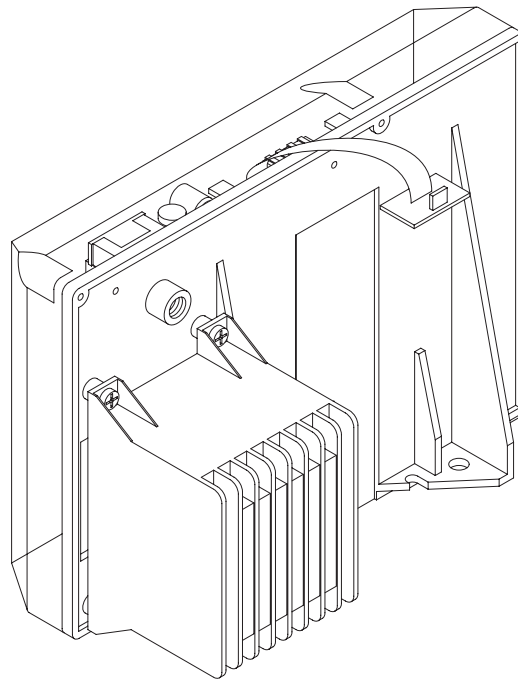


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Rev. 12/06/05

BENINCA®

CENTRALE DI COMANDO
CONTROL UNIT
STEUEREINHEIT
CENTRALE DE COMMANDE
CENTRAL DE MANDO
CENTRALKA STEROWANIA

RI.624



Libro istruzioni
Operating instructions
Betriebsanleitung
Livret d'instructions
Manual de instrucciones
Książeczka z instrukcjami



UNIONE NAZIONALE COSTRUTTORI
AUTOMATISMI PER CANCELLI, PORTE,
SERRANDE ED AFFINI

Dichiarazione CE di conformità
EC declaration of conformity
EG-Konformitätserklärung

Déclaration CE de conformité
Declaracion CE de conformidad
Deklaracja UE o zgodności

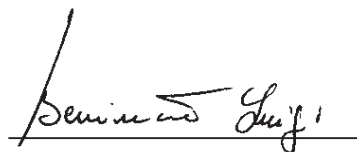
Con la presente dichiariamo che il nostro prodotto
We hereby declare that our product
Hiermit erklaren wir, dass unser Produkt
Nous déclarons par la présente que notre produit
Por la presente declaramos que nuestro producto
Niniejszym oświadczamy że nasz produkt

RI.624

è conforme alle seguenti disposizioni pertinenti:
complies with the following relevant provisions:
folgenden einschlagigen Bestimmungen entspricht:
correspond aux dispositions pertinentes suivantes:
satisface las disposiciones pertinentes siguientes:
zgodny jest z poniżej wyszczególnionymi rozporządzeniami:

Direttiva sulla compatibilità elettromagnetica
(89/336/CCE, 93/68/CEE)
EMC guidelines (89/336/EEC, 93/68/EEC)
EMV-Richtlinie (89/336/EWG, 93/68/EWG)
Directive EMV (89/336/CCE, 93/68/CEE)
(Compatibilité électromagnétique)
Reglamento de compatibilidad electromagnética
(89/336/MCE, 93/68/MCE)
Wytyczna odnośnie zdolności współdziałania elektromagne-
tycznego (89/336/EWG, 93/68/EWG)

