

- START-S2XL-2022_021122_VXX07_GB



Foreword

This manual provides all the specific information you need to familiarize yourself with and correctly operate your unit. Read it very carefully when you purchase the instrument and consult it whenever you have doubts regarding use and before performing any maintenance operations. Nologo has the right to modify the product without previous notice.

Environmental protection measures

Information regarding the environment for customers within the European Union. European Directive EC 2002/96 requires that units bearing this symbol on the unit and/or on the packaging be disposed of separately from undifferentiated urban wastes.



The symbol indicates that the product must not be disposed of with the normal household wastes. The owner is responsible for disposing of this product and other electrical and electronic equipment through specific waste collection facilities indicated by the government or local public agencies. Correct disposal and recycling help prevent any potentially negative impact on the environment and human health. To receive more detailed information regarding disposal of your unit, we recommend that you contact the competent public agencies, the waste collection.

Symbols and warning



DANGEROUS

This is a warning and if it is not respected it can provoke material damage.



DEVICE UNDER TENSION

The installation should be done only from professional installer.



READ CAREFULLY THE OPERATING MANUAL

Read carefully this manual before installation and keep it for the future.

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1 Introduction

1.1 Safety precautions

Using the unit improperly and performing repairs or modifications personally will void the warranty. The producer declines any responsibility for damages due to inappropriate use of the product and due to any use other than the use the product was designed for. The producer declines any responsibility for consequential damages except civil liability for the products.

Every programming and/or every maintenance service should be done by qualified technicians.

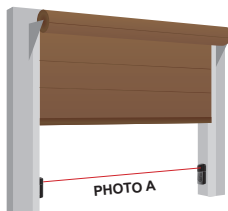
1.2 Field of application

Control unit for rolling shutters, awnings, shutter doors and any opening-closing systems with limit switch.

1.3 Type of installation

These two simple diagrams show only one of the possible applications for this control unit. The risks inherent to the **"MACHINE"** and the user's requirements must be analyzed in depth in order to establish how many elements need to be installed. All photocells have a system of synchronism that makes it possible to eliminate interference between two pairs of photocells (for other details, see the instructions for the photocells). In the diagram, the pair of photocells **"Photo A"** (considered in this control unit) has no effect during opening while it causes a total inversion during closing.

We recommend to install a STOP switch which stops immediately the gate. The switch has a normally close contact which opens the contact when it is working. See Par. 2.8



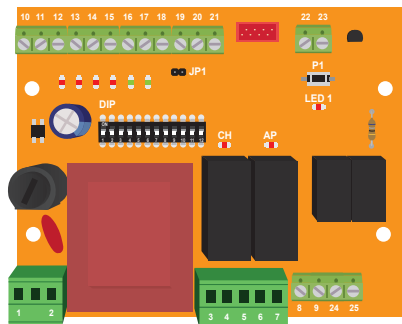
Application in a rolling shutter

1.4 Technical features

| | | |
|-----------------------------------|---------------|--------------|
| Dimensions | 107 x 78 x 35 | mm |
| Weight | 280 | g |
| MAX power of single motor | 1 750 4 | HP W A |
| Working temperature | -20°C + +60°C | °C min/Max |
| MAX power of signal light 230 Vac | 40 | W |
| MAX absorption with clean contact | 2 | A |
| MAX absorption 12 Vac | 200 | mA |

2 Installation

2.1 Diagram of the control unit and electrical connections



1 → 2 control unit power supply 230Vac

3 → 7 power supply for motor and for 230Vac signal light

8 → 9 dry contact for signal light without flashing

10 → 21 power supply voltage to accessories and to service and safety inputs

DIP exclusion of the inputs STOP-PHOTO-LSO-LSC. Set up of the logic of the control unit BUS-DATA system, Courtesy light

Button P code learning, force adjustment, increase of the pause time

Jumper JP1 Activated/Deactivated 8K2 safety edge



Connection of the VOLTAGE line

230 Volt Single-phase alternate current. The control unit power supply line must always be protected with a magnetothermal switch or a pair of 5A fuses.

A differential switch is recommended but not indispensable if one is already installed on the plant.



Connection of the MOTOR

Pay particular attention not to invert the OPEN and CLOSE poles.

When in doubt as to the correct connection, if possible, manually position the automation at the midpoint of its stroke. Be ready to stop the system using the STOP control!

To be sure that the opening is really "opening", try to block the photocells: if the gate begins to close, the connection is incorrect and the motor OPEN and CLOSE wires must be inverted.

