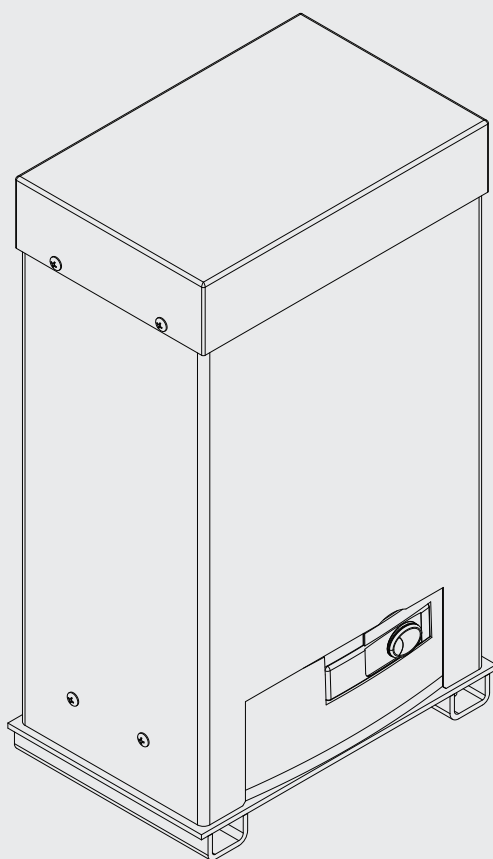


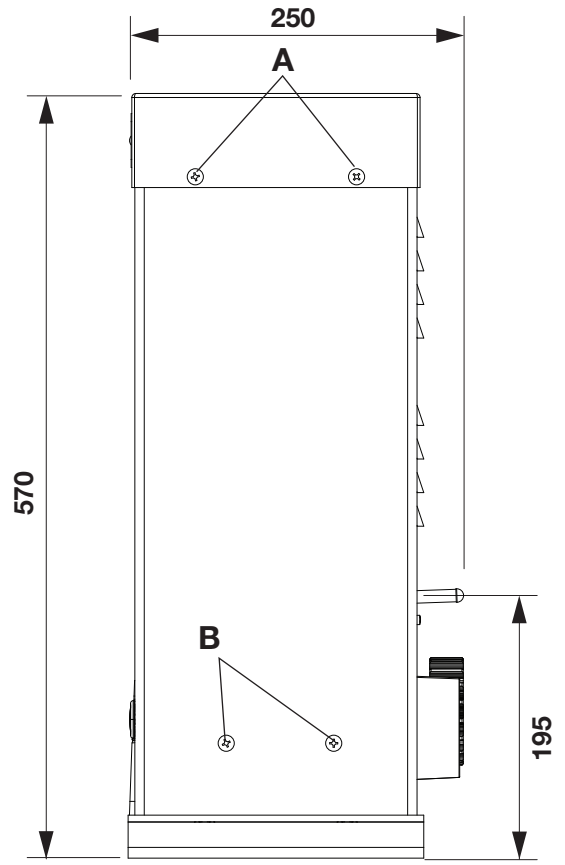
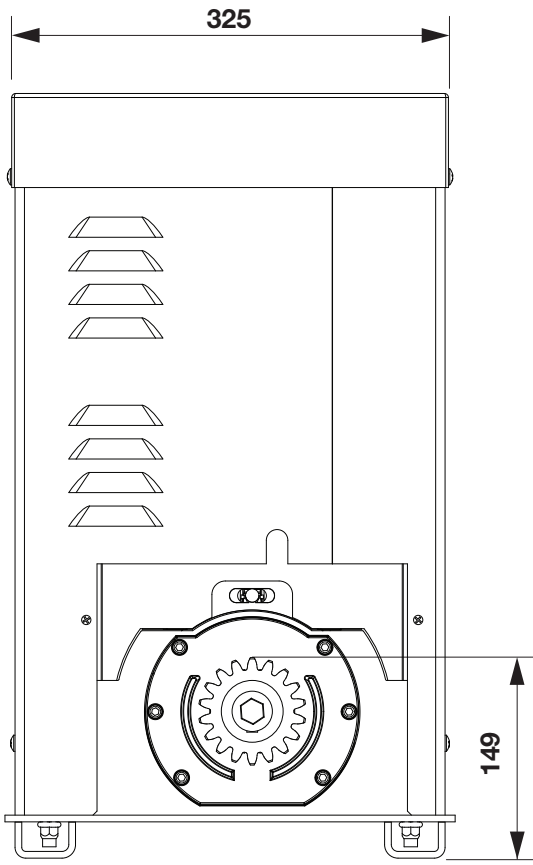
# YAK 25 OTI



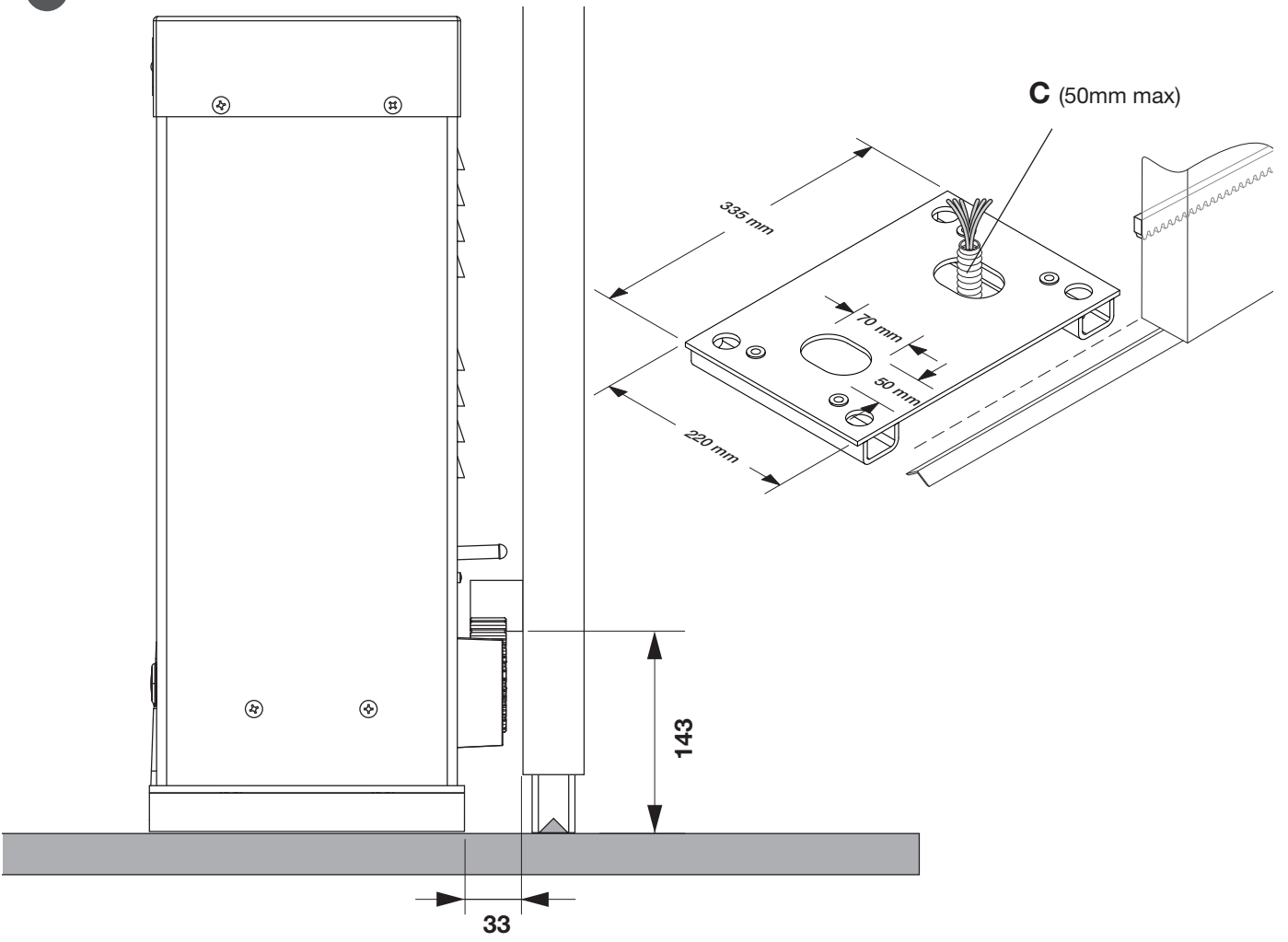
**BENINCA**<sup>®</sup>  
TECHNOLOGY TO OPEN



