BIDDLE TIME DOMAIN REFLECTOMETERS

Whether locating cable faults or testing the integrity of communication, power, or control cables, Biddle Time Domain Reflectometers (TDRs) provide fast and accurate results. Each unit is a safe, low-voltage tester which can be used on practically all cable types, whatever their power rating. With the full trace patterns provided on all Biddle TDRs, not only can you locate a cable fault but you can also determine the nature of the fault.

AVO International offers four easy-to-use TDRs to choose from: convenient hand-held units for general line testing or portable units with memory, recording capability, and/or dual trace capability for more demanding applications. Combine hand-held units and portable units to develop a complete cable maintenance arsenal.

Description

TDRs use simple transmission line theory and pulse reflection principles to detect impedance changes along a cable. Impedance is the total resistance, inductive reactance, and capacitive reactance encountered in a cable. Changes in the characteristic impedance of a cable are caused by faults, water, splices, taps, connectors, and/or active and passive circuits added to the line. The TDR transmits high frequency electrical pulses into the cable. If these pulses encounter a change in the impedance of the cable, part or all of the electrical pulse is reflected back to the TDR. The TDR displays the initial pulse and any reflections. Because different impedance changes generate unique reflections, both the location and the nature of the change can be determined from the display.

To determine the distance to the fault or other impedance change, simply set the propagation factor and range. The propagation factor tells the TDR how fast the electrical pulse travels on various cable types. Move the cursor to the reflected pulse on the display. The unit performs all calculations and automatically displays the distance to the fault.

Applications

Time Domain Reflectometry offers a wide range of applications to various industries. Telecommunications, CATV, Wireless, and Communications and Signaling are just a few.

Telephony

Time Domain Reflectometers offer fast and accurate results when uncovering transmission related problems. Equipment such as bit-error-rate testers identify a problem within a transmission network, but offer little assistance in pinpointing the location of the problem. The TDR provides a graphical reproduction of the transmission path, identifying the location of the fault.

CATV

When your business depends on clean signal transmission, the integrity of your transmission lines becomes a large concern. TDRs analyze network integrity by determining return loss and attenuation loss in cables, or by identifying failing or defective connectors.

TDRs will also test the physical state of cables: such as locating crimps or bends in cables, isolating frays within a cable or simply locating cable faults such as opens or shorts.

The cost of a TDR can be recovered easily since cable companies will be able to locate and document on cassette illegal cable taps.

Wireless

Coaxial cable plays a major role in wireless transmission. Cellular, personal communications service and satellite transmission towers have various lengths of coaxial cable that connect antennas to tower equipment. TDRs analyze coaxial cable integrity by determining return loss or by identifying failing or defective connectors. TDRs will also test the physical state of the coaxial cable by locating opens, shorts, frays and water.

Communications and Signaling

Railroad communications and signaling maintenance personnel save time locating cable faults on power, signal and communication paired cables, whether direct buried or in conduit. Impedance changes along a cable pair can be found accurately enough to locate the dig site. Overhead multiconductor cable faults can be identified to determine which pole to climb.

Features and Benefits

Biddle TDRs are designed for optimum performance. To ensure efficient, effective operation, specific benefits have been designed into each unit:

o Balanced input/output ports reduce common mode distortion to provide clean, easy-to-read trace.

o Water resistant enclosures allow effective operation in inclement conditions.

o Output impedances of 50, 75, or 100 W for testing coaxial cables, shielded twisted pair (STP), or unshielded twisted pair (UTP) cables.

o Easy-to-use interface/front panel simplifies operator training.

o Full trace displays provide complete line analysis capability allowing all cable discontinuities to be viewed during a single test.