2.3 Checking connections

The TEST light signals that check if the control unit is working properly. It must flash at one second intervals indicating that the internal microprocessor is on and awaiting a command. When the control unit is powered, the warning lights, set on the inputs, are ON when the contacts on the inputs are closed toward the common:




Normally the red lights on inputs **STOP - FOTO - LSO - LSC** are **ON**






Normally the green lights on the control inputs **START - CLOSE** are **OFF**



Look **LED L1** when correct programmed, should flashes constantly or with a single/double flashing. Check the safeties, the gate should go in the right direction, it should open firstly.

















2.2 Description of the electrical connection





| | | | |
|--------|---|---|---------------------------------------|
| N | 1 |  | Electrical power supply 230 Vac 50 Hz |
| Ground | |  | Ground |
| L | 2 |  | Electrical power supply 230 Vac 50 Hz |

| | | | |
|--------------|---|---|---|
| Lampeggiante | 3 |  | Output for flashing or courtesy light 230 Vac, maximum power rating of the lamp 100W. |
| | 4 |  | |
| MOT common | 5 |  | Output for connection of COMMON motor pole |
| MOT open | 6 |  | Output for connection of OPENING motor pole |
| MOT close | 7 |  | Output for connection of CLOSING motor pole |

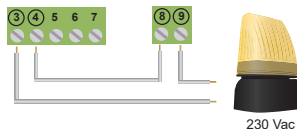
| | | | |
|-------------|---|---|--|
| Dry contact | 8 |  | Dry-contact contacts for light or flashing light without intermittence circuit board |
| Dry contact | 9 |  | |

| | | | |
|-------------|----|---|---|
| 12 Vac | 10 |  | Output 12 Vac maximum current 200mA |
| 12 Vac | 11 |  | Output 12 Vac maximum current 200mA |
| Lso | 12 |  | Input for opening limit switch |
| Lsc | 13 |  | Input for closing limit switch |
| Stop | 14 |  | Input for STOP |
| Photo A | 15 |  | Input for photocell (PHOTO A safety trips intervention only when closing) |
| Start | 16 |  | Input for step-by-step START (Set Up DIP5 and DIP6) |
| Close | 17 |  | CLOSING input it makes the following cycle: close-stop-close... |
| BUS-DATA | 18 |  | Bus - data system |
| Common | 19 |  | Common for all inputs: services, safety devices, bus |
| Comune | 20 |  | Common for all inputs: services, safety devices, bus |
| Safety edge | 21 |  | Safety edge 8K2 |

| | | | |
|-----------|----|---|--|
| - Antenna | 22 |  | Coaxial antenna braid |
| + Antenna | 23 |  | Input for antenna signal (end of antenna hot wire) |

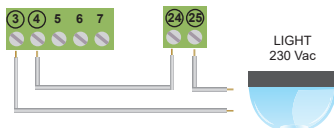
| | | | |
|---------------|----|---|--|
| 3° radio ch | 24 |  | Contact for the 3rd radio channel (DIP 9 OFF) or dry contact for courtesy light (DIP 9 ON) |
| 3° radio ch | 25 |  | |
| - Battery 12V | 26 |  | 12 Vdc battery connection for motor brake release in case of power failure. <i>Terminals 26-27 will only be installed on request.</i> |
| + Battery 12V | 27 |  | |

2.4 Connection of the SIGNAL LIGHT 230 Vac



Press the P1 button during the closing, until the LED L1 flashes, to switch from the flashing light or fixed light mode.

2.5 Connection of the COURTESY light



In case of the installation of a courtesy light put DIP 9 in ON. In this way the terminals 3-4 are powered from 230V, until 2 minutes after opening and until 2 minutes after closing.



2.6 Connection of the Safety edge 8K2

Connection of the ALT control ALT:

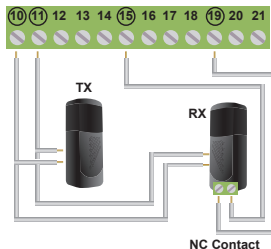
Stops the automation and activates an inversion of direction for approximately 1.5 seconds.

Safety edge 8K2



If LED L1 flashes but it doesn't turn off completely it means that the SAFETY EDGE input is in Stand-by or has been excluded.

2.7 Connection of the 12 Vac photocell (only closing)



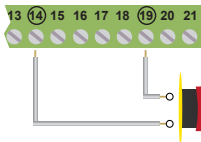
The photocell receiver contact must be:
- **dry** (insulated from power supply voltages)
- **type N.C.** (Normally closed)

If more than one pair of photocells is used, they must be connected in series.



