

BEO-5000M

500 Watt

- ✓ High insulation voltages
- ✓ With Power-Good signal and Remote Control
- ✓ Integrated Current-Share function

The power supply series BEO-5000M is characterized by its compact design and a very high efficiency of up to 91 %. With the integrated Current-Share function (up to four devices in parallel) large load currents can be supplied. The innovative circuit design and the use of high quality components ensure maximum reliability and long life. For the basic model (U-Channel) two optional covers with side and top fan are available.



Technical data	
Input voltage	90...264 V AC, active PFC
Input frequency	47...63 Hz
Input current	6 A (115 VAC)
Inrush current	<50 A (230 VAC / 25°C), cold start
Efficiency	App. 87...91 % (depending on model) at nominal load and 230 VAC
Hold up time	> 20 ms at 70 % load and 100 VAC
Protection	Short circuit protection: Switch off with auto recovery Overload protection: 110...150 %, with auto recovery Overtemperature protection (switch off) and Overvoltage protection
Insulation voltage	Input/Output 4500 VAC (2xMOPP) Input/FG 1500 VAC (1xMOPP), Output/FG 1750 VAC (1xMOPP)
Insulation resistance	Input/Output and Input/FG ≥ 20 M Ω at 500 VDC test voltage
Line regulation	$\pm 0,5$ % at nominal load and input voltage change from 90 to 264 VAC
Load regulation	± 1 % (90...264 VAC, 0...+40°C)
Earth leakage current	<270 μ A (264 VAC / 60 Hz)
Safety / EMC	EN/UL 62368-1, CE, IEC60601-1:2005 (3rd Edition), EN60601-1:2006+A1:2013 (Edition 3.1), ANSI/AAMI ES60601-1:2005 (3rd Edition)
Temperature	Operating: 0...+70°C / Storage: -10...+85°C
Derating	With convection cooling: +40...+70°C, 1,67 % / °C With 30 CFM fan cooling: +50...+70°C, 2,5 % / °C
Max. operation altitude	3000 m
MTBF	234000 h according to Bellcore TR-332 at +40°C
Humidity	Operating: 10...85 % RH, non-condensing / Storage: 10...90 % RH, non-condensing
Dimensions (WxDxH)	See model-specific drawings
Weight (net)	0.86 kg
Product specific data	
Inhibit (Remote Control)	Power supply switch off by LOW signal (0...0,5V) at CN3/PIN2
Power-Good signal (PG)	HIGH signal (3,5...5,25V) at CN5/PG: DC output voltage within nominal range LOW signal (0...0,5V) at CN5/PG: DC output below nominal voltage
Fan control signal FanFault (FF)	LOW signal (0...0,5V) at CN5/FF indicates a fan fault
Current-Share function	Up to four BEO-5000M power supplies can be paralleled with an accuracy of 10%. To activate the current share function, the devices must be connected via CN3/PIN1. To ensure a balanced distribution of the output currents, the load at each power supply module should be at least 65 watts (app. 13% of rated load). In case the load at each module is less than 65 watts, the output currents are distributed by each module separately.
Adjustable output voltage	By means of the potentiometer VR2 the output voltage can be adjusted about ± 3 %.

Article No.	Output	Output voltage	Output current			Ripple & Noise	Efficiency
			Min	Convection cooling (360 W)	Fan cooling (500 W)		
BEO-5012M	CN4	+12 V	0 A	30 A	41.6 A	<120 mV _{pp}	App. 87 %
	CN2/CN3	+5 V _{sb}	0 A	0.25 A	1 A	<50 mV _{pp}	
	FAN1/FAN2	+12 V _{fan}	0 A	1 A	1 A	<120 mV _{pp}	
BEO-5024M	CN4	+24 V	0 A	15 A	20.8 A	<240 mV _{pp}	App. 90 %
	CN2/CN3	+5 V _{sb}	0 A	0.25 A	1 A	<50 mV _{pp}	
	FAN1/FAN2	+12 V _{fan}	0 A	1 A	1 A	<120 mV _{pp}	
BEO-5030M	CN4	+30 V	0 A	12 A	16.6 A	<300 mV _{pp}	App. 90 %
	CN2/CN3	+5 V _{sb}	0 A	0.25 A	1 A	<50 mV _{pp}	
	FAN1/FAN2	+12 V _{fan}	0 A	1 A	1 A	<120 mV _{pp}	
BEO-5036M	CN4	+36 V	0 A	10 A	13.85 A	<360 mV _{pp}	App. 90 %
	CN2/CN3	+5 V _{sb}	0 A	0.25 A	1 A	<50 mV _{pp}	
	FAN1/FAN2	+12 V _{fan}	0 A	1 A	1 A	<120 mV _{pp}	
BEO-5048M	CN4	+48 V	0 A	7.5 A	10.4 A	<480 mV _{pp}	App. 91 %
	CN2/CN3	+5 V _{sb}	0 A	0.25 A	1 A	<50 mV _{pp}	
	FAN1/FAN2	+12 V _{fan}	0 A	1 A	1 A	<120 mV _{pp}	

