

A photograph of a modern building with a curved glass facade, reflecting the sky and greenery. The image is partially obscured by a dark blue diagonal overlay on the left side.

Bringing Innovation To Life

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We hope that you find this document useful and welcome any feedback.

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WHY SMART GLASS COUNTRY?

We have successfully worked with and supplied to prestigious clients, World renowned architects and landmark projects throughout the World and have built an enviable reputation for:

- **Quality Products.** Our products are designed to be not only aesthetically pleasing but also essentially functional and easy to use. The expectations raised by a strikingly individual appearance must be completely fulfilled in terms of high quality performance in all areas when the Switchable Glass system is used. Excellence in providing the consumer with the highest pleasure in both ownership and use rests on the highest quality standards employed through the design and manufacturing processes.
- **Innovation.** Through extensive investment in research and development Smart Glass Country continually pushes the boundaries to bring new and innovative products to its customers.
- **Design.** Our design team will work with the client, their architects and design teams in order to guarantee the products supplied are fit for purpose and are optimally designed in terms of quality, regulatory compliance, safety, aesthetics and function.



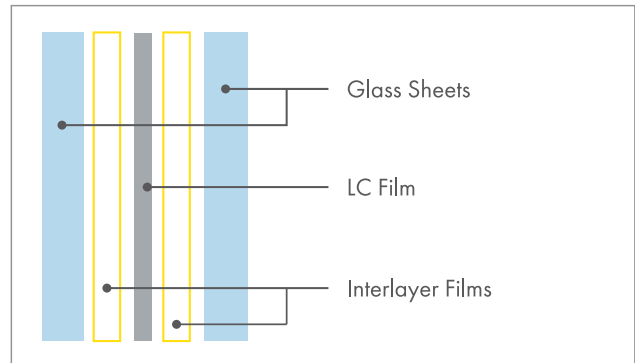
- Customer Focus. We offer our customers a level of service that matches the unprecedented focus on quality and finish of our products. Following design, delivery and installation of your purchase the Smart Glass Country product and service guarantee ensures that service and support is always close at hand. Taking care of you and your products is our main ambition. Should you need support for your products, we will do our utmost to help you as quickly and efficiently as possible.
- Flexibility. We strive to be as flexible as possible in order to understand and enhance the customer experience. Frequently competitors cannot supply certain configurations which Smart Glass Country will supply to exceed the clients requirements.
- Beware of cheap imitations. Our Switchable Glass products set the standards.
- Lead time. Through in house control of the manufacturing and quality processes, lead times generally range from 3 to 6 weeks from receipt of order. Our goal is to deliver a quality product on time.
- International Sales Network. Through partnership we can service the requirements of a worldwide customer base.
- Environmental Policy. We work continuously to minimise the effects of greenhouse emissions on the environment. Equal priority is given to finding a balance between the needs of the environment and the consideration given to our products qualities, economic value, aesthetic value and life span. Our products ultimately reduce green house emissions by enabling users to reduce peak electrical demands on lighting and cooling. Our production processes are carried out in a sympathetic manner always with a view to maximising recycling and minimising energy consumption and waste.

Principle:

Switchable Smart Privacy Film is made of two layers of transparent conductive film sandwiched with PDLC material. The film is then laminated between two pieces of glass. When electricity is applied to the film the liquid crystals line up and Smart Switchable GLass™ becomes transparent. When the power is turned off, the liquid crystals return to their normal scattering positions and turn the glass from clear state to opaque.

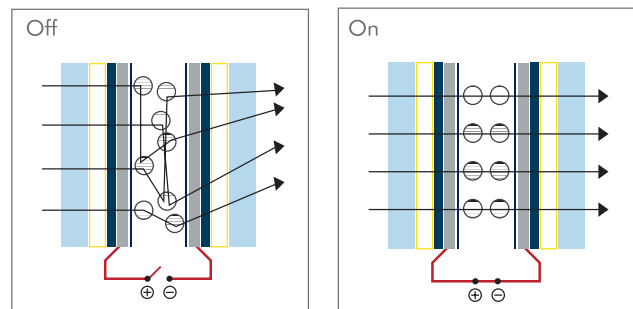
The Liquid Crystal Privacy film is encapsulated between layers of glass in a protective laminate construction. Smart Switchable GLass™ incorporates 5mm low iron tempered glass as standard, offering considerably higher light transmission when transparent. However as we manufacture the product ourself customers can select from a wide range of glass types and colours to suit their project requirements. The outside panels are made up of glass (normally 5 or 6mm annealed or tempered glass) each side, then a PVB interlayer is inserted on each side to trap and hold the Liquid Crystal Privacy film.

Switchable Glass Composition



The Liquid Crystal Privacy film is made up from electrically conductive coatings, a polymer matrix and liquid crystals. This film is connected to the power supply via bus bars, electrical wiring and a transformer.

PDLC Light Scattering Mechanism



Manufacturing

Smart Switchable Glass™ is manufactured by our experienced team and all stages of its production process are monitored and controlled. We employ a variety of laminating methods which enables us to produce a wide range of specialist glass products.

This method allows us:

- to control our production process very precisely
- to use different interlayers optimal for specific applications (PVB and EVA)
- to produce all types of glass: shapes, curved, notches, cut outs, holes
- to manufacture special products:
 - Insulated Glass Units with Low E
 - X-Ray medical glass with

We use only the best materials in our production process from major global producers, whose materials are manufactured to internationally recognized quality standards.



SWITCHABLE GLASS CONFIGURATION

(For non-standard configurations please contact us to discuss)

GLASS COLOR:	Clear, bronze, grey, green, blue tint
GLASS TYPE (All laminated):	Annealed (Standard), Low Iron, heat/chemical strengthened, tempered, fire rated, curved, bullet resistant, tinted, mirrored.
THICKNESS:	Interior 9.5 mm, 11.5 mm, 13.5 mm or 15.5 mm Door 11.5 mm or 13.5 mm all tempered Exterior Flexible: Ex. 25 mm insulating glass unit (IGU) 4 mm Low-E outer glass + 10 mm airspace + 11.5 mm LC Switchable Glass™ panel
SIZE:	Standard - up to 1,800 mm x 3,658 mm / 70.87"x 144" Special sizes above the standard can be produced to client requirements.
RATIO:	Maximum Ratio Width: Height approx 4:1 (Without applying busbars top and bottom or on 2 opposing sides)
WIRING:	Double insulated 0.5 mm ² dual core flex.
SHAPE:	Many shapes and curved including drilled holes
ENVIRONMENTAL:	Storage / Operation -10°C to 50°C
SIZE TOLLERENCE:	± 3 mm on OA size and ± 0.5 mm on thickness
BOWING TOLLERENCE:	± 3 mm per linear meter
ELECTRICAL:	Driving voltage 48VAC or 110 VAC Current less than 200 mA/m ² Power approx. 5 watt/m ² or 10ft ²
SWITCHING TIME:	Approx. 1/100 second at room temperature
OPTICAL:	Light transmittance approx. 95% View angle approx. 120° Light reflectance approx. 14%
LIFE:	100,000 hours in ON state
WARRANTY:	3 years standards, extended warranty upon request.

