

Moving Coil 240°, Long Scale Instruments



DATA SHEET NO. MCCS / 10 / 99



DESCRIPTION

Moving coil instruments with circular scale of 240° employ a platinum taut band for suspension of moving coil assembly instead of pivot & jewel system. It is robust & less prone to sluggishness & zero shift due to functionless movement.

These meters are basically used for the measurement of DC current & voltage. These meters with built in rectifier for the measurement of AC current & voltage in the frequency range 45-65Hz. / 400Hz., measures average values & are scaled to indicate RMS.

These instruments are not recommended for non-sinusoidal waveforms of current & voltage. The other indications like Frequency, Power & Power factor can be offered with suitable external transducers.

Speed indication is possible if used with * AC tachogenerator.

(* not in the scope of AE).

FEATURES

- ◆ Long scale instruments.

ELECTRICAL SPECIFICATIONS

- ◆ TYPE : MOVING COIL 240°.
- ◆ OPERATING VOLTAGE : 60mV to 600V.
- ◆ OPERATING CURRENT : 500 μ A to 30A & Above 30A with external shunt.
- ◆ ACCURACY : Class 2.5% for SQ48, 1.5% for SQ72 & SQ96, 1.0% for SQ144, SQ110.
- ◆ INSULATION RESISTANCE : Greater than 20M Ω at 500V DC
- ◆ DIELECTRIC TEST : 2kV RMS for 1min.
- ◆ 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 2)

MODEL	SQ 48	SQ 72	SQ 96	SQ 144	SQ 110
ACCURACY CLASS (%)	2.5	1.5 ^A	1.0 ^A	1.0 ^A	1.0 ^A
D.C. AMMETER(MIN.)			0 – 500 μ A		
(MAX.)	0 - 100mA ^B		0 – 30A ^C		
D.C. VOLTMETER(MIN.)			0 – 60mV		
(MAX.)	0 - 150mV ^B		0 – 600V		
A.C. AMMETER (MIN.)	0 - 10mA ^B		0 – 10mA		
(MAX.)	0 - 30A ^B		0 – 30A		
A.C. VOLTMETER(MIN.)	0 - 10V ^B		0 – 10V		
(MAX.)	0 - 600V ^B		0 – 600V		
FREQ. METER	POSSIBLE ^B		40Hz TO 100Hz AT 110V ~ 440V.		
WATT/VAR METER	POSSIBLE ^B	POSSIBLE ^D	1PH, 3PH-2/3E : 110V~440V,1A/5A	POSSIBLE ^E	
VA METER	POSSIBLE ^B	POSSIBLE ^D	3PH - 2/3E : 110V~440V,1A/5A	POSSIBLE ^E	
PF METER	POSSIBLE ^B	POSSIBLE ^D	1PH, 3PH-1E : 110V ~440V., 1A/5A		

* Note : 1) Range below minimum & above maximum on request if feasible. 2) ILLUMINATED METERS ON REQUEST

A : Accuracy Class 0.5% for all Frequency meter, 1.5% for SQ96,SQ144,SQ110,AC Ammeter, AC/Ammeter/Voltmeter &Power meter, 2° for all Power Factor meter,

B : SQ48 - i) DC/AC Voltmeter, AC Ammeter with external box. ii) Frequency meter, Power meter with External transducer box.

C : For higher ranges use AE external shunts. (Refer Data Sheet no. Shunts 03 / 99).

D : SQ72 - Power & Power factor meter with external transducer box

E : SQ110 - Power meter with external transducer box.

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MECHANICAL SPECIFICATIONS

MODEL	SQ 48	SQ 72	SQ 96	SQ 144	SQ 110
FLANGE (mm)	48 X 48	72 X 72	96 X 96	144 X 144	110 X 110
PANEL CUTOUT (mm)	45 X 45 ^{+0.6}	68 X 68 ^{+0.7}	92 X 92 ^{+0.8}	138 X 138 ^{+1.0}	100φ, 5φ, 4 holes 90x90
DEPTH (mm) DC	55	55	55	60	100
AC	55	75	75 ^A	60 ^A	100
SCALE LENGTH (Approx. mm)	70 – 75	105 – 110	150 – 155	225 – 230	175 – 180
WEIGHT (Approx. gms.) DC	200	250	300	500	450
AC	200	350	400 ^B	600 ^B	650

A : Depth 100mm for SQ96 & SQ144 Power meter.

B : Weight 1.2kg for SQ96 Power meter, 1.5kg for SQ144 Power meter.

Ordering information

1) Type 2) Model 3) Range

For all & additional

4) Frequency 5) Operating Voltage 6) Operating Current 7) PTR 8) CTR

For Power & Power Factor measurement.