

### M-Merkmal

- Breite nur 17,5 mm (1SU) 4:1
- Ultraweiter Eingangsbereich
- 40-+85 °C breite Arbeitstemperatur Keine
- Mindestlast erforderlich
- DC-Ausgang einstellbar (T 10%)
- Kühlung durch freie Luftkonvektion
- Kann auf DIN-Schiene TS-35/7.5 oder 15 installiert werden
- Schutzfunktionen: Kurzschluss / Überlast / Überspannung /  
Eingangsverpolung /  
Eingangsunterspannungsschutz 4KVdc
- E/A-Isolierung (verstärkte Isolierung)
- 3 Jahre Garantie

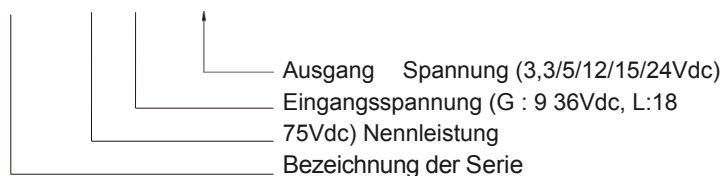
### Beschreibung

Die Serie DDR-15 ist ein 15-W-DC-DC-Wandler für die DIN-Schiene mit den Hauptmerkmalen: einfache Installation auf der DIN-Schiene, ultraschmale Breite (17,5 mm), 4:1-Eingangsspannung, Betriebstemperatur von -40 bis +85 °C, 4KVdc-Isolierung, einstellbare Ausgangsspannung (+10 %) und vollständige Schutzfunktionen usw.

Diese Serie hat zwei Eingangsoptionen: 9-36V / 18 75V und verschiedene Ausgangsoptionen: 3,3V / 5V / 12V / 15V / 24V und kann für industrielle Steuerung, Sicherheitskontrolle, Kommunikationssysteme und andere Bereiche verwendet werden. Geeignete Anwendungen sind DC-Abwärts-/Aufwärtsregler, Erhöhung der Systemisolierung und Spannungsabfallkompensation entlang des Kabels...usw.

### Modell Kodierung

DDR - 15 G - 24



### M Anwendungen

Industrielles Steuerungssystem  
Halbleiterfertigungsanlagen Fabrikautomation  
Elektromechanik Drahtloses  
Netzwerk  
Telekommunikations- oder  
Datenübertragungssystem



## 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	24V	
	RATED CURRENT	3.5A	3A	125A	1A	0.63A	
	CURRENT RANGE	0 ~ 3.5A	0 ~ 3A	0 ~ 1.25A	0 ~ 1A	0 ~ 0.63A	
	RATED POWER	11.6W	15W	15W	15W	15W	
	RIPPLE & NOISE (max.) <small>Note.2</small>	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	21.6 ~ 28V	
	VOLTAGE TOLERANCE <small>Note.3</small>	±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%		
	SETUP, RISE TIME	120ms, 85ms at full load					
		G-type: 8ms@24Vdc input					
	EXTERNAL CAPACITANCE LOAD (Max.)	3300 $\mu$ F	3300 $\mu$ F	1200 $\mu$ F	1200 $\mu$ F	680 $\mu$ F	
INPUT	<small>Note.4</small>	9 ~ 36Vdc					
	EFFICIENCY (Typ.)	84%	84%	85%	85%	86%	
		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	28.8~ 32.4V	
		Protection type : Shut down o/p voltage, re-power on to recover					
	REVERSE POLARITY	By internal MOSFET, no damage, recovers automatically after fault condition removed					
	UNDER VOLTAGE LOCKOUT	Power ON $\geq$ 9v , OFF $\leq$ 8.5v					
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	$\pm$ 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 & EMC <small>(Note 5)</small>	SAFETY STANDARDS						
	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		
		Magnetic Field	EN61000-4-8		Level 4, 30A/m ; criteria A		
	OTHERS	MTBF	907K hrs min. MIL-HDBK-217F (25°C)				
		DIMENSION					
PACKING		68g; 160pcs/12Kg/1.19CUFT					
NOTE	<div>1. All parameters NOT specially mentioned are measured at 24VDC input, rated load and 25°C of ambient temperature</div> <div>2. Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 <math>\mu</math> f &amp; 47 <math>\mu</math> f parallel capacitor</div> <div>3. Tolerance : includes set up tolerance, line regulation and load regulation.</div> <div>4. Derating may be needed under low input voltage. Please check the derating curve for more details.</div> <div>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 <a href="http://www.meanwell.com">http://www.meanwell.com</a>)</div> <div>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).</div>						



