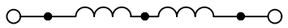
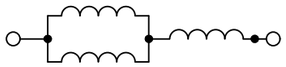
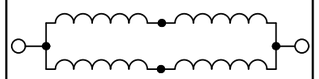
DETECTOR LOOPS STANDARD CONFIGURATIONS

LOOP CONFIGURATION	1		2		3		4		S (SPECIAL)
	1 LOOP		2 LOOPS		3 LOOPS		4 LOOPS		1 LOOP
	SINGLE 5–TURN LOOP 		TWO 3–TURN LOOPS IN SERIES 		THREE 4–TURN LOOPS IN SERIES PARALLEL 		FOUR 5–TURN LOOPS IN SERIES PARALLEL 		SINGLE 3–TURN LOOP 
	LOOP SIZE (mm)	INDUCTANCE (μH)	LOOP SIZE (mm)	TOTAL INDUCTANCE (μH)	LOOP SIZE (mm)	TOTAL INDUCTANCE (μH)	LOOP SIZE (mm)	TOTAL INDUCTANCE (μH)	LOOP SIZE (mm)
A	1800 x 1200	Refer Note 4	1800 x 1800	Refer Note 4	1800 x 1200	Refer Note 4	1800 x 1200	Refer Note 4	700 x W (Refer Note 3)
B	1800 x 1500		1800 x 2300		1800 x 1500		1800 x 1500		
C	1800 x 1800		1800 x 2700		1800 x 1800		1800 x 1800		
D	1800 x 2100		1800 x 3100		1800 x 2100		1800 x 2100		
E	1800 x 2400								
F	1800 x 2700								
	1 LOOP		2 LOOPS		3 LOOPS				LARGE DOUBLE LOOP 2 LOOPS
	SINGLE 4–TURN LOOP 		TWO 4–TURN LOOPS IN SERIES 		THREE 3–TURN LOOPS IN SERIES 				TWO 3–TURN LOOPS IN SERIES 
	LOOP SIZE (mm)	INDUCTANCE (μH)	LOOP SIZE (mm)	TOTAL INDUCTANCE (μH)	LOOP SIZE (mm)	TOTAL INDUCTANCE (μH)			LOOP SIZE (mm)	TOTAL INDUCTANCE (μH)
G	1800 x 5700	Refer Note 4	1800 x 2000	Refer Note 4	1800 x 2400	Refer Note 4			1800 x 4500	Refer Note 4
H	1800 x 6300		1800 x 2200		1800 x 2700				1800 x 4900	
I	1800 x 6800		1800 x 2500		1800 x 3000				1800 x 5400	
J	1800 x 7400		1800 x 2700		1800 x 3300				1800 x 5800	
K	2000 x 2000									

TO SELECT APPROPRIATE LOOP SIZES AT AN INTERSECTION

(a) Determine the number of loops to be covered by a single detector unit. This gives the appropriate column e.g. 2.

(b) Select from rows A to J a loop configuration not used elsewhere in the intersection e.g. D.

(c) Therefore 2D is the appropriate loop configuration.

NOTES:

1. If loop configurations from the same row (A to J) are used at the same intersection, interference problems are most likely to occur.
2. A "P" in the detector configuration denotes pedestrian detector.
3. W = Lane width – 1000mm.
4. Loop(s) inductance connected across input terminals lies within the range 50μH to 700μH and a Q–factor in the range of:
   a. 5 to 50 below 60kHz; and
   b. 3 to 50 above 60kHz.
   For the specified range of loop inductance, the operating frequency of the sensor unit shall be within the range approximately 20kHz to 150kHz.
5. Single loop faults in parallel loop configurations are unlikely to be detected, causing degraded operation of the traffic signals and delaying the detection of the fault.

ASSOCIATED DEPARTMENTAL DOCUMENTS:
Standard Drawings
Specifications

REFERENCED DOCUMENTS:
Departmental Standard Drawings:
1424 Traffic Signals – Detector Loops Installation Details
1425 Traffic Signals – Detector Loops Placement Details

Departmental Specifications:
MRTS204 Vehicle Detectors

Australian Standard:
AS 2703 Vehicle loop detector sensors

Department of Transport and Main Roads

TRAFFIC SIGNALS

DETECTOR LOOPS
STANDARD CONFIGURATION

Queensland Government

A3
Not to Scale

Standard Drawing No
1426
Date 5/2026

A | B | C | D | E