

# Elpro 980



**FADINI**  
l'apricancello  
Made in Italy

I

## LIBRETTO DI ISTRUZIONI

Programmatore a microprocessore per Barriere stradali Bayt 980

- FUNZIONE PASSO-PASSO
- UOMO PRESENTE
- PREDISPOSTO PER SEMAFORO A 3 LUCI
- AUTOMATICO O SEMIAUTOMATICO
- SISTEMA DI SUPERVISIONE SICUREZZE
- PREDISPOSIZIONE PER OROLOGIO ESTERNO
- PREDISPOSIZIONE PER N°2 BAYT 980 SIMULTANEE

pag. 2,3,4,5

GB

## INSTRUCTIONS

Control box with microprocessor for Bayt 980 road barriers

- STEP BY STEP
- DEADMAN CONTROL
- PRESET FOR TRAFFIC LIGHTS with 3 lamps
- AUTOMATIC OR SEMI-AUTOMATIC
- SAFETY DEVICE SUPERVISION / WATCHDOG
- PRESET FOR EXTERNAL TIME CLOCK
- PRESET FOR 2 BAYT 980's SIMULTANEOUS

pages 6,7,8,9

F

## NOTICES D'INSTRUCTION

Programmeur à microprocesseur pour Barrières routières Bayt 980

- FONCTION PAS-PAS
- HOMME MORT
- PREREGLAGÉ POUR FEU DE CIRCULATION A 3 LUMIERES
- AUTOMATIQUE OU SEMIAUTOMATIQUE
- SYSTEME DE SUPERVISION SECURITES
- PREREGLAGÉ POUR HORLOGE EXTERNE
- PREREGLAGÉ POUR N°2 BAYT 980 SIMULTANEEES

pages 10,11,12,13

D

## ANLEITUNG

E-Steuerung mit Mikroprozessor für Strassenschanke Bayt 980

- SCHRITT-IMPULS-FUNKTION
- TOTMANN-BEDIENUNG
- VORGESEHEN FÜR AMPEL MIT 3 LICHTERN
- AUTOMATISCH ODER HALBAUTOMATISCH
- ÜBERWACHUNGSSYSTEM DER SICHERHEITSVORRICHTUNGEN
- VORGESEHEN FÜR EXTERNE UHR
- VORGESEHEN FÜR 2 GLEICHZEITIGE BAYT 980

Seite 14,15,16,17

E

## FOLLETO DE INSTRUCCIONES

Programador de microprocesador para Barreras para pasos de carretera Bayt 980

- FUNCION PASO A PASO
- HOMBRE PRESENTE
- PREDISPUUESTO PARA SEMAFORO DE 3 LUCES
- AUTOMATICO O SEMIAUTOMATICO
- SISTEMA DE SUPERVISION DE LAS SEGURIDADES
- PREDISPOSICION PARA RELOJ EXTERIOR
- PREDISPOSICION PARA 2 BAYT 980 SIMULTANEAS

pág. 18,19,20,21

NL

## GEBRUIKSAANWIJZING

Programmeereenheid met microprocessor voor verkeersbarrières Bayt 980

- STAP-VOOR-STAP FUNCTIE
- AANWEZIGHEID PERSOON
- UITGERUST VOOR STOPLICHTEN MET 3 LAMPEN
- AUTOMATISCH OF SEMI-AUTOMATISCH
- SYSTEEM VOOR TOEZICHT VEILIGHEIDSINRICHTINGEN
- INSTELLING VOOR EXTERNE KLOK
- INSTELLING VOOR 2 SIMULTANE BAYT 980

pag. 22,23,24,25

Dis. N. 5755



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**ATTENTION !!** The installation of this "electronic control board" requires a specific technical knowledge and must be carried out by professional installation agents, who are qualified and certified to operate in compliance with the existing safety norms. It is important to read and keep to these instructions to prevent any wrong use or incorrect installation of the board. The electronic control board ELPRO 980 has been designed and developed to control the oil-hydraulic road barriers BAYT 980s. Any different applications are forbidden, unless specified in this manual.

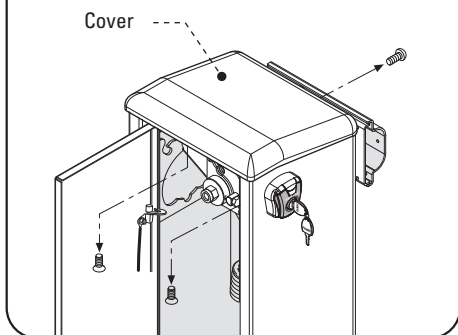


**ATTENTION !!** Meccanica Fadini declines any responsibility for damages to persons or properties caused by the incorrect application of the product or for failing to observe the existing norms. The observance of the Machinery Directive 2006/42/CE is compulsory. Maintenance and inspections of the status of the product must be carried out by qualified technicians.



**ATTENTION !!** Before servicing, do not forget to disconnect the power supply. It is also recommended to read the Safety Norms manual available from Meccanica Fadini. The manufacturing company is not liable for the "electronic control board" in case of misuse.

