The Champ® MLL linear LED is specifically designed to replace fluorescent T12, T8 and T5HO lighting in harsh and hazardous applications. The rugged and durable design features the industry’s most versatile and flexible mounting options. The Champ MLL is the ideal solution for high vibration, impact and hose down applications.

### Applications:
- Oil and gas refineries, petrochemical facilities, food and beverage facilities, platforms, loading docks, tunnels, outdoor wall and stanchion mounted general area lighting, and where flammable vapors, gases, ignitable dusts, fibers or flyings are present

### Features:
- Industry-leading efficacy: up to 130 LPW
- -40°C to +65°C ambient operating temperature (standard model)
- Low profile fixture (<3” height)
- Versatile ceiling/swivel, wall, flush, pole and pendant mounting options
- Wide and narrow optics for uniform illumination
- Four points of secondary retention
- 2,000 PSI high pressure hose rated
- High vibration resistance
- Emergency battery back-up (90 minutes) and surge protection options (up to 10kV)
- DesignLights Consortium® Qualified (some models are not DLC qualified)
- 5 year fixture warranty

### Standard materials:
- Housing – copper-free aluminum; Corro-free epoxy powder coat (optional)
- Lens – glass; polycarbonate, diffused glass, diffused polycarbonate (optional)

### Photometrics:
- Complete photometrics can be found at www.crouse-hinds.com/photometrics

### Temperature performance data:

<table>
<thead>
<tr>
<th>Model</th>
<th>Typical lumens</th>
<th>Watts</th>
<th>Lumen per watt</th>
<th>Equivalent HID luminaire</th>
<th>Typical energy savings / lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLL2</td>
<td>3,600</td>
<td>29</td>
<td>124</td>
<td>T12HO</td>
<td>Up to 67%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T8HO</td>
<td>Up to 63%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T8HO</td>
<td>Up to 62%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T12</td>
<td>Up to 42%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>Up to 32%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>Up to 17%</td>
</tr>
<tr>
<td>MLL4</td>
<td>7,100</td>
<td>54.5</td>
<td>130</td>
<td>T12HO</td>
<td>Up to 84%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T8HO</td>
<td>Up to 80%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T8HO</td>
<td>Up to 74%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T12</td>
<td>Up to 46%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>Up to 32%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>15</td>
<td>Up to 22%</td>
</tr>
</tbody>
</table>

### Mounting (ordered separately):
- Versatile mounting options:
  - Flush back mount
  - Swivel/ceiling back mount
  - Offset ceiling mount
  - Offset wall mount
  - Pole mount
  - Pendant mount

### Certifications and compliances:
- **NEC:**
  - Class I, Div. 2, Groups A, B, C, D
  - Class I, Zone 2
  - Class II, Div. 1, Groups F, G
  - Class III
  - NEMA 4X, IP66
- **UL standards:**
  - UL844 – Electrical Fixture Hangers for Hazardous Locations
  - UL1598 – Luminaire
  - UL1598A – Luminaire for Installation on Marine Vessels
  - UL924 – Emergency Lighting
- **CSA standard:**
  - C22.2 No. 137
- **Additional certifications:**
  - ABS design assessed

### Electrical ratings:

<table>
<thead>
<tr>
<th>Model</th>
<th>Voltage</th>
<th>Current (A)</th>
<th>Watts</th>
<th>Power factor</th>
<th>THD</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLL2/UV1</td>
<td>100</td>
<td>0.28</td>
<td>28.2</td>
<td>0.90</td>
<td>&lt;20%</td>
</tr>
<tr>
<td>MLL2/UV1</td>
<td>277</td>
<td>0.12</td>
<td>29.4</td>
<td>0.90</td>
<td>&lt;20%</td>
</tr>
<tr>
<td>MLL2/UV34</td>
<td>347</td>
<td>0.09</td>
<td>39.2</td>
<td>0.90</td>
<td>&lt;20%</td>
</tr>
<tr>
<td>MLL4/UV1</td>
<td>100</td>
<td>0.55</td>
<td>55.0</td>
<td>0.95</td>
<td>&lt;20%</td>
</tr>
<tr>
<td>MLL4/UV1</td>
<td>277</td>
<td>0.20</td>
<td>54.5</td>
<td>0.95</td>
<td>&lt;20%</td>
</tr>
<tr>
<td>MLL4/UV34</td>
<td>347</td>
<td>0.16</td>
<td>55.8</td>
<td>0.95</td>
<td>&lt;20%</td>
</tr>
<tr>
<td>MLL4/UV34</td>
<td>480</td>
<td>0.12</td>
<td>56.2</td>
<td>0.95</td>
<td>&lt;20%</td>
</tr>
</tbody>
</table>

