PRIVACY GLASS SOLUTIONS™
POWERED BY VISTAMATIC

Product Technical Manual

The Clarity Switchable Glass is a robust product that when properly installed and operated will provide many years of service. VISTAMATIC® provides a 5-YEAR/80,000-HOUR Limited Warranty of the Clarity Switchable Glass Panels. This warranty applies to product failures resulting from manufacturer's workmanship or defective materials. Selection of hardware and installation are the responsibilities of the Purchaser.

CAUTION - READ THIS FIRST!

DO NOT ATTEMPT TO INSTALL THE VISTAMATIC PANELS ON A LIVE CIRCUIT!

ATTENTION!!

☐ **CAREFULLY READ ALL** ! **INSTRUCTIONS** !

BEFORE PROCEEDING

FAILURE TO COMPLY WITH THE MANUFACTURER'S RECOMMENDED GUIDELINES MAY VOID MANUFACTURER'S WARRANTY

USE ONLY NON-ACIDIC SEALANTS

Use only neutral cure (non-acidic) silicone sealants. Using any other sealants other than the recommended types may cause permanent damage.

VISTAMATIC provides wiring diagram examples for the operation of Clarity Switchable Glass Panels, however VISTAMATIC assumes no liability for the wiring of any products and recommends that the Purchaser or Purchaser's designated agent consult with a licensed electrician for compliance with area Building Codes and professional electrical system wiring.

Clarity Switchable Glass Panels are designed for commercial and residential application using 120 VAC primary power (60 Hz/1 A), and output of the AC Adaptor is 60VAC(1A).

Combined Clarity Switchable Glass Panels not to exceed sixty (96) square feet when powered by a single power supply.

UL System Approval is available through the Underwriters Laboratories (UL) Field Evaluation of an Electrically Controlled Glass Panel System at the Customers option and expense.

CAREFULLY READ ALL INSTRUCTIONS

ATTENTION!!

BEFORE PROCEEDING

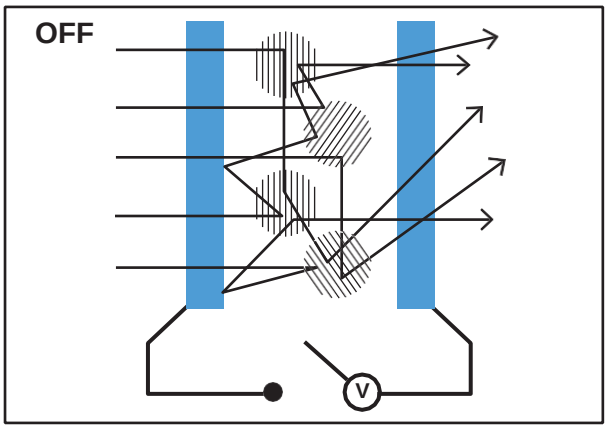
TECHNOLOGY

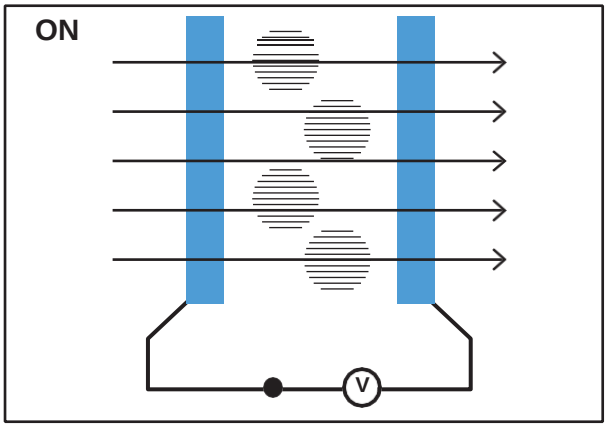
PRINCIPLE:

When the power is off, the liquid crystal molecules are randomly oriented that scatters incident light, and The Clarity becomes translucent.

When electricity is applied, the liquid crystal molecules line up, the incident light passes through, and The Clarity looks clear.

