











UL62368-1 AS/NZS62368-1 TPTC004 IEC62368-1

Feature

- Width only 17.5mm (1SU)
- · 4:1 ultra wide input range
- -40~+85°C wide working temperature
- · No minimum load required
- DC output adjustable ($\pm 10\%$)
- · Cooling by free air convection
- · Can be installed on DIN rail TS-35/7.5 or 15
- Protections: Short circuit / Overload / Over voltage / Input reverse polarity / Input under voltage protection
- 4KVdc I/O isolation(Reinforced isolation)
- 3 years warranty











Applications

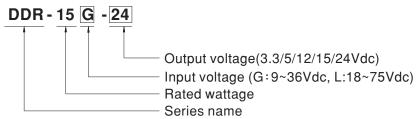
- Industrial control system
- · Semi-conductor fabrication equipment
- Factory automation
- Electro-mechanical
- · Wireless network
- · Telecom or datacom system

Description

DDR-15 series is a 15W DIN Rail type DC-DC converter with main features including DIN rail-type easy installation, ultra slim width (17.5mm), 4: 1 ultra wide input voltage, -40 $^+$ 85 $^{\circ}$ C wide operating temperature, 4KVdc I/O isolation, adjustable output voltage (\pm 10%) and full protective functions...etc.

This series has two input options: $9\sim36V/18\sim75V$ and various output options: 3.3V/5V/12V/15V/24V and can be used for industrial control, security control, communication system and other fields. Suitable applications are DC buck/boost regulator, increasing system insulation level and voltage drop compensation along cable...etc.

■ Model Encoding





SPECIFICATION

_		DDR-15G-3.3	DDR-15G-5	DDR-15G-12	DDR-15G-15	DDR-15G-24			
<u> </u>	OC VOLTAGE	3.3V	5V	12V	15V	24V			
17	RATED CURRENT	3.5A	3A	1.25A	1A	0.63A			
С	CURRENT RANGE	0 ~ 3.5A	0 ~ 3A	0 ~ 1.25A	0 ~ 1A	0 ~ 0.63A			
R	RATED POWER	11.6W	15W	15W	15W	15W			
R	RIPPLE & NOISE (max.) Note.2	50mVp-p	50mVp-p	60mVp-p	75mVp-p	100mVp-p			
_	OLTAGE ADJ. RANGE	3.0 ~ 3.6V	4.5 ~ 5.5V	9 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 28V			
	OLTAGE TOLERANCE Note.3		±2.0%	±2.0%	±2.0%	±2.0%			
-	INE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
_	OAD REGULATION	±1.5%	±1%	±0.5%	±0.5%	±0.5%			
-	SETUP, RISE TIME	120ms. 85ms at full load							
-	HOLD UP TIME (Typ.)	G-type: 8ms@24Vdc input							
E	EXTERNAL CAPACITANCE .OAD (Max.)	3300 μ F	3300 μ F	1200 μ F	1200 μ F	680 μ F			
		9 ~ 36Vdc							
_	EFFICIENCY (Typ.)	84%	84%	85%	85%	86%			
NPUT 一	DC CURRENT (Typ.)	0.8A /24Vdc	0470	0070	0070	0070			
_	NRUSH CURRENT (Typ.)	15A /24Vdc							
	MICON COMMENT (13p.)	15A/24Vdc 110 ~ 150% rated output power							
0	OVERLOAD			ers automatically after fault	t condition is removed				
-		3.8 ~ 4.7V	5.75 ~ 7V	13.8 ~ 16.2V	17.25 ~ 20.25V	28.8 ~ 32.4V			
0	OVER VOLTAGE	Protection type : Shut do	1		17.25 ~ 20.25V	20.0 ~ 32.4 V			
ROTECTION	NEVEDOE DOLADITY	7.		•					
	REVERSE POLARITY	By internal MOSFET, no damage, recovers automatically after fault condition removed							
	JNDER VOLTAGE LOCKOUT	Power ON≥9V, OFF≤8.5V -40 ~+85°C (Refer to "Derating Curve")							
-	VORKING TEMP.	,	0 /						
	VORKING HUMIDITY	5 ~ 95% RH non-condensing							
_	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 5 ~ 95% RH non-condensing							
_	EMP. COEFFICIENT	±0.03%/°C (0~60°C)							
	/IBRATION	Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6							
	OPERATING ALTITUDE	5000 meters							
-	SAFETY STANDARDS	UL 62368-1, IEC 62368-1, AS/NZS 62368.1, EAC TP TC 004 approved							
	VITHSTAND VOLTAGE	I/P-O/P:4KVdc							
IS	SOLATION RESISTANCE	I/P-O/P>100M Ohms / 50	00Vdc / 25°C / 70%						
	EMC EMISSION	Parameter		Standard	Test Level / Note				
		Conducted		BS EN/EN55032	Class B				
E		Radiated		BS EN/EN55032	Class B				
AFETY &		Voltage Flicker		BS EN/EN61000-3-3					
MC		BS EN/EN55024 , BS EN/EN61000-6-2(BS EN/EN50082-2)							
Note 5)	EMC IMMUNITY	Parameter		Standard	Test Level / Note				
		ESD		BS EN/EN61000-4-2	Level 3, 8KV air ; Level 3, 6KV contact; criteri				
		Radiated		BS EN/EN61000-4-3	Level 3, 10V/m; criter	ia A			
_		EFT / Burst		BS EN/EN61000-4-4	Level 3, 2KV ; criteria A				
E		Surge		BS EN/EN61000-4-5	Level 3, 1KV/Line-Line; criteria A				
		Conducted		BS EN/EN61000-4-6	Level 3, 10V; criteria A				
		Magnetic Field BS EN/EN61000-4-8 Level 4, 30A/m; criteria A							
М	/TBF	907K hrs min. MIL-HDBK-217F (25°C)							
THERS D	DIMENSION	17.5*90*54.5mm (W*H*D)							
P.	PACKING	68g; 160pcs/12Kg/1.14CUFT							
		cially mentioned are measured at 24VDC input, rated load and 25°C of ambient temperature.							
I		sured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 μ f & 47 μ f parallel capacitor.							
I	• • • • • • • • • • • • • • • • • • • •	includes set up tolerance, line regulation and load regulation.							
- 9	Derating may be needed under low input voltage. Please check the derating curve for more details.								
	Derating may be needed under low input voltage. Please check the derating curve for more details. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with								
4	C. THE PETTOL SUPPLY IS COLIS	directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies."							
4									
4	the EMC directives. For g								
NOTE 5	the EMC directives. For g (as available on http://www	w.meanwell.com)		•	vith fan models for opera	ting altitude higher than			
NOTE 5	the EMC directives. For g	w.meanwell.com)		•	vith fan models for opera	ting altitude higher than			