Durability

Test Item	Test Conditions	Result
Switching	On(1sec) Off(1sec) 1 Million Times	Passed
High Temperature (Boil test)	70°C / 2 Hours	Passed
High Temp. / Humidity	50°C / 95%RH, 14 Days	Passed
Low Temperature	-20°C / 21Days	Passed
Heat Cycle	-20°C to 70°C (1Hrs/ 5000 Cycles)	Passed
Weathering	Standard (For Laminated Glass)	Passed
Heat Resistance	Standard (For Laminated Glass)	Passed
Water submersed	21 Days	Passed

Switchable glass Sound Control Data

Switchable glass Thickness	Configuration	DB Rating
9.2 mm/ (1/3")	4 mm / 1.2 / 4 mm	35
11.2 mm (4/9")	5 mm / 1.2 / 5 mm	37
13.2 mm (1/2")	6 mm / 1.2 / 6 mm	39
25.2 mm (1")	12 mm / 1.2 / 12 mm	44

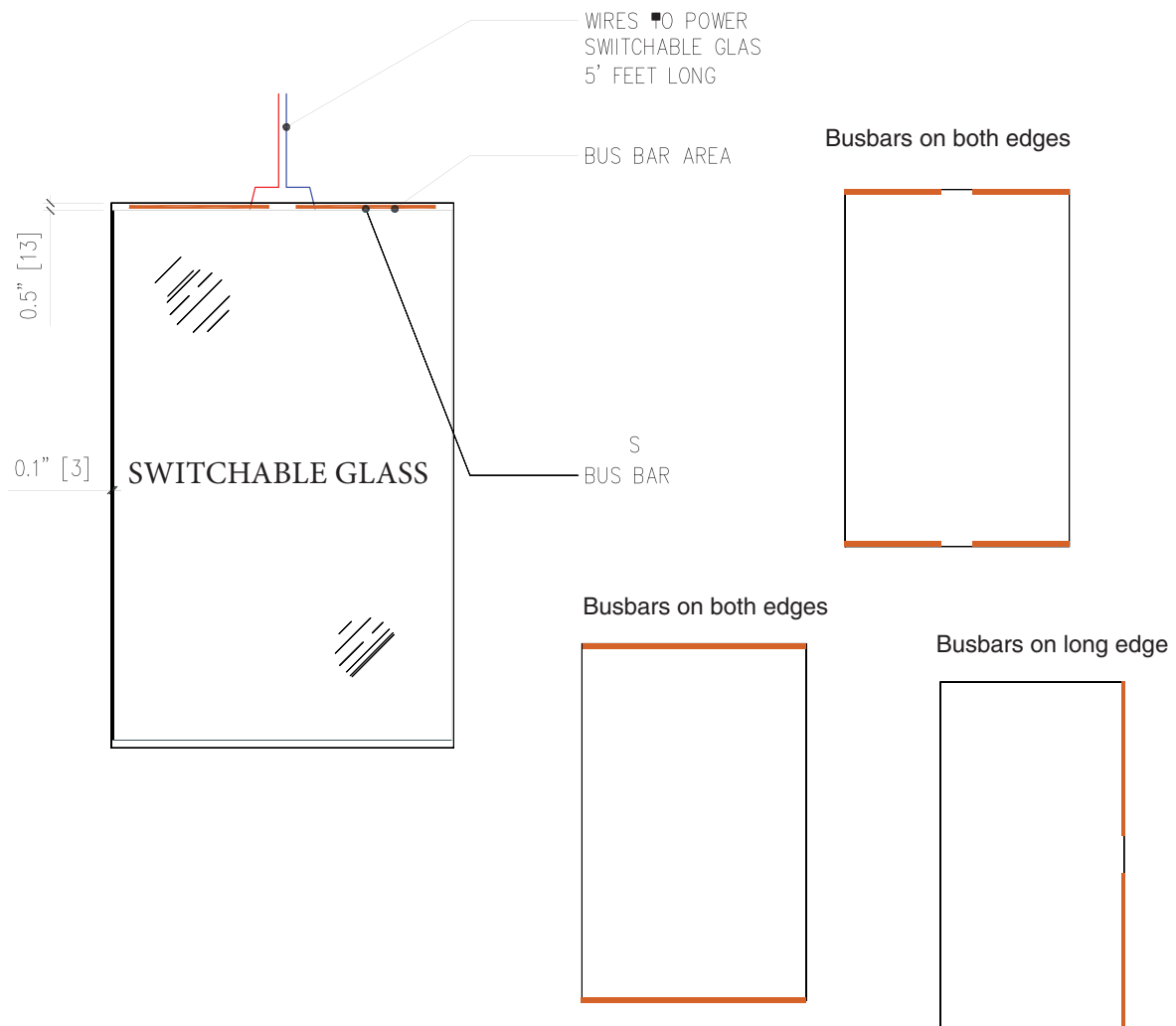
* Values are nominal (+/- 5%) and are dependent on glass configuration used. The above figures are recommended for guide purposes only.

Switchable Glass Optical performance

	Switchable glass(13.2mm) Power ON	Switchable glass(10.8mm) Power OFF	Clear Float Glass (6mm)	Frosted Glass (6mm)
Visible Light Transmission	95%	67%	86%	76%
Clarity	76%	4%	83%	18%
UV Transmission	0.5%	0.5%	55%	55%

*Values are nominal (+/- 5%) and are dependent on glass configuration used. The above figures are recommended for guide purposes only.

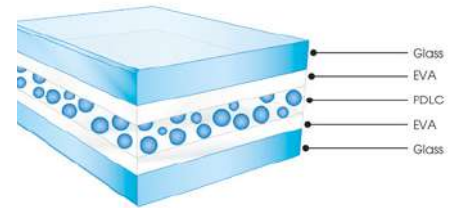
SWITCHABLE GLASS-BUSBAR LOCATION



Any Shapes:

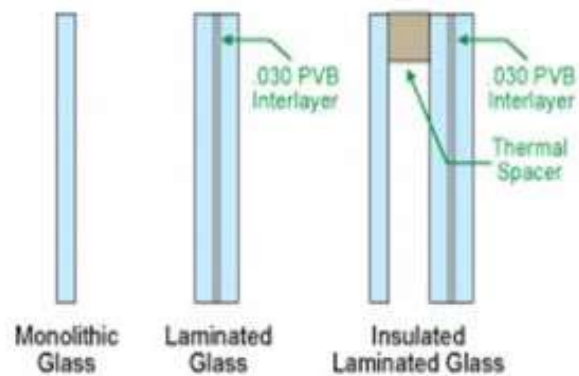


SWITCHABLE GLASS COMPOSITION



Insulating Glass Units

Switchable glass is used to make insulated glass units for outdoor applications.



Glazing Methods

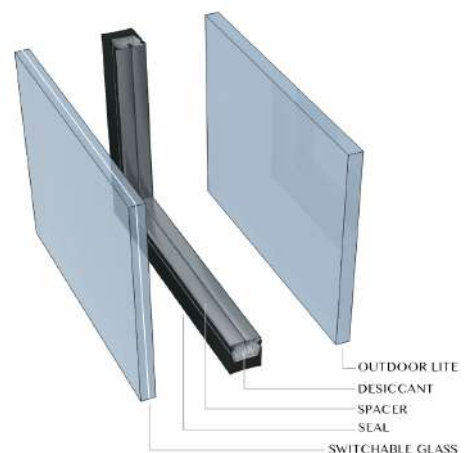
Dry Glazing

This is the preferred interior glazing method for laminated switchable privacy glass interior applications

Wet Glazing

If an elastomeric (non-acetic) sealant is used, it must be compatible with the panel's polyvinyl butyral (PVB) interlayer or with any other stated interlayer. Never use putty or glazing compound to glaze a Switchable Privacy Glass panel.

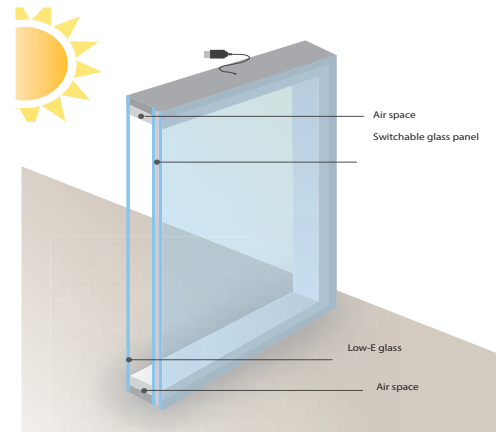
Exterior Applications – Double Glazed (Insulated Glass) Units made with Switchable Privacy Glass
Panel Position: When used in external IGU, Switchglass panel MUST BE positioned as the internal panel.



