

Hand held cable fault locator

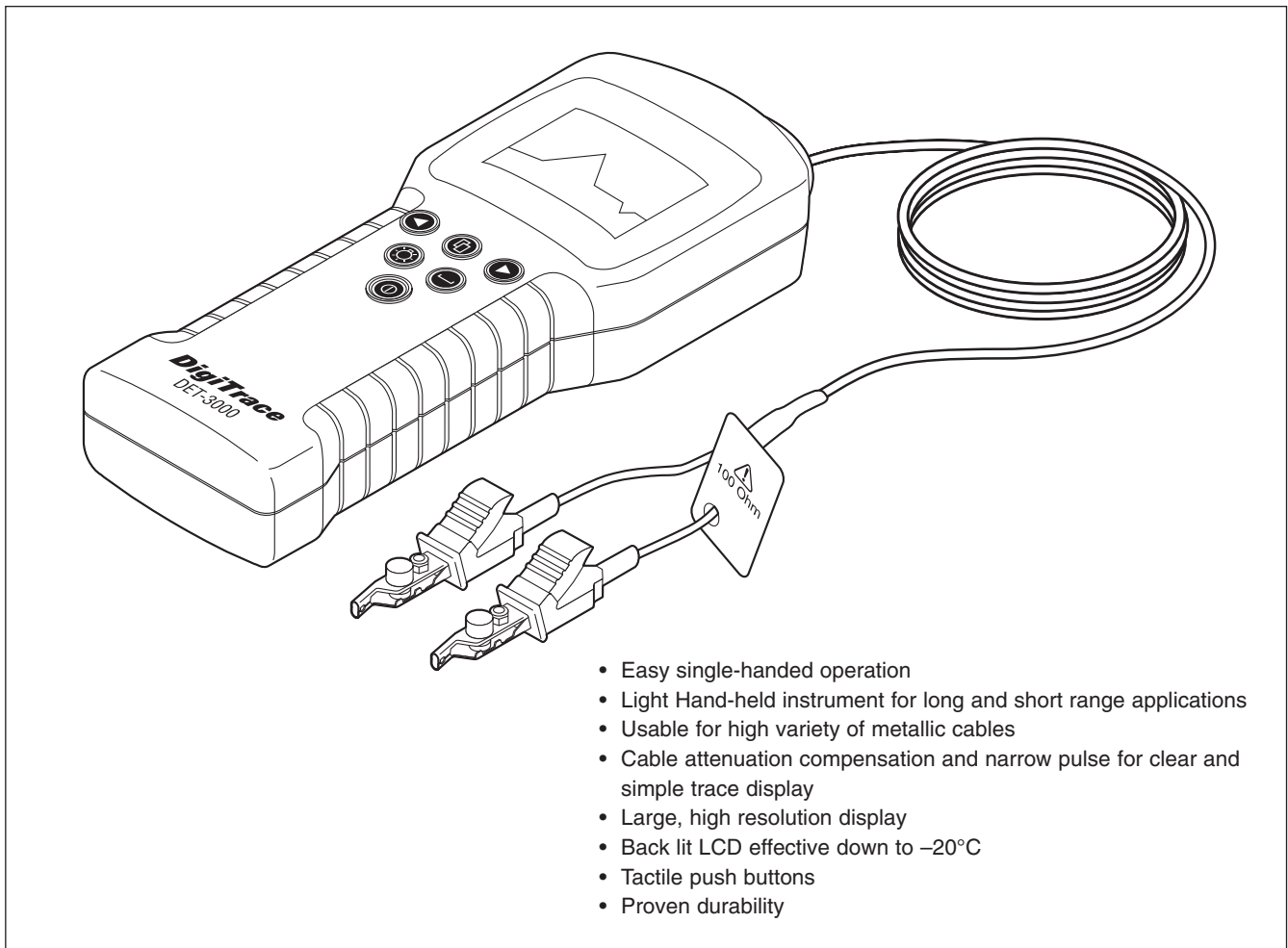
The DET-3000 is a cable fault locator working on the principles of Time Domain Reflectometry or TDR. The DET-3000 is a hand held cable fault locator from the latest generation. The DET-3000 gives genuine universal performance for short and long range applications on all types of metallic cable including many types of heating cable. Innovative features result in a versatile, cable-test instrument that is remarkably easy to use. Large back-lit display, tactile push buttons and ability to operate in temperatures as low as -20°C allow use in a vast range of locations and conditions. The DET-3000 operates accurate to 20 cm on shortest range. Automatic cable attenuation compensation ensures easy location of faults at all distances.

Principles of operation.

If a cable is metal and it has at least two conductors, it can be tested by a TDR. TDRs will troubleshoot and measure all types of cables. The TDR works on the same principle as radar. A pulse of energy is transmitted down the cable under test. When that pulse reaches the end of the cable, or a fault along the cable, part or all of the pulse energy is reflected back to the instrument. The TDR measures the time it takes for the signal to travel down the cable, see the problem, and reflect back. The TDR then converts this time to distance and displays the information as a waveform and/or distance reading.

The DET-3000 can be used to locate and identify faults in all types of metallic paired cables including heating cables. TDRs can locate both major or minor cabling problems including; sheath faults, broken conductors, water damage, loose connectors, crimps, cuts, smashed cables, shorted conductors, system components, and a variety of other fault conditions. In addition, TDRs can be used to test reels of cable for shipping damage, cable shortages, cable usage, and inventory management. The speed and accuracy of the DET-3000 makes it today's preferred method of cable fault location.

Key features



Specifications

Ranges (nominal)	10 m, 30 m, 100 m, 300 m, 1000 m, 3000 m
Accuracy	±0.9% of range
Resolution	1% of range
Propagation velocity	Variable velocity factor, 0.2 to 0.99 pvf Unit remembers last figure used
Pulse Characteristics	With 7 ns to 2 µs automatically selected to best suit the measuring range Amplitude 5 V nominal when unterminated (SQUARE pulses)
Output Impedance	25 , 50, 75 and 100 Ω switchable
Measuring leads	The DET-3000 comes with 100 Ohm testleads
Output sockets	2 x 4 mm on 19 mm pitch
Protection	The unit will not be damaged by inadvertent direct connection via the 100 Ohm testleads to 250 VAC. However it is unsafe to use the unit in this way. Installations should always be isolated from the mains supply prior of taking measurements with the DET-3000. <i>For safety reasons the DET-3000 should not be used on live installations. Always verify prior of starting the measurements that the complete installation is isolated from the mains.</i>
Display	Liquid crystal, 128 x 64 pixels with back light
Cursor	Single vertical line
Units	meters or feet user selectable.
Power	9 VDC nominal 6 x AA size LR6 Alkaline batteries (not rechargeable) Battery live ±16 hours @20°C ambient no backlight
Environment	Operation Temperature -20°C to +55°C Storage temperature -30°C to +70 Humidity 93% RH at +40°C
Ingress Protection	Water resistant to BS 2011, Part 2.1 R/IEC 68-2-18, Test Ra
Safety	EC Directive 73/23/EEC, as amended by 3/68/EEC BS EN 41003: 1997
EMC	EC Directive 89/336/EEC, as amended by EC directive 93/68/EEC BS EN 50082-1: 1992 BS EN 55011: 1991 (Group 1 Class B) The equipment is specified for operation in residential, commercial and light industrial environments.
Size (mm)	250 x 100 x 55 mm
Weight (kg)	1.1 Kg (including batteries, soft-case, testlead, manual)

Ordering Details

Part Description	DET-3000
PN	546866-000