

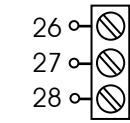
# Elpro • 10 D.S.A.

SLIDING GATES  
THREE-PHASE / SINGLE-PHASE

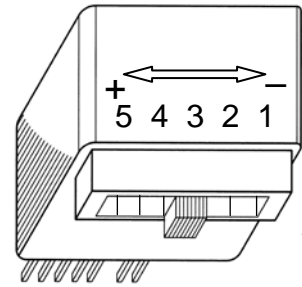
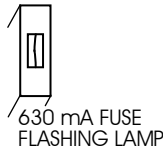
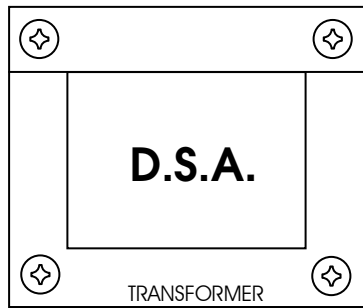


VOLTAGE  
CHANGE-OVER SWITCH

400 V 230 V



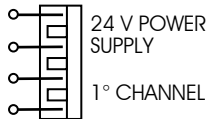
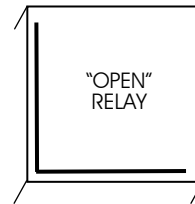
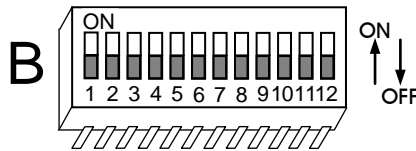
TERMINALS FOR THE  
CONNECTION OF THE  
PUSH BUTTONS PULIN 3



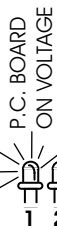
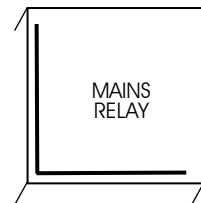
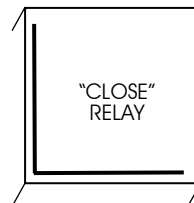
BRAKE FORCE  
ADJUSTABLE  
SWITCH



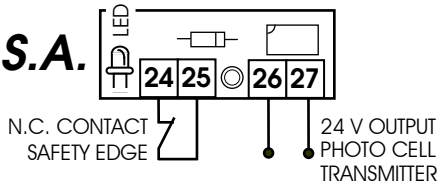
DIP-SWITCH



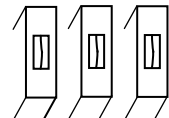
RADIO CONTROL  
PLUG-IN CARD SUPPORT



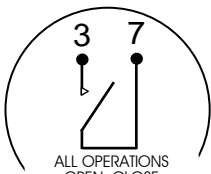
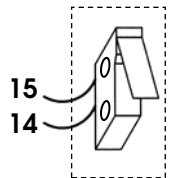
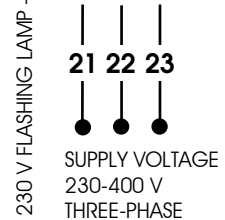
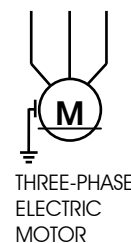
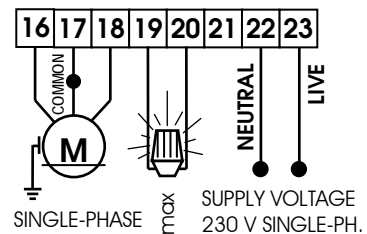
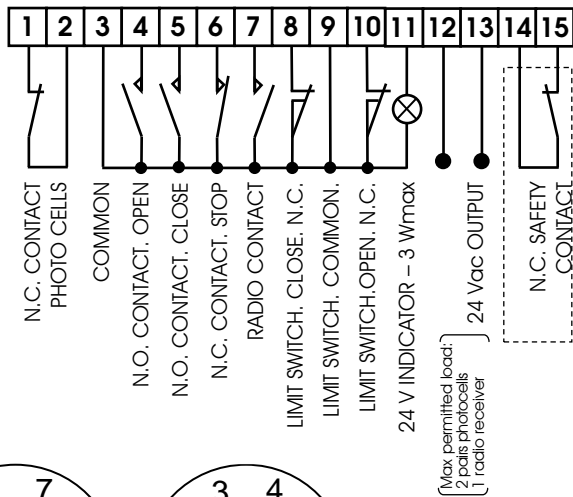
**D.S.A.**



