

MT310s2 – Technical Data

General	
Power supply	80 ... 264 V, 47 ... 63 Hz
Power consumption	max. 69 W / 138 VA (typ. 30 W)
Rechargeable battery operation : operating time	~ 3.5 h
Rechargeable battery operation : recharging time	~ 4 h
Temperature range, operation	-15° ... +50° C
Temperature range, storage	-15° ... +65° C
Relative humidity (not condensing)	max. 95 %
Dimensions (LxWxH) 13)	172 x 305 x 80 mm {172 x 305 x 100 mm}
Weight 13)	2.5 kg {3.2 kg}
Safety	
IP class according to DIN EN 60529	IP40
Declaration of conformity	CE conform
Overvoltage category voltage measurement	CAT IV 300 V
Overvoltage category current measurement	CAT IV 300 V
Reference meter	
Measuring modes	1-ph 2 WA / WR / WAP / WAPG 3-ph 3 WA / WR 3-ph 4 WA / WR / WAP / WAPG
Fundamental frequency	15 ... 70 Hz
Bandwidth	6000 Hz
Sampling	24 bit 504 samples/period
Accuracy class for measuring of power/energy	0.1
Rotary field indication	yes
Angle measurement accuracy 3) 4)	< 0.015°
Frequency measurement deviation	±0.01 Hz
Voltage Measurement	
Voltage measurement	1 mV ... 300 V ≈
Voltage range(s)	250 V, 8 V, 100 mV
Voltage channels input impedance (@ range)	380 kΩ @ 250 V 360 kΩ @ 8 V, 100 mV
Voltage measurement accuracy 12)	< 0.05 % @ 30 ... 300 V < 0.5 % @ 10 mV ... < 30 V < 1 % @ 2 mV ... < 10 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	
Current measurement	1 mA ... 12 A ~
Current measurement [CCB120]	5 mA ... 120 A
Current range(s)	10 A, 5 A, 2500 mA, 1 A, 500 mA, 250 mA, 100 mA, 50 mA, 25 mA
Current range(s) [CCB120]	100 A, 50 A, 10 A, 5 A, 1 A, 500 mA 100 mA, 50 mA, 10 mA
Usage of ranges	10 % ... 120 %
Current measurement accuracy 5) 11)	< 0.05 % @ 10 mA ... 12 A < 0.2 % @ 5 mA ... < 10 mA
Current measurement temperature drift 4)	< 15 x 10 E-6 / K
Current measurement temperature drift []	< 50 x 10 E-6 / K
Current measurement stability 1) 4)	< 70 x 10 E-6
Current measurement long term stability 2) 4)	< 100 x 10 E-6 / Year
Clamp for max. Ø [CCB120]	16 mm
Power Measurement	
Power/energy measurement accuracy 3) 4) 6) 11)	< 0.1 %
Power/energy measurement accuracy [CCB120] 3) 6) 11)	< 0.2 % @ 500 mA ... 120 A
Power/energy measurement temperature drift 3) 4)	< 30 x 10 E-6 / K
Power/energy measurement stability 1)	< 100 x 10 E-6
Power/energy measurement long term stability 2)	< 150 x 10 E-6 / Year

- 1: Stability over 1 hour (every minute one measurement with $t_i = 10$ s)
 2: Stability over 1 year (every month one measurement over one hour)
 3: From 30 V ... 300 V
 4: From 10 mA ... 12 A
 5: Related to the read value at optimum range selection
 6: Related of apparent power
 11: From 45 ... 65 Hz
 12: FromDC, 45 ... 65 Hz
 13: { } with battery pack BM4100
 [] ± with current clamps
 Subjects to alteration.

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