**1st Operation:**

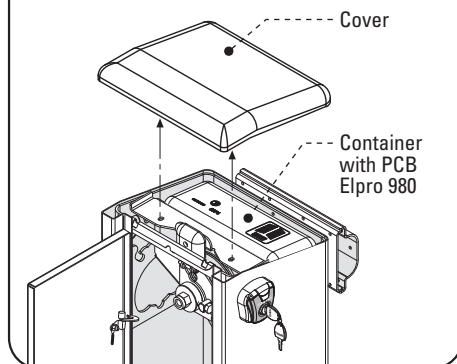


**1st Operation:** undo the 3 screws (one outside and two inside the housing) and remove the Bayt 980 cover.

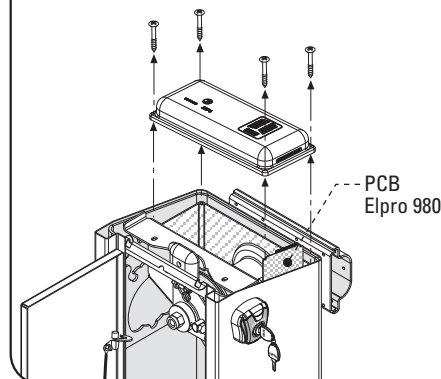
**2nd Operation:** Once removed the Bayt 980 cover, it is possible to see the container where Elpro 980 control board is enclosed.

**3rd Operation:** Undo the 4 screws and remove the container lid; the PCB is positioned on the right.

**2nd Operation:**



**3rd Operation:**



Barrier **Bayt 980**

**DECLARATION OF CONFORMITY**

The Manufacturer:



Via Mantova 177/A - C.P. 126 - 37053 Cerea (VR) Italy Tel. +39 0442 330422 - Fax +39 0442 331054  
e-mail: info@fadini.net - www.fadini.net

**DECLARES UNDER HIS OWN RESPONSIBILITY THAT:**

Model: **Elpro 980** electronic control box with microprocessor

IS IN COMPLIANCE WITH THE MACHINERY DIRECTIVE .....2006/42/CE

Elpro 980 is to be installed into an "Automatic System", including the accessories and components as recommended by the Manufacturing Company.

The manufacturing company is not liable for incorrect applications or misuse of the products, that are produced in compliance with the following norms:

- Law Voltage Directive ..... **2006/95 CE**
- Electro-magnetic Compatibility Directive ..... **2004/108/CE & 92/31 CEE**

In order to certify the product the Manufacturer declares under his own responsibility the compliance with the PRODUCT NORMS .....EN 13241-1

Date: 03-03-2010

Meccanica Fadini s.n.c.  
Direttore

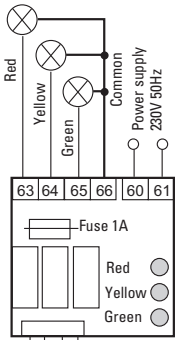
the Responsible Manager



### DIAGNOSTIC LEDS

### "Led"

- L1= Photo cells, it switches off in case of an obstacle
- L2= Open, it illuminates on pulsing to open
- L3= Close, it illuminates on pulsing to close
- L4= Stop, it switches off on pulsing to stop
- L5= Radio, it illuminates whenever a transmitter is pulsed
- L6= Limit switch Closing, off with gate in closed position
- L7= Limit switch Opening, off with gate in open position
- L8= Power supply 230V 50Hz illuminated



Traffic lights plug-in card  
(Optional on request):  
- Power supply 230V, lamp output 230V  
- Power supply 24V, lamp output 24V



