

SLIDING DOOR ACTUATOR



USE AND MAINTENANCE MANUAL

Original version in Italian

This user manual is an integral part of the machine and must be kept in an appropriate manner to maintain its integrity and allow it to be consulted during the life of the equipment.

Read this manual carefully before proceeding with any intervention on the equipment

The manufacturer has the right to make changes to the production and to the manual, without this entailing the obligation to update the production and previous manuals.

1. PREFACE

Dear Customer,

In thanking you for the preference given to us in choosing our equipment which will surely prove to be important above all over time, we invite you to strictly follow the instructions given in this manual, this will be of great help for optimal use and to keep the characteristics unchanged over time. characteristics of your equipment.








CHIAROSCURO SAS by Girelli Marco & C.

2. GENERAL INFORMATIONS

This user manual is an integral part of the equipment supplied and constitutes the essential support for its installation and correct use. Read it with particular attention and completely before proceeding with the installation and use of the equipment. The manual must accompany the equipment in case of resale. Partial and total reproduction of this document is prohibited without the written authorization of CHIAROSCURO SAS.

2.1 DEFINITION AND SYMBOLS

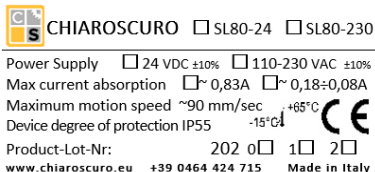
The paragraphs below contain a series of definitions, terminologies and symbols used in the drafting of this manual.

SIMBOLUS	DESCRIPTION
	User: (U.) operator without specific skills, able to use the equipment in normal operating conditions and for simple maintenance interventions.
	Electromechanical operator: Electromechanical operator: (OE) technician able to install mechanical hydraulic - pneumatic parts and to carry out adjustments, maintenance or repairs and to operate in the presence of voltage inside cabinets, junction boxes and electrical systems.
	Manufacturer's Technician: (TC) qualified technician made available by the manufacturer to carry out complex operations in particular situations or, in any case, as agreed with the user. The skills are, depending on the case, of a mechanical and / or electrical and / or electronic and / or software type.
	Note: It contains the important information or indications contained in the manual to be read, with particular attention, for the best use of the equipment.
	Danger: Indicates a situation that can cause injury, even death, or serious damage to health.
	Attention: Indicates a situation that could cause, even indirectly, damage to people, property and the environment with consequences also of an economic nature.
	Warning: Indicates that the directions must be followed with particular attention. Failure to observe the warning could cause malfunctions or dangerous conditions or damage.



3. IDENTIFICATION OF THE MANUFACTURER

The plate fixed on the side of the actuator contains all the identification data of the ST40 actuator. Example of label (the data shown are purely indicative, the real values are shown on the label of the equipment placed on the automation itself).



On the label, applied to all the motors, there are indications concerning the model of motor used, the operating voltages, the absorption, the speed of movement, the degree of electrical protection, the operating temperatures, the lot number and the year of production of the engine and the European **CE** mark certification

3.1 INFORMATION ON TECHNICAL ASSISTANCE AND MAINTENANCE

To report faults, contact the Assistance Center:



For communications or requests for information or spare parts, send the form "ORDER OF SPARE PARTS, TROUBLESHOOTING, INFORMATION" to the service center



To maintain the duration of the guarantee, the customer must scrupulously follow the instructions indicated in this manual. Otherwise, we will not be held responsible for any problems or malfunctions of the appliance (in this regard, carefully read the guarantee attached to the manual).



The manufacturer, in order to adapt the equipment to technological progress and specific production needs, may decide, without prior notice, to make changes to it without this entailing the obligation to update the production and previous manuals. Furthermore, if the illustrations in this manual differ slightly from the equipment in your possession, the safety and operating indications of the same are always guaranteed.

3.2 RACCOMENDAZIONI



In the event of an error, contact the service center indicating the model, code and serial number of the equipment (see Fig.3.1. Plate data label).



In the event that defects / malfunctions are found, do not try to repair the equipment but contact the service center indicating the model, code and serial number of the equipment (see Fig.3.1. Data plate label).

3.3 MANUTENZIONE STRAORDINARIA



User: Contact the electromechanical operator in case of breakages or malfunctions.

