

Control Board Installation CB224

REV2.1

(CB224 REV03 Supplement included)

FOR PROFESSIONAL INSTALLATION ONLY

**Safety IR Beams are included
and MUST be installed**

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IMPORTANT FITTING AND OPERATING INSTRUCTIONS

PLEASE START BY READING THESE IMPORTANT SAFETY RULES • SAVE THESE INSTRUCTIONS



This safety alert symbol means "Caution" - failure to comply with such an instruction involves risk of personal injury or damage to property. Please read these warnings carefully.



This gate drive mechanism is designed and tested to offer appropriately safe service provided it is installed and operated in strict accordance with the following safety rules.
Incorrect installation and/or failure to comply with the following instructions may result in serious personal injury or property damage.



When using tools and small parts to install or carry out repair work on a gate exercise caution and do not wear rings, watches or loose clothing.



Installation and wiring must be in compliance with your local building and electrical installation codes. Power cables must only be connected to a properly earthed supply.



Any entrapment possibility by the moving wing between wing & walls must be secured with safety edges or IR-sensors.



Please remove any locks fitted to the gate in order to prevent damage to the gate.



After the installation a final test of the full function of the system and the full function of the safety devices must be done.



This drive cannot be used with a gate incorporating a wicket door unless the drive cannot be operated with the wicket door open.



Make sure that people who install, maintain or operate the gate drive follow these instructions. Keep these instructions in a safe place so that you can refer to them quickly when you need to.



This appliance is not intended for use by persons (including children) with reduced physical sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.



It is important to make sure that the gate always runs smoothly. Gates which stick or jam must be repaired immediately. *Employ a qualified technician to repair the gate, never attempt to repair it yourself.*



Keep additional accessories away from children. Do not allow children to play with pushbuttons or remote controls. A gate can cause serious injuries as it closes.



Disconnect electric power to the system before making repairs or removing covers.



A disconnecting device must be provided in the permanently-wired installation to guarantee all-pole disconnection by means of a switch (at least 3mm contact gap) or by a separate fuse.



The full protection against potential squeeze or entrapment must work directly when the drive arms are installed.



Children should be supervised to ensure that they do not play with the appliance.

FITTING THE CONTROL BOX

The CB224 control board was designed for installation in a special box under the cover of the sliding gate drive and can be ordered as an accessory, if not already available.

The motor control unit is a highly modern electronic unit controlled by a microprocessor. It has all wiring facilities and functions required for safe operation. The control box with the motor control unit is mounted with the cable entries facing down. It must not be permanently exposed to direct sunlight. The electronics can be used for the precise adjustment of the push-pull torque. The gate can be held by hand if the fitting/setting is correct.

During operation, the gate can be stopped at all times via remote control, push-button or key-operated switch. The gate wing requires a firm stop for the "OPEN" and "CLOSED" positions.

ELECTRICAL INSTALLATION

The control board should be connected last of all, i.e. install the drive, lay the required cables and attach the photocells (contact strips). For a fixed fitting, an accessory is required for the disconnection from the mains that has a contact spacing of at least 3 mm (main isolation switch).



Moisture and water will destroy the control board. Make sure under all circumstances that water, moisture or storage moisture cannot penetrate the control board. All openings and cable entries must be sealed watertight.

The following minimum cable cross-sections should be used:

The recommended motor wire size is 1.5mm² multistrand. For the control circuits the wire size is 0.5mm² stranded.

High and low voltage cabling should NOT be run through the same conduit.



TECHNICAL DATA

Voltage: (Mains)	240V AC
Max. consumption:	300 mA
Drive max.: (motor)	24V 5A
Power supply for accessories:	24 VDC ~ 0.5 A max
Operating temperature:	-25 °C ÷ 55 °C
Dimensions:	119x145 mm (without box)

- ### 1. Drive with control board

The drive is located on a height-adjustable mounting plate

2. Control board (if mounted externally)

If the control board is mounted externally (external mounting box required), the cables and feeder cables must be laid correctly

3. Photocell (771ANZ) 150-200 mm (Included)

First photocell. Protects people

4. Photocell (771ANZ) 700 mm (optional)

Second photocell. Protects vehicles and higher objects

5. Flashing light (optional)

Important visual information on the movement of the gate

6. Contact strip (optional) 600213-2

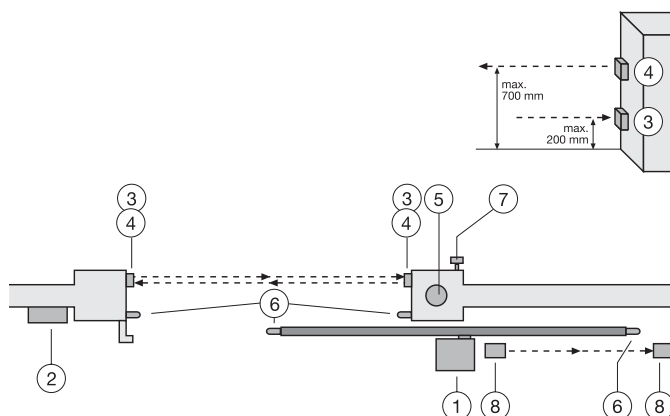
Safeguards the gate on being touched. Contact strips can be mounted on the gate or on the pillars. If the gate has openings exceeding 45mm, a contact strip is required on the pillar (accessory). If required, contact strips must be mounted at a height of up to 2.5m.


7. Key-operated switch (optional)

Is mounted on the outside. The gate is opened by key or by entering a number.

8. Photocell (optional)

Safeguards the gate on opening. This photocell can be omitted if the construction itself prevents people from being present in this area. A contact strip can be fitted here as an alternative option.



