From its World Headquarters in Tampa, Florida, Transportation Control Systems is proud to manufacture its LED Internally Illuminated Street Name Sign. Its light optics with their patented heat sink technology ensure the brightest and most uniform light dispersion available in the marketplace. Additionally, our 7 year warranty is the longest available in the market. Come see why Transportation Control Systems is the market leader in LED technology and why all the followers are playing catch up.

Give us a call at 800-886-2735

FEATURES/BENEFITS
- Rugged single-piece construction ensures ability to withstand 140 mph winds
- Patented LED internal optics and heat sink ensure 100,000 of useful life
- Our 7 year warranty is the longest in the industry
- Brightest and most uniform light dispersion LED sign available
- UL Listed NEMA enclosure ensure functionality in the harshest of environmental conditions
Transportation Control Systems LED Internally Illuminated Street Name Sign

**Sign Specification:**

1. The sign assembly standard widths are in 12” increments from 48” to 144”. Standard sizes are 48”, 72”, and 96”. The standard viewable heights are available to 28”, with standard sizes of 18”, 20”, 22”, 24”, 26”, and 28”. The overall thickness of the sign body shall be no more than 6” for single face designs and 8” for double face. Special 4” sign body is available.

2. The body shall be aluminum. The maximum allowable weight of the sign (without hanging brackets) shall be 95 lbs.

3. The sign body shall be fabricated in accordance with NEMA 3R standards. Sign body shall be constructed of sheet aluminum 5052H32 with a thickness of .090. The sign body enclosure shall be continuously welded. The sign body shall be reinforced to allow for mounting hardware on the back and top of the sign. The sign body shall have a weep hole every 12” increment to allow exfiltration of any moisture. The sign body shall have a continuous hinge along the top so door opens up with rod to hold door open. Door opens up to ensure that any failure of locking mechanisms will allow the sign to remain closed. Bottom hinge is available if required. This hinge is .062 1-1/2” stainless steel with staked pin. The sign body shall include internal electrical box on right hand side of sign with watertight access door. Photocell, if required, can be internal to sign. The sign door is secured via Stainless steel ¼” pad lock hasp.

4. The color of the exterior of the sign assembly shall be semi-gloss black. All exterior surfaces of the sign assembly shall be powder-coat painted in accordance with Military Standard MIL-C-24712. Finish will meet the requirements of ASTM D 3359, ASTM D 3363, and ASTM D 552. A quality assurance program shall be in place, meeting MIL-L-45208A. Other standard colors are available.

5. Sign shall be UL listed and approved.

6. The sign face shall be constructed of 1/8” white polycarbonate or clear polycarbonate with 3M™ Diamond Grade™ reflective film.

7. The sign shall have UL approved foam gaskets, to provide a watertight seal between the sign panel and the housing.

8. The sign shall have UL approved foam gasket with double sided adhesive to hold the sign face to the frame and ensure a watertight seal at the sign face.

9. The sign assembly including sign panel and mounting assemblies shall be designed, tested and constructed so that no permanent deformation, warping or failure will occur when subjected to 110 mph wind loads.

10. The sign shall include solid-state high flux/high output ultra high brightness white LED light engine panel (described in detail below), utilizing state-of-the-art high power LED’s and highly efficient heat dissipating panel. This LED light panel shall be of adequate dimension to effectively uniformly light the sign face.

**General Specification**

**LED Light Engine for Illuminated Street Signs**

**PURPOSE**

The purpose of this specification is to provide the minimum performance requirements for the LED Light Engine for illuminated street signs specification. The LEDs utilized in this product shall be white in color and utilize InGaN or UV thermally efficient technology.

