



V2 S.p.A.

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IL n. 312

EDIZ. 31/07/2014

EASY-TOP

- I** CENTRALE DI COMANDO DITALE
PER SERRANDE AVVOLGIBILI
- GB** DIGITAL CONTROL UNIT FOR
ROLLER SHUTTERS
- F** ARMOIRE DE COMMANDE DIGITALE
POUR STORES
- E** CUADRO DE MANIOBRAS DIGITAL
PARA PERSIANAS ENROLLABLES
- P** QUADRO ELÉCTRICO DIGITAL
PARA ESTORES DE ENROLAR
- D** DIGITAL STEUERUNG FÜR ROLLTORE
- NL** DIGITALE STUURCENTRALE VOOR ROLLUIKEN

IMPORTANT REMARKS

For any installation problem please contact our Customer Service at the number +39-0172.812411 operating Monday to Friday from 8:30 to 12:30 and from 14:00 to 18:00.

V2 has the right to modify the product without previous notice; it also declines any responsibility to damage or injury to people or things caused by improper use or wrong installation.
m Please read this instruction manual very carefully before installing and programming your control unit.

- This instruction manual is only for qualified technicians, who specialize in installations and automations.
- The contents of this instruction manual do not concern the end user.
- Every programming and/or every maintenance service should be done only by qualified technicians.

AUTOMATION MUST BE IMPLEMENTED IN COMPLIANCE WITH THE EUROPEAN REGULATIONS IN FORCE:

EN 60204-1 (Machinery safety. electrical equipment of machines, part 1: general rules)

EN 12445 (Safe use of automated locking devices, test methods)

EN 12453 (Safe use of automated locking devices, requirements)

- The installer must provide for a device (es. magnetothermal switch) ensuring the omnipolar sectioning of the equipment from the power supply. The standards require a separation of the contacts of at least 3 mm in each pole (EN 60335-1).
- After making connections on the terminal board, use one hose clamp to fix dangerous voltage wires near the terminal board and another hose clamp to fix safety low voltage wires used for accessories connection; this way, in case of accidental detachment of a conducting wire, dangerous voltage parts will not come into contact with safety low voltage ones.
- The plastic case has an IP55 insulation; to connect flexible or rigid pipes, use pipefittings having the same insulation level.
- Installation requires mechanical and electrical skills, therefore it shall be carried out by qualified personnel only, who can issue the Compliance Certificate concerning the whole installation (EEC Machine Directive 89/392, Annex IIA).
- The automated vehicular gates shall comply with the following rules: EN 12453, EN 12445, EN 12978 as well as any local rule in force.
- Also the automation upstream electric system shall comply with the laws and rules in force and be carried out workmanlike.
- The door thrust force adjustment shall be measured by means of a proper tool and adjusted according to the max. limits, which EN 12453 allows.
- Connect the earthing lead of the motors to the electricity grid earth system.
- Observe all necessary precautions (e.g. anti-static bracelet) for handling parts sensitive to electrostatic discharges.

DECLARATION OF CONFORMITY

V2 S.p.A. hereby declare that products EASY-TOP conform to the essential requirements established in the following directives:

- 2004/108/CEE (EMC Directive in accordance with standards EN 55014-1, EN 55014-2, EN 61000-3-2, 61000-3-3)
- 2006/95/CEE (Low Voltage Directive in accordance with standards EN 60335-1 + EN 60335-2-103)
- ROHS2 2011/65/CE

Racconigi, li 28/01/2014

V2 S.p.A. legal representative.egale della V2 S.p.A.

