



The widest range



Analog Panel Meter

ANALOG PANEL METERS

The movements are strongly constructed incorporating Synthetic Sapphire Jewel Bearings, Hard Chrome Plated, Highly Polished Pivot and Phosphor Bronze Cadmium Copper Hair Springs. Moving Coil Meters are fitted with high flux density Magnets resulting in zero scale. All these Meters have zero adjusts accessible from the front. Changing of scale is so easy and no tool is required. A guide slot have been provided to remove the scale without damages to the pointer mechanism. Analog Meters are subjected to various tests as per IS 1248-93 such as vibration, life, overload, voltage breakdown, insulation and accuracy tests

FEATURES

FR Grade GF Polycarbonate UL 94VO : Swivel Captive Fasteners
Slim Line Bezel : Vertical Mounting
Standard Glass Window : IP 52 Enclosure



RANGES

Cutout Size:

72 x 72mm, 96 x 96mm, 144 x 144mm

Range: Voltmeter / Ammeter – both

AC/DC Power Factor Frequency

QUALITY

The High Quality of VAISHNO switchboard measuring Instruments and accessories due to exhaustive and stringent controls through hour the production process.

STANDARDS

VAISHNO Measuring Instruments are manufactured according to the following standards :

- IS:24119 - IEC-473 - DIN,43700 -DIN 43802

CASE

VAISHNO Meters have Thermo plastic moulded casing for Ammeter. Voltmeter. The casing dust and vermin proof, termite and fungus resistant Panel Cut-Outs conform to IS-2419



ENCLOSURE PROTECTION CODES

The Degree of Protection of the enclosure is IP:52.

Terminals IP: 00 as per IEC-52(9D IN 40050) Protection Level can be improved with the possible use of different insulation covers.

BEZEL

Slim-Line Bezel, standard colour is Black On request Grey Colour Bezel can be supplied.

BEZEL WINDOW

Standard : Sheet Glass

Optional Anti Reflective sheer Glass at Nominal Extra Cost.

INSTALLATION

Mounting Clamps are provided to fix the meter Flush Type on Panel.

MOUNTING POSITION

The normal execution of our instrument is for vertical mounting. However, other positions are possible.



INSULATION

Insulation resistance more than 5 M Ω at 500v as per IS:9249 (PART 1)

ENVIRONMENT

Environment category II as per IS:1248

ACCURACY

The accuracy of Instruments corresponds to Class 1.5.

OVER LOAD

The instruments are designed to withstand 1.2 times rated current / voltage.

TEST VOLTAGE

All meters are designed for 2KV AC RMS for 1 minute..

OPERATIVE TEMPRATURE RANGE

-10°C to +55°C

CONSTRUCTION

Sturdy Construction incorporating synthetic sapphire jewel bearing, hard chrome plated highly polished pivots provide an extra smooth movements to the pointer. Moving coil Meters are filled with high flux density magnets.

All these meters have provision for zero adjustment accessible from the front.





DC SHUNTS

VAISHNO DC SHUNTS are available for current ratings from 5A to 15000A with mV drops of 50-150 mV. DC Shunts are manufactured with Stringent Quality Control confirming to IS: 1248. Shunts consist of manganin rods/wire soldered or silver brazed to Brass/ Copper Blocks. The shunts are artificially aged after manufacturing, then tested on full load.

APPLICATION

Shunts are used for measuring current in DC Applications by connecting them to Moving Coil Panel meters, Digital Meters or other measuring devices. Shunts can also be used in Control Devices such as Power Supplies and Battery chargers or for over Load Protection.

TECHNICAL SPECIFICATIONS

Accuracy Class- 1 or 0.5

Over load-- Shunts are capable of with standing temperatures upto 120° C without any permanent alteration in physical or electrical properties. Over loads and faults which results in temperature of this magnitude can be safely handled.

Temperature Co-efficient- 0.002% per degree centigrade, above ambient temperature in still air, with free ventilation, temperature not exceeding 120° C at the centre and 90°C at the ends.



- **Insulation-** Shunts are supplied un-insulated and protection against contact should be installed where applicable.

Over loads (Brass Ended) - Continuous- 1.2 x Rated Current, 5 seconds- 4 x Rated Current upto 30 seconds,
5 seconds- 10 x Rated Current upto 5 seconds

Ambient Temperatures- Calibration -20°C
Working Range -20 °C + 60 °C

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- **TYPES:-**

Compact Brass Ended- These shunts are often requested for special applications due to small size. Manufactured to IEC: 51 Class-1, they can be current rated from 5-50A with 25, 50, 60, 75, and 100mV output.

Standard Brass Ended- These Shunts are heavy duty type and provide accurate DC mili Volt signal suitable for measuring instruments and circuits and are manufactured as per IS: 1248, Class-1 or Class 0.5 with current rating from 5A- 15000A and 50- 300mV output.

Installation- For maximum heat dissipation, mount shunts in the horizontal manner, with the blade, standing vertical. Utilize the full end block surface area. Ample ventilation should be provided. Bus Bar should be adequately rated, clean and level, with a thin coat of silicon grease applied to the contact surface area. Use flat and tension washers under the nuts and tighten fully.



CURRENT TRANSFORMERS

“VAISHNO” Current Transformers reproduces proportionate primary current on its secondary side required for extending the range of the instruments or protective devices connected to its Secondary circuit.

Types Available : Tape Wound & Cast Resin Confirming to IS:2705

CORE: Toroidal core of high Permeability silicon steel.

RANGE & APPLICATION:

METERING CT: Accuracy will be selected on the basis of the instrument i.e. when installed at a far away from CT the secondary is chosen as 1A instead of 5A.

PROTECTION CT: Meant for Circuit Breakers & Relays

WOUND PRIMARY:

When the ratio is low it becomes difficult to obtain good result with single & primary turn. For this both primary & secondary turns are wound on the toroidal core.

ELECTRICAL FEATURES:

Rated Frequency - 5-60hz * Class of Insulation - E * Rated time thermal current i_{th} - 60 in * Nominal surge current I_{dyn} - 2.5 i_{th} (minimum 100 kA at all window type Ct's) * Highest voltage for equipment U_m - 0.72Kv (other voltages on request) * Rated power-frequency withstand voltage - 4Kv / 1min (Other voltages on request) Instrument security factor - Fs5 or Fs10

SPECIAL NOTES:

Ct's available in class 0.5 and 0.2 and other accuracy class available on request * Ct's also available with 1A sec current * Other VA's are as per customer requirement.

MECHANICAL FEATURES:

- * Unbreakable, flame retardant, self-extinguishing / Nylon casing of grade UL 94 V2
- * Cores are made from high grade CRGO material
- * Dual coated copper wire having class of insulation H.
- * Nickel plated secondary terminals with plus minus screws of 0.5Nm.
- * Integrated secondary terminal caps.

