McCain

The Power of Ingenuity

LED Variable Message Sign

- Model 500
- NTCIP Compliant
- Lightweight
- Easy to Maintain
- User Friendly
- Remote Programming/ Communication
- Modular (1 spare fits all)

If you're looking for a variable message sign you need not look any further.

Model VMS 500L variable message sign by McCain provides 25 rows by 96 columns of 1.5" diameter pixels spaced 2.75" center to center. It sets the standard for modularity, wiring simplicity, reliability, service-ability, and performance of for freeway applications, where long viewing distances are required. Standard dot matrix character heights are 18" (3 rows), 23.5" (2 rows), and 31.75" (2 rows).

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Simple & Sturdy Construction

The frame of the housing is made of 3" wide by 6" deep welded aluminum tubing. The back of the sign is made of 1/8" sheet aluminum, which is welded to the frame. The LED modules (or panels) are supported by a precision-punched 1/8" aluminum web, which is also welded to the frame. The all-welded aluminum construction results in an very rigid, light-weight, and watertight main structure which is only 6" deep. There is no door, since there are no serviceable items in the interior of the sign.

Sign support is normally provided by 3" Z-bar that is welded to the frame at locations specified by the buyer. Anti-glare and vandal protection are normally provided by an anti-glare 3/16" thick Lexan window. This window is hinged at the top of the sign and can be maintained in the up position by gas lifters for service access to the LED modules. Louvered anti-glare materials are also available.

Interchangeable LED Modules

The display area of each sign is build up from identical LED modules (or panels), which are positioned on the supporting web to maintain a consistent pixel spacing of 2.75" center to center. Each module consists of a .090" aluminum mounting panel, 40 LED clusters (in a 5 high by 8 across format), and a driver electronics board with a 68HC11 processor. There are no other electronics inside the sign.

The electrical connection to each module is by means of a DB15 connector: 2 pins are used for power (13 Vdc, 45 mA), 2 pins for twisted pair RS-485, and 8 pins for digital addressing. The address of each module is set at the factory by jumpering pins of the connector that is part of the sign harness.

The LED modules are easily replaced in the field and are interchangeable with like modules. Each module is secured by means of four knurled captive screws, and the only electrical connection is the single DB15 connector. When a LED module is plugged in, it will automatically sense its digital address at the connector and display the correct message segment.

Bright LED Clusters

The LED clusters have a 1.5" diameter and consist of 18 ultra-bright amber LED. Power consumption is only 0.54 Watt at full brightness. To avoid glare at night, 100 levels of dimming are controlled by photo eye sensing of ambient light. The 100 levels of dimming are 0-100% full bright with night dimming of 2-3%. The LEDs are wired in 3 strings of 6. The two strings are joined at the center, so that if any LED fails in the open circuit mode, the entire cluster will only lose 17% of initial brightness.

The clusters are secured from the back by a stainless steel screw, stainless steel lock washer, and are aligned by means of a locator tab.

Custom Sign Sizes

The modular construction and digital addressing used for Model 500L can also be used to create a wide range of custom sign sizes up to 25’ x 25’ (H x W). Custom sizes are fully supported by McCain’s SCL Sign Control Language, which allows the number of rows and columns in the sign to be specified.

For smaller signs suitable for highways, please see Models 510L and 520L, which utilizes 1" diameter LED clusters spaced at 1.75" centers.

Complete Sign Systems

McCain’s LED VMS signs are normally sold as part of turnkey sign systems which include an SCU386 Sign Control Unit, all necessary sign control and network communications software, a Model 336 traffic cabinet, and a DC power source for the sign and SCU386.

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