RDZ Series Converter

Features

- *Wide input voltage*
- *6000Vac Isolation Voltage*
- *Operating Ambient Temp:-40 ℃ to +70 ℃*
- *Operating Case Temp:-40 ℃ to +105 ℃*
- *Output Short-circuit Protection, hiccup, auto-recovery*
- *Applications: Industry ,Railway & Rail transit etc.*

Contact Information

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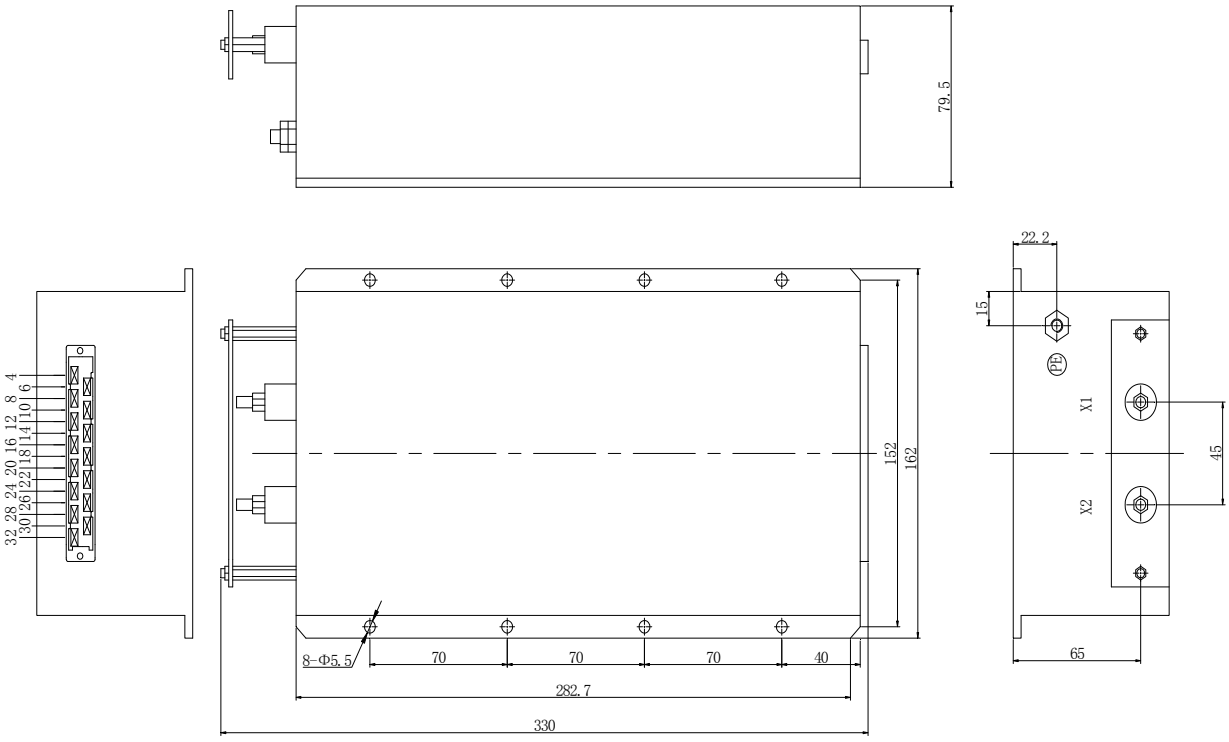
Outline Diagram



Pin	Sign	Function	Pin	Sign	Function
X1	+Vin	+DC1500V Input	X3	20/22	+110V DC Out
X2	-Vin	-DC1500V Input	X3	10/22	-110V DC Out
PE	—	Protect Eearth	X3	6	Power fail output
X3	30/32	+Battery in	X3	4	Power fail output
X3	14/16	-Battery in			

Case material: plastic, black; Pin: copper with gold plating
Notes: all dimensions in mm(inches)
Tolerance: x.x mm:±0.5（x.xx:±0.020) x.xx mm:±0.25（x.xxx:±0.010)
X3：Harting H15 DIN41612

Performance Specifications And Ordering Guide

Unless otherwise specified, all values are given at: 25℃, one standard atmosphere pressure, pure resistive load and basic connection.