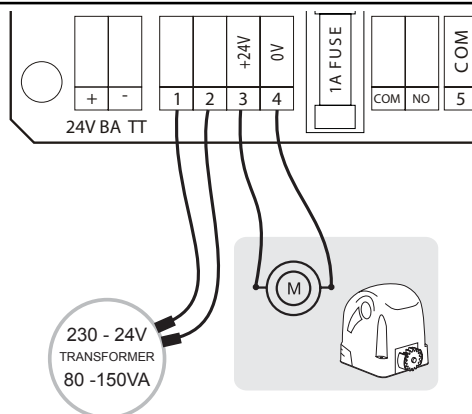
 The control board complies with the latest EU directives. One of these directives specifies that the closing forces at the gate edge must not exceed 400 N (40 kg) for the last 500 mm before the gate is CLOSED. Above 500 mm, the maximum force at the gate edge must not exceed 140 N (140 kg). If this cannot be ensured, a contact strip must be mounted on the gate at a height of up to 2.5 m or on the opposite pillar (EN12453).

MOTOR

Connect the motor to the control board exactly as shown on the connection layout diagram.

Terminal 3 red wire L/N

Terminal 4 blue wire N/I



Note: If drives/motors other than ours are connected, it might be required to swap the cables of terminals 3 + 4 to ensure correct operation. This is shown during "Initial operation", if the control board does not maintain the correct moving directions. See also the Limit switch connection instructions for more information.

CONNECTION OF WIRES FOR LIMIT SWITCH

Description for Chamberlain drives with magnetic limit switches:

The correct installation of the limit switches Open / Close is important for the operation of the unit.

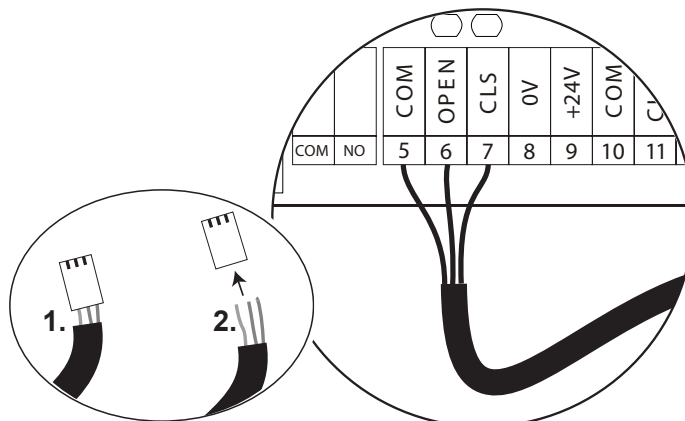
If the entry is LEFT of the drive, (i.e. Right hand installation) then:

Terminal 5 blue

Terminal 6 brown

Terminal 7 black

If the entry is RIGHT of the drive, then exchange terminals 6 + 7 (brown/ black)



FUSES:

F1 = 10A secures the motor

F2 = 1A secures accessories terminals 8 + 9

CONNECTIONS:

1. 24VAC input
2. 24VAC input
3. motor output
4. motor output
5. limit switch COM blue
6. limit switch OPEN brown/blue
7. limit switch CLOSE blue/brown
8. accessories supply 0 Volt
9. accessories supply 24 Volt
10. photo cells COM
11. photo cells CLOSE
12. photo cells OPEN
13. switch: COM
14. switch: PB
15. switch: pedestrians
16. switch: stop (emergency stop)
17. antenna signal (not necessary if receiver 801719-6 is used)
18. antenna ground

BACKUP BATTERY (OPTIONAL):

A backup battery may be connected. It will supply the unit for a while with power in case of power cut. Depends on battery size and daily amount of cycles. Model CM475 requires a waterproof housing when installed outside.

TURN-SWITCH FOR PROGRAMS 0-9

Position 1: Standard

Gate opens after signal and closes with the next one. During opening sequence the gate first stops and closes and does not close until the next signal. If photo cell transmittance is interrupted during closing sequence, the gate reverses to the fully OPEN position.

Position 2: Automatic (photo cells necessary)

Gate opens after signal and closes depending on pre-programmed time (in menu P3). If photo cell transmittance is interrupted during closing sequence, the gate fully reverses and closes again after preprogrammed time.

Position 3: Photo cells close gate

Gate opens after signal and closes as soon as photo cell transmittance is interrupted. Interrupting photo cell transmittance during closing sequence results in the gate reversing completely and then closing again after pre-programmed time (in menu P3).

Position 4: counting mode

Gate opens after signal and counts the number of signals that were given. There have to be at least the same number of interruptions at the closing photo cells (CLOS) before the gate actually closes (this program is not possible if two photo cells have been installed in closing direction).

Position 5-0: no function

Plug-in socket – JP3

Enables further functions either through direct connection or via relay to another control, e.g. alarm system / telephone / status indicator gate / computer / counter, etc.

Pin 5 = control / gate status: ON = when control active

Pin 4 = 0 Volt

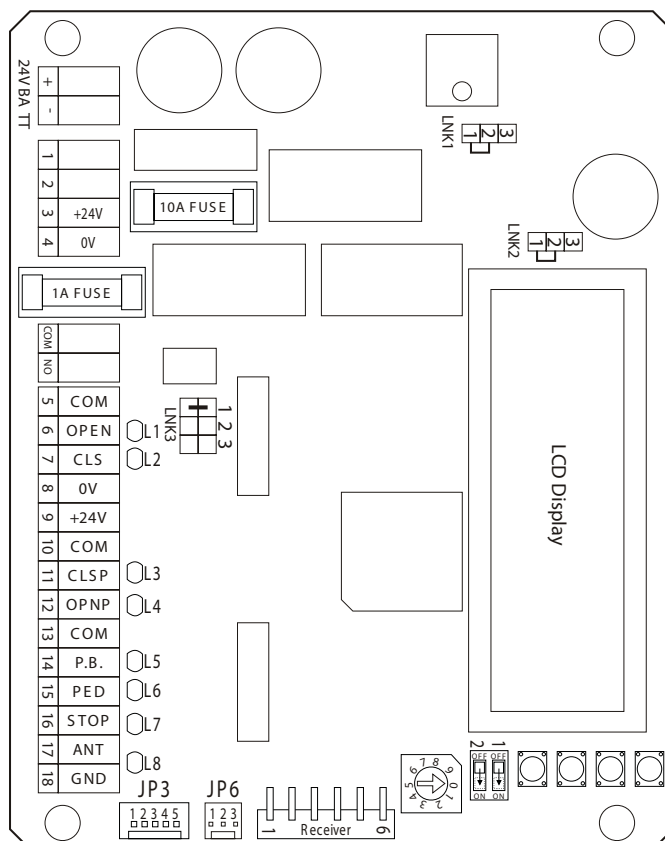
Pin 3 = + 12 Volt for accessories max. 100mA!