Cosimo De Falco



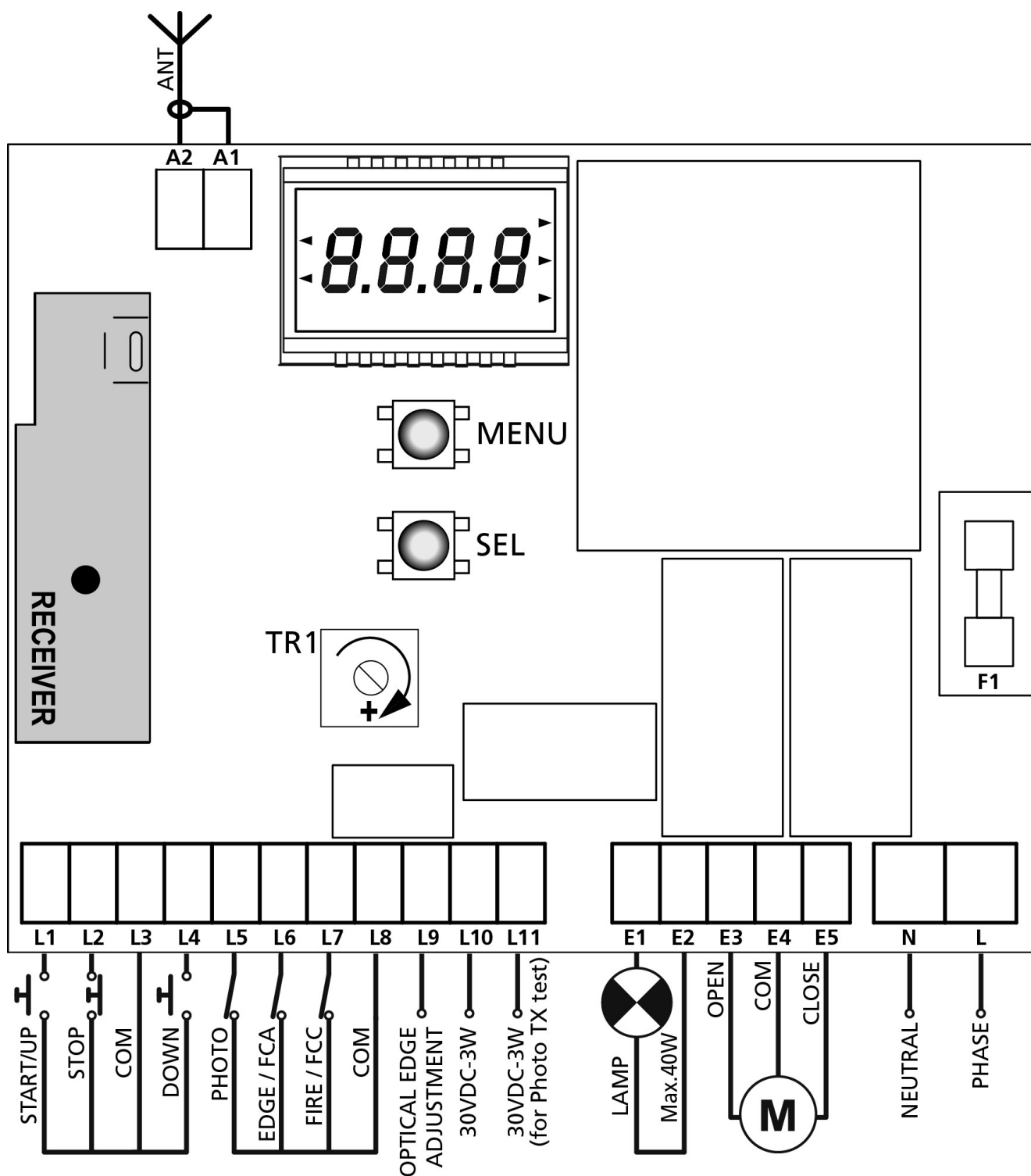
DESCRIPTION OF THE CONTROL UNIT

The EASY-TOP digital control unit is an innovative V2 product that guarantees safety and reliability for the automation of roller shutters.

- 230 Vac output for 1 single-phase motor
- 230 Vac output for flashing light or timed courtesy light
- Plug-in adaptor for modular radio receiver MR2
- Input for key switch or pushbutton (START)
- Input for separate UP/DOWN commands
- Input for safety pushbutton (STOP)
- Input for safety photocell with automatic operating test (PHOTO)
- Sensitive edge safety input (EDGE): can connect to a mechanical or resistive rubber edge with automatic operation test or to an optical edge with 30V DC power supply and by adjusting the transmitter power
- Inputs for limit switches (FCA-FCC) that can be used as an alternative to the EDGE and FIRE inputs
- Input for fire emergency or theft (FIRE)
- Monitoring of the inputs on the display
- Logic of operation and programmable work times using the keyboard and display
- Possibility of operating in DEAD MAN mode

