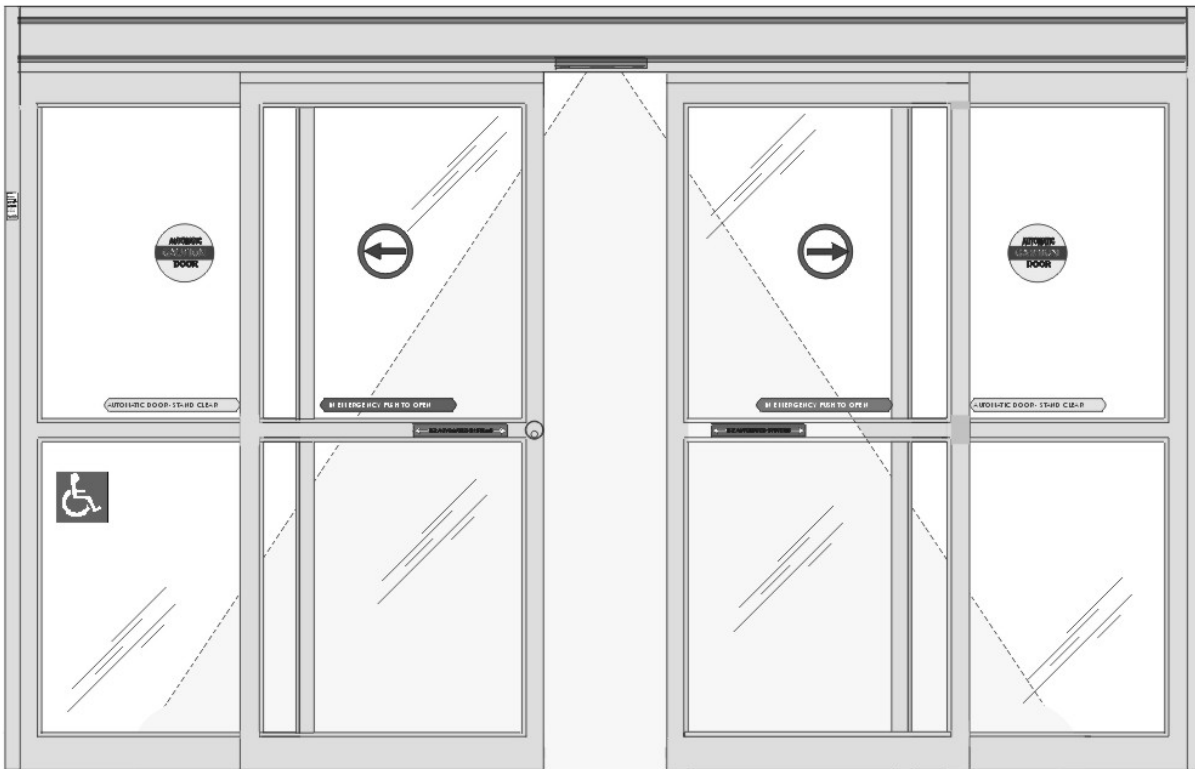
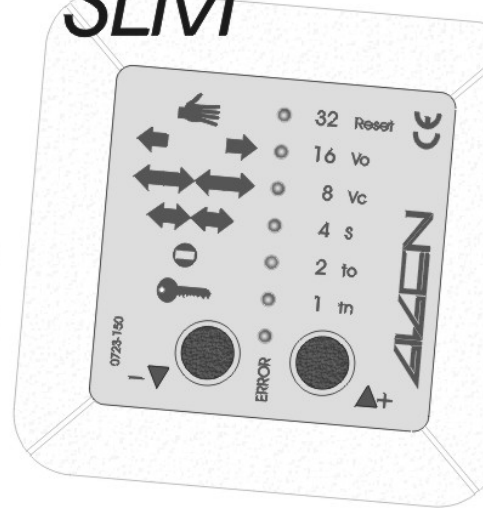


# GILDOR

## AUTOMATIC SLIDING DOOR

### MODEL SLM

# OPERATION AND MAINTENANCE MANUAL



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NOTE: The glazing material provided in both sidelites and sliding panels of all SLM sliding doors comply with the requirements in the Performance Specifications and Methods of Test for Safety Glazing Materials Used in Buildings. (Ansi Z97.1). It is imperative that the glass installed in all SLM sliding panels and sidelites also conform to the Performance Specifications and Methods of Test for Safety Glazing Materials Used in Buildings (Ansi Z97.1).

# 1. INTRODUCTION

## 1.1 General

This manual is for the Gildor SLM sliding door drive unit:

-Supplies instructions for the assembly, commissioning, maintenance and troubleshooting.

-Is only to be used only by trained personnel in the automatic door trade familiar with the assembly and construction of automatic doors.

-Explains basic instructions for assembly and turn in as well as various instructions for optional equipment.

-The instructions for optional equipment are included in the packaging of the optional kits. Referring to the basic instruction, they describe the assembly and commissioning of the respective option.

-Uses the following signs in order to point out certain dangers and important remarks:



**Warning:** Involving danger to life and limb.



**Caution:** A situation where material could be damaged or the function impaired.



**Note:** Hints that help out with the work.

-An additional manual is available for the customer, owner or end user.

-To be installed in accordance to ANSI standards and all local building and safety codes.

## 1.2 Specification and limits to applications:

Door Package Type	Standard Door Package Size OFW X OFW	Net Clear Opening Width	Estimated weight of Active Leaf for Standard Package	Maximum Weight Per Sliding Leaf
Single Slide One moving leaf Right/Left Opening	6'0" X 77 7/8" 7'0" X 77 7/8" 8'0" X 77 7/8" 8'6" X 77 7/8"	29 1/4" 35 1/4" 41 1/4" 44 1/4"	98 Pounds 110 Pounds 122 Pounds 128 Pounds	330 Pounds
Bi Parting Two Moving Leaf	12'0" X 77 7/8" 14'0" X 77 7/8" 16'0" X 77 7/8"	60" 72" 84"	100 Pounds 112 Pounds 124 Pounds	220 Pounds
Bi Parting Two Moving Leaf Two Motor	Call for Information on Packages Sizes			330 Pounds
Single Slide Telescopic Two Moving Leaf Right/Left Opening	7'0" X 77 7/8" 8'0" X 77 7/8" 9'0" X 77 7/8" 10'0" X 77 7/8" 11'0" X 77 7/8" 12'0" X 77 7/8"	50 1/2" 58 1/2" 66 1/2" 74 1/2" 82 1/2" 90 1/2"	86 Pounds 95 Pounds 103 Pounds 112 Pounds 120 Pounds 129 Pounds	220 Pounds
Bi Parting Telescopic Four Moving Leafs	12'0" X 77 7/8" 14'0" X 77 7/8" 16'0" X 77 7/8" 18'0" X 77 7/8" 20'0" x 77 7/8"	85 1/2" 101 1/2" 117 1/2" 133 1/2" 149 1/2"	79 Pounds 87 Pounds 96 Pounds 105 Pounds 113 Pounds	132 Pounds
Bi Parting Telescopic Four Moving Leaf Two Motor	Call For Information on Packages Sizes			220 Pounds

### Technical data

- Electrical connection is supplied by others, all cable connection are supplies with package 110 V, 50/60 Hz, 10A
- Power consumption 200 W
- Max. Driving power (static) 150 N
- In the event of a power failure, the battery backup (if installed) guarantees full operation for at least 30 min.
- Operating temperature range + 5°F to + 167°F  
15°C to 75°C-
- The package may only be used in Dry rooms Max. Relative humidity 65%



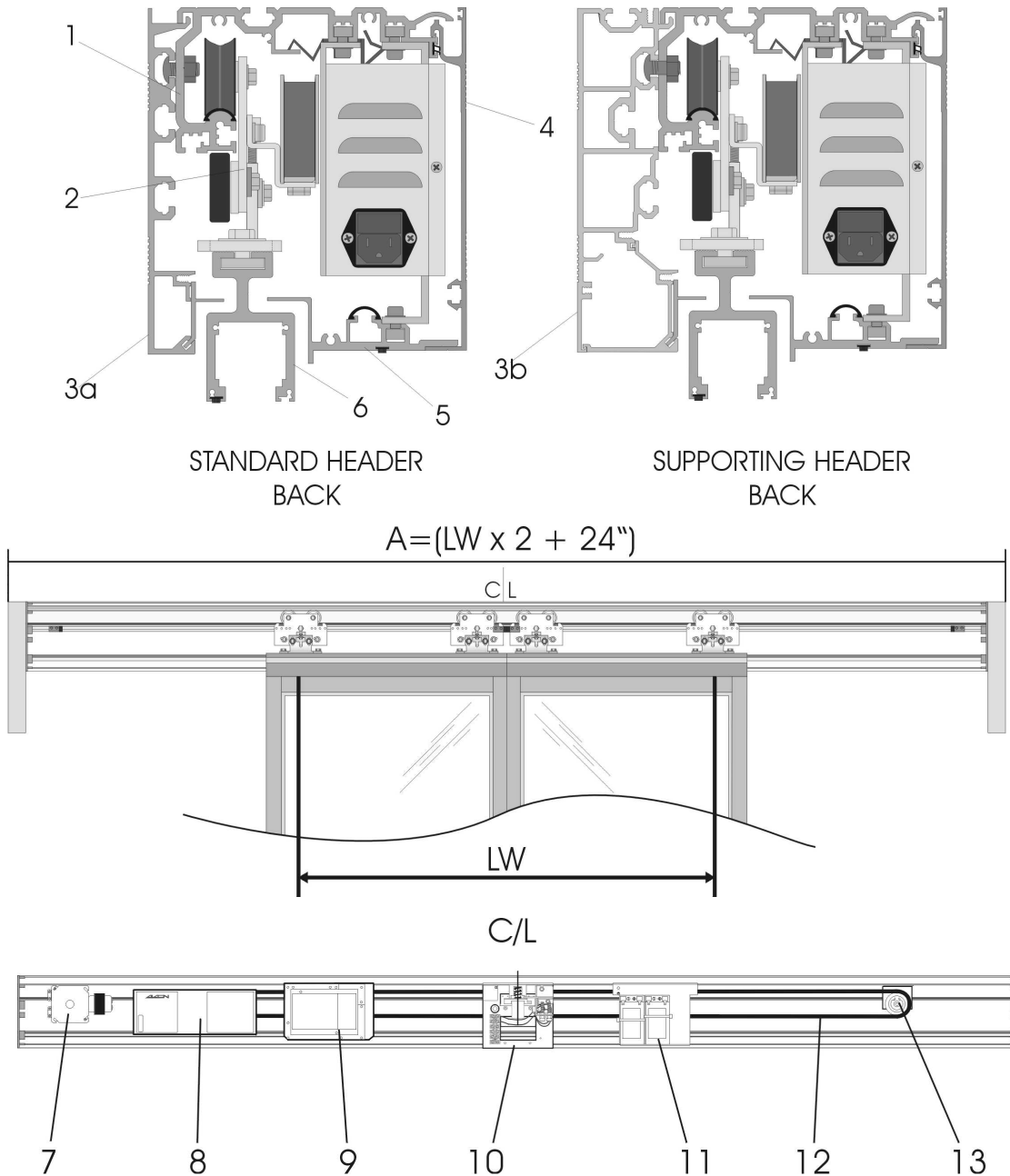
The application limits of the SLM drive unit for sliding doors are defined for a long life of the door package, any applications beyond these limits are not advisable.



### 1.3 Product Description

The SLM drive unit is a modular design with DC motor, microprocessor control unit and electronic control panel with patented bus-system (two-wire line).

The different configurations and options are supplied in accordance with the order.



