

*manual
for
PFC-power supply*

PS400



Features

Universal input line 90...230 Vac, 50/60Hz

with PFC, (power factor correction)

output voltage: 68...80V optional 90...130V

power: 400W (230Vac, satisfying cooling)

efficiency >85%

galvanic isolation from input line (mains)

output contact for voltage ok

current limiting on power on

fast load control

brown out up to 15ms

high live time because of optimal heat management (long life components, automatic fan control, ...)

break resistor for active over voltage protection for motor applications (decelerations)

protected against off load, short cut, over load, over temperature

automatic restart in failure mode

all connectors removable

integrated line filter reducing noise emission

monitor output for voltage ok

LED-condition display

very compact in size

fully metal housing

wall mounting, DIN-Rail (optional)

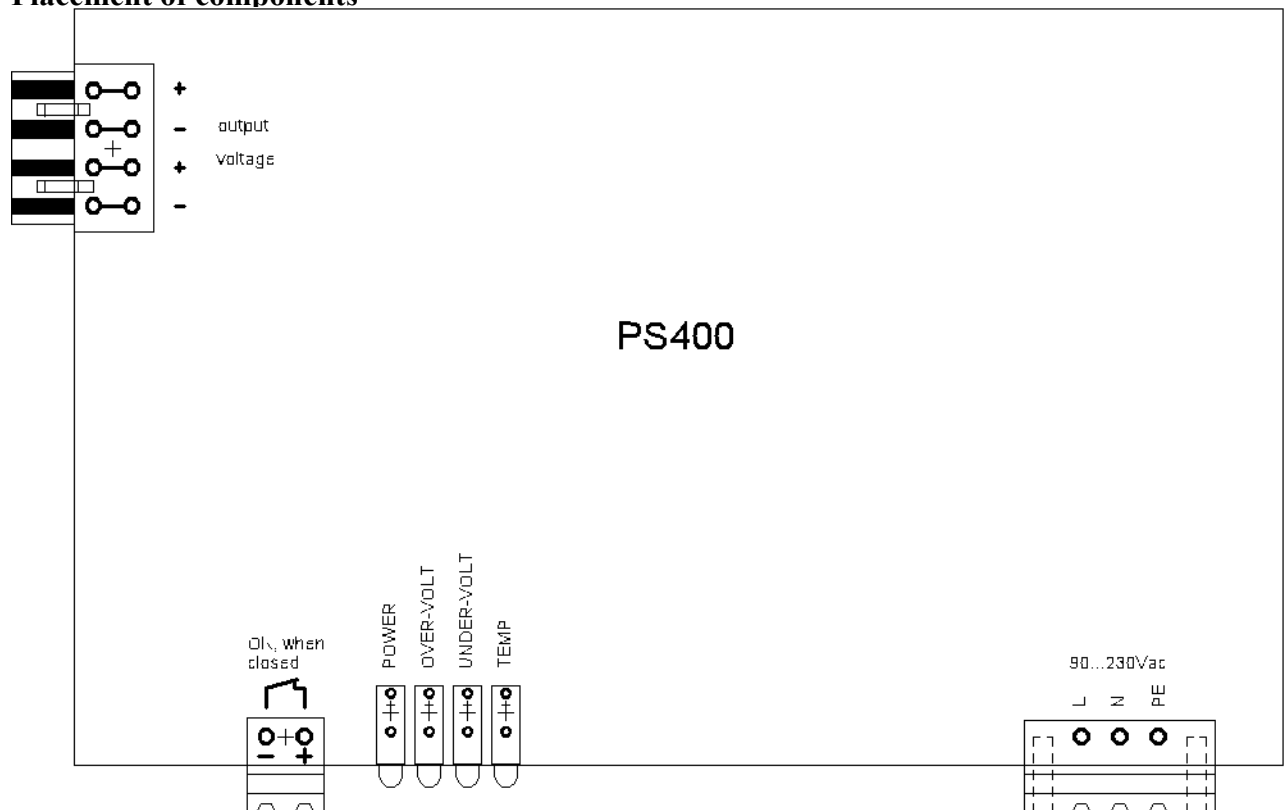
Order key / accessories

PS400.XXX

.x--	0: 80Volt	1: 130Volt
.-x-	0: ---	1: heat sink
.-x	0: wall mounted	1: DIN-Rail

Linefilter: Typ Schurter FSS2-55-2/0.5

Placement of components



Signal description

Line input, mains:

The power from the mains is supplied by a three pole connector for one phase mains. A current limiting circuit is integrated. A small line filter inside helps to reduce electro magnetic emissions. For CE norm operating conditions an additional external line filter must be added.

