

Light Bar Message Center



A METEK Dixson's Light Bar Message Center (LMC) is part of a modular system that can satisfy the instrumentation requirements for all vehicle platforms. The LMC uses the same field-proven Next Generation Instrumentation (NGI) technology that has made AMETEK a world leader in vehicular instrumentation.

The LMC receives messages from the vehicle data bus and signals from discrete switches and analog sensors throughout the vehicle. The LMC then processes the data to drive telltales and gauge pointers, display vehicle information, or broadcast messages on the vehicle data bus.

Features

- SAE J1587/1939 (CAN) data bus communication
- Automatic self-test on each power-up
- Eleven switched inputs, seven analog inputs
- Two switched outputs and an audible warning device
- Push-button-selectable displays and test functions
- Selectable primary display screens
- Backlight control for LCD display and NGI gauges
- 12- or 24-volt operation

The amber-backlit LCD contains two 20-character lines. Two switches with tactile feedback select and display trip information, fuel usage and service data, plus a number of diagnostic screens. The LMC also displays fault codes and warning messages in real time.

The LMC can drive up to 12 NGI gauges and contains 18 telltales, each illuminated by red, green, blue, amber, or white LEDs. The LMC and all attached NGI gauges can be tested using the switches.

The LMC meets all SAE J1455 and J1113 requirements for vehicular instrumentation and was designed to withstand harsh conditions typical of off-road environments.

Applications

- Heavy trucks
- Buses, coaches, and recreational vehicles
- Forklifts, wheel loaders, and skid steers
- Cranes, road-building, and construction equipment
- Earth-moving, and mining vehicles
- Utility and emergency vehicles
- Farm and agricultural vehicles
- Stationary engine instrumentation

Specifications

Physical Characteristics

Housing and bezel material	Black polycarbonate ABS plastic
Connectors	
Vehicle input	One 30-pin polarized, locking
NGI bus	Two 6-pin polarized, locking

Environmental Characteristics

Temperature, humidity, shock, vibration, and salt spray	Meets or exceeds SAE#J1455-1994-08
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Electrical Characteristics

Operating limits	9 to 32 VDC, reverse polarity protected
Transient protection	Meets or exceeds SAE #J1455-1994-08

Electrical Inputs

Battery	9 to 32 volts
Input current	0.5 to 2 amperes
Backlighting	Battery, variable through dimmer control
Ignition	Battery, through ignition switch
Analog	7 resistive or voltage
Switch-to-Battery	6
Switch-to-ground	5
Data bus	SAE J1587 or J1939 (CAN)

Electrical Outputs

NGI bus	Two NGI bus connectors
Switched	Two switch-to-ground, 500 mA each

Telltails

Number of symbols	18, dead-fronted
Symbol compliance standards	ISO 7000, ISO 2575, ANSI S304.7, or customer-specified design
Symbol size	Approximately 0.4 inch square
Available symbol colors	Red, blue, green, amber, white

Message Center Display Characteristics

Type	Positive mode, liquid crystal dot matrix
Aperture size (inches)	4.00W × 0.7H
Backlight color	Amber (590 nm)
Number of lines; characters per line	2; 20
Character type	5 × 7 dot matrix

Display Functions

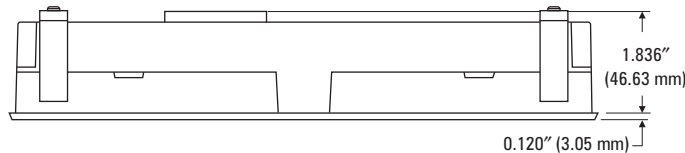
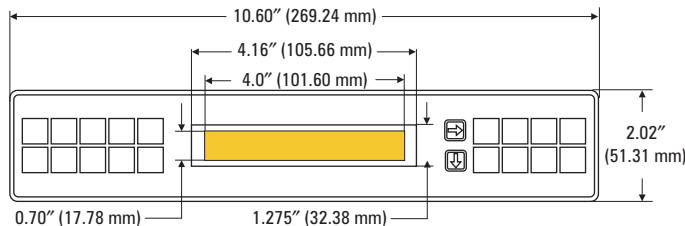
Odometer	99,999,999 displayable miles or kilometers (non-resettable)
Trip odometers	Two resettable distance and time displays
Engine hours	99,999,999 displayable hours (non-resettable)
Fuel Economy	Distance to empty, average consumption rate
Digital gauge displays	Speed, RPM, voltage, temperatures, pressures
Service reminder	Distance to next service, driver-programmable
Warning messages and fault codes	
User-initiated diagnostics	Auto-test, manual test, fault code display
Compass (option)	Heading, 8-point
Set-Up (with safety lockout)	English or metric units; customizable displays

Diagnostic Capabilities

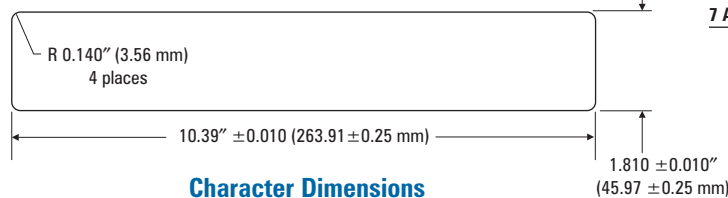
Power-on initialization	Telltails, LCD, and connected NGI gauges
On-going diagnostics	Built-in System Control Unit
User-initiated diagnostics	Telltails, LCD, and connected NGI gauges

Installation Data

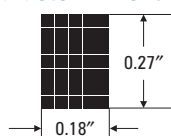
Light Bar Dimensions



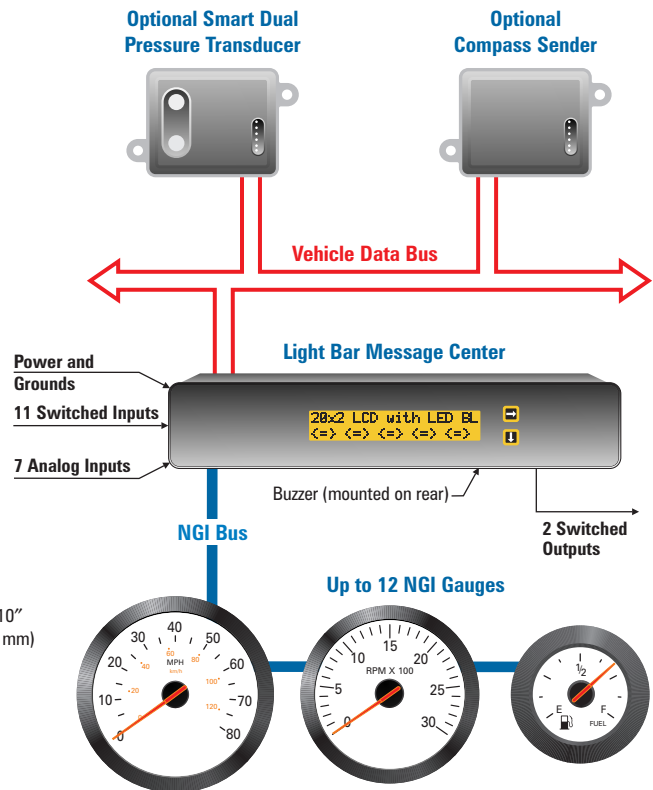
Panel Cutout Dimensions



Character Dimensions



Functional Block Diagram



DIXSON 287 27 Road, Grand Junction, CO 81503
 Phone: (970) 242-8863 • FAX: (970) 245-6267
 Internet: www.ametek.com/dixson
 E-mail: info.dixson@ametek.com

071-40343A
 200608