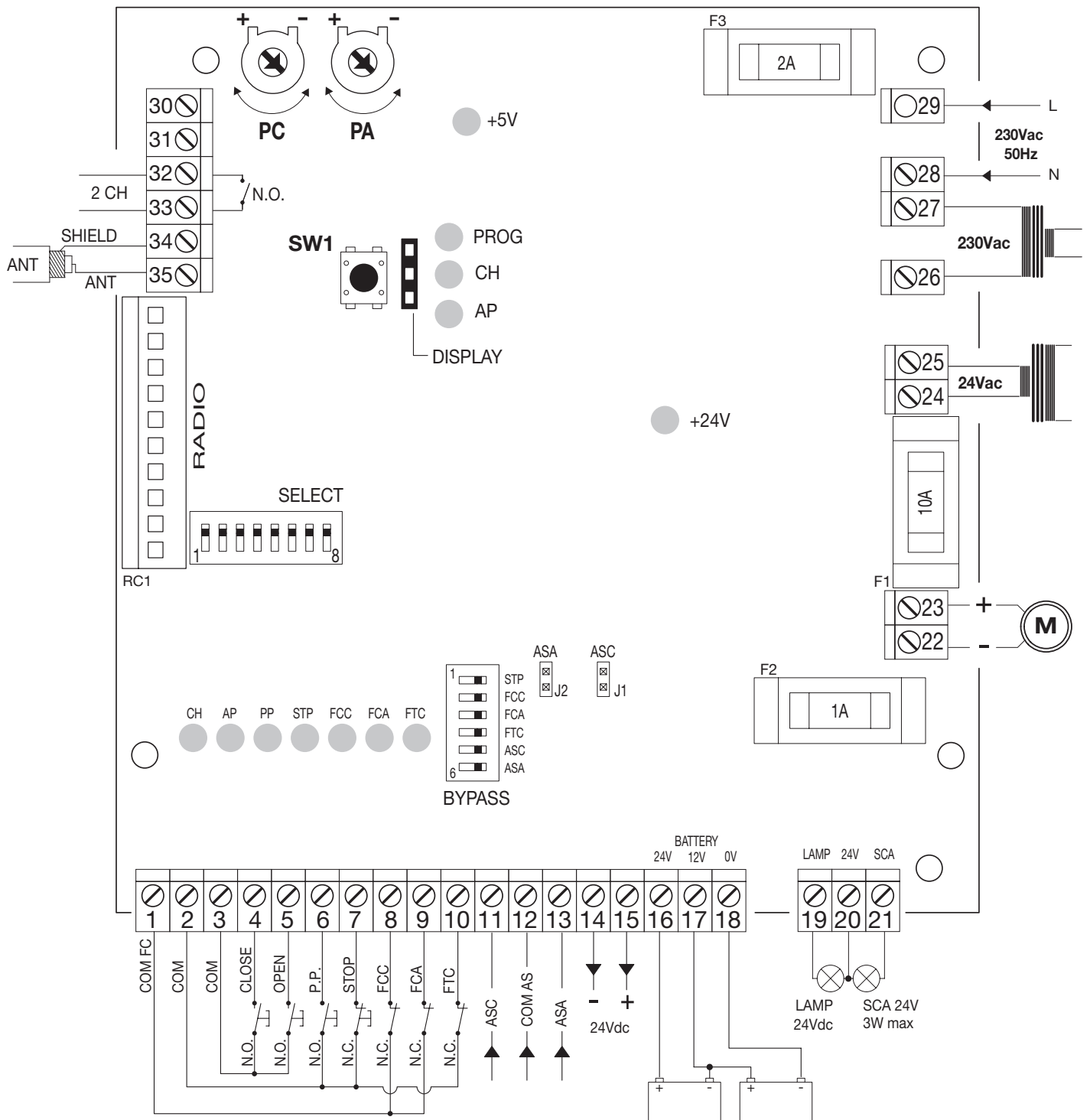
Direttiva sulla bassa tensione (73/23/CEE, 93/68/CEE)
Low voltage guidelines (73/23/EEC, 93/68/EEC)
Tiefe Spannung Richtlinie (73/23/EWG, 93/68/EWG)
Directive bas voltage (73/23/CEE, 93/68/CEE)
Reglamento de bajo Voltaje (73/23/MCE, 93/68/MCE)
Wytyczna odnośnie niskiego napięcia (73/23/EWG,
93/68/EWG)



Benincà Luigi, Responsabile legale.
Sandrigo, 01/06/2006.

BENINCA®

Automatismi Benincà SpA
Via Capitello, 45
36066 Sandrigo (VI)
ITALIA



N.B: Non effettuare ponticelli su morsettiera, utilizzare esclusivamente gli appositi Dip-Switch BYPASS

N.B: Do not make jumpers on the terminal board, use only the special "BYPASS" Dip-Switches.

