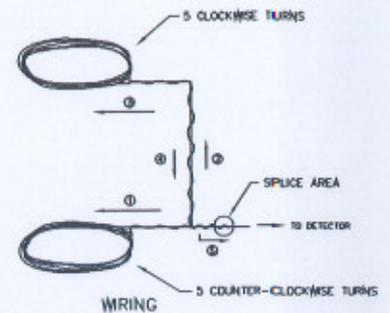
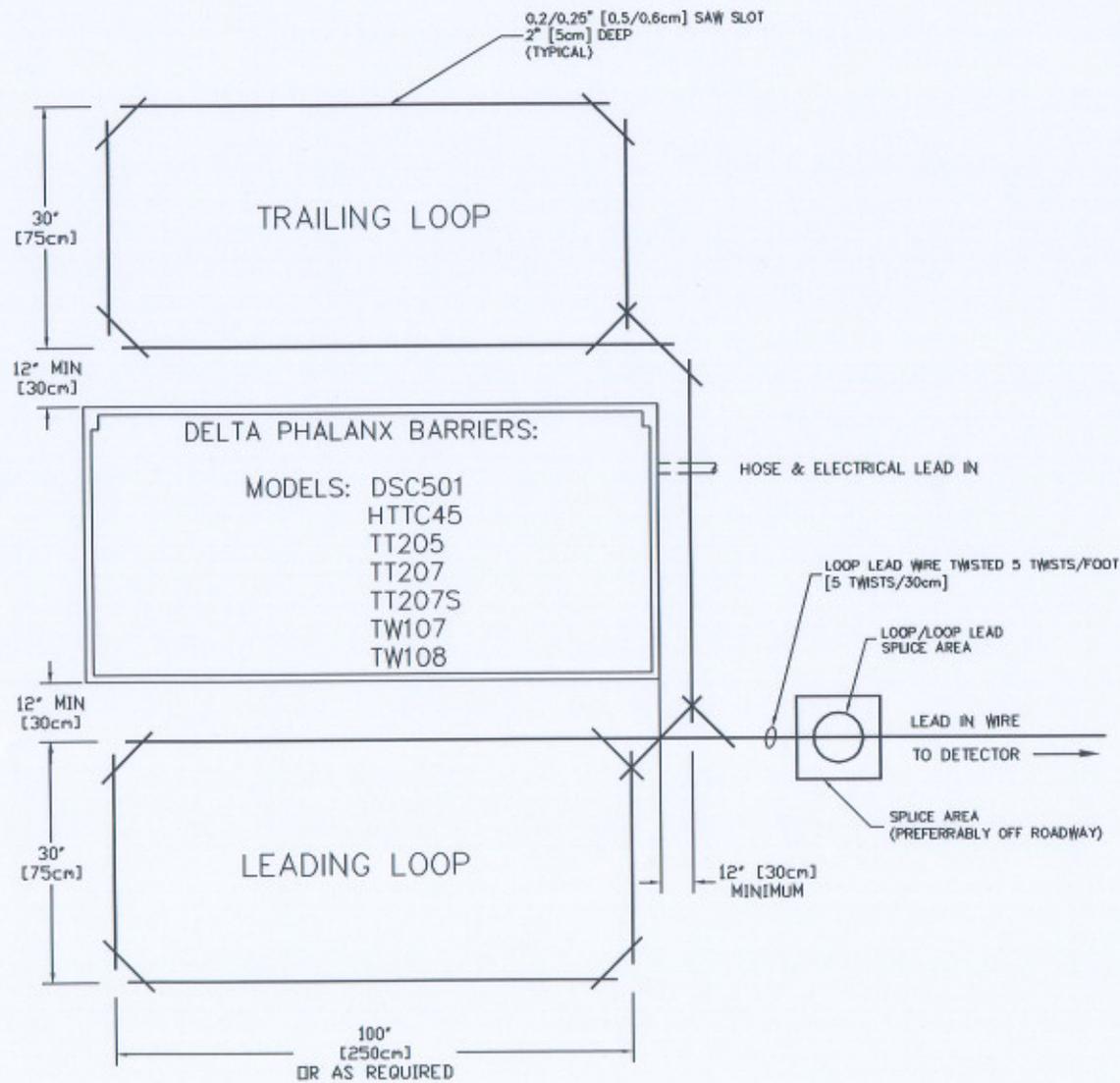


