UNDERGROUND AUTOMATION
FOR SWING GATES
UNDERGROUND AUTOMATION FOR SWING GATES

CARDIN PRO SERIES HL

The automation is made up of a series of components consisting of an electronic programmer, one or two sealed self-locking operators complete with embedding cases and a special connecting cable. The robust and reliable electromechanical operator guarantees optimum performance under all working conditions and its system of ball bearing balanced pivoting levers guarantees regular and silent running.

The hot dip galvanized or stainless steel embedding cases are guaranteed to remain rust free throughout time. Particularly suited for installations that do not allow column installations or where the automation has to be completely hidden.

The units do not feature on board electronics and we advise you to use a Cardin electronic programmer:
- PRG230M2 for 1 or 2 230V motors;
- CC242ETOPCB - CC242EXTOPCB for 1 or 2 24V motors;

On the 24V model gate position is encoder controlled and self-programming thus reducing installation times to a minimum and optimising the programming procedure. Repositioning takes place automatically whenever foreign objects get in the way of the gate as it is moving.

The electronic control unit is completed by the anti-crush and “soft start” and “soft stop” functions. The control electronics also comes complete with a display that monitors the programming stages and counts the number of manoeuvres carried out by the machine.

The irreversible reduction system guarantees the blocking of the gate in the closed position.

The manual emergency movement system is easy to operate using a personalised “locking-unlocking” key and rearming is automatic.

STAINLESS STEEL OR HOT DIP GALVANIZED EMBEDDING CASE

WATERTIGHT MOTOR IP67

STAINLESS STEEL OR HOT DIP GALVANIZED EMBEDDING CASE

ROTATION THROUGH 360°

PIVOTING ON BEARINGS

SELF-PROGRAMMING MONITORED BY AN LCD GRAPHICS DISPLAY VERSIONS HL2524ESB - HL1824ESB
ELECTROMECHANICAL OPERATOR WITH A 24V MOTOR FOR GATES WITH A 110° MAXIMUM OPENING ANGLE

Encoder controlled self-locking operator:
- fitted with a crank rod transmission system;
- embedding case, Cardin electronic programmer and connection cable to be ordered separately.

ELECTROMECHANICAL OPERATOR WITH A 24V MOTOR FOR GATES WITH A 180°-360° MAXIMUM OPENING ANGLE

Encoder controlled self-locking operator:
- fitted with a chain driven transmission system (chain kit included);
- embedding case, Cardin electronic programmer and connection cable to be ordered separately.

ELECTROMECHANICAL OPERATOR WITH A 230V MOTOR FOR GATES WITH A 110° MAXIMUM OPENING ANGLE

Self-locking operator:
- fitted with a crank rod transmission system;
- supplied with a 6m connection cable;
- embedding case and Cardin electronic programmer to be ordered separately.

ELECTROMECHANICAL OPERATOR WITH A 230V MOTOR FOR GATES WITH A 180°-360° MAXIMUM OPENING ANGLE

Self-locking operator:
- fitted with a chain driven transmission system (chain kit included);
- supplied with a 6m connection cable;
- embedding case and Cardin electronic programmer to be ordered separately.

For the electric locks see page 163.
CARDIN PRO
SERIES HL

EMBEDDING CASES
complete with connection lever and adjustable mechanical travel limits. All versions are fitted with a stainless steel cover.

HLBOX - Hot dip galvanized anti-rust treatment, manual release mechanism to be ordered separately.

HLBOXI - Structure completely in stainless steel, manual release mechanism to be ordered separately.

HLBOXC - Hot dip galvanized anti-rust treatment, release mechanism with a personalised key included in the embedding case lever unit (not compatible with ACCHL360).

MANUAL RELEASE MECHANISM
with a personalised key for HLBOX-HLBOXI

MANUAL RELEASE MECHANISM
activated by means of a lever for HLBOX-HLBOXI

ACCESSORY FOR 360° OPENING

SELF-PROGRAMMING ECU FOR HL2524ESB - HL1824ESB
Programmer for the control of two encoder controlled 24V motors. Fitted with a multi-decoding module S449-S486-S504-S508. Compatible with the INTPRG-3G/WF system that allows the monitoring and programming of system parameters from remote positions.
For more information turn to page 186.

COMPATIBILITY
Compatible with the data exchange system between digital devices (smartphone, tablet, etc.) and the Cardin multifunctional control units.
See section 24V ECU INTERFACE DEVICES on page 186

ELECTRONIC PROGRAMMER

ECU, BATTERY CHARGER AND NiMH BATTERIES

KIT BATTERY CHARGER + NiMH BATTERIES
Allows the CC242ETOP unit to work during blackouts.

