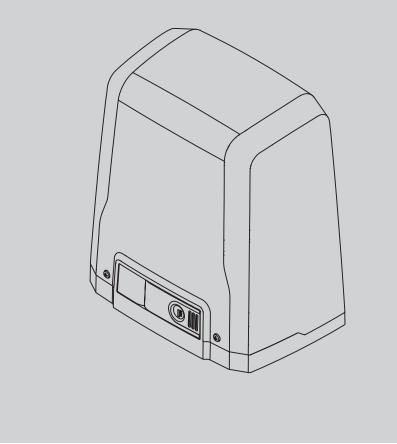


ATTUATORE PER CANCELLI SCORREVOLI A CREMAGLIERA **ACTUATOR FOR RACK SLIDING GATES ACTIONNEUR POUR PORTAILS COULISSANTS A CREMAILLERE** ANTRIEB FÜR ZAHNSTANGEN-SCHIEBETORE SERVOMOTOR PARA CANCELAS CORREDERAS DE CREMALLERA **ACTUATOR VOOR SCHUIFHEKKEN MET TANDHEUGEL**



INSTALLATION AND USER'S MANUAL
INSTRUCTIONS D'UTILISATION ET D'INSTALLATION
INSTALLATIONS-UND GEBRAUCHSANLEITUNG
INSTRUCCIONES DE USO Y DE INSTALACION
INSTALLATIEVOORSCHRIFTEN ISTRUZIONI D'USO E DI INSTALLAZIONE





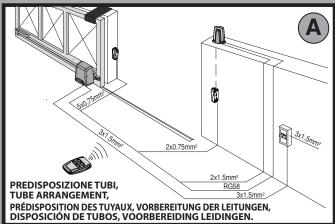


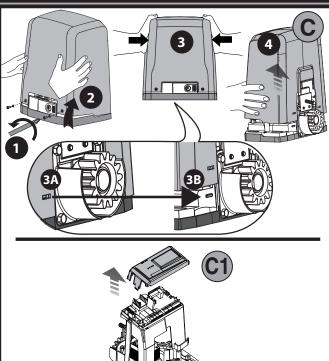


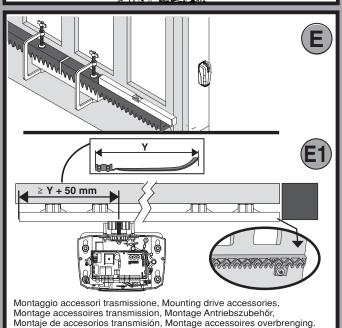


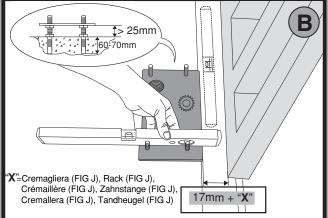
AZIENDA CON SISTEMA DI GESTIONE CERTIFICATO DA DNV GL = ISO 9001 = = ISO 14001 =