SPECIFICATION

MODEL		DDR-15L-3.3	DDR-15L-5	DDR-15L-12	DDR-15L-15	DDR-15L-24			
	DC VOLTAGE	3.3V	5V	12V	15V	24V			
	RATED CURRENT	4.5A	3A	1.25A	1A	0.63A			
	CURRENT RANGE	0 ~ 4.5A	0~3A	0 ~ 1.25A	0 ~ 1A	0 ~ 0.63A			
	RATED POWER	15W	15W	15W	15W	15W			
	RIPPLE & NOISE (max.) Note.2	50mVp-p	50mVp-p	60mVp-p	75mVp-p	100mVp-p			
	VOLTAGE ADJ. RANGE	3.0 ~ 3.6V	4.5 ~ 5.5V	9 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 28V			
OUTPUT	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%			
-	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%			
	LOAD REGULATION	±1.5%	±1%	±0.5%	±0.5%	±0.5%			
	SETUP, RISE TIME	120ms, 85ms at full load							
	HOLD UP TIME (Typ.)	L-type: 16ms@48Vdc input							
	EXTERNAL CAPACITANCE LOAD (Max.)	3300 μ F	3300 μ F	1200 μ F	1200 μ F	680 μ F			
	VOLTAGE RANGE Note.4	18 ~ 75Vdc							
	EFFICIENCY (Typ.)	84%	85%	86%	86%	87%			
INPUT	DC CURRENT (Typ.)	0.4A /48Vdc	0070	0070	0070	0170			
	INRUSH CURRENT (Typ.)	15A/48Vdc							
	INICOSTI CORRENT (Typ.)								
	OVERLOAD	110 ~ 150% rated output		una acctannationally after four	It condition is removed				
		3.8 ~ 4.7V		ers automatically after fau		00.0 20.41/			
PROTECTION	OVER VOLTAGE		5.75 ~ 7V	13.8 ~ 16.2V	17.25 ~ 20.25V	28.8 ~ 32.4V			
		Protection type : Shut do							
	REVERSE POLARITY	By internal MOSFET, no damage, recovers automatically after fault condition removed							
	UNDER VOLTAGE LOCKOUT	Power ON≥18V, OFF≤17V							
	WORKING TEMP.	-40 ~ +85°C (Refer to "Derating Curve")							
	WORKING HUMIDITY	5 ~ 95% RH non-condensing							
ENVIRONMENT	STORAGE TEMP., HUMIDITY	$-40 \sim +85$ °C, $5 \sim 95\%$ RH non-condensing							
	TEMP. COEFFICIENT	±0.03%/°C (0~60°C)							
	VIBRATION	Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6							
	OPERATING ALTITUDE	2000 meters							
	SAFETY STANDARDS	IEC 62368-1 (LVD) ,AS/NZS 62368.1 approved; Design refer to UL508							
	WITHSTAND VOLTAGE	I/P-O/P:4KVdc							
	ISOLATION RESISTANCE	I/P-O/P>100M Ohms / 50	00Vdc/25°C/70%	RH					
	EMC EMISSION	Parameter		Standard	Test Level / Note				
		Conducted		BS EN/EN55032	Class B				
		Radiated		BS EN/EN55032	Class B				
SAFETY &		Voltage Flicker		BS EN/EN61000-3-3					
EMC		BS EN/EN55024 , BS EN/EN61000-6-2(BS EN/EN50082-2)							
Note 5)	EMC IMMUNITY	Parameter		Standard	Test Level / Note				
		ESD		BS EN/EN61000-4-2	Level 3, 8KV air ; Level 3, 6KV contact; criteria				
		Radiated		BS EN/EN61000-4-3	Level 3, 10V/m; criter	a A			
		EFT / Burst		BS EN/EN61000-4-4	Level 3, 2KV ; criteria A				
		Surge		BS EN/EN61000-4-5	Level 3, 1KV/Line-Line ; criteria A				
		Conducted		BS EN/EN61000-4-6	Level 3, 10V; criteria A				
		Magnetic Field BS EN/EN61000-4-8 Level 4, 30A/m; criteria A							
	MTBF	907K hrs min. MIL-HDBK-217F (25°C)							
OTHERS	DIMENSION	17.5*90*54.5mm (W*H*D)							
o mento	PACKING	68g; 160pcs/12Kg/1.19CUFT							
		cially mentioned are measured at 48VDC input, rated load and 25°C of ambient temperature.							
	All parameters NOT spec Ripple & noise are measure								
