

Moving Test – MT310

Portable Reference Meter, CAT IV



Precise Measurement of Accuracy Class 0.1

MT310 Portable Reference Meter CAT IV

General

Power supply	85 ... 265 V, 47 ... 63 Hz
Power consumption	~ 22 VA
Temperature range, operation	-10° ... + 50° C
Temperature range, storage	-15° ... + 65° C
Relative humidity (not condensing)	max. 95 %
Dimensions (DxWxH)	220 x 290 x 80 mm
Weight	2,7 kg

Safety

IP class according to DIN EN 60529	IP30
Declaration of conformity	CE
Protection class according to DIN EN 61140	II
Overvoltage category voltage measurement	CAT IV 300 V
Overvoltage category current measurement	CAT III 300 V

Reference meter

Measuring modes	2WA / 2WR / 2WAP 3WA / 3WR / 3WAP / 3WRCA / 3WRCB 4WA / 4WAb / 4WR / 4WRb / 4 WAP / 4 WAPb /
Fundamental frequency	15 ... 70 Hz
Bandwidth	3000 Hz
Sampling	16 bit 504
Accuracy class for measuring of power / energy	0.1
Angle measurement accuracy 3) 4)	< 0.015° [< 0.1°]
Frequency measurement deviation	± 0.01 Hz

Voltage Measurement

Voltage measurement	100 mV ... 300 V
Voltage range(s)	250 V, 5 V
Voltage channels input impedance (@ range)	245 kΩ @ 250 V 10 MΩ @ 5 V
Voltage measurement accuracy 3) 5)	< 0.05 %
Voltage measurement temperature drift 3)	< 15 x 10 E-6 / K
Voltage measurement stability 1)	< 50 x 10 E-6
Voltage measurement long term stability 2) 3)	< 100 x 10 E-6

Current measurement

Current measurement	direct or [with MT3430] 1 mA ... 12 A [5 mA ... 120 A]
Current range(s)	10 A, 5 A, 2.5 A, 1 A, 0.5 A, 0.25 A, 0.1 A, 0.05 A [100 A, 50 A, 10 A, 5 A, 1 A, 0.5 A, 0.1 A, 0.05 A]
Usage of ranges	10 ... 120 %
Current channels input impedance (@ range)	~ 0.04 Ω @ 0.05 A .. 10 A
Current measurement accuracy 5)	< 0.05 % @ 10 mA ... 12 A < 0.2 % @ 5 mA ... < 10 mA [< 0.15 % @ 500 mA ... 120 A] [< 0.3 % @ 100 mA ... < 500 mA]
Current measurement temperature drift 4)	< 15 x 10 E-6 / K [< 50 x 10 E-6 / K]
Current measurement stability 1)	< 70 x 10 E-6 [< 150 x 10 E-6]
Current measurement long term stability 2) 4)	< 100 x 10 E-6
Clamp for max. Ø	[12 mm]
Power Measurement	direct or [with MT3430]
Power/energy measurement accuracy 3) 5) 6)	< 0.1 % @ 10 mA ... 12 A [< 0.2 % @ 500 mA ... 120 A]
Power/energy measurement temperature drift 3) 4)	< 30 x 10 E-6 / K [< 65 x 10 E-6]
Power/energy measurement stability 1)	< 100 x 10 E-6 [< 200 x 10 E-6]
Power/energy measurement long term stability 2)	< 100 x 10 E-6

1: Stability over 1 hour (every minute one measurement with $t_i = 60$ s)

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2: Stability over 1 year (every month one measurement with $t_i = 60$ s)

3: From 30 V ... 300 V

4: From 10 mA ... 12 A [500 mA ... 120 A]

5: Related to the read value at optimum range selection

6: Related of apparent power

[] ± with AC current clamps MT3430

Subjects to alteration.