INSTALLAZIONE VELOCE-QUICK INSTALLATION-INSTALLATION RAPIDE SCHNELLINSTALLATION-INSTALACIÓN RÁPIDA - SNELLE INSTALLATIE

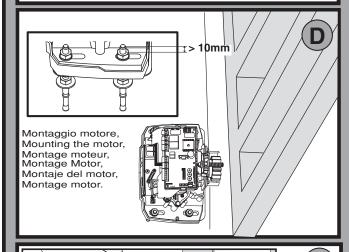


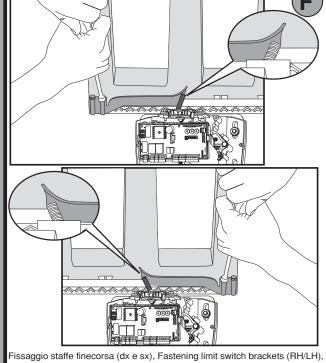




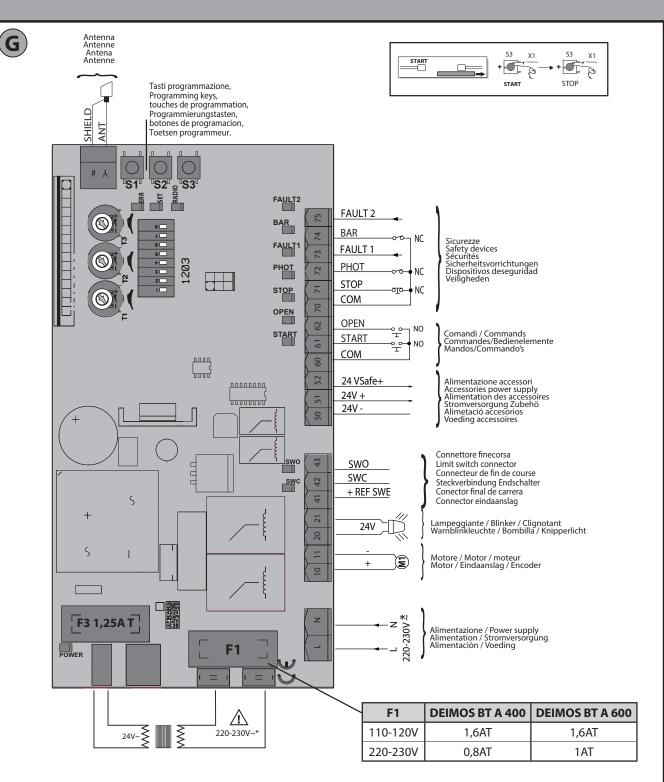


Predisposizione fissaggio motore, Preparation for motor mounting, Aménagement fixation moteur, Vorbereitung Motorbefestigung, Disposición fijación del motor, Voorbereiding bevestiging motor.

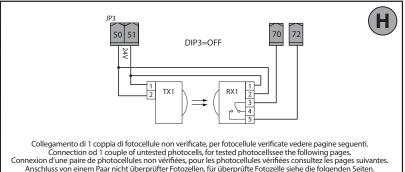




Fissaggio staffe finecorsa (dx e sx), Fastening limit switch brackets (RH/LH), Fixation étriers fin de course (drt et gch), Befestigung Bügel Anschläge (rechts und links), Fijación abrazaderas final de carrera (der. e izq.), Bevestiging stangen aanslag (rechts en links).

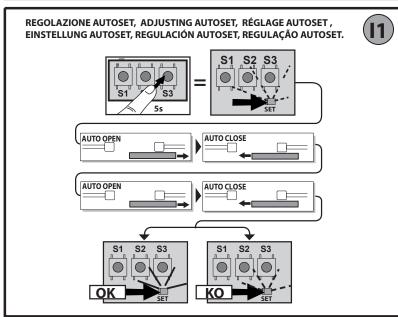


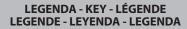
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Collegamento di 1 coppia di fotocellule non verificate, per fotocellule verificate vedere pagine seguenti.
Connection od 1 couple of untested photocells, for tested photocellssee the following pages.
Connexion d'une paire de photocellules non vérifiées, pour les photocellules vérifiées consultez les pages suivantes.
Anschluss von einem Paar nicht überprüfter Fotozellen, für überprüfte Fotozelle siehe die folgenden Seiten.
Conexión de 1 par de fotocélulas no comprobadas, para fotocélulas comprobadas véanse las siguientes páginas.
Aansluiting van 1 paar niet-geverifieerde fotocellen. Raadpleeg de volgende pagina's voor geverifieeerde fotocellen.







