







DDRH-15-xxP

DDRH-15-xxST

DDRH-15-xxDR















#### Features

- 150~1500Vdc 10:1 ultra-wide input range
- 4KVac I/O high isolation(Reinforced isolation)
- Protections: Short circuit / Overload / Over voltage / DC input under voltage / DC input reverse Polarity
- · Fanless design, fully encapsulated, cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15 (DR-Type)
- -40~+80°C ultra-wide operating temperature (>+50°C derating)
- · Operating altitude up to 5000 meters
- 3 years warranty

## Applications

- Photovoltaic power generation
- Renewable Energy System
- High voltage frequency conversion
- · Industrial control system
- Semiconductor fabrication equipment
- Electro-mechanical apparatus
- DC bus centralized application
- Energy storage system(ESS)
- Charging pile
- Third rail

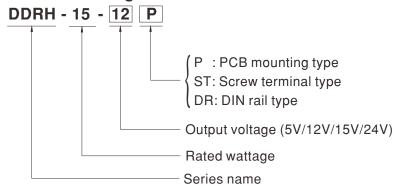
## ■ GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

# Description

DDRH-15 series is a 150  $^{\sim}$  1500Vdc high reliable ultra-high input DC-DC converter which can supply stable working voltage for the load. Main features are as following: compact size, -40 $^{\sim}$ +80 $^{\circ}$ C wide range operating temperature, 4KVac high isolation voltage, operation at 5000m altitude, low ripple & noise, complete protections and so on. Futhermore, this series also has DIN Rail type, it is suitable to be mounted on TS-35/7.5 or TS-35/15 rails. DDRH-15 is designed to meet UL1741 and IEC62109-1 standard. It is suitable for industrial automation, surveillance, telecommunication and can be widely deployed in the applications of new energy generation such as solar power, and windmill power generation, for instances, photovoltaic power systems, high voltage inverting, DC bus centralized application, ESS, charging pile, railway and so forth.

## ■ Model Encoding





MODEL SELECTION TABLE							
	INPUT			ОИТ	PUT		
ORDER NO.	INPUT VOLTAGE	INPUT CURRENT		OUTPUT	OUTPUT	EFFICIENCY (Typ.)	CAPACITOR LOAD (MAX.)
	(RANGE) NO LOAD FULL LOAD VOLTAGE	CURRENT	(1361)	( 54.)			
DDRH-15-05		0.2mA	25mA	5V	2A	78%	2000μF
DDRH-15-12 □	Nominal 800Vdc (150~1500Vdc)	0.2mA	30mA	12V	1.25A	79%	1250µF
DDRH-15-15 🗆		0.2mA	30mA	15V	1A	87%	1000µF
DDRH-15-24 □		0.2mA	30mA	24V	0.625A	88%	625µF

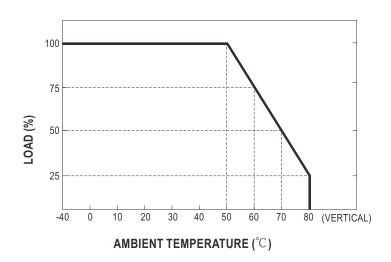
\_\_\_ = P, ST, DR



SPECIFICAT	TION							
	VOLTAGE RA	ANGE	150 ~ 1500Vdc					
	FILTER		Pi type					
INPUT	EXTERNAL I	INPUT FUSE	4A/1500Vdc, required (Please refer to page 6 for more details)					
	INRUSH CUF	RRENT (Tvp.)	Cold start 150A max. @ V	in=800Vdc	,			
	VOLTAGE A		±2.0%					
	RATED POW	/ER	5Vo: 10W 12Vo ~ 24	Vo: 15W				
	RIPPLE & NO		5 ~ 15Vo: 100mVp-p	24Vo: 150	mVn-n			
	LINE REGUL		±1%	2170.100				
OUTPUT	LOAD REGU		$\pm$ 1% (10% Load to Full L	nad)				
		REQUENCY (Typ.)	,					
	HOLD UP TI		16ms min. @Vin=800Vdc					
	SETUP TIME		1s max. @150~1500Vd					
	SHORT CIRC		Protection type : Hiccup m		nuous automatic recovery			
	onoiti ont	J011	110 ~ 300% rated output		idodo, automatic recovery			
	OVERLOAD			<u> </u>	ers automatically after fau	ult condition is	romovod	
DDOTECTION	OVER VOLTA	AGE	Hiccup mode, recovers at	•	· · · · · · · · · · · · · · · · · · ·		s removed	
PROTECTION		RSE POLARITY			e, recovers automatically a		dition removed	
	DC -			147Vdc	, recovers automatically a	anter fault CON	union removed	
	INPUT UND	ER VOLTAGE KOUT	Start-up voltage Shutdown voltage	147 Vdc				
	WORKING T		-40 ~ +80°C (Refer to "De		(Δ")			
	WORKING H		20% ~ 90% RH non-condensing					
ENVIRONMENT	TEMP. COEF	MP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% RH non-condensing					
ENVIRONMENT		FICIENT	±0.02% / °C (0~50°C)					
	VIBRATION	LITITUDE N. C.	Component: 10 ~ 500Hz, 3G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting clip: Compliance to IEC60068-2-6					
		ALTITUDE Note.3		0.4 100 1	1 5000			
			II ; According to EN62109		<u> </u>			
	SAFETY STA			107.1-16, 1	EC62109-1(LVD), EAC T	P 1C 004 ap	proved	
	WITHSTAND		I/P-O/P:4KVac		3/=00/ 511			
	ISOLATION	RESISTANCE	I/P-O/P, 100M Ohms / 500	JVDC / 25 (	T -		Took Love L/Mode	
	EMC EMISSION		Parameter		Standard		Test Level / Note	
			Conducted		BS EN/EN55032		Class A (with external components)	
SAFETY &			Radiated		BS EN/EN55032		Class A (with external components)	
EMC			BS EN/EN55035					
( Note.4)			Parameter		Standard		Test Level / Note	
			ESD		BS EN/EN61000-4-2		Level 3, 8KV air; Level 2, 4KV contact, criteria A	
	EMC IMMUN	ITY	Radiated Susceptibility		BS EN/EN61000-4-3		Level 3, 10V, criteria A	
			EFT/Bursts		BS EN/EN61000-4-4		Level 2, 0.5KV, criteria A	
			Surge		BS EN/EN61000-4-5		Level 4, 2KV/Vin+ ~ Vin-, criteria A	
			Conducted	75(05°C)	BS EN/EN61000-4-6		Level 3, 10V, criteria A	
	MTBF	/! +!##!!!\	388Khrs MIL-HDBK-217	, ,				
	DIMENSION				22.3*57.3*32mm, DR Type:	: 122.3*57.3*4	13.5mm	
	CASE MATE		Non-conductive black pla	stic (UL 94)	v-u rated)			
OTHERS	POTTING MA		UL 94V-0					
	PIN MATERIA	AL	Base: copper, Plating: Ma					
	PACKING		P Type : 170g; 6pcs/Tray, 18pcs/per carton ST Type : 210g; 6pcs/Tray, 18pcs/per carton DR Type : 215g; 6pcs/Tray, 18pcs/per carton					
NOTE	<ol> <li>All parameters NOT specially mentioned are measured at 800Vdc input, rated load and 25°C of ambient temperature.</li> <li>Ripple &amp; noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μf &amp; 47μf parallel capacitor.</li> <li>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</li> </ol>							
							File Name: DDRH-15-SPEC 2024-10-1	



## ■ Derating Curve



## ■ Mechanical Specification

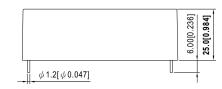
- All dimensions in mm(inch)
- Tolerance:  $x.x\pm0.7$ mm ( $x.x\pm0.0275$ ")

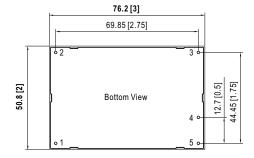
 $x.xx \pm 0.5 mm(x.xx \pm 0.02")$ 

 $x.xxx\pm0.5$ mm $(x.xxx\pm0.02")$ 

Pin size is:  $\phi 1.2 \pm 0.1$ mm( $\phi 0.047 \pm 0.004$  inch)

## DDRH-15-xxP (PCB Mounting Type)





## ■ Plug Assignment

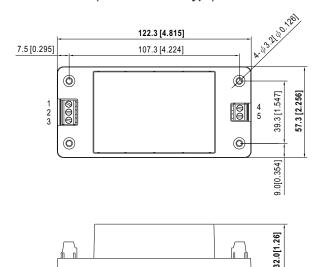
Pin-Out				
Pin No.	Output			
1	-Vin			
2	+Vin			
3	NC			
4	-Vout			
5	+Vout			

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DIN RAIL CLIP



## DDRH-15-xxST (Screw Terminal Type)

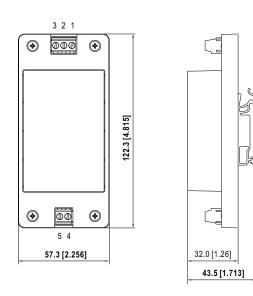


## **■** Terminal Pin No. Assignment

Pin-Out					
Pin No.	Mating wire				
1	-Vin				
2	NC				
3	+Vin	12~24AWG			
4	+Vout				
5	-Vout				

Note: Recommed torque setting for terminal is 5kgf-cm(4.4 Lb-in)

