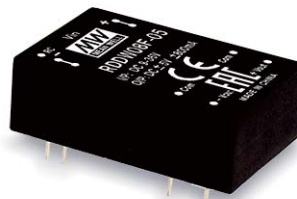
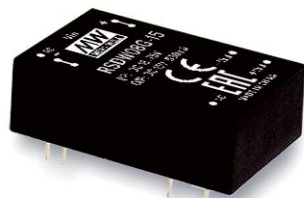




8W DIP Package Reliable Railway DC-DC Converter

RSDW08 & RDDW08 series



■ Features

- Compliance with EN50155 railway standard
- DIP 24 package with standard pinout
- 4:1 wide input range
- Wide operating temperature range -40 ~ +85°C
- No minimum load required
- Full encapsulated
- Protections: Short circuit (Continuous) / Overload / Over voltage / Input under voltage
- 1.5KVDC I/O isolation
- Remote ON/OFF control
- 3 years warranty

■ Applications

- Bus, tram, metro or railway system
- Telecom/datacom system
- Wireless network
- Industrial control facility
- Instrument
- Analyzer
- Highly vibrating, heavily dusty, extremely low or high temperature harsh environment

■ Description

RSDW08 and RDDW08 series are 8W module type DC-DC reliable railway converter with DIP24 package. It features international standard pins, a high efficiency up to 86%, wide working temperature range -40~+85°C, 1.5KVDC I/P-O/P isolation voltage, compliance with EN50155 railway standard, continuous-mode short circuit protection, etc. The models account for different input voltage 9~36V and 18~75V 4:1 wide input range, and various output voltage, 3.3V/5V/12V/15V for single output and $\pm 5V/\pm 12V/\pm 15V$ for dual outputs, which are suitable for railway, trams, buses and also can be used in the harsh environment with high vibration, high dust, extremely low or high temperature, etc.

■ Model Encoding

RSDW08F-12

Output voltage (3.3/5/12/15Vdc, $\pm 5/\pm 12/\pm 15Vdc$)

Input voltage (F: 9~36Vdc, G: 18~75Vdc)

Rated wattage

Series name { S:Single output
D:Dual output

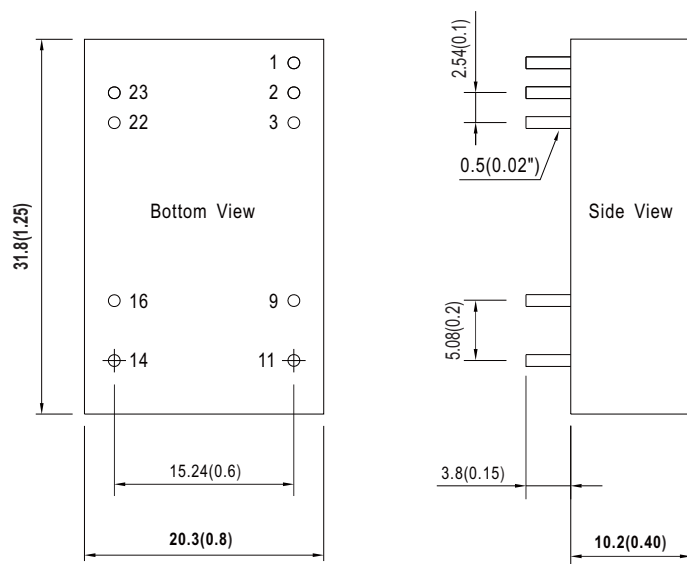
MODEL SELECTION TABLE							
ORDER NO.	INPUT			OUTPUT		EFFICIENCY (Typ.)	CAPACITOR LOAD (MAX.)
	INPUT VOLTAGE (RANGE)	INPUT CURRENT		OUTPUT VOLTAGE	OUTPUT CURRENT		
		NO LOAD	FULL LOAD				
RSDW08F-03	Normal 24V (9 ~ 36V)	10mA	344mA	3.3V	2000mA	80%	2000μF
RSDW08F-05		10mA	406mA	5V	1600mA	82%	1600μF
RSDW08F-12		10mA	392mA	12V	666mA	85%	666μF
RSDW08F-15		10mA	390mA	15V	530mA	85%	530μF
RDDW08F-05		10mA	406mA	±5V	±0 ~ 800mA	82%	*800μF
RDDW08F-12		10mA	392mA	±12V	±0 ~333mA	85%	*333μF
RDDW08F-15		15mA	390mA	±15V	±0 ~ 265mA	85%	*265μF
RSDW08G-03	Normal 48V (18 ~ 75V)	5mA	172mA	3.3V	2000mA	80%	2000μF
RSDW08G-05		5mA	201mA	5V	1600mA	83%	1600μF
RSDW08G-12		5mA	194mA	12V	666mA	86%	666μF
RSDW08G-15		5mA	193mA	15V	530mA	86%	530μF
RDDW08G-05		5mA	201mA	±5V	±0 ~ 800mA	83%	*800μF
RDDW08G-12		10mA	194mA	±12V	±0 ~333mA	86%	*333μF
RDDW08G-15		6mA	193mA	±15V	±0 ~ 265mA	86%	*265μF

