



■ 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

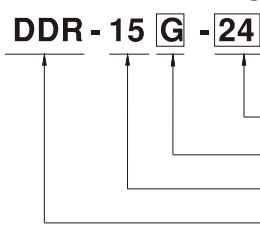
- Industrial control system
- Semi-conductor fabrication equipment
- Factory automation
- Electro-mechanical
- Wireless network
- Telecom or datacom system

■ 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°C wide operating temperature, 4KVdc I/O isolation, adjustable output voltage ($\pm 10\%$) and full protective functions...etc.

This series has two input options: 9~36V / 18~75V 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



Output voltage(3.3/5/12/15/24Vdc)
Input voltage (G: 9~36Vdc, L: 18~75Vdc)
Rated wattage
Series name



15W DIN Rail Type DC-DC Converter

DDR-15 series

SPECIFICATION

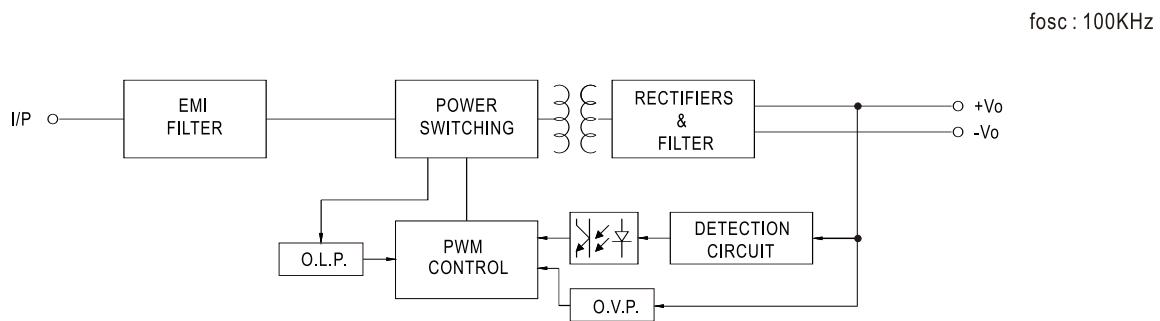
MODEL	DDR-15G-3.3	DDR-15G-5	DDR-15G-12	DDR-15G-15	DDR-15G-24									
OUTPUT	DC VOLTAGE	3.3V	5V	12V	15V									
	RATED CURRENT	3.5A	3A	1.25A	1A									
	CURRENT RANGE	0 ~ 3.5A	0 ~ 3A	0 ~ 1.25A	0 ~ 1A									
	RATED POWER	11.6W	15W	15W	15W									
	RIPPLE & NOISE (max.) Note.2	50mVp-p	50mVp-p	60mVp-p	75mVp-p									
	VOLTAGE ADJ. RANGE	3.0 ~ 3.6V	4.5 ~ 5.5V	9 ~ 13.2V	13.5 ~ 16.5V									
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±2.0%	±2.0%									
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%									
	LOAD REGULATION	±1.5%	±1%	±0.5%	±0.5%									
	SETUP, RISE TIME	120ms, 85ms at full load												
	HOLD UP TIME (Typ.)	G-type: 8ms@24Vdc input												
	EXTERNAL CAPACITANCE LOAD (Max.)	3300 μ F	3300 μ F	1200 μ F	1200 μ F									
INPUT	VOLTAGE RANGE Note.4	9 ~ 36Vdc												
	EFFICIENCY (Typ.)	84%	84%	85%	85%									
	DC CURRENT (Typ.)	0.8A /24Vdc												
	INRUSH CURRENT (Typ.)	15A /24Vdc												
PROTECTION	OVERLOAD	110 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed												
	OVER VOLTAGE	3.8 ~ 4.7V	5.75 ~ 7V	13.8 ~ 16.2V	17.25 ~ 20.25V									
	REVERSE POLARITY	Protection type : Shut down o/p voltage, re-power on to recover												
	UNDER VOLTAGE LOCKOUT	By internal MOSFET, no damage, recovers automatically after fault condition removed												
ENVIRONMENT	WORKING TEMP.	-40 ~ +85°C (Refer to "Derating Curve")												
	WORKING HUMIDITY	5 ~ 95% RH non-condensing												
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 5 ~ 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												
SAFETY & EMC (Note 5)	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 / 500Vdc / 25°C / 70% RH												
	EMC EMISSION	Parameter	Standard	Test Level / Note										
		Conducted	EN55032	Class B										
		Radiated	EN55032	Class B										
		Voltage Flicker	EN61000-3-3	----										
	EMC IMMUNITY	EN55024 , EN61000-6-2(EN50082-2)												
		Parameter	Standard	Test Level / Note										
		ESD	EN61000-4-2	Level 3, 8KV air ; Level 3, 6KV contact; criteria A										
		Radiated	EN61000-4-3	Level 3, 10V/m ; criteria A										
		EFT / Burst	EN61000-4-4	Level 3, 2KV ; criteria A										
		Surge	EN61000-4-5	Level 3, 1KV/Line-Line ; criteria A										
		Conducted	EN61000-4-6	Level 3, 10V ; criteria A										
OTHERS	Magnetic Field	EN61000-4-8	Level 4, 30A/m , criteria A											
	MTBF	907K hrs min. MIL-HDBK-217F (25°C)												
	DIMENSION	17.5*90*54.5mm (W*H*D)												
NOTE	PACKING	68g; 160pcs/12Kg/1.19CUFT												
	1. All parameters NOT specially mentioned are measured at 24VDC 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 0.1 μ f & 47 μ f parallel capacitor.													
	3. Tolerance : includes set up tolerance, line regulation and load regulation.													
	4. Derating may be needed under low input voltage. Please check the derating curve for more details.													
	5. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the 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)													
	6. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).													



