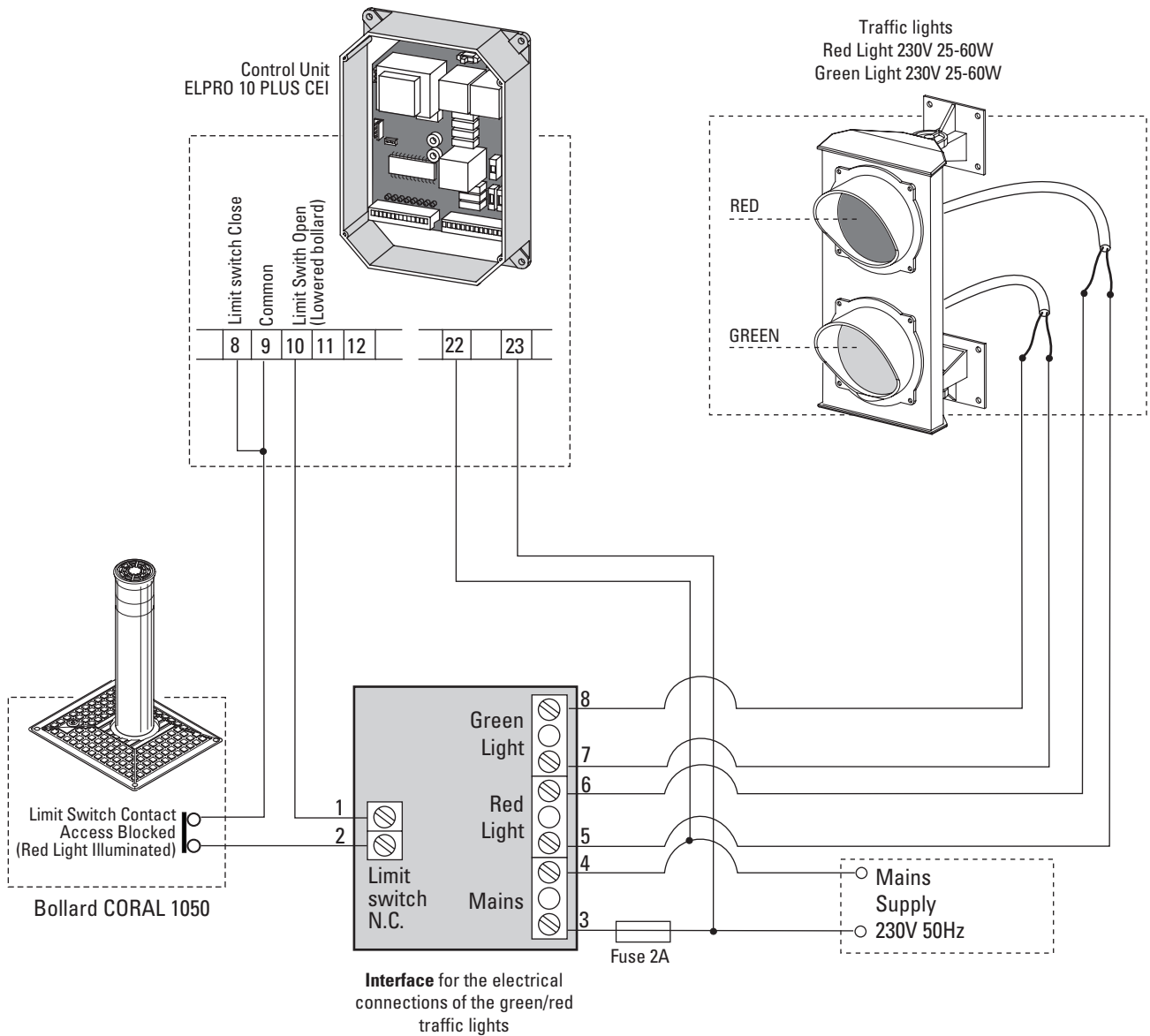


# APPLICATION OF TRAFFIC LIGHTS

Optional green/red traffic lights can be used to indicate that the post is fully lowered or raised (Pic.11). An **interface** is required to be fitted to the control unit for the electrical connections (Pic.12).



