

# SynJet<sup>®</sup> Linear Light Cooler 30W

SynJet cooling technology provides the most reliable thermal management solution available. This cooler has been developed by Nuventix as a general purpose cooling solution for linear LED arrays.

- Cools up to 30W<sup>4</sup>
- Reliable 100K Hours Lifetime
- Energy Efficient
- 5 yr Warranty
- Small Form Factor
- 85°C Operating Temp



## Specifications<sup>1</sup>

### Thermal & Acoustic

| SynJet Setting <sup>2</sup> | Θs-a <sup>3</sup> | TDP <sup>4</sup> (W) | SPL (dBA) <sup>5</sup> | Wire Connections                                     |
|-----------------------------|-------------------|----------------------|------------------------|------------------------------------------------------|
| Standard                    | 1.0               | 30                   | 25                     | Red to +VDC<br>Black to Ground                       |
| PWM at 100% duty cycle      |                   |                      |                        | Red to +VDC<br>Black to Ground<br>Blue to PWM Signal |

### Electrical

| SynJet Setting <sup>2</sup> | Voltage (VDC) +/- 10% | Current (mA) <sup>6</sup> |      |       | Pavg (mW) | Voltage (VDC) +/- 10% | Current (mA) <sup>6</sup> |      |       | Pavg (mW) |
|-----------------------------|-----------------------|---------------------------|------|-------|-----------|-----------------------|---------------------------|------|-------|-----------|
|                             |                       | Imin                      | Iavg | Ipeak |           |                       | Imin                      | Iavg | Ipeak |           |
| Standard                    | 5                     | 20                        | 70   | 140   | 350       | 12                    | 10                        | 46   | 92    | 550       |
| PWM at 100% duty cycle      |                       |                           |      |       |           |                       |                           |      |       |           |

### Environmental

| All Settings                | Min | Max  | Units | Conditions                         |
|-----------------------------|-----|------|-------|------------------------------------|
| Operating Temperature       | -40 | 85   | °C    | Air temperature surrounding cooler |
| Storage Temperature         | -50 | 95   | °C    | Air temperature surrounding cooler |
| Storage Altitude            |     | 15K  | m     | Above sea level                    |
| Operating Relative Humidity | 5   | 95   | %     | Non-condensing                     |
| Weight                      |     | 125  | g     | SynJet with heat sink              |
| Reliability                 |     | 100K | hrs   | L10 @ 60°C                         |
| Regulatory Compliance       |     |      |       | RoHS, UL, FCC Part 15 Class B, CE  |

<sup>1</sup> All values are typical at 25°C unless otherwise stated.

<sup>2</sup> The Level Select model should be used for discrete performance settings. Follow the instructions in the Product Design Guide for adjusting settings.

<sup>3</sup> Thermal resistance values are given as reference only and are measured in free air without airflow obstructions. Thermal resistance is measured from the bottom middle of the heat sink to ambient air measured at the inlet to the SynJet, with a heat source at least XXcm<sup>2</sup> using the reference heat sink. Actual thermal performance may vary by application and final product design should be tested to assure proper thermal performance.

