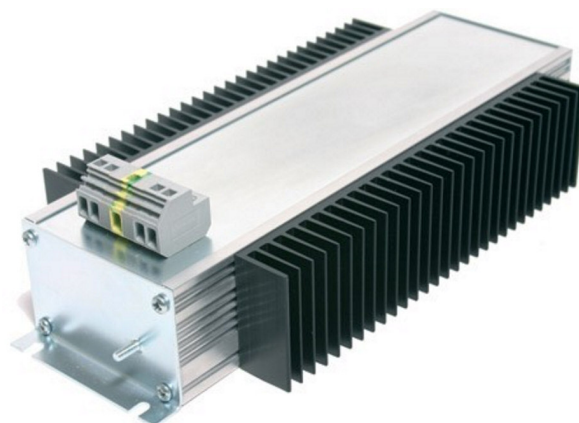


# PB271 Series

## 150W CONVERTER FOR RAILWAY APPLICATIONS

### FEATURES

- 150W DC/DC converter for railway
- 45-154Vdc input to supply 12V, 13.8V, 24V or 27.6V
- Compact design with and without heatsink
- Four different styles of input/output terminals
- High resistant to vibration and impacts
- Input polarity reversal protection
- Input overvoltage lockout
- Output overload protection
- Output short circuit protection
- Output overvoltage protection
- Over temperature protection
- Redundant operation
- 'ON' LED when output voltage is present option



### SPECIFICATIONS

INPUT		PROTECTION	
Input Voltage	45 - 154Vdc, Complies with power supplied from an accumulator battery with nominal voltage of 72V, 96V or 110Vdc as per EN50155:1996	Input reverse polarity	Indefinite, series blocking diode on input
Input Current	4.2A	Input fusing	5A, 250V (T) HRC ceramic 20 x 5mm fuse, per IEC127Sht V
DC Ripple Factor	15% (EN50155 cl. 3.1.1.4)	Input overvoltage	Approx 160Vdc, Auto recovery
OUTPUT		Output Overcurrent	110% Auto recovery on removal of over current
Output Voltage	12V, 13.8V, 24V, 27.6V See selection table	Output short circuit	Indefinite. Auto recovery
Output Current	See selection table	Output overvoltage	130% Input power must be cycled off then on to restart
Continuous Power	150W See derating curve.	Over Temperature	110°C internal temperature. Auto restart after cooling down
Ripple Voltage	30mVp-p	ISOLATION	
Line Regulation	0.5% Vnom	Isolation	Input to Chassis: 2121Vdc Input to Output: 4242Vdc Output to Chassis: 707Vdc
Load Regulation	12V, 13.8V: 3%Vnom 24V, 27.6V: 1.5%Vnom 24V -CS option: 4%Vnom For 0% to full load	Rated Insulation Voltage	Input: 154Vdc Output: 50Vdc per IEC60077-1
Efficiency	85% at full load	Rated Impulse withstand voltage	Input: 2.5KV Output: 25Vdc per IEC60077-1
Power Dissipation	26W at full load Dissipated on baseplate	Overvoltage Category	Input and Output: OV2 per IEC60077-1
Hold up time	See technical illustration	ENVIRONMENT	
Operating Ambient Temp	See technical illustrations	Operating Ambient Temp	See technical illustrations
Operating Baseplate Temp	105C	Operating Baseplate Temp	105C
Cooling	Natural convection.	Cooling	Natural convection.
Relative Humidity	5% - 90% Non condensing	Relative Humidity	5% - 90% Non condensing
Degree of Pollution	PD3 (Per IEC60077-1)	Degree of Pollution	PD3 (Per IEC60077-1)

# PB271 Series

## 150W CONVERTER FOR RAILWAY APPLICATIONS

### SPECIFICATIONS

ELECTROMAGNETIC COMPATIBILITY	
General	Designed to comply with EN50121-3-2:2000
Conducted Emissions (Input and Output)	150kHz-500kHz: 99dBuV QP 500kHz-30MHz: 93dBuV QP
Radiated Emissions	30MHz-230MHz: 40dBuV/m QP @ 10m 230MHz-1HHz: 47dBuV/m QP @ 10m
Fast Transient Burst Immunity	2KV 5/50nS Tr/Th 5KHz rep frequency
Surge Immunity	Input only per EN50155 Direct Transients 1.8KV waveform 5/50us Source impedance 100ohm
Conducted Radio Frequency Immunity	3Vrms carrier 150KHz to 80MHz 1KHz , 80% AM Source impedance 150ohm
Variations & Interruptions of voltage supply	Input only per EN50155 Unit complies with 45Vdc to 154Vdc (0.6 x 72V to 1.4 x 110V) operation continuously Class S1: No interruptions
Radio Frequency Immunity	10V/Mrms carrier 80MHz to 1 GHz 1KHz 80% AM
Electrostatic Discharge	6KV contact discharge 8KV air discharge