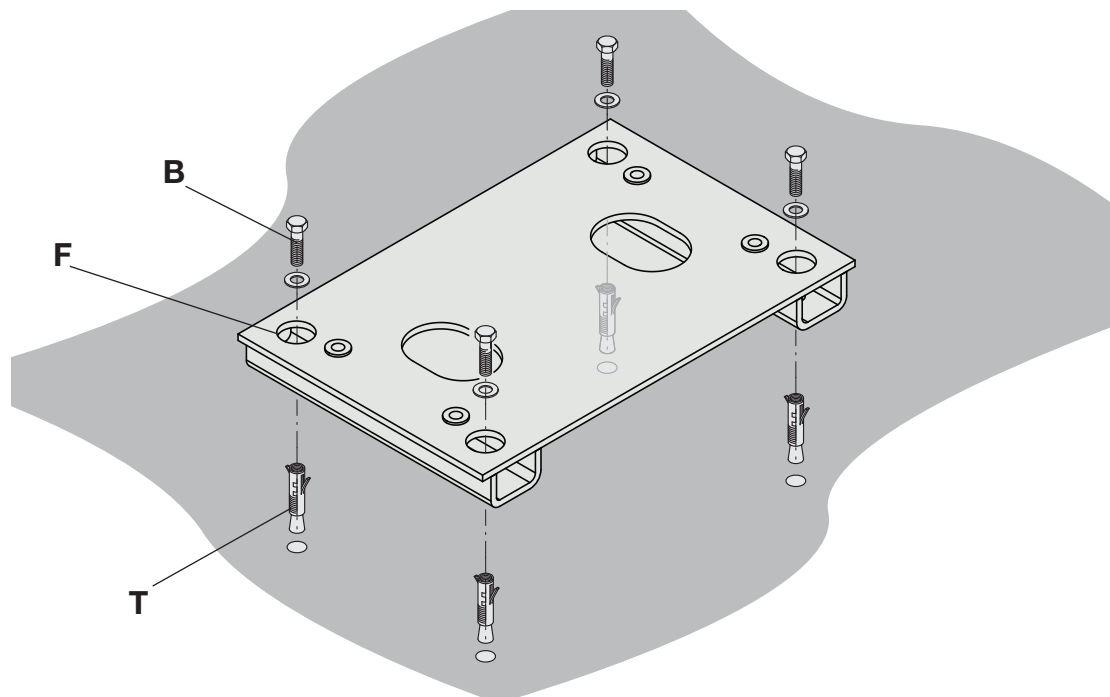
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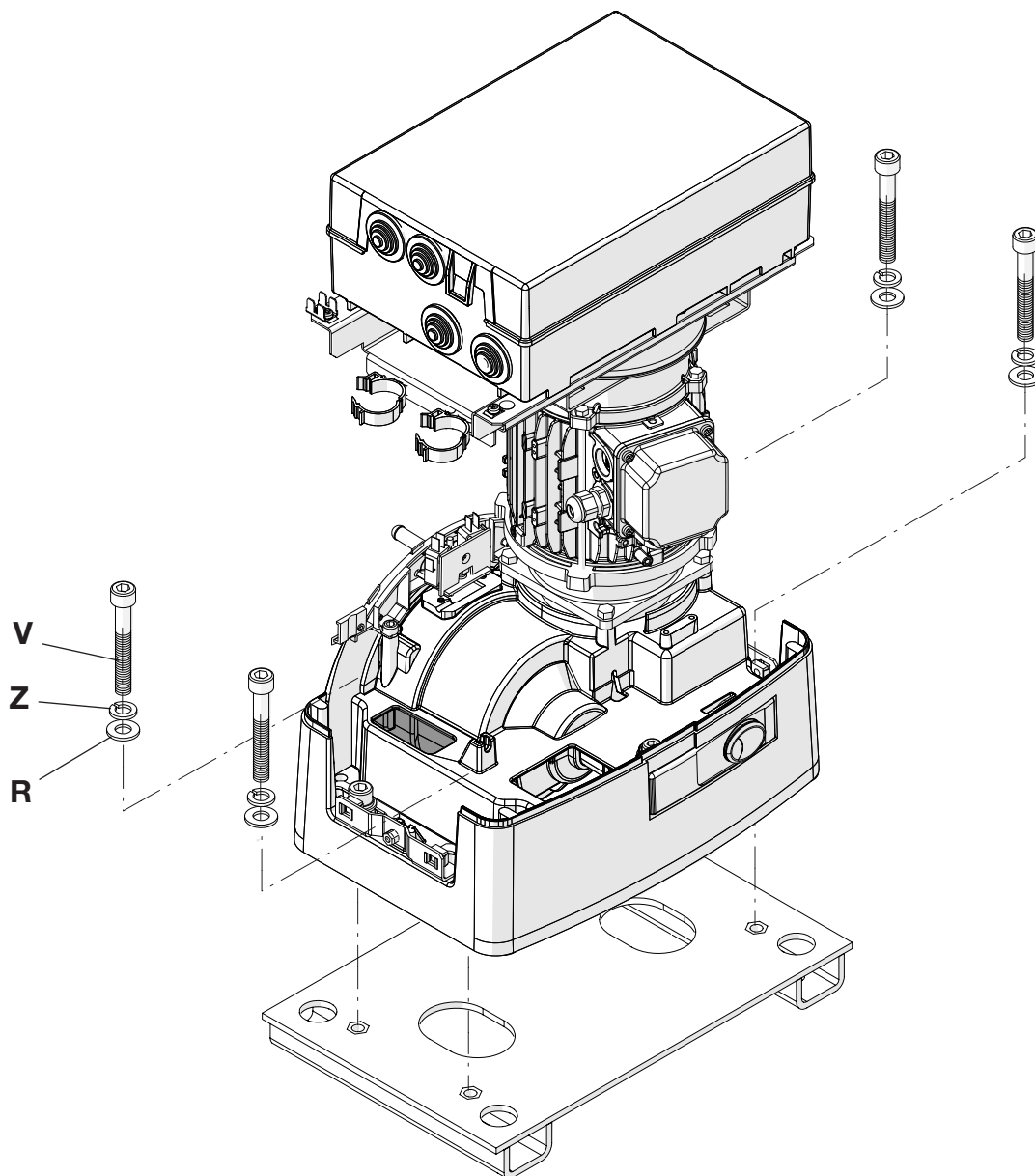
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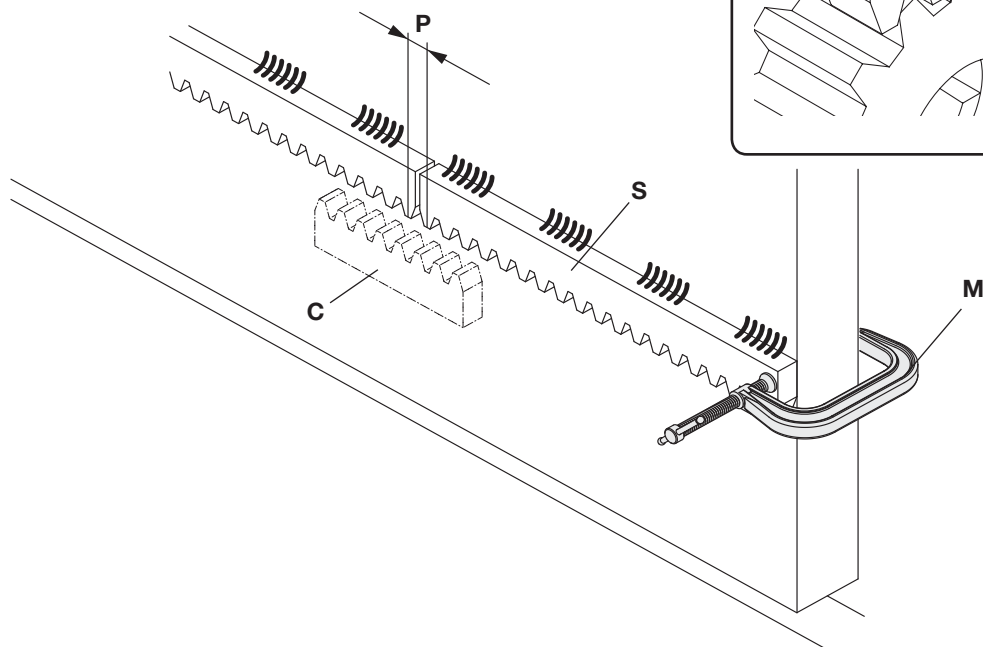
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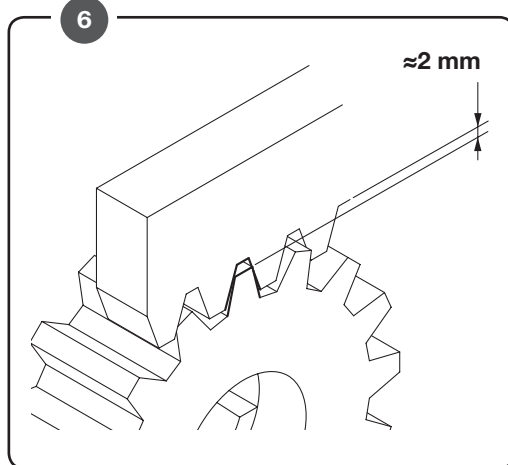
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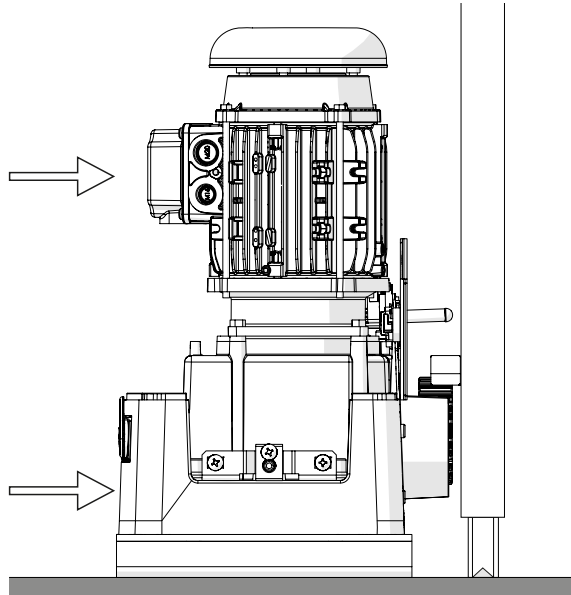
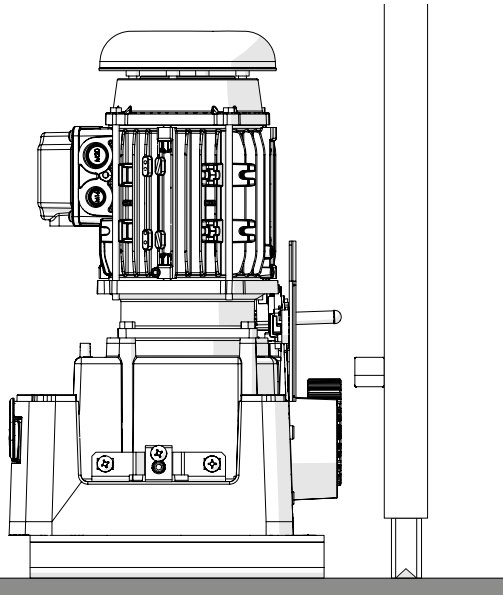
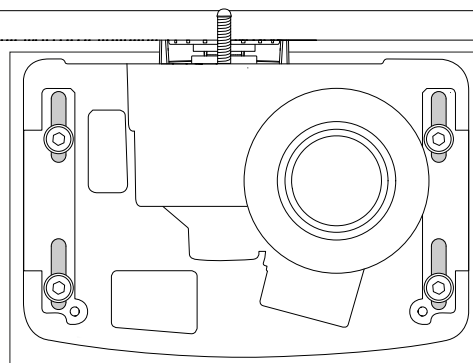
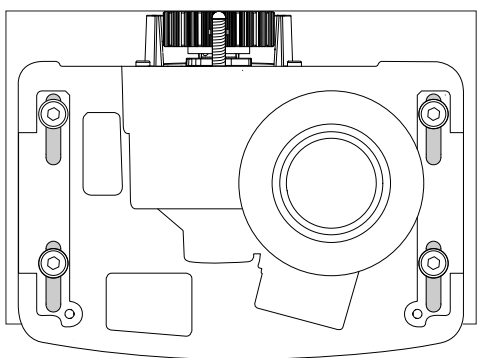
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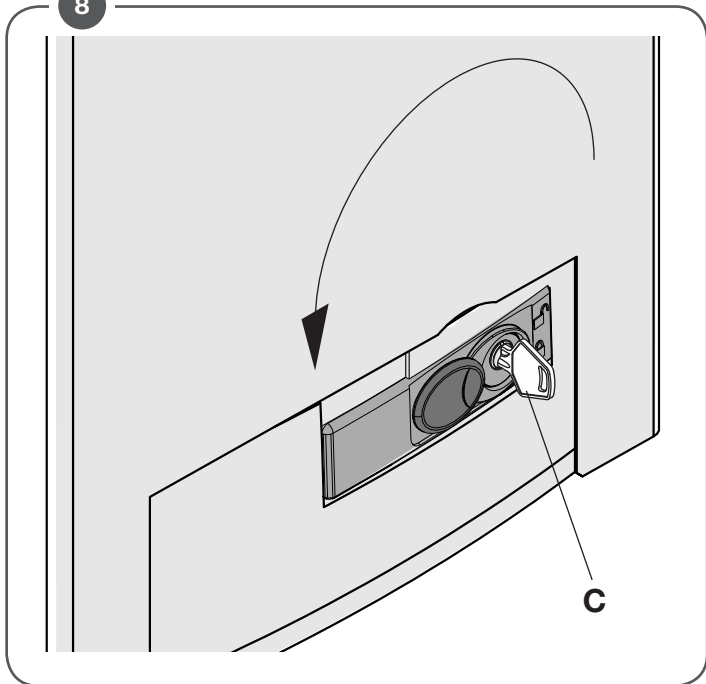
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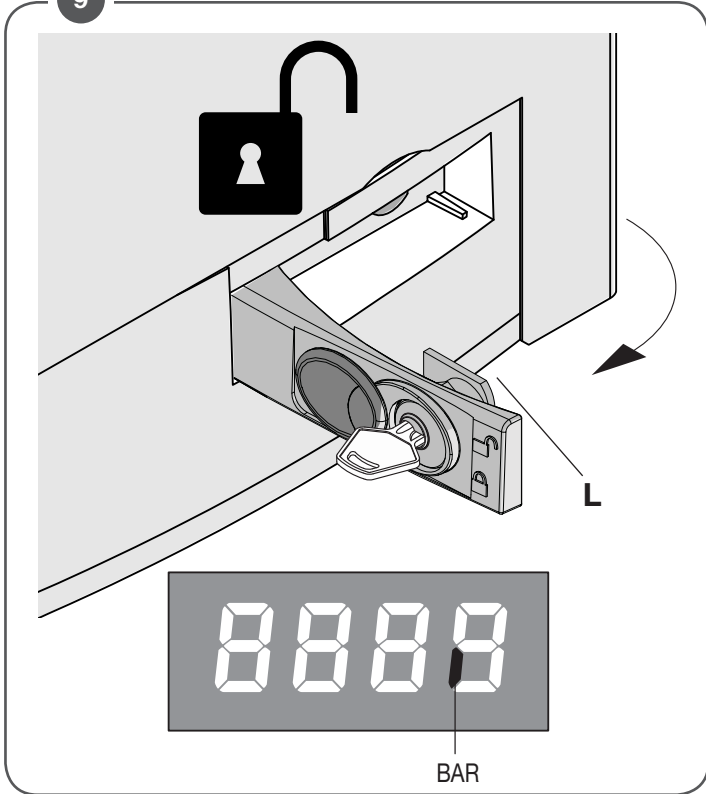
