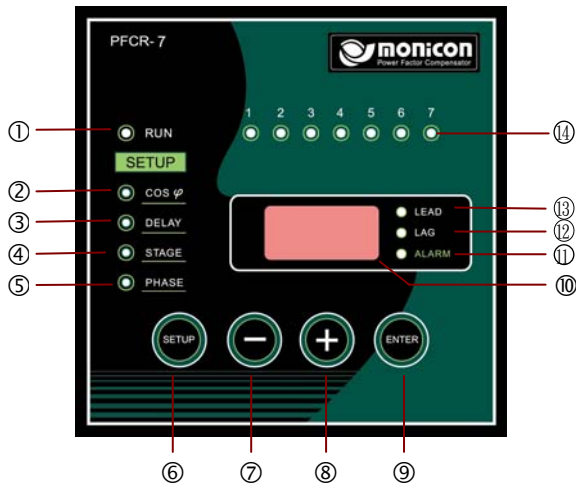


Power Factor Compensation Regulator (PFCR)

User's Guide

Description :



- | | |
|--|---|
| (1). Operating indicator
Auto mode: Steady ON
Manual mode: Blinking
Setting mode: OFF | (8). Number increase key or
Manual switch-in capacitor key |
| (2). Target power factor (PF) setting | (9). Enter key to confirm all setup
values |
| (3). Switching delay time setting | (10). LED digital display |
| (4). Capacitor steps setting | (11). Indicator for abnormal PF or
no loads |
| (5). Number of Phase setting | (12). Indicator for PF in Lag
(Indicative) |
| (6). Setup procedure key | (13). Indicator for PF in Lead
(Capacitive) |
| (7). Number decrease key or
Manual switch-out capacitor
key | (14). Switching status of capacitor
steps |

* Press SETUP key about 5 seconds to enter SETUP procedure for setting COS ϕ , DELAY, STEPS, PHASE, Up/Low margin of target PF, and Releasing PF value functions. Change values press \oplus or \ominus . Selection of setting functions presses SETUP key. Press ENTER key to exit and save the setting values.

* During automatic mode, press \oplus or \ominus key with AUTO indicator blinking to manually switch in or out capacitor steps. Once release the keys, regulator returns automatic mode.

Setup Procedure:

1. Press SETUP key about 5 seconds till AUTO indicator off and COS ϕ indicator blinking, then get into SETUP procedure for first setup function to Target PF Setting. Press \oplus or \ominus to change value from IND 0.70 to CAP 0.70.
2. Press SETUP key to get into Switch-In Delay Time Setting with DELAY indicator blinking and CAP indicator on. Press \oplus or \ominus to change value from 1 to 995 seconds.
3. Press SETUP key to get into Switch-Out Delay Time Setting with DELAY indicator blinking, and IND indicator on. Press \oplus or \ominus to change value from 1 to 30 seconds.
4. Press SETUP key to get into Steps Setting with STEPS indicator blinking. Press \oplus or \ominus to change value from 1 to 7 for model PFCR-7 and from 1 to 12 for model PFCR-12.
5. Press SETUP key to get into Phase Setting with PHASE indicator blinking. Press \oplus or \ominus change value to 1 for single phase (1 ϕ) system and to 3 for three phase (3 ϕ) system.
6. Press SETUP key to get into Upper Margin Setting of Target PF with CAP indicator blinking. Press \oplus or \ominus to change value from 0.00 to 0.10. This function prevents capacitors from overdoing switch in and out. If current PF fell between upper and lower margin of target PF, the reactive power compensation is finished and no more capacitor will be switched in or out.
7. Press SETUP key to get into Lower Margin Setting of Target PF with IND indicator blinking. Press \oplus or \ominus to change value from 0.00 to 0.10.
8. Press SETUP key to get into Releasing PF setting with Alarm indicator blinking. Press \oplus or \ominus to change value from 0.00 to 0.60.
9. Press ENTER key to save setting values and exit the setup procedure. If press SETUP key, it will return to the beginning for target PF setting.

Display and Status:

1. **Display showed 000 with Alarm indicator on:** it means low current (light loads) or no current. Capacitors will all be released.
Display showed 001: it means that the regulator detected failure on frequency.
Display alternately showed come PF and 002: it means system PF is less than 0.80 for 40 minutes with all capacitors switching in.
Display showed 003 with Alarm indicator blinking: it means system is abnormal status and PF is lower than release PF setting value with all capacitors switched in. In this status the regulator will switch all capacitors out.
2. Normal PF display with CAP indicator on or IND indicator on mean system in capacitive (Lead) or inductive (Lag), respectively.
3. LED digital display shows 60 or 50, it detects system frequency is 60Hz or 50Hz, respectively.

Default Setting:

1. Target PF (COS \emptyset) default IND 0.97
2. Switch-in delay time defaults 15 sec.
3. Switch-out delay time defaults 15 sec.
4. Number of steps default 7 steps for model PFCR-7
Number of steps default 12 steps for model PFCR-12
5. Phase defaults 3 phases
6. Upper margin of target PF defaults 0.03
7. Lower margin of target PF defaults 0.03
8. Release PF defaults 0.20
9. Switch sequence defaults circular

Terminals Description

Alarm : Contacts of abnormal PF alarm.

RS-485 : RS-485 communication input/output terminals.

L : Terminals for secondary L signals of CT.

K : Terminals for secondary K signals of CT.

Null : NO use.

0V : Connect L3 phase of power source with 2A fuse protected.

220V : For 220 VAC system, connect L2 phase of power source with 2A fuse protected.

380V : For 380 VAC system, connect L2 phase of power source with 2A fuse protected.

COM : Connect L3 phase of power source with 6A fuse protected.

C1 to C7 (or C1 to C12): Connects to one point of each magnetic contact coil, and another point of each magnetic contact coil connects to L2 phase.

Connection