* For each output

SPECIFICATION				
INPUT	VOLTAGE RANGE	F: 9~36Vdc , G: 18~75Vdc		
	SURGE VOLTAGE (100ms max.)	24Vin models : 50Vdc, 48Vin models : 100Vdc		
	FILTER	Pi type		
	PROTECTION (Typ.)	Fuse recommended. 24Vin models: 3A delay time Type, 48Vin models: 1.5A delay time Type		
	INTERNAL POWER DISSIPATION	500mW		
OUTPUT	VOLTAGE ACCURACY	± 1.5%		
	RATED POWER	8W		
	RIPPLE & NOISE Note.2	50mVp-p		
	LINE REGULATION Note.3	±0.5%		
	LOAD REGULATION Note.4	Single output models: ±0.5%, Dual output models: ±1%		
	SWITCHING FREQUENCY (min.)	100KHz		
PROTECTION	SHORT CIRCUIT	Protection type : Continuous, automatic recovery		
	OVERLOAD	120 ~ 180% rated output power		
		Protection type : Recovers automatically after fault condition is removed		
	OVER VOLTAGE	Protection type : Clamp by diode		
	UNDER VOLTAGE LOCKOUT	Start-up voltage	24Vin: 8.8Vdc, 48Vin: 17Vdc	
Shutdown voltage		24Vin: 8Vdc, 48Vin: 16Vdc		
FUNCTION	REMOTE CONTROL	Power ON: R.C. ~ -Vin >3.5~36Vdc or open circuit ; Power OFF: R.C. ~ -Vin <1.2Vdc or short		
ENVIRONMENT	COOLING	Free-air convection		
	WORKING TEMP.	-40 ~ +85℃ (Refer to "Derating Curve")		
	CASE TEMPERATURE	+100℃ max.		
	WORKING HUMIDITY	20% ~ 90% RH non-condensing		
	STORAGE TEMP., HUMIDITY	-55 ~ +125℃, 10 ~ 95% RH non-condensing		
	TEMP. COEFFICIENT	0.03% / °C (0 ~ 71℃)		
	SOLDERING TEMPERATURE	1.5mm from case of 1 ~ 3sec./260℃ max.		
	VIBRATION	10 ~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes; Mounting: compliance to EN61373(Category 1- Class B)		
SAFETY & EMC (Note.5)	SAFETY STANDARDS	EAC TP TC 004 approved		
	WITHSTAND VOLTAGE	I/P-O/P:1.5KVDC		
	ISOLATION RESISTANCE	I/P-O/P:100M Ohms / 500VDC / 25℃ / 70% RH		
	ISOLATION CAPACITANCE (Typ.)	1000pF		
	EMC EMISSION	Parameter	Standard	Test Level / Note
		Conducted	EN55032	Class A/B with external components
		Radiated	EN55032	N/A
	EMC IMMUNITY	Parameter	Standard	Test Level / Note
		ESD	EN61000-4-2	Level 2, ±8KV air, ±4KV contact
		Radiated Susceptibility	EN61000-4-3	Level 2, 3V/m
		EFT/Burest	EN61000-4-4	Level 1, 0.5KV
		Surge	EN61000-4-5	Level 1, 0.5KV Line-Line
		Conducted	EN61000-4-6	Level 2, 3V(e.m.f.)
		RAILWAY STANDARD	EN50155 including EN61373 for shock & vibration, EN50121-3-2 for EMC	
	OTHERS	MTBF	Single: 1500Khrs, Dual: 1300Khrs MIL-HDBK-217F(25℃)	
DIMENSION (L*W*H)		31.8*20.3*10.2mm (1.25*0.8*0.4 inch)		
CASE MATERIAL		Black coated copper with non-conductive base		
PACKING		18.4g		
NOTE	1.All parameters are specified at normal input(F:24Vdc, G:48Vdc), rated load, 25℃ 70% RH ambient. 2.Ripple & noise are measured at 20MHz by using a 12" twisted pair terminated with a 0.1µf & 47µf capacitor. 3.Line regulation is measured from low line to high line at rated load. 4.Load regulation is measured from 10% to 100% rated load. 5.The final equipment must be re-confirm that it still meet EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."(as available on http://www.meanwell.com)			

Mechanical Specification

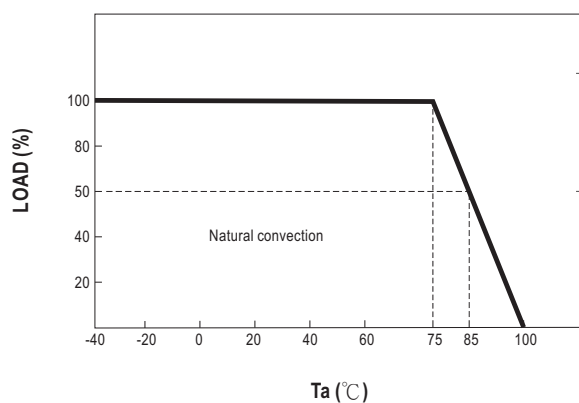
- All dimensions in mm(inch)
- Tolerance: $x.x \pm 0.5\text{mm}$ ($x.xx \pm 0.02''$)
 $x.xx \pm 0.25\text{mm}$ ($x.xxx \pm 0.010''$)
- Pin size is: $0.5 \pm 0.05\text{mm}$ ($0.02'' \pm 0.002''$)