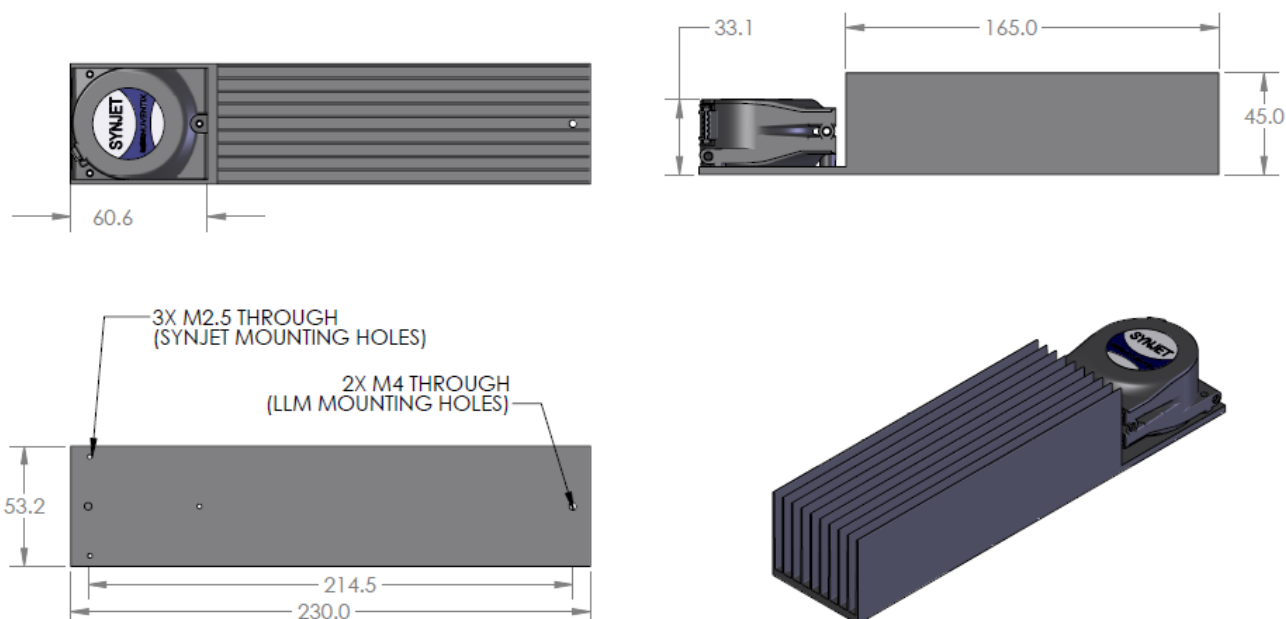
<sup>4</sup> Thermal Design Power is based on a 30°C temperature rise of heat sink mounting surface above ambient temperature around cooler.

<sup>5</sup> Sound Pressure Level is measured at 1 meter distance per ISO 7779.

<sup>6</sup> The SynJet has a time varying current. The current waveform is sinusoidal and the average current (Iavg) is used to calculate the average power consumption (Pavg) at nominal input voltage (VDC). See the Electrical section in the Product Design Guide for a detailed explanation.

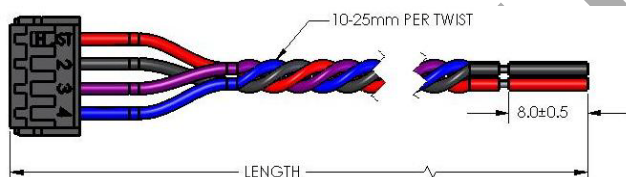
## PRODUCT DATASHEET

### Mechanical SynJet Cooling Solution



All dimensions are nominal and in mm unless otherwise stated.  
See product drawings for more detail.

#### SynJet Wire Harness



#### Connector Pinout

| Pin | Wire Color | Symbol | Description                    |
|-----|------------|--------|--------------------------------|
| 1   | Red        | +VDC   | 5 V or 12 V depending on model |
| 2   | Black      | GND    | Ground                         |
| 3   | Purple     | CTRL2  | Status signal for PWM model    |
| 4   | Blue       | CTRL1  | PWM input for PWM model        |

**IMPORTANT:** SynJets should be completely wired to the power supply before the power supply is energized. The power supply should be turned off before the SynJet Cooler is disconnected. SynJet Coolers are not designed for “hot swap” or “hot plug” applications.

#### Part Numbers

| Part Number     | Description                                                | Notes                                        |
|-----------------|------------------------------------------------------------|----------------------------------------------|
| SSCCS-IM005-003 | SynJet, XFlow 30, Standard, 5V, PWM, Black                 | Use PWM input to control performance setting |
| SSCCS-IM012-002 | SynJet, XFlow 30, Standard, 12V, PWM, Black                | Use PWM input to control performance setting |
| NX301100        | Heatsink, 30W, Linear Light Cooler, Philips LLM, Al, Black | Contact sales for other heatsink options     |
| WALLS-C4150-001 | Wire Harness, 4-Wire, 150 mm Length                        | Contact sales for other lengths              |
| WALLS-C4600-001 | Wire Harness, 4-Wire, 600 mm Length                        | Contact sales for other lengths              |

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