Pin 2 = AUX ON (switched) = when gate closing

Pin 1 = AUX ON (switched) = when gate opening

DESCRIPTION OF LED'S

- | | |
|----|---|
| L1 | Motor one open limit input status: normally ON, OFF when open limit activated. GREEN LED |
| L2 | Motor one close limit input status: normally ON, OFF when close limit activated. RED LED |
| L3 | Closing safety input indicator: indicates if safety input obstructed, MUST be OFF for board operation. RED LED |
| L4 | Opening safety input indicator: indicates if safety input obstructed, MUST be OFF for board operation. RED LED |
| L5 | ON indicator for PB1 input. GREEN LED |
| L6 | ON indicator for PB2 input. GREEN LED |
| L7 | ON indicator for STOP button. RED LED |
| L8 | Board status indicator: indicator OFF when the board is idle and the motor is in the CLOSED position. Once PB1 or PB2 input made, then indicator remains ON until the cycle CLOSE-OPEN-CLOSE is complete either by limit(s) or when the close travel time setting is expired. GREEN LED |



JUMPER LNK

Depending on jumper position several features can be adjusted

LNK1: (do not relocate!)

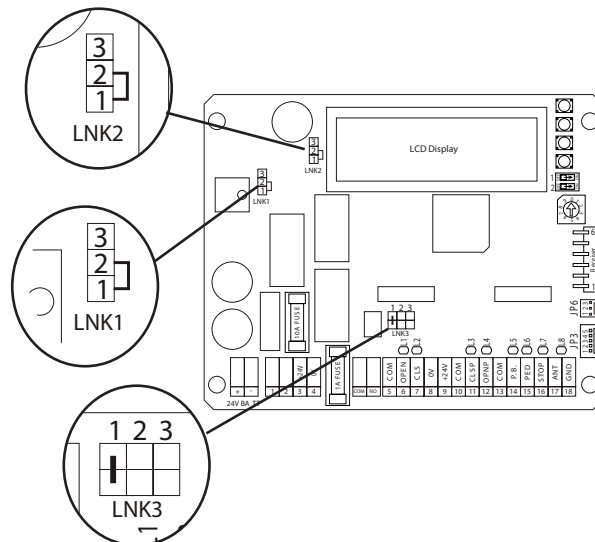
1+2 = (down) for 24V transformer and drive (Chamberlain drives)
2+3 = (top) for 12V

LNK2: (do not relocate)

1+2 = (down) 24V
2+3 = (top) 12V

LNK3: Flashing lamp (COM-NO)

1= ON during opening and closing, i.e. only with gate movement
2= ON from open to close, i.e. if control is active
3= not in use



ACCESSORIES

771ANZ IR BEAMS/PHOTOCELLS (INCLUDED)

The photocells are for safeguarding the gate and must be used. The fitting location depends on the gate's design. EN12453 specifies that a pair of photocells must be installed at a height of 200mm. The photocells consist of a transmitter and a receiver and must be opposite each other. The housing of the photocell (plastic) can be opened using a screwdriver. The photocell is mounted on the wall using small screws and wall plugs. It is possible to use two different photocell systems. (see description). To enable the "Automatic closing" function, the Chamberlain failsafe photocell must be installed. The Chamberlain failsafe system (2-cable system) has small LEDs (light) that can be seen from the outside on both sides to indicate the status of the photocell. Two Chamberlain failsafe photocell models are available. The one model is ideal for walls lying opposite.

Settings:

In menu P7 + P8 the control has to be set to the connected photo cells.

For Chamberlain 2-wire photo cells the setting PLS = pulse is required.

For relay-photo cells select setting RLY = relay.

Diagnosis at the Chamberlain failsafe photocell

LED constant = OK

LED flashes = photocell disables control board

LED off = no current, incorrect connection or polarity

Diagnosis on the control board

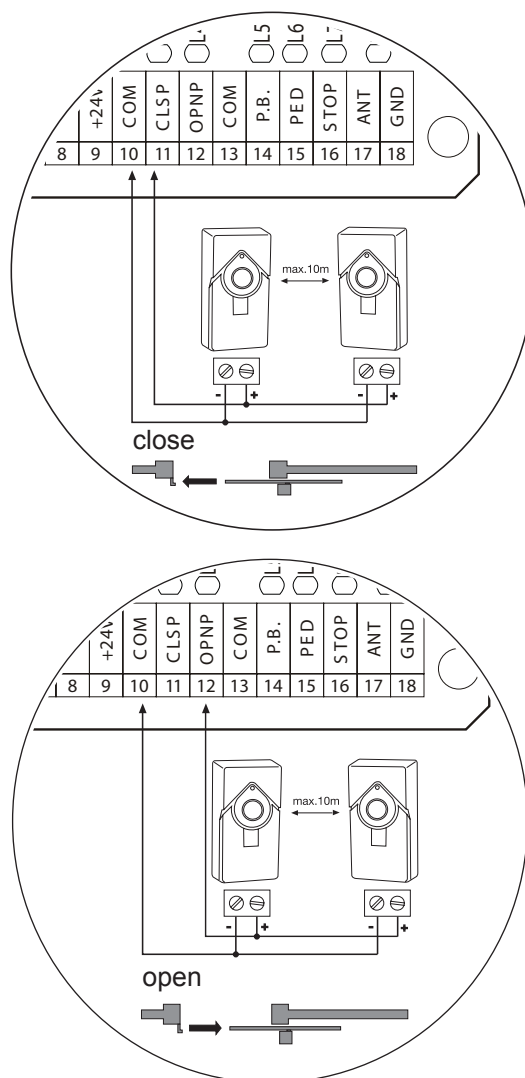
LED off = OK

LED on constantly = control board disables

Cable cross-section: 0.5 mm² or more.

