

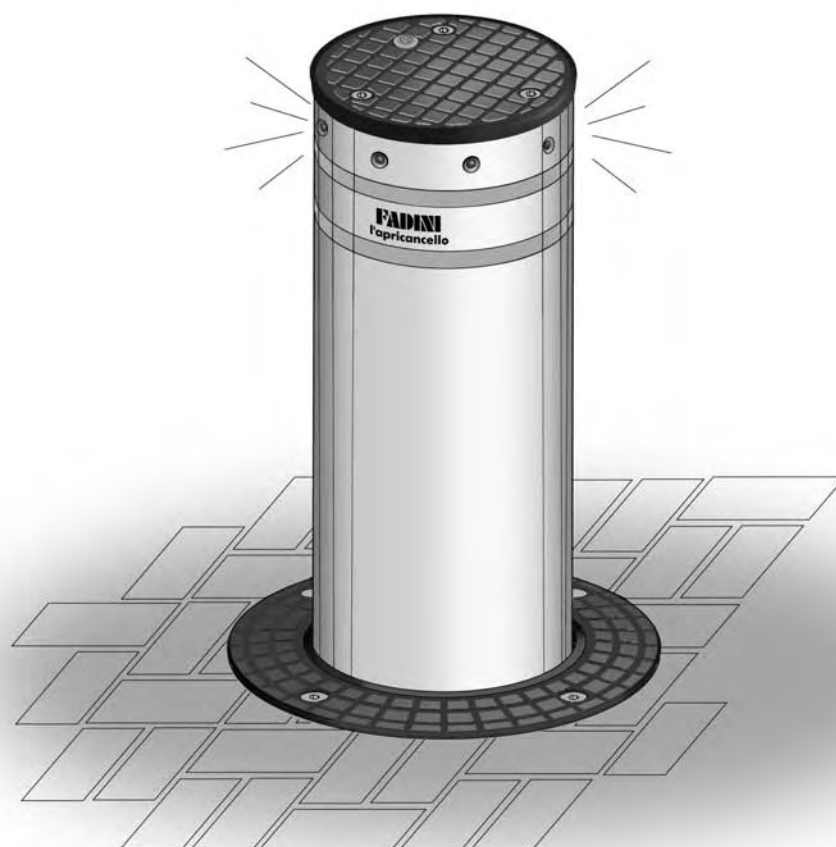
STRABUC 918

Fully retracting cylindrical traffic control post

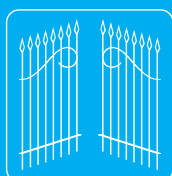
Regulation-compliant oil-hydraulic operator CE

With cylindrical container to be cemented

Painted and stainless steel post version



CE



FADINI
the gate opener
Made in Italy

Instruction manual

GB

INSTRUCTIONS TO BE FOLLOWED BEFORE INSTALLING THE OPERATOR

FOR OPTIMAL APPLICATION AND USE OF THE STRABUC 918 PLEASE READ THE INSTRUCTIONS AND CONSULT EXPLANATORY DIAGRAMS.

IMPORTANT: ALL INSTALLATION OPERATIONS MUST BE PERFORMED BY A QUALIFIED TECHNICIAN, IN OBSERVANCE OF THE EN 12453 - EN 12445 SAFETY REGULATIONS AND MACHINERY DIRECTIVE 98/37/EC.

CAREFUL RISK ANALYSIS IS REQUIRED UNDER APPLICABLE REGULATIONS

GENERAL COMMENTS

STRABUC 918 is a fully retractable, belowground, oil-hydraulic steel traffic control post intended to prevent unauthorised vehicular access. It is an oil-hydraulic operator with a built-in hydraulic main unit.

The Elpro S40 electronic programmer is installed externally, in a protected place.

The traffic control post comes with a series of accessories that guarantee the necessary safety and the required operations, in order to make the operator suitable for installation in all public and private settings.



PRELIMINARY WARNINGS ON SAFETY AND GOOD OPERATION

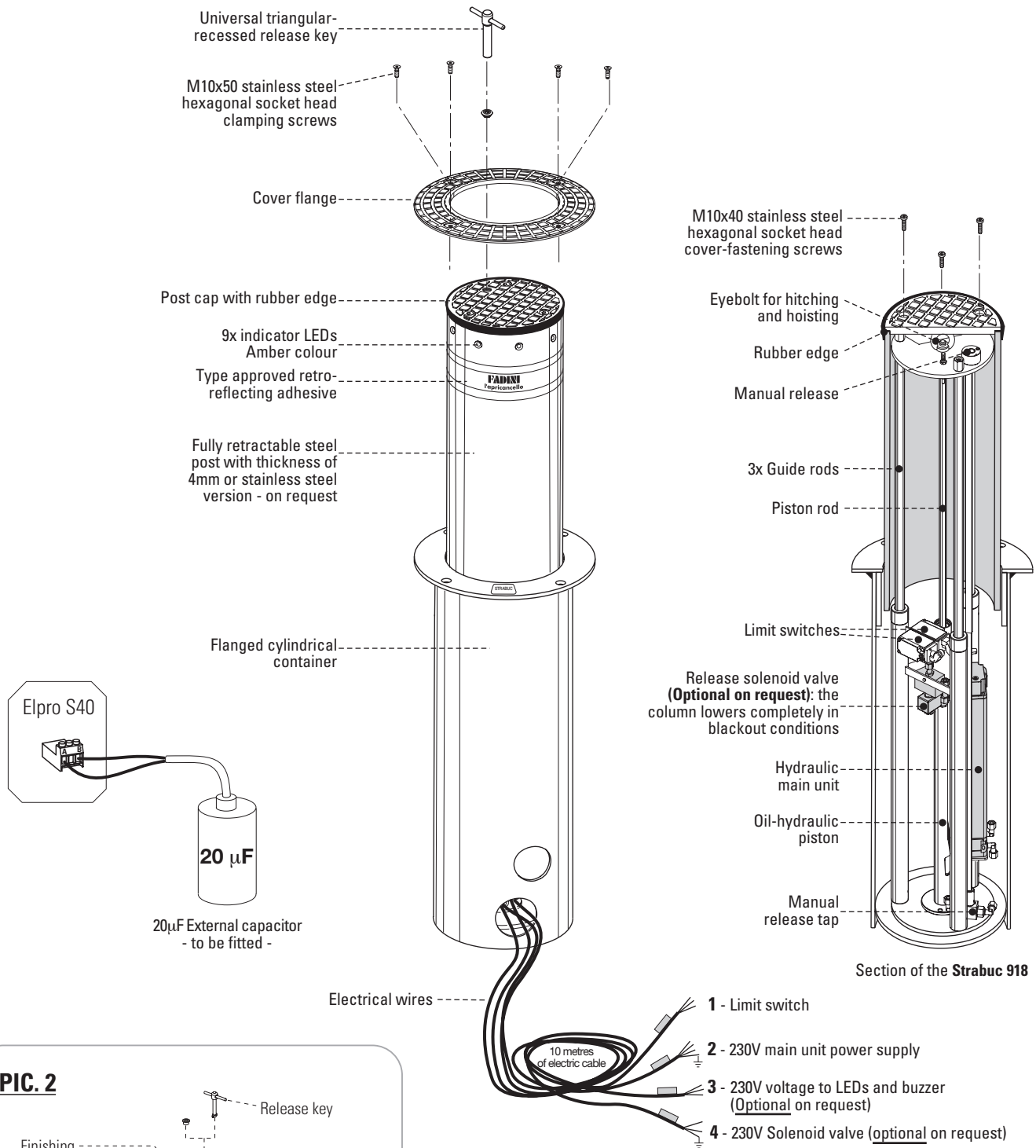
Before commencing operator installation, it is essential to remember:

- That installation, checking, testing, risk analysis and subsequent maintenance work must be performed by authorised, qualified technicians.
- This operator has been designed for the use described in this manual only, and using at least the safety, control and indication accessories as here recommended.
- Any other application not explicitly indicated in this manual could cause malfunction, damage or personal injury.
- To check that the ground is stable, to avoid subsequent settling or deformation in the traffic control post installation area.
- To check that there are no nearby buried utility pipes.
- To check that there are no sources of electromagnetic disturbance in the immediate vicinity of and below the installation accessories such as to conceal or influence the magnetic/electromagnetic detection of the metal detectors and/or other electronic system control and management appliances.
- To check that the mains supply and voltage to the electric motor is $230V \pm 10\%$ at 50Hz.
- The power supply to the **Strabuc 918**'s built-in motor must be made using electricity cables with a 1.5 mm^2 section for a maximum distance of 50 metres. For distances of over 50 metres, use electric cables with sections suited to the installation.
- Always use the original components indicated by the manufacturer to replace elements or accessories.
- Meccanica Fadini declines all responsibility for improper use not specifically indicated in this manual and any malfunction deriving from the use of materials or accessories other than those indicated by the manufacturer.
- The manufacturer reserves the right to make changes to this manual without giving notice