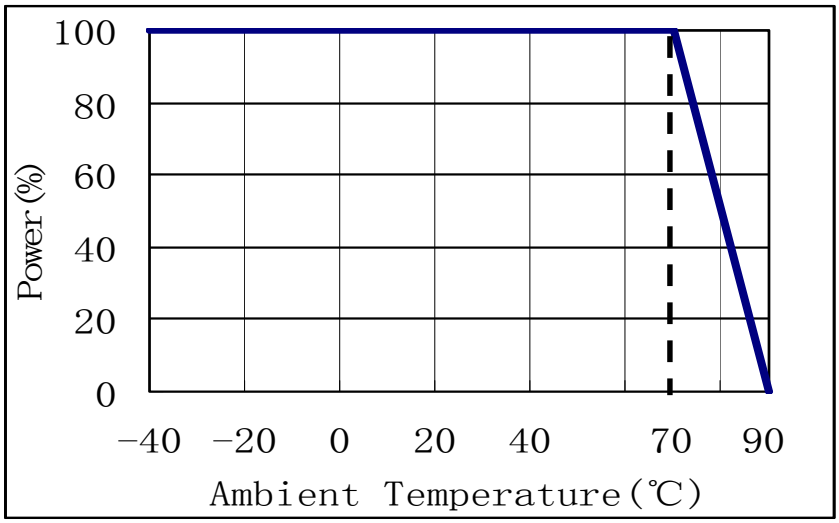
Model	Output				Input	Efficiency
	Voltage(V)	Power(W)	Ripple and Noise	Capacitive load(uF)	Range-DC (Volts)	
RDZ400-1500S24	24	400	1%Vo	6800	600-2000	85
RDZ400-1500S48	48	400	1%Vo	4700	600-2000	85
RDZ400-1500S110	110	400	1%Vo	3300	600-2000	85

Performance/Functional Specifications

Input		General	
Input Voltage:	See Ordering Guide	**Isolation Voltage:**	6000Vac/1min/10mA (Input-Output)
Output		**Switching Frequency:**	200kHz(typ.)
Voltage Accuracy:	±1% Vo1 ±1% Vo2	**MTBF:**	2×10^6h(Bellcore tr332)
Line Regulation:	±0.2%max.	**Temperature Coeffcient:**	±0.02% per℃(Max)
Load Regulation:	±0.5% max.	**Case Temperature:**	-40℃～+105℃(Industry)
Ripple and Noise:	See Ordering Guide	**Storage Temperature:**	-55℃～+125℃
Efficiency:	See Ordering Guide	**Relative Humidity:**	10%~90%
Transient Response Recovery Time(μs):	see respective data sheet	**Short-circuit Protection:**	Hiccup mode, automatic recovery
Transient ResponseVoltage Deviation (%):	see respective data sheet	**Isolation Resistance:**	50MΩmin(500Vdc,90%RH)
Start-up Delay Time:	see respective data sheet	**Manual Soldering:**	425℃max (5s Max)
Rise Time:	see respective data sheet	**Wave Soldering:**	255℃max (10s Max)