Additional options:

Our multi-functional products meet demands for extreme transparency, privacy, heat gain and noise reduction.

Curved, laminated, silk-screened and tinted glass can all be insulated following standard fabrication processes.



SAFETY PRECAUTIONS

- Thoroughly read the following safety precautions before using the equipment
- Observe these precautions carefully to ensure safety
- After reading this manual, pass it on to the end user to retain for future reference
- Keep this manual for future reference and refer to it as necessary. This manual should also be made available to those who repair or relocate any element of the Smart Switchable Glass electrical installation. Make sure that the manual is passed on to any future users.

General Precautions

To ensure safety and proper operation of Smart Switchable Glass and to avoid invalidating any warranty, the panels must be installed by a qualified electrician. Smart Switchable Glass should be delivered, handled, installed, protected, cleaned and used in compliance with all local legislation, regulations and codes of practice and in accordance with the requirements detailed in the Smart Switchable Glass Technical Binder.

Smart Switchable Glass panels must be operated using the Smart Glass Country control box in order to avoid damage to the LCD film and invalidating any or all warranties

Operation

Smart Switchable Glass is electrically switched from opaque to optically clear by applying AC current to the glass via the control box. Switching may be via a hard wired switch, wireless switch and/or remote control, movement sensor, timer, door lock or via another type of electrical control system e.g. BMS. Smart Switchable Glass panels use approximately 5W/m² in the 'on' transparent state.

Operation

Switchable glass is operated by applying electric current from 36V or 72V AC (depending on the configuration) to the glass from a power transformer supplied. When a current is applied to the glass it immediately turns from opaque to clear allowing vision through. When the current is removed the glass returns to the frosted "private" state. Switchable glass can be operated by wall switch, radio remote, PIR switch, Crestron, ABX and more...

Controls

- Crestron, ABX, BMS, Wall switch, Remote control, WiFi, Movement Sensor, Timer, Door lock, etc...

.....

SHIPPING AND RECEIVING

Shipping

Where applicable we manufacture shipping crates for all individual customer orders. These crates allow for protection of glass in transit but correct handling methods should be observed when off loading.



DO NOT USE NAIL PULLER OR CLAW

Note: It is the responsibility of the client to off load glass deliveries unless otherwise agreed prior to dispatch.

If no preferred carrier is specified, the switchable glass panels for domestic customers will be shipped through our ground carriers. For overseas customers, specifying whether the freight should be shipped via Air or Sea is necessary. Where available, it is recommended to have the clients own agent to take care of the shipping and customs clearance issues. We can do so, at additional cost.

Receiving

Before signing for and accepting the shipment from the carrier, inspect the crate(s) for the following items:

- a. Inspect crate(s) for visible damage.**
- b. Open crate to inspect the glass panles.**

All panels must be checked for damage when the panels are delivered. Any claims for damage after the delivery driver has left will not be accepted. If the person receiving the panels marks the delivery note 'unchecked' or any variation on this term then they will still be deemed to have accepted the panels as undamaged and the panels will be chargeable.

If damage to any of the panel(s) is found, the note on shipping documents should be made and the driver's signature obtained as a witness. You should inform Smart Glass Country immediately of any damaged panels. Photographs should be furnished within 24 hours. A freight claim should be filed to the carrier as early as possible. **If you fail to inspect the shipment, the carrier and Smart Glass Country Ltd. are not responsible for any damage.**

Uncrating

DO NOT USE NAIL PULLER OR CLAW

Ensure the crate is on a level surface. Before removing the lid unscrew screws which are holding the lid down. Be careful to lift the lid off the crate level on all corners. Remove straps holding panels on. Remove the panels carefully, one at a time, using the appropriate lifting methods.

Warning: Loose cables from Switchable glass panels are not to be used for lifting, moving or positioning the glass panels. Ensure not to snag cables whilst lifting.

Storage

Glass edges frequently sustain damage due to careless handling at some point between manufacture and installation, **Handle with care.** If the Switchable Glass is to be stored on the job site or in warehouse conditions, proper blocking and protection should be maintained at all times. As with other flat glass products, the Switchable Glass panels must be stored where the relative humidity is less than 80% to prevent the Switchable Glass from staining. The Switchable Glass temperature should be held nearly constant to prevent moisture condensation on the panels. Storage temperature range is -20 +50 °C (-4° +122°F). The crate should be kept in an upright position or tilted at 5° - 7° from vertical at all times using broad, sturdy uprights to support the weight of the crate. Alternatively the Switchable Glass should be stored on a glass "A" frame in a position free from obstruction, traffic and danger.

Note: Switchable Glass panels can be heavy at approximately 27.5 kg/m² or 5.6 lb/ sqft. Please be careful and take the weight loads into account when moving and storing.

Spontaneous Breakage of Glass

“Unexplained” glass breakage may occur after all precautions have been taken. Such breakage is beyond the control of the manufacturer and therefore not warrantable. This includes but is not limited to the following items

- Thermal stress
- Glazing system pressures
- Damage during glazing by others
- Handling and storage problems
- Excessive wind loads
- Objects and debris striking the glass
- Damage by persons/objects at the construction site

ELECTRICAL INSTALLATION

Supplies required

Smart Glass Country supplies standard, UL-approved wire-to-glass connection system

Installation of Switchable Glass panels require the following items:

A 16 AMP (minimum) Residual current device (Rcd) with Miniature circuit breaker (Mcb) or a Residual current circuit breaker with overload protection (Rcbo) must be used along with a fused spur at the connection point for the panel for localised isolation.

A wall mounted switch, 110VAC 50/60 Hz (installer/owner supplied). This switch is required to allow the Smart Glass panels to be turned ON/OFF. Alternatively a remote control switch can be specified.

Switchable glass power transformer

Switchable Glass panels may be connected in parallel up to 100 square feet total area per single 100 W power transformer. Electronic controllers can be used including “smart” systems such as Creston and ABX controllers.

Note: Larger Power Transformers can be supplied to power larger areas of Switchable Glass, please contact us for further information.

Installation Requirements

As with any electrical device, Switchable Glass must be included in the electrical layout for each project. E.g. Position of spurs, switching layout, containment (conduit, trunking etc to house cables) connection boxes etc. The installation must meet all local rules and regulations. Also any metal frames which could come in to contact with the wiring of the panel must be earthed. Smart Glass Country is not responsible for these layouts however we can be contacted for further information.

Power Transformer

Short circuit proof isolating encapsulated auto wound transformers for step down of 110V to either 60V or 48V depending on which product specifications.

WARNING: The transformer must be installed by the electrical contractor in an easily accessible area in order to replace fuse in the event of damage.

Specification:	100 - Power Conditioner / Transformer.
Input Voltage	110V 50-60 Hz
Power	100 W
Output voltage	48V or 65V
Insulation	Double Insulated (No Earth Required).

Wiring

Smart Glass Country requires that all Switchable Glass electrical installations be completed by a licensed electrician, and in compliance with all local rules and regulations.

Before installation, inspect bus bars, electrode leads and wires to assure insulation. No exposed bus bars, electrode leads, or wires should contact any metal frames that will damage the transformer and Switchable Glass. Any metal frames must be earthed.

Multiple Switchable Glass panels should be connected in parallel with the transformer. Insure that the transformer “in” connects to 110V AC and “out” connects to Switchable Glass panel. The output voltage is in the range from 36V to 65V depending product specifications.

Before turning on the power, test resistance reading between the metal frame and electrode and make sure that the resistance reading is infinite. Otherwise, check short location and insulate electrodes from metal frames.

Switchable Glass uses approximately 5 watts per square meter [$\sim 0.46\text{W}$ per SqFt] in the “on” (clear) state. No electricity is consumed in the “off” (opaque) state. Switchable Glass can be controlled with either a single or multiple switches or by radio remote controller.

