

BLR-CM

High-Tech Power Factor Controller reaching the target cos phi fast with only a few switch operations.



High-Tech Power Factor Controller with the aim to reach the target $\cos\phi$ as fast as possible and with the minimum amount of switch cycles. The various regulating algorithms of the BLR-CM (real-time algorithm / mixed algorithm / Best Fit Algorithm) are the brain in this powerful PFC. With all the different options and wide range of alarms it is adaptable to all challenging regulating tasks, like dynamic compensations.



The regulating characteristic Q(U), which was especially designed for applications that have to provide reactive power depending on the grid voltage, especially exported active power, makes the BLR-CM suitable for controlling and maintaining grid voltage of power generation facilities. The system can be used in generator plants controlling either capacitors or inductors as required.

Relay or Transistor outputs

The BLR-CM controller offers 6 or 12 transistor outputs (option -T) for controlling thyristor switches. Also available: 6 relay outputs plus 6 transistor outputs (option -RT). The relay outputs are used to control static load components, the transistor outputs to control dynamic load components. For this purpose, 2 different algorithms of the hybrid controller work in parallel.

Automatic Step Recognition

No matter if reactor or capacitor- the BLR-CM recognizes the size automatically. It does not matter, which output is connected to a reactor or a capacitor. There are no limitations regarding sequence and size of the connected stages.

Optional 3-Phase Measurement

In networks with asymmetric loads (e. g. office buildings), the BLR-CM can measure the current of each phase in this variant. In addition, the controller recognizes if a 1- or 3- phase capacitor is being used, whereby the intelligent controller algorithm generates the optimal result of reactive power compensation in asymmetric networks.

Graphic LCD Display

The operator can browse the menus and adjust the settings via softkeys (keys with variable functions); the adjustments and measurement values are displayed in a back-lit graphical display in high resolution, using plain text messages. The controller will support either English, German and French languages or English, Spanish and Portuguese language.

Suitable for MV and HV Applications

The BLR-CM can be ordered with a pre-set reaction time of 8 seconds. This will be enough time for a vacuum contactor to switch. After this switching time the controller will re-measure to register the effective changes in load.

Real-Time Algorithm

Equipped with a real-time algorithm and transistor outputs, the BLR-CM is ideal for triggering thyristor switches (in dynamic compensations). Deviations are determined immediately (about 1 ms) after measurement of one cycle. Thus, a reaction time of about 20 ms can be achieved in grids smaller than 50 Hz.

Data Memory Optional

Optionally the BLR-CM can be equipped with a data memory, which will store all alarms with time stamp, as well as measurement values in adjustable intervals and work counters. The data output is via a TTL interface in CSV MS Excel compatible format.

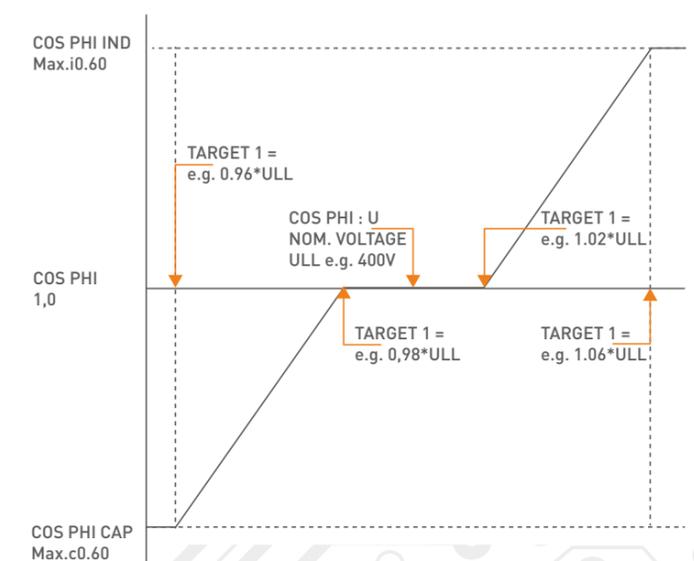
Best Fit Algorithm

The BLR-CM range of controllers have the patented and proven Best Fit Algorithm. Both capacitive steps and inductive steps can be used simultaneously for PF control. Therefore, the BLR-CM can react to and control both inductive as well as capacitive loads.

BLR CM Controller with Q(U) Regulation Characteristics

The target parameter of the BLR Q(U) is the voltage of electric power plants, which has to be maintained. In case the measured voltage deviates from the target voltage (undervoltage or overvoltage) the $\cos\phi$ will be adapted dynamically. Then the controller will switch capacitors or chokes accordingly.

The demand for inductive or capacitive reactive power will be calculated by the controller with the help of an adjustable characteristic curve. The advantage of this adjustable curve against a static $\cos\phi$ is, that the regulation target is adjusted dynamically according to the target voltage.



Technical Data	
Measuring- and supply voltage	50 – 530 V AC, 45 – 65 Hz, PT ratio 1 – 350, 100 – 132 V / 207 – 253 V, 45 – 65 Hz, max. fuse 6 A
Current measuring	0 – 5 A, sensitivity 15 mA, burden 15 mOhm (option -3 A: 3x 0 – 5 A) overload 20 % continuous, CT-ratio 1 – 6500
Control exits	6 R, 12 R, 6 T, 12 T, 12 RT, relays: N/O, one common point, max. fuse 6 A
Breaking capacity	250 V AC / 5 A, 400 – 415 V AC / 2 A, 110 V DC / 0.4 A, 30 V DC / 5 A
Static outputs	Open-collector, breaking capacity: 8 – 48 V DC / 100 mA
Alarm output	Alarm relay C/O, voltfree, programmable, max. fuse 6 A, breaking capacity 250 V AC / 5 A
Data-logger	Optional