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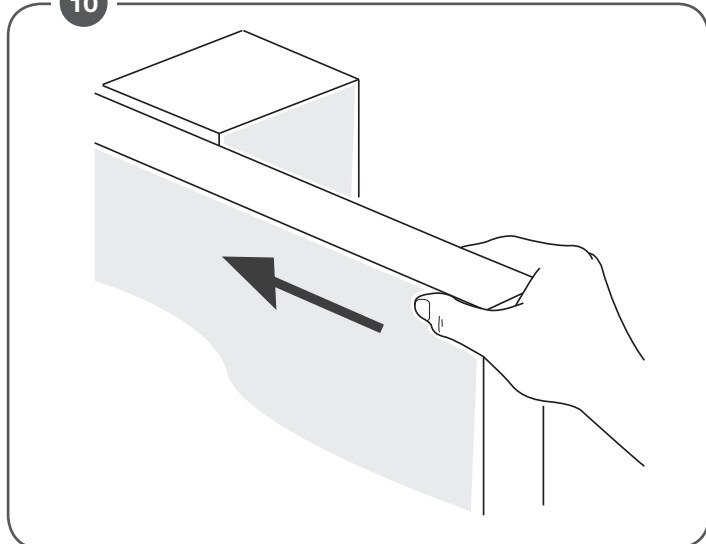
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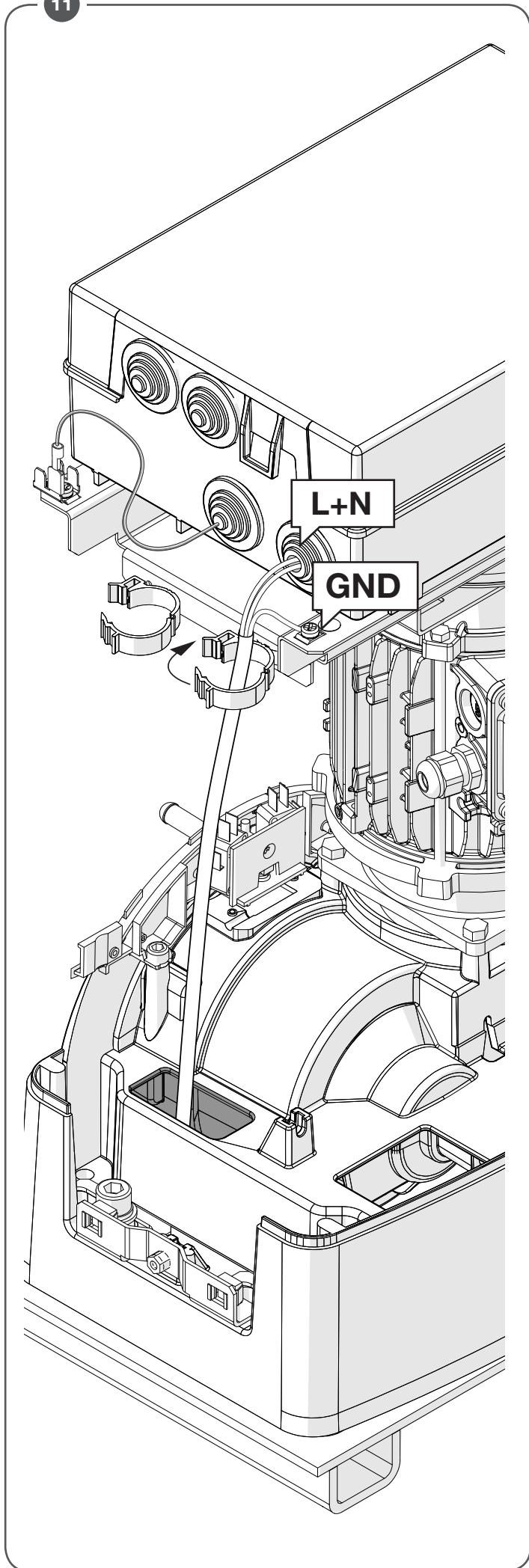
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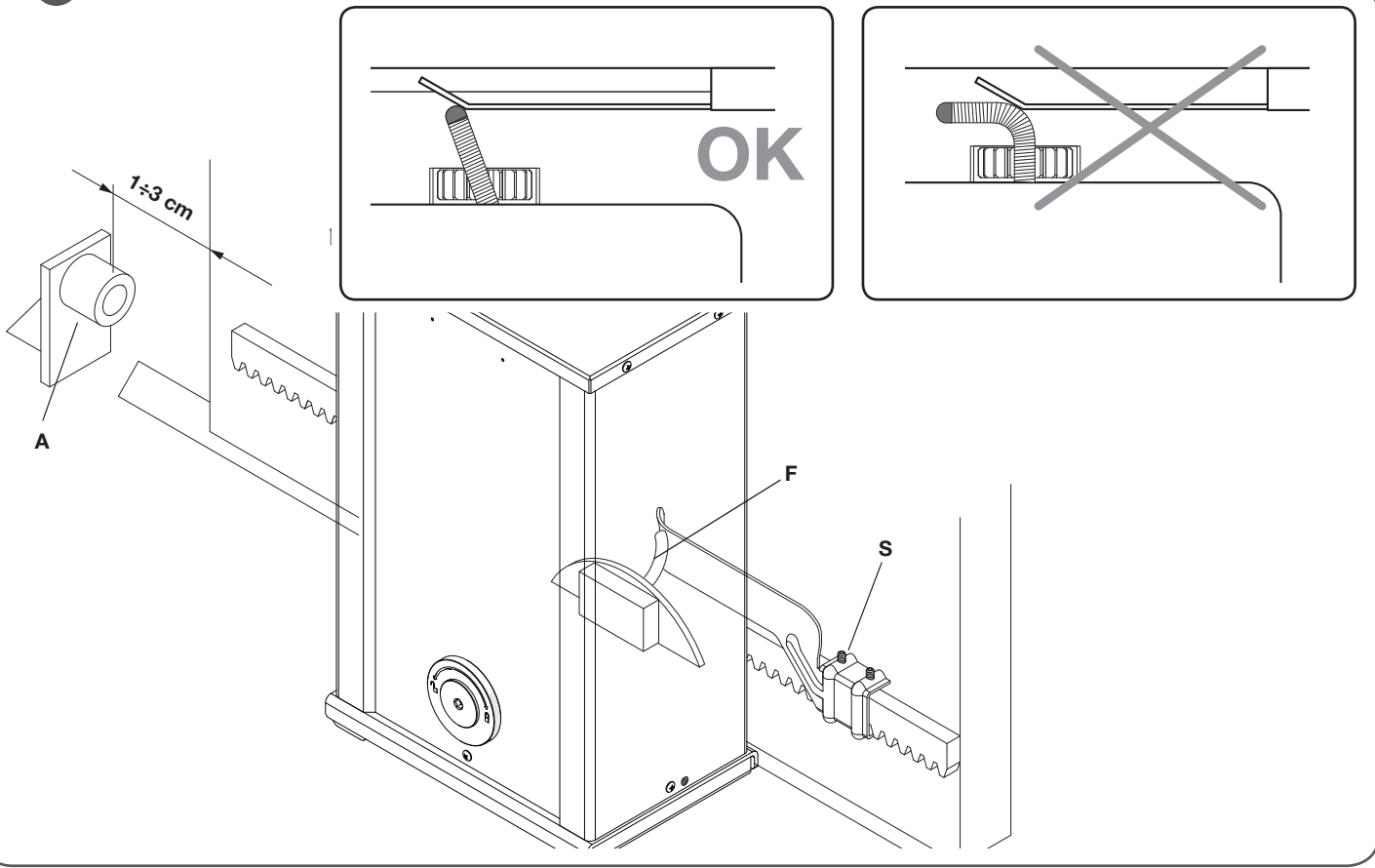
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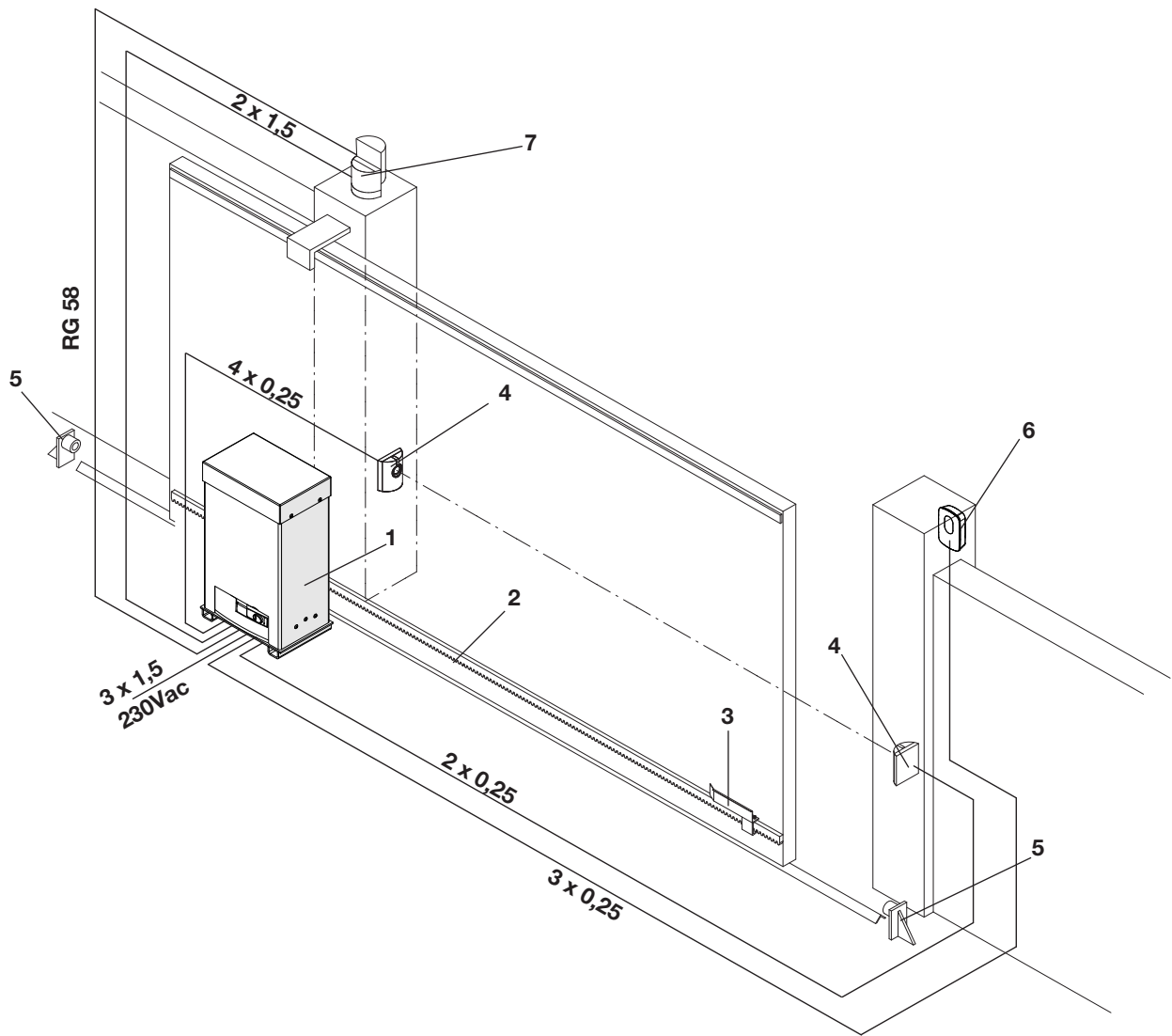
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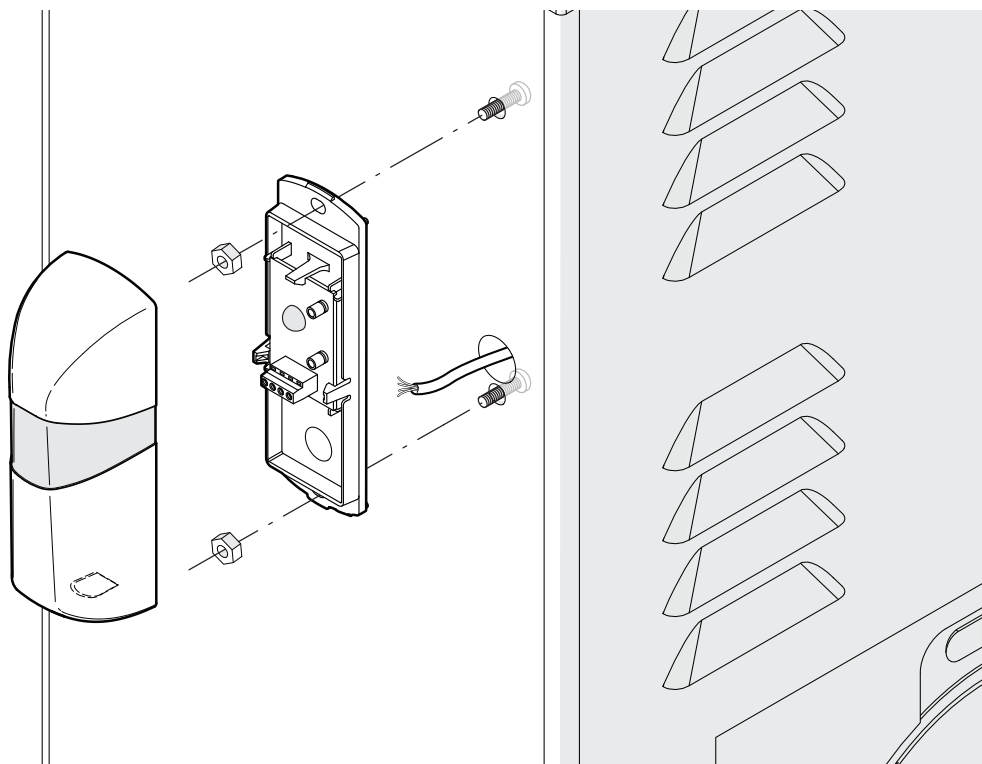
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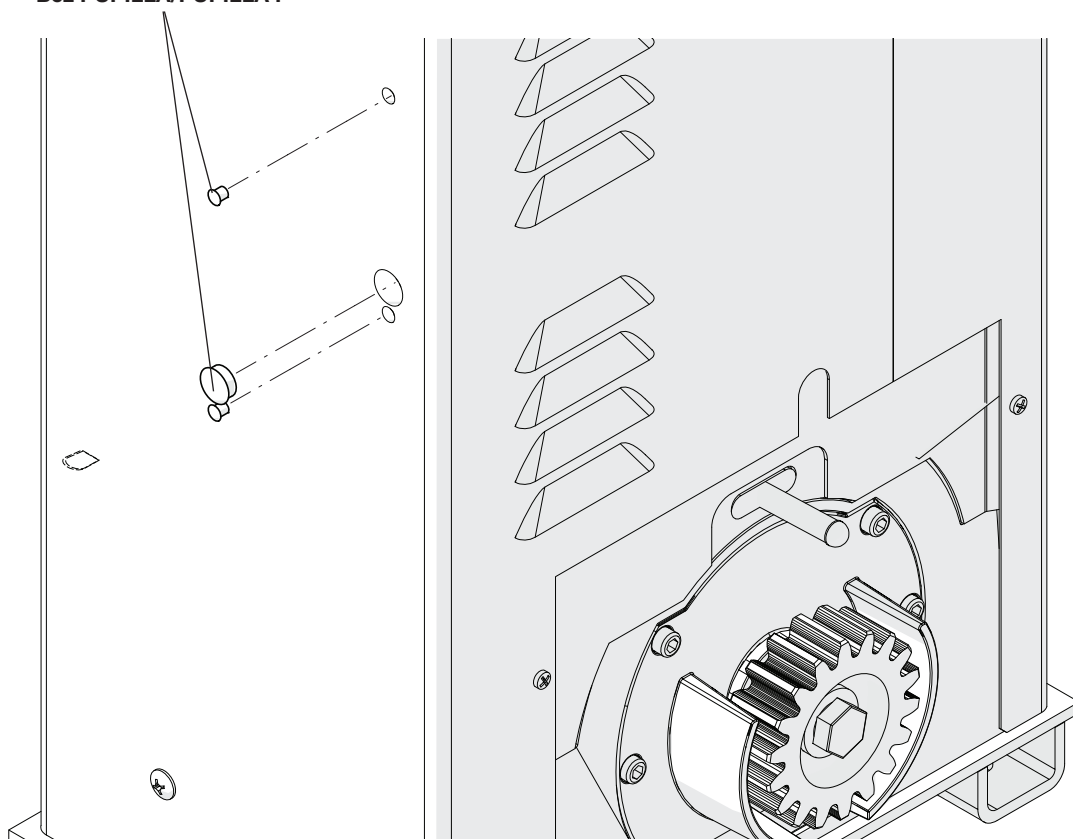
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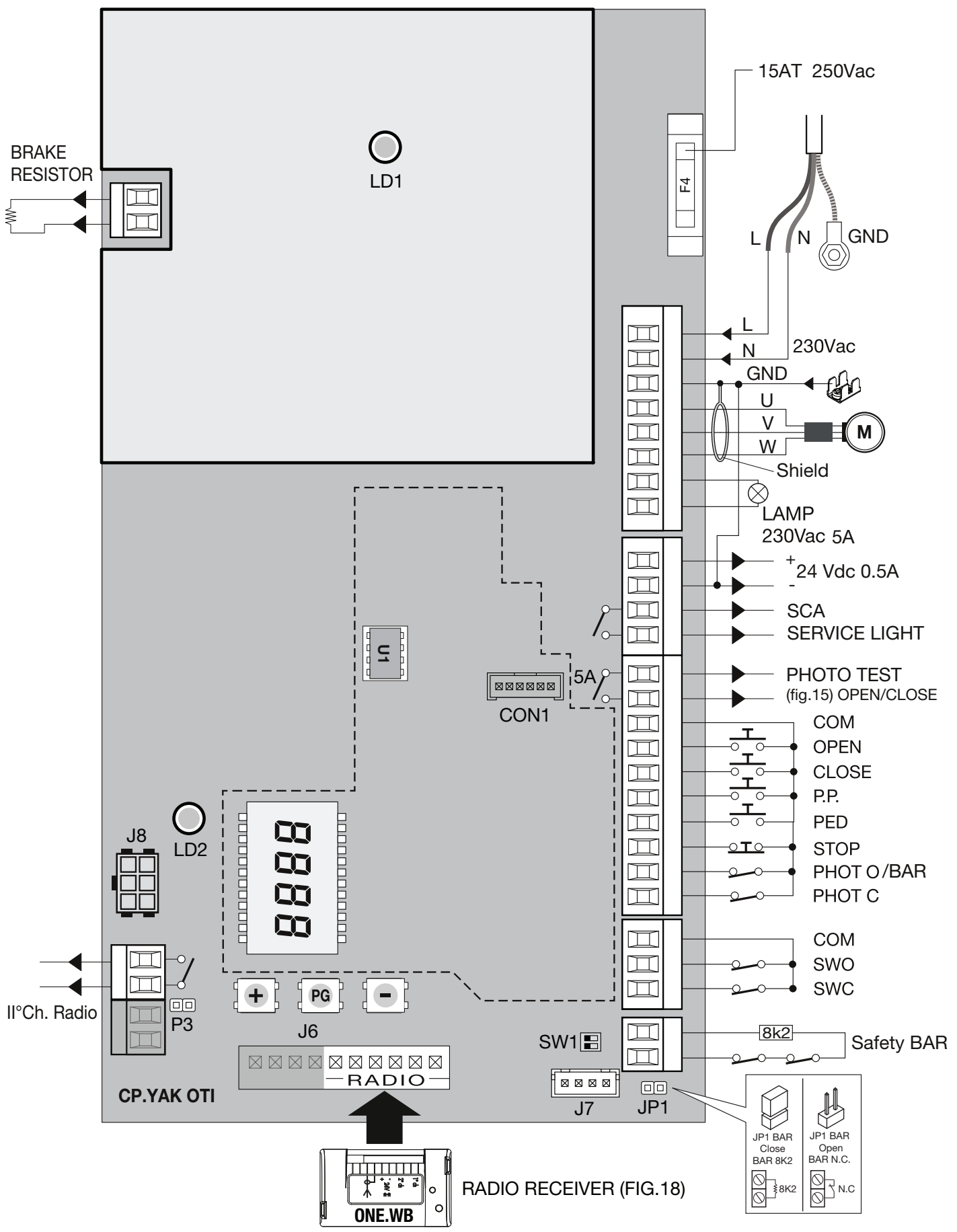


