

**TEXAS DEPARTMENT OF TRANSPORTATION
SPECIAL SPECIFICATIONS
TO-6045
TWO CHANNEL LOOP DETECTOR**

1.0 SCOPE

1.1 This specification shall define the requirements for two channel inductive loop detectors.

2.0 DETECTOR UNIT

2.1 The detector unit shall meet the requirements of NEMA Standards Publication TS 2-1992 (TS 2), latest edition. Where a difference occurs, these requirements shall govern.

2.2 The detector unit shall be a two-channel type C detector with delay/extension timing.

2.2 The detector unit shall have a design response time faster than 10 milliseconds and a variance of not greater than ± 2 milliseconds from the design response time.

2.3 Each loop detector unit shall sequentially scan two channels.

2.4 The front panel of the loop detector unit shall be of metal or an impact resistant plastic material designed to permit easy access to the internal components.

2.5 The detector unit shall have a minimum of eight sensitivity selections for each channel.

2.6 Each detector unit channel shall have a minimum of three switch selectable operating frequencies.

2.7 Indicator(s) on the front panel shall be provided to distinguish between detection, detection delay, and detection extended for each channel.

2.8 Upon restoration of electrical power after a power failure of any length, the detector unit channel shall automatically return to its normal state of operation within 2 seconds.

2.9 Each detector unit shall have a unique serial number that is permanently and neatly displayed.

2.10 The detector shall have an LCD display of all operational and diagnostic information.

2.11 The LCD display shall show all major parameters of the loop operation including loop frequency, loop inductance, inductance change, and loop faults. The loop faults include open circuit, short circuit and excessive inductance change.

3.0 DOCUMENTATION REQUIREMENTS

3.1 Each two-channel detector unit shall be provided with the following documentation:

- A. A user's manual with full operating instructions.
- B. The contact name, address and telephone number for the representative, manufacturer, or distributor for warranty repair.

3.2 Bidders shall be required to submit a copy of a test report certified by an independent laboratory that the detector unit model submitted meets NEMA TS2 requirements.

4.0 WARRANTY

4.1 The detector unit shall be warranted against failure due to workmanship or material defects within the first 60 months from date of purchase.

5.0 MEASUREMENT

5.1 Measurement shall be made of each two-channel detector unit as specified in the invitation for bids.