**QUICKTRONIC® Outdoor Metal Halide and High Pressure Sodium Dimming Systems**

### Controllable Series

**Lamp / Ballast Guide**

<table>
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<tr>
<th>QTO MH-HPS 120-277V</th>
<th>QTO1X100MH UNV DIM</th>
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<tr>
<td>MH - C190</td>
<td>HPS - S66</td>
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</table>

**Key System Features**

- UL Type II wet location listed
- IEEE/ANSI C62.41 Cat. C line transient protection
- Low frequency square wave
- Suitable for both quartz and ceramic MH lamps and HPS lamps
- Constant power regulation
- High power factor
- Continuous dimming (0-10V)
- Step dim to 50% of rated power
- Astro Dim feature
- 15 minutes at full power warm-up time delay
- Full light output from 50% in less than 1 minute
- Universal input voltage 120-277V
- High power factor
- Low harmonic distortion
- 90°C case temperature
- End-of-life shut down
- Internal IDTP (Insulation Detection Thermal Protector)
- QUICK 60+® warranty
- RoHS compliant
- Lead-free solder and manufacturing process

**Application Information**

SYLVANIA QUICKTRONIC QTO ballasts are ideally suited for:
- Roadway
- Parking lot
- Street and area lighting
- Outdoor signage

SYLVANIA QUICKTRONIC QTO electronic HID (eHID) Dimming ballasts are perfectly matched with SYLVANIA METALARC®, METALARC POWERBALL® CERAMIC, and LUMALUX® lamps to provide optimal system performance. This electronically controlled system delivers several advantages over conventional systems, including improved lumen maintenance and extended photometric life.

**Low frequency square-wave:**

- Eliminates acoustic resonance issues typical with high-frequency waveforms (Acoustic resonance issues may cause visual flickering, lamp cycling, shortened lamp life, and in extreme cases may result in non-passive failure)
- Provides a robust approach with respect to acoustic stabilities and is immune to variation in lamp geometry, fill chemistry and mercury dose

**Superior constant power regulation design:**

- Helps yield consistent light output and color throughout the life of the lamp
- Provides constant light output during periods of fluctuating supply voltage

**More Energy Management Strategies:** Ballasts allow simple energy management strategies
- Occupancy control by using Bi-level dimming
- Daylight harvesting by using 0-10V continuous dimming
- To maximize energy savings, Bi-level and 0-10V continuous dimming can be used simultaneously

**ASTRO-DIM Control:** ASTRO-DIM allows all the benefits of Bi-level dimming solution without the added costs for additional controls or control wires
- Internal microprocessor learns the ideal time for dimming based on its operating (on and off) cycles and automatically dims to a predetermined dimming level during the "non-peak" hours of operation
- Please contact OSRAM SYLVANIA for ASTRO Dim availability

**RoHS Compliant:** QUICKTRONIC MH ballasts are RoHS compliant and feature lead-free solder and manufacturing process

**QUICK60+ Warranty:** Setting the standard for quality, QUICKTRONIC MH ballasts are covered by a QUICK60+® warranty, the first comprehensive system warranty in the industry

**Enclosure Styles**

F = Feet Mount (All leads exit side of ballast, as shown on next page.)
**SPECIFICATION DATA**

**Outdoor High Efficiency**

**Electronic HID Dimming Systems**

<table>
<thead>
<tr>
<th>Item Number</th>
<th>OSRAM SYLVANIA Description</th>
<th>Input Current (AMPS)</th>
<th>Lamp ANSI Code</th>
<th>Lamp* Type</th>
<th>Rated Lumens (lm)</th>
<th>No. of Lamps</th>
<th>Ballast Factor (BF)</th>
<th>System Lumens</th>
<th>Input Power (W) 120V 277V</th>
<th>System Efficacy (lm/W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>51954</td>
<td>QTO1X100MH UNV DIM</td>
<td>0.91/0.39</td>
<td>M90, M140, C90, C140, C191</td>
<td>100W MH</td>
<td>9,700</td>
<td>1</td>
<td>1.0</td>
<td>9,700</td>
<td>108</td>
<td>107</td>
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<tr>
<td>51955</td>
<td>QTO1X150MH-HPS UNV DIM</td>
<td>1.35/0.58</td>
<td>S102, C102, C142, C192</td>
<td>150W MH</td>
<td>15,500</td>
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<td>15,500</td>
<td>162</td>
<td>160</td>
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<td>51965</td>
<td>QTO1X200MH-HPS UNV DIM</td>
<td>1.78/0.76</td>
<td>C190</td>
<td>200W MH</td>
<td>21,000</td>
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<td>1.0</td>
<td>21,000</td>
<td>214</td>
<td>211</td>
</tr>
</tbody>
</table>

