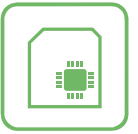


Elpro S40

**IT**

PROGRAMMATORE ELETTRONICO PER LA GESTIONE FINO A 4 DISSUASORI A SCOMPARSA, CON O SENZA FINECORSO

GB

ELECTRONIC CONTROLLER UP TO 4 AUTOMATIC BOLLARDS, WITH OR WITHOUT LIMIT SWITCH

FR

PROGRAMMATEUR ELECTRONIQUE POUR LE CONTROLE JUSQU'À QUATRE BORNES ESCAMOTABLES, AVEC OU SANS LE FIN DE COURSE

DE

ELEKTRONISCHE STEUERUNG ZUR KONTROLLE BIS ZU 4 AUTOMATISCH VERSENKBAREN POLLER, MIT ODER OHNE ENDSCHALTER

ES

PROGRAMADOR ELECTRÓNICO PARA LA GESTIÓN DE HASTA CUATRO BOLARDOS RETRÁCTIL, CON SIN FINAL DE CARRERA

NL

ELEKTRONISCHE PROGRAMMEERINRICHTING VOOR HET BEHEER VAN MAXIMAAL VIER VERZINKBARE PALEN, MET OF ZONDER EINDSCHAKELAARS

IT

- FINO A 4 DISSUASORI A SCOMPARSA
- APERTURA PEDONALE
- PREDISPOSTO PER SEMAFORO A 3 LUCI
- AUTOMATICO O SEMIAUTOMATICO
- COLLEGAMENTI SEPARATI PER ELETTROVALVOLA

- SISTEMA DI SUPERVISIONE INTEGRITÀ C.S.I.
- PREDISPOSIZIONE PER OROLOGIO ESTERNO
- FUNZIONE PASSO-PASSO
- UOMO PRESENTE

GB

- UP TO 4 BOLLARDS
- STEP-BY-STEP FUNCTION
- PEDESTRIAN OPENING
- PREPARED FOR 3 LAMPS TRAFFIC LIGHTS
- AUTOMATIC OR SEMI- AUTOMATIC

- SEPARATE CONNECTIONS FOR ELECTRIC VALVE
- EXTERNAL TIME CLOCK
- DEADMAN CONTROL
- ISC SYSTEM i.e. INTEGRITY SUPERVISION

FR

- JUSQU'À 4 BORNES ESCAMOTABLES
- OUVERTURE PIETONS
- PREPARE POUR FEU DE CIRCULATION A 3 AMPOULES
- AUTOMATIQUE OU SEMIAUTOMATIQUE
- RACCORDEMENTS SEPARÉS POUR ELECTROVANNE

- CIRCUIT DE SUPERVISION D'INTEGRITE C.S.I.
- PREPARE POUR HORLOGE EXTERNE
- FONCTION PAS-PAS
- HOMME MORT

DE

- BIS ZU 4 VERSENKBAREN ABSPERRPOLLERN
- GEHTÜRFUNKTION
- FÜR AMPEL MIT 3 LICHTERN VORGESEHEN
- AUTOMATIK- ODER HALBAUTOMATIKBETRIEB
- GETRENNTE ANSCHLÜSSE FÜR ELEKTROVENTIL

- SYSTEM ZUR KONTROLLE DER INTEGRITÄT (I.Ü.S.)
- FÜR EXTERNE UHR VORGESEHEN
- IMPULSBETRIEB
- TOTMANN-BETRIEB

ES

- HASTA 4 BARRERAS ESCAMOTEABLES
- ABERTURA PEATONAL
- PREDISPUERTO PARA SEMÁFORO DE 3 LUCES
- AUTOMÁTICO O SEMIAUTOMÁTICO
- CONEXIONES SEPARADAS PARA ELECTROVÁLVULA

- SISTEMA DE SUPERVISIÓN INTEGRIDAD C.S.I.
- PREDISPOSICIÓN PARA RELOJ EXTERNO
- FUNCIÓN PASO-PASO
- HOMBRE PRESENTE

NL

- MAXIMAAL 4 VERZINKBARE PALEN
- VOETGANGERSDOORGANG
- VOORBEREID VOOR STOPLICHT MET 3 LICHTEN
- AUTOMATISCH OF HALFAUTOMATISCH
- GESCHIEDEN VERBINDINGEN VOOR MAGNEETKLEP

