

POWER FACTOR REGULATORS

iPFC max 6
iPFC max 12



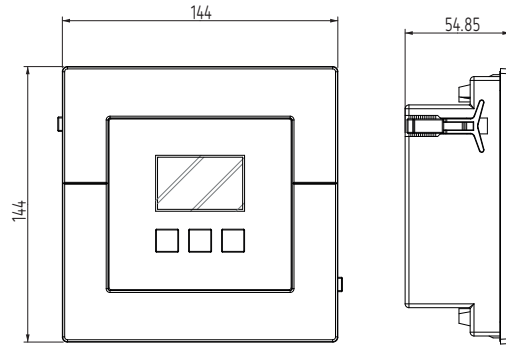
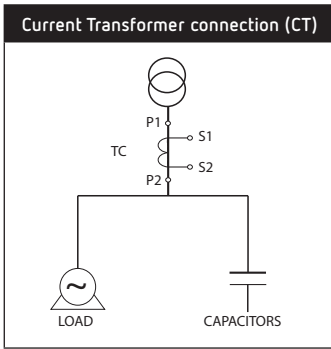
This manual is a iPFC max installation guide. For further information, please download the full manual from the ISKRA web site: www.iskra.eu

IMPORTANT!

The device must be disconnected from its power supply sources (power supply and measurement) before undertaking any installation, repair or handling operations on the unit's connections. Contact the after-sales service if you suspect that there is an operational fault in the device. The device has been designed for easy replacement in case of malfunction.

The manufacturer of the device is not responsible for any damage resulting from failure by the user or installer to heed the warnings and/or recommendations set out in this manual, nor for damage resulting from the use of non-original products or accessories or those made by other manufacturers.

Dimensions



1. DESCRIPTION

iPFC max is a device that measures the mains's cosine parameters and controls capacitor connection and disconnection to correct it. The device also measures and displays every other basic parameter of a mains. There are 2 versions of the device, depending on the number of output relays:

- ✓ iPFC max 6, with six output relays.
- ✓ iPFC max 12, with twelve output relays.

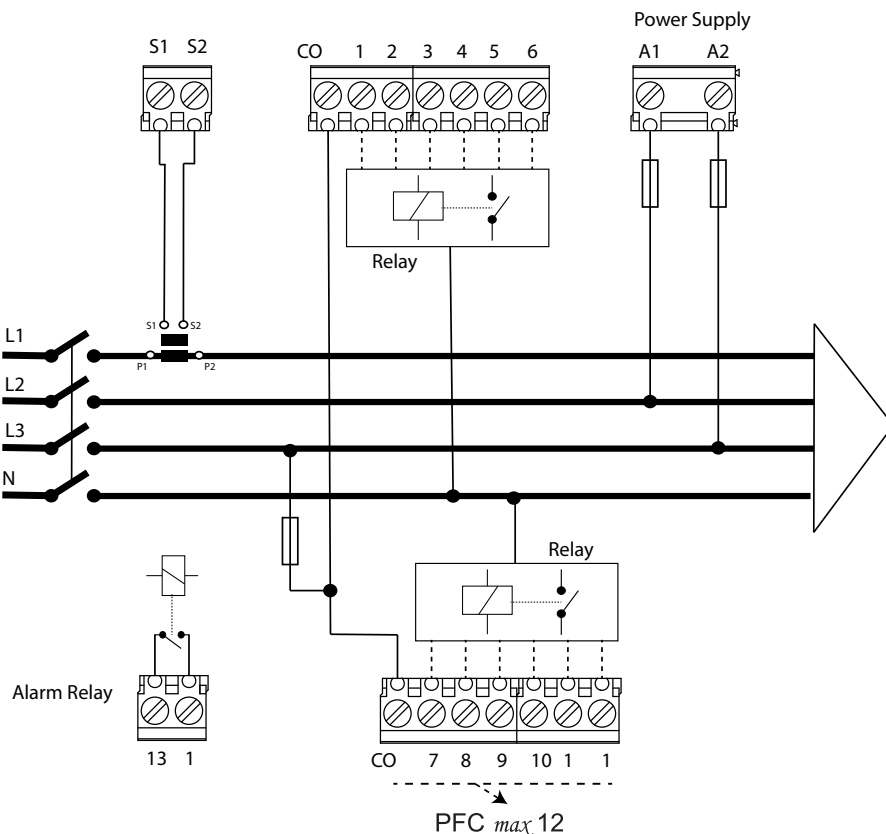
2. INSTALLATION

The device will be installed on a panel (138^{+0.8} x 138^{+0.8} mm panel drill hole, in compliance with DIN 43700). All the connections terminals are located inside the electric panel.

IMPORTANT!

Take into account that when the device is connected, the terminals may be hazardous to the touch, and opening the covers or removing elements may provide access to parts that are dangerous to the touch. Do not use the device until it is fully installed.

Connections



!DANGER!

The computer iPFC max is connected to devices with capacitors that remain charged even after the voltage has been disconnected. Wait at least 5 minutes after the device is disconnected before handling its internal components to avoid the risk of electric shock. Any manipulation or use of the device other than that specified by the manufacturer may compromise user safety.

