



# 12-Inch Aluminum Signal

## General

Each traffic signal consists of a number of identical signal sections rigidly fastened together to present a continuous, pleasing appearance. Each section has a separate and complete housing. The traffic signal meets or exceeds the latest version of the Equipment Standard from the Institute of Transportation Engineers (ITE).

## Housing

The housing of each section is a one-piece corrosion-resistant aluminum alloy die-casting. Two integrally-cast hinge lugs and latch screws are cast on each side of the housing. Built upon a symmetrical concept, each housing is capable of providing either right or left-hand door openings. While the left hinge is standard, the right hinge must be specified. The top and bottom of the housing have openings to accommodate standard 1½-inch pipe brackets. Each signal section is rigidly attached, one above the other, by means of corrosion-resistant bolts and a washer attachment that allows sections to be rotated about a vertical axis. Alternate means for attaching sections together are available. The housing consists of four matching punch-out locations on the top and bottom of each section to allow sections to be bolted together with four 1½-inch and 10-32 corrosion-resistant screws.

The top and bottom openings of the signal housing have an integrally-cast Shurlock boss. The radial angular grooves of the Shurlock boss, when used with Shurlock

fittings, provide positive five-degree increment positioning of the signal head to eliminate rotation or misalignment of the signal. Each housing has cast bosses for two-, five-, or six-position terminal blocks. Each position is identified with both number and function cast on housing. Each housing has provisions for easily adding a back-plate. Hinge pins, door latching hardware, visor back-plate, and lens clip screws are high-quality stainless steel.

## Features

- Tested to ITE required wind loading on single-point attachment
- Straight sides - no protruding hinges or latches
- Stainless steel hardware
- Reversible door - left side standard, right side optional
- Aluminum or plastic reflector ring with spun ALZAK reflector
- Optional hydroformed reflector
- Provisions for two, five, or six-position terminal blocks in each housing
- Ethylene Propylene Diene Monomer (EPDM)

## Housing Door

The housing door of each section is a one-piece, corrosion-resistant, aluminum alloy die-casting. Two hinge lugs are cast on one side of the door, and two latch points are cast on the other side. The door is attached to the housing by means of two straight pins. Two "eye" bolts and wing nuts on one side of the door allow for opening and closing of the signal door without the use of tools. A gasket groove on the inside of the door accommodates a weatherproof and mildew-proof resilient gasket which, when the door is closed, seals against a raised bead on the housing, creating a positive seal. The outer face of the door has four holes, equally spaced about the circumference of the lens opening, with four screws to accommodate the signal head visor. The door has at least two index points to enable positive orientation of the lens. The door and visor overlap to prevent light escaping between the visor and door.

## Optical System

All LEDs shall be fully compliant to the ITE Vehicle Traffic Control Signal Heads (VTCSH) LED Circular Supplement specifications dated and adopted June 27, 2005. Tests of the LEDs shall include but not be limited to the luminous intensity measurements and requirements outlined in the ITE specification sections 6.4.4 through 6.4.4.4.2 (25°C and 74°C/49°C).

To ensure optimal quality of illumination, uniformity, reliability, and appearance, all ball traffic signal modules shall utilize Hi-flux LEDs rated at 1-watt or higher, as their source of illumination. The lens gasket's slotted design simplifies lens replacements and orientation in the field.

## Wiring

Each receptacle provides two leads with "Fast-on" type terminals. Wires are color coded per customer specifications.

Lamp receptacle conductors are No.18 AWG (or larger) 600V appliance wiring material, which conforms to Military Specification MIL-W-16878 D, Type-B with a vinyl nylon jacket rated 115°C.

## Terminal Block

Each complete signal face is provided with a terminal block. The terminal block is placed in the bottom section, unless otherwise specified. The terminal block for a standard three-section head is a five-position, ten-terminal, barrier-type strip. To one side of each "Fast-on" terminal strip is the attached AC common, red, yellow, and green signal section leads, leaving the opposite screw clamp terminal for field wires.

## Visors

Visors are tunnel, full-circle, or cap, and are a minimum of 9½ inches long. Visors are formed of corrosion-resistant aluminum alloy sheet. They have attaching tabs to facilitate installation.

## Painting

All interior and exterior parts of the housing, door, back-plate, and visor are pre-treated for painting in the following stages: Degrease, rinse, etch with an iron phosphate solution, rinse, final deionized water rinse, and then dry for 10 minutes at 400°F. The parts are then painted with a single coat of environmentally-safe, ultraviolet-resistant, polyester powder coating which is applied electrostatically at 90 kV and baked for 20 minutes at 400°F per ASTM D-3359, ASTM D-3363, and ASTM D-522. The signal head color is specified by the customer, except for the inside of the visor and the front side of the backplate which are painted dull black.

### Standard colors are:

- Dark Olive Green (matches Federal Standard 595b-14056)
- Yellow (matches Federal Standard 595b-13538)
- Dull Black (matches Federal Standard 595b-37038)

### Technical Data

- Dark Olive Green (matches Federal Standard 595b-14056)
- Yellow (matches Federal Standard 595b-13538)
- Black (matches Federal Standard 595b-17038)
- Dull Black (matches Federal Standard 595b-37038)

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