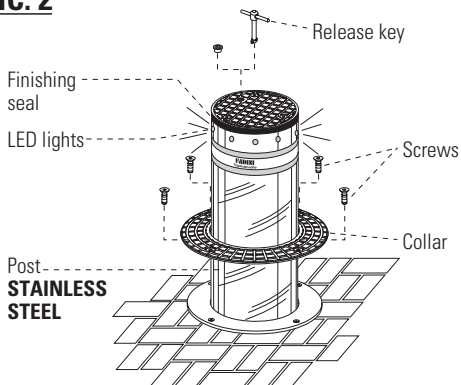
COMPONENTS OF THE RETRACTING OIL-HYDRAULIC POST OPERATOR

oil-hydraulic traffic control post **STRABUC 918** Painted version



PIC. 1

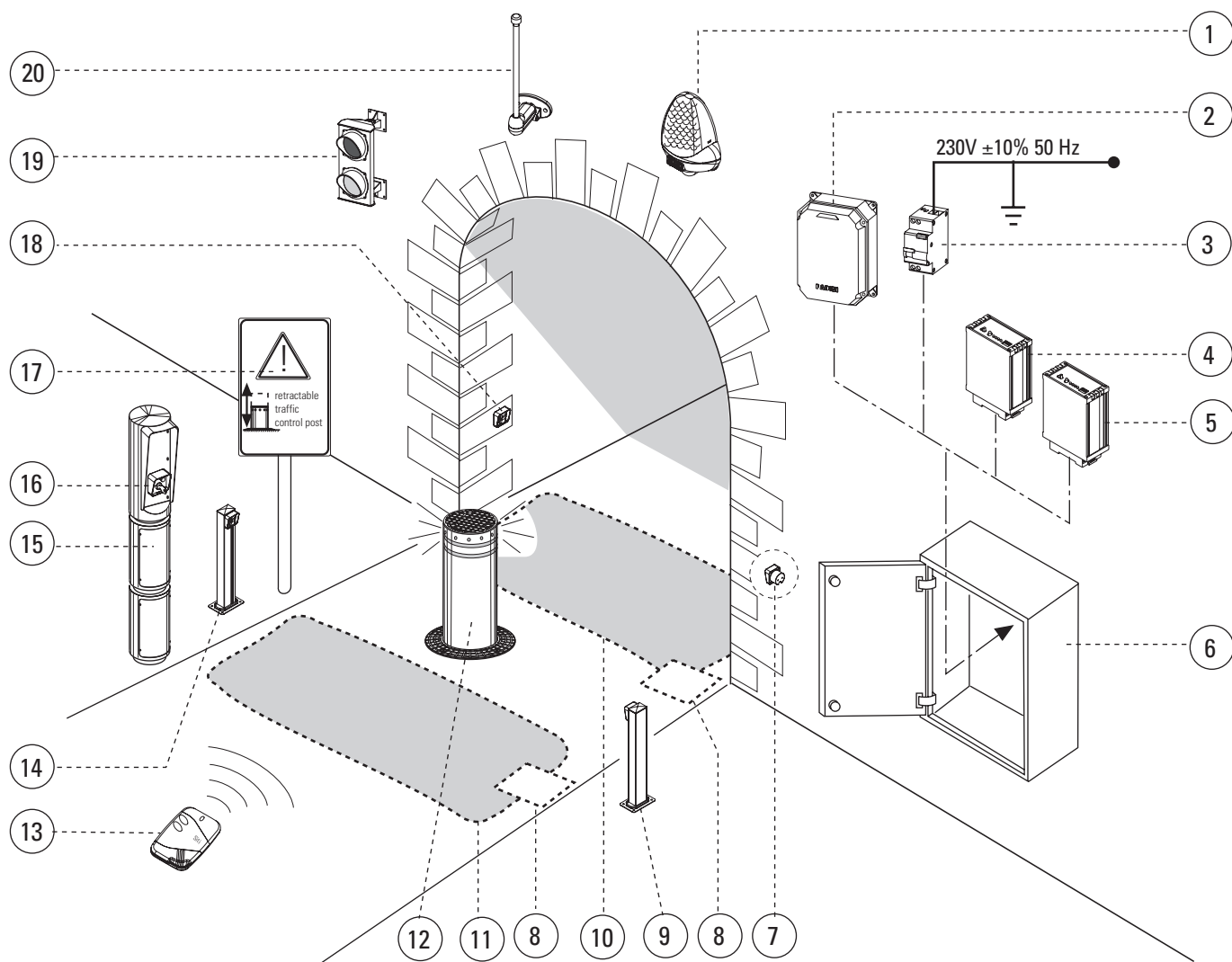
PIC. 2



STRABUC 918 STAINLESS STEEL

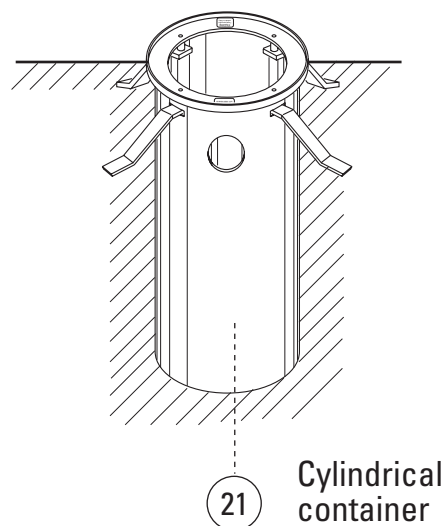
Stainless steel version of the traffic control post, differing from the painted version in that the retractable post only is made of stainless steel, the rest of the operator has identical applicative and functional installation characteristics as the painted version of the Strabuc 918. Pic.2.

OPTIONAL AND RECOMMENDED ACCESSORIES FOR COMPLETE INSTALLATION



List of all operative accessories available:

- 1 - Miri 4 flashing light
- 2 - Elpro S40 electronic programmer with Siti 63 radio receiver
- 3 - Differential thermomagnet switch with 0.03A sensitivity (not provided)
- 4 - Entry metal detector
- 5 - Exit metal detector
- 6 - Anti-intrusion cabinet
- 7 - Polo 44 recess-mounted photoelectric cell receiver
- 8 - Sealed electric connection box with inductive coil (not provided)
- 9 - Post for Polo 44 photoelectric cell projector
- 10 - Below-ground exit inductive coil (not provided)
- 11 - below-ground entry inductive coil (not provided)
- 12 - Strabuc 918
- 13 - Siti 63 Transmitter
- 14 - Post for Polo 44 photoelectric cell receiver
- 15 - Visual 344 control accessory housing post
- 16 - Prit 19 key switch
- 17 - Post moving hazard-warning indicator
- 18 - Recess-mounted Polo 44 photoelectric cell projector
- 19 - Two-light traffic lights
- 20 - Birio A8 wall-mounted aerial
- 21 - Strabuc 918 housing to be cemented into the ground (standard issue)

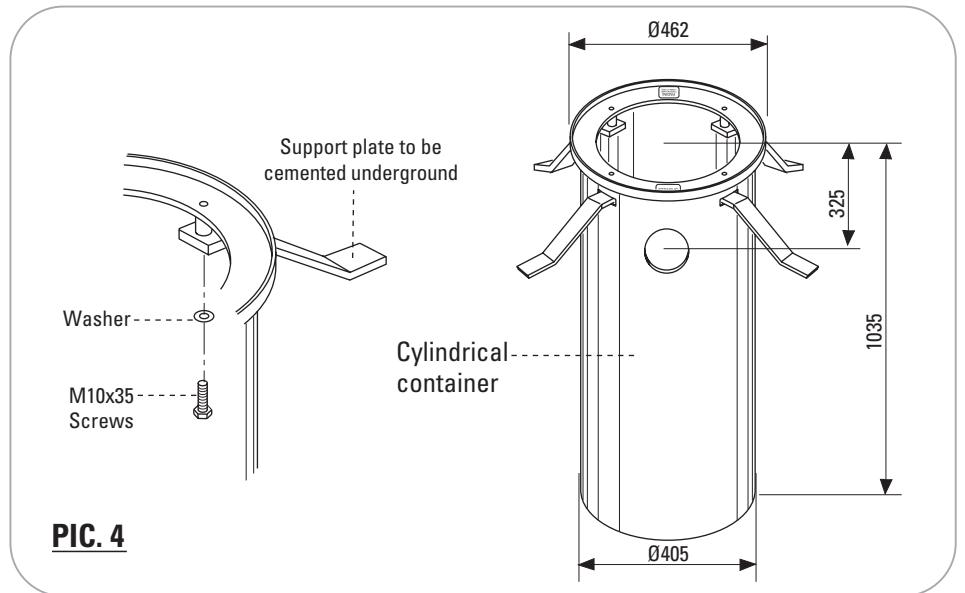


21 Cylindrical container

PIC. 3

INSTALLATION OF THE CYLINDRICAL HOUSING TO BE CEMENTED INTO THE GROUND

- Assemble the **support plates** to be cemented into the ground by fitting them inside the slots in the **cylindrical container** and fasten them by the provided screws (Pic.4)



PIC. 4

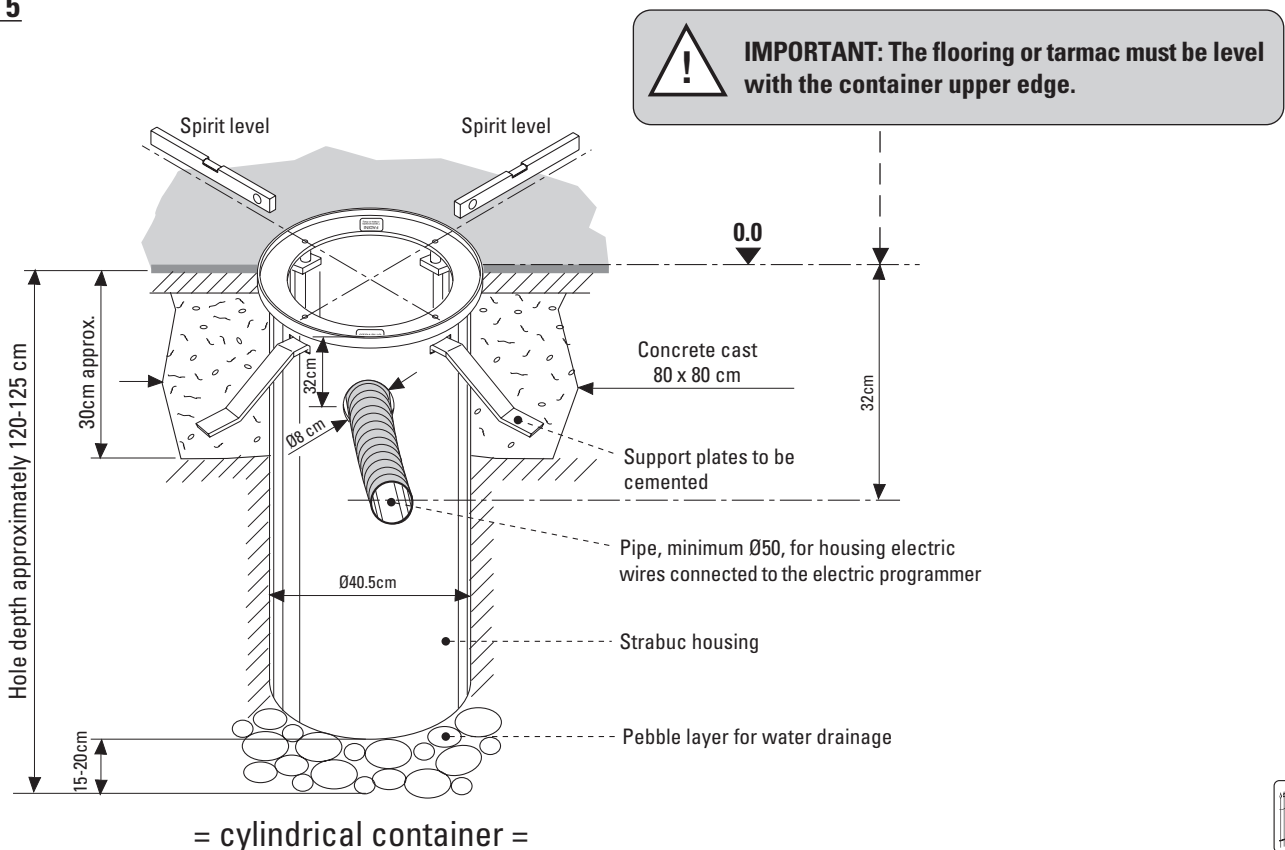
- Dig a hole measuring 80x80cm and approximately 1.20 m deep, where the Strabuc 918 is to be installed: these measurements are adequate for inserting and cementing the **cylindrical container** at ground level (Pic.5).
Simultaneously, it is important to dig a hole in the ground to take a **corrugated flexible pipe** (max Ø50mm) to the **cylindrical container**, passing through the hole as provided in the container, in order to house the electric wires to be connected to the **Elpro S40** electronic programmer (to be installed in a protected place).

- Before positioning the **cylindrical container**, arrange a 20 cm-deep layer of pebbles for rainwater drainage.
It is important that once the cylindrical container has been placed on the pebbles, the upper portion is flush with the ground level.

IMPORTANT: Take care to avoid power or water pipes when digging. Arrange a water drainage layer beneath the dig.

IMPORTANT: Once the housing has been positioned, before cementing, use a spirit level to ensure that it is absolutely level, to allow perfect vertical movement of the traffic control post.

