



Film Capacitors – Power Factor Correction

Power Factor Controller

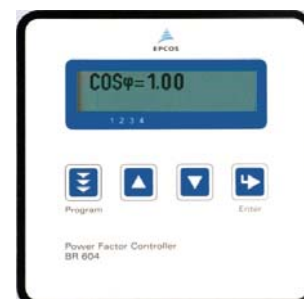
Series/Type: BR604
Ordering code: B44066R6004E230
Date: 2010-04-12
Version: 3

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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)



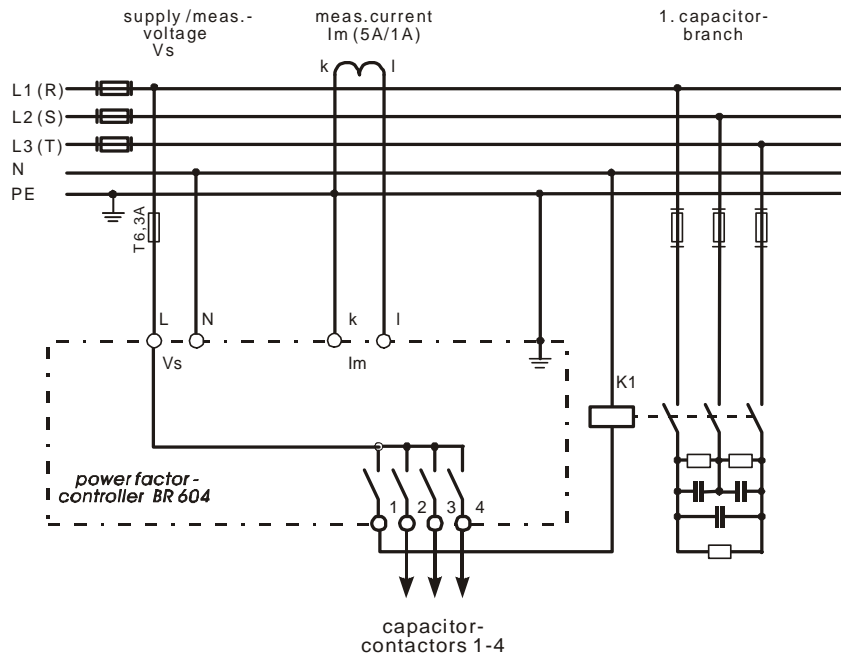
Features

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, $\cos \varphi = 0.4$)
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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.

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