DRAPER®

IntelliFlex I/O

USER MANUAL

SSI Sensor / Scheduler Interface **- Part# C156.273**

SSI+ Sensor / Scheduler Interface with Glare Control **- Part# C156.304**

## Overview - SSI and SSI+ Comparison

SSI - C156.272

SSI+ - C156.304

Section 1 - Mounting to Structure

Determine mounting location of Sensor / Schedule Interface and mark on wall or ceiling.

1. Locate Mounting Bracket and provided mounting hardware (see Fig. 1).

2. Line up mounting holes on the back of Sensor/Scheduler Interface with mounting pegs on mounting bracket.

1

MOUNTING BRACKET

SELF-TAPPING SCREW

Fig. 1

2

MOUNTING PEGS
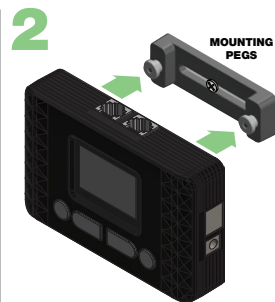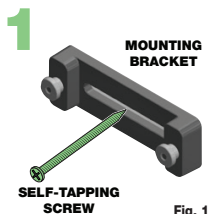
Section 2 - Wiring Sensors

The Sensor 1 and Sensor 2 ports are used to connect to the Draper Interior Sun Sensor (C156.282) directly.
Please note: Other Draper sensors or 3rd party sensors can be connected to Sensor Ports 1 & 2 using the SSI RJ45 port adapter (C103.154).

The Sensor 3 and Sensor 4 ports are used to connect other Draper and 3rd party sensors. Refer to the sensor documentation for wiring details.

TOP

Interior Sun Sensor Ports

1 **2**

BOTTOM

3 **4**

3rd Party Sensor Ports
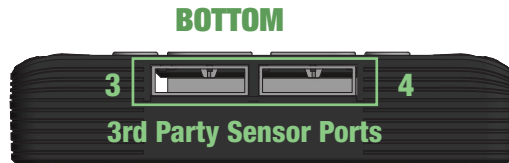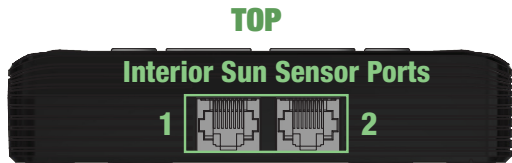
Section 3 - Main Screen

The main screen shows the current date and time, as well as the current readings for each configured sensor.
You can press the ▶ to access the Configuration Menu.

```
May 8   10:16PM
Not Set
Name   VV.V UNIT (Units depend on the sensor type)
Name   VV.V UNIT
Name   VV.V UNIT
Configuration
```

## Section 4 - Configuration Menu

### Section 4.1 - Sensors

The sensor configuration menu allows for the configuration of each of the four sensor ports.
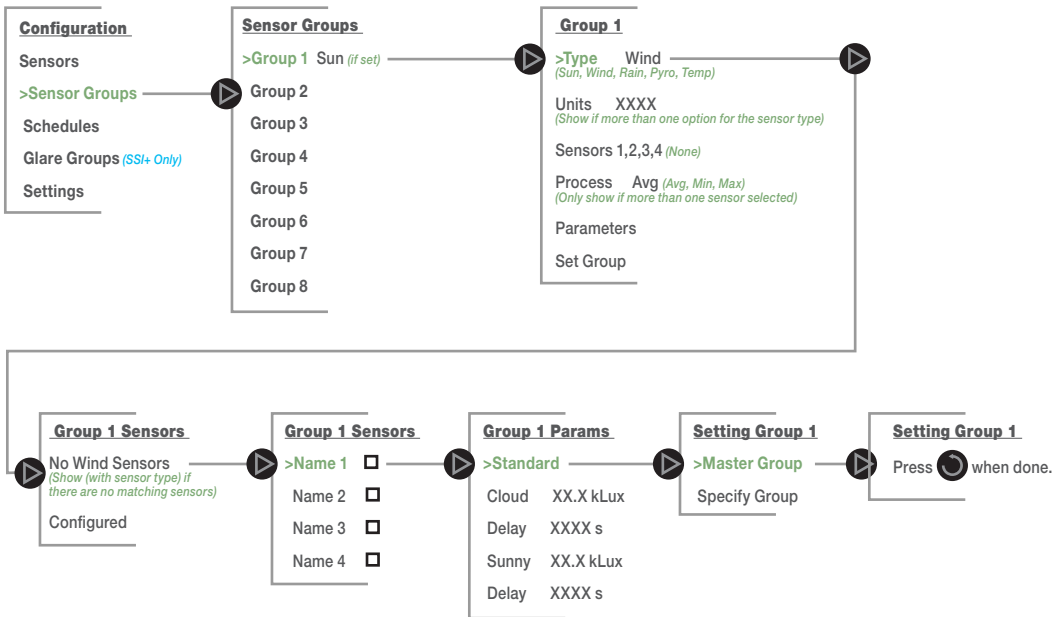
The type of sensor, sensor name, measurement units and model number are all set as shown below.

