

The venetian blind in the ScreenLine® SL27M internal motorised system is manufactured in accordance with high technical specifications and production standards. The venetian blind operation is achieved using a low voltage motor installed within the head-rail, incorporating self-lubricating materials and using amperometric protection control.

The control unit, supplied with every ScreenLine® 'SL27M new' kit, includes the transformer and allows a number of functions to be accurately controlled i.e. individual and group control, remote control and safety.

The exclusive "micrometric" tilting system allows rotation of the slats with very small steps, to determine inclination angle more accurately.

Technical features

Motor

Type	12V DC motor with planetary reducer ratio 256:1
Absorption	800 mA approximately
Speed	50 rpm approximately
Max torque	100 N cm approximately

Head rail

Extruded aluminium, A6063S-T5 alloy.

Dimensions: width 27 mm, height 36 mm with 6 mm fin.

Anodised or powder-painted in the same colour as the slats' or in RAL paint on request.

Slat

Aluminium, AA 6011-T8 alloy. Dimensions: width 16 mm, thickness 0.2 mm.
High-resistance polyester paint, with Clarion® non-fogging treatment, which has been specially designed to avoid any possible emissions of chemical products inside the double-glazed unit when, exposed to ultraviolet and / or heat radiation.
Available colours: thirteen.

Bottom rail

Extruded aluminium A6063S-T5 alloy. Dimensions: width 16 mm, height 10 mm.
Anodised or powder-painted in the same colour as the slats' or in RAL paint on request.

Ladder

Thermo-fixed 100% polyester. 12 mm step. Excellent dimension and colour stability to UV rays. Treated to avoid any possible emissions of chemical products within the double-glazed unit, on exposure to ultraviolet rays and heat.
Colour co-ordinated with slats.

Cords

Thermo-fixed 100% polyester with internal core.
Excellent dimensional stability. 1.0 mm diameter, white.

Spacer bar

Extruded aluminium. Sizes: 27 x 8 mm. Three versions available:
Standard profile –L-profile for sides (optional), 8.2 mm – "U" profile for top / bottom spacer, 4.2 mm.

Tilting and raising functions

The exclusive slat tilting system, with "micrometric-tilting": allows the slats to rotate in a series of small steps to obtain the required inclination angle. The raising limit of the slats is accurately controlled using amperometric sensing, whilst the lower limit is controlled by an electric switch which senses the change in cord tension. This feature prevents damage to the system if there are impediments i.e. when glass deflection may stop the blind from lowering.

Control unit

This unit contains the transformer (220Vac-12Vdc) and the electronics for the various blind functions. It includes connections for individual switch operation, group

operation and remote radio-control (optional).

It can also be connected to other control units, centralised control.

Size: 110 x 120 x 50 (h) mm

Control Manual: double interlock push button

Radio control: 3 models (2, 6, 12 channels) for 1, 3, 6 blinds or groups.

Connections

The two cables from the SL27M motor must be connected to the control unit as follows:

- + red cable
- + black cable

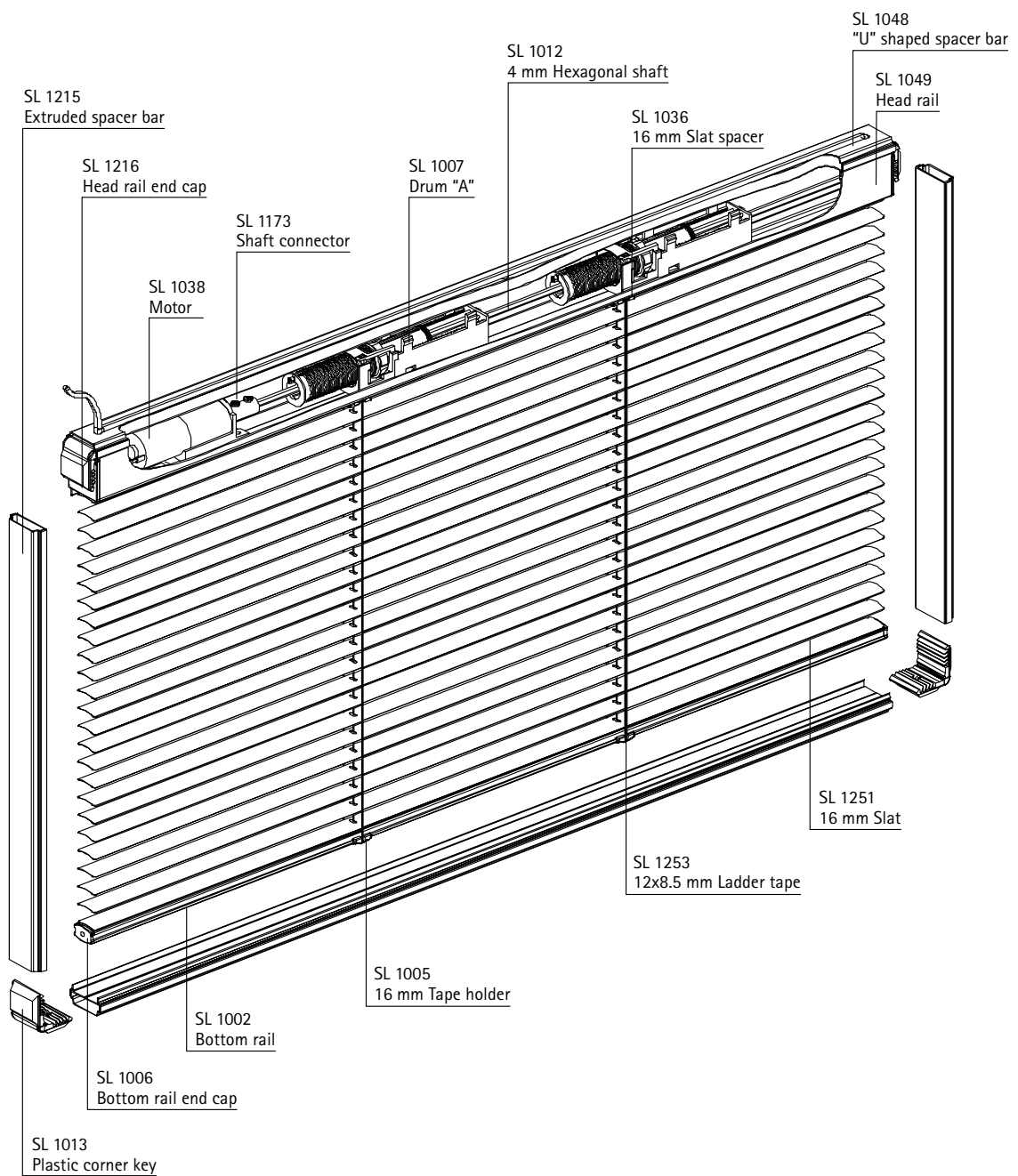
Double-glazed unit sizes

Height 100~3.000 mm

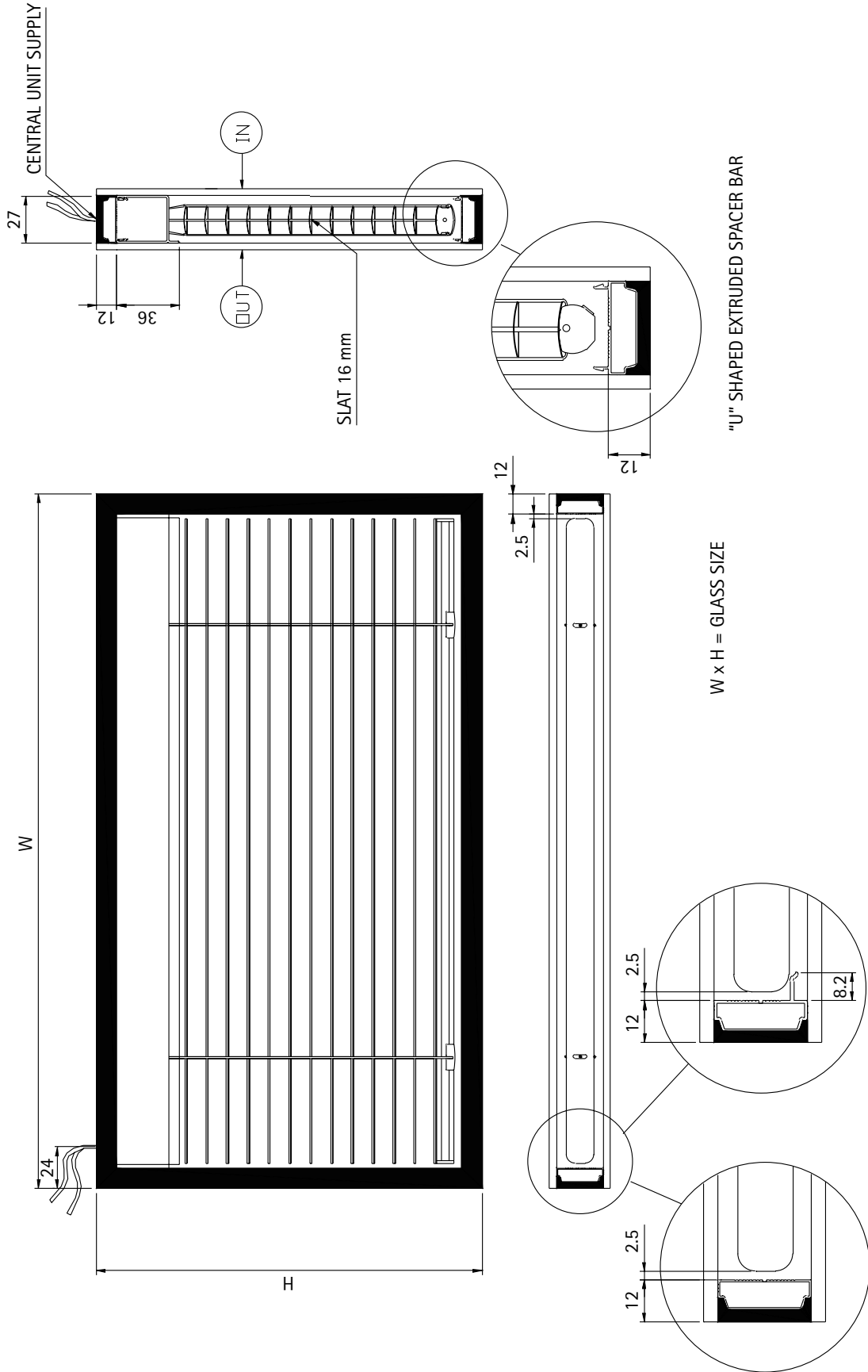
Width 400~3.000 mm

Maximum area see feasibility tables

Blind stack height 3.4% blind height +45 mm



SL27M new Double-glazed unit



EXTRUDED SPACER BAR (standard) "L" SHAPED EXTRUDED SPACER BAR (option)

1. Model

LG 2075 NEW

2. Description

Electronic programmer for the control of the SL27M functions: raise, lower and tilting. It can also include a radio receiver (optional).

The control unit includes:

- transformer for the SL27M motor supply
- safety fuse
- electronic safety limit switch with intervention threshold that can be set by means of the SW dip-switch
- two buttons for the rise and descent functions (test)
- button for the radio code selection and programming
- electronic control of the tilting function through a micrometric impulse rotation.

The unit can be activated with a double button and/or a radio-control and has inputs for the centralized junction.

Every SL27M kit includes the control unit.