- BEWAKINGSSYSTEEM INTEGRITEIT C.S.I.
- VOORBEREIDING VOOR EXTERNE KLOK
- STAP-VOOR-STAP FUNCTIE
- DODEMANSFUNCTIE

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 S40**

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

Cerea, 19/04/2017

Meccanica Fadini S.r.l.
Responsible Manager

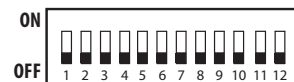


DIAGNOSTIC LEDS

L1 = pedestrian opening, normally **OFF**, alight when a pedestrian open pulse is given
L2 = photocells or loop, normally **ALIGHT**, if obstructed light goes off
L3 = open, normally **OFF**, alight when an open pulse is given
L4 = close, normally **OFF**, alight when a close pulse is given
L5 = stop, normally **ON**, it goes off when a stop pulse is given
L6 = radio, normally **OFF**, alight when a radio pulse is given
L7 = normally **ON**, mains voltage and fuse integrity F1, F2, F3, F4
L8 = limit switch open M1, normally **ON**, it goes off when the post is in down position
L9 = limit switch close M1, normally **ON**, it goes off when the post is in up position
L10 = limit switch open M2, normally **ON**, it goes off when the post is in down position
L11 = limit switch close M2, normally **ON**, it goes off when the post is in up position
L12 = limit switch open M3, normally **ON**, it goes off when the post is in down position
L13 = limit switch close M3, normally **ON**, it goes off when the post is in up position
L14 = limit switch open M4, normally **ON**, it goes off when the post is in down position
L15 = limit switch close M4, normally **ON**, it goes off when the post is in up position

DIP-SWITCHES

1 = ON Photocells or loop stop while opening **ON**
2 = ON Radio no reversing while opening
3 = ON Automatic closing **OFF**
4 = ON Pre flashing activated
5 = ON Radio step by step stop in between
6 = ON Pedestrian opening motor M1 only one post operating
7 = ON Deadman control
8 = Traffic lights (see functions)
9 = Traffic lights (see functions)
10 = ON No lamp on during dwell time
11 = ON Close on dwell time after passage through photocells or over the loop
12 = ON Max working time 90 s. **OFF** = 18 s

**LOW VOLTAGE ELECTRICAL CONNECTIONS**

Accessory	Electrical connections	Dip-switch setting and LED indication of functions
Photocells or loop detectors: 	 Photocells or Loop detectors 24 Vac output max load: 2 pairs photocells 1 radio receiver	DIP-SWITCH N° 1 and N° 11: ON: photocells or loop stop while opening, reverse on closing once obstacle is removed OFF: photocells or loop do not stop while opening, reverse on closing in case of an obstacle ON: during dwell time, automatic mode (dip-switch 3 = ON) after engaging the photocells or loop, it closes 5 s later OFF: it does not close after engaging the photocells or loop L2 ON = no obstacle, it goes off in case of obstruction
Key-switch: 	 NO and NC contacts to be connected to the respective terminals in the key-or button-switches. All of the possible setting combinations are described in the instructions sheets included with the respective control accessories	L3 OFF = no OPENING contact, it goes on whenever an opening pulse is given L4 OFF = no CLOSING contact, it goes on whenever a closing pulse is given L5 ON = STOP contact closed, it goes off whenever a stop pulse is given
Radio contact (step by step mode): 	 - Opening only: dip 2 = ON and dip 5 = OFF - Gate travel reversing by any pulse dip 2 = OFF and dip 5 = OFF - Step by step: open-stop-close-stop dip 2 = OFF and dip 5 = ON - No new pulse is accepted in opening. In dwell phase and in closing any new pulses stops and reverses gate travel: dip 2 = ON and dip 5 = ON	DIP-SWITCH N° 2 and N° 5: ON: it does not reverse on opening OFF: it reverses at any pulse ON: step by step with stop in between OFF: standard operation L6 OFF = no RADIO contact, it goes on by any radio pulse
Indication lamp output 24 V max 3 W:	 Output for a 24 V max 3 W indication lamp showing the status of the system: Lamp ON = post in down position, free passage Lamp OFF = post in up position, closed passage Flashing 0,5 s (fast) = rising post Flashing 1 s (normally) = lowering post With external clock: 2 short flashes followed by a longer pause	
24 Vdc output:	 Output for 24 Vdc applications	

