

POWER FACTOR CONTROLLER (PFC)

The benchmark for efficient welding



**Benefit from the use of the Power Factor Controller (PFC)
in many of our welding machines.
No matter whether you weld TIG or MIG / MAG.**

1. Compliance with the new regulation EU2019/1784

Due to the modification, the devices already comply with the limit values of the new EU regulation that will apply from 01.01.2021.

2. Highest energy efficiency

The efficiency. Relationship between the input and output corresponds to the requirements of EU2019/1784.

3. Worldwide operation*

The wide-range voltage range for the mains voltage is between 110V and 270V.
This means that the device can be used on construction sites worldwide.

4. Clean consumption out of the supply network

In contrast to devices without PFC, the mains current consumption is symmetrical and almost free of reactive power (cos phi approx. 1.0). No reactive power.

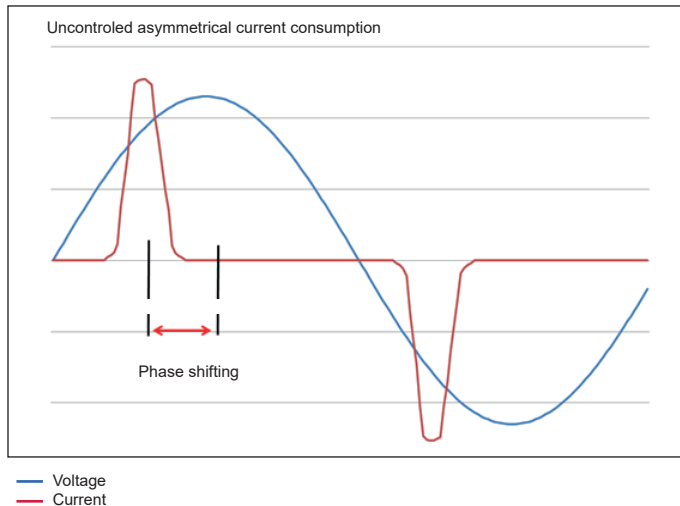
5. Use also in residential areas (useable anywhere)*

In contrast to devices without PFC, the devices can also be used in power grids in residential areas.
Removal of the restriction for living areas (see MC).

* These statements apply to TIGER digital 182 DC and AC / DC and TIG.STAR 172 DC and AC / DC.

Mode of functioning – What performs a PFC (Power Factor Controller)?

The progress of current and voltage without PFC

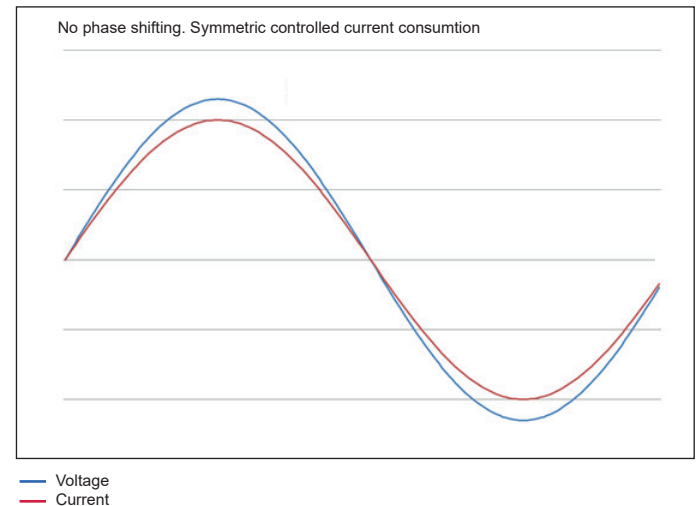


Primary inverters are for the power supply network a capacitive load. This generates a phase shifting between current and voltage. The result is reactive power.

Another effect is that the consumption of current is not controlled. The current curve is like a peak. The result is that the fuse is dropping earlier.

- The consumption of current is not controlled. This causes a faster tripping of the fuse in the supply.
- Caused from the phase shifting appears a high level of reactive power, which is in the future not allowed anymore

The progress of current and voltage with PFC



A PFC is able to correct the phase shifting as well as the peaks from the current.

Via a very fast measurement is the PFC sensing the voltage and the current consumption. According to the measurement is the current consumption regulated according to the voltage at each moment.

The PFC also stores energy. this can be used, if needed from the machine.

- + The consumption of current is controlled
- + No phase shifting
- + More load at same voltage is possible

Reduced power consumption

In addition to the other advantages offers the PFC also a reduced power consumption:

1. The maximal current consumption is 12,5 % reduced
2. The effective current consumption is 25 % reduced
3. The maximal power consumption is 15 % reduced