MiniLoop

Single-channel inductive loop detector

Product overview



The MiniLoop detects vehicles passing over an inductive loop installed in the road surface and switches an output when a vehicle is detected. Applications include safety loops for gates and barriers, card dispenser arming, entry and exit loops, and vehicle counting. The MiniLoop is a compatible replacement for most single-channel detectors and is easy to set up.

Features

Selectable sensitivity. Four switch settings determine the minimum change in inductance needed to trigger detection.

Selectable frequency. Frequency depends on loop inductance and the switch setting. Turning the frequency switch on lowers the frequency. Adjust frequency to reduce crosstalk between adjacent loops.

Sensitivity boost (ASB). Sets the undetect level to maximum sensitivity to help maintain detection of high-bed vehicles.

Permanent presence. Maintains detection when a vehicle remains parked over the loop for an extended period.

Relay modes. Select pulse or presence output. Pulse mode can trigger when a vehicle enters or leaves the loop. Presence mode can be set to fail-safe or fail-secure.

Selectable pulse time. Choose a 1-second or 0.2-second relay pulse.

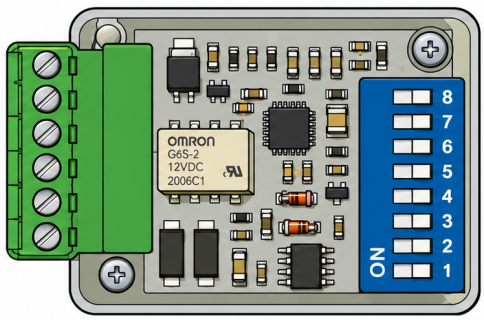
LED indicators

Power (red). Lights when power is present.

Detect (blue). Lights when a vehicle is over the loop.

Loop tuning. The power and detect LEDs flash rapidly in alternation.

Loop fault. The power and detect LEDs flash slowly in alternation.



MiniLoop

Switch settings, relay operation and wiring

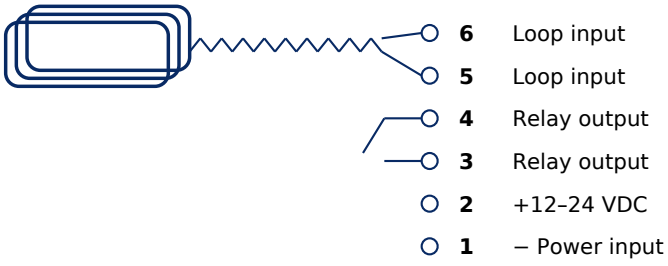
MiniLoop switch settings

Switch	Function	ON	OFF
8	Frequency	Low	High
6, 7	Sensitivity 1%	6 and 7	—
6, 7	Sensitivity 0.5%	6	7
6, 7	Sensitivity 0.1%	7	6
6, 7	Sensitivity 0.02%	—	6 and 7
5	ASB	On	Off
4	Permanent presence	On	Off
3	Relay mode	Pulse	Presence
2	Pulse mode (SW3 ON)	Undetect	Detect
2	Presence mode (SW3 OFF)	Fail-safe	Fail-secure
1	Pulse time	1 second	0.2 second

Relay functionality

Relay mode	SW2	Vehicle present	No vehicle	Loop fault	No power
Presence (SW3 OFF)	ON	Relay open (fail-safe)	Relay closed	Relay open	Relay open
Presence (SW3 OFF)	OFF	Relay closed (fail-secure)	Relay open	Relay open	Relay open
Pulse (SW3 ON)	ON	Pulse on undetect	Open	Open	Open
Pulse (SW3 ON)	OFF	Pulse on detect	Open	Open	Open

Wiring



Loop size / turns 10–20 ft: 5 turns
20–35 ft: 4 turns
35–60 ft: 3 turns
60–80 ft: 2 turns

Length-to-width ratio 1:1 to a maximum of 4:1. See the BDLoops.com size chart.