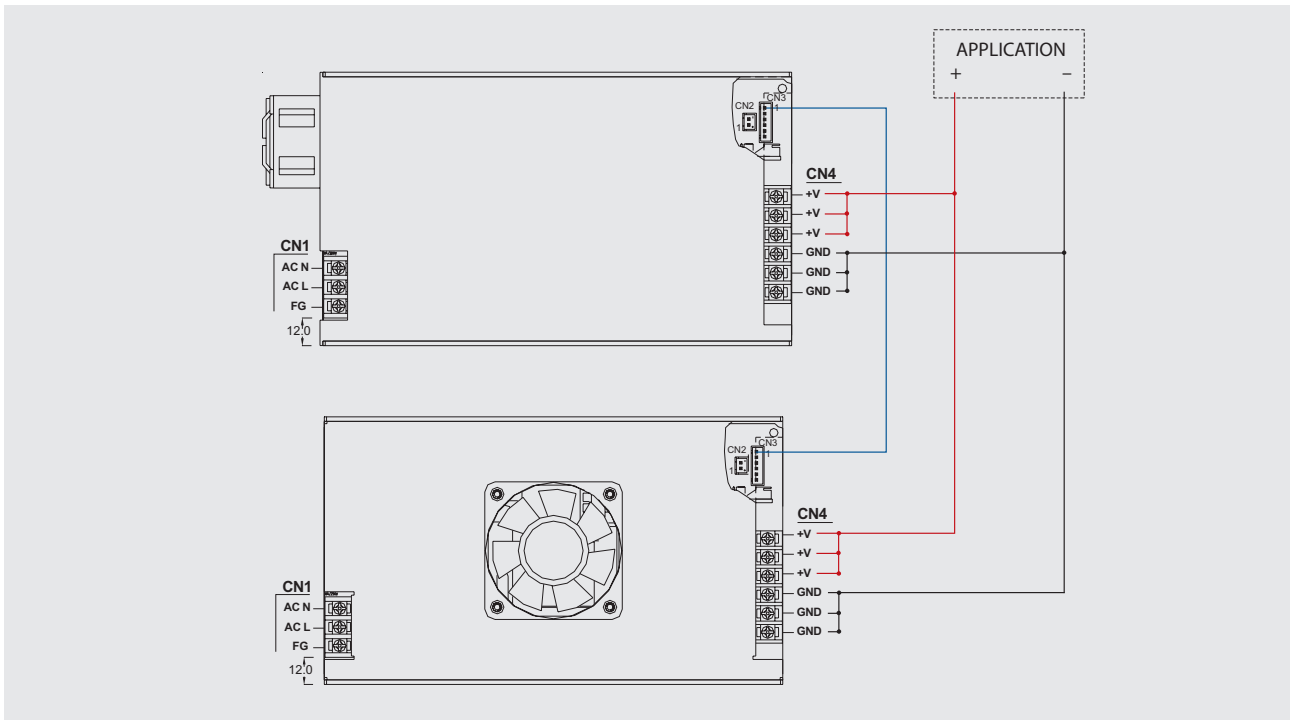
360 W continuous power without fan (0...+40 °C). For max. 500 W continuous power (0...+50 °C) a 30-CFM fan is needed. Ripple and Noise was measured by a 20 MHz bandwidth limited oscilloscope with connected 0,1 µF- and 10 µF/50V-capacitors at the output. As a power component this PSU is for assembly purposes only and must not be operated in unassembled condition. The final assembly has to comply with the valid EMC and safety standards.

