Dynamometric 1ph/3ph

Instrument Division

Power & Power Factor Meter

Data sheet No.: DYN-PWR/10/11

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 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 : Non Linear. Side zero or center zero are available.
- ENCLOSURE : 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 /. 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.

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				PF METER			
	1PH	3P1E	3P2E	3P3E	1PH	3P1E	3P2E	3P3E	1PH	3P1E	3P2E	3P3E
96X96	80	80	100	100	–	–	100	–	80	80	–	–
144X144	85	85	125	165	–	–	125	165	125	125	–	–

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

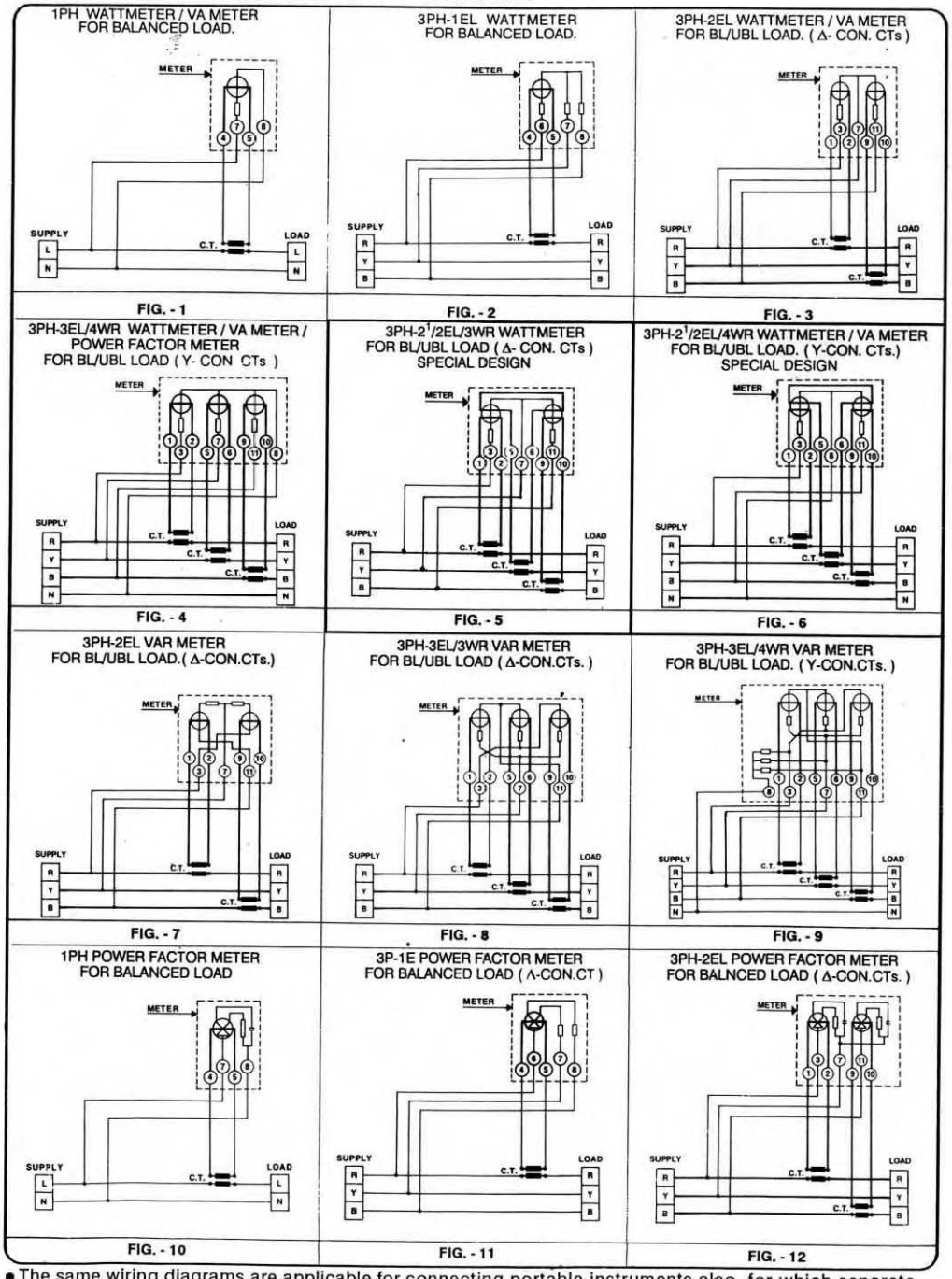
Para-meter	WATTMETER				VAR METER				PF METER			
	1PH	3P1E	3P2E	3P3E	1PH	3P1E	3P2E	3P3E	1PH	3P1E	3P2E	3P3E
96X96	0.5	0.5	0.7	0.7		–	0.7	–	0.6	0.7	–	–
144X144	1.0	1.0	1.4	1.7	–	–	1.4	1.8	1.2	1.4	–	–

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

Dynamometric 1ph/3ph Power & Power Factor Meter

CONNECTION DIAGRAM

WIRING DIAGRAMS FOR SWITCHBOARD INSTRUMENTS



- The same wiring diagrams are applicable for connecting portable instruments also, for which separate connection diagram lable is affixed on each meter.

Ordering information

1) Type 2) Size, Parameter, Phase & Element and Range

3) Operating Voltage & PTR 4) Operating Current & CTR