3. Technical features

- | | |
|---------------------------|---|
| - Supply | 220 VAC 50-60Hz |
| - Supply fuse | 160 mA 250 VAC |
| - Transformer | professional with resined "C" 16 VA core |
| - Motor output | 12 VDC |
| - Working temperature | 0-85°C |
| - Optional radio receiver | 433.92 Mhz in compliance with the ETS 300-220 regulation two channels |
| - Decoding | self-learning |
| - Size | 120 x 110 x 50 mm box |

4. Junctions to the terminal box

- 220V	220 VAC supply
- Motor	+12 VDC -12 VDC motor supply
- Centralized	centralized input: raise-common-lower (open contacts -NO-)
- Individuals	single input: raise-common-lower (open contacts -NO-)
- 0	aerial input: mass-hot terminal
- Radio module	Slot for the radio card - optional

5. References

- 220V	220 VAC supply
- PWR	voltage unit L.E.D.
- CH1	raise programming L.E.D.
- CH2	lower programming L.E.D.
- SW	dip-switch for the regulation of the electronic limit switch: OFF-OFF: small blind; ON-OFF: medium blind; ON-ON: large blind
- SEL	channel selection button
- MODE 1	blind raise button (test)
- MODE 2	blind lower button (test)

1. Model

RX2

2. Description

Two-channel radio receiver connected to coding self-learning transmitters.

The receiver includes:

- two-channel radio receiver
- card supply transformer
- safety fuse
- radio aerial
- channel selection button
- reset button to eliminate the inserted codes.

The radio control can be activated by a two-channel radio transmitter and can operate a large number of control units in a centralized system.

3. Technical features

- Supply 220 VAC 50 Hz
- Fuse 50 mA 250 V (5x20)
- Max consumption 4.5 W
- Decoding self-learning
- Control relay 30 VDC 1A open contact
- Radio receiver 433.92 Mhz in compliance with the ETS 300-220 regulation two channels
- Working temperature 25 +75°C
- Size 120 x 110 x 50 mm (part of control unit box)

4. Connectios in the control unit

- 220V line 220 VAC
- Channel 1 blind raising channel
- Channel 2 blind lowering channel
- Channel 3 non operating
- Channel 4 non operating
- Aerial aerial input: mass-hot terminal

5. References

- SEL channel selection button
- RESET code reset button
- CH1 raise programming L.E.D.
- CH2 lower programming L.E.D.
- SW 1 SW 2 dip-switch for the functioning of the first and second channels (generally OFF-OFF)

1. Model

TX2

2. Description

Radio transmitter with two-channels and codes that can be programmed by the operator.

Two keys for the data transmission through the receiver.

When the L.E.D. turns on, the radio transmission with the receiver is operating.

It can control one blind or a general radio control.

3. Technical features

- | | |
|-----------------------|-----------------|
| - Supply | 12V battery |
| - Working frequency | 433.92 MHz |
| - Code combinations | 4096 |
| - Max consumption | 25mA |
| - Working temperature | -20°C +70°C |
| - Size | 60 x 35 x 13 mm |

4. References

- | | |
|------|---|
| - T1 | blind raising button |
| - T2 | blind lowering button |
| - SW | dip-switch for the personal code introduction |

1. Model

TX ESA

2. Description

Radio transmitter with six-channels and codes that can be programmed by the operator.

Six keys for the data transmission through the receiver.

It can control up to 3 blinds or six channels.

3. Technical features

- Supply 12V battery
- Working frequency 433.92 MHz
- Code combination 262144
- Max consumption 25mA
- Working temperature -20°C +70°C
- Size 45 x 75 x 14 mm

4. References

- T1 blind 1 raising button
- T2 blind 2 raising button
- T3 blind 3 raising button

- T4 blind 1 lowering button
- T5 blind 2 lowering button
- T6 blind 3 lowering button

- SW dip-switch for the personal code introduction

1. Model

TX MULTI (TX12)

2. Description

Radio transmitter with twelve-channels and random pre-settable and self-programmable codes.

Two keys for the data transmission with the receiver, a key for the channel selection and a key for the restoration of a new code.

Whenever one of the 6 L.E.D.'s turns on, the transmission channel is selected.

For each selected channel it is possible to transmit two codes through the UP and DOWN buttons, for the blind or system to operate.

The transmitter includes a system ensuring a cyclical use of the chosen number of channels (whenever fewer than 6).

In order to do that, select the last blind with the SEL button, press and hold it until the L.E.D. corresponding to that blind flashes. Momentarily press SEL again and the L.E.D. will be fixed (partialization successfully achieved).

To unlock the partialization follow the same procedure.

3. Technical features

- Supply	12V battery
- Working frequency	433.92 MHz
- Code combination	262144
- Max consumption	20mA
- Working temperature	-20°C +70°C
- Size	36 x 61 x 14 mm

4. References

- SEL	blind selection button
- UP	blind raising button
- DOWN	blind lowering button
- 1.....6	selected blind L.E.D.
- RESET	button for restoration of random code

Every motorized SL27M system has its own control unit to ensure the correct operation of the motor. A battery or an external power supply should never be used as an alternative power source.

The control unit must be located near the blind to avoid any voltage drops. Several control units can be inserted inside a properly ventilated distribution panel.

Make sure the blind and the control unit is properly connected. Check circuits in window frames, electric contacts, terminals, insulation etc to avoid any possible short circuits.

Whenever you use the radio system:

- avoid, with the help of qualified personnel, any radio interferences which may jeopardise the proper functioning of the system
- keep the minimum distance between the various control units: at least 1.5 m between the units and 2 m between the general radio control and the units, to avoid any radio interferences
- do not install the radio control units into false ceiling areas or metallic containers
- check the aerial wire is connected correctly and allow a short length to exit the control box
- check the state of the transmitter battery by the L.E.D. light intensity, where weak, replace the battery.

Control unit connections

Connect the power supply to the terminals (220v).

Connect the motor cables to the motor terminals (+ red/ - black).

Connect the external controls to their respective terminals (individual switch/ centralised), in accordance with the terminal block identification.

