



CTR54

MANUALE D'ISTRUZIONI

INSTRUCTIONS MANUAL

MANUEL D'EMPLOI

ANWEISUNGSHANDBUCH

TABLE OF CONTENTS

A	Scope of the device	25	E	Maintenance	37
B	Limits to use	25	F	Conformity declaration	37
C	Installation	26	G	Card programming	38
D	Operation	26	G.1	Primary setting	38
D.1	Controls.....	26	G.2	Programs menu	39
D.2	Safety devices.....	26	G.3	Error messages	43
D.3	Outputs.....	27	H	General diagram	44
D.4	Power supply.....	27			
D.5	Accessory inputs / outputs.....	27			
D.6	Inputs state optical signals.....	28			
D.7	Trimmers.....	28			
D.8	Jumpers.....	29			
D.9	Programming keys.....	29			
D.10	Protection fuses.....	29			
D.11	Technical features.....	29			
D.12	Operation modes.....	31			
D.13	Electrical and mechanical specifications.....	32			
D.14	Electric connections.....	33			

ENGLISH

A) – Scope of the device

Electronic board controlling 1 or 2 230 Vac single-phase asynchronous motors for the gate automation.

B) – Limits to use

Caution : Before operating the electronic unit make sure the following operations have been carried out.

Note 1 – Read carefully the whole technical documentation supplied.

Note 2 – The electronic unit must be installed by qualified personnel only. The installation engineer must have the necessary technical and professional qualification.

Note 3 – The mains power supply connected to the unit must be 230 Vac +/- 10%.

Note 4 – The neutral (N) pole of the mains power supply must be unipotential to the ground.

Note 5 – All security norms for the installation of electric and electronic devices must be respected.

Note 6 – The mains power must be supplied with an efficient differential switch tested and calibrated in conformity with the applicable rules.

Note 7 – Operate on electronic card so that the motors produce a thrust on the gate respecting the applicable rules and, in any case, it must be such that in case of collision no damage will be caused to persons, animals or objects.

Note 8 – The unit must be applied for the intended use only (see point A). All other use is to be considered improper and dangerous.

Note 9 – Before acceding to the electronic unit's box for any intervention check that the mains power has been cut off.

Note 10 – Do not access the unit with wet/damp hand or feet.

Note 11 – Do not expose the unit to weather (rain, snow, etc.)

Note 12 – Do not allow any children or unqualified persons to touch the unit.

Note 13 – The electronic unit must be placed in the box supplied.

Note 14 – It is advisable to install the plastic box in well aired place and far from elements that can cause fire.

Note 15 – The ordinary maintenance of electronic unit must be executed by qualified personnel every 6 months.

Caution: Failure to respect the above listed norms can cause damage to persons, animals or objects. The manufacturer or supplier can in no way be held responsible for such damage.

C) – Installation

- 1) Remove the cover and check that the electronic unit is in good order. In case of doubt do not install the unit and ask for the intervention of qualified personnel. The container's accessories (screws, round seal, cable glands) must not be left within the reach of children since they are a potential danger.
- 2) Check that the electronic unit and the accessories are properly fixed to the box. If not, tighten all screws or provide the missing screws.
- 3) Place the unit near the gate so that the system connection wires' length is reduced to the minimum.
Caution: For the unit's correct operation the wires connected to it must not be longer than 10 metres.
- 4) For increased weather protection we recommend to place the unit under a roof or, even better, in an enclosure having two side walls. Moreover it is necessary to install the unit at a minimum 1,5 mt level above the ground to keep it out of the reach of children.
- 5) Before proceeding to assembly place the container so that the side fitted with the cable glands is directed towards the ground.
Caution: Do not assemble the container on wood surfaces.
- 6) Insert the supplied round seal in its seat. Make sure the two ends meet at the centre of the side to which the cable glands are fitted.
- 7) Lift the mobile portion of the connector and proceed to connect the unit wires as described in the following chapters.

D) - Operation

1) Definitions of Controls

Start

Input connected to a push-button placed outside the unit. It is employed to request the gate's opening or closure (for both wings). This input is usually connected to a key push-button.

Pedestrian Start

Input connected to a push-button placed outside the unit. It is employed to request the opening or closure of one wing only (pedestrian wing) to allow the passage of persons or animals.

2) Definitions of Safety devices

Stop

Input connected to a push-button or switch placed outside the unit. It is employed to cause the gate's immediate stop. This control must be used in an emergency situation.

Photocell

Input connected to an optical barrier. It detects and signals the passage of persons or vehicles in the area crossed by the gate or in the nearby area.

Photostop

Input connected to an optical barrier. It detects and signals the passage of persons or vehicles in the area crossed by the gate or in the nearby area.

Opening Limit Switch

Input connected to a switch placed outside the unit. The switch operates when the shutter has completed its opening phase.

Closing Limit Switch

Input connected to a switch placed outside the unit. The switch operates when the shutter has completed its closing phase.

ENGLISH

3) Definitions of Outputs

Blinker

Lamp's on/off control. The lamp functions as a warning and optical signaller of potential danger for the gate's motion.

Motor 1

Outputs for the opening/closure control of the motor which drives the first gate wing during the closing phase.

Motor 2

Outputs for the opening/closure control of the motor which drives the gate wing delayed during the closing phase. This wing is usually connected with an electric lock.

Electric lock

Impulse control for the electric lock release.

Courtesy light

Continuous control for the lamp which lights the area around the gate. The lamp is lit for approx. 2 minutes after the cycle has ended. During the pause before the gate closes back the lamp is lit.

Open gate lamp

Continuous control for the lamp that signals the gate's position. La lamp goes off only after the gate has completely closed.

Photocells test

It's an output controlled by Microprocessor for the Photocell power supply. It allows to check the Photocell working before the motors departure.

4) Definitions of Power Supply Inputs/Outputs

230 Vac mains power

Input for the electronic board power supply.

24 Vac low voltage

Power supply output for the photocell, photostop and/or any other accessory devices.

5) Definitions of Accessory Inputs/Outputs

Aerial

Input for the connection of a radio receiving aerial. This input can only be used if a radio receiver card is connected to the unit.

Encoder

Logic input that allows the microprocessor to detect the shutter speed and to define its exact position during the run. If the motor is endowed with incremental encoder , it is possible to establish with precision the point of beginning of the slowing down and the position of the shutter end-run.

6) Inputs state optical signals

During the normal operation of the equipment, the display shows the inputs state in the following way:

FOT - Photocell

The segment of the display goes off when the photocell is covered by the passage of people or cars.

FTS - Photostop

The segment of the display goes off when the optic barrier is covered by the passage of people or cars.

START - Common Start

The segment of the display goes on at the Start command.

PED - Pedestrian Start

The segment of the display goes on at the command of Pedestrian Start.

FC1A - Motor 1 opening limit switch

The segment of the display goes off when the limit switch is enabled.

FC1C - Motor 1 closing limit switch

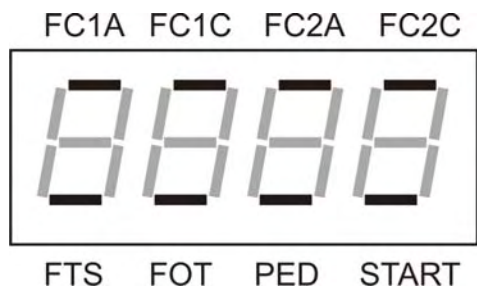
The segment of the display goes off when the limit switch is enabled.

FC2A - Motor 2 opening limit switch

The segment of the display goes off when the limit switch is enabled.

FC2C - Motor 2 closing limit switch

The segment of the display goes off when the limit switch is enabled.



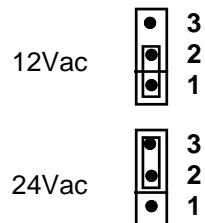
7) Definitions of Trimmers

RV1 – Slow-down speed and power regulation

It regulates the power supplied to the motors during the operation except at the departure (100% of torque) and during the slowing-down minimum speed. Rotate the trimmer in clockwise sense to increase the power supplied to the motors. During the programming phase, it regulates the slowing-down speed of the gate. The regulation of the slowing-down speed is not linear but in jerky way (Total 4). Rotate the trimmer in clockwise sense to increase the slowing-down speed.

8) Definitions of Jumpers**JP1 - Auxiliary voltage selection (Open gate lamp or Photocell test)**

It selects the power supply voltage on the terminal board J9. Put the Jumper between the terminal 1-2 to get 12Vac or between 2-3 to get 24Vac.

JP1 - Auxiliary voltage selection**9) Definitions of Programming Keys**

P1 - Key to insert / cancel the remote control codes in memory. In the programming menu it acts as confirmation Key.

P2 - Key to program the motors' work time and the M2 motor's closing delay time. In the programming menu it acts as scroll key **↑**

P3 - Key to program the pause time. In the programming menu it acts as scroll key **↓**

10) Definitions of Protection Fuses**F1 – 230Vac Mains power fuse (5A)**

It disconnects the electronic unit from the power supply mains in case of short-circuit or electric current consumption anomalies.

