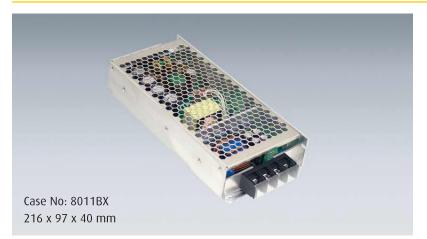


300W Single Output DC-DC Converter



Features

- Compliance to EN50155 railway certification
- Protections: Short circuit / Overload / Over voltage / Over temperature / Input reverse polarity
- 4000VDC I/O isolation
- · Cooling by free air convection
- Built-in constant current limiting circuit
- 1U low profile: 40mm
- All using 105°C long life electrolytic capacitors
- LED indicator for power on
- 100% full load burn-in test



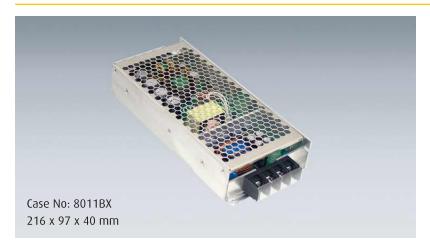
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Voltage (Continuous) 8: 16.8-31,200C C: 28.8-6-2.470C 0: 57.2-1430VC Intush Current 8: 45A/2470C C: 28.8-6-7.270C 0: 57.6-1540VC Intush Current 8: 45A/2470C C: 28.8-6-7.270C 0: 57.6-1540VC Intush Current 14.6A/2470C 14.5A/2470C 14.5A/2470C 14.5A/2470C 14.5A/2470C Intush Current 14.6A/2470C 14.6A/2470C 14.6A/2470C 14.5A/2470C	•							
New March 100		Voltage (Continuous)	B: 16.8~31.2VDC	C: 33.6~62	.4VDC D: 67.2	2~143VDC		
MOBEL NO. RSD-3008-12 RSD-3008-24 RSD-3008-24 RSD-3006-24 R		Voltage (1 Sec.)	B: 14.4~33.6VDC	C: 28.8~67	.2VDC D: 57.0	5~154VDC		
MODEL No. RSD-300B-12 RSD-	INPUT	Inrush Current	B: 45A/24VDC	C: 45A/48	BVDC D: 45A	\/110VDC		
MOEL No. RSD-300B-12 RSD-300B-24 RSD-300B-48 RSD-300C-12 RSD-300C-24 RSD-300C-48 RS		MODEL No.	RSD-300B-12	RSD-300B-24	RSD-300B-48	RSD-300C-12	RSD-300C-24	RSD-300C-48
Voltage		Current	14.6A/24V	14.6A/24V	14.6A/24V	7.2A/48V	7.2A/48V	7.2A/48V
Part		MODEL No.	RSD-300B-12	RSD-300B-24	RSD-300B-48	RSD-300C-12	RSD-300C-24	RSD-300C-48
		Voltage	12V	24V	48V	12V	24V	48V
Duty to Tolerance		Rated Current	22.5A	11.3A	5.7A	25A	12.5A	6.3A
Line Regulation ± 0.3% ± 0.2% ± 0.5% ± 0.3% ± 0.2% ± 0.5% ± 1.0% ±	UTPUT	Current Range	0~22.5A	0~11.3A	0~5.7A	0~25A	0~12.5A	0~6.3A
Purpose Pur		Output Tolerance	± 2%	± 2%	± 2%	± 2%	± 2%	± 2%
Riple Noise MAX. 120mV 150mV 180mV 120mV 150mV 180mV 190mV 1		Line Regulation	± 0.3%	± 0.2%	± 0.5%	± 0.3%	± 0.2%	± 0.5%
Efficiency (TYP) 89% 89% 89% 91		Output Tolerance	± 1%	± 1%	± 1%	± 1%	± 1%	± 1%
POWER POWER PATH PROPRIET PROPRET PROP		Ripple Noise MAX.	120mV	150mV	180mV	120mV	150mV	180mV
NATIONAL PROPERTY OF STATE STA		Efficiency (TYP.)	89%	89%	89%	91%	91%	91%
Shutdown o/p voltage, re-power on to recover Ver Load When the power supply is over 105~135% constant current limiting, recovers automatically after fault condition is removed		Power	270W	271.2W	273.6W	300W	300W	302.4W
Over Load When the power supply is over 105~135% constant current limiting, recovers automatically after fault condition is removed Over Temperature B/C type: 110°C ±5°C (TSW1) detect on main power transformer; D-type: 115°C ±5°C (TSW1) d		Over Voltage	13.8~16.2V	27.6~32.4V	55.2~64.8V	13.8~16.2V	27.6~32.4V	55.2~64.8V