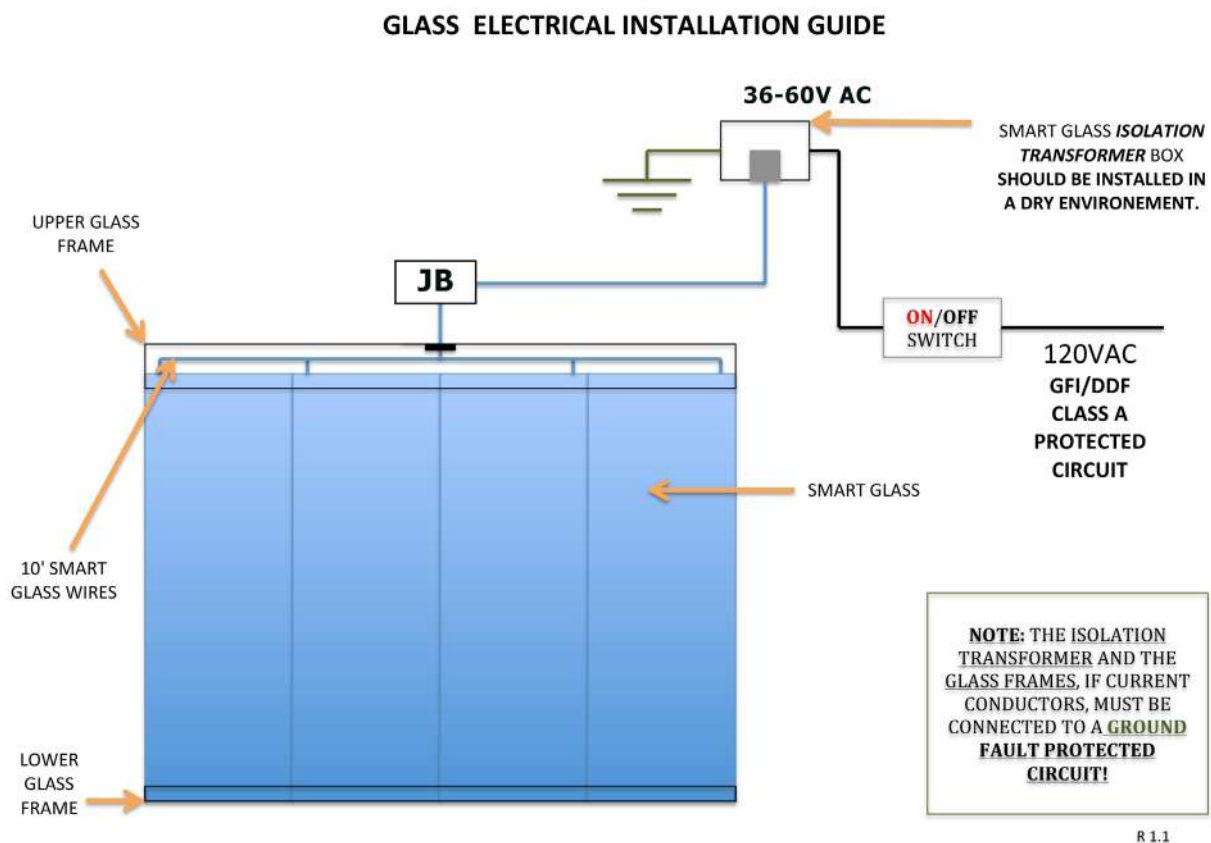
NOTE: It is vital for correct operation that the switch/remote receiver is positioned on the mains voltage before the transformer/power conditioner. Failure to correctly install the

switching mechanism may cause irreparable damage to the LC Switchable Glass.

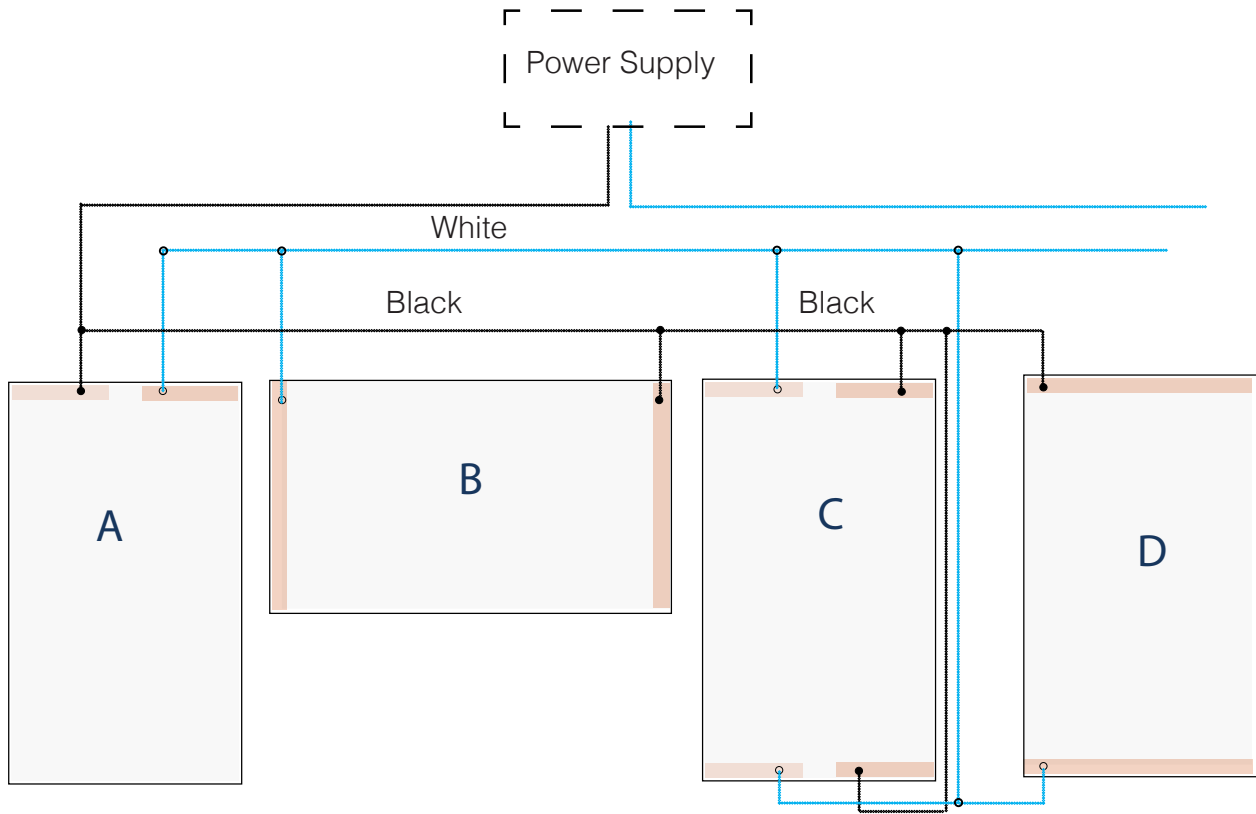
Ensure the mains supply is switched off and take care when opening the power transformer, allow a few minutes to cool down. Internal electronic parts may be very hot, this is normal. Only open the power transformer in the areas noted safe for opening, never open the sealed body of the power transformer.

Warning: Do not substitute a higher fuse rating! Fuse rating is critical to properly protect Switchable Glass panels. A spare fuse is included on the inside cover of the power transformer supplied.