F2 – Low voltage fuse (2A)

It protects the electronic unit in case of short circuits or over-currents on photo-cells, electric lock or any other accessory devices connected to the 24 Vac power supply.

11) Technical features**Power regulation**

During the normal operation it is possible to reduce the power supplied to the motors regulating the RV1 trimmer.

Starting of maximum start up power

When any of the motors starts the unit supplies the maximum power value for approx. 1 sec. Subsequently the power regulation operates.

This particular feature allows to overcome the high negative torque at the motors' start.

Radioreceiver

The electronic unit contains a three-channels radioreceiver allowing the command of the gate by means of the remote control. The receiver channel 1 acts as **Start** command, the channel 2 acts as **Pedestrian start** command while the channel 3 controls the **Courtesy light**. The receiver operates with a self-learning logic and can store up to **50** different codes. Each code may be addressed on the desired channel. The memory contents is preserved in absence of power supply. The memory contents may be erased (total cancellation). In alternative the electronic unit is pre-set for an optional plug-in receiver card. The channel 1 of the plug-in receiver card has a non-polarized electric contact (relay) directly connected to the **start** input. The channel 2 of the plug-in receiver card has a non-polarized electric contact (relay) directly connected to the **pedestrian start** input.

Blinker

The electronic card supplies an on/off control (flashing light) to the lamp. The logic of the blinking allows displaying the gate's operating.

Quick flashing light : it signals the opening phase

Slow flashing light : it signals the closing phase

Fixed light : it signals that the gate is stopped in wait that the obstacle that covers the photocell or photostop to be removed.

The device supplies an on/off control (flashing light) to the lamp for approx. 1 sec. before the motors start (**pre-alarm**).

Open gate lamp

If it's programmed as **Open gate lamp**, on the terminal board **J9** is possible to connect a lamp that displays the gate's position. The lamp is off when the gate is completely closed and is lit in all other cases.

Work time

The motors' work time is controlled by two independent digital timers. If any command interrupts the wing's travel before its end, the Timer stops and the elapsed time is stored in memory. Therefore the unit can determine, with a fair approximation, the partial working time necessary to the wing to end its travel. Thanks to this feature it is possible to avoid that the motor works for a long time after the end of the wing's travel, thus reducing the over-heating to the minimum.

Warning : In case of power supply cut-off the data of the shutter position will be lost.

Kickback

This procedure can be enabled or not. It is usually employed to help the electric lock insertion and release during bad weather conditions. The "**kickback**" procedure enables the electric lock during a short closing phase of the shutters with the gate closed. The electric lock goes off only after the opening of the shutter M2. At the end of the operating cycle (gate closed), the procedure operates a short closing phase of the shutters at the maximum power.

Obstacle detecting

It's a function that you can exclude in the programs menu. It determines the stop of the shutter when the motor's current absorption reaches the programmed value. The hit of the shutter against an obstacle causes an increase of the motor's current absorption up to reach the programmed value. In this condition the gate stops (both wings) in opening and then it reverses its motion for approx. 2 sec., while during the closure phase, the gate stops and reverses its motion after approx. 1 sec.. The gate will open completely but it won't effect the automatic closing.

Attention: during the motor's start-up at the maximum power and in the followings 2 seconds to the speed change the obstacle detecting is not active.

ENGLISH

M1 delay at opening

The unit is pre-programmed with a fixed delay of approx. 2 seconds between the first wing's (M2) and the second wing's (M1) start during the gate's opening phase. This delay is imposed irrespective of the position from which the gate starts to open. This delay may be changed by programs menu.

12) Operation modes

Introduction

The electronic unit contains a microprocessor to control the gate's operation modes. These are four main operation phases :

Phase preceding the gate's motion

Gate's fast motion phase

Gate's slow motion phase

Gate's pause phase (open gate)

The unit can function in three modes : **Step by step** , **Automatic** and **Condominium**.

The start of working cycle is always enabled by a **Start** or **Pedestrian start** control.

Important : Whatever logic has been selected, the first Start command after the power is supplied to the electronic card will always cause the start of an opening cycle.

“Step-by-step” mode

After the power is supplied to the electronic card the first start command determines an opening cycle. At the end of the two work times the gate stops. The operating cycle is completed (blinker off) and the system waits for a new start command to determine the closing cycle. If a start command is supplied when the end of travel has not been reached yet the gate stops. A new start command will cause the reversal of the motion.

“Automatic” mode

After the power is supplied to the electronic card the first start command determines an opening cycle. At the end of the two work times the gate stops. The pause period starts. At the end of the pause period the gate closes automatically. The operating cycle is complete only when the closing motion has ended (blinker off). If a start command is supplied before the end of travel is reached the gate stops. A new start command will cause the gate to reverse its motion. If a start command is supplied during the pause period the operating cycle is interrupted and the gate does not close automatically. A further start command will determine a closing cycle.

“Condominium” mode

After the power is supplied to the electronic card the first start command determines an opening cycle. At the end of the two work times the gate stops. The pause period starts. At the end of the pause period the gate closes automatically. The operating cycle is complete only when the closing motion has ended. If a start command is supplied while the gate opens, the command will have no effect. If a start command is supplied while the gate closes, the gate will stop and reverse its motion after approx. 2 sec. If a start command is supplied during the pause period, the period will be reset and the automatic closure will start later.

Important : If the gate opening is controlled by a clock the “condominium” mode must be enabled.

“Single wing” mode

This mode is employed with single-wing gates. When enabled, it drives the motor M2 only. The operating modes described above remain unchanged.

In any operation mode, the safety devices causes the following effects :

- Stop** : If the stop command is enabled no cycles can start and the start command will have no effect. If a stop command is supplied during motion, the gate will immediately stop e interrupt its operating cycle. This condition will continue until the stop command is on. A start command following a stop command always determines an opening cycle. A stop command supplied during the pause period interrupts the operating cycle. A start command subsequently supplied will start a closure cycle.
- Photo-cell** : This device has effect only during the closure phase or in the pause period. If an obstacle covers the photo-cell during the closure phase , the gate stops and reverses its motion after approx. 2 sec. If an obstacle covers the photo-cell during the pause period this last one is reset and the automatic closure is therefore delayed. .
- Photostop** : If an obstacle covers the photo-cell during the gate's motion (opening or closure), or during the period preceding the operating cycle's start, then the gate is temporarily stopped, until the obstacle is not removed. The blinker will light with a fixed light to signal the irregular condition. When the obstacle is removed and the photocell is freed, an opening cycle will start. This does not apply when a start command determines the closing phase in step-by-step mode at the end of an opening cycle. If an obstacle covers the photostop during the pause period this last one is reset and the automatic closure is therefore delayed.
- Pedestrian start**: The pedestrian start command operates in the same way as the other start command, but in this case only the wing fitted with the electric lock (M2) will be opened or closed. The pedestrian start command has no effect during a start cycle and up to the end of the closing phase (closed gate). During a pedestrian start cycle the start command is always active and causes the start of an opening cycle for both wings. The pedestrian start command determines the complete opening of the shutter M2 in case of a 2-wings gate. It determines the partial opening of the shutter M2 in case of a single-wing gate (Pedestrian Time).

13) Electrical and mechanical specifications

Dimensions and weight (with box) : 186 x 283 x 112 mm - 2,3 Kg

Mains power supply : 230Vac +/- 10%

Stand-by power consumption : approx. 1W

Operating temperature range : 0 to + 60°C

Single-phase motors power supply : 230Vac 1HP max

Blinker power supply : 230Vac 40W max

Courtesy light power supply : 230Vac 150W max

Open gate lamp power supply : 12Vac (JP1 1-2) or 24Vac (JP1 2-3) - 4W max

Electric lock power supply : 12Vac 15W max

Accessories power supply : 24Vac 0.5A max

Motors' work time : programmable, 0 to 120 sec.

Pause time : programmable, 0 to 120 sec.

2nd wing closing delay : programmable, 0 to 30 sec.

Storable remote controls : 50 max.

Caution : The unit must be not switched on if the connected loads or the power supply exceed the a.m. limits. Failure to observe this precaution can result in damage to persons, animals or objects for which the manufacturer cannot be held responsible.

