NORTECH

PRODUCT DATA

DS0305-03

PD170 Enhanced Single Channel Vehicle Detector

Product Description

Nortech Detectors are stable and robust, whether exposed to sub-zero temperatures or in a dusty, dry environment. They are easy to install and perform the function that they are designed for, year after year.

The PD170 detectors, as well as offering all of the standard features of the PD130 range, provide additional features and functionality both simplifying installation and improving performance and reliability.

The PD170 model is a single channel vehicle detector that can be used to identify the presence of vehicles by means of an inductive loop buried under the road, and can be used for almost any vehicle detection application. It includes many new features including AFS (Automatic Frequency Selection), which ensures less set up time, thereby simplifying the installation of complex multilane access control sites. It also ensures a low cost of ownership.

All detectors are CE tested and approved and come with a 5-year manufacturer's warranty.

Applications

- Parking barrier control
- Safety loop
- Arming control
- Motorised gates and doors
- Industrial control systems

DU700 Diagnostic Unit

PD170 detector setup & loop fault analysis using a smartphone

Features

- **Automatic Frequency Selection (AFS) -** the detector can automatically select the best frequency setting to minimise noise and maximise signal strength, avoiding the need to experiment with frequency settings on multiple loop installations.
- **Versatile Relay Outputs -** The presence relay will give an output for the entire duration of the vehicle's presence over the loop. The second relay will give a pulse on either detect or undetect. The pulse duration can be set to 150ms or 250ms.
- **Fail Safe or Fail Secure -** The presence relay output mode can be set to either fail safe and fail secure.
- **Selectable Permanent Presence -** The presence relay output can be set to persist for an indefinite period, eliminating premature barrier, gate or bollard closure, thereby reducing the risk of damage or injury.
- **Loop Isolation Protection -** The loop is isolated and provides protection against lightning and transient damage and allows for operation with single point to ground sensor loops. Added filtering reduces interference from external noise.
- **Adjustable Sensitivity -** Each channel has the option to select one of four sensitivity settings.
- **Diagnostics -** Comprehensive diagnostics capabilities allow for accurate diagnosis of loop and installation problems.
- **Automatic Sensitivity Boost (ASB) -** Facilitates the reliable detection of all vehicle combinations and high-bed vehicles by boosting the sensitivity to maximum on detection of a vehicle.
- **AFS Override -** It's possible to override the AFS function by selecting one of four frequency options (the frequencies are determined by the loop geometry).
- **Anti-locking -** the detector automatically recovers from events that may cause it to be stuck in the detect state. This reduces the need to carry out a manual reset following an event such as a power failure with vehicles on the loop.
- **Fast Recovery Time -** The time taken by the Nortech detectors to recover from the detection and be ready to detect the next vehicle is very fast, enabling them to respond quicker to the detection of a second vehicle, thereby reducing the possibility of tailgating, etc.
- **Power Fail Feature -** In the event of an interruption in the power supply, the detector returns to its detect/undetect state prior to the power failure, ensuring that any vehicle that was on the loop during the power failure remains detected when power is restored. It will continue to sample inductance change and verify whether the vehicle is still present. This prevents closing of the barrier, gate or bollard while a vehicle is present, thereby reducing the risk of damage or injury.

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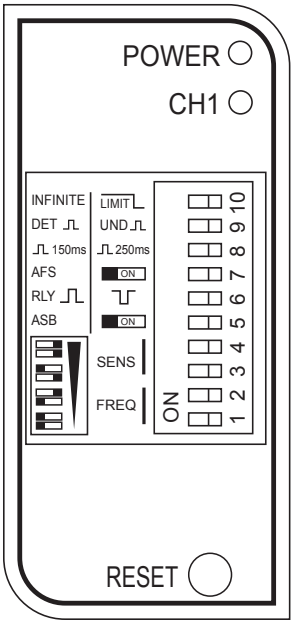
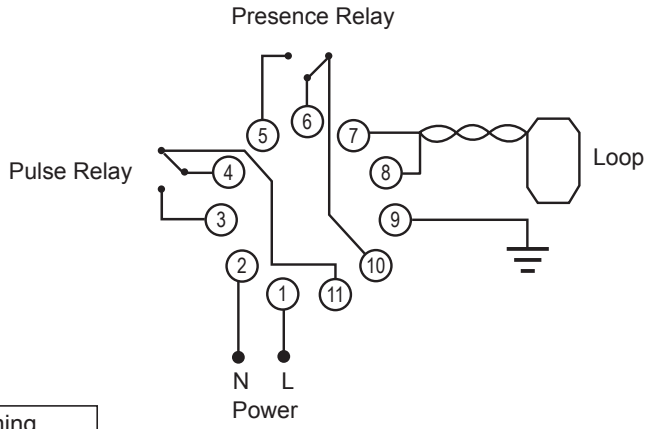
Technical Details





Presence Relay Programming				
	Fail Secure		Fail Safe	
Relay	N/O	N/C	N/O	N/C
Undetect				
Detect				
Fault				
Power Off				

Pulse Relay		
	N/O	N/C
Idle		
On Event		
Fault		
Power Off		

Specifications

Self-tuning range:	20µH to 1500µH
Sensitivity:	Four step adjustable on the front panel
	Ranging from 0.01% ΔL/L to 0.10% ΔL/L
	ASB (Automatic Sensitivity Boost) selectable
Frequency:	Automatic Frequency Select (AFS) and separate option to select from 4 frequencies
	(Frequency determined by loop geometry)
Response time:	200 – 300ms
Pulse O/P duration:	User selectable to either 150ms or 250ms
Presence method:	Permanent or Limited
Presence time:	Permanent presence (infinite)
	Limited presence - time dependant upon level of detect and environmental conditions
Drift compensation:	Incorporated automatic method of tracking changes caused by environmental conditions at a rate approximating 1% ΔL/L per minute (Presence Time)
Anti-locking:	Incorporated algorithm accommodates the influence of positive inductance changes, the anti-lock time is 4 seconds
Recovery time:	Set to 80ms allowing for the detector to return to the ambient mode in preparation for arrival of the next detection
Output config.:	Two output relays:
	Relay 1 operates as a presence relay, activated on detect
	Relay 2 operates as a pulse relay, activated on an event determined by the switches
Power fail:	Permanently on. Reset available to clear stored data
Surge protection:	Loop isolation transformer, gas discharge tubes, and Zener diode clamping on loop inputs
Power:	PD174: 12 to 24 V +/-10% (AC/DC)
	PD172: 230V +/-10% AC
Relay contact rating:	2A @30VDC, 0.25A@250VAC
Operating temp.:	-40°C to 80°C
Humidity:	Up to 90% relative humidity without condensation

Ordering Information

PD172:	Single channel, boxed, 230V AC
PD174:	Single channel, boxed, 12-24V AC/DC
DU700:	PDx7x diagnostic unit

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