TECHNICAL SPECIFICATIONS	230V models	120V models
Power supply	230V / 50Hz	120V / 60Hz
Max motor load	1100W	600W
Max accessories load 30 Vdc	3W	3W
Working temperature	-20 ÷ +60 °C	-20 ÷ +60 °C
Protection fuse	F1 = 5A delayed	F1 = 5A delayed
Dimensions	170 x 185 x 70 mm	
Weight	800 g	
Protection	IP55	

ELECTRIC CONNECTIONS



⚠ WARNING: Normally closed inputs STOP (L2), PHOTOCELL (L5), EDGE (L6), FIRE (L7), if not used must be bridged through the COMMON terminal (L3 - L8)

L1	START/UP. N.O. contact
L2	STOP. N.C. contact
L3	COMMON (-)
L4	DOWN. N.O. contact
L5	PHOTOCELL. N.C. contact
L6	EDGE. N.C. contact (Safety edge - parameter in5 = oFF) FCA. N.C. contact (Opening limit switch - parameter in5 = on)
L7	FIRE. N.C. contact (Alarm - parameter in5 = oFF) FCC. N.C. contact (Closing limit switch - parameter in5 = on)
L8	COMMON (-)
L9	Adjustment of the power for OPTICAL SAFETY EDGE
L10	30 Vdc power output for photocells and other accessories
L11	30 Vdc power supply for functional test TX photocell

E1 - E2	Flashing light 230Vac / 120Vac (parameter oul = oFF) Courtesy light 230Vac / 120Vac (parameter oul = on)
E3	Motor open
E4	Motor common
E5	Motor close
N	230Vac / 120Vac power supply - neutral
L	230Vac / 120Vac power supply - phase
A1	Antenna shield
A2	Antenna

OPTICAL EDGE INSTALLATION

The EASY-TOP main control unit is configured for the installation of one 24 Vdc powered optical edge and transmitter power regulation.

Connect the transmitter and receiver in accordance with the following table.

	TRANSMITTER	RECEIVER
L6		BLACK CABLE
L8	BLUE CABLE	BLUE CABLE
L9	BLACK CABLE	
L10		BROWN CABLE
L11	BROWN CABLE	

After having made the connections, power-up the main control unit and adjust the power using the trimmer TR1 located on the control unit so as to obtain optimal edge operation.

FIRE / ALLARM INPUT

Safety input for connecting a fire or other type of alarm requiring the immediate automatic opening of the door.

The FIRE command should be connected between the FIRE (L7) and COMMON (L8) terminals.

When the FIRE contact is opened, the door is opened and cannot be closed again until the contact is reset.

NOTE: If the input is set as an alarm (**in4** = **oFF**), when the FIRE contact is open, the port cannot be opened. If the port is already open, it is closed.

PLUG IN RECEIVER

The control unit is suitable for plugging in a MR receiver.

MR module receiver is provided with 4 channels and each of them is suitable for a command of the control unit:

- CHANNEL 1 → START/UP
- CHANNEL 2 → STOP
- CHANNEL 3 → DOWN
- CHANNEL 4 → COURTESY LIGHT

⚠ WARNING: Before programming 4 channels and function logics read carefully the instructions of MR

OPERATION WITH A TIMER

The control unit allows the connection of a timer for programming door opening and closing times.

To use this function, it is necessary to set the L0 3 function (see FUNCTION TABLE) on the AUTOMATIC LOGIC (ON) and the L0 5 function on the TIMER (OFF)

The timer should be connected between the START (L1) and COMMON (L3) terminals.

Each time the timer closes the contact, the automation device opens the door and remains paused until the contact is released. At this point the countdown starts, for the length of the pause time set, after which the automation device closes the door.

CASE WITH KEYPAD

The EASY-TOP control units may be installed in cases with external keypads (accessory codes 171224 + 171226).

To use the keypad buttons, it is essential to install adapter 171226 as shown in the figure.

Alternatively, the WES-EASY accessory may be installed (code 35B025), which besides using the keypad allows controlling the edges by radio using the special sensors (see the WES-EASY instructions).

The keypad buttons operate in parallel with the terminal controls. These all remain active, including the STOP command, and must be jumpered to ground if not used.