#### DDRH-15-xxDR (DIN Rail Type)

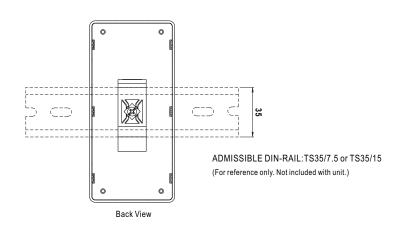


## ■ Terminal Pin No. Assignment

Pin-Out					
Pin No.	Mating wire				
1	-Vin				
2	NC				
3	+Vin	12~24AWG			
4	+Vout				
5	-Vout				

Note: Recommed torque setting for terminal is 5kgf-cm(4.4 Lb-in)

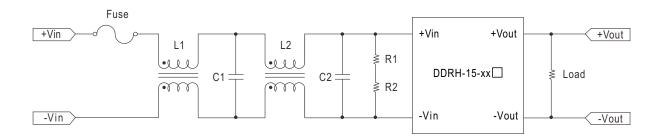
## ■ Installation Instruction(DDRH-15-xxDR only)





## ■ EMC Suggestion Circuit

EMI test standard: BS EN/EN55032 Class A conducted and radiated emission are as below:



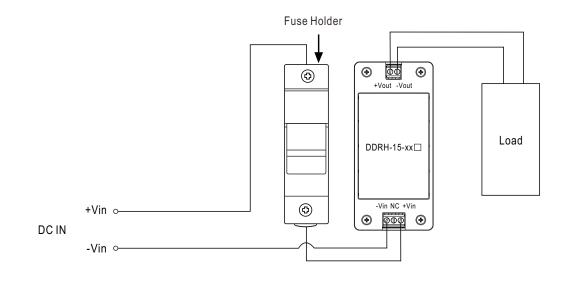
MadalNa	BS EN/EN55032 Class A					
Model No.	Fuse	L1,L2	C1,C2	R1,R2		
DDRH-15-xxP						
DDRH-15-xxST	4A/1500Vdc	Common choke 25mH SQ1212	0.33µF/1500Vdc	1/2W 3M, ≧800V		
DDRH-15-xxDR		20 30,1212				

## ■ External Fuse Wiring Instruction

External FUSE is required. FUSE specification: 4A/1500Vdc.

Suggested model:

Fuse Brand	Manufactur	er Part NO.	MW's Order NO.	
i doo Brana	Fuse	Fuse Holder	Fuse + Fuse Holder	
WalterFuse	WJ30-4	WJ30-H	WJ30-4_WJ30-H	





# ■ Packing

	DDRH-15-xxP				
Standard Packing	MPQ Per Tray(PCS)	One Tray G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.	
Antistatic Plastic blister  Antistatic Foam  Antistatic Foam  Antistatic Foam  CARTON  L400x W320 x H225	6	1.2Kg	18	4.6Kg	



	DDRH-15-xxST					
Standard Packing	MPQ Per Tray(PCS)	One Tray G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.		
Unit:mm  DDRH-15-xxST/DDRH-15-xxDR  Antistatic Plastic blister	6	1.43Kg	18	5.3Kg		
Plastic blister	DDRH-15-xxDR					
Antistatic Foam	MPQ Per Tray(PCS)	One Tray G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.		
CARTON L400x W320 x H225	6	1.46Kg	18	5.4Kg		

## **■** Installation Manual

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









DDRH-30-xxST



DDRH-30-xxDR





- 150~1500Vdc 10:1 ultra-wide input range
- 4KVac I/O high isolation(Reinforced isolation)
- Protections: Short circuit / Overload / Over voltage / DC input under voltage / DC input reverse Polarity
- Fanless design, fully encapsulated, cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15 (DR-Type)
- -40~+80°C ultra-wide operating temperature (>+50°C derating)
- · Operating altitude up to 5000 meters
- 3 years warranty

# PV PV











## Applications

- Photovoltaic power generation
- Renewable Energy System
- High voltage frequency conversion
- · Industrial control system
- Semiconductor fabrication equipment
- · Electro-mechanical apparatus
- DC bus centralized application
- Energy storage system(ESS)
- Charging pile
- Third rail

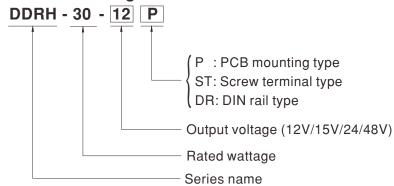
## **■** GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

# Description

DDRH-30 series is a 150  $^{\sim}$  1500Vdc high reliable ultra-high input DC-DC converter which can supply stable working voltage for the load. Main features are as following: compact size, -40 $^{\sim}$ +80 $^{\circ}$ C wide range operating temperature, 4KVac high isolation voltage, operation at 5000m altitude, low ripple & noise, complete protections and so on. Futhermore, this series also has DIN Rail type, it is suitable to be mounted on TS-35/7.5 or TS-35/15 rails. DDRH-30 is designed to meet UL1741and IEC62109-1 standard. It is suitable for industrial automation, surveillance, telecommunication and can be widely deployed in the applications of new energy generation such as solar power, and windmill power generation, for instances, photovoltaic power systems, high voltage inverting, DC bus centralized application, ESS, charging pile, railway and so forth.

## **■** Model Encoding





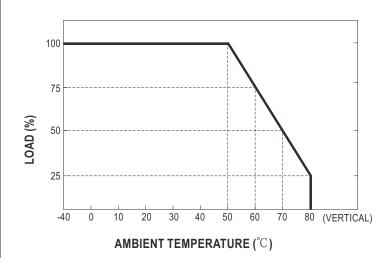
MODEL SELECTION TABLE							
	- 1	NPUT		ОИТ	PUT		
ORDER NO.	INPUT VOLTAGE	INPUT (	CURRENT	OUTPUT	OUTPUT	EFFICIENCY (Typ.)	CAPACITOR LOAD (MAX.)
	(RANGE) NO LOAD FULL LOAD VOLTAGE	CURRENT	(136.)	(III/VX.)			
DDRH-30-12 □		0.2mA	50mA	12V	2.5A	85%	2500µF
DDRH-30-15 □	Nominal 800Vdc	0.2mA	50mA	15V	2A	88%	2000µF
DDRH-30-24 □	(150~1500Vdc)	0.2mA	50mA	24V	1.25A	91%	1250µF
DDRH-30-48		0.2mA	50mA	48V	0.625A	91%	625µF



SPECIFICAT	TION								
	VOLTA	GE RANGE	150 ~ 1500Vdc						
	FILTER		Pi type						
INPUT	EXTER	NAL INPUT FUSE	4A/1500Vdc, required (Plo	ease refer to page	6 for more details)				
	INRUSI	H CURRENT (Typ.)	, ,	Cold start 150A max. @ Vin=800Vdc					
		GE ACCURACY	±2.0%						
	-	POWER	30W						
			12 ~ 24Vo: 100mVp-p	12 ~ 24Vo: 100mVp-p 48Vo: 150mVp-p					
	LINE R	EGULATION	±1%						
OUTPUT	LOAD F	REGULATION	±1% (10% Load to Full L	.oad)					
	SWITCH	ING FREQUENCY (Typ.	28 ~ 75.6KHz						
		JP TIME	16ms min. @Vin=800Vdc						
	SETUP	TIME	2s max. @150~1500Vd						
	SHORT	CIRCUIT	Protection type : Hiccup m	node, continuous,	automatic recovery				
			110 ~ 300% rated output		•				
	OVERL	OAD	Protection type : Hiccup m		omatically after fault co	ondition is removed			
PROTECTION	OVER \	/OLTAGE	Hiccup mode, recovers au	utomatically after f	ault condition is remove	ed			
		REVERSE POLARITY							
	DC	UNDER VOLTAGE	Start-up voltage	144Vdc					
	1141 01	LOCKOUT	Shutdown voltage	132Vdc					
	WORKI	NG TEMP.	-40 ~ +80°C (Refer to "De	erating Curve")					
	WORKI	NG HUMIDITY	20% ~ 90% RH non-cond	ensing					
	STORA	GE TEMP., HUMIDITY	-40 ~ +85°C, 10 ~ 95% R	RH non-condensi	ng				
ENVIRONMENT	TEMP.	COEFFICIENT	±0.02% / °C (-40°C ~ 50°C) Typ.						
	VIBRAT	TION	Meets: MIL.STD-810F Table 514.5C-VIII, 15-2000Hz, X,Y,Z axis, 1hr (each axis), total 3hrs						
	OPERAT	ING ALTITUDE Note.3	5000 meters						
	OVER V	OLTAGE CATEGORY	II; According to EN62109	9-1; altitude up to	5000 meters				
	SAFET	Y STANDARDS	UL1741, CSA C22.2 No.	107.1-16, IEC621	09-1(LVD), EAC TP T	C 004 approved			
	WITHS	TAND VOLTAGE	I/P-O/P:4KVac						
	ISOLAT	TON RESISTANCE	I/P-O/P, 100M Ohms / 500	/P-O/P, 100M Ohms / 500VDC / 25°C / 70% RH					
	EMC EMISSION		Parameter	Stand	dard	Test Level / Note			
			Conducted	BS EI	N/EN55032	Class A (with external components)			
SAFETY &			Radiated	BS EI	N/EN55032	Class A (with external components)			
EMC			BS EN/EN55035	ı					
( Note.4)			Parameter	Stand	dard	Test Level / Note			
			ESD	BS E	N/EN61000-4-2	Level 3, 8KV air; Level 2, 4KV contact, criteria A			
	EMC IM	IMUNITY	Radiated Susceptibility		N/EN61000-4-3	Level 3, 10V, criteria A			
			EFT/Burest		N/EN61000-4-4	Level 2, 0.5KV, criteria A			
			Surge		N/EN61000-4-5	Level 4, 2KV/Vin+ ~ Vin-, criteria A			
			Conducted		N/EN61000-4-6	Level 3, 10V, criteria A			
	MTBF		318Khrs MIL-HDBK-217						
		SION (L*W*H)	P Type: 89*63.5*25mm, S			13.5mm			
		MATERIAL	Non-conductive black pla	stic (UL 94V-0 rate	ed)				
OTHERS	POTTING MATERIAL UL 94V-0								
	PIN MA	TERIAL	Base: copper, Plating: Matte Tin						
	DVCKIN	ıc	P Type : 240g; 6pcs/Tray, 18pcs/per carton						
	PACKING ST Type: 305g; 6pcs/Tray, 18pcs/per carton DR Type: 310g; 6pcs/Tray, 18pcs/per carton								
NOTE	DR Type: 310g; 6pcs/Tray, 18pcs/per carton  1. All parameters NOT specially mentioned are measured at 800Vdc 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 0.1µf & 47µf parallel capacitor.  3. 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								



