

RAIN SENSOR

VALID FOR PROTOTYPE ONLY

SUBJECT TO CHANGE

- *Retrofittable Automatic Wiper intended for Marine*

- *Supports 12V and 24V systems*

- *Plug-and-Play Install*

- *Inline Kits for Different Motors Available on Request*

- *Quality of life for Pilot*

- *Increases wiper life*

TECHNICAL OVERVIEW / / SPECIFICATIONS

<i>Glass Thickness</i>	*4mm ... 8mm ... 10mm * 4mm is theoretical
<i>Sensor Dimensions</i>	35mm x 57mm x 20mm
<i>Operating Voltage</i>	9V ... 36V
<i>Power Draw</i>	12W
<i>Constant Motor Current</i>	10A
<i>Peak</i>	

**ANY CONTENT IS SUBJECT TO CHANGE WITHOUT NOTICE **

PROTOTYPE FUNCTIONAL DESCRIPTION

The *Rain Sensor* is based around *total internal reflection*. A strong beam of light is pulsed with constant intensity from the *Rain Sensor*. The beam reflects off the inside of the glass, and is collected by the detector. When rain drops land inside the sensor region, the *Rain Sensor* detects the amount of light lost due to the refraction of the beam. When the detector determines that the distorted signal is caused by water droplets, the sensor sends a signal to the *Control Box*, which then controls the wiper. Depending on how much rain is detected, the *Control Box* will increase the interval time of the wiper. The sensor is powered and communicates via a single RJ11 cable from the Control Box.

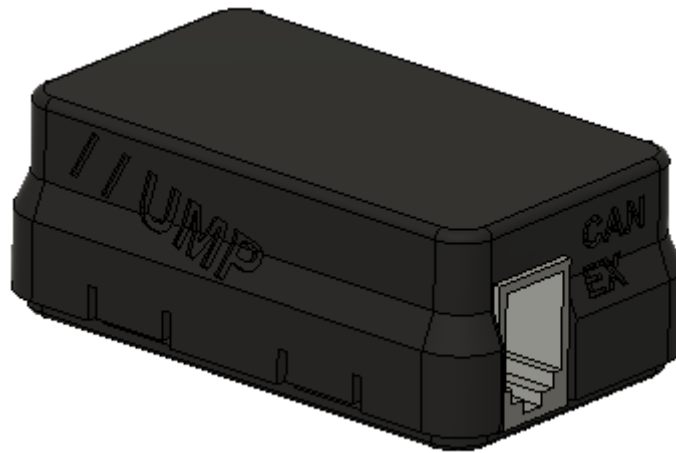
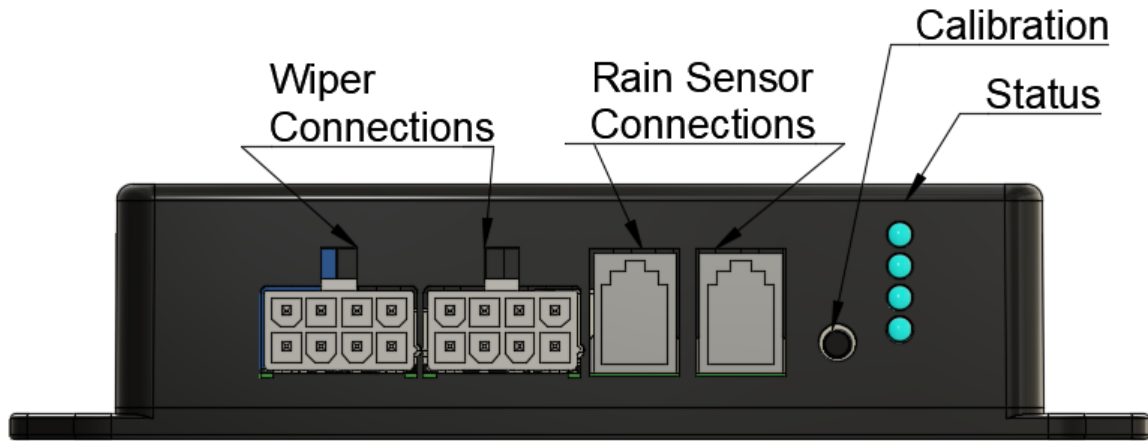
The *Control Box* is powered from either battery or, via the *PARK* Signal from the wiper motor circuit. The design of the connection allows the *Control Box* to be plugged in line with an existing motor. Replacing the standard 2 wire signal (**LOW/ HIGH**) to the wiper. In the prototype version, the **LOW** signal of the wiper motor is used as **Automatic/Intermittent mode**. The **HIGH** signal remains as a **hard bypass** of all electronics and provides normal operation. The Control Box is currently calibrated on install, and is **manually calibrated** using the calibration button on the front of the box. Calibration only needs to happen **once**, or can be calibrated again at any time.