PIC. 5

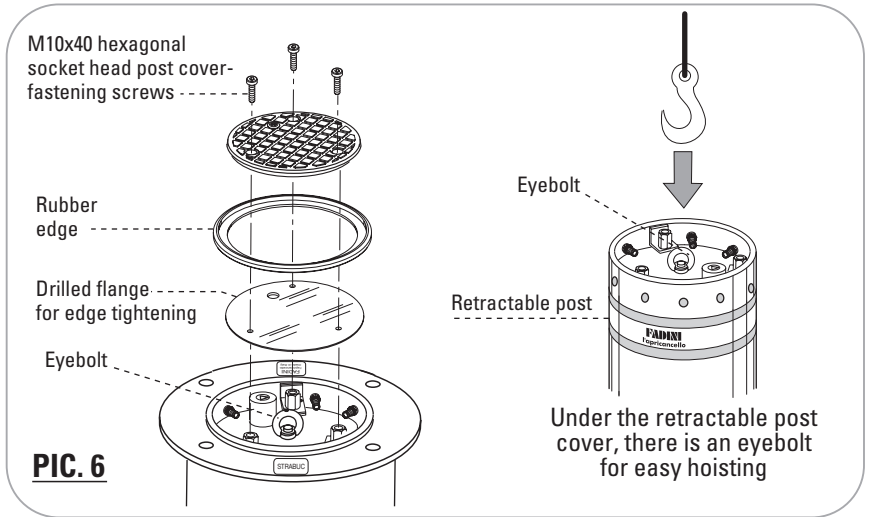


= cylindrical container =

INSTALLATION OF THE STRABUC 918 TRAFFIC CONTROL POST

Once the cement has set, proceed with installation of the Strabuc 918 inside the **cylindrical container**. For this operation, it is necessary to use equipment suitable for hoisting and then placing it in the post seat, by hitching to the **eyebolt** on the top of the **retracting post cover**, having unscrewed and removed the three screws and the **cover**.

Before placing the Strabuc 918 inside the cylindrical container, pass all the electric wires through the corrugated tube connected to the Elpro S40 programmer: for this initial phase, use a pull out to be passed through the pipe first (Pic.6 and Pic.7).

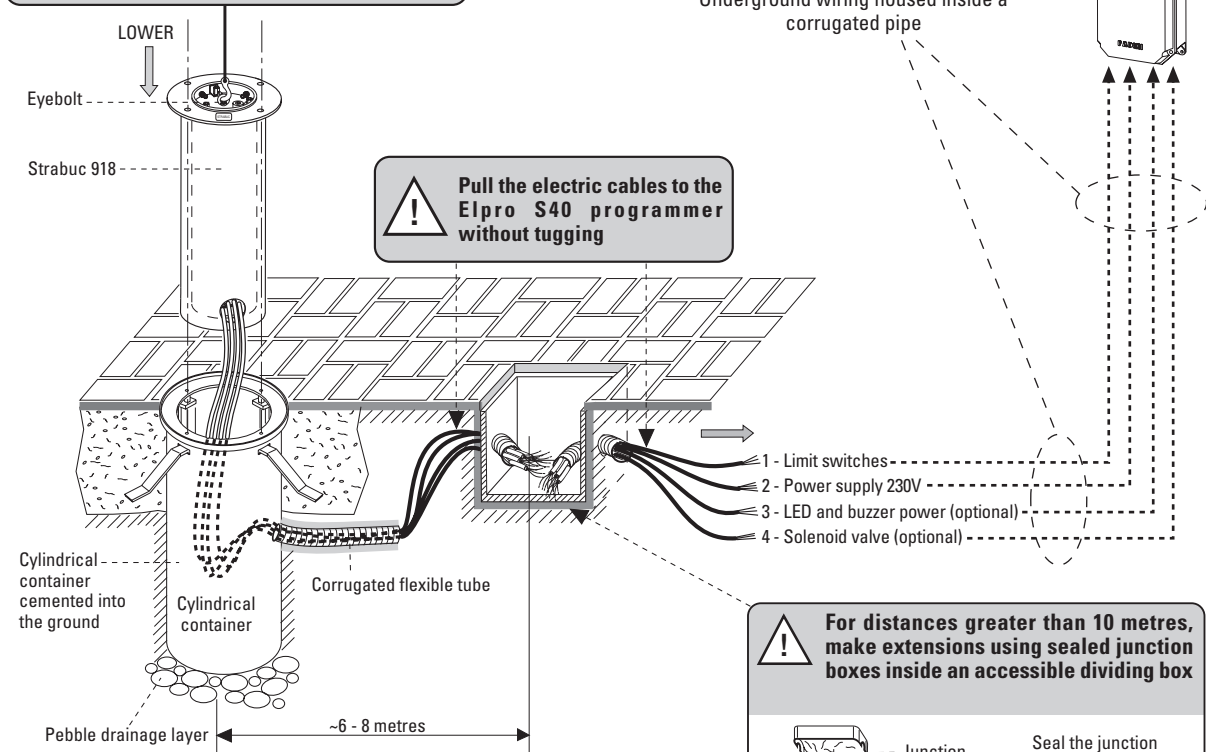


ATTENTION: as Strabuc 918 comes complete with a series of electric cables, each one 10 metres long, during all these Strabuc 918 installation operations, **never tug at or charge electric wires for any reason**. During Strabuc 918 maintenance or removal operations **DO NOT CUT THE ELECTRIC WIRES**, remove them from the pipes.



ATTENTION: measure the distance between the Strabuc 918 installed and the Elpro S40 programmer: once the Strabuc 918 has been positioned and fastened, all the electric cables must rest freely on the bottom of the cylindrical housing. If the distance is greater, the wires should be extended using sealed joints (junction boxes) inside an accessible dividing box, according to good installation practice: this will prevent malfunctions and will guarantee efficient operation over time.

Align the traffic post cylinder holes with those in the cylindrical container cemented into the ground

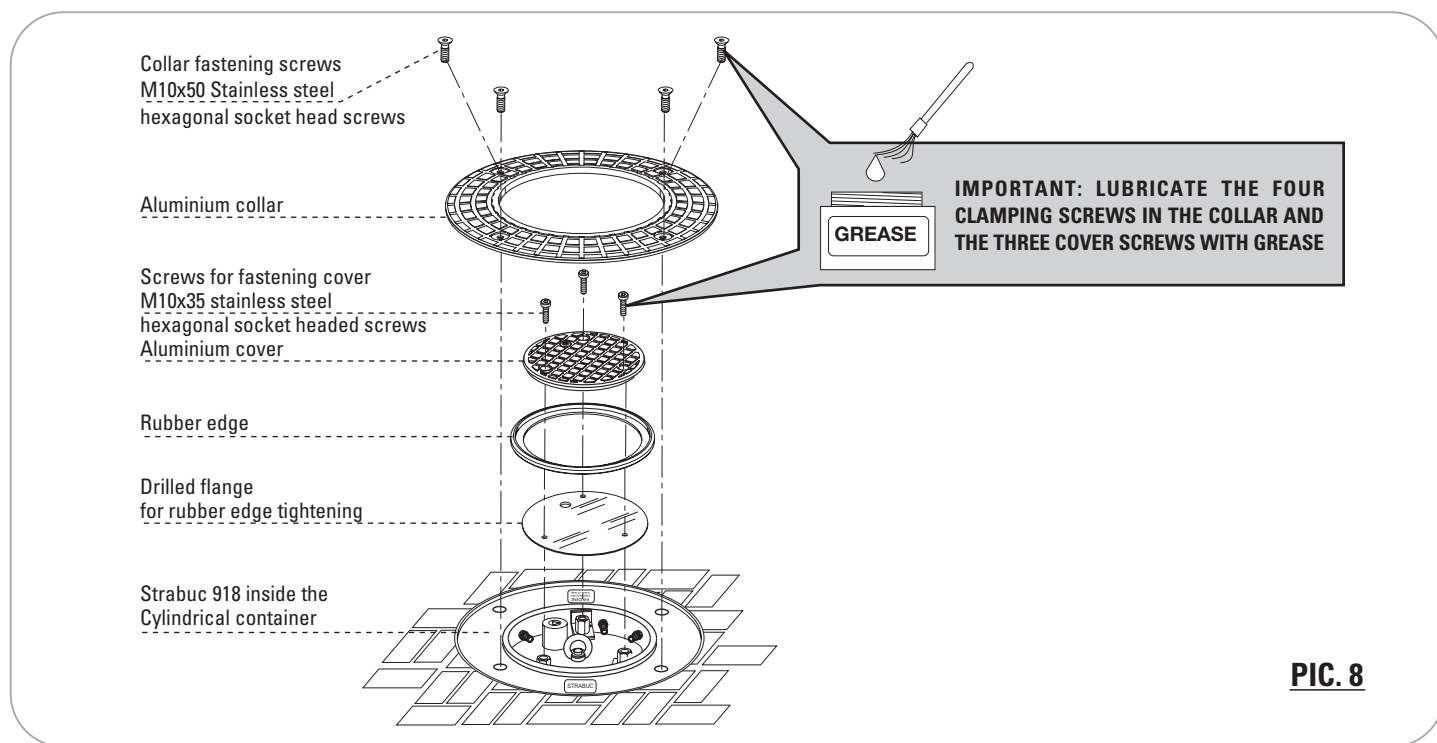


PIC. 7



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Once all the electric wires have been put in place, terminate by fastening the **Aluminium collar** and the **Cover**: lubricate the fixing screws of the collar and retractable post cover using grease (Pic. 8).



ARRANGING THE SAFETY AND CONTROL ACCESSORIES

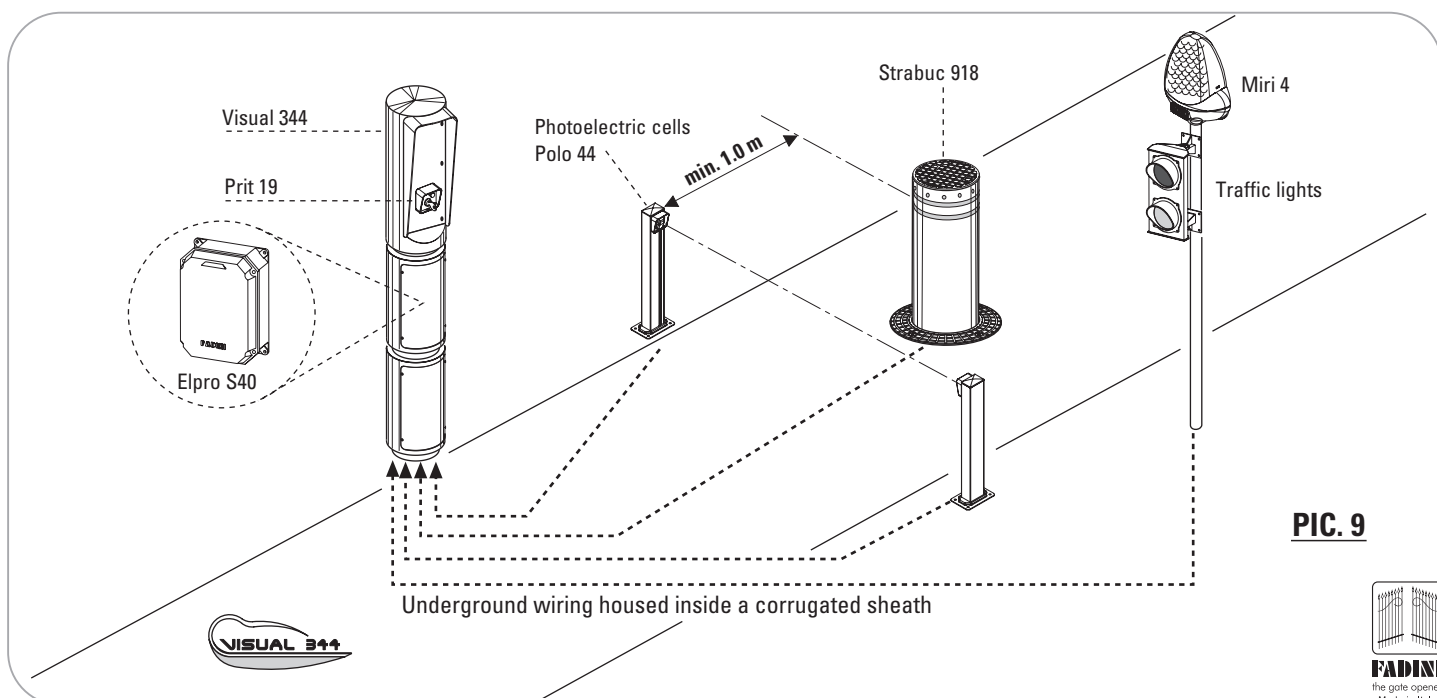
All safety and control accessories must be installed according to minimum recommended distances from the Strabuc 918 and these distances must be strictly observed in order to obtain effective installation.

