Mfrs:Test & Measuring Instruments

S.P.INDUSTRIES

Mfrs:Test & Measuring Instruments

- Instrument Transformer Test Set
- Transformer Ratio Meter
- Automatic Transformer Ratio Meter
- Digital Micro Ohm Meter
- Digital Winding Resistance Meter
- Variable Frequency Generator & Power Supply
- Tan Delta & Capacitance Test Set
- Resistivity, Tan Delta & Dielectric Constant Test Set, Oil Heater & Test Cell
- CT/PT Panel - Rack/Table top type
- High Current Source & High Voltage Source
- Standard CT/PT
- CT/PT Burden Box

S.P.INDUSTRIES,# C-104, 1st Floor, 8th Cross, Dyavasandra Industrial Estate, Mahadevapura Post, Bangalore-560 048.
Mobile : +91- 94488 20267/256, Tel.No : 080-4167 0955, E-mail : info@ambertsp.com, www.ambertsp.com
An ISO 9001 : 2015 Certified Company

SRI.S.RAMAN,B.Sc.,
(FOUNDER OF S.P GROUP)

M/s S.P.INDUSTRIES.,

(formerly M/s Shri Parameshwari Enterprises) was established in the year of 1994. we are one of the leading manufacturers & marketers of Test and Measuring Instruments for the power industries.

We are constantly involved in the development activities in consultation with our Technical advisor and our success can be attributed to experience, as well as to our high standards of Quality and Innovation.

Our calibration standards are certified at standard calibration laboratories. Calibration certificates for our products can be issued from our S.P.INDUSTRIES. Our service engineers provide Installation & Operation training for our products. Training includes proper operation of Test sets, routine maintenance procedures, etc.,

We are providing the service and support at clients place and it is having an In-house service and support facilities. We have a unique unit for sales and service outlets.

CT PANEL

Specification

Rated Input Voltage	: 0-230V/440V ±10%
Output Current	: 0-7200Amp variable without winding on secondary rated at 7.5KVA
Highest Surge Voltage	: 0.66KV
Insulation Level	: 0.66/3KV
Frequency	: 50/60Hz
Controls & Indicators	: Zero dimmer inter lock, Main Contactor, MCB's, Indication lamp and interlock, Emergency OFF.

HIGH CURRENT SOURCE

Specification

Rated Input Voltage	: 0-230V/440V ±10%
Output Current	: 0-7200Amp variable without winding on secondary rated at 7.5KVA
Highest Surge Voltage	: 0.66KV
Insulation Level	: 0.66/3KV
Frequency	: 50/60Hz
Controls & Indicators	: Zero dimmer inter lock, Main Contactor, MCB's, Indication lamp and interlock, Emergency OFF.

STANDARD CT

Specification

Primary	: Pre-wound primary for 5...200 A Customer applied primary (1.....10turns) for 250.,6000 A
Secondary	: 5 A for SCT-05;1 A for SCT-01
Test Primary	: A 6000Amp-turn winding is provided to allow for self testing of the CT
Accuracy	: 0.1/0.2s/0.05/0.005 or better than at a burden of 1.5VA at 50/60Hz.
Ratios Provided	: 5,10,15,20,25,30,40,50,60,75,80,100,120,125,150,200 with pre-wound primary winding and 250,300,400,500,600,750,800,1000,1200,1250, 1500,1600,2000,2400,2500,3000,3200,3500,4000,4500,5000,5500 and 6000A with customer applied primary winding.
Duty Cycle	: Continuous up to 6000 A, 30 minutes at 200% current (4kA).
High Surge Voltage	: 0.66V
IL	: 0.66/3KV
Standard	: IS2705/IEC60044-1
Frequency	: 50Hz

NOTE : Specs. can be made as per your requirement.

CT BURDEN BOX

Specification

CT Burden Box 5 Amp/1 Amp: As per IEC/IS standard

Rated Input Current	: 5A or 1A
Burden Ratings	: 0 - 1.25, 1.875, 2.5, 5VA @ PF:1.0 : 0 - 5, 7.5, 10, 15, 30, 40VA @PF:0.8
Current operating Range	: 0 to 200% of rated current
Accuracy	: ±3%
Available Models	: Switch Type & Connector Type
Dimensions	: 19″x15″x6″/19″
Weight	: Approx.12 Kgs.

NOTE : Specs. can be made as per your requirement.

Specifications may change without notice due to continuous development.