Electromechanical operator: Identify malfunctions and if necessary contact the service center indicating the model, code and serial number of the equipment. Use the service request form - spare parts



4. CHARACTERISTICS AND TECHNICAL INFORMATION

MODELLO	SL80 - 24	SL80 - 230
Number of doors	1 or 2	
Min-max width 1 leaf	40 - 350 cm	
Min-max width 2 doors	40 - 175 cm	
Max weight 1 door or the sum of several	120 kg	
Dimension LxHxP	150x54x38 + 25 mm	150x54x38 + 25 mm
Supply voltage	24 Vdc 110 ÷ 230 Vac	24 Vdc 110 ÷ 230 Vac
Maximum current absorption	~ 0.83 A ~ 0.18 ÷ ~ 0.08 A	~ 0.83 A ~ 0.18 ÷ ~ 0.08 A
Obstacle detection impact force	<150 N	
Maximum push and pull force	145 N	
Maximum movement speed	~ 90 mm / sec	
Working cycle	20 cycles / hour	
Limit switch adjustment	Position self-determination	
Standard strap length	6 meters	
Cable length	2 meters	
Manually reversible drive	Yes on request	
Radio receiver	Yes on request	

4.1 REGULATORY PREFERENCES

LEGISLATIVE REFERENCES	
SL80 230 VAC	SL80 24 Vdc
2004/108 / EC EMC Directive 2006/95 / EC LVD Directive 2006/42 / EC Machinery Directive 2011/65 / EC RoHS2 directive	2004/108 / EC EMC Directive 2006/42 / EC machinery directive 2011/65 / EC RoHS2 directive

The national and harmonized technical standards applied for compliance with the above legislative references are:

LEGISLATIVE REFERENCES	
SL80 230 VAC	SL80 24 Vdc
EN 60335-1 (2008_07)	EN 60335-1 (2008_07)
EN 60335-2-103 (2003_08)/A11(2009_07).	EN 60335-2-103 (2003_08)/A11(2009_07).
EN 55014-1 (2008_01)/A1 (2010_10)/A2 (2012_02)	EN 55014-1 (2008_01)/A1 (2010_10)/A2 (2012_02)
EN 55014-2 (1998_10)/A1 (2002_09)/A2 (2009_09)	EN 55014-2 (1998_10)/A1 (2002_09)/A2 (2009_09)



At the customer's request, a version of the SL80 system is available equipped with a radio receiver module and n. 2 transmitters operating in the 433MHz band complying with the requirements established by Directive 1999/95 / EC (radio equipment and telecommunications equipment)



5. GENERAL DESCRIPTIONS

The SL80 equipment is an automatic actuator for opening / closing sliding shutters (windows): It consists of a high-performance reversible automation coupled with high-strength gears. The possibility of closing or opening with simple manual controls placed in remote positions (remote control) or with automation systems (home automation) allows the user to make the most of the protection offered by the blinds in the different environmental conditions present (e.g. hot, cold, sheltered from insects etc.)

6. RECEIPT AND STORAGE

6.1 CHECK UPON RECEIPT OF THE EQUIPMENT

Upon receipt of the equipment, ensure the integrity and completeness of the content.

6.2 CONTENTS OF THE BOX:



1	Pcs.1	Motor with plate for rails with internal groove max 15mm
2	Pcs.1	Straight drag bracket
3	Pcs.1	Tensioner with idle return pinion
4	Mt.5	Belt 6 mt.
5	Pcs.1	Use and maintenance manual



In the event that the product, upon receipt, is damaged and / or with missing parts and / or defects / malfunctions are detected, do not try to repair the equipment but contact the service center indicating the model, code and serial number.

