AUTOMATIC POWER FACTOR CONTROLLER

SPF-T SERIES

Features:

- Suitable for Single CT Thyristor Switched APFC panels.
- Protection for Over/Under - Voltage/ Load/Current, Over Capacitor Current THD, Over Temperature, etc.
- Compensated on fundamental waveform, KVAR calculation and also the effects of supply frequency and voltage.
- Size: H x W x D = 144 x 144 x 100 mm. Recommended cutout for panel front door is 138 x 138 mm.
- Digital output commands are available up to 8 and 12 steps.
- One Auxiliary Input and One Auxiliary Output with user defined functionality.
- Editing option for various parameters available such as Display parameters, General parameters, System parameters, Fault parameters & Step parameters.
  - For Display parameters, available options are LCD contrast, Auto scroll, Scroll time, THD to Display, etc.
  - For General parameters, available options are Password setting, Auxiliary input and Output setting, etc.
  - For System parameters, available options are P.I. ratio, Load side primary C.T. ratio, Capacitor side primary C.T. ratio, P.F. upper and lower settings, etc.
  - For Fault parameters, available options are Over/Under Voltage, Over/Under Load, Over/Under Capacitor Current, Over Temperature, etc.
  - For Step parameters, available options are Correction mode, Correction time, Step response time, Banks connected, Fixed bank setting, Correction type, etc.
- Displaying of various parameters available such as Mains Voltage, Mains Current, Capacitor Current, Active Power, Reactive Power, Apparent Power, C-KVAR, Load side KVAR, Load side KVA, Load side COSθ, Frequency, Voltage THD-Fundamental, Current THD-Fundamental, Capacitor THD-Fundamental, Temperature, Time and Date, etc.

Technical Specifications:

- Auxiliary (Measurement) Voltage: 415V ± 10 % (±L).
- Load and Capacitor Current measurement input: Single phase, either 1A or 5A secondary.
- Solid State command output rating: 30mA, 12Vdc.
- Frequency: 50Hz ± 5 %.
- Measurement Accuracy: Class-1.
- Class measurement Operating temperature: 0 to 55°C.
- Storage temperature: -10 to +75°C.
- Humidity: 0 to 90%.
- Available digital output commands: 8 and 12 for SPF-08I and SPF-12I series respectively.
- Connectors: Screwable, plug in type with 2.5 Sq.mm max. capacity.
- Casing: Front – Plastic instrument casing, Rear – Metal with Silver plating.
- Display: 2 x 16 Characters LCD type.

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AUTOMATIC POWER FACTOR CONTROLLER

SPF3-M SERIES

Features:

- Suitable for 3-C T-Contact Switched APFC panels.
- Protection for Under-Voltage / Load, Over-Voltage/Load/Capacitor Current/Capacitor Current THD/Temperature, Load Unbalance, etc.
- Compensation on fundamental waveform, KVAR calculation and also the effects of supply frequency and voltage.
- Size: H x W x D = 144 x 144 x 150 mm. Recommended cutout for panel front door is 138 x 138 mm.
- Outputs of relay contacts are available up to 8 and 16 steps.
- One Auxiliary Input and One Auxiliary Output with user defined functionality.
- RS-232 serial communication port is available on front fascia. Serial communication through standard protocols. In case of requirements with MODBUS connectivity, this can be provided on optional basis.
- Editing option for various parameters available such as General parameters, System parameters, Fault parameters, Step parameters, Utilization Counter & Communication parameters.
  - For General parameters, available options are Password setting, THD to Display, Energy counter reset, Auxiliary Input and Output setting, etc.
  - For System parameters, available options are P.T. ratio, Load side primary C.T. ratio, Capacitor side primary C.T. ratio, P.F. upper and lower settings, etc.
  - For Fault parameters, available options are Over/Under voltage, Over/Under Load, Load Unbalance, Over Capacitor Current, Capacitor Current THD, Inner Temperature, NV RAM battery, etc.
  - For Step parameters, available options are Steps Connected, Default mode, Capacitor Bank Voltage, Correction time, Discharge time, Step response time, Fixed bank setting, Correction type, etc.
  - For Utilization Counter, available options are Utilization of bank Counter and Clear bank Counter.
  - For Communication parameters, available options are Unit ID, Baud rate, Time, Date, Initialization of RTC and Clear NVRAM.
- Displaying of various parameters available such as Overall Values, Per-Phase RMS Values, Power parameters, Energy parameters, Harmonics parameters, KVAR for each steps connected in circuit, Internal and External Temperature, Time and Date.
- Display Overall Values: Average Voltage, Average Current, Active Power, Reactive Power, Apparent Power, Capacitor Current, C/KVAR, Load side P.F., Load side KVAR, Load side KVA and Frequency.
- Display Per-Phase RMS Values: Line-Phase Voltage, Phase Current and Capacitor Phase Current.
- Display Power parameters: Per Phase values of P.F., KVAR, KVA and kW.
- Display Energy parameters: KWH, IND KVARH, CAP KVARH, KVAR and C-KVARH.

