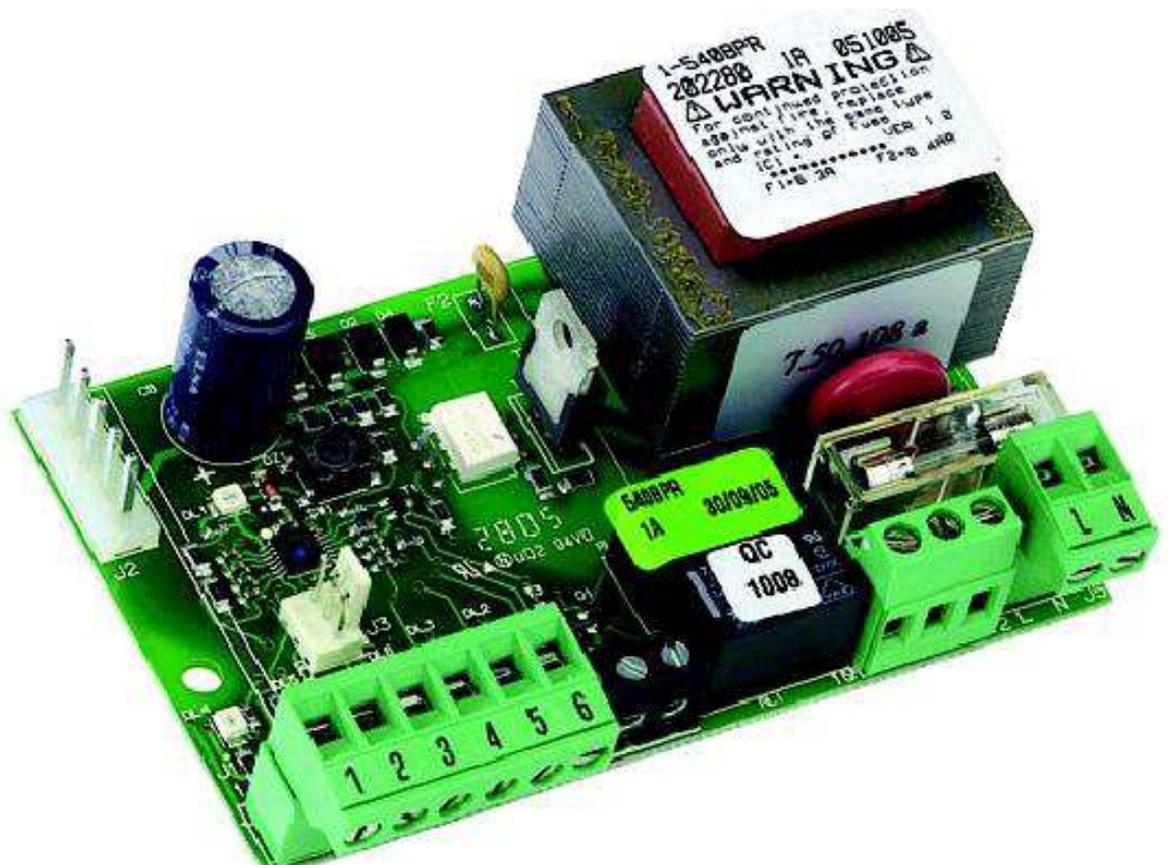# 540 BPR

CONTROL UNIT 540 BPR

1. WARNINGS

⚠️ Before attempting any work on the electronic equipment (connections, maintenance), always turn off power

- Install, upstream of the system, a differential thermal breaker with adequate tripping threshold.
- Always separate power cables from control and safety cables (push-button, receiver, photocells, etc.). To avoid any electrical disturbance, use separate sheaths or a screened cable (with the screen earthed).

2. TECHNICAL SPECIFICATIONS

|	
Power supply voltage	230Vac (+6% -10%) - 50Hz
Absorbed power	4 W
Motor max. load	800 VA
Accessories max. current	200 mA
Operating ambient temperature	-20°C to +55°C
Fuses	F1 = 6.3A-250V F2 = self-resetting
Function logics	B/C, B, C, EP, AP, P, A
Work time (time-out)	Self-learning (0-10 min in 2.5 sec steps) default = 10 min
Pause time	Self-learning (0-5 min in 1.5 sec steps) default = 30 sec
Terminal board inputs	Open, Close, Stop, Limit-switch, CL safety devices, Power supply
Terminal board outputs	Motor and power supply to accessories
Programmable functions	Logic
Learning functions	Work time, Pause time