6.3 STORAGE

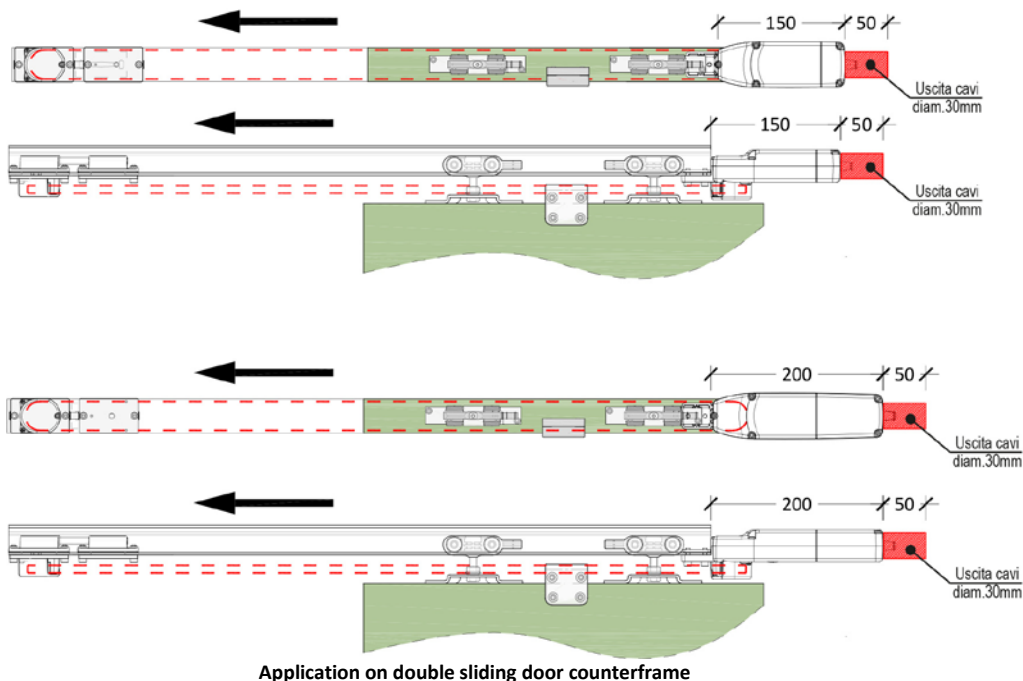


If the equipment is not used for a long time, store the equipment in a dry, clean and dust-free place.



In the event of material storage for more than 24 months from registration, CHIAROSCURO SAS provides the Guarantee provided for in the General Conditions of Sale.

7. ELECTRICAL PREPARATION



8. INSTRUCTIONS FOR MECHANICAL ASSEMBLY



***Electromechanical operator:** (O.E.) technician able to install mechanical - hydraulic - pneumatic parts and to carry out adjustments, maintenance or repairs and to operate in the presence of voltage inside cabinets, junction boxes and electrical systems.*



The automation provided is a product for professional use for free installation. Assembly must be carried out by a qualified electromechanical operator. CHIAROSCURO SAS exonerates itself from any responsibility in case of bad installation and / or installations made by unauthorized operators.

8.1 TOOLS REQUIRED FOR ASSEMBLY

To proceed with the installation, the following tools and materials are required:

Screwdriver for hexagonal head screw 4	1 x 5.5 slotted screwdriver
Electrician's scissors	Search phase
Fine point permanent marker	DIN 7505 / B Chipboard screw with cylindrical head 3.5 x 25 Pcs 2
Unipolar flying terminal 2,5	Probe pulls cables



The list shown is not supplied with the SL80 product, but is necessary for correct bench installation. D.P.I. or other are edited and evaluated by the O.E. depending on the installation itself in the field.

8.2 PRELIMINARY CHECK FOR CORRECT ASSEMBLY

Once the integrity of the contents of the box, tools and PPE has been verified necessary, it is possible to proceed with the verification of the space required for automation.

If the technical specifications of the motor were not respected during the design phase of the application, it will be up to the Electromechanical Operator (O.E.) to evaluate a possible solution with adaptation.