NB: Keine Brücken an der Klemmenleiste herstellen, sondern ausschließlich die speziellen Dip-Switches "BYPASS" verwenden

N.B.: Ne pas mettre de cavaliers sur le bornier, utiliser exclusivement les dip-switchs «BYPASS» prévus à cet effet

N.B: No realizar ningún conector puente en el terminal de bornes, utilizar exclusivamente los relativos Dip-Switch "BYPASS"

UWAGA: Nie wykonywać mostkowania na listwie zaciskowej, stosować wyłącznie specjalne do tego Dip-Switch "BYPASS"

Control unit with microcontroller for RI.624

The microprocessor control unit **RI.624** can be used to control 24Vdc motors with a power not higher than 160W.

Inputs/Outputs

Term. No.	Function	Note
1	Common limit switch	Common terminal for FCA and FCC inputs (see "Installation of the control unit")
2,3	Output +V	Common terminal for all inputs.
4	Input CHIUDE	CLOSE N.O. contact
5	Input APRE	OPEN N.O contact (can be switched to input for "Pedestrians")
6	Input P.P.	Step-by-step input. Connected in parallel to the output of the remote control unit. N.O. contact.
7	Input STOP	N.C. contact
8	Input FCC	Closing limit switch input. N.C. contact.
9	Input FCA	Opening limit switch input. N.C. contact.
10	Input FTC	To be connected to the photocell output contact. N.C. contact.
11,12	Input ASC	Input for sensitive edge or safety device. Its action causes movement reversion for 1 second if the motor is in the closing phase*.
12,13	Input ASA	Input for sensitive edge or safety device. Its action causes movement reversion for 1 second if the motor is in the opening phase*.
14,15	Output 24Vdc	Output of the auxiliary power supply 24Vdc, "-=" term. 14, "+=" term. 15
16,17,18	Battery input	Connection for buffer battery (2x12V): term. 16= 24V, term. 17= 12V, term. 18= 0V and green-yellow earth cable
19,20	LAMP output	To the flashing light 24V Lamp - max. 10W.
20,21	Output SCA	To the "Open gate indicator". Lamp 24V - 3W max.
22,23	Output Motor	To the motor 24Vdc
24,25	Secondary input	To secondary circuit of 24Vac transformer
26,27	Primary input	To primary circuit of 230Vac transformer
28,29	Input 230Vac	Control unit power supply 220Vac - 50Hz., Neutral= term. 28, Phase= term. 29
32,33	Output 2 nd channel	N.O. contact, controlled by the second channel of the remote control unit
34,35	Input Antenna	Antenna connection for receiver card of the remote control unit. Screen= term. 34
RIC1		Connector for receiver card of the remote control unit

* The input of the edge is an input with calibrated resistance.

If a resistive edge is being used, close the respective Jumper: J1 for ASC and J2 for ASA.

If a mechanical edge is being used, open the respective Jumper: J1 for ASC and J2 for ASA.

If you do not want to fit an edge, open the respective Jumper and turn ON the short-circuit DSW. 5-ASC, 6- ASA

N.B.: There are two dedicated inputs for the edge, **NEVER CONNECT THE EDGE TO THE COMMON TERMINAL**

LED

+5V Power supply of the control circuits. If the LED is OFF, check the fuse F1 (2A).

+24V Power supply of the motor. If the LED is OFF, check the fuse F3 (10A).

PROG Flashing light during the normal operation of the control unit.

CH It indicates that the motor is in the closing phase.

AP It indicates that the motor is in the opening phase.

Trimmer

PA It regulates the threshold of the motor torque in the opening phase (max. threshold= clockwise direction).

PC It regulates the threshold of the motor torque in the closing phase (max. threshold= clockwise direction).

Installation of the control unit

1 After having assessed the characteristics and the risks of the installation, short-circuit all normally closed inputs which are not to be used: Stop (7), FCC (8), FCA (9), Ftc(10), Asc (11), Asa (13) by using the 6 dip-switches near the removable terminal strip.

The correspondences are: 1= Stop, 2= Fcc, 3= Fca, 4= Ftc, 5= Asc, 6= Asa.

