



LRS

SINGLE CUT MAGNETORESISTIVE VEHICLE DETECTOR

The Loop Replacement System (LRS) features advanced 3-axis, magnetoresistive sensing technology. The sensor measures Earth's magnetic field and responds to disturbances caused by ferrous objects. Three sensing elements provide magnetic field measurement in the X, Y and Z axes, improving detection sensitivity. The LRS's exciting new technology provides a high-sensitivity, compact, and cost-effective solution for reliable vehicle detection.

The small size of the LRS allows for easy installation in pavement (below grade) with a single saw cut. It provides cost savings on labor and materials when compared to the multiple cuts and corner reliefs required for the installation of inductive loops. The rugged sensor is also suitable for above grade installations, making it ideal for use in confined areas or hidden in non-ferrous architectural components for security purposes.

- Three-dimensional presence detection - select X, Y and/or Z axis independently
- Control module for programming and relay contact output
- Stand-alone sensor stores background and settings in a non-volatile memory
- Single cut, low-cost installation
- ULTRAMETER™ sensitivity display for easy set-up
- Fast response for high-speed detection
- Logic Interface available for extended range, directional logic and more
- DETECT-ON-STOP™ (DOS®) feature will allow detection only when a vehicle has come to a complete stop near the sensor. This EMX exclusive technology ignores cross traffic in tight spaces.

LRS



EMX Industries, Inc.

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Applications

- Automatic gates and doors
- Drive thru windows
- Car washes
- Parking and traffic monitoring
- Loading docks

Sensitive Area vs. Sensitivity Adjustment

Area (ft.)	Height at the center (ft.)	Sensitivity (adjustment setting)
1x1	1	2
2x2	2	3
3x3	3	4
4x4	4	6
5x5	5	7



LRS-C1



LRS-DB-XX



LRS-FP-XX



LRS-L

Technical Data

Sensing Technology

ULTRAMETER™ Display

Axis Sensitivity

Environmental Tracking

Local Magnetic Field Nulling

Detection Range

Power/Fault Indicator

Detect Indicator

Pulse/Presence

Detect-On-Stop™

Outputs

Output Ratings

Connection

Operating Environment

Housing

Environmental Rating

Power Supply

Current Draw

Supply Protection Circuitry

Dimensions

Weight

Control Unit

Control Unit & Sensor

Sensor

3-axis magnetoresistive

10 levels of sensitivity: 0-9

512 counts/gauss (typical)

Automatic compensation

Averages local field signature in any sensor orientation

5 ft. (1.5m)

Green LED

Red LED

Allows the relay/NPN output to send either a pulse output or have constant presence

Requires vehicle to stop for a minimum of 1 second (1-2s typical)

SPDT relay/NPN (open collector)

NPN (open collector)

Relay: 1A @ 24VDC...120VAC NPN: 50 mA (max)

50 mA

10 position screw terminal

5 conductor direct burial

-40° C...82° C (-40° F...180° F)
0...95% relative humidity

ABS

DB: PVC
FP: Polyamide

IP30

IP69K

12-30 VDC and 24 VAC

12-30 VDC

40 mA max

10 mA max

Reverse polarity and fuse protected

76mm (3.0") x 22mm(0.9") x 70mm(2.75")

DB:102mm (4.0") x 27mm (1.0")
FP: 108mm (4.3") x 22mm (0.9") x 9mm (0.3")

68g (0.15 lbs.)

DB: 43g (0.09 lbs.)
FP: 27g (0.06 lbs.)

Ordering Information

- LRS-C1 Control Unit
- LRS-DB-50 Direct Burial Sensor, Probe, 50'
- LRS-DB-100 Direct Burial Sensor, Probe, 100'
- LRS-FP-50 Direct Burial Sensor, Flat Pack, 50'
- LRS-FP-100 Direct Burial Sensor, Flat Pack, 100'
- LRS-L Logic Interface (optional accessory), includes black 11 pin socket base DIN rail mount

WARRANTY EMX INC. the product described herein for a period of 2 years under normal use and service from the date of sale to our customer. The product will be free from defects in material and workmanship. This warranty does not cover ordinary wear and tear, abuse, misuse, overloading, altered products, or damage caused by the purchaser from incorrect connections, or lightning damage. There is no warranty of merchantability. There are no warranties expressed, implied or any affirmation of fact or representation which extend beyond the description set forth herein. EMX Inc. sole responsibility and liability, and purchaser's exclusive remedy shall be limited to the repair or replacement at EMX's option of a part or parts not so conforming to the warranty. In no event shall EMX Inc. be liable for damages of any nature, including incidental or consequential damages, including but, not limited to any damages resulting from non-conformity defect in material or workmanship. Rev 1.0 08/04/2020



LRS-LC

LOGIC CONTROLLER

Applications

The LRS-LC Logic Interface works with LRS-DB Direct Burial or LRS-FP Flat Pack magnetoresistive sensors. The Logic Controller expands the functionality of the sensors by providing additional features and application specific logic operations to meet the needs of more demanding installations.

The Logic Controller allows one or two sensors to be connected and provides 6 logic functions and 2 separate relay outputs. Once the sensor(s) has been programmed using the LRS-C1 Control Unit, the sensor(s) store the settings and operate independent of the Control Unit and can be connected to the Logic Controller.

The LRS sensor provides up to a 5ft. sensing range in all directions. The LRS-LC Logic Controller allows 2 sensors to be connected with one output to extend the detection area up to 20ft. Also, A/B directional logic can be selected with an output for each direction of travel as a vehicle passes over two sensors.

The status LEDs and durable housing with a standard 11-pin plug-in socket makes installation quick and easy.

LRS-LC



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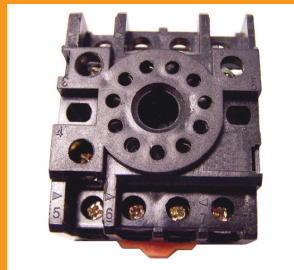
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LOGIC FUNCTIONS

- Two relay operation
- A/B directional logic
- Pulse on entry
- Pulse on exit
- Double relay
- Relay 1 only



LRS-LC



LD-11B

Technical Data

Power indicator	Green LED
Detect indicator	2 Red LEDs
Configuration selector	10 position rotary switch
Outputs	Relay 1: SPDT (form C) Relay 2: SPST (form A)
Output ratings	1A @ 24 VDC/120 VAC
Operating environment	-40° C...82° C (-40° F...180° F) 0...95% relative humidity
Housing material	ABS
Enclosure	IP30
Power	12-30 VDC and 24 VAC
Operating current (standby/detect)	One sensor connected: 22/35mA Two sensors connected: 33/60mA
Supply protection circuitry	Reverse polarity and fuse protected
Dimensions	73mm (2.9") x 38mm (1.2") x 78mm (3.1")
Weight	0.25 lbs. (113 g)
Connector	11 pin male connector (JEDEC B11-88)

Ordering Information

- LRS-LC Logic Interface, includes black 11 pin socket base DIN rail mount

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