

MT781/MT786 – Technical Data

	MT781	MT786
General		
Power supply	85 ... 265 V, 45 ... 63 Hz	
Power consumption	max. 500 VA	
Temperature range, operation	-10° ... + 50° C	
Temperature range, storage	-15° ... + 65° C	
Relative humidity (not condensing)	max. 95 %	
Dimensions (LxWxH)	206 x 524 x 428 mm	
Weight	~ 20 kg	
Safety		
IP class according to DIN EN 60529 21)	IP65	
Declaration of conformity	CE conform	
Protection class according to DIN EN 61140	I	
Reference meter		
Measuring modes	2WA / 2WR / 2WAP 3WA / 3WR / 3WRCA / 3WRCA / 3WRCA / 3WRCA / 3WAP 4WA / 4WAb / 4WR / 4WRb / 4WRc / 4WAP / 4WAPb	
Fundamental frequency	45 ... 65 Hz	
Bandwidth	3000 Hz	
Sampling	16 bit 504 samples/period	
Accuracy class for measuring of power/energy	0.1	0.05
Angle measurement accuracy 3) 4)	< 0.015°	
Frequency measurement deviation	± 0.01 Hz	
Voltage Measurement		
Voltage measurement	5 mV ... 500 V	
Voltage range(s)	250 mV, 5 V, 60 V, 125 V, 250 V, 420 V	
Voltage measurement accuracy 5)	< 0.05 % @ 30 V .. 500 V < 1 % @ 50 mV ... < 30 V < 3 % @ 5 mV .. < 50 mV	< 0.025 % @ 30 V .. 500 V < 1 % @ 50 mV ... < 30 V < 3 % @ 5 mV .. < 50 mV
Voltage measurement temperature drift 3)	< 15 x 10 E-6 / K	
Voltage measurement stability 1) 3)	< 60 x 10 E-6	
Voltage measurement long term stability 2) 3)	< 100 x 10 E-6 / Year	
Current measurement		
Current measurement	1 mA ... 120 A	
Current range(s)	100 A, 50 A, 20 A, 10 A, 5 A, 2 A, 1 A, 500 mA, 200 mA, 100 mA, 50 mA, 20 mA	
Current measurement accuracy 5)	< 0.05 % @ 10 mA ... 120 A < 0.2 % @ 5 mA ... < 10 mA	< 0.025 % @ 10 mA ... 120 A < 0.2 % @ 5 mA ... < 10 mA
Current measurement temperature drift 4)	< 20 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	
Power Measurement		
Power/energy measurement accuracy 3) 4) 6)	< 0.1 %	
Power/energy measurement temperature drift 3) 4)	< 35 x 10 E-6 / K	
Power/energy measurement stability 1) 3) 4)	< 100 x 10 E-6	
Power/energy measurement long term stability 2) 3) 4)	< 200 x 10 E-6 / Year	
Source data		
Voltage min. max. 22)	20 V ... 500 V	
Voltage range(s)	60 V, 125 V, 250 V, 420 V	
Voltage max. output power 8)	30 VA	
Voltage distortion 3)	< 0.5 %	
Voltage accuracy 3) 5)	< 0.1 %	
Voltage harmonic setting range 10) 14) 15)	2 ... 40.	
Voltage harmonic amplitude	max. 40 % @ 2. - 10. max. 30 % @ 11. - 20. max. 20 % @ 21. - 30. max. 10 % @ 31. - 40.	
Voltage bandwidth 10)	-3 dB @ ~ 3 kHz	
Current min. max. 31)	1 mA ... 120 A	
Current range(s)	100 A, 50 A, 20 A, 10 A, 5 A, 2 A, 1 A, 500 mA, 200 mA, 100 mA, 50 mA, 20 mA	
Current max. voltage per range	600 mV (100 A .. 20 A) 5 V (10 A) 8 V (5 A .. 20 mA)	
Current max. output power 8)	60 VA	
Current distortion	< 0.5 %	
Current accuracy 4) 5)	< 0.1 %	
Current harmonic setting range 10) 14) 15)	2 ... 40.	
Current harmonic amplitude	max. 40 % @ 2. - 10. max. 30 % @ 11. - 20. max. 20 % @ 21. - 30. max. 10 % @ 31. - 40.	
Current bandwidth 10)	-3 dB @ ~1.5 kHz	
Frequency range	45 ... 65 Hz	
Frequency accuracy	0.01 Hz	
Phase angle setting range	0.00 ... 359.99°	
Phase angle accuracy	< 0.015°	
Phase angle stability 9)	< 0.01°	

1: Stability over 1 hour (every minute one measurement with $t_i = 60$ s)
 2: Stability over 1 year (every month one measurement over one hour)
 3: From 30 V ... 500 V
 4: From 10 mA ... 120 A
 5: Related to the read value at optimum range selection
 6: Related of apparent power
 7: Of range 30 % ... 120 %
 8: Related of end of maximum range and end of range and ohmic load
 9: Stability over 1 hour (measurement with $t_i = 10$ s)
 10: Depending on the selected option
 14: Every harmonic (related to fundamental)
 15: Total of harmonics max. 40 %
 18: Depending on the connected load
 21: Only during transportation with closed suitcase, otherwise IP30
 22: At $f < 49.5$ Hz, $U_{max} = 420$ V
 31: For current cable >1 m the output current is limited to app. 60 A due to the power

Subjects to alteration.

MT781_MT786_SPECS_EXT_GB_V400