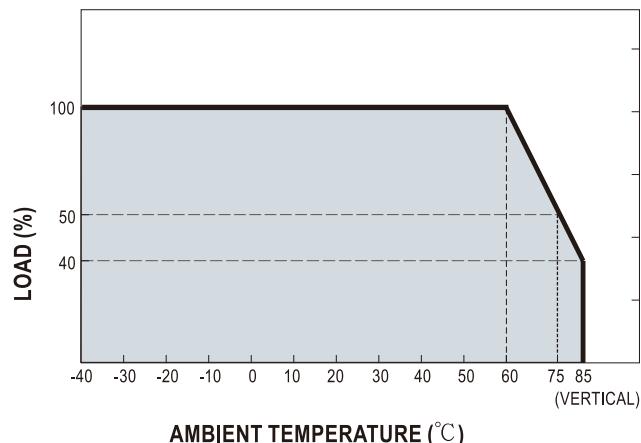
SPECIFICATION

MODEL	DDR-15L-3.3	DDR-15L-5	DDR-15L-12	DDR-15L-15	DDR-15L-24									
OUTPUT	DC VOLTAGE	3.3V	5V	12V	15V									
	RATED CURRENT	4.5A	3A	1.25A	1A									
	CURRENT RANGE	0 ~ 4.5A	0 ~ 3A	0 ~ 1.25A	0 ~ 1A									
	RATED POWER	15W	15W	15W	15W									
	RIPPLE & NOISE (max.) Note.2	50mVp-p	50mVp-p	60mVp-p	75mVp-p									
	VOLTAGE ADJ. RANGE	3.0 ~ 3.6V	4.5 ~ 5.5V	9 ~ 13.2V	13.5 ~ 16.5V									
	VOLTAGE TOLERANCE Note.3	±2.0%	±2.0%	±2.0%	±2.0%									
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%									
	LOAD REGULATION	±1.5%	±1%	±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									
INPUT	VOLTAGE RANGE Note.4	18 ~ 75Vdc												
	EFFICIENCY (Typ.)	84%	85%	86%	86%									
	DC CURRENT (Typ.)	0.4A/48Vdc												
	INRUSH CURRENT (Typ.)	15A/48Vdc												
PROTECTION	OVERLOAD	110 ~ 150% rated output power Protection type : Hiccup mode, recovers automatically after fault condition is removed												
	OVER VOLTAGE	3.8 ~ 4.7V	5.75 ~ 7V	13.8 ~ 16.2V	17.25 ~ 20.25V									
	REVERSE POLARITY	Protection type : Shut down o/p voltage, re-power on to recover												
	UNDER VOLTAGE LOCKOUT	By internal MOSFET, no damage, recovers automatically after fault condition removed												
ENVIRONMENT	WORKING TEMP.	-40 ~ +85°C (Refer to "Derating Curve")												
	WORKING HUMIDITY	5 ~ 95% RH non-condensing												
	STORAGE TEMP., HUMIDITY	-40 ~ +85°C, 5 ~ 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												
SAFETY & EMC (Note 5)	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 / 500Vdc / 25°C / 70% RH												
	EMC EMISSION	Parameter	Standard	Test Level / Note										
		Conducted	EN55032	Class B										
		Radiated	EN55032	Class B										
		Voltage Flicker	EN61000-3-3	----										
	EMC IMMUNITY	EN55024 , EN61000-6-2(EN50082-2)												
		Parameter	Standard	Test Level / Note										
		ESD	EN61000-4-2	Level 3, 8KV air ; Level 3, 6KV contact; criteria A										
		Radiated	EN61000-4-3	Level 3, 10V/m ; criteria A										
		EFT / Burst	EN61000-4-4	Level 3, 2KV ; criteria A										
		Surge	EN61000-4-5	Level 3, 1KV/Line-Line ; criteria A										
		Conducted	EN61000-4-6	Level 3, 10V ; criteria A										
OTHERS	Magnetic Field	EN61000-4-8	Level 4, 30A/m , criteria A											
	MTBF	907K hrs min. MIL-HDBK-217F (25°C)												
	DIMENSION	17.5*90*54.5mm (W*H*D)												
NOTE	PACKING	68g; 160pcs/12Kg/1.19CUFT												
	1. All parameters NOT specially mentioned are measured at 48VDC 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 0.1 μ f & 47 μ f parallel capacitor.													
	3. Tolerance : includes set up tolerance, line regulation and load regulation.													
	4. Derating may be needed under low input voltage. Please check the derating curve for more details.													
	5. The power supply is considered as an independent unit, but the final equipment still need to re-confirm that the whole system complies with the 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)													
	6. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).													