(F1)  
2A mains

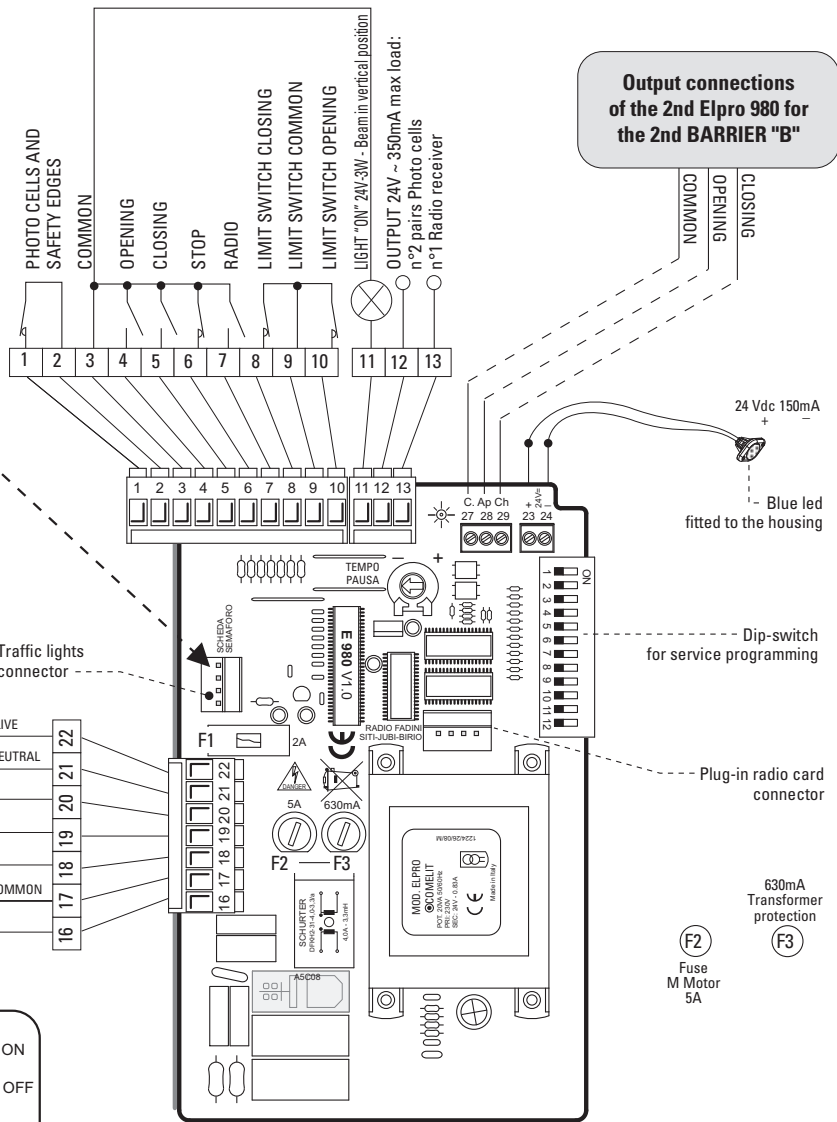
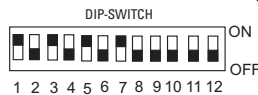
SINGLE-PHASE  
230V 50Hz  
POWER SUPPLY

FLASHING LAMP  
230V 25W max

SINGLE-PHASE M MOTOR  
DRIVE UNIT COS 982

### DIP-SWITCH

- 1= **ON** Photo cells stop barrier on Opening
- 2= **ON** Radio. No reversing (no stopping) on Opening
- 3= **ON** Automatic closing
- 4= **ON** Pre-flashing in service
- 5= **ON** Radio. Step by step with stop in between
- 6= **ON** Deadman control (Dip 4=OFF and Dip 3=OFF)
- 7= **ON** Deadman control only on Closing cycle
- 8= **ON** Flashing lamp off on dwell cycle
- 9= **ON** On Opening/Dwelling beam lowers after passing the photo cells.
- 10= **ON** All operations Opening/Closing after checking status of safety devices assessing clearance from obstacles and operativity
- 11= **OFF**, blank.
- 12= **ON** Activation of the second board (slave mode)



Output connections  
of the 2nd Elpro 980 for  
the 2nd BARRIER "B"

24 Vdc 150mA  
+  
-  
Blue led  
fitted to the housing

Dip-switch  
for service programming

Plug-in radio card  
connector

630mA  
Transformer  
protection

Drwg. 5940

**General Description:** Elpro 980 is a control board with a microprocessor to operate the electro-hydraulic road barriers in the range of Bayt 980. Power supply: 230V 50Hz±10% single-phase. In compliance with the Low Voltage Safety Norms 2006/95 CE and Electro-Magnetic Compatibility 2004/108/CE - 92/31/CEE. The electrical connections for the mains power supply are well separated from the low voltage connections for the commanding and safety accessories. It includes a 5A fuse to protect the board and the motor, a 630 mA primary transformer, and a 2A secondary transformer.

**Operating logic:** After an Opening pulse, an Opening-Dwell-Closing cycle is started either in automatic or semi-automatic mode. The following options can be selected: step by step by remote control, non reversing by remote control on Opening cycle, pre-flashing or non pre-flashing, flashing lamp On - Off options in Dwell phase, deadman control in both O/C cycles or only on Closing, Leds are fitted to provide status diagnostic of the system inputs.

The control board incorporates a special safety feature: the unit checks automatically, even if the motor is stopped, that no movement of the beam occurs unless the safety accessories connected to the system, such as the photocells, safety edges or loop detectors, are cleared from any obstacle.

In the case where two barriers are required alike in length and speed to operate simultaneously (with very large lanes), it is possible to connect the two ELPRO 980s using only three cables to the outputs 27/28/29 and, obviously, to the 230V power supply. In this way, one barrier becomes the master (to which all the commanding and safety accessories are to be connected), and controls the secondary one (slave). The safety contacts (Stop, Photocells) of the second barrier are to be linked out.

### IN CASE OF FAILURE:

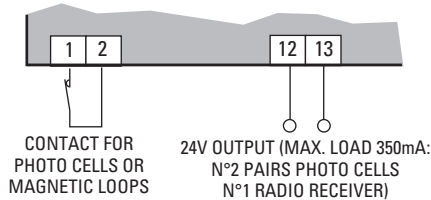
- Check that the power supply to the electronic board is 230V ±10% 50 Hz
- Check that the power supply to the electric motor is 230V ±10% 50 Hz
- For distances beyond 50 metres increase the section of the wires.
- Check the fuses.
- Check all the normally closed contacts.
- Check that no power drop occurs between the board and the electric motor.