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PT PANEL

HIGH VOLTAGE SOURCE

Specification

Input : 230 Volts
Output : 150 KV (Max), Current as per your requirement with analog KV meter, Milli Meter & Timer for H.V. Test.
We also provide H.V. Transformer with above specification for H.V. Test & Partial discharge test, P.D. Free as per your requirement with Fiber Glass Tank.
Our High Voltage source having following Features:
3 Phase High Voltage Source, Star-Star with neutral taken out the tank for 1-Phase testing Purpose.
Input = 400 Volts, Output = 40 KV, VA = 10000

STANDARD PT

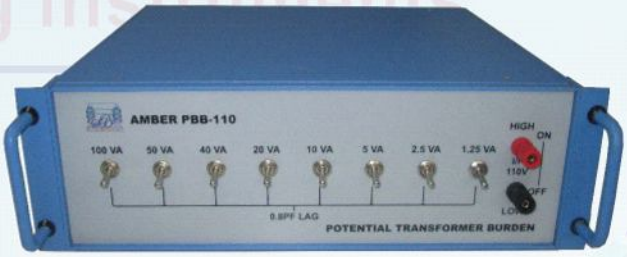
Specification

Standard PT Ratio : 110-220-330-440-660-880 Volts/110 Volts, VA=5, As per IEC/IS standard
Standard PT Ratio : 1100-2200-3300 Volts/110 Volts, VA=5, As per IEC/IS standard
Standard PT Ratio : 6.6KV or 11KV / 110Volts, VA=5, As per IEC/IS standard
Standard PT Ratio : 22KV or 33KV/110Volts, VA=5, As per IEC/IS standard
Standard PT Ratio : 66KV / 110 Volts, VA=5, As per IEC/IS standard
NOTE : Specs. can be made as per your requirement.

PT BURDEN BOX

Specification

PT Burden Box: As per IEC/IS standard



Rated Input Voltage	: 63.5V or 110V
Burden Ratings	: 63.5V=1.25VA to 228.75VA @ PF:0.8
	: 110V=1.25VA to 228.75VA @ PF:0.8
Voltage operating Range	: 0 to 200% of rated voltage
Accuracy	: ±3%
Available Models	: Switch Type & Connector Type
Dimensions	: 19″x15″x6″/19″
Weight	: Approx.18 Kgs.

NOTE : Specs. can be made as per your requirement.

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TAN DELTA AND CAPACITANCE TEST SET

AMBER ATCS-500

AMBER ATCS-500^{HT}

Features

- Complete Microprocessor control
- 3 Terminal Measurements with guard
- Transformer ratio arm measurement technique
- Grounded and ungrounded specimen tests.
- 3 Measuring leads with switching
- 320 x240 dot Back-Lit Graphical LCD display.
- Parameter entry through keyboard
- Alarm Indication for Error messages
- RS- 232 Printer Interface
- Parallel Port Printer Interface*
- Automatic Save & Print*
- Automatic updating of Date & Time*
- USB (Pen drive) interface*
- Measurement not affected by H.V. Interference

Specification

Capacitance

Range ATCS-500	: 0-240 pF upto 0.12 µF
Accuracy	: 0.2% of reading ± 4Pf
Operating Temperature	: 0° - 50° C

Dissipation Factor

Range	: 0-30 %
Accuracy	: ± 2% of Std reading ± 1% FS

Test Voltage

ATCS-500	: 500V, 80Hz
Measurements	: The instrument measures the following combinations:
UST C_{H-L}	: (Ungrounded specimen test, Hi to Lo)
GST C_{H-G}	: (Grounded specimen test, Hi to Gnd)
GST C_{L-G}	: (Grounded specimen test, Lo to Gnd)
GST C_{H-G} +C_{H-L}	: (Grounded specimen test, Hi to Gnd, Plus Hi to Lo)
GST C_{L-G} +C_{L-H}	: (Grounded specimen test, Lo to Gnd, Plus Lo to Hi)
ATCS-500 Power	: 230V ± 10%, 50Hz ± 100VA or 110V ± 10%,60Hz,100VA
Dimensions	: 19" x19"x8"(L x W x H)
weight	: 22kgs (approx)

Specifications may change without notice due to continuous development.

***For ATCS-500^{HT} Only.**

Description

The Model ATCS-500 Low Voltage Tan Delta and Capacitance Test Set is an instrument designed for the accurate measurement of capacitance and Tan Delta of an electrical insulation of Transformers, Motors, Generators etc., This instrument is suitable to measure Grounded and Ungrounded measurements on a Test specimen.

A quick balancing of measurements is achieved by using a phase sensitive detector. The instrument uses Test frequency of 80Hz to make the measurement of electrical insulation in a high voltage switch yards to overcome the power line /HV interference.

The Graphical LCD is displays direct reading of capacitance in either µF or pF and the dissipation factor (Tan Delta) is expressed directly in percent.

