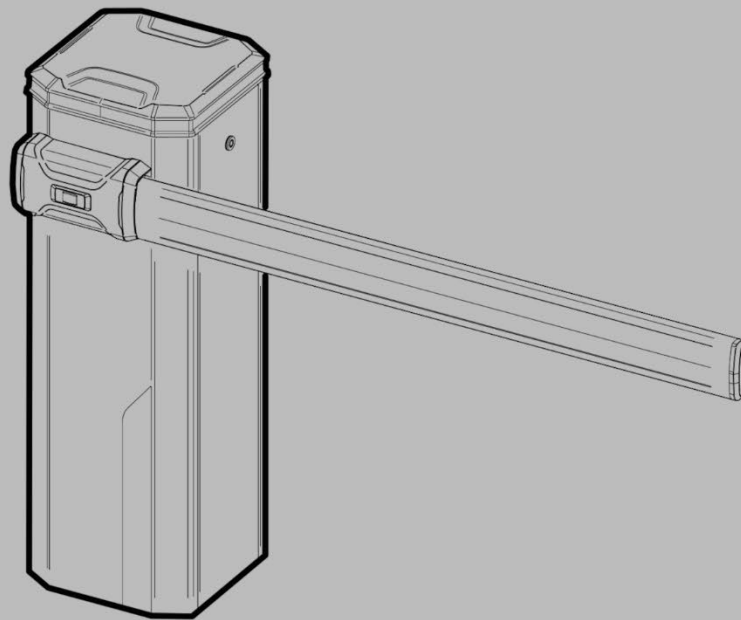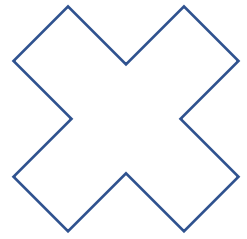# Maxima Ultra 36

CBS Xtreme Control Board

BFt

Be ahead

Professional installation required
Welding might be required

MAXIMA ULTRA 36
Automatic electromechanical barrier with safety reopening

Professional electromechanical barrier with inverter technology and heavy-duty asynchronous three-phase motor, designed to operate across a wide range of usage conditions, like in large parking lots or motorway toll booths with frequent motion reversals.

L = arm length
LP = useful passage

Dimensions in mm

RIGHT barrier

LEFT barrier
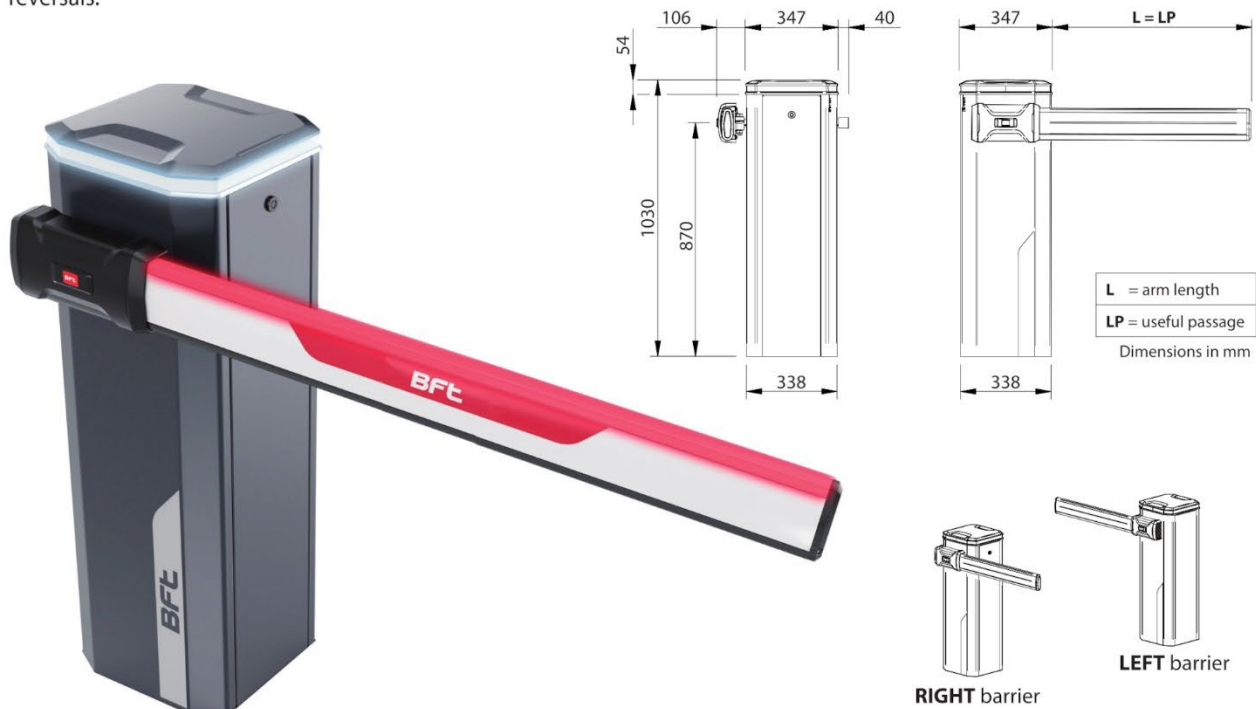
- Self-supporting steel structure, cataphoresis treated and powder paint coated (optional stainless steel)
- Double output shaft for installation on the right or on the left
- Opening time: **from 0.7 to 3.9 s**
- Maximum frequency: **20 000** operations/day for arm length up to 3 m
  5 000 operations/day for arm length up to 6 m
- MCBF: **7 000 000 cycles**
- Motor speed regulation
- Rod/crank mechanism ensuring the bar always moves smoothly
- Configurable obstacle detection with motion reversal while closing (encoder)
- Single spring for openings up to 6m wide
- Cap with RGB led lights (optional) providing blinking, traffic light and diagnostics functions
- Complete with installation template
- Built-in inverter
- Gearmotor in oil bath and asynchronous, three-phase motor 230 Vac
- Version with 115 Vac power supply available
- Manual opening inside the structure
- Greater accessibility thanks to the double door and to the cap
- Vandal-resistant system for interior protection.
- Control unit compatible with TCP/IP and RS485 protocol

TECHNICAL-ENVIRONMENTAL MAIN FEATURES

Barrier size	338 x 338 x h.1 030 mm; steel Fe360 (S 235 JR) *
Road passage	2.0...6.0 m
Finishing	Cataphoresis, powder paint RAL7015 standard, other colours on request
Foundation	Concrete, 500 x 500 x h.400 mm
Motor	Gearmotor in oil bath and asynchronous, three-phase motor, rod/crank
Obstacle detection	Configurable obstacle detection with motion reversal while closing (encoder)
Lock	Mechanic
Unlock	Manual inside the structure
Opening time	Adjustable from 0.7 to 3.9 s
Operating ambient temperature	-40°C ** +60°C
Operating humidity	up to 100%
IP grade	IP55
Net weight	69 kg
Gross weight	72 kg

* option, AISI304 or AISI316
** With integrated heater active

ELECTRICAL FEATURES

Control unit	CSB Xtreme
Power	1-phase 230 Vac ±10%, 50-60 Hz 1-phase 115 Vac ± 10%, 50-60 Hz version avaiable
IP grade	IP55
Operating ambient temperature	-40°C ** +60°C
Operating humidity	up to 95%, non condensing
Absorbed power	370 W
Power consumption	44 W
Signalling	LED lights on the arm, cap with RGB led lights providing blinking, traffic light and diagnostics functions
Sensor inputs	• Photocell • Boom pushed (special breakable boom) • UPS • Emergency stop from front panel
Local/Remote control	• Digital inputs • Radio remote control (RX on board, TX optional) • RS485, TCP/IP (optional)

INSTALLATION EXAMPLE

1)	Single-phase line	2 x 1.5 + T
2)	Transmitter photocell	2 x 0.5
3)	Receiver photocell	4 x 0.5
4)	Key selector	2 x 0.5
5)	Receiver	4 x 0.5
	Antenna	RG58
6)	Magnetic coil	

For system composition and installation refer to the regulations in force in the country where the system is being installed.

ITEM SPECIFICATION

Automatic electromechanical barrier for passage from 2.0 to 6.0 m. Dimensions 338 x 338 x h.1 030 mm. Self-supporting steel structure Fe360 (S 235 JR), cataphoresis treated and powder paint coated. IP55. Internal control unit, compatible with TCP/IP and RS485 interfaces. Gearmotor in oil bath and asynchronous, three-phase motor, rod/crank. Operating ambient temperature up to -40°C +60°C. Maximum frequency: 20 000 operations/day for arm length up to 3.0 m, 10 000 operations/day for arm length up to 4.0 m. MCBF: 7 000 000. Electric motor power 230 Vac (±10%), 50-60Hz. Max power consumption 370W. Opening time: from 0.7 to 3.9 s. Configurable obstacle detection (encoder). Spring balance. Manual unlock inside the structure.

SECURING THE STRUCTURE

Dima Template

200
200

Cramps
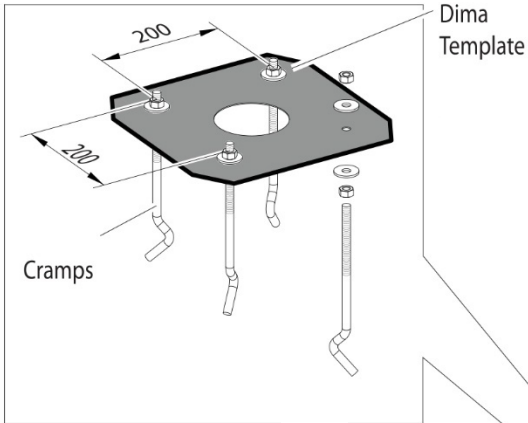
⚠ Check the direction of travel indicated on the template, for precise overlapping of the rounded corners of the barrier body.

19 mm
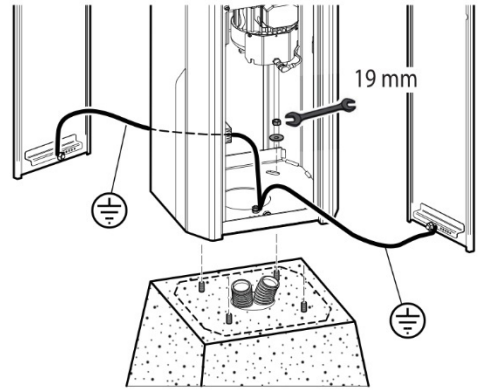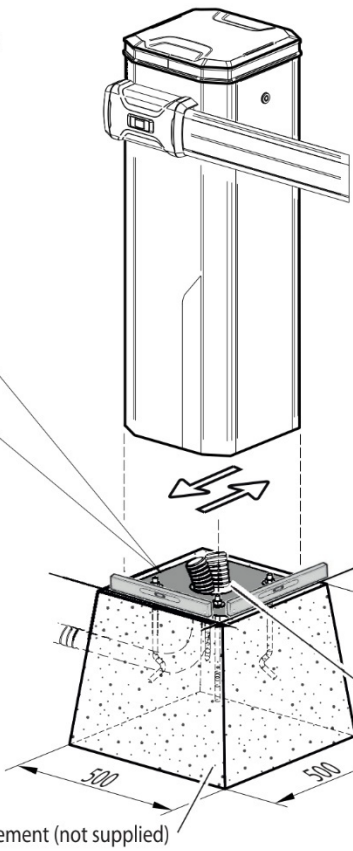
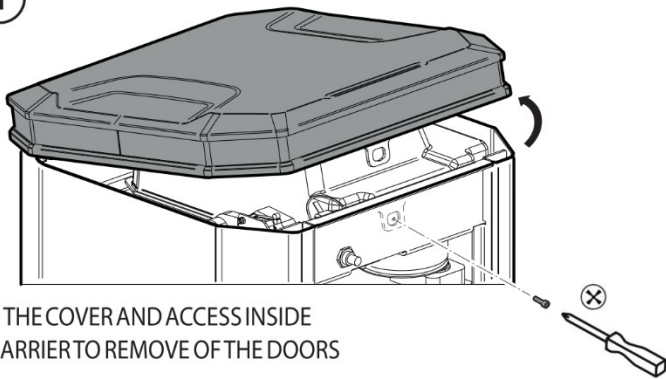It is recommended to remove the template before securing the barrier.

400
500
500

Arrange in the foundation corrugated tubes for power supply and system cables (not supplied).

Cement (not supplied)

ELECTRICAL CONNECTIONS

⚡ **BEFORE PERFORMING ANY TASK ON THE EQUIPMENT, CUT OFF THE POWER SUPPLY.**
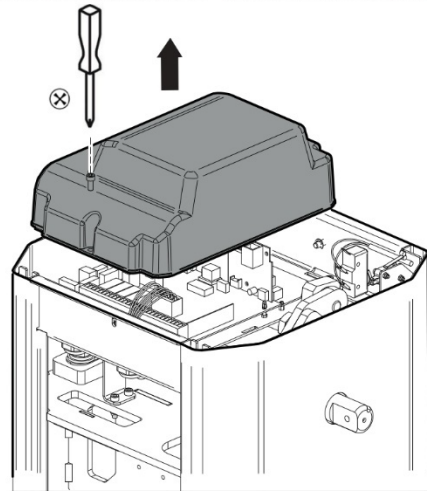
① OPEN THE COVER AND ACCESS INSIDE THE BARRIER TO REMOVE OF THE DOORS

② REMOVE THE COVER OF THE INTERNAL CONTROL UNIT

⚠ **BEFORE PERFORMING ANY TASK ON THE EQUIPMENT, CUT OFF THE POWER SUPPLY.**
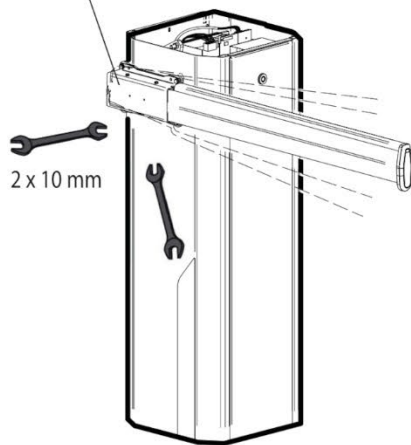
BAR ALIGNMENT

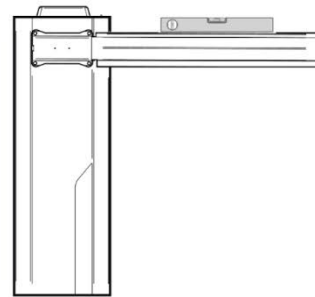**1** ⚡ **Electrically connect the control unit (see CSB-Xtreme instructions).**

⚠ Use the "Start" command to bring the bar in horizontal position.

TO ALIGN THE BAR WITH THE ROAD PAVING, OPERATE THE ADJUSTABLE BAR HOLDER

Adjustable bar holder.

2 x 10 mm

Check that the bar is in horizontal position

2

Opening microswitch cam.

Use the "START" command to bring the bar to vertical position.

Adjust the bar vertically operating the cam of the opening limit switch.

Check that the bar is in vertical position.

⚠

① ⚡ **Electrically connect the control unit (see CSB-Xtreme instructions).**

⚠ Use the "Start" command to bring the bar in horizontal position.

TO ALIGN THE BAR WITH THE ROAD PAVING, OPERATE THE ADJUSTABLE BAR HOLDER
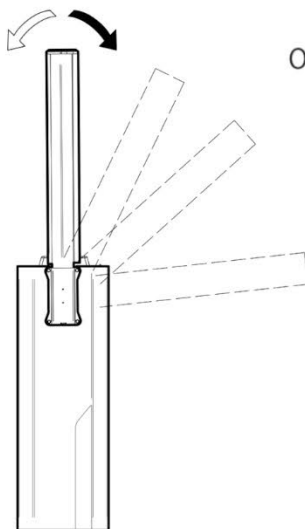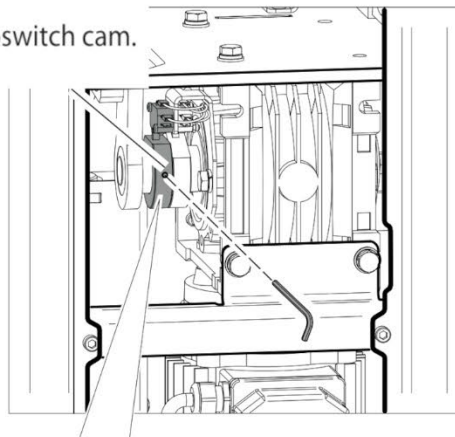
Adjustable bar holder.

2 x 10 mm

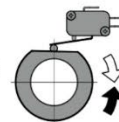Check that the bar is in horizontal position

②

Opening microswitch cam.

Use the "START" command to bring the bar to vertical position.

Adjust the bar vertically operating the cam of the opening limit switch.

Check that the bar is in vertical position.

