

Dynamometric 1ph/3ph Power & Power Factor Meter

DATA SHEET NO. DYN-PWR / 10 / 99



DESCRIPTION

Dynamometric instruments are used for measurement of active, reactive & absolute power in 1 Phase & 3 Phase systems for balanced / unbalanced load conditions. Watt, Var & VA instruments incorporate current coils, which are connected in series with the load & pressure coils of fine wire gauge, which are connected across the load. These instruments work on "Air cored Electro-Dynamometric" principle.

Power Factor meter incorporates two pressure coils one with non-inductive resistance in series & other with capacitance in series & are cross connected. The deflecting torque produced is proportional to the phase angle between current & voltage vectors. The pointer rests anywhere on the scale when meter is not connected in the circuit, as there is no controlling torque.

FEATURES

- ◆ SCALE : Linear. Side zero or center zero are available.
- ◆ HOUSING : Sheet Metal (Black painted).
- ◆ TERMINAL PROTECTION : Shrouded terminals to protect from accident. (on request).

ELECTRICAL SPECIFICATIONS

- ◆ TYPE : Dynamometric.
- ◆ OPERATING VOLTAGE : 75V to 500V for 1Ph. 110V / 440V - PT secondary for 3Ph.
- ◆ BURDEN : <1.25VA upto 75V, <2.5VA 100V to 150V, <5VA 200V to 300V<10VA 350V to 600V
- ◆ OPERATING CURRENT : 0.5A to 10A for 1Ph. 1A / 5A - CT secondary for 3Ph.
- ◆ BURDEN : <5VA upto 5A, <10VA upto 10A.
- ◆ FREQUENCY : 45 ~ 65Hz. (400Hz. on request).
- ◆ ACCURACY : Class 1.5 for Watt / Var / VA. 2° for PF.
- ◆ INSULATION RESISTANCE : Greater than 20M Ω at 500V.DC
- ◆ DIELECTRIC TEST : 2kV RMS for 1 minute.
- ◆ OVERLOAD CONTINUOUS : 1.2 times
- ◆ OERLOAD SHORT TIME : 2 times V_N / 10 times I_N for 5 seconds.
- ◆ OPERATING TEMP. : -10°C to 55°C
- ◆ STORAGE TEMP. : -20°C to 70°C
- ◆ HUMIDITY : Up to 95% RH
- ◆ CONFORMS TO : I.S. 1248 / I.E.C. 60051(Part 3) for WATT / VAR , (Part 5) for PF.

Dynamometric 1ph/3ph Power & Power Factor Meter



MECHANICAL SPECIFICATIONS

SIZE (mm)	DEPTH (mm)	PANEL CUTOUT (mm)	SCALE LENGTH (mm)	WEIGHT (gms.)
96 x 96 1Ph or 3Ph	See table 1	92 x 92 ^{+0.8}	80 (approx.)	See table 2
144 x 144 1Ph or 3Ph		138 x 138 ^{+1.0}	140(approx.)	

Table No. 1 (For Depth : in mm)

Para-meter	WATTMETER				VAR METER				VA METER				PF METER			
	1PH	3P1E	3P2E	3P3E	1PH	3P1E	3P2E	3P3E	1PH	3P1E	3P2E	3P3E	1PH	3P1E	3P2E	3P3E
96X96	80	80	100	100	-	-	100	-	80	-	100	-	80	80	-	-
144X144	85	85	125	165	-	-	125	165	85	-	125	165	125	125	-	-

Table No. 2 (For Weight: in approx. kg)

Para-meter	WATTMETER				VAR METER				VA METER				PF METER			
	1PH	3P1E	3P2E	3P3E	1PH	3P1E	3P2E	3P3E	1PH	3P1E	3P2E	3P3E	1PH	3P1E	3P2E	3P3E
96X96	0.5	0.5	0.7	0.7	-	-	0.7	-	0.5	-	0.8	-	0.6	0.7	-	-
144X144	1.0	1.0	1.4	1.7	-	-	1.4	1.8	1.8	-	1.5	1.8	1.2	1.4	-	-

Note: The connection diagram label is affixed on each meter.

Ordering information

- 1) Type 2) Size, Parameter, Phase & Element and Range
- 3) Operating Voltage & PTR 4) Operating Current & CTR