Halio® Rooftop Sensor Kit

The Halio Rooftop Sensor enables the industry’s most advanced tinting automation. It mounts on the rooftop and continuously measures precise solar irradiance levels. Sensor data is securely transmitted to the Halio Cloud where advanced analytics are used to determine optimal tint levels of Halio smart-tinting windows. The tint level of each window automatically adjusts throughout the day based on relative sun position and cloud conditions.

**KEY FEATURES**

- Senses and reports light levels for advanced automatic tinting
- SPN1 Sunshine Sensor precisely measures direct and diffuse solar irradiance
- Sensor Hub reports data to the Halio Cloud for analysis and automation over an IP network
- Sensor and Sensor Hub mount on a standard rooftop mast system
- Rooftop Sensor Kit includes SPN1 Sensor, Sensor Hub, mounting hardware, and cables

**INSTALLATION**

- Mount SPN1 Sensor on standard rooftop mast
- Mount SR400 Sensor Hub near SPN1 Sensor
- Connect Sensor to Hub with supplied cables
- Connect Sensor Hub to building’s Ethernet network
SUNSHINE SENSOR (PYRANOMETER)

Sensor Hub Technical Drawings

Top View

Front View

Side View
STANDARD ROOFTOP MAST SYSTEM

What’s Included

- SPN1 Pyranometer Sensor
- SR400 Rooftop Sensor Hub
- Sensor Analog Cable (15m)
- Sensor Serial Cable (15m)
- SPN1 Leveling Plate
- Sensor Hub Mounting hardware
- DIN-rail RJ45 Network adapter

Warranty

5 years, limited
## SPECIFICATIONS

<table>
<thead>
<tr>
<th>Kit Model</th>
<th>SR500</th>
</tr>
</thead>
</table>

### Sunshine Sensor (Model SPN1)
- **Resolution:** 0.6W.m\(^{-2}\) = 0.6mV
- **Range:** 0 to >2000W.m\(^{-2}\)
- **Overall Accuracy:** 35% daily integrals
- Global and diffuse radiation
- **Azimuth Accuracy:** 35% over 360° rotation
- **Spectral Response:** 400 - 2700nm
- **Sensor Power:** 5 - 15VDC, up to 2mA
- **Heater Power:** 12 - 15VDC, up to 1.5A
- **Serial Connector:** 5-pin M12
- **Power Connector:** 8-pin M12
- **Level Indicator:** Built-in bubble level

### Sensor Hub (Model SR400)
- **Input Power:** 48VDC, up to 3.5A
- **Max SPN1 Sensors:** 2
- **Input Cable:** 1m length, 4x16AWG with 4-position push-in connector

### Network Connectivity
- **Ethernet Connection:** DIN-rail RJ45 adapter to Halio power & network cable
- **10Mbps always-on broadband Internet access required**
- **Network Communication Protocol:** IPv6 TCP/IP
- **Maximum Network Cable Length:** 300' | 91m
- **Wireless range highly dependent on building materials & RF environment**

### Embedded Software
- Monitors sensor data and transmits to the Halio Cloud
- Remote software updates to the Sensor Hub

### Sensor Dimensions
- **Size:** 3.7” H x 4.96” Dia | 94mm H x 126mm Dia
- **Weight:** 1.73lb | 786g

### Hub Dimensions
- **Size:** 2.55” H x 7.9” W x 4.2” D | 63mm H x 201mm W x 106mm D
- **Weight:** 13.7lb | 6.2kg

### Environmental
- **Ambient Operating Temperature:** -40°F to 158°F | 0°C to 40°C
- **Environmental Rating:** IP67

### Certifications
- CE, FCC, IC, RoHS, WEEE

©2020 Kinestral Technologies, Inc. Halio and Kinestral are trademarks of Kinestral Technologies, Inc. Halio North America, LLC and Halio International, S.A. are licensees of the Halio trademark. All other trademarks are owned by their respective manufacturers.