

SMART POWER FACTOR CONTROLLER PFC9059

FEATURES

- Measurement of PF for all the 4 quadrants
- PF Indication between 0.00 lag to 0.00 lead
- Control of PF from 0.80 lag to 0.95 lead
- Suitable for switching IN/OUT capacitors through contractors
- Control either in Auto or Manual
- Optimum user of capacitor banks for increased life through cyclic switching
- Correction is possible from 0.2seconds
- Selection of Capacitor Program
- Entry of minimum Capacitor in kVAR
- Alarm against over voltage, over current and over/under compensation
- THD measurement and alarm(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



PRINCIPLE OF PF MEASUREMENT

True RMS method is employed to calculate the PF with voltage and current signals fed to the controller through instrument transformers. One voltage and one current signal from any one phase are adequate for the calculation in the case of balanced load. For unbalanced load, voltage and current signals are required from all the three phases. The ratio of the active power to the apparent power measured for a sample time is given as PF.

GENERAL DESCRIPTION

ICD Smart Power Factor Controller PFC 9059 is microcontroller based and assembled in 96 x 96 mm ABS plastic enclosure for flush mounting. It operates with voltage and current signals from suitable voltage and current transformers.

It measures power factor and also the reactive power consumption of the load. With appropriate user program fed, it gives relay output signals to switch IN/OUT capacitor banks by Thyristor switching module / SSR in a sequential manner to achieve the preset PF.

CONTROL OPERATION

The controller action is a simple proportional with increment / decrement switching of capacitor banks through contactors with a dead band to avoid hunting. When the controller measures the PF and kVAR, it compares them to the set values. Depending upon the difference between the set and actual values, the kVAR required to be supplied / withdrawn is calculated. Output relays are switched on as per the program fed to the controller in a sequential manner with definite set delay for a series of capacitor banks to be switched IN/OUT through SSR/Thyristor Switching Module. This kind of control provides a smooth correction without any overshoot, when the load fluctuations are moderate.

TECHNICAL SPECIFICATION

| | | | |
|--------------------------------|---|--|---|
| Type | :ICD SMART POWER FACTOR CONTROLLER | Auxiliary Supply | :Self Powered |
| Model No. | :PFC 9059 - 6 stages PFC 9060 - 12 stages | Capacitor Connection Reconnection delay | :5 to 240 Seconds adjustable |
| Voltage Input | :3 Phase 415V 50Hz for LT and 3 phase 110V 50Hz for HT | Control Operation | :a) Switching IN when the lag required kVAr value is more than 70% of the 1st capacitor value b) Switching OUT when the lead required kVAr value is more than 70% of the 1st capacitor value |
| Burden | :Less than 0.2 VA | Keypad for setting and selection | : Index, Increment, Shift and Enter keys for setting PF, display and manual operation |
| Frequency | :40.00 to 60.00 Hz | Alarms with relay output | :a) Over Voltage 115% of the rating b) Over Current 110% of the rating c) Over / Under compensation |
| Current Input | :1A / 5A from all the 3 Phase through current transformers | Output Relay ON and manual | :By LED indications |
| PF Measurement Range | :For all 4 Quadrants | Operating Temperature | :55° C Enclosure |
| PF Measurement Accuracy | :±1% (+2 least digit) | Enclosure Dimensions | :96(H) x 96 (W) x 120(D) mm 144(H) x 144(W) x 150(D) mm |
| PF Indicating Resolution | :0.01 | | |
| PF Setting Range | :0.80 lag to 0.95 lead | | |
| PF Setting Accuracy | :0.01 | | |
| Display | :6 Digit 0.5" seven segment Red LED | | |
| Parameter Displayed | :Actual PF, Set PF, Actual kVAr and kVAr required to achieve set PF | | |
| Possible Program sequence | :a) 1:1:1:1:1 b) 1:1:2:2:2 | | |
| Of capacitor banks | c) 1:2:2:2:2 d) 1:2:4:4:4 e) 1:2:4:8:8 | | |
| Number of Steps | :Programmable through keypad | | |
| Output Relay NO contact Rating | :Open Collector type | | |

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.

OUR RANGE OF PRODUCTS

Volt Meter, Ammeter, VAF Meter, Energy Meter, Dual Source Meter, Load Manager, Power Multimeter, Trivector Meter, Maximum Demand Controller, Harmonic Indicator, Power Factor Controller, Smart PF Controller, Power Factor Correction Panel, AC Voltage Controller, AC Current Controller, Motor Protection System, Voltage/Current/Power/Frequency Transducer, Power Transmitter, Energy Management and Billing Systems etc...



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Note: Specifications are subject to change without prior notice due to continuous improvement in product development.