2003/108/CE Directive  
for waste electrical and  
electronic equipment  
**DISPOSE OF PROPERLY  
ENVIRONMENT-NOXIOUS MATERIALS**

## LOW VOLTAGE ELECTRIC CONNECTIONS

### Photo cells or Magnetic loops:



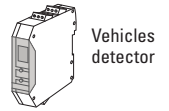
### DIP-SWITCH 1:

- ON: Photo cells or loop stop beam on Opening reverse on Closing once Obstacle is removed
- 1 OFF: Photo cells or loop do not stop beam on Opening, reverse on Closing in case of an obstacle

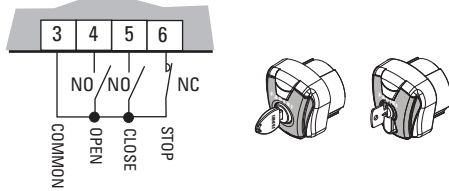


### DIP-SWITCH 9:

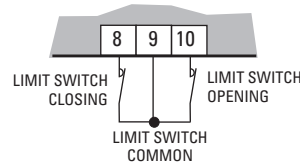
- ON: On Dwell, automatic mode (Dip-Switch 3=ON) the beam lowers on crossing the 2nd pair Photocells or loop
- 9 OFF: No beam lowering on crossing 2nd pair Photo cells



### Keyswitch:

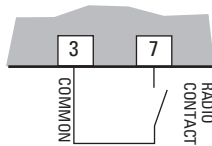


### Limit Switches:



### Radio Contact:

- Open/Close (standard)
- Any new pulse reverses direction
- Step by step



### DIP-SWITCH 2:

- ON: No reversing on Opening
- 2 OFF: Any pulse reverses travel direction

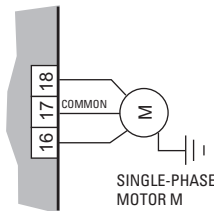
### DIP-SWITCH 5:

- ON: Step by step, stop in between
- 5 OFF: Standard operations

## ELECTRICAL POWER CONNECTIONS

### Motor:

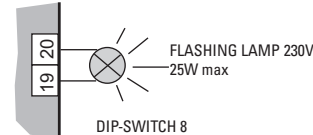
**MOTOR RUN TIME:** no motor run TRIMMER is fitted, run time is controlled through the limit switches and is factory preset at 25 sec. max. (Max. time required is 19 sec. BAYT 980 with 8 m beam and skirt)



### Flashing lamp:

#### DIP-SWITCH 4

- ON: Pre-flashing
- 4 OFF: No pre-flashing



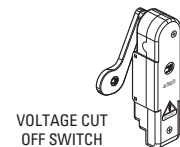
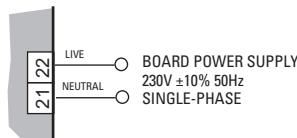
#### DIP-SWITCH 8

- ON: Lamp out of service on Dwell time, automatic mode
- 8 OFF: Lamp flashes on Dwell time automatic mode



### Power Supply:

The board is supplied with power after connecting the cut off switch to the 230V 50Hz mains



## FUNCTIONS

### Automatic / Semi-automatic:

**Automatic cycle:** on pulsing to open, the beam rises and stays open (up position) on Dwell as long as the time set on trimmer T2 expires, then it lowers automatically  
**Semi-automatic cycle:** on pulsing to open, the beam rises. Another pulse is needed for the beam to lower.



#### DIP-SWITCH 3

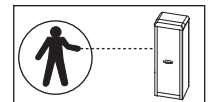
- ON= Automatic Closing
- 3 OFF= No automatic Closing Semi-automatic mode

### Deadman (hold on switched) 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 barrier opening or closing until either the button or key is released.

#### DIP-SWITCH 6

- ON= Deadman control
- 6 OFF= Standard operating mode

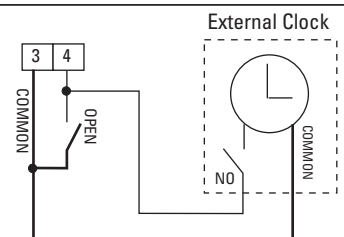


### External Time Clock (Optional):

**TIME CLOCK:** Elpro 980 allows a standard time clock to be connected to it.

**Connections:** parallel connect the NO contact of the clock to the terminal n°4 OPEN and n°3 COMMON, and set the board to the automatic mode by Dip-Switch n°3=ON

**How it works:** Set the clock to the required opening time. At the pre-set time the barrier is automatically opened and held open (the lamp goes off and the led flashes twice shortly and a longer pause follows). 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 barrier is closed automatically.