Check the correct wiring installation for each motor to their respective control unit: by pressing the MODE 1 button, the blind should raise. If not, invert the wires (+ -) from the motor to the control unit terminal.

Operation

It is possible to operate the blind either by a wall-mounted switch (two button), or by a membrane switch, or by radio-control buttons.

- Slat tilting function: push either of the raise-lower buttons depending on the tilting direction, until the chosen orientation is achieved. The rotation takes place in incremental steps to reach the required slats inclination.
- Raise – lower function: keep on pressing the respective button for more than 5 seconds. The blind will continue its run, even if the button has been released, until it

- stops automatically on reaching the corresponding blind stop limit.
- Stop function: the blind raise or lower run can be stopped at any time by pressing the raise or lower button.

Radio code programming

1. Control unit reset operation (with special radio card)

- Press the MODE 2 button until the blind is completely down.
If the blind does not move, press MODE 1 and press MODE 2 again.
- Press SEL and hold down for approximately 4 seconds.
The two CH1 and CH2 L.E.D.'s will flash and then will turn off.
Reset successful.
- Press (momentarily) SEL again.
Check that the CH1 L.E.D flashes and then turns off.
(This is necessary for setting every function).
The control unit (and consequently the radio system) can be now set.
Important: if the CH1 L.E.D. does not flash when SEL is pressed, move the blind by pushing (momentarily) MODE 1 and then repeat the operation.

2. Personal code introduction

- To set the personal code on the transmitter (except for TX MULTI).
Open the transmitter cover and set the code by setting the 10 dipswitches.
Close the flap.
- For the following operations, take the transmitter to within a distance approximately 30 cm from the control unit.

3. Raise Programming

- Press (momentarily) SEL. The CH1 L.E.D. flashes.
- Keep on pressing the transmitter up button corresponding to the first blind (left button in the TX2 and TX MULTI models, first upper button in the TX ESA model).

Important: using the TX MULTI model, activate the transmitter central SEL button until the first led turns on, corresponding to the first blind.

The blind will start moving incrementally.

The CH1 L.E.D. will remain on.

The raise operation has been successfully programmed.

Important: if the blind keeps on going up during the raising program, stop it by pressing the MODE 2 button.

4. Lower Programming

- Press (momentarily) SEL.
The CH1 L.E.D. starts flashing.
- Press (momentarily) SEL.
The CH2 L.E.D starts flashing.
- Keep on pressing the transmitter down button (right button in the TX2 and TX MULTI models, lower button in the TX ESA model).

The blind will start moving incrementally.

The lower operation has been successfully programmed.

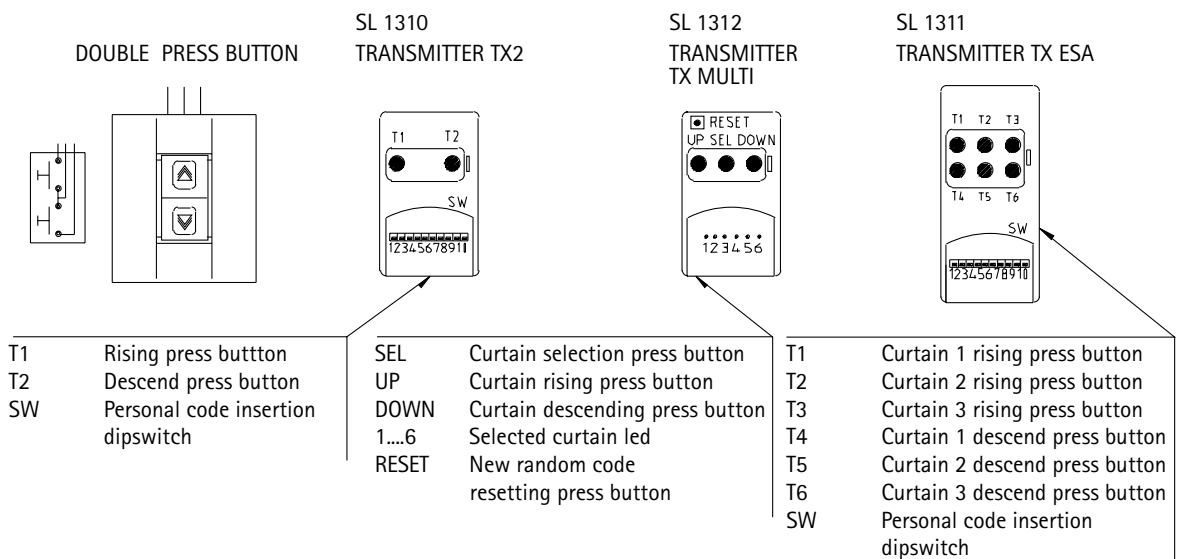
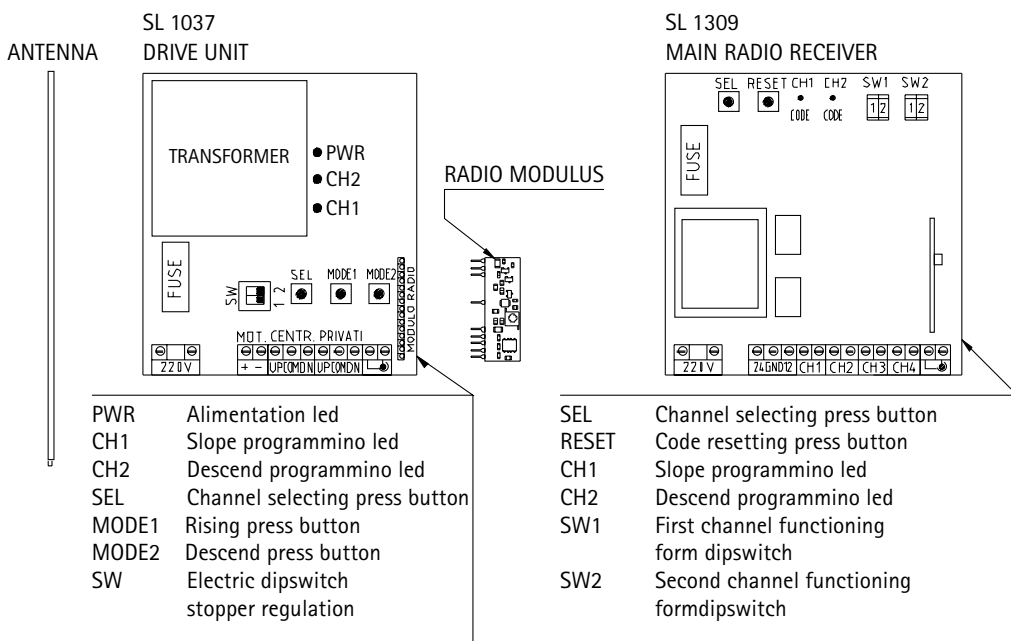
5. Additional blind programming.