- 1. Main Profile
- 2. Trolley Assembly
- 3a. Header Back (Slimline)
- 3b. Header Back (Supporting)
- 4. Front Cover
- 5. Bottom Angle
- 6. Carrier

- 7. Connection Box
- 8. Motor Assembly
- 9. Control Box
- 10. Electric Solenoid Lock (Optional)
- 11. Battery Backup (Optional)
- 12. Drive Belt
- 13. End Pulley

A=Net Outside Frame Width

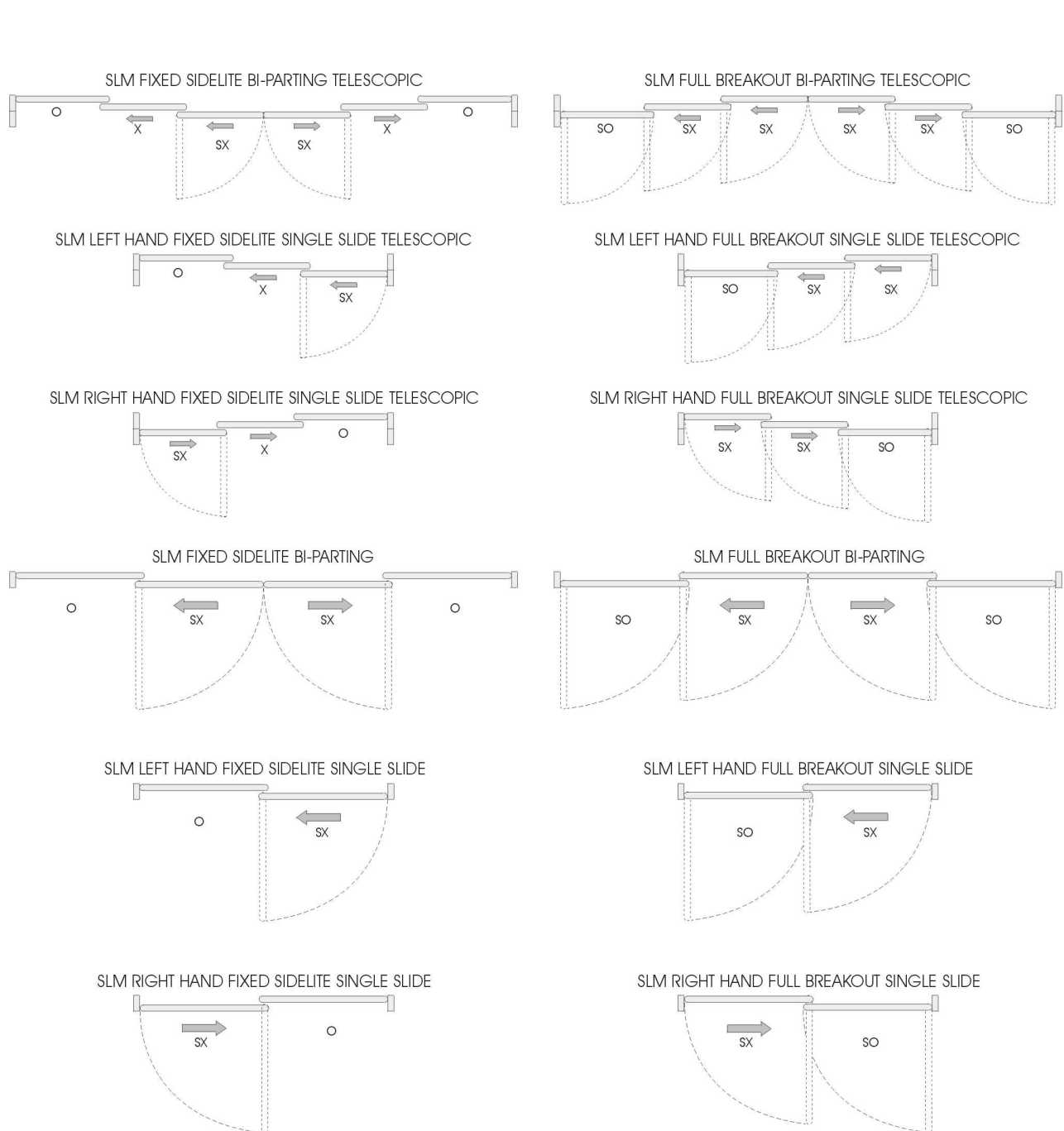
LW=Net Clear Passage Width

## 1.4 SLM GENERAL INFORMATION

FIG. 1 shows the different configuration of door packages available from Gildor for the sliding door systems. Operators can be right or left handed single sliding or Bi parting. Packages can be either fixed sidelite (sidelites to the interior of the building) or full breakout (sidelites to the exterior of the building).

All the SLM door packages are ready for installation when delivered to you from Gildor. All material is completely prepped and all hardware is installed. If options are ordered they are completely installed and wired prior to shipping.

Before attempting to install door package check to see that all equipment has been properly sent and installed. Check to see that the door package is prepped right and that the package overall size is correct.



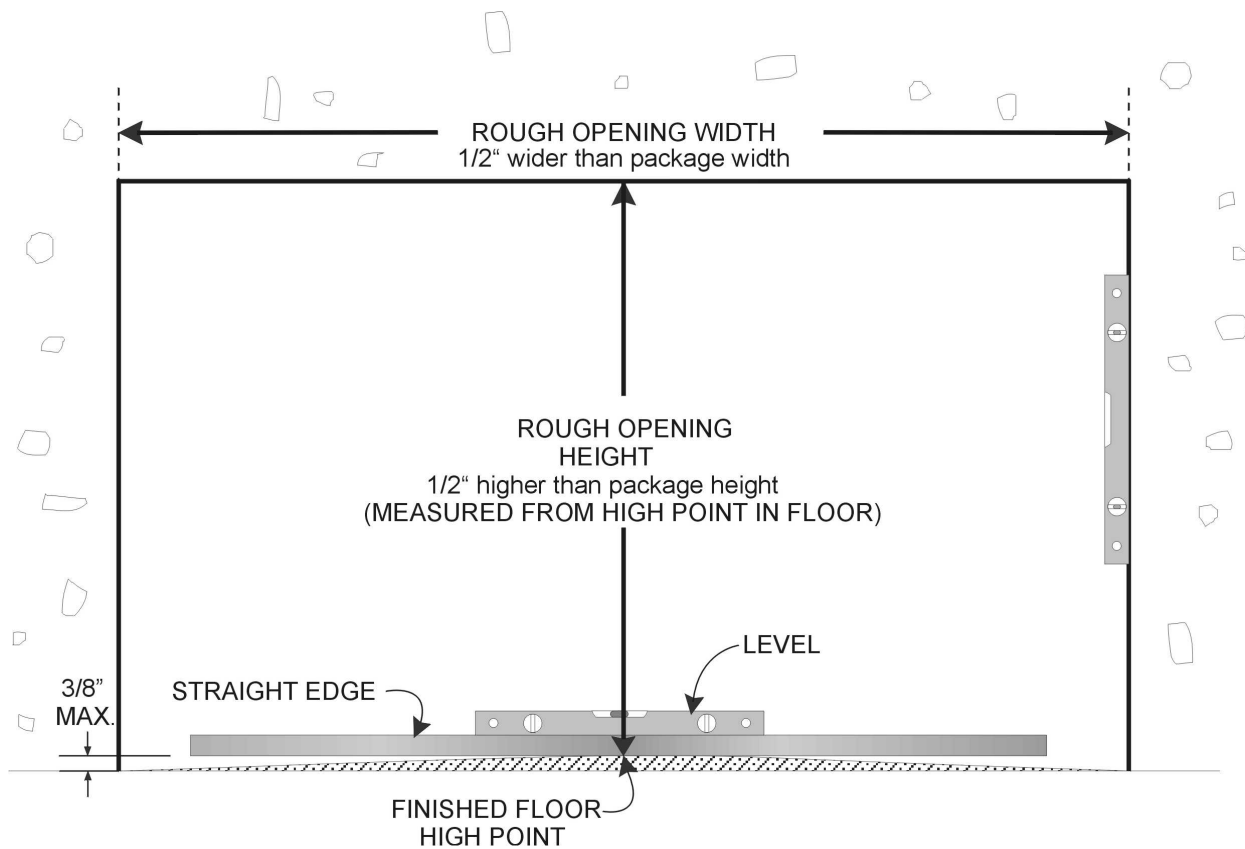
## 2. ASSEMBLY

### 2.1 INSTALLATION OF SLM HEADER

Open all packages and inspect for proper shipping per order, completeness, and damage. This should be done at the time the equipment is received at your facility from the factory, to allow ample time to reorder any missing or damage material.

Upon arrival at the installation site, first measure all openings in both width and height, to assure proper clearances for door packages. The openings must be plumb and square and the floor height can not vary more than 1/4" from the highest point to the lowest point. It is also necessary to determine the high point area in the floor before the door header is installed as the height of the door package is determined from the high point of the finished floor. If the floor height varies more than 3/8" then leveling of the floor is necessary, before the door package can be installed.

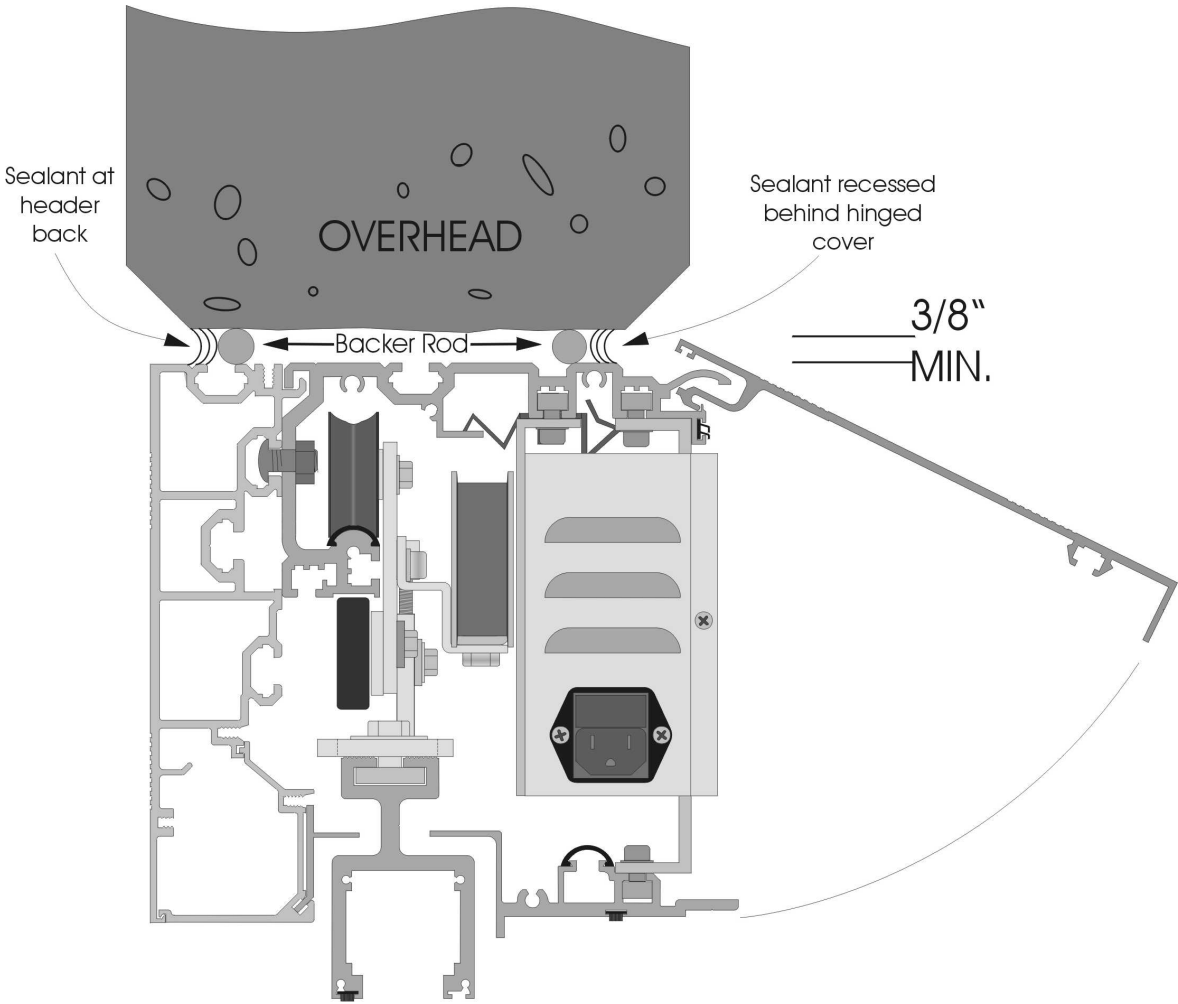
It is suggested that the rough opening be 1/2" wider than the door package frame dimension and 1/2" higher than the door header measured from the high point of the floor. If the door package has a transom the rough opening height is not as important as the Gildor transom package is very easy to modify at the installation site. Rough openings can vary with different mounting surfaces.



**Note:** The SLM header requires a minimum of 3/8" clearance above the header in order for the hinged cover to open and close properly.

If the proper clearance is not given above the header the cover will not be able to completely open making it difficult for future service.