10m CABLE
with end sleeves for HL2524ESB - HL1824ESB.

SELF-PROGRAMMING ECU FOR HL251CL - HL2518CL
Programmer for the control of two motors. Motor power supply 230Vac. Maximum power yield for two motors 470 + 470 W. The appliance is fitted with an interface for the insertion of a standard Cardin radio receiver card. For more information turn to page 174.
CARDIN PRO SERIES HL

OPERATOR SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
<th>HL2524ESB</th>
<th>HL1824ESB</th>
<th>HL251CL</th>
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<tr>
<td>Motor power supply</td>
<td>V</td>
<td>24Vdc</td>
<td>230Vac</td>
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<td>Electrical input</td>
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<td>Power input</td>
<td>W</td>
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<td>Duty cycle</td>
<td>%</td>
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<tr>
<td>Opening time 90°</td>
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<td>Opening time 110°</td>
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<td>Opening time 180°</td>
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<td>35</td>
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<tr>
<td>Maximum torque</td>
<td>Nm</td>
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<td>290</td>
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<td>Protection grade</td>
<td>P</td>
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</table>

OVERALL DIMENSIONS

INSTALLATION EXAMPLE

LEGEND

1 Geared motor (left)
2 Geared motor (right)
3 Internal photocells
4 External photocells
5 Warning lights
6 Mechanical selector switch
7 Electric lock
8 External aerial
9 All pole circuit breaker
10 Mains cable 230Vac
11 Channelling for Cardin connection cable CABPC10
12 Channelling route for low voltage wires
13 Electronic programmer
14 Lateral protective photocells
15 Opening direction stop buffers

Attention: The drawing is purely indicative and is supplied as a working base from which to choose the Cardin electronic components making up the installation. This drawing therefore does not lay down any obligations regarding the execution of the installation.
UNDERGROUND AUTOMATION FOR SWING GATES

CARDIN TRADE SERIES HL MOLE

The automation is made up of a series of components consisting of an electronic programmer, one or two sealed self-locking operators complete with embedding cases and a special 2-metre long connecting cable.

The robust and reliable electromechanical operator guarantees optimum performance under all working conditions and its system of ball bearing balanced pivoting levers guarantees regular and silent running. Internally the automation is fitted with highly resistant cast iron helicoidal gears.

The hot dip galvanized or stainless steel embedding cases are guaranteed to remain rust free throughout time.

Particularly suited for installations that do not allow column installations or where the automation has to be completely hidden with the possibility of reaching an opening angle up to 360° (with an optional accessory).

The units do not feature on board electronics and we advise you to use a Cardin electronic programmer:
- Cardin T600 for 1 or 2 230V motors;
- Cardin T624 for 1 or 2 24V motors;

On the 24V model gate position is encoder controlled with the use of mechanical travel limits and self-programming thus reducing installation times to a minimum and optimising the programming procedure. Repositioning takes place automatically whenever foreign objects get in the way of the gate as it is moving.

The electronic control unit is completed by the anti-crush and “soft start” and “soft stop” functions.

The reversible geared motor guarantees that the gate will remain blocked when closed. The manual emergency movement system is easy to operate using the personalised “locking-unlocking” key or a lever operated system and rearming is automatic.
ELECTROMECHANICAL OPERATOR WITH A 24V MOTOR
FOR GATES WITH A 105° MAXIMUM OPENING ANGLE

Encoder controlled self-locking operator:
- fitted with a crank rod transmission system;
- supplied with a 2m connection cable;
- embedding case and Cardin electronic programmer to be ordered separately.

ELECTROMECHANICAL OPERATOR WITH A 230V MOTOR
FOR GATES WITH A 105° MAXIMUM OPENING ANGLE

Self-locking operator:
- fitted with a crank rod transmission system;
- supplied with a 2m connection cable;
- embedding case and Cardin electronic programmer to be ordered separately.

EMBEDDING CASES
complete with connection lever and adjustable mechanical travel limits. All versions are fitted with a stainless steel cover.

HLBOX - Hot dip galvanized anti-rust treatment, manual release mechanism to be ordered separately.
HLBOXI - Structure completely in stainless steel, manual release mechanism to be ordered separately.
HLBOXC - Hot dip galvanized anti-rust treatment, release mechanism with a personalised key included in the embedding case lever unit (not compatible with ACCMOLE360).

ACCESSORY FOR 360° OPENING
with pinion and chain.

For the electric locks see page 163.
MECHANICAL GATE LOCK
for installations with two gates and a horizontal electric lock.