The test voltage 500V has been chosen, neither too low to affect the accuracy of measurements nor too high to be dangerous to the operator.

Application

For quick, simple and accurate Low Voltage Capacitance and Tan Delta tests in the shop or field on: Bushings, Generators, Insulators, Transformer Dry outs, Instrument Transformers, CVTs, Insulating Oils, Power Transformers, Breakers, Capacitor Banks, Cables, Motors.

ATCS-500 Calibrator

This calibration box is used to cross check the instrument for the proper results. The portable Calibrator offers one Capacitance, four Tan Delta values. The maximum operating voltage is 500V AC.

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Resistivity, Tan Delta & Dielectric Constant Test Set

AMBER ARTD-10 / ARTD-10^{HT}

FEATURES

- Complete Microprocessor control
- Compact, Portable & Accurate
- Measures : Dielectric Constant
  Tan Delta
  Resistivity
- 320 x240 dot Back-Lit Graphical LCD display
- Parameter entry through keyboard
- Alarm Indication for Error messages
- RS- 232 Printer Interface
- Parallel Port Printer Interface*
- Automatic Save & Print*
- Automatic updating of Date & Time*
- USB (Pen drive) interface*

SPECIFICATIONS

RANGES

Dielectric Constant	:	1 to 13
Tan Delta	:	10^{-5} to 10
Resistivity	:	10^{9} to 10^{17} ohm cm

ACCURACY

Dielectric constant	:	±0.2% of standard reading ±0.001
Tan Delta	:	± 1% of standard reading ±0.3% FS
Resistivity	:	± 3% of standard reading ±0.2% FS linear

RESOLUTION

Dielectric Constant	:	0.001
Tan Delta	:	0.1%
Resistivity	:	0.01
CELL CONSTANT	:	3 digit adjustment for Tan Delta zero and Capacitance (cm) any cell or Test fixture between 50-70pF can be used.
TEST VOLTAGE	:	Internally generated
Dielectric Constant & Tan Delta	:	0-3000V AC, in two ranges (0-1000V & 0-3000V)
Resistivity	:	500V DC –Fixed
POWER SUPPLY	:	230V AC ± 10%, 50Hz, OR 110V AC ± 10%, 60Hz, 150VA
Temperature Range	:	-10° to 50° C
Humidity	:	Ambient to 90% RH
Dimensions	:	19" x 15"x6" (LxWxH)
Weight	:	15kgs (approx)

Specifications may change without notice due to continuous development.

***For ARTD-10^{HT} Only.**

OIL HEATER

An Induction Heater is used to heat the oil, at a high frequency to raise from the room temperature to 90° C in a time span of 15-20 minutes. A knob is provided to set the temperature and will be displayed on the Front Panel Digital Meter. LED is provided to indicate heating. For an operator safety, a micro switch is provided to cut-off the test voltage when the plexi cover of the heater is opened.

SPECIFICATIONS

Power supply	:	230V AC ± 10%, 50Hz OR 110V AC ±10%, 60Hz, 200VA
Temperature Range	:	20° – 110° C
Accuracy of Temperature	:	± 2° C
Dimensions	:	7"x12"x13" (LxWxH)
Weight	:	15kgs (approx)

RTC CALIBRATOR

This calibration box is used to cross check the instrument for the proper results. The portable Calibrator offers one Capacitance, three Tan Delta and four resistance values. The maximum operating voltage is 500V AC / DC.

OIL CELL & SOLID CELL

This 3 Terminal Cell is designed for routine and laboratory Tan Delta tests on transformer oils and other electrical insulating Materials. The electrode of the cell is designed with a spherical bottom which offers more uniform stress on the oil as compared to electrode with tapered end.

SPECIFICATIONS

Construction	:	3 terminal
Material	:	Stainless Steel Body (SS316) with Teflon spacers
Capacitance	:	50-70pF
Electrode Spacing	:	2mm
Volume	:	45ml
Dimensions	:	90mm x 185mm (W x H)
Weight	:	2.5kgs (approx)

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INSTRUMENT TRANSFORMER TEST SET

AMBER iXR-2000^{M}

Features

- Complete Microprocessor Control
- Automatic Null adjustment
- CT/PT Test
- Manual & Automatic ranging
- RS-232 Printer interface
- Parameter entry through keyboard
- Class of Accuracy: IEC, IS, ANSI, IEC-S, IS-S
- Light weight & Portable

Description

AMBER's Instrument Transformer Test Set is a complete micro-processor controlled comparator, compares two instrument transformers (CT/PT) of nominally same ratios. So, a small variation in the excitation voltages, currents and frequencies does not affect the measurement. The CT Test set can test both 1A & 5A test CTs with 1A or 5A standard CT. This Instrument have an in-built RS-232 Printer interface that enables the user to dump the Measured values to a PC or serial printer.