When sealing top of header make sure that the sealant does not interfere with the access cover opening. Back of header can be sealed flush

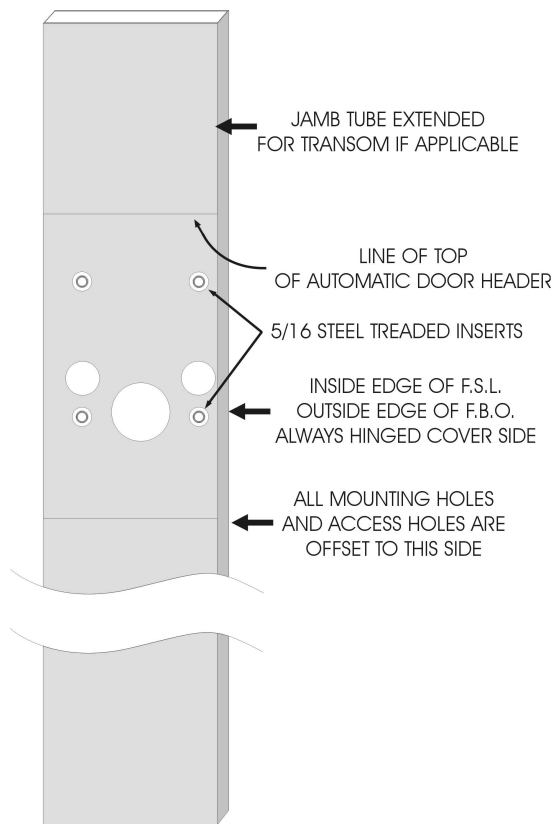




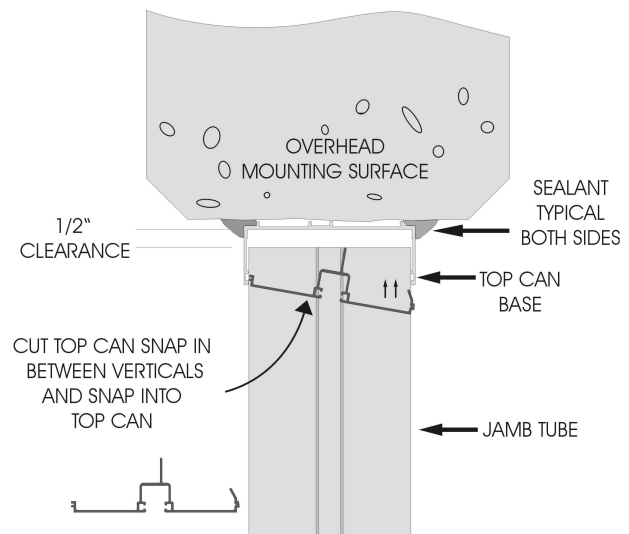
## 2.2 Jamb Tube Preparation and Installation

The Gildor jamb tubes are handed, making it important to install each jamb on the correct side of the header. The header mounting holes in the jamb tube are offset slightly. The mounting holes closest to the edge of the jamb tube always face the access cover of the Gildor header. (See Fig. 1). This is to assure the door leafs line up with the jamb tube. If the jambs extend past the top of the header for a transom installation, the access cover can open fully and will not be restricted by transom metal mounted on top of the Gildor header. If a transom package is used from Gildor, a two piece "Top Can" is supplied. The base portion of this "Top Can" assembly is installed first. This top can base is cut to the rough opening width and installed center lined on center-line of jamb tubes or glass line. Next cut both jamb tubes 1/2" short of the inside web of the this top can base. This allows for leveling of the header, once door header is stood up and inserted inside of can. (See Fig. 2). Bottom Can may also be used in the Gildor transom. This is a 3 piece aluminum storefront system and works the same way as the Top Can.

The maximum width of transom metal that can be used and mounted directly on top of the header is 4 1/2". If wider metal is used, than a 3/8" gap must be made between the header and transom metal.



**Fig 1**

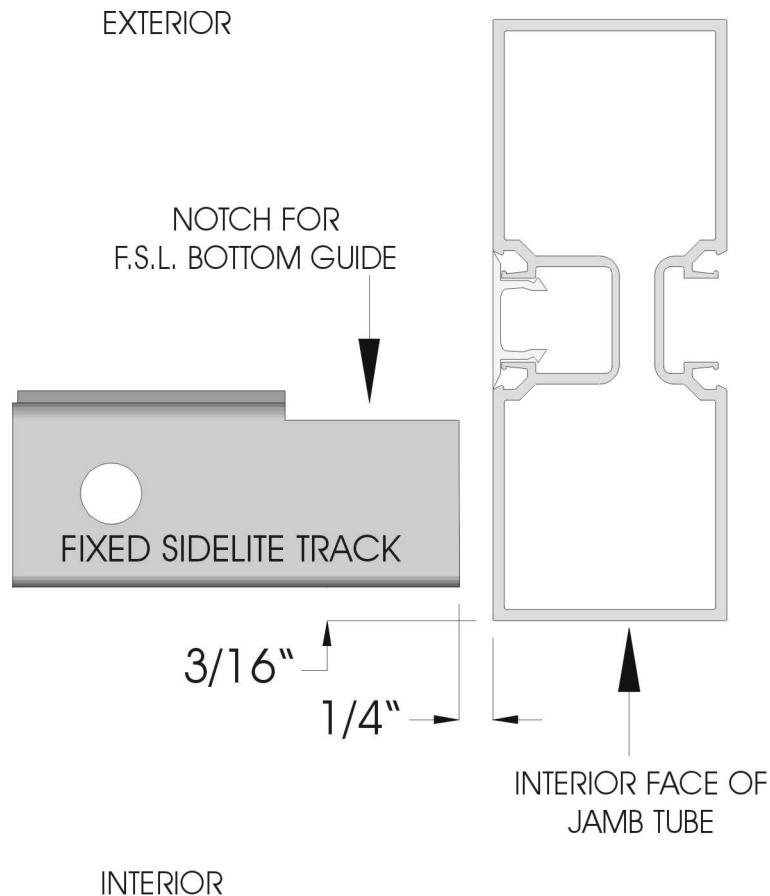


**Fig 2**

Once both jambs are installed, then the entire header, with jambs installed, can be stood up and set into opening. Use a 4 foot level to level both jamb tubes and header, making sure to shim the header height from the high point of the floor. To correctly determine the header height you must measure across the floor to the bottom of the header every 24", when you have an uneven floor. Your header height then is set from the highest point measured by installing shims under jamb tubes and leveling header. It is then necessary to anchor the jamb tubes to the perimeter framing, walls or steel. It is suggested to anchor both jamb tubes at 3" below the header, at 24" from the floor and one every 24" between the first two installed. If a transom is part of the package, then an anchor should be installed at 3" above the header and every 30" to the top of transom. A minimum 1/4" anchor should be used in all areas. Proper shimming between mounting surface and jamb tubes is necessary for a strong secure installation.

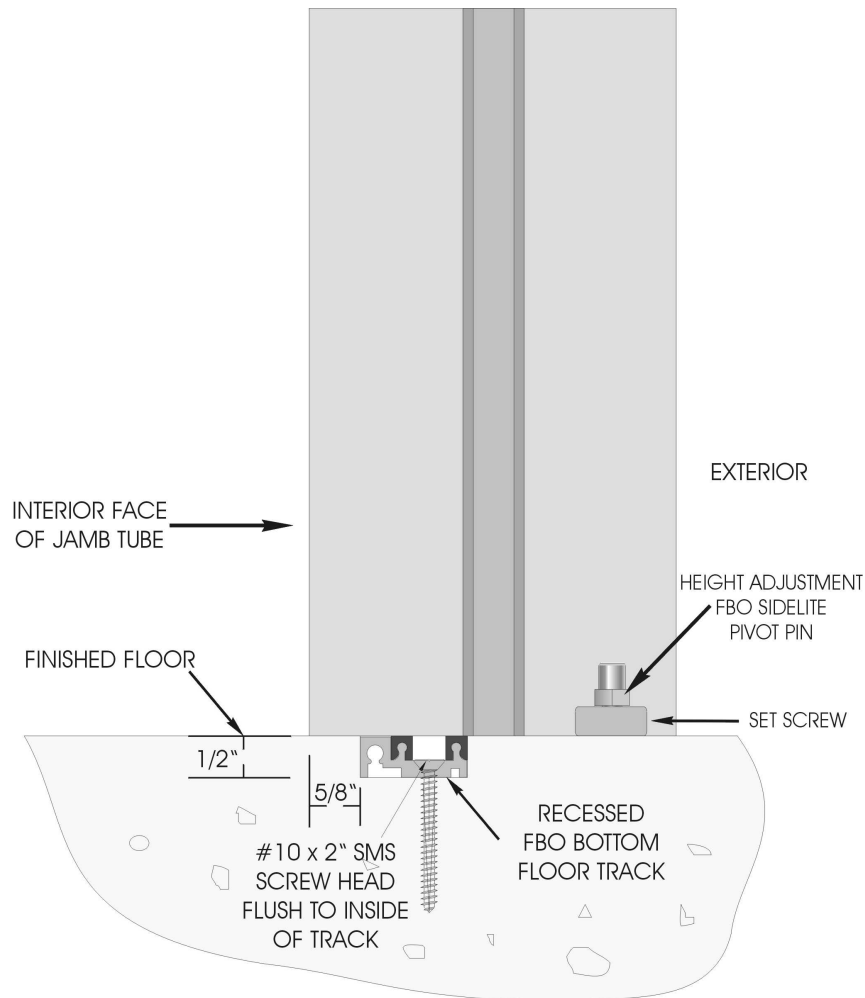
### 2.3 SIDELITE INSTALLATION FIXED SIDELITE DOOR PACKAGE (O SX or SX O and O SX SX O)

After header and jamb tubes are in place, plumb, square and anchored, open the access cover and lock open. Now the bottom floor track must be anchored. First, measure in from the interior of the 1 3/4" x 4 1/2" jamb tube 3/16" on left and right jamb. Using a chalk line, snap a line on these marks the entire width of the door package. Place each bottom track on this line, with the open face of bottom track facing the exterior and 1/4" from the inside face of the jamb tube. Anchor in through the top of the track using 1/4" cement anchors and #10 x 1 1/2" phillips flat head sheet metal screws. Be sure to tighten screws fully into the counter sink so as not to interfere with the door bottom guide wheels. Now remove the top 1/4" x 20" x 1 1/2" screws from the top of the fixed door panel. Also remove the breakout switch assembly from the upper outside face lead style, pull all the holding beam wires through this hole also. This is done so the wires will not be pinched and can easily be run up into the header once the fixed panel is in place and anchored. Pick the fixed panel up and place it over the bottom guide track, making sure it sits fully over the bottom track, tilt the panel up under the header. While doing this, check to see that the top mounting brackets line up with the holes under the header. (Note that the 1/4" gap left at the bottom track against the jamb was left to give the bottom rear edge of the panel the room to fit between the track and the jamb.) Once the panel is fit under the header make sure the panel is fit tightly to the jamb tube. Now install the 1/4" x 20" x 1 1/2" screws down through the holes in the bottom angle of the header inserting into top mounting brackets in top web of side panel and tighten. The wires and breakout switch can now be reinstalled. Feed all wires up through the hole in the bottom angle. Pull all wires through leaving enough wires in the door panel for future service of the holding beams. Run all wires in the race provided in the bottom of the header angle and use the snap plastic clips provided to keep all wires in place. Hook up all holding beam wires and breakout switch wires.



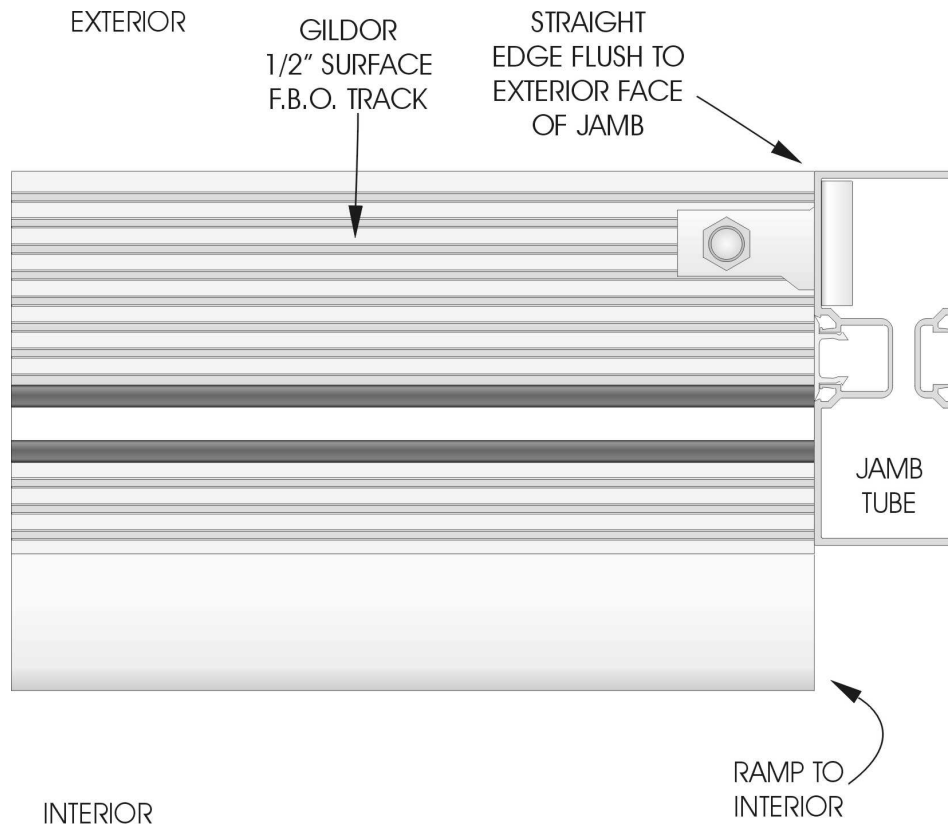
## 2.4 SIDELITE INSTALLATION FULL BREAKOUT DOOR PACKAGE (SO SX or SX SO and SO SX SX SO) RECESSED IN CONCRETE TYPE

After header and jamb tubes are in place, plumb, square and anchored, open the access cover and lock open. Next the bottom floor track must be installed. First measure in from the interior face of the 1 3/4" x 4 1/2" jamb tube 5/8" to exterior face on left and right jamb. Using a chalk line snap a line on these measurements the entire width of the door package. It is recommended notching the concrete to recess the bottom guide track. The door package jamb tubes come standard for a recessed floor track. Notching the concrete can be easily done with a 4" electric grinder, with a concrete dry cutting blade. Lay the track on the snapped chalk line, lining the inside edge of the track on the line and butt the track to the jamb. Mark around the track with a pencil. This is all that needs to be cut out. The cut out must be a 1/2" deep, level and flat. It may be easier to cut the notch deeper and fill it smooth with wet port rock or quick set concrete. No notching of the concrete is necessary if a 1/2" surface threshold is used. Only 1/4" deep recess is needed if a 1/4" threshold is used. However the threshold must be notched to receive the bottom track. The threshold must be run jamb to jamb. The track is handed and is to be installed with the offset towards the exterior. Anchor in through the top of the track using 1/4" cement anchors and #10 x 1 1/2" phillips flat head sheet metal screws. Be sure to tighten screws fully into the counter sink so as not to interfere with the door bottom guide pin.



