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Four Channel – Shelf Mount Detector

Model NT44 Features:

- 16 selectable Sensitivities
- 4 selectable Frequencies
- Presence or Pulse Modes
- Selectable Presence Times
- Separate Detect and Fault Indicators
- Fault Diagnostics differentiate between Open, Short and Excessive Inductance Changes
- Meets or Exceeds NEMA TS-1 Standards



The NT44 has been specifically designed and engineered for use in the demanding Traffic Control industry. With standard operations including: sixteen sensitivities, four frequencies and selectable presence time options. The NT44 covers your detection needs.

The NT44's wide inductance range allows for use with a wide variety of loops found in the Traffic Control industry (for recommended loop sizes please consult the Northstar Loop Information Guide).

Separate indicators for detect 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.

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

NT44 Specifications

Specifications/Selections

Operating Mode:

Presence = 15 minutes (Short), 120 minutes (Long)
Pulse = 125ms +/- 25ms.

Pulse Paralysis:

A pulse paralysis time of 2 seconds is incorporated to prevent multiple pulses being produced when a vehicle remains over the loop for an extended period.

Front Panel Selections

Sensitivity:

16 levels of sensitivity are available per channel selected by front panel DIP switches.

- 0 = Channel OFF
- 15 = High sensitivity (0.01%)

Setting	DL/L	Setting	DL/L	Setting	DL/L
15	.01%	10	.06%	5	.32%
14	.015%	9	.08%	4	.48%
13	.02%	8	.12%	3	.64%
12	.03%	7	.16%	2	.96%
11	.04%	6	.24%	1	1.28%
				0	OFF

Medium sensitivity is used for most applications; this is a setting of 7 or 8. Always use the lowest sensitivity setting that detects the desired vehicles.

Sensitivity Boost:

Automatic during detect except in the highest sensitivity setting (15).

Frequency:

Four separate settings per channel controlled by front panel DIP switches. Frequency range: 15 to 150 KHz.

- F2+F1 = High
- F2+F0 = Medium High
- F1+F0 = Medium Low
- F0+F0 = Low

Reset:

Channel may be reset by temporarily selecting another sensitivity or mode setting then returning to the desired value.

Factory Settings:

- Set to HI frequency
- Set to Medium sensitivity (7)
- Presence time set to 15 minutes
- Pulse length set to 125ms
- Relay = fail-safe

Northstar Ordering Information:

NT11 Single Channel Shelf Mount Detector
NT11-E Single Channel Shelf Mount Detector with Extend and Delay Timing.
NT22 Dual Channel Shelf Mount Detector
NT22-E Dual Channel Shelf Mount Detector with Extend and Delay Timing.
NT44 Four Channel Shelf Mount Detector

NT10 10 Pin Mating Harness – MS3106-A-18-1S
NT19 19 Pin Mating Harness – MS 3106A-22-14S

Outputs:

Relay or Optically Isolated Solid State

Relay Output Rating:

10A, 277VAC, 24VDC. Output is failsafe (assumes detect condition on power failure).

Failsafe:

A constant detect is provided during the following present conditions: power failure*, open, short or 25% inductance change.

* Not provided in units with solid state outputs.

Solid State (Opto):

Solid State Output rated Maximum Voltage 47V, ON voltage <1.5V at 50mA.

Power:

115VAC +/- 20%, 2W

Tuning:

Automatically tunes to proper loop and lead-in with application of power.

Inductance Range:

20uH to 2000uH with a Q factor greater than 5.

Temperature Range:

-40 C to +80 C.

Lead-In Length:

Up to 5000 ft. with proper lead-in and loop.

Lightning and Transient Protection:

Zener diode protection from over voltage induced on loop and feeder leads. Flash over protection from loop to earth. Protection exceeds NEMA specification.

Mechanical:

Dimensions: 6" D x 6" H x 2.5" W excluding connector.

Weight:

2 lb.

Indicators:

Front panel indicators include:

Detect – Red, solid during detect.

Fault – Yellow, solid during current fault, flashing for historical fault.

- 1 blink – 1 space = Open
- 2 blinks – 1 space = Short
- 3 blinks – 1 space = 25% inductance change

Connector — 19 Pin MS 3102A-22-14P

Pin #	Function
A	Power (-), 120 VAC
B	Ch. 4 Output Common
C	Power (+), 120 VAC
D	Ch. 1 Loop
E	Ch. 1 Loop
F	Ch. 2 Loop
G	Ch. 2 Loop
H	Chassis Ground Loop
J	Ch. 3 Loop
K	Ch. 3 Loop
L	Ch. 4 Loop
M	Ch. 4 Loop
N	Ch. 1 Output N.O.
P	Ch. 1 Output Common
R	Ch. 2 Output Common
S	Ch. 2 Output N.O.
T	Ch. 3 Output Common
U	Ch. 3 Output N.O.
V	Ch. 4 Output N.O.

Note: The above connections are shown with correct power supplied and no vehicle present.

L NT44-Rev A

Specifications are subject to change without notice.

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.