ARRANGEMENT OF THE PHOTOELECTRIC CELLS

The photoelectric cells must be installed at a minimum working distance as indicated in Pic. 9.

ARRANGEMENT OF VISUAL 344 - Pic. 9 -

The 2 or 3-module Visual 344 is a metal accessory used to house the Elpro S40 in exposed positions, in those installation situations in which the programmer cannot be wall- or recess-mounted. It has also been designed for the installation of possible control accessories such as intercom systems or key switches, in the immediate vicinity of the Strabuc 918 (pic. 9).



WIRING TO THE ELPRO S40 PROGRAMMER

Once the electric wires have been laid and positioned and the oil-hydraulic unit with the retractable post has been fixed, position the electronic programmer and make the electrical connections (as indicated in pic.10), by connecting just one Strabuc 918.

It is important to connect a 20 μ F capacitor (provided) to the terminals "A and B", located above terminals 16 - 17 - 18 (position "1" on the card). Pic.11.

Limit switch connections are made using wire n°1 Limit switches to terminals 11-12-13 (pic. 11) with the "blue" common to terminal 13.

The **Electric Motor** connections are powered by wire n°2 at 230V. If the Electric Motor does not raise the post, switch over the black and brown wires to terminals 17 and 18, leaving the blue wire connected to terminal n°16. Pic.11.

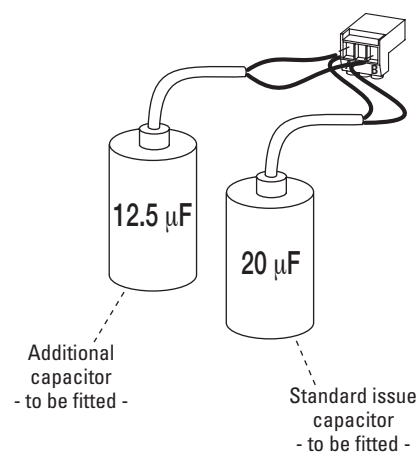
The **LED** connections are made using cable n°3, with dark blue and brown wires to terminals 52 and 53, respectively (pic. 12 page 10)

A **Buzzer** (optional) is available, powered by wire n°3, which sounds as the post rises and lowers. Wiring to be performed as indicated in pic.12 on page 10.

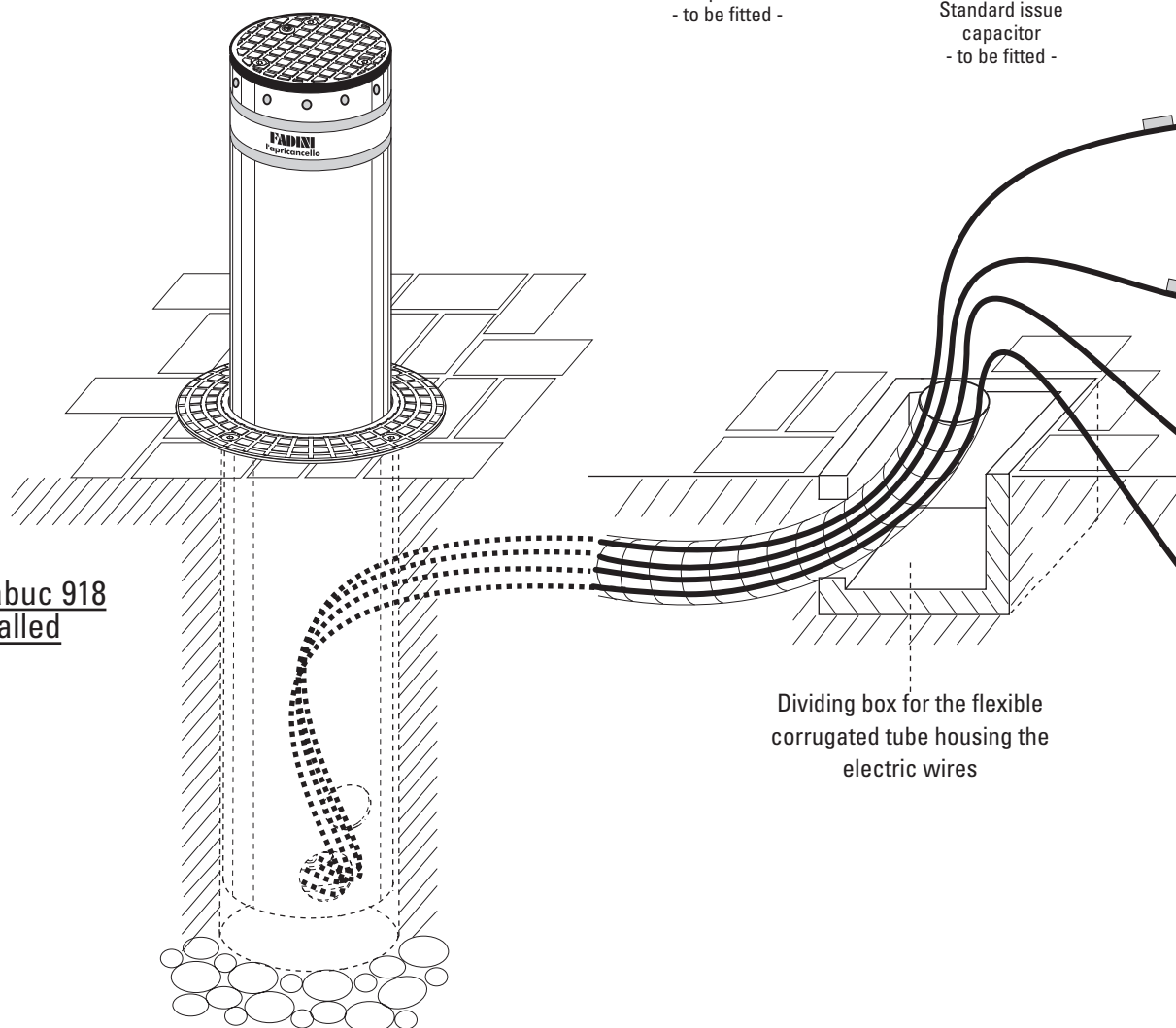
If one wants the column to lower automatically in the event of a power failure, order the traffic control post complete with **Solenoid valve** (optional), powered by electrical wire n°4 at 230V. (pic. 20 page 14)



Important: in the event of shortage of power supply to the motor, connect another 12.5 μ F capacitor in parallel with the previous 20 μ F one.



Strabuc 918
installed

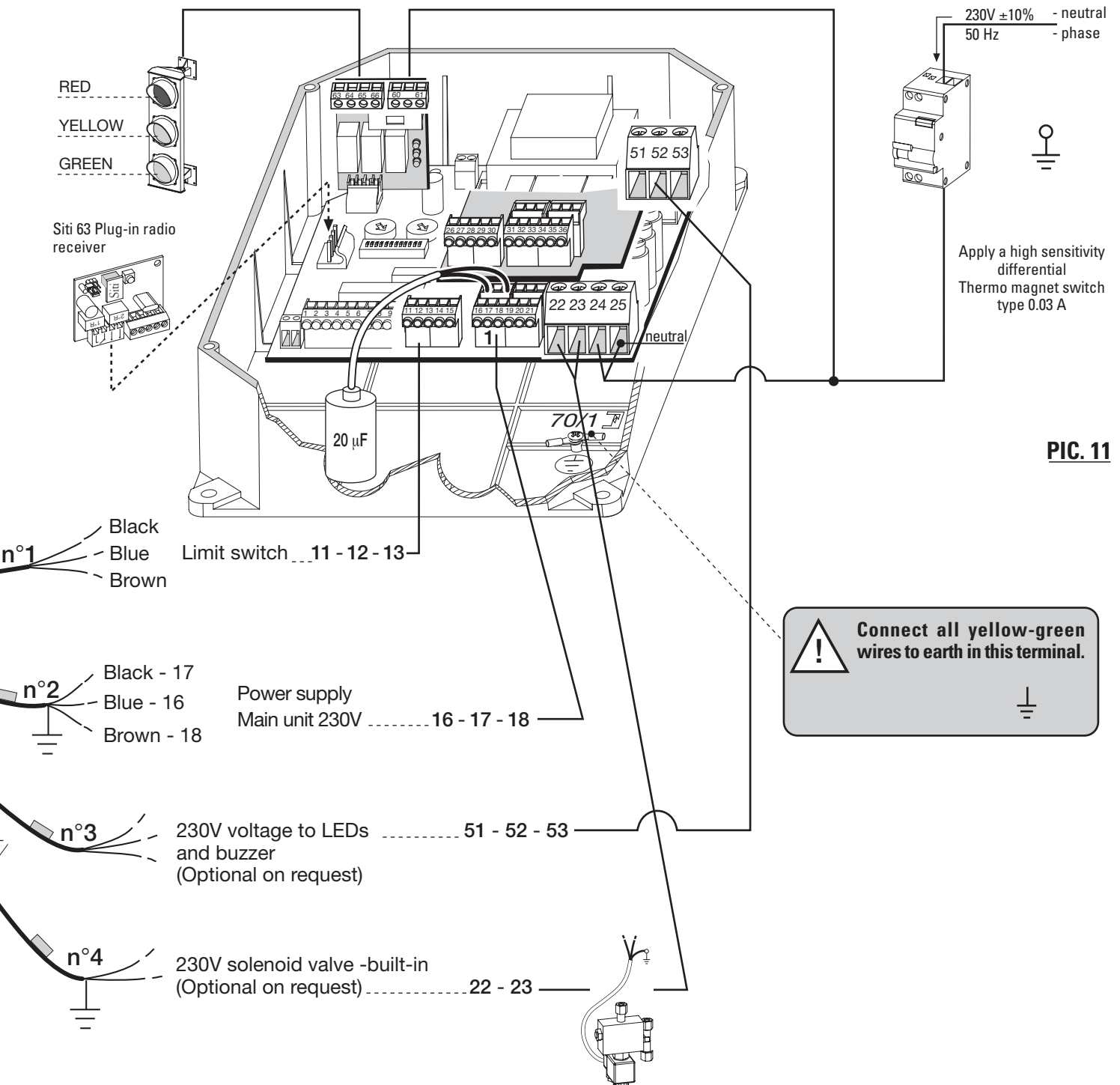


PIC. 10

The **Elpro S40** programmer should be installed in a dry, protected place, inside its own container or, in the case of additional components for operating the control and safety accessories, it should be housed inside a cabinet certified for external use (not provided by the Manufacturer).

