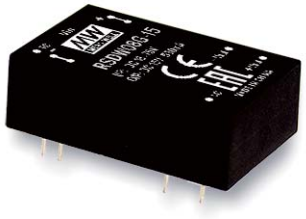
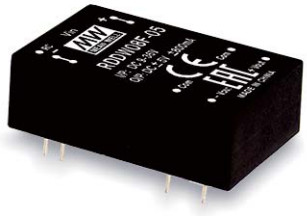
8W DIP Package Reliable Railway DC-DC Converter **RSDW08 & RDDW08 series**





Railway Automate Industrial Security Network Telecom

Features

- Compliance with EN50155 railway standard
- DIP 24 package with standard pinout
- 4:1 wide input range
- Wide operating temperature range -40 ~ +85℃
- 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, exteremely 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℃, 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 ±5V/±12V/±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

R S DW08 F – 12

- 12 — Output voltage (3.3/5/12/15Vdc，±5/±12/±15Vdc)
- F — Input voltage (F: 9~36Vdc，G: 18~75Vdc)
- 08 — Rated wattage
- RSDW — Series name { S:Single output / D:Dual output

MODEL SELECTION TABLE

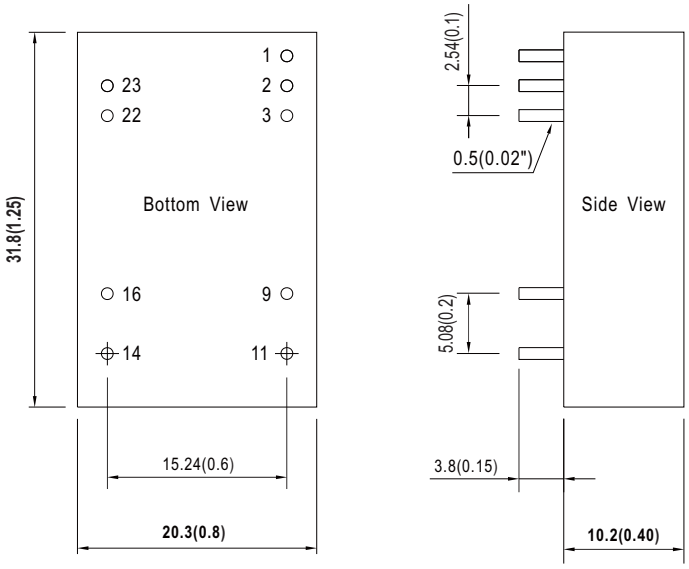
ORDER NO.	INPUT			OUTPUT		EFFICIENCY (Typ.)	CAPACITOR LOAD (MAX.)
	INPUT VOLTAGE (RANGE)	INPUT CURRENT		OUTPUT VOLTAGE	OUTPUT CURRENT		
		NO LOAD	FULL LOAD				
RSDW08F-03	Normal 24V (9 ~ 36V)	10mA	344mA	3.3V	2000mA	80%	2000μF
RSDW08F-05		10mA	406mA	5V	1600mA	82%	1600μF
RSDW08F-12		10mA	392mA	12V	666mA	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% / ℃ (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

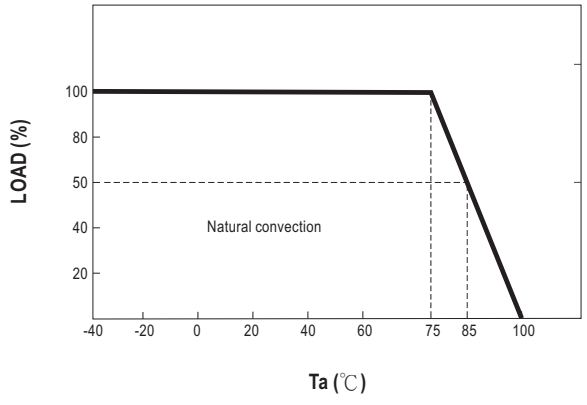
- All dimensions in mm(inch)
- Tolerance:x.x±0.5mm(x.xx±0.02")
  x.xx±0.25mm(x.xxx±0.010")
- Pin size is:0.5±0.05mm (0.02"±0.002")