SPRINGS CALIBRATION (APPROXIMATE DATA)
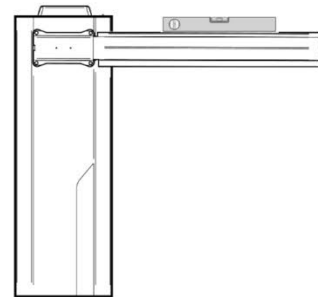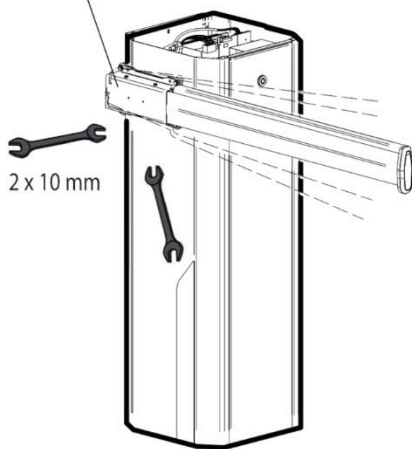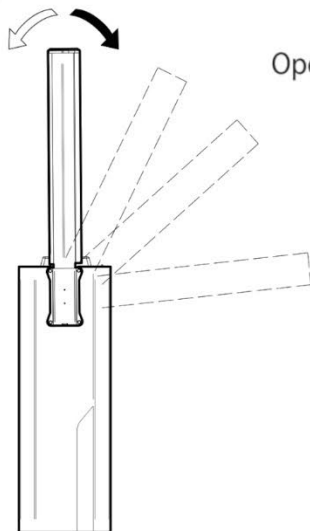

ADJ-FOOT   BTM-SKIRT   BRACKET SKIRT

BOOM PS

FORK UNI   FULL-SKIRT   BRACKET SKIRT

BOOM PS

BOOM PS

1 3/4"

3 3/8"

A
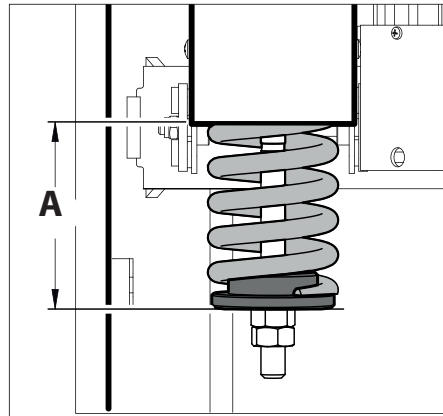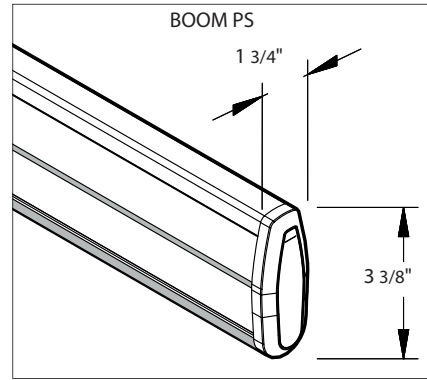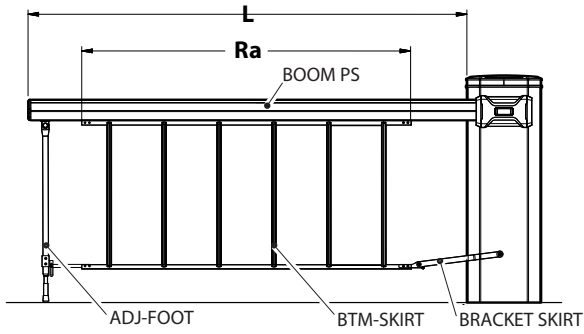
BTM-SKIRT
Ra = L-530 senza / without BRACKET SKIRT
Ra = L-400 con / with BRACKET SKIRT

FULL-SKIRT
Ra = L-430 con / with BRACKET SKIRT obbligatorio / required

①
②
③

Spring coupling holes (POSITION)

⚠️
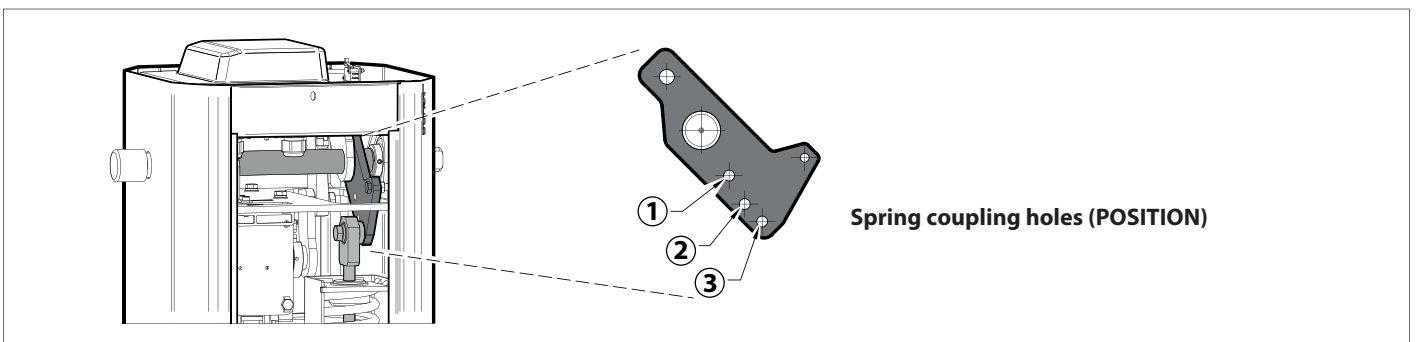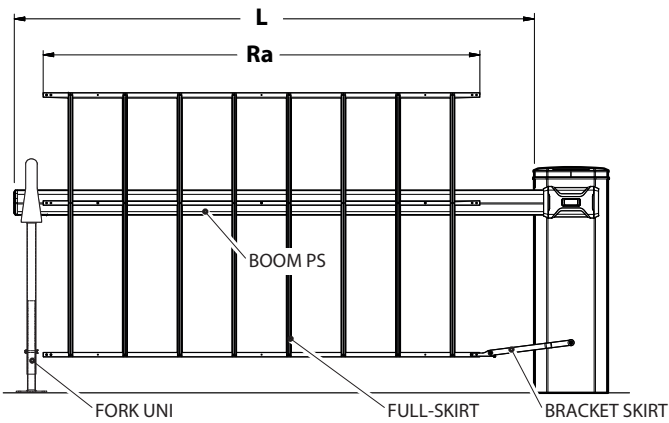
Do not weigh the arm down by applying other accessories

The values in the table are the same for the version with lights

MAXIMA ULTRA 36
SPRINGS CALIBRATION TABLE
TABLA DE CALIBRACIÓN DE MUELLES

Cell format: holes · preload (in). (XL) = XL version (red). Blank cells = no data.

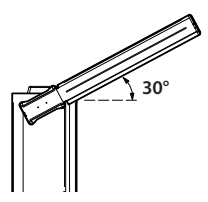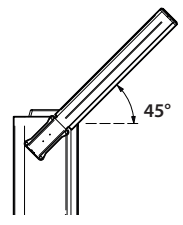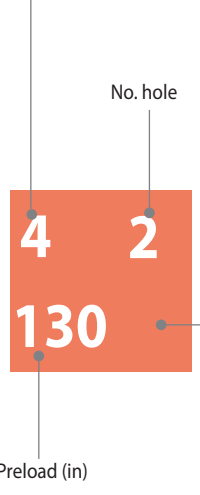| Configuration	Option	6' 6-3/4"	7' 4-9/16"	8' 2-7/16"	9' 1/4"	9' 10-1/8"	10' 7-15/16"	11' 5-13/16"	12' 3-5/8"	13' 1-1/2"	13' 11-5/16"	14' 9-3/16"	15' 7"	16' 4-7/8"	17' 2-11/16"	18' 9/16"	18' 10-3/8"	19' 8-1/4"
BOOM PS		1 · 5 1/8	1 · 5 1/8	1 · 4 15/16	1 · 4 3/4	1 · 4 5/16	1 · 3 15/16	1 · 3 9/16	1 · 3 3/8	2 · 4 15/16	2 · 4 3/4	2 · 4 1/2	2 · 4 5/16	2 · 4	2 · 3 9/16	4 3 · 4 15/16	4 3 · 4 1/2	4 3 · 4 5/16
BOOM PS	+ HYPHEN PRO											2 · 4 5/16	2 · 3 15/16	2 · 3 9/16	3 · 4 15/16	4 3 · 4 3/4	4 3 · 4 5/16	4 3 · 4
BOOM PS + ADJ-FOOT										2 · 4 5/16	2 · 4 5/16	2 · 3 3/4	2 · 3 9/16	3 · 4 15/16	3 · 4 1/2	3 · 4 5/16	3 · 4	2 · 3 3/4 (XL)
BOOM PS + ADJ-FOOT	+ HYPHEN PRO											2 · 3 9/16	3 · 4 15/16	3 · 4 3/4	3 · 4 5/16	3 · 4 1/8	2 · 3 3/4 (XL)	2 · 3 9/16 (XL)
BOOM PS + EBB			1 · 4 5/16	4 1 · 4	1 · 3 9/16	4 2 · 5 1/8	4 2 · 4 15/16	4 2 · 4 3/4	4 2 · 4 5/16	4 2 · 4 5/16	4 2 · 3 3/4	4 2 · 3 9/16		4 3 · 4 15/16	4 3 · 4 1/2	4 3 · 4 5/16		
BOOM PS + EBB	+ HYPHEN PRO											4 2 · 3 9/16	4 3 · 4 15/16	4 3 · 4 3/4	4 3 · 4 5/16	4 3 · 4 1/8	4 2 · 3 3/4 (XL)	4 2 · 3 9/16 (XL)
BOOM PS + BTM SKIRT			1 · 4 1/2	1 · 4	1 · 3 9/16	2 · 4 15/16	2 · 4 3/4	2 · 4 1/2	4 2 · 4	4 3 · 4 1/8	4 3 · 3 3/4	4 3 · 4 15/16	4 3 · 4 3/4					
BOOM PS + BTM SKIRT	+ HYPHEN PRO											4 3 · 4 15/16	4 3 · 4 1/2	4 3 · 4 1/8	4 3 · 5 1/8 (XL)	4 3 · 5 1/8 (XL)	4 3 · 4 15/16 (XL)	4 3 · 4 3/4 (XL)
BOOM PS + BTM SKIRT + ADJ-FOOT										3 · 5 1/8	3 · 4 15/16	3 · 4 1/2	3 · 4 1/8					
BOOM PS + BTM SKIRT + ADJ-FOOT	+ HYPHEN PRO											3 · 4 5/16	3 · 4	3 · 5 1/8 (XL)	3 · 4 15/16 (XL)	3 · 4 3/4 (XL)	3 · 4 1/2 (XL)	3 · 4 1/8 (XL)
BOOM PS + BTM SKIRT + EBB			4 1 · 3 3/4	2 · 4 15/16	2 · 4 3/4	2 · 4 1/2	2 · 4 1/8	2 · 4	4 3 · 5 1/8	4 3 · 4 15/16	4 3 · 4 1/2	4 3 · 4 1/8						
BOOM PS + BTM SKIRT + EBB	+ HYPHEN PRO											4 3 · 4 5/16	4 3 · 4	4 3 · 5 1/8 (XL)	4 3 · 4 15/16 (XL)	4 3 · 4 3/4 (XL)	4 3 · 4 1/2 (XL)	4 3 · 4 1/8 (XL)
BOOM PS + FULL SKIRT			1 · 4 1/8	1 · 3 9/16	2 · 5 1/8	2 · 4 15/16	2 · 4 1/2	2 · 4	4 3 · 5 1/8	4 3 · 4 15/16	4 3 · 4 1/2	4 3 · 4 1/8						
BOOM PS + FULL SKIRT	+ HYPHEN PRO											4 3 · 4 5/16	4 3 · 4	4 3 · 5 1/8 (XL)	4 3 · 4 15/16 (XL)	4 3 · 4 3/4 (XL)	4 3 · 4 5/16 (XL)	4 3 · 4 (XL)
BOOM PS + FULL SKIRT + EBB			2 · 5 1/8	2 · 4 15/16	2 · 4 3/4	2 · 4 1/2	3 · 4	4 3 · 5 1/8	4 3 · 4 15/16	4 3 · 4 5/16	4 3 · 4	4 3 · 3 9/16		4 3 · 5 1/8 (XL)	4 3 · 4 3/4 (XL)	4 3 · 4 5/16 (XL)	4 3 · 4 (XL)	
BOOM PS + FULL SKIRT + EBB	+ HYPHEN PRO											4 3 · 4	4 3 · 5 1/8	4 3 · 4 15/16 (XL)	4 3 · 4 1/2 (XL)	4 3 · 4 5/16 (XL)	4 3 · 4 (XL)	

Mandatory installation FORK-UNI

45°   30°

The preload value is indicative to reach the correct balancing angle indicated above.

Cell legend:
4	2
130	

- 2 = No. hole
- 130 = Preload (in)
- Barrier type / (indicated by color)

XL version: mandatory the installation of the bar reinforcement HYPHEN PS (included)

Color	Barrier type	Springwire
	STD Version	**Ø 10 mm**
	XL Version	**Ø 11 mm**
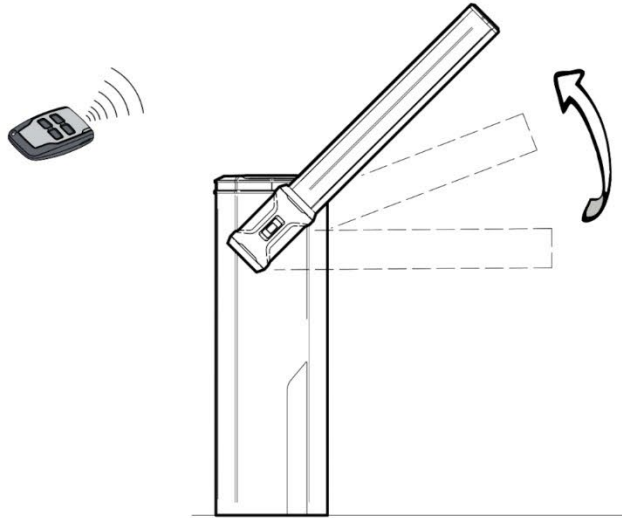
(L) HAND MANOEUVRE

⚡ BEFORE PERFORMING ANY TASK ON THE EQUIPMENT, CUT OFF THE POWER SUPPLY.

⚠️ DO IT ONLY WITH THE BAR MOUNTED AND POSITIONED VERTICALLY

RELEASE CRANK

CONTROL UNIT

CSB Xtreme

1. INTRODUCTION

The control unit has been developed to control automatic single-phase barriers with inverter-driven three-phase motor.

= **Electrical connections configured at the factory.**

2. MAIN CHARACTERISTICS

- Microprocessor logic
- LEDs displaying inputs/outputs status
- Integrated radio receiver 433.92MHz, 2 channels, 2 048 codes
- TCP/IP module and RS485 module (Option)

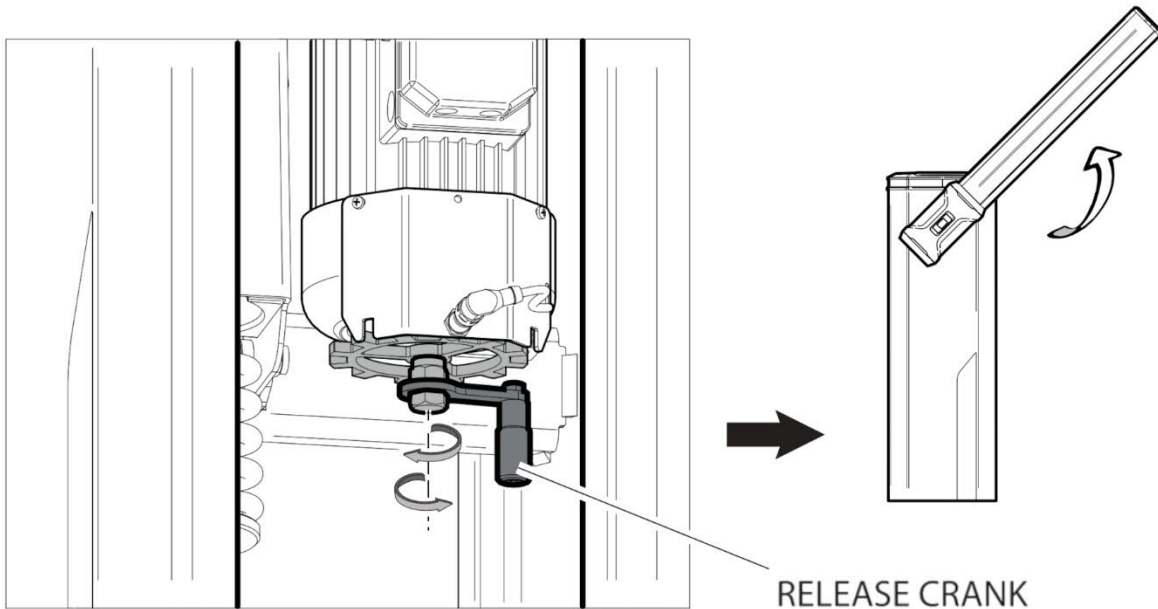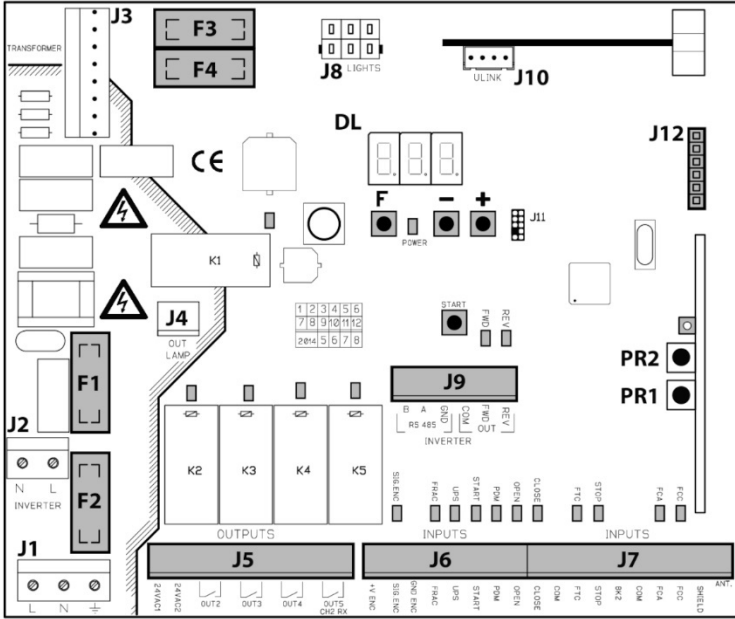- 3-digit display for programming and system status
- Up to 4 configurable outputs
- Radio programmer connector
- Built-in heater for cold climates (Termon)