### PRODUCT SELECTION

TYPE	OUTPUT VOLTAGE	OUTPUT RANGE	OUTPUT CURRENT
PB271-12	12V	11.88 - 12.12V	12.5A
PB271-13.8	13.8V	13.66 - 13.8V	10.9A
PB271-24	24V	23.76 - 24.24V	6.25A
PB271-27.6	27.6V	27.32 - 27.6V	5.45A

PB271	-	12	S	-	H
1		2	3		4

- Series name
- Output voltage  
-12  
-24
- Output connection  
-S (Screw terminal block)  
-C (Cage clamp terminal block)  
-P (Pluggable terminal block)
- Optional  
- Heatsinks

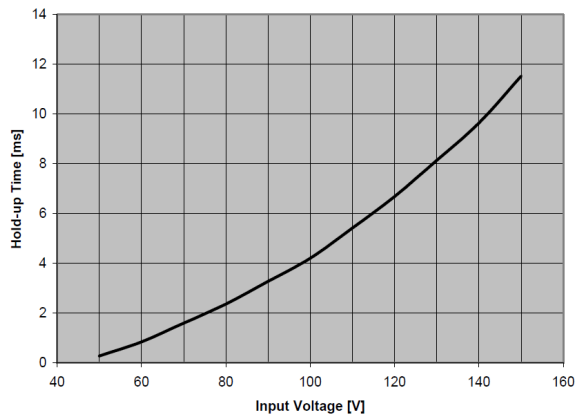
I/O INTERFACE	
Input and Output: S	4 way screw T/B 20A/300V suitable for 4mm <sup>2</sup> wire
Input and Output: C	5 way Cage Clamp T/B 20A/300V suitable for 4mm <sup>2</sup> wire
Input and Output: P	5way pluggable screw T/B 20A / 400V with screw flanges suitable for up to 4mm <sup>2</sup> wire Phoenix Contact DFK-PC 4/5-G-7,62-FS4.8 + PC 4/5-STF-7,62 or equivalent
Input and Output: M	MS3102E18-4P F80 panel mounted plug. 4 x #16 crimp contacts. MS service rating D. Mating connector: MS3106E18-4S F80 straight receptacle. Supplied with unit
Ground Terminal	M4 x 12mm stud
"ON" LED	Option L: Green LED mounted on top cover. ON when output voltage is present Not available with option C

MECHANICAL	
General	Chassis mount enclosure suitable for standalone use
Mechanical Outline	See Technical Illustrations
Dimensions	Length: -S, -C: 290mm -P (including mating connector): 301mm -M (excluding mating connector): 299mm Width Without optional heatsinks: 80mm With optional heatsinks: 130mm Height -S: 69mm -C: 73mm -P, -M: 51mm -P, -M, + -L option: 55mm
Mounting Centres	280mm x 59mm Suitable for 4 x M4 hardware
Protection Degree	IP40 as per AS1939
Weight Unpacked	Without optional heatsinks: 1.9kg With optional heatsinks: 2.4kg

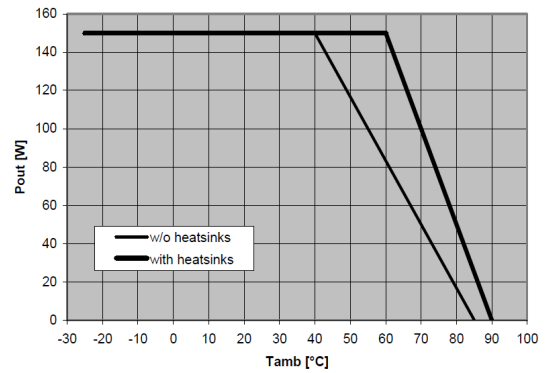
# PB271 Series

## 150W CONVERTER FOR RAILWAY APPLICATIONS

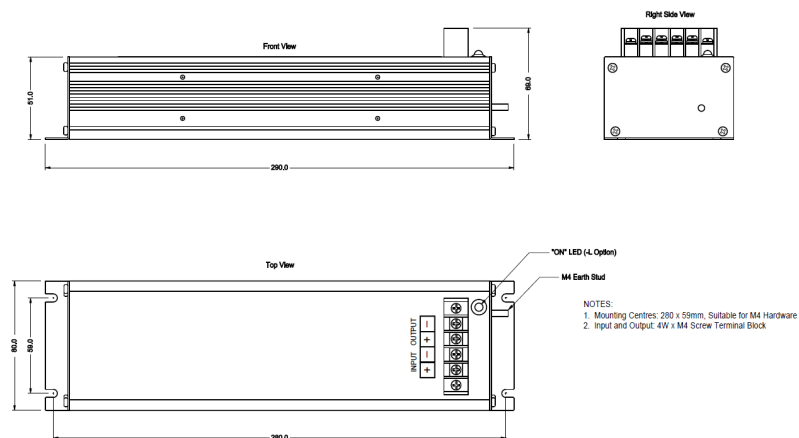
### HOLD UP TIME - FULL LOAD



### DERATING CURVE - FREE AIR CONVECTION



### MECHANICAL OUTLINE - PB271-12(24)S(-L)



### MECHANICAL OUTLINE - PB271-12(24)S-H(L)