**2.5 SIDELITE INSTALLATION FULL BREAKOUT DOOR PACKAGE  
(SO SX or SX SO and SO SX SX SO)  
SURFACE APPLIED**

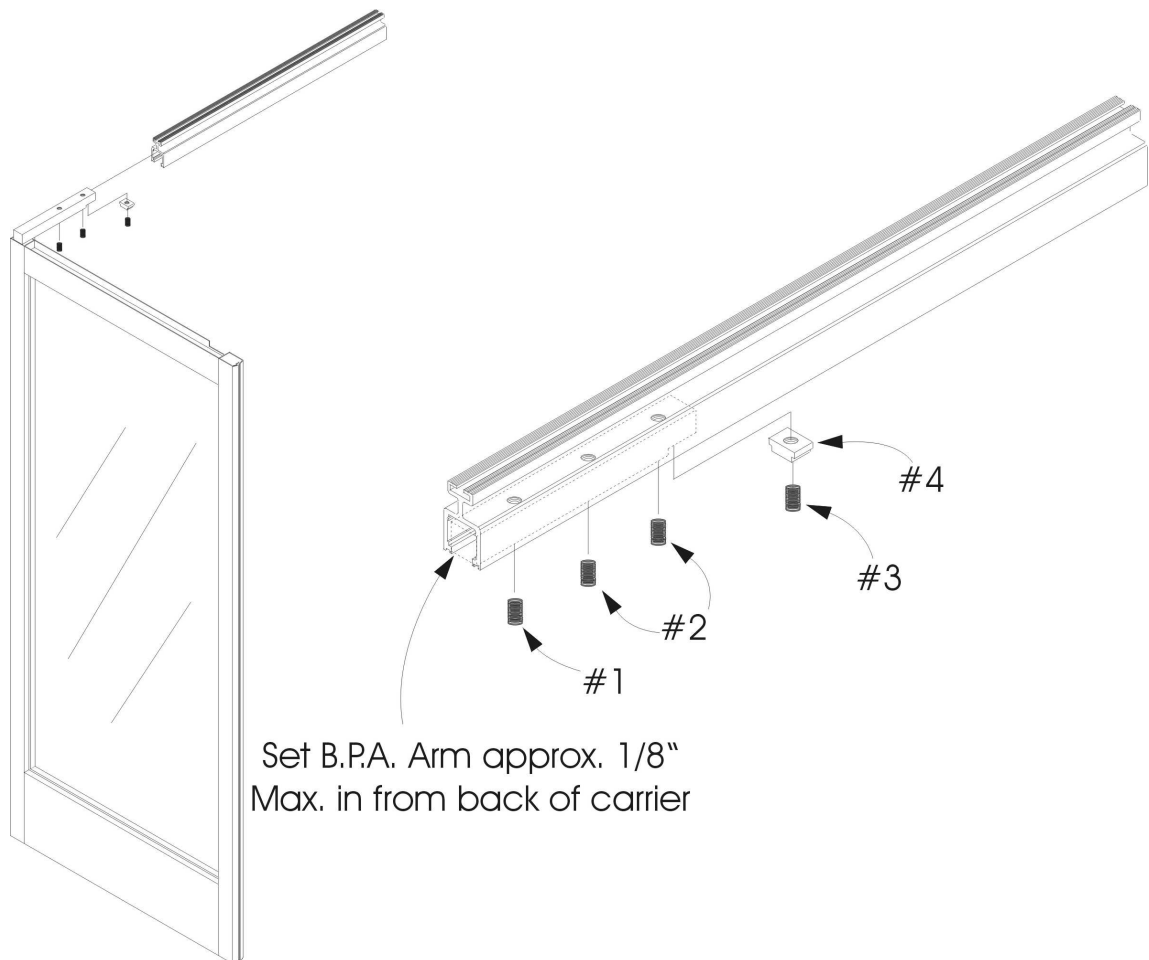
After header and jamb tubes are in place, plumb, square and anchored, open the access cover and lock open. Next the bottom floor track must be installed. Hold a chalk line on the exterior face of 1 3/4" x 4 1/2" jamb tube on left and right jamb. Snap line the entire width of door package. Set the surface track down butting the track to each jamb and lining the flat edge of the track on the line facing the exterior. The ramp faces interior. This 1/2" surface track only installs under for swing out sidelite and does not go into the door opening. Anchor in through the top of the track using 1/4" cement anchors and #10 x 1 1/2" phillips flat head sheet metal screws. Level the track so the active leaf slides in the track and guide pin does not move up and down as the active leaf slides open and closed.



Next, loosen the set screw that sets the bottom pivot pin from turning. Turn the bottom pivot pin all the way down before attempting to install the sidelite door leaf. Remove the top pivot bolt from the top pivot receiver on the sidelite door leaf. Run the holding beam wires out through the top pivot hole of the panel and let hang until panel is stood up. Lift the sidelite door panel up and set it on the bottom sidelite pivot pin. Tilt the panel in place and at the same time run the holding beam wires up through the pivot hole in the bottom angle of the header. Next run the holding beam wires through the top pivot bolt, so that the top pivot bolt threads are facing down. Tilt the panel the rest of the way up, under the header and feed the holding beam wires into the bottom header angle pivot hole, being careful not to pinch the holding beam wires. Once the panel is under the header and the holding beam wires are pulled completely through the top pivot hole, the top pivot bolt can now be installed down through the header bottom angle, and into the panel top pivot receiver and tightened. Do not over tighten this bolt. The panel should align to the jamb tube when closed, with approximately 1/8" between the rear of the panel and the jamb tube. Adjustments can be made by removing the panel and adjusting the top and bottom pivot receivers. Once the panel is installed and aligned against the jamb tube, the panel catch can be installed and adjusted. Install the breakout catch using the 1/4" x 20" x 1 1/2" bolts and nuts. The catch can be adjusted inside to out for proper alignment. Make sure the catch seats fully into the receiver. The catch can also be adjusted to breakout harder or easier. This is done with a small straight blade screwdriver down through the brass ball itself. Clockwise is easier counterclockwise is harder. It is also necessary to put beeswax on the ball itself to lubricate if properly. Pull all wires through leaving enough wires in the door panel for future service of the holding beams. Run all wires in the space provided in the bottom of the header angle and use the snap plastic clips provided to keep all wires in place. Hook up all holding beam wires and breakout switch wires per diagram page.

## 2.6 ACTIVE LEAF INSTALLATION ALL PACKAGES

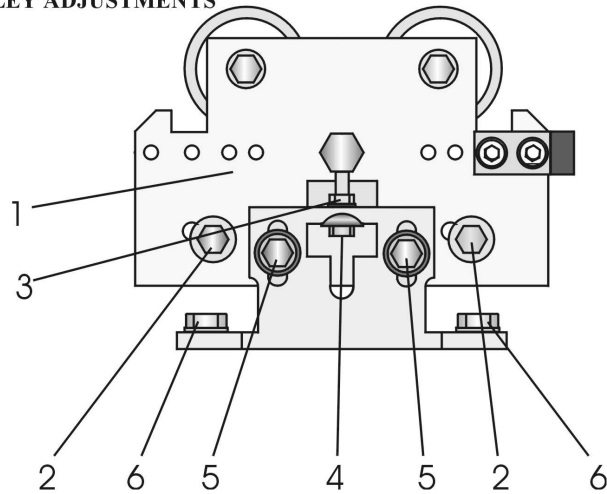
Remove breakout adjustment bracket (#4 Fig.3) from top Breakout Pivot Arm (B.P.A.). Loosen all 3/8" set screws in B.P.A., back out so that none of the set screws protrude from the top of the B.P.A. Slide the door carriers all the way to closed position. Swing the B.P.A. arm 90 degrees to the door leaf. If this is a fixed sidelite door package, pick up the door leaf and slide the bottom guide wheels, into the outside rear bottom corner of the bottom guide. After the guide is in the track, slide the active leaf towards the center of the opening and insert the B.P.A. arm into the rear of the carrier. The front of the door should line up with the front edge of the carrier plastic end cap. Snug the 3/8" set screw closest to the pivot point first (#1 Fig.3) this will keep the door B.P.A. from sliding in the carrier. Next swing the leaf open past 130 degrees and notice the B.P.A. arm raises in the carrier. Slip the breakout adjustment bracket (#4 Fig.3) into place, lining the set screw up with the indentation in the B.P.A. arm. Now, swing active leaf towards the closed position and adjust the breakout bracket (#2 Fig.3) to pick the leaf up lining up with the ball catch. It is important that the top lead edge of the door is perfectly lined up with the edge of the carrier lead edge plastic end cap. Once the height adjustment is made and the door closes evenly with the ball catch, tighten all set screws in the B.P.A. arm. (#3 Fig.3).



**FIG.3**

## 2.7 BEFORE COMMISSIONING

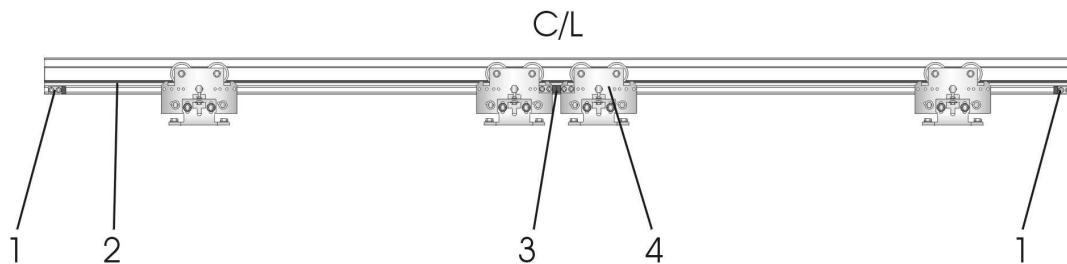
### TROLLEY ADJUSTMENTS



Adjustments to the trolley must be made before commissioning the drive unit to assure proper set up. The adjustments are to be made as follows:

1. Loosen 2 10mm bolt #2 and move antirail wheel until it meets with bottom of main profile track. Do not over torque this wheel as it will cause unnecessary binding. This antirail wheel must just touch the bottom of the main profile track just so the antirail roller rolls with the movement of the trolley.
2. Loosen 8mm nut #3 and move up. Loosen 2 10mm bolts #5. Attach door wing to trolley at 2 14mm bolts.
3. Raise or lower door mounting by turning #8mm nut #4 clockwise to raise and counter clockwise to lower.
4. Tighten bolts #5 first then turn nut #3 back down and tighten

### DRIVE SHOWN WITHOUT ALL ELECTRONICS AND DRIVE MECHANISM



Trolleys must be adjusted so that lead door stops #3 attached to the trolleys #4 hit each other in the closed position creating a positive stop closed, do not have door wings create positive stop.

Also the full open position must be adjusted so that the trolleys #4 stop at both the R.H stop and the L.H. stop at the same time creating the full open position permanent stop.

### 3. Commissioning

#### 3.1 Requirements

-any additional control and safety elements have been mounted and connected.

**Important:** If there are no holding beams with door package, a jumper wire link must be inserted across 14 and 17 and 14 and 18 on the control box.

-Door roller assemblies, belt brackets and permanent door stops must be tightened securely, anti riser rollers must be touching bottom of roller track and roll with door wings and tightened securely. Do not over tighten.

-The sliding wings must move freely without restriction.

The location of the remote control panel (BEDIS) is determined by the project management or store manager and mounted and wired.

#### 3.2 Preliminary electrical settings

No preliminary settings (door speeds, time delays, partial opening) can be made prior to commissioning (the stops must be set as described in the instructions prior to this page).

The travel distance as well as the maximum admissible speed and force are set automatically by the drive unit during set-up (reset).

##### **Setting-up procedure:**

The setting-up procedure is carried out when the drive unit is placed into operation for the first time, or after a **RESET** by means of the **BEDIS**.

-During the first commissioning, all the values on the second level are reset to standard.