3. LAYOUT AND COMPONENTS
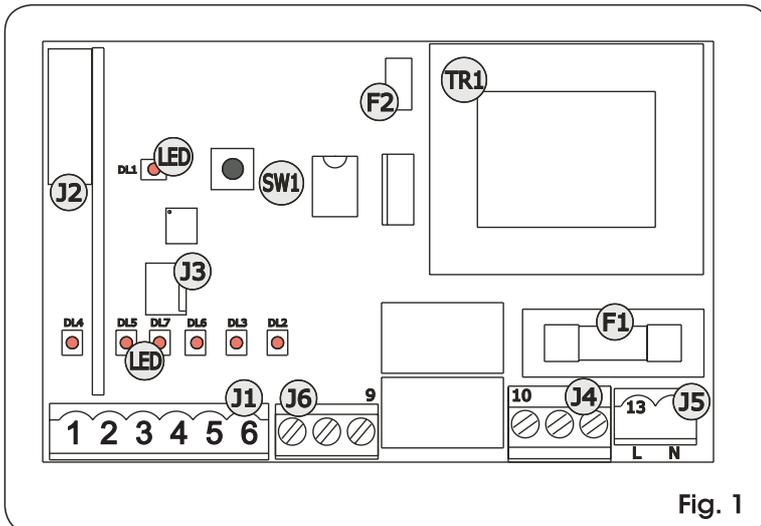
Fig. 1

Description of components

J1	inputs terminal board and power supply to accessories
J2	connector for radio receiver (see Note)
J3	(not used)
J4	motor terminal board
JS	230 Vac power supply terminal board
J6	limit-switch terminal board
LED	Signalling LEDs
SW1	programming key
TR1	transformer
F1	6.3A- 250 V (motor protection)
F2	self-resetting (accessories protection)

4. CONNECTIONS

Other safety device

Fig
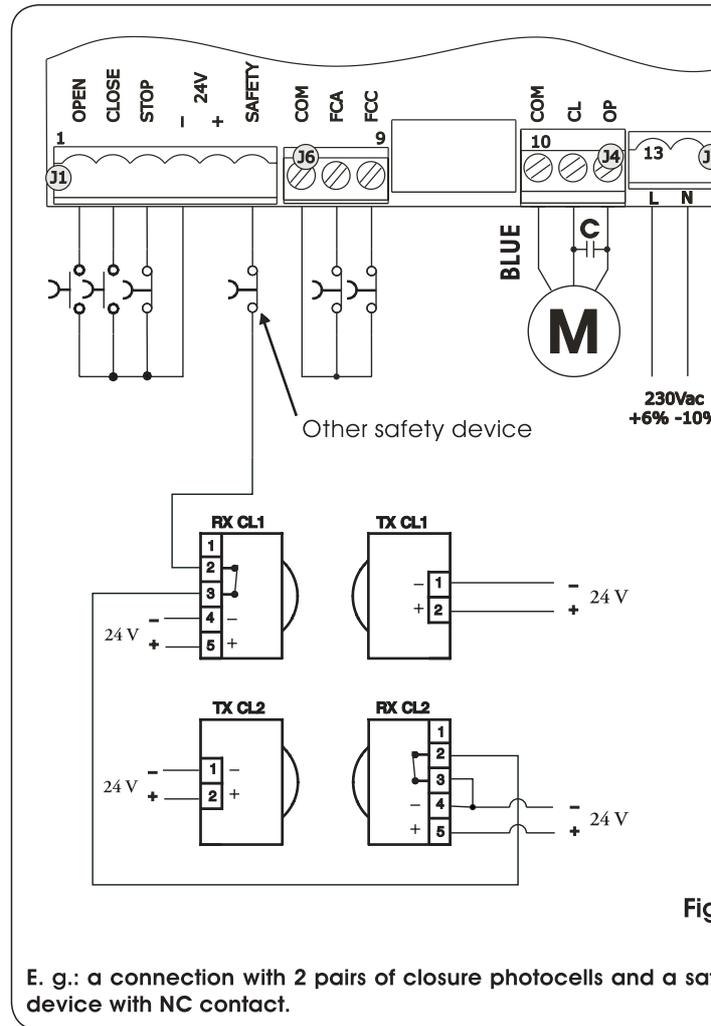
E. g.: a connection with 2 pairs of closure photocells and a sa device with NC contact.

Description of terminal boards

Terminal	Description	Device connected
1	OPEN	Device with N.O. contact (see chap. FUNCTION LOG
2	CLOSE	Device with N.O. contact (see chap. FUNCTION LOG
3	STOP	Device with N.C. contact which causes the automa system to lock
4	– 24Vdc	Power supply for accessor
5	+ 24Vdc	
6	SAFETY	Closure safety device with N.C. contact (see chap. FUNCTION LOGICS)
7	COM	Limit switch common con
8	FCA	Opening limit-switch (N.C. contact)
9	FCC	Closure limit-switch (N.C. contact)
10	COM	Motor common contact
11	CL	Motor closure stage
12	OP	Motor opening stage

5. PROGRAMMING THE FUNCTION LOGIC

To select the function logic, press the SW1 push-button the number of times equal to the number of the required logic, irrespective of the current logic and the door status. <u>The interval between the pulses must be less than 1 second</u>.

The selected logic is then continuously displayed by the DL1 LED, which flashes once a second at 3 sec intervals, equal to the number of the required logic.