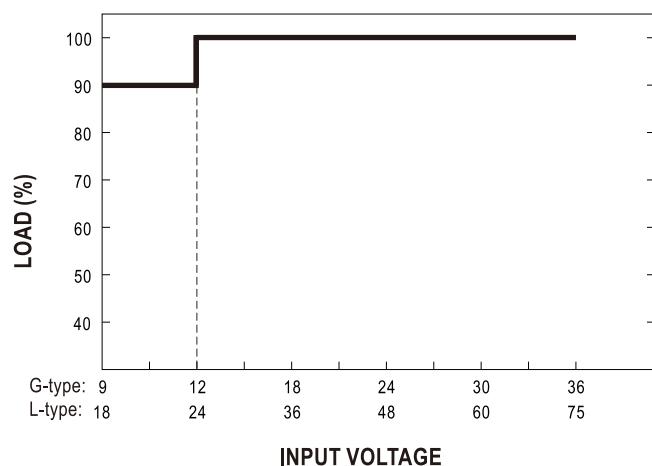
■ Block Diagram



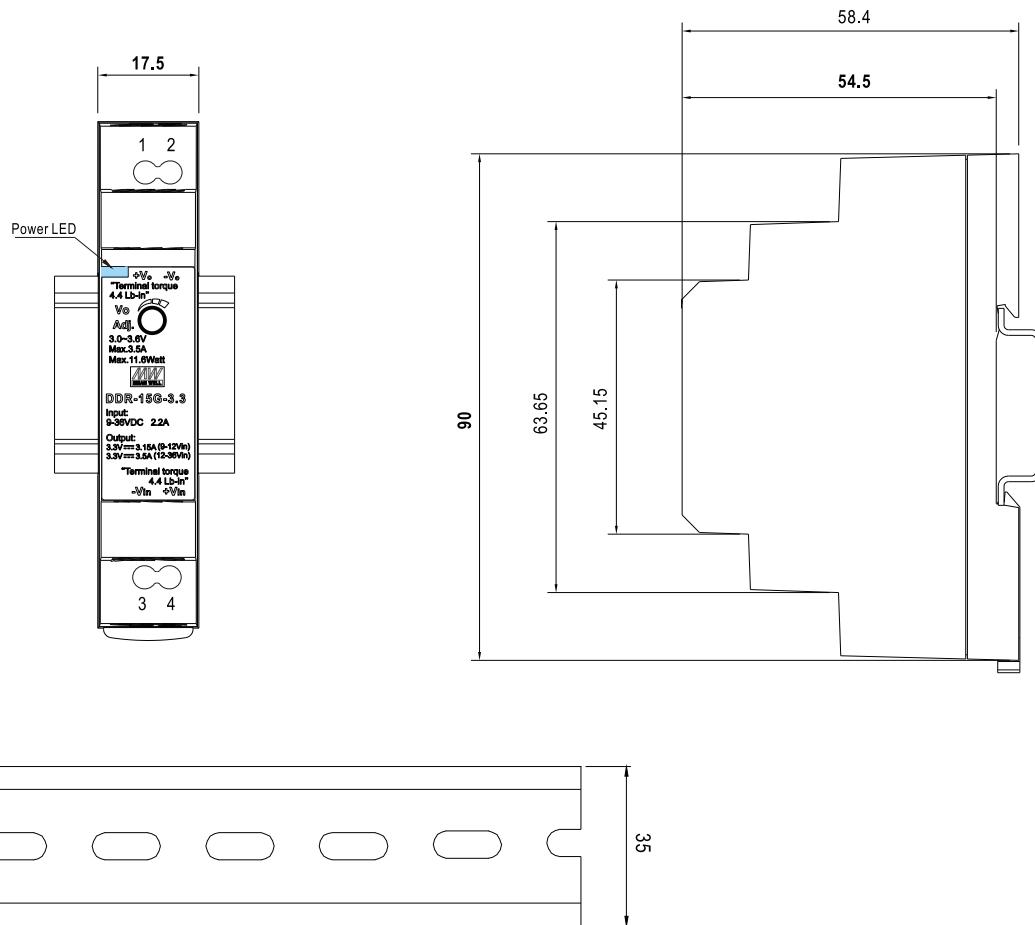
■ Derating Curve



■ Output derating VS input voltage



Mechanical Specification

 (Unit: mm, tolerance $\pm 0.5\text{mm}$)


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>