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EPF

Power Factor Controller

The power factor controller was designed with signal processing technology to ensure accurate control of all the electrical systems of the plant such as: VOLTAGE, CURRENT, COSφ, THD I% and through a sofisticate algorithm, optimal use of capacitors bank and contactors, taking into account the distortion phenomena of industrial plants.
Using digital signal filtering techniques, it is able to separate only the components from the other harmonic components basic sinusoidal voltage and current, on which the phase shift is measured.
The device consecutively displays all the measurements on the 4 digit 7 segment display in order to ensure easy reading of the data in any environmental condition.
The user can access the adjustment using four user keys of the instrument, manually insertion banks, displaying measurements and alarms.

Power Supply	Voltage	110Vac -20% +10% 230Vac -20% +10% 440Vac -20% +10%	
	Power Consumption	3.3VA	
Voltage Input	Voltage Measure Range	nominal -20% +10%	
Current Input	Current Measure Range	0..5A (1A by CT /1) optional	
	Current Absolute Max. Rating	6A	
	External CT Ratio Setting	5 ... 10000	
	Input Power	0.75VA	
Temperature Input	Temperature Measure Range	0..+100°C	
	Sensor Type	NTC 10K	
Control Range	Power Factor Setup	0.85 Ind .. 0.95 Cap	
Measure	Measure	Voltage Current Power Factor	Δ Power Temperature THD I%
	Import/Export	2 and 4 quadrant programmable	
Output Relay	Output Bank	4	
	Contacts Rating	5A 250V (AC1), max switching 440V	
Connections	Terminal Blocks	Plug	
Display	Display	4 characters 7 segments - Ultra RED	
Keypad	-	4 push button	
LED	LEDs Function	Relays output state; MAN/AUTO; IND/CAP; Alarm;	
Operating Ambient Conditions	Operating Temperature	-20°C..+ 55°C	
Enclosure	Mounting	Flush mount	
	Enclosure Type	self-extinguishing PPO UL94-UO	
	Protection Degree	IP41 (IP 54 with optional cover)	
	Dimensions	96x96x57 mm	
	Panel Hole	92x92mm	
	Weight	280g	

Reference standards:

EN 61000-6-1
EN 61000-6-2
EN 61000-6-3
EN 61000-6-4
EN 60335-1

Complies to:

CEE 73/23 - 93/68 (Low Voltage)
CEE 89/336 - 93/68 (EMC)

Order code:

PF.010.100 : 440Vac
PF.010.101 : 230Vac
PF.010.102 : 110Vac

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DPF6 - DPF12

Power Factor Controller

Automatic power factor controllers with microprocessor designed for signal processing of strongly distorted waveform to ensure accurate control of the electrical parameters of the plant.
All measurements are made starting from the analysis of the waveform using FFT (Fast Fourier Transform) algorithm in floating point to ensure the maximum precision. In addition to the normal power factor management functions, the device monitors the network and preserve the capacitor banks by disconnecting them in cases of high harmonic distortion or in case of mains voltage micro-interruptions or drops. The microprocessor management allows to distribute the insertion/disconnection of the capacitive banks extending the life time. The software allows to set each battery with the nominal value of the capacitor and also to set advanced functions such as battery fixed (useful for fixed rephasing), thresholds of temperature for ventilation control and relay and / or trip intervention, TA setting, trip times activation / deactivation and reconnection time.

Power Supply	Voltage	110Vac -20% +10% 230Vac -20% +10% 440Vac -20% +10%	
	Power Consumption	DPF6: 3.3VA	DPF12: 5VA
Voltage Input	Voltage Measure Range	nominal -20% +10%	
Current Input	Current Measure Range	0..5A (1A by CT /1) optional	
	Current Absolute Max. Rating	6A	
	External CT Ratio Setting	1..10000	
	Input Power	0.75VA	
Temperature Input	Temperature Measure Range	0..+100°C	
	Sensor Type	NTC 10K	
Control Range	Power Factor Setup	0.85 Ind .. 0.95 Cap	
Measure	Measure	Voltage Current Power Factor	Δ Power Temperature THD I%
	Import/Export	2 and 4 quadrant programmable	
Data Interface	Data Interface	RS485 baud-rate 1200..115200 bps (optional in DPF6)	
Output Relay	Output Bank	DPF6: 6+1	DPF12: 12+1
	Alarm Relay	1 settable fan or alarm	
	Contacts Rating	5A 250V (AC1), max switching 440V	
Connections	Terminal Blocks	Plug	
Display	Display	DPF6: 16 char 2 row	DPF12: 16 char 4 row
	Backlight	Yellow	
Keypad	-	4 push button	
LED	LEDs Function	Relays output state; MAN/AUTO; IND/CAP; Alarm;	
Operating Ambient Conditions	Operating Temperature	-20°C..+ 55°C	
Enclosure	Mounting	Flush mount	
	Enclosure Type	self-extinguishing PPO UL94-UO	
	Protection Degree	IP41 (IP 54 with optional cover)	
	Dimensions	DPF6: 96x96x57 mm	DPF12: 144x144x57 mm
	Panel Hole	DPF6: 92x92 mm	DPF12: 138x138 mm
	Weight	DPF6: 280g	DPF12: 330g

