



# Power Factor Correction

## Multi Measuring Interface

**Series/Type:**           **MMI7000 V4**  
**Ordering code:**       **B44066M7500E230**  
**Date:**                    **January 2018**  
**Version:**                **1**

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### Characteristics

Measuring device for three-phase measuring and display of numerous grid parameters:

- Voltage: 3-phase
- Current: 3-phase
- Frequency: 3-phase
- Active power: 3-phase
- Reactive power: 3-phase
- Apparent power: 3-phase
- Power factor: 3-phase
- Energy
- Harmonic of voltage: up to 51<sup>st</sup>
- Harmonic of current: up to 51<sup>st</sup>
- THD-V: 3-phase
- THD-I: 3-phase
- LCD full graphic display
- Switchboard installation housing

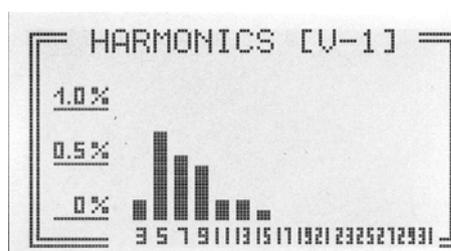
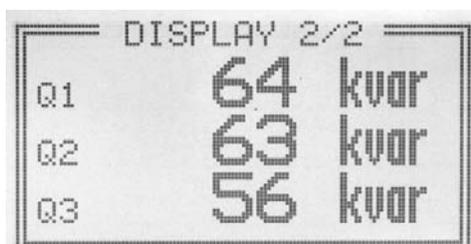


### Features

- Integrated slot for SD-memory card
- Two independent interfaces (RS485) included
- 4 relay-outputs (free programmable) included

### Technical data and specifications

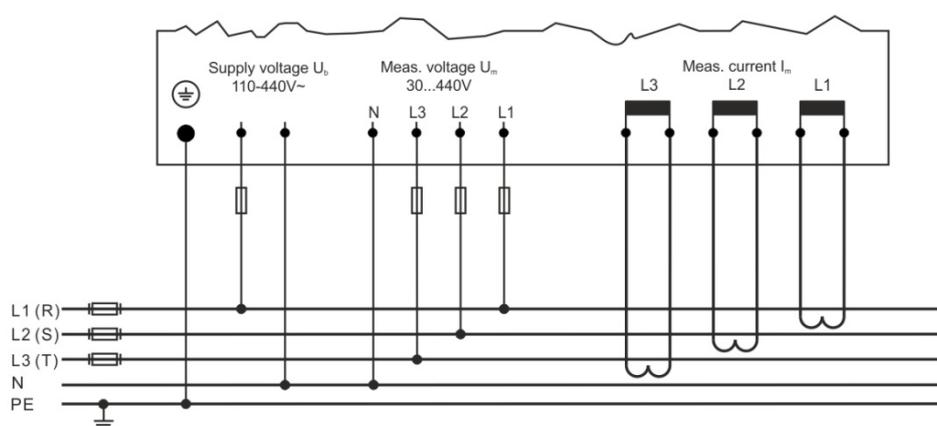
Operating voltage	110 ... 440 V AC ± 10%
Measuring voltage (3-phase)	30 ... 440 V AC (L-N) 50 ... 690 V AC (L-L)
Measuring current (3-phase)	X:1A / X:5A
Rated frequency $f_R$	50 and 60 Hz
Power consumption	< 5 VA
Sensitivity	50 mA / 10 mA



<b>Operation and display</b>	
Menu languages	English/German/Russian/Spanish/Turkish
Display/display functions	Illuminated full graphic display 128 x 64 dots
Display of grid parameters as real value/ in %/ as bar chart	3-phase: cos-φ, V, I, F, Q, P, S. THD-V, THD-I, W
Large display of 3 grid parameters	Selection in Display Editor
Display of harmonics	3 <sup>rd</sup> to 51 <sup>st</sup> harmonic of voltage and current also as bar chart
Osci-mode	Available
Accuracy	Current/voltage: 1%, Real power, reactive power, apparent power: 2%
Integrated help function with HELP-button	Context dependent, plain menu
<b>Storage functions with time stamp</b>	
Storage of minimum values, maximum values	Voltage, current, real power, reactive power, apparent power, THD-V, THD-I, frequency, temperatures
Storage of operation time	2 counters
<b>Additional functions</b>	
Switching outputs (freely programmable)	4 potential free relay outputs (max 250 V/1000 W)
Interface	2 x RS485 (Modbus RTU)
Pluggable SD-Card for storage of all grid parameter accord. pre-set measuring interval (included in the delivery)	Voltage, current, real power, reactive power, apparent power, temperature, frequency, THD-V, THD-I, energy, single harmonic of voltage and current
Recording time per data file at measuring interval 1 / 10 / 60 sec./ 15 min.	18 hours / 7 days / 48 days / 720 days
Software for PC	Comfortable software (CD) for display and evaluation of recorded measuring values

Miscellaneous	
Housing MMI7000	Switchboard installation housing DIN 43700 / IEC61554 144 x 144 x 60 mm
Weight	Ca. 1 kg
Operating ambient temperature	-10 ... +50 °C
Storage temperature	-20 ... +60 °C
Degree of protection according IEC60529	Front: IP54; Rear: IP20
Protection class	I (devices with protective earth conductor)
Safety regulations	IEC61010-1:2001, EN61010-1:2001
EMV interference resistance	IEC61000-4-2: 8 kV; IEC61000-4-4: 4 kV
Ordering code	
MMI7000	B44066M7500E230

### Connection diagram



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## Cautions and warnings

### General

- The MMI7000 may only be used for the purpose it has been designed for.
- The device has to be projected in such a way that in case of any failure no uncontrolled high current and voltages may occur.
- The device in operation has to be protected against moisture and dust, sufficient cooling has to be assured.
- Please note that the device is under high tension during operation.
- The MMI7000 may only be used indoor. It is not suitable for outdoor applications.
- Voltages above the permitted voltage range may damage the device.

### Attention

FAILURE TO FOLLOW CAUTIONS MAY RESULT, WORST CASE, IN PREMATURE FAILURES OR PHYSICAL INJURY.

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Release 2018-10