Voltage: 12/24 volts AC/DC.

Do not use any fixed copper lines. Do not lay any 230 volt cables in parallel and do not lay any 2 cables in the same cable trunking.



PUSHBUTTON / KEY-OPERATED SWITCH (OPTIONAL)

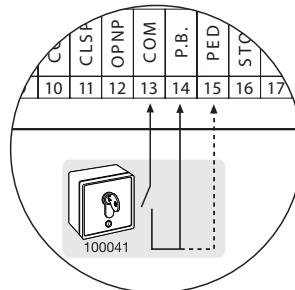
The control board / drive can be activated using various inputs. This can be done using a hand-held transmitter or key-operated switch (terminals 13-15).

Hand-held transmitter = see Teaching the hand-held transmitter

13-14 = input control 1. Normal operation

13-15 = input control 2. Active for special settings

(see description) Menu P12+P13

**EMERGENCY STOP (OPTIONAL) 600084**

A switch can be connected to stop or disable the unit. The movement of the wings is stopped immediately. Terminals 13 and 16 must be bridged if no switch is installed.

Cable cross-section: 0.5 mm² or more.

Voltage: 12/24 volts AC/DC.

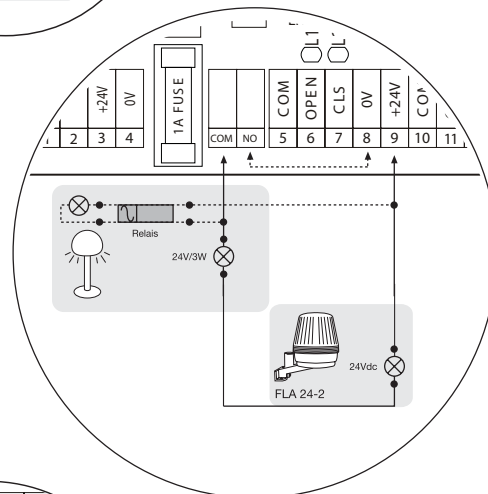
GATE MONITOR / LIGHTING (OPTIONAL)

Terminals COM/9 (Terminals NO/8 must be jumpered)

A 24V/3W light bulb can be connected to monitor the status of the gate. Alternatively, a yard lighting system can be used by adding a relay.

Setting: see description "Jumper"

Cable cross-section: 0.5 mm² or more.

**FLASHING LAMP (OPTIONAL) FLA24-2**

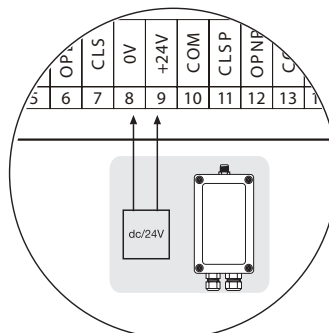
Terminals COM/9 (Terminals NO/8 must be jumpered)

A flashing lamp can be connected to the control board. It warns when the gate is being moved. The flashing light should be fitted as high as possible and in good clear view. The control board emits a constant signal that the lamp converts to a flashing signal.

Setting: see description "Jumper 3"

Cable cross-section: 0.5 mm² or more.

Voltage: 24 V DC

**24 VDC - OUTPUT (Terminal 8+9)**

For relay infrared sensors or other devices (e.g. receivers)
max.500 mA



Do not use any fixed copper lines. Do not lay any 230 volt cables in parallel and do not lay any 2 cables in the same cable trunking.

CONTACT STRIP (OPTIONAL) 600213-2

Safety edges with permanent monitoring can be connected via the Interface Box. The Interface Box is connected to the outputs of the photo cell(s).

Cable cross-section: 0.5mm² or more

600176 profile size per 1 m

600152 Profile size mounting set

600077-1 Mounting rail 2 m

G-Intset "Profi" transmission set for mounting the strips on the gate wing

G-NSPG45/4 Transmission of signal by means of helix cable (max 8 m in width)

G-AC1103 Strain reliefs/box for helix cable

ANTENNA (OPTIONAL) ANT4X-1LM

If the radio adapter 801719-6 is being used, then terminals 17 + 18 remain vacant. An outdoor antenna is connected directly to the radio adapter.

A larger range (radio) can thus be achieved. Mount the antenna as high as possible.

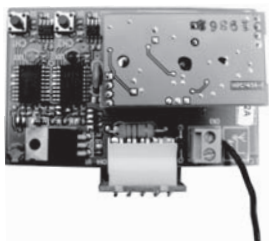


Do not use any fixed copper lines. Do not lay any 230 volt cables in parallel and do not lay any 2 cables in the same cable trunking.

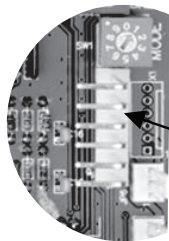
RADIO MODULE 801719-6 (FACTORY INSTALLED)

To operate the control board via radio remote control, a radio receiver module must first be installed.