1. FINISH: ZINC PLATED
 NOTES: UNLESS OTHERWISE SPECIFIED

DELTA SCIENTIFIC CORPORATION 1001 DELTA DRIVE, SUITE 100 FORT WORTH, TEXAS 76104 TEL: 817-731-1100 FAX: 817-731-1101 WWW.DELTASCI.COM		MODEL D-168-3 I-R SENSOR STAND 18" STATIONARY HEIGHT	
QUANTITY: 1 UNIT: EACH	PART NO: D-168-3	REV: 1.0	DATE: 11/01/01
DRAWN BY: [Name] CHECKED BY: [Name]		SCALE: 1:1	



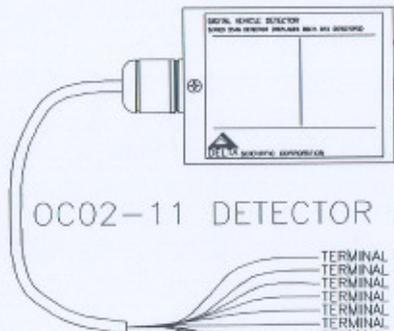
NOTES:

- 1) FOR LOOP INSTALLATION, REFER TO DSC LA2075.
- 2) PREFERRED LOOP MATERIAL IS 7 STRAND, #16 AWG COPPER W/0.045" CROSS LINKED POLYETHYLENE INSULATION.
ALTERNATE MATERIAL, #14 OR #16 AWG STRANDED COPPER, TYPE THHN OR BETTER INSULATION.
- 3) PREFERRED LOOP LEAD-IN CONDUCTOR IS 2 CONDUCTOR #16 AWG COPPER, 19-29 STRAND, TWISTED 5 TURNS PER FOOT, INNER INSULATION 20 MIL HI-DENSITY POLYETHYLENE, 1 MIL ALUMINUM SHIELD W/0.5 MIL POLYESTER FILM, #20 AWG TINNED COPPER DRAIN WIRE, OUTER JACKET 35 MIL HI-DENSITY POLYETHYLENE.
ALTERNATE LEAD-IN MATERIAL, #14 OR #16 AWG STRANDED COPPER PAIR, THHN OR BETTER INSULATION, TWISTED 5 TURNS PER FOOT MINIMUM.
- 4) LEAD-IN CONDUCTOR CAN BE RUN IN SAW CUT OR CONDUIT.



REV.	DESCRIPTION	DATE	BY	APP'D BY	DATE
A	REVISED LOOP NOTES		JEF	BR/2000	
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SUGGESTED SAFETY LOOP INSTALLATION - PHALANX BARRIERS					
<small> DELTA SCIENTIFIC CORPORATION 40705 OOLAH LANE PHALANX, CA 94561 U.S.A. (916) 525-1100 FAX (916) 575-1100 </small>	<small> DRAWN BY JEF </small>	<small> DATE 01/25/96 </small>	<small> DRAWING NO. 90420 </small>	<small> REV. B </small>	<small> SHEET 1 OF 1 </small>
<small> © 2001 ALL RIGHTS RESERVED </small>	<small> MADE IN MEXICO SHOWN TOGETHER </small>	<small> DATE 01/25/96 </small>	<small> DRAWING NO. 90420 </small>	<small> REV. B </small>	<small> SHEET 1 OF 1 </small>

3546-DCNP DETECTOR



NOTE: DETECTOR INTERNAL FUSE TERMINAL 1: 1/2 AMP

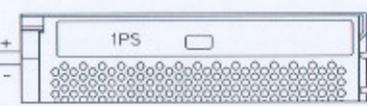
POWER SUPPLY
120/240 VAC TO 24 VDC
(SET SWITCH FOR CORRECT VOLTAGE)

OC02-11 DETECTOR HARNESS

- TERMINAL 1 - BLACK
- TERMINAL 2 - WHITE
- TERMINAL 3 - ORANGE
- TERMINAL 4 - GREEN
- TERMINAL 5 - YELLOW
- TERMINAL 6 - BLUE
- TERMINAL 7 - GREY
- TERMINAL 8 - BROWN
- TERMINAL 9 - RED
- TERMINAL 10 - VIOLET
- TERMINAL 11 - WHITE/GREEN

PRESENCE RELAY - COMMON
PRESENCE RELAY - N.C.