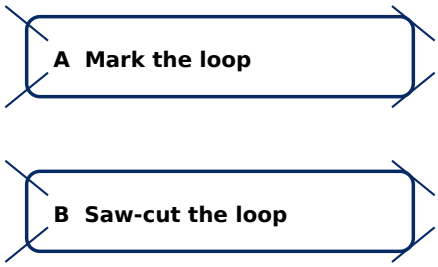
MiniLoop

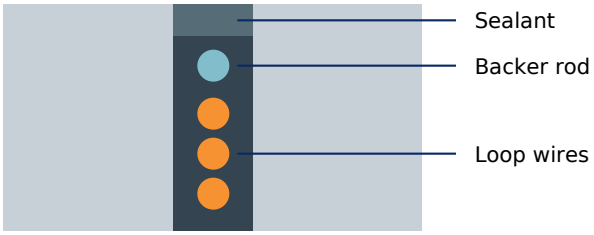
Technical specifications and loop installation

Technical specifications

Parameter	Specification
Power supply	12–24 VDC, 34 mA maximum draw
Standby draw	23 mA at 12 V
Relay	Normally open changeover contact: 0.3 A at 125 VAC or 1 A at 30 VDC
Response time	Approximately 120 ms after a vehicle enters the loop
Indicators	Power, detect, tuning and loop fault
Detector tuning range	15–1500 µH
Loop frequency	Approximately 23–130 kHz
Environmental tracking	Automatic compensation
Protection	TVS diode protection on loop and supply inputs
Connector	6-way plug, accepts wire up to 1.5 mm²
Dimensions	3/4 in H × 1-7/16 in W × 2-3/16 in D, including connector
Operating temperature	−40°C to +80°C (−40°F to 175°F as listed)
Storage temperature	−40°C to +85°C
Solar applications	34 mA maximum, 23 mA standby at 12 V

Loop installation guide





C Road surface cross-section

Mark the loop and use a rafter speed square for the corners. Saw cut using a 3/16-inch blade, up to 1/4 inch. Install 18-gauge stranded wire, backer rod and sealant as shown.

16′ Slide / vertical gate (schematic)



16′ Swing gate (schematic)



Notes

Troubleshooting

Symptom	Possible cause	Solution
POWER LED is off	No supply voltage at the input.	Check that the power supply is correctly wired to the detector.
DETECT LED flashes erratically	Poor connection in the loop or loop feeder.	Check all wiring, tighten screw terminals and check for broken wires.
DETECT LED flashes erratically	Crosstalk from an adjacent detector loop.	Change the frequency. Set the detector with the larger loop to low frequency and the detector with the smaller loop to high frequency.
DETECT LED randomly stays on	Faulty loop or feeder wiring.	Tighten screw terminals. Check for pinched or bent wires and verify the feeder wire is twisted.
DETECT LED randomly stays on	The loop moves in the ground.	Check for cracks in the road surface near the loop.
LEDs flash slowly in alternation (loop fault)	Loop inductance is too low or the loop is shorted.	Check the feeder and loop for a short circuit. If there is no short, add turns to the loop.
LEDs flash slowly in alternation (loop fault)	Loop inductance is too high or the loop is open.	Check continuity with a multimeter on the resistance range. Check for a reading below 5 Ω. If inductance is too high, reduce the number of turns.

Warranty

What is covered
Manufacturing defects and workmanship.

What is excluded
- Incorrect installation
- Overloading
- Accidents
- Acts of God
- Other external events

Who qualifies
The original purchaser, who must be an authorized dealer.

Next steps
Contact your dealer for warranty repair details.

When requesting help
Share the product or brand, describe the issue, and indicate whether you are an authorized dealer or the end consumer.

Replacement coverage
Warranty replacement can be new or refurbished at our discretion. A refurbished replacement does not reset your coverage. The replacement unit is covered for the remainder of your original purchase’s warranty or for a short period (typically 90 days), whichever is longer.
For full warranty guidelines, visit www.sgcaccess.com/warranty.

Dealer and technical support

Your dealer: _____