**PUPILLA/PUPILLA F (OPTIONAL)**



Senza PUPILLA/PUPILLA F  
**Without PUPILLA/PUPILLA F**  
Ohne PUPILLA/PUPILLA F  
**Sans PUPILLA/PUPILLA F**  
Sin PUPILLA/ PUPILLA F  
**Bez PUPILLA/PUPILLA F**



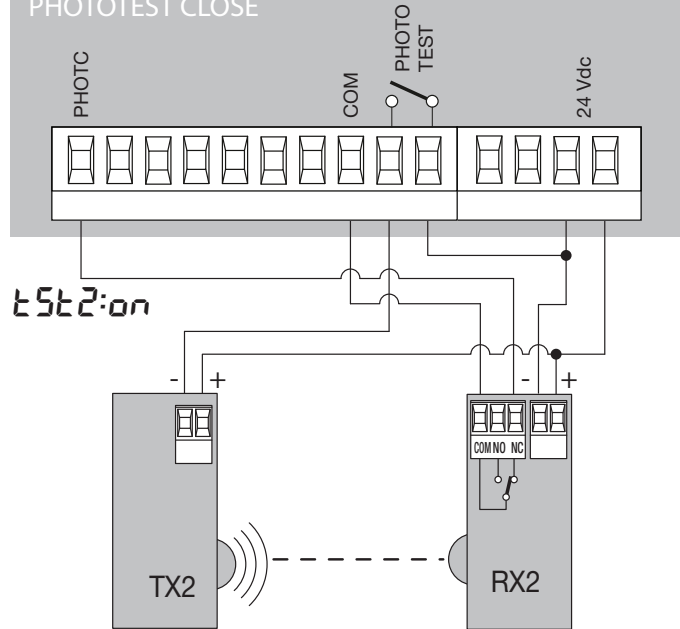
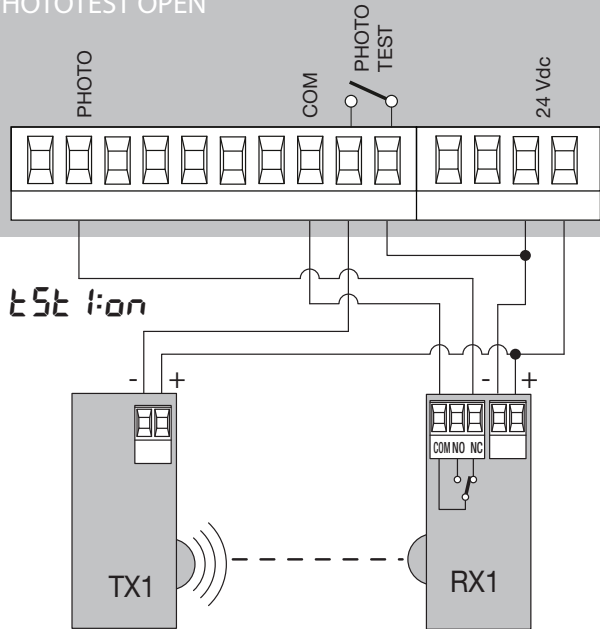




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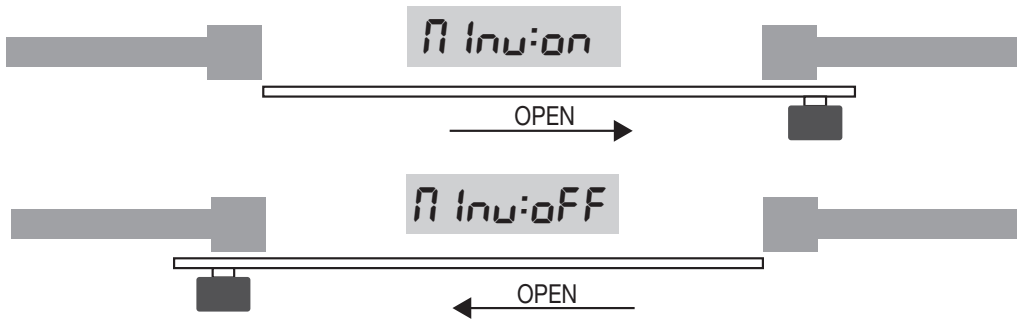
PHOTOTEST OPEN

PHOTOTEST CLOSE



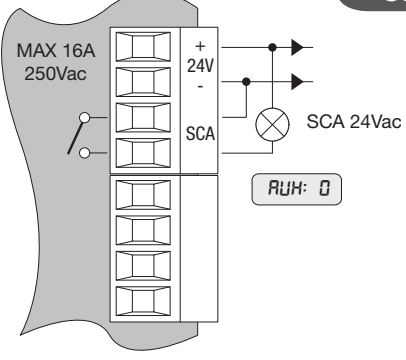
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LOGIC MINV