Specification

Current	: 5A & 1A Nominal
Normal operation	: 0.5A-10A & 0.1A-2A
Extended operation	: 0.05A-10A & 0.01A-2A
Voltage	: 120V Nominal
Normal operation	: 30V - 200V
Extended operation	: 1.2V - 240V
Consumption	: Current 0.5VA @ 5A
	: Current 0.1VA @ 1A
	: Voltage 0.1VA @ 120V
Frequency	: 48Hz to 62Hz
Measuring time	: Instant Reading
Power	: 90V to 270V, 50Hz, 40VA
Temperature	: Upto 45^{0}C
Humidity	: 0 to 95 RH
Dimensions	: 19"x 15"x 6" / 19" Rack mounting
Weight	: 12kgs (approx)

Display & Indicator

- 320 x240 dot Back-lit LCD display for error messages / data entry / measured value / Ratio Error & Phase Error.
- Balanced & Unbalanced condition
- Centiradian (CR) or Minute (Min)
- Measured value can be displayed in Volts, Amperes or % of rated value.
- Alarm indication for Error messages.

Printing

- Date
- Serial number
- Burden (VA)
- Input voltage/Current in Volt/Amp
- Ratio error in %
- Phase angle error in Minute/CR
- Class of Accuracy

Keyboard Controls

25 Keys Keypad consist of the following functions:

- 5A & 1A input
- Voltage input
- Auto range
- Range 0.2%, 2% & 20%
- Burden, Date, Serial No.
- Dead Band
- Centiradian / Minutes
- Print (RS-232)

Note:
Can be supplied the following Models:
Current Transformer Test Set(AMBER cXR-2000^{M})
Potential Transformer Test Set(AMBER pXR-2000^{M})

Accurancy : Ratio Error in % and Phase Error in CR/Min

Range	Normal Operation	Extended Operation
20% (± 19.99 % & ± 19.99CR or ± 680 minutes)	± 1% RDG ± 0.04	± 1% RDG ± 0.10
2% (± 1.999 % & ± 1.999CR or ± 68.0 minutes)	± 1% RDG ± 0.004	± 1% RDG ± 0.010
0.2 %(± 1999ppm & ± 1999µR or ± 6.80 minutes)	± 1% RDG ± 10	± 1% RDG ± 20

Specifications may change without notice due to continuous development.

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INSTRUMENT TRANSFORMER TEST SET

AMBER iXR-2000^{HT}

Features

- Complete Microprocessor Control
- Automatic Null adjustment
- CT/PT Test
- Manual & Automatic ranging
- RS-232 & Parallel port Printer interface
- Parameter entry through keyboard
- Class of Accuracy : IEC, IS, ANSI, AS, BS, IEC-S, IS-S, AS-S, IEC-P, IS-P, AS-P, BS-P, IEC-PR, IS-PR, AS-PR, AS-L, AS-M, AS-ME
- Burden, PF & Impedance Measurement
- Automatic Save & Print
- Alarm Indicator, Data Holding Facility
- Automatic updating of Date & Time
- USB (Pen drive) interface

Specification

Current	: 5A & 1A Nominal
Normal operation	: 0.5A-10A & 0.1A-2A
Extended Operation	: 0.05A-10A & 0.01A-2A
	: 0.05A-20A & 0.01A-4A*
Consumption	: 0.5VA @ 5A & 0.1VA @ 1A
Voltage	: 120V Nominal
Normal operation	: 30V - 200V
Extended Operation	: 1.2V - 240V
	: 1.2V - 480V*
Consumption	: 0.1VA @ 120V
Burden & PF	: ± 1% Accuracy
Current	: 0VA - 80VA & 0 - ±1.0 PF
Voltage	: 0VA - 400VA & 0 - ±1.0 PF
Impedance	: CT - 0Ω - 80Ω
	: PT - 10Ω - 12KΩ
Frequency	: 48Hz to 62Hz
Measuring time	: Instant Reading
Power	: 90V to 270V, 50/60Hz, 40VA
Temperature	: Upto 45^{0}C
Humidity	: 0 to 95 RH
Dimensions	: 19" x 15"x6" / 19" Rack mounting
Weight	: 12Kgs (approx)
Accuracy	: Ratio Error in % and Phase Error in CR/Min

Description

AMBER's Instrument Transformer Test Set is a complete micro-processor controlled comparator, compares two instrument transformers (CT/PT) of nominally same ratios. So, a small variation in the excitation voltages, currents and frequencies does not affect the measurement. The CT Test set can test both 1A & 5A test CTs with 1A or 5A standard CT. This Instrument have an in-built RS-232 & Parallel Port Printer interface that enables the user to dump the measured values to a PC/Printer and its having an In-built storage facility of 1250 readings, additionally an interface of USB is used to transmit/store/retrive the measured values to/from the pen drive.