**Led Light Engine Panel:**

- The LED light engine panel shall consist of adequate LED's to provide 200 nits (200 Candela per square meter) or an equivalent surface luminance of 660 lux over a –40° to +60°C ambient temperature range.
- There shall be a sufficient quantity of white LEDs to uniformly illuminate the viewing area with no more than a 20% deviation from any two points on the sign face in light output.
- Power use shall be 3-4 watts per square foot of viewing area. The failure of one (1) LED shall not reduce the light output by more than eight percent (8%) per foot of sign face. If any one LED should fail it will not cause any other LEDs to fail.
- The LED light engine panel shall consist of a circuit board comprised of an insulated aluminum substrate, with a minimum thickness of 0.050 inch.
- Circuit conductors and LED attachment adhesive shall be minimally 90% silver to insure optimal electrical and thermal conductivity.
- The LED light engine panel face shall be entirely conformally coated with a 2 part urethane resin, no thinner than 0.002 inch (dry) to adequately protect the light engine from moisture and corrosion.
- The LED light engine panel shall be permanently attached to the LED panel.
- The LED light engine panel shall pass the following tests per NEMA standards:
  a) Thermal Shock Test: 85°/–40°C with 2-hour dwells for 5 cycles with a 2-hour presoak at –40°C.
  b) Salt Spray and Soak Test: The LED panel shall endure 48 hours of continuous salt spray and 240 hours of a salt water soak.
  c) All LED panels shall be burned-in for 24 hours and certified for compliance by the manufacture.
- The manufacturer’s name and date of manufacture along with a Quality Control tracking sticker shall be mounted on the inside of the LED light engine panel.
- The panel(s) shall be painted white. Paint must meet GM4901 specifications.

**PHOTOMETRIC REQUIREMENTS**

**Luminous Intensity & Distribution**

- The entire surface of the sign panel shall be evenly illuminated. The average maintained luminous intensity measured across the letters, operating under the conditions shall be of a minimum value of 200 cd/m2.
- The manufacturer shall make available independent laboratory test results to verify compliance to the Photometric and Light Panel sections above.

**QUALITY ASSURANCE**

**General**

- **Quality Assurance Program**
  - The LED Light Engine shall be manufactured in accordance with a vendor quality assurance (QA) program. The production QA shall include statistically controlled routine tests to ensure minimum performance levels of the LED Light Engine build to meet this specification.
- **Record Keeping**
  - QA process and test result documentations shall be kept on file for a minimum period of seven (7) years.
- **Conformance**
  - The LED Light Panel that does not satisfy the production QA testing performance requirements shall not be labeled, advertised, or sold as conforming to these specifications.

**WARRANTY**

- **LED Light Engines shall be replaced or repaired if they fail to function as intended due to workmanship or material defects within the first sixty (60) months from the date of delivery.**
- **LED Light Engines that exhibit luminous intensities less than the minimum value specified herein within the first sixty (60) months from the date of delivery shall be replaced or repaired.**
- **All LED street name signs shall be warranted for a period of (60) months from date of delivery.**
SPECIFICATIONS

A) SIGN FRAME 5052–H32 ALUMINUM .090
B) HIGH OUTPUT LED PANELS
C) CONTINUOUS STAINLESS STEEL HINGE
D) STAINLESS STEEL LATCHES
E) SIGN PANEL .125 CLEAR POLYCARBONATE
F) POWDER COAT, CUSTOMER SELECTED
G) LEGEND, GREEN 3M EC FILM OVER DIAMOND GRADE VIP SHEETING.
H) MOUNTING, PELCO ASTRO BRAC, ON–MAST ARM OR UNDER MAST ARM, AS REQUIRED
I) PHOTOCELL AS REQUIRED
J) SIZE, AS REQUIRED’ HIGH BY AS REQUIRED’ WIDE, 3” DEEP

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TRANSPORTATION CONTROL SYSTEMS
1030 S. 86th Street Tampa, Florida 33691
(813) 630–2800

LED INTERNALLY ILLUMINATED STREET NAME SIGN

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REV | SHEET 1 OF 2 |
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Tampa Bay BLVD N

AS REQUIRED

AS REQUIRED

Stainless steel hinge

Back View

INSIDE BACK AND TOP MOUNTING PANELS

FRAME

LED PANELS

3"

Note:
BREAK ALL SHARP CORNERS AND DEBURR ALL EDGES

Transportation Control Systems
1030 S. 86th Street Tampa, Florida 33691
(813) 630-2800

LED INTERNALLY ILLUMINATED STREET NAME SIGN

Material:

Drawn:

C. Statham 1/25/09

Checked:

S. Gillis 1/23/09

Engineer:

S. Gillis 1/23/09

Approval:

J. Gillis 1/22/09

Applications

Size:

Cage Code:

Dwg No:

Rev:

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W4820-01

Sheet 2 of 2