

Electrical Installation Manual 1.8

ELECTRICAL INSTALLATION

SUPPLIES NEEDED

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, 230VAC 50 Hz (installer/owner supplied). Alternatively a radio remote control switch can be specified, contact us for information.

Switchable glass panels may be connected in parallel up to 12 square meters total area per single SGI 300 power conditioner/transformer. Bespoke electronic controllers can be used including "smart" systems such as Creston and ABX controllers.

Note: Larger Power Conditioner / Transformers can be supplied to power larger areas of switchable glass, 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.

POWER TRANSFORMER / CONDITIONER DETAIL

Short circuit proof isolating encapsulated auto wound transformers for step down of 230Vac to 110Vac

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: SGI 300 - Power Conditioner / Transformer.

Input Voltage	230V ac50-60 Hz
Power	300 VA
Dimensions (L*W*H mm)	223mm * 117mm * 117mm
Weight	4.9 kg approx.
Insulation	Double
Insulated (No Earth Required).	
Output voltage	110Vac

- Twin secondary windings for series or parallel connection
- Integrated overload protection and short circuit proof
- Encapsulated in resin
- Isolating transformer to IEC 61558-2-4, DIN EN 61558-2-4, VDE 0570 part 2-4

WIRING & TESTING

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 possibly the switchable glass. All metal frames ***must be earthed.***

Multiple switchable glass panels should be connected in parallel with the transformer. Insure that the transformer "in" connects to 230V AC and "out" connects to switchable glass panel. The output voltage is approximately 110Vac.

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.

NOTE: Ensure not to conduct an insulation resistance test with a fault voltage upon switchable glass.

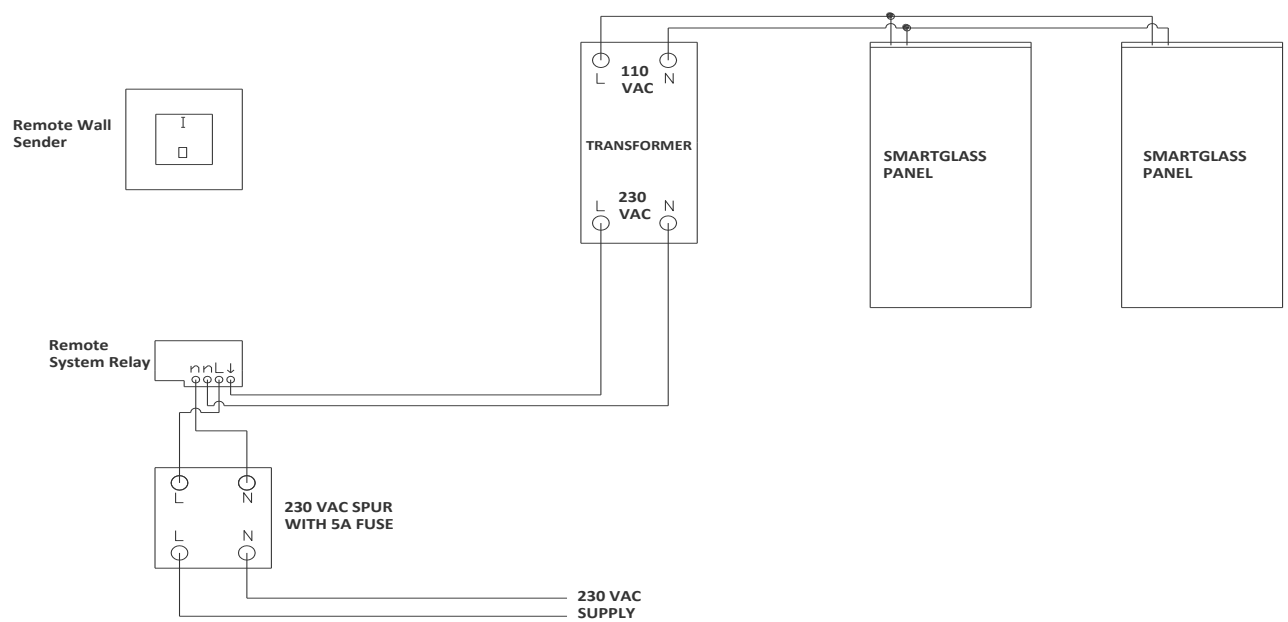
Switchable glass uses approximately 5 watts per square meter in the "on" (clear) state. No electricity is consumed in the "off" (opaque) state. Switchable glass can be controlled with a single or multiple switches, radio remote control, photo-sensor, infra red detector, etc.

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 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.

Remote Wiring Diagram



Hard-wired Wiring Diagram