- The **Elpro S40** programmer is powered using electric wires with a 1.5mm² section, with a cut-off differential switch for a maximum length of 50 metres. For distances of over 50 metres we recommend using electric cables with appropriate sections according to good installation practice. For all accessories external to the electric panel, electric cables with 1mm² wires may be used.

- The three-light traffic lights must be connected by a four x 1.5mm² wire electric cable and the 230 Volt powered card to terminals **60 - 61** on the plug-in card. Pic.11.



PIC. 11

"Elpro S40" electronic programmer

General description: The electronic panel **Elpro S40** is fitted with a microprocessor to manage up to four retractable traffic control posts in the Strabuc series. With its single-phase 230V power supply, it satisfies the Low Voltage LV 93/68/EC and Electromagnetic Compatibility EMC 93/68/EC safety standards and should therefore be installed by a qualified technician in compliance with applicable regulations.

Elpro S40 stands out for its ability to monitor system faults and malfunctions (ISC).

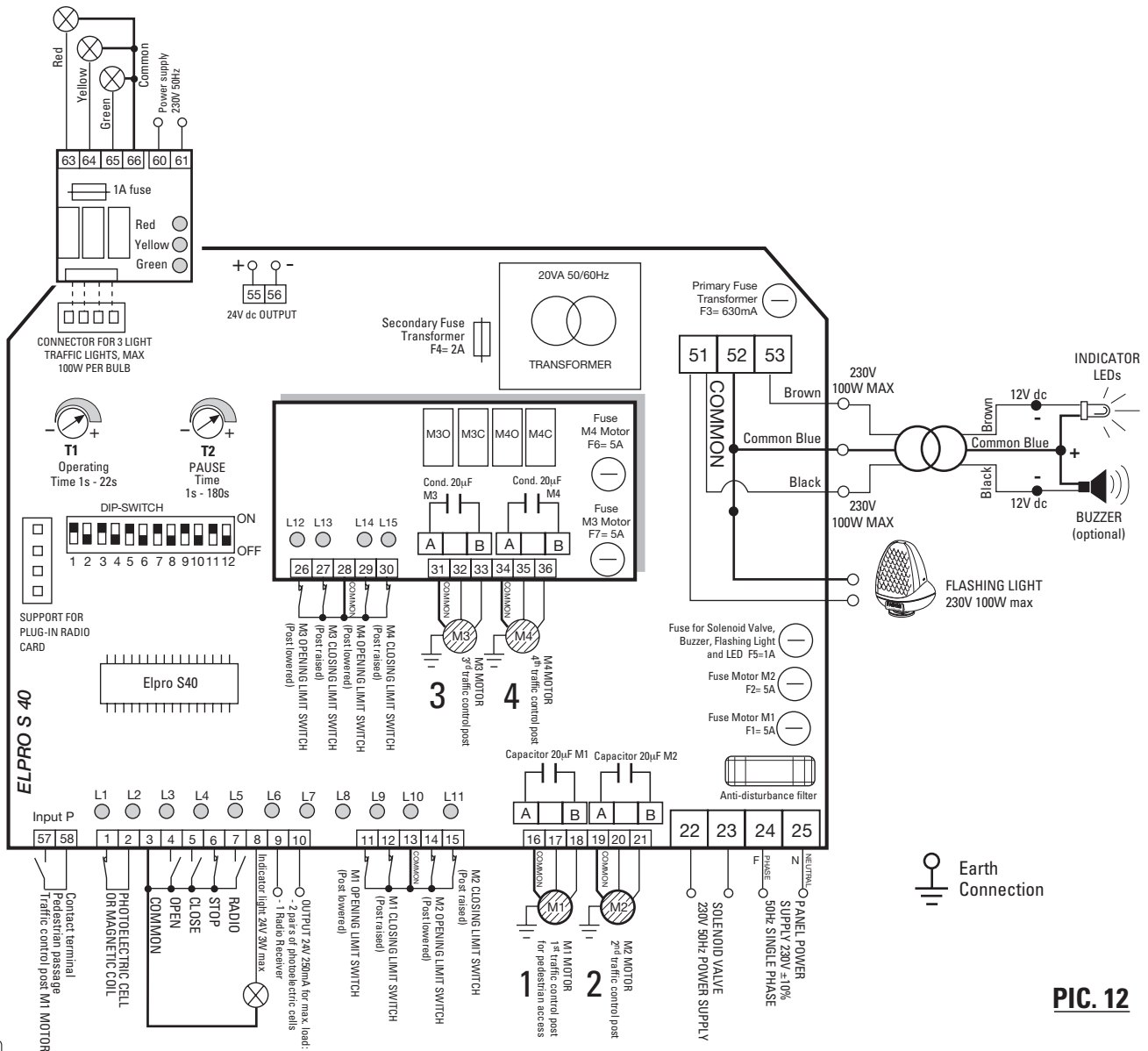
ISC= Integrated Supervision Circuit is a special Elpro S40 feature that monitors the whole electronic board aimed at detecting any component faults, or system accessory malfunction, if the operator is fitted with a release solenoid valve this allows the retractable post to lower.

The **Elpro S40** programmer should be installed in a dry, protected place, inside its own container or, in the case of additional components for operating the control and safety accessories, it should be housed inside a Visual 344 or a cabinet certified for external use.

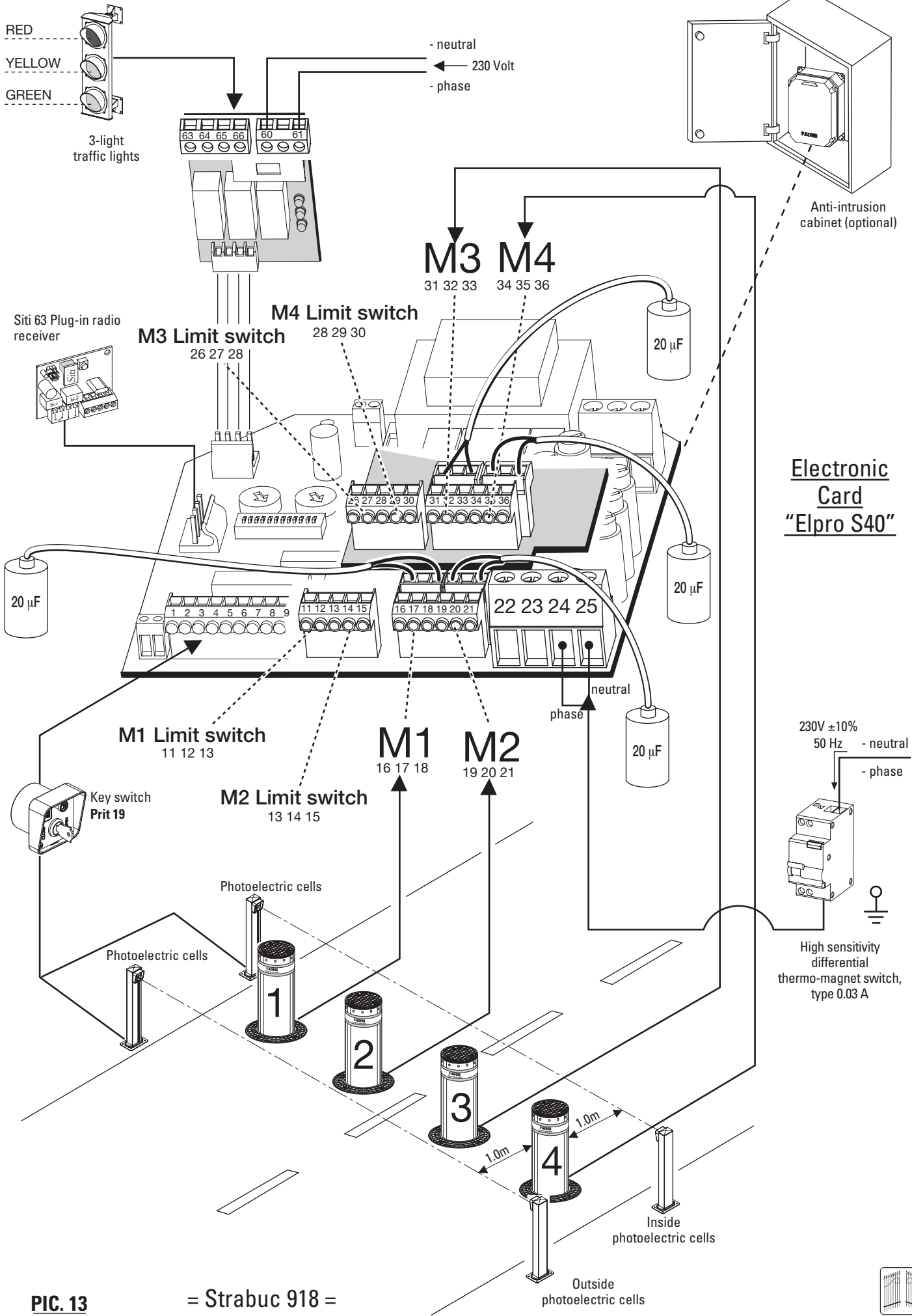
- The **Elpro S40** programmer is powered using electric wires with a 1.5mm² section, with a cut-off differential switch over a maximum distance of 50 metres. For distances of over 50 metres we recommend using electric cables with appropriate sections according to good installation practice. For all accessories external to the electric panel, electric cables with 1mm² wires may be used.
- The three-light traffic lights must be connected by a 4 x 1.5mm² wire electric cable and the 230 Volt powered card to terminals 60-61 - on the plug-in card. Pic.12.

N. B. For all explanations on functions and electric wiring we recommend consulting the Instruction Manual, Drawing 4555.

IMPORTANT: earth the system by means of the dedicated terminal in the bottom on the right-hand side of the Elpro S40 card container (Pic.12 and Pic.13).



