

AUTOMATION FOR SECTIONAL AND OVERHEAD GARAGE DOORS

VER series



INSTALLATION MANUAL

V700

"IMPORTANT SAFETY INSTRUCTIONS FOR INSTALLATION"

"CAUTION: IMPROPER INSTALLATION MAY CAUSE SERIOUS DAMAGE, FOLLOW ALL INSTALLATION INSTRUCTIONS CAREFULLY"

"THIS MANUAL IS ONLY FOR PROFESSIONAL INSTALLERS OR QUALIFIED PERSONS"

1 Legend



This symbol indicates sections to be read with particular care.

This symbol indicates sections concernig safety.

This symbol indicates notes to communicate to users.

2 Destination and limits of use

2.1 Intended use

The V700 automated kit is designed to power sectional and overhead doors installed in condominiums and residential homes.

The use of this product for purposes other than as described above and installation executed in a manner other than as instructed in this technical manual are prohibited.

2.2 Limits to use

24V (d.c.) gearmotor with lifting force of up to 850N for: Counterweighted overhead doors up to 2.40m in height Spring-balanced overhead doors up to 3.25m in height Sectional doors up to 3.20m in height

3 Riferimenti normativi

Il prodotto in oggetto è conforme alle seguenti normative: EN 12978, UNI EN 954-1, CEI EN 60335-1, UNI EN 12453.

4 Descrizione

4.1 Automazione

V700 was designed and manufactured by CAME CANCELLI AUTOMATICI S.p.A. and is compliant with the safety regulations in force. Guaranteed 24 months if not tampered with.

The automation is mainly made up of an engine block, a transmission rail – with either a belt or chain transmission system – and a transmission arm. Inside the ABS container which features a window for the courtesy light, we find: the 24V gearmotor, the control panel, the run-limiter unit and the transformer.

The gearmotor is made up of an aluminium die cast casing, which houses a worm-screw and helical-crown gear irreversible reduction system, lubricated by permanent fluid grease.

The transmission guide is made of cold-pressed galvanised sheeting. At the front end there is belt/chain tension device; fastened to the other end is an ABS support to hold up the gear motor.

Inside the transmission guide runs the traction slide which includes the emergency release mechanism and the bracket for fastening to the transmission arm.

The transmission arm is available in several sizes and shapes depending on the type of garage door.

4.2 Description of the parts

GEARMOTOR SECTION

- 1) Protective cover
- 2) Gearmotor
- 3) Transformer
- 4) ZL55 circuit board
- 5) Standard transmission arm
- 6) The run-limiter unit
- 7) Power socket





- Spring balanced overhead doors up to 2.25 m in height;
- sectional doors* up to 2.20 m in height.

V0682 – Chain guide unit L=3.52 m

- Spring balanced overhead doors up to 2,75 m in height;
- sectional doors* up to 2.70 m in height.
- *V0683 Chain guide unit L=4.02 m*
- Spring balanced overhead doors up to 3.25 m in height;
- sectional doors* up to 3.20 m in height.

V0685 – Belt guide unit L=3.02 m

- V0687 the same as the V0685 but two parts need assembling
- counterweighted overhead doors up to 2.40 m in height;
- spring balanced overhead doors up to 2.25 m in height;
- sectional doors* up to 2.20 in height.
- V0686 Belt guide unit L=3.52 m
- spring balanced overhead doors up to 2.75 m in height;
- sectional doors* up to 2.70 m in height.
- V0688 Belt guide unit L=4.02 m
- spring balanced overhead doors up to 3.25 m in height;
- sectional doors* up to 3.20 m in height.

119RIE024 and 119RIE088 – Supplementary tension and angle brackets for fastening the guides

* see page 5.

OPTIONAL TRANSMISSION ARMS 1) 001V201- Transmission arm for counterweighted overhead garage doors. 2) 001V122 – Extra-strength transmission arm for sectional garage doors;

OPTIONAL ACCESSORIES

1001V121 – Pull-string release mechanism to affix onto the handle; 001V0670 – Emergency battery start-up card, houses 2 (12V-1,2Ah not included) batteries ;

Important! Check that the safety equipment and accessories are CAME originals; this is a guarantee that also makes the system easy to set up and upkeep.