Display & Indicator

- 320 x240 dot Back-Lit Graphical LCD display.
- Alarm indication for Error messages.

Printing

- Customer Name
- Date
- Time
- Serial number
- Ratio
- Entered Burden in VA
- Type of Standard
- Input voltage/Current in V/A
- Ratio error in %
- Phase angle error in Min/CR
- Class of Accuracy
- Measured Burden
- Power Factor
- Impedance

Keyboard Controls

25 Key pad membrane Contains the following keys:

- Print(F1)
- Graph(F2)
- Save(F3)
- Recall(F4)
- Hold(F5)
- USB Write(F6)
- USB Read(F7)
- Shift
- Delete
- Symbols

Note:
Can be supplied the following Models:
Current Transformer Test Set(AMBER cXR-2000^{HT})
Potential Transformer Test Set(AMBER pXR-2000^{HT})

	Range	Normal Operation	Extended Operation
20%	(± 19.99 % & ± 19.99CR or ± 680 minutes)	± 0.5% RDG ± 0.04	± 1% RDG ± 0.10
2%	(± 1.999 % & ± 1.999CR or ± 68.0 minutes)	± 0.5% RDG ± 0.004	± 1% RDG ± 0.010
0.2 %	(± 1999ppm & ± 1999µR or ± 6.80 minutes)	± 0.5% RDG ± 10	± 1% RDG ± 20

Note: * As per Customer Request.
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TRANSFORMER RATIO METER

Features

- Compact, Portable & Accurate
- Measures : Ratio & Ratio Deviation
  : Phase angle
  : Excitation Current
- Four Terminal measurement
- Three Phase Switching Network
- Reverse Polarity Indication & Correction
- Gain Control Detector
- Fast Acting MCB & a safety Fuse

AMBER XR-120

Description

AMBER Transformer ratio meters use the Striking feature of four terminal measurements. It basically measures the NO-LOAD turns ratio of a transformer i.e., **The ratio of the high voltage winding to the low voltage winding of a transformer.**

The ratio can be read off directly from the dials on the front panel. The percentage deviation dial makes finer resolution leading to increased system's accuracy. Additionally the facility of phase angle measurement can be used to predict inter-turn shorts, core shifts etc.

AMBER Transformer ratio meters has an in-built excitation current meter calibrated in two ranges (1mA & 1A). It measures the excitation current of the transformer under test at 120V. A three phase switching network is provided to ease the operation of cable connection. The protection circuit comprising of a fast action Miniature Circuit Breaker along with a fast blow fuse ensures absolute Safety of operation.

AMBER XR-120s

Specification

Measuring Range	: 0.8 : 1 to 2021 : 1
Accuracy	: ± 0.1% of the ratio
Ratio Deviation	: ± 0.5% of the ratio with a resolution of 0.02
Phase Angle in CR	: Ranges of 0.55CR & 5.5CR
Test Voltage	: 3V/6V, 12V & 120V AC at 1A isolated
Power	: 230V AC ± 10%, 50Hz, 150VA
Dimensions	: 16"x9" x 8" (LxWxH)
Weight	: 12Kgs (approx)

Applications

- Distribution Transformers
- Power Transformers
- Current Transformers
- Potential Transformers
- Auto Transformers

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AUTOMATIC TRANSFORMER RATIO METER

Features

- Complete Microprocessor controlled instrument
- Measures : Ratio with Deviation
  : Phase angle
  : Excitation Current
- Four Terminal measurement
- Three Phase switching network
- Reverse Polarity Indication & Correction
- Fast acting MCB & a safety Fuse
- RS-232 & Parallel Port Printer Interface
- USB (Pen drive) Interface Facility

AMBER XR-120S^{HT} & AMBER XR-120^{HT}

Description

AMBER Transformer ratio meters use the Striking feature of four terminal measurements.It basically measures the NO-LOAD turns ratio of a transformer i.e., **The ratio of the high voltage winding to the low voltage winding of a transformer.**Additionally the facility of phase angle measurement can be used to predict inter-turn shorts, core shifts etc.

AMBER Transformer ratio meters has an in-built excitation current meter calibrated in two ranges (1mA & 1A). It measures the excitation current of the transformer under test at 120V. A three phase switching network is provided to ease the operation of cable connection. The protection circuit comprising of a fast action Miniature Circuit Breaker along with a fast blow fuse ensures absolute Safety of operation.

