



Power Factor Controller and Accessories

Series/Type: BR6000-HD6, BR6000-HD12

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B44066R6512E230	B44066R6012E230	2021-05-21	2021-08-31	2021-11-30
B44066R6506E230	B44066R6006E230	2021-05-21	2021-08-31	2021-11-30

Please contact your nearest TDK sales office if you need support in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.tdk-electronics.tdk.com/sales.

Preliminary data
Characteristics

- Intelligent control
- Menu driven handling (plain language; Czech/Dutch/German/English/French/Polish/Portuguese/Russian/Spanish/Turkish)
- Self-optimizing control capability
- Automatic initialization
- Test-run possible
- Large voltage measuring range
- Recall function of recorded values
- Four-quadrant operation (e.g. stand by generator)
- Powerful alarm output
- 13 steps possible
- Control series editor
- Detailed expert modes


Features

Display	<ul style="list-style-type: none"> - Large and multifunctional LCD (2 × 16 characters) - Graphic and alphanumeric - LCD illumination - OLED display available for series BR6000-HD
Housing	<ul style="list-style-type: none"> - Zinc coated sheet steel
System parameters displayed	<ul style="list-style-type: none"> - System voltage (V AC) - Reactive power (kvar) - Active power (kW) - Frequency - Apparent power (kVA) - Apparent current (A) - Temperature (°C) - Real-time cos δ - Target cos δ - kvar value to target cos δ - Harmonics (3rd ... 19th) V (%), I (%) - Energy (kvar)
Alarm output	<ul style="list-style-type: none"> - Insufficient compensation - Overcompensation - Undercurrent - Overcurrent - Overtemperature - Harmonics - Threshold value programmable - Internal error storage

Preliminary data

Recall recorded values	<ul style="list-style-type: none"> - Maximum voltage (V_{max}) - Minimum voltage - Maximum reactive power, Q (kvar) - Maximum active power, P (kW) - Maximum apparent power, S (kVA) - Maximum temperature (°C) - Maximum THD-V/THD-I - Switching cycles of capacitors - Operation time of capacitors
------------------------	---

Technical Data

Weight	1 kg
Case	Panel-mounted instrument, 144 × 144 × 55 mm (cut out 138 × 138 mm)
Ambient conditions <ul style="list-style-type: none"> - Over-voltage class - Pollution degree - Operating temperature - Storage temperature - Sensitivity to inference (industrial areas) - Spurious radiation (residential areas) - Safety guidelines - Mounting position - Humidity class 	III 2 -20 ... +60 °C -20 ... +75 °C EN 55082-2:1995 EN 55011 10.1997 IEC 61010-1:2001 EN 61010-1:2001 Any 15 ... 95% without dew
Protection class <ul style="list-style-type: none"> - Front plate - Rear side 	IP54 to IEC60529 IP20 to IEC60529
Operation <ul style="list-style-type: none"> - Supply voltage - Target $\cos \delta$ - Switching and discharge time range - Number of control series - Control modes 	110...230 V AC $\pm 15\%$, 50/60 Hz 0.3 ind. ... 0.3 cap. 1 s ... 20 min 20 series preset + control series editor for free programming Series switching (LIFO), circular switching (FIFO), self-optimized intelligent control mode

Preliminary data

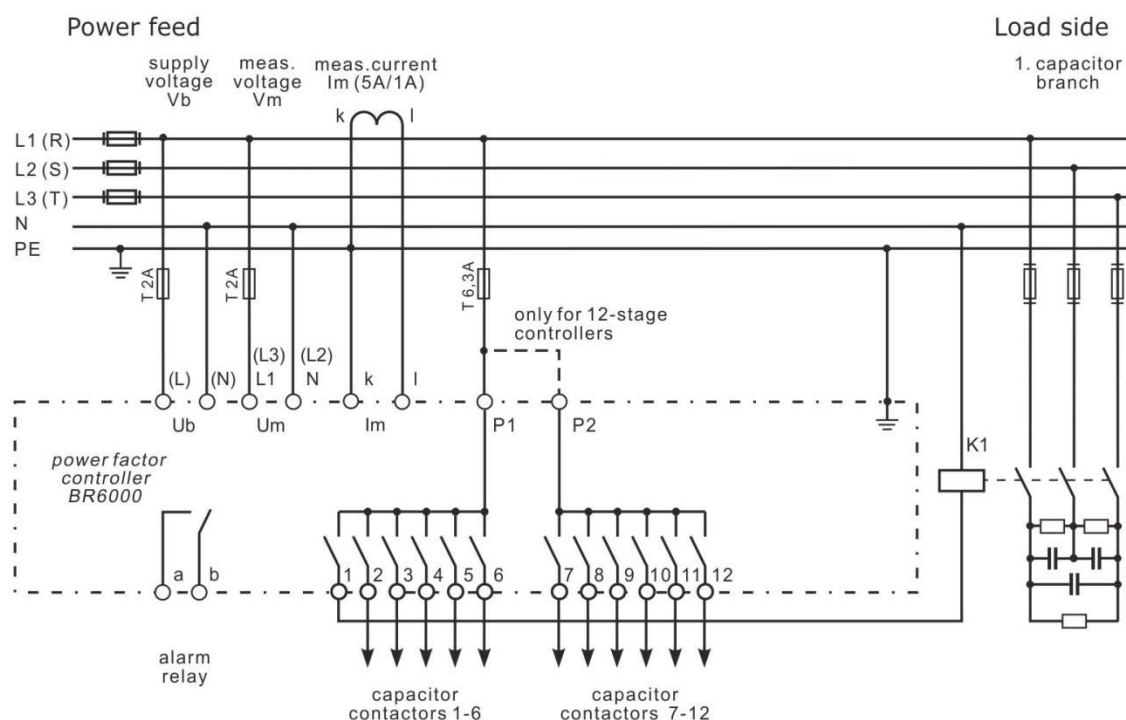
Measurement <ul style="list-style-type: none"> - Measurement voltage range - Fundamental frequency - Measurement current (CT) - Minimum operating current - Maximum current - Zero voltage release - Accuracy 	30 ... 525 V AC (L–L / L–N) 50 and 60 Hz x/5 and x/1 Ampere possible 40 mA / 10 mA 5.3 A (sinusoidal) < 15 ms Current, voltage: 1% Reactive, active, apparent power: 2%
Switching outputs Relay outputs <ul style="list-style-type: none"> - Number of outputs - Switching voltage/current 	6/7 or 12/13 steps available Max. 250 V, 6 A
Alarm relay	Potential-free contact (max. 250 V, 6 A)