#### DIP-SWITCH N°3=ON Automatic Closing

- ON= Automatic closing
- 3 OFF= No automatic closing Semi-automatic mode

## ELECTRICAL CONNECTIONS FOR 2 x BAYT 980 SIMULTANEOUS

Before starting the electrical connections, decide which Elpro 980 is the - **A "Master"** in its respective Bayt 980 barrier and is to control the Elpro 980 - **B "Slave"** in the second barrier.

**MOST IMPORTANT:** in the case of simultaneous barriers, the speed and the beam length must be the same, should they not, the barrier fitted with the longer beam, slower speed, is to become the master one.

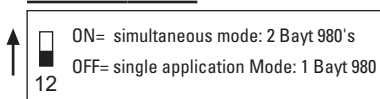
### Electrical connections:

1) **Elpro 980-A:** Carry out all the required electrical connections with Bayt 980- A. The commanding accessories, such as remote controls or other, must be exclusively connected to Elpro 980-A

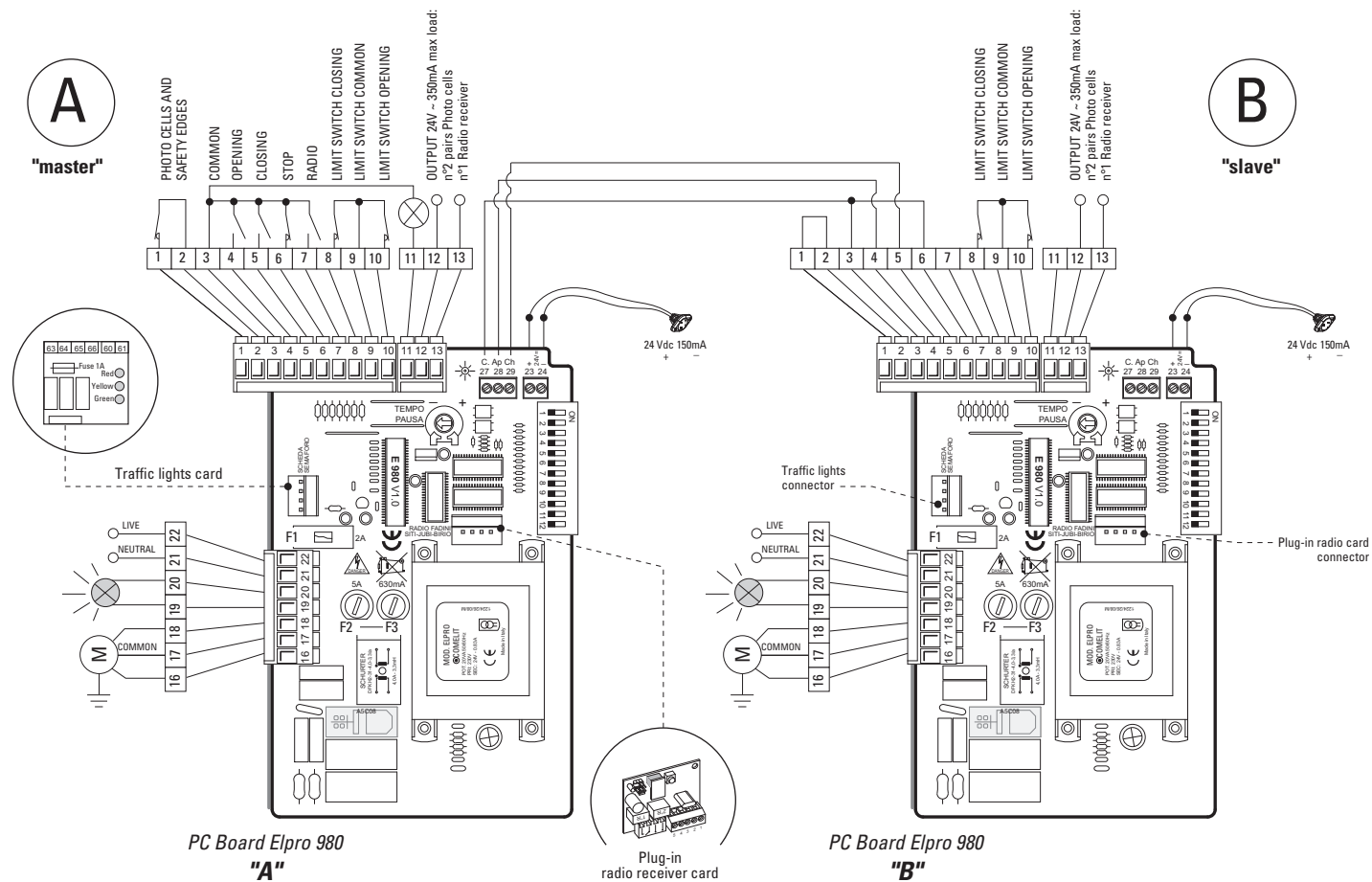
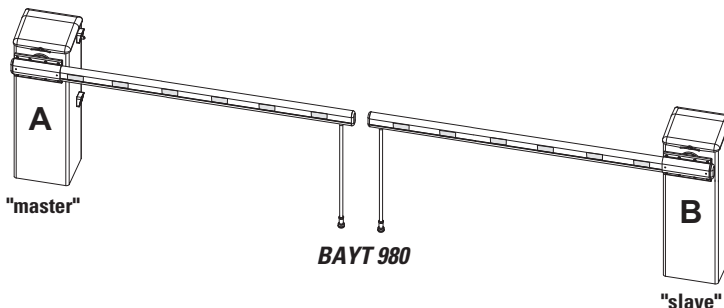
2) **Elpro 980-B:** Connect the board to the power supply, link out the NC contacts (stop, photo cells and safety contacts), eventually connect the motor and the limit switches of Bayt 980-B

