Film Capacitors – Power Factor Correction

Multimeasuring interface MMI8003

Series/Type: MMI8003
Ordering code: B44066M8003E024
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Characteristics

- Three phase measurement of several grid parameters:
  - Voltage
  - Current
  - Frequency
  - Real power
  - Reactive power
  - Apparent power
  - Power factor
  - Active energy (+/-)
  - Reactive energy (+/-)
  - Voltage harmonics up to the 39th order
  - Current harmonics up to the 39th order
  - THD-V, THD-I

- Additional internal 24-hrs-ring buffer for the 15-min active energy values
- Internal storage for the cumulated energy values (active/reactive energy)
- Ring buffer (1 month) for daily active energy value storage
- Internal clock for time stamp
- System interface RS485 (Modbus RTU) for processing of measured values

Application examples

- Three phase grid measuring device in panels, e.g. feed-ins
- Measuring of power and harmonics
- Can be integrated into existing networks via interface RS485 (MODBUS)
- Compatible with software MMI-energy for storage, display and evaluation of power and energy data
### Preliminary data

#### Technical data

<table>
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<th>Parameter</th>
<th>Specification</th>
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<td>Operating voltage</td>
<td>24 V DC (external via terminal)</td>
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| Measuring voltage (3-phase)     | 3x 30 ... 440 V~ (L-N), 50/60 Hz (10...80 Hz)  
|                                 | 3x 50 ... 690 V~ (L-L), 50/60 Hz (10...80 Hz)                                 |
| Measuring current (3-phase)     | 3x X:1A / X:5A selectable                                                   |
| Power consumption               | < 1 VA                                                                       |
| Sensitivity                     | 50 mA/10 mA                                                                  |
| Operation                       | 8-pole DIP-switch for addressing and switching of terminating resistors; key button for software functions |
| Parametrization                 | Via PC-software resp. touch panel                                           |
| Measured parameters             | Voltage, current, active-, reactive-, apparent power, frequency, power factor, THD-V, THD-I, energy, single harmonics of voltage and current. All values can be read out via Modbus in real time. |
| Internal storage                | 24-h-ring buffer for active power (15-min-values); cumulative buffer for active and reactive power |
| Accuracy                        | Current/voltage: 1%  
|                                 | Active, reactive, apparent power: 2%                                         |
| Connection                      | Voltage: 4-pole via pluggable screw terminal  
|                                 | Current: 3x 2-pole via pluggable screw terminal  
|                                 | Connection plug included in the delivery                                       |
| Interfaces                      | 2x system interfaces RS485 at RJ45 (Modbus RTU) for loop-in into existing network  
|                                 | 1x service interface (RJ45) for software update resp. enlargement modules      |
| Software for PC                 | Software (CD) for parametrization of the device; MMI compatible with evaluation software MMI-energy |
| Special feature                 | Internal clock for time stamp (only in combination with software MMI-energy)    |
| Error display (red LED)         | Collected error message (over voltage, over current, frequency); evaluation via software |
Cautions and warnings

General
- The MMI8003 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 MMI8003 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.

Note
For detailed information about PFC capacitors and cautions, refer to the latest version of EPCOS PFC Product Profile.

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