Steadily lit Fixe Ununterbrochen an Fijo Continu

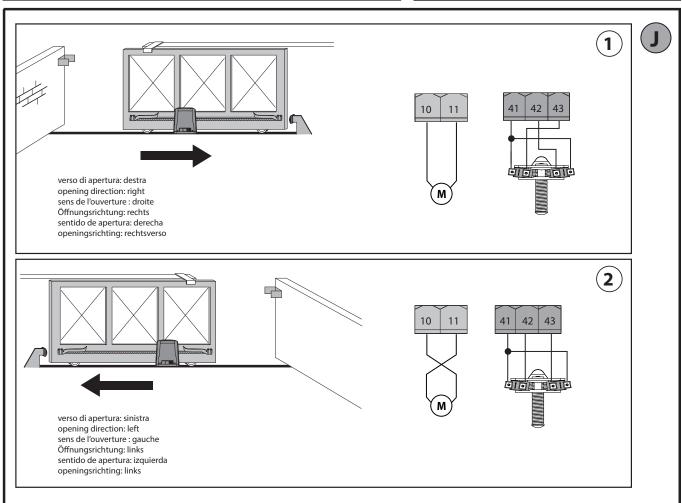


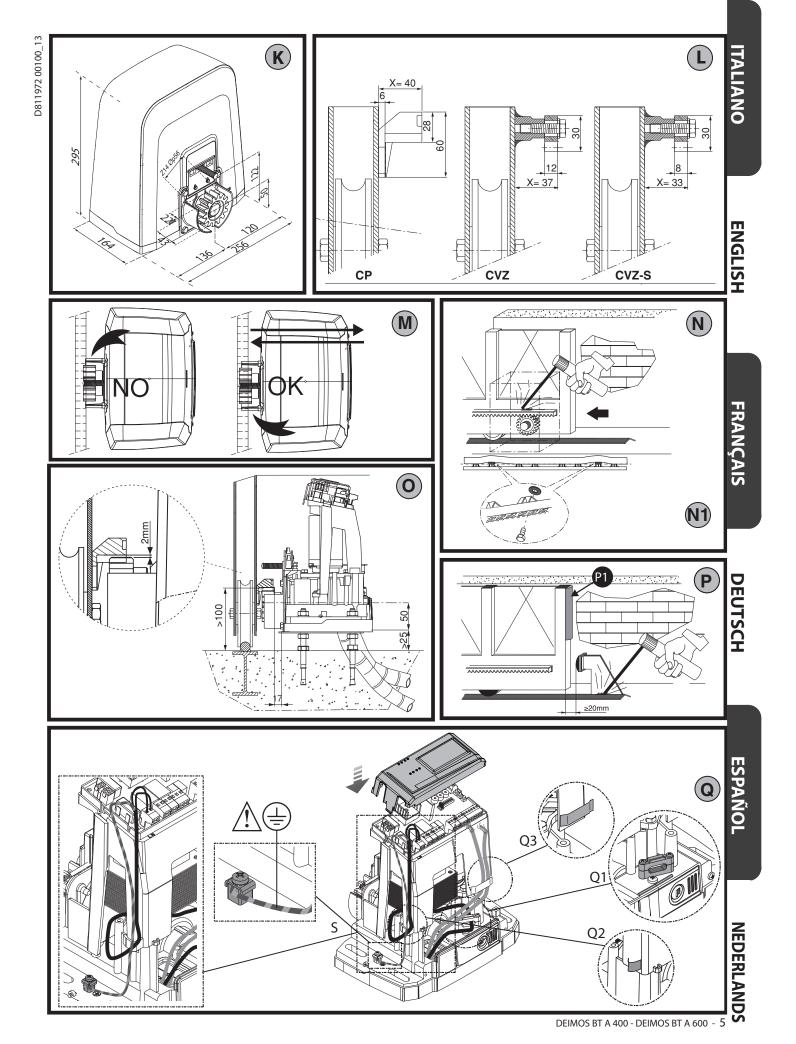
Lampeggio continuo Continuous flashing Clignotement continu Kontinuierliches Blinken Parpadeo continuo Continu knipperen



Lampeggio intermittente Intermittent flashing Clignotement intermittent intermittierendes Blinken Parpadeo intermitente Met intervallen knipperen







1) GENERAL INFORMATION

The **DEIMOS BT A** actuator is highly versatile in terms of installation options due to the extremely low position of the pinion, the actuator's compact nature and the height and depth adjustment features it offers. The adjustable electronic torque limiter provides anti-crush safety. Manual emergency operation is extremely easy to perform using just a release lever.

Stopping at end of travel is controlled by electromechanical microswitches. The **HAMAL** control panel comes with standard factory settings

Any change must be set by means of the TRIMMER and DIP SWITCH settings.

Its main features are:

- Control of 1 low-voltage motor
- Obstacle detection
- Separate inputs for safety devices
- Built-in radio receiver rolling code with transmitter cloning.

The board has a terminal strip of the removable kind to make maintenance or replacement easier. It comes with a series of prewired jumpers to make the installer's job on site easier. The jumpers concern terminals: 70-71, 70-72, 70-74. If the above-mentioned terminals are being used, remove the relevant jumpers.

TESTING

The HAMAL panel controls (checks) the start relays and safety devices (photocells) before performing each opening and closing cycle.

If there is a malfunction, make sure that the connected devices are working properly and check the wiring.

