LOOP DETECTOR
INSTRUCTION MANUAL

DTS-LD100
Inductive Loop Detector

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Installation

The loop geometry must be adapted to the respective application. For Optimal setup, ensure the loop is the exact width of the vehicles to be detected (the longest side covering the width of the road). Cut out the loop groove in the road surface, approx. 30 to 40mm deep. Cut 45-degree grooves at the corners of the loop to avoid sharp bending 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 the groove is moisture-free 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 are 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 impossible.

Loop wire: Use 1.5mm silicon-insulated wire with no joints along the loop length. The loop feeder should be twisted with at least 30 twists per meter. The feeder wire should run separately from other wires and be as short as possible. Use a minimum of 2m spacing between two adjacent frequencies and between the 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 start flashing (indicating regular operation). The green status LED will turn on for the presence duration regardless of the Switch 3 presence/pulse setting. The unit will beep for the first ten presence detections to assist with setup and configuration.

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 (switches 7 & 8 select time in 2-minute steps) to allow vehicles to exit freely. 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 the inductance switch point.
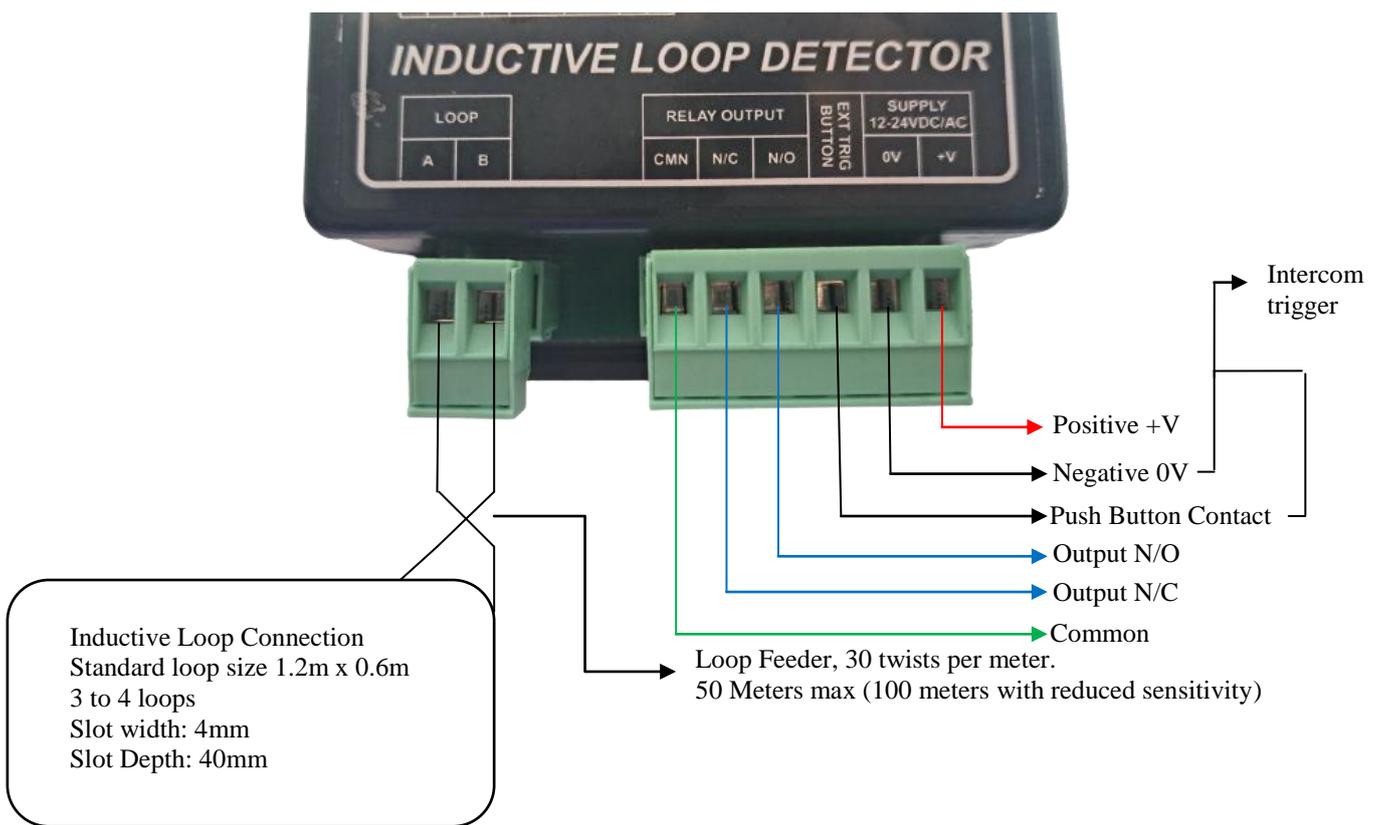The BOOST mode *(switch 4)* extends the release threshold by 50% and eliminates multiple triggers or loss of detection of high-bed vehicles.

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

Note: Due to environmental self-tuning, the presence 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. The 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 push button 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

Manufacturer's warranty.

- All goods manufactured by DTS Security Products carry a 24-month factory warranty from the date of invoice.
- All goods are warranted to be free from faulty components and manufacturing defects.
- 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, insects, and damage caused by faulty installation.
- In the event of the goods being supplied by a 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, however they arise.