1: Internal IDTP - Insulation Detection Thermal Protector (see system information for detail).
* Performance information based on ceramic lamp types except where noted. (100W E17, 150W T7.5 and 200W E39)

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**Installation Notes**

1. Proper ballast mounting must be followed to allow for maximum thermal dissipation:
   a. F can ballast should be mounted with the “feet” side placed tightly against the inside of the fixture

2. Lamp holders and conductors:
   a. Use minimum 4kV Pulse Rated Lamp holder.
   b. Use minimum 600Vrms/4kV Pulse Rated Wire to lamp.
   c. The red lead must be connected to center terminal of lamp.
   d. Do not connect any lamp lead to neutral or ground.

3. Grounding:
   a. The ballast case and fixture must always be grounded. The grounding helps assure safety, proper lamp starting, and acceptable EMI/RFI performance. Install ballast in accordance with national and local electrical codes.

4. Auto shut down function including end-of-life and thermal protection:
   a. Disconnect power when servicing. Cycle power to reset ballast after auto shutdown.
   b. Use minimum 6kV Pulse Rated Lamp holder.
   c. Use minimum 4kV Pulse Rated Wire to lamp.

5. Step or 0-10V dimming can be activated after 15 minutes of warm-up at full power. Recommended by NEMA and lamp manufacturers.

6. If connecting the ballast input to 208V or 240V line with two “hot” leads, be sure to wire per NEC code: Re-Mark (re-identify) the ballast white neutral wire to another color (i.e. black). Be sure to simultaneously disconnect all ungrounded line conductors per NEC codes (i.e. switch both hot legs).

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**Packaging:**

- Quantity: 10 pieces per carton
- Weight: 15 lbs. per carton (1.5 lbs each)

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**MH QUICKTRONIC®**

**Performance Guide**

Ballast shall be a metal halide SYLVANIA QUICKTRONIC MH electronic ballast with universal input voltage.

**Specifications**

- Voltage Range: ±10% of 120-277V rated line (108-305V)
- Input Frequency: 50/60 Hz
- Lamp Frequency: 200-240Hz Square Wave
- Power Factor: >98%
- Low THD: <10%
- Starting Temp: -22°F/-30°C min.
- UL listed and IL listed to Canadian safety standard (CSA), Type 2, Outdoor 90°C Max Case Temperature, Thermally Protected
- FCC 47CFR Part 18 Non-Consumer Sound Rated A
- ANSI C62.41 Cat. C Transient Protection
- Remote mounting capability
- Lamp current crest factor <1.4
- RoHS Compliant®

3 Remote Mounting (max. wire length from ballast case to lamp holder). Typically 8ft, but varies by application. For remote mounting distances up to 15 ft, use #18 AWG minimum 4kV pulse rated wire. Output wires should be enclosed in 1/2” metal conduit to minimize EMI (electromagnetic interference). Wire and ground ballast, fixture, conduit & lighting system per NEC (National Electric Code).

4 Complies with European Union Restriction of Hazardous Substances Directive.

**System Life / Warranty**

QUICKTRONIC products are covered by the QUICK 60+ warranty, a comprehensive lamp and ballast system warranty. For additional details, refer to the QUICK 60+ warranty bulletin.

- Max. Case Temp. Measured at
  - Ta Point: 70°C
  - Warranty Period:
    - <70°C: 5 years
    - >90°C: 3 years

**OSRAM SYLVANIA**

National Customer Service and Sales Center
1-800-LIGHTBULB (1-800-544-4828)
www.sylvania.com

Specifications subject to change without notice.