Dip-Switch 12= **ON**

DIP-SWITCH N°12=ON



3) Connect terminals **27, 28, 29** of **Elpro 980-A (master)** to the terminals **3, 4, 5** respectively of **Elpro 980-B (slave)**.



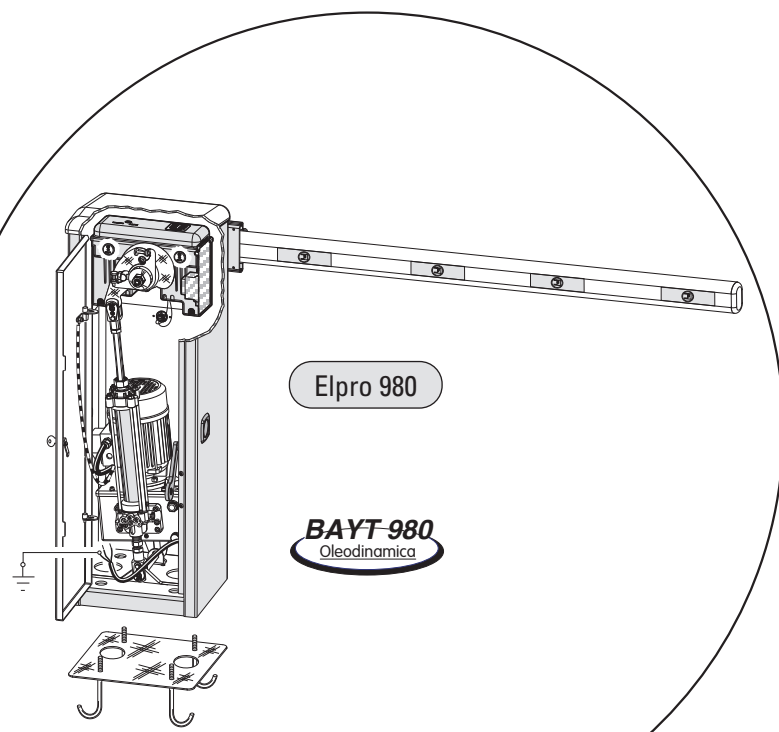
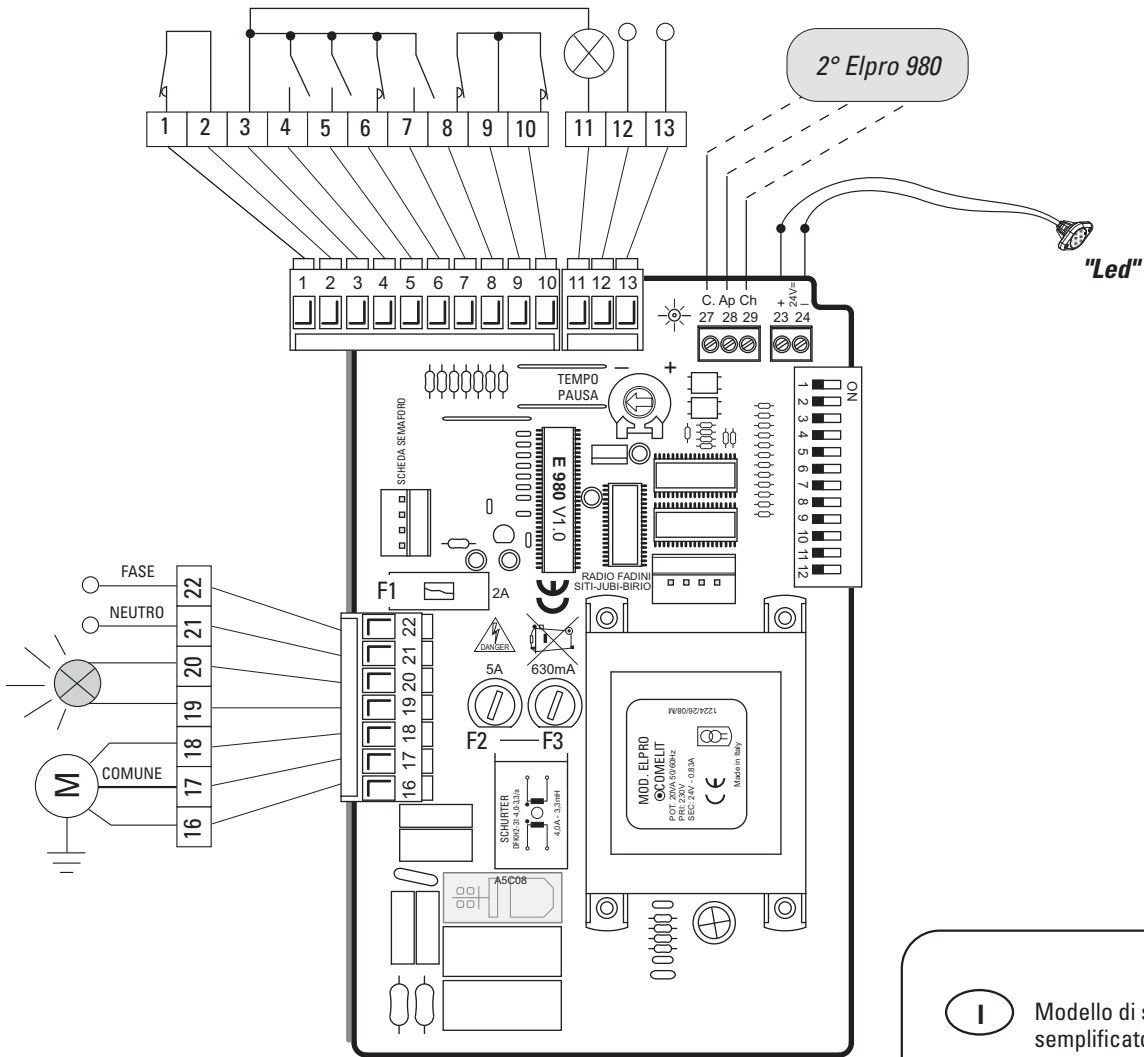
**IMPORTANT:** Should radio receiver or traffic lights cards be required, these are to be connected to the "master" A board.