J1:	Control unit power supply	**J10:**	Expansion connector
J2:	Inverter power supply	**J12:**	Radio programmer connector
J3:	Transformer connector	**DL:**	3-digit LED display
J4:	Flashing light output	**START:**	"START" control button
J5:	Outputs/accessories power supply	**F1:**	Transformer primary fuse: 500 mAT (230Vac) - 1 AT (115Vac) 5x20mm
J6:	Encoder/inputs	**F2:**	Line fuse (control board and inverter): 4 AT (230Vac) - 8 AT (115Vac) 5x20 mm
J7:	Inputs/antenna	**F3, F4:**	Transformer secondaries fuses: 2 AT 5x20mm
J8:	Boom lights connector	**F, -, +:**	Programming push buttons
J9:	Inverter signals	**PR1, PR2:**	Radio receiver programming push buttons
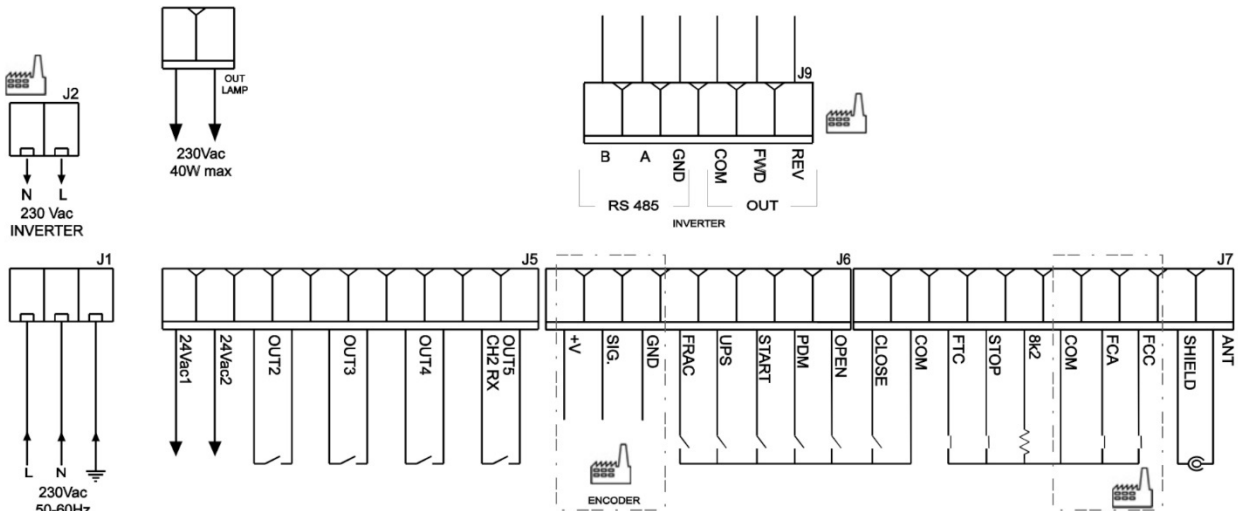
3. TECHNICAL SPECIFICATIONS

- Power supply:...230Vac ±10%, 50/60Hz (115Vac on request)
- Flashing light output:...230Vac; 40W max
- Accessory output:..24Vac; 24W - 1A max

4. INSTALLATION SAFETY

In order to reach the level of safety required by current regulations, follow these prescriptions carefully.
1) Make all connections in the terminal block after carefully reading the instructions given in this manual and observing the general rules and technical standards concerning electrical systems installations.
2) Always fit an omnipolar circuit breaker with a contact gap of at least 3 mm.
3) Install a differential circuit breaker with a threshold of 30 mA.
4) Check the effectiveness of the protective earth and connect to it all the parts of the automation fitted with a terminal or grounding cable.
5) Fit at least one external warning device, such as a traffic light or flashing light, along with a warning or danger sign.
6) Fit all the safety devices required by the type of installation, taking into consideration the risks it on cause.
7) Separate keep power lines (1.5 mm² min. section) from the low-voltage signal lines (0.5 mm² min. section).

❗ 5. PRELIMINARY OPERATIONS

Barriers with standard booms are automatically selected. For special booms (barrier 35 only), before operating the automation, make sure to have correctly selected the barrier/boom type as follows:
- Press and hold down buttons F and + for 5 seconds.
- Select the barrier/boom type using buttons +/-.
- Press together F and + to confirm.
- Select the actual barrier/boom being used.
  Are presented the following choices, depending on the type of INVERTER:

MAXIMA ULTRA 35 / MAXIMA ULTRA 68

6-8	MAXIMA ULTRA 68 (auto select)	90	Boom ATM 90° (ULTRA 35 only)
3-5	MAXIMA ULTRA 35 (auto select)	180	Boom ATM 180° (ULTRA 35 only)
Crb	Boom Carbon (ULTRA 35 only)		

MAXIMA ULTRA 36

3-6	MAXIMA ULTRA 36 (auto select)	36A	Boom ARTICULATED
36C	Boom Carbon	36d	Xtreme DD4 (fail safe)

The Company is not liable for injury to people or animals or damage of things in case of wrong selection of the barrier. Selecting wrong barrier/boom void warranty.

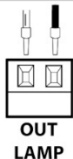## 6. INPUT AND OUTPUT FUNCTIONALITY AND CONNECTIONS

6.1 J1 CONTROL UNIT POWER SUPPLY
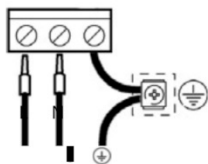
230Vac 50/60Hz power supply.
Connect LINE and NEUTRAL wires as shown on the board. Use cable type H07RN-F 2x1.5+E min.
Connect the yellow/green EARTH wire of the power supply mains to the earth terminal of the appliance.
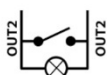
6.2 J4 FLASHING LIGHT OUTPUT
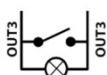
OUT LAMP

Output 230Vac, 40W max.

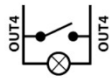### 6.3 J5 OUTPUTS/ACCESSORIES POWER SUPPLY

OUT24
Output 24Vac, 1A max

24 Vac

OUT2
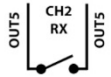Programmable dry relay output, max. 500mA 24 Vac/dc (parameter o2 - level 2)

OUT3
Programmable dry relay output, max. 500mA 24 Vac/dc (parameter o3 - level 2)
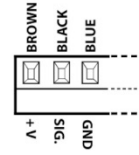
OUT4
Programmable dry relay output, max. 500mA 24 Vac/dc (parameter o4 - level 2)

OUT5/CH2 RX
Programmable dry relay output, max. 500mA 24 Vac/dc or N.O. output of the 2nd radio receiver channel
(parameter o5 - level 2)

6.4 J6 ENCODER/INPUTS

ENCODER
Supplied already wired. Encoder can trigger in the closing movement only, when the boom hits an obstacle.
Select the desired behaviour by programming the parameter EC - level 1.
+V terminal can be used for powering additional sensors (16Vdc not stabilized-100mA max)
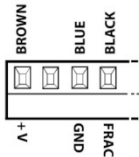
FRAC
N.C. additional safety input for swinging boom sensor.
When activated (open) it stops the automation immediately. Subsequent START always cause reopening.

UPS
UPS status input.
Use with UPS having dedicate output (closed contact when UPS active)
The control unit has also an internal detector that works with simpler square-wave UPS. With these simpler UPS there
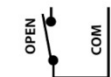is no need to use this input.

START
N.O. input for controlling the automation according to four-step logic: open-stop-close-open.

PDM INPUT
Programmable input, parameter Pd-level 3.
This signal can be duplicated on an programmable output (see OUT2, 3, 4, 5).

OPEN
N.O. input - opens the boom.
This input has priority over CLOSE command and can be kept always activated until necessary. Connect loop detectors,
clocks, daily or weekly timers here, where and if necessary.

6.5 J7 INPUTS/ANTENNA

CLOSE
N.O. input for closing. It allows the automation to be closed only if the safety devices have not triggered.
Operating mode programmable with parameter CL -level -1.

FTC
N.C. safety input (photocell). Enter the desidered behabiour by programming the Ft -level-1 parameter. It only triggers
in the closing phase; it never triggers in opening.

STOP
N.C. safety input. When activated it instantly stops the automation and a subsequent start always cause reopening.
During pause time a stop command disables automatic reclosing, leaving the bar open waiting for commands. NOTE:
The hatch microswitch is already connected to this input.
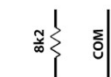
8k2
Multi-purpose analog input. For TERMON heater see paragraph 9.3.

FCA
Limit switch N.C. input in opening. When activated the opening travel finishes.

FCC
Limit switch N.C. input in closing. When activated the closing travel finishes.

ANTENNA
Antenna connection for the integrated receiver

6.6 J8 BOOM LIGHTS CONNECTOR
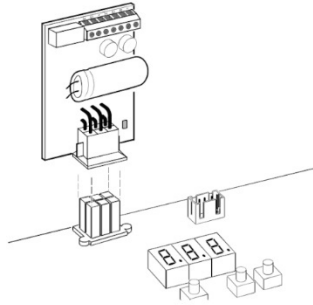
6.7 J10 EXPANSION CONNECTOR

B EBA
RS 485 LiNK
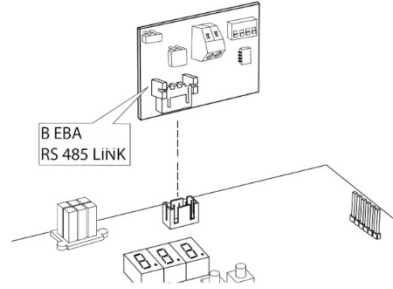
6.8 J12 RADIO PROGRAMMER CONNECTOR
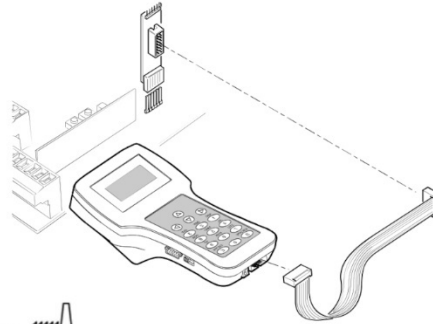
7. INVERTER CONNECTIONS

7.1 M MOTOR
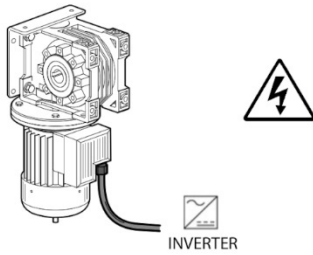
INVERTER

7.2 J2 INVERTER POWER SUPPLY
(all types)

CONTROL UNIT
230Vac 50/60Hz with internal protection and fuse.

N   L

7.4 J9 TYPE 2 INVERTER SIGNALS

TYPE 2 INVERTER (J2)

J9

REV
FWD   OUT
COM
GND
A   RS 485
B

J6

GND ENC
SIG. ENC
+V ENC

ENCODER
CABLE
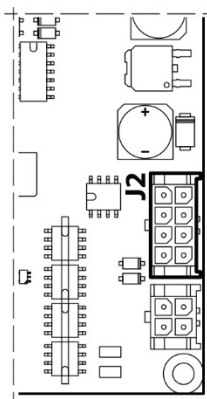
CONTROL UNIT

(J9)

B:	Gray
A:	Pink
GND/COM:	Green
FWD:	Yellow
REV:	White

(J6)

+V ENC:	Brown
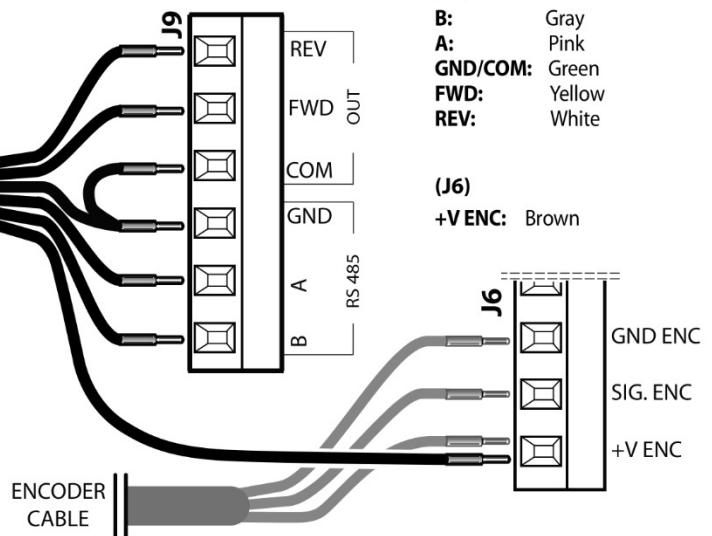
9.1 BASIC FUNCTIONS

To access programming, press button **F** for 2 seconds.

Programming is divided into 4 levels.

To go to the next level keep key **F** pressed and press the **+** key (Sequence 1-2-3-1.......).

After selecting the desidered level, press push button **F** to display the functions available in consecutive order. Each F pression corresponds to a function (Lo - CL - Ft - EC.....)

With the function set, use the ⊕ or ⊖ key to change the values of the parameters (⊕ : 00-01-02-03... / ⊖ : ...03-02-01-00).

Changes made to the parameters are active immediately but will be saved when exiting the menu, selecting the St function with key **F**.

PLEASE NOTE: All changes will be lost in case of black-out during when programming phases .
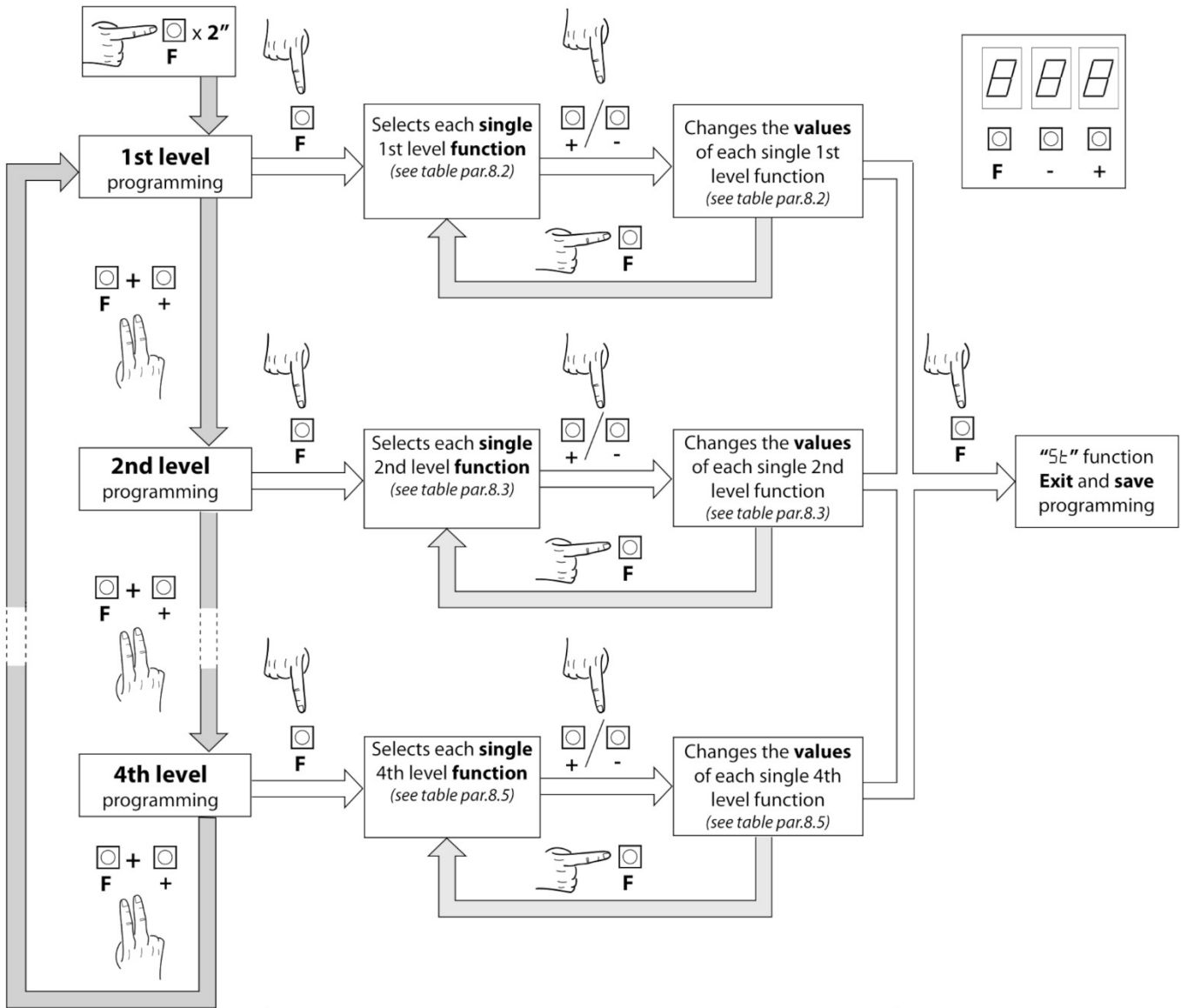
Example:

Selecting Output2 on closed boom:

The following table gives the 1st level functions and the single settable parameters.

🏭 = DEFAULT value set in factory.

👤 = parameter value set during installation: must be indicated if DEFAULT value is modified.