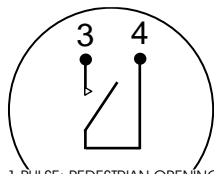
EARTH  
CONNECTION



5 A FUSES  
HIGH VOLTAGE



RADIO CONTACT



1 PULSE: PEDESTRIAN OPENING  
2 PULSES: FULL OPENING  
PEDESTRIAN OPERATOR

Should more pairs of photocells be required than the recommended quantity, fit an auxiliary transformer outside the control box.

**N.W.:** THIS PANEL IS TESTED TO OPERATE GATES ONLY THROUGH FADINI ACCESSORIES. NO WARRANTY IS ACKNOWLEDGED BY THE MANUFACTURER IN CASE THAT OTHER ACCESSORIES ARE USED OR NON CONFORMING APPLICATIONS ARE MADE WITHOUT THE MANUFACTURER'S APPROVAL.



Drwg. No. 3442

ELECTRONIC PROGRAMMER FOR SLIDING GATES THREE- AND TWO-PHASE FITTED WITH ELECTRONIC BRAKE AND **D.S.A.** (Autotest Safety Device)



# ELECTRONIC CONTROL PANEL ELPRO 10 D.S.A. FOR SINGLE/THREE-PHASE SLIDING GATE SYSTEMS

**FUNCTIONS:** AUTOMATIC – HOLD ON SWITCHED CONTROL (DEADMAN CONTROL) – PARTIAL PEDESTRIAN OPENING – STEP BY STEP BY THREE PUSH BUTTONS – SAFETY PHOTO CELL SELFTESTING (AUTOTEST) – ANTI-CRUSH SAFETY EDGE – ELECTRIC LOCK OUTPUT – ADJUSTABLE ELECTRONIC BRAKE CONTROL

## DESCRIPTION OF THE FUNCTIONING WITH SLIDING GATES

### D.S.A. PHOTOTEST SAFETY DEVICE:

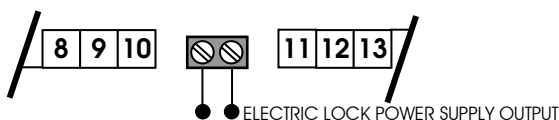
By connecting the D.S.A. card to the terminals 26 – 27 the photo cell transmitter is 24 V power supplied. In case of more photo cells, connections are in parallel, the receivers are connected to the 24 V output, terminals 12 – 13. Always bring contact to terminal 1 – 2 in the main board for all the photo cells of the systems. Once satisfied that the electrical connections are all right, set 9 and 10 of Dip-switch "B" as described in the section setting the safety devices of the system.

### ADJUSTING D.S.A. SAFETY EDGE:

The N.C. connection of the D.S.A. card to terminals 24 – 25 allows control of the safety edge. Should more safety edges be required, these are to be series connected. Whenever an obstacle touches the safety edge, the system reverses the gate travel direction for a short spell to allow the removal of the obstacle. Reversing can be set by Dip-switch "B" No. 11 – 12 as described in the respective section.

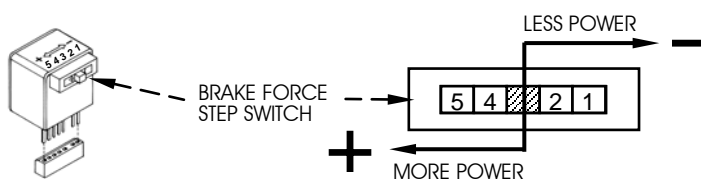
### ELECTRIC LOCK:

Connection is by the provided terminals.