N.B.: A microswitch is connected across terminals Com.Fc (1) and Com. (2) and calibrates the stroke when the motor is manually disengaged, if limit switches are mounted their common terminal should be connected to terminal Com.Fc (1) together with one of the disengage microswitch cables (the other microswitch cable remains connected to terminal Com. (2) together with any other common pushbutton wires. If the sensitive edge is fitted on the closing or opening edge, the connections should be made to the inputs "ASC" and "ASA" respectively. Connect terminal "0V"(18) to the green-yellow cable of the earth plant.

2 Connect the control inputs: "P.P." - Step-by-step (6) ,"Apre" - Open (5), "Chiude" - Close (4).

3 Connect the power supply 24Vdc (14,15) to any possible devices connected to the control unit (photocells, receivers,...) keeping the correct polarity. Connect the flashing light and the "open gate indicator", if present (lamps 24V-3W).

4 After having checked the connections again, power the control unit at input terminals 230Vac (28,29). When the unit is on the leds +5V, +24V, STOP, FTC should be on. At least one of the FCA or FCC leds should be on. The PROG led should flash.

5 The first operation of the control unit is carried out at reduced speed to measure the gate movement.

- Adjust the trimmers PA and PC to half their value.

- Send an opening control signal (Apre, P.P., remote control).

- The control unit performs a pre-warning flashing and then starts the opening phase. The gate will stop when fully open by a mechanical stop or at the FCA if this has been mounted. The flashing light does not switch off and after 3 seconds closing starts automatically. The calibration is complete at the end of the closing phase i.e. on the closed mechanical stop or at the FCC if this has been mounted.

The procedure is not completed if the motor is stopped by a control signal (PP, Stop, photocell, ...). After the stroke regulation the trimmers PA and PC must be adjusted, allowing limitation of the maximum power supplied to the motor. To adjust the trimmer PA, while starting an opening operation, move the trimmer towards the minimum value (anti-clockwise) until the limiting device is triggered with a subsequent short movement reversion. Then gradually increase the threshold until an optimal regulation is obtained. The procedure for the trimmer PC is the same and concerns the closing operations.

6 Set the Dip-Switches and the programmable functions according to requirements (it is not necessary to switch the control unit off and on again).

WARNINGS

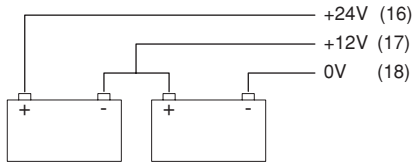
Manual release

When the motor is released, the normally closed contact connected between terminals Com. (2) and Com.Fc. (1) opens.

When the motor is engaged and a first open signal is given, the control unit will run a new stroke calibration.

Buffer batteries

- If buffer batteries are used (2x12V in series), to remove completely the power supply to the control unit disconnect the terminal "0V" (18).
- The built-in battery charger in the control unit needs some days to completely recharge the batteries.
- During operation with batteries, the motor has a movement speed slightly lower than normal operation, irrespective of the charge level of the batteries.
- Correct connection of the batteries is as follows:



Dip-switch functions "SELECT"

DSW1 Operating mode for input "P.P."

OFF: Open/STOP/Close/STOP sequence

ON: Open/Close sequence

DSW2 Function "Automatic closure"

OFF: Disabled

ON: Enabled

For safety reasons, the function "Automatic closure" is always disabled after a control signal at the "STOP" inputs, or if an obstacle is detected by a rev. sensor.

DSW3 "Multi-user" function: the input "P.P." does not stop the motor during the opening phase. At completion of the opening phase, the input "P.P." is enabled for the gate closure.

OFF: Disabled

ON: Enabled

DSW4 "Pre-warning" function: the flashing light is activated 3 seconds before the starting of each operation.

OFF: Disabled

ON: Enabled

DSW5 Photocell intervention in the opening phase: if the photocell beam is interrupted, the motor is stopped. The operation starts again as soon as the photocell beam is no longer obscured.

OFF: Disabled

ON: Enabled

DSW6 "Pedestrian" function: the input "Open" controls the partial opening.