To select the logics, press SW1 the number of times indicated in the table below:

No.	Logic	Description	SW1 PRESSINGS
1	B/C (default)	Mixed B / C	once
2	B	Semiautomatic B	twice
3	C	Manned	3 times
4	EP	Stepped semiautomatic	4 times
5	AP	Stepped automatic	5 times
6	P	Stepped automatic	6 times
7	A	Automatic	7 times

6. START-UP

6.1. LEDS CHECK

The following table shows the status of the LEDs in relation to the status of the inputs (the closed at rest automated system condition is shown in bold).
Check the status of the signalling LEDs as per table below:

Operation of status signalling LEDs

LED	Description	ON (closed contact)	OFF (Open contact)
DL1	/	Flashing to indicate selected logic	
DL2	FCA	**Opening limit switch free**	Opening limit switch engaged
DL3	FCC	Closure limit switch free	**Closing limit switch engaged**
DL4	OPEN	Command enabled	**Command disabled**
DL5	CLOSE	Command enabled	**Command disabled**
DL6	SAFETY	**Safety devices disabled**	Safety devices engaged
DL7	STOP	**Command disabled**	Command enabled

6.2 TIME LEARNING

Time learning instructions:

1. make sure that the door is closed, that the closure limit-switch is engaged (FCC LED OFF) and that the STOP and SAFETY LEDS are lighted;
2. press SW1 and hold it down until the automated system begins the opening operation;
3. the automated system will stop automatically when the opening limit-switch is reached;
4. after the motor stops, the board begins to learn the extra work time (time-out after which the board commands the motor to stop if the stop limit-switch is not reached correctly). Wait for the time you require (max= 10 min), and then press OPEN or SW1 to save it;
5. if the AP logic is set, after completing the procedure at point 4, the board starts to learn the pause time. Wait for the pause time you require, and then press OPEN or SW1 again to save it (max = 5 min) and the automated system will automatically begin to close the door;

7. AUTOMATED SYSTEM TEST

When you have finished programming, check if the operating correctly. In particular, check if the safety de operating correctly.

8. FUNCTION LOGICS

LOGIC B/C

Status	Open (pulse)	Close (maintained)	Stop	Safety
Closed	Opens	/	Disables Open and Close	/
Opening	/	Closes	Locks	/
Open	/	Closes	Disables Open and Close	Disables closing
Closure	Opens	Closes	Locks	Opens
Locked	Opens	Closes	Disables Open and Close	Disables closing

LOGIC B

Status	Open (pulse)	Close (pulse)	Stop	Safety
Closed	Opens	/	Disables Open and Close	/
Opening	/	Closes	Locks	/
Open	/	Closes	Disables Open and Close	Disables closing
Closure	Opens	/	Locks	Opens
Locked	Opens	Closes	Disables Open and Close	Disables closing

LOGIC C

Status	Open (maintained)	Close (maintained)	Stop	Safety
Closed	Opens	/	Disables Open and Close	/
Opening	Opens	Locks	Locks	/
Open	/	Closes	Disables Open and Close	Disables closing
Closure	Opens	Closes	Lock	Locks
Locked	Opens	Closes	Disables Open and Close	Disables closing

LOGIC EP

Status	Open (pulse)	Close (pulse)	Stop	Safety
Closed	Opens	/	Disables Open and Close	/
Opening	Locks	Closes	Locks	/
Open	Closes	Closes	Disables Open and Close	Disables closing
Closure	Locks	/	Locks	Opens
Locked	Restarts in opposite direction	Closes	Disables Open and Close	Disables closing

LOGIC AP

Status	Open (pulse)	Close (pulse)	Stop	Saf
Closed	Opens and closes after pause time	/	Disables Open and Close	/
Opening	Locks	Closes	Locks	
Pause	Locks	Closes	Locks	Repe pau
Closure	Opens	/	Locks	Ope
Locked	Closes	Closes	Disables Open and Close	Disa clos

LOGIC P

Status	Open (pulse)	Close (pulse)	Stop	Safe
Closed	Opens	/	Disables Open and Close	/
Opening	/	Completes opening and then closes	Locks	/
Open	/	Closes	Disables Open and Close	Disab closi
Closure	Opens	/	Locks	Locks closes relec
Locked	Opens	Closes	Disables Open and Close	Disab closi

LOGIC A

Status	Open (pulse)	Close (pulse)	Stop	Safe
Closed	Opens and closes after pause time	/	Disables Open and Close	/
Opening	/	Completes opening and then closes	Locks	
Open	Recharges pause time	Closes	Locks	Recha pause
Closure	Opens	/	Locks	Ope
Locked	Opens	Closes	Disables Open and Close	Disab Clos

EC DECLARATION OF CONFORMITY

Manufacturer: FAAC S.p.A.
Address: Via Calari, 10 - 40069 Zola Predosa BOLOGNA - ITALY
Declares that: Electronic device 540BPR

        • conforms to the essential safety requirements of the following EEC directives

2006/95/EC Low Voltage Directive
2004/108/EC Electromagnetic Compatibility Directive

Additional note:
This product has undergone testing in a typical
standard configuration (all products built by FAAC S.p.A.)

Bologna, 01-10-2011   The Managing Director

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