The housing must be connected to PE with an extra cable using the screw at the front panel.

It is suggested to connect the PE in star configuration. That means, each module or drive has to be connected via a separate cable to a desired earth point. In practice this is normally the housing of the machine.

Never disconnect the connector under voltage, because of damaging the contacts.

Output voltage:

The output connector is double, so it is possible to connect two devices at the same connector. In case the loads have the same pin assignment more than one load can be connected through this power line. For your safety, the connector is an inverse type to protect against high voltages.

Never disconnect the connector under voltage, because of damaging the contacts.

Monitor output (READY):

There is a monitor output on the PS400. Under normal operation, this contact is closed. At failure (under voltage on output) this contact opens immediately. This condition is shown on the LED "UNDER-VOLT" (not at short cut failure).

Operating modes

Normal operation:

LED „POWER“ is on. Monitor output is closed
Output voltage is ok.

Over voltage:

LED „OVER-VOLT“ is on. Monitor output is closed
At motor deceleration, the motor acts as a generator, the voltage rises up. An integrated brake resistor is switched on when a desired voltage level is exceeded.
(only for short times allowed)

Under voltage: Over load

LED „UNDER-VOLT“ is on. Monitor output is off
Possible at brown outs from the mains, fast accelerations of motor drives.

Under voltage: short cut

LED „UNDER-VOLT“, „POWER“ are off.
Monitor output is off
The power supply changes to power reduction mode as long as the short cut is active.

Over temperature: warning

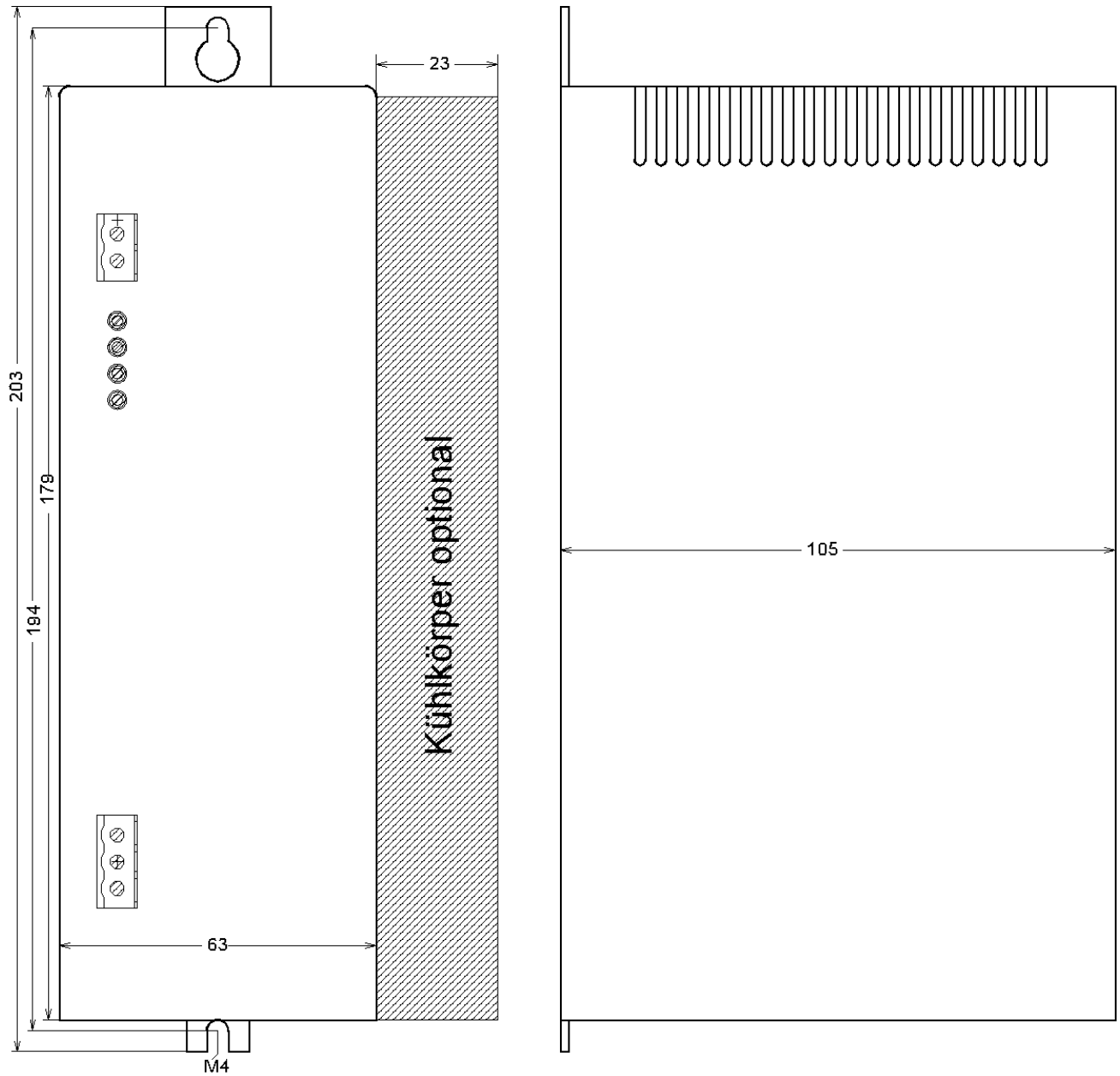
LED „TEMP“ is on. Monitor output is closed.
The fan changes to higher speed to get a better cooling until the temperature drops down to an acceptable value.