ENGLISH

14) Electric connections

9 electric connectors are fitted to the card :

- a) **J2** 8-pole Terminal board for the connection of the devices operating with 230Vac mains power supply (motors and blinker)
- b) **J1** 10-pole Terminal board for the connection of the devices operating at low voltage (commands, safety devices, electric lock and 24Vac power supply output)
- c) **J8** 2-pole Terminal board for the connection of the courtesy light
- d) **J9** 2-pole Terminal board for the connection of open gate lamp or other auxiliary device
- e) **J5** 2-pole Terminal board for the connection of the aerial cable
- f) **J7** 3-pole Terminal board for the connection of the mains power supply and the ground cable
- g) **J6** 10-pole connector for the optional connection of a radio receiver card
- h) **J3** 8-pole Terminal board for the connection of the limit switches and/or Encoder
- i) **J10** 6-pole connector for the joint of the power supply transformer

Terminal board J7

Terminal 1 – Ground cable connection

Terminal 2 - 230Vac mains power supply phase

Terminal 3 - 230Vac mains power supply neutral

Terminal board J2

Terminal 1 - 230Vac motor M1 power supply phase (opening)

Terminal 2 - 230Vac motor M1 power supply phase (closure)

Terminal 3 - 230Vac motor M1 Power supply common

Note: connect the capacitor of the motor M1 between terminals 2 and 1

Terminal 4 - 230Vac motor M2 power supply phase (opening)

Terminal 5 - 230Vac motor M2 power supply phase (closure)

Terminal 6 - 230Vac motor M2 Power supply common

Note: connect the capacitor of the motor M2 between terminals 4 and 5

Terminal 7 - 230Vac blinker power supply phase

Terminal 8 - 230Vac blinker power supply neutral

Terminal board J1

- Terminal 1** – Electric lock 12Vac power supply (common)
- Terminal 2** – Electric lock 12Vac power supply
- Terminal 3** – 24Vac power supply for photocells or other devices (common)
- Terminal 4** – 24Vac power supply for photocells or other devices
- Terminal 5** – Common Terminal for all electric contacts of commands or security devices
- Terminal 6** – Photoelectric cell's normally closed electric contact (photostop)
- Terminal 7** – Photocell's normally closed electric contact
- Terminal 8** – Emergency push-button's normally closed electric contact (stop)
- Terminal 9** – Pedestrian start push-button's normally open electric contact
- Terminal 10** – Start push-button's normally open electric contact

Important: The normally closed inputs not in use must be fitted with jumpers (shunt)

Terminal board J8

- Terminal 1** – Courtesy light's 230Vac power supply phase
- Terminal 2** – Courtesy light's 230Vac power supply neutral

Terminal board J9

- Terminal 1** - Power supply of Open-gate lamp or photocells Test
- Terminal 2** - Power supply of Open-gate lamp or photocells Test

Terminal board J5

- Terminal 1** – Aerial cable connection (shield) for radio receiver
- Terminal 2** – Aerial cable connection (signal) for radio receiver

Connector J6

- Terminal 1** – Normally open electric contact connected to the start
- Terminal 2** – Common of the normally open electric contact connected to the start
- Terminal 3** – Normally open electric contact connected to the pedestrian start
- Terminal 4** – Common of the normally open electric contact connected to the pedestrian start
- Terminal 5** - 12Vdc power supply negative (common)
- Terminal 6** - 12Vdc power supply positive
- Terminal 7** - 12Vdc power supply positive
- Terminal 8** - 12Vdc power supply negative (common)
- Terminal 9** – Aerial input (shield)
- Terminal 10** – Aerial input (signal)

ENGLISH

Terminal board J3

Terminal1 - Motor 1 opening Limit switch normally closed electric contact

Terminal2 - Motor 1 closing Limit switch normally closed electric contact

Terminal3 - Motor 1 Encoder signal input

Terminal4 - Common terminal for Motor 1 Limit switches and Encoder

Terminal5 - Motor 2 opening Limit switch normally closed electric contact

Terminal6 - Motor 2 closing Limit switch normally closed electric contact

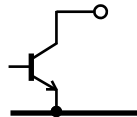
Terminal7 - Motor 2 Encoder signal input

Terminal8 - Common terminal for Motor 2 Limit switches and Encoder

Important: The equipment accept only a "TTL" or "OPEN COLLECTOR" input as Encoder signal.



OPEN COLLECTOR



Terminal board J10

Terminal 1 - 230Vac Transformer primary power supply phase

Terminal 2 - 230Vac Transformer primary power supply neutral

Terminal 3 - N.C.

Terminal 4 - 24Vac Transformer secondary power supply

Terminal 5 - 12Vac Transformer secondary power supply

Terminal 6 - 0 Vac Transformer secondary power supply (common)

Connection of the devices

230 Vac mains power supply cable – Terminals 1,2 and 3 on J7

Warning: The cable's ground pole must be connected to a good ground reference in the gate's nearby area.

Motor 1 – Terminals 1, 2 and 3 on J2

Motor 2 – Terminals 4, 5 and 6 on J2

Blinker – Terminals 7 and 8 on J2

Electric lock – Terminals 1 and 2 on J1

Photocells power supply – Terminals 3 and 4 on J1

NC photocell contact – Terminals 5 and 7 on J1

NC stop push-button – Terminals 5 and 8 on J1

NC photostop contact – Terminals 5 and 6 on J1

NO pedestrian start push-button – Terminals 5 and 9 on J1

NO start push-button – Terminals 5 and 10 on J1

Aerial – Terminals 1 and 2 on J5

Courtesy light – Terminals 1 and 2 on J8

Open gate lamp – Terminals 1 and 2 on J9

Photocell Test power supply - Terminals 1 and 2 on J9

NC Motor 1 opening limit switch contact – Terminals 1 and 4 on J3

NC Motor 1 closing limit switch contact – Terminals 2 and 4 on J3

NC Motor 2 opening limit switch contact – Terminals 5 and 8 on J3

NC Motor 2 closing limit switch contact – Terminals 6 and 8 on J3

Motor 1 Encoder connection - Terminals 3 and 4 on J3

Motor 2 Encoder connection - Terminals 7 and 8 on J3

IMPORTANT :

- If at Start-up the contacts **FC1A** and **FC1C** are both opened, the control of Motor 1 limit switches will be automatically disabled.
- If at Start-up the contacts **FC2A** and **FC2C** are both opened, the control of Motor 2 limit switches will be automatically disabled.

Important : Before starting the gate check the following conditions :

- a) connections to the electronic card
- b) electric contacts' switching
- c) state of the protection fuses

ENGLISH

E) MAINTENANCE

Warning: The maintenance of the device must be effected only and exclusively by a specialized technician authorized from the Manufacturer. Any operation of maintenance or control of the device must be effected in absence of power supply.

Ordinary maintenance: Every time that it is necessary and however every 6 months is recommended to verify the device operation.

Extraordinary maintenance: In case of failure, remove the device and send it for repair to the manufacturer laboratory or to authorized laboratory.

The Manufacturer is not responsible for missing observance of rules above described.

F) CONFORMITY DECLARATION

Company name and registered office :

Description of the appliance : **Universal electronic board to command 1 or 2 single-phase asynchronous motors 230Vac for gate automation**

Model : **CTR54**

Directives applied : **2006/95/EC e 1999/5/EC**

Standard norms applied :	EN 60950-1 + A11	EN 61000-4-3	EN55022
	EN 61000-3-2	EN 61000-4-4	EN 301 489-1 V1.8.1
	EN 61000-3-3 + A1 + A2	EN 61000-4-5	EN 301 489-3 V1.4.1
	EN 300 220-2 V2.1.2	EN 61000-4-6	
	EN 300 220-1 V2.1.1	EN 61000-4-11	

Test laboratory : **NEUTRON ENGINEERING INC.**

The manufacturer declares that the above listed products comply to the standard norms provided for by directives 2006/95/EC e 1999/5/EC.

Date : **02-11-2009**

G) Card programming

1) Primary setting

After the power is supplied to the electronic card, proceed in the following way:

Remote control codes self-learning :

- 1 - Press the **P1** key until the writing "LRN" appears on display,
- 2 - release the **P1** key, on display will appear the writing "rCH1",
- 3 - Press the desired key on the remote control within **10 seconds** to insert a **Start** code or press again **P1**,
- 4 - release the **P1** key, on display will appear the writing "rCH2",
- 5 - Press the desired key on the remote control within **10 seconds** to insert a **Pedestrian Start** code or press again **P1**,
- 6 - release the **P1** key, on display will appear the writing "rCH3",
- 7 - Press the desired key on the remote control within **10 seconds** to insert a **Courtesy light** switch on command or press again **P1** to return to the **Point 1**.

Erasing all stored codes :

- 1 - Press the **P1** key until the writing "dEL.C" appears on display (after 10 sec. approx.),
- 2 - release the **P1** key, end.

Setting the pause time :

- 1 - Press the **P3** key until the writing "LRN" and successively the writing "PAUSE" appear on display (after 2 sec. approx.),
- 2 - release the **P3** key and let the desired Pause time pass (the display shows the seconds counting),
- 3 - then press the **P3** key for 1 second, end.

Warning : the electronic card is predisposed to a 2-wings gate connection. If the card has been connected to a single-wing gate, before proceeding to the work times programming, enter in the programs menu and load the default value **DEF1** (go to page 42).

Single wing" mode □ This mode is employed with single-wing gates. When enabled, it drives the motor **M2** only. CHECK YOUR MOTOR IS WIRED TO MOT2

Setting the work time (only for a single-wing gate) : A PHYSICAL END STOP, IN OPENING AND CLOSING MUST BE USED BEFORE THIS CAN BE DONE.