4.3 Technical specifications

GEARMOTOR V700

Power supply: 230V A.C. 50/60Hz Motor power supply: 24V D.C. 50/60Hz Motor absorption.: 11A Max power: 260W Lifting force: 850Nm Average speed: 6m/min Duty cycle: 50 % Protection level: IP40 Weight: 5,9 kg Insulation class: II

Working temperature:



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4.4 Dimensions



5 Installation

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The installation must be carried out by export, qualified personnel in total compliance with the norms in effect.

5.1 Preliminary checks

Before proceeding with the installation, it is necessary to:

• Make sure the area selected for the mounting of the base and for the unit itself is hazard free;

• Provide for a suitable omnipolar disconnection device with contacts more than 3 mm apart, and independent (sectioned off) power supply;

• Make sure that any connections inside the case (that provide continuance to the protective circuit) be fitted with extra insulation as compared to the other conductive parts inside;

• Make sure that the point where the gearmotor is fastened is protected from impact and that it is sturdy. The fastening must be carried out using screws and/or rivets that are suitable for the type of surface;

• (a) Make sure that any connections inside the container (made for the continuity of the protection system) are provided with additional insulation compared to the other conductive parts inside;

• Make sure that the door has a sturdy enough structure, that the hinges be in proper working order and that there is friction between moving and fixed parts;

5.2 Tools and materials

Make sure all tools and materials necessary are within reach to install the edge in total safety, and in compliance with the regulations in force. The following figure illustrates the minimum equipment needed by the installer.



5.3 Cable list and minimum thickness

Connections	Type of cable	Length of cable 1 < 10 m	L. of cable 10 < 20 m	L. of cable 20 < 30 m
230V power supply		3G x 1,5 mm ²	3G x 2,5 mm ²	3G x 4 mm ²
Flashing lamp	FROR CEI 20-22 CEI EN 50267-2-1	2 x 0,5 mm ²	2 x 1 mm ²	2 x 1,5 mm ²
Photocell transmitters		2 x 0,5 mm ²	2 x 0.5 mm ²	2 x 0,5 mm ²
Photocell receivers		4 x 0,5 mm ²	4 x 0,5 mm ²	4 x 0,5 mm ²
24V power supply to accessories		2 x 0,5 mm ²	2 x 0,5 mm ²	2 x 1 mm ²
Control and safety devices		2 x 0,5 mm ²	2 x 0,5 mm ²	2 x 0,5 mm ²
Antenna connection	RG58	max. 10 m		

N.B.: if the cable length differs from that specified in the table, then you must determine the proper cable diameter in the basis of the actual power draw by the connected devices and depending on the standards specified in CEI EN 60204-1.

For connections that require several, sequential loads, the sizes given on the table must be re-evaluated based on actual power draw and distances.

When connecting products other than those mentioned in this manual please see the documents provided with the products themselves.



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The data and information reported in this installation manual are susceptible to change at any time and without obligation on CAME cancelli automatici s.p.a. to notify users.

5.5 Preparing the transmission guide

The following applications are only examples, as the space required for unit installation and the accessories vary depending on dimensions and therefore it is up to the installer to select the best solution.

1) Fasten the bracket to the tension device on the transmission guide using the supplied bolts and washers.



2) Position the transmission guide in the following manner:

- for sectional doors, directly above spring-release coiling shaft (between 20 and 30 mm of the shaft's axis).

N.B.: if the distance between the coiling shaft and the top part of the door is between 300 and 600 mm, use the V122 arm (see technical documentation attached);



- for overhead doors, between 10 and 20 mm from the highest sliding point of the door.

N.B.: for pratially-retractable swing out counterweighted garage doors, use the V201 arm (see technical documentation attached).



5.6 Fastening the transmission guide

1) Fasten the transmission guide to the centre of the doorway using the proper screws. Raise the guide until it is horizontal with the ceiling so as to choose the proper type of fastener.



2) If the angle brackets are not sufficient, cut the tension brackets down to the right length and fasten them to the ceiling. N.B.: to strengthen the bar additional angle or tension brackets may be installed.



3) Fasten the transmission guide to the ceiling using the proper bolts.



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5.7 Fastening the guide arm to the transmission guide

1) Fasten the guide arm to the top of the door frame, perpendicularly to the transmission guide. Use the supplied rivets and other suitable bolts and screws.



2) Release the traction slide by turning the small level clockwise. Move the slide towards the door and hook it onto the guide arm with the supplied bolt.





5.8 Fastening the gearmotor to the transmission guide







2) Fasten the motor unit to guide's support racket using the three screws supplied with the kit. N.B.: if needed, the unit may be fasten in the other three perpendicular positions, as per the drawings.





