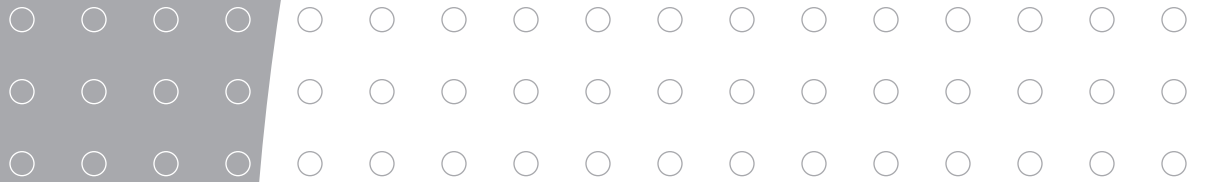




TELEGRA

Smart Traffic Management®



LED INNER ILLUMINATED SIGNS

« SIGNS OF INTELLIGENCE® »



LED Inner Illuminated Signs

CONSUME LESS ENERGY.

COMMUNICATE MORE EFFECTIVELY.

Telegra's LED Inner Illuminated Signs combine the newest technologies with innovative design to deliver road-tested, highly durable products for marking paths, alternate routes, entrances, exits and emergency services for motorists. With a life expectancy of more than 100,000 working hours, these long-lasting signs offer low power consumption and require virtually no maintenance. Ideal for traffic tunnels or enclosed roadways, Telegra's Inner Illuminated Signs are a robust, highly visible and failsafe solution for delivering critical communications – continuously.

As one of the leaders in the intelligent transportation system (ITS) industry, Telegra offers the most advanced LED technology available today. Our Inner Illuminated Signs display messages that are crisp, clear and highly readable, and provide you with a wide range of benefits, including:

- » Virtually no maintenance required
- » The lowest energy consumption on the market
- » Precise power adjustment capabilities
- » Modular design, making it possible to combine various dimensions and shapes
- » Highly recognizable symbols with outstanding uniformity

- » Greater longevity due to low LED drive current
- » Superior level of mechanical protection
- » The ability to function *anywhere*



With more than 20 years of experience and thousands of installations worldwide, Telegra's Inner Illuminated Signs are the cost-efficient, compact solutions you've been looking for – and motorists need.

LEADERSHIP IN LEDS

Engineered with the latest generation of LEDs for bright, back-lit symbols and messages, Telegra's Inner Illuminated Signs are an indispensable traffic management tool. You can always install our signs with confidence because the design and materials conform to international standards for tunnel safety. Other industry-leading features include:

- » Intelligent Power Supply Module to control and monitor energy consumption
- » LEDs mounted on printed circuit boards with controlled drive current
- » Innovative design and proven reliability

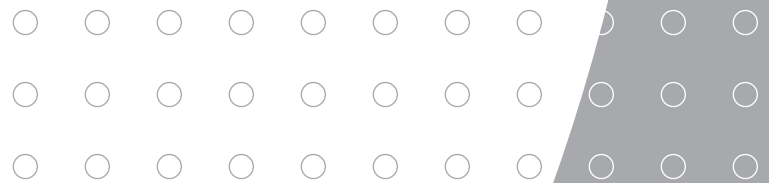
SEE THE LIGHT INSIDE THE TUNNEL

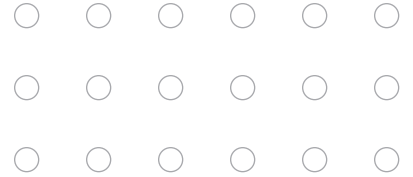
A weather-resistant cabinet contains the crucial components of Telegra's LED Inner Illuminated Signs. Like all our products, these signs are designed exclusively for the ITS industry and are constructed with a custom housing created specifically for tunnel conditions. Additional component features are:





- » Durable, coated aluminum or stainless steel sign housing resistant to corrosive elements
- » Front panel consisting of fireproof glass, acrylic or self-extinguishing polycarbonate
- » DIP switch for adjustable power consumption and optical output
- » Adjustable, precise power consumption tailored for UPS powered systems





CERTIFICATIONS

Telegra's LED Inner Illuminated products meet and often exceed all international standards for the most stringent optical, mechanical and environmental requirements. Our products are UL and CUL listed, and approved for EN 12966, TÜV, CE, RoHS and ISO 9001:2000 standards. Telegra products also comply with:

- » UL and ITE requirements
- » ANSI, IEEE, AASHTO, and AWS certification criteria
- » IAC6008-2-34 and EC60068-2-37
- » IEC60950-1 safety standard
- » IEC60529 standard for enclosure protection
- » EN 50293:2000 standard for electromagnetic interference immunity level
- » EN 12899-1 standards for mean luminance, chromacity, luminance factor and retro reflection
- » EN 12899-1 standards for fixed, vertical road traffic signs
- » HD 384.4 requirements for electrical installations
- » HD 638 standard for shock treatment
- » IEC 60950-1 information technology equipment general requirements



American Welding Association | ISO 9001:2000 Certification

Telegra is a member of AAAE, AASHTO, ATSSA, IBTTA, IEEE, IMSA, IRF, ITE, ITS America, NEMA, TEAM Florida, TEAM Texas and TRB

PRODUCT SPECIFICATIONS

Cabinet Welding	Welding process and fabrication of aluminum cabinets in accordance with ISO EN 131 (GMAW process) and ISO EN 141 (GTAW process); our professionals are certified according to EN 287, compliant to AWS certification criteria
Electromagnetic Interference	LED signs meet electromagnetic interference immunity level defined in EN 50293:2000 standard: EN 55022: terminal disturbance voltage, class: B EN 55022: radiated emissions, class: B EN 55014-1: terminal disturbance voltage, discontinuous, clicks EN 61000-3-2: limits for harmonic current emissions, class: A EN 61000-3-3: limitation and voltage fluctuations and flicker low voltage supply system EN 61000-4-2: immunity to electrostatic discharge; failure criteria: B EN 61000-4-3: immunity to radiated electromagnetic fields; failure criteria: A EN 61000-4-4: immunity to fast transients (burst); failure criteria: B EN 61000-4-5: immunity to surges; failure criteria: B EN 61000-4-6: immunity to conducted high frequency interference; failure criteria: A EN 61000-4-11: immunity to voltage drops, short interruptions and voltage variations; HD 638 point 4.5
Front Panel	Fireproof glass, self-extinguishing polycarbonate or Plexiglas
Housing	Coated aluminum or stainless steel
IP	IP 65, NEMA type 4
LED Lifetime	More than 100,000 hours (LED ageing is minimized due to low drive current)
Manufacturer Experience	Over 20 years
Mean Luminance	L3 class according to EN 12899-1
Operating Temperature Range	-40° to +212° F (5 minutes at 300° F)
Power Requirements	120-240 VAC, 50-60 Hz; low power consumption
Power Supplies	DC 10-16 V; over-voltage and over-current protected; 40 W maximum power consumption
Text Area Display	Highly recognizable symbols with outstanding uniformity
Transient Protection	Varistors, fuses, opto-couplers, suppressors, gas dischargers
Uniformity	U1 class according to EN 12899-1
Warranty	Two years on products and services