When the power supply is over 105~135% constant current limiting, recovers automatically after fault condition is removed Power Temperature B/C type: 110°C ±5°C (TSW1) detect on main power transformer; D-type: 115°C ±5°C (TSW1) detect on main power transformer Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, recovers automatically after temperature goes down Shut down o/p voltage, and shut his sold of plants for pr	ROTECTION		Shutdown o/p v	oltage, re-power	on to recover			
Shut down o/p voltage, recovers automatically after temperature goes down 4. KEC. CHAR. Rise Time Soms at full load ByC-type comply with \$1 level @ full load, comply with \$2 level @ 70% load; D-type comply with \$2 level @ full load Setup Time 800mS at full load Operating: 40~+55 °C (No derating); +70 °C @60% load by free air convection; No derating with external base plate, Tx case compliant storage: -40~+85 °C Humidity Operating: 20% ~ 95% RH; Storage: 10% ~ 95% RH (non condensing) Withstand Voltage I/P-O/P: 4KVDC, I/P-FG: 2.5KVDC, O/P-FG: 2.5KVDC, 1minute Isolation Resistance I/P-O/P; I/P-FG, O/P-FG 100MΩ/500VDC Safety Standard Meets IEC60950-1 (IVD) MC EMI Compliance to EN55022 (CISPR22) Conduction Emission: Class A, Radiation Emission: Class B; EN55015 (EN50121-3-2) Railway Standard Meets EN50155/IEC60571 including IEC61373 for shock & vibration, EN50121-3-2 for EMC Cooling Natural cooling M.T.B.F. 130.7Khrs min. MIL-HDBK-217F (°C)		Over Load	When the power	supply is over 10	05~135% constan	t current limiting	, recovers automa	atically after fault condition is removed
Rise Time SOmS at full load		Over Temperature	B/C type: 110°C	±5°C (TSW1) det	tect on main pow	er transformer; D	-type: 115°C ±5°	C (TSW1) detect on main power transformer
Hold up Time B/C-type comply with \$1 level @ full load, comply with \$2 level @ 70% load; D-type comply with \$2 level @ full load			Shut down o/p v	roltage, recovers	automatically afte	r temperature go	oes down	
Setup Time 800mS at full load NVIRONMENT Temperature Operating: -40~+55°C (No derating); +70°C @60% load by free air convection; No derating with external base plate, Tx case compliant Storage: -40~+85°C Humidity Operating: 20% ~ 95% RH; Storage: 10% ~ 95% RH (non condensing) Withstand Voltage I/P-0/P:4KVDC, I/P-FG:2.5KVDC, 0/P-FG:2.5KVDC, 1minute Isolation Resistance I/P-0/P, I/P-FG, 0/P-FG 100MΩ/500VDC Safety Standard Meets IEC60950-1 (IVD) EMS EN61000-4-2,3,4,5,6,8,11, Light industry level, criteria A; EN50121-3-2 Railway Standard Meets EN50155/IEC60571 including IEC61373 for shock 8 vibration, EN50121-3-2 for EMC Cooling Natural cooling M.T.B.F. 130.7Khrs min. MIL-HDBK-217F (°C)		Rise Time	<50mS at full loa	d				