	Ripple & noise are measu Tolerance : includes set u	ured at 20MHz of bandu up tolerance, line regula	width by using a tion and load reg	12" twisted pair-wire termi	inated with a 0.1 μ f & 47				
	Ripple & noise are measu Tolerance : includes set u Derating may be needed	ured at 20MHz of band up tolerance, line regula under low input voltage	width by using a tion and load rec . Please check t	12" twisted pair-wire termi gulation. the derating curve for more	inated with a 0.1 μ f & 47 e details.	μ f parallel capacitor.			
NOTE	2. Ripple & noise are measu 3. Tolerance : includes set u 4. Derating may be needed 5. The power supply is cons	ured at 20MHz of bandw up tolerance, line regula under low input voltage sidered as an independe	width by using a tion and load reg a. Please check t ent unit, but the f	12" twisted pair-wire termi gulation. the derating curve for more final equipment still need t	inated with a 0.1 μ f & 47 e details. o re-confirm that the whol	μ f parallel capacitor.			
NOTE	Ripple & noise are measus. Tolerance : includes set used. Derating may be needed. The power supply is consisted the EMC directives. For grant and the set of th	ured at 20MHz of bandured to the tolerance, line regulation under low input voltage sidered as an independential undance on how to perf	width by using a tion and load reg a. Please check t ent unit, but the f	12" twisted pair-wire termi gulation. the derating curve for more final equipment still need t	inated with a 0.1 μ f & 47 e details. o re-confirm that the whol	μ f parallel capacitor.			
NOTE	2. Ripple & noise are measu 3. Tolerance : includes set u 4. Derating may be needed 5. The power supply is cons	ured at 20MHz of bands up tolerance, line regular under low input voltage sidered as an independent guidance on how to perf w.meanwell.com)	width by using a tion and load reg e. Please check t ent unit, but the f form these EMC	12" twisted pair-wire termi gulation. the derating curve for more final equipment still need t tests, please refer to "EM	inated with a 0.1 μ f & 47 e details. o re-confirm that the whol I testing of component po	uf parallel capacitor. e system complies with wer supplies."			

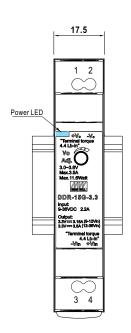


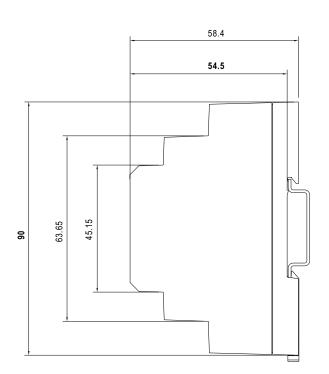
■ Block Diagram fosc: 100KHz **RECTIFIERS** POWER EMI I/P O-& FILTER FILTER SWITCHING -O -Vo DETECTION PWM CONTROL CIRCUIT O.L.P. O.V.P. ■ Derating Curve 100 LOAD (%) 0 10 20 30 75 85 (VERTICAL) AMBIENT TEMPERATURE (°C) ■ Output derating VS input voltage 100 90 80 70 60 50 40 G-type: 9 L-type: 18 24 30 36 12 18 24 36 48 60 75 INPUT VOLTAGE

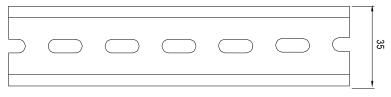


■ Mechanical Specification

(Unit: mm, tolerance ± 0.5mm)







ADMISSIBLE DIN-RAIL:TS35/7.5 OR TS35/15

Terminal Pin No. Assignment

Pin No.	Assignment
1	DC Output +Vo
2	DC Output -Vo
3	DC Input -Vin
4	DC Input +Vin

■ Installation Manual

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