MOTOR

2) TECHNICAL SPECIFICATIONS

	400	600	
Power supply	110-120V 50/60Hz 220-230V 50/60 Hz(*)	110-120V 50/60Hz 220-230V 50/60 Hz(*)	
Motor	24V 	24V 	
Power input	50W	70W	
Max. current demand	0,5A (230V~) - 1A (110V~)	0,5A (230V~) - 1A (110V~)	
Pinion module (standard)	4mm (14 teeth)	4mm (14 teeth)	
Leaf speed (standard)	12m/min	12m/min	
Max.leafweight-standard**	4000N (≈400kg)	6000N (≈600kg)	
Pinion module (fast)	4mm (18 teeth)	4mm (18 teeth)	
Leaf speed (fast)	15.5m/min	15.5m/min	
Max. leaf weight - fast**	3000N (≈300kg)	3600N (≈360kg)	
Max. torque	20Nm	30Nm	
Impact reaction	Electronic torque limiter	Electronic torque limiter	
Lubrication	Lifetime greased	Lifetime greased	
Manual operation	Lever-operated mechanical release	Lever-operated mechanical release	
Type of use	intensive	intensive	
Buffer batteries (optional extras)	Two 12V 1.2Ah bat- teries	Two 12V 1.2Ah bat- teries	
Environmental conditions	from -20°C to +55°C	from -20°C to +55°C	
Protection rating	IP24	IP24	
Noise level	<70dBA	<70dBA	
Operator weight	7kg (≈70N)	7kg (≈70N)	
Dimensions	See Fig. K	See Fig. K	
	CONTROL UNIT		
Low voltage/mains insulation	> 2MOhm 500V 		
Operating temperature range	-20 / +55°C		
Thermal overload protection	Software		
Dielectric rigidity	mains/LV 3750V~ for 1	minute	
Accessories power supply	24V~ (demand max. 0,2A) 24V~safe		
AUX 0 - BLINKER	NO 24V~powered contact (max.1A)		
Fuses	Fig. G		
Built-in Rolling-Code radio-receiver	frequency 433.92MHz		
Setting of parameters and logics	TRIMMER + DIP SWITCH		
N° of combinations	4 billion		
Max. n° of remotes that can			

Maximum work time	3 minutes	
Pedestrian opening space	30% of the total travel (not modifiable)	

(*) Special supply voltages to order.

** There are no minimum or maximum dimension restrictions for the guided part that can be used

Usable transmitter versions: All ROLLING CODE transmitters compatible with



3) TUBE ARRANGEMENT Fig.A

Install the electrical system referring to the standards in force for electrical systems CEI 64-8, IEC 364, harmonization document HD 384 and other national standards.

4) PREPARATION FOR MOTOR MOUNTING FIG.B

Make a hole in the ground to accommodate the concrete pad, with anchors embedded in the base plate for fastening the gearbox assembly, keeping to the distances featured in FIG.B.

5) REMOVING THE COVER Fig.C

- Unscrew the relevant two front screws (FIG. C rif.1)
- Push as illustrated (FIG.C rif.2 rif.3) to release the cover from the two rear blocks (FIG.C - rif.3A e FIG.C - rif.3B).
- Lift the cover (FIG.C rif.4).

6) MOUNTING THE MOTOR FIG.D

7) MOUNTING DRIVE ACCESSORIES FIG.E-E1

Recommended rack types (FIG.L)

8) RACK CENTRING WITH RESPECT TO PINION FIG.M-N1-O

DANGER - Welding must be performed by a competent person issued with the necessary personal protective equipment as prescribed by the safety rules in force FIG.L.

9) FASTENING LIMIT SWITCH BRACKETS FIG.F

10) STOPS FIG.P

DANGER - The gate must be fitted with mechanical stops to halt its travel both when opening and closing, thus preventing the gate from coming off the top guide. Said stops must be fastened firmly to the ground, a few centimetres beyond the electric stop point.

Note: the safety edge P1 must be installed so that it is not triggered by the mechanical stops.

11) MANUAL RELEASE (See USER GUIDE -FIG.3-).

Warning Do not JERK the gate open and closed, instead push it GENTLY to the end of its travel.