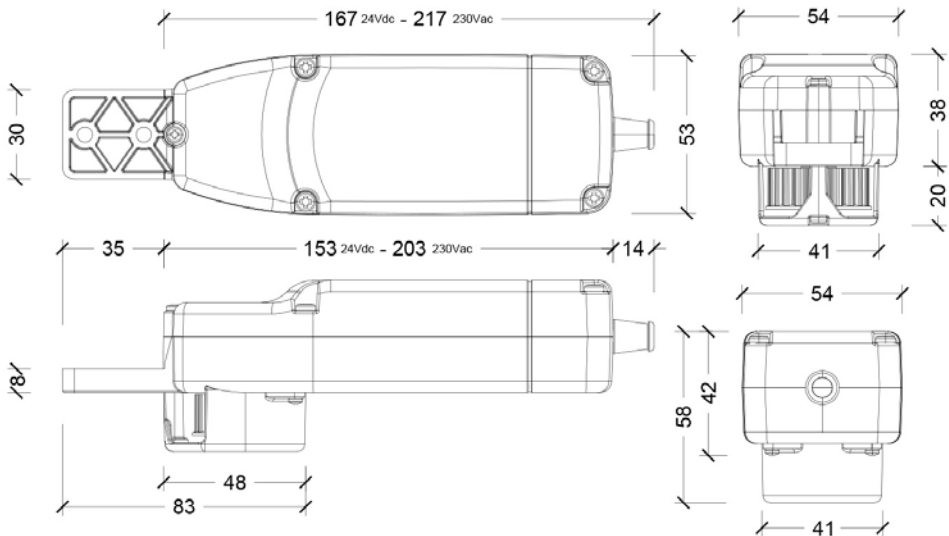
If in doubt, contact a Manufacturer's Technician (T.C.) who will provide support in order to find a suitable solution.

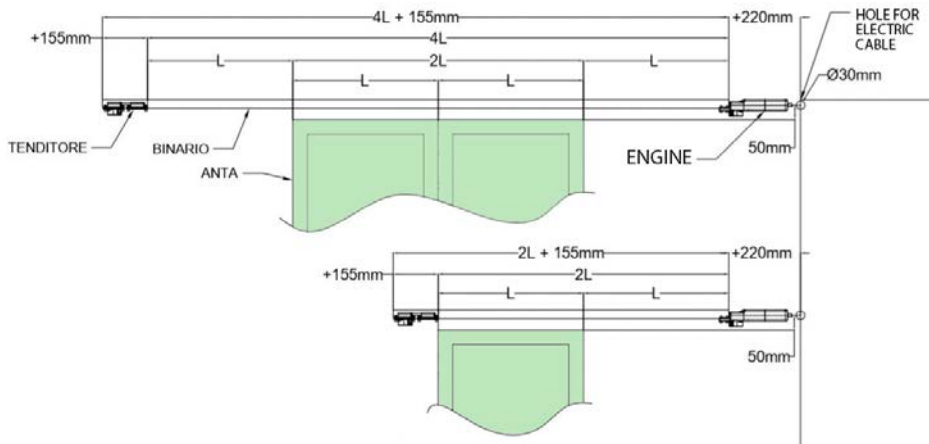


Check that the electrical setup and all parameters are respected

9. CHECK OF DIMENSIONS

Check that the compartment for the motor housing or the space in addition to the track are sufficient for the installation of the product, otherwise the installation of the item will decrease the travel of the door.





Actuator can be positioned to the right or left - All measurements are to be considered in millimeters, mm.



Check that the electrical setup and all parameters are respected

10. ENGINE INSTALLATION

In the following steps, the operations necessary for a correct installation of the automation on the track will be described.



Attention, following the installation manual of the chosen sliding system, proceed with the mechanical installation of the window frame. It is mandatory to insert the carriages and stoppers in reverse or by cutting the carriage locking clips, in order to prevent the carriage from locking in the stopper. Without this precaution, the carriage will remain blocked in the stopper and upon restarting the SLIDE.80 actuator will recognize this block as an obstacle. The order to be followed is as follows: stopper / trolley / trolley / stopper.



The order of insertion of the components in the track to be followed:

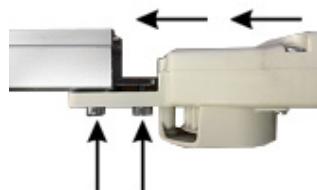
Single door: stopper / trolley / trolley / stopper;

Double door: stopper / trolley / trolley / stopper / trolley / trolley.

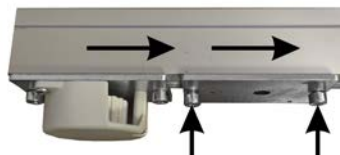
10.1 FIXING THE MOTOR ON THE TRACK

Open the clamp and insert the motor into the rail.