Par	Function	Settable data	🏭	👤
Lo	Selects the functioning logic. (see notes after the table)	00: Hold-to-run	01	
		01: Semi automatic		
		02: Automatic		
CL	Close input configuration (see notes after the table)	00: Standard close input	00	
		01: Close-when-released input		
		02: The close command acts as a release closing and safety function.		
Ft	Photocells	00: When closing it stops and waits for disengaged photocell commands	02	
		01: When closing it stops; reclosing after 1" when the photocell is disengaged		
		02: When closing it reopens; reclosing after 1" when the photocell is disengaged		
		03: When closing it reopens; reclosing after 5" when the photocell is disengaged		
		04: When closing it reopens; reclosing when the photocell is disengaged and resets the eventual pause time		
		05: When closing it reopens and waits for disengaged photocell commands		
EC	Encoder	00: Excluded	03	
		01: When closing it stops and waits for commands		
		02: When closing it reopens and waits for commands		
		03: When closing it reopens, reclosing after 5 seconds		
ES	Encoder sensitivity	01 - 09 (minor - major obstacle sensitivity)	01	
PF	Warning flash	00: Excluded	00	
		01: Before each movement on a configured output (see parameters o2,o3,o4,o5 in the 2nd level table)		
		02: Before each movement on a configured output and on the boom lights		
Lb	Arm and head lights	00: When moving flashing red light, when the boom is closed and open off red light.	03	
		01: When moving flashing red light, when the boom is closed and off when the boom is open on red light.		
		02: When moving and with the boom closed flashing red light, when stopped and on red light when the boom is open on red light.		
		03: When moving flashing red light, when the boom is closed and on green light when the boom is open off red light.		
		04: When moving flashing red light, when the boom is closed and on green light when the boom is open on red light.		
tP	Pause time (expressed in seconds)	00-99	10	
Pb	Arm lights brightness	00: 40%	03	
		01: 60%		
		02: 80%		
		03: 100%		

CO	Cap light when opened boom	00: Off	01	
		01: Red		
		02: Green		
		03: Blue		
		04: Pink		
		05: Dark pink		
		06: Orchid		
		07: Purple		
		08: Magenta		
		09: Blue/Purple		
		10: Cyan		
		11: Light blue		
CC	Cap light when closed boom	12: Turquoise	02	
		13: Sky Blue		
		14: Aquamarine		
		15: Light green		
		16: Olive green		
		17: Yellow/Green		
		18: Yellow		
		19: Orange		
		20: Salmon		
		21: Warm white		
		22: White		
		23: Cool white		
dF	Resetting default parameters. *(see notes after the table)*	00: No resetting	00	
		01: Resetting the default valves parameters and boom type		
		02: Parameters Set up to default values, except for "COM" parameter : communication protocol		
St	Exiting the menu/ saving	Pressing the "F" key, the programming menu is quit and the changes saved.		

NOTES:

• Lo: Functioning logic
- Hold-to-run: The automation works when the commands are held down. The start command opens once and closes once.
- Semi automatic: The automation works with jog commands, without automatic reclosing. Hence, when fully open, to control closing you need to act on the start or close command respectively.
- Automatic: The automation works in jogs. When the opening manoeuvre is completed in the standard cycle, automatic reclosing is activated after the pause time set (parameter tP; with Ft=04 the pause time is reset when the photocell is disengaged, in order to close immediately after the vehicle passage).

• CL: Close configuration
- 01: Close-when-released input
  This mode has been developed in order to automatically close the boom only when the vehicle has completely passed-out the photocell or magnetic detector (the most suitable accessories for this purpose).
  Connect the N.O. contact of the detector or photocell to the Close contact terminals.
  If the vehicle is on the detector or in front of the photocell it does not cause immediate closing but rather you have to wait for the signal to be released.
- 02: The close command acts as a release closing and safety function.
  When closing, the close command engaging stops the automation. When disengaged the barrier resumes closing.

• dF: Default
- To restore the parameters to them factory default values, set the "DF" to 1 or 2, then quit from menu. With 2 the communication "Com" setting is kept.

Par	Function	Settable data	⚙	👤
EL	Maximum operating time (sec.)	*03-30*	*15*	
Sr	Request for maintenance *(see notes after the table)*	*00*: disabled	*00*	
		01: active on the configured outputs		
		02: active on the configured outputs and the bar lights flash twice		
nE	Programming maintenance cycles in thousands *(see notes after the table)*	*00-99*	*00*	
nL	Programming maintenance cycles in millions *(see notes after the table)*	*0.0-9.9*	*0.0*	
o2 *o3* *o4* *o5*	Output 2, Output 3, Output 4, Output 5	*00*: request for maintenance	*14 - 05:14 - 04:02 - 03:04 - 02:05*	
		01: photocell triggering		
		02: encoder triggering		
		03: PDM contact actuated		
		04: boom closed		
		05: boom opened		
		06: stop contact actuated		
		07: warning flash		
		08: Boom locking device		
		09: opened triggering		
		10: closed contact activated		
		11: start triggering		
		12: FRAC triggering		
		13: UPS triggering		
		14: second radio channel triggering (only OUT 5)		
EE	Termon *(see notes after the table)*	*00*: Disabled	*00*	
		01: Enabled and always active		
		02: Enabled when needed by means of NTC sensor connected between 8k2 and COM input terminal		
UP	UPS *(see notes after the table)*	*00*: disabled	*00*	
		01: enabled, opens automatically during mains failure		
		02: enabled, closes automatically during mains failure ⚠ ATTENTION:THIS SELECTION MAY BE DANGEROUS		
SE	Exiting the menu/saving	Pressing the "F" key, the programming menu is quit and the changes saved.		

NOTES:

· *Sr* : Request for maintenance

00: the request for maintenance is not active.

01: at the end of the countdown, by means of counters *nE* and *nL* , one of the programmed outputs is activated (see parameter *o2,o3,o4,o5*)

02: at the end of the countdown, by means of counters *nE* and *nL* , one of the programmed outputs is activated (see parameter *o2,o3,o4,o5*) and the bar lights flash twice.

· *nE* and *nL* : Programming maintenance cycles in thousands and millions

By the combination of the two parameters the countdown can be set after which a request for maintenance is signalled.

Thousands can be set with the *nE* parameter, millions with the *nL* parameter.

Example: to set 275 000 maintenance manoeuvres set *nL* on 0.2 and *nE* on 75.

The value displayed in the parameters updates along with the manoeuvres.

· *EE* : TERMON (integrated motor heater system).

01: system is always ON. Must be used only with maximum ambient temperature less than +10°C

⚠ WARNING: ambient temperatures >10°C may cause overheating and damages to the motor, not covered by warranty

02: system is actived depending on motor temperature, measured by a temperature sensor (option). In case of sensor failure, system reverts to setup *01*

• *UP*: UPS

UPS TYPE	
Square-wave	Internal detector, UPS input not connected
UPS with sinusoidal or quasi-sinusoidal wave form, **with** dedicated output for signaling the absence of power net	Connect mains failure output to UPS input
Pure-sinusoidal wave UPS **with** dedicated output for signaling the absence of power net	Use 230Vac relais, coil connected to mains supply, close contacts to UPS input

• Boom locking device configuration:
To use the boom locking device, connect the enabling contact to OUT2 or OUT3 or OUT4 or OUT5 and set the corresponding parameter *o2,o3, o4* or *o5* to *08*. Set advance electric lock disengagement (*r5* -3nd level)

9.4 3RD LEVEL PROGRAMMING

The following table gives the 3rd level functions and the single parameters.

⬛ = DEFAULT value set in factory.   👤 = parameter value set during installation: must be indicated if DEFAULT value is modified.

Par	Function	Settable data	⬛	👤
AS	Advanced setup (*see notes after the table*)	*00*: no advanced setup *01*: N/A *02*: controlled entry and automatic exit	*00*	
Pd	PDM dynamic input polarity	*00*: input N.O. *01*: input N.C.	*00*	
P2 *P3* *P4* *P5*	Output 2 polarity Output 3 polarity Output 4 polarity Output 5 polarity (*see notes after the table*)	*00*: N.O. *01*: N.C.	*00*	
r5	Advance electric lock disengagement (*see notes after the table*)	*00*: 0,5s - *01*: 1s - *02*: 1,5s - *03*: 2s - *04*: 2,5s - *05*: 3s	*00*	
05	Opening speed (%)	*50* - *99* (ATM 90°, ATM 180°)	*66*	
		50 - *99* (MAXIMA ULTRA 35, Carbon)	*50*	
		50 - *99* (MAXIMA ULTRA 68)	*55*	
C5	Closing speed (%)	*40* - *99* (MAXIMA ULTRA 68, ATM 90°, ATM 180°)	*53*	
		40 - *99* (MAXIMA ULTRA 35, Carbon)	*40*	
FP	Speed selection input (*see notes after the table*)	*00*: Disabled *01*: Enabled *02*: MAXIMA ULTRA 36 cap lights for parking function	*00*	
Fr	Swinging boom sensor input (*see notes after the table*)	*00*: swinging boom not mounted or disabled *01*: swinging boom sensor mounted and activated N.C.	*00*	
St	Exiting the menu/saving	Pressing the "F" key, the programming menu is quit and the changes saved.		

NOTES:

• *P2, P3, P4, P5*: Output polarity
Output polarity: The outputs can be configured as N.O. or N.C. but, <u>in the event of a blackout the contacts open anyway.</u>

• *FP*: Velocity selection input
By enabling this parameter bar speed can be adjusted via the PDM input (*01*), or it is possible manages the color of the cap for report the free seats in the parking systems (*02*).
01 If the PDM is activated and parameter *FP* enabled the barrier moves at a speed equal to 60% of maximum speed, both when opening and closing.
02 The PDM manages the RED/GREEN color of the cap and report the free seats in the parking systems (see paragraph 10)

• *r5*: Advance electric lock disengagement
This parameter adjusts the delay between electo-lock deactivation and engine start, to allow the resetting of the residual magnetism of the electro lock.

• *AS*: Advanced setup
This parameter enables the use of special configurations for specific necessities.
01 N/A.
02 Controlled entry and automatic exit (see paragraph 13).

· *Fr*: Swinging boom sensor input N.C.
00 swingin boom sensor not mounted or disabled
01 automation stops immediately in case of swinging boom opened

9.5 4TH LEVEL PROGRAMMING

The following table gives the 4th level functions and the single parameters.

= DEFAULT value set in factory.

= parameter value set during installation: must be indicated if DEFAULT value is modified.

Par	Function	Settable data	🏭	👤
CoM	Communication protocol *(see notes after the table)*	*00*: disabled	*00*	
		01: U-LINK		
		02: Modbus/RTU		
UMo	Setting U-LINK mode	*00*: Slave	*00*	
		01: Master		
		02: Slave for opposing barriers		
		03: Master for opposing barriers		
UI d	Setting U-LINK adress	*000* - *119*	*000*	
MI d	Setting Modbus/RTU ID	*000*: For Master	*001*	
		001 - *247*: For Slave		
MSP	Setting MODBUS RTU speed	*00*: 19 200 baud	*01*	
		01: 38 400 baud		
tOt	Operation counter	Operation counter. Read-only parameter, expressed in hundreds of operations.		
Err	Error History *(see notes after the table)*	*Exx*: error list and occurrence alternatively shown *(see chapter 14 "ERROR HANDLING")*	*000*	
		000: no history clear		
		001: history is clear		

NOTES:

· *CoM*:
   Setting communication protocol. **Set value always same to Master and Slave.**

· *Err*:
   The error list and the occurrence are alternatively shown .
   Such as:

   E21 <------alternating------> *002*

RADIO RECEIVER

11.1 RECEIVER TECHNICAL SPECIFICATIONS

- Max. n° of radio transmitters that can be memorized: 2 048
- Frequency: 433.92MHz
- Code by means of: Rolling-code algorithm
- N° of combinations: 4 billions

11.2 RADIO CHANNEL FUNCTIONALITY

Channel 1:   Start command
Channel 2:   Closes the relay contact on the terminal block J5 "CH2 RX"

10.3 ANTENNA INSTALLATION

Use an antenna tuned to 433MHz. Connect the tuned antenna to the antenna terminals using RG58 coaxial cable.
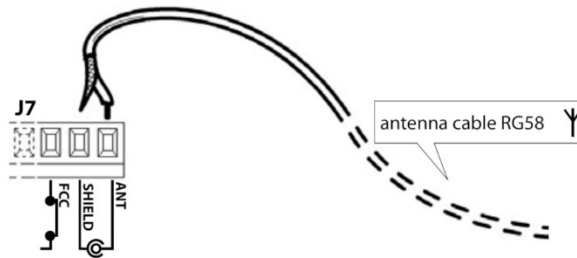
11.4 MANUAL PROGRAMMING

In case of standard installations where no advanced functions are required, it is possible to proceed to manual storage of the transmitters, making reference to programming table A and to the example for basic programming.
1) If you wish the transmitter activate output 1, press pushbutton PR1, otherwise if you wish the transmitter activate output 2, press pushbutton PR2.
2) When LED DL1 starts blinking, press hidden key on the transmitter, LED DL1 will remain continuously on.
3) Press the key of the transmitter to be memorized, LED DL1 will flash quickly to indicate that it has been memorized successfully. Flashing as normal will then be resumed.
4) To memorize another transmitter, repeat steps 2) and 3).
5) To exit memorizing mode, wait for the LED to go off completely or press the key of a remote control that has just been memorized.
IMPORTANT NOTE: ATTACH THE ADHESIVE KEY LABEL TO THE FIRST MEMORISED TRANSMITTER (MASTER).
In the case of manual programming, the first transmitter assigns the key code to the receiver; this code is necessary in order to carry out subsequent cloning of the radio transmitters.

Hidden key

11.5 SELF-LEARNING MODE PROGRAMMING

This mode is used to copy the keys of a transmitter already stored in the receiver memory, without accessing the receiver.
The first transmitter is to be memorised in manual mode (see paragraph 10.4).
a) Press hidden key on the transmitter already memorised.
b) Press key T on the transmitter already memorised, which is also to be attributed to the new transmitter.
c) Within 10 s., press hidden key on the new transmitter to be memorised.
d) Press key T to be attributed to the new transmitter.
e) To memorise another transmitter, repeat the procedure from step (c) within a maximum time of 10 seconds, otherwise the receiver exits the programming mode.
f) To copy another key, repeat from step (a), having waited for the receiver to exit the programming mode (or after disconnecting the receiver from the power supply).
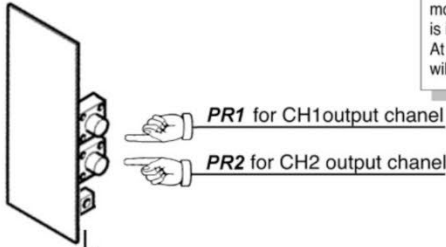
Hidden key

T1   T2   T3   T4
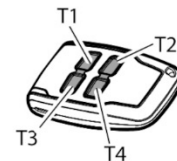
12. WARNINGS

It is recommended to make an installation which has all the accessories necessary to ensure operation according to current provisions, always using genuine devices.
This equipment must be installed and used in strict compliance with the manufacturer's instructions. The manufacturer cannot be held responsible for any damage deriving from improper or unreasonable use.
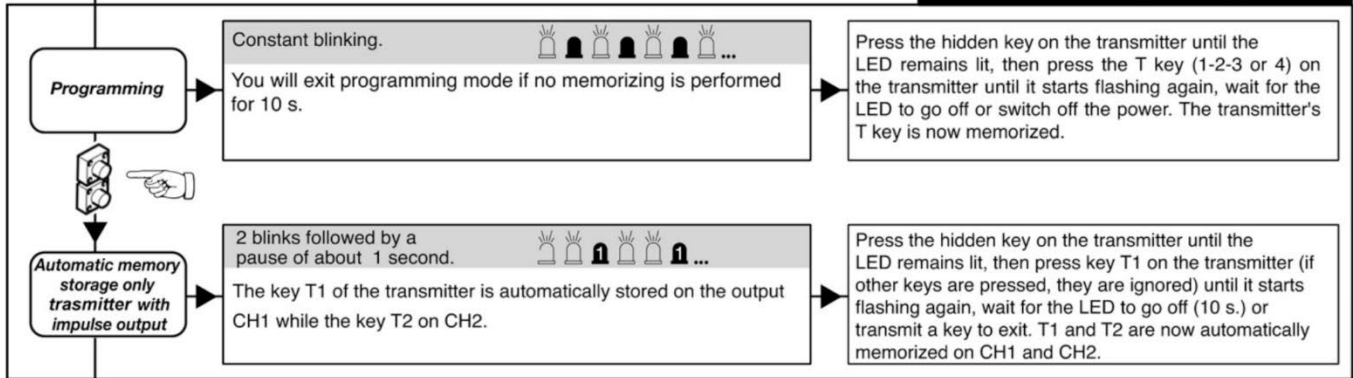The constructor disclaims all liability for any inaccuracies contained in this booklet and reserves the right to make changes at any time without any prior notice whatsoever.
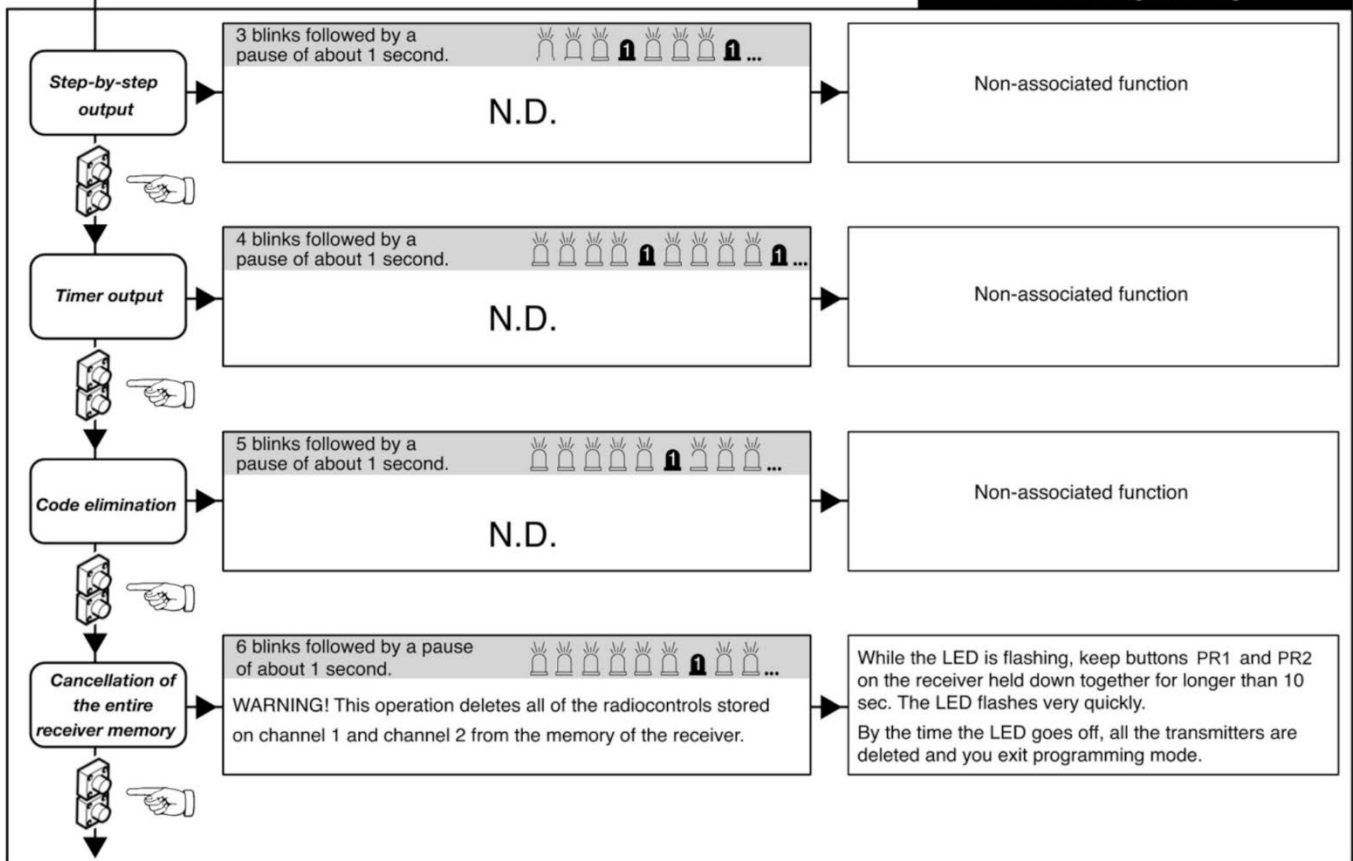
TABLE A

