

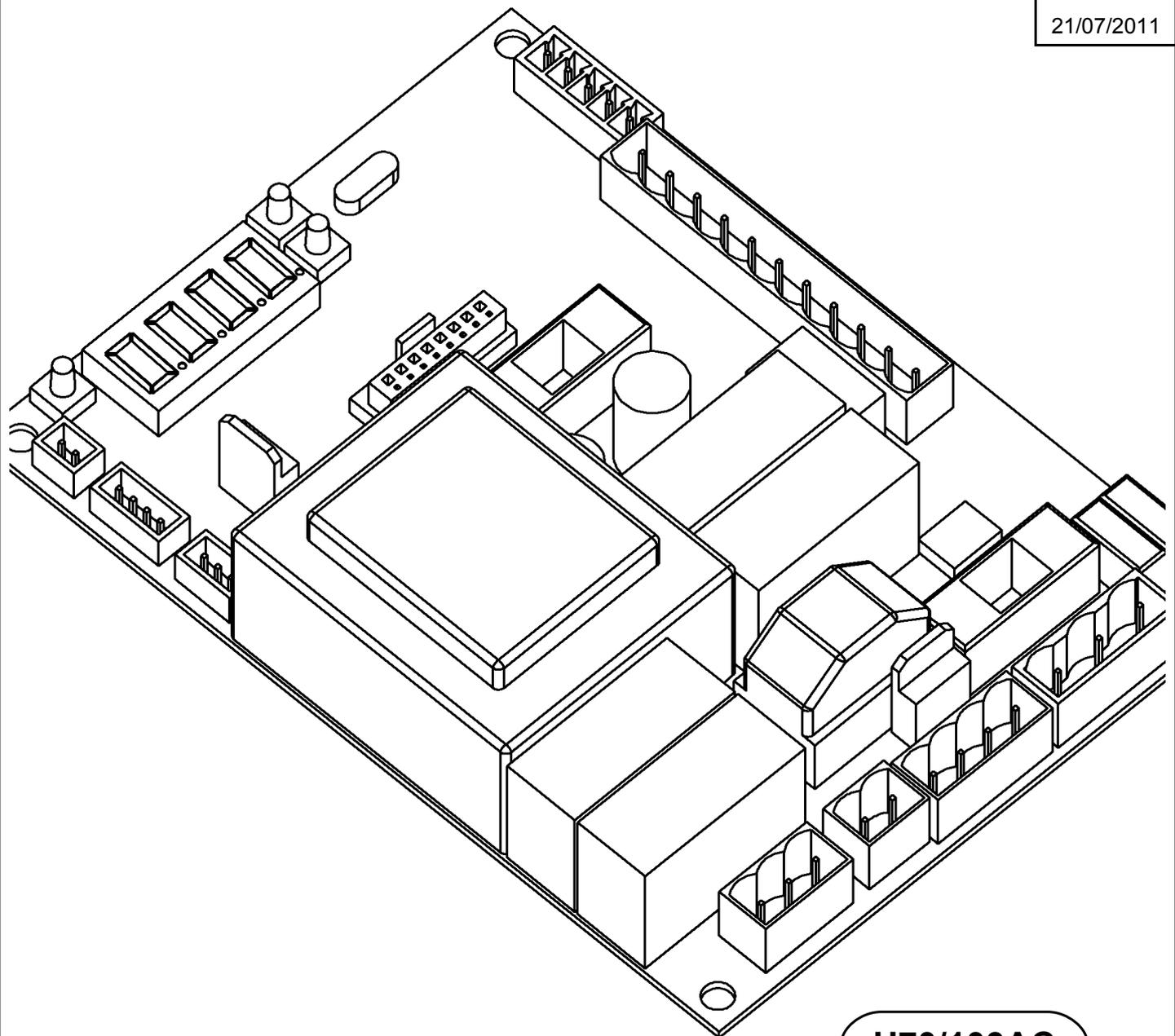
**CENTRALE DI COMANDO - CONTROL UNIT H70/103AC**



*progettisti di tecnologia*

**ISTRUZIONI E AVVERTENZE PER L'INSTALLATORE  
INSTRUCTIONS AND RECOMENDATIONS FOR THE INSTALLER  
INSTRUCÇÕES E ADVERTÊNCIAS PARA A INSTALAÇÃO  
ISTRUCTIONS ET AVERTISSEMENT POUR L'INSTALLATEUR**

