Philips MASTER
LEDtube 1200 mm High Output
MASTER LEDtube is a reliable value-for-money LED lamp out of Philips lighting portfolio, incorporates frontier LED chips and other advanced technologies. The product helps customers achieve more than 55% energy saving and significant maintenance cost reduction by comparing to fluorescent lamps. It also helps generate natural and comfortable lighting effect, and to build up green and environment friendly image for our customers.
Product Features

Highly Reliable
• Reliable operation between -20 °C to 45 °C ambient temperature
• Rated 50,000 hours lifetime according to F50L70
• 50,000 switching cycles

Highly Comfortable
• CRI = 83
• Advanced optical design ensures a uniform light output and superior optical efficiency

Highly Energy Efficient
• Energy savings of more than 55%*

* Based on comparison between 16W LEDtube and Philips TLD standard 36W(40–44W system power when working with Electro Magnetic Ballasts)

Highly Safe
• Protection circuit inside ensuring people’s safety in case of mis-use, complying with IEC safety requirements
• Pass 4KV high-pot test, insulation & safety guaranteed
• Pass 1KV surge test (vs. IEC standard 500V), avoiding the damage caused by input voltage fluctuation and lightning strike

Perfect Fit
• 100% comply with IEC requirement on T8 dimension, fitting into fluorescent luminaire perfectly

Highly Environmental Friendly
• No mercury
• No breakage and pollution risk

Application

Retail
Industry
Schools
Hospitals
Offices
Warehouse
Public Area
Spectral Power Distribution

Light may be precisely characterized by giving the power of the light at each wavelength in the visible spectrum. The resulting spectral power distribution (SPD) shows that the MASTER LEDtube HO 1200 mm contains the visible light only. No harm from UV and IR.

Photometric Diagrams

The Photometric diagram depicting the top down mounted lighting fixtures in a specific area and a numerical grid of the maintained lighting levels that the fixture will produce in that specific area. Pictures below show the photometric diagrams of a typical Philips MASTER LEDtube’s application.

1 x TLED 16W 3000K

1 x 2000 lm
MASTER LEDtube's excellent thermal design ensures low temperature during operating, which brings reliable and stable product performance throughout life time.

**Operating temperature**
- T operating min -20°C max +45°C

**Storage temperature**
- T storage min -40°C max +65°C

**Maximum case temperature of tube at Tamb = 25°C**
- T case +60°C

**Lifetime and Lumen Maintenance**

PHILIPS MASTER LEDtube has a lifetime of 50,000 hours, defined as the number of hours when 50% of a large group of identical lamps below 70% of its initial lumen (F50L70).

**Temperature**

MASTER LEDtube's excellent thermal design ensures low temperature during operating, which brings reliable and stable product performance throughout life time.
Approbation & Certificates

Philips MASTER LEDtube is designed by strictly following applicable legislation and international standard. The product complies with TUV, CE, KEMA, RoHS and REACH.

Technical specification

<table>
<thead>
<tr>
<th>TC Position</th>
<th>AC input side</th>
<th>B</th>
<th>B</th>
<th>Light Side</th>
<th>Back Side</th>
</tr>
</thead>
</table>

**SECTION B-B**

<table>
<thead>
<tr>
<th>TC Position</th>
<th>B</th>
<th>B</th>
<th>Light Side</th>
<th>Back Side</th>
</tr>
</thead>
</table>

**Technical specification**

<table>
<thead>
<tr>
<th>10NC</th>
<th>Product Description</th>
<th>Wattage</th>
<th>Equivalent Fluorescent Wattage</th>
<th>Voltage</th>
<th>Cap</th>
<th>Length</th>
<th>Lifetime</th>
<th>Lumen output (Typical)</th>
<th>Color Temp</th>
<th>CRI</th>
</tr>
</thead>
<tbody>
<tr>
<td>929001249008</td>
<td>MAS LEDtube 1200mm 16W830 T8 I</td>
<td>16</td>
<td>36</td>
<td>220-240</td>
<td>G13</td>
<td>1200</td>
<td>50000</td>
<td>2000</td>
<td>3000</td>
<td>83</td>
</tr>
<tr>
<td>929001249108</td>
<td>MAS LEDtube 1200mm 16W840 T8 I</td>
<td>16</td>
<td>36</td>
<td>220-240</td>
<td>G13</td>
<td>1200</td>
<td>50000</td>
<td>2100</td>
<td>4000</td>
<td>83</td>
</tr>
<tr>
<td>929001249208</td>
<td>MAS LEDtube 1200mm 16W865 T8 I</td>
<td>16</td>
<td>36</td>
<td>220-240</td>
<td>G13</td>
<td>1200</td>
<td>50000</td>
<td>2100</td>
<td>6500</td>
<td>83</td>
</tr>
</tbody>
</table>

* Minimum CRI is 80
Quick Installation Guide

Please take the time to read this quick installation guide. Philips Lighting does not accept liability for any damages for installations not performed according to this guide or not performed by a professional electrician.

Installation Warning

- Check whether the system is an EM (Electro Magnetic) ballast based system or an HF (High Frequency electronic) ballast based system, and follow the appropriate instructions accordingly. For new built luminaries follow section "New built luminaries".
- Product is not dimmable
- Always switch off the power supply before commencing work
- Do not change the structure or any components of the product

Application Notes

- Operation temperature range is between -20°C and +45°C ambience.
- Only to apply in dry indoor usage and environments.
- Not intended for use with emergency light fixtures or exit light.
- For use in fixtures which consist of IEC compliant G13 bi-pin lamp holders which can support 500 gram.

Accessories

<table>
<thead>
<tr>
<th>MASTER LEDtube</th>
<th>Protector EMP</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>871829172930300</td>
</tr>
</tbody>
</table>

Dimensions (mm)

<table>
<thead>
<tr>
<th>Product</th>
<th>A1</th>
<th>A2</th>
<th>A3</th>
<th>C1</th>
<th>D1</th>
<th>D2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1200mm</td>
<td>1198</td>
<td>1206</td>
<td>1213</td>
<td>-</td>
<td>25 68</td>
<td>28</td>
</tr>
<tr>
<td>EMP</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>34.5</td>
<td>3</td>
<td>21.5</td>
</tr>
</tbody>
</table>
Installation Guide

- EM ballast based system

For EM ballast installation please check if a power factor correcting capacitor is installed in the existing circuit. If yes, please follow the instruction below:
- Please simply remove the capacitor if it is parallel with the EM ballast

- HF ballast based system

OEM Guideline

Lifetime vs. Failure Rate @ Ta 25 °C

Lifetime and Lumen Maintenance