3) Affix the cable gland in the hole used to convey the electrical cables.





6 lectronic control panel

6.1 General description

The control card is powered by 230V, through the power socket and has a 50/60Hz frequency.

The command devices and accessories run on 24V. Moreover, the total accessories cannot run on more than 40W.

The card controls a duty light and possibly also a courtesy lamp, which, works in synchrony with the duty lamp to illuminate the drive way in proximity of the door; at each opening it stays on for 2 minutes and 30 seconds.

The V0670 card may be connected to operate the automation kit with emergency batteries (see the technical documentation attached).

The card automatically controls the following functions:

1) amperometric detection of obstructions during opening, closing and during slow down phases (with adjustable sensitivity);

- 2) automatic closing (adjustable);
- 3) working cycle (80");

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- 4) open-stop-close-stop command, open-close or only open;
- 5) reopening dueing the closing phase of the photocells;
- 6) obstruction detection when motor is not running;
- 7) maintained action;
- 8) pre-flashing upon opening and closing.

FUSES			
Protection	Fuse type		
Motor	10A		
Circuit board (line)	1,6A		
Accessories	3,15A		
Command devices (control unit)	315mA		

LAMPADE				
Service	E17 24V 25W			
Courtesy	24V 25W			

Detail of the amperometric detection of obstructions:

in the opening phase: door stops, and subsequently closes automatically.

in the closing phase: invert the direction of movement until completely opened;

Warning! After three, consecutive inverted cycles, the door will stay open excluding automatic closing function: to close the door, use the remote control or a command button.



6.2 Main components





- 1) 230V power socket
- 2) Line fuse 1.6A
- 3) Run-limiter unit
- 4) Emergency batteries' slot
- 5) Gearmotor
- 6) Transformer
- 7) Morsettiera collegamento trasformatore
- 8) Fusibile motore 10A
- 9) Terminal to connect the gearmotor and run-limiter
- 10) Signal Led for radio-code
- 11) Radio-code save button
- 12) TCA Trimmer: adjustment of automatic closing cycle
- 13) SENS Trimmer: adjustment of amperometric sensitivity
- 14) Pulsante di comando per la regolazione dei finecorsa
- 15) Function selector (10 dip)
- 16) Function selector (2 dip)
- 17) Courtesy light
- 18) Accessories' fuse 3,15A
- 19) Central control unit fuse 315mA
- 20) Accessories' and control device connection terminal board
- 21) "AF" radiofrequency board socket
- 22) Electrical cable sockets
- 23) Radio antenna terminal board

Warning! Before doing any work on the automation kit, cut off the pwer suppli and disconnect the emergency batteries (if connected)



6.3 Electrical Connections

Power supply and accessories





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Teminal board for accessories' power supply: - at 24V a.c. (alternate power) normally; - at24V d.c. (continuous power) when the emergency batteries are in operation; Maximum total power allowed: 40W.

Gearmotor, encoder and transformer (only for possibile maintenance)



Command and safety devices



If a button is connected, then remove the fuse-bridge.

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Key and/or button selector (N.O. contact) to open the door

Key and/or push button selector switch (N.O. contact) - Opening and closing devices.

Command modes: open-stop-close-stop, open-close and open only.



N.C. Contact for "reopening during closing" - Input for photocells, sensitive profiles and other devices complying with EN 12978 standards. During the closing phase, operating the device will invert the motion until complete opening is achieved.



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6.4 Function selection

6 6 Ø 1 OFF - Control unit designed to ON ON 8466 work with V700 gearmotors OF 2 OFF Disabled, keep the dipswitch in the 'OFF' position Dip-switch 10 Dip-switch 2 00

