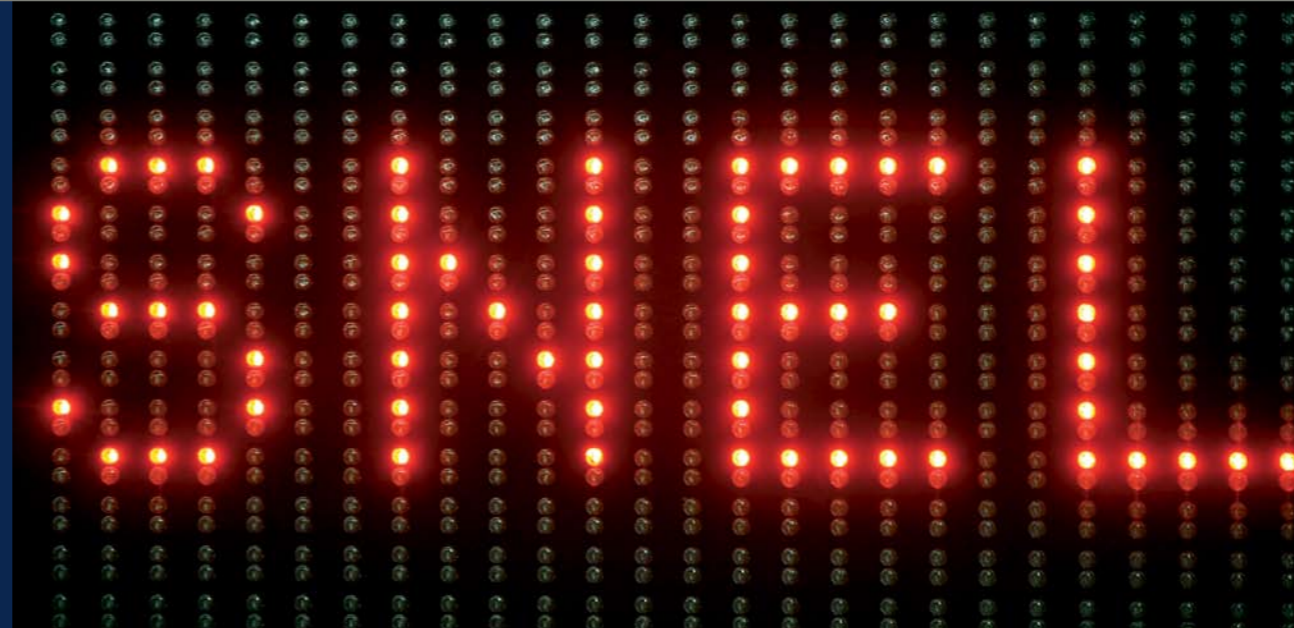


LED Matrix Speed Display

- EN 12966-1 certified for the most stringent:
 - optical requirements
 - mechanical requirements
 - environmental requirements
- Speed Measure range with in 0-255 km/h with 3% accuracy
- Two Radar Detectors
- Vehicle Classification in 5 class



Traffic Management Systems // Your reliable partner.

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Quality System According to
EN ISO 9001:2000
Certificate Registration No. 04 100 20021575

Member of:



Telefon-Gradnja

Traffic Management Systems
Your reliable partner.

> LED Matrix Speed Display:

Speed awareness has proven to be effective in reducing driver speed in many areas where these systems have been placed including school zones, residential neighborhoods, as well as random police selected locations. Telefon-Gradnja has developed speed awareness systems that can be manufactured to your specifications, which are reliable, and combine most advanced technology of Telefon-Gradnja's LED Displays, speed measurement and vehicle classification technology.

Speed Displays are radar-activated signs that dynamically display approaching vehicle speeds while in the same time count and classify passed vehicles in 5 classes. Speed Display comprises two CE marked radar speed detectors:

- one, firing frontally, used for speed detection of incoming vehicles at a distance of up to 250m
- other, firing laterally, used for counting, speed detection and classification of each passed vehicle

Gathered information is continuously stored in non-volatile memory inside Speed Display. Memory is sufficient for storing more than 100 000 measurements.

Information (both current and historical) can be obtained through two interfaces, using common web browser:

- GSM/GPRS modem
- Bluetooth interface

Incoming vehicle speed can be displayed in user defined colour, both steady and blinking. Multiple thresholds for blinking and change of color are adjustable. Blinking frequency is also adjustable. Refresh rate of the displayed speed can be adjusted in intervals ranging from 200ms to 5s. Traffic safety and measurement is now available through Telefon-Gradnja's LED Matrix Speed Display!