- 1 - Make sure the gate is completely closed. If not, position it manually. **Adjust the RV1 trimmer to 1/3 of run**
- 2 - Press the **P2** key until the writing "LRN" and successively the writing "TIME" appear on display (after 2 sec. approx.),
- 3 - release the **P2** key, the gate will start opening at a reduced speed. (If the gate closes instead swap the two phase wires, usually brown & black to the motor)
- 4 - during this phase adjust the trimmer **RV1** to obtain the desired slow-down speed,
- 5 - when the gate is completely opened, press the **P2** key again and wait for the blinker lighting with a fixed light (after 3 sec. approx.),
- 6 - **adjust the RV1 trimmer to 1/3 of run** and successively press the **P2** key for 1 second to start the **M1** motor,
- 7 - when the shutter **M1** arrives to a distance of 50cm from the complete closing, press the **P2** key for 1 sec. to start the motor **M1** slowing down phase,
- 8 - 3 seconds after the complete closing of the shutter **M1**, press the **P2** key for 1 second to stop the motor **M1**, end.

.Turn the **RV1 trimmer back to 1/3**

In particular check that the gates detect obstacles with a minimum effort controlled by the **AMP.S** (see page 42) and by the **RV1 trimmer** (top right)

Note : during the work times programming all the safety devices are ignored

If you need to repeat the work times procedure, enter in to the programs menu and load the default value **DEF1** on page 42 first.

Easy Set Up Of Remote Controls CTR54

(Before you can learn the remote controls to the receiver, the gates must be closed.)

Radio-fob command codes self-learning

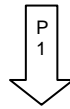
Make sure the panel is at rest (gates closed)



STEP1 with KW113 remote, open the cover and randomly arrange the dipswitches first.



STEP1 with A3a-V2 remote, carry out the How to generate a random code procedure on the next page.



STEP2. Press the **P1** key until the writing "LRN" appears on the display, release the **P1** key, on the display will appear the writing "rCH1",

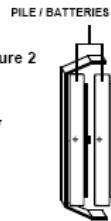
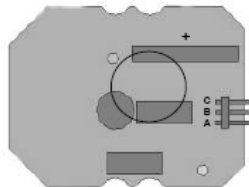
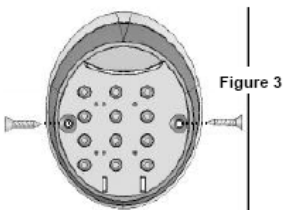


STEP3. Within **10** seconds, press and hold the button on your remote you want to open the gate fully for 3 seconds.

Erasing all stored codes

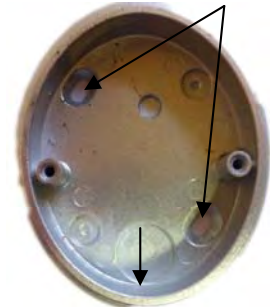
Press the **P1** key until the writing "dEL.C" appears on display (after 10 sec. approx.),

Radio-keypad programming



www.theelectricgateshop.co.uk/Product-1278/

SILICONE SEAL AROUND SCREW HOLES AFTER INSTALL



Drill a small weep hole here to let out any moisture.

1. Move the jumper shown in Fig. 2 to A.B from B.C. This will activate the unit
2. Install the keypad in location. Do not overtighten the screws. Overtightening can distort the pad and leave the keys inoperative
3. Press the **P1** key until the writing "LRN" appears on the display, release the **P1** key and on the display will appear the writing "rCH1",
Within 10 seconds, press the numbers on the keypad of your choice and end with OK. (5 Max)

Example; 12345OK.

Erasing all stored codes

Press the **P1** key until the writing "dEL.C" appears on display (after 10 sec. approx.),

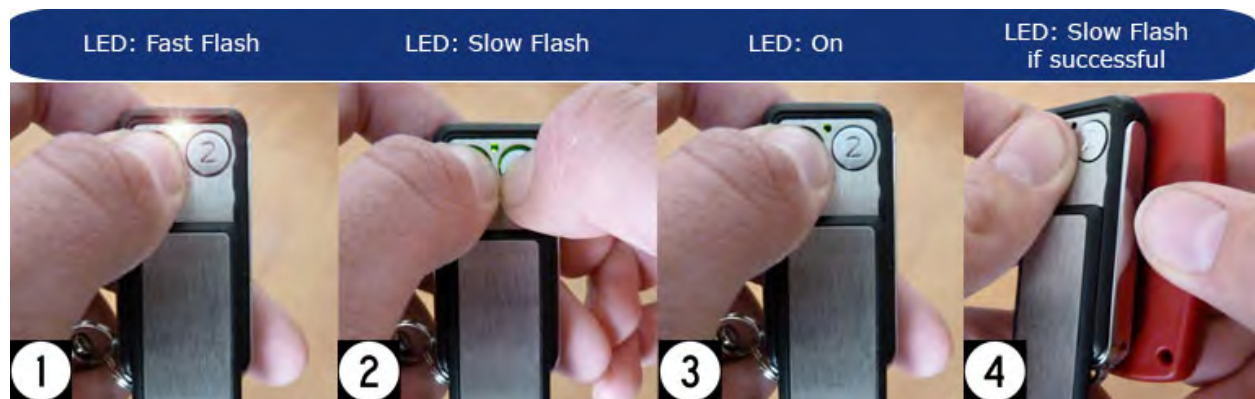
New A3AV2 Remote – (Green Led)

How to copy a code to the A3A Remote.

To Button (1)

- 1 Press and hold button (1)
- 2 Keep button (1) pressed then press button (2) (The led flashes slow)
- 3 Keep button (1) pressed and release button (2) (The led becomes fixed)
- 4 Keep button (1) pressed and press the button you wish to copy on your old remote. Slowly pass this under the A3A. (The led will flash slowly again.) Please keep pressing for 2 second whilst this is happening.

Your remote is now copied release button (1), wait ten seconds and test.



To Button (2)

Press and hold button (1) (The led flashed quickly)

Keep button (1) pressed then press button (2) (The led flashes slower)

Keep button (2) pressed and release button (1) (The led becomes fixed)

Keep button (2) pressed and press the button you wish to copy on your old remote. Slowly pass this under the A3A. (The led will flash slowly again.) Please keep pressing for two seconds whilst this is happening.

Your remote is now copied release button (2), wait ten seconds and test.

How to generate a random code.

Press and hold button (1)

Keep button (1) pressed then press button (2) (The led flashes slow)

Keep both buttons pressed for 15 seconds (The led will start to flash faster).

Whilst still holding in buttons (1) & (2), Release button (1) wait 2 seconds and release button (2).

You have now generated a random code in both buttons.

ENGLISH

Setting the work time (only for a 2-wings gate) : PHYSICAL END STOPS, ONE FOR EACH WING IN OPENING AND CLOSING MUST BE USED BEFORE THIS CAN BE DONE.

- 1 - Make sure the gate is completely closed. If not, position it manually. **Adjust the RV1 trimmer to 1/3 of run**
- 2 - Press the **P2** key until the writing "LRN" and successively the writing "TIME" appear on display (after 2 sec. approx.),
- 3 - release the **P2** key, the gate will start opening at a reduced speed. (If the gates close instead swap over the two phase wires, usually brown & black to the motors)
- 4 - during this phase adjust the trimmer **RV1** to obtain the desired slow-down speed,
- 5 - when the gate is completely opened, press the **P2** key again and wait for the blinker lighting with a fixed light (after 3 sec. approx.),
- 6 - **adjust the RV1 trimmer to 1/3 of run** and successively press the **P2** key for 1 second to start the **M1** motor,
- 7 - let the desired time pass (**M2** wing closing delay) then press the **P2** key for 1 second to start the **M2** motor,
- 8 - when the shutter **M1** arrives to a distance of 50cm from the complete closing, press the **P2** key for 1 sec. to start the motor **M1** slowing down phase,
- 9 - when the shutter **M2** arrives to a distance of 50cm from the complete closing, press the **P2** key for 1 sec. to start the motor **M2** slowing down phase,
- 10 - 3 seconds after the complete closing of the shutter **M1**, press the **P2** key for 1 second to stop the motor **M1**,
- 11 - 3 seconds after the complete closing of the shutter **M2**, press the **P2** key for 1 second to stop the motor **M2**, end.

Turn the RV1 trimmer back to 1/3

In particular check that the gates detect obstacles with a minimum effort controlled by the AMP.S (see page 42) and by the RV1 trimmer (top right corner of PCB. OBSERVE THE APPLICABLE PARTS OF STANDARDS EN 13241-1, EN 12453, EN 12445 TO FULLY COMPLY.

Note : during the work times programming all the safety devices are ignored.

If you need to repeat the work times procedure, enter in to the programs menu and load the default value DEF2 on page 42 first

Warning : during the programming, if the device detects that no Encoder is connected to the motor, it will disable automatically the control of the same one. The check is separately effected for each motor.

