DTS Inductive Loop Detector
Operating Instruction Manual

DTS SECURITY
P.O.BOX 3399
EDENVALE

1610

Spartan +27 11 392 5540 (H/O)

Pretoria +27 12 361 5528

www.dtssecurity.co.za

Installation

The loop geometry must be adapted to the respective application. The setup will be optimal if the loop has the same width as the vehicle to be detected (longest side covering the width of road). Cut out the loop groove in the road surface approx. 30 to 40mm deep. Cut 45 deg. grooves at the loop corners to avoid sharp bends of the loop wire (use 1.5mm **silicon insulated** wire with no joints). The loop turns should be seated tightly onto the bottom of the groove. Ensure that the groove is free of moisture and seal with a silicon or bitumen sealing compound.

Loop Turns: The number of loop turns depends on the circumference of the loop, the smaller the loop the more turns required
- Loop circumference bigger than 10m = 2 x Turns
- Loop circumference 6 – 10m = 3 x Turns
- Loop circumference smaller than 6m = 4 x Turns

Note: Avoid loops over road areas containing steel reinforcing. Add an extra loop if steel reinforcing is suspected or avoidance is not possible

Loop wire: Use 1.5mm silicon insulated wire with no joints along the loop length. The loop feeder should be twisted with a minimum of 30 twists per meter. The feeder wire should run separately from other wire and be as short as possible. Use a minimum of 2m spacing between two adjacent frequencies and between loop and the opening area of steel gates.

Dipswitch Selection

9	**ON:** Trigger N/C **OFF:** Trigger N/O	Relay control
8	**7&8 OFF:**2min **7 Off & 8 ON:**4min	Security Timer
7	**7 ON & 8 OFF:**6min **7&8 ON:**10	
6	**5&6 OFF:** low 1.00% **5 OFF & 6 ON:** Medium low 0.50 %	Loop Sensitivity
5	**5 ON & 6 OFF:** Medium High 0.10 % **5&6 ON:** High 0.05%	
4	**ON:** Boost **OFF:** Normal	Sensitivity boost
3	**ON:** Pulse **OFF:** Presence	Relay output pulse or presence
2	**ON:** Security **OFF:** Normal	Security Mode Enable or disable
1	**ON:** Low Frequency **OFF:** High Frequency	

Loop Detector Setup

Select dip switch functions 1 to 9 as required and apply power. The green LED will switch on and after about 9 seconds the unit will beep twice and the green LED will start flashing *(indicating normal operation)*. The green status LED will turn on for the presence duration regardless of Switch 3 presence / pulse setting. To assist with setup and configuration, the unit will beep for the first 10 presence detections.

