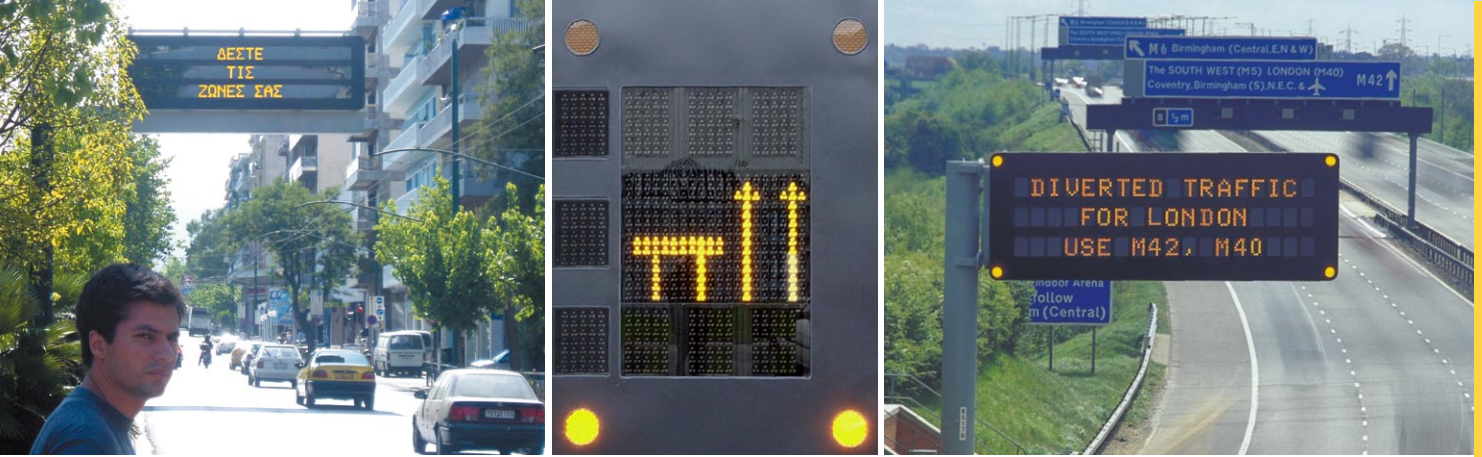


MS3 - FREE TEXT DISPLAY



Motorways and major highways across the world have fast become familiar with electronic variable message signs

Our MS3 technology allows the display of free text messages, providing road users with real-time information concerning the likes of road conditions ahead, helping to improve safety and reduce congestion.

Typically, our MS3 signs are capable of displaying 2 or 3 lines of text in a variety of character sizes, and those with a character height of 400mm are built with an incorporated graphics area, also known as an Enhanced Matrix Indicator (EMI), that is able to display advisory speeds and aspects.

Our signs are ordinarily mounted onto cantilever or gantry structures, and as standard are controlled via Highways Agency NMCS2 over RS-485, although alternative mounting arrangements, control and communication options are available.

- Flexible messaging capability
- alphanumeric, legend and symbol display
- Character size, configuration and mounting options
- RIGEL LED technology
- Performance to European specification EN 12966

Sign Type	Lines x Characters	Character Height (mm)	LEDs per Character Pixel	Pixels per Character (W x H)	Enhanced Matrix Indicator Display Area (Pixels W x H)	External width x height (mm)	Approx. Weight (Kg)	Max power consumption (Watts)
MS	2 x 12	320	3	7 x 5	N/A	4410 x 1755	420	1000
	2 x 16	400	3	7 x 5	14 x 20 ^[1]	7200 x 2190	715	1500
MS3	3 x 18	400	3	7 x 5	14 x 20 ^[2]	8000 x 2600	945	1900

^[1] Lines x Characters reduces to 2 x 12 when the Enhanced Matrix Indicator is in use

^[2] Lines x Characters reduces to 3 x 12 when the Enhanced Matrix Indicator is in use

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GENERAL TECHNICAL SPECIFICATIONS

Text	Alphanumeric and punctuation
Graphics	Standard legends and symbols
LED display angle	±5° horizontal, 5° down
Colour	Amber 590 nm
Luminous intensity	> 7,440 cd/m2
Brightness levels	16
Environment class	IPX6
Lanterns	200 mm red/amber
Conformity	EN 12966 and TR2516B
Enclosure	Fully welded Aluminium
Windows	6mm polycarbonate, UV protected, anti-scratch coating
Dimensions	See table overleaf
Weight	See table overleaf
Communication	RS485 standard, others available
Communications protocol	Highways Agency NMCS2, NTC/IP and others
Temperature range	-20°C to +60°C
Operating voltage	230V(+15%-20%) 50/60Hz
Maximum power	See table overleaf

FEATURES AND BENEFITS

- 2-line signs offer 12 characters of 320mm text, or 16 characters at 400mm
- 3-line signs offer 18 characters at 400mm
- Aluminium enclosure, fully welded with internal strength and support members
- Signs mount on cantilevered posts
- 320mm sign designed for overhead gantry mounting
- All signs use RIGEL high intensity LED technology with exceptionally long life MTBF > 45,000 hours
- Dual colour upper and lower flashing red and amber lanterns also use long life RIGEL LEDs
- Environmental protection to IPX6
- Operating temperature range -20°C to +60°C
- Window material: 6mm anti-reflective, UV-protected, polycarbonate with anti-scratch coating
- Optical performance conforming to European Standard EN 12966
- Visibility of 400mm characters > 300m
- Contrast ratio better than 10:1
- Brightness controlled by ambient light over 16 levels
- Display angle ±5° horizontal and vertical
- Communications: NMCS2 Protocol over RS485 bus, with GSM, radio, TCP-IP, modem, or Internet options possible
- Custom designs: We are able to offer you a fully designed and integrated product, from product conception to on-site installation and testing. We are happy to work with you to develop a specification to meet your requirements.



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