Plug Assignment

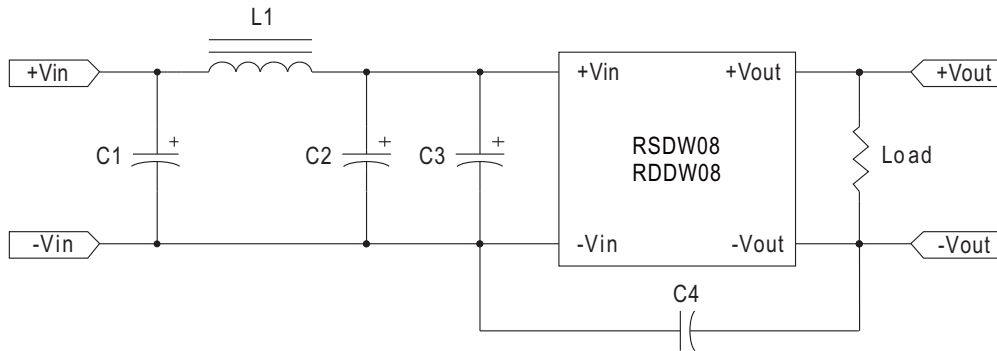
Pin-Out		
Pin No.	RSDW08 (Single output)	RDDW08 (Dual output)
1	Remote ON/OFF	Remote ON/OFF
2,3	-Vin	-Vin
9	N.P.	Common
11	N.C.	-Vout
14	+Vout	+Vout
16	-Vout	Common
22,23	+Vin	+Vin

Derating Curve



■ EMC Suggestion Circuit

※Required external components to meet EN55032 class A/B emission are as below:



Model No.	EN55032 Class A					EN55032 Class B				
	C1	C2	C3	C4	L1	C1	C2	C3	C4	L1
RSDW08F-03	10 μ F/50V	10 μ F/50V	10 μ F/50V	NC	SHORT	10 μ F/50V	NC	10 μ F/50V	NC	3.3 μ H
RSDW08F-05	10 μ F/50V	10 μ F/50V	10 μ F/50V	NC	SHORT	10 μ F/50V	NC	10 μ F/50V	NC	3.3 μ H
RSDW08F-12	10 μ F/50V	10 μ F/50V	10 μ F/50V	NC	SHORT	10 μ F/50V	NC	10 μ F/50V	NC	3.3 μ H
RSDW08F-15	10 μ F/50V	10 μ F/50V	10 μ F/50V	NC	SHORT	10 μ F/50V	NC	10 μ F/50V	NC	3.3 μ H
RDDW08F-05	10 μ F/50V	10 μ F/50V	10 μ F/50V	NC	SHORT	10 μ F/50V	NC	10 μ F/50V	NC	3.3 μ H
RDDW08F-12	10 μ F/50V	10 μ F/50V	10 μ F/50V	NC	SHORT	10 μ F/50V	NC	10 μ F/50V	NC	3.3 μ H
RDDW08F-15	10 μ F/50V	10 μ F/50V	10 μ F/50V	NC	SHORT	10 μ F/50V	NC	10 μ F/50V	NC	3.3 μ H
RSDW08G-03	NC	4.7 μ F/100V	4.7 μ F/100V	NC	SHORT	4.7 μ F/100V	NC	4.7 μ F/100V	NC	2.7 μ H
RSDW08G-05	NC	4.7 μ F/100V	4.7 μ F/100V	NC	SHORT	4.7 μ F/100V	NC	4.7 μ F/100V	NC	2.7 μ H
RSDW08G-12	NC	4.7 μ F/100V	4.7 μ F/100V	NC	SHORT	4.7 μ F/100V	NC	4.7 μ F/100V	NC	2.7 μ H
RSDW08G-15	NC	4.7 μ F/100V	4.7 μ F/100V	NC	SHORT	4.7 μ F/100V	NC	4.7 μ F/100V	NC	2.7 μ H
RDDW08G-05	NC	4.7 μ F/100V	4.7 μ F/100V	NC	SHORT	4.7 μ F/100V	NC	4.7 μ F/100V	NC	2.7 μ H
RDDW08G-12	NC	4.7 μ F/100V	4.7 μ F/100V	NC	SHORT	4.7 μ F/100V	NC	4.7 μ F/100V	NC	2.7 μ H
RDDW08G-15	NC	4.7 μ F/100V	4.7 μ F/100V	NC	SHORT	4.7 μ F/100V	NC	4.7 μ F/100V	NC	2.7 μ H

Note: All of capacitors are ceramic capacitors and 1812 size.

■ Installation Manual

Please refer to : <http://www.meanwell.com/manual.html>