Temperature Operating:-40~+55°C (No derating); +70°C @60% load by free air convection; No derating with external base plate, Tx case compliant Storage: -40~+85°C Humidity Operating: 20% ~ 95% RH; Storage: 10% ~ 95% RH (non condensing) Withstand Voltage I/P-0/P:4KVDC, I/P-FG:2.5KVDC, 0/P-FG:2.5KVDC, 1minute Isolation Resistance I/P-0/P, I/P-FG, 0/P-FG 100MΩ/500VDC Safety Standard Meets IEC60950-1 (LVD) MC EMI Compliance to EN55022 (CISPR22) Conduction Emission: Class A, Radiation Emission: Class B; EN55015 (EN50121-3-2) EMS EN61000-4-2,3,4,5,6,8,11, Light industry level, criteria A; EN50121-3-2 Railway Standard Meets EN50155/IEC60571 including IEC61373 for shock δ vibration, EN50121-3-2 for EMC Cooling Natural cooling M.T.B.F. 130.7Khrs min. MIL-HDBK-217F (°C)	LEC. CHAR.	Hold up Time	B/C-type comply	y with S1 level @	full load, comply	with S2 level @	70% load; D-type	e comply with S2 level @ full load
Storage: -40~+85°C Humidity Operating: 20% ~ 95% RH; Storage: 10% ~ 95% RH (non condensing) Withstand Voltage I/P-0/P:4KVDC, I/P-FG:2.5KVDC, 0/P-FG:2.5KVDC, 1minute Isolation Resistance I/P-0/P, I/P-FG, 0/P-FG 100MΩ/500VDC Safety Standard Meets IEC60950-1 (LVD) MCC EMI Compliance to EN55022 (CISPR22) Conduction Emission: Class A, Radiation Emission: Class B; EN55015 (EN50121-3-2) EMS EN61000-4-2,3,4,5,6,8,11, Light industry level, criteria A; EN50121-3-2 Railway Standard Meets EN50155/IEC60571 including IEC61373 for shock & vibration, EN50121-3-2 for EMC Cooling Natural cooling M.T.B.F. 130.7Khrs min. MIL-HDBK-217F (°C)		Setup Time	800mS at full loa	d				
Storage: -40~+85°C Humidity Operating: 20% ~ 95% RH; Storage: 10% ~ 95% RH (non condensing) Withstand Voltage I/P-0/P:4KVDC, I/P-FG:2.5KVDC, 0/P-FG:2.5KVDC, 1minute Isolation Resistance I/P-0/P, I/P-FG, 0/P-FG 100MΩ/500VDC Safety Standard Meets IEC60950-1 (LVD) EMS EN61000-4-2,3,4,5,6,8,11, Light industry level, criteria A; EN50121-3-2 Railway Standard Meets EN50155/IEC60571 including IEC61373 for shock 8 vibration, EN50121-3-2 for EMC Cooling Natural cooling M.T.B.F. 130.7Khrs min. MIL-HDBK-217F (°C)	NVIRONMENT	Temperature	Operating:-40~+	55°C(No derating	ı); +70°C@60% lo	ad by free air co	nvection; No dera	ting with external base plate, Tx case compl
Withstand Voltage I/P-O/P:4KVDC, I/P-FG:2.5KVDC, O/P-FG:2.5KVDC, 1minute Isolation Resistance I/P-O/P, I/P-FG, O/P-FG 100MΩ/500VDC Safety Standard Meets IEC60950-1 (LVD) EMI Compliance to EN55022 (CISPR22) Conduction Emission: Class A, Radiation Emission: Class B; EN55015 (EN50121-3-2) EMS EN61000-4-2,3,4,5,6,8,11, Light industry level, criteria A; EN50121-3-2 Railway Standard Meets EN50155/IEC60571 including IEC61373 for shock & vibration, EN50121-3-2 for EMC Cooling Natural cooling M.T.B.F. 130.7Khrs min. MIL-HDBK-217F (°C)			Storage: - 40~+85	5℃				