## ■ Derating Curve



## ■ Mechanical Specification

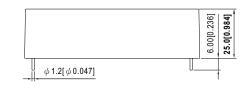
- All dimensions in mm(inch)
- Tolerance:  $x.x\pm0.7$ mm ( $x.x\pm0.0275$ ")

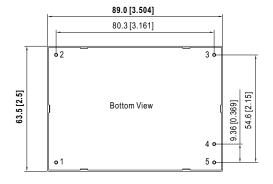
 $x.xx \pm 0.5 mm(x.xx \pm 0.02")$ 

 $x.xxx\pm0.5$ mm $(x.xxx\pm0.02")$ 

Pin size is:  $\phi 1.2 \pm 0.1$ mm( $\phi 0.047 \pm 0.004$  inch)

## DDRH-30-xxP (PCB Mounting Type)



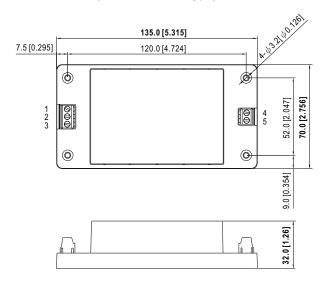


## ■ Plug Assignment

Pin-Out				
Pin No.	Output			
1	-Vin			
2	+Vin			
3	NC			
4	-Vout			
5	+Vout			



## DDRH-30-xxST (Screw Terminal Type)

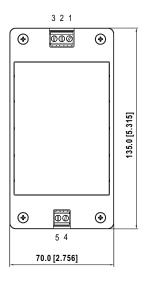


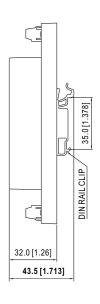
## **■** Terminal Pin No. Assignment

Pin-Out				
Pin No.	Pin No. Output			
1	-Vin			
2	NC			
3	+Vin	12~24AWG		
4	+Vout			
5	-Vout			

Note: Recommed torque setting for terminal is 5kgf-cm(4.4 Lb-in)

## DDRH-30-xxDR (DIN Rail Type)



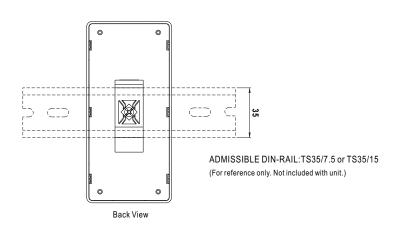


## ■ Terminal Pin No. Assignment

Pin-Out				
Pin No.	Mating wire			
1	-Vin			
2	NC			
3	+Vin	12~24AWG		
4	+Vout			
5	-Vout			

Note: Recommed torque setting for terminal is 5kgf-cm(4.4 Lb-in)

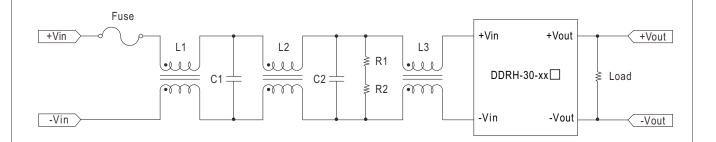
## ■ Installation Instruction(DDRH-30-xxDR only)





## ■ EMC Suggestion Circuit

EMI test standard: BS EN/EN55032 Class A conducted and radiated emission are as below:



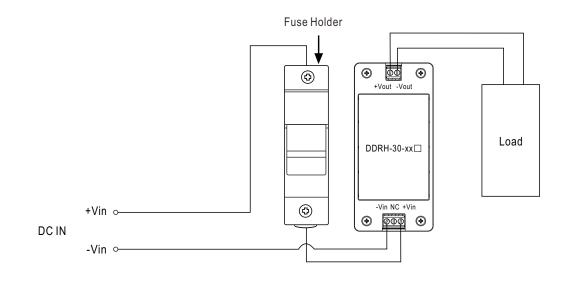
M. J.IN.		BS EN/EN5	5032 Class A			
Model No.	Fuse L1,L2,L3 C1,C2 R1,R2					
DDRH-30-xxP						
DDRH-30-xxST	4A/1500Vdc	Common choke 20mH SQ1515	0.33µF/1500Vdc	1/2W 3M, ≧800V		
DDRH-30-xxDR		20				

## ■ External Fuse Wiring Instruction

External FUSE is required. FUSE specification: 4A/1500Vdc.

Suggested model:

Fuse Brand	Manufacturer Part NO.		MW's Order NO.
i doo Brana	Fuse	Fuse Holder	Fuse + Fuse Holder
WalterFuse	WJ30-4	WJ30-H	WJ30-4_WJ30-H





# ■ Packing

		DDRH-	30-xxP	
Standard Packing	MPQ Per Tray(PCS)	One Tray G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.
Antistatic Plastic blister  Antistatic Foam  Antistatic Foam  Antistatic Foam  CARTON  L400x W320 x H225	6	1.66Kg	18	6Kg



		DDRH-30-xxST			
Standard Packing	MPQ Per Tray(PCS)	One Tray G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.	
Unit:mm  DDRH-30-xxST/DDRH-30-xxDR  Antistatic Plastic blister	6	2Kg	18	7Kg	
Plastic blister  Antistatic Foam	MPQ Per Tray(PCS)	One Tray	Max. Q'TY/ Carton(PCS)	One Carton G.W.	
CARTON L400x W320 x H225	6	2.03Kg	18	7.1Kg	

## **■** Installation Manual

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









DDRH-45-xxP

DDRH-45-xxST

DDRH-45-xxDR















#### Features

- 150~1500Vdc 10:1 ultra-wide input range
- 4KVac I/O high isolation(Reinforced isolation)
- Protections: Short circuit / Overload / Over voltage / DC input under voltage / DC input reverse Polarity
- · Fanless design, fully encapsulated, cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15 (DR-Type)
- -40~+80°C ultra-wide operating temperature (>+50°C derating)
- · Operating altitude up to 5000 meters
- 3 years warranty

## Applications

- Photovoltaic power generation
- Renewable Energy System
- High voltage frequency conversion
- · Industrial control system
- Semiconductor fabrication equipment
- · Electro-mechanical apparatus
- DC bus centralized application
- Energy storage system(ESS)
- Charging pile
- Third rail

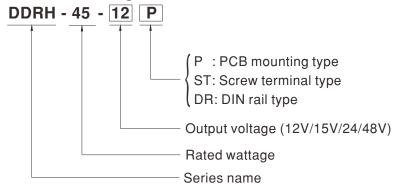
## ■ GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

# Description

DDRH-45 series is a 150  $^{\sim}$  1500Vdc high reliable ultra-high input DC-DC converter which can supply stable working voltage for the load. Main features are as following: compact size, -40 $^{\sim}$ +80 $^{\circ}$ C wide range operating temperature, 4KVac high isolation voltage, operation at 5000m altitude, low ripple & noise, complete protections and so on. Futhermore, this series also has DIN Rail type, it is suitable to be mounted on TS-35/7.5 or TS-35/15 rails. DDRH-45 is designed to meet UL1741and IEC62109-1 standard. It is suitable for industrial automation, surveillance, telecommunication and can be widely deployed in the applications of new energy generation such as solar power, and windmill power generation, for instances, photovoltaic power systems, high voltage inverting, DC bus centralized application, ESS, charging pile, railway and so forth.