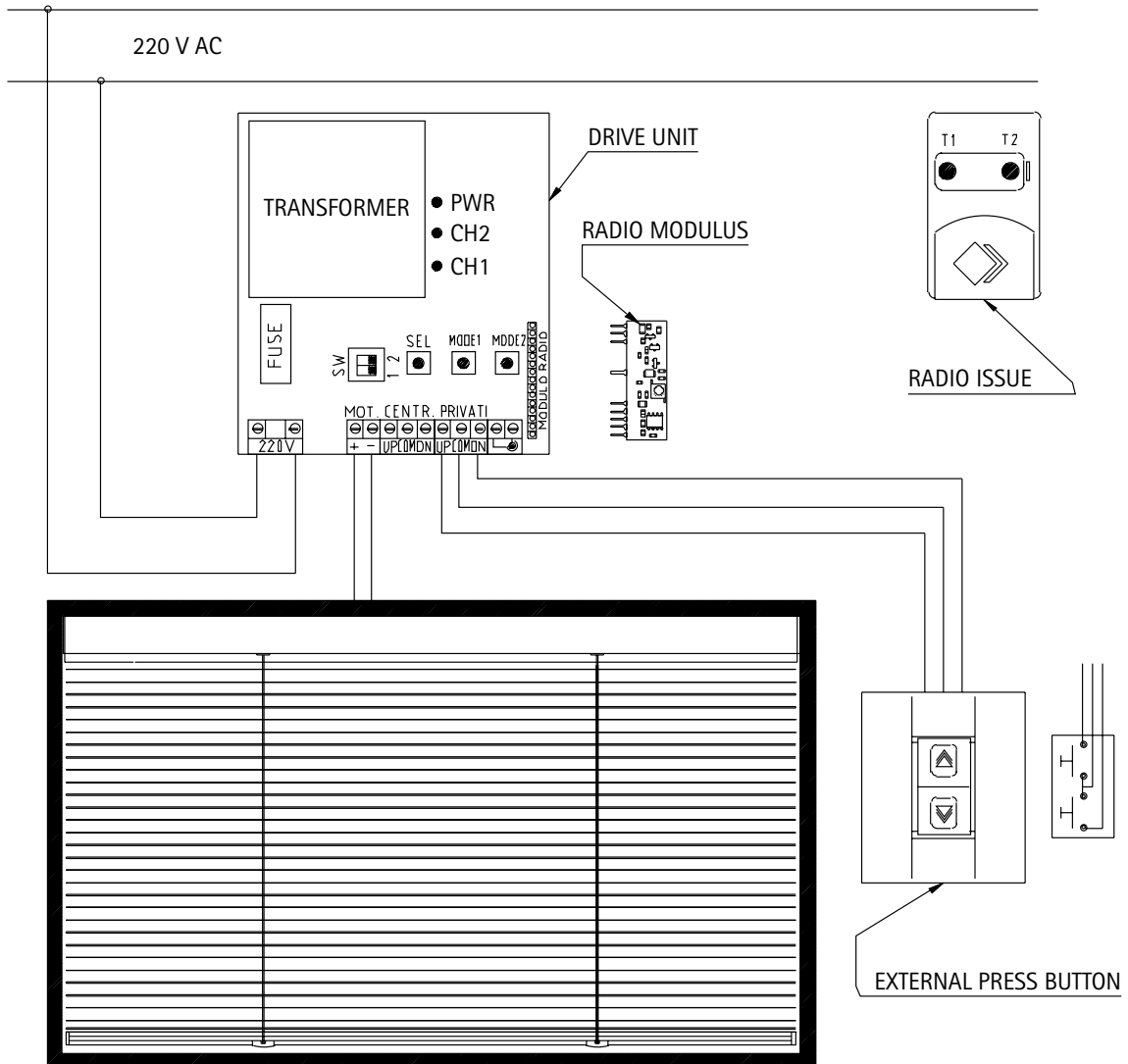
Repeat the above programming operation for all the chosen blinds.

In the TX ESA model, use the other 4 raise and lower buttons.

In the TX MULTI model, push the central SEL button until the selected blind led (1....6) turns on.