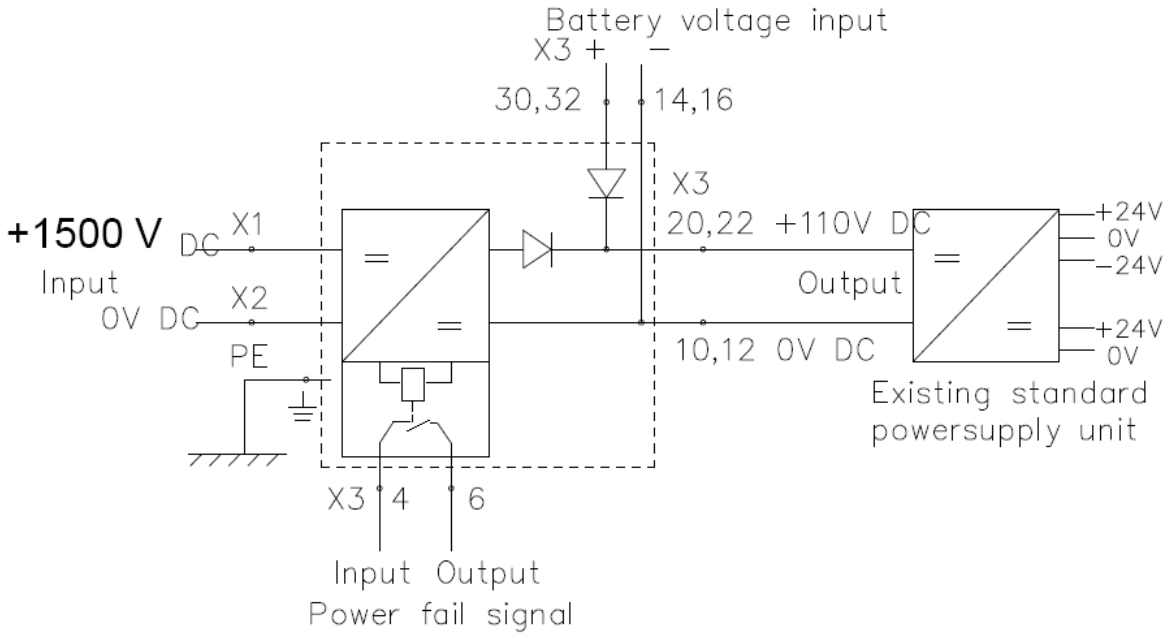
Characteristic Curves

Derating



Design Considerations

Basic Connection



Notes: Please see the application information followed for the further information.

Thermal Consideration

The converters operate in a variety of thermal environments; however, sufficient cooling should be provided to ensure reliable operation of the unit. Heat is removed by conduction, convection and radiation to the surrounding environment.
When ambient temperature is higher than the permitted operating, the derating curves should be referred or external heat dissipation measures. Forced air cooling or heatsink, should be used. The air tunnel should be considered for forced air cooling, to avoid heated air be hindered or forming swirl; when heatsink used, it should be attached the converter closely, through double-side thermal conductivity insulation adhesive or thermal conductivity silicone for heat exchange.

Safety Consideration

The module, as one component for the end user, should be installed into the equipment. It is required to meet safety requirements in the system design.
To avoiding fire and be protected when short circuit occurred, it is recommended that a fast blow fuse

with rating 1.5 to 2.5 times of converter's continuous input peak current is used in series at the input terminal.(Inrush current suppression circuit is required for greater filter capacitance at input terminal, or it will result in the misoperation of the fuse).

Series and Parallel Operation

The converters should not be paralleled directly to increase power, but they can be paralleled each other through o-ring switches or diodes. Make sure that every converter's maximum load current should not exceed the rated current at anytime if they are paralleled without using external current sharing circuits. The converters can operate in series. To prevent against start-up failure due to start up time difference,
SBD with low voltage difference can be paralleled at the output pins(SBD negative terminal connect to the positive pin of the output) for each converter.

Cleaning Notice

The converter case is not a hermetically-sealed construction, a sufficient drying process is required after the converter cleaning, make sure the liquid congregated is removed, or it will damage the converter or degradation of performance
After surface treatment, the appearance of the converter may be affected by the organic solvent, protection measures should be taken before cleaning when appearance is concerned.

Quality Statement

The converters are manufactured in accordance with ISO 9001 system requirements, and are monitored 100% by auto-testing system, 100% burn in.
The warranty for the converters is 5-year.