## **■** Model Encoding





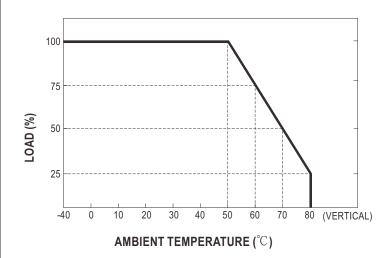
MODEL SELECTION TABLE							
	I	NPUT		ОИТ	OUTPUT		
ORDER NO.	INPUT VOLTAGE	INPUT (	CURRENT	OUTPUT	OUTPUT	EFFICIENCY (Typ.)	CAPACITOR LOAD (MAX.)
	(RANGE)	NO LOAD	FULL LOAD	VOLTAGE	CURRENT	(136.)	(III/UX.)
DDRH-45-12 □		0.2mA	75mA	12V	3.75A	85%	3750µF
DDRH-45-15 □	Nominal 800Vdc	0.2mA	75mA	15V	3A	85%	3000µF
DDRH-45-24 □	(150~1500Vdc)	0.2mA	75mA	24V	1.87A	86%	1870µF
DDRH-45-48 □		0.2mA	75mA	48V	0.938A	86%	938µF



SPECIFICAT	ION						
	VOLTA	GE RANGE	150 ~ 1500Vdc				
	FILTER		Pi type				
INPUT		NAL INPUT FUSE	4A/1500Vdc, required (Please refer to page 6 for more details)				
		I CURRENT (Typ.)	Cold start 150A max. @ Vi				
		GE ACCURACY	±2.0%	000140			
		POWER	45W				
			12 ~ 24Vo: 100mVp-p	48Vo: 150	]mVn₌n		
		EGULATION	±1%	40 00. 100	эш үр-р		
OUTPUT		REGULATION	$\pm$ 1% (10% Load to Full Lo	nad)			
		NG FREQUENCY (Typ.)	,	- Cau			
		JP TIME	20ms min. @Vin=800Vdc				
	SETUP		2s max. @150~1500Vdc	0			
					ulaua autamatia raaayary	,	
	эпокі	CIRCUIT	Protection type: Hiccup mode, continuous, automatic recovery				
	OVERL	OAD	110 ~ 300% rated output	·		10 100 1	
	01/551	(0.74.07	Protection type : Hiccup m				s removed
PROTECTION	OVER \	OLTAGE	Hiccup mode, recovers au	-			P.C.
	DC	REVERSE POLARITY	By internal Bridge Diode,		e, recovers automatically a	atter fault con	naition removed
	INPUT	UNDER VOLTAGE LOCKOUT	Start-up voltage	132Vdc			
			Shutdown voltage	121Vdc	m\		
		NG TEMP.	-40 ~ +80°C (Refer to "De		e")		
		NG HUMIDITY	20% ~ 90% RH non-condensing				
		SE TEMP., HUMIDITY					
ENVIRONMENT		COEFFICIENT	±0.02% / °C (-40°C ~ 50	,			
	VIBRAT		Meets: MIL.STD-810F Table 514.5C-VIII, 15-2000Hz, X,Y,Z axis, 1hr (each axis), total 3hrs				
	OPERAT	ING ALTITUDE Note.3					
	OVER V	OLTAGE CATEGORY	, 5		·		
	SAFET	Y STANDARDS	UL1741, CSA C22.2 No.1	107.1-16, I	EC62109-1(LVD), EAC T	P TC 004 ap	proved
	WITHST	TAND VOLTAGE	I/P-O/P:4KVac				
	ISOLAT	ION RESISTANCE	I/P-O/P, 100M Ohms / 500	)VDC / 25°C			
			Parameter		Standard		Test Level / Note
	EMC EN	MISSION	Conducted		BS EN/EN55032		Class A (with external components)
SAFETY &			Radiated		BS EN/EN55032		Class A (with external components)
EMC			BS EN/EN55035				
( Note.4)			Parameter		Standard		Test Level / Note
			ESD		BS EN/EN61000-4-2		Level 3, 8KV air; Level 2, 4KV contact, criteria A
	EMC IM	MUNITY	Radiated Susceptibility		BS EN/EN61000-4-3		Level 3, 10V, criteria A
			EFT/Bursts		BS EN/EN61000-4-4		Level 2, 0.5KV, criteria A
			Surge		BS EN/EN61000-4-5		Level 4, 2KV/Vin+ ~ Vin-, criteria A
			Conducted		BS EN/EN61000-4-6		Level 3, 10V, criteria A
	MTBF		316Khrs MIL-HDBK-217	<b>′</b> F(25°ℂ)			
	DIMENS	SION (L*W*H)	P Type: 89*63.5*25mm, S1	Г Туре: 135	*70*32mm, DR Type: 135*	70*43.5mm	
	CASE N	IATERIAL	Non-conductive black plas	stic (UL 94\	/-0 rated)		
OTHERS	POTTIN	IG MATERIAL	UL 94V-0				
	PIN MA	TERIAL	Base: copper, Plating: Ma	tte Tin			
	PACKIN	IG	P Type : 240g ; 6pcs/Tra ST Type : 305g ; 6pcs/Tra	ay, 18pcs/pe	er carton		
NOTE	2. Ripp 3. The 2000 4. The p EMC (as a	le & noise are measi ambient temperature Im(6500ft). Dower supply is consic directives. For guidan vailable on http://www	derating of 3.5°C/1000m w lered a component which will le ce on how to perform these E	ed at 800Von by using a with fanless rube installed EMC tests, p	dc input, rated load and 25 a 12" twisted pair-wire term models and of 5°C/1000m into a final equipment. The flease refer to "EMI testing of	ninated with a with fan moo final equipmen f component p	a 0.1 µf & 47µf parallel capacitor.  dels for operating altitude higher than  at must be re-confirmed that it still meets  bower supplies."



## ■ Derating Curve



## ■ Mechanical Specification

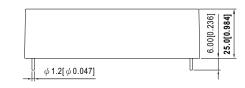
- All dimensions in mm(inch)
- Tolerance:  $x.x\pm0.7$ mm ( $x.x\pm0.0275$ ")

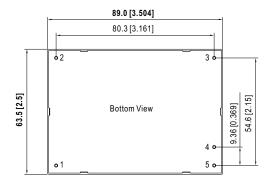
 $x.xx \pm 0.5 mm(x.xx \pm 0.02")$ 

 $x.xxx\pm0.5$ mm $(x.xxx\pm0.02")$ 

Pin size is:  $\phi 1.2 \pm 0.1$ mm( $\phi 0.047 \pm 0.004$  inch)

## DDRH-45-xxP (PCB Mounting Type)



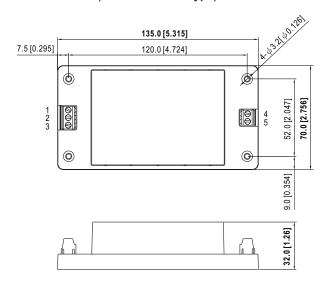


## ■ Plug Assignment

Pin-Out				
Pin No.	Output			
1	-Vin			
2	+Vin			
3	NC			
4	-Vout			
5	+Vout			



## DDRH-45-xxST (Screw Terminal Type)

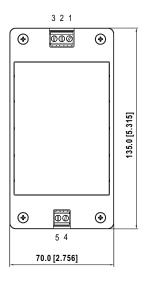


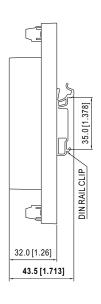
## **■** Terminal Pin No. Assignment

Pin-Out				
Pin No.	Pin No. Output			
1	-Vin			
2	NC			
3	+Vin	12~24AWG		
4	+Vout			
5	-Vout			

Note: Recommed torque setting for terminal is 5kgf-cm(4.4 Lb-in)

## DDRH-45-xxDR (DIN Rail Type)



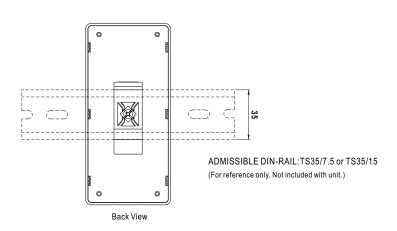


## ■ Terminal Pin No. Assignment

Pin-Out				
Pin No.	Mating wire			
1	-Vin			
2	NC			
3	+Vin	12~24AWG		
4	+Vout			
5	-Vout			

Note: Recommed torque setting for terminal is 5kgf-cm(4.4 Lb-in)

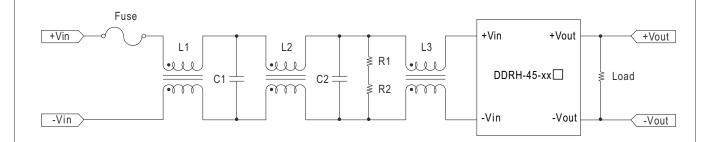
## ■ Installation Instruction(DDRH-45-xxDR only)





## ■ EMC Suggestion Circuit

EMI test standard: BS EN/EN55032 Class A conducted and radiated emission are as below:



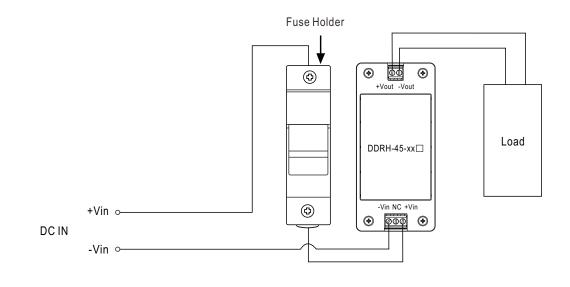
MadalNa	BS EN/EN55032 Class A					
Model No.	Fuse L1,L2,L3 C1,C2 R1,R2					
DDRH-45-xxP						
DDRH-45-xxST	4A/1500Vdc	Common choke 20mH SQ1515	0.33µF/1500Vdc	1/2W 3M, ≧800V		
DDRH-45-xxDR		20				

## ■ External Fuse Wiring Instruction

External FUSE is required. FUSE specification: 4A/1500Vdc.