PIC. 12



PIC. 13

= Strabuc 918 =



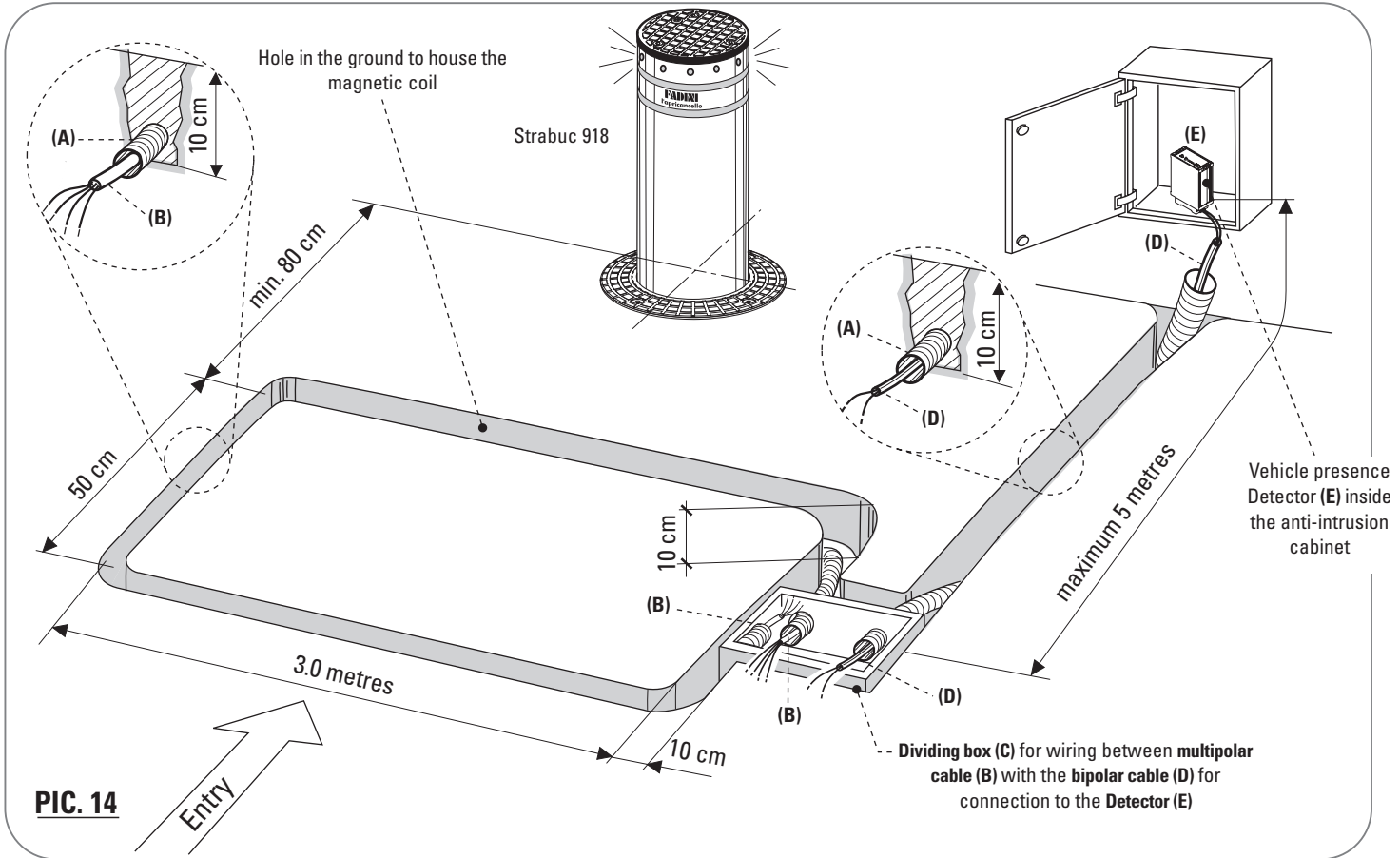
ARRANGING THE MAGNETIC COILS

IMPORTANT: check that there are no sources of disturbance such as to conceal or influence the magnetic/electromagnetic detections of any metal detector coils in the immediate vicinity of the installation accessories.

The magnetic coil safety accessory is always activated to detect transiting road vehicles. It prevents the Strabuc 918 from rising when vehicles pass over the coils.

A hole with a maximum depth of 10 cm must be prepared as shown in Pic. 14 (the hole must be rectangular with the long side perpendicular to the direction of movement). Alternative arrangements may be used to suit installation requirements, however the coil characteristics must always be respected (see relative instruction sheet).

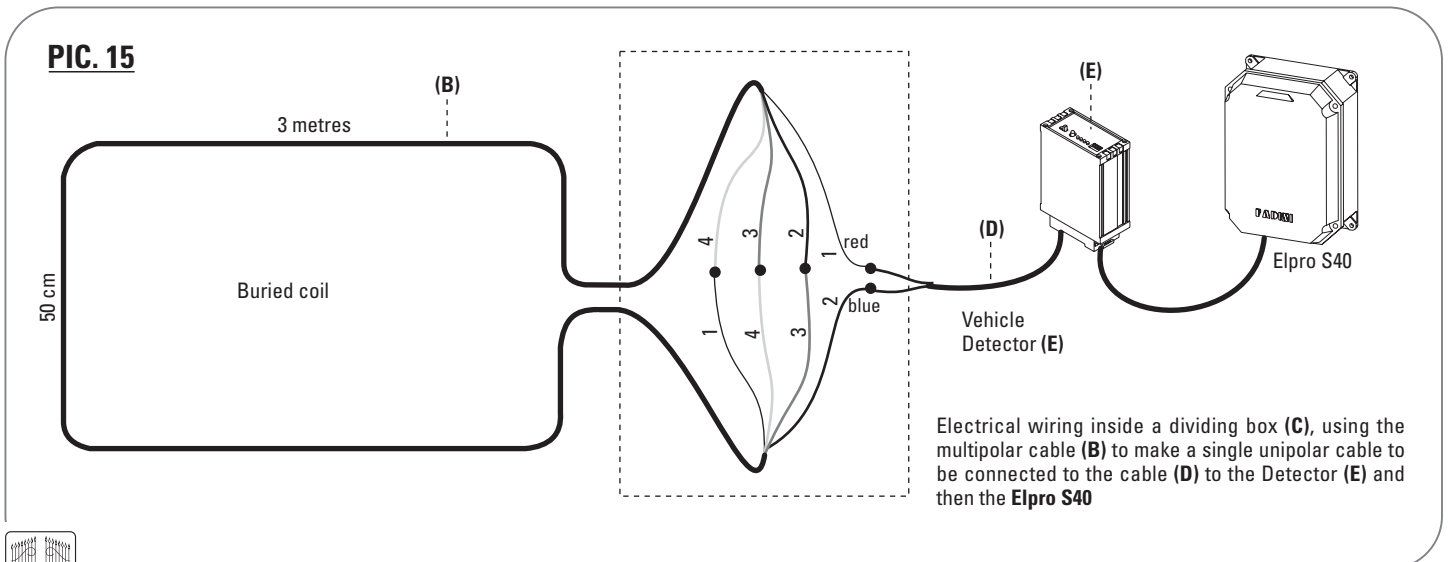
Specifications should always be observed for correct magnetic coil operation.



The coil is made using a multipolar electric cable, with four x 1.5 mm² wires, connected to form a single wire.

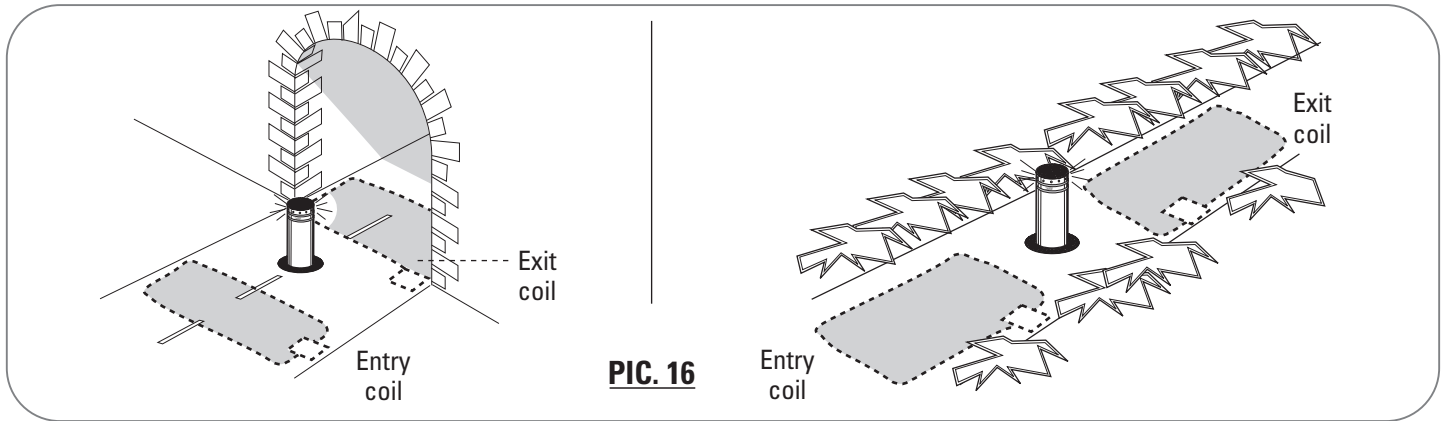
Bury and cement in place the **corrugated sheath (A)** large enough to house a **4-wire multipolar electrical cable (B)**. The two ends must then be connected and sealed inside a **dividing box (C)** to the **bipolar cable (D)** made to pass through another corrugated sheath (A) connected to the **Detector (E)** close to the "Elpro S40" programmer.

Once this phase has been completed, the electrical wiring must be performed inside the dividing box as shown in Pic. 15: the individual wires in the multipolar cable (B) must be connected in series, creating a single unipolar cable with two end wires to be connected to the Detector (E) through the bipolar cable (D).