When pressing the key PR1 (for channel 1) or PR2 (for channel 2) for the first time, the receiver sets to the programming mode. Every time the key PR is pressed after that, the receiver switches to the configuration for the subsequent function, that is indicated by the number of flashings (see table).
At this stage, after selecting the channel (PR1 or PR2) and the desired function, the key T (T1-T2-T3 or T4) of the transmitter will be stored in the memory of the receiver as indicated in the table for programming.

PR1 for CH1 output chanel

PR2 for CH2 output chanel

Standard Programming

Programming

Constant blinking.

You will exit programming mode if no memorizing is performed for 10 s.

Press the hidden key on the transmitter until the LED remains lit, then press the T key (1-2-3 or 4) on the transmitter until it starts flashing again, wait for the LED to go off or switch off the power. The transmitter's T key is now memorized.

Automatic memory storage only trasmitter with impulse output

2 blinks followed by a pause of about 1 second.

The key T1 of the transmitter is automatically stored on the output CH1 while the key T2 on CH2.

Press the hidden key on the transmitter until the LED remains lit, then press key T1 on the transmitter (if other keys are pressed, they are ignored) until it starts flashing again, wait for the LED to go off (10 s.) or transmit a key to exit. T1 and T2 are now automatically memorized on CH1 and CH2.

Advanced Programming

Step-by-step output

3 blinks followed by a pause of about 1 second.

N.D.

Non-associated function

Timer output

4 blinks followed by a pause of about 1 second.

N.D.

Non-associated function

Code elimination

5 blinks followed by a pause of about 1 second.

N.D.

Non-associated function

Cancellation of the entire receiver memory

6 blinks followed by a pause of about 1 second.

WARNING! This operation deletes all of the radiocontrols stored on channel 1 and channel 2 from the memory of the receiver.

While the LED is flashing, keep buttons PR1 and PR2 on the receiver held down together for longer than 10 sec. The LED flashes very quickly.

By the time the LED goes off, all the transmitters are deleted and you exit programming mode.

CONTROLLED ENTRY AND AUTOMATIC EXIT

This solution is recommended when you want to enter a reserved area in both directions. To enter, transit is allowed by means of a recognition command while exiting is automatic.

ENTRY
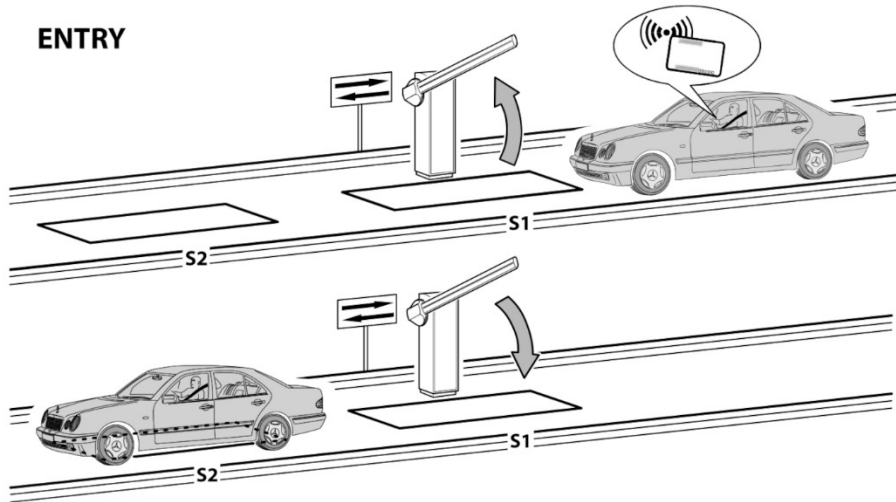
The recognition system enables barrier opening.
If the coil **S1** is not occupied within the pause time, the barrier closes again.

When coil **S1** is cleared, the barrier starts closing instantaneously.

EXIT
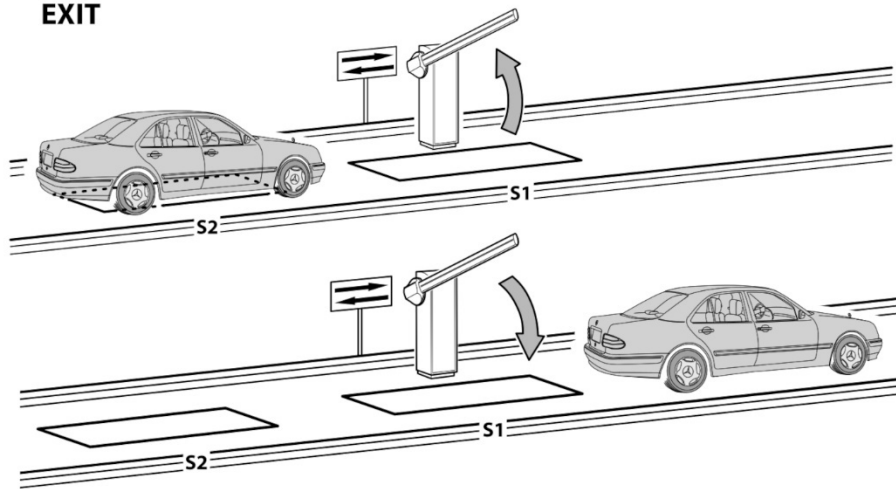
The vehicle approaches the reserved area. When the coil **S2** is occupied, barrier opening is enabled.
If the coil **S1** is not occupied within the pause time, the barrier closes again.

When coil **S1** is left, the barrier starts closing instantaneously.

Loop S1 also perform as safety function not permitting the barrier closure as long as barrier is occupied.

DIMENSIONS
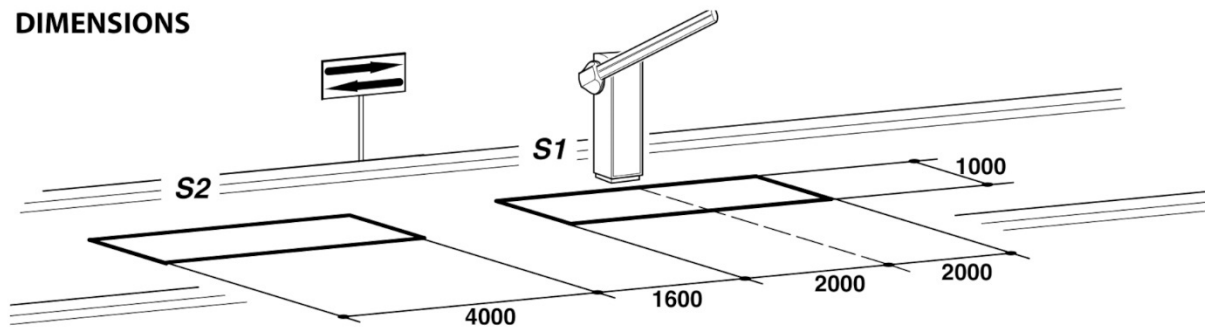
- Connect the coil **S1** to the **CLOSE** input.
- Connect the **N.O.** contact of the **S2** loop receiver to input **START.**
- The dimensional values of the loops are only approximate.
✶We suggest installing the "**RME 2**" metal mass detector.
- Only use recognition systems other than remote control units (badge readers, video camera systems with license plate recognition etc.) with contact, which must be connected to the **OPEN** input.

PARAMETER	DATA	DESCRIPTION
Lo	02	Automatic
CL	02	The close control closes when pressed and released, and also functions as a safety system.
AS	02	Advanced Setup: controlled entry and automatic exit

14. TROUBLESHOOTING GUIDE

- In case of a malfunction, check if the correct barrier was selected (paragraph 5)
- Dual flashing of the cover lights. Indicates that scheduled maintenance is required. Check the parameters 5ᴦ-2ND level,
  nᵉ-2ND level, nL-2ND level.
- Leakage current to ground problem: the Inverter type 1 have a built-in high-attenuation noise filter and are grounded via a capacitor.
  Switch a pulled to reduce the leakage current to ground. The reduced load get the inverter not compliance with the EMC
  standard operate on switch with power off.

15. ERROR HANDLING

In memory up to 10 different errors, with its own occurrence limited to 10, are stored for each event.

In case of blocking error, the restart of the board is possible by keep pressed both the keys "+" and "-" for 5 seconds or by switch off
and on the power supply. Restarting by keys, a memory check is performed with an automatic recovery of parameters out of range to
default factory values.

At level 4, by parameter "Eᴦᴦ", the list of events and error stored in memory may be shown. It's shown alternatively the error code E xx
and the occurrence; use "+" e "-" for scroll the list. At the end is shown the exit code: quitting (by pressing "F") with 000 the error list is
preserved, quitting with 001 the history is clear.

Particular events not dangerous for properly execution are stored in memory, without block the automation.
Following the list of error and events with the indication of blocking or not property.

FAULT AND EVENTS TABLE:

Par	Description	LOCKING
E 10	Internal error on memory access.	NO
E 14	Out of range memory address.	YES
E 15	CRC on incorrect memory	YES
E20	Fuse F3 or F4 blow.	YES
E2 1	During the operation a STOP occurred, changing the normal automation.(*)	NO
E22	During the operation a FRAC occurred, changing the normal automation.(*)	NO
E23	Obstacle detected during operation.	NO
E24	Time-out elapsed in opening operation .	NO
E25	Time-out elapsed in closing operation.	NO
E27	Interruption on Ulink communication.	NO
E28	Programmed maintenance cycles reached.	NO
E29	Loss of communication with INVERTER	NO
E30	No. of ENCODER pulses out of range	NO
E3 1	Limit switch not working	NO
E40	Interruption on inverter communication, check the connection cable.	NO
E4 1	Inverter parameters password protected, must insert the password on the inverter.	NO
E94	Baud rate on incorrect communication	YES
E95	Modbus parity parameter error. Internal error.	YES

(*) Events occurrence that change the normally automation (such as stopping, change of the direction operation, not operation star-
ting) are stored.
For example if a STOP signal turn on and off during a static status, the event is not saved; but if its presence prevents a command actua-
tion, or when stops a started operation, it is stored.

Top cover with or without lights for *Maxima Ultra 36*

CE

TOP COVER PREPARATION

⚡ · **DANGER!** Always disconnect the power supply before attempting any work on the system.

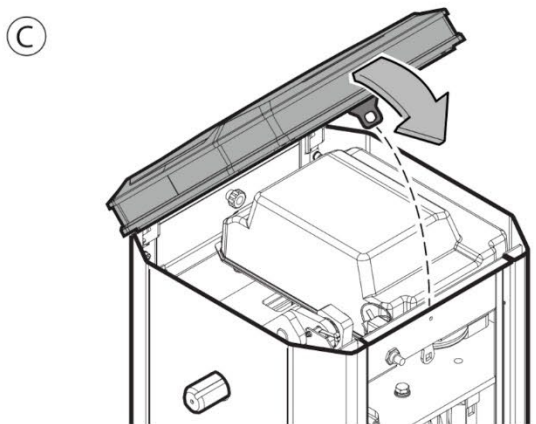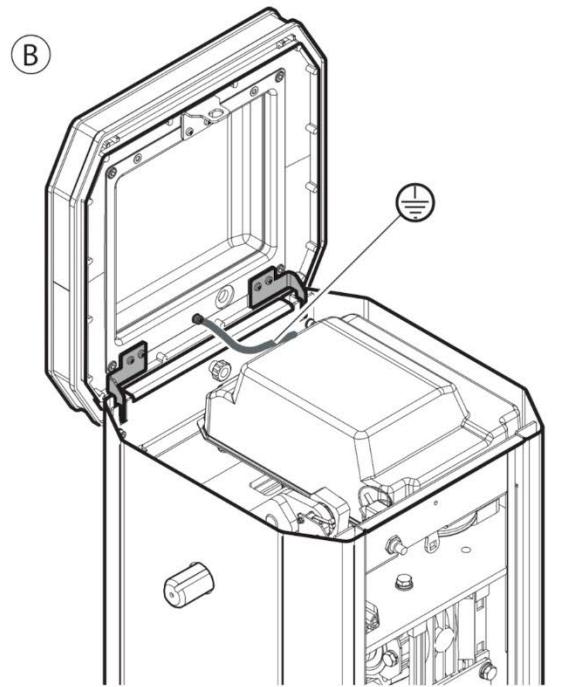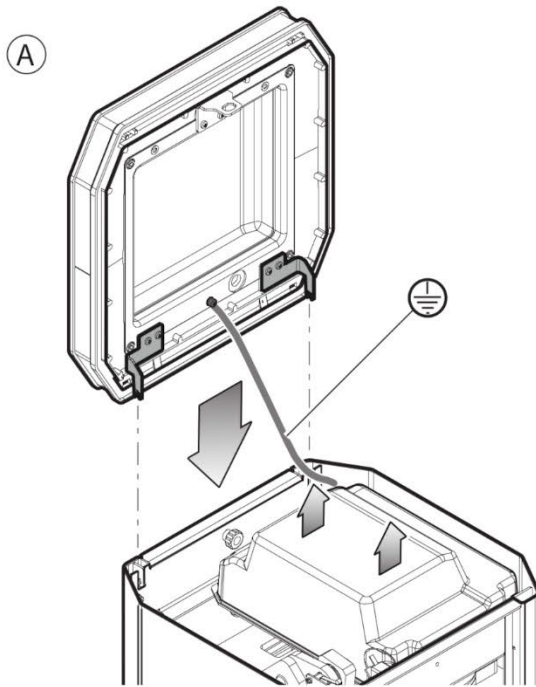⚠ Top cover with light only

① For electrical connections, please consult the installation manual for **ALLU2 Xtreme - *ALLU2 MAXIMA ULTRA.***

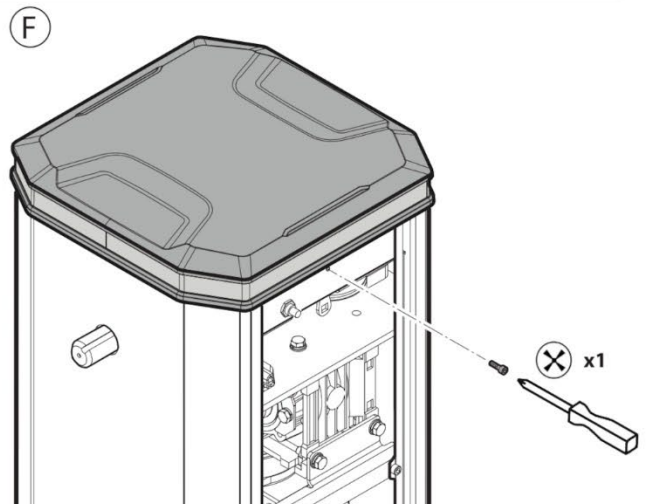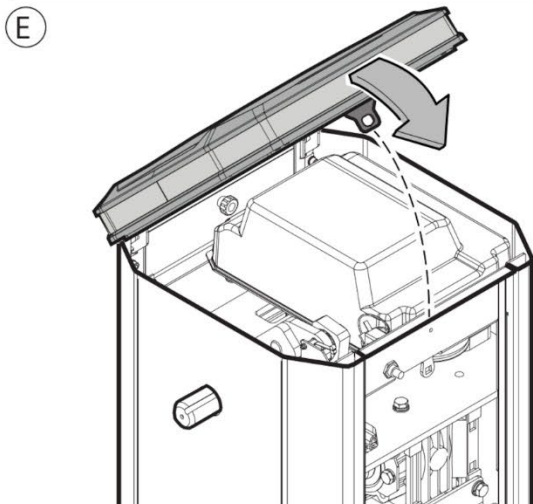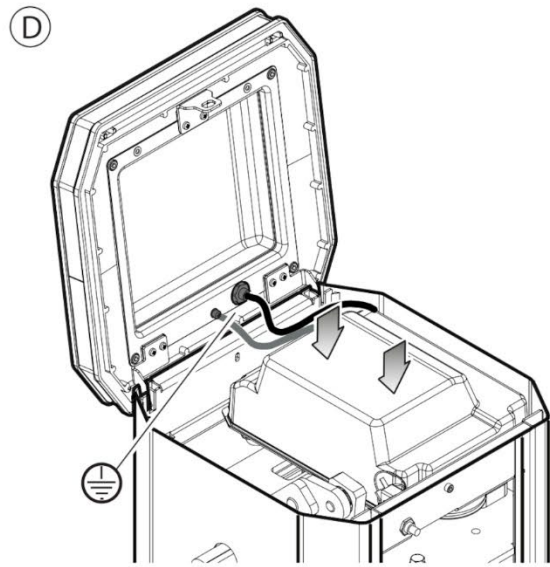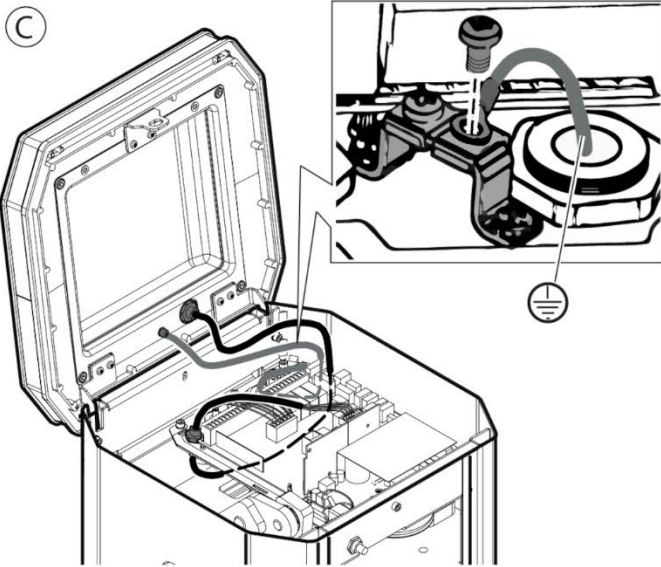⏚ For grounding connections, please consult the installation manual for **CSB Xtreme**.