PDLC Light Scattering Mechanism

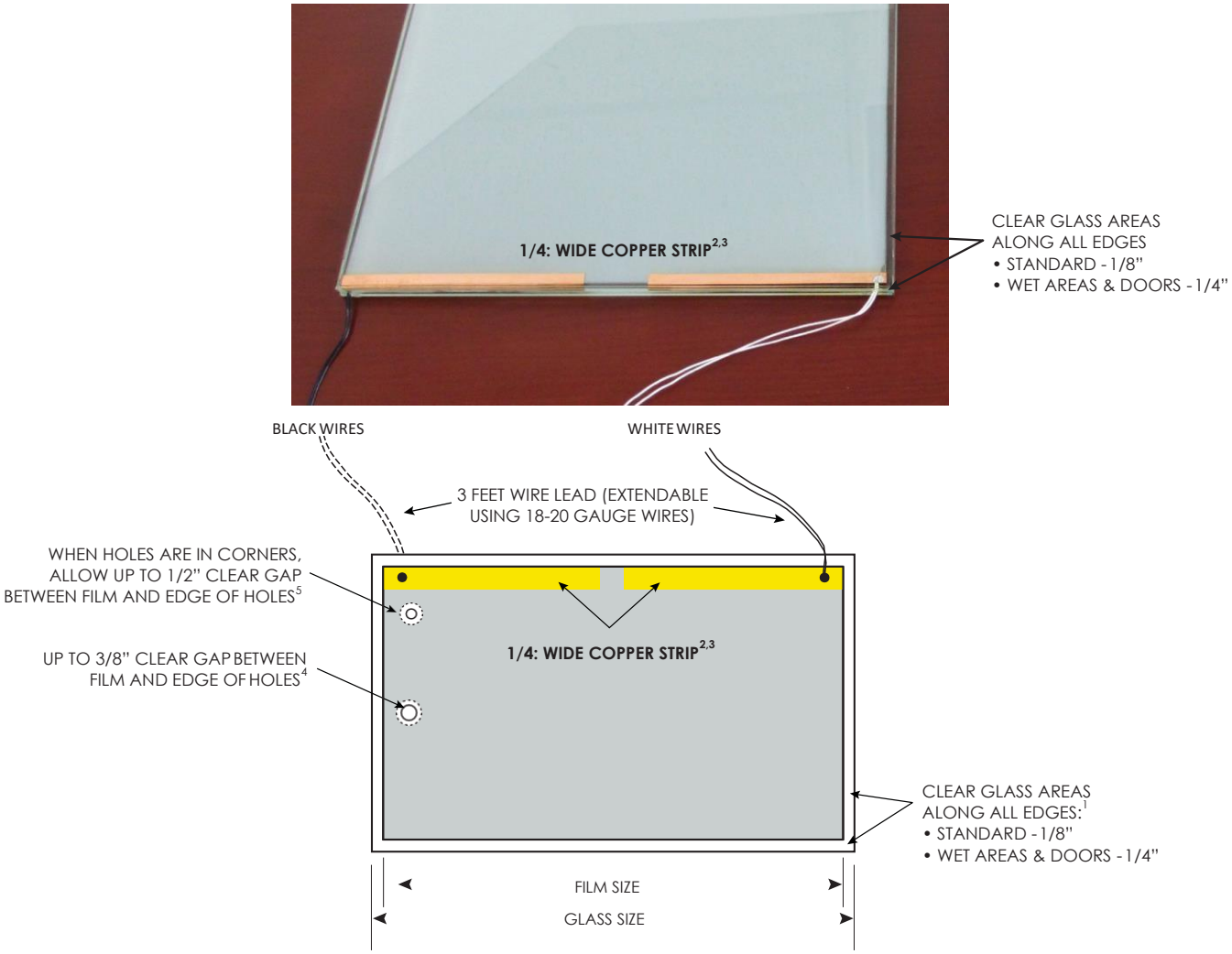




TECHNICAL DATA

CONSTRUCTIONS:	Switchable Glass: Glass + L/C Film + Glass		
	Switchable IGU: Laminated Switchable Glass + Spacer + Glass		
FILM COLOR:	White		
GLASS COLOR:	Low-Iron		
	**Other colorful glass options depending on specific request.*		
GLASS TYPE:	Tempered		
GLASS THICKNESS:	4mm, 5mm, 6mm, 8mm		
	**Other thicknesses options depending on specific request.*		
GLASS SIZE (max):	72” (W) x 120” (H) (1828 mm x 3048 mm)		
SPACER WIDETH:	2/5” ~7/10” (10mm~18mm)		
SHAPE:	Any shape, including holes anywhere		
TEMPERATURE:	Storage	–20°Cto 70°C (–4°F to 158°F)	
	Operation	–10°C to 60°C (14°F to 140°F)	
ELECTRICAL:	Driving voltage	60 ± 5 volts AC	
	Current	less than 20 mA/ft^2 (215 mA/m^2)	
	Power	less than 0.5 watt/ft^2 (4 watt/m^2)	
SWITCHING TIME:	Approx. 45 milliseconds at room temperature		
OPTICAL:	Haze	on-state	less than 10%
		off-state	above 95%
	Transmission (visible)	on-state	above 72%
		off-state	less than 6%
LIFE:	Greater than 10 years (indoors) (when used, installed, and stored properly per the usage, storage, and installation specifications referenced herein)		