12) TERMINAL BOARD WIRING Fig. G-Q

Once suitable electric cables have been run through the raceways and the automated device's various components have been fastened at the predetermined points, the next step is to connect them as directed and illustrated in the diagrams contained in the relevant instruction manuals. Connect the live, neutral and earth wire (compulsory). The mains cable must be clamped in the relevant cable gland (FIG.Q-ref.Q1) and in the grommet (FIG.Q-ref.Q2), while the earth wire with the yellow/green-coloured sheath must be connected in the relevant terminal (FIG.Q-ref.S) and the extra low voltage wires must be run through the relevant grommet (FIG.Q ref.Q3).

WARNINGS - When performing wiring and installation, refer to the standards in force and, whatever the case, apply good practice principles. Wires carrying different voltages must be kept physically separate from each other, or they must be suitably insulated with at least 1mm of additional insulation.

Wires must be secured with additional fastening near the terminals, using devices such as cable clamps. All connecting cables must be kept far enough away from dissipaters.

12.1) LOCAL COMMANDS Fig. G

Pressing the S3 key commands one START. By pressing the key again while the automated device is moving a STOP is commanded.

13) SAFETY DEVICES

Note: only use receiving safety devices with free changeover contact.

13.1) TESTED DEVICES Fig.R

13.2) CONNECTION OF 1 PAIR OF NON-TESTED PHOTOCELLS FIG. H

14) MEMORIZING TRANSMITTERS FIG. I

RADIO

IMPORTANT NOTE: THE FIRST TRANSMITTER MEMORIZED MUST BE IDENTIFIED BY ATTACHING THE KEY LABEL (MASTER).

In the event of manual programming, the first transmitter assigns the RECEIVER'S KEY CODE: this code is required to subsequently clone the radio transmitters. The Clonix built-in on-board receiver also has a number of important advanced features:

- Cloning of master transmitter (rolling code or fixed code).
- Cloning to replace transmitters already entered in receiver.

	Terminal	Definition	Description						
	L	LINE	Cin als also as	·					
Power supply	N	NEUTRAL	Single-phase p	Single-phase power supply 220-230V ~50/60 Hz*					
	JP31 JP32	TRANSF PRIM	Transformer pr	Transformer primary winding connection, 220-230V ~.					
Po	JP13	TRANSF SEC		Board power supply: 24V~Transformer secondary winding					
Motor	10	MOT +	Connection me	Connection motor 1					
ĕ	11	MOT -	Connection	0.001 1					
Aux	20	AUX 0 -BLINKER 24V (N.O.) (MAX. 1A)	Contact stays o	losed while	e leaf is operatin	ng.			
it hes	41	+REF SWE	Limit switch co	Limit switch common					
Limit	42	SWC		Closing limit switch SWC (N.C.)					
	43	SWO	Opening limit	Opening limit switch SWO (N.C.)					
er er ly	50	24V-	Accessories po	Accessories power supply output.					
Accessories power supply	51	24V+	Tested safety d	Tested safety device power supply output (photocell transmitter and safety edge transmitter).					
Ace	52	24 Vsafe+		Output active only during operating cycle.					
	60	Common	START and OP	START and OPEN inputs common					
		Only active on FW < 3.03							
spu		START	START commai Operation acco	nd button (ording to "3	N.O.). /4-STEP" logic				
maı	61	Operation according to 3,4+31£F logic Only active on FW ≥ 3.03							
Commands		START	START comma Operation acco	START command button (N.O.). Operation according to "Residential / apartment building operation" logic					
	62	OPEN	OPEN command button (N.O.). Gate opened with this command. If the input stays closed, the leaves stay open until the contact is opened. When the contact is open, the automated device closes following the TCA time, where activated.						
	70	Common	STOP, PHOT and BAR inputs common						
	71	STOP	The command If not used, lea	The command stops movement. (N.C.) If not used, leave jumper inserted.					
	72	PHOT (*)	PHOTOCELL in Operation acco	PHOTOCELL input (N.C.). Operation according to "PHOTOCELL/PHOTOCELL DURING CLOSING" logic. If not used, leave jumper inserted.					
	73	FAULT 1 Test input for safety devices connected to PHOT.							
		Only active on FW < 3.03							
		BAR safety edge input (N.C.). Configurable according to the "BAR/ 8K2" logic. The command reverses movement for 2 sec. If not used, leave jumper inserted.							
Š.					nly active on FV	N ≥ 3.03			
evice			Safety edge inp	Safety edge input (N.C.). If not used, leave jumper inserted					
Safety devices		BAR / BAR CL / BAR TEST / BAR CL TEST / BAR 8K2 / BAR CL 8K2 (*)	BAR/8K2 S	afety edge heck dip	Safety edge operation dip				
Š	74			OFF	OFF	NC input, no verification, reversal while opening and closing (BAR)			
			OFF	OFF	ON	NC input, no verification, reversal only when closing, stop when opening (BAR CL)			
			OFF C	ON	OFF	NC input, with verification, reversal while opening and closing (BAR TEST)			
			OFF C	ON	ON	NC input, with verification, reversal only when closing, stop when opening (BAR CL TEST)			
				OFF	OFF	8K2 input, reversal when opening and closing (BAR 8K2)			
			ON	DFF	ON	8K2 input, reversal only when closing, stop when opening (BAR CL 8K2)			
				ON	OFF				
				ON	ON				
	75	FAULT 2		Test input for safety devices connected to BAR.					
Antenna	Υ	ANTENNA	Use an antenna	Antenna input. Use an antenna tuned to 433MHz. Use RG58 coax cable to connect the Antenna and Receiver. Metal bodies					
Ant	#	SHIELD	to a more suita	close to the antenna can interfere with radio reception. If the transmitter's range is limited, move the antenna to a more suitable position.					