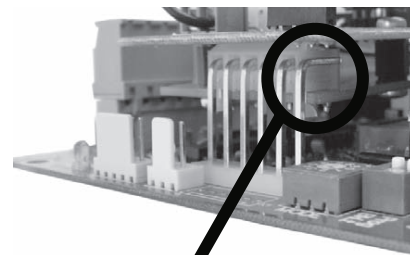
RECEIVER 801719-6 BOARD



MAIN CONTROL BOARD



6 PINS TO FIT RECEIVER SOCKET

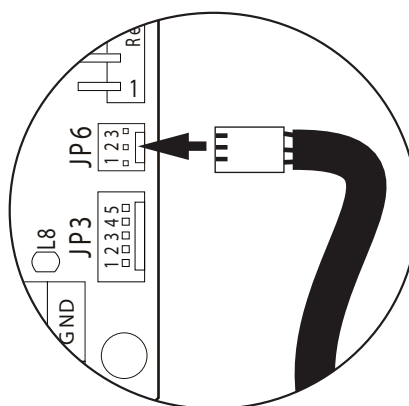


IMPORTANT
PIN 6 SHOULD BE EMPTY

RPM SENSOR

A rotational speed sensor (RPM sensor) can be optionally installed. The sensor enables the automatic reversing of the gate if an obstacle is detected. RPM sensor: Connector JP6 on the control board

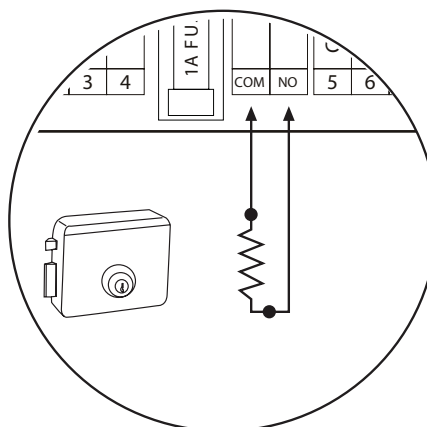
If a battery is being used, the menu P20 must be set to YES.

**ELECTRIC LOCK (OPTIONAL) Model: 600022 (24V)**

The operation of an electrical lock via the contact COM/NO (light output) is possible. If required, please contact our service department.



Do not use any fixed copper lines. Do not lay any 230 volt cables in parallel and do not lay any 2 cables in the same cable trunking.



PROGRAMMING OF CONTROL BOARD

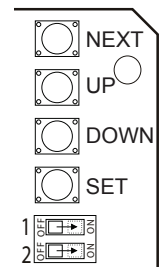
Check the control board REV (revision) number. Refer to the next page if PCB states REV03

The control is programmed by use of the display. The keys and switches on the right side next to the display are required.

Switch 1: ON = necessary for programming the control OFF = locks
 Switch 2: ON = display illumination on OFF = out
 Key SET: Saves current setting
 Key UP & DOWN: Changes setting
 Key NEXT: To change to different menu / program

DISPLAY INDICATION:

P... = display of currently accessed menu / program
 Def. = "DEFAULT" factory setting. Ex factory setting
 Now = "NOW" current setting
 Yes = "YES"
 No = "NO"

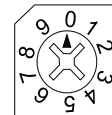


MB126 REV2.1 LIST OF MENUS

	Display	Description		Range	My settings
P1	P1= Motor Type Def: 0 Now: 0	motor type	Setting of applied motor: 0 = no motor 1 = Chamberlain/ LiftMaster; for others: see description	0 - 3	
P2	P2 = M1 Travel Time Def: 5 Now: 5.0s	travel duration	Set travel duration of motor (seconds)	0 -99	
P3	P3 = Auto Cls Delay Def: 1 Now: 1.0s	automatic closing	Duration in seconds of door in open position ATTENTION: only in connection with photo cell(s)	0 - 99	
P4	P4 = M1 Force Adj Def: 50% Now: 50%	force setting	Motor force	30 - 100%	
P5	P5 = Slow Down Def: 3 Now: 3.0s	slow travel end	Slow travel in seconds before gate - Close	0 - 10	
P6	P6 = M1 Soft Start Def: 0 Now: 0.5s	slow travel start	Slow travel in seconds after start	0 -10	
P7	P7 = Back Up Timer Def: 0 Now: 0.0s	automatic closing special	Only in conjunction with program 3: closes door automatically even after power cut. Time in seconds. Attention: only with connected photo cell(s)	0 - 65	
P8	P8 = Open PE Type Def: RLY Now: RLY	photocell open-direction	Preselection of photo cell type: RLY – relay photo cell PLS – pulse (Chamberlain photo cell 770E and 771E)	RLY - PLS	
P9	P9 = Close PE Type Def: RLY Now: RLY	photocell close-direction	Preselection of photo cell type: RLY – relay photo cell PLS – pulse (Chamberlain photo cell 770E and 771E)	RLY - PLS	
P10	P10 = PE Reverse Def: Yes Now: Yes	photocell closed-reaction	"YES"= gate reverses to open "NO"= gate stops	No - Yes	
P11	P11 = Opn PE ReOpen Def: No Now: No	photocell open-reaction	During interruptiongate stops. After clearance "NO" = reverses (closes); "YES" = opens further	No - Yes	
P12	P12 = PED Travel Def: 5 Now: 5.0s	Pedestrian travel duration	Travel duration of motor during pedestrian function (in seconds)	0 - 99	
P13	P13 = PED Auto Close Def: No Now: No	Pedestrian automatic closing	Duration in seconds of gate in open position. P3 must be active. Attention: only in connection with photocells	No - Yes	
P14	P14 = Pwr Fail Close Def: No Now: No	power cut behaviour	Closes gate automatically even after power failure. Time in seconds. Attention: only with connected photocells	No - Yes	
P15	P15 = Motor Speed Def: 10 Now: 10	speed	Speed of gate. Note: by reducing, the max. pulling force cannot be reached	1 - 10	
P16	P16 = ExtraOpnTime Def: 2 Now: 2.0s	travel duration open additional	Additional travel duration of motor to compensate for wind or bad conditions.	0 - 10	
P17	P17 = ExtraClsTime Def: 2 Now: 2.0s	travel duration close-additional	Additional travel duration of motor to compensate for wind or bad conditions.	0 - 10	
P18	P18 = Battery Type Def: 24 Now: 24	battery type	2x 12V, no setting possible	24V	
P19	P19 = BatteryLowOpn Def: No Now: No	battery state of charge	"NO"= gate will not open if battery is empty "YES"=gate will open, but not close	No - Yes	
P20	P20 = RPM Sense Def: No Now: No	RPM sensor	"YES" = RPM sensor is connected (necessary in the EU) "NO" = if nonexistent and if battery is used	No - Yes	
P21	P21 = Total Cyles #Cycles = 0000000	cycle counter complete	counts all full (completed) cycles		
P22	P22 = Resettable Cycl #Cycles = 000000	cycle counter resettable	counts complete cyles since last reset		
P23	P23 = Reset Cycles Def: No Now: No	cycle counter reset	Reset P22 cycle counter		
P24	P24 = Reset Default Def: No Now: No	factory setting RESET	re-establishes factory settings (not P22)		
P25	P25 = Software Rev Revision	software	indicates installed software version		