The Instrument has an in built RS-232 & Parallel Port Printer interface that enables the user to dump the values to the Printer. In-built Data Storage facility is used to store the measured values. USB (Pen drive) Interface is used to transfer the measured values to the Pen drive.

Applications

- Distribution Transformers
- Power Transformers
- Current Transformers
- Potential Transformers
- Auto Transformers

Display & Indicator

- 320x240 dot Back-lit Graphical LCD display.
- Alarm indication for wrong selection.

Printing

- Customer Name
- Date & Time
- Serial number
- Transformer type
- Input voltage
- Ratio
- Phase angle in CR/MIN
- Excitation current in A (or) mA
- Vector group
- Terminals

Key Board Controls

25 Key pad membrane Contains the following keys:

- Print(F1)
- Save(F2)
- Recall(F3)
- Shift (F4)
- USB Read(F5)
- USB Write(F6)
- I/O ON/OFF
- SEARCH
- Delete
- Symbols

Specification

Measuring Range	: 0.8 : 1 to 2021 : 1
Accuracy	: ± 0.1% of the ratio
Phase angle in CR	: Ranges of 0.50CR & 5.0CR
Test Voltage	: 3V/6V, 12V & 120V AC at 1A isolated
Power	: 230V AC ± 10%, 50Hz, 150VA
Dimensions	: 19"x 15" x6" (L x Wx H)
Weight	: 20 Kgs (approx)

NOTE : AMBER XR-120S^{HT} can measure only single phase.
AMBER XR-120^{HT} can measure three phases at a time.

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DIGITAL MICRO-OHMMETER

AMBER M-2K

Features

- Compact, light and portable Digital Micro-Ohmmeter
- Direct Digital Reading of resistance in Milliohm and Ohm
- Simple and easy four terminal connections to the sample
- High Accuracy
- Six Ranges from 1μΩ to 2KΩ
- Measurement of grounded and ungrounded specimens
- An ideal low cost test set for inductive load measurement

Description

AMBER M-2K is a compact, robust and truly portable digital Micro-Ohmmeter used for the measurement of low to very low resistance. AMBER M-2K is specially designed with customer in mind.

AMBER M-2K uses true four terminal measurement method. This eliminates error caused due to lead lengths. AMBER M-2K is a direct resistance reading instrument for resistive load and inductive load with simple and accurate measurements.

A constant current source is applied to the unknown resistance and the voltage drop across the unknown is Amplified / Ranged and displayed directly on a four and half digit LED D.P.M.

Applications

- Quick and reliable measurement of low resistance.
- Low resistance measurements on buss-bars,contactors,circuit breakers and welded joints.
- An ideal instrument for inductive load measurements.

Specification

Six Ranges	: 1999.9mΩ, 199.99mΩ, 19.999mΩ 1999.9Ω, 199.99Ω, 19.999Ω
Accuracy	: ± 0.5% of the reading ± 0.25% of the F.S
Resolution	: 1μΩ resolution
Display	: Resistance reading on 4½ digit LED D.P.M Milli Ohm, Ohm indicator lamps
Power	: 230V ± 10%, 50Hz, 30VA
Temperature	: 0° - 50° C
Dimensions	: 10"x11"x5" (LxWxH)
Weight	: 4Kgs (approx)

Specifications may change without notice due to continuous development.

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Mobile : +91- 94488 20267/256, Tel.No : 080-4167 0955, E-mail : info@ambertsp.com, www.ambertsp.com
An ISO 9001 : 2015 Certified Company

DIGITAL WINDING RESISTANCE METER

AMBER XRM-20K

Features

- Compact, Robust & Portable Instruments
- True four terminal measurement
- Direct digital reading of resistance
- Charging inductor mode for faster stability
- Up to 10 Amps DC constant current source
- Simple and easy four terminal connections
- High Accuracy
- Measurement on grounded specimens
- Disconnect status indicator for safety

Indicator & Display

- 4½ digit LED display for Current & Resistance.
- Direct read-out in Milli Ohm or Micro Ohm.
- Safe & Unsafe indicator for cable connection.
- Indication of flow of output current.

Switches & Controls

- Switch to select the DC current flow through the test specimen.
- Switch for power with indicator.
- Switch to select the range of resistance.
- Easy replaceable fuse on the rear panel.

Description

AMBER's Digital winding Resistance Meter is Simple, Accurate & Robust instruments used to measure resistance of highly inductive & resistive loads. The true four terminal method is used to overcome even the errors due to lead lengths.

