

LED INTERNALLY ILLUMINATED CASE SIGN 24x30 One-Way 8" deep Specification

1.0 One-Way, LED Internally Illuminated Traffic Signs

1.1 Standard size 24" x 30" (custom sizes are available upon request).

2.0 General Description

2.1 The One-way traffic sign shall be capable of displaying messages in one direction at a time.

2.2 The messages are permanently visible. Daytime illumination is not necessary.

3.0 Functional Requirements

3.1 All messages shall be clearly legible, attracting attention under any lighting conditions.

3.2 The sign shall consist of an 8" extruded aluminum sign housing and a door assembly; one traffic sign face; and LED lighting system.

3.3 Lighting will be provided by an LED light module. The LED light module shall consist of adequate LEDs to provide 300 nits (300 Candela per square meter). There shall be a sufficient quantity of white LEDs to uniformly illuminate the viewing area. Standard operating temperature is -40C to +75C. The LED light system or engine shall consist of six LED modules each consisting of three lensed LEDs to properly disperse the light across the face of the sign. An internal on/off switch shall be provided for maintenance.

The LED light module shall operate for a minimum of 50,000 hour life with no more than 30 percent lumen depreciation. The LED module shall be Reduction of Hazardous Substances (ROHS) compliant.

The LED light module shall be attached to the case sign housing in such a manner that it will remain properly in place during maintenance. The LED light module shall pass the following tests per National Electrical Manufacturers Association (NEMA) standards:

A. Thermal Shock Test: 85/-40 degrees F (-40 degrees C) with 2-hour dwells for 5 cycles with a 2-hour presoak at -40 degrees F (-40 degrees C).

B. Salt Spray and Soak Test: The LED light module shall endure 48 hours of continuous salt spray and 240 hours of a salt-water soak.

All LED light modules shall be burned-in and certified for compliance by the manufacturer. The manufacturer's name and date of manufacture along with a Quality

Control (QC) tracking sticker shall be mounted on the inside of the LED light module. The LED light modules shall not exceed a 59 degree F (15 degree C) temperature rise under continuous operating conditions. The panel(s) shall be painted white and meet GM4901 specifications.

3.4 Operating temperature for each sign is: -40 C to +100C. The power supply unit(s) shall be 60 watts and rated for Class 2 operation, 12V direct current (DC), and be Ingress Protection (IP66) rated.

There shall be a terminal block for the incoming 120 VAC power, 60 Hz, single phase. The output of the 12V power supply shall be connected to the LED light module(s).

All wiring shall be 600V, #18 AWG, soft annealed, stranded copper wire and shall be color-coded, minimum 7-strand, unless otherwise specified. The insulation shall be 194 degrees F, type THHN thermoplastic or neoprene and so marked.

4.0 **Mechanical Construction**

4.1 The one-way housing shall be constructed of .125" thick aluminum extrusion of 6005 T-5 aluminum alloy.

4.2 All corners and seams shall be continuous TIG (Tungsten Inert Gas) welded to provide a weatherproof seal around the entire housing.

4.3 The door shall be constructed of .125" thick extruded aluminum with one side removable to gain access to sign face. (Not required for normal maintenance.) Two 3" long stainless steel hinges, .040" x 1-1/16" open, shall mount one side of the door to the housing. The other side of the door shall have two, stainless steel #3, quarter-turn link locks to tightly secure the door to the housing.

4.4 The sign face shall be constructed of .125" white translucent polycarbonate with messages printed on exterior. Messages (either symbolic or text, as needed) shall be formed with 3M ElectroCut Film #7720-12 for black sign copy and #1172 for red sign copy, or approved equal.

4.5 One-way signs shall come with one 1-1/2" steel mounting hub located on the top center for span wire mount or factory drilled for field installed rigid mount brackets for mast arm mount.

4.6 Drainage shall be provided by four 1" screened drain holes located at the four corners of the housing bottoms.

4.7 All surfaces of the sign shall be etched and primed in accordance to industry standards before receiving appropriate color coats of industrial enamel. Powder coat finishes are also available if required.