IS36 Rev.02  
21/07/2011



**H70/103AC**

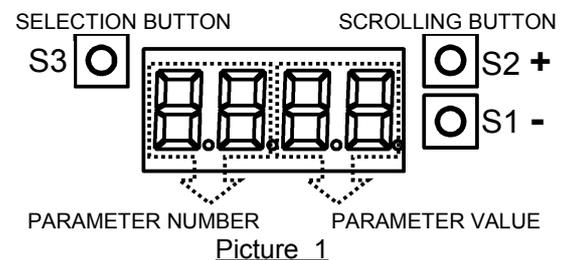
**CE**

## TECHNICAL DETAILS

- ◆ 1 motor 230V~ ±10% 50Hz, 2200W max
- ◆ Working temperature from -10 to +55°C
- ◆ Flashing light 1A max (tension free contact)
- ◆ 2 levels of slow-down speed
- ◆ 8 levels of start up torque
- ◆ 8 levels of normal torque on travel
- ◆ 8 levels of force on slow-down
- ◆ Electronic stop with 8 levels of stopping torque
- ◆ 99 sensibility levels to find an obstacle on normal speed
- ◆ 99 sensibility levels to find an obstacle on slow-down speed
- ◆ Software selection on right or left motor
- ◆ Software exclusion of input N.C. not used
- ◆ Configurable input clock
- ◆ 2 inputs for safety edge
- ◆ Courtesy 2A max (tension free contact)
- ◆ Open gate led 24Vcc 2W max
- ◆ Accessories current 300mA max on 24Vcc
- ◆ 1° radio channel used for different input/output
- ◆ 2° radio channel used for different input/output
- ◆ Flashing light output free of tension
- ◆ Courtesy light output free of tension
- ◆ Travel checking by encoder and limit switch
- ◆ Automatically learning of the travel
- ◆ Works without limit switch (it is necessary encoder)
- ◆ 5 modes of input functioning of step by step
- ◆ Password to protect the configuration
- ◆ Memorized of n° of movement
- ◆ Memorized working time of the motor
- ◆ Memorized working time of control unit
- ◆ Showed serial number of control unit

## CONFIGURATION OF THE PARAMETERS

The configuration of the control unit is made through changes on the predefined value associated on the parameter through 3 buttons, S1, S2 e S3, and it showed on the display (picture 1). The control unit is supplied with default value, please look on last columns on the attached parameters table.



## STANDBY MODE

After 10 minutes without any pushing, display comes on standby, and it shows You only the POWER segment with intermittent light (picture 5).

## SHOWING INPUT MODE

When the power comes back, or pushing one of the 3 buttons, the display will show You the inputs state.

From each input of the control unit is associated a segment on display (picture 5). If the input is closed the segment is on, if the input is open the segment is off, if the input is not enable (short circuited) on software the segment flashing

The 2 radio channels can be associated to different comands (parameters 76 e 77), when we activate one of the radio channel the control unit will show You the referent segment.

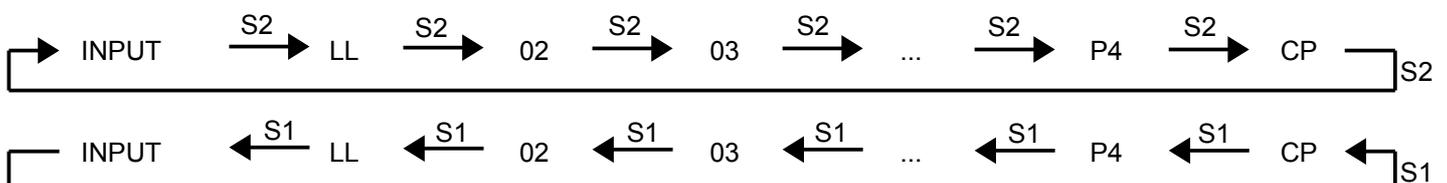
## SHOWING PARAMETERS MODE

When we push the buttons S1 or S2, the control unit changes from input showing to parameters showing (picture 2).

The parameter is showed on the first two numbers on the left of the display by intermittent light, while the value of the parameter is showed on the right of the display by fixed light.

When we push the button S2 the control unit shows You the next parameter and his value from the first to the last. By the parameter LL=0 the control unit shows You only the basic parameter, while by LL=1 the control unit shows You all the parameters.

When we achieve the last parameter (CP), another pushing of the button S2 the control unit will show You the input showing, and if we push again the button the control unit will show You the parameters showing yet. By the button S1 we have the same functions but in the opposite way, from the last to the first.



Picture 2

## PARAMETER CHANGE MODE

If we select the parameter to be modified, pushing the button S3 we can modified the parameter. If the control unit is protected by password, the parameter could be only showed but not modified, we can modified the parameter if we enter the password (P1,P2,P3,P4).

The parameter is showed on the first two numbers on the left of the display by fixed light, while the parameter value that we can modify is showed on two numbers on the right of the display by flashing light.

We can modify the value of the parameter by the buttons S1 and S2, we can choice one of the value indicated (look the parameter table indicated).