MB126 REV03

NOTE: TO ENTER PROGRAMMING MODE, DIAL MUST BE SET TO '0'. AS SHOWN.
(GATE WILL NOT OPERATE WHILE IN PROGRAMMING MODE)



DIAL LOCATED TOP RIGHT
OF THE CONTROL BOARD

en-7a

DISPLAY ON LCD	COMMENT	RANGE	MY SETTINGS
P1 = Motor Type Def: 524 Now: 524	Select motor type 524 for liftmaster 524 motor. Select motor type 324 for merlin/liftmaster SLY,FAAC, and ATA.	524 - 324	
P2 = M1 Travel Time Def: 5 Now: 5.0s	Set motor 1 travel time.	0 - 60 secs	
P3 = M1 Open Delay Time Def: 0 Now: 0.0s	Delay motor 1 before opening	0.5 - 10 secs	
P4 = Auto Cls Time Def: 0 Now: 0s	Set hold open time delay before closing.	0 - 60 secs	
P5 = M1 Force Adj Def: 50% Now: 50%	Adjust motor force.	10 - 100 %	
P6 = Motors Speed Def: Fast Now: Fast	Motor torque is speed related, as speed is reduced motor torque is reduced	Fast - Med - Low	
P7 = M1 Soft Start Def: 0 Now: 0.0s	Motor 1 soft start.	0 - 2 secs	
P8 = Back Up Close Time Def: 0 Now: 0.0s	Not suitable for modes 1, 2, 4 or 5. Close door/gate if back out occurs & close PE/Loop not triggered. WARNING: must use safety devices.	0 - 60 secs	
P9 = ExtraOpnTime Def: 10 Now: 10.0s	Add additional open time to P2 to compensate for wind or mechanical loading.	0 - 30 secs	
P10 = Extra Close Time Def: 10 Now: 10.0s	Add additional close time to P2 to compensate for wind or mechanical loading.	0 - 30 secs	
P11 = PED travel time Def:5 NOW: 5.0s	Set pedestrian mode travel time	0 - 60 secs	
P12 = Ped Auto Close Def: 0 Now: 0.0s	Set pedestrian mode to automatic close, set to 0s for no auto close. WARNING: must use safety devices.	0 - 60 secs	
P13 = Cls PE Reverse Def: Yes Now: Yes	Motor reverses when Cls PE triggered if motor closing. Next motor direction mode dependent. If set to No motor stops when Cls PE triggered, and will continue to close when Cls PE is cleared.	Yes - No	
P14 = ClsPEStopOnOpen Def: No Now: No	If set to Yes motor stops on opening when Cls PE is triggered. Next motor direction is mode dependent.	Yes - No	
P15 = OpnPeType Def: RLY Now: RLY	Set PE type being used, RLY - Relay PLS - Pulse	RLY - PLS	
P16 = ClsPeType Def: RLY Now: RLY	Set PE type being used, RLY - Relay PLS - Pulse	RLY - PLS	
P17 = Battery Type Def: 24 Now: 24V	Back up battery type: 2x 12V battery for 24V system 1x 12V battery for 12V system	12V - 24V	
P18 = BatterLowOpn Def: No Now: No	NO - gate/door will remain closed when battery is low, YES- gate/door will open when battery is low	No - Yes	
P19 = Light Output Def: ON Now: ON	If relay is set to On - relay output is on, or Flash - relay output switches on and off. Max load 2A. P20 & P21 dependent.	On - Flash	
P20 = Light Dir Def: Opn Cls Now:Opn Cls	Relay output operation can be set to Opn/Cls - for full cycle or Mov - while gate is moving. Max load 2A.	Opn/Cls -Mov	
P21 = LightEndOfClsTimeOn Def: 2 Now: 2.0s	Relay closes beyond the completed close cycle, max 5 minutes	0 - 5 mins	
P22 = RPM Sense Def: No Now: No	Used as back up for safety.	No - Yes	
P23 = Total Cycles # Cycles 000000	Non resettable cycle counter.	Cycle = from close to open and back to close	
P24 = Resettable Cycles # Cycles 000000	Resettable cycle counter.		
P25 = Reset Cycle Def: No Now: No	Reset resettable cycle counter.	Up/Down to Reset	
P26 = Reset Default Def: No Now: No	Reset all parameters P1 to P26 to default values (excludes P23).	Up/Down to Reset	
P27 = Software Rev	Software version Revision XXX		

INITIAL OPERATION/BASIC SETTING

Proceed step by step. If you are not sure, start again at the beginning. Take sufficient time to make these settings.

