Film Capacitors – Power Factor Correction

Power Factor Controller

Series/Type: **BR6000 V6.0**
Ordering code: **B44066R6…E230**

Date: June 2016
Version: 3

EPCOS AG is a TDK Group Company.

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	- Large and multifunctional LCD (2 × 16 characters) - Graphic and alphanumeric - LCD illumination - OLED display available for series BR6000-HD
Housing	- Zinc coated sheet steel
System parameters displayed	- 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	- Insufficient compensation - Overcompensation - Undercurrent - Overcurrent - Overtemperature - Harmonics - Threshold value programmable - Internal error storage

Preliminary data

Recall recorded values	- 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	
- Over-voltage class	III
- Pollution degree	2
- Operating temperature	–20 ... +60 °C
- Storage temperature	–20 ... +75 °C
- Sensitivity to inference (industrial areas)	EN 55082-2.1995
- Spurious radiation (residential areas)	EN 55011 10.1997
- Safety guidelines	IEC 61010-1:2001 EN 61010-1:2001
- Mounting position	Any
- Humidity class	15 … 95% without dew
Protection class	
- Front plate	IP54 to IEC60529
- Rear side	IP20 to IEC60529
Operation	
- Supply voltage	110…230 V AC ±15%, 50/60 Hz
- Target cos δ	0.3 ind. … 0.3 cap.
- Switching and discharge time range	1 s … 20 min
- Number of control series	20 series preset + control series editor for free programming
- Control modes	Series switching (LIFO), circular switching (FIFO), self-optimized intelligent control mode

Preliminary data

Measurement	
- Measurement voltage range	30 ... 525 V AC (L–L / L–N)
- Fundamental frequency	50 and 60 Hz
- Measurement current (CT)	x/5 and x/1 Ampere possible
- Minimum operating current	40 mA / 10 mA
- Maximum current	5.3 A (sinusoidal)
- Zero voltage release	< 15 ms
- Accuracy	Current, voltage: 1% Reactive, active, apparent power: 2%
Switching outputs	
Relay outputs	
- Number of outputs	6/7 or 12/13 steps available
- Switching voltage/current	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

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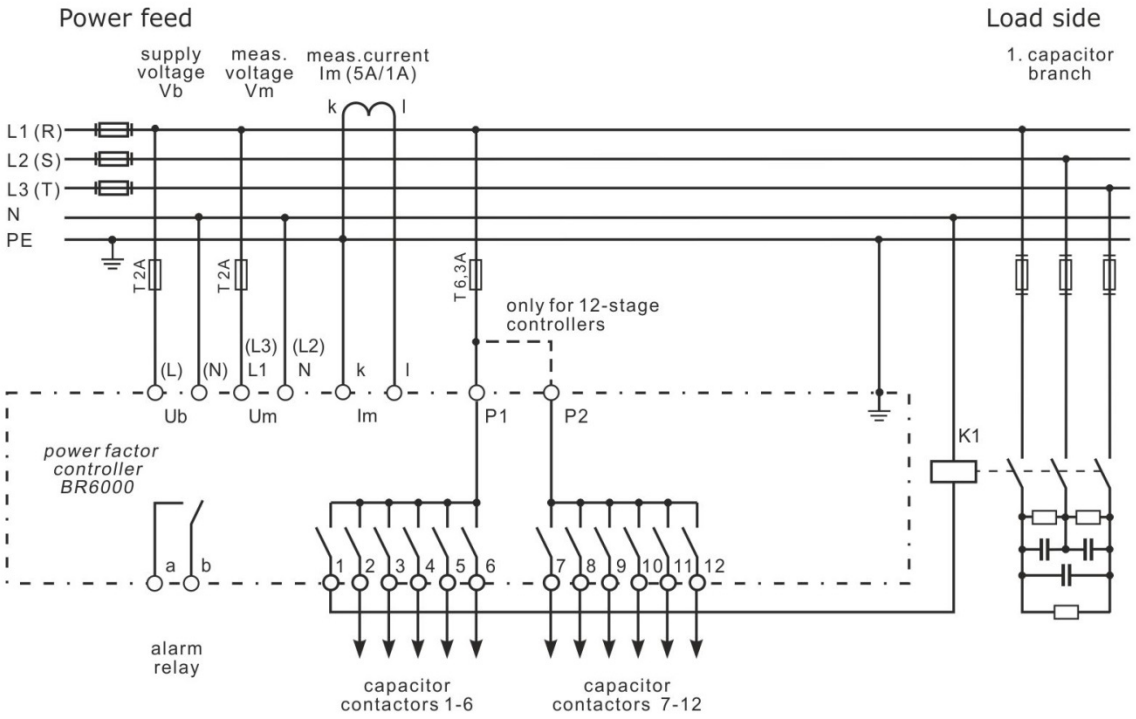
Preliminary data

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.

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