Optional Accessories

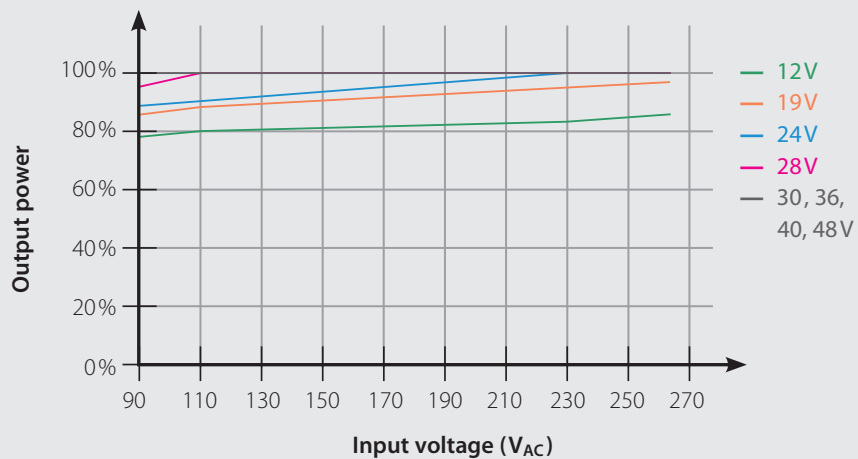
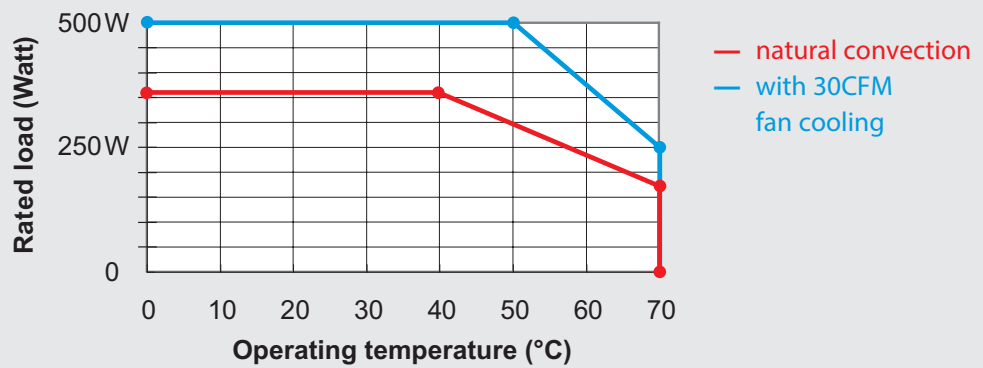
▷▷▷ For detailed information please visit our website www.bicker.de and refer to the article number.