1. Are all components required for operation connected? Motor(s), photocell (!), flashing light, push-button or switch etc?
2. Make sure that nobody is present in the range of the gates.
3. Check whether the LEDs (lamps) are working correctly or whether they are blocking a function.
4. OPEN gate by hand and observe LED1 (green). The LED1 (green) must be OFF when limit switch is reached. If necessary exchange wires at terminals 6 + 7.
5. CLOSE gate by hand and observe LED2 (red). The LED2 (red) must be OFF when limit switch is reached.
6. If there is no switch connected to control, connect a switch to control contacts 13 + 14 temporarily, in order to complete all settings.
7. The control is preset so that operation with ex factory setting is principally possible. Set turn-switch for programs to program 1 "standard". Complete potential changes later (see description).
8. Turn switch to 1 (ON) and control/change the following menu settings:
 - P1 = 1 Merlin/Liftmaster Motor
 - P4 = very lightweight gates PVC, aluminium should be operated with less force than is preset (50%).
Set to smaller value in menu.
 - P4. Max. 30%, otherwise 50%
 - P5 = slow travel preset to 3 seconds. According to EN12453 the slow travel must be active for the last 50cm of travel distance and should have a duration of at least 5 seconds.
 - P6 = slow start preset: 0.5 seconds (as required)
 - P8 = set type of photocell at terminal 12 (OPEN): RLY for "no" (then small wire jumper is necessary) and relay-photocell or PLS for Merlin photocell (2-wire photocell)
 - P9 = set type of photocell at terminal 12 (CLOSE): RLY for "no" (then small wire jumper is necessary) and relay-photocell or PLS for Merlin photocell (2-wire photocell)
 - P20 = RPM sensor: if RPM sensor is connected to terminal JP3 then change to YES in menu

FIRST TRAVEL

1. Disengage control from power supply for 5 seconds. If a battery is designated for operation, then disconnect from unit completely until setting is complete.
2. Position gate halfway (not to limit switch) and lock in place.
3. Activate connected switch and observe gate. The gate must open! If gate closes as instead of opens, immediately stop via switch. The motor with wire (red/blue) terminals 3 + 4 is connected the wrong way around. Exchange wires and start again with point 1.
4. If first travel is completed without fault, then it may proceed further to limit switch. Set required travel duration in menu P2.
This is the time required for the drive to reach the limit switch safely. If the gate is prone to wind or is stiff, program additional time in menu P16 and P17.
Ex factory setting: 2 seconds.
5. Check all settings. Correct force, adjust travel duration, check photo cells
6. Check force according to EN12453 and EN12445

NOTE: many of the settings of the control unit have an indirect impact on the travel duration (speed) required for reaching the limit switches. After completion of settings always check if speed is still adequate or maybe even too fast.

COMPLETION OF THE INSTALLATION/PROGRAMMING

Once the covered distance is programmed, the hand-held transmitters can be programmed (not required for kits) or deleted.

1. Start the gate with the hand-held transmitter or a connected button and observe the process. Close the gate again WITHOUT having made any settings.
2. Once all settings have been made, check the function of photocells, buttons, flashing lamp, hand-held transmitter, accessories etc. If you desire automatic closing, see Display Indication
3. Show all persons that use the gate how the gate moves, how the safety functions work and how to operate the drive by hand.

Frequently asked questions

How long does it take to install a gate opener?	Depending on your specific technical skills, the installation of the mechanical components can take approx. 3 to 8 hours. Firstly, the gate needs to be properly prepared such that installation work can commence. The electrical connection work takes approx. 1 to 2 hours. Each user should be instructed for at least 30 minutes with regard to the operation of the gate opener, whereby its functionality should be demonstrated and safety aspects, protective facilities and procedure in case of power failure should all be explained.	
What happens in case of power failure?	All Merlin gate openers are equipped with a release system by means of which the gate can be operated manually in case of power failure.	
Is it possible to open wing for pedestrian mode?	Yes, it is possible. This process can be operated via remote control (a 2-channel remote control is the minimum requirement here) or via switch operation.	
Gate opener does not function / does not respond when button is pressed.	<ol style="list-style-type: none"> 1. Connection to button is loose. 2. STOP switch connection is loose; STOP LED is off. 3. Obstacle is blocking photocell in direction of movement. 4. Safety edge is damaged or has encountered an obstacle. 5. Gate opener is still released. 	<ol style="list-style-type: none"> 1. Check button and COM connections. 2. Check STOP switch connections (STOP and COM). 3. Remove obstacle. 4. Remove obstacle and check connections and wiring. 5. Lock gate opener.
Immediately after the gate has started moving, it stops and reverses.	Obstacle in area of gate.	Check area of gate for objects
Gate can only be opened	<ol style="list-style-type: none"> 1. Photocell blocks 2. Dip switch setting not as desired 	<ol style="list-style-type: none"> 1. Function and connection must be checked 2. Check dip switch
"Timer to close" doesn't work.	<ol style="list-style-type: none"> 1. Only works if the 2-cable photocell 771ANZ has been installed. 2. Then turn "timer to close" potentiometer in a clockwise direction. 	
The gate opener hums slightly but has no force	<ol style="list-style-type: none"> 1. The gate opener has been released. 	<ol style="list-style-type: none"> 1. Lock gate opener.
The gate opener doesn't respond at all, although the controller has been connected (LEDs are on).	<ol style="list-style-type: none"> 1. Remote control has not been programmed. 2. LEDs indicate a fault. 3. Photocell connected incorrectly. 4. Jumper between STOP and COM missing. 5. Motor terminal possibly not connected properly. 	<ol style="list-style-type: none"> 1. Programming remote control. 2. Find and rectify fault(s) (see description of LEDs). 3. Check photocell connection / programming. 4. Connect simple jumper. 5. Check terminals and connections.
The unit does not close automatically, it OPENS automatically	Check setting of limit switch	Limit switch connected falsely
Control board does not work with transmitter	<ol style="list-style-type: none"> 1. Transmitter not programmed 2. A photocell blocks 	<ol style="list-style-type: none"> 1. Program transmitter 2. Check photocells
The control board is not running	No covered distance learned	Learn covered distance. See Initial operation
Universal receiver does not work	Observe polarity	Swap "+" and "-" cables
The wing does not open completely.	<ol style="list-style-type: none"> 1. Is the gate travel programmed correctly? 2. Is the force adjusted correctly? 	<ol style="list-style-type: none"> 1. Program gate travel again 2. Increase force (under wind load the operator may run a bit slower)
The force setting has been altered, but no difference is apparent.	Disconnect the controller from the power supply for a few seconds in order to activate the control board's self-diagnosis functionality.	
The remote control's range is too short.	The installation of an external aerial is recommended as the controller with the short cable aerial is located either behind the post or near ground level in most cases. The optimum location of the aerial is as high as possible in all cases. An appropriate aerial with installation kit can be obtained from Chamberlain as an accessory with the product ref. no. ANT4X-1LM.	
The gate must follow a slope.	Not recommended! Change gate! The gate can move in an uncontrolled (dangerous) manner if the gate opener has been released. A stronger force is needed in the upwards direction of the slope and then, in the opposite direction, the gate opener's force is too strong.	