■ Plug Assignment

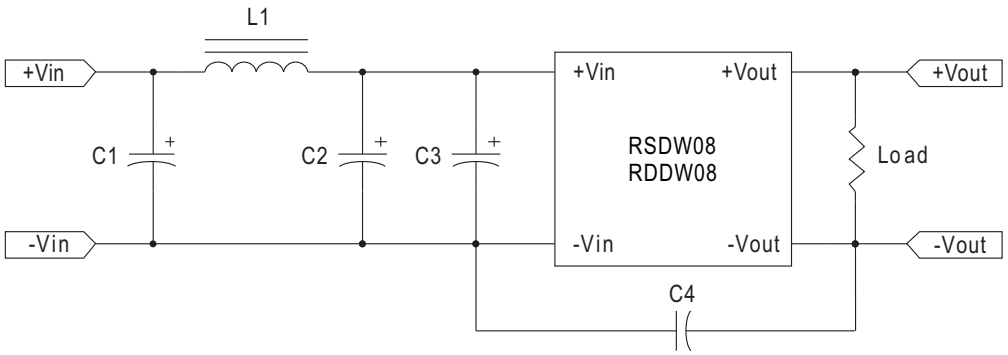
Pin-Out		
Pin No.	RSDW08 (Single output)	RDDW08 (Dual output)
1	Remote ON/OFF	Remote ON/OFF
2,3	-Vin	-Vin
9	N.P.	Common
11	N.C.	-Vout
14	+Vout	+Vout
16	-Vout	Common
22,23	+Vin	+Vin

■ 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	10μF/50V	10μF/50V	10μF/50V	NC	SHORT	10μF/50V	NC	10μF/50V	NC	3.3μH
RSDW08F-05	10μF/50V	10μF/50V	10μF/50V	NC	SHORT	10μF/50V	NC	10μF/50V	NC	3.3μH
RSDW08F-12	10μF/50V	10μF/50V	10μF/50V	NC	SHORT	10μF/50V	NC	10μF/50V	NC	3.3μH
RSDW08F-15	10μF/50V	10μF/50V	10μF/50V	NC	SHORT	10μF/50V	NC	10μF/50V	NC	3.3μH
RDDW08F-05	10μF/50V	10μF/50V	10μF/50V	NC	SHORT	10μF/50V	NC	10μF/50V	NC	3.3μH
RDDW08F-12	10μF/50V	10μF/50V	10μF/50V	NC	SHORT	10μF/50V	NC	10μF/50V	NC	3.3μH
RDDW08F-15	10μF/50V	10μF/50V	10μF/50V	NC	SHORT	10μF/50V	NC	10μF/50V	NC	3.3μH
RSDW08G-03	NC	4.7μF/100V	4.7μF/100V	NC	SHORT	4.7μF/100V	NC	4.7μF/100V	NC	2.7μH
RSDW08G-05	NC	4.7μF/100V	4.7μF/100V	NC	SHORT	4.7μF/100V	NC	4.7μF/100V	NC	2.7μH
RSDW08G-12	NC	4.7μF/100V	4.7μF/100V	NC	SHORT	4.7μF/100V	NC	4.7μF/100V	NC	2.7μH
RSDW08G-15	NC	4.7μF/100V	4.7μF/100V	NC	SHORT	4.7μF/100V	NC	4.7μF/100V	NC	2.7μH
RDDW08G-05	NC	4.7μF/100V	4.7μF/100V	NC	SHORT	4.7μF/100V	NC	4.7μF/100V	NC	2.7μH
RDDW08G-12	NC	4.7μF/100V	4.7μF/100V	NC	SHORT	4.7μF/100V	NC	4.7μF/100V	NC	2.7μH
RDDW08G-15	NC	4.7μF/100V	4.7μF/100V	NC	SHORT	4.7μF/100V	NC	4.7μF/100V	NC	2.7μH

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

■ Installation Manual

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

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