^{*)} If "D" type devices are installed (as defined by EN12453), connect in unverified mode, foresee mandatory maintenance at least every six months.

TABLE "A" - PARAMETERS

TRIMMER	Parameter	min.	max.	Description	
T1	Automatic closing time [s]	0	120	Waiting time before automatic closing. NOTE: Set to 0 if not used.	
Т2	Leaf force [%]	10	90	Force exerted by leaf/leaves. This is the percentage of force delivered, beyond the force stored during the autoset cycle (and subsequently updated), before an obstacle alarm is generated. WARNING: It affects impact force directly: make sure that current safety requirements are met with the set value (*). Install anti-crush safety devices where necessary.	
Т3	Slow-down distance [%]	1(***)	50	Set opening slow-down speed as a percentage of total travel. This distance is travelled at low speed. NOTE: When this parameter is edited, a new Autoset cycle must be run to confirm it.	

^(*) In the European Union, apply standard EN 12453 for force limitations, and standard EN 12445 for measuring method. (***) If the calculated value is less than 30 cm, it is set to 30 cm.

			IN	ISTALLATION MANUAL					
ABLE "B"	- LOGICS								
DIP	Logic	Default	Cross out setting used	Description					
1	Transmitter programming	ON	ON	Enables wireless memorizing of transmitters: 1- Press in sequence the hidden key and normal key (T1-T2-T3-T4) of a transmitter that has alread been memorized in standard mode via the radio menu. 2- Press within 10 sec. the hidden key and normal key (T1-T2-T3-T4) of a transmitter to be memorized. The receiver exits programming mode after 10 sec.: you can use this time to enter other new transmitters. This mode does not require access to the control panel. IMPORTANT: Enables the automatic addition of new transmitters, clones and replays.					
			OFF	Disables wireless memorizing of transmitters and Transmitters are memorized only using the relev IMPORTANT: Disables the automatic addition of a	d automatic addition of clo ant Radio menu or automates new transmitters and clon	ones. atically with re	eplays.		
	DAD / OK2	OFF	ON	Input configured as Bar 8k2. Input for resisti The command reverses movement for 2 sec	ve edge 8K2.				
2	BAR/8K2	OFF	OFF	Input configured as Bar, safety edge. The command reverses movement for 2 sec					
3	Photocell input	OFF	ON	Enable safety check on the PHOT input	Enable safety check on the PHOT input				
3	check	OFF	OFF	Safety check on PHOT input not enabled					
4	Education of the sta	055	ON	Enable safety check on the BAR input					
4	Edge input check	OFF	OFF	Safety check on BAR input not enabled					
	Photocells		ON	In the event beam is broken, photocell oper movement is reversed immediately.	ation is disabled during	g opening. D	uring clos		
5	during closing	OFF	OFF	When beam is broken, photocells a sing. When beam is broken during clophotocell is cleared.	re active during bo osing, movement is r	oth openin reversed on	g and lly once		
				Only active on FW < 3.03	1				
			ON	Closes 3 seconds after the photocells are cle	ared before waiting for	the set TCA	to elapse.		
6	Fast closing	OFF	OFF	Logic not enabled					
	Block pulses	İ	ON	The start pulse has no effect during opening].				
7	during opening	OFF	OFF	The start pulse has effect during opening.					
			ON	Switches to 3-step logic; during closing, start reverses movement.		3 step	4 step		
8	3-step logic	OFF	OFF	Switches to 4-step logic.	DURING CLOSING OPEN DURING OPENING AFTER STOP	opens closes stop + TCA opens	stop closes stop + TCA		
						-			
		1	ON	Only active on FW ≥ 3.03		l			
6	Safety edge input operation	OFF	ON	Safety edge with active reversal only when c		ne moveme	nt stops		
	.,		OFF	Safety edge with active reversal in both direction					
7	Fast closing	OFF	ON	Closes 3 seconds after the photocells are cle	eared before waiting for	the set ICA	to elapse.		
			OFF	Logic not enabled					
		-	ON	Sets the automation type of operation: ON = Apartment building					
			OFF	OFF = Residential					
				Reaction to the START input (wired or radio	·				
				Residential Apartme CLOSED Opens Opens	nt building				
				WHILE CLOSING Stops Opens OPEN Closes Closes					
				WHILE OPENING STOPS + TCA No effect					
8				AFTER STOP Opens Opens					
	Residential / apartment building	OFF		Reaction to the OPEN input (wired): Residential Apartme	nt building				
	building operation			CLOSED Opens Opens	nt bunuing				
				WHILE CLOSING Opens Opens OPEN No effect No effect					
				WHILE OPENING Keeps it open Keeps it o					
				AFTER STOP Opens Opens					
				Reaction to the PEDESTRIAN input (radio):	nt huildin -				
				CLOSED Opens partially Opens pa	nt building rtially				
	I .			WHILE CLOSING Stops Opens pa	rtially				
				ODENI ICIOSOS ICIOSOS					
				OPEN Closes Closes WHILE OPENING STOPS + TCA No effect					