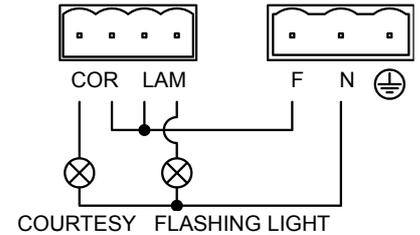
If we push the button S3 we confirm the selection and we come back on the parameter showing mode.

If we are on parameter modifying mode and we do not push any button, after 30 sec. the control unit automatically comes back on parameter showing mode.

When we change the parameter value, these changements are automatically done if the gate uses the closing limit switch (totally close), otherwise You have to power off and after You have to power on.

## STANDARD INSTALLATION

- ◆ You have to make the electric connections of the accessories, of the comands and of the safety elements (pic. 4).
- ◆ Make attention when You connect the flashing light and the courtesy because they are on tension free contact (pic. 3).
- ◆ Make the power connection.
- ◆ It is not necessary to make short circuit to any safety inputs that we do not use, like LIMIT SWITCH (parameter 72), PHOTOCELLS (parameters 50, 51, 53 and 54) and SAFETY EDGE (parameters 73 and 74), because it can get off by software(the corrisponding segment will flash on input showing). You have to short circuit only to the STOP parameter, if You do not use it.
- ◆ Use the parameter number 71 to choice the side of the motor: right or left (look it on the internal). The standard option is on right side (71 = 1), if the motor is installed on left side 71 = 0. When You make this changement You have to power off and after You have to power on.
- ◆ It is necessary to make the learning of the travel lenght: You have to manually fit the gate on intermediate position, after You have to select the parameter number 10, set the value to 1 and You have to confirm it by S3, after we see flashing all numbers and push the PP. The motor will make a complete opening and closing in slow-down, if the process is made in right mode, the parameter comes back to 0. If the display show You \_E, it means that the process is failed, and You have to repeat it; If the process failed again, You have to increase the torque (parameter 32), or decrease the sensibility (parameter 43) and repeat the learning.



Picture 3

## REFERENCES CONTROL STATUS

The control unit is on references control status in 3 cases:

- ◆ mechanical release opening and manual movement;
- ◆ after black-out
- ◆ when the limit switch is not installed and the gate finds an obstacle for three continuation times in the same place. In this case the control unit waits for a comand of the installer, when the control unit receives it opens in slow-down until to mechanical stop or limit switch, when the control unit receives another comand it closes in slow-down until to mechanical stop or limit switch. If the process is made in the right way the control unit comes back to normal functioning, otherwise it continues to slow-down movements until one of the references has been verified.

## PASSWORD

There is the possibility to select a password, composed by 4 parameters P1, P2, P3 e P4. If in the 4 parameters we do not select the numbers corrisponding to the password, it is not possible to modified all the other parameters, we can only view them.

The password settled by us is 00 00 00 00, so the control unit is deblocked.

To change the password it is necessary deblock the control unit pushing in the 4 parameters P1, P2, P3 e P4 the old password, after we have to insert the numbers of the new one, we select the paramenter CP, we push the button S3 (00 flashing) e finally we have to push together the buttons S1 and S2.

When the control unit is deblocked, to block it again You have to power off or waiting the stand-by of the display (it shows only the POWER led flashing).

Parameter Number	Description of parameter function parameter value → Behaviour of the parameter	Default Value