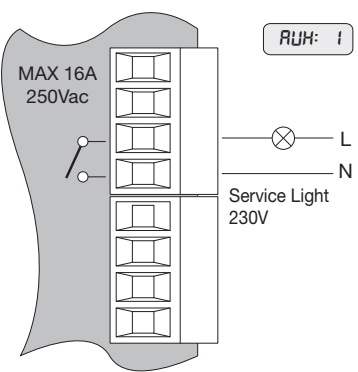


17

SCA

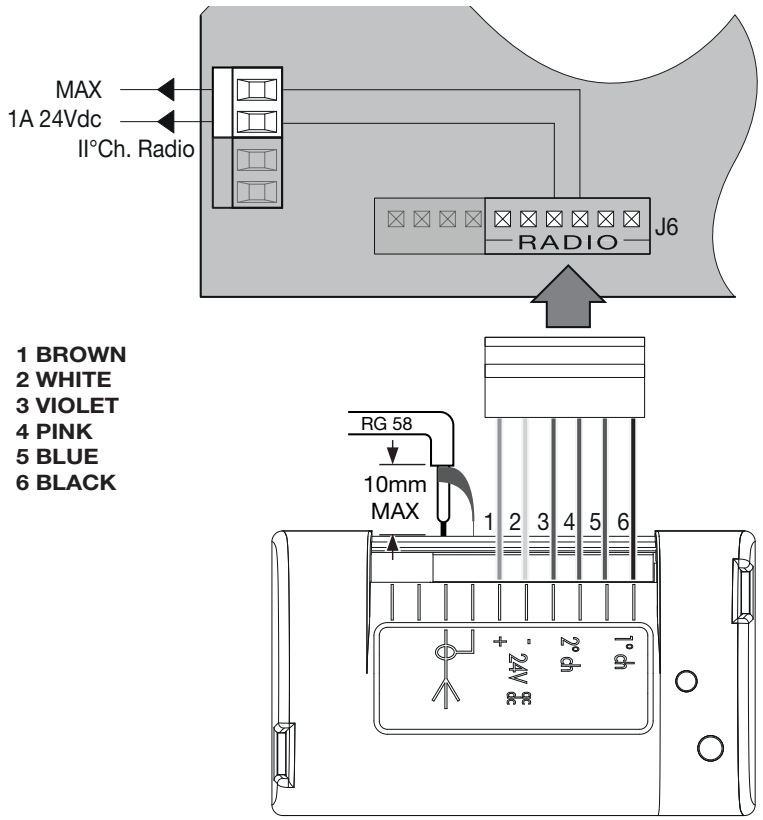


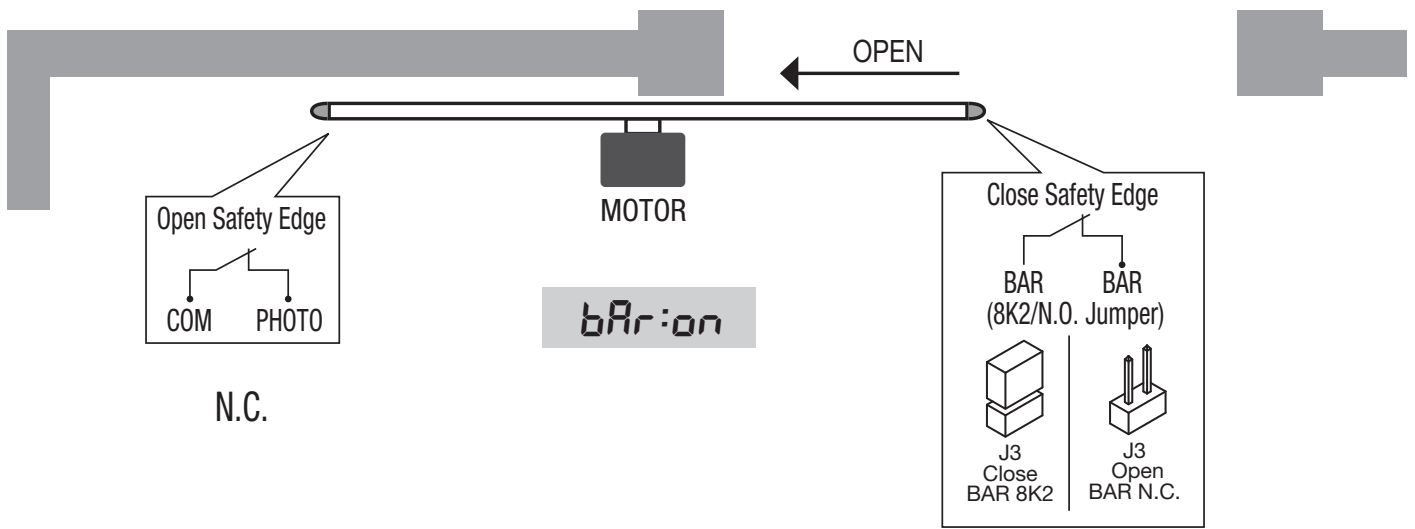
SERVICE LIGHT

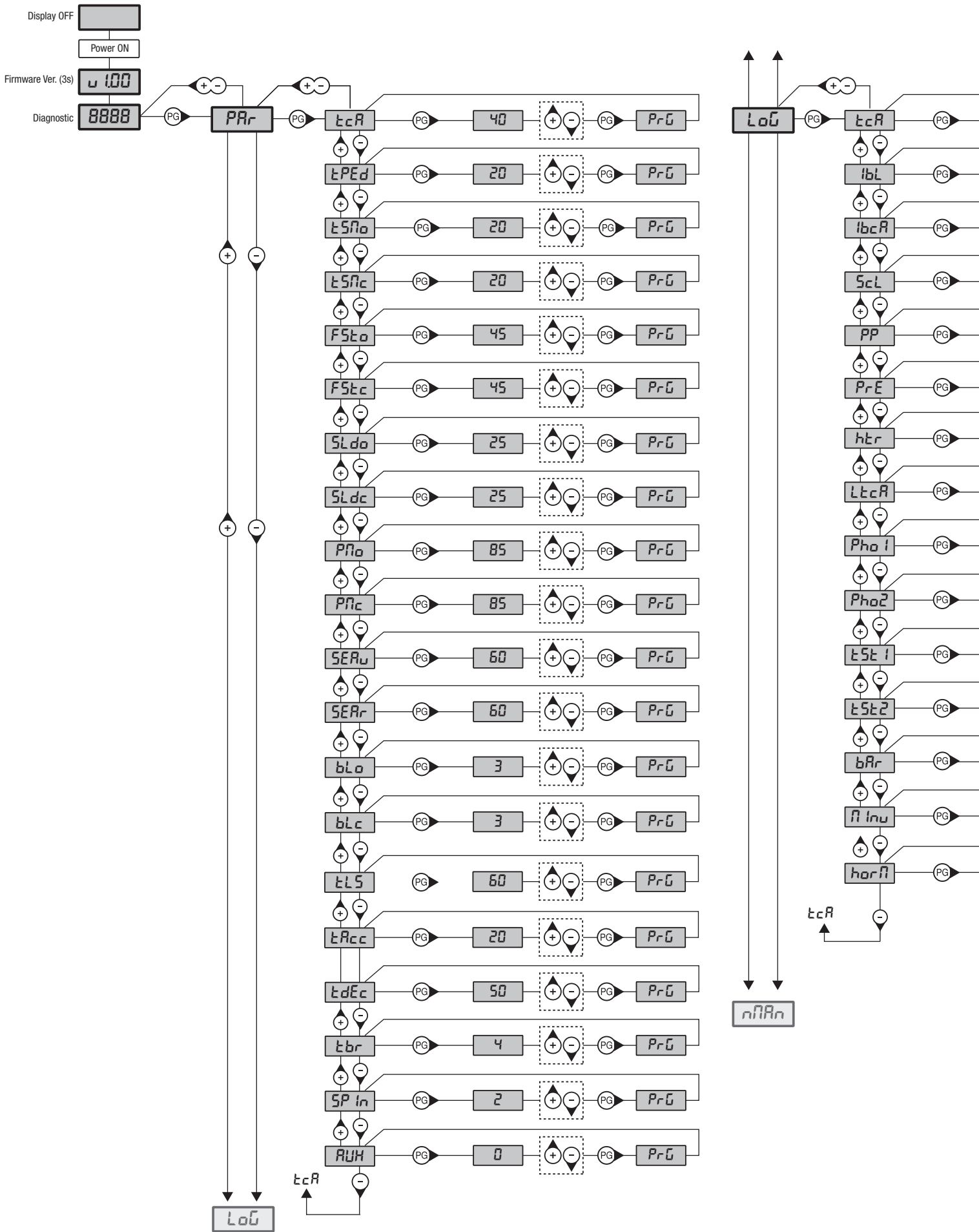


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RADIO RECEIVER









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## 1) GENERAL INFORMATION

Automation with 115 or 230Vac single-phase power supply for sliding gates for industrial use.

## 2) TECHNICAL DATA

	YAK 25 OTI
Mains power supply	230Vac 50/60Hz
Output Motor	230Vac Three-phase
Consumption	4,0 A*
Thrust	2500 N
Inverter	Yes
Operating jogging	Heavy duty
Protection level	IP44
Operating temperature	-20°C / +50°C
Gate max. weight	2500 kg
Rack module	M4 Z 18**
Opening speed	reg. 7-24 m/min
Noise level	<70 dB
Lubrication	OIL
Weight	31 kg
* RMS value	
** M6 Z13 (art. RI.P6 - opzional)	

## 3) PRELIMINARY CHECKS

For a good operation of the actuator, the gate/door to be automated shall feature the following characteristics:

- the guide track and related carriers should be adequately sized and subject to maintenance (in order to avert excessive friction during the gate sliding).
- the opening and closing stroke should be limited to a mechanical stop (according to the current safety regulation).

These preliminary checks are MANDATORY. It is expressly FORBIDDEN to use the YAK automatic system on doors and gates not in good conditions or that have not undergone a correct maintenance.

## 4) INSTALLATION

### 4.1) OVERALL DIMENSIONS

Figure 1 shows the overall dimensions of the gear motor, expressed in mm.

Given the remarkable weight of the actuator, the device should be handled by at least 2 persons.

If only the control unit is to be reached, it is sufficient to remove the 4 "A" screws by lifting the upper cover.

Loosen the 4 "B" screws (Fig. 1) and entirely remove the front side of the system. Now all elements of the systems can be accessed.

### 4.2) FOUNDATION PLATE - DIMENSIONS

Fig.2 shows the installation dimensions of the foundation plate, expressed in millimetres. Two holes have been drilled on the plate for the passage of cable. When the corrugated pipe is introduced, keep in mind that the hole to be used is the one shown in Figure 2 (ref. C).

If the rack is already installed, a fitting base, raised with respect to the floor, should be required. However, it is not advisable to lower the fitting surface.

If the rack used is the model RI.M4Z, the edge of the plate should lie perfectly parallel with respect to the door leaf and should be positioned at 33 mm.

If a different rack is used, find the correct distance by temporarily fitting it to the door/gate leaf, then place the gear motor and check that the pinion and the rack are geared together.

### 4.3) INSTALLATION OF THE FOUNDATION PLATE (FIG. 3)

Through 4 "T" screw anchors in steel (not supplied), firmly anchor the foundation plate to ground by means of 4 bolts "B" (not supplied). Use the foundation plate as drilling template.

To facilitate the fitting of bolts, 4 holes are provided on the plate (ref. F).

### 4.4) MOTOREDUCER FIXING

Fix the geared motor to the plate by means of the 4 screws V (M10x70), with the relevant plain washers R and grover washers Z, as indicated in the figure 4. The threaded holes allow for the horizontal movement of the gear motor, which is required to gear/ungear the pinion to the rack.

### 4.5) HOW TO FIT THE RACK (FIG.5)

Temporarily fit the rack by using clamps, for example. Check that the system is perfectly flat, then fit the rack to the gate with various welding points of by using adequate screws.

Keep to the tooth pitch P, even from the rack spaces. To this purpose, it might be useful to match another piece of rack (Fig. 5 - Detail C).

Lastly fix the rack with screws V, making sure that, once the actuator is installed, around 2 mm backlash is left between the rack and the drive wheel (see Fig. 6).

## 5) MANUAL OPERATION (FIG. 8-9-10)

In the event of power failure or malfunction, to manually operate the gate proceed as follows:

- After inserting the customized key C, turn it anti-clockwise and pull the lever L.
- The geared motor is unlocked and the gate can be moved by hand.
- To return to the normal operating mode, close the lever L again and manually activate the gate until it is geared.

## 6) HOW TO POSITION THE LIMIT SWITCH BRACKETS

Manually open the gate, leaving 1 - 3 cm space, according to the weight of the gate, between the gate/door and the mechanical stopper A (Fig. 12).

Then fix the bracket of the limit switch S in order that the micro-switch F of the limit switch is kept pressed.

Repeat this operation with closed gate/door.

NOTE: The limit switch bracket should be positioned in order to allow that the gate/door stops its movement without hitting the mechanical stopper.

## 7) CONNECTION TO GROUND (EARTH)

As regards the COMPULSORY earthing, a special Faston 4-pin connector fitted onto the central support is supplied. Ground connections of the mains, the upper removable side and the lower side can be connected to this Faston.

To allow an easy removal of the sides, they are not supplied pre-cabled to the connector. The installer shall provide for their connection, by using the already equipped with Faston terminal.

As regards the ground connection of the power supply line refer to instructions in the control unit.

## 8) WIRE DIAGRAM

Figure 13 shows the cables to the preset for the installation of the gear motor and the main accessories.

Before introducing the cables, check the type of cabling required for the accessories actually used.

Key of components:

- 1 Gear motor with CP.YAK OTI built-in control unit.
- 2 Rack
- 3 Limit switch brackets
- 4 Photocells
- 5 Mechanical stoppers
- 6 Key selector or digital keypad
- 7 Flashing with integrated antenna .

## 9) CP.YAK 25 OTI CONTROL UNIT

### 9.1) INPUT/OUTPUT FUNCTIONS

Terminals	Function	Description
L-N-GND	Power supply	Power input of single-phase network. L: Phase - N: Neutral - GND: Engine housing earth connection. Please note that the ground must be connected as indicated in the diagram in Fig. 11.
U-V-W	Three-phase engine	U-V-W three-phase engine connection.
Lamp	Flashing	Flashing connection 230Vac 40W max or 115Vac 40W max (YAK 25 OTI 115).
24 Vdc	24 Vdc	Power supply output accessories 24Vdc/500mA max.
SCA	SCA	Voltage free N.O. contact for open gate light 24 Vac, 0.5 A max, configurable via the AUX Parameters
Phototest	Phototest	Phototest output for verified photocells, see figure 15
COM	Common	Common for all control inputs.
OPEN	Opens	OPEN button input (N.O. contact).
CLOSE	Closes	CLOSE button input (N.O. contact).
P.P.	Step-step	Step-step button input (N.O. contact)
PED	Pedestrian	Pedestrian button input (N.O. contact)
STOP	Stop	STOP button input (N.C. contact)
PHOTO	Opening photocell	Input for photocell active only in the opening phase
PHOTC	Closing photocell	Input for photocell active only in the closing phase
COM	Common	Common for limit switch.
SWC	Closing Limit Switch	CLOSING limit switch input (N.C. contact)
SWO	Opening Limit Switch	OPENING limit switch input (N.C. contact)

BAR	Sensing safety edge	Sensing edge contact input Resistive safety edge (8K2): JP1 "BAR" closed Mechanical safety edge (N.C.): JP1 "BAR" open The intervention of the safety edge stops the movement of the gate and reverses for approximately 3s.
RADIO	Radio receiver	Quick connector for external radio receiver mod. ONE.2WI, use in wiring supplied, see figure 18.
2CH	Second channel	N.O. output of the second radio channel of the radio receiver. (max 24Vac/dc 1A)
BRAKE	Brake Resistance	Input for braking current dissipation resistance
P3		Not used
COM1		Not used
J7		Not used
J8		Not used
SW1	Dip1, Dip2	Keep it ON
U1	CONFIGURATION MEMORY	E-Eprom extractable memory. it contains all the configurations of the unit (logical, parameters, etc.), excluding radio transmitters. In case of failure it is possible to extract the E-Eprom and insert it in a different unit, thus avoiding reprogramming.
LD1	High voltage Led	Led indicating HIGH VOLTAGE
LD2	Low voltage Led	Led indicating LOW VOLTAGE

## 9.2) HOW TO CHECK CONNECTIONS

- 1) Cut off power supply.
- 2) Manually release the door/gate and push it for about half stroke. Lock the door again.
- 3) Restore power supply.
- 4) Send a step-by-step command through push-button <-> on the control unit (LCD display off). To stop the door/gate press <-> once more.
- 5) The door/gate should open. If not, set the MINV logics to change the opening direction (default MINV=OFF) Engine installed to the left.

## 10) PROGRAMMING

The programming of the various functions of the control unit is carried out using the LCD display on the control unit and setting the desired values in the programming menus described below.

The parameters menu allows you to assign a numerical value to a function, in the same way as a regulating trimmer.

The logic menu allows you to activate or deactivate a function, in the same way as setting a dip-switch.

Other special functions follow the parameters and logic menus and may vary depending on the type of control unit or the software release.