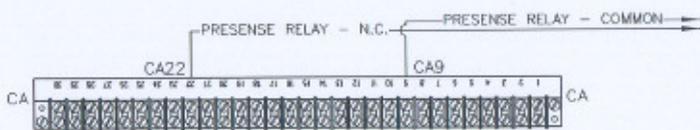
1.5 AMPS
MDL 1-1/2



POWER SUPPLY

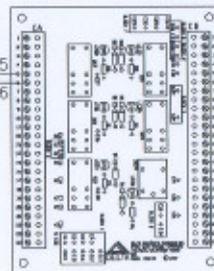
TWISTED PAIR - TO LOOP
(SEE DSC LA2075 FOR DETAILS)

GATE ALTERNATE



80600 & 80650
'CA' TERMINALS
(GATES ONLY)

90605
MAIN BOARD



(BOLLARDS & BARRIERS)

© DELTA SCIENTIFIC CORPORATION

B	ADDED 1PS POWER SUPPLY	JFW	11/11/02		
REV.	DESCRIPTION	DRWN BY	DATE	APPVD BY	DATE
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DRWN BY	J. WRIGHT	DATE	11/11/02	DRAWING NO.	3546-DCNP
CHKD BY		DATE		REV.	B
APPVD BY		DATE		SCALE:	N.I.S.
© 2002 ALL RIGHTS RESERVED	REMOVE ALL BURRS & BREAK SHARP EDGES .02 MAX	APPVD BY	DATE	SHEET	1 OF 1

DELTA DIGITAL VEHICLE DETECTORS OPERATING INSTRUCTIONS – SERIES 3546

DOCUMENT A2075

THIS DELTA DIGITAL VEHICLE DETECTOR, WHICH INCORPORATES AN ADVANCED MICRO CONTROLLER, COMBINES A POWERFUL DIGITAL COMPUTER AND THE LATEST AND MOST ADVANCED INDUCTIVE VEHICLE LOOP TECHNOLOGY TO GIVE THE TRAFFIC, PARKING OR SECURITY PROFESSIONAL THE FINEST IN RELIABILITY, FLEXIBILITY AND ACCURACY WHEN MEASURING, COUNTING OR DETECTING VEHICLES.

WARNING!!! THERE ARE MANY DIFFERENT WIRING CONFIGURATIONS. FAILURE TO MATCH THE CONNECTIONS OF MALFUNCTION OF THE DETECTOR SERIES AND THE HARNESS CAN RESULT IN MALFUNCTION OF THE DETECTOR AND SYSTEM.

Installation: Plug the detector into a harness or panel wired in accordance with the chart of connections listed on the detector label or in accordance with the chart of connections for the specific detector.

Apply power to the detector. The detector will tune and be operation immediately thereafter.

Field Selective Features: A detector can be configured to meet and satisfy a wide range of operating and interface situations. The following programming options are for all Delta detectors.

Multiple Loop Installations: (frequency settings) The detectors for adjacent loops should be set at different frequencies in installations where several loops of the same approximate size and number of turns are operated in close proximity. This will eliminate or greatly reduce the possibility of cross talk between the detectors. A high, low or medium frequency range is selected by the three-position toggle switch.

Sensitivity: The sensitivity is factory set at level 5 and in most installations will not have to be changed. Sensitivity can be increased or decreased by means of a 10 position rotary switch located on the PCB of the detector. Level '9' is the highest sensitivity and level '0' the lowest (factory setting level '5').

Automatic Profile Tracking: (Standard on Delta detectors) With profile tracking, the detector automatically tracks the profile of high bed vehicles and adjusts its sensitivity so that it will hold the vehicle as long as it is over the loop, thus reducing the possibility that the detector will drop the "call" (no field adjustment needed).

Re Self-Tune Hold Time: (Ref. Dwg. 'A')
PROGRAMMING JUMPER #4 INSTALLED, HOLD TIME BEFORE RE-TUNE IS 2 HOURS.
PROGRAMMING JUMPER #4 REMOVED, HOLD TIME BEFORE RE-TUNE IS INFINITY.
(Time after self-tuning that the detector will wait after a steady call before re-tuning to the new condition.)