✕ x7
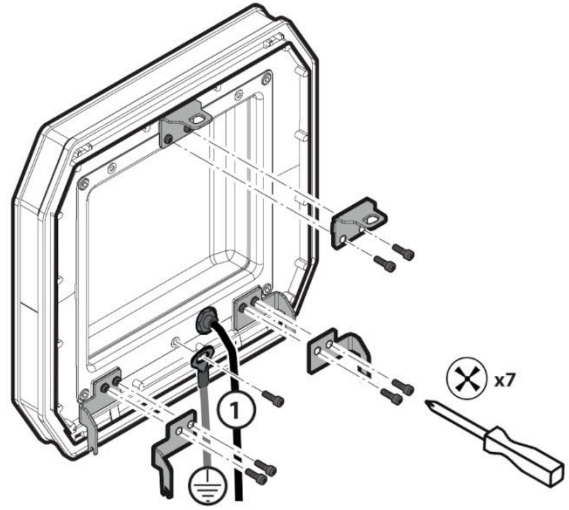
TOP COVER WITHOUT LIGHT INSTALLATION

CROWN MAXIMA U36

Ⓐ

⏚

Ⓑ

⏚

Ⓒ

Ⓓ

✕ x1
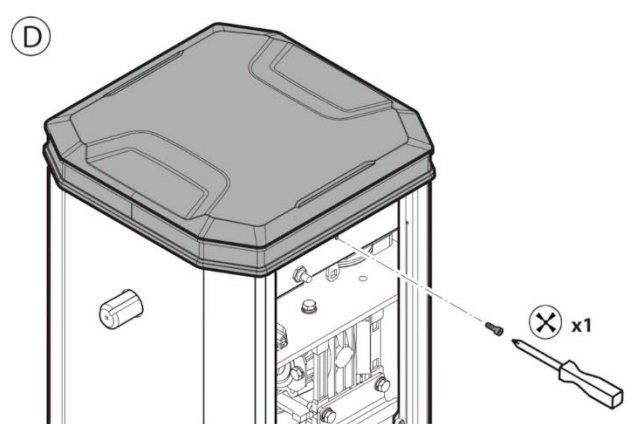
TOP COVER WITH LIGHT INSTALLATION

CROWN RGB N&D 36 XT · CROWN RGB MAXIMA U36

(A)

(B)

(C)

(D)

(E)

(F)

x1
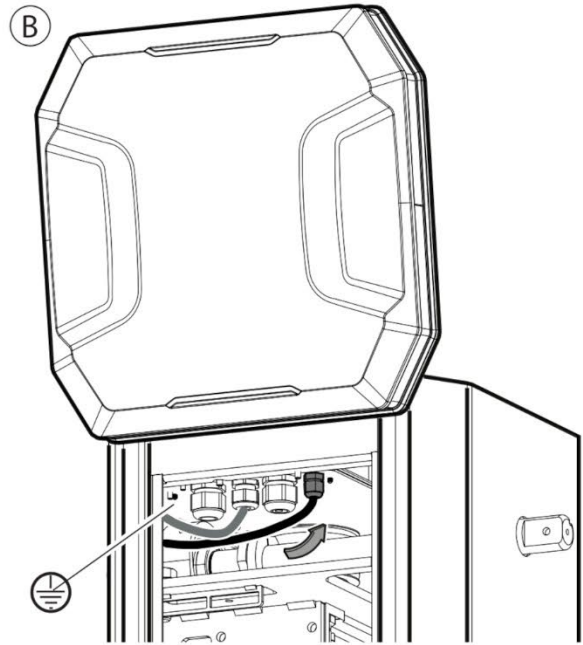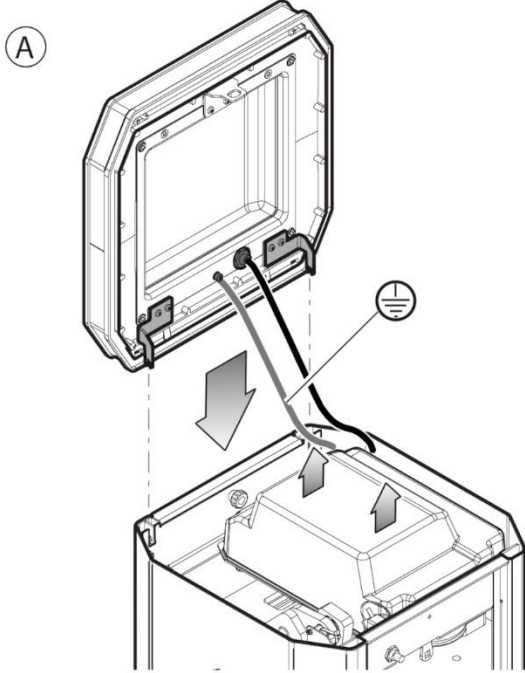
CROWN MAXIMA U36

ALLU2 MAXIMA ULTRA / ALLU MAXIMA ULTRA
• Power supply lights R/G

⚡ **DANGER!** Always disconnect the power supply before attempting any work on the system.

ALLU2 MAXIMA ULTRA

RED AND GREEN STRIP LED LIGHT PS - *KIT LIGHT PS*
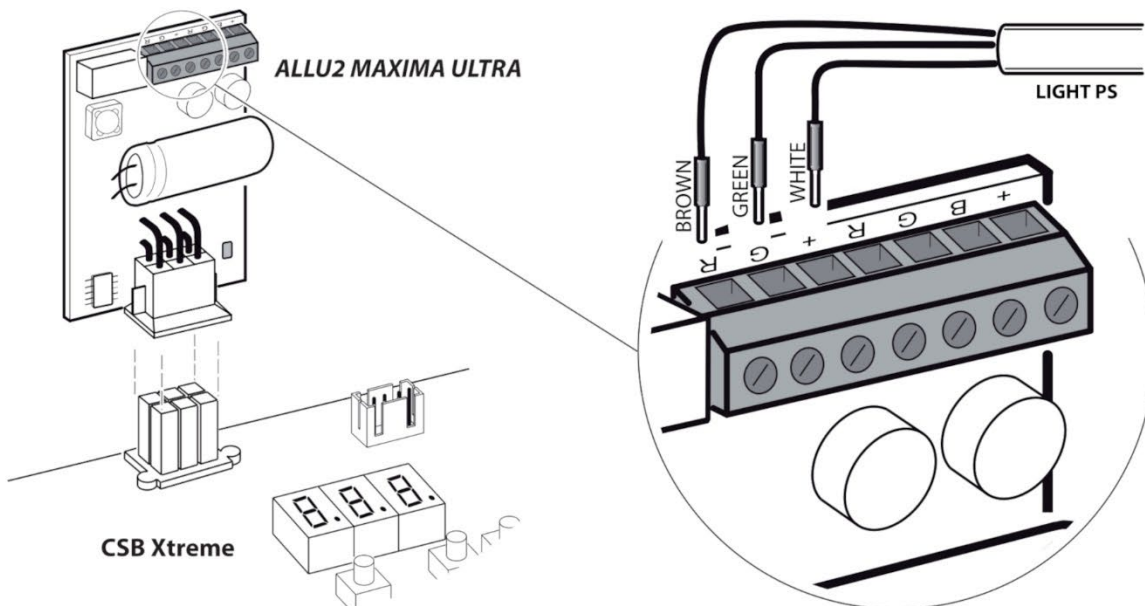
LED LIGHT FOR *CROW RGB MAXIMA U36*
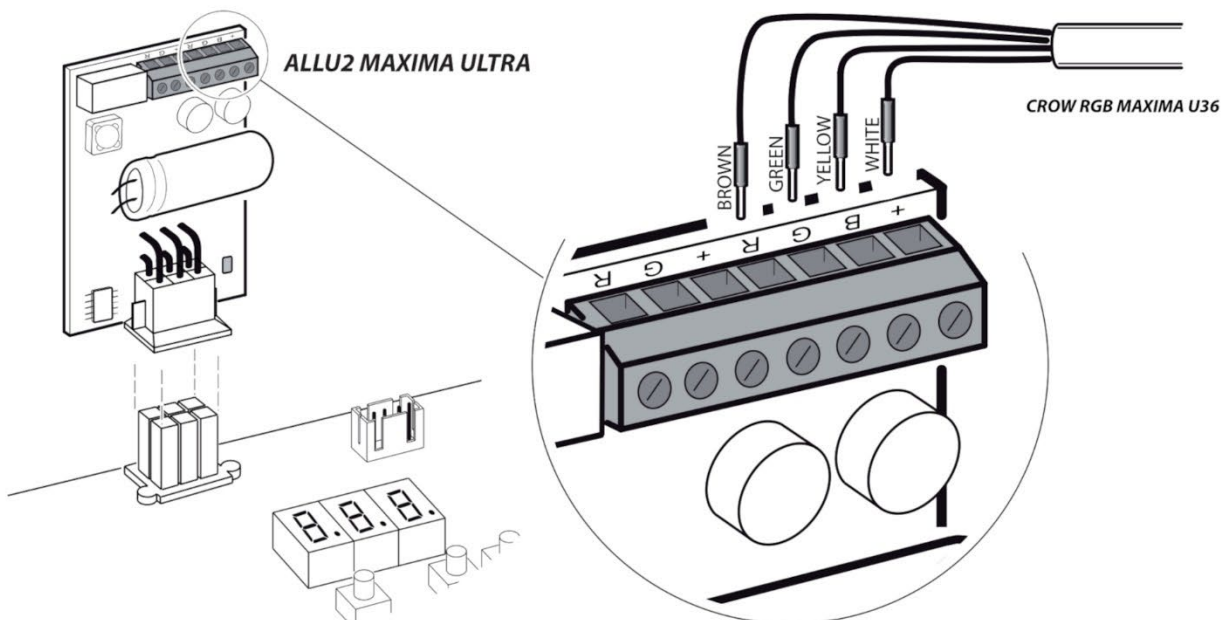
A BAR PREPARATION

1

LIGHT PS30-IP67
LIGHT PS60-IP67

225

Apply the R/G led strip to the bar.
Apply pressure to adhere the adhesive.
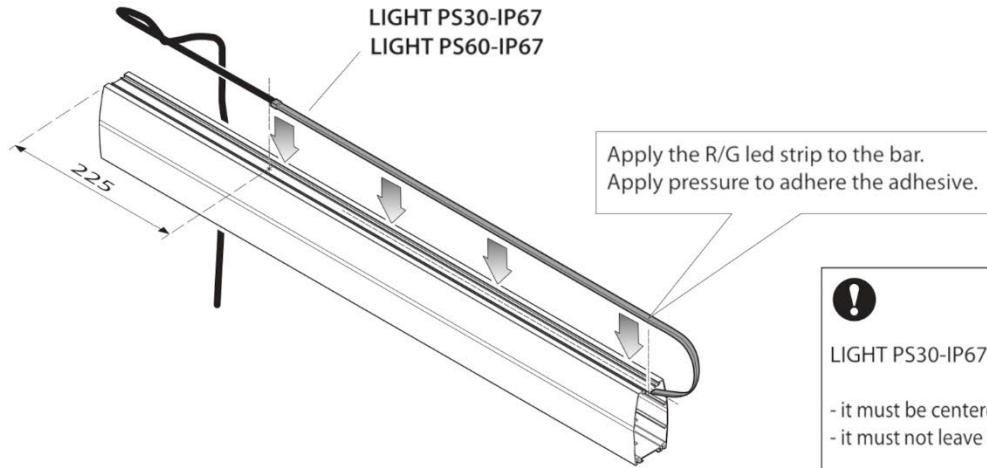
❗ LIGHT PS30-IP67 / LIGHT PS60-IP67

- it must be centered perfectly with the track
- it must not leave the track

2

Cover

LIGHT PS30-IP67

LIGHT PS60-IP67

Boom

Cover

clack

LIGHT PS30-IP67

LIGHT PS60-IP67

Boom

3

4.2x16

7 mm
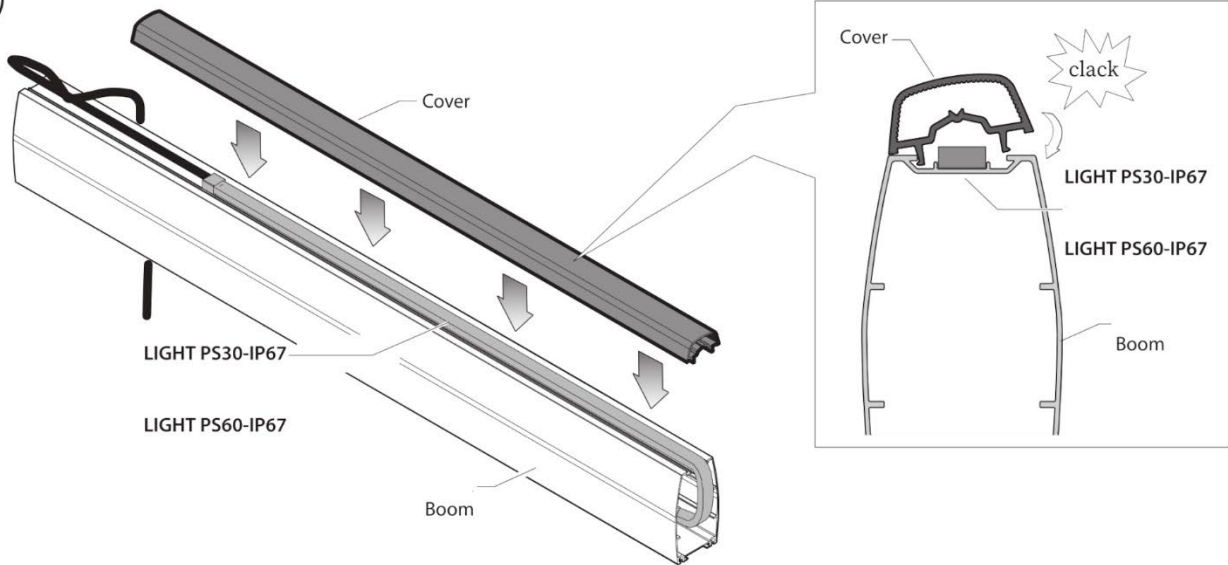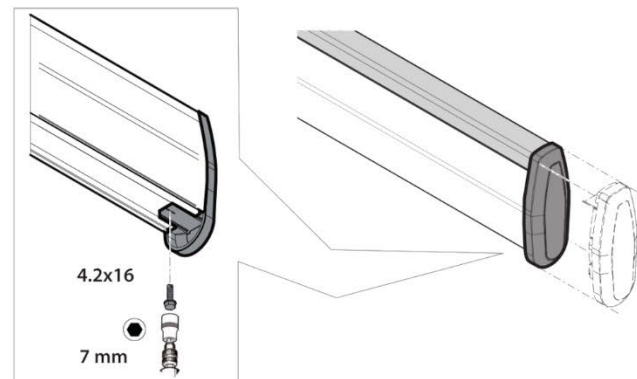
4

*

*
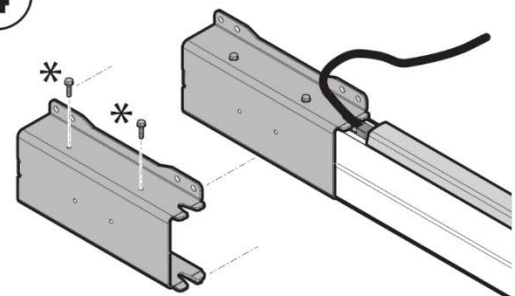
* REFER TO THE USE AND INSTALLATION MANUAL OF THE BOOM MOUNTING FOR MAXIMA ULTRA 36

B BAR INSTALLATION

1

M14x70
Ø14

Ø6x12

Ø14
M14

Passing hole for light cable

2

Fix the cable with one

Ø6
M6

Lock the bar without tightening to make it easier to insert the cable.