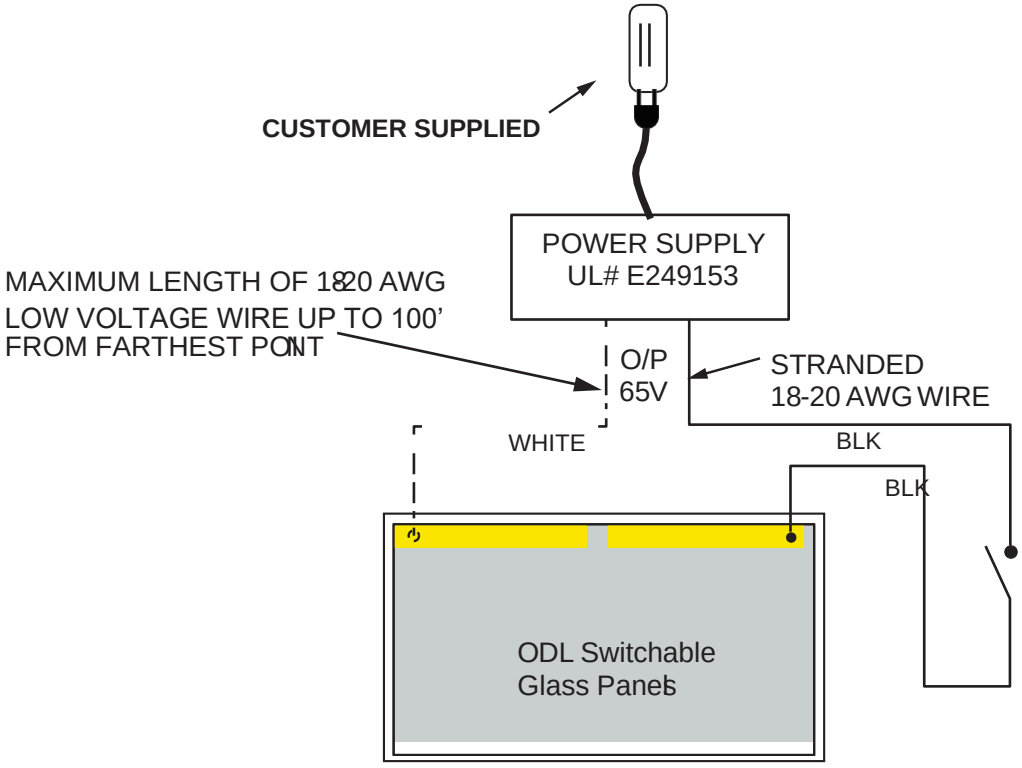
SAMPLE PANEL



