Film capacitors – Power Factor Correction

Power Factor Controller

Series/Type: **BR6000-T V6.0**
Ordering code: **B44066R6106E230**

Date: August 2015
Version: 2

EPCOS AG is a TDK Group Company.

Preliminary data

Characteristics

- Intelligent control
- Menu driven handling (plain language) Czech/Dutch/English/French/German/Polish/Portuguese/Russian/ Spanish/Turkish
- Self-optimizing control capability
- Large measuring voltage range
- Recall function of recorded values
- Four-quadrant operation (e.g. stand by generator)
- Powerful alarm output
- Control series editor (value perception selectable)
- High precision of measurement
- 2nd expert mode
- Fixing of net frequency in the expert mode (for measuring) to avoid errors when measuring in critical grids
- Auto-range-function for sensitivity: For input current <1A the amplification is increased in order to reach a sensitivity of 20 mA.

Features

Display	- Large and multifunctional LCD (2 x 16 characters) - Graphic and alphanumeric - LCD illumination
System parameters displayed	- System voltage (V AC) - Reactive power (kvar) - Active power (kW) - Frequency - Apparent power (kVA) - Apparent current (A) - Temperature (°C / °F) - Real-time cos φ - Target cos φ - Switchover cos-φ/tan-φ - kvar value to target cos φ - Harmonics of voltage and current - Display of values also as percentage
Alarm output	- Insufficient compensation - Overcompensation - Undercurrent - Overcurrent - Overtemperature - Threshold value programmable - Internal error storage - 2nd signal relay random - Triggering time programmable
Recall recorded values	- Maximum voltage, (V_{max}) - Maximum reactive power, Q (kvar) - Maximum active power, P (kW) - Maximum apparent power, S (kVA) - Maximum temperature (°C)
Dynamic PFC	- Direct triggering of thyristor modules series TSM

Preliminary data

Technical data

Weight	1 kg
Case	Panel-mounted instrument, 144 x 144 x 55 mm (cut out 138 x 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)	EN55082-2.1995
Spurious radiation (residential areas)	EN55011 10.1997
Safety guidelines	IEC61010-1:2001, EN61010-1:2001
Mounting position	Any
Humidity class	15 … 95% without dew
Protection class	
Front plate	IP54 according to IEC60529
Rear side	IP20 according to IEC60529
Operation	
Supply voltage	110 … 230 V AC, 50 and 60 Hz power lines
Target cos φ	0.3 inductive to 0.3 capacitive adjustable
Switching and discharge time range	20 … 1000 ms
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
Measurement	
Measurement voltage range	30 ... 525 V AC (L-N) or (L-L)
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 (sinusodial)
Zero voltage release	< 15 ms
Switching outputs	
Transistor outputs	
- Number of outputs	6
- Switching voltage/power	10 … 24 V DC
Alarm relay	Potential-free contact (max. 250 V, 6 A)
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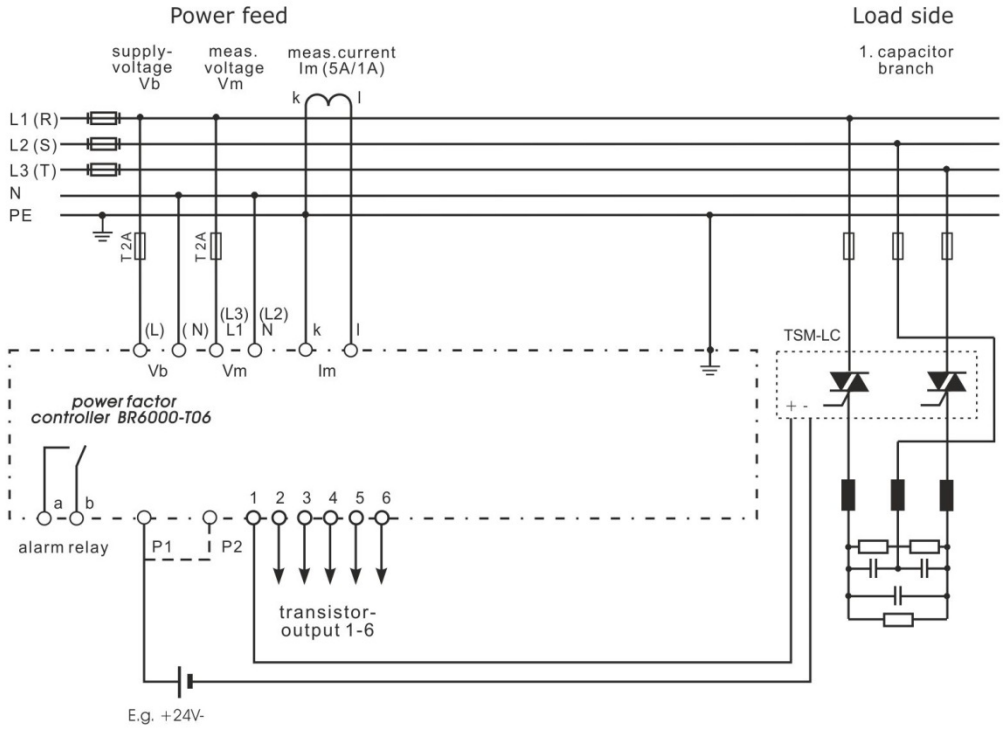
Preliminary data

Connection plan



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⚠ 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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