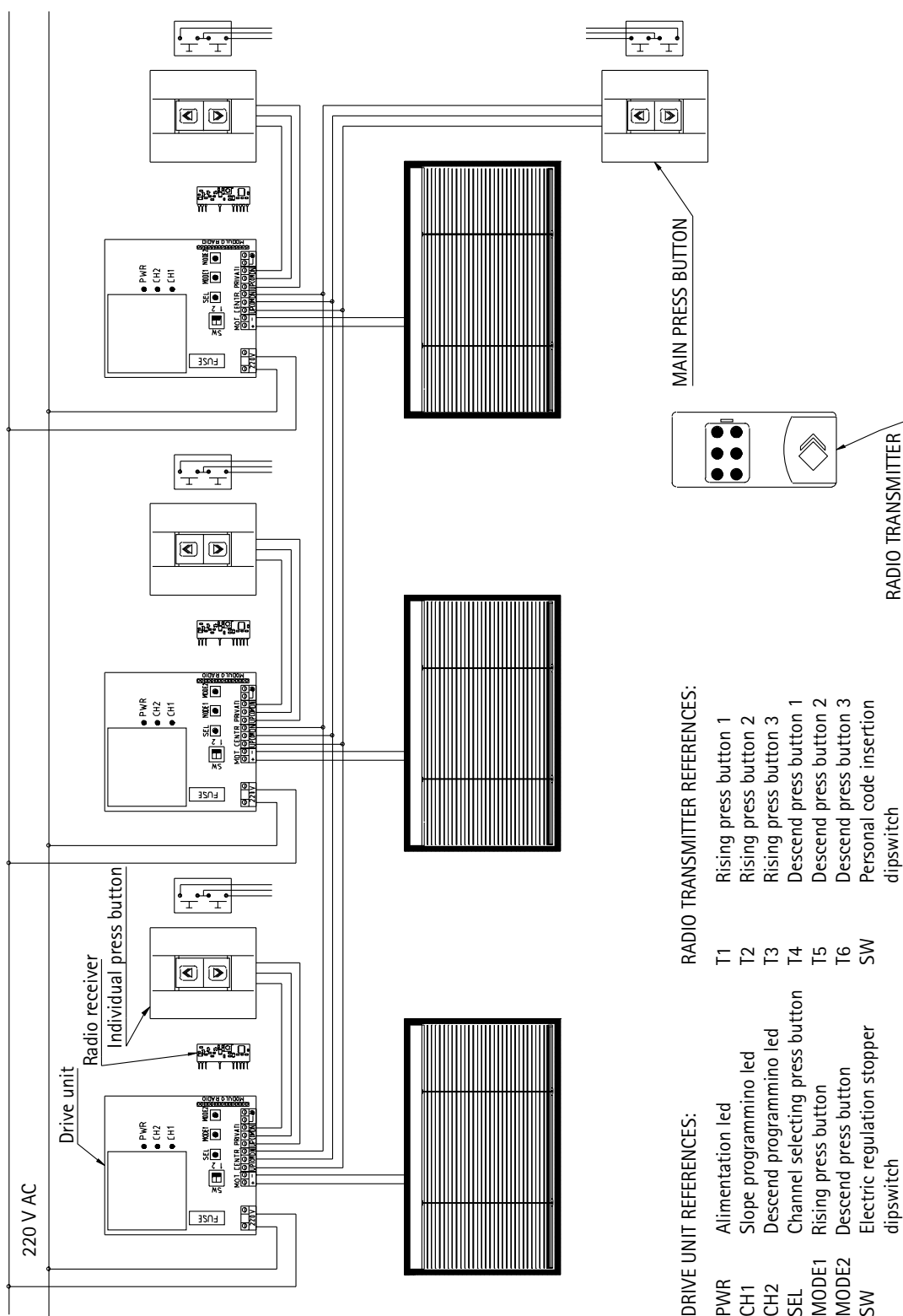
SL27M new Components

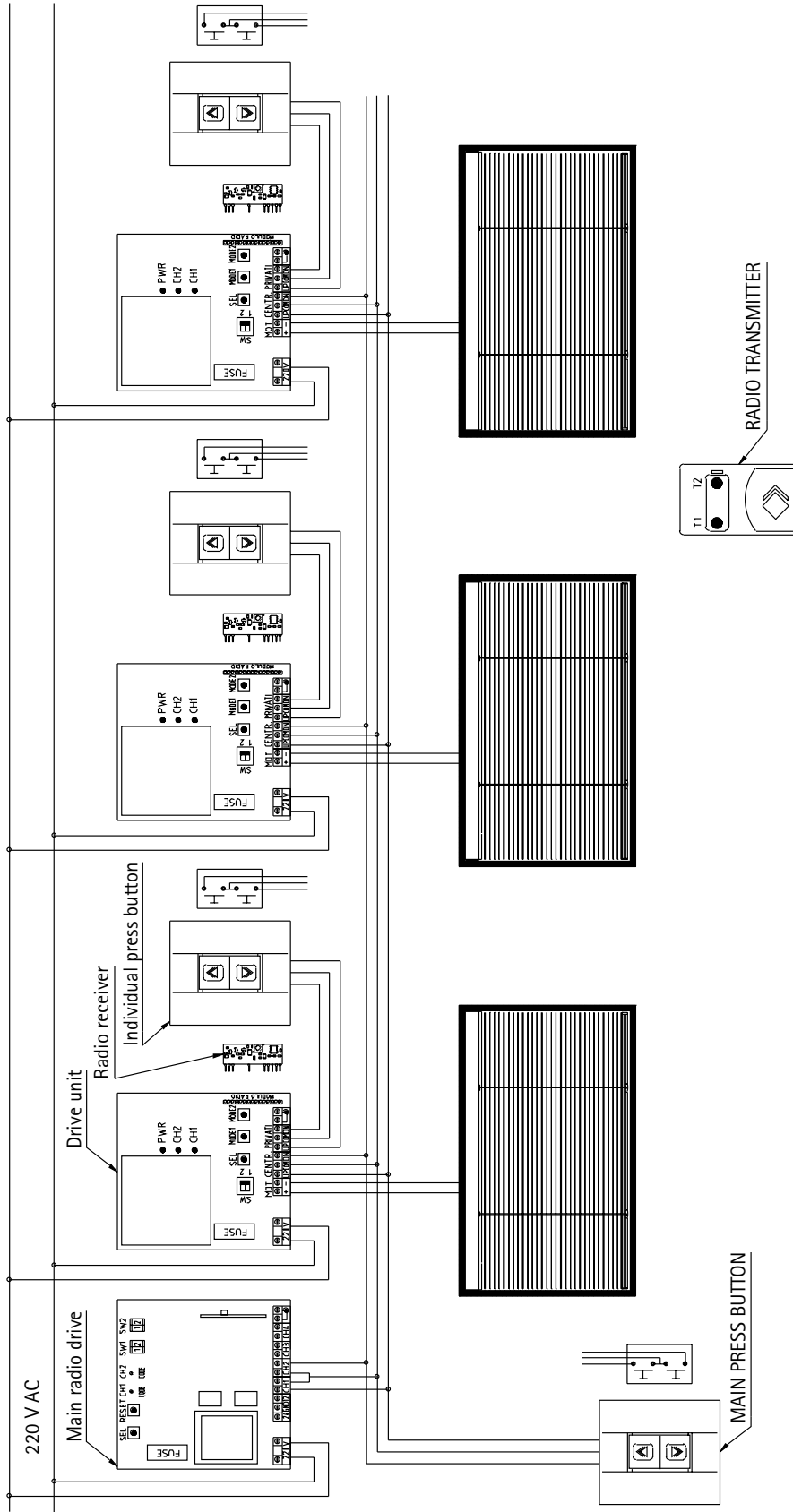




- PWR Alimentation led
- CH1 Slope programmino led
- CH2 Descend programmino led
- SEL Channel selecting press button
- MODE1 Rising press button
- MODE2 Descend press button
- SW Electric dipswitch stopper regulation

- T1 Rising press button
- T2 Descend press button





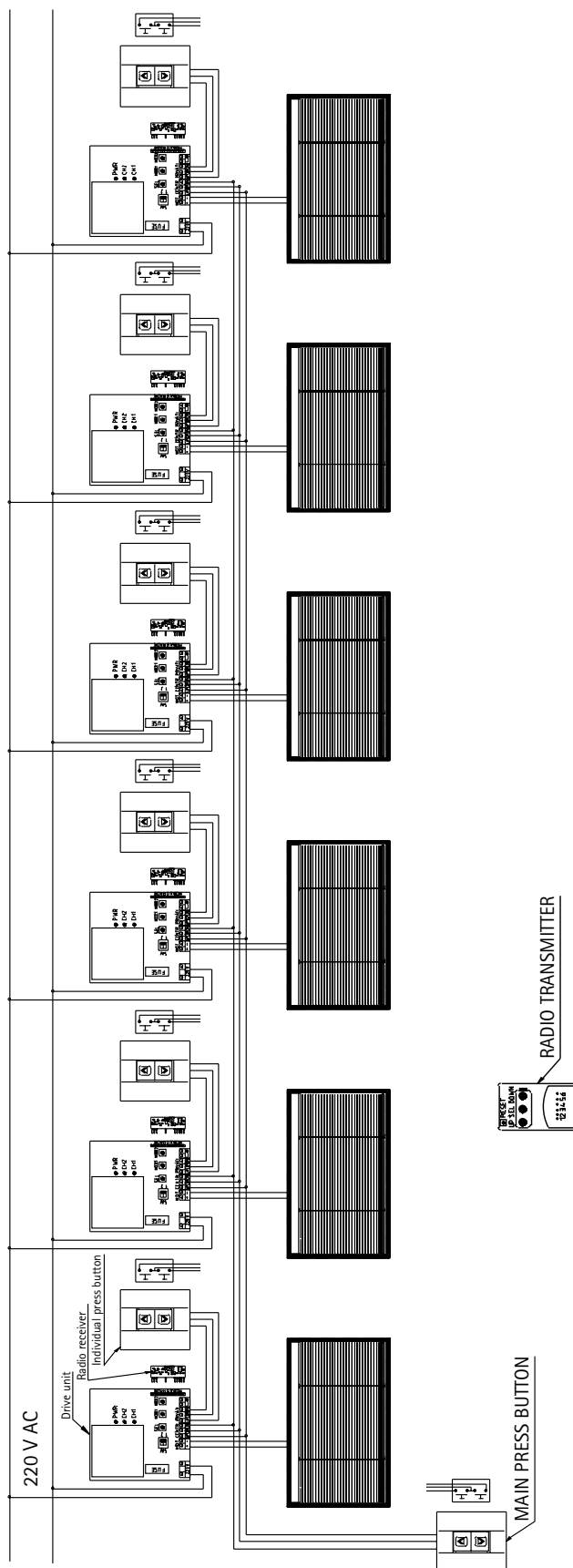
DRIVE UNIT REFERENCES:

- PWR Alimentation led
- CH1 Rising programmino led
- CH2 Descend programmino led
- SEL Channel selecting button
- MODE1 Rising press button
- MODE2 Descend press button
- SW Electric regulation stopper dipswitch

RADIO TRANSMITTER REFERENCES:

- T1 Rising press button