Fail Safe/ Fail Secure Options (Ref Dwg 'B')
PROGRAMMING JUMPER #3 INSTALLED, DETECTOR OUTPUTS ARE FAIL-SAFE.
PROGRAMMING JUMPER #3 REMOVED OR SEVERED, DETECTOR OUTPUTS ARE FAIL SECURE.

Loop Self Diagnostics (See Note No. 1) (Ref Dwg 'B')
WITH JUMPER IN POSITION AS SHOWN, SELF-DIAGNOSTICS ENABLED.
WITH JUMPER REMOVED OR SEVERED, SELF-DIAGNOSTICS DEACTIVATED.

Dual Relay Detectors: In addition to the above field programming features, dual relay detectors can be programmed as follows:

Pulse Relay-Pulse on Exit or Pulse on Entrance: (Ref Dwg 'B')
PROGRAMMING JUMPER #2 INSTALLED, PULSE OUTPUT ON ENTRY TO LOOP.
PROGRAMMING JUMPER #2 REMOVED, PULSE OUTPUT ON EXIT FROM LOOP.

Single Relay Detectors: In addition to the above field programming features, single relay detectors can be programmed as follows:

Pulse or Presence Output Options: (Ref Dwg 'A')
PROGRAMMING JUMPER #1 AND PROGRAMMING JUMPER #3 INSTALLED, RELAY OPERATES IN PRESENCE MODE.
PROGRAMMING JUMPER #1 REMOVED, RELAY OPERATES IN PULSE MODE.

Pulse on Entrance or Pulse on Exit: (Ref Dwg 'A')
WHEN OPERATED IN THE PULSE MODE WITH PROGRAMMING JUMPER #2 AND PROGRAMMING JUMPER #3 INSTALLED, PULSE OUTPUT ON ENTRANCE TO LOOP.
PROGRAMMING JUMPER #2 REMOVED, PULSE OUTPUT ON EXIT FROM LOOP.

Note No. 1: When this feature is enabled and the detector is powered up, the LED lights momentarily while the detector self-tunes. After tuning, the LED will light when the detector signals a "call".

If the LED commences a repeated series of flashes, this indicates that the loop is probably shorted (series of flashes followed by a pause) or the loop is open (steady series of flashes). If the problem is intermittent and self heals, the detector will resume normal operations. However, the fault signal will continue until the detector is reset by either the front panel reset button or by turning off the power momentarily. When the self-diagnostics is deactivated the detector is powered up; the LED lights momentarily while the detector self tunes. After tuning, the LED will light when the detector signals a "call".

Note No. 2: The detector can be reset by pressing the red button on the detector case or by momentarily tuning the power off and then back on.

DELTA DIGITAL VEHICLE DETECTORS

OPERATING INSTRUCTIONS – SERIES 3546

DOCUMENT A2075

Loop Layouts and Configuration:

DELTA detectors will tune and operate successfully with loops in a wide range of shapes and sizes such as squares, rectangles, circular, quadruple and diamond shape, etc.

The following chart is a guide to the number of turns to use when installing standard square, rectangular or diamond shape loops.

Compute the area of the proposed loop in square feet (square meters) and then using the chart, lookup the appropriate number of turns.

Area Square Ft	Square Meters	Turns
5-14	(.46-1.3)	6
15-20	(1,-1.9)	5
20-64	(1.9-6.0)	4
65-250	(6.0-23.2)	3
Over 250	(23,2)	2

When the lead-in distance from loop to detector exceeds 490 feet (125m) it is recommended that an additional turn be added to the loop.

When winding the loop, care should be exercised that the wire insulation is protected from scuffing or cuts while being inserted into the saw slot. Where possible avoid sharp corners by saw cutting small diagonals at each corner of the loop. A standard stranded cooper wire with good all condition insulation should be used (#12 to #16 AWG).

The lead-in from the loop to the detector should be twisted (4 twist per foot medium) and shielded if available. The shield should be properly grounded and weather protected at the junction box.

Good low resistance electrical connections at all junction points of the loop are important. Where possible connections or splices should be soldered or bonded together by means of positive flow crimp type connectors (no wire nuts). Physical protection of the connection points against corrosion or contamination also contributes to long term operation.