Check that the parallelism condition between the lower part of the track and the motor is respected, tighten the EN ISO 4762 M5x16 screws with the hexagonal head screwdriver n° 4 until they are fully tightened.



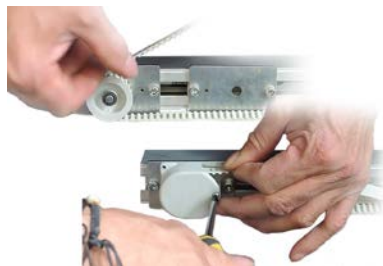
Repeat the same operation for the belt tensioner block at the opposite end, indenting 2 cm from the edge.



Attention, tighten only the first block of the belt tensioner unit (the internal one without a pulley) and leave the screws of the second block unscrewed (the external one with the pulley). Subsequently, by acting on the threaded shaft inside the blocks, the belt will be tensioned

10.2 POSITIONING AND FASTENING THE BELT

Insert the belt into the driving pulley and then into the return pulley. Attach the protection cap to this. The headset will hold this side of the strap in place.



The pulling plate acts as a joint between the two edges of the belt and when suitably fixed, as well as ensuring the perfect tightening of the belt, it transmits the movement of the belt to the door.

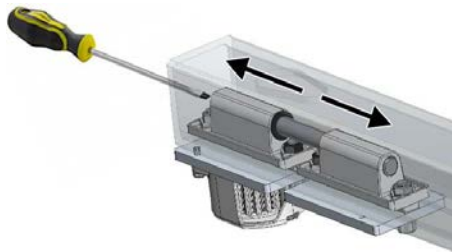
- ① Morsetto di serraggio cinghia
- ② Cinghia
- ③ Piastra traente



Bring the flap of the motor-side belt to the center of the track and centrally fasten the belt on the traction bracket and continue hooking the flap coming from the idle pulley to the traction bracket. From the interception of the flaps, cut the adjacent flaps with electrician's scissors and tighten the clamp of the pulling bracket by acting on the two hexagonal head screws No. 4.



To tension the belt loop, the M8 screw shaft that makes up the belt tensioner must be unscrewed with the 1x5.5 slotted screwdriver, in order to move the idle pulley block away from the clamp contrast block that was previously fixed and which now acts as a contrast.



Once the correct tension has been reached, tighten the fastening screws of the idle pulley block with the hexagonal socket wrench n° 4.

10.3 COMPLETION OF MECHANICAL INSTALLATION OF THE SLIDING SYSTEM

To complete the mechanical installation, simply proceed as described in the installation manual of the manufacturer of the sliding system, taking care not to damage the automation just installed on it.

10.4 FIXING THE BRACKET BETWEEN THE DOOR

Fix the bracket to the door in a central position with the 3.5 x 25 - DIN 7505 / B chipboard screws. For the 2-door system, carry out the same operation on the opposite edge of the belt loop in the correct position to be able to complete the movement of both doors.



For the 2-leaf system, if the leaves do not have the same stroke, the automation will perform the shortest stroke.

11. AUTOMATION OPERATION

The automation operates the doors after pressing the button and continues to move them until the button is pressed. The operator switches off automatically when the effort is detected, with the leaf completely open or completely closed. The closing / opening force must be set appropriately by means of a trimmer (see chapter "Adjustment trimmer"). To stop the leaves at an intermediate point during movement, simply stop pressing the button.

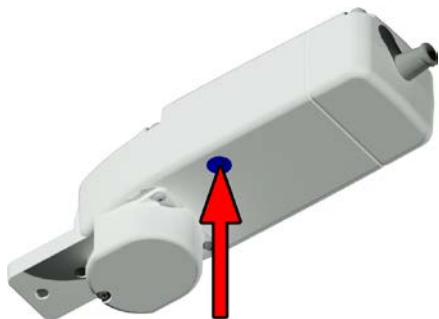
11.1 TRIMMER TEMP: INCREASE THE OPENING SPEED OF THE DOORS:



The board, as standard, is pre-wired and configured with pre-optimized "default" parameters that are valid for most users and types of common use. It is not recommended to modify the default parameters of the electronic board, which must only take place when necessary. The modification of the configuration parameters must only be carried out by knowledgeable and qualified operators.