➤ **PIC. 11**

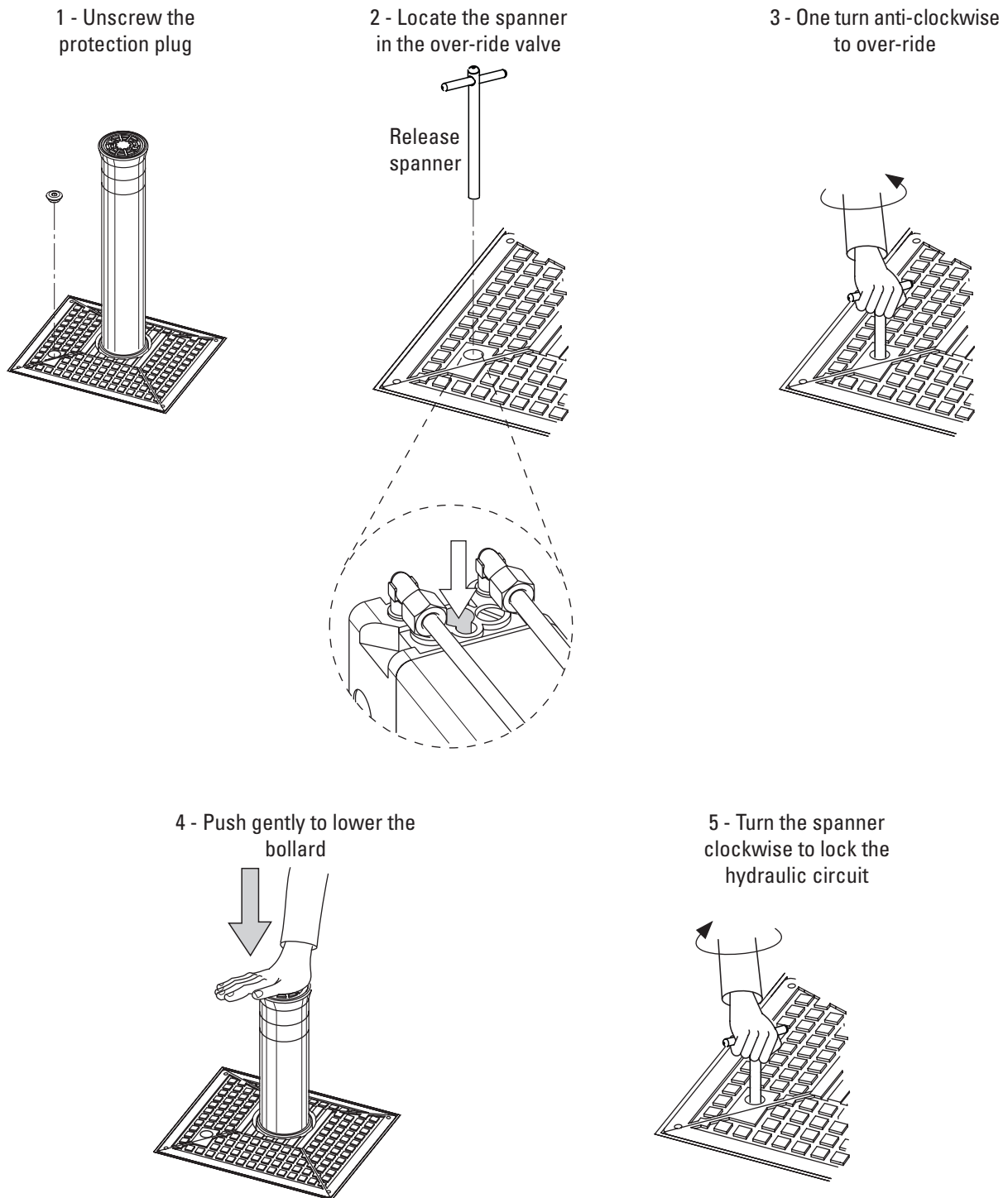


➤ **PIC. 12**

**IMPORTANT:** For security reasons, failure of the red light prevents even the green light from illuminating

## MANUAL RELEASE SYSTEM

In events like power failure, it is possible to manually operate the bollard by following the instructions in picture 13: first unscrew the **Release Plug** (1), locate the **Release Spanner** into the over-ride valve (2) and rotate anti-clockwise by one turn to over-ride the hydraulic circuit (3); push gently downward to lower the bollard (4) and eventually re-establish normal operation by rotating the spanner clockwise to the original position (5).



➤ **PIC. 13**

To re-establish normal operation, first turn the spanner clockwise to "lock" the hydraulic circuit, make sure that the system is supplied with voltage and pulse for the bollard to rise.

# TECHNICAL SPECIFICATIONS CORAL 1050

## PUMP ASSEMBLY

Pump type .....	P 10
Pump flow rate .....	4,45 ℓ/min
Average working pressure .....	2 MPa (20 bars)
Max. pump pressure .....	4 MPa (40 bars)
Working temperature .....	-20°C +80°C
Power oil type .....	OIL FADINI A 15 by AGIP
Pump assembly static weight .....	10 Kg
Pump ass. protection standards .....	IP 54

## HYDRAULIC PISTON

Piston stroke travel time .....	4 sec.
Piston stroke .....	500 mm
Shaft diameter .....	16 mm
Piston diameter .....	30 mm
Max. pushing power Open .....	280 daN
Protection standard complete ref .....	IP 557