The constant current source is derived directly from the line voltage and the current regulator uses triac circuit on the AC side and an internal known shunt in the DC current path as reference.

The equipment has switches to control the current selected at different ratings and the other for choosing the appropriate range of resistance measurement and the value of resistance will be directly read-off from the 4½ digit LED display. The Instrument uses charging inductor mode to get faster stability.

Applications

- High inductive & Resistive load measurements.
- Quick & reliable measurement of low & high resistance.
- Very low resistance measurements on buss-bars, contactors, breakers & welded joints.

Specification

Output Current	: 0.1m,1m,10m,0.1A,1A & 10A
Resistance Range	: 0.1μ – 20KΩ
Channel	: Single
Resolution	: 0.0001mΩ
Rating	: 10Amps Continuous
Displays	: Resistance reading on 4½ digit LED display
Accuracy	: ± 0.5% of the reading & ± 5counts
Power	: 230V AC ± 10%, 50Hz
Temperature	: 0°- 50° C
Dimensions	: 19"x15"x6"(LxWxH)
Weight	: 22 Kgs (approx)

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DIGITAL MICRO-OHMMETER

AMBER M-10

AMBER M-100

Features

- Compact, Robust & Portable
- Quick, Reliable & Accurate
- Direct read-out of Resistance & DC current
- 10 Amps (M-10) & 100 Amps (M-100) DC constant current source
- True four terminal measurement
- Measurement on grounded specimens
- RS-232 Printer Interface
- Automatic updating of Date & Time

Applications

- Quick & reliable measurement of low resistance.
- Low resistance measurements on buss-bars, contactors, breakers & welded joints.

Switches & Controls

- Switch to select the DC current flow through the test specimen.
- Switch for power with indicator.
- Switch to select the range of resistance.
- Easy replaceable fuse on the front panel.

Description

AMBER Digital Micro Ohm-Meter is used for the measurement of low to very low range of resistance and also of grounded specimens.

The constant current source is derived directly from the line voltage and the current regulator uses triac circuit on the AC side and an internal known shunt in the DC current path as reference. The Voltage drop across the unknown resistance is amplified, ranged and displayed directly on a LCD display.

The equipment has two switches. one for the controlling of current flow through the specimen and the other for choosing an appropriate range of resistance measurement.

The Instrument has an in built RS-232 Printer interface that enables the user to dump the values to the Printer.

Indicator & Display

- Warning Lamp for the current flow through the test specimen.
- 4x20 dot matrix LCD display for display the measured resistance & DC Current (M-100) in Amps.
- Direct read-out in milli or micro Ohm.
- Alarm for error messages.

Specification	M-10	M-100
Range	4(199.9µ, 1999µ, 19.99m & 199.9mΩ)	4(199.9µ, 1999µ, 19.99m & 199.9mΩ)
Resolution	0.1µΩ	0.1µΩ
O/P Current Rating	10Amps Continuous	5,10,20,50 and 100 Amps 5, 10 & 20A continuous 50A 15min-ON & 10min-OFF 100A 10min-ON & 10min-OFF
Display	Resistance reading on 4x20 dot matrix LCD display.	DC current & Resistance reading on 4x20 dot matrix LCD display.
Accuracy	± 0.5% of the reading & ± 5counts	± 0.5% of the reading & ± 5counts
Power	230V AC ± 10%, 50Hz	230V AC ± 10%, 50Hz
Temperature	0°- 50° C	0°- 50° C
Dimensions	16"x9"x8" (L x W x H)	18"x19"x8" (L x W x H)
Weight	12Kgs (approx)	40Kgs (approx)

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VARIABLE FREQUENCY GENERATOR

AMBER VFG-60

AMBER VFG-110

Features

- Compact, Robust & Portable Instruments
- Direct digital reading of Frequency
- Direct digital reading of Voltage
- Variable Frequency from 40Hz to 60Hz
- Variable Voltage from 10V to 240V AC
- Resolution of 1V & 0.01Hz
- Power output rating 30VA
- Ideal for frequency & Voltage Relays

Applications

Quick & reliable test on :

- Over / Under Voltage Relays
- Over / Under Frequency Relays

Description

AMBER's Variable Frequency Generators are Compact, Robust and Truly portable test instruments. They can be used on field as well as lab purposes. The frequency can be read-off directly from the digital frequency meter with a resolution of 0.01Hz. The frequency can be comfortably varied from 40Hz to 60 Hz.

The Model VFG-60 has been incorporated with a four range switching system that allows the user to vary the voltage from 10V AC to 240V AC. The Voltage can be read off directly from the digital voltmeter with 1V resolution rated at 30VA.