-If a RESET is made after the door has already been in operation all 2nd level adjustments remain as previously set.

##### **Functional performance:**

1. Test of all the Hardware elements of the Control unit.
2. All the connected elements are checked (BEDIS, Electric Solenoid Lock, Battery Backup).
3. The door closes as far as the SHUT position with a set-up speed of 0,075m/s.



4. With a Solenoid Lock installed and the program switch (BEDIS) in the **NIGHT** or **Exit Only** position, the door wings are locked from sliding and remains in this position until a valid opening command (**KEY** impulse or **INTERIOR** impulse is made. In all other positions of the program switch the Solenoid lock is unlocked and all impulses open the doors.
5. The door opens with a set-up speed of 0,075m/s as far as the **OPEN**-position stop. During the opening the locking is checked (first 1 1/2") and a means value of friction is determined.
6. The mass is measured with a short acceleration of the wing. This mass also determines the maximum speed.

**Chart. 1**

Total wing weight in lbs.	Maximum opening speed Foot/seconds
55 up to 275	2.25
275 up to 352	2
exceeding 352	1.25

The closing speed corresponds to 40% of the maximum opening speed.

### **3.3 Procedure**

-Bring the sliding wings into the center position.

-Plug in the power plug.

-On control Box, LEDs 5V/24V and Power are lit.

-On the BEDIS, LED 32 (Reset) starts flashing approx. 5 seconds after plug-in. The installation sets itself up and remains open. LED 32 operating function manual is lit. If another LED is lit along with the flashing LED 32, then the corresponding operation function is set.

### **3.4 Interferences**

-The setting-up procedure can be affected by the following interferences:

-BEDIS is on a locked operation position (Night/Exit):

-Door breakout switch held open or shorted

The door closes and remains closed. LED 32 flashes and LED 1 NIGHT or LED 2 EXIT is lit. The setting-up procedure can be completed only after a valid opening command (KEY) or after selecting another operating function, e.g. AUTOMATIC.

-The door opens first during set-up:

..Check the assembly position of the belt coupling as per drawing, to assure that the belt brackets are on the correct side of the belt. Reversed belt brackets will make doors open when they should close and close when they should open.

-The sliding wings do not move:

..No Holding beams connected or no jumper wire/diode installed across #14 to #17 and /or #14 to #18 on Control Box.

-Red LED Error flashes along with the green LED:

-See malfunction (Error Codes) indication (Level 4 Section)

## 4. Control unit and remote control Panel BEDIS

### 4.1 General

The SLM drive unit can be operated and set as follows

-Without the BEDIS remote control panel

-The following program positions can be selected Via inputs 21 and 22 **NIGHT/EXIT/AUTOMATIC** (full Open).

Reset via terminal 25 and 26 (shorting a wire between #25 and #26 will reset doors) See diagram on Control Box

-The BEDIS can be used as a temporary programming unit for the setting the 2nd and 3rd level functions (3rd level functions are not described in this manual..consult factory).

. After BEDIS has been connected or removed, a cold start (reset by shorting terminals 25 and 26 momentarily) must be made during which the programmed values are preserved.

-With BEDIS remote control panel

-Via inputs 25 and 26 (patented 2-wire bus)

-The operation can be locked as follows:

Using a switch (key, momentary contact, etc...) Connected to BEDIS terminals 3 and 4. Note: if no switch is connected to terminals 3 and 4 on the bedis a jumper wire must be installed.-By connecting a terminal or a personal computer (e.g. management system) terminal block J5 (terminals 1-4) this requires special software, consult factory.

### 4.2 BEDIS remote control panel

All the function can be identified and set via the BEDIS remote control panel. The numbering of the LED's on the plate corresponds to their binary value. The softswitch numbers and the error numbers are obtained by adding the numbers next to the LED's which are lit.

Example: LED's 16/4/1 are lit... $16+4+1=21$ ...softswitch number or error number. 21.

Communications with the Control Box unit are fail-safe and tamper-proof via a modern bus system (patented two-wire line).

The BEDIS operates at 4 different levels:

1st	level	=	Operation functions (User level)
2nd	level	=	Setting functions (Must be set and left to ANSI Standards)
3rd	level	=	Programing functions At this level, settings can only be made by expert personnel (Gildor after-sales service or an authorized Gildor Distributor..consult factory)
4th	level	=	Malfunction indication Error

### 4.2.1 Operation functions (1st level)

The function of the program switch positions correspond to the established Gildor standard.

- The functions are symbolically represented on the left-hand side of the BEDIS, next to the LED's.
- The function currently selected is indicated by the permanently lit LED next to it.
- The buttons + or - are used to select the required program switch position. The corresponding LED lights up. The new setting is accepted after approx. 2 seconds.



#### MANUAL OPERATION

Top LED no #32

The installation is at a standstill. The door wings are release and can be moved by hand. Standard installations should use this position after hours to lock doors unless a Solenoid lock is installed.



#### HOLD OPEN

LED 16

The installation opens and remains in the open position.



#### TWO WAY AUTOMATIC

LED 8

The installation is not locked if there is a Solenoid lock installed. All the sensing devices and impulses are active.



#### TWO WAY AUTOMATIC with PARTIAL OPENING

LED 4

The same functions (OPEN/EXIT/NIGHT) as described above, but with reduced opening (See below for setting).



#### EXIT ONLY

LED 2

One-way traffic. The installation is locked (if a Solenoid lock installed). The sensing device on the interior remains active. The sensing device on the exterior is deactivated and operates only as a secondary switching element (outside opening command only operative if the door is not yet closed).



#### NIGHT

LED 1

The installation is locked. Only the key-operated switch (KEY) is accepted as valid opening element. All sensing devices are deactivated. To be used after hours when Solenoid Lock is installed.

### Setting and using the REDUCED OPENING

The PARTIAL OPENING function can be used in four levels if desired, the HOLD OPEN the AUTOMATIC the EXIT ONLY and the NIGHT (for reduced opening after hours and use of a KEY impulse. To set the partial openings:

-First select **AUTOMATIC** with **REDUCED OPENING (LED 4)**. After a waiting time of 2 seconds, the required function can be set.

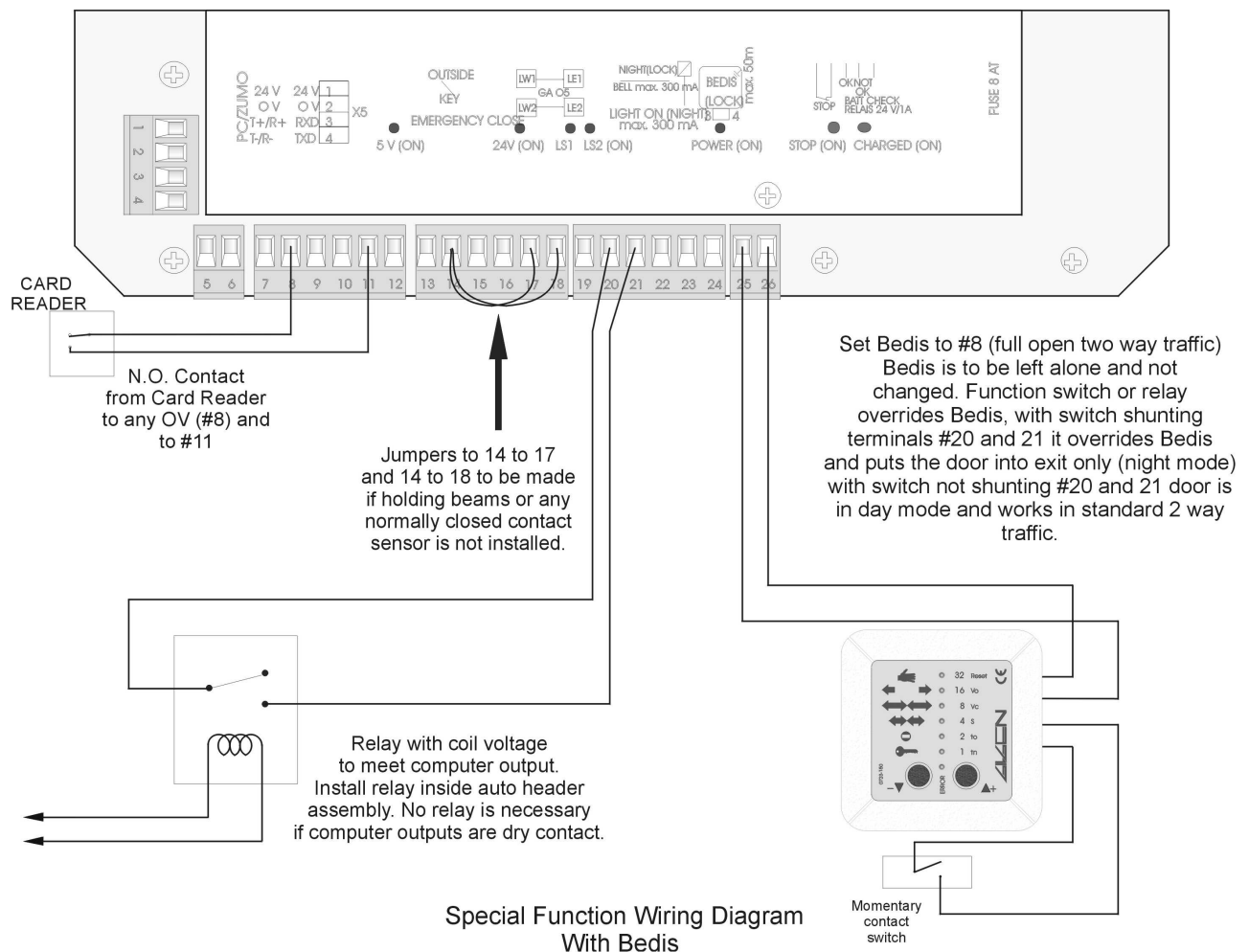
- **HOLD OPEN (LED 16)**
- **AUTOMATIC (LED 4)**
- **EXIT ONLY (LED 2)**
- **NIGHT (LED 1)**

-The full opening width is restored by selecting the **AUTOMATIC (LED 8)** Function.

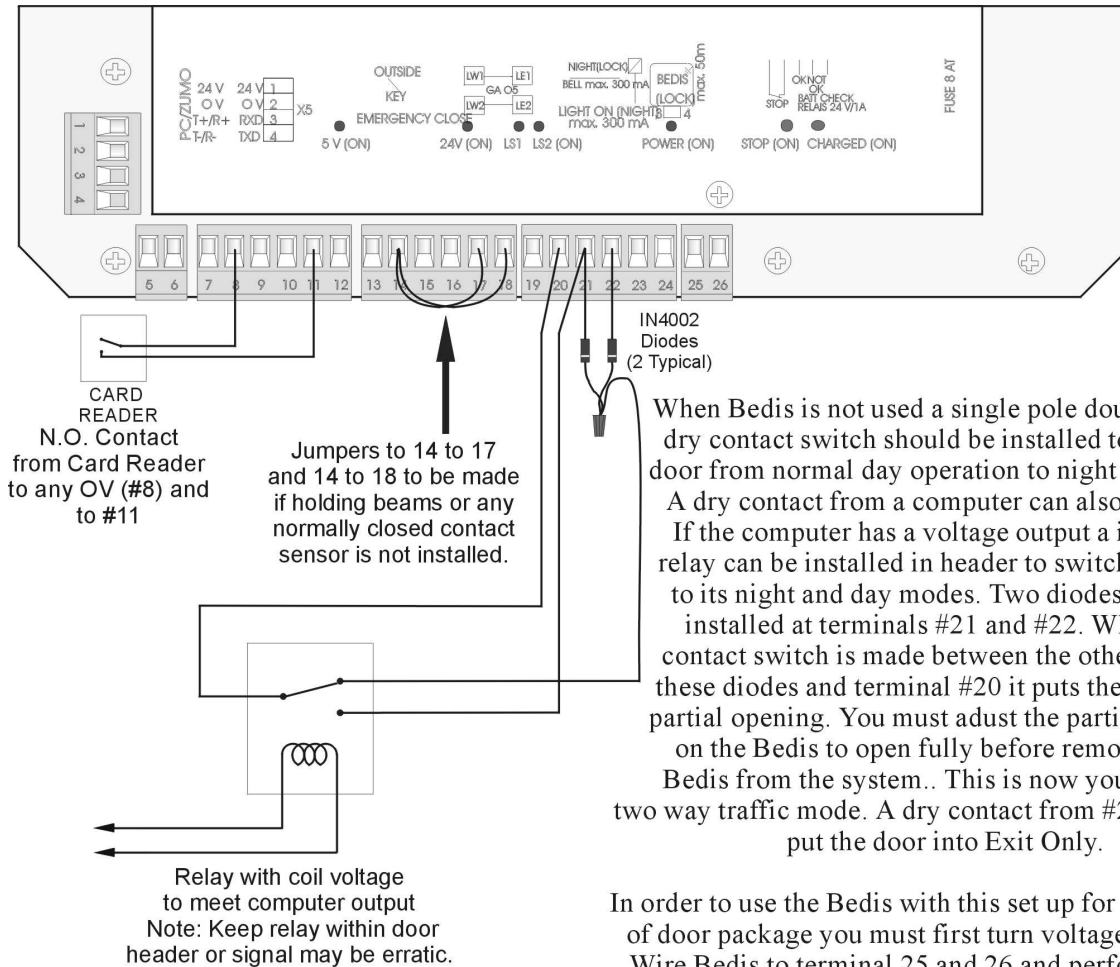
Further possibilities for selecting the program positions. (**SPECIAL FUNCTIONS**).