The device must be connected to a power circuit that is protected with gL(IEC 60269) or M type fuses with a rating of 0.5 to 2 A. It must be fitted with a circuit breaker or equivalent device, in order to be able to disconnect the device from the power supply network.

The power and voltage measuring circuit must be connected with cables that have a minimum cross-section of 1.5 mm².

One external current transformer (CT) need to be installed in order to measure current. Usually, the transformation ratio of these CTs is $I_n/5$ A, where the I_n must be at least 1.5 times greater than the total maximum load current.





The secondary cables of the current transformer (CT) must have a minimum cross-section of 1.5 mm². If the distance between the CTs and the device is over 25 m, this cross-section must be increased by 1 mm² for every 10 m.

The current transformer (CT) must be installed at the power line connection point through which the entire load current circulates, and where more compensation is needed for the capacitor load currents.

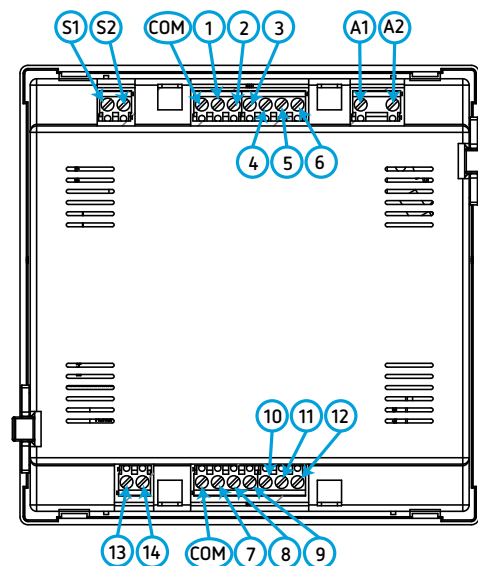
Note: The current transformer must be installed keeping the category of the installation.

Note: Device images are for illustrative purposes only and may differ from the actual device.

Technical features

AC Power supply			
Connection	Connect preferably to phases L2-L3		
Rated voltage ⁽¹⁾	230 V ~ ± 10% , 400 V ~ ± 10%		
Frequency	50 ... 60 Hz		
Consumption	230 V ~	4.7 VA	
	400 V ~	13 VA	
Installation category	CAT III 300V		
Voltage measurement circuit			
Connection	Connect preferably to phases L2-L3		
Rated voltage (Un)	230 V ~, 400 V ~		
Voltage measurement margin	- 10% ... +10%		
Frequency measurement margin	50 ... 60 Hz		
Installation category	CAT III 300V		
Current measurement circuit			
Connection	Connect preferably to phase L1		
Rated current (In)	.../5A		
Current measurement margin	0.05 ... 5A (Maximum overload +20%)		
Installation category	CAT III 300V		
Voltage measurement	1%		
Current measurement	1%		
Cos φ measurement	2% ± 1 digito / digit		
Quantity	6 + 1 (Alarm)	12 + 1 (Alarm)	
Max. switching voltage	250 V~		
Max. current	1 A ~		
Maximum switching power	250 W		
Electrical life (Maximum load)	1x10 ⁵ cycles		
Mechanical life	1x10 ⁷ cycles		
Radio	NZIF receiver with -97 dBm sensitivity Class-1, Class-2 and Class-3 transmitter Adaptive Frequency Hopping (AFH)		
Display	4 digits		
Keyboard	3 keys		
Operating temperature	-20°C... +60°C		
Storage temperature	-20°C ... +70°C		
Relative humidity (non-condensing)	5 ... 95%		
Maximum altitude	2000 m		
Protection degree IP	IP30 Front panel: IP40		
Protection degree IK	IK08		
Pollution degree	2		
Use	Interior / Indoor		
Safety category	Clase II / Class II 		
Terminals			
S1, S2, COM, 1 ... 14, A1, A2	 ≥ 1.5 mm ²	 0.5 Nm	 flat
Dimensions	144 x 144 x 54.85 mm		
Weight	iPFC max 6	230 V ~	555 g.
		400 V ~	447 g.
	iPFC max 12	230 V ~	608 g.
		400 V ~	500 g.
Enclosure	Self-extinguishing V0 plastic		
Attachment	Panel		

⁽¹⁾ Depending on model.



Terminal connections designations

A1	~, Power supply
A2	~, Power supply
S1	Current input
S2	Current input
COM	Common of relays 1 ... 12
1	Relay output 1
2	Relay output 2
3	Relay output 3
4	Relay output 4
5	Relay output 5
6	Relay output 6
7	PFC max 12: Relay output 7
8	PFC max 12: Relay output 8
9	PFC max 12: Relay output 9
10	PFC max 12: Relay output 10
11	PFC max 12: Relay output 11
12	PFC max 12: Relay output 12
13	Alarm relay (C)
14	Alarm relay (NO)

Technical service

Iskra d.o.o.
Stegne 21, SI-1000 Ljubljana, Slovenia
Phone +386 (0) 1 513 10 00
www.iskra.eu / info@iskra.eu