

# Moving Test – MT310-01

Portable Working Standard Meter, CAT IV



Precise Measurement  
Combined with Innovative Design

## MT310-01 Portable Working Standard 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 conform
Protection class according to DIN EN 61140	II
Overtoltage category voltage measurement	CAT IV 300 V
Overtoltage category current measurement	CAT III 300 V

### Reference meter

Measuring modes	2WA / 2WR 3WA / 3WR / 3WRCA / 3WRCB 4WA / 4WR / 4WRC
Fundamental frequency	45 ... 65 Hz
Bandwidth	3000 Hz
Sampling	16 bit 504 samples/period
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	250 V range: 245 kΩ 5 V range: 10 MΩ
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 / year

### Current measurement

Current measurement	<b>direct or [with MT3430]</b> 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	all ranges: ~ 0.04 Ω
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 [< 600 x 10 E-6]
Clamp for max. Ø	[12 mm]

### Power Measurement

Power/energy measurement accuracy 3) 5) 6)	<b>direct or [with MT3430]</b> < 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 / year [< 700 x 10 E-6 / year]

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- 1: Stability over 1 hour (every minute one measurement with  $t_i = 60$  s)
  - 2: Stability over 1 year (every month one measurement with  $t_i = 60$  s)
  - 3: from 30 V to 300 V
  - 4: from 10 mA to 12 A (from 500 mA ... 120 A)
  - 5 related of end of range
  - 6: related of apparent power
- [ ] ± with AC current clamps MT3430