INPUT		Showing of input status (picture 5)	
LL	<b>Configuration level</b> 0 → BASIC shows You only a part of the parameters (ones not marked by A) 1 → ADVANCED shows You all parameters		0
02	<b>Automatic closing after pause time</b> 0 → OFF not automatic closing 1-15 → numbers of reclosing chance 99 → it always reclosing		0
03	<b>Automatic closing after blackout</b> 0 → OFF it does not close when the power comes back 1 → ON it closes when the power comes back		0
04	<b>STEP BY STEP (PP)</b> 0 → OPEN – STOP – CLOSE – STOP – OPEN - STOP 1 → PP CONDOMINIUM, when it is completely opens, it renews pause time 2 → PP CONDOMINIUM, when it is completely opens, it closes 3 → OPEN – CLOSE – OPEN - CLOSE 4 → OPEN – CLOSE – STOP – OPEN - CLOSE		0
05 A	<b>Preflashing</b> 0 → flashing light start to flash when the gate moves 1-60 → SECOND anticipate time of preflashing before the gate moves 99 → in opening not enables, 5 seconds preflashing in closing		0
06 A	<b>PP Condominium Pedestrian</b> 0 → pedestrian makes: OPEN – STOP – CLOSE – STOP – OPEN - STOP 1 → pedestrian always open		0
07 A	<b>Deadman</b> 0 → normal function 1 → the gate moves only if You press the button OPEN and CLOSE		0
08 A	<b>Open gate led (SC)</b> 0 → when the gate is closed the led is switch off, otherwise the led is fixed on 1 → slow flashing in opening, fast in closing and fixed when the gate is completely open, double flashing when the gate stopped in the middle of the travel		0
10	<b>Length travel learning</b> (You have to do that when the gate is in the middle of his travel) To make the travel lenght learning You have to set the value to 1 and You have to confirm it by S3, after we see flashing all numbers and push the PP. The motor will make a complete opening and closing in slow-down, if the process is made in right mode, the parameter comes back to 0. If the display shows You _E, it means that the process is failed, and You have to repeat it		0
11 A	<b>Slow-down travel</b> 1-20 → PERCENTAGE of slow-down travel respect of normal speed		10
13 A	<b>Tolerance of the position in which the gate it is consider closed</b> 1-99 → MILLESIMUM respect of total travel		10
15 A	<b>Lenght of pedestrian travel</b> 1-99 → PERCENTAGE of pedestrian opening respect of normal travel		30
21	<b>Pause time before automatically reclosing.</b> When one of the photocells is darkened, the timer of pause time is stopped, when the beam of photocells is restored the timer starts again the counting of pause time. 0-90 → SECONDS of pause time before of automatically reclosing 92-99 → from 92 the second number shows You the MINUTES of pause time before of automatically reclosing (from 2 to 9 minutes)		30
27 A	<b>Inversion time after the contact with safety edge or anticrushing</b> 0-99 → inversion SECONDS		2
31	<b>Torque level during the normal travel</b> 1-8 → LEVEL (1 = minimum... 8 = maximum)		5
32 A	<b>Torque level during the slow-down</b> 1-8 → LEVEL (1 = minimum... 8 = maximum)		8
33 A	<b>Torque level during the start up</b> 0 → start up not enable 1-8 → LEVEL (1 = minimum... 8 = maximum)		8
34 A	<b>Configuration of start up</b> to avoid the tear on starting 0 → soft start not enable 1 → soft start 2 → slow soft start		2

35 A	<b>Torque level of the start up after an inversion due to safety edge or anticrushing</b> 0 → start up not enable, the gate inverts with the torque settled during the normal travel 1-8 → LEVEL (1 = minimum... 8 = maximum)	8
36 A	<b>Start up times</b> 1-20 → SECONDS of the start up torque	3
38 A	<b>Release thrust::</b> when it receives an input and the gate is completely closed, it makes a closing for a time settled and after it opens. It helps a release of electric lock. 0 → it normally starts and it does not make the inversion. The release thrust is not enable 1-99 → DECIMAL SECONDS time of the first closing	0
41	<b>Slow-down speed</b> 0 → slow speed during the slow-down 1 → very slow speed during the slow-down 2 → slow-down not enables	0
42 A	<b>Sensibility to find an obstacle during the normal travel</b> 1-99 → sensibility (1=not sensible ... 99=max sensibility)	70
43 A	<b>Sensibility to find an obstacle during the slow-down</b> 1-99 → sensibility (1=not sensible ... 99=max sensibility)	10
49 A	<b>Automatic reclosing chances after an inversion due to safety edge or anticrushing</b> 0 → NOT automatic reclosing due to safety edge or anticrushing 1-3 → numbers of automatic reclosing chances due to safety edge or anticrushing	0
50 A	<b>Behaviour if we interrupt the beam of photocell 1 (FT1) during the opening</b> 0 → IGNORE, it does nothing or FT1 is not installed 1 → STOP, the gate stops until the next input 2 → IMMEDIATELY INVERTS, so it makes a closing 3 → TEMPORARY STOP, when the beam is restored it continues to open 4 → INVERTS when the beam is restored the gates inverts, so it makes a closing	0
51 A	<b>Behaviour if we interrupt the beam of photocell 1 (FT1) during the closing</b> 0 → IGNORE, it does nothing or FT1 is not installed 1 → STOP, the gate stops until the next input 2 → IMMEDIATELY INVERTS, so it makes an opening 3 → TEMPORARY STOP, when the beam is restored it continues to open 4 → INVERTS when the beam is restored the gates inverts, so it makes an opening	2
52 A	<b>When the gate is closed it allows an opening with the beam of photocell 1 (FT1) interrupted</b> 0 → gate closed, NOT allowed the opening by the beam of photocell (FT1) interrupted 1 → gate closed, allowed the opening by the beam of photocell (FT1) interrupted 2 → when the beam of photocell (FT1) is interrupted, it causes an opening	0
53 A	<b>Behaviour if we interrupt the beam of photocell 2 (FT2) during the opening</b> 0 → IGNORE, it does nothing or FT2 is not installed 1 → STOP, the gate stops until the next input 2 → IMMEDIATELY INVERTS, so it makes a closing 3 → TEMPORARY STOP, when the beam is restored it continues to open 4 → INVERTS when the beam is restored the gates inverts, so it makes a closing	3
54 A	<b>Behaviour if we interrupt the beam of photocell 2 (FT2) during the closing</b> 0 → IGNORE, it does nothing or FT2 is not installed 1 → STOP, the gate stops until the next input 2 → IMMEDIATELY INVERTS, so it makes an opening 3 → TEMPORARY STOP, when the beam is restored it continues to open 4 → INVERTS when the beam is restored the gates inverts, so it makes an opening	2
55 A	<b>When the gate is closed it allows an opening with the beam of photocell 2 (FT2) interrupted</b> 0 → gate closed, NOT allowed the opening by the beam of photocell (FT2) interrupted 1 → gate closed, allowed the opening by the beam of photocell (FT2) interrupted 2 → when the beam of photocell (FT2) is interrupted, it causes an opening	0
56 A	<b>When the gate is completely open, it closes after 6 seconds if the beam of photocells is interrupted</b> 0 → an interruption of the beam of photocells when the gate is open, it does nothing 1 → when the gate is completely open it closes after 6 sec. if there is an interruption of FT1 2 → when the gate is completely open it closes after 6 sec. if there is an interruption of FT2	0
60 A	<b>Enables breaking when the gate achieves the limit switch</b> 0 → breaking OFF on limit switch 1 → breaking ON on limit switch	1
61 A	<b>Enables breaking due to photocells</b> 0 → breaking OFF on photocells 1 → breaking ON on photocells	1
62 A	<b>Enables breaking due to STOP input</b> 0 → breaking OFF on STOP 1 → breaking ON on STOP	1

