

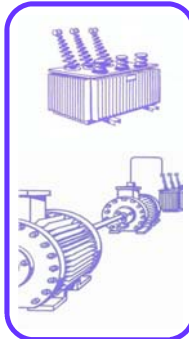
NEW PRODUCT



AUTOMATIC SCHERING BRIDGE

SPC 3000 Type

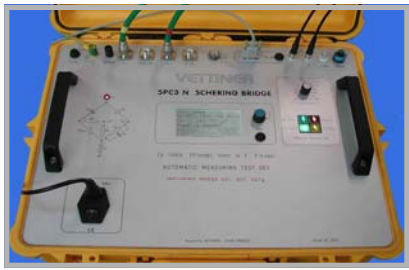
TAN δ & CAPACITANCES MEASUREMENTS



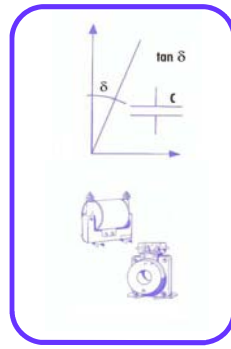
SPC 3000
Presentation in
proof portable
case
comparable
to SPC 3N

or

SPC 3000
Presentation
in rack case
comparable
to SPC 3N



SPC 3000
pictures
available
in
July 2010



FUNCTION

SPC 3000 : - Front face presentation comparable to above SPC 3N,
- Identical performances, or better, than above SPC 3N
- 2 large color SVGA display in addition (Results & zero indicator)

- Very high precision measurement of dielectric dissipation factor (Tan δ) and capacitances in high and low voltage (Built-in modes : UST, GST & GSTg). (Measures from some hundred Volts up to over one million Volts using the adequate standard capacitor as a reference (existing in Vettiner Ranges)

STANDARDS
• Conformity to IEC & NFC Standards

APPLICATION

- Measurement of status of new and degree of ageing of dielectric insulants used in high and medium voltage.
- Solid or liquid insulants: transformers, turning machines, cables, parts of equipments (coils, bars...), oils...
- Production, transmission and distribution of energy on national grid networks or local (including internal networks of industries)
- Manufacturers, repairers, maintenance of transformers / turning machines, cables and all HV insulated equipment...

QUALITY
• of Manpower
• of Know-how
• of Procedures
• of Components

SPC 3000 BENEFITS

- Best accurate technology in the world for tan δ measurement : Schering Bridge technology
- Operating simplicity
- Fast measurement
- Color SVGA display, very complete
- RS 232 interface for PC or printer
- CAN Bus interface to drive complete set
- Test results storage possible with USB terminal
- Total safety of operator
- Reliability
- Reduced maintenance
- Easy check of calibration
- Convenient and simple calibration

ACCURACY
• High accuracy of measurements
• Stability of components

CALIBRATION
• Primary Standards linked to LNE
• Tracing

WARRANTY
1 YEAR

AFTER SALES SERVICE
10 YEARS



FP-SPC-3000 - 10/04/01



AUTOMATIC SCHERING BRIDGE

SPC 3000 Type

TAN δ & CAPACITANCES MEASUREMENTS



PRINCIPLE

- AC Bridge (Schering Bridge method based on structure of Wheatstone Bridge)
- Action on 2 parameters to reach balancing of bridge : Voltage and phase displacement
- Balancing in automatic or manual mode
- Very simple and intuitive use

MAIN CHARACTERISTICS

Decades of resistances (R4) & switch (R3)

- Accurate resistances, stabilized & adjusted at +/- 0.02%
- Time constant : 10×10^{-9} seconds

Decades de Capacitances

- Tropicalized, aged with very negligible loss angle in measurements, order of 10^{-4}

Internal shunts (S) - Admissible current inside bridge

- Accurate resistances, same type than R4
- Admissible capacitive current inside whole bridge : 30 mA
- Over, internal shunts for currents up to 6 A

Measuring ranges

- Voltage 0 to 999.99 kV → 5 digits
- Frequency 45.00 à 65.00 Hz → 4 digits
- Current 0 - 6 A (+ with ext. shunts) → 4 digits
- Capacitance $0,016 \times C_n$ up to $80000 \times C_n$ & + → 5 digits
- Tan δ 1×10^{-6} up to 1 (more on request) → 7 digits
- Cos ϕ 0 - 1.000 → 4 digits
- P active 0-999.99 kW → 5 digits

Resolution of measures

- Voltage 0.1 V
- Frequency 0.01 Hz
- Current 0.1 μ A
- Capacitance $0.016 \times C_n$ (i.e. $C_n = 100$ pF → 0.0001 pF)
- Tan δ 1×10^{-6} (= 1 ppm)
- Cos ϕ 0.001
- P active 1 μ W

Accuracy of measures

- Voltage 0.5 % reading \pm 5 digits
- Frequency 0.01 % reading \pm 1 digit
- Current 0.5 % reading \pm 5 digits
- Capacitance 0.02 % to 0.05% reading \pm 1 digit
- Tan δ 0.5 % reading \pm 1×10^{-5} (= 10 ppm)
- Cos ϕ 1.0 % reading \pm 1 digit
- P active 1.0 % reading \pm 1 digit

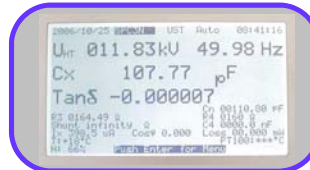
Supply

- Mains 230 V - 50 Hz or 110 V - 60 Hz (to agree)

Note : Technical characteristics may change without any notice



2 Affichages SVGA couleur en juillet 2010



NOUVEAU
CALIBRAGE DE PHASE
AUTOMATIQUE INTEGRE

DISPLAY & INTERFACE

- Display of ambient temperature & hygrometry
- Test object temperature in option (with PT 100)
- RS 232 Interface for PC or printer
- CAN Bus Interface for eventual other external control

OPTION

Automatic guard Potential regulator built-in

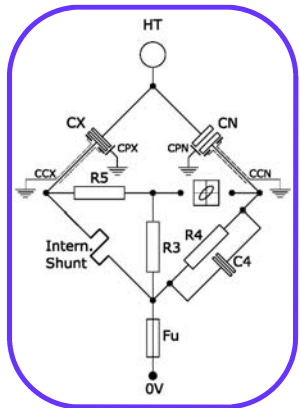
- Automatic compensation system of parasites capacitances & tan δ of measuring cables when they are becoming significant (Measuring cables \geq 10 meters or measurements of low capacitance values or low tan δ ...) → Ref. SRA 3

PROTECTIONS

- Full HV protection thanks to 4 built-in lightning arresters respectively for Cx, Cn, Guard & Ground connections
- Protection of bridge supply with fuse

PRESENTATION

- IP54 Proof & shock absorber case
- Dimensions : 590 x 480 x h 210 mm
- Net weight : \approx 25 kg
- Other presentations (Rack, desk...) or characteristics on simple request.



FP-SPC 3000 - 10/04/01