

SURGE PROTECTIVE DEVICES

DTS 2 Diagnostic Test Set

Current Technology®



All Current Technology MasterPLAN suppression filter systems are shipped with a DTS-2® Diagnostic Signature Card listing factory-established benchmark testing parameters. By routinely testing and monitoring Current Technology suppression filter systems, recording each reading and comparing any variances, end users are assured of maximum suppression filter system performance.

Benefits

- Monitors RMS voltage of connected suppression filter systems to permit troubleshooting of RMS undervoltages or overvoltages
- Provides establishment of benchmark clamping voltages for future comparisons
- Benchmark clamping voltages are recorded on the Diagnostic Signature Card at the factory before shipment and packaged inside the suppression filter system enclosure
- Real-time testing identifies potential problems before protected loads are affected
- Ongoing suppression filter system performance analysis is provided by clamp voltage comparison on a monthly or semi-annual basis
- Indicates alarm condition if system N-G is outside of normal electronic load operation ranges
- Tests and monitors all Current Technology suppression filter systems and some models require DTS-2 adapter)

Features

- Easy-to-read digital LCD
- Thirteen horizontally positioned pushbuttons
- High output test circuit
- Electrical interlock system
- High impact moisture resistance case
- Dedicated storage area for DTS-2 power and test cords

DTS-2 Signature Card

Unit Model Number			Unit Serial Number									
DTS-2 Diagnostic Test Set Reading												
Date	Tested By	Phase to Neutral			Phase to Ground			Phase to Phase			Uninstalled	Test
		A-N	B-N	C-N	A-G	B-G	C-G	A-B	A-C	B-C		
												+
												+
												+

System Features

The industry’s only 10 mode dual-function real-time suppression filter system analysis tool, Current Technology’s portable DTS-2® Diagnostic Tool Set provides facility engineers, equipment technicians and other end users with easy, active testing of on-site product performance as well as distribution system voltage monitoring. Conveniently lightweight, the DTS-2 easily connects to any Current Technology MasterPLAN® suppression filter system to immediately deliver quantitative, diagnostic measurement of all modes of suppression filter system performance and effectiveness.

Digital LCD Display

Easy-to-read Peak Capture/Monitor LCD display provides reliable, accurate digital readout of both test and mode peak suppression voltage and monitor mode RMS line voltage for routine comparison to factory-determined acceptable values.

Pushbutton Operation

Thirteen horizontally positioned illuminating pushbuttons with integral LED indicators control all DTS-2 testing and monitoring functions. Following test initiation, DTS-2 pushbuttons are automatically rendered inoperative until completion of the selected capability to prevent accidental interruption.

High Output Test Circuit

Test transients are generated by charging the DTS-2’s inductor. As the generated impulse approaches three (3) amps, the charge current induces a surge voltage

at the inductor terminals to maintain current flow. This impulse voltage continues to rise until clamped by the suppression device being tested. Peak voltage clamping values are stored and displayed for five (5) seconds.

Electrical Interlock System

Positive or negative testing is prevented if voltage greater than 50 volts is present at the terminals of the unit under test.

High Impact Moisture Resistant Case

Sturdy protective case crafted of rugged molded plastic protects the DTS-2 from impact as well as moisture and dust particle contamination. Top mounted handle affords easy transportation; case lid contains easy-to-read, step-by-step operating instructions.

Cord Storage Department

Dedicated storage area for DTS-2 power and test cords.

Five Year Warranty

The DTS-2 Diagnostic Test Set is manufactured in the U.S. and protected by Current Technology’s Five Year Limited Warranty.

Testing vs. Monitoring: Gauging the Difference

Unlike their predecessors, today's advanced electrical transient protection devices actively test suppression components. This ingenuity goes beyond the passive monitoring included in yesterday's offerings and allows for quantitative measurement of suppression filter system performance.

Monitoring: After the Fact

The majority of electrical transient protection manufacturers offer continuous monitoring in the form of visual indicators — such as lights or LED's — that assure the user of ongoing operation. All major vendors offer status indication of fuses or overcurrent protection in line with the device's suppression elements. The purpose of monitoring series overcurrent protection is to provide notification if the protection is opened or tripped by a suppression component short circuit. When a metal oxide varistor (MOV) or silicon avalanche diode (SAD) fails, the failure is a momentary short circuit condition. During this short circuit, properly coordinated overcurrent protection will open; systems with overcurrent protection monitoring will indicate that the overcurrent device has opened.

The “Idiot Light Syndrome”

Most electrical transient protection manufacturers subscribe to one of two system monitoring approaches. Some choose to individually fuse each MOV, yet monitor only one fuse in a multitude of MOVs. Others include coordinated overcurrent protection for several suppression components at once. Regardless of which method is undertaken, monitoring has one undeniable shortcoming: monitoring indicates a system failure after the fact. The time for prevention is long past. To date, the entire concept of electrical transient protection monitoring has been to reactively indicate that a device has suffered a component failure — an attitude that has been labeled “the idiot light syndrome.” When the oil or temperature light becomes illuminated on the dashboard of a car with “idiot lights” instead of gauges, there's a good chance that preventable damage has already been done.

Wouldn't a proactive approach be more sensible in both scenarios? With a quick under-the-hood oil check and glance at the dashboard gauges, a driver can easily assess the oil pressure and engine temperature and thereby avoid potentially damaging situations. Why not apply the same philosophy to suppression filter systems?

Passing the Test

When today's suppression filter systems user performs routine maintenance for other distribution system equipment, he or she should have the ability to “check the oil and assess the gauges” on the facility's suppression filter system, not only to verify system function, but to determine the level of system performance.

Since 1992, all Current Technology suppression filter systems have included a diagnostic test point comprised of a multi-pin connector wired directly into the suppression and filtering components. Using the accompanying DTS-2 Diagnostic Test Set, today's facility engineer or factory-trained Current Technology representative can actually perform field transient testing to verify function and performance levels of Current Technology products. Current Technology's DTS-2 offers testing and monitoring beyond the “idiot light syndrome.”

Monitoring is practical but passive. Proactive testing is safe, simple and smart. Devices offering both provide consumers with increased confidence.

Waiting for that bad utility day, that big thunderstorm, that last motor switching or last big impulse to illuminate visual indicators could be a costly catastrophe. Wouldn't driving a car with gauges instead of idiot lights give you greater peace of mind? That same security is available only with Current Technology suppression filter systems and the DTS-2 Diagnostic Test Set.

ABB Inc.
860 Ridge Lake Blvd.
Memphis, TN 38120
USA

electrification.us.abb.com

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB Inc. does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB Inc. Copyright © 2021 ABB