The Model VFG-110 has two constant output voltage sources of 110V & 63.5V AC rated at 30VA.

Fast blow fuses have been used as a part of protection circuits.

Specification

	VFG-60	VFG-110
Output Voltage	10V to 240VAC (in 4 Ranges)	110V & 63.5V AC
Output Frequency	40Hz to 60Hz	40Hz to 60Hz
Output Power	30VA	30VA
Output Protection	Fuse Protection	Fuse Protection
Voltage Control	ON/OFF Switch with 10 turn pot for smooth control.	ON/OFF Switch & Locking pot for ± 10V.
Voltage Indicator	3 digit voltmeter	xxxxxx
Frequency Control	10 turn pot for smooth setting	10 turn pot for smooth setting
Frequency Indicator	4 digit frequency meter	4 digit frequency meter
Power	230V AC ± 10%, 50Hz	230V AC ± 10%, 50Hz
Dimensions	14" x 12" x 6" (L x W x H)	14" x 12" x 6" (L x W x H)
Weight	12 Kgs (approx)	9 Kgs (approx)

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Mfrs:Test & Measuring Instruments

S.P.INDUSTRIES

Mfrs:Test & Measuring Instruments

INSTRUMENT TRANSFORMER TEST SET

AMBER iXR-2000^{M} & iXR-2000^{HT}

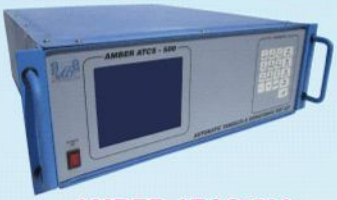
OIL HEATER

AMBER OH-10

RESISTIVITY, TAN DELTA & DIELECTRIC CONSTANT TEST SET

AMBER ARTD-10

TAN DELTA AND CAPACITANCE TEST SET



AMBER ATCS-500

MANUAL & AUTOMATIC TRANSFORMER RATIO METER

AMBER XR-120 & XR-120s

AMBER XR-120S^{HT} & XR-120^{HT}

DIGITAL MICRO-OHMMETER

AMBER M-10 & M-100

AMBER M-2K

DIGITAL WINDING RESISTANCE METER

AMBER XRM-20K

VARIABLE FREQUENCY GENERATOR

AMBER VFG-60 & VFG-110

For More Details Visit Our Website : www.ambertsp.com

CT & PT PANEL

ACCESSORIES

HIGH VOLTAGE / CURRENT SOURCE

STANDARD PT

STANDARD CT

BURDEN BOX(CT & PT)

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CT & PT PANEL

HIGH VOLTAGE/CURRENT SOURCE

Specification

Input : 230 Volts
Output : 150 KV (Max), Current as per your requirement with analog KV meter, Milli Meter & Timer for H.V. Test.
We also provide H.V. Transformer with above specification for H.V. Test & Partial discharge test, P.D. Free as per your requirement with Fiber Glass Tank.
Our High Voltage source having following Features:
3 Phase High Voltage Source, Star-Star with neutral taken out the tank for 1-Phase testing Purpose.
Input = 400 Volts, Output = 40 KV, VA = 10000

CT BURDEN BOX & PT BURDEN BOX

Specification

CT Burden Box 5 Amp: As per IEC/IS standard

a) VA = 0-1.25-1.875-2.5-3.75-5, Power Factor : Unity
b) VA = 5-7.5-10-15-30/40, Power Factor : 0.8 lag

CT Burden Box 1 Amp: As per IEC/IS standard

a) VA = 0-1.25-1.875-2.5-3.75-5, Power Factor : Unity
b) VA = 5-7.5-10-15-30/40, Power Factor : 0.8 lag

PT Burden Box: As per IEC/IS standard

63.5 Volts, 1.25VA to 200VA
110 Volts, 1.25VA to 200VA

NOTE : Specs. can be made as per your requirement.

STANDARD CT & STANDARD PT

Specification

Standard CT Ratio : 5 to 6000/1-5 Amp, VA = 5, As per IEC/IS standard
Standard PT Ratio : 110-220-330-440-660-880 Volts/110 Volts, VA=5, As per IEC/IS standard
Standard PT Ratio : 1100-2200-3300 Volts/110 Volts, VA=5, As per IEC/IS standard
Standard PT Ratio : 6.6KV or 11KV / 110Volts, VA=5, As per IEC/IS standard
Standard PT Ratio : 22KV or 33KV/110Volts, VA=5, As per IEC/IS standard
Standard PT Ratio : 66KV / 110 Volts, VA=5, As per IEC/IS standard

NOTE : Specs. can be made as per your requirement.

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