2) Programs menu



Attention: the selection of the logic of operation and the times setting must be carried out only if the working cycle is finished or before it starts (closed gate).

The Programs menu has a stepped structure composed by three levels: **MENU** **UNDERMENU** **SELECTION**

In the Programs menu the keys act in the following way:

P1 - Confirmation key / Exit key

- It allows the access from **Menu** to **Undermenu**
- It allows the access from **Undermenu** to **Selection**
- In the **Selection** it acts as confirmation key and back to the **Undermenu**
- **ESC** confirmation in a **Undermenu** allows the return to the **Menu**
- **ESC** confirmation in a **Menu** allows the exit from the programming

P2 - Scrolling key

- In a **Menu** or **Undermenu** It allows to jump from an item to the following
- In the **Selection** It allows to jump from an item to the following (choice of a logic of operation)
- In the **Selection** It acts as increment key (time or data setting)

P3 - Scrolling key ↓

- In a **Menu** or **Undermenu** It allows to jump from an item to the previous
- In the **Selection** It allows to jump from an item to the previous (choice of a logic of operation)
- In the **Selection** It acts as decrement key (time or data setting)

Press the **P3** key for 5 seconds to access to the main menu, on the display the writing "**SET**" will appear. You can find the whole structure table of the Programs menu as follows:

Menu	Undermenu	Selection	Description	Default
SET	MODE	SbYS Auto Cond	It allows to select the logic of operation of the gate (see pag. 31). There are three different logics of operation: Step by Step (SbYS), Automatic (Auto) and Condominium (Cond).	SbYS
	N.MOT	1MOT 2MOT	It predisposes the device for the operation with 1 or 2 motors. Selecting 1MOT the operation with the logic " single wing " will be enabled (see pag. 31).	2MOT
	BEZY	oFF on	Selecting on , the " kickback " procedure will be enabled (see pag. 30).	oFF
	DEL.0	oFF on	Selecting on , all the delays between the two shutters of the gate will be erased (closing and opening).	oFF
	CL.IM	oFF on	Selecting on , in opening or during the pause period, after the photocell is crossed, it causes the gate's stop and immediate closure after approx.1 second.	oFF
	BL.IN	oFF on	Selecting oFF , the electronic card will supply a continuous 230Vac voltage to the Blinker (flashing light off).	on
	M.AUS	OP.Lt tESt	It establishes if the output AUX on the terminal board J9 must operate as Open gate lam (OP.Lt) or Photocell test (tESt) (see pag. 27).	OP.Lt
	SPEd	1 - 4	It allows to program the slow-down speed of the shutter. The minimum speed corresponds to the value 1.	1
	ESC		Return to SET menu	

ENGLISH

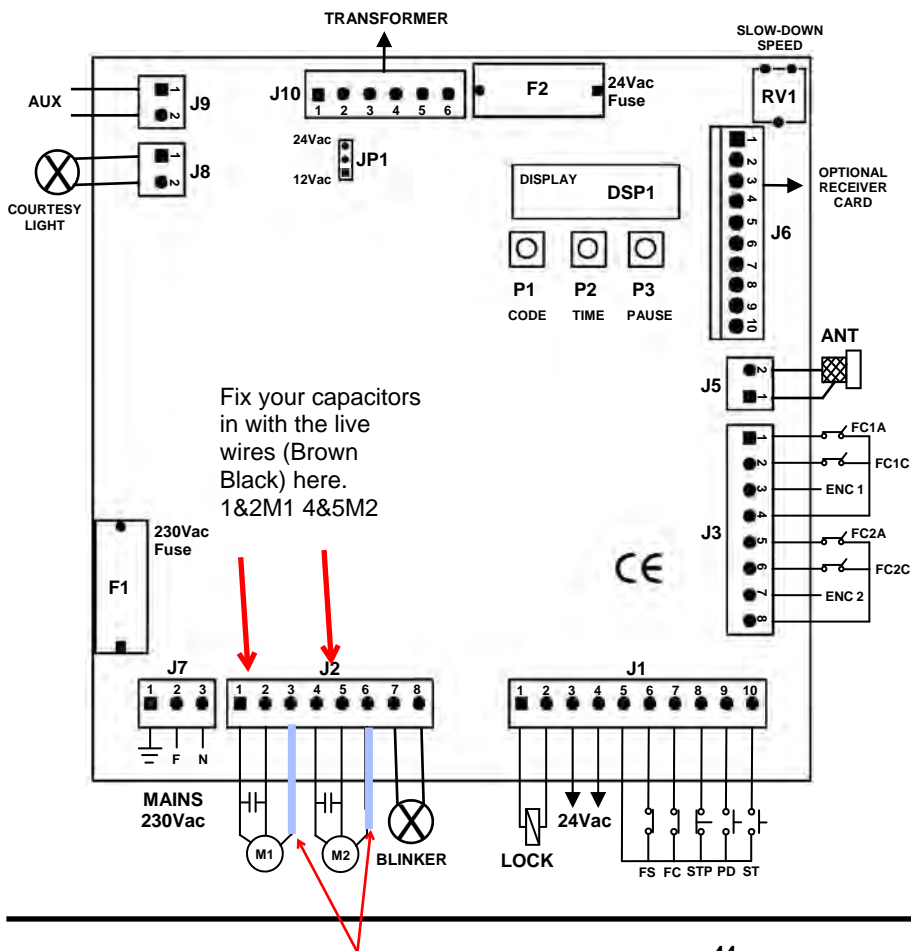
Menu	Undermenu	Selection	Description	Default
TIME	t.M1	00.0" - 2'00"	Setting of M1 Motor's working time	20"
	t.M2	00.0" - 2'00"	Setting of M2 Motor's working time	20"
	T.rA1	00.0" - 30.0"	Setting of M1 Motor's Slow-down time	15"
	T.rA2	00.0" - 30.0"	Setting of M2 Motor's Slow-down time	15"
	d.oP	00.0" - 30.0"	Setting of M1 Motor's opening delay	2"
	D.CL	00.0" - 30.0"	Setting of M2 Motor's closing delay	5"
	Pr.oP	00.0" - 10.0"	Setting of the flashing-time previous to the opening	0"
	Pr.CL	00.0" - 10.0"	Setting of the flashing-time previous to the closing	1.5"
	Boo.t	00.0" - 10.0"	Setting of the maximum power period at the motor's start up (see pag. 29)	1.5"
	PAuS	00.0" - 2'00"	Setting of the pause time before the automatic closing	15"
	T.LoC	00.0" - 10.0"	Setting of electric lock's working time	2"
	T.PED	00.0" - 30.0"	Setting of the M2 Motor's working time due to a Pedestrian start command in a single-wing gate. This setting has no effect on a 2-wings gate (see pag. 32).	8"
	ESC		Return to TIME menu	

Menu	Undermenu	Selection	Description	Default
AMP.S	AMP.N	On oFF	It enables / disables the motors' current reading necessary to detect the obstacles. Disabling this function, all other following undermenu of the AMP.S menu have no effect.	on
	AMP.R	On / oFF	It enables / disables the motors' current reading during the slow-down phase.	oFF
	A.PR1	0 - 100%	Setting of the M1 motor's current limit to pass for detecting the obstacle	30%
	A.PR2	0 - 100%	Setting of the M2 motor's current limit to pass for detecting the obstacle	30%
	VAL.A		It shows in sequence the current values, detected by the device, in the following order: <ul style="list-style-type: none"> • Maximum current at M1 motor's normal speed • Minimum current at M1 motor's normal speed • Maximum current at M1 motor's slow-down speed • Minimum current at M1 motor's slow-down speed • Maximum current at M2 motor's normal speed • Minimum current at M2 motor's normal speed • Maximum current at M2 motor's slow-down speed • Minimum current at M2 motor's slow-down speed 	
	ESC		Return to AMP.S menu	
L.DeF	DEF1	not / YES	It predisposes the card for the operation with a single wing gate and the Default values	
	DEF2	not / YES	It predisposes the card for the operation with a 2-wings gate and the Default values	
	ESC		Return to L.DeF menu	
Cont	Sho.C		It shows the number of cycles carried out by the automation (cycles counter)	
	dEL.C		It erases the cycles counter	
	ESC		Return to Cont menu	
inFo			It shows the software version of the electronic card	

3) Error messages

In case of anomalies or particular conditions, the display shows the following messages :

Message	Description
FULL	The memory that contains the remote control codes is full. 50 codes have been inserted in the memory.
STOP	The STOP electric contact on the terminal board J1 (clamps 5 and 8) is open. The STOP contact must be put in short-circuit if it's not used.
T PH	During the photocell test an error has been detected. Attention: verify the operation of the photocell before starting the gate motion.
OBST	During the motion of the wing an obstacle has been detected. Attention: remove the object that obstruct the correct movement of the wing.
PAUS	The gate is in the Pause period before the closure in the logic of operation Automatic or Condominium .
OPEN	It signals that the gate is in the opening phase.
CLOS	It signals that the gate is in the closing phase.
PHOT	It signals that the gate is in stop, despite a command of Start or Pedestrian Start has been sent. The blinker signals with fixed light the anomalous condition. Attention: interrupt the working cycle and verify the operation of the Photocell and the Photostop .