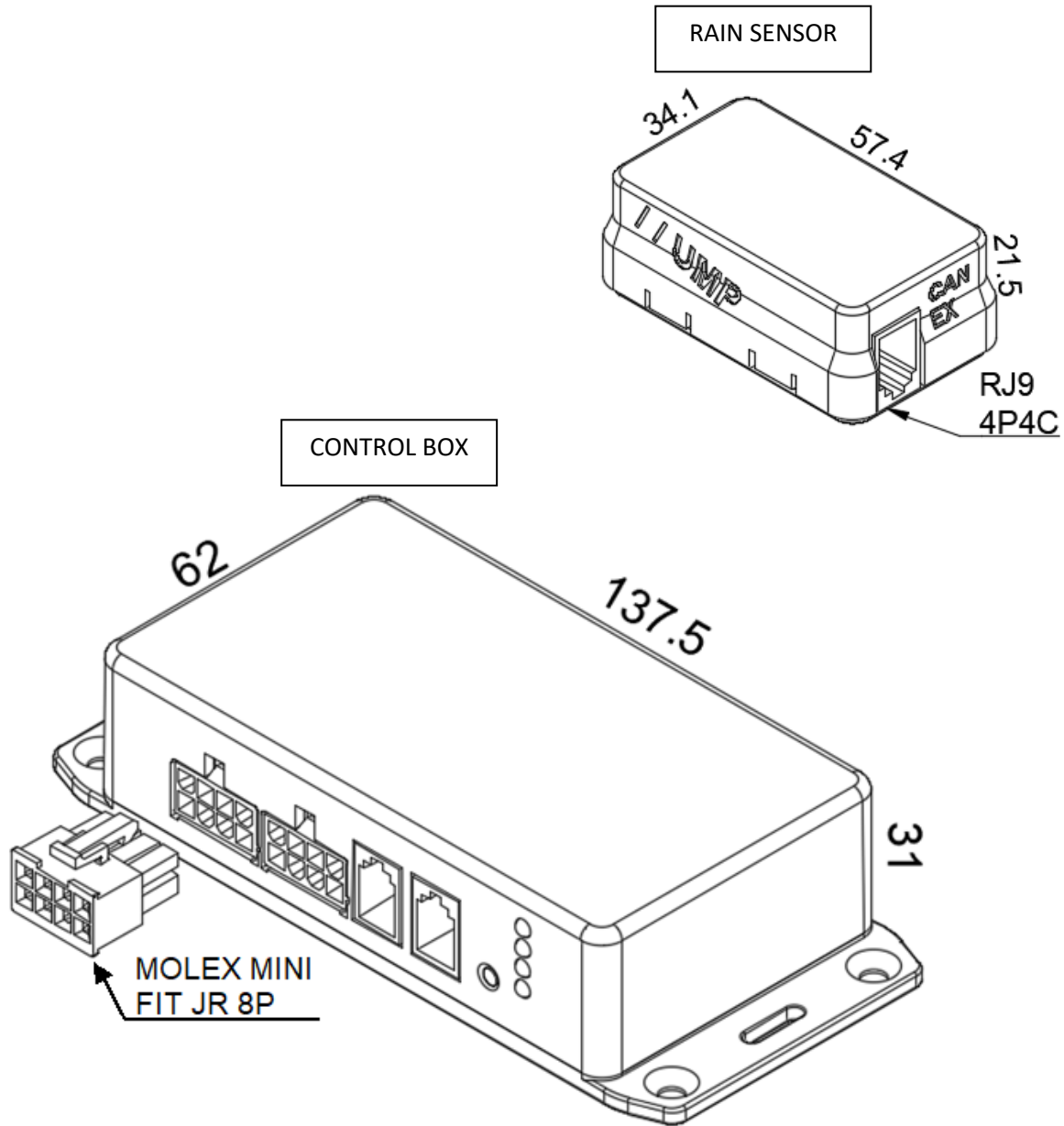
Calibration is planned to be automatic for future firmware revisions.