If the STOP input is NOT used put the DIP 4 in ON

2.8 Connection of the STOP control devices



Connection of the STOP control

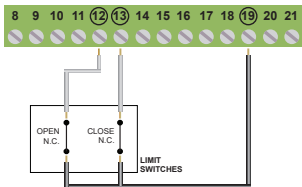
Push-button: stops and temporarily prevents all control unit function until it is pressed again.

Switch: keeps the automation blocked until it is reset.

! If the STOP input is NOT used put the DIP 3 in ON.

Connection of the safety devices requires the use of any push-button or N.C. (normally closed contact)
When there are several safety devices, they are connected in series.

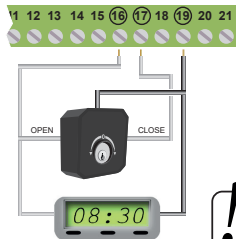
2.9 Connection of LIMIT SWITCHES LSO and LSC



The picture shows the connection of both limit switches, however, on this control unit they can also be used separately. Therefore, it is possible to use just the "Open limit switch" or just the "Close limit switch". The limit switch contacts must be N.C. (normally closed) contacts.

**! If the LSO or LSC inputs aren't in use:
put DIP 1 in ON for LSO
and DIP 2 in ON for LSC**

2.10 Connection of the "START" and "CLOSING" commands



The connection of the opening control START (16-19) or CLOSING (17-19) can be done with any button or with a normally open contact. If you use the terminal board START (16-19) it is possible to connect a TIMER to program the opening of the gate. It is possible to use a timer with automatic re-closing or in step-by-step function (see TIMER WITH STEP-BY-STEP FUNCTION)

The contact of the TIMER should be normally open, and the contact should be closed when the gate is opening. If the opening connection is available, the terminal board no.16 should be parallel connected.

TIMER WITH STEP-BY-STEP FUNCTION (DIP5 OFF - 6 ON)

If you connect a timer in the input START (n°16 - n°19), the gate closes when the timer contact is in OFF position (open contact) but only in case the gate is open and the timer is connected for more than 10 seconds.





2.11 Function of the LIGHT: fix or flashing





During the opening and closing of the gate you can hear the relay: when the gate is opening it sounds faster and when it is closing it sounds slower. To avoid any commutation when the gate is working, keep pressed **P1** when the gate is closing until **L1** is flashing.






3 Operating logic for DIP




The control unit dispose of micro-switches **DIP** which can activate or deactivate different functions to give more safety.

| | | | | | |
|--|-------------|------------------------------|---|-------------|--------------------------------|
|  | DIP 1 ON | Exclude the input LSO |  | DIP 3 ON | Exclude the input STOP |
|  | DIP 2 ON | Exclude the input LSC |  | DIP 4 ON | Exclude the input PHOTO |

| | | | |
|--|----------------------|--------------------------------|---|
|  | DIP 5 ON - 6 OFF | COLLECTIVE USE | When opening and in pause time it doesn't accept any other control. <i>It recloses automatically at the end of the pause time</i> |
|  | DIP 5 OFF - 6 ON | PARTIALLY AUTOMATIC | Each control the sequence is: open-stop-close-stop-open etc. <i>It doesn't reclose automatically.</i> |
|  | DIP 5 OFF - 6 OFF | AUTOMATIC 1 | Each control it inverts: open-close <i>It reclose automatically at the end of the pause time.</i> |
|  | DIP B 5 ON - 6 ON | AUTOMATIC 2 | Each control the sequence is open-stop-close-stop-open . It recloses automatically at the end of the pause time. |

| | | | |
|--|---------------------------|---|---|
|  | DIP 5 - ON DIP 7 - ON | Man Present (CLOSING) | It activate the "Man Present" Up function only in CLOSING (with a remote control, too) |
|  | DIP 5 - OFF DIP 7 - ON | Man Present | It activate the "Man Present" Up function in OPENING and CLOSING (with a remote control, too) |
|  | DIP 8 - ON | Set up of the Pre-programmed Working times | It activate the standard working time at 90 seconds with a pause time of 10 seconds. |




