SXK-PD182

Vehicle Loop Detector

The SXK-PD182 detects vehicles through an inductive road loop and provides separate presence and pulse relay outputs for parking barriers, gates and access controllers.



Front controls and 11-pin plug-in connection | Product appearance shown for reference

Loop input	Relay outputs	Sensitivity	Frequency selection
1 sensing loop	Presence + pulse	8 digital steps	4 selectable levels

Product highlights

Automatic tuning at power-up and environmental tracking maintain the loop operating point. Automatic Sensitivity Boost helps retain detection under high-bed vehicles.

Select continuous presence, detection after a vehicle stops, or a pulse on entry or exit. Front LEDs and a level meter support setup and fault diagnosis.

Install the IP30 detector inside a suitable control cabinet. Confirm the supply version and terminal legend on the delivered unit.

Technical specifications

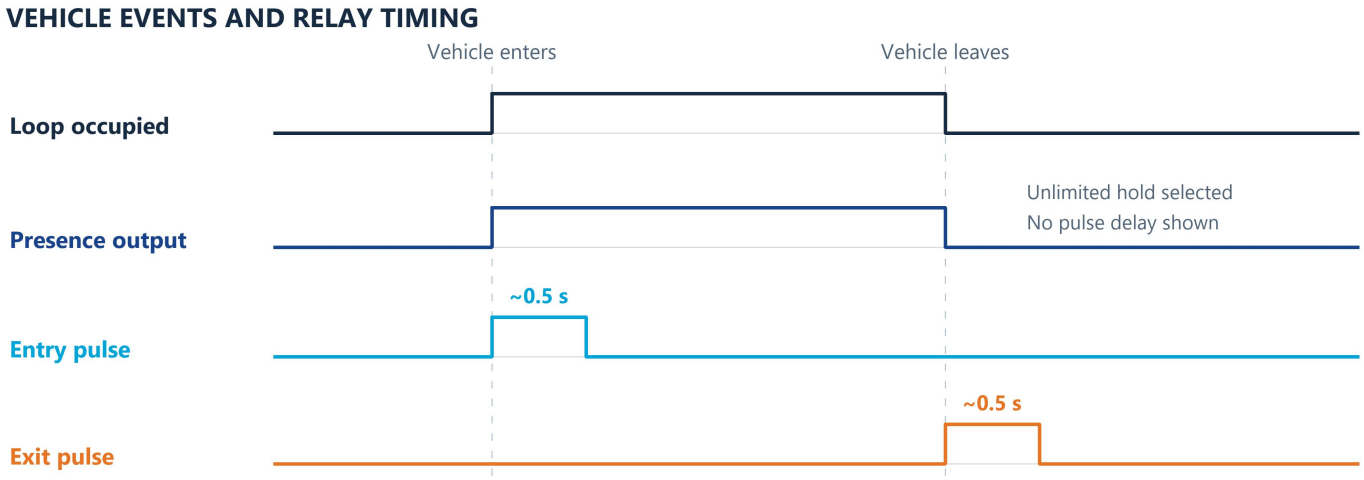
Electrical, detection and mechanical data for the SXK-PD182. Use the supply version and terminal functions marked on the delivered detector.

Parameter	Specification
Model	SXK-PD182
Detection principle	Inductive loop vehicle detection; one loop input
Loop inductance	20-2000 µH; loop Q factor >5
Operating frequency range	40-140 kHz
Frequency selection	4 levels: low, medium low, medium high and high
Sensitivity range	0.001%-0.5% inductance change; 8 digital steps
Detection response	<10 ms at low filtering and 40 kHz loop frequency
Relay outputs	Presence relay and pulse relay; SPDT contacts, Form C
Contact rating	2 A at 30 V DC or 0.5 A at 125 V AC; resistive load
Pulse duration	Approximately 0.5 s
Pulse event and delay	Vehicle entry or exit; selectable 2 s delay
Presence hold	Unlimited while occupied, or limited to 10 minutes
Detect Stop mode	Vehicle stops over loop for at least 1 s; typically 1-2 s
Automatic Sensitivity Boost	Sensitivity increases after initial vehicle detection
Signal filtering	4 selectable levels
Loop adjustment	Automatic tuning on power-up; environmental compensation
Loop protection	Surge suppressors in loop circuitry; transformer isolation
Supply version	AC 127V/220 V
Supply frequency and burden	48-62 Hz; maximum 1.4 VA
Operating environment	-40 to +82 °C; 0-95% relative humidity
Enclosure protection	IP30
Enclosure dimensions	73 x 38 x 78 mm
Unit weight	113 g
Connector	11-pin male connector; JEDEC B11-88
Front diagnostics	RUN / REG, FAIL / DIAG, DETECT / FREQ and level meter

Match the supply to the detector nameplate. The stated relay contact ratings apply to resistive loads.