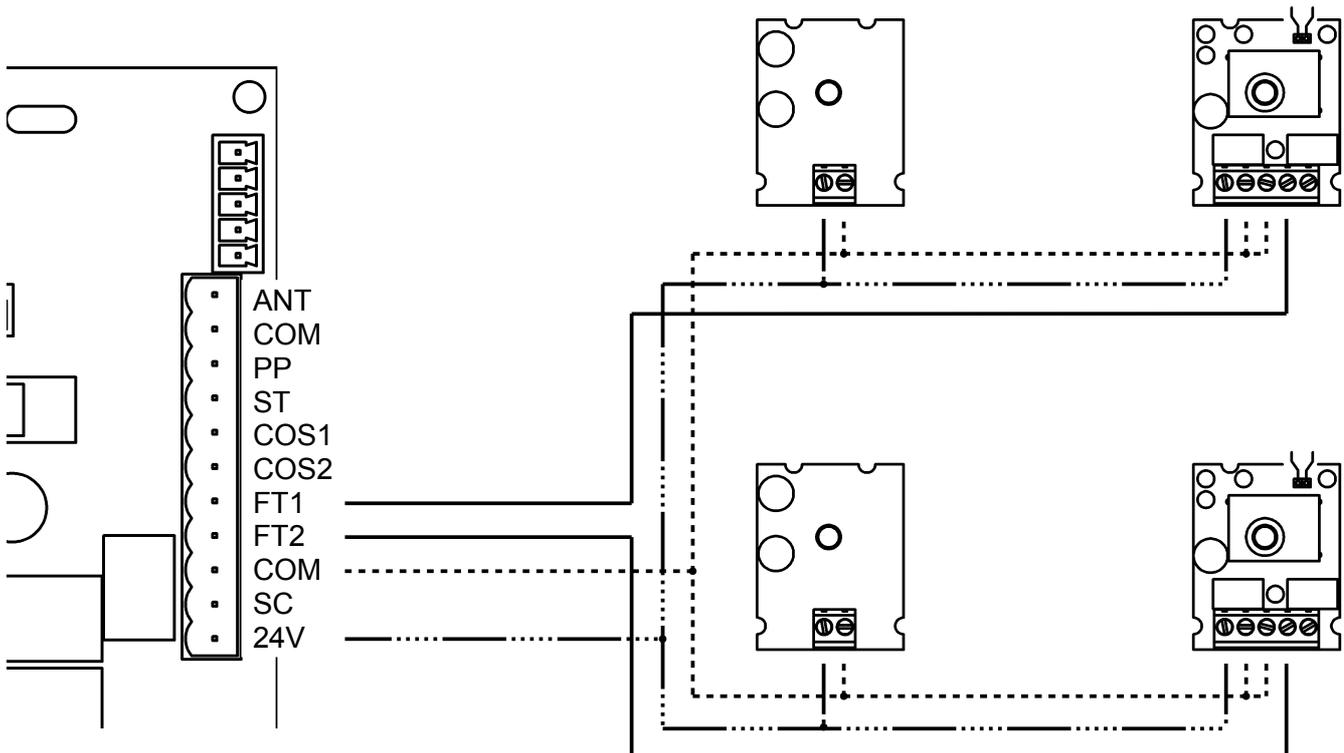
63 A	<b>Enables breaking before an inversion</b> (AP-CH o CH-AP) 0 → NOT breaking before the inversion 1 → breaking before the inversion	1
64 A	<b>Breaking time</b> 1-99 → breaking time on DECIMAL SECONDS	5
65 A	<b>Breaking force</b> 1-8 → LEVEL (1 = minimum... 8 = maximum)	8
71	<b>Motor position on the gate.</b> Change the rotation of the motor for opening and closing and it changes automatically the limit switch without invert the cables. <u>Whenr You change this parameter You have to power off and after power on.</u> 0 → motor on LEFT looking from inside 1 → motor on RIGHT looking from inside	1
72	<b>Limit switch.</b> If You do not install the limit switch, You have to fit the mechanical stop 0 → limit switch ON 1 → limit switch OFF or not installed 2 → it is on ONLY the opening limit switch	0
73	<b>Configuration of safety edge 1</b> , installed on motor side, it is active only in opening and it inverts the motor only for a few seconds. 0 → safety edge 1 OFF or not installed 1 → safety edge 1 SWITCH type 2 → safety edge 1 RESISTIVE type 3 → safety edge 1 SWITCH type, it always inverts 4 → safety edge 1 RESISTIVE type, it always inverts	0
74	<b>Configuration of safety edge 2</b> , installed on opposite side of the motor or on the gate and it is active only in closing and it inverts only for a few seconds i 0 → safety edge 2 OFF or not installed 1 → safety edge 2 SWITCH type 2 → safety edge 2 RESISTIVE type 3 → safety edge 2 SWITCH type, it always inverts 4 → safety edge 2 RESISTIVE type, it always inverts	0
75 A	<b>Encoder set up</b> 0 → optical encoder 1 → <b>magnetic encoder</b>	0
76 A	<b>Configuration of 1° radio receiver channel</b> 0 → PP 1 → PEDESTRIAN 2 → OPEN 3 → CLOSE 4 → STOP 5 → COURTESY, the normal fonctionning is not enable, the relay is only managed by the radio receiver 6 → COURTESY PP, the normal fonctionning is not enable, the relay is only managed by the radio receiver. It is like the step by step: on-off-on-off.. the device connected on courtesy light 7 → FLASHING LIGHT, the normal fonctionning is not enable, the relay is only managed by 1° radio receiver channel 8 → FLASHING LIGHT PP, the normal fonctionning is not enable, the relay is only managed by the radio receiver, it is like the step by step: on-off-on-off.. the device connected on flashing light	0
77 A	<b>Configuration of 2° radio receiver channel</b> 0 → PP 1 → PEDESTRIAN 2 → OPEN 3 → CLOSE 4 → STOP 5 → COURTESY, the normal fonctionning is not enable, the relay is only managed by the radio receiver 6 → COURTESY PP, the normal fonctionning is not enable, the relay is only managed by the radio receiver. It is like the step by step: on-off-on-off.. the device connected on courtesy light 7 → FLASHING LIGHT, the normal fonctionning is not enable, the relay is only managed by 2° radio receiver channel 8 → FLASHING LIGHT PP, the normal fonctionning is not enable, the relay is only managed by the radio receiver, it is like the step by step: on-off-on-off.. the device connected on flashing light	1
78 A	<b>Output configuration of flashing light</b> 0 → FIXED output, it must be the flashing light electronics to make the flashing 1 → 1Hz, the output is on and off 1 time per second (1Hz), the flashing light must be a fixed light 2 → different flashing for opening and closing, the output is on and off 1 time per second (1Hz) in opening and 2 times per second (2Hz) in closing, the flashing light must be a fixed light	0