- T2 Descend press button
- SW Personal code insertion dipswitch

SL27M new Wiring diagram • 6 blinds Group control



DRIVE UNIT REFERENCES:

- PWR Alimentation led
- CH1 Rising programming led
- CH2 Descend programming led
- SEL Channel selecting press button
- MODE1 Rising press button
- MODE2 Descend press button
- SW Electric stopper regulation dipswitch

RADIO TRANSMITTER REFERENCES:

- SEL Curtain selecting button
- UP Curtain rising press button
- DOWN Curtain descending press button
- 1....6 Selected curtain led
- RESET Random code reset

Feasibility • Double-glazed unit size

SL27M new

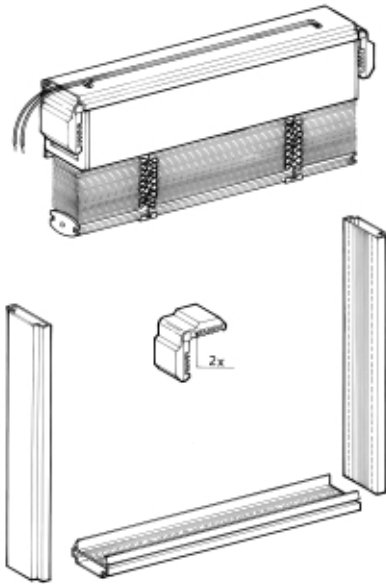
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Out of warranty