AFETY Isolation Resistance I/P-O/P, I/P-FG, O/P-FG 100MΩ/500VDC Safety Standard Meets IEC60950-1 (LVD) MC EMI Compliance to EN55022 (CISPR22) Conduction Emission: Class A, Radiation Emission: Class B; EN55015 (EN50121-3-2) EMS EN61000-4-2,3,4,5,6,8,11, Light industry level, criteria A; EN50121-3-2 Railway Standard Meets EN50155/IEC60571 including IEC61373 for shock & vibration, EN50121-3-2 for EMC Cooling Natural cooling M.T.B.F. 130.7Khrs min. MIL-HDBK-217F (°C)		Humidity	Operating: 20% ·	~ 95% RH; Storag	e: 10% ~ 95% RH	I (non condensin	g)	
Safety Standard Meets IEC60950-1 (LVD) MCC EMI Compliance to EN55022 (CISPR22) Conduction Emission: Class A, Radiation Emission: Class B; EN55015 (EN50121-3-2) EMS EN61000-4-2,3,4,5,6,8,11, Light industry level, criteria A; EN50121-3-2 Railway Standard Meets EN50155/IEC60571 including IEC61373 for shock & vibration, EN50121-3-2 for EMC Cooling Natural cooling THERS M.T.B.F. 130.7Khrs min. MIL-HDBK-217F (°C)		Withstand Voltage	I/P-O/P:4KVDC,	/P - FG:2.5KVDC, (D/P - FG:2.5KVDC, 1	Iminute		
EMI Compliance to EN55022 (CISPR22) Conduction Emission: Class A, Radiation Emission: Class B; EN55015 (EN50121-3-2) EMS EN61000-4-2,3,4,5,6,8,11, Light industry level, criteria A; EN50121-3-2 Railway Standard Meets EN50155/IEC60571 including IEC61373 for shock & vibration, EN50121-3-2 for EMC Cooling Natural cooling M.T.B.F. 130.7Khrs min. MIL-HDBK-217F (°C)	AFETY	Isolation Resistance	I/P-0/P, I/P-FG,	O/P - FG 100MΩ	1/500VDC			
EMS EN61000-4-2,3,4,5,6,8,11, Light industry level, criteria A; EN50121-3-2 Railway Standard Meets EN50155/IEC60571 including IEC61373 for shock & vibration, EN50121-3-2 for EMC Cooling Natural cooling THERS M.T.B.F. 130.7Khrs min. MIL-HDBK-217F (°C)		Safety Standard	Meets IEC60950-	1 (LVD)				
EMS EN61000-4-2,3,4,5,6,8,11, Light industry level, criteria A; EN50121-3-2 Railway Standard Meets EN50155/IEC60571 including IEC61373 for shock & vibration, EN50121-3-2 for EMC Cooling Natural cooling THERS M.T.B.F. 130.7Khrs min. MIL-HDBK-217F (°C)	wc	EMI	Compliance to EN	155022 (CISPR22)	Conduction Emise	sion: Class A, Rac	liation Emission: (Class B; EN55015 (EN50121-3-2)
Cooling Natural cooling THERS M.T.B.F. 130.7Khrs min. MIL-HDBK-217F (°C)		EMS	EN61000-4-2,3,4	,5,6,8,11, Light in	ndustry level, crite	ria A; EN50121 - 3	- 2	
THERS M.T.B.F. 130.7Khrs min. MIL-HDBK-217F (°C)		Railway Standard	Meets EN50155/	IEC60571 includir	ng IEC61373 for st	nock & vibration,	EN50121-3-2 for	EMC
		Cooling	Natural cooling					
Packing 1.19Kg; 12 pcs/15.3Kg/1.12 CUFT	THERS	M.T.B.F.	130.7Khrs min.	MIL-HDBK-217F	(°C)			
		Packing	1.19Kg; 12 pcs/1	5.3Kg/1.12 CUFT	-			