- 1 ON **Automatic closing** the timer for the automatic closing is activated when the door completes its opening cycle. The set time is adjustable, and it is any how conditioned by the possible intervention of the safety devices and dies not activate after a total safety 'stop' or during a power outage.
- 2 ON 'open-stop-close-stop' function with button (2-7) and radio transmitter (with radio frequency card inserted).
- 2 OFF 'open-close-inversion' function with button (2-7) and radio transmitter (with radio frequency card inserted).
- 3 ON 'open only' function with radio transmitter (with radio frequency card inserted).
- 4 ON **Pre-flashing upon opening and closing** Following an opening or closing command, the flashing light connected on 10-E, flashes for 5 seconds before the cycle begins.
- 5 ON *Detection of obstacle* When motor is not running (gate closed, open or after a total stop command), prevents any movement if the safety devices (e.g. the photocells) detect an obstacle.
- 6 ON "*Maintained action*" the gate functions by keeping the buttons pressed (one button [2-3] for opening, and one button [2-7] for closing).
- 7 OFF *Reclosing during opening cycle* if the photocells detect an obstacle during the gate's opening cycle, the gate inverts its direction until it is fully closed; connect the safety device to the terminals (2-C1).
- 8 Disabled, keep the dip-switch in the 'OFF' position
- 9 Disabled, keep the dip-switch in the 'OFF' position
- 10 ON Enables the microswitch stop function when gate completely closes.
- 10 OFF Enables the *slowing-down function* of the micro switch when gate is closing.

6.5 Adjustments



T.C.A. Trimmer = Adjusts the waiting time in the opening position. Once this time frame has lapsed, an automatic closing procedure is performed. The waiting time may be adjusted to between 1 second and 120 seconds.

SENS Trimmer = Adjusts the amperometric sensitivity that controls the force of the engine developed during movement; if said force becomes greater than the adjusted level, the system intervenes by inverting the direction of movement.

7 Adjusting the run-limiters

IMPORTANT: before performing any programming, read the instructions carefully.

For the closing cycle, either the stop or the slowing-down functions can be selected.

Before starting any adjustment operations, position dipswitch 2 to ON (this dipswitch has 10 positions) and make sure that the safety device is connected to 2-C1. If there are no safety devices, then position dipswitch 7 to ON.



Adjusting the opening run-limiter

1) Briefly press the "AP/CH" button. When the up-and-over door is fully opened...



2)...briefly press the same button again.



3) Turn the white cam clockwise until the micro switch is activated. Block the cam with the screw in that position.



Adjusting the closing run-limiter (with stop in closing cycle)



2) Briefly press the "AP/CH" button. When the up-and-over door is fully closed...



3) ... briefly press the same button again.



4) Turn the red cam counter-clockwise until the closing run-limiter micro switch is activated. Block the cam with the screw in that position.



TEST

Use the AP/CH button to command both a closing and an opening run to make sure that the adjustment was performed properly.

Adjusting the closing run-limiter (with slowing-down during closing)

CHI SINC AP7CH SINC SINC

2) Briefly press the AP/CH button. When the door is about 20cm from fully closing shut...



3) ... briefly press the same button again.

1) Position dip-switch n°10 to OFF



4) Turn the red cam counter-clockwise until the closing run-limiter micro switch is activated. Block the cam with the screw in that position.



TEST

Use the AP/CH button to command both a closing and an opening run to make sure that the adjustment was performed properly.

8 Activating the remote control

Antenna

Connect the antenna with the RG58 cable to the apposite terminals on the board.



Radiofrequecy card

Only for highlighted cards.

Position the jumper as show in the illustration depending on the series of transmitters used (see figure).

τορ ταμ	Frequency/MHz	Radiofrequency card	Series of transmitters
	FM 26.995	AF130	TFM
	FM 30.900	AF150	TFM
	AM 26.995	AF26	ТОР
	AM 30.900	AF30	TOP
	> AM 433.92	AF43S / AF43SM	TAM / TOP
	AM 433.92	AF43SR	ATOMO
	AM 40.685	AF40	TOUCH

Connect the radiofrequency card to the electrical board AFTER SHUTTING OFF THE POWER (or disconnecting the batteries). N.B.: The circuit board recognizes the readiofrequency card only when it is running in electrical power.





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Memorisation

1) Keep the CH1 pressed on the circuit board. The led indicator will flash.



2) press the transmitter button to be memorised. The led indicator will stay on to confirm memorisation.



N.B.: to change the code, repeat the procedure described.

9.1 Periodic maintenance

The unit does not require specific maintenance.

Only as a precautionary measure and in case of intensive use, we recommend periodically checking (every 6 months) on the state of the electric wire connected to the motor, that the chain and belt tension is right, the tightness of the nuts and the proper oiling of the sliding points between fixed and mobile parts.

All checks must be recorded (in a dedicated record-book).