11.2 TRIMMER CURR: INCREASE IN MOTOR POWER:



Adjusting the **CURR** trimmer allows you to set the thrust torque.

By setting a thrust level too low, the leaves will lock in an anomalous way, while too much power would lead to a single effort of the motors when the stroke is complete. We suggest identifying the minimum operating point and from that position, increase the power by ¼ of a turn.

12. ELECTRICAL CONNECTION

Assembly must be carried out by a qualified electromechanical operator. CHIAROSCURO SAS exonerates itself from any responsibility in case of bad installation and / or installations made by unauthorized operators. (Minimum card size 145 x 105mm)



The proper functioning of the equipment and compliance with safety requirements are guaranteed only if connected to an efficient electrical system built in accordance with the laws in force (in Italy Legislative Decree 37/2008). The manufacturer assumes no responsibility for any damage to the equipment or to third parties caused by the use of a system that does not comply with current regulations.



If the behavior of the equipment does not reflect the above, do not use the automation and immediately report the anomaly to the CHIAROSCURO SAS authorized service center. Never open the enclosure of the equipment unless expressly authorized in writing by CHIAROSCURO SAS. Failure to comply with this rule will result in the immediate forfeiture of the warranty and consequent liability of CHIAROSCURO SAS for aspects concerning the safety and operation of the equipment.



It is the sole responsibility of the electromechanical operator to set up the system. CHIAROSCURO SAS is in no way responsible for deficiencies of any nature on the system. All the information necessary for a good system is fully available, it is the buyer's responsibility to request them formally.



13. ELECTRICAL INSTALLATION PREPARATION

WARNING !

The electrical installation must be carried out following the national standards in force, thus for all the obligations established by law. The electrical connections must be made without voltage, do not power the work area before completing all assembly operations.

RADIO SPECIFICATIONS

Frequency : 433.92 Mhz
Field of transmitters : approx : 70m free field

The good propagation of radio waves depends on the nature of the environments to pass through.
The range of radio waves is affected by the type of construction

13.1 TYPE OF CONTROL BUTTON AND CONNECTION TO THE INTEGRATED CONTROL UNIT

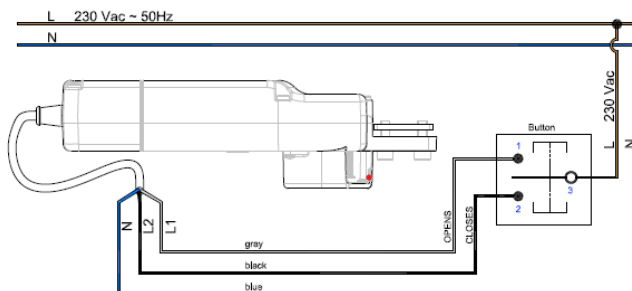
13.2 TYPE OF CONTROL BUTTON



The switch must necessarily be of the type: interlocked up and down switch without restraint.

14. ELECTRICAL DIAGRAMS

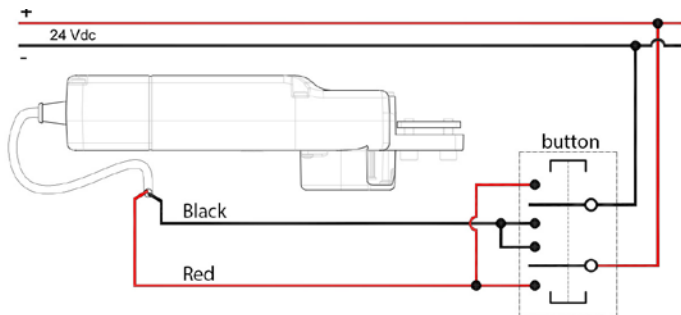
14.1 WIRING DIAGRAM FOR 230 VAC CONNECTION



BUTTON	
L1	Open Opening command towards button
L2	Close Closing command towards button
L	Line 230 Vac - 50Hz line
Connections to SL80	
L1	Opens Line opens towards SL80
L2	Closes Line closes towards SL80
N	Neutral Neutral towards SL80