The inputs 21 and 22 (with BEDIS connected) result in an override of the current setting of the BEDIS position with the functions **AUTOMATIC-REDUCED/EXIT ONLY/NIGHT** (e.g. timer...or building management computer). **NIGHT** has the highest priority, followed by **EXIT ONLY** and **AUTOMATIC**. In addition, the newly selected function appears on the display showing two **LED's** at one time.

### Special Function Wiring with Bedis



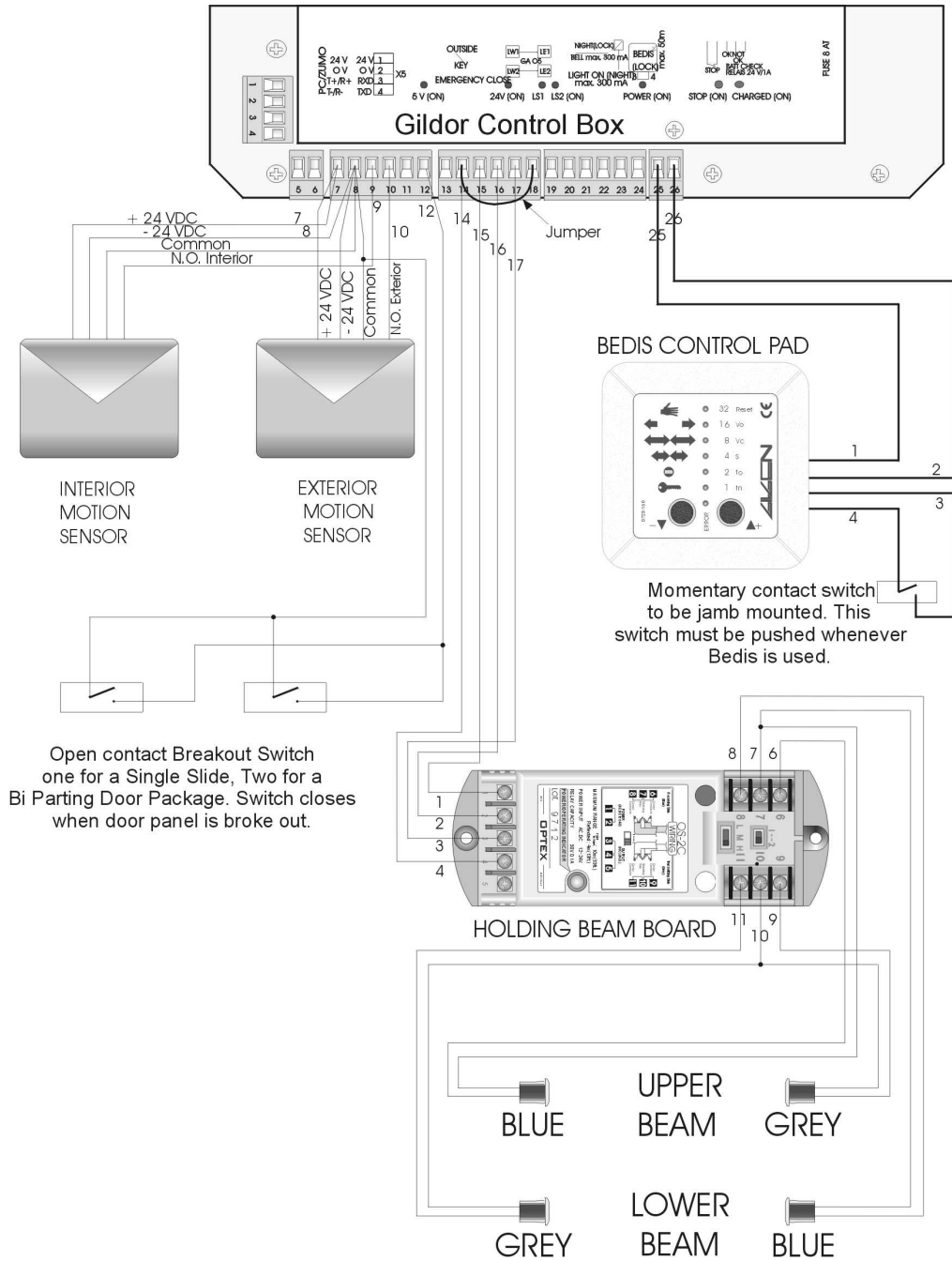
## Special Function Wiring without Bedis



Special Function Wiring Diagram  
Without Bedis

## Standard wiring Diagram for Sensors and Holding Beams.

Note that a jumper must be added to either terminal 14 and 17 or 14 and 18. These terminals must be closed either by a sensing device or by a jumper to allow the door to close.



## 4.2.2 Setting functions (2nd level)

The abbreviations of the setting functions are represented on the right-hand side of BEDIS. The required function is selected with the + or - key. Level 2 is accessed by pressing both keys simultaneously (+ and -), the corresponding display flashes. The flashing rate provides information on the set value (high rate = high speed/short hold-open time...low rate=low speed/long hold open time).

The + or - key is also used to modify the set value (+ corresponds to faster or longer) (-corresponds to slower or shorter)

Level 1 is reached again by pressing both keys simultaneously or is no further operations are carried out on the BEDIS for 1 minute.

<b>Reset</b>	<b>RESET</b> The installation is again started and set up (see setup procedure). If a RESET is entered during the battery-powered operation (110 volt loss), the drive unit stops and the control unit is switched off.	<b>LED 32</b>
<b>16 Vo</b>	<b>OPENING SPEED 40 - 100%</b> Standard setting 100 %	<b>LED 16</b>
<b>8 Vc</b>	<b>CLOSING SPEED 25-40%</b> Standard setting 40%	<b>LED 8</b>
<b>4 S</b>	<b>REDUCED OPENING WIDTH 40-90%</b> Standard setting 65%	<b>LED 4</b>
<b>2 to</b>	<b>HOLD-OPEN TIME STANDARD 0-10s</b> Standard setting 2 seconds This Hold Open Time corresponds to the inside and outside opening contacts and the Holding Beams LS1 LS2, and is independent of the NIGHT Hold Open Time.	<b>LED 2</b>
<b>1 tn</b>	<b>DOOR HOLD-OPEN TIME NIGHT 0-30s</b> Standard setting 7 seconds This Hold Open Time is corresponds to the KEY/WAKE-UP and is independent of all other selected program switch (BEDIS) positions. Standard settings are validated upon the First commissioning of the door.	<b>LED 1</b>



### 4.2.3 Malfunction indication (4th Level)

In the event of a fault, the normal program position display is interrupted every 4 seconds for a duration of 1 second to display a red error code (LED ERROR lights up together with error number...LED 1 /2/4/8/16). the error number is obtained by adding the numbers next to the red LED's which are lit.

Example:

3 sec.... LED 8 is lit = program AUTOMATIC

1 sec.... Red LED ERROR lights up together with LED 8/4 (red)....8 + 4 + 12....error no. 12

Error no.	Fault	Alarm
1.	Motor no. 1 circuit shutdown /defective circuit card/defective motor	Yes*
2.	Incorrectly connected plug on connection X4	Yes*
3.	Obstruction during learning path smaller than 9 inches	E*
4.	Overshot during learning path smaller than 386 inches	E*
5.	Excessive friction travel resistance too great	E*
6.	Motor no. 2 circuit shutdown /defective circuit card/defective motor	Yes*
7.	Obstructed during learning path smaller than 9 inches	E*
8.	Overshot during learning path greater than 386 inches	E*
9.	Excessive friction travel resistance too great	E*
10.	Control Box defective	Yes*
11.	Short-circuit on 24v external connection on Control Box	Yes*
12.	Electric Lock fault path smaller than 1 1/2"/lock monitor	Yes*
13.	Lock monitoring fault (door position or lock bolt position)	Yes
14.	Error Holding Beams connection or holding beams	Yes
15.	Power interrupt, battery mode	No
16.	Battery is not operative	Yes
17.	CLOSED position error	No
31.	Closing hindrance special	Yes
	<p>* The 24v power supply is switched off.  E This error is only identified during the setting up procedure, it activates the alarm output</p>	

Errors Nos. 1 - 10	Are of fundamental nature (fatal errors) and result in a system shut down Motor unable to work properly. May be bound by locked door wings or doors forced open.
Error No. 11	Causes a system shutdown during the adjustment process. If this process has already taken place, the power supply will be periodically switched off for 10 seconds and then switched back on for 6 seconds in order to check the voltage.
Error No. 12	Without internal monitoring of the door and lock position (special option kit added to the solenoid lock to monitor if the solenoid lock is locked or unlocked and if door is open or closed): after a third attempt at <b>RESET</b> a system shutdown will occur. With the monitoring of the lock position kit installed: after detection of the error, immediate system shutdown.
Error No. 13	Error can only be detected with the door position monitor and lock bolt monitor kit installed and in a locked position of the program switch ( <b>BEDIS</b> ).
Error No. 14	Is detected in the open position prior to the closing motion. In the program switch ( <b>BEDIS</b> ) position <b>NIGHT</b> , a slow closing motion is possible after a waiting time of approx. 8 seconds, even if this error is pending.
Error No. 15	With battery backup installed, displayed during the emergency power operation (battery in use), as long as the exhaustive discharge limit has not been reached (exception: program position <b>NIGHT</b> ).
Error No. 16	Defective connection, defective battery cable or battery is defective.
Error No. 17	Indicates that the door is being pushed out of the closed position, (e.g. by the center weatherseal or door forced open), Check the adjustment of the top carriage wheel bumpers, door stops must touch carriers, in the center, and fully close.
Error No. 31	Only if Level 3 softswitch #31 is set to <b>ON</b> , can be canceled by breaking doors out into panic breakaway, <b>RESET BEDIS</b> , putting <b>BEDIS</b> into <b>PARTIAL OPEN</b> or by a <b>KEY</b> command.

If there are several errors, the error first detected is the one displayed. The **ALARM** refers to the alarm output (terminal 24 SS# 2 on) and is activated according to the Error table (**YES**).

The **LEDs** on the **Control Box PCB's** indicates additional status and error displays which complement the information supplies via **BEDIS**:

<b>Supply voltages</b>	<b>internal electronics</b>	<b>5V (ON)</b>
	<b>external voltage</b>	<b>24V (ON)</b>
	<b>Motor power supply</b>	<b>POWER (ON)</b>
<b>Photoelectric cell test</b>		<b>LS1/LS2 (ON)</b>
<b>EMERGENCY STOP</b>		<b>STOP (OFF)</b>
<b>Battery charge</b>		<b>CHARGED (ON)</b>
		<b>“blinking”</b>

The status displayed between brackets indicates if the control unit is operative.

### 4.3 Safety elements and functions

Photoelectric cells LS1 and LS2

- If the beam of a holding beam is cut, the drive unit is reversed. In the open position the hold open time (standard) is reset.
- If the door is not closed, LS1 activates the gong, if used, (impulse duration 1 second).
- Prior to a closing motion, the LS are tested.
- If only one LS is connected (terminals 14 and 17), a jumper must be inserted on the second input, (14 and 18).

### Reversing and stopping mechanism

- Limits the static force to max. 90 N.
- REVERSING for the closing movement and STOPPING for the opening movement, with subsequent fixed delay time of 3 seconds. After the next impulse, the movement is continued at slow speed in the same sense of travel ( $v = 0.19$  m/s).

### 4.4 The main outputs and inputs

#### Outputs

All the outputs (with the exception of **BATT CHECK**) are electronic outputs (not potential free) with a maximum load of 24V/300mA. these outputs are to be used for an external application via a relay (potential free).

- Power supply 24 VDC O V terminal = 2/5/6/8/16/20  
24 V terminal = 1/7/13/15/19

This power supply is short-circuit-proof and designed for a maximum load of 2A.

- Terminals 29, 30 and 31 (X12) output **BATT CHECK**

This output is used for indicating the battery status; it is the only relay output and has a max. Load capacity of 24 VDC/ 1A.

- Connector X15 output locking

The locking is bistable, i.e. prior to an opening the locking mechanism is shortly actuated in order to shift the locking hook to the unlocked position.

After the wings have reached to **CLOSED** position, the are again locked.

Power consumption of the locking:

**unlock 1,3A**

**lock 0,4A**

## Inputs

PS position AUTOMATIC with BEDIS

-Terminal 21 (X8) EXIT ONLY

-Terminal 22 (X8) NIGHT

-Terminals 21 and 22 (X8) simultaneously switched to 0 V via two diodes AUTOMATIC-REDUCED.