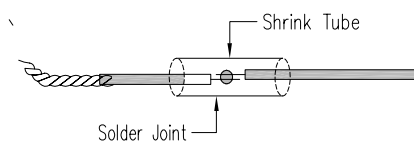
Typical Wiring Diagram



Location of busbars

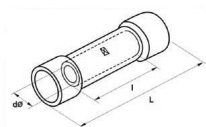


ROUTING FOR EXTENDING WIRES TO DESIRED LENGTH
NOT TO EXCEED 100 FT FROM THE FARTHEST PANEL



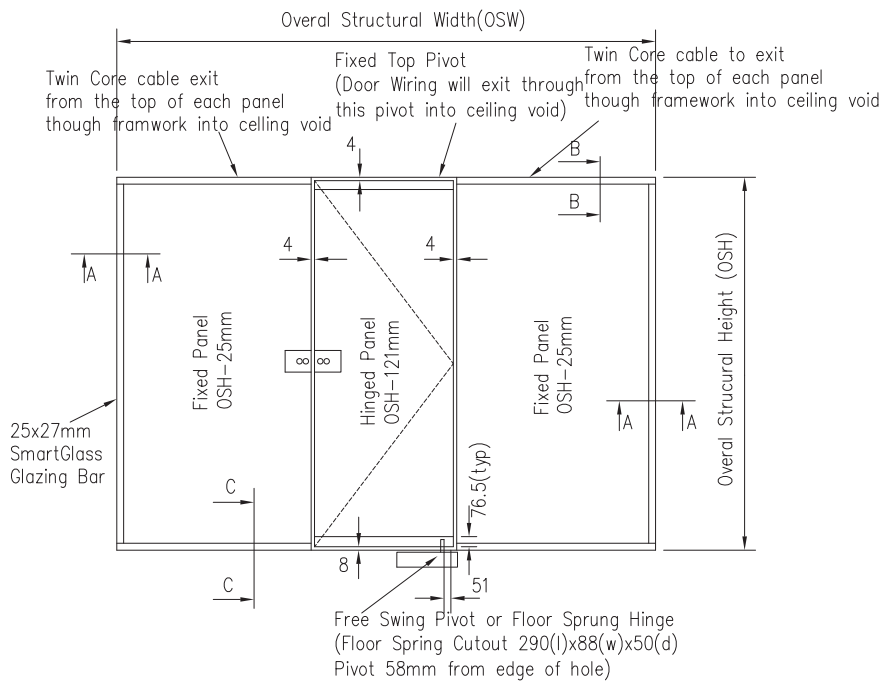
S

Splice insulated butt connector

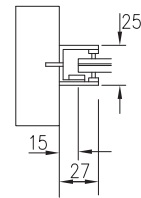


TYPICAL GLAZING SYSTEMS USED

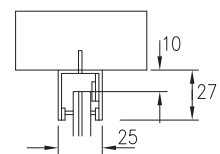
Door System



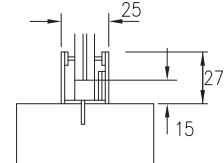
Section A-A



Section B-B



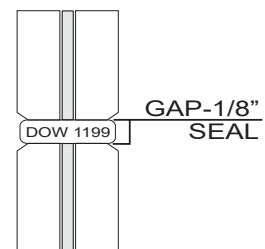
Section C-C



Glazing – Sealants

- The switchable panels should be sealed from moisture along all edges. Any skips in the sealant bead may lead to staining of the switchable panels.
- Care must be taken to observe the condition of the sealant throughout the useful life of the sealant.
- Sealant must be replaced if it becomes moldy or mildew stained, or if the sealant fails to provide an adequate moisture barrier to the switchable panel.
- Sealants must be neutral cure.

Vertical Panel Seams

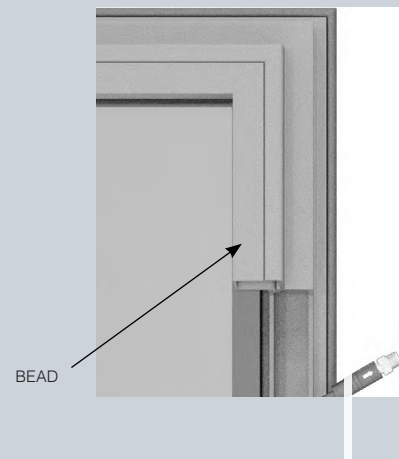
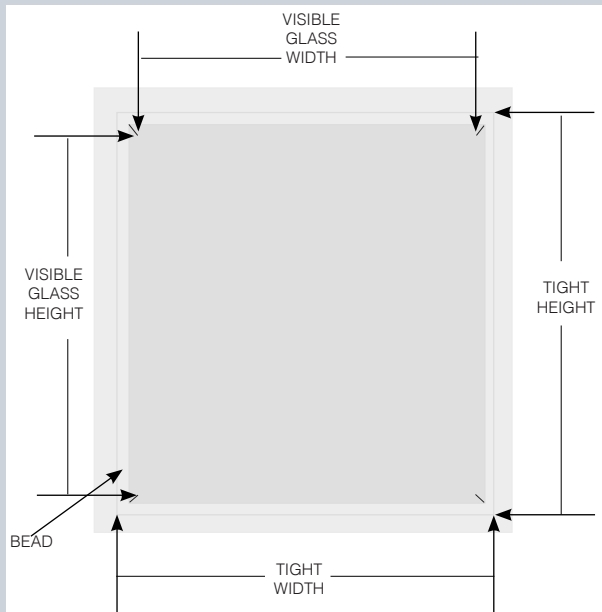
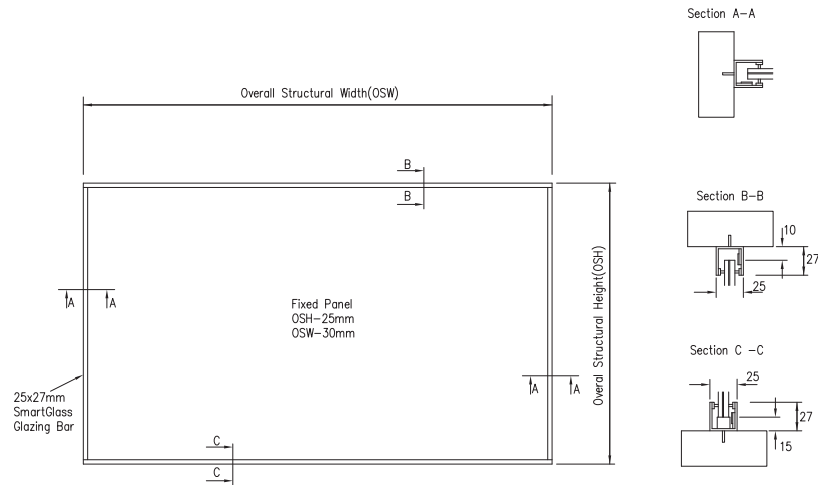


Recommended Neutral Cure Sealants

Exterior	Interior	Dry	Wet	Butt-Joint	In-Channel	Windows/Doors
Dow 795	X	X	X	X	X	
Dow 991	X	X	X	X	X	
Dow 995		X	X			X
Dow 1199 (clear)	X	X	X	X	X	X
Schnee-Morehead SM5731		X	X			X