79	<b>Courtesy light time</b> 0 → OFF 1 → IMPULSIVE, the output is on for a short time when it starts the movement 2 → the output is on during all movement time 3-90 → SECONDS after the end of the movement, in which the output is on and moreover it is on during all movement time 92-99 → from 92 the second number indicates the MINUTES after the end of the movement, in which the output is on and moreover it is on during all movement time (from 2 to 9 minutes)	2
8A	<b>Configuration clock input (ORO)</b> , closing the contact it causes an opening of the gate, while the opening of the contacts causes the closing of the gate. You can choice 2 configurations: 0 → When the clock input (ORO) is closed, it ignores all inputs 1 → When the clock input (ORO) is closed, it accepts all inputs	0
90	<b>Recover setting default</b> To recover all parameters setted on Roger Technology (look the last column of this table), You have to push the selection button and after the 2 scrolling buttons togheter. If this process is done in the correct way the display shows You the parameter LL..	
n0	<b>Serial number</b> 00-FF → control unit model	
n1	<b>Serial number</b> 00-99 → production year	
n2	<b>Serial number</b> 00-52 → production week	
n3	<b>Serial number</b> 00-99 → 1° progressive number	
n4	<b>Serial number</b> 00-99 → 2° progressive number	
n5	<b>Serial number</b> 00-99 → 3° progressive number	
n6	<b>Serial number</b> 00-99 → software version	
o0	<b>Movements number</b> 00-99 → X 10.000 movements	
o1	<b>Movements number</b> 00-99 → X 100 movements	
h0	<b>Motor activation hours</b> 00-99 → X 100 hours	
h1	<b>Motor activation hours</b> 00-99 → hours	
d0	<b>Power on in days of control unit</b> 00-99 → X 100 days	
d1	<b>Power on in days of control unit</b> 00-99 → days	
P1	<b>Password P1</b> 00-99	00
P2	<b>Password P2</b> 00-99	00
P3	<b>Password P3</b> 00-99	00
P4	<b>Password P4</b> 00-99	00
CP	<b>Change password</b> To change the password, You have to insert the old one to deblock the control unit. After we insert the new one, we select the paramenter CP (change password), we push the button S3 (00 flashing) and finally we have to push togheter the buttons S1 and S2. On the beginning the password setted is 00 00 00 00. If You lose the password, You can deblock the control unit contacting the service.	

