



POWER FACTOR CONTROLLER

FEATURES

- Measurement of PF for all the 4 quadrants
- Identification of the power of connected capacitor either automatically or through user program
- Optimum usage of capacitor banks through cyclic switching
- Control either in Auto / Manual
- Suitable for switching in / out capacitor through Thyristor module / Contactor
- Adjustable connection delay and reconnecting delay for banks to suit the load changes
- Alarm against Over Voltage, Under Voltage, Over Current, Under Compensation & Step fault
- THD Measurement and alarm (optional)
- Alarm for insufficient measurement current
- Disconnection of particular step for step problem
- Disconnection of capacitor bank for excessive harmonics
- Connection of permanent capacitor value in addition to the measured required power E.g: for compensation of a transformer
- Separate PF setting for EB/DG (optional)
- External potential free digital input provided to select EB/DG Setting (optional)
- RS485 Port for communication with MODBUS RTU protocol (optional)

APPLICATIONS

- Power Factor Improvement in main incomers
- Wind turbine Generators
- Hi-tech Software Parks, Buildings and Shopping Malls
- Steel Rolling Mills and Process Industries



PFC 9070

ICD Power Factor Controller PFC 9070 measures the active power, reactive power in the mains from the measured Voltage and Current for all the four quadrants.

The controller identifies the output of the capacitor stages installed in the power factor improvement panel through user program or automatically. The controller connects or disconnects the capacitor bank in the optimum manner as required by the actual mains condition according to target PF.

The controller monitors the fluctuations in the reactive power demand of the load precisely and controls the capacitor stages by following the principle of rotational switching. This ensures that optimum power factor correction is achieved under all load conditions.

The integrated LCD display can show the actual grid parameters, panel parameters and diagnostic information about the capacitor banks. This is useful to monitor the operating conditions and capacitor banks.

The power factor controller PFC9070 is ready for operation with preset default functions immediately after installation.

DISPLAY OPTIONS

- PF, Set PF, Required kVAR
- Voltage, Current, kVA, kW, kVAR and frequency
- kWh, kVAh and average power factor
- Total harmonic distortion for voltage & current
- Capacitive current and capacitor kVAR
- kVARh delivered by the panel
- Number of connected capacitor banks
- Number of switching operations per bank and Run hour per bank
- Alarm generation when number of switching operation reach a preset limit
- Capacitor derating percentage

TECHNICAL SPECIFICATION

Type	: ICD POWER FACTOR CONTROLLER	Number of Steps	: 6/8/12
Model No.	: PFC 9070 (Thyristor Switching) PFC 9070R (Contactor Switching)	Capacitor Connection Delay	: 01 to 99 Seconds (Adjustable)
Voltage Input	: 3 Phase 415V 50Hz for LT and 3 phase 110V 50Hz for HT	Capacitor Re-connection Delay	: 001 to 999 Seconds (Adjustable)
Burden	: Less than 0.2VA	Keypad for setting and Selection	: Index, Increment, Shift and Enter keys for setting PF, display and manual operation
Frequency	: 40.00 to 60.00Hz	Control Operation	: a) Switching IN when the Lag required kVAR value is more than 70% of the lowest capacitor value b) Switching OUT when the lead required kVAR value is more than 70% of the lowest capacitor value
Current Input	: 1A / 5A from any one of the Grid CT 1A / 5A from R & B of Panel CT	Output	: Thyristorised output 10-15V DC (PFC9070) 1C/O Potential free relay contact (PFC9070R)
Burden	: Less than 0.2VA	Alarms with relay output	: a) Over Voltage b) Over Current c) Over / Under compensation d) Zero Voltage & Zero Current e) Bank Fault f) Voltage THD g) Current THD
PF Measurement Range	: For all 4 Quadrants (0.00Lag to 0.00 Lead)	Alarm relay output rating	: 5A at 240V AC
PF Measurement Accuracy	: ±0.01	Output ON, Alarm & auto / manual indications	: By LED
PF Indicating Resolution	: 0.01	Auxiliary Supply	: Self Powered or 90 - 270V AC/DC External
PF Setting Range	: 0.80 lag to 0.91 lead	Operating Temperature	: 55° C
PF Setting Accuracy	: 0.01	Enclosure Dimensions	: a) Bezel 144 (H) x 144 (W) mm b) Cut out 136 (H) x 136 (W) mm c) Depth 150 mm
Display	: 4 Row 16 Character LCD display	Standards Approved	: a) Impulse voltage test b) Conducted emission test c) Fast transient burst test d) Surge test e) Environmental and climatic influence test
Parameter Displayed	: Grid Parameters Voltage, Current, kW, kVA, kVAR, PF, Energy, Average Power Factor, Harmonics Panel Parameters Capacitor Current, Capacitor kVAR, kVARh Pumped Alarm Status Alr1 – Critical Alarm Alr2 – Non-critical Alarm Step History for each Step Cycle count, Run Hour, Derating Percentage First value and Last value of Capacitor Bank		
Possible Program sequence of Capacitor banks	: a) 1:1:1:1:1 b) 1:1:2:2:2 c) 1:2:2:2:2 d) 1:2:4:4:4 e) 1:2:4:8:8		

POWER FACTOR CORRECTION PANELS



PLEASE PROVIDE THE FOLLOWING DETAILS WHILE PLACING YOUR ORDER / ENQUIRY

1. Voltage Input 2. Current Input 3. HT / LT Application 4. CT Primary 5. PT Primary 6. Self Powered / External Supply.



INDUSTRIAL CONTROLS & DRIVES (INDIA) PVT. LTD.
#33, Mettukuppam Road, (Via Alapakkam Road)
Maduravoyal, Chennai - 600 095, Tamilnadu, India
Tel : +91 44 4293 4322, 4293 4324, 4293 4335
Email : sales@icdipl.net, Web : www.icdipl.net