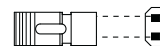
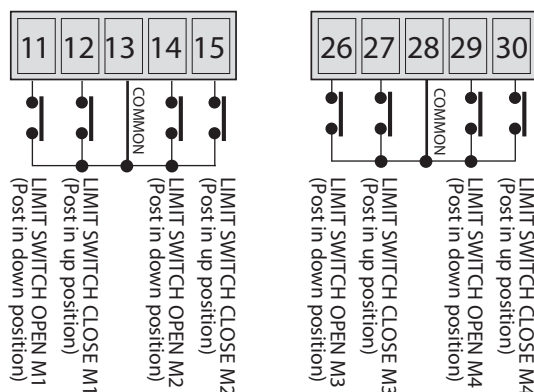
ELECTRICAL POWER CONNECTIONS

Accessory	Electrical connections	Dip-switch setting and LED indication of functions
Electric valve power supply: 	 230 V power supply for 24 Vdc solenoid valve stabilizer	

LIMIT SWITCH CONNECTIONS*Accessory**Electrical connections**Dip-switch setting and LED indication of functions***Old type limit switch NC:**• *Strabuc 930 Opinat*

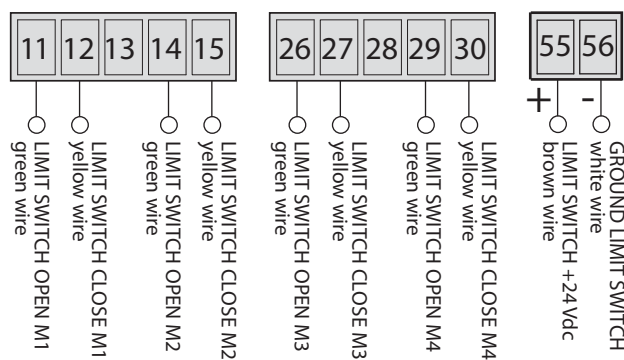
and in the previous versions of:

- *Talos - Talos M30*
- *Coral - Vigilo with LEDs*
- *Strabuc range*



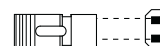
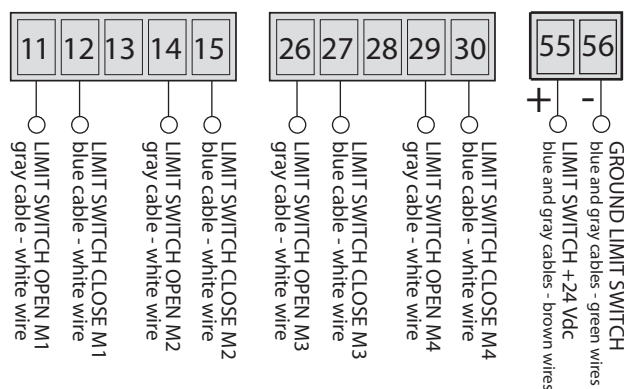
With the STRIP jumper inserted (as in the picture), Elpro S40 checks cyclicly every 10 minutes that the closing limit switches (post raised) are in the correct position; should any of them fail to be such, only the motor of the post not in position is operated until this is fully up as required.

N.W.: the limit switches for not in use bollards are to stay blank.
Do not bridge them.

**New limit switches hall effect
for CORAL - VIGILO
as standard from 2019**• *Coral - Vigilo range*

With the STRIP jumper inserted (as in the picture), Elpro S40 checks cyclicly every 10 minutes that the closing limit switches (post raised) are in the correct position; should any of them fail to be such, only the motor of the post not in position is operated until this is fully up as required.

N.W.: the limit switches for not in use bollards are to stay blank.
Do not bridge them.

