



Film Capacitors – Power Factor Correction

Power Factor Controller

Series/Type: BR604
Ordering code: B44066R6004E230
Date: 2010-04-12
Version: 3

Characteristics

- Intelligent control
- Menu driven handling (plain language; German/English/Portuguese/Spanish)
- Self-optimizing control capability
- Recall function of recorded values
- Four-quadrant operation (e.g. stand by generator)


Features

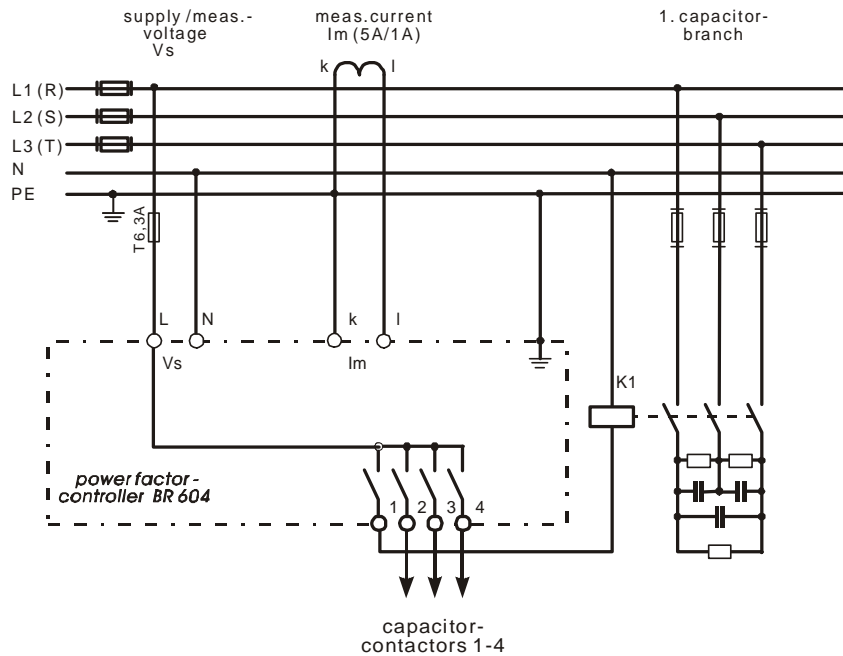
Display	<ul style="list-style-type: none"> - Large and multifunctional LCD (2 x 16 characters) - Graphic and alphanumeric
System parameters displayed	<ul style="list-style-type: none"> - System voltage (VAC) - Reactive power (kvar) - Active power (kW) - Apparent power (kVA) - Apparent current (A) - Real-time $\cos \varphi$ - Target $\cos \varphi$ - kvar value to target $\cos \varphi$
Recall recorded values	<ul style="list-style-type: none"> - Maximum voltage, (V_{max}) - Maximum reactive power, Q (kvar) - Maximum active power, P (kW) - Maximum apparent power, S (kVA)

Technical Data

Weight	0.5 kg
Case	Panel-mounted instrument, 100 x 100 x 40 mm) (cut out 92 x 92 mm)
Ambient conditions	<ul style="list-style-type: none"> - Overvoltage class III - Pollution degree 2 - Operating temperature -10 ... +50 °C - Storage temperature -20 ... +75 °C - Sensitivity to inference (industrial areas) EN55082-2:1995 - Spurious radiation (residential areas) EN55011 10:1997 - Safety guidelines EN61010-1:2001 - Mounting position Any - Humidity class 15 to 95% without dew
Protection class	<ul style="list-style-type: none"> - Front plate IP54 according IEC60529 / DIN 40050 - Rear side IP20 according IEC60529 / DIN 40050

Operation <ul style="list-style-type: none"> - Supply voltage - Target $\cos \varphi$ - Switching and discharge time range - Number of control series - Control modes 	230 V AC, 50 and 60 Hz power lines 0.3 ind. – 0.3 cap. 1 – 255 seconds 23 series preset Series switching (LIFO), circular switching (FIFO), self-optimized intelligent control mode
Measurement <ul style="list-style-type: none"> - Measurement voltage range - Fundamental frequency - Measurement current (CT) - Minimum operating current - Maximum current - Zero voltage release 	= supply voltage: 230 VAC (L-N) 50 and 60 Hz x/1 and x/5 A possible 40 mA 5.3 (sinusoidal) < 15 ms
Switching outputs Relay outputs <ul style="list-style-type: none"> - Number of relays - Switching voltage/power - Expected mechanical life - Expected electrical life 	4 steps available Maximum 250 V AC, max. 1000 W > 30 • 10 ⁶ switching operations > 5 • 10 ⁶ switching operations (load = 200 VA, $\cos \varphi = 0.4$)
Ordering Code	B44066R6004E230

Connection plan



⚠ Cautions:

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 BR604 with the actual system parameters (current transformer prim. and sec., first kvar step, control series, switching time).

Note

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

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, EPCOS is 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 an EPCOS 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.epcos.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 the current version of the "General Terms of Delivery for Products and Services in the Electrical Industry" published by the German Electrical and Electronics Industry Association (ZVEI)**.
7. The trade names EPCOS, BAOKE, Alu-X, CeraDiode, CSMP, CSSP, CTVS, DeltaCap, DigiSiMic, DSSP, FormFit, MiniBlue, MiniCell, MKD, MKK, MLSC, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, SIP5D, SIP5K, ThermoFuse, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at www.epcos.com/trademarks.