General diagram

Motor phase wires, (brown&black are dependant upon motor direction. Use first part of set up on page 39 to detect correct direction. Change over brown & black if necessary. Connect the motor run capacitors across brown & black.

Motor common wire is blue or grey.

CE

┌

┐

└

┘

Installer:

(Name, address, telephone)

**UNAC GUIDE No. 2
FOR THE MOTORISATION OF HINGED GATES
IN ACCORDANCE WITH MACHINERY DIRECTIVE 98/37/EEC AND THE APPLICABLE PARTS OF
STANDARDS EN 13241-1, EN 12453, EN 12445**

With this publication UNAC sets out to inform and assist installers in applying the specifications of the directives and of European standards concerning the safe use of motorised gates/doors.

It should be noted that those who sell and *motorise* an existing manual door/gate become the manufacturer of the motorised door/gate *machine* and must prepare and keep the technical file, as laid down by Annex V of the Machinery Directive (98/37/EEC). The technical file must contain the following documents:

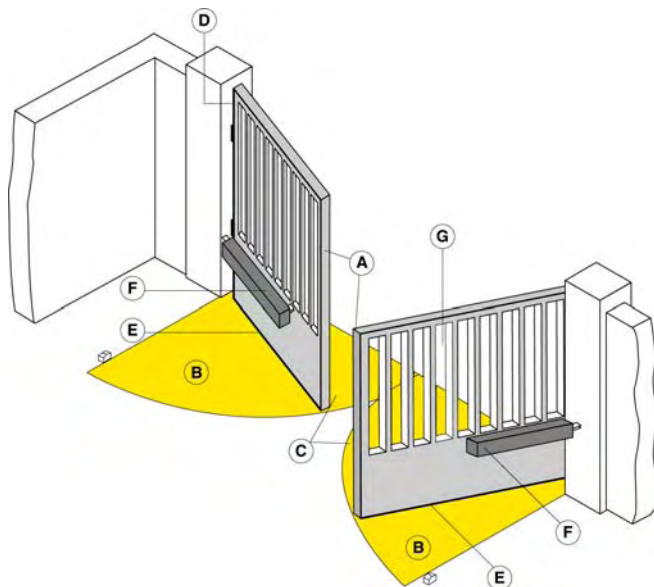
- Assembly drawing of the motorised door/gate (usually included in the installation manual).
- Electrical connections and control circuit diagrams (usually included in the installation manual).
- Risk analysis including (as indicated on the following pages):
 - the list of the essential requirements as indicated in Annex I of the Machinery Directive;
 - the list of the risks presented by the door/gate and the description of the solutions adopted.
- They must also keep the manuals for installation and maintenance of the door/gate and of the components.
- Prepare the operating instructions and general warnings for safety (if necessary integrating those in the manual for installation of the door/gate) and give the user a copy.
- Compile the proof book and give the user a copy (see facsimile in Annex 1).
- Draft the EC declaration of conformity (see facsimile in Annex 2) and give the user a copy.
- Fill in the label or plate with CE marking and attach it to the motorised door/gate.

N.B. The technical file must be held and made available to the competent national authorities for at least ten years from the date of construction of the motorised door/gate.

Note also that, as from May 2005, the manufacturer of a new door/gate (both manual and motorised) must observe the procedure for the CE marking pursuant to the Construction Products Directive (89/106/EEC), as indicated in annex ZA of the standard EN 13241-1. This procedure involves the manufacturer:

- setting up and maintaining internal production control;
- having a notified body carry out the initial type tests referring to the applicable characteristics indicated in Annex ZA of standard EN 13241-1.

N.B. UNAC is preparing guidelines dedicated to the correct application of the Construction Products Directive (89/106/EEC).



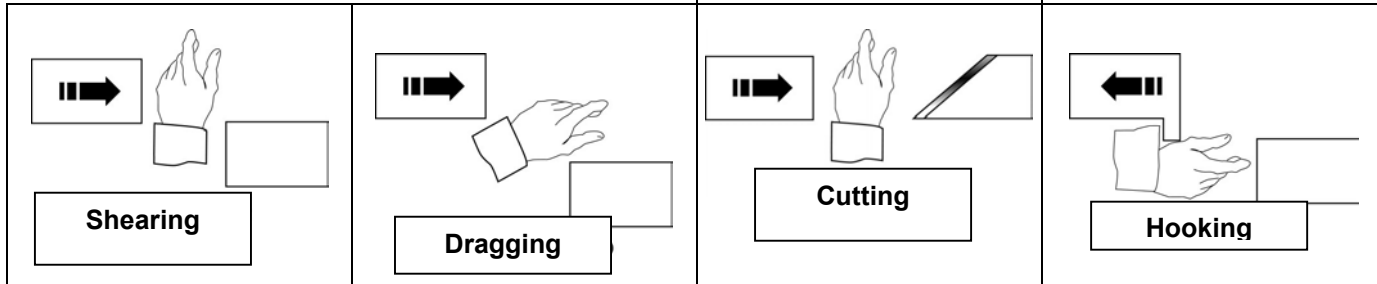
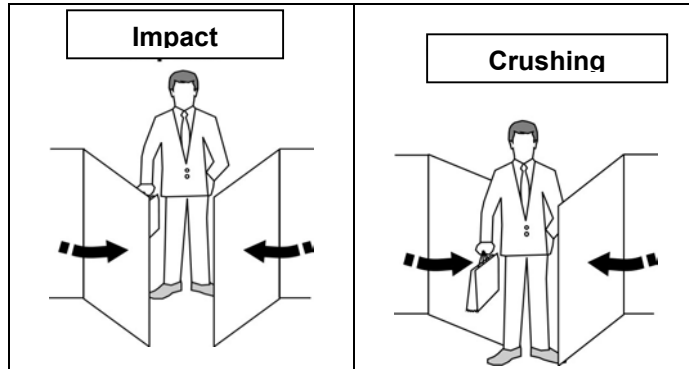
**Risk areas
of the hinged gate (Figure 1)**

The information given was drafted and checked with the utmost care, nevertheless UNAC declines all responsibility for any errors, omissions or inaccuracies due to technical or graphical requirements. UNAC points out that this guide does not replace the content of standards which the manufacturer of the motorised door/gate must observe.

KEY TO THE MECHANICAL RISKS CAUSED BY MOVEMENT

Pursuant to the Machinery Directive:

- “Danger zones” refer to any zone within and/or around machinery in which an exposed person is subject to a risk to his or her health and safety.
- “Exposed person” refers to any person wholly or partially in a danger zone.



MINIMUM LEVEL OF PROTECTION OF THE MAIN EDGE

Type of actuation controls	Type of use		
	Informed users (private area)	Informed users (public area)	Uninformed users
Hold-to-run control	Pushbutton control	Pushbutton control with key	Hold-to-run control not possible
Impulse control with door visible	Limitation of forces, or presence sensing devices	Limitation of forces, or presence sensing devices	Limitation of forces and photocells, or presence sensing devices
Impulse control with door not visible	Limitation of forces, or presence sensing devices	Limitation of forces and photocells, or presence sensing devices	Limitation of forces and photocells, or presence sensing devices
Automatic control (e.g. timed closure control)	Limitation of forces and photocells, or presence sensing devices	Limitation of forces and photocells, or presence sensing devices	Limitation of forces and photocells, or presence sensing devices

ANALYSIS OF THE RISKS AND CHOICE OF SOLUTIONS

IN ACCORDANCE WITH THE MACHINERY DIRECTIVE 98/37/EEC AND THE STANDARDS EN 13241-1, EN 12453, EN 12445

The risks listed below follow the sequence of the installation process. These risks are those which are commonly present in motorised doors/gates systems. According to the various situations, consideration therefore has to be made of any possible additional risks and exclude those which are not applicable. The solutions to be adopted are those indicated by the standards mentioned above; in the case of risks not dealt with, the safety integration principles indicated by the Machinery Directive (Annex 1 – 1.1.2) have to be applied.

MD Ann. 1	Type of risks	Evaluation criteria and solutions to be adopted (Tick the box corresponding to the solution adopted)
1.3.1 1.3.2	<i>Mechanical, structural and wear risks.</i> [1] Loss of stability and break-up.	<input type="checkbox"/> Check the solidity of the structure installed (jambs, hinges and leaves) in relation to the forces generated by the motor. Attach the motor stably using adequate materials. If available, check the content of the EC declaration of conformity of the manual gate. <input type="checkbox"/> If necessary, carry out the structural calculation and attach it to the Technical File. <input type="checkbox"/> Check that the travel of the leaves is limited (during opening and closure) by mechanical stops of adequate strength. Check that the leaves cannot, under any circumstance, exit their slide guides and fall.
1.5.15	[2] Tripping.	<input type="checkbox"/> Check that any thresholds higher than 5 mm are visible, indicated or shaped.