Reference standards:

IEC/EN 61010-1
IEC/EN 61326-1
IEC/EN 61000-6-2
IEC/EN 61000-6-3

Complies to:

2006/95/CE (Low Voltage)
2004/108/CE electromagnetic compatibility
2011/65/CE RoHS

Order code:

DPF6
PF.021.103 : 440Vac
PF.021.101 : 230Vac
PF.021.102 : 110Vac
PF.021.120 : 440Vac
PF.021.121 : 230Vac
PF.021.122 : 110Vac

DPF12
PF.021.103 : 440Vac RS485
PF.021.101 : 230Vac RS485
PF.021.102 : 110Vac RS485

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HCR

Power Factor Controller

Automatic power factor controllers with microprocessor designed for signal processing of strongly distorted waveform to ensure accurate control of the electrical parameters of the plant. All measurements are made starting from the analysis of the waveform using FFT (Fast Fourier Transform) algoritm in floating point to ensure the maximum precision.

In addition to the normal power factor managment functions, the device monitors the network and preserve the capacitor banks by disconnecting them in cases of high harmonic distortion on current and voltage waveforms, or in case of mains voltage interruptions or drops. The microprocessor management allows to distribute the insertion/ disconnection of the capacitive banks extending the life time. Using the the active timing mode, the time to reach the power factor set point will be fixed, and the connection time encrease or decrease depending on the distance from the set point.

Power Supply	Power Supply	85 → 490Vac	
	Power Consumption	10VA	
Voltage Input	Voltage Measure Range	85 → 490Vac	
Current Input	Current Measure Range	0.1 - 6.0A	
	Input Power	< 1VA	
Temperature Input	Temperature Measure Range	0..+100°C	
	Sensor Type	NTC 10K	
Control Range	Power Factor Setup	0.85 Ind .. 0.95 Cap	
Measure	Measure	Voltage Current Power Factor	Δ Power Temperature THD I% - THD V%
	Import/Export	2 and 4 quadrant programmable	
Data Interface	Data Interface RJ11	RS232 TTL baud-rate 1200..115200 bps	
Output Relay	Output Bank	6+1	
	Alarm Relay	1 settable fan or alarm	
	Contacts Rating	5A → 250Vac (AC1) max switching 440V	
Connections	Terminal Blocks	Plug	
Display	Display	LCD with backlight	
	Backlight	White	
Keypad	-	4 push button	
Operating Ambient Conditions	Operating Temperature	-20 → +55°C	
Enclosure	Mounting	Flush Mount	
	Enclosure Type	Self-extinguishing PPO UL94-UO	
	Protection Degree	IP41 (IP54 with optional cover)	
	Dimensions	96x96x57 mm	
	Panel Hole	92x92mm	
	Weight	280g	

Reference standards:

EN 61000-6-1
EN 61000-6-2
EN 61000-6-3
EN 61000-6-4
EN 60335-1

Complies to:

CEE 73/23 - 93/68 (Low Voltage)
CEE 89/336 - 93/68 (EMC)

Order code:

PF.026.000 = HCR Power Factor Controller

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DTP

Transformer Temperature Controller

Device for thermic control of MT resin transformers, electric generators, engines.

The DTP series temperature controller has been designed with a completely digital technology, following the most advanced principles of thermic protection (ANSI 49) and fully managed by a microprocessor, ensuring reliable and long lasting accurate measurements, applied to thermic protection of electric machines like: engines, resin transformers, dry-type transformers, electric power generators.