Suggested model:

Fuse Brand	Manufactur	er Part NO.	MW's Order NO.
	Fuse	Fuse Holder	Fuse + Fuse Holder
WalterFuse	WJ30-4	WJ30-H	WJ30-4_WJ30-H





# ■ Packing

		DDRH-	45-xxP	
Standard Packing	MPQ Per Tray(PCS)	One Tray G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.
Antistatic Plastic blister  Antistatic Foam  Antistatic Foam  L400x W320 x H225	6	1.66Kg	18	6Kg



		DDRH-4	15-xxST			
Standard Packing	MPQ Per Tray(PCS)	One Tray G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.		
Unit:mm  DDRH-45-xxST/DDRH-45-xxDR  Antistatic Plastic blister	6	2Kg	18	7Kg		
Plastic blister	DDRH-45-xxDR					
Antistatic Foam	MPQ Per Tray(PCS)	One Tray G.W.	Max. Q'TY/ Carton(PCS)	One Carton G.W.		
CARTON L400x W320 x H225	6	2.03Kg	18	7.1Kg		

## **■** Installation Manual

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









#### Features

- 150~ 1500Vdc 10:1 ultra wide input range
- 57mm slim width
- 4KVac I/O high isolation(Reinforced isolation)
- Protections: Short circuit / Overload / Over voltage / Over temperature
   DC input under voltage / DC input reverse polarity
- · Fanless design, cooling by free air convection
- · Can be installed on DIN rail TS-35/7.5 or 15
- -30~+80°C ultra-wide operating temperature (>+55°C derating)
- Over voltage category II
- · Operating altitude up to 5000 meters
- · DC OK relay contact
- DC output voltage adjustable(+20%)
- Full encapsulated
- 3 years warranty

# ■ Applications

- Photovoltaic power generation
- Renewable energy system
- High voltage frequency conversion
- Industrial control system
- Semiconductor fabrication equipment
- · Electro-mechanical apparatus
- DC bus centralized application
- Energy storage system(ESS)
- · Charging pile
- · Third rail

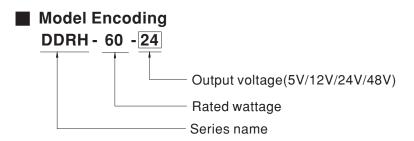
#### ■ GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

## Description

DDRH-60 series is a 150  $^{\sim}$  1500Vdc high reliable ultra-high input DIN rail type DC-DC converter which can supply stable working voltage for the load. It is suitable to be mounted on TS-35/7.5 or TS-35/15 rails. Main features are as following: easy to install DIN rail type, narrow width(57mm) in slim design, -30 $^{\sim}$ +80 $^{\circ}$ C wide range operating temperature, 4KVAC high isolation voltage, operation at 5000m altitude, high efficiency, low ripple & noise, complete protections and so on.

DDRH-60 is compliant with UL1741 and BS EN/EN61000-6-2 standard regarding immunity for industrial environments. It is suitable for industrial automation, surveillance, telecommunication and can be widely deployed in the applications of new energy generation such as solar power, and windmill power generation, for instances, photovoltaic power systems, high voltage inverting, DC bus centralized application and so forth.



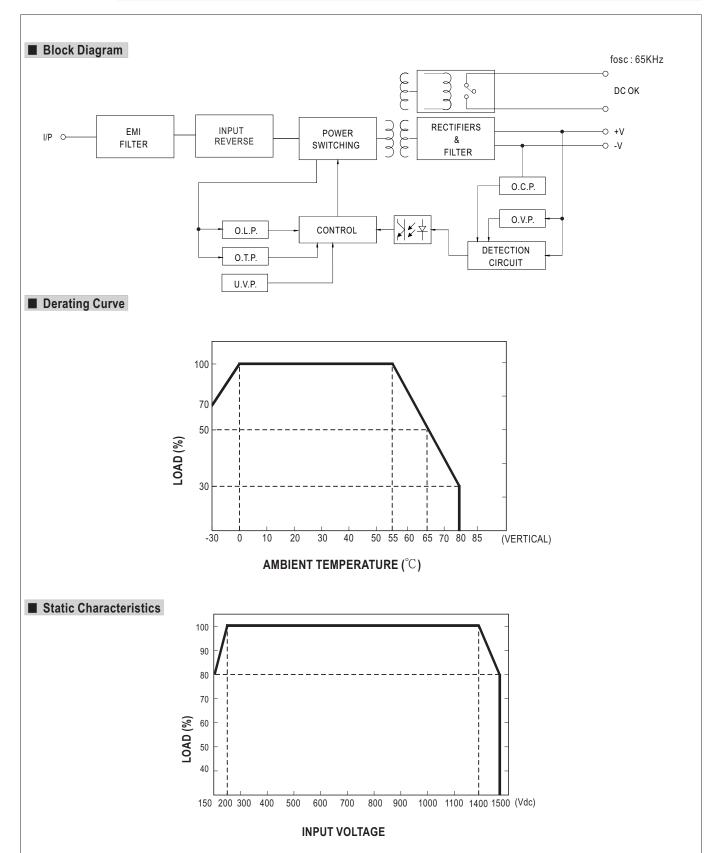


# 60W High Reliable 150~1500Vdc Ultra Wide Input DIN Rail Type DC-DC Converter ${f D}$ ${f D}$ ${f R}$ ${f H}$ - ${f 60}$ series

## **SPECIFICATION**

MODEL			DDRH-60-5	DDRH-60-12	DDRH-60-24	,	DDRH-60-48
	DC VOLTAGE		5V	12V	24V		48V
	RATED CURRENT		10A	5A	2.5A		1.25A
	CURRENT RANGE		0 ~ 10A	0 ~ 5A	0 ~ 2.5A		0 ~ 1.25A
	RATED POWER		50W	60W	60W		60W
	RIPPLE & NOISE (m	ax.) Note.2	100mVp-p	120mVp-p	150mVp-p		200mVp-p
OUTPUT	VOLTAGE ADJ. RANGE		5 ~ 6V	12 ~ 15V	24 ~ 29V		48 ~ 54V
	VOLTAGE TOLERANCE Note.3		±1.5%	±1.5%	±1.0%		±1.0%
	LINE REGULATION	OL Note.5	±0.5%	±0.5%	±0.5%		±0.5%
			±1.5%	±0.5%	±0.5%		±0.5%
	LOAD REGULATION						
	EXTERNAL CAPACITANCE			4000 μ F	2500 μ F		1000 μ F
	VOLTAGE RANGE	Note.4	150 ~ 1500Vdc	1 000/	000/		1070/
	EFFICIENCY (Typ.)	200Vdc	80%	83%	86%		87%
INPUT		800Vdc	81%	85% 81%	87%		88% 83%
	INDUOLI QUEDENT	1500Vdc		1	84%		83%
	INRUSH CURRENT	(max.)	COLD START 120A /1500V		)A/150Vdc		
	OVERLOAD		105 ~ 135% rated output pow	-			
	OVERLOAD		Protection type : Hiccup up mod				
						ı is removed withi	n 55% ~ 100% rated output volta
PROTECTION	OVER VOLTAGE		6.6 ~ 8.4V	16.5 ~ 21V	30 ~ 38V		55 ~ 60V
			Protection type : Hiccup up mo	,	,		
	OVER TEMPERATU	RE	Protection type : Hiccup up mo	<u> </u>	·		
	DC INPUT	LARITY	By internal Bridge Diode, no d	amage, recovers automat	cally after fault condition	removed	
	UNDER VOLTAG	SE LOCKOUT	Under voltage protection rang	e:120 ~ 130Vdc , Under vo	oltage release range:130	~ 146.5Vdc	
FUNCTION	DC OK SIGNAL		Relay contact rating(max.): 3	0V / 1A resistive			
	WORKING TEMP.		-30 ~ +80°C (Refer to "Deration	ng Curve")			
	WORKING HUMIDIT	Υ	20 ~ 90% RH non-condensing				
	STORAGE TEMP., H	UMIDITY	-40 ~ +80°C, 10 ~ 95% RH non-condensing				
ENVIRONMENT	TEMP. COEFFICIENT		±0.03%°C (0~55°C)				
	VIBRATION		Component: 10 ~ 500Hz, 3G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting clip: Compliance to IEC60068-2-6				
	OPERATING ALTITU	IDE Noto 5		· · · · · · · · · · · · · · · · · · ·			
	OVER VOLTAGE CA			altituda un ta 5000 matars			
	SAFETY STANDARD		II; According to EN62109-1; altitude up to 5000 meters  UL1741, CSA C22.2 No.107.1-16, IEC62109-1(LVD), EAC TP TC 004 approved				
	WITHSTAND VOLTA		I/P-O/P:4KVAC				
	ISOLATION RESISTANCE		I/P-O/P. 100M Ohms / 500VD0				
	ISOLATION RESIST	ANCE	Parameter	Standard		T411/N-4-	
					DD22)	Test Level / Note	1
	FMO FMICCION		Conducted	BS EN/EN55032(CIS	· · · · · · · · · · · · · · · · · · ·	Class A	
	EMC EMISSION		Radiated	BS EN/EN55032(CIS	PR32)	Class A	
SAFETY &			Voltage Flicker	BS EN/EN61000-3-3			
EMC			BS EN/EN55035, BS EN/EN61	000-6-2			
(Note.7)			Parameter	Standard		Test Level /Note	9
			ESD	BS EN/EN61000-4-2		Level 3, 8KV air	; Level 2, 4KV contact, criteria A
			Radiated Susceptibility	BS EN/EN61000-4-3		Level 3, 10V, cri	teria A
			EFT/Burest	BS EN/EN61000-4-4		Level 3, 2KV, cr	teria A
	EMC IMMUNITY		Surge	BS EN/EN61000-4-5		Level 4, 2KV/Vii	n+ ~ Vin-, criteria A
			Conducted	BS EN/EN61000-4-6		Level 3, 10V, cri	
			Magnetic Field	BS EN/EN61000-4-8		Level 4, 30A, cr	
			Voltage Dips and interruptions	BS EN/EN61000-4-1	1	>95% dip 0. 5	periods, 30% dip 25 periods, tions 250 periods
	MTBF		454.5K hrs min. MIL-HDBh	 K-217F (25°C); 143	9.7K hrs min. Telcordia	a TR/SR-332 (Be	•
OTHERS				<u></u>	J. A. CHIS HIIII. TEICOIGI	2 11/101/-332 (DE	110018) (20 ()
<u>L</u> INO	DIMENSION		57*93.5*105mm (W*H*D)	CT			
	PACKING		0.8Kg; 16pcs/12.8Kg/0.84CU				
NOTE	2. Ripple & noise 3. Tolerance: inclu 4. Derating may b 5. The ambient ter 2000m(6500ft). 6. Installation clean full power. In c 7. The power supp	are measure meeded mperature rances: 4 ase the acoly is cons	ially mentioned are measure ured at 20MHz of bandwidth p tolerance, line regulation a under low input voltage. Ple derating of 3.5°C/1000m wi 0mm on top, 20mm on the l djacent device is a heat sour idered a component which v	by using a 12" twisted and load regulation. hase check the derating th fanless models and obottom, 5mm on the left roe, 15mm clearance is will be installed into a fire	pair-wire terminated w curve for more details of 5°C/1000m with fan and right side are rec recommended. nal equipment. The fina	ith a 0.1 µF & 4 . models for ope ommended wh al equipment m	7μF parallel capacitor.  rating altitude higher than en loaded permanently with ust be re-confirmed that it s
	(as available on	https://ww	or guidance on how to perfor ww.meanwell.com//Upload/P er:For detailed information	DF/EMI_statement_en.	pdf)		