OFF: Disabled

ON: Enabled

DSW7 Operating mode of the "Pedestrian" function

OFF: The input "Open" controls only the opening phase

ON: The input "Open" has the same functions as the input "P.P."

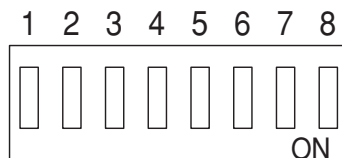
DSW8 Operating mode of the "Indicator lamp of open gate"

OFF: Normal operation ON/OFF

ON: Flashing operation: in the opening phase the indicator lamp flashes slowly. At completion of the opening, the indicator is on with fixed light, while in the closing phase it flashes quickly.

Programmable functions

The functions for which it is possible to select from a range of values are set using the programming pushbutton (PROG.) together with the dip-switches "SELECT". The pre-set values are indicated with "(def.)". To store the programmable functions in the memory, position the dip-switches as indicated in the table, then press the "PROG." button for at least 2 seconds. The "PROG." LED will go out and then come back on for about 2 seconds to indicate the settings have been stored. Once programming has been completed, return the dip-switches to their original positions. To facilitate this operation, take note of the basic settings in the following table.



Dwell time for automatic closure.

When the **OPEN** input contact closes the countdown is reset. If the **FTC** trips the countdown will be either reset or reduced to 1/4 of the set time depending on the program mode selected.

Dsw1	Dsw2	Dsw3	Dsw4	Dsw5	Dsw6	Dsw7	Dsw8	Seconds
OFF	OFF	ON	ON	Off	Off	Off	Off	5
				Off	Off	Off	On	10
				Off	Off	On	Off	15
				Off	Off	On	On	20
				Off	On	Off	Off	30
				Off	On	Off	On	40
				Off	On	On	Off	50
				Off	On	On	On	60 (def.)
				On	Off	Off	Off	80
				On	Off	Off	On	100
				On	Off	On	Off	120
				On	Off	On	On	140
				On	On	Off	Off	160
				On	On	Off	On	180
				On	On	On	Off	200
On	On	On	On	220				

Work time.

Dsw1	Dsw2	Dsw3	Dsw4	Dsw5	Dsw6	Dsw7	Dsw8	Seconds
ON	OFF	ON	ON	Off	Off	Off	Off	5
				Off	Off	Off	On	10
				Off	Off	On	Off	15
				Off	Off	On	On	20
				Off	On	Off	Off	30
				Off	On	Off	On	40
				Off	On	On	Off	50
				Off	On	On	On	60 (def.)
				On	Off	Off	Off	80
				On	Off	Off	On	100
				On	Off	On	Off	120
				On	Off	On	On	140
				On	On	Off	Off	160
				On	On	On	Off	180
				On	On	On	On	200
On	On	On	On	220				

"Pedestrian" opening.

Dsw1	Dsw2	Dsw3	Dsw4	Dsw5	Dsw6	Dsw7	Dsw8	Opening (cm)
ON	ON	OFF	ON	Off	Off	Off	Off	80
				Off	Off	Off	On	95 (def.)
				Off	Off	On	Off	110
				Off	Off	On	On	120
				Off	On	Off	Off	140
				Off	On	Off	On	150
				Off	On	On	Off	170
				Off	On	On	On	185

Speed variation sensitivity.

Dsw1	Dsw2	Dsw3	Dsw4	Dsw5	Dsw6	Dsw7	Dsw8	Variation %
OFF	ON	OFF	ON	Off	Off	Off	Off	Disabled
				Off	Off	Off	On	5% (very sensitive)
				Off	Off	On	Off	10% (def.)
				Off	Off	On	On	15%
				Off	On	Off	Off	20% (little sensitive)

Open clearance

Dsw1	Dsw2	Dsw3	Dsw4	Dsw5	Dsw6	Dsw7	Dsw8	Open clearance (cm)
ON	OFF	OFF	ON	Off	On	On	On	3,5
				Off	On	On	Off	3
				Off	On	Off	On	2,5
				Off	On	Off	Off	2
				Off	Off	On	On	1,5
				Off	Off	On	Off	1 (def.)
				Off	Off	Off	On	0,5
				Off	Off	Off	Off	0

