

1. Mechanical specification

NO.	Items	Specifications
1	Movement	Internal magnet coiling movement (Moving coil)
2	Dimension	See attached drawing
3	Pointer material	Zinc silver strip
	Pointer color	Black
	Pointer direction	From left to right
	Pointer length	30 +/-1 mm from center of movement
	Pointer width	0.45 +/- 0.05 mm
4	Cover	Material: PMMA
5	Case	Material: ABS
6	Magnet	Alnico sintering magnet
7	Frame	SPCC
8	Coil	UEW
9	Meter Direction	Usage : Vertical
10	LED	Yellow 1.8-2.6V 20mA (two LED in series, input voltage: 3.6V-5.2V)

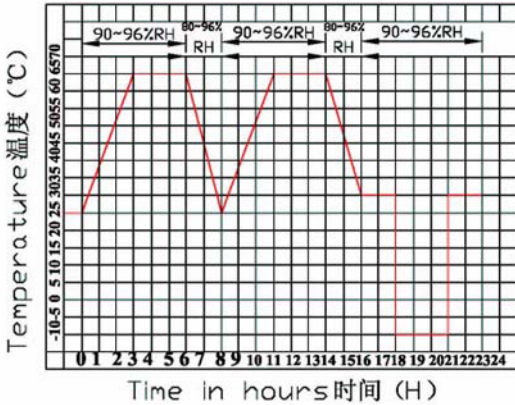


2. Electrical specification

Test Environment: Temperature 20 $^{\circ}$ C , Humidity 70%

NO.	Items	Specifications	Standard
1	AC Input	the specified point "0VU" on scale	0.775V\pm10%
		through an external 3.6K external resistor.	
		the specified point "0VU" on scale	1.228V\pm10%
2	DC internal resistance		3.9KΩ \pm 10%
3	Insulation Resistance	At 500V D.C 1 min	50M Ω or more
4	Friction	The current applied to meter increase to fullscale deflection. Then decrease gradually until it reaches mechanical 'zero'. The tolerance at zero position must be within	\pm 1mm
5	Zero Position	When no current, the tolerance of pointer tip overlapping meter's zero position must be within	\pm 1mm
6	Balance - Effect of user position (Including friction)	Rotate meter 90 degree clockwised from standard user position. Tolerance (of the pointer) from the mechanical zero position shall be measured within	\pm 1mm
		Rotate meter 90 degree counter-clockwised (reverse th above). The acceptable pointer moving tolerance is within	
8	Pointer stick at meter end	3 time of Max.current shall be applied to the meter and then current shall be reduced to 1/2 of the Max.current sensitivity in 7 seconds. Meter pointer shall bounce back to approx. 1/2 of scale and no serious pointer stick at meter end when current is red	Pointer bounce shall not exceed 1/2 of scale
9	Movement of pointer	Current shall be applied to the meter to Max. current sensitivity in 5 seconds with a straight line change ratio. Then applied current shall be reduced to zero in 5 seconds with a straight line change ratio.	The pointer shall move smoothly and shall not pause or malfunction

3. Endurance characteristics

NO.	Items	Specifications	Standard
1	Over load test	5 time of Max. current shall be applied to meter and be kept for 0.5 second. Then repeat the same practice 9 times	Clauses 2.1 to 2.9 shall be satisfied
2	Charging (Static) test	Cover and case shall be wiped with a well dried nylon cloth for 3 times to the same direction	The movement of pointer shall be within 1/3 or less of scale. Then the pointer shall return to its zero position within 3 seconds. Clauses 2.1 to 2.9 shall be satisfied
3	Vibration test	(Full package) Frequency : 16.7Hz (1000time/min.) Amplitude (total excursion): 1.5mm Time = 3 min. in each of 3 perpendicular axis	There shall be no damage to the parts of the meter. Clauses 2.1 to 2.9 shall be satisfied
4	Fall down test	(Full package) drop in 3cm thick board from 30cm height	There shall be no damage to the parts of the meter. Clauses 2.1 to 2.9 shall be satisfied
5	Meter life test	1,000,000 times of specified fullscale current in and out repetitively.	Clauses 2.1 to 2.9 shall be satisfied
6	Operating at low temperature	The meter shall be operating at temperature of -10 ± 3 for 2 hours by using fullscale current in and out repetitively.	Dimension specifications and characteristics in Clauses 2.1 to 2.9 shall be satisfied
	Operating at high temperature	The meter shall be operating at temperature of $+70 \pm 3$ for 2 hours by using fullscale current in and out repetitively.	
7	Composite temperature/ humidity cyclic test	<p>The meter shall be subjected to 2 continuous cycles. Then the meter shall be stored at standard atmospheric conditions for 24 hr for recovery, after which measurement shall be made.</p> 	Dimension specifications and characteristics in Clauses 2.1 to 2.9 shall be satisfied

3. Endurance characteristics (continued)

NO.	Items	Specifications	Standard
8	Storage at low temperature	The meter be stored at a temperature of $-20 \pm 3^{\circ}\text{C}$ for 72 hours	Dimension specifications and characteristics in Clauses 2.1 to 2.9 shall be satisfied
	Storage at high temperature	The meter be stored at a temperature of $70 \pm 3^{\circ}\text{C}$ for 72 hours	
9	Terminal strength	<p><u>Tensile:</u> The meter shall be loaded by 10N for 10 ± 1 Second</p> <p><u>Pushing:</u> The meter shall be loaded by 2N for 10 ± 1 Second</p> <p><u>Bending:</u> The meter shall be loaded by 5N. The tested terminal shall be bent 90 degree, two directions, one time each.</p>	There shall be no damage to the terminal such as cracks, looseness or play. Electrical and mechanical characteristics shall be satisfied
10	Resistance to soldering heat	<p><u>Soldering bath method:</u> Solder temperature: $260 \pm 3^{\circ}\text{C}$, Immersion time: 5 second Number of cycles: 2 cycles, Immersion depth : up to the surface of board</p>	There shall be no damage on appearance. Electrical characteristics and Mechanical characteristics shall be satisfied
		<p><u>Soldering iron method:</u> Bit temperature: $380 \pm 10^{\circ}\text{C}$, Application time of soldering iron: 3 second, Number of cycles: 2 cycles, Immersion depth : up to the surface of board</p>	

RoHS Compliance from 04/2006

Cd < 100ppm

Pb < 1000ppm (Pb < 300ppm in PVC)

Hg < 1000ppm

Cr6+ < 1000ppm

PBB < 1000ppm

PBDE < 1000ppm