✱

REFER TO THE USE AND INSTALLATION MANUAL OF THE BOOM MOUNTING FOR MAXIMA ULTRA 36

Adhesive base

✱

NOT TIGHTEN
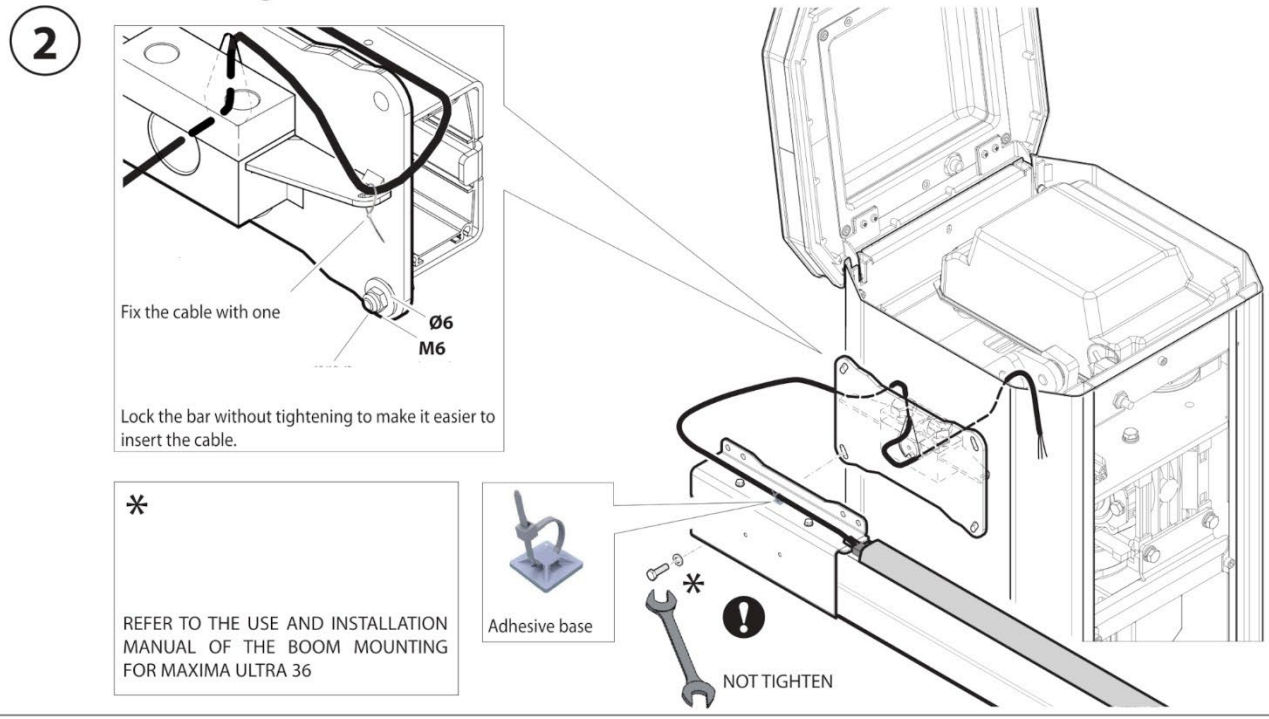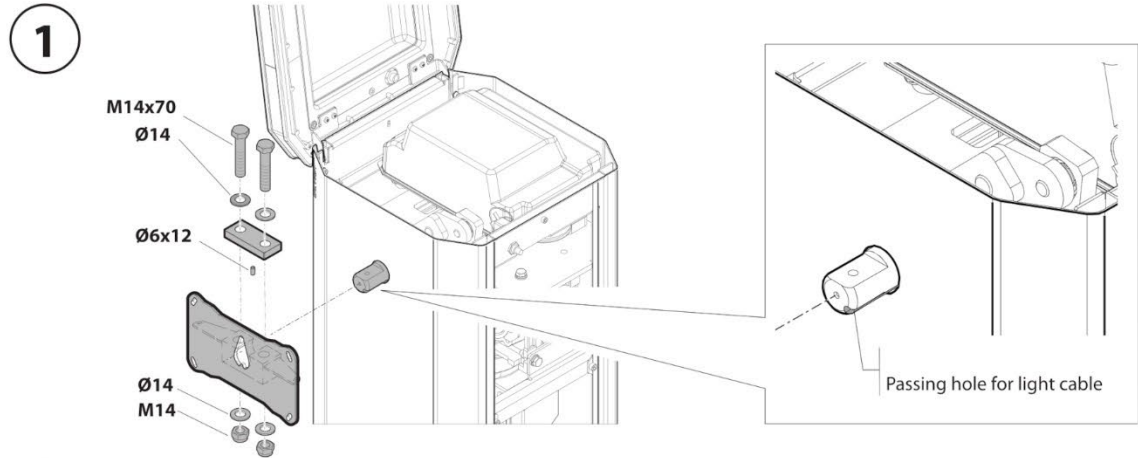
C LIGHT CABLE POSITIONING
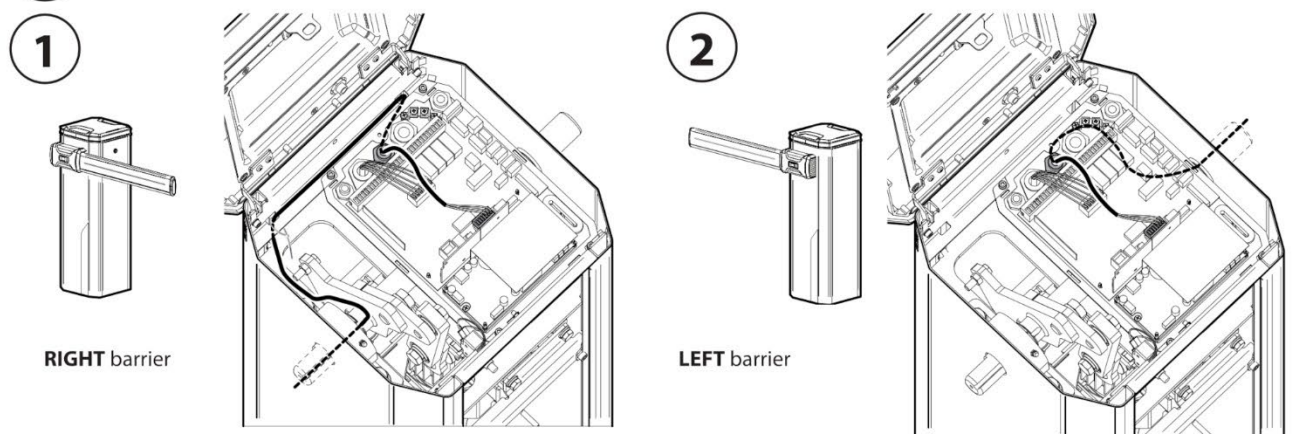
1

RIGHT barrier

2

LEFT barrier

FOR THE ELECTRICAL CONNECTIONS OF THE LED LIGHTS, SEE ALLU2 Xtreme / ALLU2 MAXIMA ULTRA POWER SUPPLY INSTRUCTION

GENERAL INFO

The **OMEGA FRA PS XTREME 36/OMEGA FRA PS MAXIMA U36** kit allows push-out fastener the BAR PS/BOOM PS to the NIGHT&DAY 36 XTREME / MAXIMA ULTRA 36 barriers.
The maximum admissible passage is 5 meters

Disconnect the power supply before carrying out any interventions on the system.

The symbol indicates operations which, if performed incorrectly, may pose CRUSHING risks.

KIT COMPOSITION

Ø14, M14, Ø6x12, M14x70, M6x25, M5x8, M6, M10, Ø5, 4,2x16, Ø12, Ø6, Ø6, Ø12, BUSHING, Ø13 GROMMET, M20 GLAND NUT, M20x1,5 GLAND

EQUIPMENT

PH1, 5mm, 10mm, 22mm

10mm, 22mm, 24mm, Ø20 mm

A LAYOUT

DRIVING DIRECTION

MAX 90°
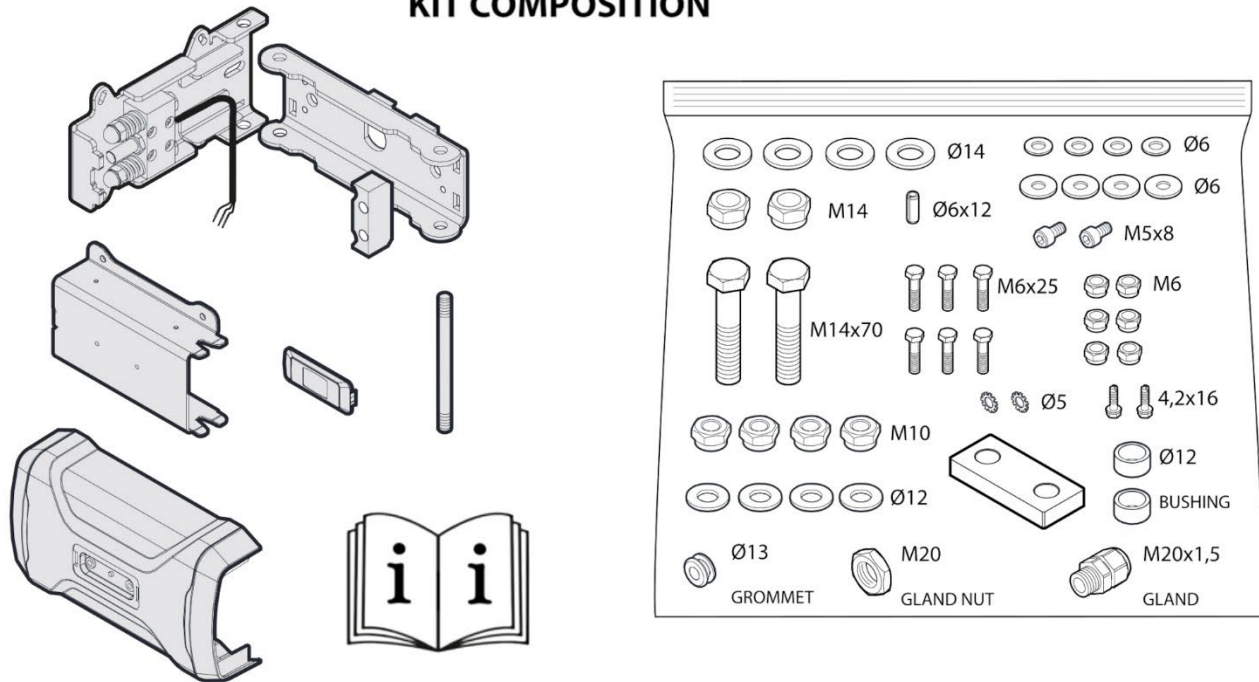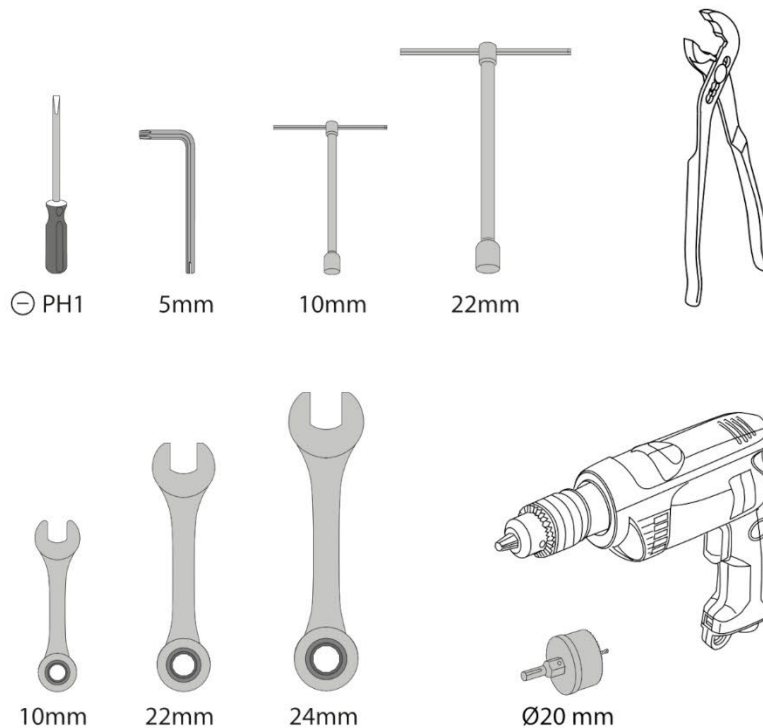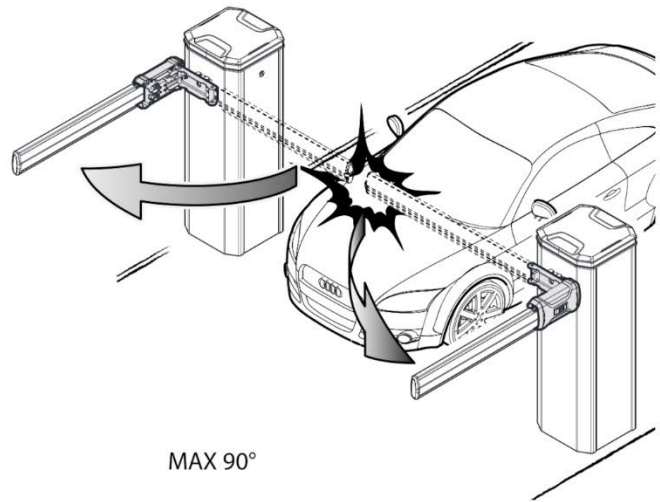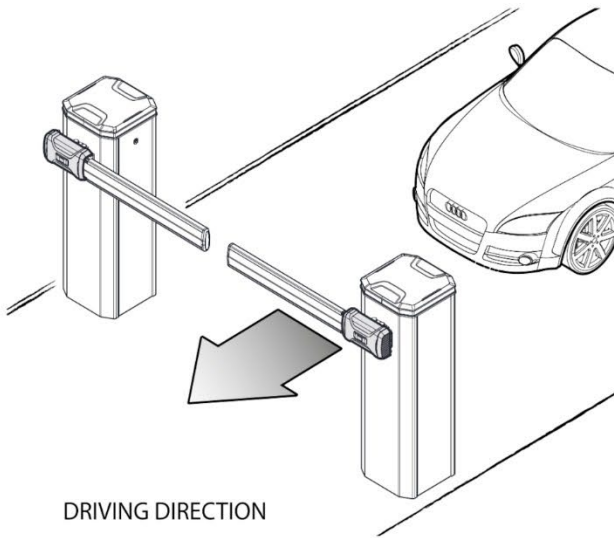
B PUSH-OUT BAR HOLDER PREASSEMBLY

1 RIGHT

M10
Ø12
Ø12 BUSHING
Ø13 GROMMET
(1)
Ø12 BUSHING
Ø12
M10
M6x25

2 LEFT

M10
Ø12
Ø12 BUSHING
(1)
M6x25
Ø12
M10
Ø13 GROMMET
Ø12 BUSHING
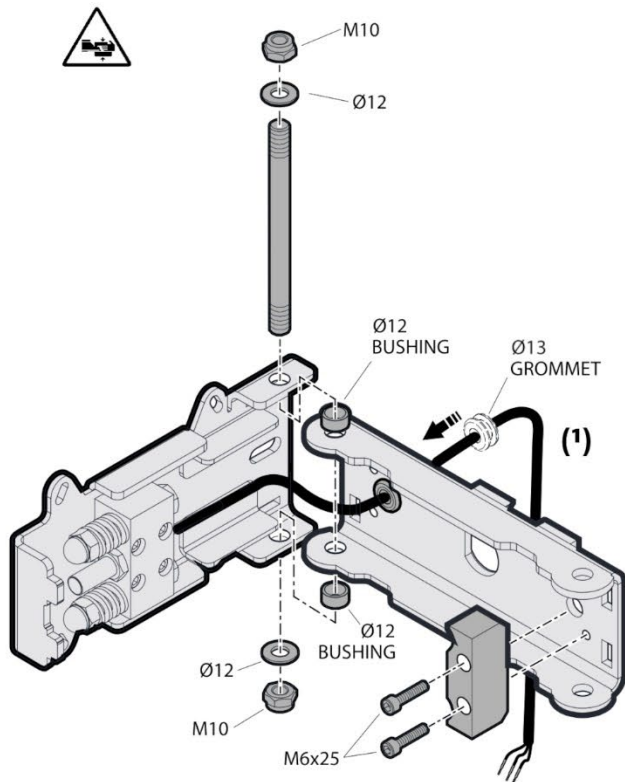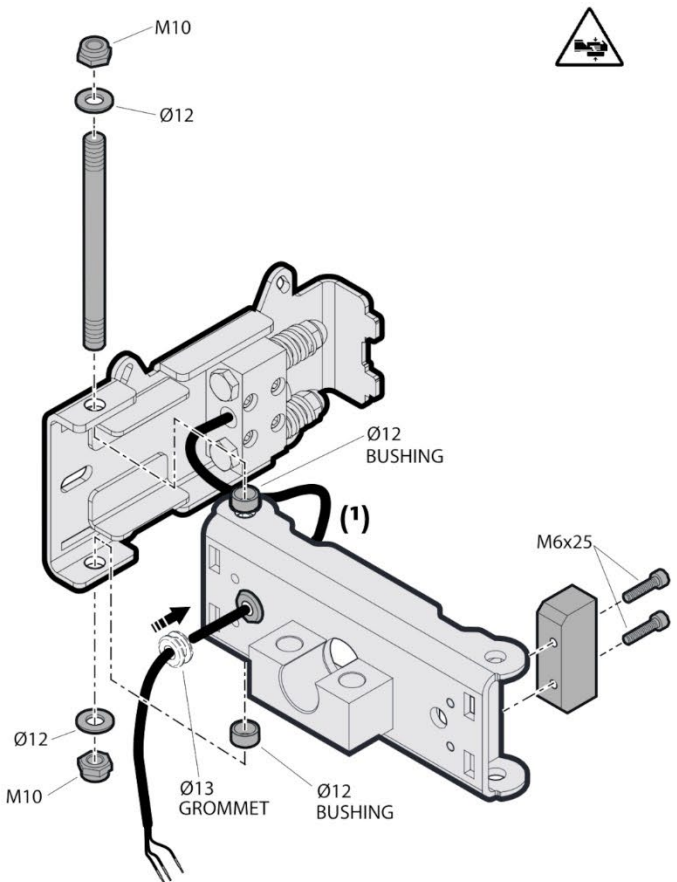
(1) OMEGA FRA PS XTREME 36 / OMEGA FRA PS MAXIMA U36 SENSOR CABLE