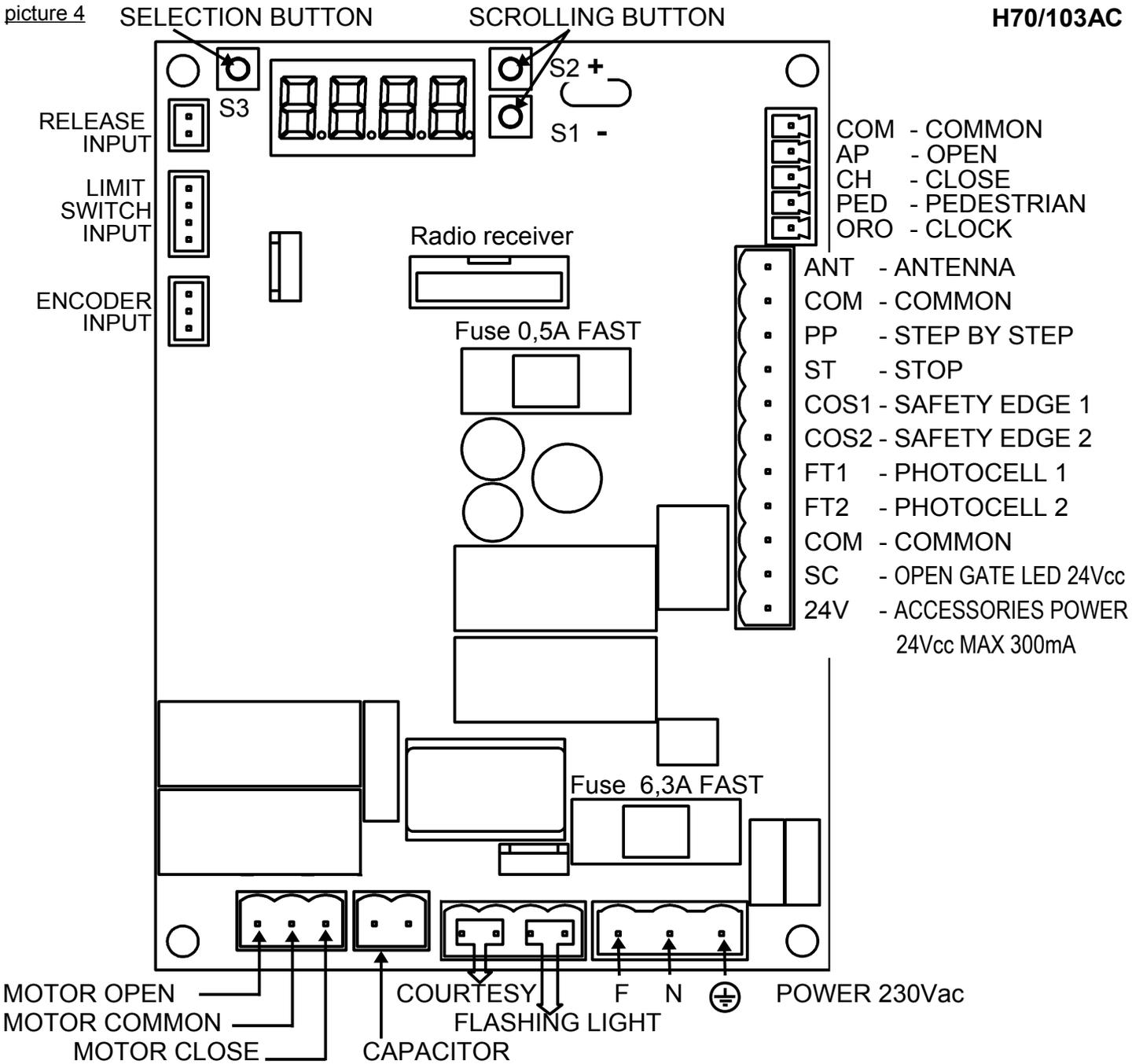
## CONNECTIONS TABLE

AP – COM	normally open contact	OPEN INPUT BUTTON
CH – COM	normally open contact	CLOSE INPUT BUTTON
PED – COM	normally open contact	PEDESTRIAN OPENING INPUT BUTTON
ORO – COM	normally open contact	CLOCK INPUT
ANT COM	central pole of the cable shield shield	ANTENNA We recommend the use of RG58 coaxial cable (50Ω)
PP – COM	normally open contact	STEP BY STEP BUTTON
ST – COM	normally close contact	STOP BUTTON
COS1 – COM	normally close contact	SAFETY EDGE 1 CONNECTION (OPENING)
COS2 – COM	normally close contact	SAFETY EDGE 2 CONNECTION (CLOSING)
FT1 – COM	normally close contact	PHOTOCELL 1 CONNECTION
FT2 – COM	normally close contact	PHOTOCELL 2 CONNECTION
SC – COM	24Vcc MAX. 2W	OPEN GATE LIGHT CONNECTION slow flashing in opening, fast flashing in closing and fixed when the gate is open, double flashing with gate stopped in the middle of the travel