### ADJUSTING BRAKE POWER:

The force of the brake can be controlled by a step switch from step 1 to step 5. (Optional) the switch can be fitted in the provided connector positioned on the electronic PC board.



### FUNCTION LOGIC OF THE CONTROL PANEL:

The motor run OPEN/CLOSE time must be set to a longer time than that of the actual travel of the gate. The DWELL ie. wait time before re-closing is to meet the site requirements. On pulsing to open, the lamp goes on first and after three seconds the motor starts. On dwell time the flashing lamp is still on, after the gate has reached the fully closed position the lamp continues to stay on for three more seconds. Pre-flashing can be eliminated by Dip-switch "B" No.4.

### FAULT DETECTION LED INDICATORS

LED No. 1: It switches on when voltage is supplied.

LED No. 2: "Photo cells" normally on. It switches off when the photo cells are obstructed.

LED No. 3: "Open" normally off. It switches on when the respective switch is activated.

LED No. 4: "Close" normally off. It switches on when the respective switch is activated.

LED No. 5: "Stop" normally on. It switches off when the respective switch is activated.

LED No. 6: "Radio" normally off. It switches on by pulsing either the remote control, keyswitch or push buttons.

LED No. 7: "Limit switch. Close" normally on. It switches off when the gate is fully closed.

LED No. 8: "Limit switch. Open" normally on. It switches off when the gate is fully open.

### NOTES TO WIRING OPERATIONS

- 1) It is advisable not to expose the control box directly to weather conditions. If mounted outside, a suitable enclosure is recommended to protect it from sunshine and rain.
- 2) Earth the equipment.
- 3) Bridge terminals 1 – 2 if you do not require any photo cells.
- 4) Should two sets of photo cells be required, these are to be series connected to terminals 1 – 2, contact normally closed. If mounted to the same side of the gate, cross install them ie. projector of one pair next to the receiver of the second pair.
- 5) Bridge terminals 3 – 6 if you do not require any keyswitch or push buttons.
- 6) Fit the mains to the control box with a 0.03 A high sensitivity magnetic-thermal circuit breaker.
- 7) For single-phase motors the cable square section must not be inferior to 1,5 mm<sup>2</sup>.
- 8) The 24 V~ output ie. terminals 9 – 10 can take 2 pairs of photo cells and 1 radio receiver maximum. Should extra photo cells or receivers be required, fit an auxiliary transformer outside the control box.

### IN CASE OF FAILURE OF THE PANEL

- 1) Check voltage: it must be 230 V single-phase / 400 V three-phase.
- 2) Check high voltage fuses.
- 3) Check low voltage fuses.
- 4) Check photo cells: contact must be normally closed.
- 5) Check voltage from the control box to the electric motor in case power has dropped.

# SETTING A PROGRAM WITH ELPRO 10 D.S.A. DIP-SWITCH

**B**

**GENERAL DIAGRAM. Dip-switches No. 1 - 2 - 3 - 4 - 5 - 6**

No. 1 ON = PHOTO CELLS. STOP DURING "OPEN" CYCLE  
 No. 1 OFF = PHOTO CELLS. NO STOP DURING "OPEN" CYCLE. REVERSE ON CLOSING

No. 2 ON = REMOTE CONTROL. NO REVERSE TRAVEL ON OPENING  
 No. 2 OFF = REMOTE CONTROL. REVERSE TRAVEL

No. 3 ON = AUTOMATIC RE-CLOSING  
 No. 3 OFF = NO AUTOMATIC RE-CLOSING

No. 4 ON = PRE-FLASHING  
 No. 4 OFF = NO PRE-FLASHING

No. 5 ON = REMOTE CONTROL. STEP BY STEP. STOP IN BETWEEN  
 No. 5 OFF = REMOTE CONTROL. GATE CAN BE REVERSED WHILE TRAVELLING

No. 6 ON = "DEADMAN CONTROL" (HOLD-ON SWITCHED), SET No.3 TO OFF  
 No. 6 OFF = OUT OF SERVICE. NORMAL OPERATING MODE  
"HOLD ON SWITCHED CONTROL": any open or close operations require that the respective switch button or key is hold on pressed or turned until the end of the operation.