Versions supplied with keypads also allow the automation device to operate in DEAD MAN mode should the safety devices malfunction.

By pressing and holding the button on the keypad, the automation device is activated after 5 seconds, overriding the safety devices; the motor stops immediately as soon as the button is released.

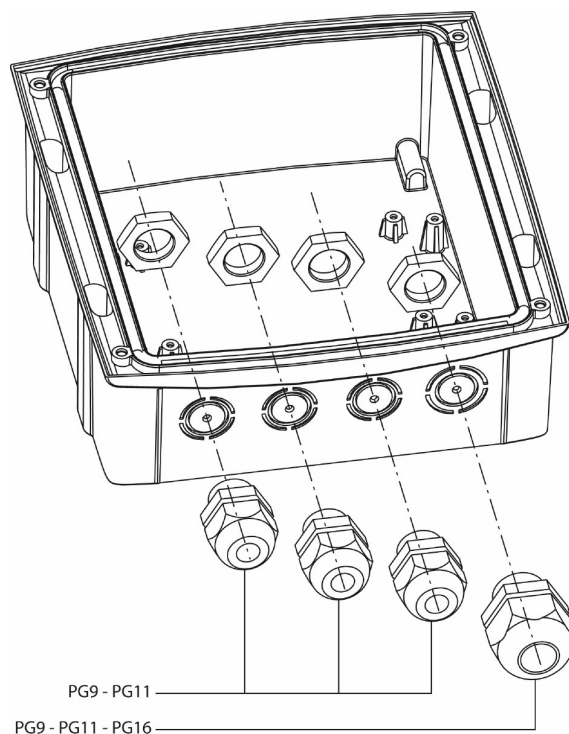
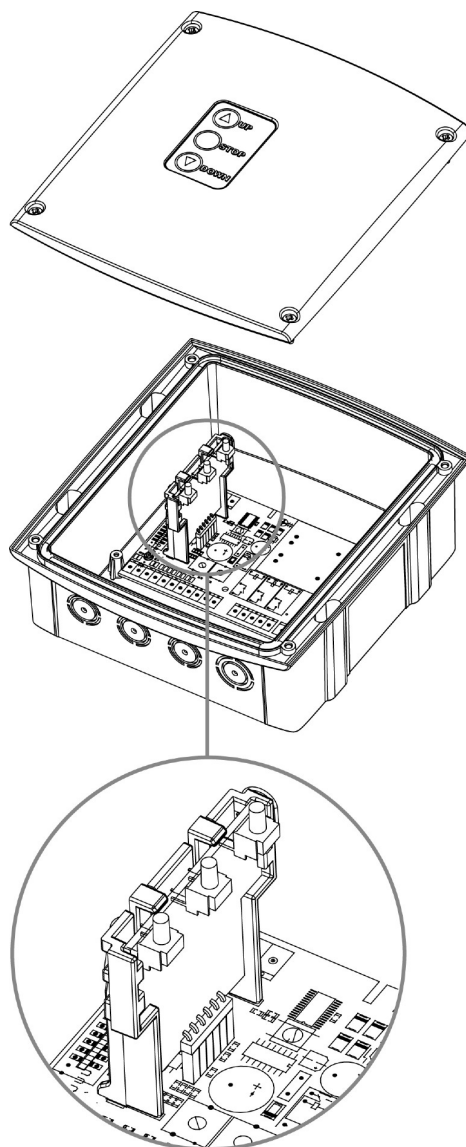
NOTE: This function is also available from the terminal board if the L0 5 function is set to EMERGENCY

CABLE GLAND ASSEMBLY

The casing can accept 4 cable glands in the special easy-break housings. The type of cable gland is indicated in the figure.

⚠ PLEASE NOTE:

- Remove the electronic circuit board before drill the casing.
- Drill the container using a suitably sized cutter, according to the dimensions of the cable gland.
- Fix the cable glands using the special nuts.

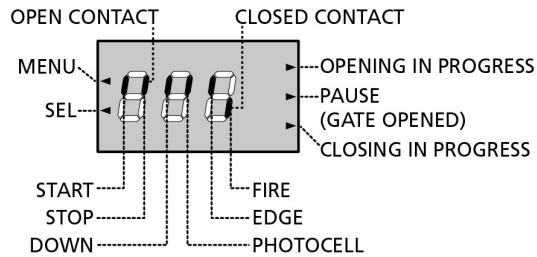


CONTROL PANEL

When power is on, the control unit checks that display correctly operates by switching on all segments for 1.5 sec. **8.8.8.8**.

