Single Channel - Dual Relay Vehicle Detector

Model NP2 Features:

- 10 selectable Sensitivities
- 4 selectable Frequencies
- Wrong voltage protection
- Output Timing – Extend & Delay
- Selectable Presence times
- Selectable Pulse lengths
- Separate Power, Detect and Fault Indicators
- Automatic Sensitivity Boost
- Available in: 240VAC, 120VAC, 24VAC, 24VDC or 12VDC

The NP2 has been specifically designed and engineered for use in the Parking/Access Control industries. With standard operations including programmable pulse and presence options, fail-safe or fail-secure operation, compatibility with all radio controls, timing features and more, the NP2 covers your detection needs.

The NP2's wide inductance range allows for use with small loops sometimes found in the Parking/Access Control industries (for recommended loop sizes please consult the Northstar Loop Information Guide).

Separate indicators for power on, detect relay 1, detect relay 2 and fault provide for quick visual verification of proper operation. Loop diagnostics are easily viewed with the front panel fault indicator, differentiating between current and historical faults thus facilitating troubleshooting.

Small size and full list of features lend the NP2 to any Parking/Access Control use from simple presence detection to configured pulse/presence lengths with output extensions and/or delays.

Reliable operation and long field life are key engineering goals in every Northstar product.

NP2 Specifications

Rear Panel DIP Switch selections

Relay 1

Extend – switch 1 is for extending the detector output after the vehicle has left the loop. Switch 1 in the OFF position provides no extension. Switch 1 in the ON position provides a 5 second extension once the vehicle leaves the loop. This extension applies to relay 1 only.

Delay – switch 2 is for providing a 2 second delay, detector will ignore the vehicle until the vehicle has been present over the loop for 2 seconds. Switch 2 in the OFF position provides no delay. Switch 2 in the ON position provides for the 2-second delay. This delay applies to relay 1 only.

Presence Time – switch 3 provides for either a 1 hour presence or permanent presence. Switch 3 in the OFF position provides for 1 hour of presence. Switch 3 in the ON position provides for permanent presence. The above presence settings apply to relay 1 only. (Other options are available).

Relay 2

Pulse Length – switch 4 provides for either a 250mS pulse length or a 500mS pulse length. Switch 4 in the OFF position provides a 250mS (standard) pulse length.
Switch 4 in the ON position provides a 500mS pulse length.

Operating Mode – switch 5 and switch 6 determine the operating mode for Relay 2. The four modes are as follows:

Switch 5 and switch 6 OFF provides pulse-on-entry.
Switch 5 ON & switch 6 OFF provides pulse-on-leaving.
Switch 5 OFF & switch 6 ON provides for presence.
Switch 5 and switch 6 ON provides a fault output.

Front Panel Selections

Sensitivity – controlled by front panel rotary switch.

- 0 = Low sensitivity
- 9 = High sensitivity

Medium sensitivity is used for most applications; this is a setting of 4 or 5. Always use the lowest sensitivity setting that detects the desired vehicles.

Frequency – four separate settings controlled by front panel DIP switches.

- 2+1 = High
- 2+0 = Medium High
- 1+0 = Medium Low
- 0+0 = Low

Reset – front panel reset performs a hard reset of the detector.

Ordering Information:

Unit Voltage	Part #
240 VAC	NP2-240AC
120 VAC	NP2-120AC
24 VAC	NP2-24AC
24 VDC	NP2-24DC
12 VDC	NP2-12DC

Northstar Controls L.L.C. warrants this product against defects in Manufacturing and workmanship for one year from date of shipment from the Northstar Controls L.L.C. factory.

Factory Settings:

- Set to HI frequency
- Set to Medium sensitivity (5)
- Extend/Delay in the OFF position
- Presence time set to 1 hour
- Pulse length set to 250msec
- Relay 1 = fail-safe
- Relay 2 = fail-secure

Relay Output Rating: 7A 277VAC/30VDC.

Power: 240 VAC, 120 VAC, 24 VAC, 24 VDC or 12 VDC. (70mA DC or 1W AC)

Inductance Range: 20uH to 1500uH.

Temperature Range: -30 F to +180 F.

Lead-In Length: up to 2500 ft. with proper lead-in and loop.

Mechanical: 1 3/8”w X 3 3/32”h X 3 ½”l.

Weight: 8 oz.

Supply Voltage – incorrect voltage supplied to the unit will not result in damage, the unit will simply not operate until correct voltage is supplied. No fuses need to be reset.

Indicators – front panel indicators include:
Power – Green, solid with correct power supplied.
Relay 1 – Red, solid during detect.
Relay 2 – Red, solid during detect.
Fault – Yellow, solid during current fault, flashing for historical fault.

Sensitivity Boost – automatic during detect except in the highest sensitivity setting (9).

Factory Options:
Presence lengths of 15, 30, 60 minutes or permanent.
Pulse lengths of 250mS, 500mS, 1, 2 or 4 seconds.
Extend times of **0**, 2, **5** or 10 seconds.
Delay times of **0**, 1, **2** or 4 seconds.
Relay 1 **fail-safe** or fail-secure.
Relay 2 fail-safe or **fail-secure**.
***Note: Bold** indicates standard configuration from the factory.*

Connector – 11Pin Amphenol

Pin #	Function	Color
1	Power (+)	Black
2	Power (-)	White
3	Relay 2 N.O.	Orange
4	Ground	Green
5	Relay 1 Com	Yellow
6	Relay 1 N.O.	Blue
7	Loop	Gray
8	Loop	Brown
9	Relay 2 Com	Red
10	Relay 1 N.C.	White/Blk
11	Relay 2 N.C.	White/Red

Note: The above connection is shown with correct power supplied and no vehicle present.

Specifications are subject to change without notice.

NORTHSTAR CONTROLS, LLC

L NP2-Rev A

For more information call LIS, Inc. @
800-964-0711