Power Supply	Power Supply	110Vac -20% +10% 230Vac -20% +10%	
	Power Consumption	3.5VA	
Input	Sensor Type	n°4 probe RTD Pt100 3 wires	
	Measurement Range	0..240°C	
	Measure Accuracy	±1%	
	Probe Wire Type	Thermoresistance wire 1 mmq max	
	Compensation	500m Max	
Data Interface	Data Interface	RS485 baud-rate 1200..115200 bps (optional)	
	Serial Protocol	MODBUS RTU	
Output Relay	Output Number	ALARM TRIP	FAULT FAN
	Output Type	N.O. with shared Common	
	Contacts Rating	5A 250V (AC1), max switching 440V	
Output Relay	Output Bank	4+1	
	Alarm Relay	1 settable fan or alarm	
	Contacts Rating	5A → 250V (AC1), max switching 440V	
Connection	Terminal Blocks	Plug	
Display	Display	16 char 2 row	
	Backlight	Yellow	
Keypad	-	4 push button	
LED	LEDs Function	ALARM - TRIP - FAULT(FCC-FLT) - MAN (FAN) AUT (FAN) - FAN (On-Off) - SPEEK OFF	
Operating Ambient Conditions	Operating Temperature	-20°C..+ 55°C	
Enclosure	Mounting	Flush mount	
	Enclosure Type	self-extinguishing PPO UL94-UO	
	Protection Degree	IP41 (IP 54 with optional cover)	
	Dimensions	96x96x57 mm	
	Panel Hole	92x92mm	
	Weight	280g	

Reference standards:

IEC/EN 61000-6-1
IEC/EN 61000-6-2
IEC/EN 61000-6-3
IEC/EN 61000-6-4
EN 60335-1

Complies to:

CEE 73/23 / 93/68 (Low Voltage)
CEE 89/336 / 93/68 (EMC)

Order code:

DTP-4

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AFC

Active Filter Controller

The active filter control is designed to analyse the mains current, separating individual harmonics of order 3,5,7,9,11.
The connection and disconnection of the filters from the mains is managed according to a logic of harmonic intensity control.
Once the current intensity for each harmonic has been calculated, the AFC selects the battery of filters programmed for insertion above the set threshold (ITH).
For each battery of filters it is possible to set the current harmonic (HARM) and the insertion threshold (expressed in harmonic current) beyond which the battery must be inserted (ITH).

Power Supply	Voltage	110Vac -20% +10% 230Vac -20% +10% 440Vac -20% +10%	
	Power Consumption	5VA	
Current Input	Current Measure Range	0..5A (1A by CT /1) optional	
	Current Absolute Max. Rating	6A	
	External CT Ratio Setting	1..10000	
	Input Power	0.75VA	
Temperature Input	Temperature Measure Range	0..+100°C	
	Sensor Type	NTC 10K	
Control Range	Power Factor Setup	0.85 Ind .. 0.95 Cap	
Measure	Measure	Voltage Current Power Factor	Δ Power Temperature THD I%
	Import/Export	2 and 4 quadrant programmable	
Data Interface	Data Interface	RS232 TTL baud-rate 1200..115200 bps	
Output Relay	Output Bank	12+1	
	Alarm Relay	1 settable fan or alarm	
	Contacts Rating	5A 250V (AC1), max switching 440V	
Connections	Terminal Blocks	Plug	
Display	Display	16 char 4 row	
	Backlight	Yellow	
Keypad	-	4 push button	
LED	LEDs Function	Relays output state; MAN/AUTO; IND/CAP; Alarm;	
Operating Ambient Conditions	Operating Temperature	-20°C..+ 55°C	
Enclosure	Mounting	Flush mount	
	Enclosure Type	self-extinguishing PPO UL94-UO	
	Protection Degree	IP41 (IP 54 with optional cover)	
	Dimensions	144x144x57 mm	
	Panel Hole	138x138 mm	
	Weight	330g	

Reference standards:

EN 61000-6-1
EN 61000-6-2
EN 61000-6-3
EN 61000-6-4
EN 60335-1

Complies to:

CEE 73/23 - 93/68 (Low Voltage)
CEE 89/336 - 93/68 (EMC)

Order code:

PF.024.101 = AFC Active Filter Control

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CLOUD

Remote or Desktop PFC Monitoring Solutions

REMOTE CLOUD SERVICE

Shitek Technology's PFC can be controlled by a Cloud monitoring service.

The cloud service can be supervise field devices remotely through any computer or mobile device via the most common web browsers.

With this Cloud service it will be possible to check the operating status of the devices, consult values, view graphs, reports and alarms.

RCX-4G

- RCX 4G(LTE) Modem
- Power Supply 80-260Vac
- RS485 Serial Interface

POWER FACTOR CONTROLLER DESKTOP

Shitek Technology's PFC can be interface with Power Factor Controller Desktop.

By the Power Factor Controller Desktop software can check the operation status of the device, consult values, view graphs, reports and alarms, device setup and configuration.

The software can be installed in the customer data center and check and view the values of the devices in the plant.

Order Code:

TL.042.000.HE1: RCX-4G (LTE) - Europe (antenna included)

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