Firmware version, e.g. **P r 1 .0**, will be viewed in the following 1.5 sec.

Panel will be viewed upon completion of this test.



The control panel represents the physical status of the terminal board contacts and of the program mode keys: if the upper vertical segment is on, the contact is closed; if the lower vertical segment is on, the contact is open.

The arrows to the left of the display indicate the status of the MENU and SEL buttons.

The arrows to the right of the display indicate the status of the shutter.

- The highest arrow lights up when the shutter is in the opening phase.
- The central arrow indicates that the shutter is paused. If it flashes it means that the timer for automatic closing is active.
- The lowest arrow lights up when the shutter is in the opening phase.

PROGRAMMING

The functions of and times of the control unit are programmed via the configuration menu, which can be accessed and explored using the 2 MENU and SEL keys.

- To access the programming menu, press the MENU key until the display shows **in 1**
- To change the value of this parameter, press the MENU key: the display shows the currently set value (**on / off**)
- Select the desired value with the SEL key and press the MENU button to save the new value: the display shows **in 1** again
- Press the SEL key to select the other parameters to be changed

Using the MENU and SEL keys to select and change the required parameters: in the following pages there is a table with all programming parameters, values selected, DEFAULT values set and a brief description of the function.

To exit the programming menu, press the MENU key until the display shows the control panel

If no button is pressed for 30 seconds, the control unit exits programming mode and stores the new parameters.

To exit the programming menu and undo the changes made during the current programming session, press the MENU and SEL keys simultaneously until the display shows the control panel.

To load default data, when the control unit is NOT in programming mode, press the MENU and SEL keys simultaneously until the display shows **dEF**.

With the SEL key, select the default that you want to load and press MENU to confirm.

NOTE: the control unit is supplied with the **dEF1** configuration set

DISPLAY	oFF	on	dEF1	dEF2	dEF3
in 1	PHOTOCELL ACTIVE ONLY DURING CLOSING The intervention of the photocell during the opening stage is ignored. The intervention of the photocell during the closing stage causes the shutter to reopen.	PHOTOCELL ACTIVE DURING OPENING AND CLOSING The intervention of the photocell during the opening phase causes the motor to stop. When the photocell beam is released, the automation starts during opening for the work time set in parameter t.i1. The intervention of the photocell during the closing stage causes the shutter to reopen.	on	oFF	oFF
in 2	PHOTOCELL TEST INACTIVE The photocell operation test is not performed	PHOTOCELL TEST ACTIVE Each time the control unit receives an open or close command, the PHOTOCELL TEST verifies that the PHOTOCELL is operating correctly. If the test fails, the display shows - L5 -	oFF	oFF	oFF
in 3	MECHANICAL SAFETY EDGE The L6 input is configured to manage a mechanical safety edge	RESISTIVE RUBBER / OPTICAL SAFETY EDGE The L6 input is configured to manage a safety edge (resistive rubber / optical) with active operation test. If the test fails, the display shows - L6 -	oFF	on	oFF
in 4	FIRE FUNCTION The L7 input is configured to manage a fire alarm	ALARM FUNCTION The L7 input is configured to manage an anti-theft command	oFF	oFF	oFF
in 5	EDGE / FIRE FUNCTION The L6 input is configured to manage a safety edge The L7 input is configured to manage an alarm	LIMIT SWITCH FUNCTION The L6 input is configured to manage an opening limit switch The L6 input is configured to manage a closing limit switch NOTE: If in 5 is set on the settings of the in 3 and in 4 functions, they are not considered	oFF	oFF	oFF
ou 1	FLASHING LIGHT Output (E1 - E2) is on intermittently (2 Hz) during opening and closing and during pause mode, if automatic reclosing is active	COURTESY LIGHT The output (E1 - E2) is on and fixed during opening, pause and closure. Having completed the operating cycle, the light remains on for the COURTESY LIGHT OFF DELAY time	oFF	on	on
ou 2	END OF CYCLE NON-ACTIVE SIGNAL At the end of the operating cycle, the control unit sends no signal	END OF CYCLE ACTIVE SIGNAL At the end of the operating cycle, the control unit sends a signal to the WES sensors to activate ENERGY SAVING mode	oFF	on	oFF
Lo 1	START/STOP LOGIC The START/UP input controls the STEP or AUTOMATIC operational cycle based on the programmed operational logic. The DOWN input is inactive	UP/DOWN LOGIC The START/UP input always controls opening and the DOWN input always controls closing, independently of the operational logic programmed. UP + DOWN when pressed simultaneously is the same as a STOP command	oFF	on	on
Lo 2	START INACTIVE WHILE OPENING During opening, the START command is ignored	START ACTIVE WHILE OPENING During opening, the START command interrupts opening (no timer is set for automatic re-closure)	on	on	on
Lo 3	STEP LOGIC The start command activates an OPEN-STOP-CLOSE-STOP-OPEN operational cycle	AUTOMATIC LOGIC The start command activates an OPEN-PAUSE-CLOSE-STOP operational cycle Closure starts automatically after the pause time set	oFF	oFF	oFF

