



# Full Matrix LED Variable Message Sign

Dynamic Display Technology

## Detailed Information for Road Users

Today's traffic situation calls for dynamic traffic management systems to optimally guide the constantly increasing volume of traffic on existing traffic routes. Road users need adequate and realtime information about the current traffic situation, possible alternative routes or public transport. This requires high-performance traffic guidance systems with flexible information displays. For this purpose, the Signalbau Huber Group provides a freely programmable Full Matrix LED Variable Message Sign.

The Full Matrix LED Variable Message Sign permits the display of all types of information in all fields of traffic signaling: on freeways, for tunnel signaling, at toll-booths as well as for traffic guidance in metropolitan areas.

The Full Matrix LED Variable Message Sign from Signalbau Huber uses high-quality extra bright LEDs. They facilitate the prompt and explicit communication of any information to the road users. This information can be in the form of a current road sign or in terms of alphanumerical characters and pictograms. Even the combination of images and text as well as an automatic sequence of different display data is possible. The variety of display options permits the operator to inform the road users in detail about congestions, alternative routes or public transport.

The system can be characterized by its high flexibility as well as by its low energy consumption and its easy maintenance. In contrast to conventional display systems the freely programmable Full Matrix LED Variable Message Sign from Signalbau Huber comprises considerably more display options and permits an optimal reaction to constantly changing traffic conditions.

## System Structure Full Matrix LED Variable Message Sign

The Signalbau Huber Variable Message Sign has a modular design and thus facilitates the realization of different customer requirements. Several modules can be arbitrarily combined to the requested size of the display unit.

According to the complexity of the display content the customer can also select four different matrix options that vary in their pixel space (20 mm, 23 mm, 32 mm, 40 mm).

There is the option of a single-color or a full-color display in accordance with the requirements of the display content. The full-color Variable Message Sign uses three colors per pixel (red, green and blue) whereas each color can be displayed in different grades of lightness. This enables the color-fast visualization of all road signs and additionally the display of any information.

A specially designed lens in front of every single LED pixel avoids reflections, color distortions as well as phantom light due to solar radiation.



### Automatic Adaptation of Display Brightness

The dynamic Full Matrix LED Variable Message Sign from Signalbau Huber disposes of an automatic brightness adaptation in order to provide optimal display results in every field of application. The display brightness can be adjusted in direct relation to the current ambient light. The adjustment can be performed in 8 or 16 non-linear steps. The user can choose between automatic and manual adaptation.

### Pixel-by-Pixel Monitoring

In order to ensure the full efficiency of the display unit at all times the Signalbau Huber Variable Message Sign provides for all pixels a realtime check of the operating state of each LED. The monitoring unit is connected to every single pixel driver to determine the operating state fast and accurately. The microprocessor compares a sent signal pixel by pixel with the corresponding feedback. The results are transmitted to the host computer and the user immediately sees every possible display fault.

### Easy Operation

The host computer permits online editing, download as well as archiving of images or texts for the Variable Message Sign. A programmable logic controller (PLC) with keyboard or a standard PC can serve as host computer. As the Variable Message Sign complies with the German Technical Terms of Supply for Route Stations (TLS) it can be easily integrated into a traffic control network.

The display content as well as the display brightness can be adjusted via digital displays and buttons on the controller. This also enables self tests and a simple, uncomplicated maintenance.



## Technical Specifications

### Modules

The Full Matrix LED Variable Message Sign from Signalbau Huber comprises several matrix modules. A module consists of a board with 64 pixels each (8 lines and 8 columns). This facilitates the configuration of various display units for different requirements.

The LED pixel space, i.e. the pixel distance in line and column (line space = column space) can be selected according to customer requirements:

- 20 mm (according to DIN EN 12966)
- 23 mm
- 32 mm
- 40 mm

### Display

- Viewing Angle: ± 15° horizontally and vertically
- Brightness: according to DIN EN 12966 class L3
- Brightness Adaptation: 8 or 16 non-linear steps
- Display Colors: red, green, blue, yellow, white (single color) as well as RGB color composition
- LED Durability: > 70,000 hours
- Flash Memory: minimum 64 images (upgrade according to customer specifications)

### Working Environment

- Operating Temperature: -35°C to +70°C
- Relative Humidity: up to 95 %
- Power Supply: AC 230V (-15%...+10%) 50Hz ±5% (optional other)
- Protection Class: IP65
- Communication Interface: RS 485 and RS 232



## Signalbau Huber Company Profile

For more than 50 years, Signalbau Huber has been operating in the field of traffic control and traffic guidance. We develop and implement innovative traffic management systems based on the long-time know-how of experienced and highly qualified employees. Our diversified product range enables us to provide the optimal solution for every traffic-technological requirement.

Signalbau Huber is operating internationally and is represented in various countries.

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*Traffic in motion* 

 **Signalbau Huber**