- Transmitter database management.
- Receiver community management.

To use these advanced features, refer to the universal handheld programmer's instructions and to the general receiver programming guide.

15) AUTOSET ADJUSTMENT FIG. I1

Enables Motor Torque to be set automatically.

If the power is suddenly disconnected and then restored the automation performs the operations at autoset speed till the travel limits are identified.

WARNING!! The autoset operation must be performed only once you have checked that the leaf is moving accurately (opening/closing) and that the mechanical stops are positioned correctly.

You must run an autoset cycle whenever the slow-down distance (T3)

WARNING! While the autoset function is running, the obstacle detection function is not active. Consequently, the installer must monitor the automated device's movements and keep people and property out of range of the automated device. WARNING: the torque values set by the autoset function refer to the motor force set during the autoset cycle. If motor force is edited, an autoset opening and closing cycle will need to be performed again.

WARNING: check that the force of impact measured at the points provided for by standard EN 12445 is lower than the value laid down by standard EN 12453. Setting sensitivity incorrectly can result in damage to property and injury to people and animals.

16) REVERSING THE OPENING DIRECTION (Fig.S)

KEYS

KEYS	Description	
S 1	Add Start Key associates the desired key with the Start command.	
S2	Add Pedestrian Key associates the desired key with the pedestrian command. (Pedestrian opening space, see technical specifications)	
S2 >5s	Confirms the changes made to parameter settings and operating	
S1+S2 >10s		
S3	Pressed BRIEFLY, it gives the START command.	
33	HELD DOWN (>5 sec.), it activates the AUTOSET function.	

LED INDICATORS:

POWER	Steadily lit: - Mains power on - Board powered - Fuse F1 intact				
START	Lit: START input activated				
OPEN	Lit: OPEN input activated				
STOP	Unlit: STOP input activated				
PHOT	Unlit: PHOT photocell input activated				
FAULT 1	PHOT input safety device test input diagnostics				
BAR	Unlit: BAR safety edge input activated				
FAULT 2	BAR input safety device test input diagnostics				
swc	Unlit: leaf fully closed				
SWC	Lit: motor limit switch is disengaged				
swo	Unlit: leaf fully open				
300	Lit: motor limit switch is disengaged				
ERR	Unlit: no error				
ENN	LIT: see error diagnostics table				
	Unlit: remote programming not active				
RADIO	Radio LED only flashing: Remote programming active, waiting for hidden key.				
(GREEN)	Flashing in sync with Set LED: Transmitter deletion in progress				
	Lit: remote programming active, waiting for desired key.				
	Lit 1s: Radio receiver channel activated				
	Lit: Set key pressed / Autoset completed successfully				
	Flashes three times: Autoset in progress				
SET	Fast flashing 10s: Autoset failed				
SEI	Flashing in sync with Radio LED: Transmitter deletion in progress				
	Lit 1s: Start/Stop after key S3 pressed				
	Lit 10s: Autoset completed correctly				

17) ADJUSTMENT PROCEDURE

Before turning the unit on, check electrical connections.