Basic Features:

- > Multiple Communication Interfaces
- > Battery, solar or network power feeding
- > Web based graphical user interface
- > FTP downloadable counting & classification data
- > Ethernet service port
- > EMC immunity and high mechanical protection
- > Modular design, ability to combine various dimensions, color combinations and pixel pitch as per specific requirement
- > Vehicle Detection & Classification
 - Speed measurement range within 5-255 km/h with 3% accuracy
 - Vehicle Speed Detection distance >250 m
 - 5 Class Vehicle Classification
 - up to 100 000 measurements in non-volatile memory (Speed, Class, Time&Date)
- > Display
 - Detected speed is displayed with user configurable True Type fonts
 - Text is displayed with smoothening (anti-aliasing)
 - Four user configurable speed thresholds, different colour and blinking options
 - Light intensity automatically adjustable continuously from 0 ... 100% in 1% steps
 - Highly recognizable text of outstanding uniformity

Main Components of LED Matrix Speed Display:

> Housing designed for outdoor exploitation:

- front panel service door
- materials adopted in accordance with EU norms (AIMg3)
- extremely durable self cleaning front panel lenses

> Intelligent Control and Drive Modules

> Integrated luxmeter

> CE marked radar speed detectors

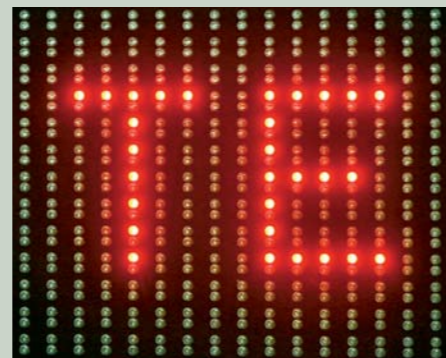
> Power supply Modules (AC-DC SMPS)

> LED's, mounted on Printed Circuits Board

> Ambient (External) Light Intensity Measuring Module

> Circuits and Equipment for Climate Control (thermostat, hydrostat, ventilation system)

European Certificate of Conformity



Technical data:

Radars:

Front firing radar:

- Detection distance range: min. 250 m
- Operating frequency and power: 24.165 GHz / 5mW
- Detected speed range: 5 - 250 km/h
- CE label

Side firing radar:

- Operating frequency and power: 24.165 GHz / 5mW
- Detected speed range: 5 - 250 km/h
- Classification based on vehicle length detection
- Calibration of classification is possible on-site
- CE label

GSM module:

- GSM/GPRS module: QUAD GSM/GPRS module**
- Quad band EGSM 850/900/1800/1900 MHz
 - Output power: Class 4 (2 W) @ 850/900 MHz
Class 1 (1 W) @ 1800/1900 MHz
 - Integrated SIM card holder
 - Baud rate: 9600 bps

Bluetooth module

Bluetooth module:

- Protocol version 2.0
- Operating frequency: 2,400 to 2,4835 GHz
- Tx power: 18 dBm (class 1, up to 100 m)

Classification according to EN12966:

LED Intensity (Luminance):	L3, L3(*), L3T
Luminance ratio:	R2-R3
Beam width:	B1-B7
Colour Class:	C2
Temperature:	T1, T2,T3 (-40 - +60)
IP protection	P2, P3 (IP55 - IP56)

LED monitoring & testing

Continuous, for each LED separately, testing of both ON and OFF state

Certified in Accordance with the following Norms:

- > Visual performance certified according to EN-12966-1 - Variable, vertical road traffic signs Part 1: Variable message signs
 - "INTRON B.V.", Netherlands CE EN 12966 Notified Body, testing reports: EC-Certificate of Conformity Certificate No. 0958-CPD-SG003/1
- > German Bundesanstalt für Strassenwesen (BASt) Regulation V4-37-2006
 - Testing report NOTIFIZIERUNGSNUMMER 0760,30th June 2006
- > Electrical features
- > Vibration tests (IEC 60068-2-34, IEC 60068-2-37)
- > Temperature requirements (Cold in accordance to IEC 60068-2-1, Dry Heat in accordance to IEC 60068-2-2, Humidity in accordance to IEC 60068-2-30, temperature range in accordance to IEC 60068-2-14)
- > Degrees of Protection provided by Enclosure in accordance to IEC 60529
- > Environmental Standards for Shock in accordance to MIL-810C
- > General Requirements - Information technology equipment - Safety in accordance with IEC 60950-1
- > EMC testing in accordance to:
 - HRN EN 55022: Radio Disturbance
 - HRN EN 61000-3-2: EMC limits for Harmonic Current Emissions
 - HRN EN 61000-4-2: Electrostatic Discharges (EDS) Immunity Tests
 - HRN EN 61000-4-3: Radiated, Radio-frequency, Electromagnetic Field Immunity Tests
 - HRN EN 61000-4-4: Electrical Fast Transients/Burst Immunity Tests
 - HRN EN 61000-4-5: Surge Immunity Tests
 - HRN EN 61000-4-6: Immunity to conducted disturbances, induced by radio-frequency fields
 - HRN EN 61000-4-11: Voltage dips, short interruptions and voltage variations immunity tests