



TBF**SB-1PH(3PH)

300W

AC/DC Power supply
Single output



TBF-Series is a fully cased AC-DC Converter. High reliable, small sized and high efficient it delivers 300W without Forced air cooling.



Features

Input voltage range: 170-264Vac
High efficiency & reliability
Output voltage +/-10%
MTBF: 166'000 hours
Switching Frequency: 130kHz
Leakage Current: 1mA
Warranty: 2 years

Possible applications

Process control
Office equipment
Computer peripherals
Telecommunications
Industrial electronics&machines

Mechanical features

Dimension (WxLxH): 85x178x98.5mm
Weight: 1200g
Connector: Screw terminal
Closed type

Control features

Over voltage protection: Output shutdown
Over current protection: Current limiting (<3Sec.)
Output shutdown (>3Sec.)

Standards

Safety: UL60950-1; IEC60950
EMI : EN55022 ClassB





Specifications<AC/DC>	Model					
TBF**SB-1PH / 3PH 300WATTS	TBF-xxSB-1PH			TBFxxSB-3PH		
Input Characteristic						
Input Voltage	AC200-240V					
Input Current	3.5A					
Input Range	AC170-264V					
Input Frequency	50/60Hz					
Input Frequency Range	47 ~ 440Hz					
Phase	Single			Three		
Inrush Current *1	20A(maximum) at AC230V					
Efficiency [%] (typical) *2	92	93	93	92	93	93
Output Characteristic						
Output Voltage [V]	5	12	24	5	12	24
Output Current [A]	60	25	12.5	60	25	12.5
Voltage Adjust Range	+/- 10% of Rated Output Voltage (at no load within the input range)					
Ripple and Noise [mVp-p](maximum) *3	150	220	340	150	220	340
Regulation						
a. Statistic Line Regulation [mV](maximum)	40	48	120	40	48	120
b. Statistic Load Regulation [mV](maximum)	45	48	135	45	48	135
c. Temperature Coefficient *4	1.5mV/°C	3.6mV/°C	7.5mV/°C	1.5mV/°C	3.6mV/°C	7.5mV/°C
d. Drift[mV](maximum) *5	40	48	135	40	48	135
e. Dynamic Load Regulation [mV](typical)	not specified					
f. Recovery Time	not specified					
Rise up time	500mS(typical) at 25°C and rated input/output					
Hold up time	20mS(typical) at 25°C and rated input/output					
Functions						
Over current Protection	Current Limiting with automatic recovery (Shorter than 3 Seconds), Output shut-down (Longer than 3 Seconds)					
>105% of Rated Output Current [A]	63	31.5	15.8	63	31.5	15.8
Over voltage Protection	Output shutdown (to reset, leave 1 minute after shut-off)					
>115% of Rated Output Voltage [V]	5.75	13.8	27.6	5.75	13.8	27.6
Remote Sense	not available					
Remote On/Off	Available					
Power Fail Detection	Not available					
Parallel/series Operation	Not available					
Environmental						
Operating Temperature	-10 to +40°C					
Operating Humidity	20 to 90%RH (non-condensing)					
Storage Temperature	-20 to +85°C					
Storage Humidity	10 to 90%RH (non-condensing)					
Withstanding Voltage	Primary-Secondary AC3,000V for 1minute					
	Primary-Frame Ground AC2,000V for 1minute					
	Secondary-Frame Ground AC1000V for 1minute					
Isolation Resistance Primary-Secondary-Frame Ground	100MΩ(minimum) by DC500V insulation tester					
Vibration	5-10Hz:10mm double amplitude,10-55Hz:19.6m/s ² ,20minutes, period for 60minutes each along X,Y,Z axes(non-operating)					
Shock	196m/s ²					
Cooling	Convection					
Leakage Current	1mA(maximum) at 25°C,rated input/output and rated input frequency					
Line Conducted Noise	EN55022 Class B					
Safety	UL: UL60950-1					
	C-UL:					
	: EN60950-1					
Weight (typical)	1150g			1200g		
MTBF [H]	173000	173000	197000	166000	166000	184000
Switching Frequency[kHz](typical)	130					

Conditions:

*1 At cold start

*2 At AC230V input and rated output

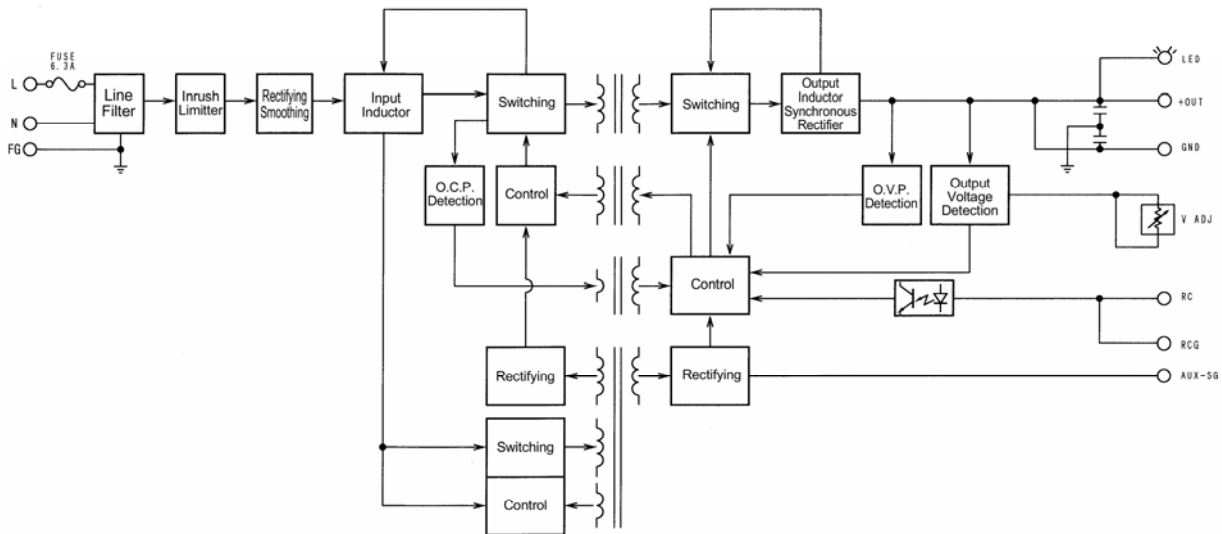
*3 Measured by a bayonet probe at150mm away from the output connector with 100[uF] and 0.1[uF] of capacitor termination at a 0 to 100MHz bandwidth

*4 At -10 to +40°C

*5 For 7hour period after 1hour warm-up at 25°C and rated input/output



Blockdiagram



Dimension