## 11) TO ACCESS PROGRAMMING

- 1 - Press the button <PG>, the display goes to the first menu, Parameters "PAR".
- 2 - With the <+> or <-> button, select the menu you want.
- 3 - Press the button <PG>, the display shows the first function available on the menu.
- 4 - With the <+> or <-> button, select the function you want.
- 5 - Press the button <PG>, the display shows the value currently set for the function selected.
- 6 - With the <+> or <-> button, select the value you intend to assign to the function.
- 7 - Press the button <PG>, the display shows the signal "PRG" which indicates that programming has been completed.

### 11.1) RUN SELF-LEARNING AND ANTI-CRUSHING DEVICE SETTING

When operator assembly and wiring is completed, parameters and logic are programmed, self learning allows the operator to learn the stroke and torque. Enter menu Auto and press the button < PG >, PUSH will be displayed.

Press again the button < PG >: self-learning is beginning: PRG will be displayed, and the control panel completes some opening/closing cycles.

When the procedure is completed OK will be displayed.

This procedure can be followed from any position of the gate/door leaf and can be stopped at any moment by pressing keys <+> and <-> at the same time, or through the activation of STOP/PHOTO/PHOTC/PHA/BAR/PP/PED inputs.

If the procedure is not successful, the wording ERR appears. Check that no obstacles or frictions are present.

After the AUTOSSET procedure it is necessary to check the value of the operating forces according to the European Standards EN12445 and EN12453.

If the value of the force is too high it is mandatory to install a safety edge which complies to the standard EN12978.

Check the value of the operative forces in accordance with EN12445 and EN12453 at the end of the autosest phase. If the value of the force is too high install an edge compliant with EN12978.

#### Notes:

Pressing <-> with the display turned off means an impulse of P.P.

Simultaneously pressing <+> and <-> from inside a function menu allows you to return to the previous menu without making any changes.

Hold down the <+> key or the <-> key to accelerate the increase/decrease of the values.

After waiting 30s the control unit quits programming mode and switches off the display.

## 12) PARAMETERS, LOGIC AND SPECIAL FUNCTIONS

The tables below describe the individual functions available in the control unit.

PARAMETERS (PAR)			
MENU	FUNCTION	MIN-MAX-(Default)	MEMO
<b>t<sub>CA</sub></b>	Automatic closure time. It is activated only with "TCA" logics :ON At the end of the preset time, the control unit starts a new closing operation.	1-240-(40s)	
<b>t<sub>PEd</sub></b>	The passage left open by the door/gate leaf during the partial opening controlled by the pedestrian inoput, is adjusted. The value is expressed in percentage on the aggregate value of the stroke.	5-100-(20%)	

<b>tSNo</b>	It adjusts the duration of the OPENING slowdown phase. The value is expressed as a percentage of the total value of the stroke. See section "How to adjust speed and braking".	10-100-(20%)	
<b>tSnc</b>	It adjusts the duration of the CLOSING slowdown phase. The value is expressed as a percentage of the total value of the stroke. See section "How to adjust speed and braking".	10-100-(20%)	
<b>FSto</b>	The opening and closing speed is adjusted. <b>IMPORTANT: Change the values of this parameter only by keeping to the weight limits shown in Table 1.</b> See section "How to adjust speed and braking".	20-120-(45)	
<b>FStc</b>	The opening and closing speed is adjusted. <b>IMPORTANT: Change the values of this parameter only by keeping to the weight limits shown in Table 1.</b> See section "How to adjust speed and braking".	20-120-(45)	
<b>SLdo</b>	Speed during braking is adjusted. See section "How to adjust speed and braking".	10-40-(25)	
<b>SLdc</b>	Speed during braking is adjusted. See section "How to adjust speed and braking".	10-40-(25)	
<b>PNo</b>	The torque applied to motor 2 in the opening* phase is adjusted.	75-99-(85%)	
<b>Pnc</b>	The torque applied to motor 2 in the closing* phase is adjusted.	75-99-(85%)	
<b>SEAr</b>	The trigger time of the anti-crash device (Encoder) is adjusted during the normal speed phase*. 0:Off-99: maximum sensibility - 1: minimum sensitivity	75-99-(60%)	
<b>SEAr</b>	The trigger time of the anti-crash device (Encoder) is adjusted during the braking phase*. 0:Off-99: maximum sensibility - 1: minimum sensitivity	75-99-(60%)	
<b>blO</b>	Stop space is adjusted after reaching the opening and closing limit switch. This value is expressed in centimetres. See section "How to adjust speed and braking".	1-10-(3)	
<b>blC</b>	Stop space is adjusted after reaching the opening and closing limit switch. This value is expressed in centimetres. See section "How to adjust speed and braking".	1-10-(3)	
<b>tLS</b>	It is activated with AUX parameter only, preset to value 1. The activation time of the service light is adjusted.	1-240-(60s)	
<b>tAcc</b>	Ramp during acceleration. Value expressed in tenths of seconds. See section "How to adjust speed and braking".	1-25-(20)	
<b>tDec</b>	Ramp during deceleration.	50-99-(50)	
<b>tbr</b>	Emergency braking, after the activation of PHOT/BAR/STOP inputs; the value is expressed in tenths of seconds (for adjustment see table 1).	1-20-(4)	
<b>SP In</b>	It adjusts the reversal distance that the gate travels following the intervention of the sensing edge (SAFETY EDGE). During the reversal phase, further interventions of the sensing edge are ignored, the intervention of the sensing edge causes stopping. If during reversal (in the OPEN and CLOSE direction) a related photocell (PHOTO or PHOTC) is active, the parameter is ignored and the reversal space must be minimal (10 cm). The minimum value 1 equals approximately 20 cm, the maximum value 4 equals approximately 60 cm.	1-4 (2)	
<b>AUX</b>	It selects the operating mode of the SCA output: 0: SCA 1: Service light. The contact closes for the time preset with TLS parameter. The countdown starts at the inception of the opening operation. 2: Area light. The contact closes in the opening phase and remains closed for the entire TCA time. It opens only with closed door. See wiring shown in figure 17.	0-2-(0)	

### LOGIC (L00)

MENU	FUNCTION	ON-OFF-(Default)	MEMO
<b>tCA</b>	Enables or disables automatic closing On: automatic closing enabled Off: automatic closing disabled	(ON)	
<b>ibl</b>	Enables or disables multi-flat function. On: multi-flat function enabled. The step-by-step and pedestrian commands have no effect during the opening phase. Off: multi-flat function disabled.	(OFF)	



<b>lbcA</b>	During the TCA phase, the PP controls are enabled or disabled. On: PP controls are disabled. Off: PP controls are enabled.	(OFF)	
<b>Scl</b>	The rapid closure is enabled or disabled. It can be activated only if TCA:ON On: enabled rapid closure. With open gate, the photocell activation causes the automatic closure after 3 s. If the photocell is activated during the opening phase, the operation is completed and closure starts after 3s Off: disabled rapid closure.	(OFF)	
<b>PP</b>	The operating mode of "P.P. Push button" and of the transmitter are selected. On: Operation : OPEN > CLOSE > OPEN > Off: Operation: OPEN > STOP > CLOSE > STOP >	(OFF)	
<b>PrE</b>	Forewarning flashing light enabled or disabled. On: enabled forewarning flashing light. The flashing light is activated 3 s before the starting of the motor. Off: disabled forewarning flashing light.	(OFF)	
<b>htr</b>	The Service Man function is enabled or disabled. On: Service Man operation. The OPEN/CLOSE push buttons should be kept pressed for the entire operating time. Off: Automatic operation.	(OFF)	
<b>LtcA</b>	During the TCA time, the blinker is enabled or disabled. On: Enables blinker. Off: Disables blinker.	(OFF)	
<b>Pho1</b>	The PHOT O input is enabled or disabled in the opening phase. On: Photocell 1 activated only in the closing phase. Off: Photocell 1 activated in both opening and closing phases.	(OFF)	
<b>Pho2</b>	The PHOT C input is enabled or disabled in the opening phase. On: Photocell 1 activated only in the closing phase. Off: Photocell 1 activated in both opening and closing phases.	(OFF)	
<b>tSt1</b>	The check on the photocell connected to PHOTO input is activated or deactivated Before operation, the control unit checks the switching of the photocell contact. The test shall be carried out following any command (PP, OPEN, CLOSE, radio, TCA) with engine off before performing the manoeuvre (even partial manoeuvres). The test is not carried out when the engine already in motion must stop and then reverse following the BAR or PHOT intervention. If the checks are not successful, the door/gate will not move. On: activated check on photocell. Off: deactivated check on photocell.	(OFF)	
<b>tSt2</b>	As for TST1, but referred to PHOTC input	(OFF)	
<b>bar</b>	It changes the mode of operation of the PHOTO inputs (photocell in OPEN) and BAR in case the sensitive safety edges are installed in the mobile opening and closing edges. On: The PHOTO input takes on a similar function to the BAR input but inverts the motion for the distance set with the SPIN parameter if the sensing edge to which it is connected is pressed during the opening phase (if the photocells in CLOSE are busy, it reverses for 10 cm). The safety edge connected to the BAR input is only active during the CLOSING phase. Off: The intervention of the sensing safety edge connected to the BAR input stops the movement of the gate and inverts the motion for the distance set with the SPIN parameter (if the photocell in the inversion direction is busy it reverses for 10cm) , both in OPENING and CLOSING. The PHOT OPEN input resumes the operation of the photocell active in opening.	(OFF)	
<b>nInu</b>	The opening direction of the motor is selected (see Fig. 4): On: Right side motor mount Off: Left side motor mount	(OFF)	
<b>horA</b>	Enable or disable the transition from Automatic to Man Present mode. The logic is associated with the state of the PED input. On: If at least one of the inputs: DAS, PHOTO or PHOTC remains active (open contact) for at least 10 seconds, regardless of the position of the door, the unit switches to Man Present mode (only the OPEN/ CLOSE/ SWO/ SWC inputs are active), after activating the PED command. For further safety purposes, it is necessary that during the OPEN/CLOSE command, the PED input is closed. Use an N.O. key for this function, with automatic release. Off: Automatic switch disabled. The logic also works with PHOTOTEST enabled. (OFF)	(OFF)	

### NUMBER OF CYCLES (nInA)

The number of cycles (open+close) completed by the system is displayed.  
When the push-button <PG> is pressed once, the first 4 digits are displayed, if the push-button is pressed once more, the last 4 digits are displayed.  
E.g. <PG> 0012 >>> <PG> 3456: 123.456 cycles were performed.

## MAINTENANCE (M<sub>A</sub>C I)

This function allows to activate the indication of maintenance required after a certain number of operations, preset by the installer.

To activate and select the number of operations, proceed as follows:

Press the <PG> button, OFF is displayed, indicating that the function is disabled (default).

Select one of the numbers shown (from OFF to 100) by using the <+> and <-> keys. The figures express the value of hundreds of cycles (e.g.: the number 50 means 5000 operations).

Press OK to activate the function. The PROG message is displayed.

When the flashing light flashes for around 10 sec at end of operation, this means that maintenance operations are needed.

## RESET (R<sub>E</sub>S)

RESET of the control unit. WARNING: Returns the control unit to the default values.

When the <PG> push-button is pressed once, the RES wording begins to flash, if the push-button <PG> is pressed once more, the control unit is reset.

Note: neither the transmitter codes nor the position and stroked of the gate leaf will be erased from the receiver.

## AUTOSET (R<sub>U</sub>L<sub>T</sub>O)

The automatic system stroke is self learned. See section "STROKE SELF-LEARNING"

## PASSWORD (C<sub>O</sub>D<sub>E</sub>)

It allows to type in an access protection code to the programming of the control unit.

A four-character alphanumeric code can be typed in by using the numbers from 0 to 9 and the letters A-B-C-D-E-F.

The default value is 0000 (four zeros) and shows the absence of a protection code.

While typing in the code, this operation can be cancelled at any moment by pressing keys + and - simultaneously. Once the password is typed in, it is possible to act on the control unit by entering and exiting the programming mode for around 10 minutes in order to allow adjustments and tests on functions.

By replacing the 0000 code with any other code, the protection of the control unit is enabled, thus preventing the access to any other menu. If a protection code is to be typed in, proceed as follows:

- select the Code menu and press OK.
- the code 0000 is shown, also in the case a protection code has been previously typed in.
- the value of the flashing character can be changed with keys + and -.
- press OK to confirm the flashing character, then confirm the following one.
- after typing in the 4 characters, a confirmation message "CONF" appears.
- after a few seconds, the code 0000 appears again
- the previously stored protection code must be reconfirmed in order to avoid any accidental typing in.

If the code corresponds to the previous one, a confirmation message "OK" appears.

The control unit automatically exits the programming phase. To gain access to the Menus again, the stored protection code must be typed in.

**IMPORTANT: TAKE NOTE of the protection code and KEEP IT IN A SAFE PLACE for future maintenance operations. To remove the code from a protected control unit, enter the programming mode with the password and reset the code to the 0000 default value.**

**IF YOU LOOSE THE CODE, PLEASE CONTACT THE AUTHORISED SERVICE CENTER FOR THE TOTAL RESET OF THE CONTROL UNIT.**

## ENGINE TYPE SELECTION (M<sub>O</sub>T)

It allows for selecting the configuration of the unit for the type of engine used.

Normally the correct value is factory preset and does not need any intervention on the part of the installer.

Only in case of replacement of the unit, it is necessary to set the correct value, each digit corresponding to a given engine model, as per the list below.

