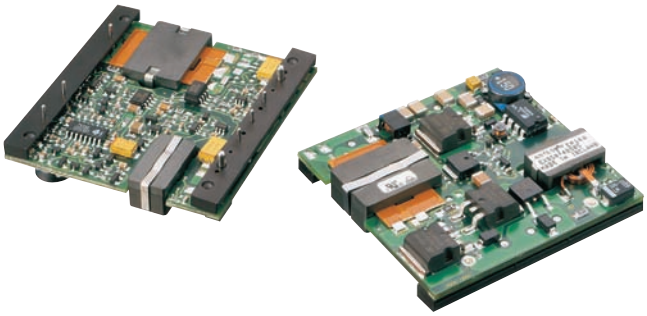
EXB50 Series
Single output

Total Power: **20-50W**
Input Voltage: **36-75VDC**
# of Outputs: **Single**



Special Features

- High efficiency topology, 91% typical on EXB50-48S05J
- Industry standard footprint
- Wide operating temperature -40 °C to +70 °C (natural convection)
- 60% to 110% output trim
- No minimum load
- Overvoltage and overtemperature protection
- Remote sense compensation
- Remote ON/OFF
- Available RoHS compliant
- 2 year warranty

Safety

UL/cUL CAN/CSA 22.2
No. 60950-00 : UL 60950
File No. E174104

TÜV Product Service.
Certificate No.
B 03 08 38572 036

Electrical Specifications

Output		
Voltage adjustability:		60% to 110%
Setpoint accuracy:		± 1.5%
Line regulation:	Low line to high line	0.1% max.
Load regulation:	Full load to min. load	0.2% max.
Total error band:		± 3.0%
Minimum load:		0%
Overshoot:	At turn-on and turn-off	None
Undershoot:		None
Ripple and noise: (see Note 1)	5 Hz to 20 MHz	100 mV pk-pk 20 mV rms
Transient response: (See Notes 2 and 8)	48 V models	2.0% peak deviation, 200 µs recovery to within total error band
Remote sense:	(See Note 9)	10% o/p voltage change

All specifications are typical at nominal input, full load at 25 °C unless otherwise stated.

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Electrical Specifications cont.

Input		
Input voltage range: (See Note 14)	48 V nominal 100 V 100 ms transient	36 - 75 Vdc
Input current:	48 V no load 48 V Remote OFF	60 mA max. 10 mA max.
Input current (max) (See Note 4)	48 V models	1.7 A max. @ Io max. and Vin = 36 - 75 Vdc
Input reflected ripple: (See Note 6)	48 V models	50 mA (pk-pk) typ.
Remote ON/Off Logic compatibility ON OFF	(See Note 15)	 Open collector ref to -Input Open circuit or > 2 Vdc < 1.2 Vdc
Undervoltage lockout:	48 V Power up 48 V Power down	33.2 V max. 30.9 V min.
Start-up time: (see Note 7)	Power up Remote ON/OFF	30 ms 25 ms
EMC Characteristics		
Conducted emissions:	EN55022 (See Note 3) EN55022 (See Note 3)	Level A Level B
Radiated emissions:	EN55022	Level A
Immunity:	(See Note 13)	
ESD air:	EN61000-4-2 8 kV (NP), 15 kV (RP)	
ESD contact:	EN61000-4-2 6 kV (NP), 8 kV (RP)	
Radiated field enclosure:	EN61000-4-3 10 V/m (NP)	
Conducted (DC power):	EN61000-4-6 10 V/m (NP)	
Conducted (signal)	EN61000-4-6 10 V/m (NP)	
General Specifications		
Efficiency:		See table
Basic insulation:	Input/output	1500 Vdc
Switching frequency:	Fixed	300 kHz typ.
Approvals & Standards:	(See Note 5)	IEC60950/EN60950, UL/cUL1950, CSA C22.2 No. 950
Material flammability:		UL94V-0
Weight:		50 g (1.77 oz)
MTBF:	MIL-HDBK-217F @ 25 °C 100% load ground benign	270,000 hours
Environmental Specifications		
Thermal performance: (See Notes 11, 12) ETS 300 019-2-3	Operating ambient, temperature (natural convection) Non-operating	-40 °C to +70 °C -55 °C to +125 °C Classes T3.1 to T3.5
Altitude: (See Note 10)	3,000 metres 10,000 metres	Derate max. output current by 20% Derate max. output current by 50%

All specifications are typical at nominal input, full load at 25 °C unless otherwise stated.

Ordering Information

Output Power (Max.)	Input Voltage	OVP	Output Voltage	Output Currents		Efficiency (Typ)	Regulation		Model Numbers (16,17)
				(Min)	(Max)		Line	Load	
18 W	36 - 75 Vdc	2.15 Vdc	1.8 V	0 A	10 A	85.7%	± 0.1%	± 0.2%	EXB50-48S1V8J (15)
20 W	36 - 75 Vdc	2.45 Vdc	2 V	0 A	10 A	87.5%	± 0.1%	± 0.2%	EXB50-48S2V0J (15)
25 W	36 - 75 Vdc	2.95 Vdc	2.5 V	0 A	10 A	87.5%	± 0.1%	± 0.2%	EXB50-48S2V5J (15)
33 W	36 - 75 Vdc	4 Vdc	3.3 V	0 A	10 A	90.0%	± 0.1%	± 0.2%	EXB50-48S3V3J (14, 15)
50 W	36 - 75 Vdc	6.15 Vdc	5 V	0 A	10 A	91.0%	± 0.1%	± 0.2%	EXB50-48S05J (15)
50 W	36 - 75 Vdc	14.2 Vdc	12 V	0 A	4.2 A	90.0%	± 0.1%	± 0.2%	EXB50-48S12J (15)