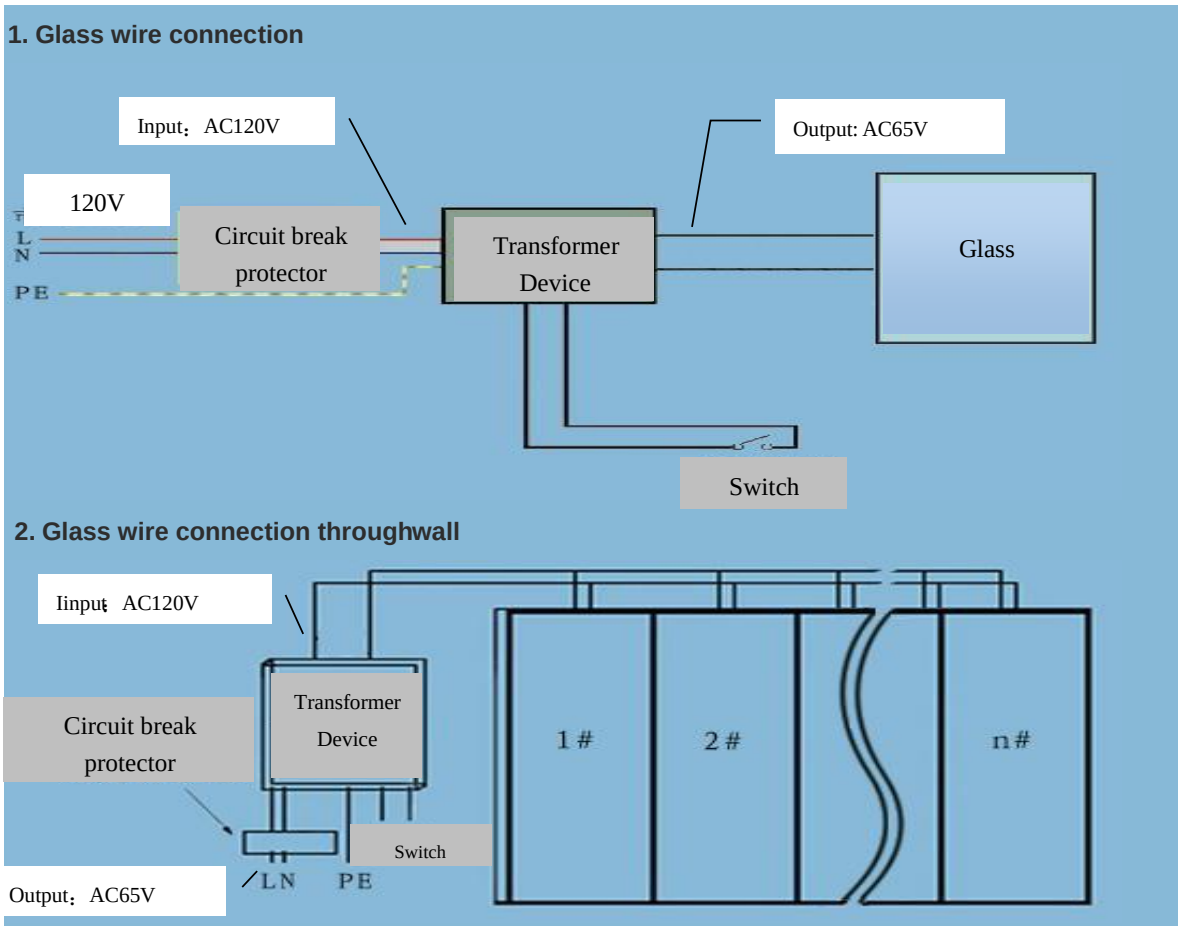
NOTES:

1. There will be about 1/8” clear visible area along all 4 edges. The clear visible area is transparent all the time. For wet areas and doors, visible areas will be 1/4”.
2. The width of the busbar (copper strip) is 1/4”. The busbar can be placed along the long or short edges.
3. Edges where the electrodes are placed (vertical edges in the above drawing) must be covered by min. 1/2” (3/4” recommended). Cover min. 1/4” for other edges.
4. Off-centered holes will have a displacement of 3/8”.
5. Holes in corners are displaced up to 1/2” due to more film shrinkage in corners

SINGLE PANEL WIRING EXAMPLE



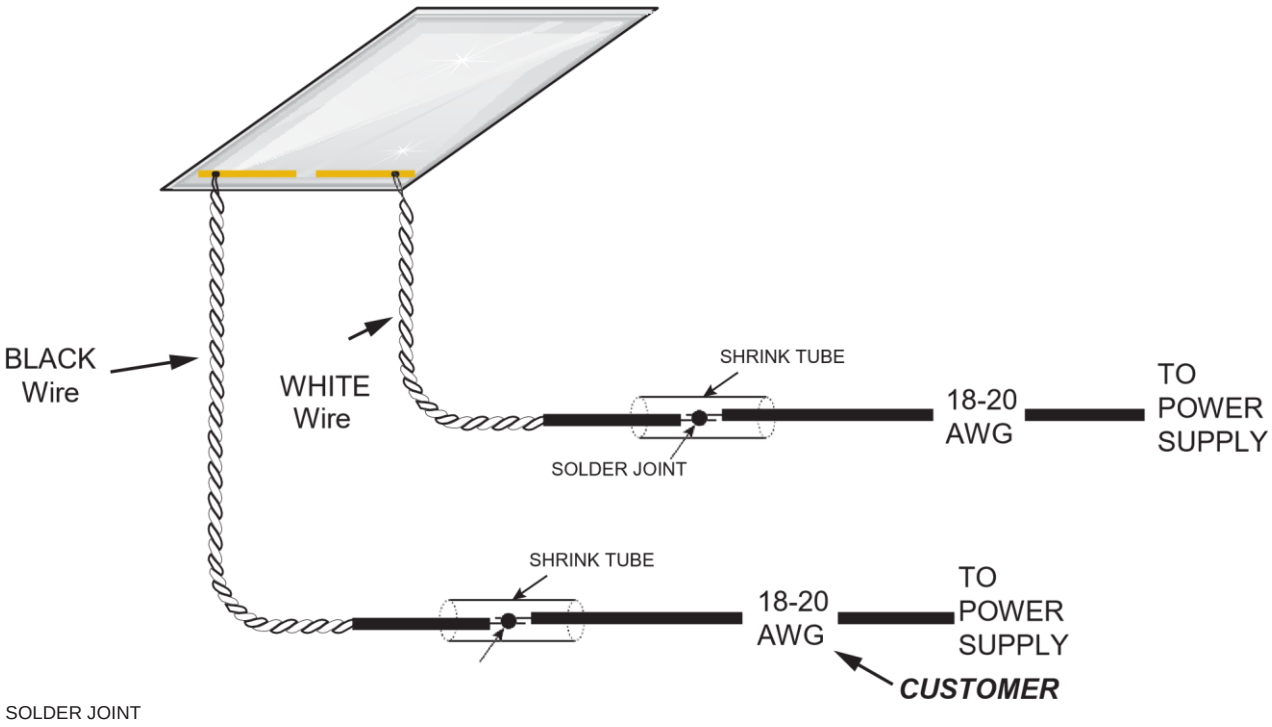
MULTI-PANEL WIRING EXAMPLE



Each panel will have black and white wires. The position of yours may be in a different location than pictured above depending on design requirements.

EXTENDED WIRING MAXIMUM LENGTH 100’

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



All connections must be soldered and ***SUPPLIED*** sealed with shrink tubing. Wires can be extended with 20 AWG wires.

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.

HAZE FACTOR CONSIDERATIONS

All VISTAMATIC Film/Glass are rigorously inspected for quality and clarity. Because VISTAMATIC 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 VISTAMATIC Film/Glass is a light diffuser and will change in haze at varying viewing angles and lighting conditions.