## ELECTRIC MOTOR

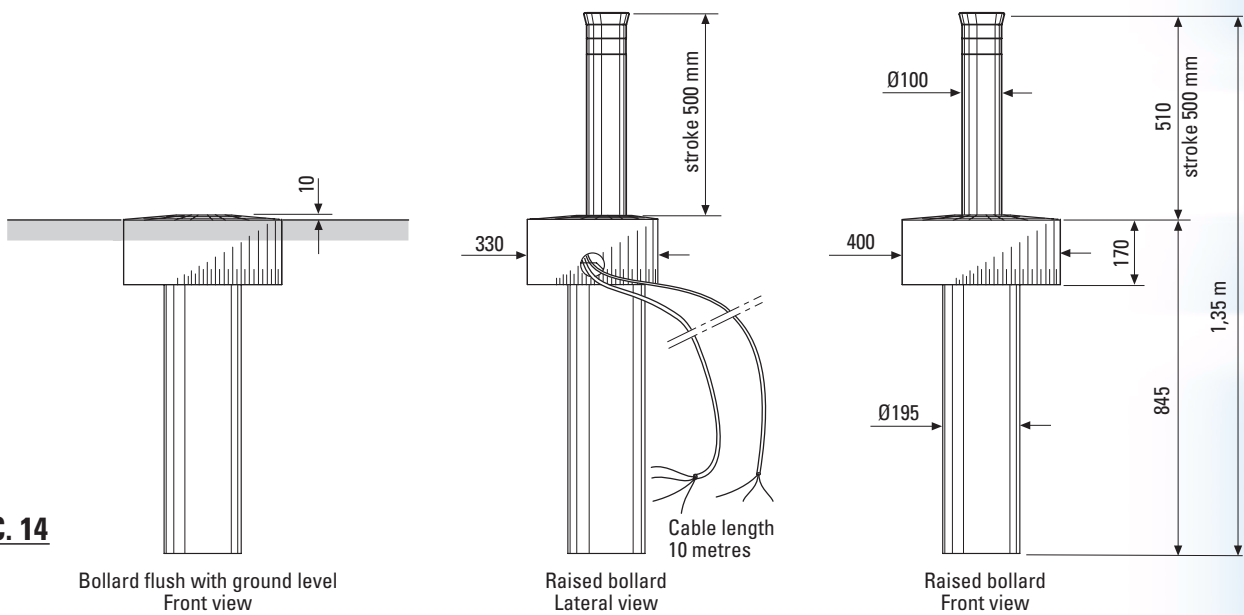
Power rating .....	0,25 KW (0,33 HP)
Supply voltage .....	230 V
Absorbed current .....	1,8 A
Frequency .....	50 Hz
Absorbed power .....	330 W
Capacitor .....	20 µF
Motor revolutions .....	2'800 rev./1'
Service Standards .....	S 3

## PERFORMANCE

Duty cycle: .....	4s Opening - 30s Dwell - 4s Closing
Time of one complete cycle .....	38 seconds
Complete cycles Opening-Dwell-Closing .....	No. 95/hour
Cycles per year (8 hours' service per day) .....	No. 270'000

Static weight Coral 1050 .....86 Kg

# OVERALL DIMENSIONS CORAL 1050



## CHECKING AND MAINTENANCE:

To achieve an optimum performance and longer life of the equipment and in observance of the safety regulations, it is recommended that inspections and maintenance are made by qualified technicians to the whole installation ie. both the mechanical and electronic parts as well as wiring:

- Oil-hydraulic automation: maintenance every 6 months
- Electronic and safety equipment: maintenance monthly



**FADINI**  
the gate opener  
Made in Italy

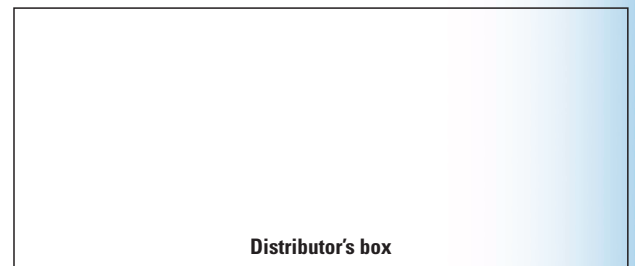
- DECLARATION OF CONFORMITY
- GENERAL WARNINGS
- EN 12453, EN 12445 STANDARDS
- WARRANTY CERTIFICATE ON THE CUSTOMER'S REQUEST

The growth of MECCANICA FADINI has always been based on the development of guaranteed products thanks to our "TOTAL QUALITY CONTROL" system which ensures constant quality standards, updated knowledge of the European Standards and compliance with their requirements, in view of an ever increasing process of improvement.

The "CE" mark certifies that the operator conforms to the essential requirements of the European Directive art. 10 EEC 73/23, in relation to the manufacturer's declaration for the supplied items, in compliance with the body of the regulations ISO 9000 = UNI EN 29000. Automation in conformity to EN 12453, EN 12445 safety standard.



**EUROPEAN MARK CERTIFYING CONFORMITY TO THE ESSENTIAL REQUIREMENTS OF THE STANDARDS 98/37/EC**



The manufacturers reserve the right to change the products without any previous notice



AUTOMATIC GATE MANUFACTURERS