Notes

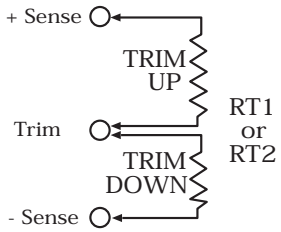
1 Measured as per recommended set-up. 150 mV pk-pk for EXB50-48S12J.
2 di/dt = 0.1 A/µs, Vin = 48 Vdc, Tc = 25 °C, load change = 0.5 lo max. to 0.75 lo max. and 0.75 lo max. to 0.5 lo max.
3 The EXB50 meets level A and level B conducted emissions only with external components connected before the input pins to the converter.
4 Recommended input fusing is 3.15 A HRC 200 V rated fuse on the 48 V.
5 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
6 Simulated source impedance of 12 µH. 12 µH inductor in series with +Vin.
7 Start-up into resistive load.
8 Maximum output deviation is 10% inclusive of trim.
9 Contact factory for operation at higher altitude.
10 See Application Note 113 for derating curves.
11 Input transient (48 V) ETS300 132-2 ETR283.
12 100 V, 100 ms transient applies to the EXB50-48S3V3J models. Please add the suffix 'R03' to the model number e.g. EXB50-48S3V3R03J. This is also active low remote ON/OFF.
13 Active low remote ON/OFF available. Please add suffix '-R' to model number e.g. EXB50-48S3V3-RJ.
14 The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant. TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
15 NOTICE: Some models do not support all options. Please contact your local Emerson Network Power representative or use the on-line model number search tool at http://www.PowerConversion.com to find a suitable alternative.

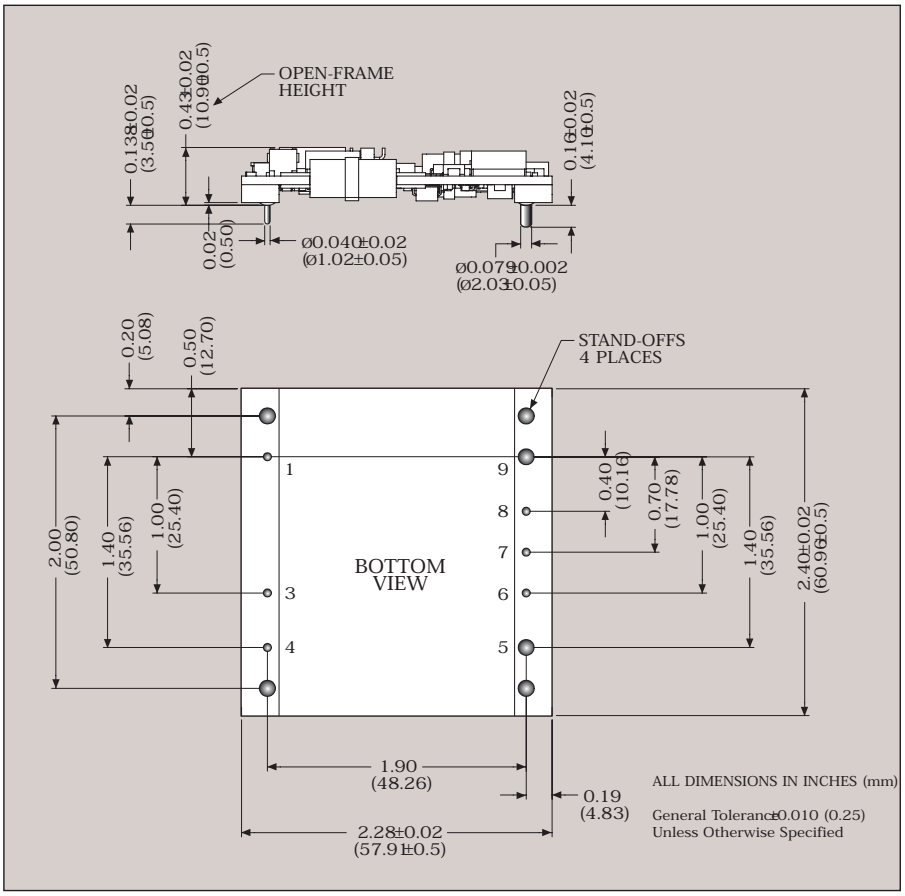
CAUTION: Hazardous internal voltages and high temperatures.
Ensure that unit is not user accessible.

Protection	
Short-circuit	Continuous
Overvoltage	Non-latching clamp
Thermal	120 °C hot spot temperature with automatic recovery
Telecom Specification	
Central office Interface A	ETS300-132-2, Input voltage and current requirements

External Output Trimming

Output can be externally trimmed by using the method shown below.





Pin Connections	
Pin Number	**Function**
Pin 1	-Vin
Pin 2	No Pin
Pin 3	Remote ON/OFF
Pin 4	+Vin
Pin 5	+Vout
Pin 6	+Sense
Pin 7	Trim
Pin 8	-Sense
Pin 9	-Vout

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