9.2 What to do when....

MALFUNCTIONS	REFERENCES	CHECKS
The automation does not open nor close	1-2-3	1 - Deactivate the maintained action by using the dipswitch
The automation opens but does not close	4-10-23	2 - Check the power supply and the line fuses
The automation closes but does not open	5-23	3 - The safety contacts (1-2) and the opening run-limiter micro switch (N.C.) are open
The automation does not automatically close	9-10-11	4 - The safety contacts (2-C1) and the opening run-limiter micro switch (N.C.) are open
The remote control does not work	1-12-14	5 - The safety contacts closing run-limiter micro switch (N.C.) are open
The automation exerts too much force	16	6 - Deactivate the obstruction detection function using the dip-switches
The automation exerts too little force	16-17-23-24	9 - Activate function "automatic closing"
The automation inverts the direction of movement	16-17-23-24	10 - Check the proper direction of motion
Only one remote control works	18	11 - N.C. command button instead of N.O.
The photocell does not work	4-19	12 - Check the fuse bridge on AF43S, remove/put power back on
The led indicator flashes quickly	3-4	14 - Memorise the radio code again
The led indicator stays on	11	16 - Ad just the sensitivity using the TRIMMER SENS
The automation does not work with the emer- gency batteries	6-21-22	17 - Eliminating mechanical friction
The automation inverts the direction of move- ment at the end of the cycle	10-17-23	18 - Insert (or duplicate) the same code in all the remote controls
The automation starts slowly	17-23-24	19 - Check the proper functioning of the photocell
		21 - Check the batteries
		22 - Respect the polarity of the photocells and accessories
		23 - Checking the balancing of the overhead door
		24 - Checking the tension of the belt/chain

10 Demolition and disposal

In its premises, CAME CANCELLI AUTOMATICI S.p.A. implements an Environmental Management System certified in compliance with the UNI EN ISO 14001 standard to ensure environmental protection.

Please continue our efforts to protect the environment—which CAME considers one of the cardinal elements in the development of its operational and market strategies—simply by observing brief recommendations as regards disposal:

DISPOSAL OF PACKAGING

The packaging components (cardboard, plastic, etc.) are all classifiable as solid urban waste products and may be disposed of easily, keeping in mind recycling possibilities.
Prior to disposal, it is always advisable to check specific regulations in force in the place of installation.
PLEASE DISPOSE OF PROPERLY!

PRODUCT DISPOSAL

Our products are made up of various types of materials. Most of them (aluminium, plastics, iron,

electrical wires, etc.) may be disposed of in normal garbage collection bins and can be recycled by disposing of in specifi c recyclable material collection bins and disposal in authorized centres.

Other components (electrical boards, remote control batteries, etc.), however, may contain polluting substances.

They should therefore be removed and given to qualified service companies for proper disposal.

Prior to disposal, it is always advisable to check specific regulations in force in the place of disposal.

PLEASE DISPOSE OF PROPERLY!

MANUFACTURER'S DECLARATION OF CONFORMITY Pursuant to annex II B of the Machinery Directive 98/37/EC



CAME Cancelli Automatici S.p.A. via Martiri della Libertà, 15 tel (+39) 0422 4940 - fax (+39) 0422 4941 internet: www.came.it - e-mail: info@came.it CAME

Declares under its own responsibility that the equipments for automatic garage doors and gates listed below.

AUTOMATION DRAW SYSTEM FOR V700 OVERHEAD AND SECTIONAL DOORS

CONTAINING SOME OF THE FOLLOWING ACCESSORIES V201 - V121 - V122 - V0670 - V0679 - V0682 - V0683 - V0684 V0685 - V0686 - V0687 - V0688

... comply with the National Law related to the following European Directives and to the applicable parts of the following Standards.

98/37/CE - 98/79/CE	MACHINERY DIRECTIVE		
98/336/CEE - 92/31/CEE	ELECTROMAGNETIC COMPATIBILITY DIRECTIVE		
73/23/CEE - 93/68/CE	LOW VOLTAGE DIRECTIVE		
89/106/CEE	CONSTRUCTION PRODUCTS DIRECTIVE		
EN 13241-1	EN 12635	EN 61000-6-2	
EN 12453	EN 12978	EN 61000-6-3	
EN 12445	EN 60335-1	EN 60204-1	

MANAGING DIRECTOR Mr. Andrea Menuzzo

IMPORTANT WARNING! Do not use the equipment specified here above, before completing the full installation

In full compliance with the Machinery Directive 98/37/EC

Judia Herrizzo

Reference code to request a true copy of the original: DDF B EN V010a ver.1.0

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