24V COM	+24Vcc MAX.300mA 0V MASSA	POWER ACCESSORIES (e.g. photocells)
AP-COM-CH	230Vac 50Hz	MOTOR POWER
		MOTOR CAPACITOR
COR	Tension free contact 5A	COURTESY LIGHT CONNECTION
LAM	Tension free contact 1A	FLASHING LIGHT CONNECTION
F-N- 	230Vac 50Hz	CONTROL UNIT POWER <b>THE CONTROL UNIT SHOULD NOT BE SUPPLIED WITH GENERATOR THAT DOES NOT WARRANT THE 50Hz FREQUENCY WITH A NETWORK-COMPARABLE ACCURACY</b>

## PHOTOCELLS CONNECTIONS

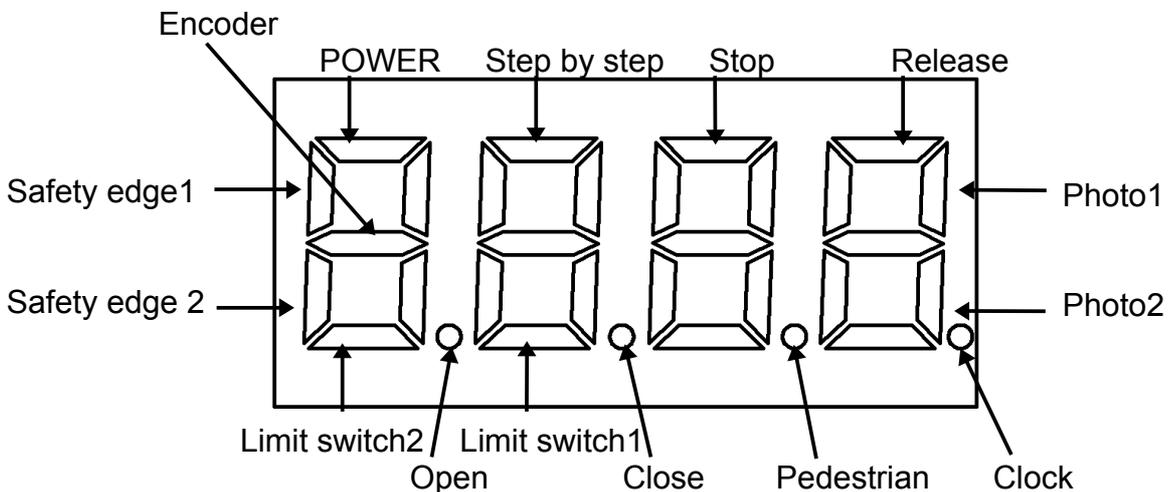


picture 4



picture 5

**DISPLAY INPUT**



**ROGER TECHNOLOGY**

Via S. Botticelli 8 • 31021 Bonisiolo di Mogliano Veneto (Tv) • Italy  
Tel. +39 041.5937023 • Fax. +39 041.5937024  
info@rogertechnology.com • [www.rogertechnology.com](http://www.rogertechnology.com)