### Weights:

<table>
<thead>
<tr>
<th>Model</th>
<th>Lbs.</th>
<th>Kg.</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLL2</td>
<td>12.50</td>
<td>5.70</td>
</tr>
<tr>
<td>MLL4</td>
<td>22.50</td>
<td>10.20</td>
</tr>
</tbody>
</table>
Champ MLL LED luminaires

Designed for harsh and hazardous. Champ MLL linear LED luminaires are engineered to handle demanding conditions. The MLL stands up to high vibration, hose down, shock and impact, while delivering long life and high lumen performance for up to 20 years.

Custom optics:
- Standard wide (120°) beam spread for control room and indoor application maximizes illumination on wall panels
- Narrow (80°) beam spread option for targeted illumination; avoids spillage and light loss

Comprehensive certification:
- Single model certified for use in Class I, Division 2 and Class II, Division 1 harsh and hazardous applications

Quick & easy installation:
- Easy access to drivers and wiring
- No custom brackets or hardware needed
- Seven mounting options available

Built to last:
- Ingress protection from hose down water or diesel fuel in harsh operational conditions – passed 2,000 PSI high pressure test
- Vibration-, impact- and shock-resistant – passed 5G, 3-axis vibration test
- 60,000 hour lifetime at 55°C ambient

Slim profile:
- 2.7” fixture height (excluding mounting brackets)
- Perfect for mounting in confined or low height areas

Best-in-class efficacy:
- Up to 130 lumens per watt
### Ordering information:

**Part number example**
MLL4N/UNV1 S903 TF P EM1

### Accessories (ordered separately):

<table>
<thead>
<tr>
<th>Description</th>
<th>Cat. #</th>
<th>Description</th>
<th>Cat. #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flush/back mount back plate</td>
<td>DP1057MTK</td>
<td>Remote EM kit</td>
<td>PEND HAZ KIT</td>
</tr>
<tr>
<td>Ceiling/swivel mount</td>
<td>DP1050MTK</td>
<td>Safety chain kit</td>
<td>SS KIT</td>
</tr>
<tr>
<td>Ceiling/wall mount offset</td>
<td>DP1053MTK</td>
<td>1 amp driver replacement kit, 100-277 VAC for 4 ft. linear</td>
<td>VMVL/UNV1 80W 1A KIT</td>
</tr>
<tr>
<td>Ceiling mount bracket and adapter kit</td>
<td>MP1054MTK KIT</td>
<td>1 amp driver replacement kit, 347-480 VAC for 4 ft. linear</td>
<td>VMVL/UNV34 80W 1A KIT</td>
</tr>
<tr>
<td>Offset wall mount</td>
<td>DP1052MTK</td>
<td>0.5 amp driver replacement kit, 100-277 VAC for 2 ft. linear</td>
<td>VMVL/UNV1 80W 0.5A KIT</td>
</tr>
<tr>
<td>Pole mount kit, 1.25” conduit</td>
<td>PM KIT 1.25</td>
<td>0.5 amp driver replacement kit, 347-480 VAC for 2 ft. linear</td>
<td>VMVL/UNV34 80W 0.5A KIT</td>
</tr>
<tr>
<td>Pole mount kit, 1.50” conduit</td>
<td>PM KIT 1.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pole mount kit, 2.00” conduit</td>
<td>PM KIT 2.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Dimensions and mounting options:

- **Offset wall**
  - Cat. #: DP1052MTK
  - Dimensions: (68.58) 2.70”

- **Flush ceiling**
  - Cat. #: DP1057MTK
  - Dimensions: (1329.1) 52.33”

- **Offset ceiling**
  - Cat. #: DP1053MTK
  - Dimensions: (1573) 6.22”

- **Ceiling/swivel**
  - Cat. #: DP1050MTK
  - Dimensions: (68.58) 2.70”

- **Ceiling and adapter**
  - Cat. #: MP1054MTK KIT
  - Dimensions: (719.6) 28.33”

<table>
<thead>
<tr>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>TF</td>
</tr>
<tr>
<td>P</td>
</tr>
</tbody>
</table>

- TF: Pull wire included in fixture
- P: Painted (gray, epoxy)
- WH: Painted (white, epoxy)

**Additional information:**
- One year warranty. Remote EM kit also available. Available for 4 ft. model only.
- Champ MLL LED luminaires
- Cl. I, Div. 2, Groups A, B, C, D
- Cl. I, Zone 2
- Cl. II, Div. 1, Groups F, G
- Cl. III

**UL Listed**
**CSA Certified**
**Marine & Wet Locations**
**NEMA 4X; IP66**

**Champ MLL LED luminaires**

**Ordering information:**

**Part number example**
MLL4N/UNV1 S903 TF P EM1
Champ MLL LED luminaires

Mounting options:

Ceiling/swivel mount
DP1050MTK

Pole mount
PM KIT 1.25/1.5/2.0

MagnaPro mount
MP1054MTK KIT

Cl. I, Div. 2, Groups A, B, C, D
Cl. I, Zone 2
Cl. II, Div. 1, Groups F, G
Cl. III

UL Listed
CSA Certified
Marine & Wet Locations
NEMA 4X; IP66

Length | in. | mm. | in. | mm.
--- | --- | --- | --- | ---
A | 28.3 | 720 | 52.3 | 1329
B | 9-27 | 222-681 | 9-51 | 222-1289

Configuration

<table>
<thead>
<tr>
<th>Configuration</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>PM KIT 1.25</td>
<td>4.331</td>
<td>3.543</td>
<td>1.680</td>
<td>1.693</td>
</tr>
<tr>
<td>PM KIT 1.5</td>
<td>3.740</td>
<td>2.953</td>
<td>2.000</td>
<td>1.535</td>
</tr>
<tr>
<td>PM KIT 2.0</td>
<td>3.386</td>
<td>2.598</td>
<td>2.360</td>
<td>1.378</td>
</tr>
</tbody>
</table>

Length | in. | mm. | in. | mm.
--- | --- | --- | --- | ---
E | 28.3 | 720 | 52.3 | 1329
F | 12-21 | 305-533 | 24-45 | 610-1143

<table>
<thead>
<tr>
<th>Length</th>
<th>in.</th>
<th>mm.</th>
<th>in.</th>
<th>mm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>28.3</td>
<td>720</td>
<td>52.3</td>
<td>1329</td>
</tr>
<tr>
<td>B</td>
<td>12-22</td>
<td>305-559</td>
<td>24-46</td>
<td>610-1168</td>
</tr>
</tbody>
</table>

Champ MLL LED luminaires

0.390
mtg. hole

MLL2 | MLL4
--- | ---
A | B | C | D

0.275
mtg. hole

0.275
mtg. hole
Mounting options (continued):

Offset wall
DP1052MTK

Offset ceiling/wall mount
DP1053MTK

Flush ceiling
DP1057MTK

<table>
<thead>
<tr>
<th></th>
<th>MLL2</th>
<th>MLL4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in.</td>
<td>mm.</td>
</tr>
<tr>
<td>A</td>
<td>28.3</td>
<td>720.0</td>
</tr>
<tr>
<td>B</td>
<td>26.3</td>
<td>669.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>MLL2</th>
<th>MLL4</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>in.</td>
<td>mm.</td>
</tr>
<tr>
<td>A</td>
<td>28.3</td>
<td>720.0</td>
</tr>
<tr>
<td>B</td>
<td>26.3</td>
<td>584.0</td>
</tr>
</tbody>
</table>

