

EPCOS Product Brief 2011

Power Factor Correction

Multiple Interface for Three-Phase Measurements MMI7000

EPCOS has extended its PFC portfolio by introducing the MMI7000 Multi-Measurement Interface. Whereas the MMI6000 is designed for single-phase measurements, the MMI7000 permits three-phase measurements. As a universal measuring device, the MMI7000 displays and records a large number of key grid parameters. Harmful conditions in the grid (e.g. a high harmonic content) with a negative impact on the system are thus revealed immediately. If used with a BR7000 controller connected to a RS485 bus, the BR7000-SOFT Windows-based evaluation software will support the MMI6000 and MMI7000. The measured values from all connected devices can then be displayed via a PC.

The MMI7000 is designed on the pattern of PF controllers and is suited for switchboard mounting thanks to its dimensions of 144 x 144 mm. The MMI7000 offers an easy-to-use graphical menu for all PF controllers and measuring devices. Five menu languages support this ease of use: English, German, Russian, Spanish and Turkish. The HELP function is an additional benefit. The fully graphic LCD screen allows bar graphs, diagrams and different font sizes to be displayed. Available parameters are:

- For 3-phase: Voltage, current, frequency, active and reactive power, apparent power, power factor, energy, THD-V, THD-I
- Harmonic of voltage and current up to 51st

PQS



Multiple Measurement Interface MMI7000



The following three versions of the MMI7000 permit customized selection:

- MMI7000-B
- MMI7000-S
- MMI7000-E

General features

- Display and recording of minimum and maximum values with time stamp
- Display of date and time
- Display of harmonics as a bar chart
- Oscilloscope mode for graphic display of a complete oscillation including harmonics
- Freely programmable display of measured values (Display Editor) and rotating switch of selected display values (Scan Mode)

Additional features of the MMI7000-S

- Two independent RS485 interfaces (Modbus RTU)

Additional features of the MMI7000-E

- Extended version with additional interface, memory card and additional inputs and outputs
- One potential-free signal input
- Four programmable relay outputs (potential-free)
- One programmable transistor output (potential free)
- One RS485 interface (Modbus RTU)
- Pluggable SD card for recording all grid parameters (up to 50 files can be stored on a 1-GB card)
- Recording time per data file at measuring interval: 1 / 10 / 60 sec. / 15 min. corresponds to: 18 hours / 7 days / 48 days / 720 days
- Convenient Windows-based PC software for visualization, administration and evaluation of recorded data (CD included in delivery)

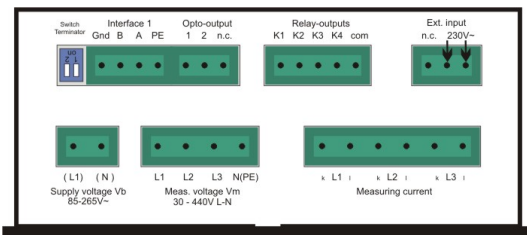


Fig. 1: Bottom view of the MMI7000 with available interfaces

Typical uses

Three-phase measuring device in PFC panels:

- Grid measurements
- Power measurements
- Measurement of harmonics
- Energy counter (sub-counter)
- Display device in the main incoming supply
- Display device in all outgoing lines
- Monitoring of specific grid parameters
- Triggering of messages or switching operations if pre-set values are not reached or exceeded
- Four relay outputs to be used for display or monitoring purposes
- Internal clock for time-dependent use of all functions
- Storage of all grid parameters – also for long-term grid monitoring/evaluation via an SD card
- Transmitter for external systems (transfer of measured values via interface to factory master control system for monitoring etc.)
- Additional three-phase measuring device as an accessory to the PF controller BR6000

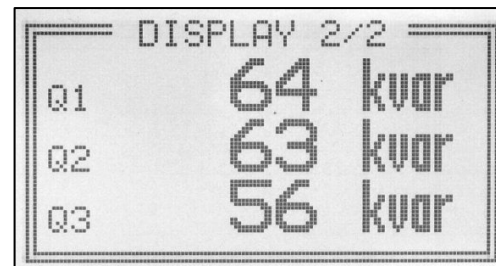
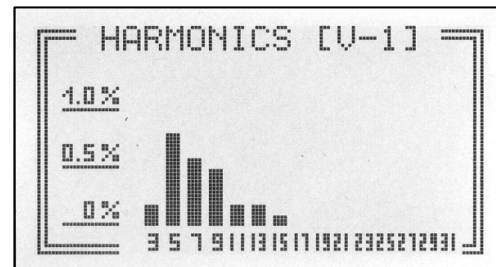


Fig. 2: Example displays

Ordering codes

- MMI7000-B: B44066M7100E230
 MMI7000-S: B44066M7200E230
 MMI7000-E: B44066M7300E230

The MMI7000 is also used in the MC7000-3 grid analysis tool.

Important information: Some parts of this publication contain statements about the suitability of our products for certain areas of application. These statements are based on our knowledge of typical requirements that are often placed on our products. We expressly point out that these statements cannot be regarded as binding statements about the suitability of our products for a particular customer application. It is incumbent on the customer to check and decide whether a product is suitable for use in a particular application. This publication is only a brief product survey which may be changed from time to time. Our products are described in detail in our data sheets. The Important notes (www.epcos.com/ImportantNotes) and the product-specific Cautions and warnings must be observed. All relevant information is available through our sales offices.