

Portable Instrument

1ph/3ph - Power & Power Factor Meter (Large Size Dynamometric in Wooden housing)

DATA SHEET NO. PORT 4 / 10 / 99










DESCRIPTION

These are dynamometric type instruments, incorporating single element / two elements or three elements power measurement methods and specially designed to be operated in horizontal condition.

FEATURES / ADVANTAGES:

- ◆ Instruments with accuracy class 0.5% for 1Ph Watt, 1.5% for 3Ph, 2° for PF.
- ◆ Instruments with multiple scale available (refer table).
- ◆ Robust housing suitable for schools, workshops, field operations for continuous use.

ELECTRICAL SPECIFICATIONS

TYPE	MODEL	SCALE	POTENTIAL COIL (V)	CURRENT COIL (A)	ACCURACY	
WATT METER WITH LOW POWER FACTOR	 PORT LSDW - 1	TPDC	75/150/300, 150/300/600	0.5/1, 1/2, 2.5/5, 5/10, 10/20	1.5%	
		SPSC	75, 150, 300, 600	0.5, 1, 2, 2.5, 5, 10, 20	0.5%	
WATT METER	 PORT LSDW - 2	DPSC	75/150, 150/300, 300/600.	0.5, 1, 2, 2.5, 5, 10, 20	0.5%	
		TPSC	75/150/300, 150/300/600.	0.5/1, 1/2, 2.5/5, 5/10, 10/20		
		SPDC	75, 150, 300, 600			
		DPDC	75/150, 150/300, 300/600.			
		TPDC	75/150/300, 150/300/600.			
		 PORT LSDW - 3	SPSC	75, 150, 300, 600		0.5, 1, 2, 2.5, 5, 10, 20
	 PORT LSDW - 4		SPSC	75, 150, 300, 600	0.5, 1, 2, 2.5, 5, 10, 20	
			DPDC	75/150, 150/300, 300/600.	0.5/1, 1/2, 2.5/5, 5/10, 10/20	
	 PORT LSDW - 5		SPSC	75, 150, 300, 600	0.5, 1, 2, 2.5, 5, 10, 20	
		SPDC	0.5/1, 1/2, 2.5/5, 5/10, 10/20			
VAR METER	 PORT LSDW - 6	SPSC	75, 150, 300, 600	0.5, 1, 2, 2.5, 5, 10, 20	1.5%	
		DPDC	75/150, 150/300, 300/600.	0.5/1, 1/2, 2.5/5, 5/10, 10/20		
	 PORT LSDW - 7	SPSC	75, 150, 300, 600	0.5, 1, 2, 2.5, 5, 10, 20		
		SPDC		0.5/1, 1/2, 2.5/5, 5/10, 10/20		
POWER FACTOR METER	 PORT LSDW - 8	SPSC	75, 150, 300, 600	0.5, 1, 2, 2.5, 5, 10, 20	2°	
		DPSC	75/150, 150/300, 300/600.			
		TPSC	75/150/300, 150/300/600.			
		SPDC	75, 150, 300, 600	0.5/1, 1/2, 2.5/5, 5/10, 10/20		
		DPDC	75/150, 150/300, 300/600.			
		TPDC	75/150/300, 150/300/600.			
	 PORT LSDW - 9	SPSC	75, 150, 300, 600			0.5, 1, 2, 2.5, 5, 10, 20

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SELECTION OF RANGES :

Upper limit of measuring range for meters shall be one of the following values - 1, 1.2, 1.5, 2, 2.5, 3, 4, 5, 6, 7.5, 8 or their decimal multiples.

Example for selection of proper range

1) Formula for 1Phase active power

$P(\max) = VI \cos \phi$. Where $\cos \phi = 1$.

If Voltage = 500V & Current = 2.5A calculated power = $500 \times 2.5 \times 1 = 1.25\text{kW}$.

If the calculated value is 1.25kW 0 - 1.2kW or 0 - 1.25kW shall be selected as a range for power.

2) Formula for 3Phase active power with PT & CT.

$P(\max) = \sqrt{3}VI \cos \phi \times \text{PTR} \times \text{CTR}$. Where $\cos \phi = 1$.

If Voltage = 110V & Current = 5A PTR = 400kV/110V CTR = 1000A/5A

calculated power = $\sqrt{3} \times 110 \times 5 \times (400 \times 1000 / 110) \times (1000 / 5) = 692\text{MW}$.

If the calculated value is 692MW 0 - 600MW or 0 - 750MW shall be selected as a range for power.

Note : ■ All Wattmeters are calibrated at $\cos \phi = 1$ and Varmeter at $\sin \phi = 1$

■ All Low Power Factor Wattmeters are calibrated at $\cos \phi = 0.2$ lag.

■ Voltage & Current range other than specified can be supplied on request, if feasible.

MECHANICAL SPECIFICATIONS

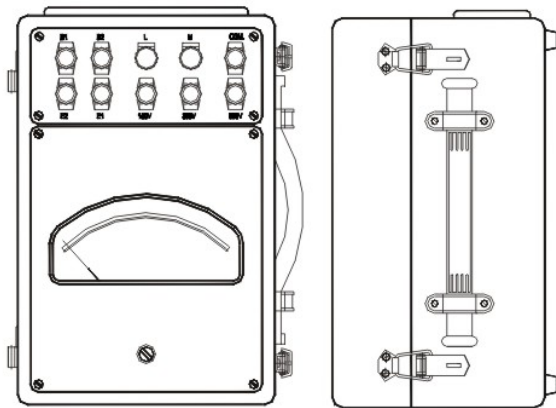


Fig. 1

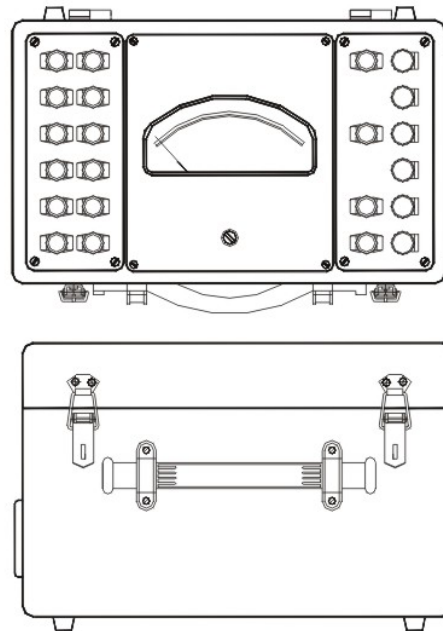


Fig. 2

SIZE	LENGTH mm	WIDTH mm	HEIGHT mm	HOUSING MATERIAL	MODEL IDENTIFICATION	SCALE		WEIGHT kg. (Approx.)
						LENGTH mm (Approx.)	DIVISION nos.	
1	300	200	155 / 190	Wooden Box	LSDW —	150	100 ~ 150	4 ~ 5
2	225	355	190 / 225	Wooden Box	LSDW —	150	100 ~ 150	5.5 ~ 7.5

Ordering information

1) Type 2) Model, Parameter, Phase, Range 3) Operating Voltage & PTR 4) Operating Current & CTR.