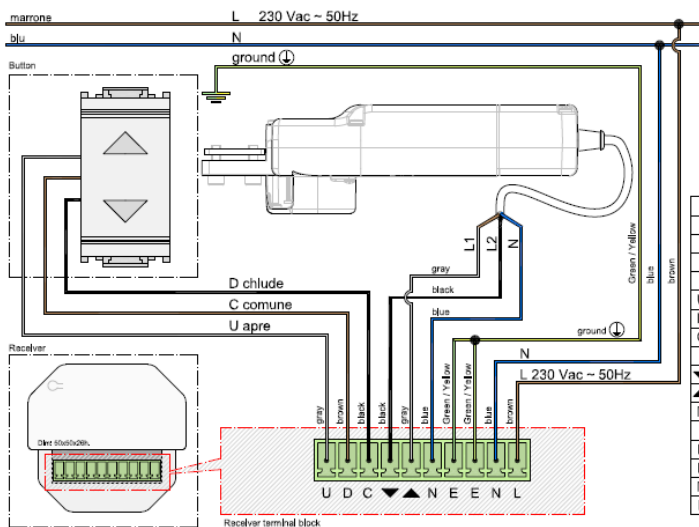


14.2 WIRING DIAGRAM FOR 24 Vdc CONNECTION



links to the button	
-	Linea - 24 Vdc
+	Linea + 24 Vdc
links to the SL80	
Nero	Linea + / - 24 Vdc
Rosso	Linea + / - 24 Vdc

14.3 RADIO RECEIVER WIRING DIAGRAM MOD. EWSCE230



IN 230 Vac on SL80	
L1	Line open N.O.
L2	Line close N.O.
N	neutral
BUTTON	
U	Opens Opening towards button
D	Closes Closing towards button
C	Common Common
Connections to SL80	
▼	Line close towards SL80
▲	Opening towards SL80
N	Neutral towards SL80
Wiring 230 Vac	
E mass 1	Ground
E mass 2	Ground 2
N	Neutral 230 Vac - 50Hz
L	Line 230 Vac - 50Hz



15. Compatibility with home automation system



The automation is compatible with almost all home automation systems and existing home automation management modules that manage the opening and closing of rolling shutters (modules that can be purchased from specialized dealers). As for the control of rolling shutters, it is in fact sufficient to set a retention time of more than 60 seconds using your favorite application: the automation will move and automatically stop when the leaves are opened / closed. The integrated card is in fact able to stop the motorizations in motion completed, locate any obstacles or presences during operation, in order to ensure maximum safety during operation is to preserve from efforts the engines. This simplified use makes automation extremely easy to manage and configure! We suggest you check the compatibility of your home automation module by consulting your trusted dealer, showing him this type of simplified use and these wiring diagrams. You can also contact our technicians who will be happy to provide you with further technical and functional details.

16. PROBLEMS AND ANOMALIES

Fault table: O.E. must keep this table updated when performing an intervention and attach it to the motor in the event that, in agreement with CHIAROSCURO, the motorization is to be sent for assistance, for the factory reset of the automation.

DATE	OPERATOR	ANOMALY DESCRIPTION	PROBABLE CAUSE



If the proposed intervention has not resolved the anomaly found, interrupt the operations and request the intervention of the Assistance Center.



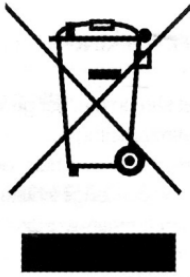
Never open the enclosure of the equipment unless expressly authorized in writing by the Chiaroscuro company. Failure to comply with this rule leads to the immediate forfeiture of the warranty and the consequent liability of the supplier for aspects relating to safety and operation.

17. DISPOSAL

INFORMATION FOR USER

Pursuant to art. 13 of the Legislative Decree 25 July 2005, n. 151 "Implementation of Directives 2002/95 / EC, 2002/96 / EC and 2003/108 / EC, relating to the reduction of the use of hazardous substances in electrical and electronic equipment, as well as the disposal of waste"

The crossed-out bin symbol shown on the equipment indicates that the product at the end of its useful life must be collected separately from other waste. The user must, therefore, deliver the equipment complete with the essential components at the end of its life to suitable separate collection centers for electronic and electrotechnical waste, or return it to the retailer when purchasing new equipment of an equivalent type, at the rate of one by one. Adequate separate collection for the subsequent start-up of the discarded equipment for recycling, treatment and environmentally compatible disposal helps to avoid possible negative effects on the environment and health and favors the recycling of the materials of which the equipment is made. Illegal disposal of the product by the user involves the application of administrative penalties provided for by current legislation.