**B**

**SETTING FOR PARTIAL PEDESTRIAN OPENING. Dip-switches No. 7 - 8**

A first "OPEN" pulse to terminal No.4 opens the gate to the distance set through the switches 7 - 8 as explained below; a second pulse opens the gate full travel.

Full opening      1 meter opening      1,5 meter opening      2 meter opening

**B**

**SETTING THE SAFETY DEVICES OF THE SYSTEM. Dip-switches No. 9 - 10**

**"D.S.A." CARD  
 PHOTO CELL TRANSMITTER - TERMINALS No. 26 - 27**

No. 9 ON = PHOTO CELL CONTROL TEST BEFORE GATE OPERATION  
 (ie. phototest with the photo cell transmitter connected to the provided output)  
 No. 9 OFF = PHOTOTEST OUT OF SERVICE

No. 10 ON = PHOTO CELL ALIGNMENT CONTROL TEST - NO OBSTRUCTION BEFORE GATE OPERATION  
 No. 10 OFF = TEST OUT OF SERVICE

**B**

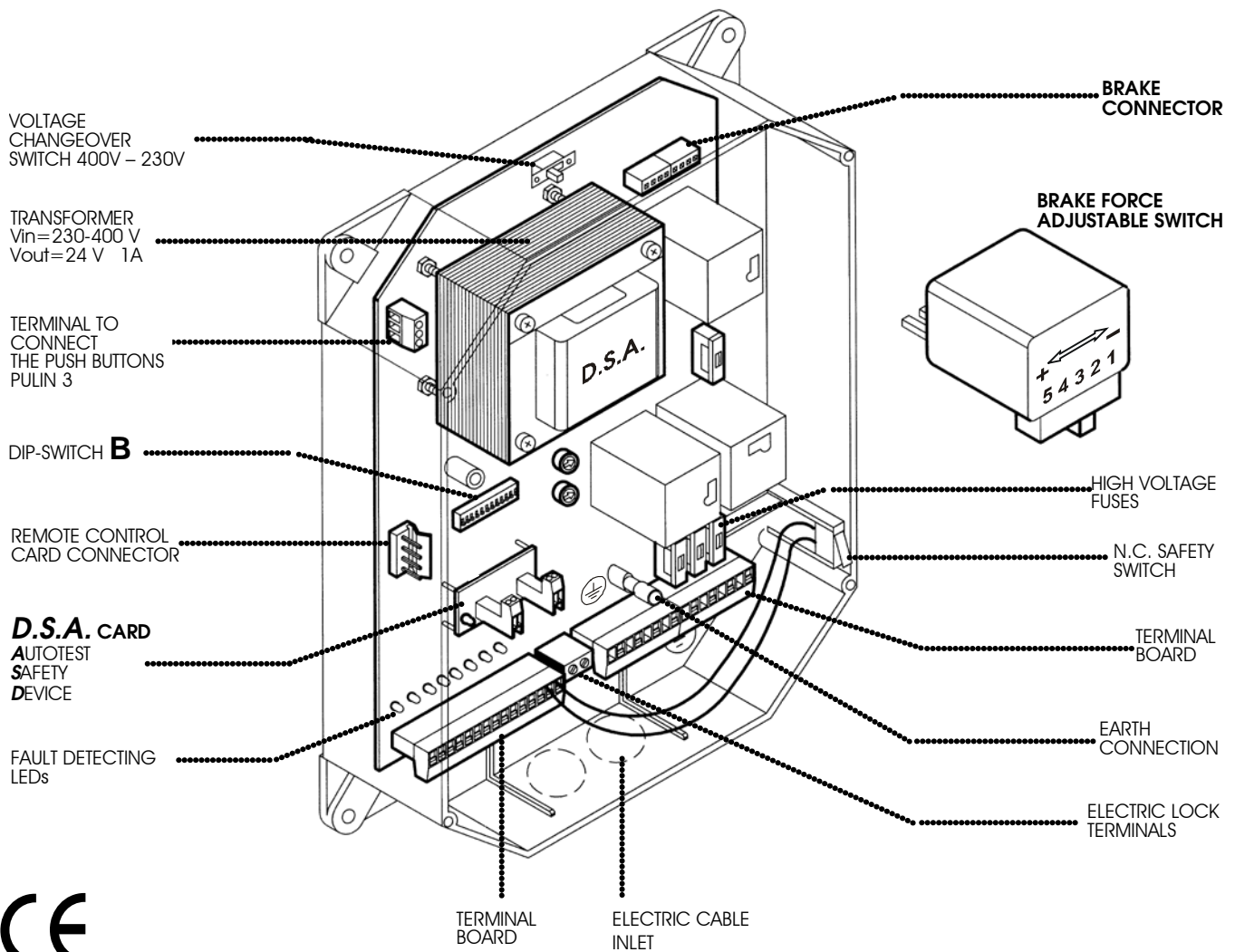
**SETTING SAFETY EDGE CONTROL. Dip-switches No. 11 - 12**