**0: YAK25/BISON35**

**1: BULL 15 OMI 230Vac**

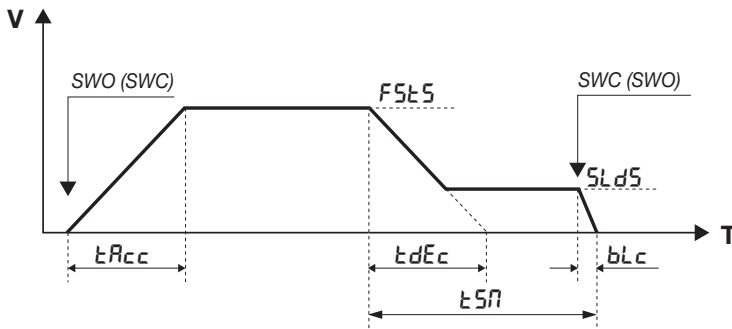
**2: BULL 15 OMAI 115Vac**

**3: NOT USED**

The display always shows the abbreviation MOT followed by the engine number currently set (example MOT.1, MOT.2).

## 13) HOW TO ADJUST SPEED AND BRAKING

The door/gate stroke is shown in the following scheme:



The V axis is the gate/door speed, T axis is the time required by the door/gate to move from a limit switch to the other. The parameters govern both the opening and the closing phases.

At gate/door stopped on any SWO (SWC) limit switch, when a control key is pressed the gate/good starts moving and reaches the standard operating speed, which can be adjusted by FSTSO/FSTSC parameter.

The TACC time sets how rapidly the gate/door should reach the standard speed.

Before meeting the SWX (SWO) stop limit switch, braking preset by TSM time will start.

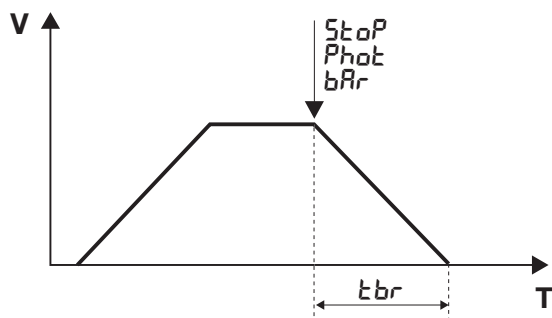
Braking leads the gate/door from standard speed (FSTSO/FSTSC) to braking speed, adjusted by SLDS parameter.

The TDEC time sets how rapidly the gate/door should reach the braking speed.

The TDEC time is theoretical by reason of the fact that as soon as the speed reaches the value preset by SLDS, braking at constant speed starts until reaching the SWC (SWO) limit switch.

Once the limit switch is reached, the gate/door continues its movement for a period of time adjusted by BLC parameter, until entire stop.

The following diagram graphically represents the stroke of the gate in case of intervention of a safety input (STOP/PHOT/BAR):



The intervention of the safety input causes an immediate slowing of the gate, the time in which the gate switches from standard speed to a complete stop is adjustable through the TBR value and must respect the values indicated in Table 1.

**IMPORTANT:**

- For the correct operation of parameters it is mandatory that the AUTOSET be carried out correctly (see STROKE LEARNING).
- If the FSTO(FSTc) speed is increased, TSMo(TSMc), TACC and TDEC values must be increased proportionally in order to avert any mechanical stress to the gear motor.
- The TBR value must be set according to those indicated in table 1, setting a TBR that is too short on a gate with strong inertia may damage the automation. A TSMo (TSMc) value, which is too short, combined with a TDEC value, which is too high, might result in the cancellation of the SLDo (SLDc) braking phase due to the gate leaf friction and the triggering of the limit switches when the speed is still high. This situation must be absolutely avoided.
- The AUTO function does not change the default values of the above-mentioned parameters. The latter must be preset by the installer according to the gate/door specifications.
- An NC contact that opens whenever the engine is unlocked or the casing is removed will also be serially wired in the BAR input with the SAFETY EDGE (or the SAFETY EDGES). Thus, in situation 1. unit powered, 2. Engine stopped, 3. SWO and SWC not engaged (i.e. engine out of limit switches), if the BAR input is activated and then reactivated (engine locked and carter inserted, ready to restart), upon the subsequent PP/OPEN/CLOSE command (also by radio) it is necessary to force a slow manoeuvre.

TABLE 1	YAK 25 OTI			
WEIGHT Kg	FSTO/FSTC Max	TBR Min	TSMO/TSMC Min	V m/1'
2500	45	1	20	10
2000	50	1	20	11
1500	60	2	20	14
1000	70	4	30	16
500	120	8	60	24

Depending on the actuator model and the weight of the gate, set the speed value in opening and closing (FSTO/FSTC), the minimum value of the TBR braking and the minimum value of the TSMO/TSMC slowdown distance.

At each combination we obtain the value of the speed of the gate (Column V) expressed in meters/minute.

Exceeding the recommended values may cause damage and malfunction, the manufacturer does not assume any responsibility arising from improper FSTO/FSTC/TBR/TSMO/TSMC value settings.

The values reported are indicative and referred to a standard installation, the installer must nevertheless ensure compliance with the limits set by the EN 12453, EN 12445 standards.

**14) AUTOSET**

For a correct operation of braking it is essential that the stroke is memorised. This can be performed either using the above described AUTO function or when the first operation is completed (then carried out without interruptions) from SWO to SWC (or viceversa).

The engine starts in SLOW mode to search for SWO, it stops, then reverses still in SLOW manoeuvre to search for SWC (determining the stroke). Then first FAST manoeuvre from SWC to SWO (ramps, speed, slowdowns determined by the TSMo/TSMc/FSTo/FSTc/SLDo/SLDc parameters set) and second fast manoeuvre from SWO to SWC.

However, these values can be manually modified at a second time.

If you manually change a parameter that requires a new acquisition, the unit will perform a complete opening and closing manoeuvre, the message "PRG" will be displayed. At the end the operation will return to normal.

It is not possible to carry out the autosest with logic HTR:ON

## 15) ERROR MESSAGES

Some messages that are displayed in the event of malfunctions are shown hereunder:

<i>Err</i>	Error N.O inputs (autoset)	If the error occurs during self-learning, check the PP/PED/OPEN/CLOSE inputs.
<i>Err 1</i>	STOP error (autoset)	STOP intervention during the autoset.
<i>Err 2</i>	Error, photocells (Autotest)	PHOTO/PHOTC intervention during the autoset.
<i>Err 4</i>	Error, sensitive edge (autoset)	BAR intervention during autoset.
<i>Err 5</i>	Error, phototest	Check the operation and correct connection of the photocells.
<i>RNP</i>	Triggering of the amperometric sensor	An obstacle or a point of friction has caused the triggering of the amperometric sensor. Remove the obstacle or check the door stroke.
<i>F01</i>		The brake connected absorbs too much.
<i>F02</i>		Short circuit on the engine. Check the impedance of the windings and the insulation between each phase of the motor and the ground.
<i>F04</i>		At power-on the bus voltage is not within the specifications. Check the supply voltage, or the correct selection of the engine according to the menu Mot.
<i>F05</i>		Over temperature detected in the unit.
<i>F06</i>		Instantaneous current threshold exceeded. Unlock the engine and check that the pinion is free to turn. If necessary, contact technical assistance.
<i>F07</i>		Instantaneous current threshold exceeded. Unlock the engine and verify that there are no excessive loads (difficulty moving) along the entire travel of the gate. If necessary, contact technical assistance.
<i>F08</i>		Exceeded maximum allowed voltage on the power bus. Check the supply voltage. Carry out the following actions in the order indicated: 1. Increase TDEC and TSMO/TSMC parameters, check intermediate stops with STOP/PP/PHOT/BAR commands, if the problem recurs, go to the following point: 2. Increase parameter TBR, check intermediate stops with STOP/PP/PHOT/BAR commands, if the problem recurs go to the following point: 3. Connect braking resistance, check intermediate stops with STOP/PP/PHOT/BAR commands, if the problem recurs go to the following point: 4. Decrease the parameters FSTO/FSTC, check intermediate stops with STOP/PP/PHOT/BAR commands.
<i>F09</i>		The values set are incorrect and the gate goes past the limit switch. Act by modifying the following parameters in order: - <i>bLα</i> / <i>bLc</i> (decrease) - <i>t5nα</i> / <i>t5nc</i> (increase) - <i>5Ldα</i> / <i>5Ldc</i> (decrease) - <i>F5tα</i> / <i>F5tc</i> (decrease)

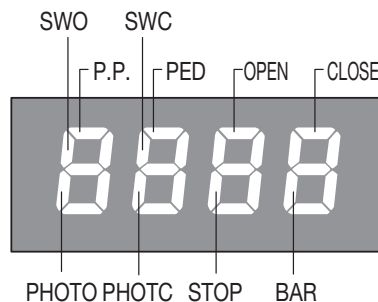
## 16) DISPLAY LCD

The LCD display can be turned by 180°.

- Cut off mains power supply
  - Press PG
  - While keeping PG pressed, reset the mains power supply
  - Keep PG pressed (around 5 sec) until the software version appears, turned by 180°.
- Normally proceed with programming.

## 17) DIAGNOSTICS

In the event of operating anomalies the status of all inputs (stop command and safety) can be displayed. One segment of the display is linked to each input. In the event of failure it switches on according to the following scheme.



LD1 LED: Mains power present. (HV)

LD2 LED: PRESENT + 5V (LV)

PHOTO: PHOT1/TST1

PHOTC: PHOT2/TST2

F4: Power supply line protection fuse 15AT.

## 18) MAINTENANCE

The following table is used to record maintenance operations, improvement or repair works carried out by the expert engineer.

Date _____	Engineer's Signature _____	Stamp
Description of operation ----- -----		
Date _____	Engineer's Signature _____	Stamp
Description of operation ----- -----		
Date _____	Engineer's Signature _____	Stamp
Description of operation ----- -----		
Date _____	Engineer's Signature _____	Stamp
Description of operation ----- -----		

### SAFETY MEASURES

- Do not stand within the gate movement area.
- Children must not play with controls and near the gate.
- In the event of malfunctions, do not attempt to repair the failure but contact the specialised personnel.

### MANUAL AND EMERGENCY MANOEUVRE

In the event of power failure or malfunction, to manually operate the gate proceed as follows:

- After inserting the customized key C, turn it anti-clockwise and pull the lever L.
- The geared motor is unlocked and the gate can be moved by hand.
- To return to the normal operating mode, close the lever L again and manually activate the gate until it is geared.