Fixed Panel Switchable Glass System

Fixed Panel



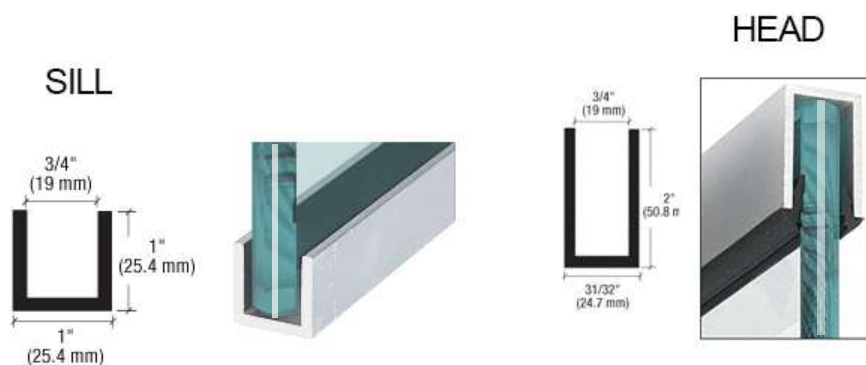
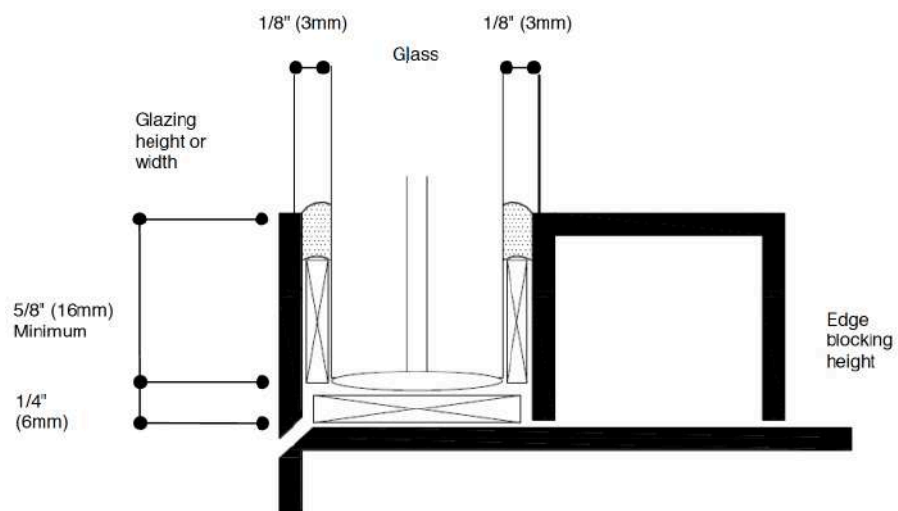
Spring Conduit Casement Installation



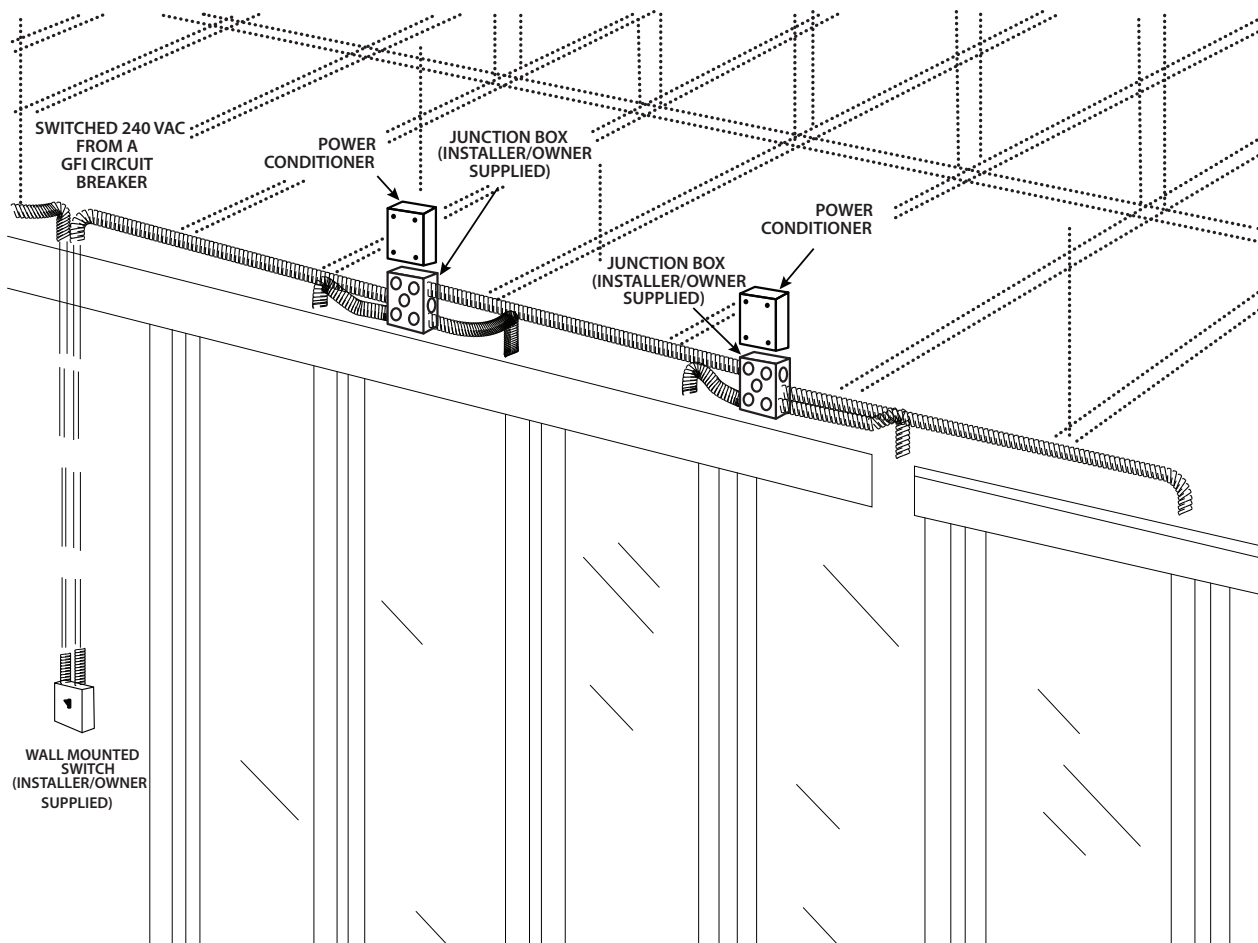
Spring Conduit Awning Installation



Glass Wall Installation U-CHANNEL



Glass Wall Installation IN FRAMES



INSTALLATION

The glazier and the electrician must coordinate their installation of switchable glass. The electrical connection for this type of glass calls for drilling holes in the frame and the installation of junction boxes near the units. The location of these boxes determines the exit point of the connecting wires.

Frames

The frames must be designed to provide the glass with structural support while allowing the glass to 'float' in the frame. At no time must the frame exert a load or pressure points on the glass. The frame joints must be properly sealed against air and water infiltration.

Holes must be drilled in the frame for the connecting wires. These holes should be larger than the diameter of the wires. If the glass is installed in an aluminum frame or a frame made of any other sharp material, the edges of the holes must be protected by rubber or plastic rings to avoid damage to the electric wires. The centers of the holes must be aligned with the exit point of the connecting wires. The wires must slide freely in the frame and must not be pinched or crushed.

- A.** Inspect each piece of glass immediately prior to the start of installation.
 - 1. Do not install items, which are improperly sized, have damaged edges, or are scratched, abraded, or deficient in any other manner.
 - 2. Do not remove labels that were provided by the glass supplier from the glass until so directed by the Architect.
 - 3. Adhere to all manufacturers Switchable Glass installation instructions and installation drawings for multi-panel wiring instructions.
- B.** Locate neoprene sill setting blocks of standard width and thickness at quarter points of all glass lights, unless otherwise recommended by manufacturers or suppliers.
 - 1. For each glass light, use two blocks of proper durometer, size and thickness to support the glass in accordance with the manufacturers' recommendations.
 - 2. Glass lap and edge clearances must be provided according to pertinent codes and standards of manufacturers.
- C.** Set glass in a manner, which produces the greatest degree of uniformity in appearance.
 - 1. Installations of the glass in dynamic frames such as operable windows or sliding doors must meet architectural specifications in section 08800.
 - 2. Glazing to the exterior and wet interior conditions must be wet-sealed and impervious to moisture with provisions to allow for weeping of condensation that may infiltrate the system. **DO NOT BLOCK WEEP HOLES WITH SETTING BOCKS.**
 - 3. Glazier to cover any edge of glass containing wiring with non-flammable u-channel, adhered with DOW CORNING CWS silicone. Installer is to drill a hole in the u-channel, at desired exit point for wiring to pass through, if leads and u-channel are not installed by the manufacturer.

4. Electrical connections must exit at the head condition of any framing system using Switchable Glass panels in wet environment applications.
- E.** Cut and seal the joints of glazing gaskets in accordance per manufacturers' recommendations. Provide watertight and airtight seal at corners and other locations where joints are required.