Detection modes and relay behavior

Use the presence output to report loop occupancy. Use the pulse output when the controller needs a discrete event on vehicle arrival or departure.



Unlimited presence hold and no pulse delay | Entry and exit pulse traces are alternative settings | Not to scale

Mode	Output behavior	Application consideration
Presence	Relay remains active while the vehicle occupies the loop when unlimited hold is selected.	Suitable for an occupancy input on a barrier or gate controller.
Detect Stop	Presence relay activates only after the vehicle stops over the loop for at least 1 s, typically 1-2 s.	Use where an activation requires a stationary vehicle.
Entry or exit pulse	Pulse relay generates an approximately 0.5 s event at the selected entry or exit transition.	Select the event required by the connected controller.
Delayed pulse	The selected entry or exit event can be delayed by 2 s.	The delay shifts the event; it does not make the pulse 2 s long.

Automatic Sensitivity Boost

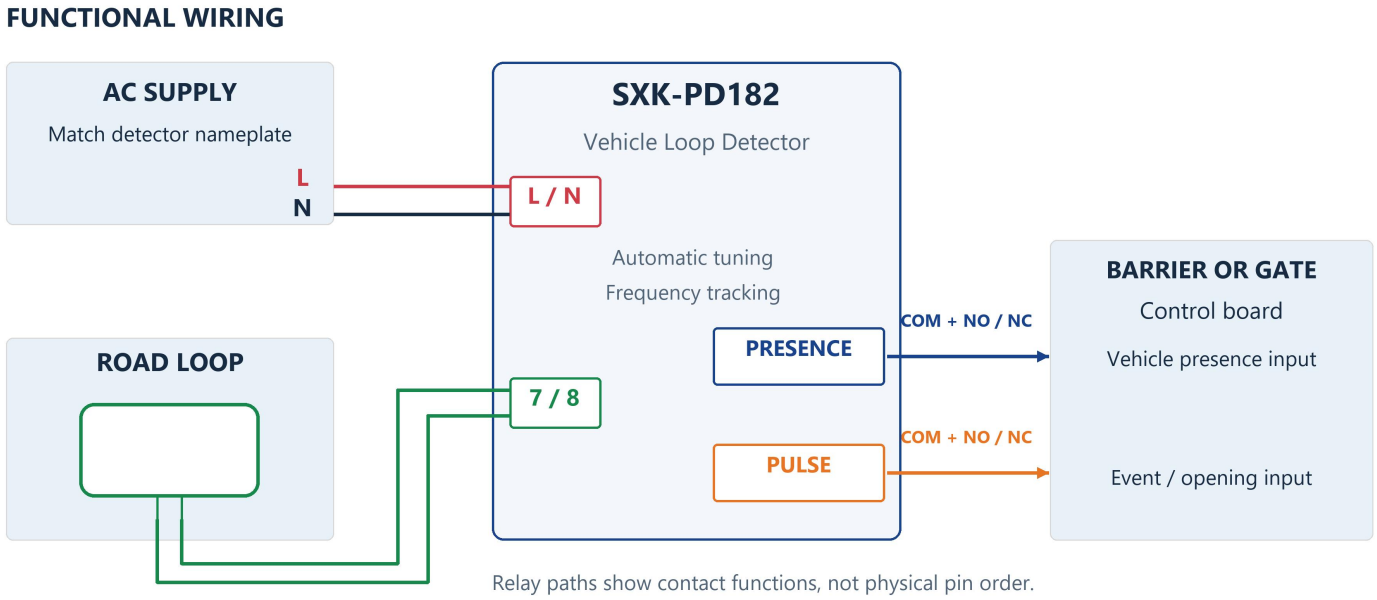
ASB increases sensitivity after the first vehicle detection to help prevent dropout under high-bed vehicles. Sensitivity returns to its normal setting after the vehicle leaves the loop.

Presence hold selection

Unlimited hold keeps the presence relay active while the loop remains occupied. Limited hold releases the presence relay after 10 minutes. Provide a secondary safety device when limited hold is used.

Wiring and controller integration

The drawing separates mains supply, the road loop and relay contacts. Choose the controller input and NO or NC contact function required by the actual installation.



Functional connections | Use the supplied unit legend for numbered relay contacts

Connection	Assignment or function	Installation reference
Power	Pins 1 and 2; L and N as marked on the unit	Match the detector supply nameplate.
Road loop	Pins 7 and 8	One inductive loop circuit.
Presence relay	COM, NO and NC contact functions	Use the contact labels on the delivered unit.
Pulse relay	COM, NO and NC contact functions	Use the contact labels on the delivered unit.
Serial and other terminals	RS232 interface; allocation depends on version	Use the version-specific connection legend.

