



## LED Lane Control Signals

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### Features

- Excellent day or night visibility.
- Three-color capability per unit.
- Exceptional message visibility and clarity.
- Lower operating and service cost, easy maintenance.
- Two-way housing is lightweight, economical and easy to service.

### 1.0 General Description (One-Way)

1.1 Signal shall be capable of displaying one or several messages. These messages shall be a red X, amber X, green arrow and/or amber arrows.

### 2.0 General Description (Two-Way)

2.1 Each side of a two-way Lane Control Signal shall be capable of displaying any of the combinations listed in Section 1.1. 2.2 Two-way Signals shall be serviceable from either of the two sides.

### 3.0 Functional Requirements

3.1 All messages shall be clearly legible, attracting attention under any lighting conditions. At full intensity, the Signal will be highly visible anywhere within a 15-degree cone centered about the optic axis. 3.2 The signal shall consist of: a. Weatherproof housing and door. b. LED clusters. c. Transformers. 3.3 LED clusters shall form signal indications. The green shall operate at a wavelength of approximately 505 nanometers. The red will operate at wavelength of approximately 626 nanometers. The amber will operate at a wavelength of 592 nanometers. Also, signal indications shall typically provide an illumination of greater than 300 CD with half power cone of vision of approximately 15 degrees. All LED's will be operated at 20 milliamps DC. If one LED fails within a cluster, only a

portion of that cluster will be affected. 3.4 Transformers and voltage regulators shall be used to reduce the incoming 120 volts AC to 15 volts DC. The transformers shall contain Class A insulation and weatherproofing. 3.5 The signal shall be capable of continuous operation over a range in temperatures from -35F to +165F (-37C to +75C). 3.6 Power consumption shall be less than 25 watts per message. 3.7 For improved nighttime visibility, dimming may be provided as an option.

## **4.0 Mechanical Construction**

4.1 Completed Lane Control Signals shall be supplied in an aluminum housing. 4.2 One-way housings shall be constructed of extruded aluminum with a flat aluminum back welded into the housing. 4.3 Two-way housings shall be constructed of aluminum body, and a channeled aluminum framework structure inside. Housing body and inside framework shall be permanently attached to form a single unit. 4.4 All corners and seams of one or two-way housings are heli-arc welded to provide a weatherproof seal around the entire case. 4.5 Continuous full-length stainless steel hinges shall connect the housing and the extruded aluminum door. 4.6 Signals shall have #3 stainless steel ¼ turn link-locks to tightly secure the door. 4.7 Door gaskets shall be 3/16" x 1" neoprene to provide a weatherproof seal. 4.8 .125" extruded aluminum doors have one side removable to gain access to signal face. 4.9 Signal face shall be .080" aluminum or equivalent, and have the entire LED assembly mounted to it. 4.10 Each door is fitted with a sun hood of .063" extruded aluminum. Standard length is 6". 4.11 Drainage shall be provided by four drain holes at the four corners of the housing bottom. 4.12 Finish on signal housings shall be two coats of exterior signal enamel applied after surface material is acid-etched and primed with zinc-chromate primer.

## **5.0 LED Message Modules**

5.1 The LED message module shall consist of the following components: a. A rigid aluminum message panel. b. LED's as specified in Section 3.3. 5.2 The LED's shall be mounted in panel with fixing clips. 5.3 Message panel shall be colored flat black to maximize legibility when activated. 5.4 Electrical connection shall be made via barrier type terminal strip. 5.5 All fasteners and hardware shall be corrosion-resistant stainless steel.