18. LIMITS OF LIABILITY

It is up to the buyer / installer to determine if the engine thrust is adequate for the needs of the required application; the needs depend on various factors mainly: weight and dimensions of the door or the pair of doors, correct verticality and balance in the sliding, friction of the carriages and of the elements of contact with the doors and various entities that generate antagonistic forces which hinder the free scrolling. The intensity and duration of the stresses of these antagonistic forces are highly variable and in the absence of complex and expensive measurement and recording procedures, they can only be estimated not in a subjective and approximate way.

In the offer, the supplier company expresses an evaluation of these factors based first of all on data and information made available by the customer and possibly emerged from the inspection, but such evaluations cannot be considered contractually binding and binding for the purpose of attributing responsibility to the supplier company in the choice and adequacy of the supply to the specific case as only with a pilot installation made in the case considered by the most significant customer can the real needs / problems of the application emerge.

The various mechanical elements are designed to cope with the stresses and normal wear resulting from the drive thrust generated by the apparatus for a number of 20,000 operating cycles. However, there are stresses and consequent wear that do not depend on the drive thrust but depend on poor installation and above all on stresses caused by friction when the intensity or frequency of the opposing forces are significant or related to consistent phenomena.

Precisely because of the unknown entity and type of said stresses, the resistance of the apparatus for this purpose cannot be guaranteed.

19. WARRANTY

CONDITIONS AND LIMITATIONS:

CHIAROSCURO SAS company guarantees the equipment for a period of 12 months.

The warranty starts from the date of purchase indicated on the fiscal document at the time of delivery of the equipment. The company undertakes to repair or replace free of charge those parts that show manufacturing defects within the warranty period. The guarantee does not include any form of compensation deriving from direct or indirect damage to persons or things. During the warranty period, if the Customer wishes the repair to be carried out by the CHIAROSCURO SAS technicians, a written request must be sent to CHIAROSCURO SAS. In this case, the costs relating to travel, food and accommodation will be fully charged to the customer. For interventions caused by defects or failures not clearly attributable to the material or manufacturing, all travel, repair and / or replacement costs of all parts will be charged to the customer. The extension of the guarantee following a repair on the equipment is excluded. In case of return of parts of the equipment, the Customer will be able to ship them only after receiving written authorization from the CHIAROSCURO SAS company. Packaging and shipping costs are charged to the customer (unless otherwise agreed between the parties). In any case, accidental damage due to transport, neglect, inadequate treatment, use that does not comply with the warnings given in this manual or for all those phenomena not dependent on the normal operation or use of the equipment are excluded from the guarantee. The warranty is void if the equipment is repaired by unauthorized third parties or if equipment or accessories not supplied, recommended or approved by CHIAROSCURO SAS are used or if the serial number is removed or altered during the warranty period. The guarantee immediately ceases its effects in the event that the Customer is late or non-payment, even partial. CHIAROSCURO SAS declines all responsibility for any damage to persons or things caused by misuse or imperfect use of the equipment. The Court of Rovereto (ITALY) is competent for any dispute.

20. MARKING COMPATIBILITY CERTIFICATE

CHIAROSCURO SAS di Girelli Marco & C.

C.So General A.Cantore 23 - 38061 Ala (TN) Italy.

Tel: +39 0464 424715 fax: +39 0464 712027

email: info@chiaroscuro.eu sito: www.chiaroscuro.eu

Dichiara che il prodotto elettrico

Model SL80

Description Actuator for the movement of hinged doors

It complies with the legislative provisions that transpose the following directives and subsequent amendments:

2004/108 EC Directive (EMC Directive) and subsequent amendments 2006/95 / EC EC Directive (Low Voltage Directive) and subsequent amendments 1999/5 / EC RoHS2 Radio and Telecommunications Terminal Equipment 2002/95 / EC Restriction of use of certain Hazardous Substances

Compatibility is valid provided that the SL80 actuator is used exclusively for the intended applications and the installation is performed according to the assembly instructions.

ALA, 03/09/2020



Marco Girelli
Legal Representat