Chamberlain Australia Pty Limited / Chamberlain New Zealand Limited (Chamberlain), the manufacturer of Merlin® automatic gate openers, is committed to manufacturing and supplying high quality goods. As part of this commitment, we seek to provide reliable service and support for our goods and are pleased to provide you, the original purchaser, with this Chamberlain Limited Warranty.

We also provide the following statement as required by the Australian Consumer Law: In Australia, in addition to your rights under this Chamberlain Limited Warranty, our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Chamberlain’s warranty

Chamberlain warrants to the original purchaser of the Merlin® Sliding Gate Opener (Unit) that all parts of the Unit, other than remote controlled transmitters and accessories, globes and batteries, are free from defects in materials and workmanship for a period of 24 months from the date of purchase when installed in a residential premise with a residential specified gate that is designed for the sole purpose of domestic domicile. Chamberlain warrants that remote controlled transmitters and accessories included with the Unit are free from defects in materials and workmanship for a period of 12 months from the date of purchase.

Batteries and globes are not covered under the Chamberlain Limited Warranty.

It is a condition of this Chamberlain Limited Warranty that the Unit is sold, installed and serviced by a Professional Dealer appointed by Chamberlain. A Merlin® branded gate opener purchased over the internet and installed by a person other than a Professional Dealer will not be covered by this Chamberlain Limited Warranty.

During the applicable Chamberlain Limited Warranty period, if you are concerned that the Unit may be defective, for prompt on-site service call the Professional Dealer that sold/installed the opener, or our service centre on the toll free number below and a Chamberlain technician will diagnose the problem and arrange for this to be rectified. Once the problem has been diagnosed, subject to your rights under the Australian Consumer Law with respect to major failures, Chamberlain or its Professional Dealer will provide you with:

- 1. repairs to the Unit
or
- 2. a replacement Unit.

Repairs and replacement parts provided under this Chamberlain Limited Warranty are provided free of charge and are warranted for the remaining portion of the original warranty period. This Chamberlain Limited Warranty provides benefits which are in addition to your other rights and remedies as a consumer.

Exclusions

If our service centre determines that a warranty claim has been made in respect of a failure or defect arising under or out of any exclusion detailed below such that the claim is not covered under this Chamberlain Limited Warranty, we may, subject to your other rights and remedies as a consumer, charge you a fee to repair, replace and/or return the Unit to you. This Chamberlain Limited Warranty does not cover any failure of, or defect in, the Unit due to:

- 1 non-compliance with the instructions regarding installation, operation, maintenance and testing of the Unit or of any product with which the Unit is used;
- 2 any attempt by a person other than a Professional Dealer to repair, dismantle, reinstall or move the Unit to another location once it has been installed;
- 3 tampering, neglect, abuse, wear and tear, accident, electrical storm, excessive use or conditions other than normal domestic use;
- 4 problems with, or relating to, the gate or gate hardware, including but not limited to the gate;
- 5 problems caused by electrical faults or replacement of batteries;
- 6 water or moisture ingress that causes corrosion or electrical malfunction;
- 7 corrosion caused by sea air if located near a waterway, beach etc;
- 8 fitment in a commercial operating application; or
- 9 solid panel gates installed in an unprotected wind affected location resulting in the gate not closing;
- 10 gate encounters incline/decline

NB: A General Purpose Outlet (GPO) ie: power point must be supplied by the consumer as this electrical fitting does not form a part of the Unit (opener). Excludes solar installations.

If this Chamberlain Limited Warranty does not apply, you may have rights available to you under the Australian Consumer Law.

Liability – Australia only

Except as set out in the Australian Consumer Law (being Schedule 2 of the Competition and Consumer Act 2010) (as amended, consolidated or replaced):

- 1 all other guarantees, warranties and representations in relation to the Unit or its supply are excluded to the extent that Chamberlain can lawfully exclude them; and
- 2 under no circumstances will Chamberlain be liable for consequential, incidental or special damages arising in connection with the use, or inability to use, the Unit, other than those which were reasonably foreseeable as liable to result from the failure.

Liability – New Zealand only

Except as set out in the Fair Trading Act 1986 and the Consumer Guarantees Act 1993 (as amended, consolidated or replaced):

- 1 all other guarantees, warranties and representations in relation to the Unit or its supply are excluded to the extent that Chamberlain can lawfully exclude them; and
- 2 under no circumstances will Chamberlain be liable for consequential, incidental or special damages arising in connection with the use, or inability to use, the Unit, other than those which were reasonably foreseeable as liable to result from the failure.

Note: We request that you retain your sales docket or invoice as proof-of-purchase and attach it to this manual to enable you to establish the date of purchase in the unlikely event of a warranty service being required. Chamberlain reserves the right to change the design and specifications of the Unit without prior notification. Some features or accessories of the Unit may not be available in certain markets or areas. Please check with your distributor.

Chamberlain service centre contact details

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