### TECHNICAL DATA - electronic control board Elpro 980

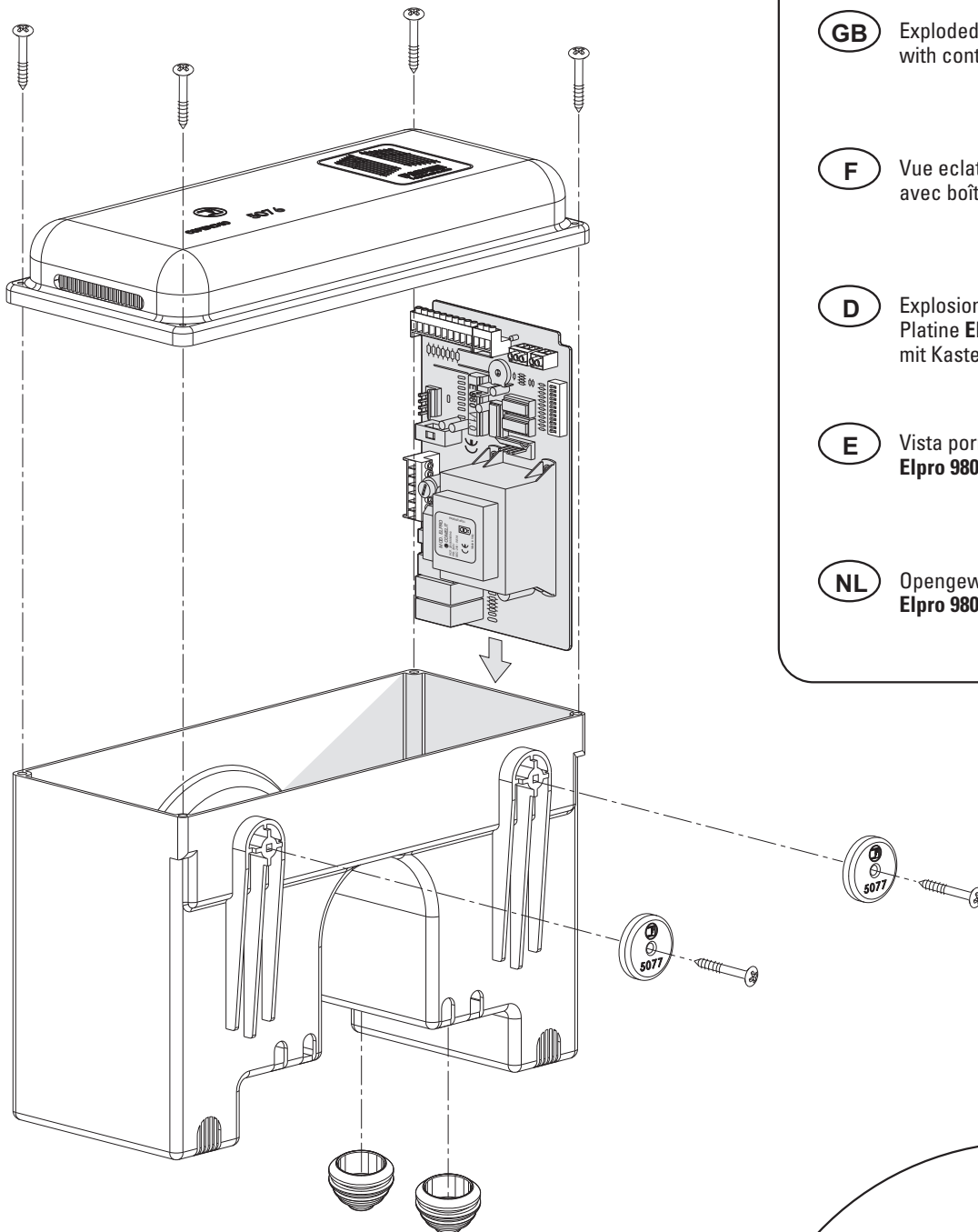
Power supply .....	230V - 50Hz
Voltage output .....	230V - 50Hz
Low voltage output .....	24V - 10W
Output power .....	1'100W
Mains fuses .....	5A
Protection Standards .....	IP 437