Ordering Codes

Type	Voltage 50/60 Hz	Output		Alarm output	Ordering code
		Relay	Transistor		
BR6000-R6	110 ... 230	6	–	Yes	B44066R6006E230
BR6000-HD6	110 ... 230	6	–	Yes	B44066R6506E230
BR6000-R12	110 ... 230	12	–	Yes	B44066R6012E230
BR6000-HD12	110 ... 230	12	–	Yes	B44066R6512E230

Display of ordering codes for EPCOS products

The ordering code for one and the same EPCOS product can be represented differently in data sheets, data books, other publications, on the EPCOS website, or in order-related documents such as shipping notes, order confirmations and product labels. **The varying representations of the ordering codes are due to different processes employed and do not affect the specifications of the respective products.** Detailed information can be found on the Internet under www.epcos.com/orderingcodes

Preliminary data
Connection plan

⚠ Cautions and warnings

Controller hunting: When putting the capacitor bank into operation, it is required to avoid needless switching cycles (means permanent switching on and off of steps without significant change of consumer load). This so called “controller hunting“ would increase the number of switching operations of the connected contactors and capacitors and decrease the expected life cycle (wear out) and, in worst case, capacitor bursting and fire, etc . This can be avoided by a proper programming of the BR6000 with the actual system parameters (current transformer prim. and sec., first kvar step, control series, switching time).

⚠ Please read cautions information about PFC capacitors and cautions as well as installation and maintenance instructions in the actual version of the Product Profile *Power Factor Correction* to ensure optimum performance and prevent products from failing, and in worst case, bursting and fire, etc. The actual Product Profile is available at www.epcos.com/publications.

Information given in the PFC-product profile and values given in the data sheet reflect typical specifications. You are kindly requested to approve our product specifications or request our approval for your specification before ordering.

Important notes

The following applies to all products named in this publication:

1. 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 in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule we are either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet (www.tdk-electronics.tdk.com/material). Should you have any more detailed questions, please contact our sales offices.
5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.

We also **reserve the right to discontinue production and delivery of products**. Consequently, we cannot guarantee that all products named in this publication will always be available. The aforementioned does not apply in the case of individual agreements deviating from the foregoing for customer-specific products.
6. Unless otherwise agreed in individual contracts, **all orders are subject to our General Terms and Conditions of Supply**.
7. **Our manufacturing sites serving the automotive business apply the IATF 16949 standard**. The IATF certifications confirm our compliance with requirements regarding the quality management system in the automotive industry. Referring to customer requirements and customer specific requirements ("CSR") TDK always has and will continue to have the policy of respecting individual agreements. Even if IATF 16949 may appear to support the acceptance of unilateral requirements, we hereby like to emphasize that **only requirements mutually agreed upon can and will be implemented in our Quality Management System**. For clarification purposes we like to point out that obligations from IATF 16949 shall only become legally binding if individually agreed upon.
8. The trade names EPCOS, CeraCharge, CeraDiode, CeraLink, CeraPad, CeraPlas, CSMP, CTVS, DeltaCap, DigiSiMic, ExoCore, FilterCap, FormFit, LeaXield, MiniBlue, MiniCell, MKD, MKK, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, PowerHap, PQSine, PQvar, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, ThermoFuse, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at www.tdk-electronics.tdk.com/trademarks.

Release 2018-10