**"D.S.A." CARD  
 SAFETY EDGE - TERMINALS No. 24 - 25**

reverse 5 cm      reverse 10 cm      reverse 15 cm      reverse 30 cm

**N.W.:** The electronic control panel Elpro 10 D.S.A. has been designed to suit any FADINI sliding gate operator and accessories. The manufacturer is not responsible for incorrect use of Elpro 10 D.S.A. with other applications or with accessories that are not FADINI compatible, for misuse of the electronic P.C. board and damages derived from it. All the electrical connections are to be made as per the instructions and diagrams here described. Supply the terminals 21 - 22 - 23 with 230/400 V, 50 Hz voltage. The "red led" No.1 switches on and stays on as long as the board is properly supplied. Set DIP-SWITCHES "B" to meet the site requirements.

# Elpro • 10 D.S.A.



## TECHNICAL SPECIFICATIONS

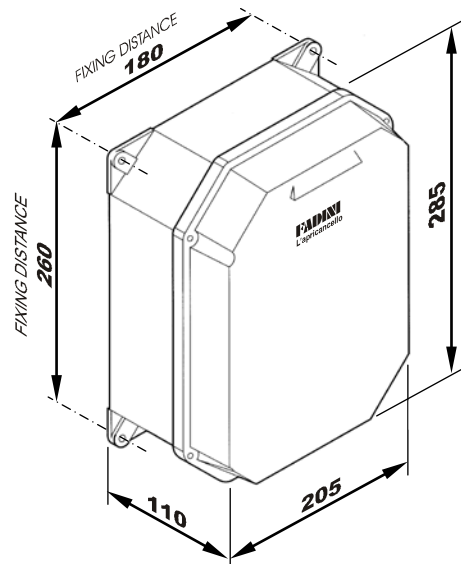
Supply voltage	230/400 V - 50 Hz
Voltage output	230 V - 25 W
Low voltage output	24 V - 10 W
E.M. max. power output	1.100 W
Mains fuses	5 A
Secondary fuses	1 A - 630 mA
Logic	Open - Stop - Close
Box dimensions	285 x 205 x 110 mm
Protection Standards	IP 473

<b>Elستا relay approval marks</b>	<b>VDE-CSA-DEMCO-SEV</b>
	<b>10 A - 230 V</b>
	<b>4 A - 400V</b>

## TRANSFORMER

Power rate	80 VA
Magnetic core	1,5 W / 0,50 Thick.
Voltage	0 - 230 V
Outputs	0 - 12 - 18 - 24 V
Working frequency	50 / 60 Hz
Insulation	4 Kv x 1'

**N.W.:** For special applications ie. to switch on lights - CCTV etc..., **SOLID STATE RELAYS** are recommended to prevent the micro-processor from being affected.



Drwg. No. 3442

**meccanica**  
**FADINI** S.N.C.  
AUTOMATIC GATE MANUFACTURES

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