



# CAPTAN 12

## TAN DELTA TEST KIT

# Advanced Feature



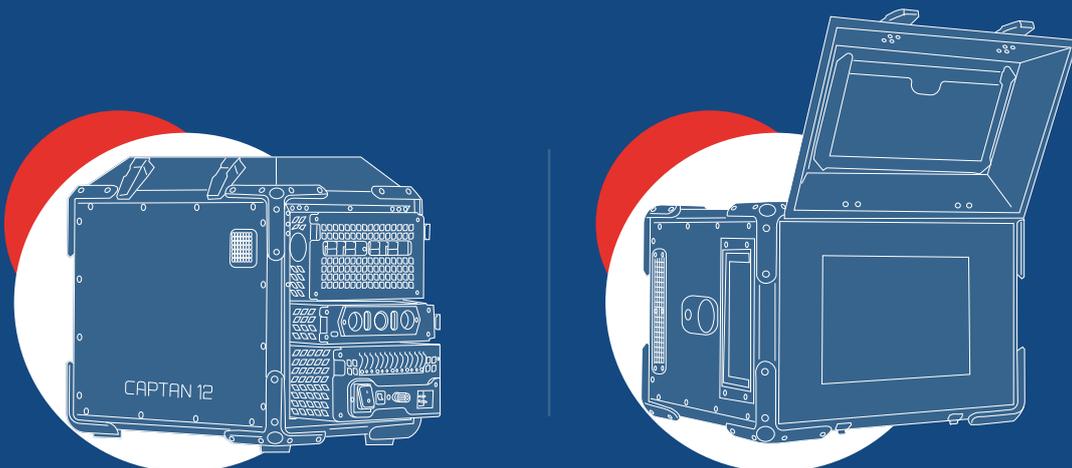
Narrow Band Dielectric Frequency Response (NB DFR) and Line Frequency Dissipation Factor (LF DF) are techniques for assessing dielectric properties, each with unique advantages. LF DF testing at line frequency (50 or 60 Hz) is simple and detects general insulation degradation, but it lacks detailed insights into specific issues like moisture or contamination. NB DFR, however, measures  $\tan \delta$  across multiple frequencies (1 Hz to 500 Hz), giving a deeper view of insulation health and detecting early-stage problems that LF DF might miss. This broader frequency approach makes NB DFR more effective for proactive maintenance and risk assessment in electrical systems.

## Modular Design

CAPTAN 12 is a modular device consisting of the following components:

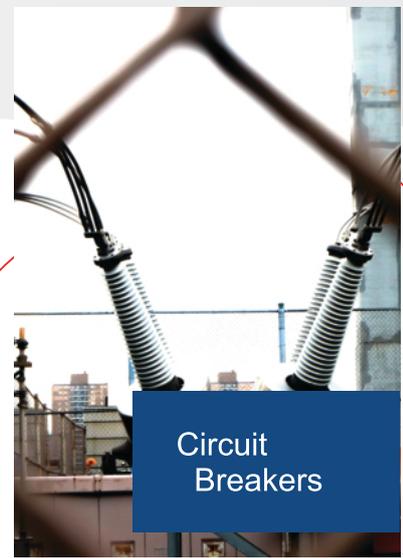
- Power supply module (to handle variations in input voltage magnitude and frequency)
- Measurement module (to feature automatic selection of the appropriate measurement range)
- Inverter module (to provide fully controllable output signals for precise and repeatable test results)
- Touch LCD module (to monitor and control of the test process)

These modules can be easily replaced by our trained service representatives.

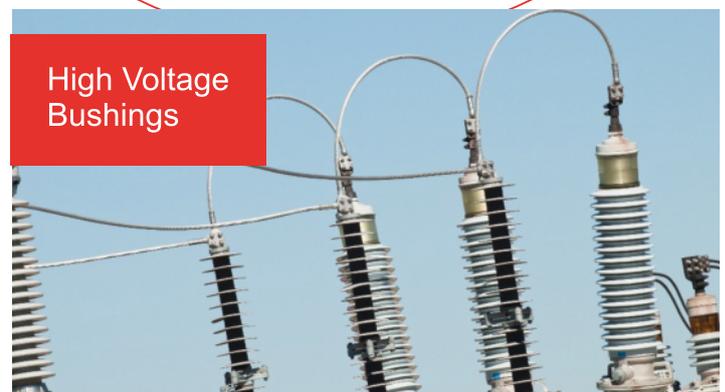
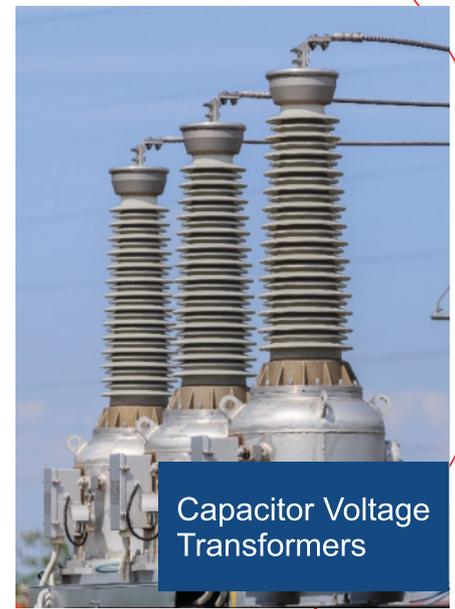
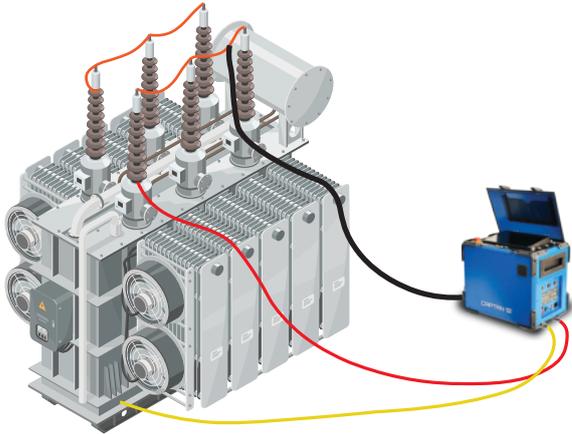