- 1 All parameters NOT specially mentioned are measured at 24,48,110VDC input, rated load and 25°C of ambient temperature
- 2 Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
- 3 Tolerance : includes set up tolerance, line regulation and load regulation.
- 4 The power supply is considered a component which will be installed into final equipment, this equipment must be re-confirmed that it still meets EMC.



300W Single Output DC-DC Converter



Features

- · Compliance to EN50155 railway certification
- Protections: Short circuit / Overload / Over voltage / Over temperature / Input reverse polarity
- 4000VDC I/O isolation
- Cooling by free air convection
- Built-in constant current limiting circuit
- · 1U low profile: 40mm
- All using 105°C long life electrolytic capacitors
- LED indicator for power on
- 100% full load burn-in test



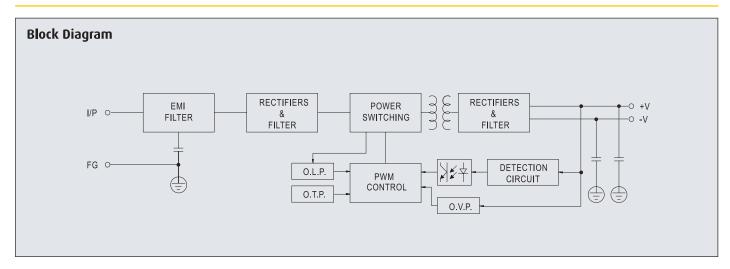
Specification v

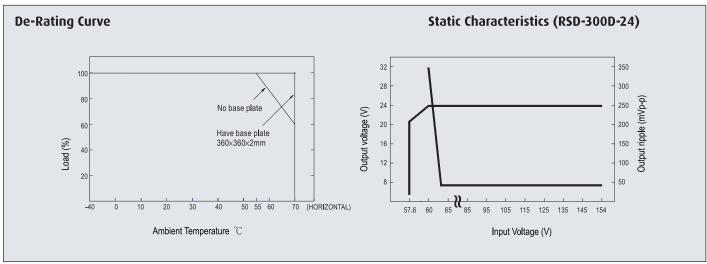
Specification	11				
	Voltage (Continuous)	A: 16.8~31.2VDC	B: 33.6~62.	.4VDC	C: 67.2~143VDC
	Voltage (1 Sec.)	A: 16.8~31.2VDC	B: 28.8~67.	.2VDC	C: 57.6~154VDC
INPUT	Inrush Current	A: 45A/24VDC	B: 45A/48	BVDC	C: 45A/110VDC
	MODEL No.	RSD-300D-12	RSD-300D-24	RSD-300	OD-48
	Current	3.1A/110V	3.1A/110V	3.1A/1	110V
	MODEL No.	RSD-300D-12	RSD-300D-24	RSD-300	OD-48
	Voltage	12V	24V	48\	V
	Rated Current	25A	12.5A	6.3/	A
OUTPUT	Current Range	0~25A	0~12.5A	0~6.3	3A
	Output Tolerance	± 2%	± 2%	± 20	%
	Line Regulation	± 0.2%	± 0.2%	± 0.5	5%
	Output Tolerance	± 1%	± 1%	± 10	%
	Ripple Noise MAX.	120mV	150mV	180n	mV
	Efficiency (TYP.)	91%	91%	91%	%
	Power	300W	300W	302.4	4W
	Over Voltage	13.8~16.2V	27.6~32.4V	55.2~6	54.8V
PROTECTION		Shutdown o/p vo	oltage, re-power	on to recov	ver
ROTECTION	Over Load	When the power	supply is over 10)5~135% c	constant current limiting, recovers automatically after fault condition is removed
	Over Temperature	B/C type: 110°C	±5°C (TSW1) det	tect on ma	in power transformer; D-type: 115°C ±5°C (TSW1) detect on main power transforme
		Shut down o/p v	oltage, recovers a	automatica	ally after temperature goes down
	Rise Time	<50mS at full loa	d		
ELEC. CHAR.	Hold up Time	B/C-type comply	with S1 level @	full load, o	comply with S2 level @ 70% load; D-type comply with S2 level @ full load
	Setup Time	800mS at full loa	d		
ENVIRONMENT	Temperature	Operating:-40~+5	55°C(No derating); +70℃@	260% load by free air convection; No derating with external base plate, Tx case com
LIVINOMINEM		Storage: -40~+85	°C		
	Humidity	Operating: 20% ~	95% RH; Storag	e: 10% ~ 9	95% RH (non condensing)
	Withstand Voltage	I/P-O/P:4KVDC, I	/P - FG:2.5KVDC, 0)/P - FG:2.5	KVDC, 1minute
SAFETY	Isolation Resistance	I/P-0/P, I/P-FG,	O/P-FG 100MΩ	2/500VDC	
	Safety Standard	Meets IEC60950-	1 (LVD)		
EMC	EMI	Compliance to EN	155022 (CISPR22)	Conductio	on Emission: Class A, Radiation Emission: Class B; EN55015 (EN50121-3-2)
	EMS	EN61000-4-2,3,4,	.5,6,8,11, Light in	dustry leve	el, criteria A; EN50121-3-2
	Railway Standard	Meets EN50155/	IEC60571 includir	ng IEC6137	73 for shock & vibration, EN50121-3-2 for EMC
	Cooling	Natural cooling			
OTHERS	M.T.B.F.	130.7Khrs min.	MIL-HDBK-217F	(°C)	
	Packing	1.19Kg; 12 pcs/1	5.3Kg/1.12 CUFT		