MANUAL RELEASE MECHANISM
with a personalised key for HLBOX-HLBOXI

MANUAL RELEASE MECHANISM
activated by means of a lever for HLBOX-HLBOXI

ELECTRONIC PROGRAMMER
for one or two 230V encoder-controlled motors complete with torque adjustment and deceleration. Factory set for the insertion of an open collector receiver card.

ELECTRONIC PROGRAMMER
for one or two 24V encoder-controlled motors complete with speed regulation (with ECU) and deceleration. Factory set for the insertion of an open collector receiver card.

BATTERY CHARGER
for use with 24V programmers.

EXTERNAL BOX
with 2 batteries 12V 7Ah.

POWER SUPPLY KIT
Solar panels for use with all 24Vdc automation.

Compatible with the data exchange system between digital devices (smartphone, tablet, etc.) and the Cardin multifunctional control units. See section 24V ECU INTERFACE DEVICES on page 186
## OPERATOR SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>HL MOLE24</th>
<th>HL MOLE230</th>
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<tr>
<td>Motor power supply V</td>
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<td>230Vac</td>
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<tr>
<td>Electrical input A</td>
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<tr>
<td>Power input W</td>
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<td>Duty cycle %</td>
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<tr>
<td>Opening time 90° s</td>
<td>19</td>
<td>19</td>
</tr>
<tr>
<td>Opening time 110° s</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>Opening time 180°(with ACCMOLE360) s</td>
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<td>40</td>
</tr>
<tr>
<td>Maximum torque Nm</td>
<td>400</td>
<td>500</td>
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<td>Protection grade P</td>
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</tbody>
</table>

## OVERALL DIMENSIONS

![Overall Dimensions Diagram]

### INSTALLATION EXAMPLE

**LEGEND**

1. Geared motor (left)
2. Geared motor (right)
3. Internal photocells
4. External photocells
5. Warning lights
6. Mechanical selector switch
7. Electric lock
8. Sun Power
9. All pole circuit breaker
10. Mains cable 230Vac
11. Channelling for Cardin connection cable CABPC10
12. Channelling route for low voltage wires
13. Electronic programmer
14. Solar panels
15. Lateral protective photocells
16. Opening direction stop buffers

**Attention:** The drawing is purely indicative and is supplied as a working base from which to choose the Cardin electronic components making up the installation. This drawing therefore does not lay down any obligations regarding the execution of the installation.
COMPLETE UNDERGROUND AUTOMATION KIT FOR SWING GATES

USE
Particularly suited for installation that do not allow column installations or where the automation has to be completely hidden. For gates with a maximum length of 3m, maximum weight 350kg.

2 SELF-LOCKING ELECTROMECHANICAL GEARED MOTORS
with an encoder-controlled 24V motor.

2 EMBEDDING CASES
with stainless steel covers, connection levers and release mechanism with a personalised key.

ELECTRONIC PROGRAMMER
with a 433MHz FM receiver, battery charger and NiMH batteries, housed in an IP55 box with sealing gaskets and cable gland entry holes for the insertion of one Ø21 mm and two Ø16mm rigid tubes. See page 172.

2 4-CHANNEL TRANSMITTERS
433MHz FM ROLLING CODE.

PAIR OF PHOTOCILLS
in class 3 with adjustable lens, range 10m.

LED WARNING LIGHT
24V - 230V with an in-built aerial

10-METRE WIRING CABLE
with end sleeves.

INTERNATIONAL WARNING SIGN
in PP, multi-language.

PACKING
DIMENSIONS: 720 x 410 x 330
GROSS WEIGHT: 62,9 kg
ITEMS PER PALLET: 5 pcs
COMPLETE UNDERGROUND AUTOMATION KIT FOR SWING GATES

KT-HL251KS9

USE
Particularly suited for installation that do not allow column installations or where the automation has to be completely hidden. For gates with a maximum length of 3m, maximum weight 550kg.

2 SELF-LOCKING ELECTROMECHANICAL GEARED MOTORS
with a 230V motor. Supplied with a 6m connection cable.

2 EMBEDDING CASES
with stainless steel covers, connection levers and release mechanism with a personalised key.

ELECTRONIC PROGRAMMER
for two 230V motors. The appliance is fitted with an interface for the insertion of a standard Cardin radio receiver card.

2-CHANNEL RECEIVER CARD
433MHz FM.

2 4-CHANNEL TRANSMITTERS
433MHz FM ROLLING CODE.

PAIR OF PHOTOCELLS
in class 3 with adjustable lens, range 10m.

LED WARNING LIGHT
24V - 230V with an in-built aerial

INTERNATIONAL WARNING SIGN
in PP, multi-language.

PACKING
DIMENSIONS: 720 x 410 x 330
GROSS WEIGHT: 65,1 kg
ITEMS PER PALLET: 5 pcs