**New limit switches hall effect
for TALOS
as standard from 2018**• *Talos range - Talos M30*

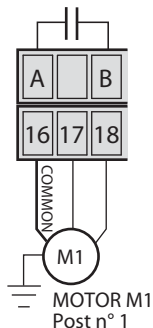
With the STRIP jumper inserted (as in the picture), Elpro S40 checks cyclicly every 10 minutes that the closing limit switches (post raised) are in the correct position; should any of them fail to be such, only the motor of the post not in position is operated until this is fully up as required.

N.W.: the limit switches for not in use bollards are to stay blank.
Do not bridge them.

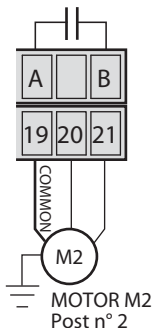
ELECTRICAL POWER CONNECTIONS*Accessory**Electrical connections**Dip-switch setting and LED indication of functions***Motors:**

Important: when doing the electric power connections it is better to connect only one motor and its respective limit switches. Put the posts into phase one by one.

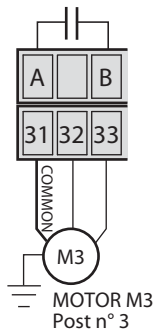
20 μ F additional capacitor
in case of power shortage
for Motor M1



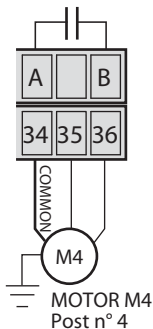
20 μ F additional capacitor
in case of power shortage
for Motor M2



20 μ F additional capacitor
in case of power shortage
for Motor M3



20 μ F additional capacitor
in case of power shortage
for Motor M4

**DIP-SWITCH N° 12:**

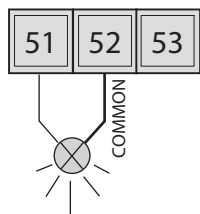
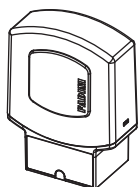
- ☐ **ON:** motor run time max 90 s
12 ☐ **OFF:** motor run time max 18 s



T1 MOTOR RUN TIME
1 s - 22 s



T2 DWELL TIME
1 s - 180 s

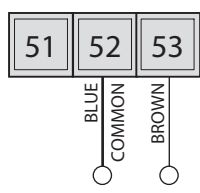
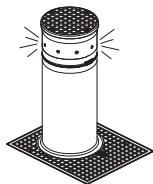
External flashing lamp:

It is possible to connect both the external flashing lamp and the intermittent signal led lights which are on only during the rising and lowering movement. The cable for the connection is the one labelled as flashing lights cable.

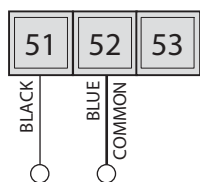
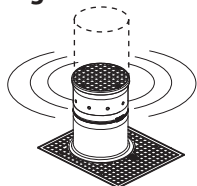
DIP-SWITCH N° 4 and N° 10:

- ☐ **ON:** pre-flashing
4 ☐ **OFF:** no pre-flashing

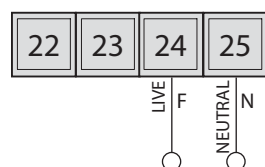
- ☐ **ON:** flashing light out of service on dwell time.
Automatic mode
10 ☐ **OFF:** light flashes on dwell time. Automatic mode

Signal led lights:

Output for intermittent signal led lights during the movement both rising and lowering and also on dwell in up position: the lights are off only when the bollard is in down position. Connect the **blue-common** wire and the **brown** wire of the bollard flashing light cable.

Acoustic signal "beeper" during movement:

The acoustic signal device inside the bollard is active during rising and lowering. The connection wires are the **blue-common** and the **black** one of the flashing light cable.

PCB power supply:

Electronic programmer power supply.

PCB power supply 230 V \pm 10% 50 Hz single phase

FUNCTIONS

Description

Dip-switch setting and LED indication of functions

Automatic / semi-automatic:

Automatic cycle: after an opening pulse, the bollard goes down, it stops for dwell time pre-set in trimmer T2, after the pre-set time it closes automatically.

Semi-automatic: after an opening pulse, the bollard goes down. A closing pulse is needed to close.