Security Mode: Security mode is enabled with dipswitch 2 on. A momentary push of the N/O or N/C intercom / security push button *(sense selected with switch 9)* will enable the loop detector output for a preset time *(switch 7 & 8 selects time in 2 minute steps)* to allow vehicles to freely exit. Pressing and holding the intercom push button for more than 2.5 seconds will directly open the gate to allow vehicle entry. Note that the green status LED will flash rapidly to indicate that the exit timer is running.
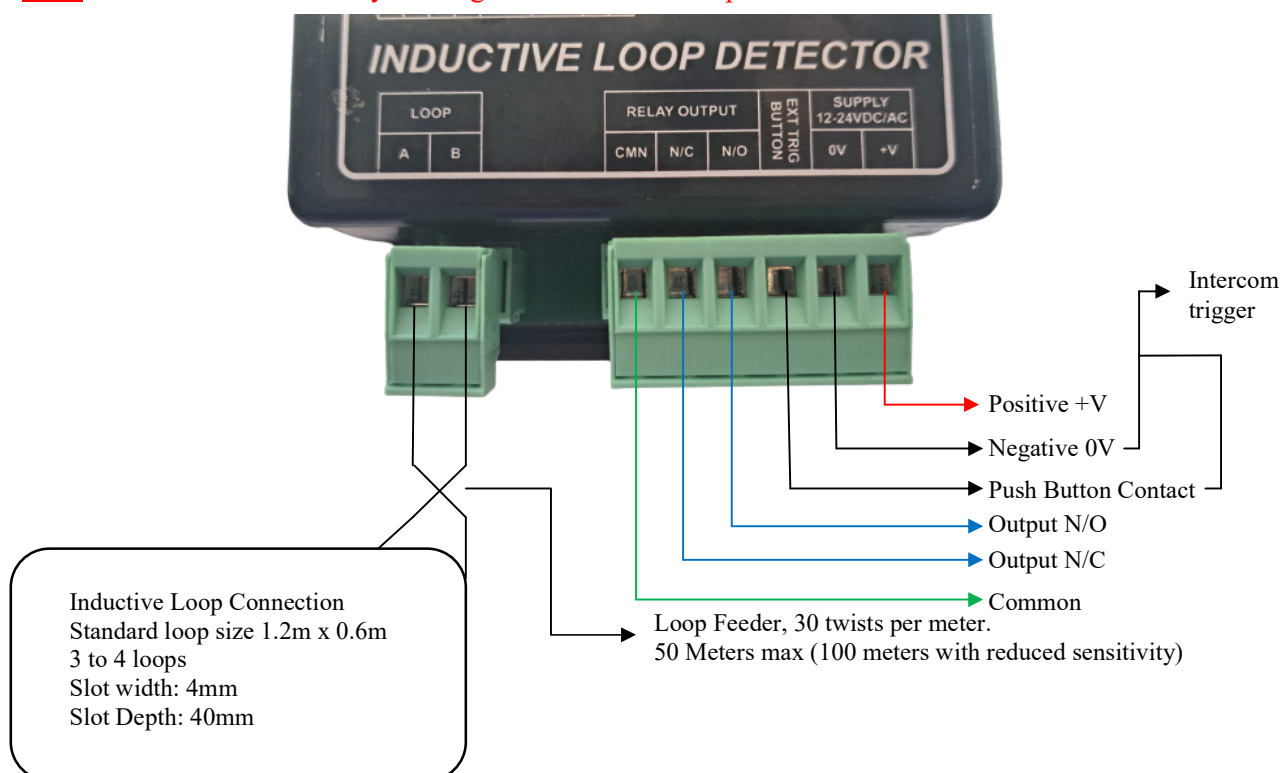
Sensitivity Settings: The sensitivity values represent the percentage change of inductance switch point. The BOOST mode *(switch 4)* extends the release threshold by 50% and is used to eliminate multiple triggers or loss of detection of high bed vehicles.

Pulse/Presence Mode: Dipswitch 3 on to selects pulse mode. Normally used for gate triggering, pulse mode activates the output relay for single fixed 0.5 second pulse duration per vehicle. Dipswitch 3 off selects presence mode. Normally used for barrier safety / control purposes, presence mode energizes the output relay for as long as a vehicle presence is detected.

 Note: that due to environmental self tuning, the presences hold time is limited to approximately 10 minutes.

Fault indication: A permanent fault *(loop open or short circuited)* will cause the red fault led to turn on and the buzzer to sound continuously. Flashing of the fault LED indicates that the unit has recovered from a previous intermittent fault.

Note: The unit can be reset by holding down the intercom pushbutton for > 20 seconds.

Inductive Loop Connection
Standard loop size 1.2m x 0.6m
3 to 4 loops
Slot width: 4mm
Slot Depth: 40mm

Loop Feeder, 30 twists per meter.
50 Meters max (100 meters with reduced sensitivity)

Intercom trigger
Positive +V
Negative 0V
Push Button Contact
Output N/O
Output N/C
Common

<u>Manufacturers warranty</u>.

- **All goods manufactured by DTS Security Products carry a 24 month factory warranty from date of invoice.**

- **All goods are warranted to be free from faulty components and manufacture.**

- **Faulty goods will be repaired or replaced at the sole discretion of DTS Security Products, free of charge.**

- **This warranty is subject to the goods being returned to the premises of DTS Security Products.**

- **This warranty excludes lightning damage, insect damage and damage caused by faulty installation.**

- **In the event of the goods being supplied by dealer, merchant, agent or duly appointed installer of DTS Security Products, the claim must be directed to that supplier.**

- **The carriage of goods is for the customer's account.**

- **This warranty is only valid if the correct installation and application of goods, as laid out in the applicable documentation accompanying said goods, is adhered to.**

- **All warranty claims must be accompanied by the original invoice.**

- **The liability of DTS Security Products and / or their distributors is limited as herein set out DTS Security Products and / or their distributors will not be liable for consequential or incident damages howsoever arising.**