In this case, the LED lights more than normal.

Over temperature: shut off

LED „TEMP“, „POWER“ are off.
Monitor output is off
The power supply changes to protection mode and switches completely off. After the temperature has dropped down to an acceptable value the power supply restarts again.

Mechanical Measurements



Technical data (at 230Vac input)

Environment:

Operating temperature:	0...40°C
Storage temperature:	-10...60°C
Device protection:	IP30
Contamination:	2
Humidity:	non condensing
Weight:	1kg

Isolation:

Voltage, /-Resistor:	
Input-Output:	1000V / >500kohm
Input-Housing:	1000V / >500kohm
Output-Housing:	connected

Input:

Input voltage range:	90...230 Vac
Input frequency:	47...63 Hz
Power Factor:	>0,95
Nominal current:	(230V) 2A
Power on current	(230V) <15A

Output: (230Vac in)

Voltage:	80V	130 V
Current:	65...80	90...130 V
Power:	7.....5	5.....3 A
	400W	
	500W short	
Ripple: [mVp-p]	150mVp-p	
Load dump:	95	150V
Under voltage:	65	90V
Efficiency:	85%	

Short cut current:	7A pulse, D< 5%
Over load:	110...120%
Mains brown out :	>15ms (230V)

Monitor (READY) output:

Type:	Opto coupler
Switching voltage:	<30V
Inner resistor:	<50 Ohm
Switching current:	< 20 mA
load:	ohmic

Temperature observer:

Fan control active:	->ca. 60°
Protection switch off:	> ca. 70 °

Electromagnetic compatibility:

Radio interference

Norm: EN55011 B

(with external Line filter, accessory)
Typ Schurter FSS2-55-2/0.5

ESD:	4kV	IEC 801-2
Burst:	4kV	IEC 801-4

Malfunctions

no LED after powered on

- short cut is active (switch off power supply, disconnect the load, power on again, Condition ?
- the temperature is still over 70 degree
- internal fuse is damaged

sudden noise in the power supply

- the power supply is in over load

the OVER-VOLT LED lights sporadically

- the load (motor in deceleration mode) supplies energy

! only for short time, pulse duration < 10%

the UNDER-VOLT LED lights sporadically

- the power supply is in over load
- this can occur at fast accelerations of motors
- not for long terms

the READY-Contact opens sporadically

- READY is coupled with UNDER-VOLT

the READY-Contact doesn't function

- look at polarity plus(+) and minus(-)
- the contact is over loaded (Ri= 47 Ohm)
- the contact is defect.