Program of the DIP Dip for BUS-DATA SYSTEM and Courtesy light

| | | | |
|--|---------------------|-------------------------------------|--|
|  | DIP from 9 to 12 | Set Up of ID BUS | Free program to create an address to control the control unit, For Bus data System see next chapters. |
|  | DIP 9 - ON | Courtesy light | In the contact of the terminal board no. 24 and 25 remains closed from the beginning of the opening up to 2 minutes after opening and from the beginning of the closing up to 2 minutes after closing. |
|  | DIP 10 - OFF | Automatic motor detector | With the OFF setting (default) the control unit will stop automatically after the intervention of the internal limit switches inside the motor. |

4 Managing of REMOTE CONTROL (Only with plug-in receiver)

4.1 DELETING the codes memory





This operation deletes all codes present in the memory. There is no arrangement for deleting single codes. The memory must be reset before learning the first remote control so that there are no previously learned codes and no unused codes in the system. The memory, and thus all the codes, can be deleted when the automation is closed.

| | | |
|---|---|--|
| 1 |  | Press and keep pressed the button P in the control unit, LED L1 is lit up. |
| 2 |  | After 6 seconds LED L1 will be turned off and you can release the button P1 |
| 3 |  | LED L1 will flash for 4 times then it will flash regularly to memorize fixed code. (1 regular flash only see next paragraph). <i>The memory has been cancelled.</i> |

4.2 Code managing

To choose: which remote control should I memorize? How will the receiver manage the codes?
START-S2XL can manage fix and HCS rolling code, you can see how to memorize in the different ways.

The output of the control unit should be deactivated, eventually light connections should be turned off.
This operation is possible only when the gate is closed.

| | | |
|---|---|---|
| 1 |  | Press and release the button P1 , LED L1 will be lit for 6 seconds. Then |
| 2 |  | Press and release (within 6 seconds) button P1 , LED L1 will flash one time and then be lit on for 6 seconds. |
| 3 |  | Press and release (within 6 seconds) button P1 , LED L1 will flash one time and then be lit on for 6 seconds. |
| 4 |  | Press and release the button P1 again (in 6 seconds), LED L1 will flash for 2 times regularly and it means that ROLLING CODE HCS remote controls can be memorized. |

In case you need to go back to the "fixed code remote control" memorization" follow the passages 1 and 2, and wait that the LED L1 will turn off. Once you memorized the first code, the receiver will manage remote control of the same Codes type. If the first remote control is a 12 bit (ex. Dip.switch), the receiver will memorize only 12 bit remote controls of the same type.

LED L1 in NORMAL status, indicated the type of codes:

- 1 REGULAR FLASH** memorization if only fixed code remote controls
- 2 REGULAR FLASHES** memorization of ROLLING CODE remote controls like SMILE, SMART etc.







5 Turning on and learning of the control unit

If everything has been correctly connected, when turning on the red light of LED L1 TEST should flash, while STOP, PHOTO, LSO (opening Limit Switch), LSC (Closing Limit Switch) should lit up (if the gate is closed and if the closing limit switch is connected, it should be turned off). LED START and PED (partial opening) are turned off.


During the programming you can hear the relay even if it is not connected, when opening it sounds fast (1-2 seconds) when closing it sounds slow (1 second) If the flashing light has been connected (terminal board no. 3-4-8-9), it flashes fast when opening (1-2 seconds) and slowly when closing (1 second).

5.1 Working time with or without limit switches

This function is recommended in case the LS are not installed while if the LS are installed follow Par 5.2:

| | | | |
|---|---|---|---|
| 1 |  | Turn off the circuit board Put in OFF the micro-switches 7 and 8 of the DIP. | |
| 2 |  | Power the control unit | The gate is CLOSED |
| 3 |  | Push the control START (everything connected to the input 16 or to the first channel of the remote control) from now it starts counting. | The gate OPENS (The control unit counts) |
| 4 |  | Push the button P1 and from now it memorizes the working time. | The memorization starts of the times |
| 5 | | When the gate opens at the chosen point, press button P1 . If you use the limit switch you don't need to press P1 | The gate STOPS |
| 6 |  | Let the time go for the opening time | The gate is in PAUSE TIME |
| 7 |  | Press the button P1 to start closing | The gate starts CLOSING |
| 8 | | Wait until the gate stops automatically | The gate is CLOSED |
| 9 | | Program the dip 7-8 for the personalized program again (Par. 3.2) | Programming is over |

5.2 Time programming with limit switches

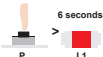

| | |
|--|---|
|  | When you use the limit switches you can use the standard working time of the control unit. The programming can be activated with micro-switch 8 of DIP. Fixed working time up to 90 seconds. Fixed pause time up to 10 seconds. As mentioned, if you need to personalize the pause time it is necessary to program as described in the chapter 5.1. |
|--|---|