Program position	Terminal 21	Terminal 22
Night		<i>switched to 0 V</i>
Exit	<i>switched to 0 V</i>	
Automatic		
Automatic (Partial Open)	<i>switched to 0 V via 2 diodes</i>	

PS pos. NIGHT without BEDIS

-Terminal 21 (X8) EXIT ONLY

-Terminal 22 (X8) AUTOMATIC

-Terminals 21 and 22 (X8) simultaneously switched to 0 V via two diodes AUTOMATIC-REDUCED.

Program position	Terminal 21	Terminal 22
Night		
Exit	<i>switched to 0 V</i>	
Automatic		<i>switched to 0 V</i>
Automatic (Partial Open)	<i>switched to 0 V via 2 diodes</i>	

-Terminal 25 and 26

RESET key (optional or installed by customers)

By short-circuiting the BEDIS connections for 2 seconds (terminals 25 and 26), a RESET can be carried out with or without BEDIS.

-Terminal 27 (X12)

Stop (Emergency Stop 1)

If this input is interrupted.

- the motor speed is immediately reduced

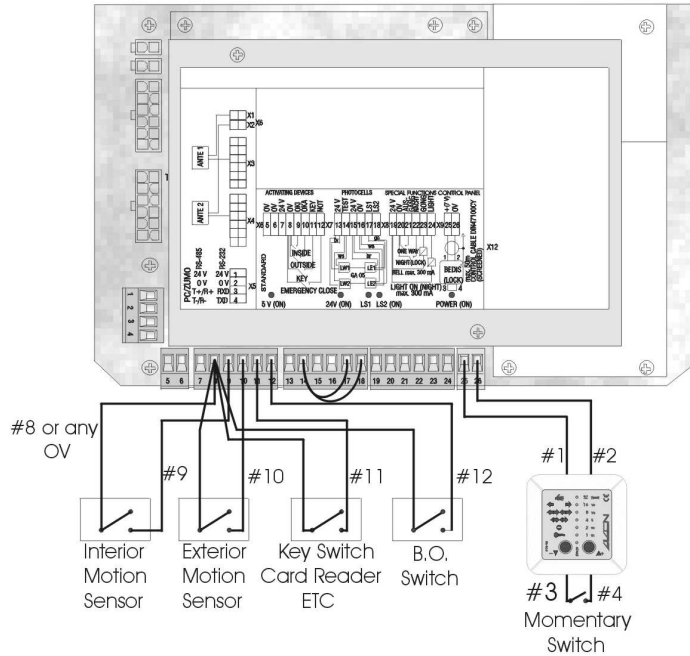
- the 5 V and 24 V supply is switched off...the installation is stopped!

If this input is closed

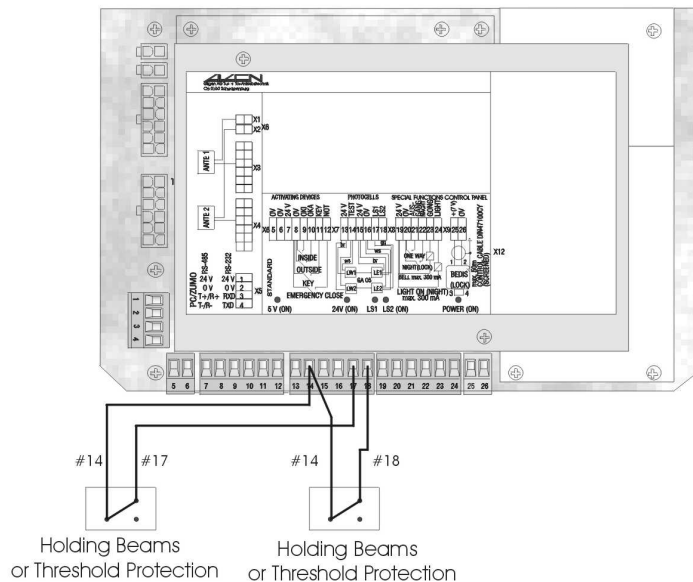
- the sliding door closes slowly and LED 32 (RESET) on the BEDIS flashes.

- after the door has reached the CLOSED position, it continues to function normally according to the program switch position.

All Approach sensors to be wired as shown  
 The #8 terminal is an OV terminal, any OV can be used (#5 or #6). When no sensing is used on term.  
 #14 & #17 and #14 & #18, a jumper must  
 installed at these terminals or doors will hold open.



All Holding beam and threshold sensors to be wired as shown.  
 These terminals need to be a closed circuit for the doors to close.  
 Note that all sensing devices are wired to the N.C. contacts  
 When no sensing is used on #14 & #17 and #14 & #18, a jumper must  
 close these terminals or doors will hold open.



## 4.5 Interlock Operation

This description refers to the standard interlock, i.e. two completely separate, SLM sliding doors are used. The two drive units are to be connected as follows via the terminals:

	Drive unit 1	Drive unit 2
Interlock signal	23(X8)	23(X8)
OV (GND)	20(X8)	20(X8)

Note: This requires programming in the 3rd level and must be done by experienced Gildor representatives.

### Principles:

- Both installations must be wired into the same power supply.
- Interlock function in program switch position NIGHT (#2) and EXIT (#1).
- In order to guarantee the interlock function, both program switches must be in the same position.
- However, the communication via the interlock connection functions in any position of the program switch. This means that doors which are not in a locked program switch position, are capable of blocking other doors which are in a locked program switch position. Conversely, the pending signal is not taken into account.
- Set the SS No. 3 to ON for both doors (interlock) and, by means of softswitch No. 4, attribute the MASTER function to one door.
- Opening commands are memorized.
- Memorization of the opening impulses can be suppressed by softswitch No. 16.
- The EMERGENCY OPEN or EMERGENCY CLOSE function has priority.
- If a door remains hooked in the locking mechanism, the other door is released after a short delay time has expired.
- Double openings are prevented by a special timing, even if two opening commands exist at the same time.

### Procedure:

Both doors are closed. The MASTER supplies a signal which must be answered by the SLAVE, otherwise the signal is repeated by the MASTER. If in the reverse case the MASTER fails to respond, the SLAVE will repeat the request. If one of the doors is not CLOSED, it transmits a O signal to its interlock output. After a RESET or a mains failure the synchronization is always made by the MASTER. This ensures that the setting-up procedure is carried out in accordance with the requirements of the interlock.

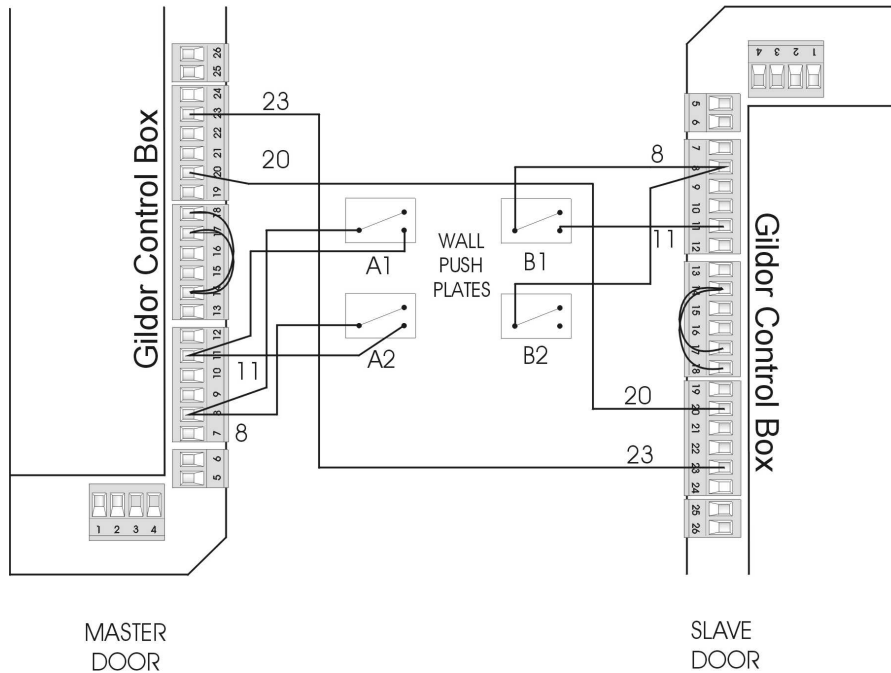
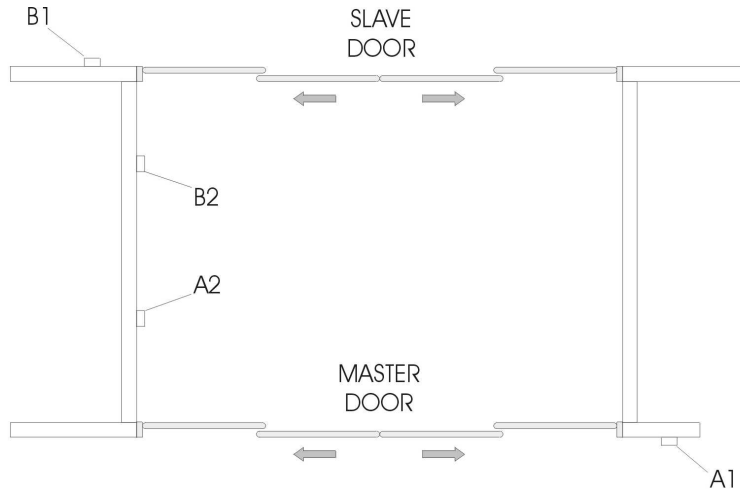
- The interlock can also be combined with other Gildor products such as the FDC swing door or the FFM Bi-folding door and the Gildor circular sliding door2.

## Examples of the interlock layout and wiring are as follows:

### Safety interlock

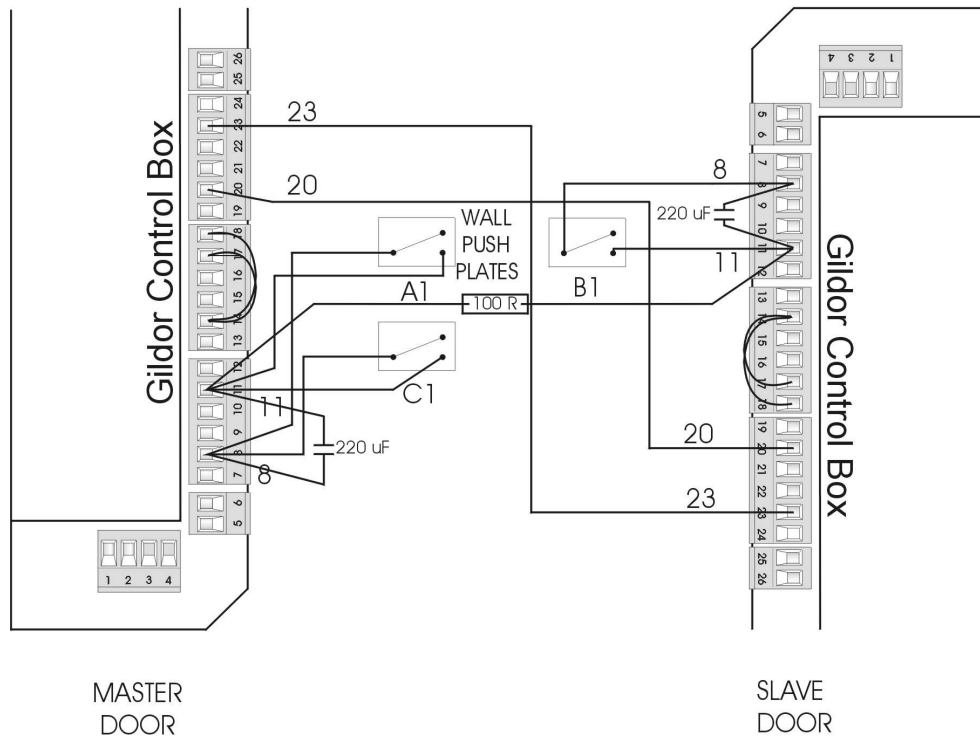
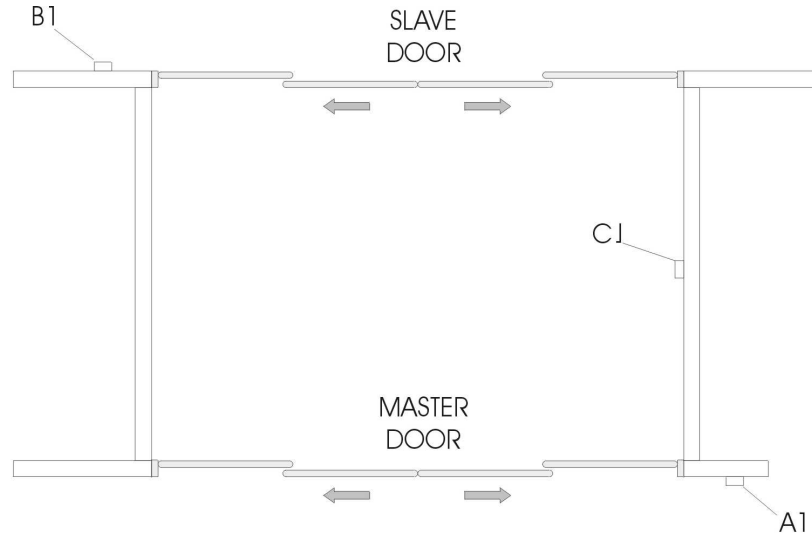
-Four opening elements (e.g. push plates) are required.