## 15W DIN Rail Type DC-DC Converter

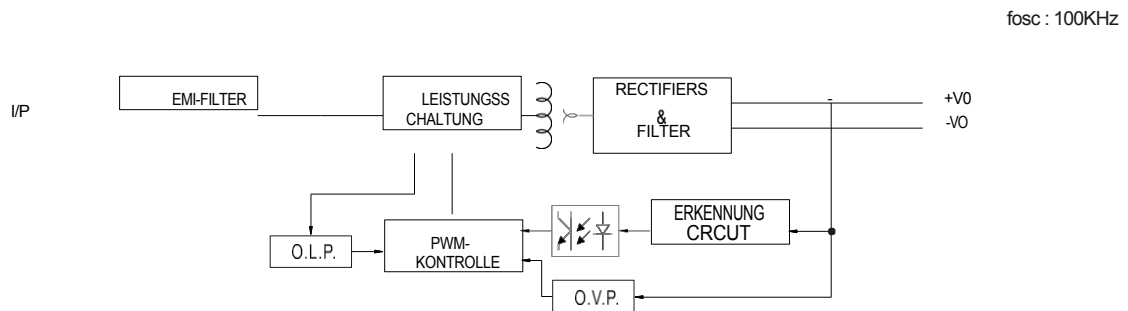
## DDR-15 series

## SPECIFICATION

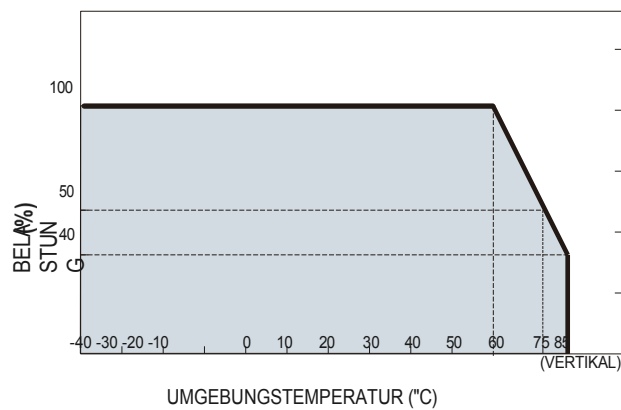
MODEL		DDR-15L-3.3	DDR-15L-5	DDR-15L-12	DDR-15L-15	DDR-15L-24
OUTPUT	DC VOLTAGE	3.3V				
	RATED CURRENT	4.5A	3A	1.25A	1A	0.63A
	CURRENT RANGE	0 ~ 4.5A				
	RATED POWER	15W	15W	15W	15W	15W
	RIPPLE & NOISE (max.) <small>Note.2</small>	50mVp-p				
	VOLTAGE ADJ. RANGE	3.0 ~ 3.6V	4.5 ~ 5.5V	9 ~ 13.2V	13.5 ~ 16.5V	21.6 ~ 28V
	VOLTAGE TOLERANCE <small>Note.3</small>	±2.0%				
	LINE REGULATION	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
	LOAD REGULATION	±1.5%				
	SETUP, RISE TIME	120ms, 85ms at full load				
		L-type: 16ms@48Vdc input				
	EXTERNAL CAPACITANCE LOAD (Max.)	3300 $\mu$ F	3300 $\mu$ F	1200 $\mu$ F	1200 $\mu$ F	680 $\mu$ F
INPUT	<small>Note.4</small>	18 ~ 75Vdc				
	EFFICIENCY (Typ.)	84%	85%	86%	86%	87%
		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	3.84.7V	5.75 ~ 7V	13.8 ~ 16.2V	17.25 ~ 20.25V	28.8~ 32.4V
		Protection type : Shut down o/p voltage, re-power on to recover				
	REVERSE POLARITY	By internal MOSFET, no damage, recovers automatically after fault condition removed				
	UNDER VOLTAGE LOCKOUT	Power ON≥18V , OFF≤17V				
ENVIRONMENT	WORKING TEMP.	-40 ~ +85℃ (Refer to "Derating Curve")				
	WORKING HUMIDITY	5 ~ 95% RH non-condensing				
	STORAGE TEMP., HUMIDITY	-40 ~ +85℃, 5 ~ 95% RH non-condensing				
	TEMP. COEFFICIENT	±0.03%/℃ (0 ~ 60℃ )				
	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 & EMC (Note 5)	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℃ / 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	
		Magnetic Field	EN61000-4-8		Level 4, 30A/m ; criteria A	
OTHERS	MTBF	907K hrs min. MIL-HDBK-217F (25℃)				
	DIMENSION					
	PACKING	68g; 160pcs/12Kg/1.19CUFT				
NOTE	1. All parameters NOT specially mentioned are measured at 48VDC input, rated load and 25℃ of ambient temperature 2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 $\mu$ f & 47 $\mu$ 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 <a href="http://www.meanwell.com">http://www.meanwell.com</a> ) 6. The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).					