- Set the following parameters: Automatic Closing Time, motor force, slow-down
- Set the logics.
- Run the autoset function.

WARNING! Incorrect settings can result in damage to property and injury to people and animals.

MARNING: Check that the force of impact measured at the points provided for by standard EN 12445 is lower than the value laid down by standard EN 12453.

For best results, it is advisable to run the autoset function with the motors idle (i.e. not overheated by a considerable number of consecutive operations)

18) INSTALLATION TEST PROCEDURE

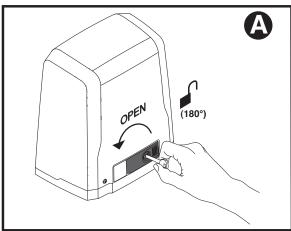
- 1. Run the AUTOSET cycle (*
- 2. Check the impact forces: if they fall within the limits (**) skip to point 9 of the procedure, otherwise
- Where necessary, adjust the sensitivity (force) parameter: see parameters table. Check the impact forces again: if they fall within the limits (**) skip to point 9
- of the procedure, otherwise
- 5. Apply a shock absorber profile
- Check the impact forces again: if they fall within the limits (**) skip to point 9 of the procedure, otherwise
- 7. Apply pressure-sensitive or electro-sensitive protective devices (such as a safety edge) (**)
- Check the impact forces again: if they fall within the limits (**) skip to point 9 of the procedure, otherwise
- 9. Make sure all devices designed to detect obstacles within the system's operating range are working properly
- (*) Before running the autoset function, make sure you have performed all the assembly and make-safe operations correctly, as set out in the installation warnings in the drive's manual.
- (**) Based on the risk analysis, you may find it necessary to apply sensitive protective devices anyway

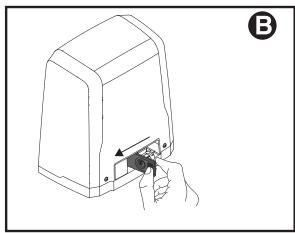
WARNING! Incorrect settings can result in damage to property and injury to people and animals.

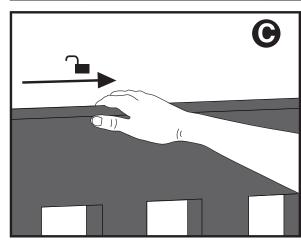
LED ERR:

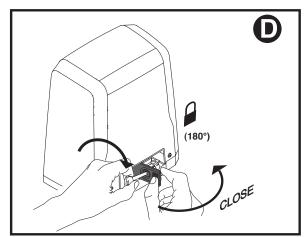
	Led ERR							
Led SET	Lit	slow flashing	fast flashing					
Unlit:	Reverse due to obstacle - Ampe- rostop	Photocell test, Costa o Costa 8k2 failed	Thermal cutout					
	- Check for obsta- cles in path	- Check photocell connection and/or logic settings	- Allow automated device to cool					
Lit	Internal system supervision control error. - Try switching the board off and back on again. If the problem persists, contact the technical assistance de- partment.		Limit switch error - Check limit switch connections					
slow flashing	Test hardware card error - Check the connection to the motor - Hardware problems to the card (contact technical assistance)		Parameters and/ or Operating Logic edited - If the "Slow-down distance" is edited, run a new Autoset cycle to confirm the new setting If other parame- ters and/or opera- ting logic are edi- ted, hold down S2 for 5s to confirm. NOTE: In any case, the Autoset fun- ction confirms all changes made to the board.					

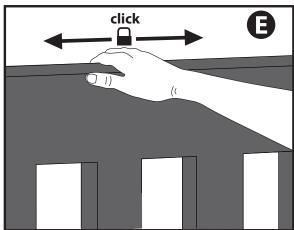
FIG. 3















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