Technical Specifications:

- Auxiliary Voltage: 415V (L-L) (+20%/-40%).
- Feed-back (Measurement) Voltage: 3 phase, 3 wires, 415Volt (+20%/-40%).
- Load and Capacitor Current measurement Input: Three Phase, Selectable 1A or 5A secondary.
- Output relay contact rating: 5A, 250Vac.
- Frequency: 50Hz ± 5%.
- Measurement accuracy: Class-1.
- Class measurement Operating temperature: 0 to 55°C.
- Storage temperature: -10 to 75°C.
- Humidity: 0 to 98%.
- Available Output commands: 8 and 16 for SPF3-88M and SPF3-168M series respectively.
- RS-232 baud rate selectable upto 57.6 KBPS.
- Connectors: Screwable, plug in type with 2.5 Sq. mm max. capacity.
- Casing: Front – Plastic instrument casing, Rear – Metal with Silver plating.
- Display: 2 x 16 Characters LCD type.

AUTOMATIC POWER FACTOR CONTROLLER

SPF3-MT SERIES

Features:

- Suitable for 3-C T-Contact Switched APFC panels.
- Protection for Under-Voltage / Load, Over-Voltage/Load/Capacitor Current/Capacitor Current THD/Temperature, Load Unbalance, etc.
- Compensation on fundamental waveform, KVAR calculation and also the effects of supply frequency and voltage.
- Size: H x W x D = 144 x 144 x 150 mm. Recommended cutout for panel front door is 138 x 138 mm.
- Digital output commands are available up to 8 and 16 steps.
- One Auxiliary Input with user defined functionality.
- RS-232 communication port is available on front fascia. Serial communication through standard protocols. In case of requirements with MODBUS connectivity, this can be provided on optional basis.
- Editing option for various parameters available such as General parameters, System parameters, Fault parameters, Step parameters, Communication parameters.
  - For General parameters, available options are Password setting, THD to Display, Energy counter reset, Auxiliary Input setting, etc.
  - For System parameters, available options are P.T. ratio, Load side primary C.T. ratio, Capacitor side primary C.T. ratio, P.F. upper and lower settings, etc.
  - For Fault parameters, available options are Over/Under voltage, Over/Under Load, Load Unbalance, Over Capacitor Current, Capacitor Current THD, Inner Temperature, NV RAM battery, etc.
  - For Step parameters, available options are Steps Connected, Default mode, Capacitor Bank Voltage, Correction time, Discharge time, Step response time, Fixed bank setting, Correction type, etc.
  - For Communication parameters, available options are Unit ID, Baud rate, Time, Date, Initialization of RTC and Clear NVRAM.
- Displaying of various parameters available such as Overall Values, Per-Phase RMS Values, Power parameters, Energy parameters, Harmonics parameters, KVAR for each steps connected in circuit, Internal and External Temperature, Time and Date.
  - Display Overall Values: Average Voltage, Average Current, Active Power, Reactive Power, Apparent Power, Capacitor Current, C/KVAR, Load side P.F., Load side KVAR, Load side KVA and Frequency.
  - Display Per-Phase RMS Values: Line-Phase Voltage, Phase Current and Capacitor Phase Current.
  - Display Power parameters: Per Phase values of P.F., KVAR, KVA and kW.
  - Display Energy parameters: KWH, IND KVARH, CAP KVARH, KVAR and C-KVARH.

Technical Specifications:

- Auxiliary Voltage: 415V (L-L) (+20%/-40%).
- Feed-back (Measurement) Voltage: 3 phase, 3 wires, 415Volt (+20%/-40%).
- Load and Capacitor Current measurement Input: Three Phase, Selectable 1A or 5A secondary.
- Solid State command output rating: 30mA, 12Vdc.
- Frequency: 50Hz ± 5%.
- Measurement accuracy: Class-1.
- Class measurement Operating temperature: 0 to 55°C.
- Storage temperature: -10 to 75°C.
- Humidity: 0 to 98%.
- Available Digital Output commands: 8 and 16 for SPF3-88M and SPF3-168M series respectively.
- RS-232 baud rate selectable upto 57.6 KBPS.
- Connectors: Screwable, plug in type with 2.5 Sq. mm max. capacity.
- Casing: Front – Plastic instrument casing, Rear – Metal with Silver plating.
- Display: 2 x 16 Characters LCD type.