Current-Share function

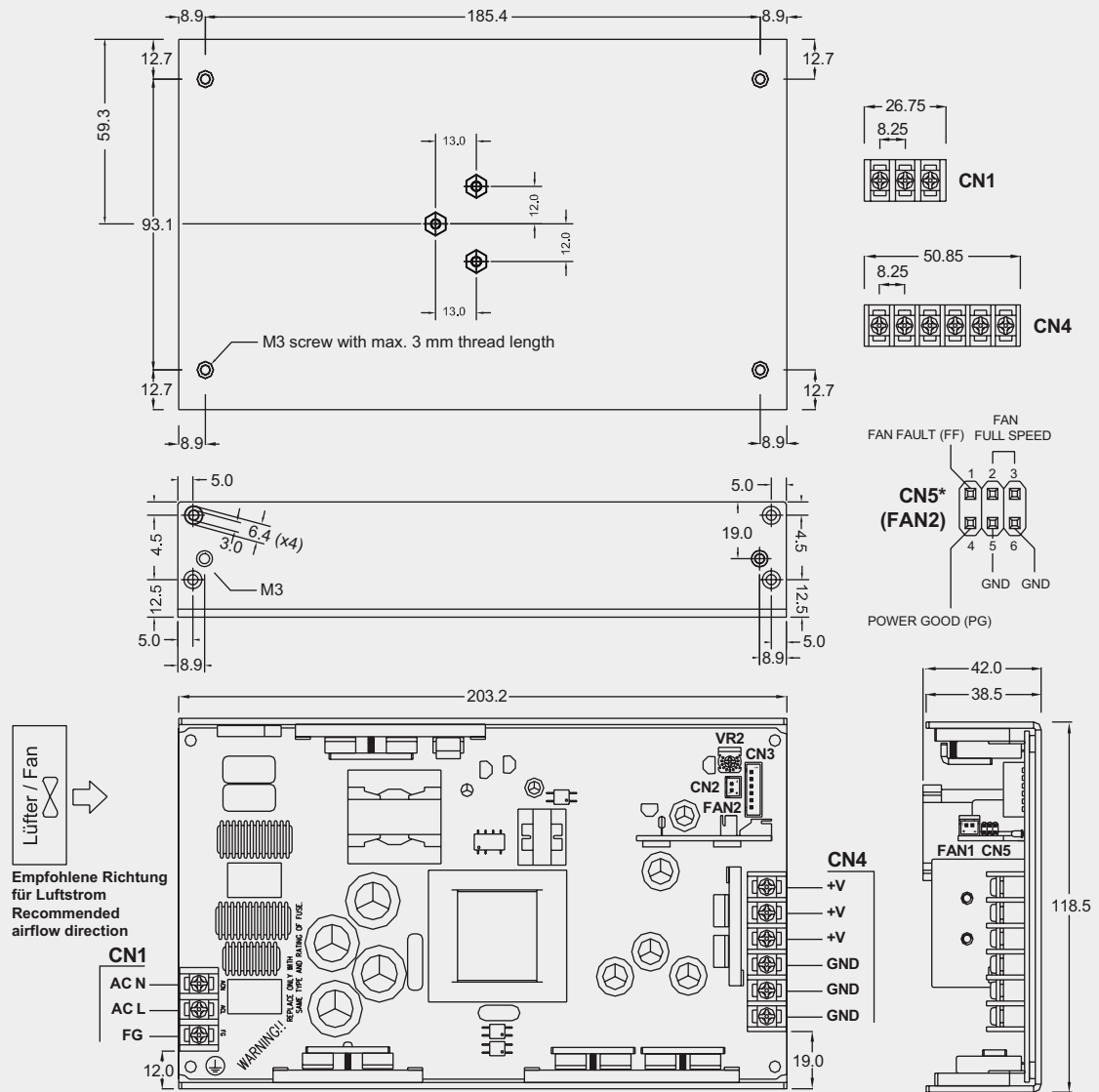


Derating



Drawing BEO-5000M (U-Chassis)

Tolerance ±1 mm



CN2*
JST XHP-2 or equal
1 5V_{sb}
2 GND

CN3*
JST XHP-6 or equal
1 Current share
2 Inhibit (Remote Control)
3 GND
4 5V_{sb}
5 - Sense
6 + Sense

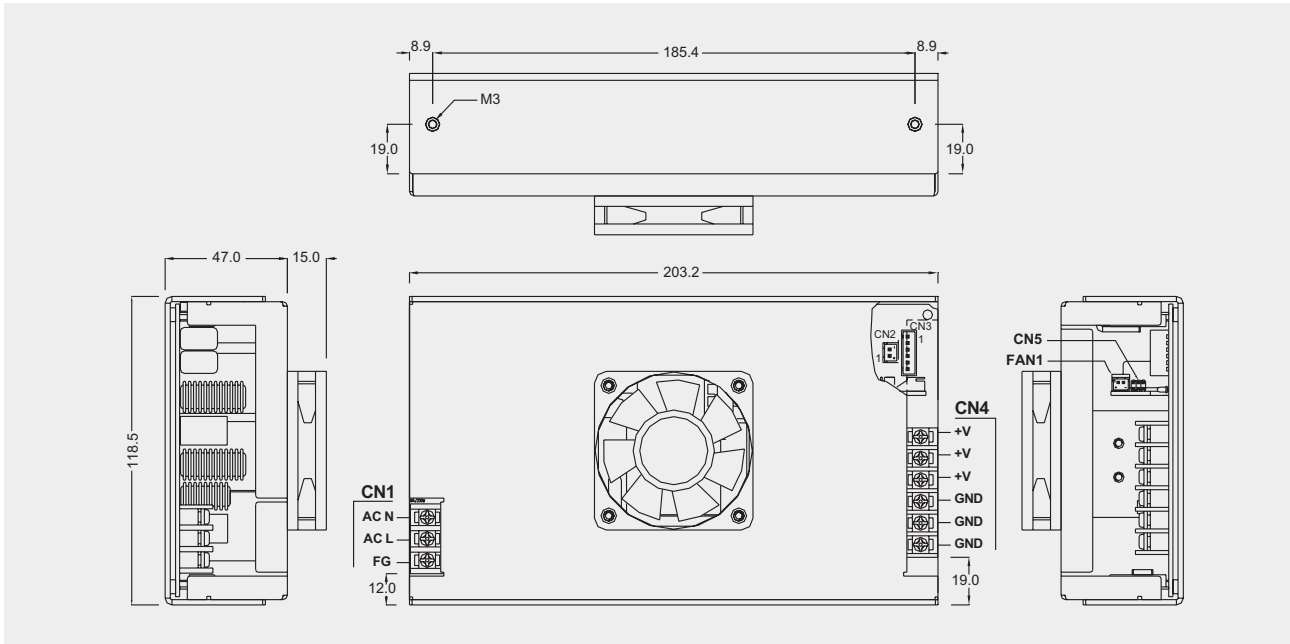
FAN1
JST XHP-2 or equal
1 12 V FAN +
2 12 V FAN -

FAN2
with speed control
JST XHP-2 or equal
1 12 V FAN +
2 12 V FAN -
FAN ON ≥ +50 °C
FAN OFF ≤ +45 °C
Bridge between 2 and 3:
FAN FULL SPEED

*Cable harness included in delivery

Power supplies

Drawing BEO-5000M with **optional** cover PSZ-1005 (top fan)



Drawing BEO-5000M with **optional** cover PSZ-1006 (side fan)