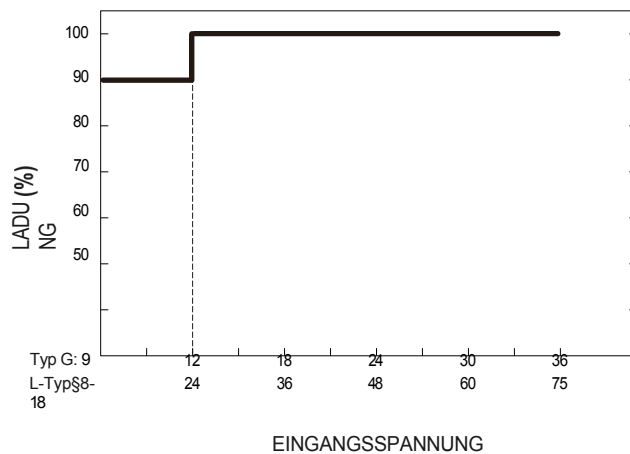
## B Blockdiagramm



## B Derating-Kurve



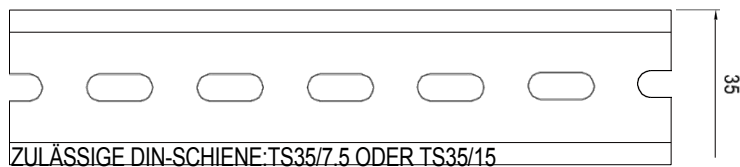
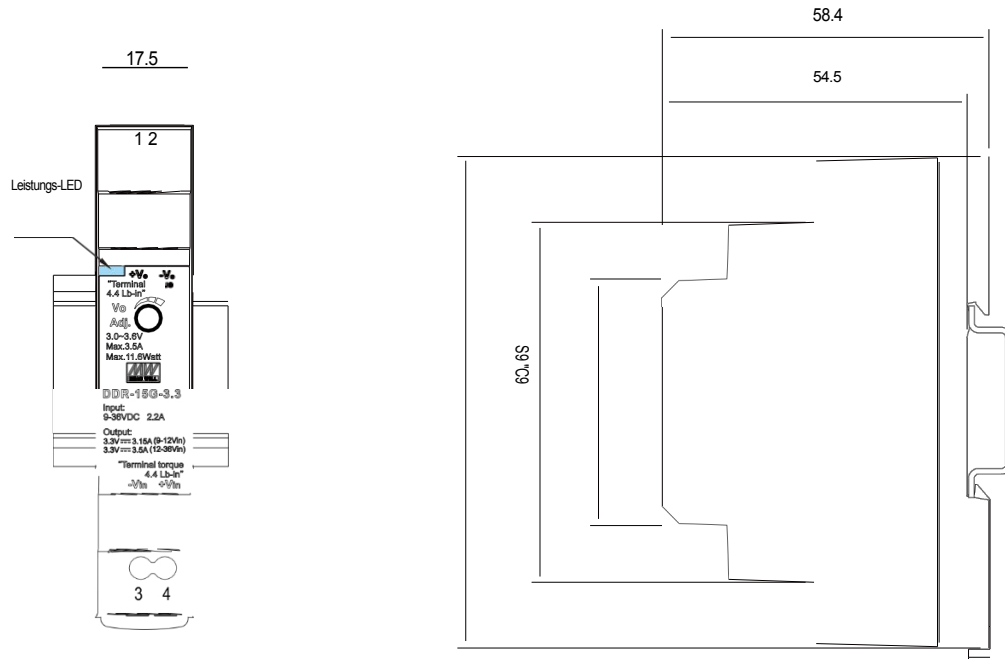
## B Ausgangsderating VS Eingangsspannung





## B Mechanische Spezifikation

(Einheit: mm , Toleranz+ 0,5mm)



Klemme Pin-Nr. Belegung

Pin-Nr.	Belegung
1	DC-Ausgang *Vo
2	DC-Ausgang -Vo
3	DC-Eingang-Vin
4	DC-Eingang+Vin

## B Installationshandbuch

Siehe: <http://www.meanwell.com/manual.html>

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