The "Custom" model number allows 3rd party sensor to be used. The measurement range will be entered as specified by the sensor manufacturer.
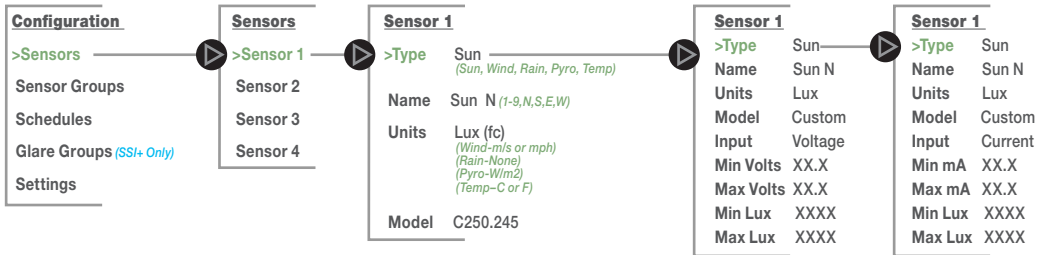
## Section 4.2 - Sensor Groups

The sensor group configuration menu allows for the programming of up to eight sensor groups.
Each group can be configured to use any number of the same type of sensor to control a group of shades.
See sections 4.5-4.8 for a description of the control options for each sensor type.

**Configuration**

Sensors

>Sensor Groups

Schedules

Glare Groups *(SSI+ Only)*

Settings

**Sensor Groups**

>Group 1  Sun *(if set)*

Group 2

Group 3

Group 4

Group 5

Group 6

Group 7

Group 8

**Group 1**

>Type     Wind
*(Sun, Wind, Rain, Pyro, Temp)*

Units    XXXX
*(Show if more than one option for the sensor type)*

Sensors 1,2,3,4 *(None)*

Process    Avg *(Avg, Min, Max)*
*(Only show if more than one sensor selected)*

Parameters

Set Group

**Group 1 Sensors**

No Wind Sensors
*(Show (with sensor type) if
there are no matching sensors)*

Configured

**Group 1 Sensors**

>Name 1  ☐

Name 2   ☐

Name 3   ☐

Name 4   ☐

**Group 1 Params**

>Standard

Cloud    XX.X kLux

Delay    XXXX s

Sunny    XX.X kLux

Delay    XXXX s

**Setting Group 1**

>Master Group

Specify Group

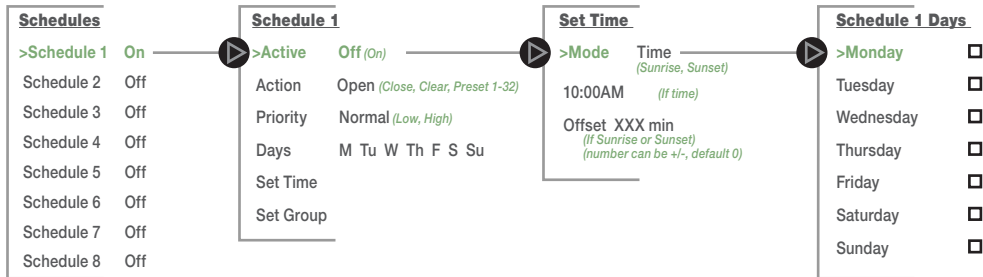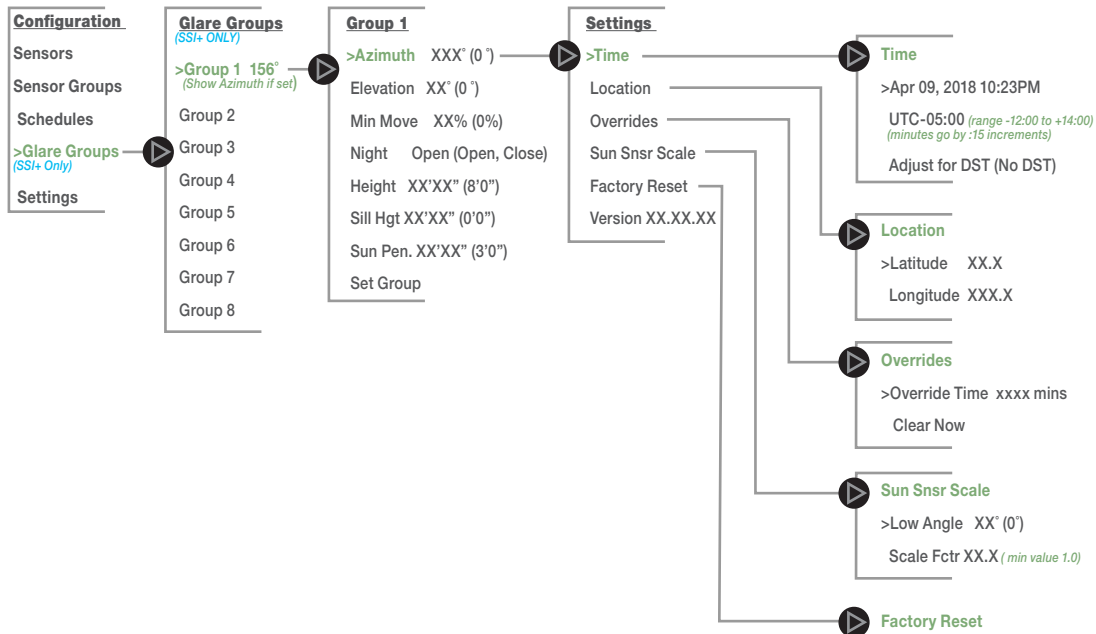**Setting Group 1**