# Applications

- Dissipation factor and capacitance measurement of HV equipment
- Dielectric frequency response analysis (1~500 Hz)
- Power transformer no-load current measurement



## Simple Wiring



1  
Rotary, Safety Switch, and Strobe Light

2  
Measuring Inputs, Power Supply,  
and ON/OFF Switch



3  
Operation Status LEDs and  
Test Start Button

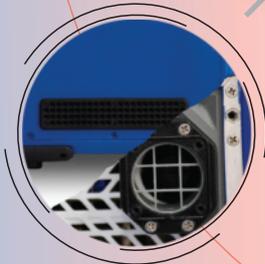


4  
Emergency Stop, USB  
and Ethernet Ports,  
and Buzzer

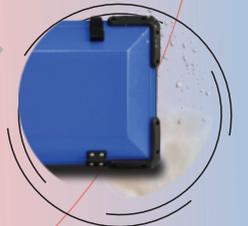
5  
High Voltage Output



# CAPTAN 12 Highlights



**Sealed cooling system**



**Resistant to dust and water penetration**



**Modular**



**Impact resistant**



**Touchscreen LCD**



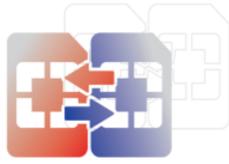
**Easy transportation**

# Product Values



## TEST HIGHLIGHTS

- 12kV output voltage
- Wide frequency range
- Web-based software
- User-friendly software



## SUPPORT

- 24/7 technical support for your peace of mind
- Quick and efficient on-site repairs thanks to a modular design
- Customized solutions tailored to meet our clients' needs and requirements



## KNOWLEDGE

- More than 100 hands-on training sessions offered annually
- Extensive library of technical Paper and videos
- Expert consulting, testing, and diagnostic services tailored to your needs
- Regular user meetings, seminars, and interactive webinars
- Filing of international and National patents



## RELIABILITY

- Robust and durable components designed to withstand harsh environmental conditions
- Long-lasting performance with minimal maintenance needs
- High accuracy and stability across extended testing periods
- Continuous monitoring and diagnostics to prevent unexpected failures

## CAPTAN12

### Capacitance and Tan Delta (Dissipation Factor) Measurement System



# Technical Specifications

Specification	Description
Output Voltage	50 ... 12000 V RMS @ 45 ... 75 Hz
Output Voltage Frequency	1 ... 506Hz (Voltage < 5kV)
Maximum Output Current	300 mA RMS @ 3600VA, t> 2min
Maximum Test Object Capacitance	-Max. 80 nF @ 12kV RMS, 50 Hz -Max. 66 nF @ 12kV RMS, 60Hz
Maximum Measuring Current	300 mA RMS
Number of Inputs	2 (Input A and Input B)
Internal Reference	100pF Normal Capacitor
Safety Features	- Open Circuit Detection (inputs, test, and safety GND) - Safety Handheld Switch - Internal Warning Indicator (such as Overtemperature) - Internal Buzzer

## Soware Features

Web-based soware without need to be installed and can be run on a computer, tablet, or smartphone
Wi-Fi connection support
Manageable database
Specific test rooms with corresponding wiring diagrams depending on test parameters
Support of UST, GST, and GST-g modes

## Environmental, Mechanical and Power Supply Specifications

Operating Temperature	-10 ... 55°C (14 ... 122° F)
Storage Temperature	-20 ... 70°C (-4 ... 158° F)
Humidity	5 ... 95 % r.h. non condensing
Dimensions (W × D × H)	41.5cm × 29cm × 39cm
Power Supply	88 ... 258 VAC 50/60 Hz
EMC	IEC 61326-1, Class A
Environmental Reliability	Vibration and shock (IDC-STD-810, 2-directions)

Parameter	Range	Typical Accuracy	Conditions
Dissipation / Power Factor	0 ... 10 %	Er. < 0.1% of r.d + 0.005%	I <sub>x</sub> < 8 mA V test = 2 kV ... 12 kV f = 45 Hz ... 75 Hz
	10.. 100 %	Er. < 0.5% of r.d + 0.02%	V test = 2 kV ... 12 kV
Capacitance	1 pF ... 3μF	Er. < 0.05% of r.d + 1 pF	I <sub>x</sub> < 8 mA V test = 2 kV ... 12 kV
		Er. < 0.2% of r.d + 1 pF	I <sub>x</sub> > 8 mA V test = 2 kV ... 12 kV
Voltage	0 ... 12000 V	Er. < 1.0% of r.d + 1 V	V > 500 V
Current	0 ... 300 mA	Er. < 0.5% of r.d + 1 μA	I <sub>x</sub> > 1 mA

# CAPTAN 12 Accessories



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