## ■ DC OK Relay Contact

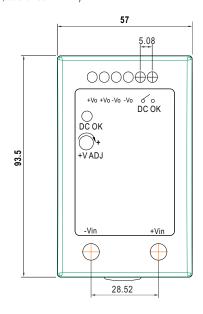
Contact Close	PSU turns ON / DC OK.
Contact Open	PSU turns OFF / DC Fail.
Contact Ratings (max.)	30V/1A resistive load.

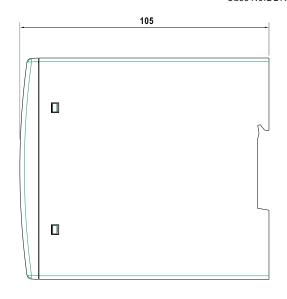


#### ■ Mechanical Specification

(Unit: mm , tolerance ± 1mm)

Case No.DDRH-60

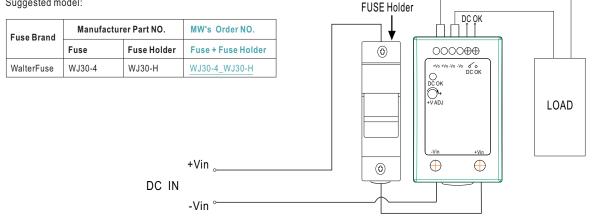




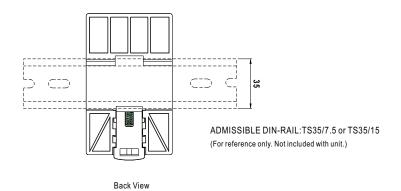
## ■ External FUSE wiring instruction

External FUSE is required. FUSE specification: 4A/1500Vdc.





#### ■ Installation Instruction



#### **■** Installation Manual

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













- 250~ 1500Vdc 6:1 ultra-wide input range
- Withstand 1700Vdc surge input for 10 seconds
- 63mm slim width
- 4KVac I/O high isolation(Reinforced isolation)
- Protections: Short circuit / Overload / Over voltage / Over temperature
   DC input under voltage / DC input reverse polarity
- Fanless design, cooling by free air convection
- · Can be installed on DIN rail TS-35/7.5 or 15
- -40~+80°C ultra-wide operating temperature (>+50°C derating)
- · Over voltage category II
- · Operating altitude up to 5000 meters
- DC OK relay contact
- DC output voltage adjustable(12~15V, 24~29V, 30~36V, 48~58V)
- · Conformal coating
- 3 years warranty

# \*











## Applications

- · Photovoltaic power generation
- Renewable energy system
- High voltage frequency conversion
- Industrial control system
- Semiconductor fabrication equipment
- Electro-mechanical apparatus
- DC bus centralized application
- Energy storage system(ESS)
- Charging pile
- · Third rail

#### ■ GTIN CODE

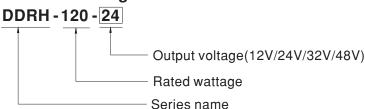
MW Search: https://www.meanwell.com/serviceGTIN.aspx

## Description

DDRH-120 series is a  $250 \sim 1500 \text{Vdc}$  high reliable ultra-high input DIN rail type DC-DC converter which can supply stable working voltage for the load. It is suitable to be mounted on TS-35/7.5 or 15 rails. Main features are as following: easy to install DIN rail type, narrow width(63mm) in slim design,  $-40 \sim +80 °$  C wide range operating temperature, 4KVac high isolation voltage, operation at 5000m altitude, high efficiency, low ripple & noise, complete protections and so on.

DDRH-120 is compliant with UL1741 and BS EN/EN61000-6-2 standard regarding immunity for industrial environments. It is suitable for industrial automation, surveillance, telecommunication and can be widely deployed in the applications of new energy generation such as solar power, and windmill power generation, for instances, photovoltaic power systems, high voltage inverting, DC bus centralized application, ESS, charging pile, railway and so forth.

# **■** Model Encoding

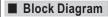




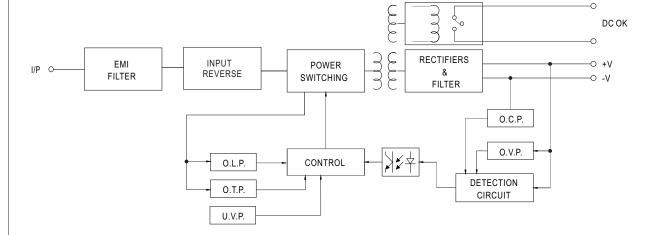
## **SPECIFICATION**

MODEL	MODEL		DDRH-120-12	DDRH-120-24	DDRH-120-32	DDRH-120-48	
	DC VOLTAGE		12V	24V	32V	48V	
	RATED CURRENT		8.4A	5A	3.75A	2.5A	
	CURRENT RANGE		0 ~ 8.4A	0 ~ 5A	0 ~ 3.75A	0 ~ 2.5A	
	RATED POWER		100.8W	120W	120W	120W	
	RIPPLE & NOISE (max.) Note.2		120mVp-p	240mVp-p	240mVp-p	300mVp-p	
OUTPUT	VOLTAGE ADJ. RANGE		12 ~ 15V	24 ~ 29V	30 ~ 36V	48 ~ 58V	
	VOLTAGE TOLERAN	ICE Note.3	±1.5%	±1.0%	±1.0%	±1.0%	
	LINE REGULATION		±0.5%	±0.5%	±0.5%	±0.5%	
	LOAD REGULATION	1	±1.5%	±1.5%	±1.0%	±1.0%	
	EXTERNAL CAPACITANCE	LOAD (Max.)	4000 μ F	2500 μ F	2000 μ F	1000 μ F	
	VOLTAGE RANGE	Note.4	250 ~ 1500Vdc		'	-	
		300Vdc	88%	89%	90%	91%	
	EFFICIENCY (Typ.)	800Vdc	87%	90%	91%	91%	
INPUT		1500Vdc	84%	86%	87%	87%	
	INRUSH CURRENT	(max.)	COLD START 300A/1500Vdc	200A/800Vdc 70A/250V	'dc		
	EXTERNAL INPUT	FUSE	4A/1500VDC, required(Please	refer to page 4 for more details	)		
			105 ~ 135% rated output power				
	OVERLOAD			en output voltage<55%, recovers a			
			Constant current	limiting, recovers automatically af	ter fault condition is rem	oved within 55% ~ 100% rated output voltage	
PROTECTION	OVER VOLTAGE		16.5 ~ 21V	33 ~ 42V	40 ~ 48V	62 ~ 70V	
	OVER VOLIAGE		Protection type : Hiccup mode, r	ecovers automatically after fault	condition is removed		
	OVER TEMPERATU	RE	Protection type : Hiccup mode, re	ecovers automatically after fault	condition is removed		
	DC INPUT	LARITY	By internal Bridge Diode, no dan	nage, recovers automatically afte	r fault condition remove	ed	
	UNDER VOLTAC	SE LOCKOUT	Under voltage protection range:2	200 ~ 230Vdc , Under voltage rel	ease range:230 ~ 245V	/dc	
FUNCTION	DC OK SIGNAL		Relay contact rating(max.): 30V	/ / 1A resistive			
	WORKING TEMP.		-40 ~ +80°C (Refer to "Derating	Curve")			
	WORKING HUMIDITY		20 ~ 90% RH non-condensing				
	STORAGE TEMP., HUMIDITY		-40 ~ +80°C, 10 ~ 95% RH non-condensing				
ENVIRONMENT	TEMP. COEFFICIENT		±0.03%/°C (0~50°C)				
	VIBRATION		Component: 10 ~ 500Hz, 2G 10	min./1cycle, 60min. each along X	, Y, Z axes; Mounting c	lip: Compliance to IEC60068-2-6	
	OPERATING ALTITU	JDE Note.5	5000m				
	OVER VOLTAGE CATEGORY		OVC II 2000m; According to EN6	2109-1			
	SAFETY STANDARDS		UL1741, CSA C22.2 No.107.1-16, IEC62109-1, BS EN/EN62109-1, EAC TP TC 004 approved				
	WITHSTAND VOLTA	GE	I/P-O/P:4KVAC I/P-FG:3.75		D/P-DC OK:0.5KVAC		
	ISOLATION RESIST	ANCE	I/P-O/P, 100M Ohms / 500VDC /				
			Parameter	Standard		evel / Note	
	EMC EMISSION		Conducted	BS EN/EN55032(CISPR32)	Class	A	
SAFETY &			Radiated	BS EN/EN55032(CISPR32)	Class	A	
EMC			BS EN/EN55035, BS EN/EN6100				
(Note.7)			Parameter	Standard		Level /Note	
			ESD	BS EN/EN61000-4-2	Level	I 3, 8KV air; Level 2, 4KV contact, criteria A	
	EMC IMMUNITY		Radiated Susceptibility	BS EN/EN61000-4-3		I 3, 10V, criteria A	
	EMC IMMUNITY		EFT/Burest	BS EN/EN61000-4-4	Level	I 3, 2KV, criteria A	
			Surge	BS EN/EN61000-4-5		I 4, 2KV/Vin+ ~ Vin-, 4KV/Vin ~ FG, criteria A	
			Conducted	BS EN/EN61000-4-6		I 3, 10V, criteria A	
			Magnetic Field	BS EN/EN61000-4-8		I 4, 30A, criteria A	
	MTBF		257.2 Khrs min. MIL-HDBK-2	217F (25°C); 1596.3 Khrs	s min. Telcordia TR/S	SR-332 (Bellcore) (25°C)	
OTHERS	DIMENSION		63*125.2*115mm (W*H*D)				
	PACKING	CKING 0.845Kg; 12pcs/12.6Kg/1.02CUFT					
NOTE	Ripple & noise and a Tolerance : included i	are measuudes set ue needed mperature rances: 4 ase the acy is consider of the properties of the prope	p tolerance, line regulation an under low input voltage. Pleas derating of 3.5°C/1000m with 0mm on top, 20mm on the bodiacent device is a heat source	y using a 12" twisted pair-wire d load regulation. se check the derating curve for fanless models and of 5°C/10 ttom, 5mm on the left and right, 15mm clearance is recomminstalled into a final equipment. C tests, please refer to "EMI test	e terminated with a 0 or more details. 200m with fan model ht side are recomme nended. The final equipment n	1.1 μF & 47μF parallel capacitor.  Is for operating altitude higher than ended when loaded permanently with must be re-confirmed that it still meets	
] 1	(as available on i	11103.77 44 44 4					