Closed clearance

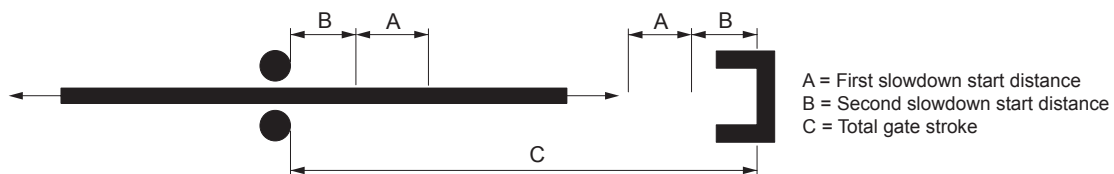
Dsw1	Dsw2	Dsw3	Dsw4	Dsw5	Dsw6	Dsw7	Dsw8	Closed clearance (cm)
ON	OFF	ON	OFF	Off	On	On	On	3,5
				Off	On	On	Off	3
				Off	On	Off	On	2,5
				Off	On	Off	Off	2
				Off	Off	On	On	1,5
				Off	Off	On	Off	1 (def.)
				Off	Off	Off	On	0,5
				Off	Off	Off	Off	0

First slowdown distance.

Dsw1	Dsw2	Dsw3	Dsw4	Dsw5	Dsw6	Dsw7	Dsw8	First slowdown distance (cm)
ON	ON	ON	OFF	Off	Off	Off	Off	3 - Gates with low inertia
				Off	Off	Off	On	15
				Off	Off	On	Off	30
				Off	Off	On	On	50 - Gates with high inertia (def.)

Second slowdown distance.

Dsw1	Dsw2	Dsw3	Dsw4	Dsw5	Dsw6	Dsw7	Dsw8	Second slowdown distance (cm)
ON	ON	ON	ON	Off	Off	Off	Off	12 - Heavy gates (def.)
				Off	Off	Off	On	10
				Off	Off	On	Off	8
				Off	Off	On	On	6 - Light gates



Stroke calibration speed.

Dsw1	Dsw2	Dsw3	Dsw4	Dsw5	Dsw6	Dsw7	Dsw8	Speed
OFF	OFF	ON	OFF	Off	Off	Off	Off	Minimum
				Off	Off	Off	On	
				Off	Off	On	Off	(def.)
				Off	Off	On	On	
				Off	On	Off	Off	
				Off	On	Off	On	
				Off	On	On	Off	
				Off	On	On	On	Maximum

Stroke is re-calibrated.

The stroke is usually calibrated when starting up the control unit. Use this function to modify the stroke without having to switch the control unit off and on.

Dsw1	Dsw2	Dsw3	Dsw4	Dsw5	Dsw6	Dsw7	Dsw8	
Off	Off	Off	Off	Off	Off	Off	Off	Re-calibration

ADVANCED PROGRAMMING

All 4 functions are programmed at the same time. If you want to vary programming, remember to position all 8 DSW correctly before pressing the programming button.

Dip-switch1 = Off

Dip-switch2 = On

Dip-switch3 = On

Dip-switch4 = On

Dip-switch5 = Flashing during the dwell time for automatic closure:

Off: Flashing light off (def.).

On: Flashing light on.

Dip-switch6 = Decrease of the automatic closure time after having obscured the photocell beam.

Off: No change (def.).

On: The closure time is reduced to 1/4 of the total value (minimum time= 5 sec.).

Dip-switch7 = Automatic closure in the event of stopping with the "P.P." (Step-by-step) button during the opening phase.

Off: Automatic closure disabled (def.).

On: Automatic closure enabled.

Dip-switch8 = Rev. sensor. **Do not activate this function if the motor is not provided with a rev. sensor.**

Off: Disabled.

On: Enabled (def.)

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AUTOMATISMI BENINCÀ SpA - Via Capitello, 45 - 36066 Sandrigo (VI) - Tel. 0444 751030 r.a. - Fax 0444 759728
