Automatic Power Factor Controller

APFC148

144 x 144mm

Features :

- 3-CT Sensing
- Zero Programming
- LCD display with dual color backlight
- 12/14* Relay stages
- Intelligent Algorithm System
- Supports Automatic Capacitor Banks switching
- Configurable Alarm Settings
- Alarm Display on screen
- Dual Password Protection

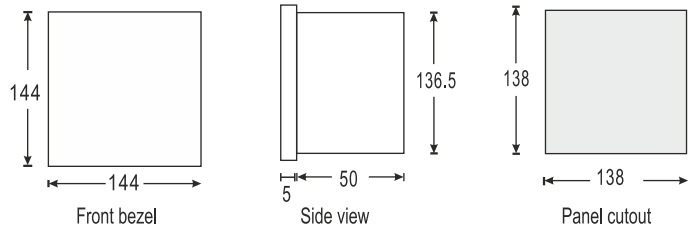
Certifications : CE RoHS compliant

Technical specifications

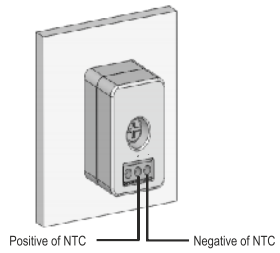
Display specifications	
Type	LCD with dual color backlight
Digits	3 lines 4 digits to show electrical parameters
Input specifications	
Rated input voltage	11 to 300V AC (L-N) 50 to 520V AC (L-L)
Rated input current	Nominal 5A AC (Min- 11mA, Max – 6A)
Frequency	45 - 65 Hz
Burden	20m Ohm
Wiring input	1Ø2W / 2Ø2W / 3Ø3W / 3Ø4W
Accuracy	Voltage (L-N/L-L), Current: ±0.5% of full scale Frequency: ±0.1% of full scale Power (kW, kVA, kVAr): ±1% Energy (kWh, kVArh, kVAh): Class 1
Resolution	For Energy: 0.01k,0.1k, 1k,0.01M, 0.1M, 1M For Power Factor: 0.001 For Temperature: 0.1 For Voltage, Current, Power: Auto resolution
Display scrolling	Auto/ Manual/ Default (Programmable) Scrolling Time: 5 Sec
Measurements	Power Factor, Power (kW, kVA, kVAr), Energy (kWh, kVArh, kVAh), Phase voltage and Phase current, Frequency, Temperature, Up to 31st order Harmonics measurement
Measurement range	
Power factor	0.8 lag to 0.8 lead
Alarm indications	Over Voltage, Under Voltage, Under Compensate, Over Compensate, CT Polarity Error, Current Absent indication
Resettable Parameters	
CT Primary	1 / 5A to 9999A (Programmable for any value)
CT Secondary	1 or 5A (Programmable)
PT Primary	100V to 500kV (Programmable for any value)
PT Secondary	100V - 500V (Programmable for any value)
Output specifications	
Output Contacts	NO, One common point Max fuse 6A
Steps:	1 to 12/14*
Relay contact	5A@250V AC Note*: When 14 relay option selected, fan & alarm relay will be used to control PF
Communication	
Communication Interface	RS485 & Modbus RTU

Auxiliary Supply Specifications	
Input voltage range	90 - 550V AC
Consumption	15VA max
Frequency	50 - 60 Hz
Control specifications	
Target PF	0.8 lag to 0.8 lead
Switching program	Automatic / Linear / Rotational
Control Sensitivity	55 to 100%
Step time	1 to 999 sec
Discharge time	1 to 999 sec
Control Mode	Automatic / Manual
Auto initialization	Yes / No
Environmental specifications	
Temperature	Operating : 0°C to 60°C Storage : -20°C to 60°C
Humidity	Up to 95% RH without moisture consideration
Mechanical specifications	
Mounting	Panel mount
Weight	528gms (For 12 stage variant) 508gms (For 8 stage variant)

Dimensions (in mm)

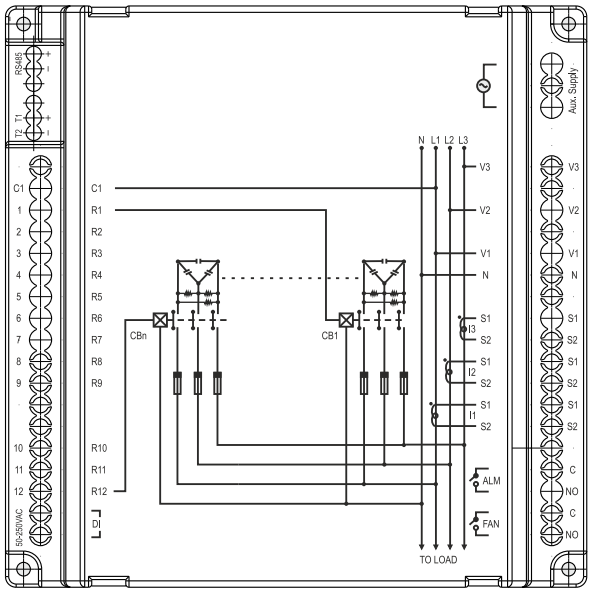


NTC Temperature Sensor



Terminal Connections

Where n - 12 For 12 stage variant.



Standards Compliance

Applicable EMI / EMC Standards		
Product Standard : IEC 61326-1		
Category	**Standards**	**Standards Compliance**
ESD Immunity	IEC 61000-4-2	Level IV (Air discharge : 15kV), (Contact Discharge : -8kV)
Surge Immunity	IEC 61000-4-5	+/- 2kV common mode, (Line to ground) +/- 1kV differential mode, (Line to Line)
Radiated Susceptibility	IEC 61000-4-3	Level III, 80 to 1000MHz (10V/m) Level II, 1.4GHz to 2GHz (3V/m) Level I, 2GHz to 2.7GHz (1V/m)
Conducted Susceptibility	IEC 61000-4-6	Level II (3V/m)
Voltage Dips and Interruptions	IEC 61000-4-11	**Dips** : 0% residual voltage / 1 cycle (Criteria B), 40% residual voltage / 10 cycles 50Hz / 12 cycles 60Hz (Criteria C) 70% residual voltage / 25 cycles 50Hz / 30 cycles 60Hz (Criteria C) **Interruptions** : 0% residual voltage / 250 cycles 50Hz / 300 cycles 60Hz (Criteria C)
Conducted Emission	CISPR-11	
Radiated Emission	CISPR-11	
Electrical Fast Transient	IEC 61000-4-4	Level III (2kV)

Ordering Information

Product Code	Supply Voltage	No. of stages	Certification
APFC148-308-90 / 550V-CE	90/ 550V AC, 50/ 60Hz	8	CE
APFC148-312-90 / 550V-CE	90 - 550V AC, 50/60Hz	12	CE