# SynJet® Spotlight Cooler 38W

**SynJet cooling technology provides the most reliable thermal management solution available. This LED cooler has been developed by Nuventix, for cooling tracklight, spotlight, and recessed downlight modules.**

- Only 100mm diameter for small designs
- Cools up to 38W
- 100K Hours Lifetime
- Energy Efficient


## Specifications[1]

### Thermal & Acoustic

| SynJet Setting[2] | Θs-a[3] | TDP[4] (W) | SPL (dBA)[5] |
|---|---|---|---|
| High Performance | 0.80 | 38 | 28 |
| Mid Performance | 0.91 | 33 | 25 |
| Standard Performance | 0.97 | 31 | 22 |
| PWM at 100% duty cycle | 0.80 | 38 | 28 |

### Electrical

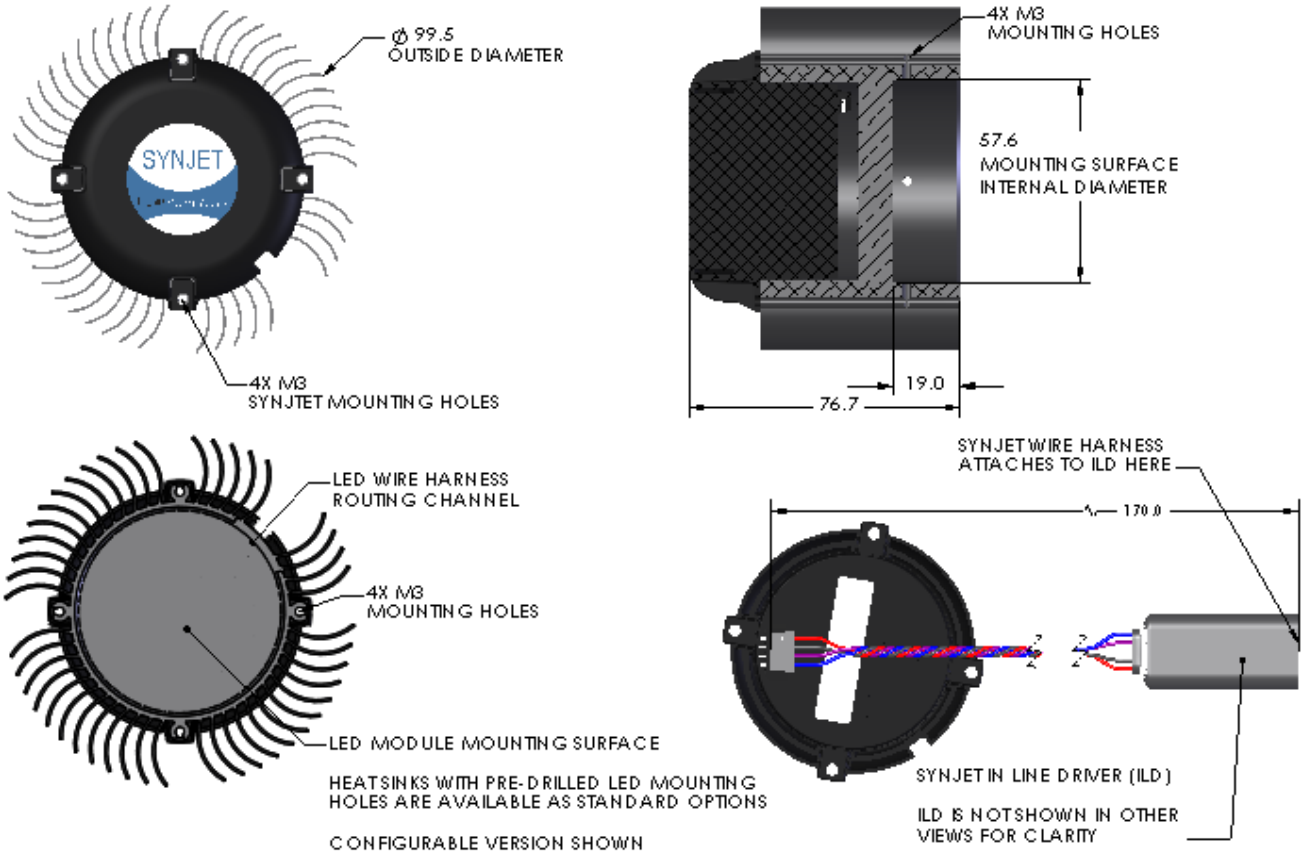
| SynJet Setting[2] | Voltage (VDC) +/- 10% | Current (mA)[6] | | | Pavg (mW) | Voltage (VDC) +/- 10% | Current (mA)[6] | | | Pavg (mW) |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Imin | Iavg | Ipeak | | | Imin | Iavg | Ipeak | |
| High Performance | 5 | 20 | 126 | 252 | 630 | 12 | 10 | 70 | 140 | 840 |
| Mid Performance | | | 87 | 174 | 435 | | | 48 | 97 | 580 |
| Standard Performance | | | 72 | 144 | 360 | | | 40 | 80 | 480 |
| PWM at 100% duty cycle | | | 126 | 252 | 630 | | | 70 | 140 | 840 |