Glazing to exterior and wet interior conditions must be wet-sealed and impervious to moisture with provisions to allow for weeping of condensation that may infiltrate of condensation in the system. Electrical connections must exit at the head of any framing system using Switchable Glass panels in wet environment applications.

Maintenance & Cleaning

Smart Switchable Glass panels do not require any special maintenance procedures. Once installed the glass should be cleaned regularly with warm water and a mild liquid detergent, using a soft clean cloth, then rinsed with clean water and dried with a soft dry clean cloth. Avoid excess moisture and/or chemical cleaning agents coming into contact with the edges of Smart Switchable Glass panels.

The use of abrasive cleaners and/or cleaning implements may damage or scratch the panels' exterior surface and should therefore be avoided.

On an annual basis the client should check that all wiring is in good condition and that the controller and switch are in good visible order. Framing materials should also be free from damage and the area around the frame should be checked for signs of excessive temperature or humidity. If these signs appear unusual then the client should contact their supplier in order for the installation to be checked.

WARRANTY

Smart Glass Country warrants that Smart Switchable Glass panels should be free from defects for a period of five years from the date of invoice unless otherwise specified. Defects include loss of switching where the electrical system and supply are working correctly and/or de-lamination of the panel.

In order for any warranty claims to be considered, all Smart Switchable Glass panels must be controlled with an Smart Glass Country supplied controller, Controlling / operating Smart Switchable Glass products with any other product will instantly render all warranties null and void.

Smart Glass Country warrants that all smart switchable glass transformers are supplied with a 36 month warranty.

In the event of a breach of warranty for the reasons as above Smart Glass Country will repair or replace the defective product. Smart Glass Country will not accept any costs incurred by others which are associated with gaining access, removal, replacement, installation of panels or consequential loss claims of any kind.

The customer must advise Smart Glass Country immediately that they are aware a panel is defective and if installed they must leave the panel in situ, Smart Glass Country will decide whether to inspect the installation on site or may ask to have defective product returned for repair or replacement.

Haze - Smart Switchable Glass panels are not as optically clear as standard Float glass. Some degree of haze will always appear due to the nature of the product make-up. As with all LCD switchable smart type privacy glass there will always be some degree of haze and this is not a reason for rejection or a refund.

Smart Glass Country is not responsible for products which are damaged due to external events such as, but not limited to, natural disasters, incorrect silicone use, improper use or maintenance or use of unauthorised parts.

To ensure safety and proper operation of Smart Switchable Glass and to avoid invalidating any warranty, the panels must be installed by a qualified electrician, Smart Switchable Glass should be delivered, handled, installed, protected, cleaned and used in compliance with all local legislation, regulations and codes of practice and in accordance with the requirements detailed in this document.

Due to the physical and chemical properties of PDLC film being unique in each manufactured batch, if a replacement Smart Switchable Glass panel is supplied it may not be possible to match operating performance of the other original Smart Switchable Glass panels in the same system.

This primarily refers to the switching time of the PDLC film. In a multi panel system, a new replacement panel may have a slightly different switching time. Should this occur the difference in switching time will only be milli seconds but our engineers will do everything to reduce the difference. If they cannot resolve this difference in switching time, it is NOT considered to be the fault of Smart Glass Country and as such NOT a reason for replacement of any other panels than those originally warranted.

TROUBLE SHOOTING

CAUTION: SGC panels operate in the range from 36 VAC to 110 VAC and 50 Hz. Higher voltage and frequency may cause permanent damages. Troubleshooting and electrical service must be performed by a qualified electrician who has read and understood this document.

1. Switch the power ON. Confirm that the panels turn clear. If one or more SGC panels are not operating:
2. Check the circuit breaker to verify power. If there is no power from the circuit breaker, reset or replace the circuit breaker.
3. Check the wall switch to verify power. If there is no power from the wall switch check the connection or replace the wall switch.
4. Check input to the power supply of affected panels to verify power. If there is not input power to the transformer, check the wiring between the wall switch and the transformer.
5. Check output from the transformer to the affected panels to verify power. If there is no output power from the transformer, the fuse may have blown. Replace fuse with the same size and specifications which is available at electronic supply stores.

NOTES:

1. Use care when opening the transformer and allow a few minutes to cool down. Internal electronic parts may be very hot. This is normal.
2. Warning: Do not substitute a higher fuse rating! Fuse rating is critical to properly protect SGC panels and the transformer.

Clarity Standards & Guidelines

CLARITY STANDARDS – all photos were taken at the same distance and angle for a precise measurement of lighting conditions.

Architects & Designers: NOTE: As demonstrated below consider the placement of any lighting near the privacy glass.

1- Worse Lighting Conditions

Lights that are only on the outside of the conference room will cause an imbalance in light intensity. This will increase the haze.



2- Better Lighting Conditions

Lights on the outside of the conference room are higher in intensity than on the inside. This will result in a slight haze.



3- Best Lighting Conditions

Lights on the inside of the conference room and outside are evenly balanced in intensity and sufficiently diffused at appropriate distances.



4- Low Haze in Dark State (all lights OFF)

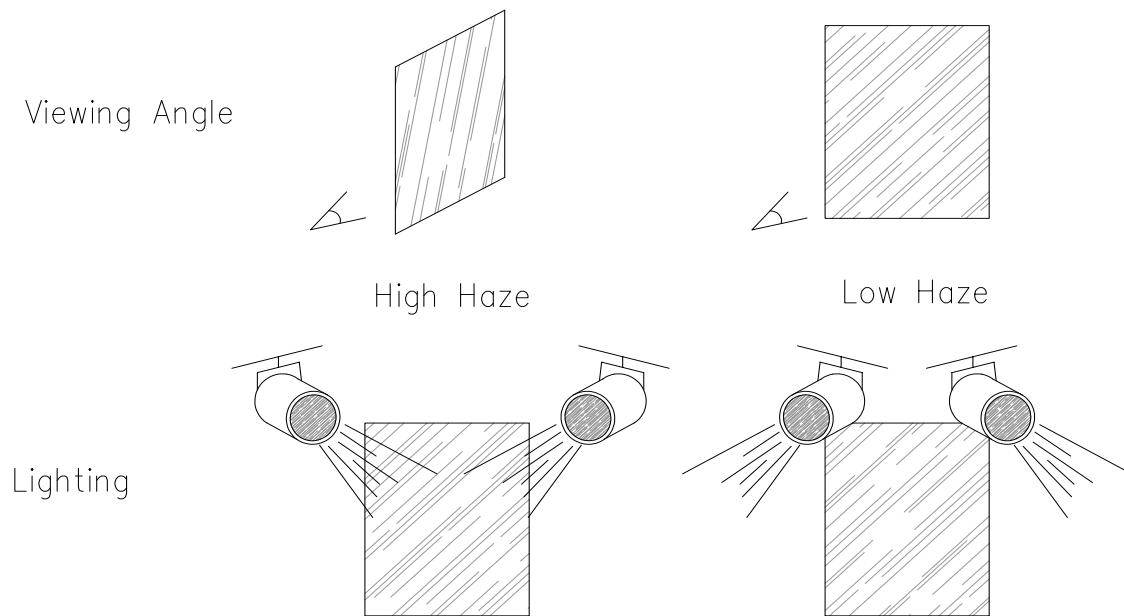
No lights on the inside or outside of the conference room will result in little haze.



All switchable Film/Glass are rigorously inspected for quality and clarity. Because Film/Glass contains liquid crystal (LC) material, it inherently possesses some level of “haziness” and would not exhibit the same level of clarity as regular float glass. Therefore, it is NOT recommended to butt-joint glass with non-switchable glass.

In addition, the inherent haziness is increased at wider viewing angles and with big disparities in light intensities (see diagram below). This phenomenon is normal because switchable Film/Glass is a light diffuser and will change in haze at varying viewing angles and lighting conditions.

