

horizon

SOLAR CONNECTED WINDOW



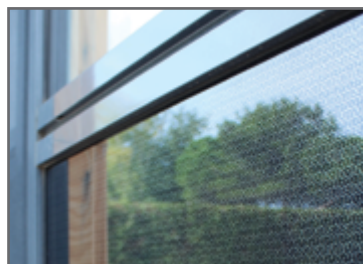
THE FIRST SMART, OFF-THE-GRID & WIRELESS SOLAR WINDOW

- 1 Photovoltaic Double Glazing Unit (DGU)
- 2 Electrochromic Double Glazing Unit (up to 3 zones)
- 3 Aluminium frame
- 4 Control box

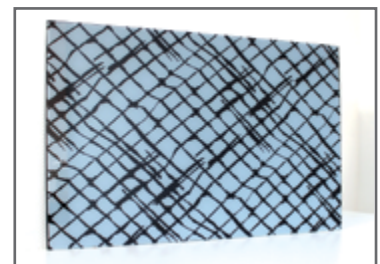
1 Photovoltaic spandrel glass

> Design options

Wysips® DesignGlass (semi-transparent)



Wysips® Cameleon (opaque)



> 1 m² of photovoltaic glass powers 5 m² of electrochromic window (South, East, West exposure)

> Output voltage: < DC 60 volts (very low safety voltage)

1 Photovoltaic spandrel glass

> Optical and thermal parameters

Reference		DesignGlass DGU 42.2/16/4 DGS-10	DGS-20	Cameleon
Visible Light Transmittance	TL %	12	21	Opaque
Solar factor SG (EN410)	g	0,18	0,26	0
Thermal transmittance	Ug W/m ² .K	1 - 2,7	1 - 2,7	1 - 2,7

Wysips® Glass technical data available on request

2 Electrochromic window: SageGlass®

> Optical and thermal parameters

Make-up	State	Light-Transmission	G-Value	UV-Transmission	Ug-Value W/m ² .K
Climaplus DGU 42,2/12/4	Clear	59%	0,40	0%	1,1
	Intermediate 1	17%	0,12	0%	1,1
	Intermediate 2	6%	0,07	0%	1,1
	Dark	<1%	0,04	0%	1,1

> Average Switching Time

From 5 to 35 minutes depending on window width and temperature

> Certifications

ASTM E2141 • EN1279 • EN1096 • EN 12543 • EN 12150 • EN 12600 • EN 356

SageGlass® technical data available on request

3 Aluminium frame

> Option: Fixed or operable windows

4 Control box

> Wireless communication and control : Bluetooth Low Energy (BLE) and LoRa protocols

> Wireless control from a mobile application or the Building Management System (BMS)

> Embedded control scenarii when the window is in automatic mode

> Integrated sensors (not exhaustive)

- Outdoor solar irradiation
- Indoor luminosity
- Indoor temperature
- Battery charge level
- Tint level for each zone
- Open window detection system (for operable window)
- Intrusion detection

> Power management

- Battery LiFePO4 20 Wh (autonomy with no sun > 2 days)
- MPPT (Maximum Power Point Tracking)
- Battery average lifetime: 5 years

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