DISPLAY	oFF	oN	dEF1	dEF2	dEF3
L0 4	DEAD MAN LOGIC INACTIVE By simply using the start command, the user can activate the automation device in opening or closing. The maximum duration of opening or closing depends on the operating time set	DEAD MAN LOGIC ACTIVE The user must press and hold the start button for the entire duration of the desired opening or closing procedure. The maximum duration of opening or closing depends on the operating time set. DEAD MAN logic may be implemented with both Start/Stop and Up/Down logic. The STOP command interrupts the operational cycle, independently of the status of the control inputs. Hence, if the UP or DOWN button is pressed, the action of STOP is to stop motion, and on its release the motor DOES NOT MOVE UNTIL THE UP or DOWN INPUT IS RELEASED AND PRESSED ONCE MORE PLEASE NOTE: when the Man-Present function is enabled, radio-controlled operation is disabled. To activate via radio, set the parameter L0 7 = oN	oFF	oFF	oN
L0 5	TIMER FUNCTION Each time the timer closes the contact L1-L3, the automation starts during opening and remains paused until the contact is released.	EMERGENCY DEAD-MAN FUNCTION If a command is rejected because of active safety, keep the command active for 5 seconds, the control unit then activates dead-man mode, and the shutter moves as long as the switch is held. When the command is suspended, the control unit returns to the mode set. This way, it is possible to move the shutter when there is evidence of a fault on a safety.	oFF	oFF	oFF
L0 6	THE INTERVENTION OF THE SAFETY EDGE DOES NOT DISABLE AUTOMATIC CLOSING	THE INTERVENTION OF THE SAFETY DISABLES AUTOMATIC CLOSING	oN	oFF	oFF
L0 7	DEAD MAN LOGIC FROM BUTTON The dead-man logic can only be activated via buttons (terminal board and push button panel).	DEAD MAN LOGIC FROM BUTTON AND FROM THE TRANSMITTER The dead-man logic can be activated via buttons (terminal board and push button panel) and from the transmitter.	oFF	oFF	oN
L0 8	DEAD MAN LOGIC ACTIVATED DURING OPENING AND CLOSING	DEAD MAN LOGIC ACTIVATED ONLY DURING CLOSING	oFF	oFF	oN
L0 9	PRE-FLASHING NOT ACTIVATED	PRE-FLASHING ACTIVATED Before activating the motor during opening, the flashing light is turned on for 1 second. Before activating the motor during closing, the flashing light is turned on for 3 seconds.	oFF	oFF	oFF

DISPLAY	FUNCTION	AVAILABLE VALUES	dEF1	dEF2	dEF3
E, 1	WORK TIME	7" - 10" - 15" - 20" - 30" - 45" - 60" 75" - 90" - 120"	20"	30"	30"
E, 2	PAUSE TIME	10" - 15" - 20" - 30" - 45" - 60" 90" - 120" - 180" - 250"	30"	15"	15"
E, 3	DELAYED TURNING OFF OF THE COURTESY LIGHTS	3" - 5" - 10" - 20" - 30" - 60" 120" - 300" - 600" - 1200"	3"	120"	120"