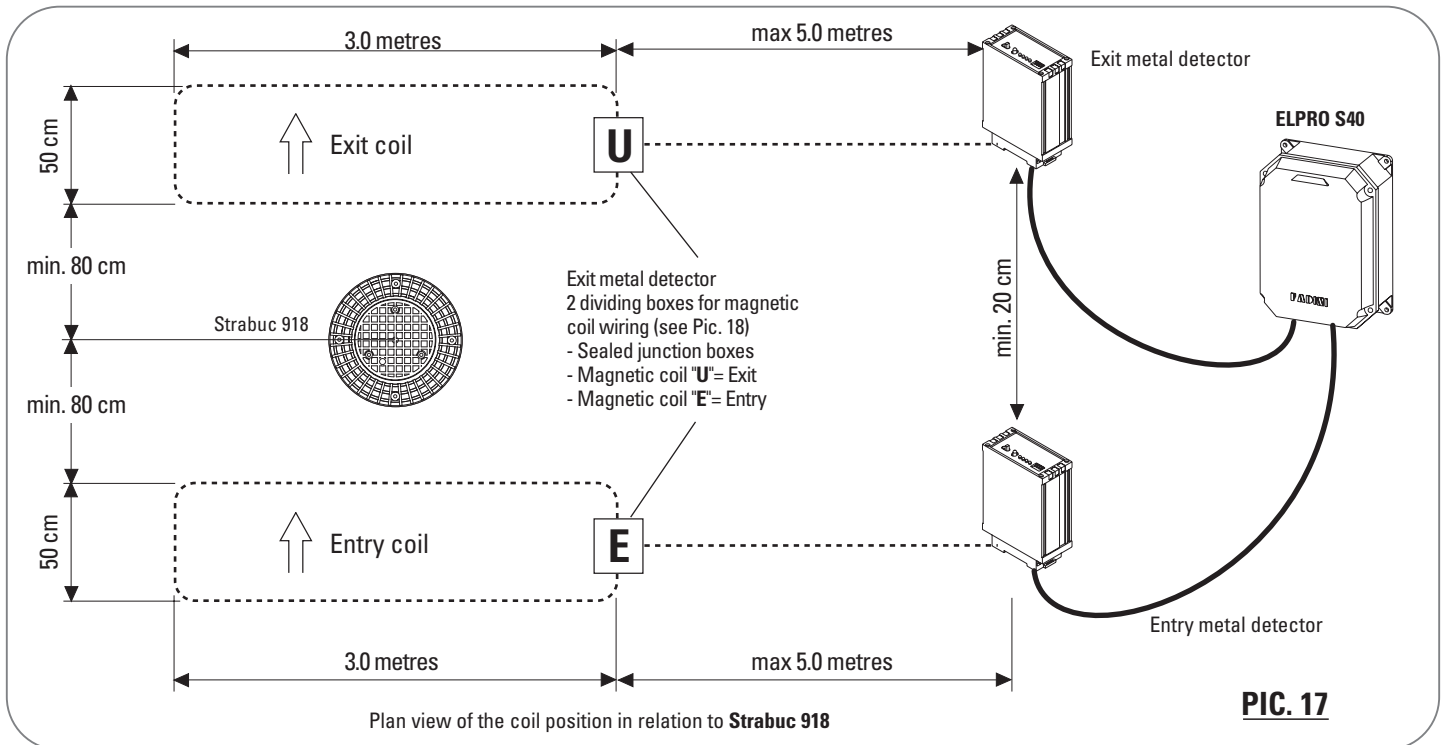


ARRANGEMENT OF A PAIR OF MAGNETIC COILS AT THE ENTRY AND AT THE EXIT

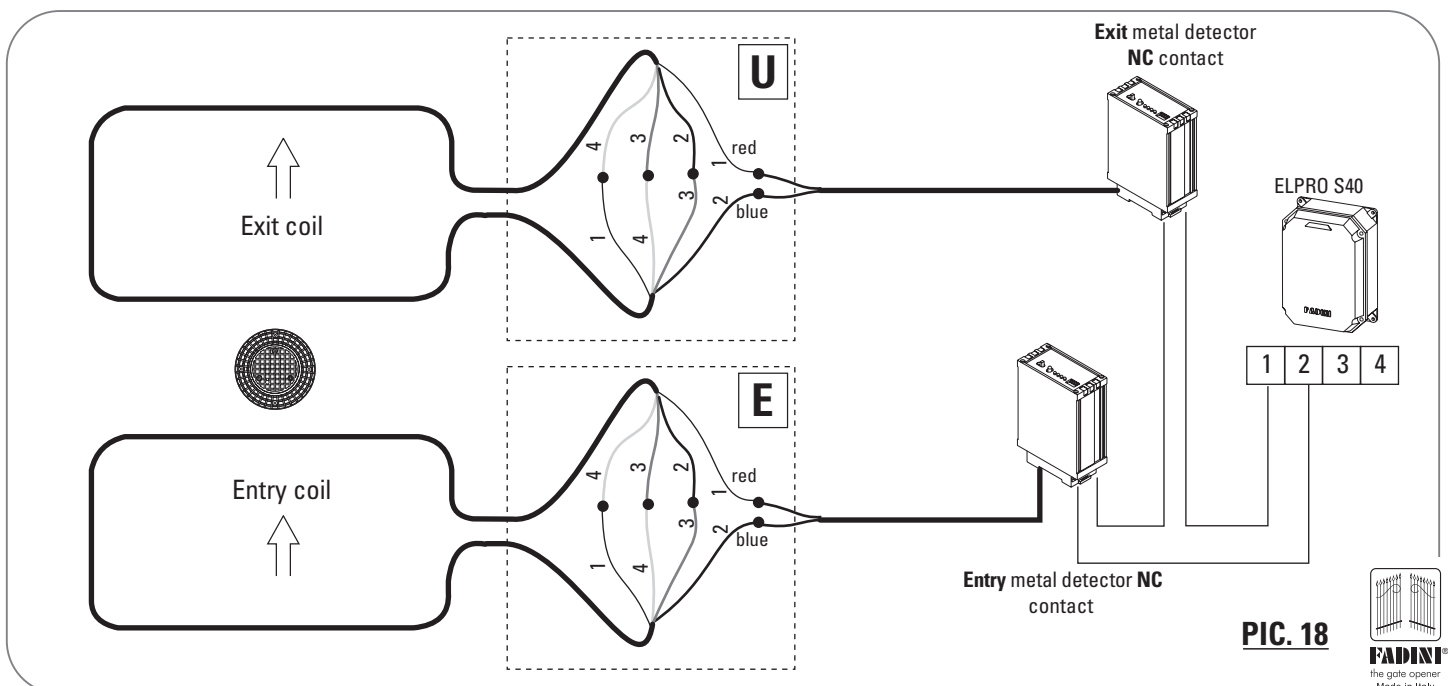
For installations requiring a pair of magnetic coils (one at the entry and one at the exit as shown in Pic.16), for each one a hole must be prepared as shown in Pic.17, to arrange two dividing boxes "E" (Entry) and "U" (Exit) for the coil wiring (Pic.18), following the minimum distances indicated.



PIC. 16



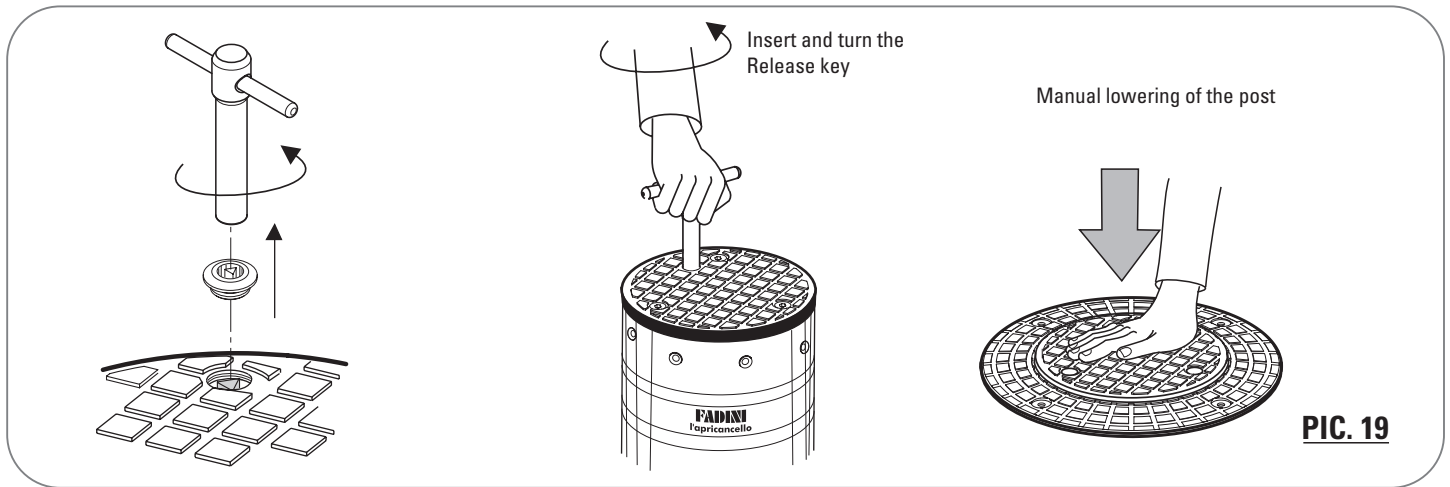
The electric wiring between the Detectors and the Elpro S40 Programmer are shown in Pic.18.



MANUAL TRAFFIC CONTROL POST RELEASE OPERATIONS

The traffic control post is fitted with a system for manual post lowering. The universal triangular-recess key provided removes the protection plug and subsequently releases the retracting traffic control post, which lowers to pavement level with simple manual pressure. Pic.19.

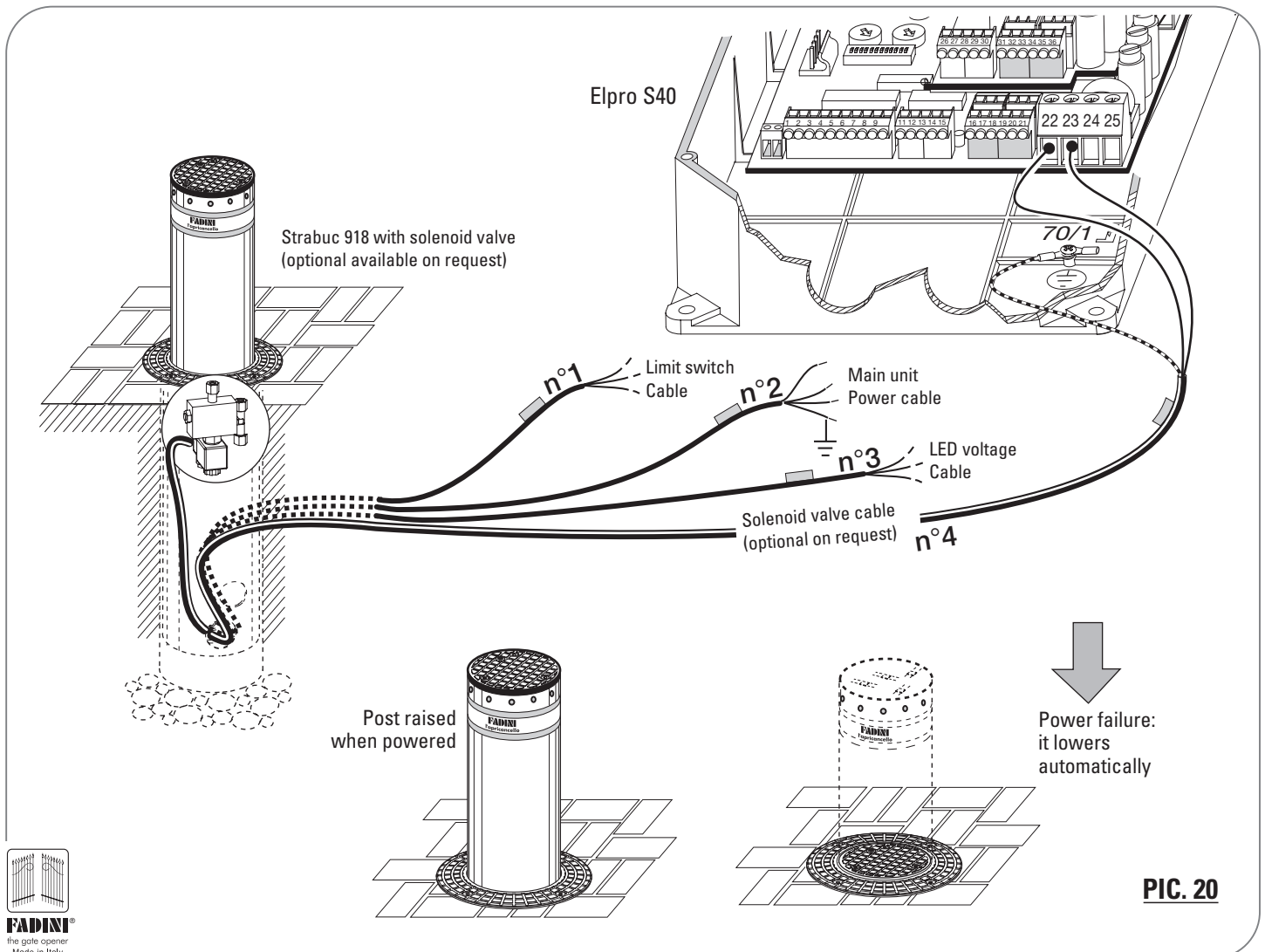
Once the post has been lowered manually, it only rises again following an electrical command impulse.