Press  ⬤  when done.

## Section 4.3 - Schedules

The schedule configuration menu allows for the programming of up to eight scheduled events.

Each scheduled action can override a group of shades at a specified time, or a time relative to sunrise or sunset.

Three priority levels allow schedules to work correctly with other control elements in the system.

| Schedules | |
|---|---|
| >Schedule 1 | On |
| Schedule 2 | Off |
| Schedule 3 | Off |
| Schedule 4 | Off |
| Schedule 5 | Off |
| Schedule 6 | Off |
| Schedule 7 | Off |
| Schedule 8 | Off |

| Schedule 1 | |
|---|---|
| >Active | Off *(On)* |
| Action | Open *(Close, Clear, Preset 1-32)* |
| Priority | Normal *(Low, High)* |
| Days | M Tu W Th F S Su |
| Set Time | |
| Set Group | |

| Set Time | |
|---|---|
| >Mode | Time *(Sunrise, Sunset)* |
| 10:00AM | *(If time)* |
| Offset XXX min | *(If Sunrise or Sunset)* *(number can be +/-, default 0)* |

| Schedule 1 Days | |
|---|---|
| >Monday | ☐ |
| Tuesday | ☐ |
| Wednesday | ☐ |
| Thursday | ☐ |
| Friday | ☐ |
| Saturday | ☐ |
| Sunday | ☐ |

## Section 4.4 - Glare Groups *(SSI+ ONLY)*

**Configuration**

Sensors

Sensor Groups

Schedules

>Glare Groups
*(SSI+ Only)*

Settings

---

**Glare Groups**
*(SSI+ ONLY)*

>Group 1  156°
*(Show Azimuth if set)*

Group 2

Group 3

Group 4

Group 5

Group 6

Group 7

Group 8

---

**Group 1**

>Azimuth    XXX° (0 °)

Elevation  XX° (0 °)

Min Move   XX% (0%)

Night    Open (Open, Close)

Height  XX'XX" (8'0")

Sill Hgt XX'XX" (0'0")

Sun Pen. XX'XX" (3'0")

Set Group

---

**Settings**

>Time

Location

Overrides

Sun Snsr Scale

Factory Reset

Version XX.XX.XX

---

**Time**

>Apr 09, 2018 10:23PM

UTC-05:00 *(range -12:00 to +14:00)*
*(minutes go by :15 increments)*

Adjust for DST (No DST)

---

**Location**

>Latitude    XX.X

Longitude  XXX.X

---

**Overrides**

>Override Time  xxxx mins

Clear Now

---

**Sun Snsr Scale**

>Low Angle   XX° (0°)

Scale Fctr XX.X *( min value 1.0)*

---

**Factory Reset**

## Section 4.5 - Sun Sensor Parameters - Priority 10 / Pyranometer Parameters - Priority 10

If the level goes below Cloud for the Up Delay time,
then open the shades.

If it goes above the Cloud level for the Dn Delay time,
then fully close the shades.

| Group 1 Params |
| --- |
| **>Auto Control** |
| Threshold    XX.X kLux *(XXX%)* |
| Cloudy Delay   XXXX s *(default 900s)* |
| Sunny Delay   XXXX s *(default 5s)* |

If the level goes above the Sunny Override for the delay time,
then close the shades.

If it goes below the Cloudy level for the delay time,
then clear the override at that priority.