### Environmental

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

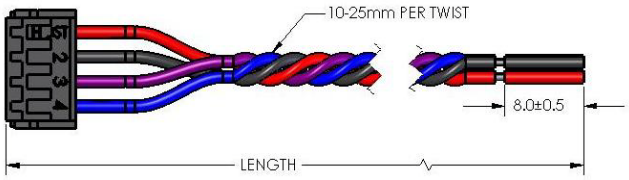
[1] All specifications are typical at 25ºC unless otherwise stated.
[2] The Digital Select model should be used for discrete performance settings. Follow the instructions in the Product Design Guide for adjusting settings.
[3] Thermal resistance values are given as reference only and are measured in 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 19cm$^2$ using 31W Sport Cooler reference heat sink. Actual thermal performance may vary by application and final product design should be tested to assure proper thermal performance.
[4] Thermal Design Power is based on a 30ºC temperature rise of heat sink mounting surface above ambient temperature around cooler.
[5] Sound Pressure Level is measured at 1 meter distance per ISO 7779.
[6] 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.

## Mechanical




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

### SynJet Wire Harness




### Connector Pinout

| Pin | Symbol | Description |
|---|---|---|
| 1 | +VDC | Input voltage; 5V or 12V depending on model |
| 2 | GND | Ground |
| 3 | CTRL2 | Performance input for Digital Select model<br>Status Signal for PWM model |
| 4 | CTRL1 | Performance input for Digital Select model<br>PWM Input for PWM model |

## Part Numbers

| Part Number | Description | Notes |
|---|---|---|
| SSLCS-CM005-001-D | SynJet, ZFlow 75, PWM, 5V, ILD | Use with PWM input to control performance setting |
| SSLCS-CM005-002-D | SynJet, ZFlow 75, Level Select, 5V, ILD | Configurable to discrete performance settings |
| SSLCS-CM012-001-D | SynJet, ZFlow 75, PWM, 12V, ILD | Use with PWM input to control performance setting |
| SSLCS-CM012-002-D | SynJet, ZFlow 75, Level Select, 12V, ILD | Configurable to discrete performance settings |
| HSLCS-CALBL-012 | Heatsink, 38 W, Spotlight Cooler, Philips SLM | Has hole pattern for SLM |
| HSLCS-CALBL-015 | Heatsink, 38 W, Spotlight Cooler, Osram PrevaLED | Has hole pattern for PrevaLED |
| HSLCS-CALBL-011 | Heatsink, 38 W, Spotlight Cooler, Configurable | LED mounting surface is free of holes |
| WALLS-C4150-001 | SynJet Wire Harness, 4 wire, 150 mm length | |
| WALLS-C4600-001 | SynJet Wire Harness, 4 wire, 600 mm length | |