Communication from Sensor to Control Box may be changed.

Rain Sensor Product Materials are planned to be changed.

Electrical specifications could change.





DRAWING DETAILS

DRAWN BY: DK	SCALE: NONE	3/02/2023
CHECKED BY:	REFERENCE:	PAPER SIZE: A4

DRAWING TITLE **Rain Sensor + Control Box**

NOTE: THIS DRAWING IS FOR DEMONSTRATIVE PURPOSES ONLY. FINAL APPROVAL IS TO BE SIGNED OF BY RELEVANT AUTHORITIES

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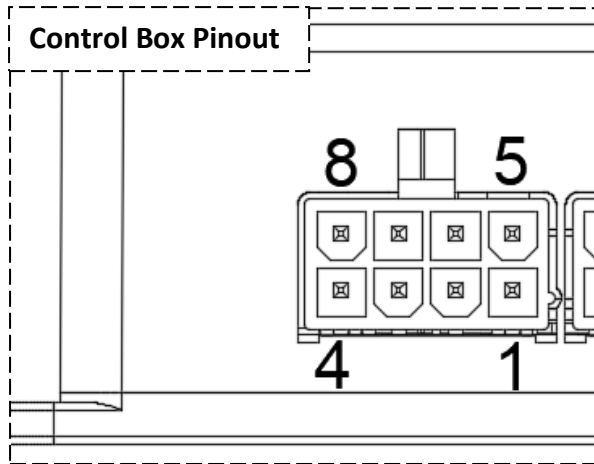
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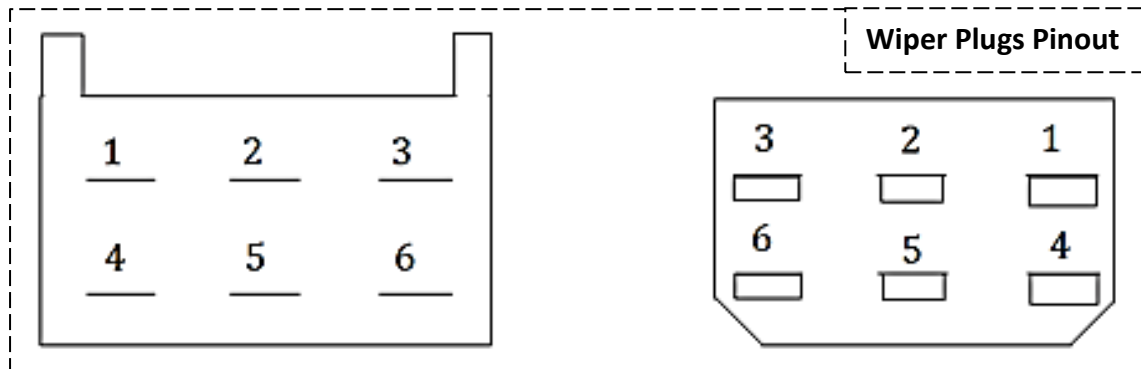
CLIENT: _____

All dimensions in millimetres unless stated otherwise.





- 1- WIPER HIGH
- 2- N.C
- 3- GND
- 4- N.C
- 5- PARK
- 6- N.C
- 7- GND
- 8- WIPER LOW



- | | |
|---------------|------------|
| 1- N.C | X |
| 2- WIPER LOW | BLUE |
| 3- PARK | BLUE/WHITE |
| 4- WIPER HIGH | GREY |
| 5- N.C | X |
| 6- NEGATIVE | BLACK |