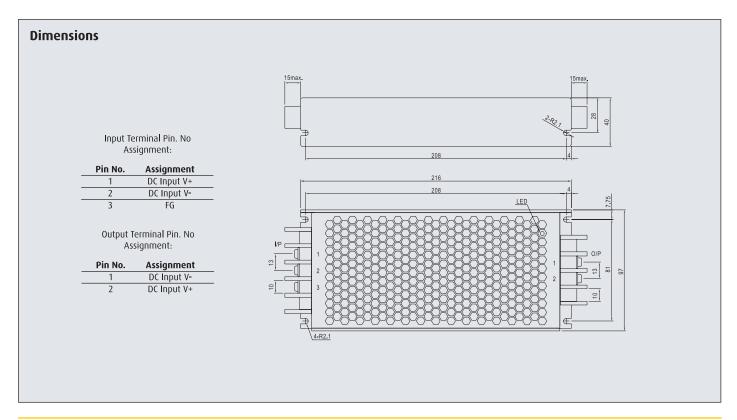
- 1 All parameters NOT specially mentioned are measured at 24,48,110VDC input, rated load and 25°C of ambient temperature
- 2 Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
- ${\bf 3}$ Tolerance : includes set up tolerance, line regulation and load regulation.
- 4 The power supply is considered a component which will be installed into final equipment, this equipment must be re-confirmed that it still meets EMC.



300W Single Output DC-DC Converter









300W Single Output DC-DC Converter

Input Fuse

There is one fuse connected in series to the positive input line, which are used to protect against abnormal surge. Fuse specifications of each model are as shown below:

Туре	Fuse Type	Reference and Rating
В	Fast	Littelfuse 257, 30A, 32V
С	Time-Lag	Conquer UDA-A, 16A, 250V
D	Time-Lag	Conquer UDA-A, 8A, 250V

Input Reverse Polarity Protection

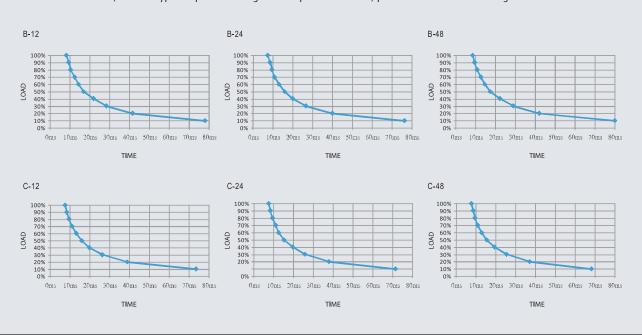
There is MOSFET connected in series to the negative input line. If the input polarity is connected reversely, the MOSFET opens and there will be no output to protect the unit

Input Under-voltage Protection

If input voltage drops to Vimin. -3V, the internal control IC shunts down and there is no output voltage

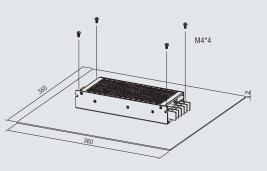
Hold-up Time

D type is in compliance to S2 level, while B and C types are in compliance with S1 level at full load output condition. To fulfil the requirements of S2 level, B and C types require de-rating their output load to 70%, please refer to the curve diagrams below.



Size of Base Panel

To fulfil the requirements of EN50155 TX level, RSD-300 series must be installed onto an iron plate at the base of the power supply. In order for optimal thermal performance, the iron plate must have an even and smooth surface and the RSD-300 series must be firmly mounted at the centre of the iron plate as shown in the diagram.





300W Single Output DC-DC Converter

Test Method	Standard	Test Conditions	Status	
Cooling Test	EN50155 Section 12.2.3 (Column 2, class TX)	Temp: -40°C Dwell Time: 2 hrs/cycle	No Damage	
	EN60068-2-1			
Dry Heat Test	EN50155 Section 12.2.4 (Column 2, Class TX)	Temp: 70°C/85°C Duration: 6 hrs/10 min	PASS	
	EN50155 Section 12.2.4 (Column 3, Class TX & Col	umn 4, Class TX		
	EN60068-2-30			
Damp Heat Test, Cyclic	EN50155 Section 12.2.5	Temp: 25°C~55°C Humidity: 90~100% RH Duration: 48hrs	PASS	
	EN61373			
Vibration Test	EN50155 Section 12.2.11	Temp: 19°C Humidity: 65% Duration: 10 mins	PASS	
	EN61373			
ncreased Vibration Test	t EN55015 Section 12.2.11	Temp: 19°C Humidity: 65% Duration: 5 hrs	PASS	
	EN61373			
Shock Test	EN55015 Section 12.2.11	Temp: 21±3°C Humidity: 65±5% Duration: 30ms*18	PASS	
	EN61373			
ow Temp Storage Test	EN50155 Section 12.2.3 (Column 2, Class TX)	Temp: -40°C Dwell Time: 16 hrs	PASS	
	EN60068-2-1			
Salt Mist Test	EN50155 Section 12.2.10 (Class ST4)	Temp: 35°C±2°C Duration: 96hrs	PASS	