C PUSH-OUT BAR HOLDER INSTALLATION

1

Ø20

110

2

M20x1,5
GLAND

Ø20
GLAND NUT

3

M14x70

Ø14

Ø6x12

Ø14

M14

(¹)
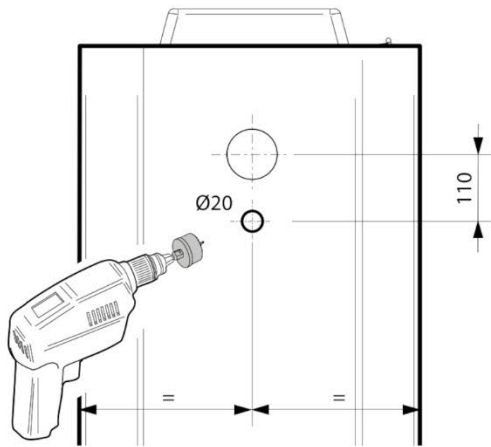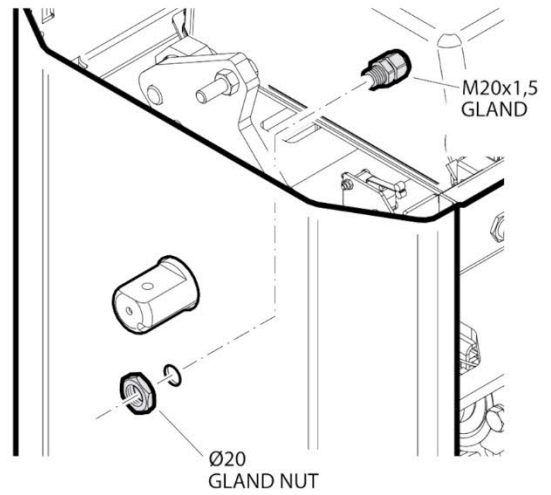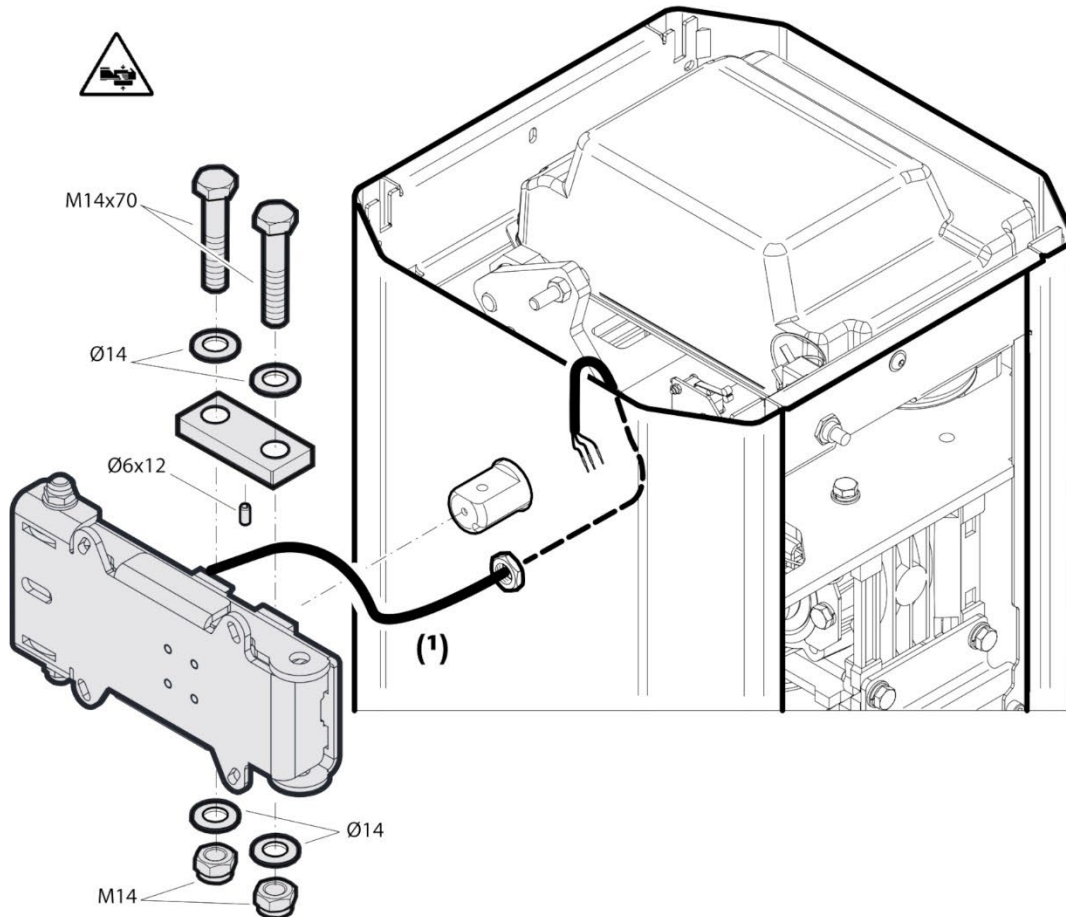
(¹) OMEGA FRA PS XTREME 36 / OMEGA FRA PS MAXIMA U36 SENSOR CABLE

D SENSOR CABLE CONNECTION

⚠️ ALWAYS DISCONNECT THE ELECTRICITY WITH A CUT-OFF SWITCH BEFORE ATTEMPTING ANY WORK ON THE SYSTEM.
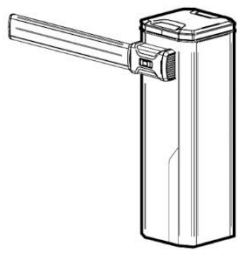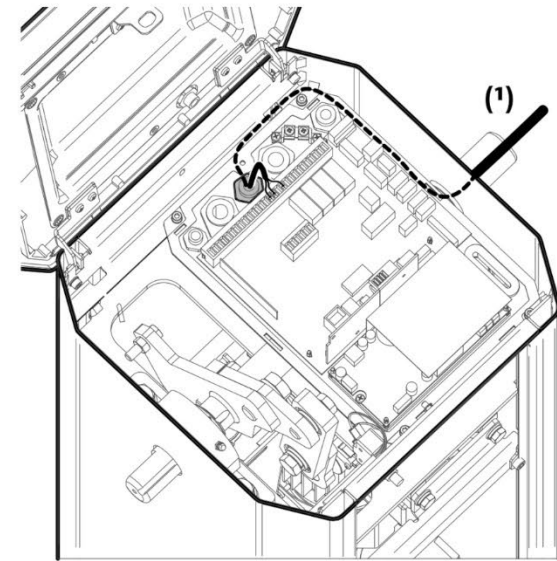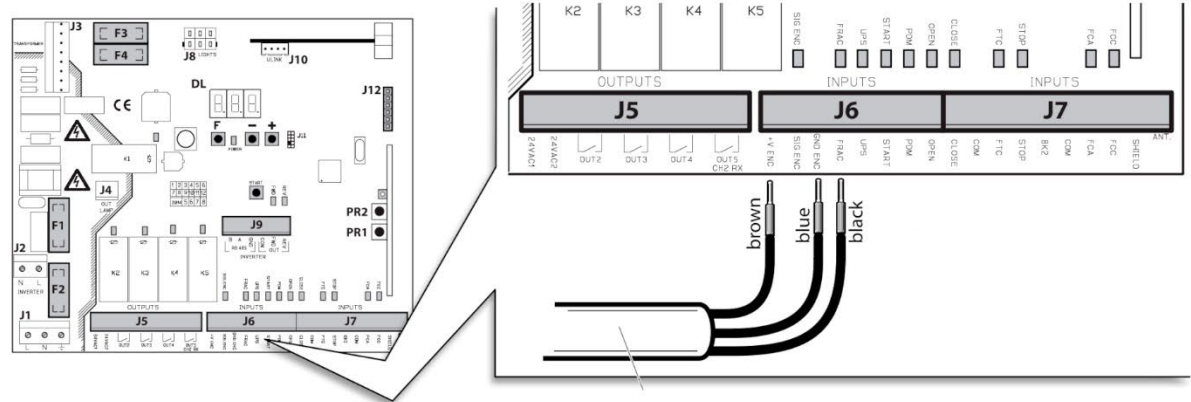
1
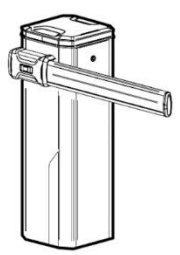
RIGHT barrier

(¹) SENSOR CABLE
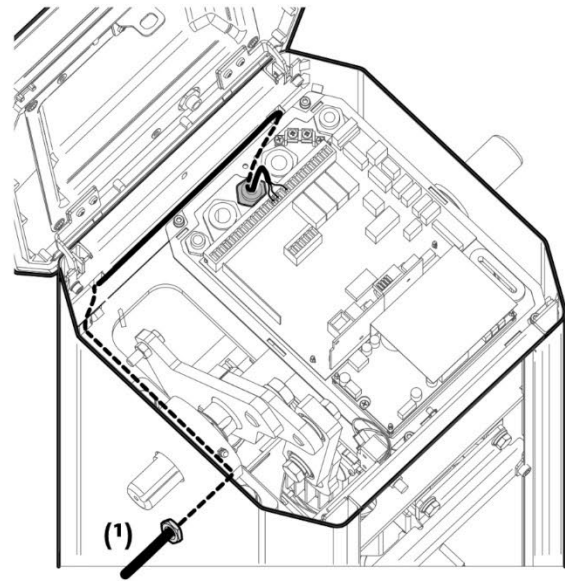
2

LEFT barrier

(¹) SENSOR CABLE

3 **CONNECTION TO CSB XTREME CONTROL UNIT WITH PNP SENSOR**

brown blue black

MAXIMA ULTRA 36

OMEGA FRA PS XTREME 36 / OMEGA FRA PS MAXIMA U36 SENSOR CABLE

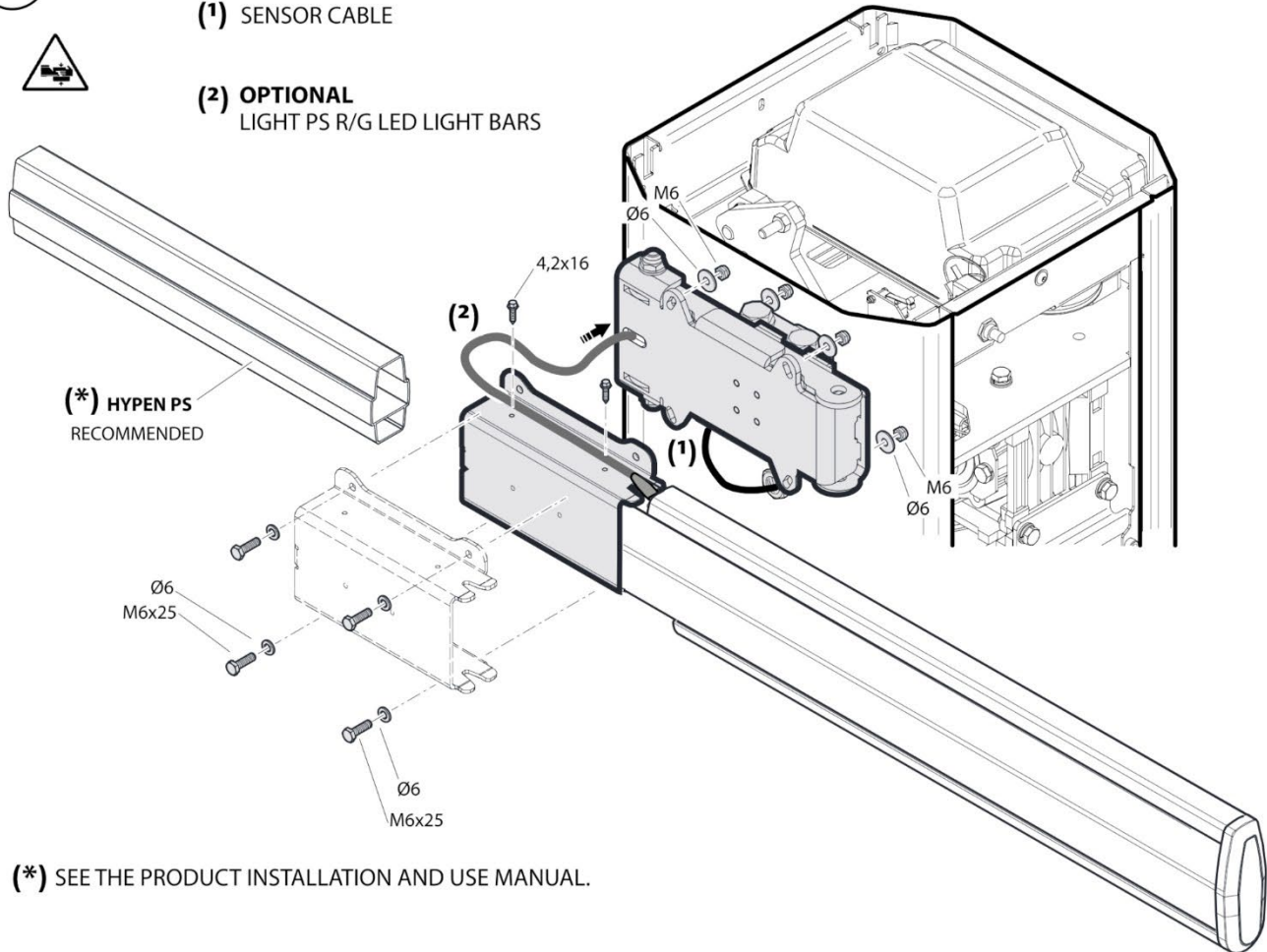## E BOOM MOUNTING AND LIGHT PS INSTALLATION (OPTIONAL)

⚠ ALWAYS DISCONNECT THE ELECTRICITY WITH A CUT-OFF SWITCH BEFORE ATTEMPTING ANY WORK ON THE SYSTEM.

1

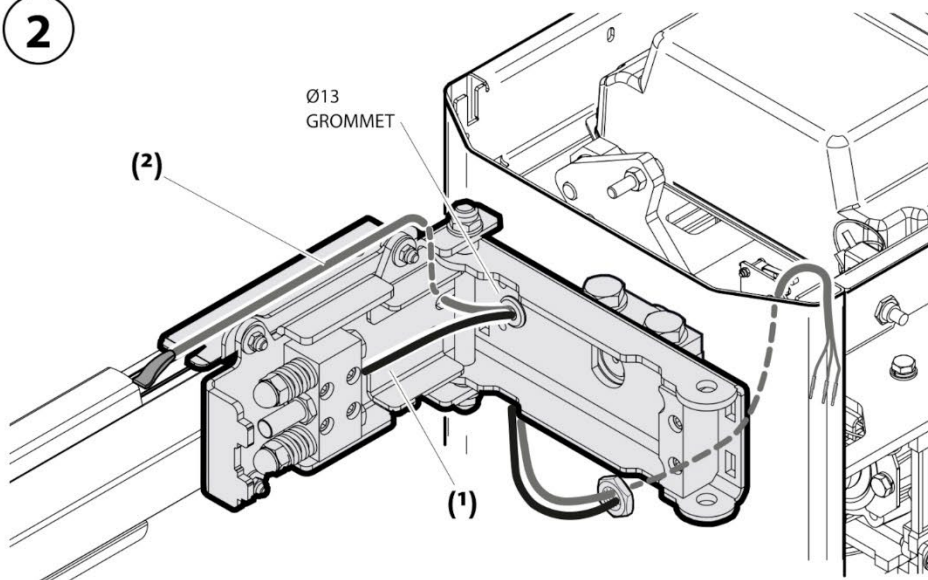(1) SENSOR CABLE

(2) **OPTIONAL**
LIGHT PS R/G LED LIGHT BARS

M6
Ø6

4,2x16

(2)

(*) **HYPEN PS**
RECOMMENDED

(1)

M6
Ø6

Ø6
M6x25

Ø6
M6x25

(*) SEE THE PRODUCT INSTALLATION AND USE MANUAL.

2

Ø13
GROMMET

(2)

(1)

(1) SENSOR CABLE

(2) **OPTIONAL**
LIGHT PS R/G LED LIGHT BARS

🛈 FOR THE ELECTRICAL CONNECTIONS OF THE LED LIGHTS, SEE ALLU2 Xtreme / ALLU2 MAXIMA ULTRA POWER SUPPLY INSTRUCTION.

3

Adhesive base
(not supplied)

Ø5

M5x8