- After an opening element (A1) or (B1) has been actuated, the respective door is opened and closed again after the hold-open time has expired. In order to open the second door, another opening element (A2) or (B2) must be operated within the interlock.



## Clean room interlock

- Only two opening elements are required.
- Softswitch no. 16 must be positioned to Off
- After an opening element (A) of (B) has been actuated, the respective door is opened and closed again after the hold open time has expired: then the second door is opened without any actuation of an opening element.
- For safety reasons at least one opening element (c) must installed within the interlock.





## 4.6 Particular instructions for the customers

### Holding Beam fault

If the doors are held open when the premises closes, because the holding beam is interrupted, the sliding door will close nonetheless at slow speed when the system is switched to the **NIGHT** operating position, in spite of the fault.

### Battery Wake-up

The emergency battery set allows unrestricted operation for approx. 15...30 minutes.

Exception:

In the **NIGHT** operating state the control unit is switched off completely, in order to protect the battery (all the LED's are off). During this stand-by function a residual current of approximatly 4mA always flows from the battery. With the **Key** control element one can trigger an opening (Wake-up), for this the control element (e.g. key-operated switch terminal 11) must be actuated for approx. 3 seconds. At the end of the **NIGHT** hold-open time, the door shuts and the control system is switched back off again. Normal operation is only possible after the mains supply is switched back on.

## 5. Maintenance and troubleshooting

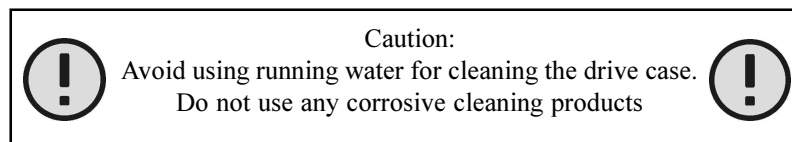
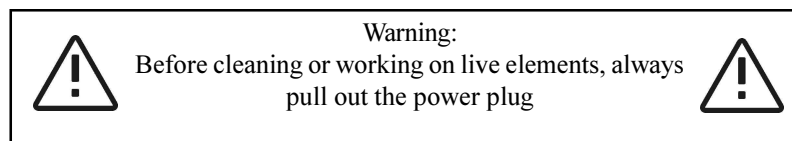
### 5.1 Security and warranty

Regular maintenance and checking at least once a year are essential in order to guarantee a reliable and safe operation of the SLM sliding door installation.

Maintenance must be carried out by specifically trained personnel, according to the maintenance chart that follows.



If the maintenance is neglected or carried out by unauthorized personnel, the manufacturer respectively the distributor cannot be held responsible for any damages that might occur and their consequences.



Any subsequent intervention or modification of the SLM sliding door installation shall only be carryout by specially trained personnel.



## 5.2 Maintenance

Check the function and wear of the different elements  
 Maintenance should be performed at scheduled intervals  
 it is recommended at least semi annually

 To avoid jeopardizing the safety of the door users, any defective safety elements may not be disconnected in order to continue the operation of the door 

 In order to guarantee the availability of the installation, a preventive replacement of any element showing signs of wear is strongly recommended 

Installation	Check	Clean	Grease	Adjust
General condition of door install.	X			
Free door movement, manually	X			X
Door guides / top track	X	X		X
Weatherstrips / sealing joints	X	X		X
Side panels / active leaves	X	X		
Header back / header cover	X	X		
Check tight fitting screws and nuts	X			
Clean the installation	X	X		

Control box	Check	Clean	Grease	Adjust
Electrical connections	X			
Control functions	X			X
Program switch (check all the positions)	X			
Battery	X			

### Control elements

All existing control elements such as: motion sensor, threshold protection, key switch, card reader	X	X		X
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### Drive unit

Drive unit	X	X		X
Holding power in CLOSED pos.	X			
Transmission elements such as: toothed belt, flat belt, cables rods or chains	X	X		X
Carriage wheels / counter pressure rollers, / traveling carriages	X	X		X
Carrier breakout catches	X	X	X	
OPEN / CLOSE position	X			X

### Safety elements

Reversing / stopping mechanism	X	X		X
Door locking / manual unlocking mechanism	X	X	X	X
Mechanical emergency breakout	X			X
Breakout monitoring switch	X	X		X
Holding beams	X	X		
Existing additional safety elements	X	X		X

### Miscellaneous

Stickers / rating plates	X	X		
--------------------------	---	---	--	--

### 5.3 Troubleshooting:

**Warning:**  
Before cleaning or working  
on live elements, always  
pull out the power plug.

Malfunction	Visual Checking	Cause/Reason	Corrective/measures
Reset light wont stop flashing agter reset  Door is blocked in any position	Emergency breakout wires shorted  Bedis  No LED lights on control box	Defective connection on breakout circuit or doors broke out in panic  Bedis in Manual Mode  No Power or Fuse blown	Fix wires, Reset door panel or align B.O. switch  Bedis on Automatic  Check power, Replace fuse
Door is blocked in the open position	Bedis  Hold Beams, terminals 14 and 17, 14 and 18  Opening sensors	Bedis on Hold open or Manual Hold beams cut or defective or wrong connections  Sensors defective	Bedis on Automatic  Check terminals 14 and 17, 14 and 18 for slosed command.  Replace sensors
Door remains closed	Bedis  Emergency breakout	Bedis on Night, Exit or Manual Emergency breakout Activated	Bedis on Automatic  Check B.O. circuit term. 8 and 12
Door ceaselessly repeats short opening and closing movements.	Door movement	B.O. circuit is being activated.  Defective control box	Check the mechanical parts (Roller carriages, track, and door wings) Check B.O.circuit  Replace control box
During the closing motion, the door suddenly reopens automatically.	Door movement	Reversing mechanism has been triggered  Defective control box	Check the mechanical parts (Roller carriages, track, and door wings)for excessive friction.  Replace control box
If solenoid lock is installed The Locking is not energized in the Bedis position NIGHT	Door attempts to open but remains locked	Defective solenoid lock magnet  Defective lock PC board  Defective control box	Check the connection Measure the magnet  Replace lock PC board  Replace control box

# GILDOR QUICK REFERENCE TO YOUR “BEDIS” CONTROL PAD



POSITION YOU SHOULD HAVE DOOR IN AT NIGHT TO LOCK MANUAL MODE.



THIS IS THE HOLD OPEN POSITION IN THIS MODE THE DOORS WILL REMAIN OPEN UNTIL YOU CHANGE POSITION.



THIS IS THE MODE FOR NORMAL TWO WAY TRAFFIC. IN THIS POSITION DOORS ARE ACTIVATED FROM THE EXTERIOR AND THE INTERIOR.



IN THIS MODE DOORS ONLY OPEN TO A PRESET PARTIAL OPEN POSITION. THIS IS USED IN LIGHT TRAFFIC OR FOR ENERGY SAVINGS FROM AIR CONDITION OR HEAT LOSS.



THIS IS EXIT ONLY MODE. THIS MAY REQUIRE SPECIAL WIRING AND IS ONLY USED IF DOORS ARE TO BE USED FOR EXIT ONLY OR ENTRANCE ONLY.

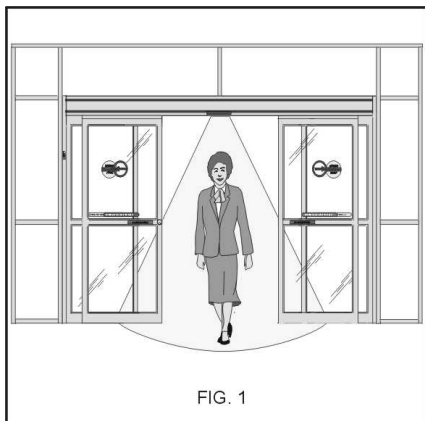


THIS IS USED IF THERE IS AN ELECTRIC LOCK INSTALLED IN THE AUTOMATIC DOOR. IN THIS POSITION DOORS WILL CLOSE AND THE ELECTRIC LOCK WILL ENGAGE.

WHEN THE RED LIGHT IS FLASHING THIS INDICATE THERE IS A PROBLEM WITH YOUR AUTOMATIC DOOR. IF THE ERROR DOES NOT CLEAR ITSELF CALL YOUR LOCAL SERVICE COMPANY

# DAILY SAFETY CHECKLIST FOR YOUR AUTOMATIC SLIDING DOOR Overhead Sensor Activated Doors

**FIGURE 1**

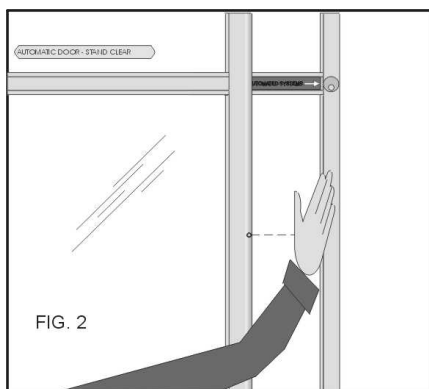


1. Walk Test: approach automatic sliding doors from exterior of the opening, doors should start opening approximately 5 feet from doors. Doors should open smoothly and stop fully open without slamming or banging. Step out of the detection zone the doors should start closing no sooner than 1 1/2 seconds after getting out of the zone. Doors should close at a rate not greater than 1 foot per second. Doors should close smoothly without slamming or banging. Repeat the procedure from the interior, walking outward testing the interior sensing pattern.

Door traffic should be routed so that doors are approached straight on. If this is not possible, the sensors must be adjusted to activated the doors from traffic walking to the door from a side angle. This test walk should be done by walking parallel about 2 feet from face of doors. Doors should start opening before getting to the back of the moving leaf.

2. Threshold Test: stand in the threshold area directly under the automatic door header. Stand for approximately 15 seconds. Doors must stay open without door movement while standing in the threshold area.

**FIGURE 2**

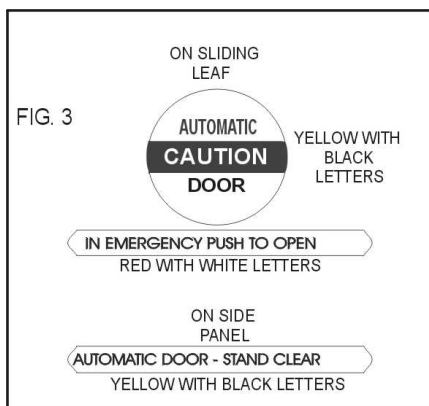


If your automatic door equipment has holding beams installed, with the doors in open position cover the beam with your hand. Doors must remain open the entire time you cover the beam. Remove your hand from the beam, doors should start closing after the time delay expires. Make this test on both lower and upper set of holding beams.

### Floor Mat activated Doors

Walk Test: Step on all activating mats one at a time. Doors should open smoothly slowly and stop without slamming or banging. Slowly step on very part of each mat. Doors should remain open without trying to close. Step off the mat, door should start to close no sooner than 3 seconds after getting off mats. Check to see that all mat molding and thresholds are securely anchored with no missing or loose screws and that no edges are sticking up causing a trip hazard.

**FIGURE 3  
Decals**



ANSI Standards: Each moving leaf of your automatic door equipment must incorporate 2 decals. CAUTION-AUTOMATIC DOOR mounted at eye level, IN EMERGENCY PUSH TO OPEN mounted on interior on a center mullion bar or on glass indicating direction of egress.

The non sliding leaf must incorporate 1 decal, CAUTION-AUTOMATIC DOOR STAND CLEAR mounted at eye level. ANSI standards require these decals be displayed.

### Locking

Check for ease of locking and unlocking your automatic doors. Check that the bolt in center of the door locks securely to the other door (or door jamb is door is single slide). Check that the lock rod extends into the top carrier securely. Lock the doors and then try and pull them apart, doors should remain tightly secured. Do not wait until closing time or before a holiday to check for proper security. Waiting could cost you an expensive EMERGENCY SERVICE CALL.

### General

Assure that all bottom guides and tracks are free from dirt and debris. Make sure there isn't any excessive war on guides or tracks.

Visually check top rollers to see that doors are sliding freely and smoothly. Doors should not lump or jerk open or close. Check that your entrance is free of slipping or tripping hazards. Also that there are no displays, floor mats or other objects that may impair door travel or may attract customers to the area where they may be hit or startled by the doors.

Check for broken or loose door panels at corners, broken or cracked glass, missing or loose glass stop that holds glass in.

**IF THERE ARE ANY PROBLEMS LISTED ABOVE THAT CANNOT BE CORRECTED, IMMEDIATELY TURN OFF AUTOMATIC DOOR EQUIPMENT AND CALL YOUR LOCAL SERVICE COMPANY**