MD Ann. 1	Type of risks	Evaluation criteria and solutions to be adopted (Tick the box corresponding to the solution adopted)
1.3.7 1.3.8 1.4	<p>Mechanical risks caused by the movement of the gate (see references in Figure 1).</p> <p><input type="checkbox"/> CAUTION – If the door/gate is used solely with hold-to-run controls (and meets the requirements of the standard EN 12453), the danger points listed below do not have to be protected.</p> <p><input type="checkbox"/> CAUTION – If protective devices are installed (in accordance with the standard EN 12978) which prevent in all cases contact between the moving leaf and persons (for example photoelectric barriers, presence sensing devices), it is not necessary to measure the operating forces.</p>	

[3] Impact and crushing on the main closing edge (Figure 1, risk A).

Measure the closure forces (by means of the special instrument required by the standard EN 12445) as illustrated.

In the case of gates with two leaves, the closure force should be measured one leaf at a time.
 Check that the values measured by the instrument are below those indicated in the graph.
 Carry out the measurements in the following points:
 L = 50, 300 and 500 mm;
 H = 50 mm,
 at mid-height of the leaf and
 at the height of the leaf minus 300 mm (max 2500).

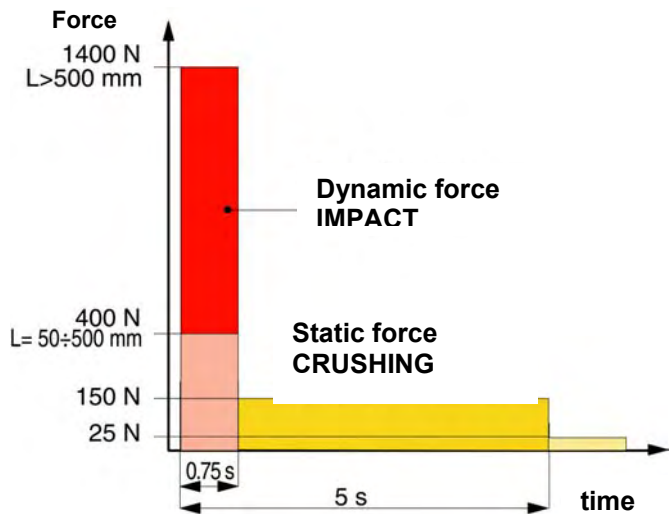
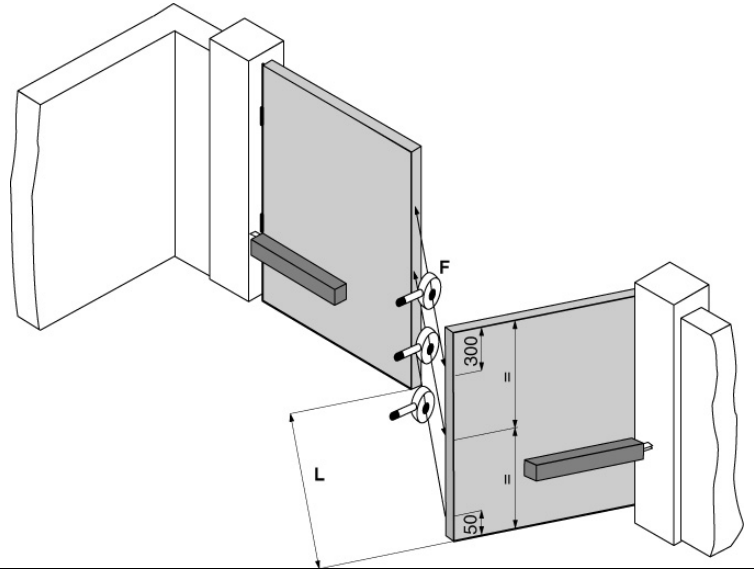
N.B. The measurement should be repeated three times in each point and the average value considered.

The graph indicates the maximum values of the dynamic, static and residual operating forces in relation to the various positions of the leaf.

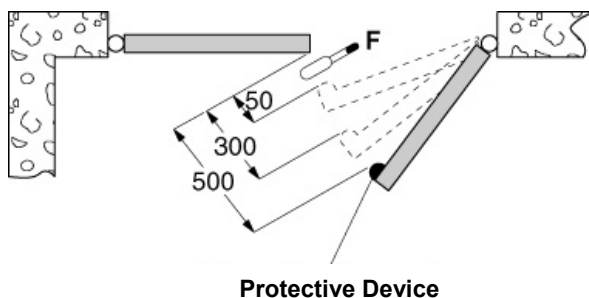
N. B. With reference to the measurement points with L = 50, 300 and 500 mm, the maximum dynamic force value permitted is 400 N.

If the values of the forces are higher, install a protective device in accordance with the standard EN 12978 (for example a sensitive edge) and repeat the measurement.

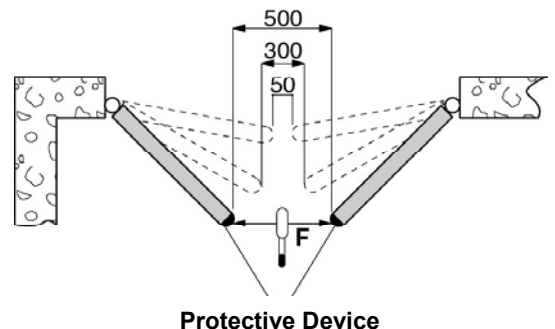
N. B. The dynamic force can be reduced, for example, by reducing the speed of the leaf or using a sensitive edge with high elastic deformation.

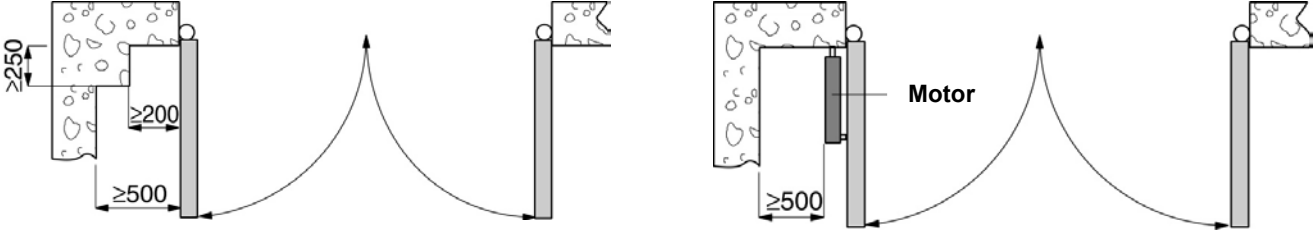
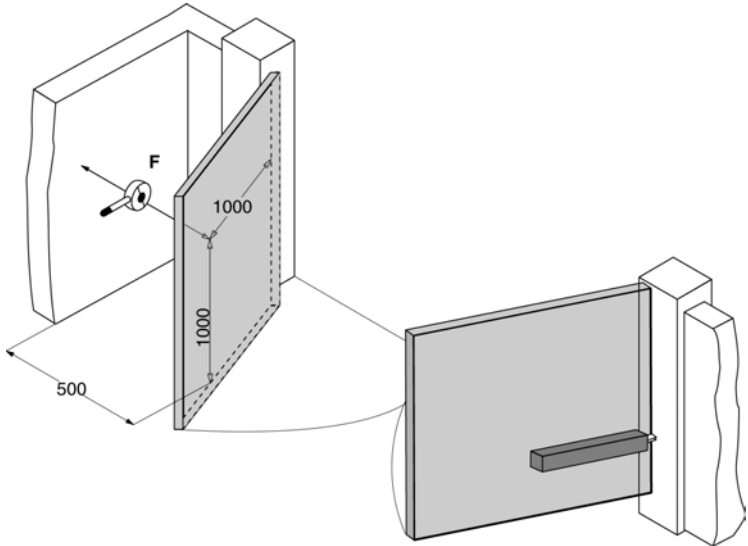
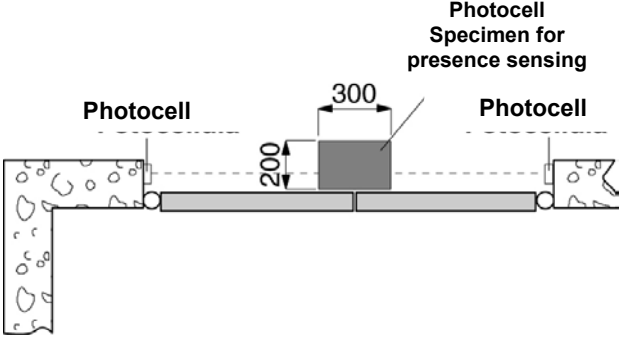
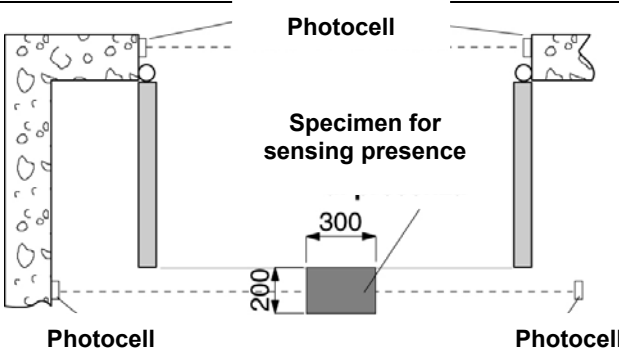