DIP-SWITCH N° 3:

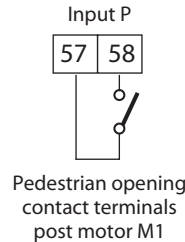
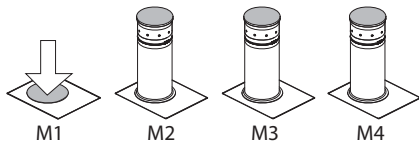
- ☒ **ON:** automatic closing
☐ **OFF:** no automatic closing.
 Semi-automatic function



Dwell time: from 1 to 180 s

Pedestrian opening:

This command is separate from the standard opening command. When all the posts are in up position, on pulsing input P dip-switch 6 = ON and 3 = ON, post n° 1 (motor M1) goes down for pedestrian opening, for the time pre-set in Trimmer T2, after this time it closes automatically. The function *pedestrian opening* is not in service during the first operation cycle, after a power failure.

**DIP-SWITCH N° 3 and N° 6 both on ON:**

- ☒ **ON:** automatic closing
☐ **OFF:** No automatic closing.
 Semi-automatic closing

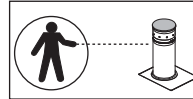
- ☒ **ON:** pedestrian opening motor M1
☐ **OFF:** standard operation



Dwell time: from 1 to 180 s

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 post opening or closing until either the button or key is released.

**DIP-SWITCH N° 7:**

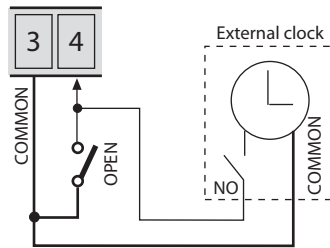
- ☒ **ON:** deadman control
☐ **OFF:** standard operations

External clock (optional):

The electronic programmer Elpro S40 can be connected to a clock for the post opening and closing.

Connection: connect in parallel the NO clock contact to the 4 OPEN and 3 COMMON terminals, automatic closing is by dip-switch n° 3 = ON.

How it works: program the opening time on the clock. At the preset time, the post goes down and remain open (the flashing light will turn off) and will not accept any other command (not even radio commands) until the time set on the clock expires. When this time expires the gates close automatically after the pause time. While the posts are held open by the time set on the *clock*, the indication light keeps giving out two consecutive flashes followed by a long pause.

**DIP-SWITCH N° 3:**

- ☒ **ON:** automatic closing
☐ **OFF:** No automatic closing.
 Semi-automatic function



Trimmer pausa: da 1 s fino a 180 s

Plug-in traffic lights interface (optional - code 7282L):

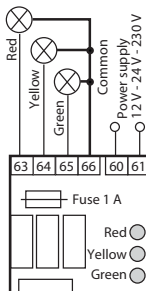
The interface power supply (12 V - 24 V - 230 V - 100 W output per lamp) is independent from the one of the programmer.

It can work also with the 2 lamps, red and green traffic lights (dip-switch 8 = OFF and 9 = OFF)

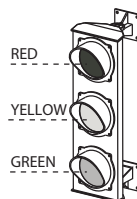
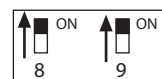
Working logic:

- **GREEN** light = post in **down position**, **OPEN** passage
- **RED** light = moving post or in **up position**, **CLOSED** passage
- **YELLOW** light = it lights before the switching from the green light to the red light.

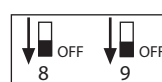
Note: during **pedestrian mode** the traffic light is always **RED**.



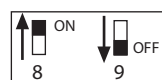
(Optional: plug-in PCB for 230V traffic lights) code **7282L**

**DIP-SWITCHES:**

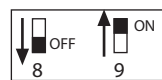
Dip-switch **8 = ON** and **9 = ON**
 The yellow light turns on for the time of **10 s** after the red light turns on and **after 7 s the post starts rising**



Dip-switch **8 = OFF** and **9 = OFF**
 The yellow light turns on for the time of **0 s** and after **0 s** the red light turns on and **the post starts rising immediately**



Dip-switch **8 = ON** and **9 = OFF**
 The yellow light turns on for the time of **2 s** after the red light turns on and **after 2 s the post starts rising**



Dip-switch **8 = OFF** and **9 = ON**
 The yellow light turns on for the time of **6 s** after the red light turns on and **after 5 s the post starts rising**