# MT310 – Technical Data



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| **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 (LxWxH) | 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 |
| Overvoltage category voltage measurement 16) | CAT III 300 V |
| Overvoltage category current measurement | CAT III 300 V |
| **Reference meter** | |
| Measuring modes | 2WA / 2WR / 2WAP<br>3WA / 3WR / 3WAP / 3WRCA / 3WRCB<br>4WA / 4WAb / 4WR / 4WRb / 4 WAP / 4 WAPb / 4WRC |
| Fundamental frequency | 15 … 70 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°<br>[< 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<br>10 MΩ @ 5 V |
| Voltage measurement accuracy 5) | < 0.05 % @ 30V .. 300 V<br>< 0.2 % @ 500 mV .. < 30 V<br>< 1 % @ 100 mV .. < 500 mV |
| 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** | **direct or [with MT3460]** |
| Current measurement | 1 mA ... 12 A<br>[5 mA … 120 A] |
| Current range(s) | 10 A, 5 A, 2.5 A, 1 A, 500 mA, 250 mA, 100 mA, 50 mA<br>[100 A, 50 A, 10 A, 5 A, 1 A, 500 mA, 100 mA, 50 mA] |
| Usage of ranges | 10 ... 120 % |
| Current channels input impedance (@ range) | ~ 40 mΩ @ 50 mA .. 10 A |
| Current measurement accuracy 5) | < 0.05 % @ 10 mA ... 12 A<br>< 0.20 % @ 5 mA ... < 10 mA<br>[< 0.15 % @ 500 mA … 120 A]<br>[< 0.3 % @ 100 mA … < 500 mA] |
| Current measurement temperature drift 4) | < 15 x 10 E-6 / K<br>[< 50 x 10 E-6 / K] |
| Current measurement stability 1) | < 70 x 10 E-6<br>[<150 x 10 E-6] |
| Current measurement long term stability 2) 4) | < 100 x 10 E-6 / Year<br>[< 600 x 10 E-6] / Year |
| Clamp for max. Ø | [16 mm] |
| **Power Measurement** | **direct or [with MT3460]** |
| Power/energy measurement accuracy 3) 5) 6) | < 0.1 % @ 10 mA … 12 A<br>[< 0.2 % @ 500 mA … 120 A] |
| Power/energy measurement temperature drift 3) 4) | < 30 x 10 E-6 / K<br>[< 65 x 10 E-6] |
| Power/energy measurement stability 1) | < 100 x 10 E-6<br>[< 200 x 10 E-6] |
| Power/energy measurement long term stability 2) | < 150 x 10 E-6 / Year<br>[< 700 x 10 E-6 ] / Year |

1: Stability over 1hour (every minute one measurement with ti = 60 s)
2: Stability over 1year (every month one measurement over one hour )
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 MT3460
16: Option CAT IV 300V

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Subjects to alteration.