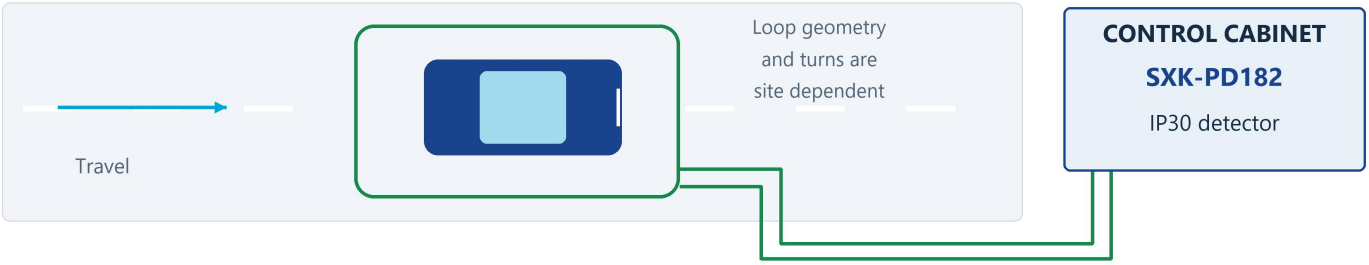
Configuration and installation

Set the operating functions using the switch legend on the supplied detector. DIP switch numbering is subject to the actual unit.

Function	Available settings	Setup guidance
Loop frequency	Low / medium low / medium high / high	Use different frequencies for adjacent loops to reduce crosstalk.
Sensitivity	8 steps, very low to maximum	Start at a middle setting, then verify the required vehicles.

Function	Available settings	Setup guidance
ASB	Off / on	Enable when detection may drop out under high-bed vehicles.
Signal filtering	4 levels	Increase filtering to reject short detections; filtering adds detection delay.
Presence hold	Unlimited / 10-minute limit	Use the limited option only with secondary safety protection.
Pulse event	Entry / exit	Match the event to the controller logic.
Pulse delay	Off / 2 s	Adds delay to the selected pulse event.
Detect Stop	Off / on	Requires the vehicle to stop for at least 1 s; typically 1-2 s.

LOOP INSTALLATION CONCEPT



Commissioning sequence

01 Check the loop. Verify the loop circuit and connections before fitting the detector. Select loop geometry and turns for the installation.

02 Tune with the loop clear. Apply the correct supply. The detector tunes automatically; allow calibration to complete.

03 Set and reset. Adjust the required functions and press RESET as directed by the unit legend. Recheck the new operating frequency.

04 Test the full vehicle path. Confirm arrival, stationary occupancy and departure with the intended vehicles. Verify the controller receives the correct contact event.

Indicators and diagnostics

Use the status LEDs and level meter to distinguish normal detection, previous loop faults and current loop conditions before adjusting sensitivity.

RUN / REG
Operation and fault memory

FAIL / DIAG
Loop fault and calibration

DETECT / FREQ
Detection and frequency count

Frequency counter example



7 flashes = 70-79 kHz

Read the yellow LED after reset. Each flash represents a 10 kHz frequency band.

Indicator or symptom	Meaning	Action
Green LED flashes quickly	Normal operation	No corrective action required.
Green LED stays on	RS232 connection state	No corrective action required for this state.
Green LED flashes slowly	Stored history of an open or shorted loop	Check the loop connections; press RESET to clear the stored indication.
Red LED flashes after reset	Recalibration in progress	Allow calibration to complete.
Red LED flashes twice	Loop frequency too low	Check loop design and reduce turns as appropriate.
Red LED flashes three times	Loop frequency too high	Check loop design and increase turns as appropriate.
Red LED flashes four times	Loop oscillator stopped	Check the loop circuit; resistance reference is 0.5-5 Ω.
Yellow LED on with vehicle	Vehicle detection event	Verify the required presence or pulse output.
Level meter unstable or remains full after departure	Possible loop, terminal, splice or adjacent-loop interference issue	Check connections and sealed splices; separate adjacent loop frequencies.
One level meter LED on after reset	Configured sensitivity indication	No corrective action required.

Loop service checks

Loop wiring check references are 0.5-5 Ω resistance and insulation above 100 MΩ from loop lead to earth. Isolate the detector before testing the loop wiring.

If the level does not reach full with a vehicle on the loop, increase sensitivity and test again. If operation is unstable, check the loop and connections before changing settings.

Specifications apply to the documented hardware configuration. Product appearance, supply version, switch layout and relay terminal assignments are subject to the supplied unit.

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Specifications are subject to change without notice. Please confirm final configuration and certifications with our sales team before ordering.