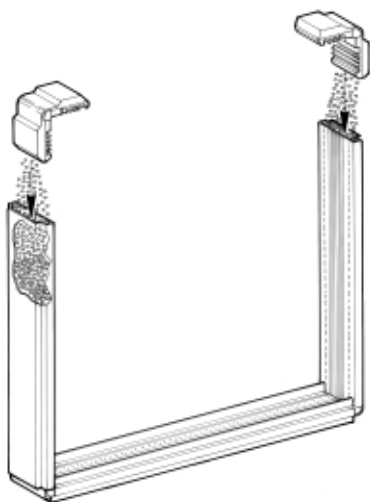
Not-feasible

Raising feasibility

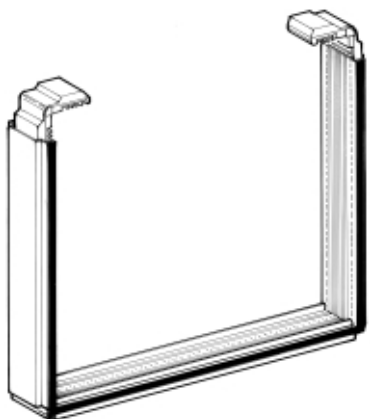
Tilt-only feasibility



A Kit



B Desiccant filling



C Butyl application

ScreenLine® kit components

On receipt of goods, check the integrity of the package and confirm components are as detailed on the Purchase Order. The elements of the kit comprise **A** :

- venetian blind with head rail, spacer bar, corner keys and electric cable
- 2 No. side spacer bars
- 1 No. base spacer bar
- 4 No. plastic corner keys
- 1 No. control unit.

Assembly of the integral blind unit

Spacer bar preparation

Fill up the spacer bars with the molecular sieve **B** and extrude a continuous primary seal of hot butyl on them. **C**

(See Manufacturer's quality scheme, page 38).

Line assembly

Pass the first glass through the washing m/c such that the glass is on its base.

Remove the blind from the plastic package and assemble together with the part spacer frame to form a whole assembly. **D**

Position the complete spacer assembly onto the first glass ensuring that the frame is perfectly parallel and square (i.e. avoiding inward spacer deflection) and press to obtain good adhesion. **E1** The head rail pelmet / fin must be towards surface 2 i.e. faces outside. Where applicable the L-profile spacer bar fin must be on the same side as the low emissivity coating.

Now apply the second glass and press. **E2**

Ensure that the electric cables on the spacer bar are not damaged during the transfer to the press.

Gas filling

Using the appropriate equipment and following the requisite procedure replace the internal air with argon. (See Manufacturer's quality scheme, page 38).

Testing

Before applying the final seal, in accordance with the Manufacturer's quality scheme (page 38), test the blind operation by connection to with the cable exiting the top spacer.

The double-glazed unit must be vertical with the blind head rail on top. For this operation, only the standard blind control unit is to be used (do not use any batteries or other systems).

Ensure that the distance between the slats and the side spacer bars is uniform and that the bottom rail reaches the base spacer bar.

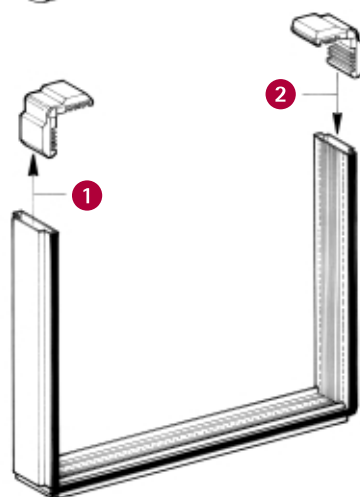
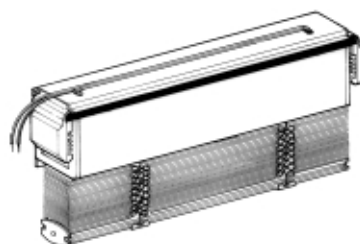
After testing, raise the blind completely.

Second sealing

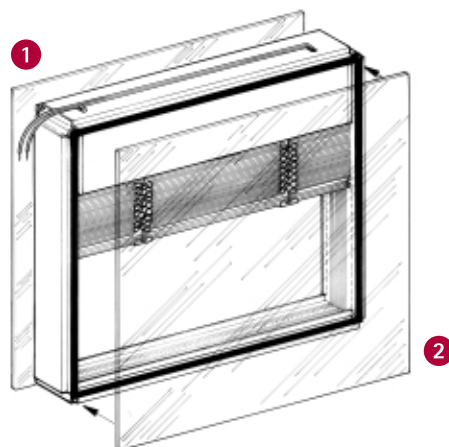
Apply the final seal. **F** With this system, it is essential to pay attention to the seal around the cable attached to the top spacer so that the cavity is fully sealed - especially if using an automatic sealing machine. It is essential that the cable is not damaged. After sealing, the unit should be stacked so that the cable is at the top and without restriction.

Note

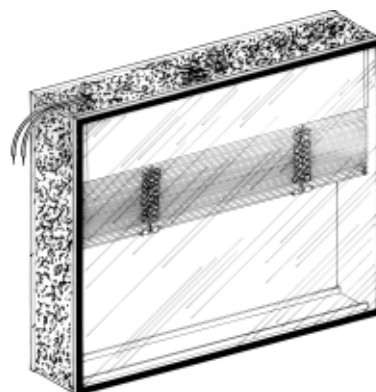
1. The blind must be completely raised prior to turning the unit.
2. The electrical connection between the integral blind unit and the control unit must be done on site during glazing / installation.



D Spacer assembly



E Integral blind assembly



F Unit sealing