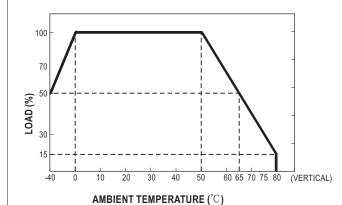




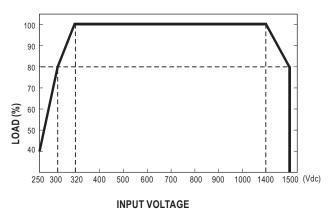
fosc: 65KHz



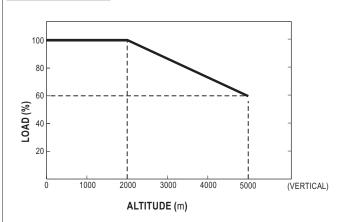
## ■ Derating Curve



#### ■ Static Characteristics



## ■ Altitude Curve



Note: Multiply by the regular power limit factor

#### ■ DC OK Relay Contact

Contact Close	PSU turns ON / DC OK.
Contact Open	PSU turns OFF / DC Fail.
Contact Ratings (max.)	30V/1A resistive load.

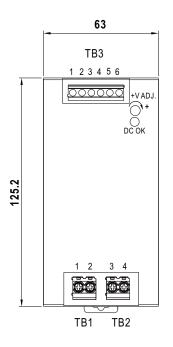


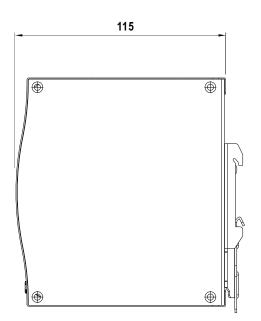
## ■ Mechanical Specification

(Unit: mm , tolerance ± 1mm) Case No. 979

#### Terminal Pin No. Assignment (TB3)

Pin No.	Assignment
1,2	DC OK Relay Contact
3,4	-Vo
5,6	+Vo





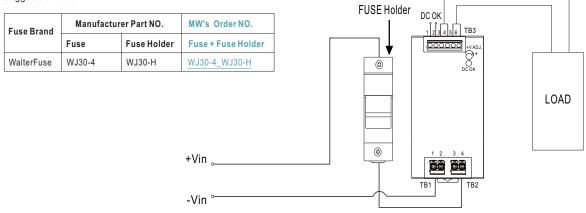
Terminal Pin No. Assignment (TB1,TB2)

Pin No.	Assignment
1,2	-Vin
3.4	+Vin

## ■ External FUSE wiring instruction

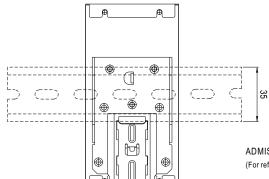
External FUSE is required. FUSE specification: 4A/1500Vdc.







## ■ Installation Instruction



This series fits DIN rail TS35/7.5 or TS35/15. For installation details, please refer to the Instruction manual.

ADMISSIBLE DIN rail:TS35/7.5 OR TS35/15 (For reference only. Not included with unit.)

## ■ Installation Manual

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















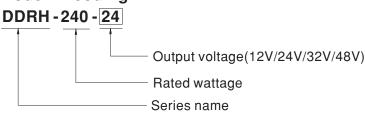
- 250~ 1500Vdc 6:1 ultra-wide input range
- Withstand 1700Vdc surge input for 10 seconds
- 85.5mm slim width
- 4KVac I/O high isolation(Reinforced isolation)
- Protections: Short circuit / Overload / Over voltage / Over temperature DC input under voltage / DC input reverse polarity
- Fanless design, cooling by free air convection
- · Can be installed on DIN rail TS-35/7.5 or 15
- -40~+80°C ultra-wide operating temperature (>+50°C derating)
- Current sharing up to 960W(3+1)
- Over voltage category II
- Operating altitude up to 5000 meters
- DC OK relay contact
- DC output voltage adjustable(12~15V, 24~29V, 30~36V, 48~58V)
- · Conformal coating
- 3 years warranty

#### Description

DDRH-240 series is a 250 ~ 1500Vdc high reliable ultra-high input DIN rail type DC-DC converter which can supply stable working voltage for the load. It is suitable to be mounted on TS-35/7.5 or 15 rails. Main features are as following: easy to install DIN rail type, narrow width(85.5mm) in slim design, -40~+80°C wide range operating temperature, 4KVac high isolation voltage, current sharing up to 960W(3+1), operation at 5000m altitude, high efficiency, low ripple & noise, complete protections and so on.

DDRH-240 is compliant with UL1741 and BS EN/EN61000-6-2 standard regarding immunity for industrial environments. It is suitable for industrial automation, surveillance, telecommunication and can be widely deployed in the applications of new energy generation such as solar power, and windmill power generation, photovoltaic power systems, high voltage inverting, DC bus centralized application, ESS, charging pile, railway and so forth.

# Model Encoding















## Applications

- · Photovoltaic power generation
- Renewable energy system
- High voltage frequency conversion
- Industrial control system
- Semiconductor fabrication equipment
- Electro-mechanical apparatus
- DC bus centralized application
- Energy storage system(ESS)
- Charging pile
- Third rail

#### GTIN CODE

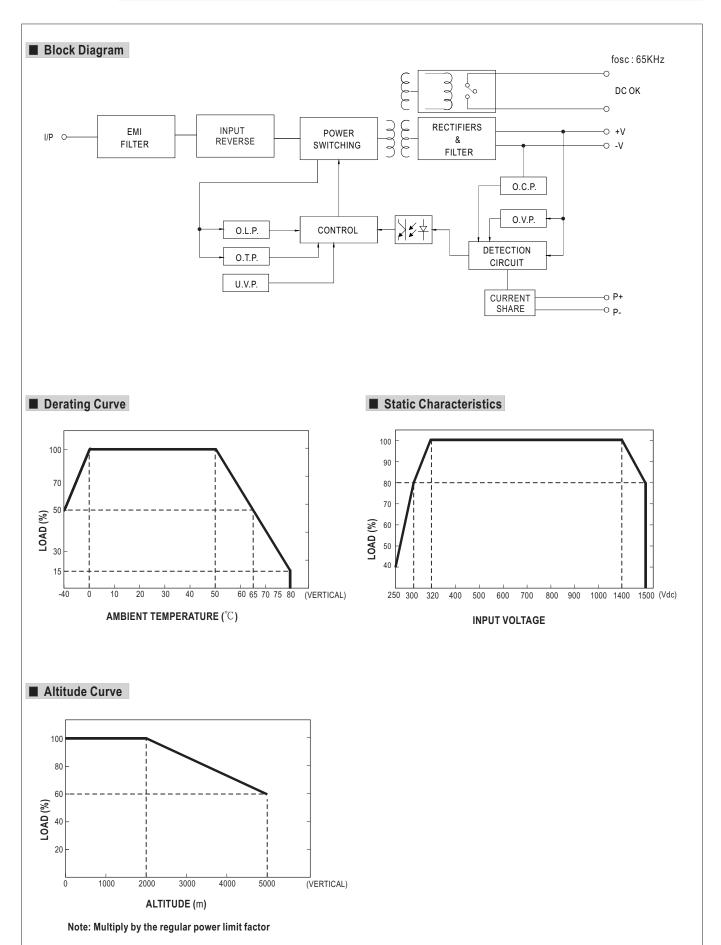
MW Search: https://www.meanwell.com/serviceGTIN.aspx