PIC. 19

STRABUC 918 WITH SOLENOID VALVE

In the version fitted with solenoid valve, the manual release feature is not necessary as the post automatically lowers to ground level in the event of a power failure. To allow the solenoid valve to work, connect the wires of the electric cable labelled "SOLENOID VALVE" (N° 4), which comes from the Strabuc, directly to terminals 22 and 23 of the Elpro S40 programmer (Pic. 20).



PIC. 20

FIRST OPERATION MANOEUVRES OF THE STRABUC 918

ATTENTION: do not power the system until all the wiring needed for operation has been performed.

Having terminated installation of the traffic control post and all the safety and control accessories with the respective wiring to the Elpro S40 programmer, and having completed thorough risk analysis, the first operation manoeuvres can be performed. If you have a radio transmitter, encode the radio receiver according to the relative instructions before giving the command to raise the retractable post, or give the manoeuvre command using a key switch (pic. 21).

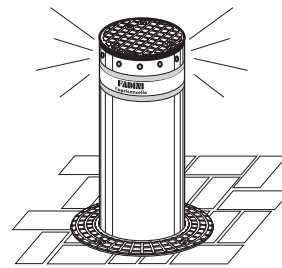


ATTENTION: it is important to establish whether the traffic control post is open or closed depending on whether it leaves the access free or blocks it (Pic.21).

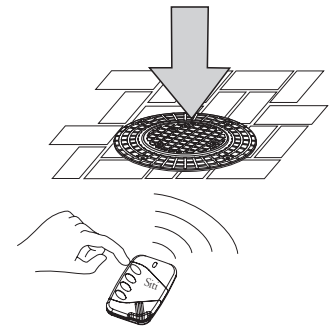
During first use, it is important to check whether the wiring of the rising and lowering limit switches and the electric motor power supply is correct and corresponds to the "open" and "closed" positions of the traffic control post (pic. 22).



ATTENTION: If the limit switch and electric motor wiring is not correct, exchange the wires in the corresponding traffic control post terminals, leaving the common in place (Pic.22).

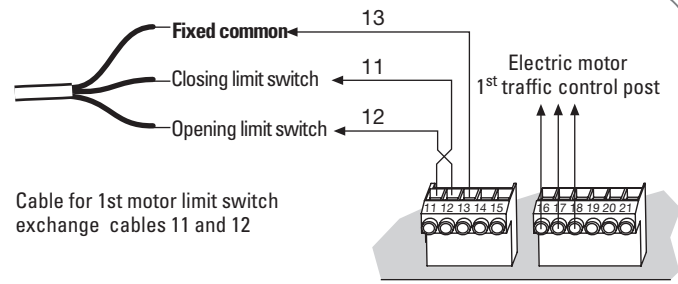


Strabuc 918 in raised position:
Access Closed



A command causes the Strabuc 918 post to lower: **Access Open**

PIC. 21



PIC. 22

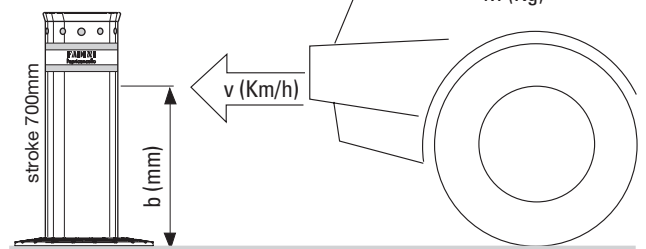
STRABUC 918 TRAFFIC CONTROL POST RESISTANCE DATA

VIOLENT COLLISION RESISTANCE

Technical theoretical calculation table (Ref. Table Drawing 3703).

Maximum shock resistance:

upon collision, a vehicle travelling at 60 Km/h deforms the Strabuc 918 traffic control post to such an extent that the whole post needs to be replaced (Pic. 23).



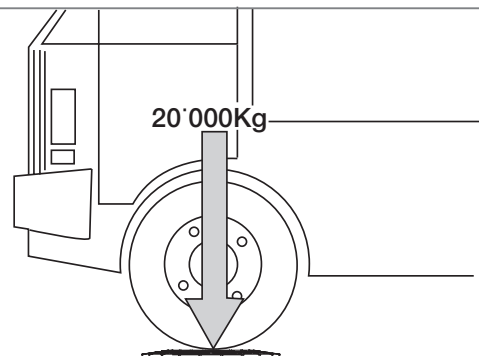
PIC. 23

STATIC LOAD RESISTANCE

The static load acting on the Strabuc 918 when completely lowered is considered as the weight a 20'000 Kg lorry exerts when parked on or passing over the traffic control post. Practical tests with fully laden lorries have confirmed this result
Maximum static load 20'000 Kg

Static load resistance:

with the post lowered, Strabuc 918 is able to resist a fully laden lorry weighing 20'000 Kg parked on top of it. Pic.24.



PIC. 24



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STRABUC 918 TECHNICAL FEATURES

ELECTRIC MOTOR

| | |
|----------------------------|-----------------|
| Output | 0.25KW (0.33HP) |
| Power consumption | 330W |
| Power supply voltage | 230V±10% |
| Frequency | 50Hz |
| Absorbed current | 1.8A |
| Intermittent service | S3 |

OIL-HYDRAULIC MAIN UNIT

| | |
|-----------------------------|---------------|
| Hydraulic pump | P10 |
| Operating pressure | 2 MPa (20bar) |
| Operating temperature | -20°C +80°C |
| Hydraulic oil type | OIL Fadini |
| Protection class | IP54 |

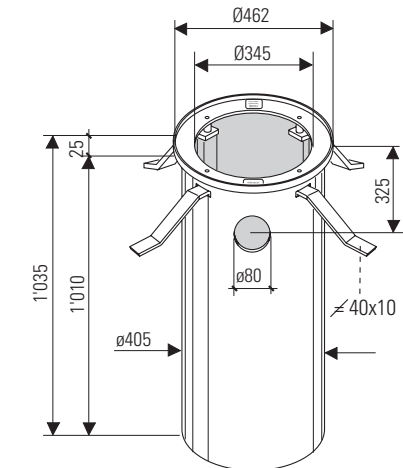
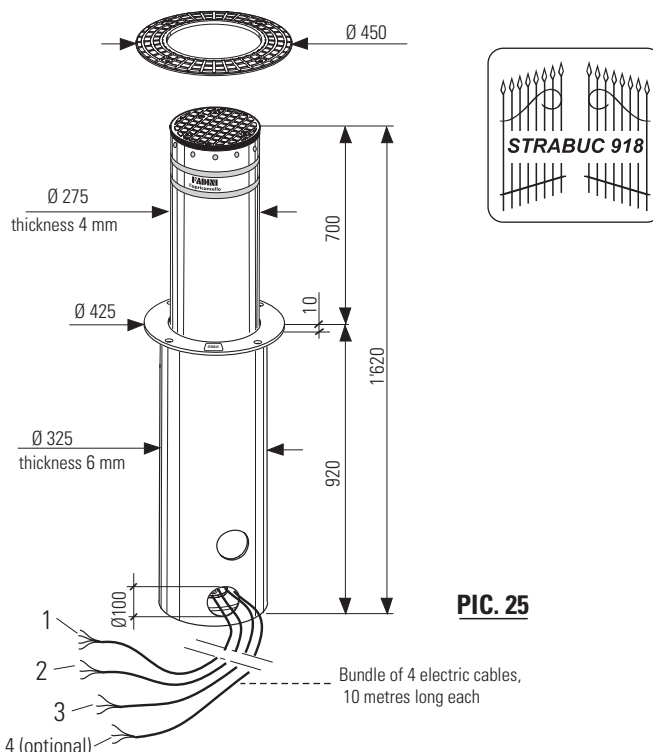
OIL-HYDRAULIC PISTON

| | |
|-------------------------|--------|
| Piston diameter | 30 mm |
| Rod diameter | 16 mm |
| Net rod travel | 740 mm |
| Rod exit time | 6 sec. |
| Calibrated thrust | 18 daN |

FEATURES

Service cycle 6s Ascent - 30s Dwell - 6s Descent - 30s Dwell:
 Full cycle time.....72 seconds
 Full Ascent - Dwell - Descent - Dwell cyclesN°50/hour
 Annual cycles (considering 8-hour working day)N° 146'000

| | |
|---|---------------------------------------|
| Complete weight of Strabuc 918 | 128Kg |
| Protection class - Strabuc 918 | IP67 |
| LED power supply | 230V 50Hz |
| LED lights | 24V |
| Painted post RAL 1028 - MELON YELLOW - Post material | Fe360 steel/ AISI 304 stainless steel |



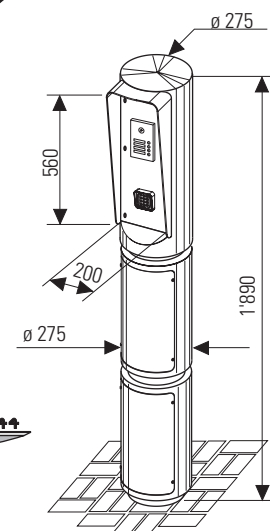
CYLINDRICAL CONTAINER
 - to be cemented -
PIC. 26

CYLINDRICAL CONTAINER - to be cemented - pic.26

| | |
|--|------------------|
| Material | "FE" sheet steel |
| Treatment | Cataphoresis |
| Calandered sheet metal thickness | 1.5 mm |
| Fixing flange thickness | 10mm |
| 4x Support plate clamping bolts | M10x35 |
| 4x Washers | Ø10 |
| 4x support plates | flat 40x10 |
| Total weight | 25Kg |

TECHNICAL SPECIFICATIONS VISUAL 344 - pic.27

| | |
|---|--------------------------|
| Material | Fe 360 Steel |
| Panel material | Aluminium |
| Individual height of basic module | 542 mm |
| Height with three modules | 1'890 mm |
| Weight | 70Kg |
| Protection class | IP53 |
| Colour | RAL 7016 Anthracite Gray |
| Shock resistance | 5'000 J (500Kg at 1 m) |



PIC. 27

WARNINGS

- Before performing installation, conduct Risk Analysis and operate using devices compliant with EN 12445 and EN 12453 safety regulations
- Packaging materials such as cardboard, nylon, polystyrene, etc. should be disposed of using specialised waste collection firms
- If the operator is removed, **do not cut the electric wires**, rather remove them from the terminal board loosening the clamping screws inside the dividing box.
- Disconnect the main switch before opening the lid of the electric cable dividing box.
- The whole operator must be earthed using the yellow/green electric cable.

CHECKS AND MAINTENANCE:

For optimal performance of the system over time and operation in compliance with safety regulations, correct maintenance and checks must be performed on both the operator, the electronic equipment constituting the installation and wiring by qualified technicians:

- Oil-hydraulic operator: maintenance check every 6 months.
- Electronic equipment and safety systems: a monthly maintenance check

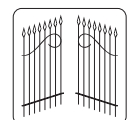
The growth of MECCANICA FADINI has always been based on the development of guaranteed products thanks to our TOTAL QUALITY CONTROL system, which ensures constant quality standards, updated knowledge of the European Standards and compliance with their requirements, in view of an ongoing commitment to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



AUTOMATIC GATE MANUFACTURERS

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