<b>Transformer</b>	
Rating .....	20VA
Magnetic core .....	1.5W / thick. 0.5
Voltage .....	0 - 230V
Insulation .....	4Kv x 1'

<b>Max. loads to be connected</b>	
Photo cells .....	3 pairs max 300mA
Flashing lamp .....	230V 25W
Output 12/13 .....	24V 350mA
Output 23/24 .....	24V 150mA



- I** Modello di scheda **Elpro 980** semplificato con simbologia
- GB** **Elpro 980** simplified diagram with symbols
- F** Modèle de carte **Elpro 980** simplifié avec symbolique
- D** **Elpro 980** vereinfachter Schaltplan mit Zeichen
- E** Ejemplo de ficha **Elpro 980** simplificada con simbología
- NL** Vereenvoudigd voorbeeld van **Elpro 980** kaart met symbologie



- I** Vista esplosa scheda **Elpro 980** con scatola e coperchio
- GB** Exploded view of **Elpro 980** board with container and cover
- F** Vue éclaté carte **Elpro 980** avec boîte et couvercle
- D** Explosionszeichnung der Platine **Elpro 980** mit Kasten und Deckel
- E** Vista pormenorizada de la ficha **Elpro 980** con caja y tapa
- NL** Opengewerkte tekening van **Elpro 980** kaart met doos en deksel



Prima dell'installazione da parte di personale tecnico qualificato, si consiglia di prendere visione del Libretto Normative di Sicurezza che la Meccanica Fadini mette a disposizione.

Please note that installation must be carried out by qualified technicians following Meccanica Fadini's Safety Norms Manual.

L'installation doit être effectuée par un technicien qualifié suivant le manuel des Normes de Sécurité de Meccanica Fadini.

Vor der Montage durch einen Fachmann, wird es empfohlen die Anleitung zur Sicherheitsnormen, die Meccanica Fadini zur Verfügung stellt, durchzulesen.

Antes de la instalación por el personal técnico calificado, se recomienda leer detenidamente el Folleto de la Reglamentación de Seguridad que la empresa Meccanica Fadini pone a su disposición.

Voordat de installatie door gekwalificeerd technisch personeel wordt uitgevoerd, wordt geadviseerd om het boekje met veiligheidsvoorschriften dat Meccanica Fadini ter beschikking stelt door te lezen.

I

Direttiva 2003/108/CE  
Smaltimento dei materiali  
elettrici ed elettronici

**VIETATO GETTARE NEI RIFIUTI MATERIALI  
NOCIVI PER L'AMBIENTE**

GB

2003/108/CE Directive  
for waste electrical and  
electronic equipments

**DISPOSE OF PROPERLY  
ENVIRONMENT-NOXIOUS  
MATERIALS**

F

Directive 2003/108/CE  
Elimination des matériels  
Electriques et Electroniques

**INTERDIT JETER DANS LE DECHETS LES  
MATERIELS NUISIBLES POUR  
L'ENVIRONNEMENT**

D

Richtlinie 2003/108/CE  
Entsorgung der elektrischen  
und elektronischen Materialien

**ES IST VERBOTEN, DIE UMWELTGEFÄHRLICHEN  
MATERIALIEN IN DEN MÜLL ZU WERFEN**

E

Directiva 2003/108/CE  
Eliminación de los materiales  
eléctricos y electrónicos

**SE PROHIBE LANZAR EN LOS DESECHOS  
MATERIALES PERJUDICIALES PARA  
EL MEDIO AMBIENTE**

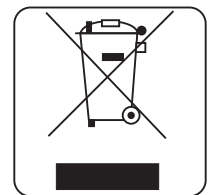
NL

Richtlijn 2003/108/CE  
vernietiging van elektrische  
en elektronische materialen

**HET IS VERBODEN MATERIALEN DIE  
SCHADELIJK ZIJN VOR HET MILIEU BIJ HET  
AFVAL TE WERPEN**

Bayt 980

Timbro dell'installatore  
Installer's stamp  
Timbre de l'installateur  
Stempel des Installateurs  
Sello del Instalador  
Stempel van de Installateur



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