Cl. I, Div. 2, Groups A, B, C, D
Cl. I, Zone 2
Cl. II, Div. 1, Groups F, G
Cl. III
UL Listed
CSA Certified
Marine & Wet Locations
NEMA 4X; IP66
Mounting options (continued):

Pendant mount – Class I, Division 2 only
PEND HAZ KIT

<table>
<thead>
<tr>
<th></th>
<th>MLL2</th>
<th>MLL4</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>31.7 in.</td>
<td>805 mm.</td>
</tr>
<tr>
<td>B</td>
<td>28.3 in.</td>
<td>720 mm.</td>
</tr>
<tr>
<td>C</td>
<td>4.2 in.</td>
<td>108 mm.</td>
</tr>
<tr>
<td>D</td>
<td>12.2 in.</td>
<td>310 mm.</td>
</tr>
<tr>
<td>E</td>
<td>34.9 in.</td>
<td>886 mm.</td>
</tr>
</tbody>
</table>

Cl. I, Div. 2, Groups A, B, C, D
Cl. I, Zone 2
Cl. II, Div. 1, Groups F, G
Cl. III

UL Listed
CSA Certified
Marine & Wet Locations
NEMA 4X; IP66

Champ MLL LED luminaires

Champ MLL LED luminaires
Integral battery back-up

Champ MLL linear LED luminaires are available with an integral battery back-up module. Virtually the same size as the standard 4 foot model and 90 minutes of emergency lighting to keep your facility and personnel safe.

Applications:
- Egress and emergency lighting for areas requiring uninterrupted lighting during power failure
- Hazardous rated indoor and outdoor emergency lighting in manufacturing plants, heavy industrial, chemical and petrochemical facilities, platforms, loading docks and parking areas

Features:
- Operating ambient: 0°C to +40°C
- 90-minute run time in emergency mode
- 6,720 lumen output for normal operation; 1,400 lumen output in emergency mode
- 50,000 hours rated life at 40°C
- IP66 rated enclosure
- LED indicator to check battery operation
- Nickel cadmium battery
- 1 year warranty

Certifications and compliances:
NEC/CEC:
- Class I, Division 2, Groups A, B, C, D
- Class II, Division 2, Groups F, G
- Wet locations, Type 4X, IP66

UL standards:
- UL844 – Hazardous (Classified)
- UL1598 – Luminaires
- UL1598A – Marine
- UL924 – Emergency Lighting

CSA standard:
- CSA C22.2 Nos. 250, 137, 141

Electrical ratings:

<table>
<thead>
<tr>
<th>Model</th>
<th>EM output</th>
<th>Normal output</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLL4/UNV1 EM1</td>
<td>1,400 lumens</td>
<td>6,720 lumens</td>
</tr>
<tr>
<td></td>
<td>(100-277V)</td>
<td>(100-277V)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Voltage</th>
<th>EM output</th>
<th>Normal output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wattage at 120 V</td>
<td>1,400</td>
<td>6,720</td>
</tr>
<tr>
<td>Frequency</td>
<td>50/60 Hz</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Power factor</td>
<td>0.957</td>
<td>0.980</td>
</tr>
<tr>
<td>THD</td>
<td>6.58</td>
<td>11.70</td>
</tr>
</tbody>
</table>

Temperature performance data:

<table>
<thead>
<tr>
<th>Ambient temp. °C</th>
<th>Min. temp. supply wire °C</th>
<th>Class I, Div. 2</th>
<th>Class II, Div. 1</th>
<th>Simultaneous rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>40</td>
<td>60</td>
<td>15</td>
<td>16</td>
<td>15</td>
</tr>
</tbody>
</table>

Photometrics:
- Complete photometrics can be found at www.crouse-hinds.com/photometrics