EXCEL TECHNOLOGY Group

An innovator in the development of intelligent vehicle highway solutions.

In-Pavement Loop Tester

Simple single connection easy to use in-pavement loop tester

This rugged field service instrument is purpose designed for in-pavement loop analysis. The basic LT-100 unit utilises a single loop feeder connection to initiate a measurement operation which displays on an alpha-numeric LCD panel all relevant in-pavement loop parameters including; open circuit, short circuit, DC resistance, inductance, loop 'Q' and tuned frequency. Additionally an analogue bar graph display indicates a vehicle actuation incorporating the relevant 'electromagnetic' change associated with the vehicle detection.

The more advanced LTM1000 features include all LT100 functions, a probe which locates concealed loop windings, and a single button actuation for loop insulation integrity evaluation.

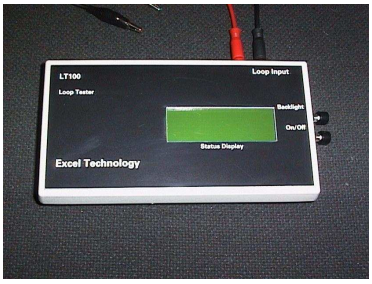
Features and Attributes

LT-100

- Single connection – all measurements displayed simultaneously
- Identifies loop short circuit and open circuit loop states
- Identifies vehicle actuation with analogue bar graph display
- Measures:
  - DC Resistance
  - Loop inductance (microhenries)
  - Calculates tuned frequency
  - Calculates loop 'Q'

LTM-1000

- Multi-function device
- Weather proof touch sensitive function selection keypad
- Large LCD panel with user selectable backlight
- Incorporates all LT100 measurement features (as stated)
- Verifies loop wire insulation integrity
- Locates in-pavement loops from moving vehicle
- Locates concealed in-pavement loop winding boundaries
- Robust plastic protective shroud



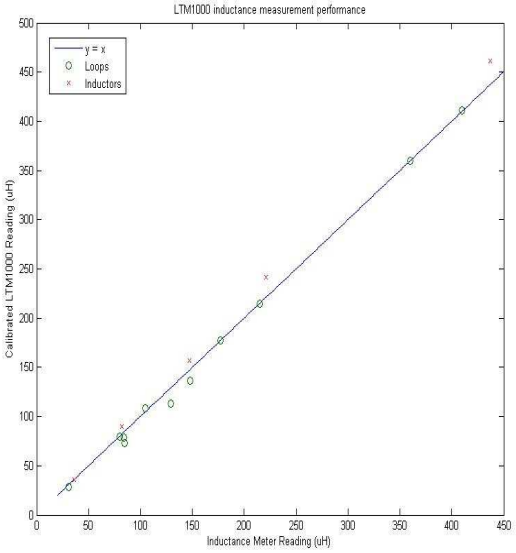
Common Features

- Single 9 volt DC battery operation
- Single momentary switch ON / OFF operation
- Auto timeout operation 15secs after removal loop /open circuit.
- Single connection to initiate loop measurements
- Manual LCD backlight operation for power consumption
- Measures immediately when loop feeders are connected

Designed and manufactured by Excel Technology Group Pty Ltd
PO Box 655 Paddington QLD 4064
Tel: 07 3279 4322 **Fax:** 07 3715 8467 **Email:** sales@exceltech.com.au
www.exceltech.com.au

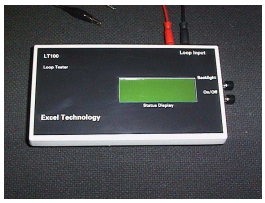
In-Pavement Loop Tester Operational Specification

- Overall measurement accuracy typically 3% within optimised range
- Optimised measurement range 100 <-> 400 Microhenries
- Inductance measurement at loop tuned frequency
- Self tuning in the range of 50 to 800 microhenries within .5 second of power on
- The input loop reading circuitry resonates between 40 KHz and 150 KHz
- Operates with loops of the specified inductance range and Q of >= 3 at typical resonant frequency
- Loop insulation integrity verification > 100Megohms
- DC resistance range .3ohms <-> 9ohms
- In-pavement loop location from moving vehicle 'sweep' – maximum speed 110khr
- In-pavement loop winding location from walking 'sweep' +/- 1CM.



In-Pavement Loop Tester Equipment Specification

Power Supply and Physical Dimensions



LTM 100 requires a single 9Volt D cell
Weight 0.4 Kg (0.8lb)
Size 210 mm x 120 mm x 35 mm (8 x 4.5 x 1.5 inch) including provision for terminals and switch/buttons loop connection current - 115 milliamps
Loop NOT connected current - 30 milliamps

LTM 1000 requires a single 9Volt D cell
Weight 0.5 Kg (1.0lb)
Size 260 mm x 120 mm x 40 mm (10.5 x 4.5 x 1.5inch) including provision for terminals and switch/buttons loop connection current – 115 milliamps
Loop NOT connected current – 30 milliamps
Loop insulation breakdown current – 100 milliamps
Loop location operation current – 80 milliamps

Connector Specification

DB Series current rating 1 amp, contact resistance 20 Mohmmax at DC100mA
Mate-en-lock current rating 3 amp per pin, contact resistance 30 Mohmmax at DC100mA
PCB Modular Terminal 'Phoenix style' 10 amp rated voltage 300 volt AC
IDC style connectors withstanding voltage 500 volt RMS for 1 minute - .5 amp current rating
Test leads – 4mm 'banana' style plug-socket cable length 700mms withstanding 500V< 60 seconds
Alligator clips (loop connection) – insulation shroud on metal sprung jaws (20 mm opening)

Environmental

Circuitry implemented on all cards is rated to 65°C operation with a relative humidity of 90%. Circuit cards are conformal coated and will operate within Australian Standard Guidelines for Traffic Control Devices as per TSC/3 and TSC/4. The CONFORMAL coating material used to protect the circuit cards is labelled SCC3 CC from Electrolube. The material is sprayed onto the circuit cards in accordance with the manufacturer recommendations and required Occupational, Health and Safety practices. The conformal coating material has a dielectric strength of 90 KV/mm and an operational temperature range of -70°C to 200°C and is self extinguishing when exposed to a flame.

Designed and manufactured by Excel Technology Group Pty Ltd
PO Box 655 Paddington QLD 4064
Tel: 07 3279 4322 **Fax:** 07 3715 8467 **Email:** sales@exceltech.com.au
www.exceltech.com.au