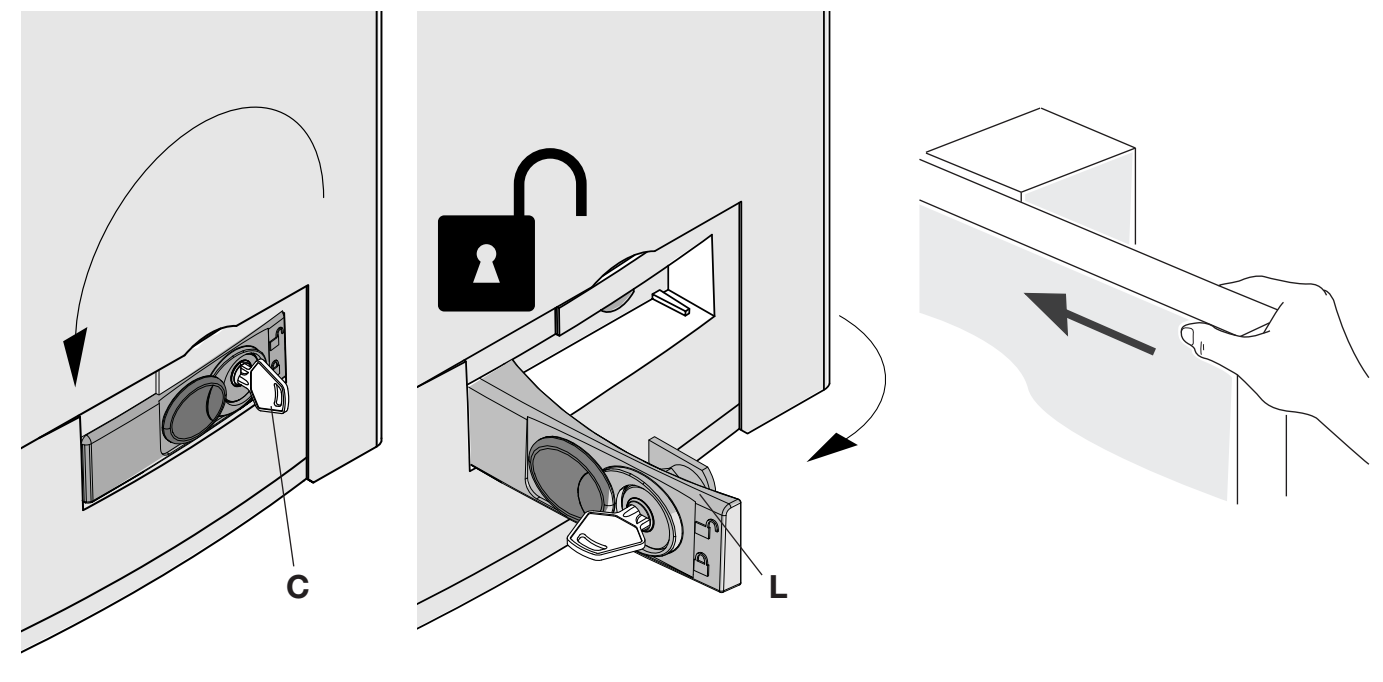
### MAINTENANCE

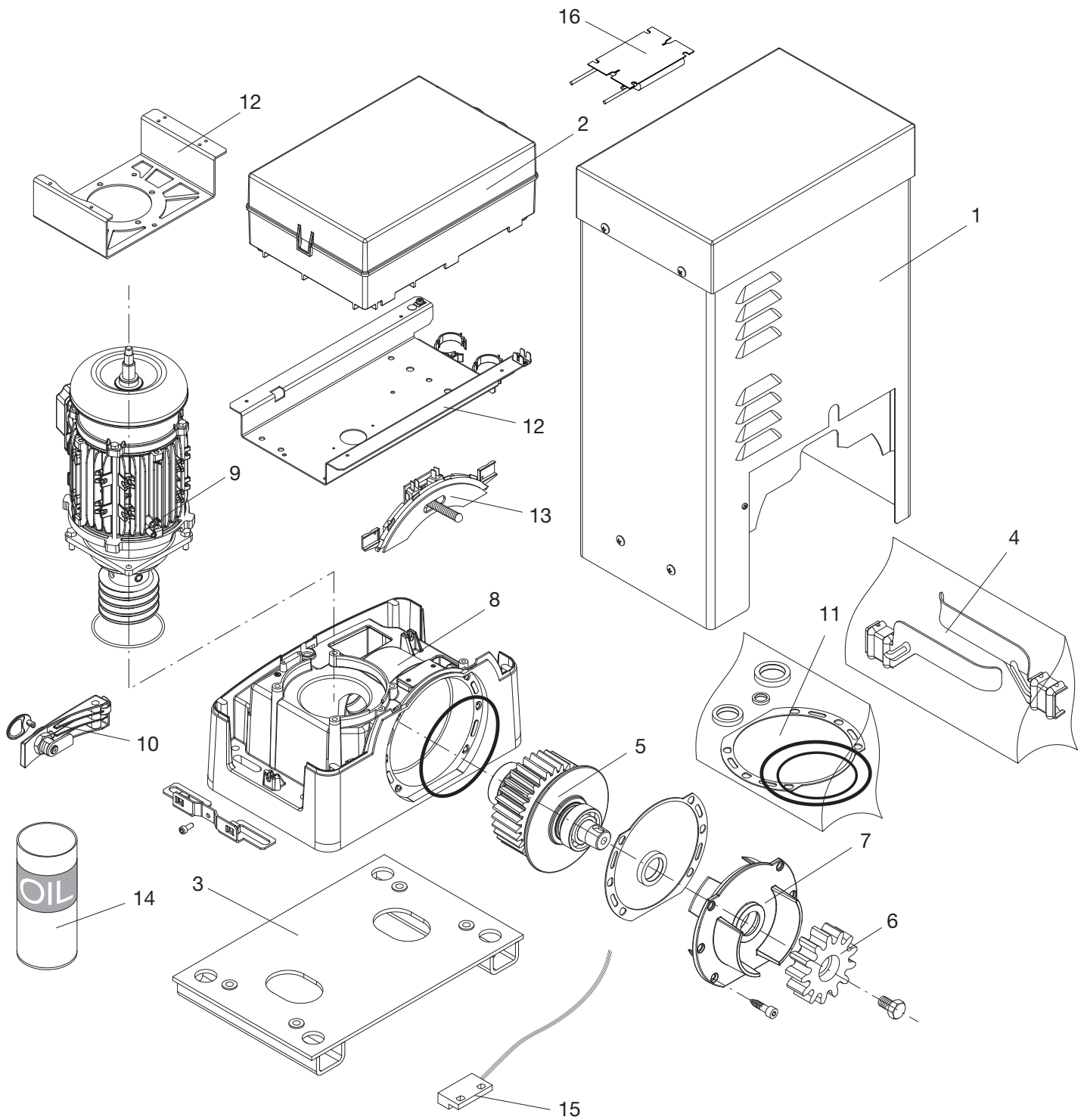
- Prepare and implement a maintenance plan.
- Every month check the good operation of the emergency manual release.
- It is mandatory not to carry out extraordinary maintenance or repairs as accidents may be caused. These operations must be carried out by qualified personnel only.
- It is necessary to check the efficiency of the safety devices and the other parts of the system that could create hazards due to wear at least every 6 months. Wear and tear of some components could cause dangers.

### WASTE DISPOSAL



As indicated by the symbol shown, it is forbidden to dispose this product as normal urban waste as some parts might be harmful for environment and human health, if they are disposed of incorrectly. Therefore, the device should be disposed in special collection platforms or given back to the reseller if a new and similar device is purchased. An incorrect disposal of the device will result in fines applied to the user, as provided for by regulations in force.





YAK 25 OTI 230V					
Ref.	Code	Note	Ref.	Code	Note
1	9688267		9	9686662	
2	9688255		10	9688317	
3	9623005	BULL.PI	11	9686694	
4	9688266		12	9688269	
5	9686649		13	9688282	
6	9686032		14	9688109	
7	9686335		15	9688318	
8	9688319		16	9688350	

## Dichiarazione di Conformità UE (DoC)

Nome del produttore: **Automatismi Benincà SpA**  
Indirizzo: **Via Capitello, 45 - 36066 Sandrigo (VI) - Italia**  
Telefono: **+39 0444 751030** Indirizzo e-mail: **sales@beninca.it**  
Persona autorizzata a costruire la documentazione tecnica: **Automatismi Benincà SpA**  
Tipo di prodotto: **Attuatore elettromeccanico per cancelli scorrevoli**  
Modello/Tipo: **YAK25.OTI**  
Accessori: **N/A**

Il sottoscritto Luigi Benincà, in qualità di Responsabile Legale, dichiara sotto la propria responsabilità che il prodotto sopraindicato risulta conforme alle disposizioni imposte dalle seguenti direttive:

**Direttiva 2014/30/UE** del Parlamento europeo e del Consiglio, del 26 febbraio 2014, concernente l'armonizzazione delle legislazioni degli Stati membri relative alla compatibilità elettromagnetica (**EMCD**), secondo le seguenti norme armonizzate:  
EN 61000-6-2:2005, EN 61000-6-3:2007.

**Direttiva 2014/35/EU** DEL PARLAMENTO EUROPEO E DEL CONSIGLIO del 26 febbraio 2014 concernente l'armonizzazione delle legislazioni degli Stati membri relative alla messa a disposizione sul mercato del materiale elettrico destinato ad essere adoperato entro taluni limiti di tensione (**LVD**), secondo le seguenti norme armonizzate:  
EN 60335-1:2012 + A11:2014; EN 60335-2-103:2015.

**Direttiva 2011/65/UE** del Parlamento europeo e del Consiglio, dell' 8 giugno 2011, sulla restrizione dell'uso di determinate sostanze pericolose nelle apparecchiature elettriche ed elettroniche (**RoHS**), secondo le seguenti norme armonizzate:  
EN 50581:2012

**Direttiva 1999/5/CE** del Parlamento europeo e del Consiglio, del 9 marzo 1999, riguardante le apparecchiature radio e le apparecchiature terminali di telecomunicazione e il reciproco riconoscimento della loro conformità (**R&TTE**), secondo le seguenti norme armonizzate:  
ETSI EN 301 489-3 V1.4.1 (2002) + ETSI EN 301 489-1 V1.4.1 (2002) + ETSI EN 300 220-3 V1.1.1 (2000) + EN 60950-1 (2001)

**Direttiva 2006/42/CE** DEL PARLAMENTO EUROPEO E DEL CONSIGLIO del 17 maggio 2006 relativa alle macchine e che modifica la direttiva 95/16/CE, rispettando i requisiti per le "quasi macchine", secondo la seguente norma: EN13241-1:2003.

• Il produttore dichiara, inoltre, che la documentazione tecnica pertinente è stata compilata in conformità all'allegato VII B della direttiva 2006/42/CE e che sono stati rispettati i seguenti requisiti essenziali:

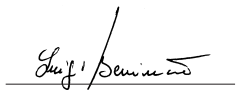
1.1.1 - 1.1.2 - 1.1.3 - 1.1.5 - 1.2.1 - 1.2.3 - 1.2.6 - 1.3.1 - 1.3.2 - 1.3.3 - 1.3.4 - 1.3.7 - 1.3.9 - 1.5.1 - 1.5.2 - 1.5.4 - 1.5.5 - 1.5.6 - 1.5.7 - 1.5.8 - 1.5.10 - 1.5.11 - 1.5.13 - 1.6.1 - 1.6.2 - 1.6.4 - 1.7.2 - 1.7.4 - 1.7.4.1 - 1.7.4.2 - 1.7.4.3.

• Il produttore si impegna a trasmettere alle autorità nazionali, in risposta ad una motivata richiesta, le informazioni pertinenti sulla "quasi macchina". L'impegno comprende le modalità di trasmissione e lascia impregiudicati i diritti di proprietà intellettuale del fabbricante della "quasi macchina".

• Si comunica che la "quasi macchina" non deve essere messa in servizio finché la macchina finale in cui deve essere incorporata non è stata dichiarata conforme, se del caso, alle disposizioni della direttiva 2006/42/CE.

• Inoltre il prodotto, limitatamente alle parti applicabili, risulta conforme alle seguenti norme:  
EN 12445:2002, EN 12453:2002, EN 12978:2003.

Benincà Luigi, Responsabile legale.  
Sandrigo, 07/02/2017.



Il Certificato di Conformità di questo documento corrisponde all'ultima revisione disponibile al momento della stampa e può risultare differente per esigenze editoriali dall'originale disponibile presso il produttore.

Il Certificato di Conformità più completo e recente è disponibile consultando il sito: [www.beninca.com](http://www.beninca.com) oppure può essere richiesto presso: Automatismi Benincà S.p.A - Sandrigo VI - Italy.

## UE Declaration of Conformity (DoC)

Manufacturer's name: **Automatismi Benincà SpA**  
Address: **Via Capitello, 45 - 36066 Sandrigo (VI) - Italia**  
Telephone: **+39 0444 751030** Email address: **sales@beninca.it**  
Person authorised to draft the technical documentation: **Automatismi Benincà SpA**  
Product type: **Electromechanical motor for sliding gates**  
Model/type: **YAK25.OTI**  
Accessories: **N/A**

The undersigned Luigi Benincà, as the Legal Officer, declares under his liability that the aforementioned product complies with the provisions established by the following directives:

**Directive 2014/30/UE** OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014, on the harmonisation of the laws of Member States relating to electromagnetic compatibility (**EMCD**), according to the following harmonised regulations:  
EN 61000-6-2:2005, EN 61000-6-3:2007 + A1:2011.

**Directive 2014/35/UE** OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014, on the harmonisation of the laws of Member States relating to electrical equipment designed for use with certain voltage limits (**LVD**), according to the following harmonised regulations:  
EN 60335-1:2012 + A11:2014; EN 60335-2-103:2015.

**Directive 2011/65/UE** of the European Parliament and Council, dated 8 June 2011, on the restricted use of certain hazardous substances in electrical and electronic devices (**RoHS**), according to the following standards:  
EN 50581:2012

**Directive 1999/5/CE** OF THE EUROPEAN PARLIAMENT AND COUNCIL, 9 March 1999 in relation to radio equipment and telecommunications terminals and the mutual recognition of their conformity (**R&TTE**), per the following harmonised standards:

ETSI EN 301 489-3 V1.4.1 (2002) + ETSI EN 301 489-1 V1.4.1 (2002) + ETSI EN 300 220-3 V1.1.1 (2000) + EN 60950-1 (2001)

**Directive 2006/42/EC** OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 May 2006, on machinery, which amends Directive 95/16/EC, and complies with the requisites for the "partly completed machinery (almost machinery)" set forth in the EN13241-1:2003 regulation.

• The manufacturer declares that the pertaining technical documentation has been drawn up in compliance with Attachment VII B of the 2006/42/ EC Directive and that the following requirements have been complied with:

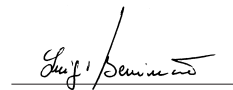
1.1.1 - 1.1.2 - 1.1.3 - 1.1.5 - 1.2.1 - 1.2.3 - 1.2.6 - 1.3.1 - 1.3.2 - 1.3.3 - 1.3.4 - 1.3.7 - 1.3.9 - 1.5.1 - 1.5.2 - 1.5.4 - 1.5.5 - 1.5.6 - 1.5.7 - 1.5.8 - 1.5.10 - 1.5.11 - 1.5.13 - 1.6.1 - 1.6.2 - 1.6.4 - 1.7.2 - 1.7.4 - 1.7.4.1 - 1.7.4.2 - 1.7.4.3.

• The manufacturer undertakes that information on the "partly completed machinery" will be sent to domestic authorities. Transmission ways are also included in the undertaking, and the Manufacturer's intellectual property rights of the "almost machinery" are respected.

• It is highlighted that commissioning of the "partly completed machinery" shall not be provided until the final machinery, in which it should be incorporated, is declared compliant, if applicable, with provisions set forth in the Directive 2006/42/EC on Machinery.

• Moreover, the product, as applicable, is compliant with the following regulations:  
EN 12445:2002, EN 12453:2002, EN 12978:2003

Benincà Luigi, Legal Officer.  
Sandrigo, 07/02/2017.



The certificate of conformity in this document corresponds to the last review available at the time of printing and could differ for editorial requirements from the original available from the manufacturer.

The most recent and complete certificate of conformity is available consulting the site: [www.beninca.com](http://www.beninca.com) or can be requested from: Automatismi Benincà SpA - Sandrigo VI - ITALY.



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