Leaves with overlapping and delayed closure

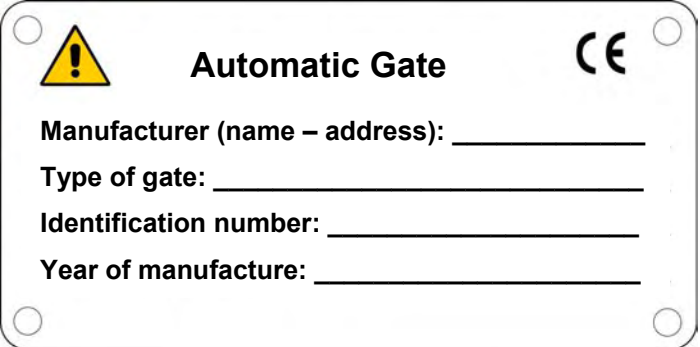


Leaves with simultaneous closure



MD Ann. 1	Type of risks considered	Evaluation criteria and solutions to be adopted (Tick the box corresponding to the solution adopted)
<p>[4] Impact and crushing in the area of opening (Figure 1, risk B).</p> <p><input type="checkbox"/> Observe the safety distances illustrated (in the most prominent part of the leaf).</p> 		
<p>or:</p> <p><input type="checkbox"/> Measure the forces of opening (by means of the special instrument required by the standard EN 12445) as illustrated. Check that the values measured by the instrument are less than those indicated in the graph above.</p> <p>Carry out the measurement at a height of 1000 mm (or in the most prominent point of the leaf)</p> <p><i>N.B. The measurement should be repeated three times and the average value considered.</i></p> <p><input type="checkbox"/> If the values of the forces are higher, install a protective device in accordance with the standard EN 12978 (for example a sensitive edge) and repeat the measurement.</p> 		
<p>[5] Impact in the area of closure (Figure 1, risk C).</p> <p><input type="checkbox"/> Install a pair of photocells (recommended height 500 mm) so as to sense the presence of the test parallelepiped (height 700 mm) positioned as illustrated.</p> <p><i>N.B. The test specimen for presence sensing is a parallelepiped (700 x 300 x 200 mm) with 3 faces with a light and reflective surface and 3 faces with a dark and opaque surface.</i></p> 		
<p>[6] Impact in the area of opening (Figure 1, risk B) and in the area of closure (Figure 1, risk C)</p> <p><input type="checkbox"/> To reduce further the possibility of impact in the areas of movement of the gate, it is possible to install a pair of photocells (recommended height 500 mm) so as to sense the presence of the test parallelepiped (height 700 mm) positioned as illustrated.</p> 		

MD Ann. 1	Type of risks	Evaluation criteria and solutions to be adopted (Tick the box corresponding to the solution adopted)
1.3.7 1.3.8 1.4	<p><i>Mechanical risks due to movement of the leaf.</i></p> <p>[7] Dragging of the hands on the hinges side edge (Figure 1, risk D).</p> <p>[8] Dragging of the feet on the lower edge (Figure 1, risk E).</p> <p>[9] Dragging of the hands on the drive unit (Figure 1, risk F).</p> <p>[10] Dragging, hooking and cutting due to the shaping of the mobile leaf (Figure 1, risk G).</p>	<p><input type="checkbox"/> Check that there is a clearance ≥ 25 mm,</p> <p>or:</p> <p><input type="checkbox"/> attach guards that prevent fingers from being inserted (for example a rubber strip).</p> <p><input type="checkbox"/> The clearance between the gate and ground must prevent the risk of dragging of the feet.</p> <p><i>N.B. Should, due to the slope of the ground, the clearance vary, guards should be attached (e.g. rubber strips).</i></p> <p><input type="checkbox"/> If the distances between the drive unit and the leaf vary, check on the presence of a clearance ≥ 25 mm, or attach guards (e.g. covers or strips in rubber).</p> <p><input type="checkbox"/> Eliminate or protect any sharp edges, handles, projecting parts etc. (for example by means of covers or strips in rubber).</p>
1.5.1 1.5.2 1.5.10 1.5.11	<p><i>Electrical and electromagnetic compatibility risks</i></p> <p>[11] Direct and indirect contacts. Dispersion of electrical energy.</p> <p>[12] Risks relating to electromagnetic compatibility.</p>	<p></p> <p><input type="checkbox"/> Use CE-marked components and materials pursuant to the Low Voltage Directive (73/23/EEC).</p> <p><input type="checkbox"/> Carry out the electrical connections, connection to the mains, earth connections and relevant checks, in accordance with current regulations and as indicated in the installation manual of the drive unit.</p> <p><i>N.B. If the electrical supply line is already set up (via both a socket and a connector block), declarations of conformity to Italian law no. 46/90 are not necessary.</i></p> <p><input type="checkbox"/> Use CE-marked components pursuant to the EMC Directive (89/336/EEC). Carry out the installation as indicated in the manual for installation of the drive unit.</p>
1.2 1.5.3 1.2.3 1.2.4	<p><i>Safety and reliability of drive unit and control and safety devices.</i></p> <p>[13] Safety conditions in the event of malfunctioning and power failure.</p> <p>[14] Energy types other than electrical energy</p> <p>[15] Actuation and disabling of the drive unit.</p> <p>[16] Power supply switch.</p>	<p><input type="checkbox"/> Use drive units which comply with the standard EN 12453 and safety devices which comply with the standard EN 12978.</p> <p><input type="checkbox"/> If hydraulic drive units are used, they must comply with the standard EN 982; or</p> <p><input type="checkbox"/> if pneumatic drive units are used, they must comply with the standard EN 983.</p> <p><input type="checkbox"/> Check that, after a fault or power failure, the drive unit restarts safely without creating hazardous situations.</p> <p><input type="checkbox"/> Install an omnipolar switch for electrical insulation of the door/gate, in accordance with current laws. This switch must be positioned and protected against accidental or unauthorised actuation.</p>

MD Ann. 1	Type of risks	Evaluation criteria and solutions to be adopted (Tick the box corresponding to the solution adopted)
1.2.5	[17] Consistency of controls	<input type="checkbox"/> Install the controls (e.g. key selector) so that the user is not in a danger zone, and check that the meaning of the controls has been understood by the user (for example the function selector). <input type="checkbox"/> Use CE-marked radio controls pursuant to the R&TTE directive (1999/5/EEC) and complying with the frequencies admitted by the laws of each individual country.
1.5.14	[18] Risk of trapping.	<input type="checkbox"/> Install a device for release of the drive unit that allows manual opening and closure of the leaf with force no higher than 225 N (for doors/gates in residential areas) or 390 N (for doors/gates in industrial or commercial areas). Supply the user with the means and instructions for the release operations. Check that operation of the release device is simple and does not create additional risks.
1.2.4	[19] Emergency stop.	<input type="checkbox"/> If appropriate, install an emergency stop control in accordance with the standard EN 418. <i>N.B. Make sure that the emergency stop does not introduce additional risks, aborting operation of the safety devices installed.</i>
1.7.1 1.7.2 1.7.3 1.7.4 1.6.1 1.1.2	<i>Integration principles for safety and information.</i> [20] Signalling equipment. [21] Warnings. [22] Marking. [23] Operating instructions. [23] Maintenance. [24] Unprotected residual risks.	<input type="checkbox"/> A flashing light should be installed, in a visible position, to indicate movement of the leaf. <input type="checkbox"/> Traffic lights can be installed to control vehicle traffic. <input type="checkbox"/> Reflectors can also be attached to the leaf. <input type="checkbox"/> Attach all those signs or warnings considered necessary for indicating any unprotected residual risks and to indicate any foreseeable improper use. <input type="checkbox"/> Attach the label or plate with the CE marking and containing at least what is shown in the illustration. <div data-bbox="715 1308 1417 1653" style="border: 1px solid black; padding: 10px; text-align: center;">  <p>Automatic Gate CE</p> <p>Manufacturer (name – address): _____</p> <p>Type of gate: _____</p> <p>Identification number: _____</p> <p>Year of manufacture: _____</p> </div> <input type="checkbox"/> Consign to the user the operating instructions, safety warnings and EC declaration of conformity (cf. facsimile in Annex 2). <input type="checkbox"/> A maintenance plan has to be drawn up and implemented. Check on the proper working of the safety devices at least every 6 months. <input type="checkbox"/> Record the work carried out in the proof book in accordance with the standard EN 12635 (cf. facsimile in Annex 1). <input type="checkbox"/> Inform the user in writing (for example in the operating instructions) of any unprotected residual risks and foreseeable improper use.