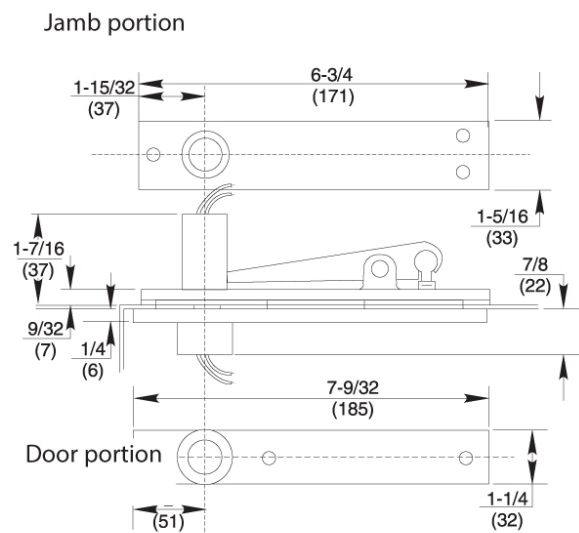
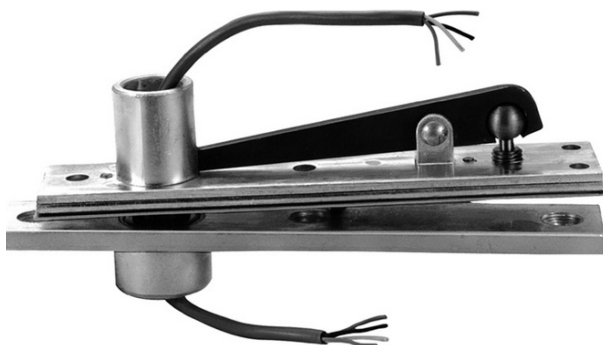
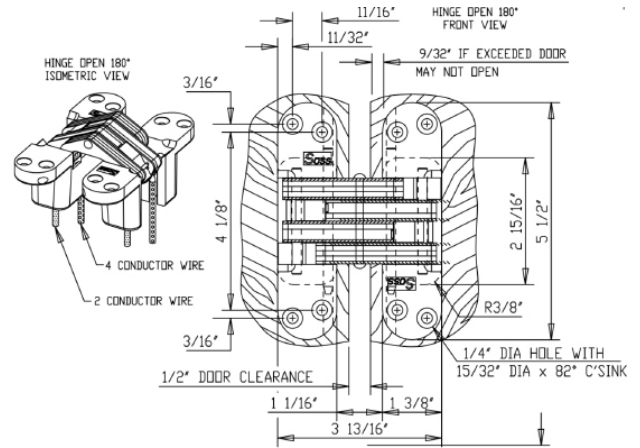
Lighting Glass



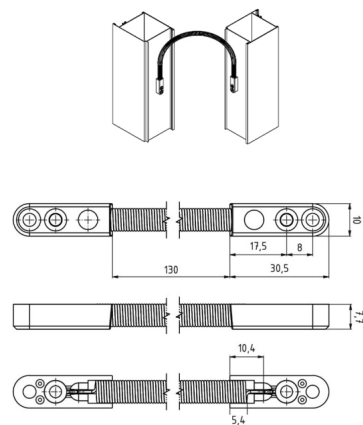
HARDWARE

Connection sytem for doors

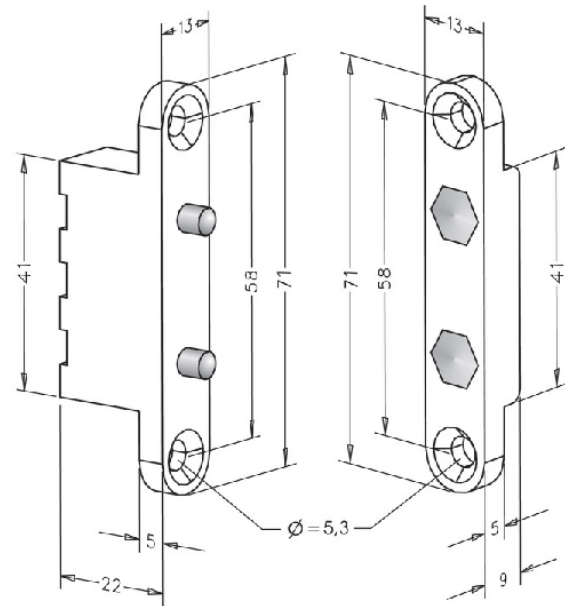
Power transfer hinge



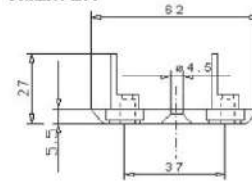
Compact power junction only 7mm/0.275" outer diameter



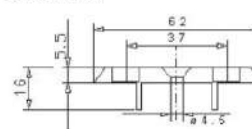
Current transmitter 2- pin model



Contact Part 1

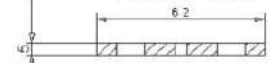


Contact Part 2



Minimum Depth
Contact Part 1 = 22mm
Contact Part 2 = 11mm

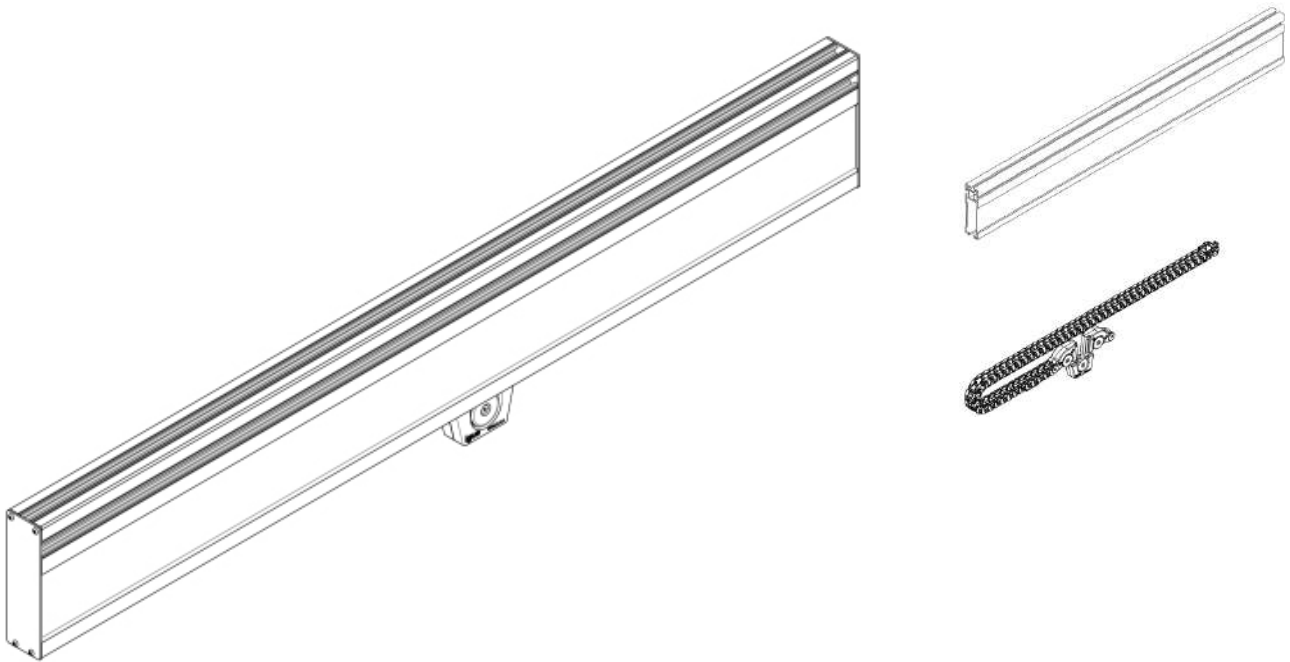
Washer 5 mm



Washer 3 mm



Power Transfer for sliding door



The information contained herein is, to the best of our knowledge and belief, correct. This information is intended for reference purposes only. In no event will Smart Glass Country be responsible for faulty usage of this product. The information contained herein may change as new developments occur and further experience is gained.