Sunny always has to be >= Cloud.

| Group 1 Params |
| --- |
| **>Override Closed** |
| Cloud XX.X kLux |
| Delay  XXXX s |
| Sunny XX.X kLux |
| Delay  XXXX s |

If the level goes below the Cloud Override for the delay time,
then open the shades.

If it goes above the Sunny level for the delay time,
then clear the override at that priority.

Sunny always has to be >= Cloud.

| Group 1 Params |
| --- |
| **>Override Open** |
| Cloud XX.X kLux |
| Delay  XXXX s |
| Sunny XX.X kLux |
| Delay  XXXX s |

Tries to keep the sensor level in a certain range.

If the level goes below the low level for more than the delay time,
then open the shade when the average of Low and High level is reached.

If the level goes above the high level for more than the delay time,
then close the shade when the average of Low and High level is reached.

If Pset Pause (Preset Pause) is > 0, then the shades will move a preset at a
time, then wait for that amount of time before moving again.

This gives the sensor time to respond to the new light level if the shade
moves quickly.

| Group 1 Params |
| --- |
| >Range Control |
| Low  XXX.X kLux |
| Delay  XXXX s |
| High XXX.X kLux |
| Delay  XXXX s |
| Pset Pause XXXs |

---

This moves the shades to the preset stop based on the sensor level.

Up Delay is how long to wait after it goes below a threshold before moving
to the shade up.

Dn Delay is how long to wait after it goes above a threshold before moving
the shade down.

If a preset value is set to 0 (the default) then that and all later values are
ignored.

Once they move it from 0 Lux then it should start at the previous preset and
only have a value that is higher.

| Group 1 Params |
| --- |
| >Preset Control |
| Up Delay XXXX s |
| Dn Delay XXXX s |
| Pst 1 XXX.X kLux |
| Pst 2 XXX.X kLux |
| Pst 3 XXX.X kLux |
| Pst 4 XXX.X kLux |
| Pst 5 XXX.X kLux |
| Pst 6 XXX.X kLux |
| Pst 7 XXX.X kLux |
| Pst 8 XXX.X kLux |

---

If the level goes below Threshold for the Delay time, then close the shades.

If it goes above the threshold for the Delay time then fully open the shades.

| Group 1 Param |
| --- |
| >Privacy |
| Threshold   XX.X kLux *(XXX%) (default 500 Lux or 5%)* |
| Delay          XXXX s *(default 30s)* |

## Section 4.6 - Rain Sensor Parameters - Priority 5

If it detects rain for the Rain Dly time then open the shades.

If it doesn't detect rain for the Clear Dly time then clear the override.

```
 Group 1 Params
>Override Open
 Rain Dly  XXX s
 Clear Dly XXX s
```

If it detects rain for the Rain Dly time then close the shades.

If it doesn't detect rain for the Clear Dly time then clear the override.

```
 Group 1 Params
>Override Closed
 Rain Dly  XXX s
 Clear Dly XXX s
```

Section 4.7 - Wind Sensor Parameters - Priority 5

If the wind reading goes above Tilt for the Wind Dly (Wind Delay)
then tilt open the shades.

If the wind reading goes above Open for the Wind Dly then retract shades.

If it goes below the Tilt for the Calm Dly then clear the override.

Tilt <= Open.

```
 Group 1 Params
>Override Tilt
 Tilt   XX.X m/s
 Open   XX.X m/s
 Wind Dly XXXX s
 Calm Dly XXXX s
```

Section 4.8 - Temperature Sensor Parameters - Priority 10

If the temperature goes above the threshold for the hot delay time,
then open the shades.

If it goes below the threshold for the cold delay time
then clear the override at that priority.

```
 Group 1 Params
>Override Open
 Threshld XX.X C
 Hot Dly  XXXX s
 Cld Dly  XXXX s
```

If the temperature goes above the threshold for the hot delay time,
then close the shades.

If it goes below the threshold for the cold delay time then clear the override
at that priority.

```
 Group 1 Params
>Override Closed
 Threshld XX.X C
 Hot Dly  XXXX s
 Cld Dly  XXXX s
```

If the temperature goes above the threshold for the hot delay time,
then stop the shades.

If it goes below the threshold for the cold delay time
then clear the override at that priority.

```
 Group 1 Params
>Override Stop
 Threshld XX.X C
 Hot Dly  XXXX s
 Cld Dly  XXXX s
```

If the inside temperature goes above the threshold and is above the Outside
temperature, for the hot delay time, then open the shades.

If the inside temperature goes below the threshold or is below than the
outside temperature, for the cold delay time then close the shades.

```
 Group 1 Params
>Vent Control
 Outside Sensor XXXXXXXXXXXX
 Threshld XX.X C
 Hot Dly  XXXX s
 Cld Dly  XXXX s
```

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