4.3 Remote control LEARNING

The control unit dispose of a button **P1** to program the working time and to memorize the code of the remote controls. If you use a new **FIXED CODE** remote control like **SMILE-C**, make sure that all buttons have a code otherwise you need to create a code. In case of a **SMILE-H** (rolling code remote control) you don't need to do the above mentioned procedure. The output of the control unit should be deactivated, so no contacts available, the lights should be turned off. **This operation is possible only when the gate is closed. The LED L1 should flash regularly, see "Codes managing" in the previous paragraph.**

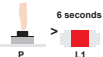
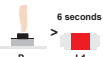

To memorize the first channel of the remote control with the control **OPEN (START)**

This works with the logic DIP 5 and 6 see "Function logic":


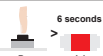


| | | |
|---|---|--|
| 1 |  | Press and release the button P1 in the control unit, LED L1 will lit for 6 seconds. |
| 2 |  | In this 6 seconds push the button of the remote control which is associated to the control OPEN (START) , we suggest the 1st channel. To confirm the right operation LED L1 will flash for 5 times and then regularly as at the beginning. <i>The control OPEN has been memorized</i> |

To memorize the control "CLOSE" in the second channel

This operation is possible only in this sequence: **CLOSE-STOP-CLOSE** which it cannot be changed:

| | | |
|---|---|---|
| 1 |  | Press and release the button P1 in the control board, LED L1 will lit for 6 seconds. |
| 2 |  | In these 6 seconds press and release the button P1 again, LED L1 will lit for 6 seconds. |
| 3 |  | In these seconds press the button of the remote control which should be associated to the control CLOSE , we suggest the 2nd channel. This function is only possible in this sequence: close-stop-close... and it cannot be changed. To confirm the right procedure LED L1 will flash for 5 times and then regularly as at the beginning. <i>The code CLOSE has been memorized.</i> |

To memorize the third channel (terminal board 24-25):

| | | |
|---|---|--|
| 1 |  | Press and release the button P1 in the control board, LED L1 will lit for 6 seconds. |
| 2 |  | In these 6 seconds press and release the button P1 again, LED L1 will lit for 6 seconds. |
| |  | In these 6 seconds press and release the button P1 again, LED L1 will lit for 6 seconds. |
| 3 |  | In these seconds press the button of the remote control which should be associated to the third channel (24-25). To confirm the right procedure LED L1 will flash for 5 times and then regularly as at the beginning. <i>The third channel code has been memorized.</i> |

6 Declaration of CE conformity

(according to EC Directive 2006/42, Attachment II, part 1, ses. A)

The undersigned **Ernestino Bandera**,
Administrator



DECLARES THAT:

Company: EB TECHNOLOGY SRL
Address: Corso Sempione 172/5
21052 Busto Arsizio VA Italy
Product's name: **START-S2XL/NEW**
Universal control unit
for 1 sliding gate 230 Vac

THE PRODUCT COMPLIES

with what is outlined in the European Community directive:

2006/42/CE

EC DIRECTIVE 2006/42 ISSUED BY THE EUROPEAN PARLIAMENT AND COUNCIL on may 17, 2006 harmonizing the legislation of the member countries regarding machinery.

Reference: Attachment II, part 1, ses. A
(EC Declaration of Conformity issued by the manufacturer).

THE PRODUCT COMPLIES

with what is outlined in the European Community directives:

2014/35/EU

DIRECTIVE 2014/35/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits.

Reference to harmonized standards: EN 60335-1

2014/30/EU

DIRECTIVE 2014/30/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 26 February 2014 on the harmonisation of the laws of the Member States relating to electromagnetic compatibility.

Reference to harmonized standards: EN 61000-6-2 EN 61000-6-3

The directive 2006/42/CE remind that it is not allowed the function of the product until the machine, for which the product is included, is not indentify and declared conformed to the 2006/42/CE directive.

Busto Arsizio, 05/04/2022
The administrator
Ernestino Bandera

EB TECHNOLOGY S.r.l.
Corso Sempione 172/5,
21052 Busto Arsizio VA Italy

posta@ebtechnology.it
www.ebtechnology.it

NOLOGO S.r.l.
Via A. Pacinotti, 44
20035 Villa Cortese MI Italy
tel. +39 0331.430457

info@nologo.info
www.nologo.info