#### **SPECIFICATION**

MODEL			DDRH-240-12	DDRH-240-24	DDRH-240-32	DDRH-240-48		
	DC VOLTAGE		12V	24V	32V	48V		
	RATED CURRENT		16.7A	10A	7.5A	5A		
	CURRENT RANGE		0 ~ 16.7A	0 ~ 10A	0 ~ 7.5A	0 ~ 5A		
	RATED POWER		200.4W	240W	240W	240W		
	RIPPLE & NOISE (ma	ax ) Note 2		240mVp-p	240mVp-p	300mVp-p		
OUTPUT	VOLTAGE ADJ. RANGE		12 ~ 15V	24 ~ 29V	30 ~ 36V	48 ~ 58V		
	VOLTAGE TOLERANCE Note.3		-	±1.0%	±1.0%	±1.0%		
		ICE Note.3			± 1.0 % ± 0.5%	111		
	LINE REGULATION		±0.5%	±0.5%		±0.5%		
	LOAD REGULATION	=	±1.0%	±0.5%	±0.5%	±0.5%		
	EXTERNAL CAPACITANCE LOAD (Max.			5000 μ F	4000 μ F	2000 μ F		
	VOLTAGE RANGE	Note.4						
	EFFICIENCY (Typ.)	300Vdc	85%	87%	87%	87%		
INPUT	( )1 /	800Vdc	88%	90%	90%	90%		
INPUI		1500Vdc		86%	86%	86%		
	INRUSH CURRENT	(max.)	COLD START 500A /1500	)Vdc 300A/800Vdc 12	0A/300Vdc			
	EXTERNAL INPUT	FUSE	4A/1500VDC, required(Ple	ase refer to page 5 for more	details)			
	INTERNAL INPUT F	USE	2A/1500VDC (optional)					
			105 ~ 135% rated output por	wer				
	OVERLOAD		Protection type : Hiccup mode	e when output voltage<35%, re	covers automatically after	condition is removed;		
			Constant cui	rrent limiting, recovers automat	ically after fault condition i	s removed within 35% ~ 100% rated output volta		
PROTECTION			16.5 ~ 21V	32 ~ 42V	40 ~ 48V	62 ~ 70V		
	OVER VOLTAGE		Protection type : Shut down	o/p voltage, re-power on to re	cover			
	OVER TEMPERATU	RE	Protection type : Hiccup mod	de, recovers automatically after	er fault condition is remov	ved		
	REVERSE PO		**	damage, recovers automatica				
	DC INPUT UNDER VOLTAGE		, ,	ige:200 ~ 230Vdc , Under volt	·			
	DC OK SIGNAL	DE LOCKOUT	Relay contact rating(max.):	•	age release range.230 ~	245VuC		
UNCTION		^	, ,		···al			
	CURRENT SHARIN	G	. ,	ase refer to the Function Mar	luai			
	WORKING TEMP.		-40 ~ +80°C (Refer to "Dera					
	WORKING HUMIDITY		20 ~ 90% RH non-condensing					
	STORAGE TEMP., HUMIDITY		-40 ~ +80°C, 10 ~ 95% RH non-condensing					
ENVIRONMENT	TEMP. COEFFICIEN	Т	±0.03%/°C (0~50°C)					
	VIBRATION		Component: 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting clip: Compliance to IEC60068-2-6					
	OPERATING ALTITU	JDE Note.5	5000m					
	OVER VOLTAGE CA	TEGORY	OVC II 2000m, According to	EN62109-1				
	SAFETY STANDARD	os		1.1-16 , IEC62109-1, BS EN/E	N62109-1. EAC TP TC 00	04 approved		
	WITHSTAND VOLTA			'5KVAC O/P-FG:2KVAC O	· · · · · · · · · · · · · · · · · · ·	A P P A A A A		
	ISOLATION RESISTANCE		I/P-O/P, 100M Ohms / 500VI		71 20 011.0.011710			
	IOOLATION REGIOTAROE		Parameter	Standard	1,	Fest Level / Note		
			Conducted	BS EN/EN55032(CISPF		Class A		
SAFETY &	EMC EMISSION		Radiated	BS EN/EN55032(CISPF	R32)	Class A		
MC			BS EN/EN55035, BS EN/EN6	1000-6-2				
Note.7)			Parameter	Standard		Test Level /Note		
			ESD	BS EN/EN61000-4-2		Level 3, 8KV air; Level 2, 4KV contact, criteria A		
			Radiated Susceptibility	BS EN/EN61000-4-3		Level 3, 10V, criteria A		
			EFT/Burest	BS EN/EN61000-4-4		Level 3, 2KV, criteria A		
	EMC IMMUNITY		Surge	BS EN/EN61000-4-5		Level 4, 2KV/Vin+ ~ Vin-, 4KV/Vin~FG , criteria A		
			Conducted	BS EN/EN61000-4-6		Level 3, 10V, criteria A		
			Magnetic Field	BS EN/EN61000-4-8		Level 4, 30A, criteria A		
	MTBF		•					
OTHERS				( - //	8Khrs min. Telcordia T	R/SR-332 (Bellcore) (25°C)		
לאםחות	DIMENSION		85.5*125.2*129.2mm (W*H*					
	PACKING		0.96Kg; 8pcs/10.3Kg/1.02C	UF「				
NOTE	<ol> <li>Ripple &amp; noise a</li> <li>Tolerance : included</li> <li>Derating may be</li> <li>The ambient ter 2000m(6500ft)</li> <li>Installation clear</li> </ol>	are measundes set undes set undes set under eneeded mperature rances : 4	ured at 20MHz of bandwidt p tolerance, line regulation under low input voltage. P derating of 3.5°C/1000m v Omm on top, 20mm on the	and load regulation. lease check the derating c vith fanless models and of bottom, 5mm on the left a	air-wire terminated with urve for more details. $5^{\circ}$ C/1000m with fan mand right side are recor	ient temperature. In a $0.1\mu\text{F}$ & $47\mu\text{F}$ parallel capacitor. In a odels for operating altitude higher than mmended when loaded permanently with		
full power. In case the ac 7. The power supply is consid EMC directives. For guidan			ered a component which will ce on how to perform these meanwell.com//Upload/PDF	EMC tests, please refer to "E- F/EMI_statement_en.pdf)	pment. The final equipm EMI testing of componer			







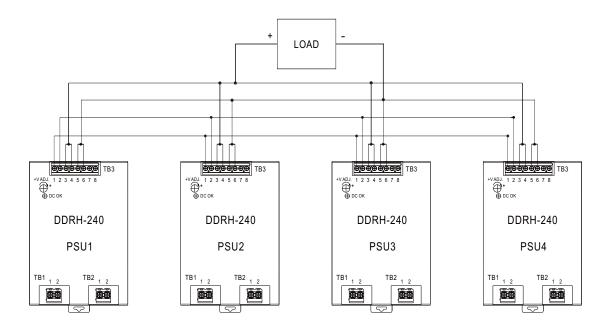
#### ■ DC OK Relay Contact

Contact Close	PSU turns ON / DC OK.
Contact Open	PSU turns OFF / DC Fail.
Contact Ratings (max.)	30V/1A resistive load.

## **■** Function Manual

#### 1. Current sharing

- (1) Parallel operation is available by connecting the units shown as below (P+,P- are connected mutually in parallel) .
- (2) The voltage difference among each output should be minimized that less than 0.2V is required.
- (3) The total output current must not exceed the value determined by the following equation (Output current at parallel operation) =(The rated current per unit) x (Number of unit) x 0.9.
- (4) In parallel operation 4 units is the maximum, please consult the manufacture for other applications.
- (5) When in parallel operation, the minimum output load should be greater than 3% of total output load. (Min. load > 3% rated current per unit x number of unit)
- (6) In parallel operation, after overload or short circuit fault occurs, re-power on to recover.



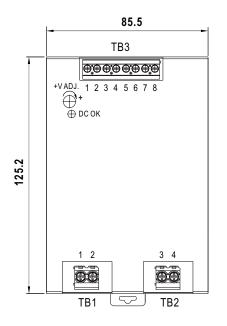


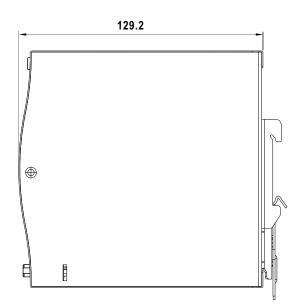
## ■ Mechanical Specification

(Unit: mm , tolerance ± 1mm) Case No.984H

Terminal Pin No. Assignment (TB3)

Pin No.	Assignment
1	P+(Current sharing)
2	P-(Current sharing)
3,4	+Vo
5,6	-Vo
7,8	DC OK Relay Contact





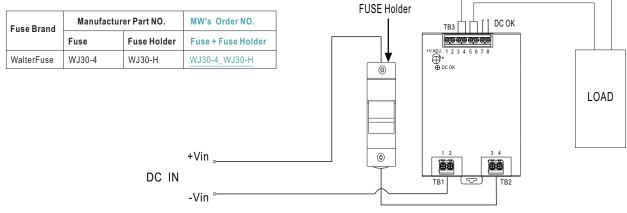
Terminal Pin No. Assignment (TB1,TB2)

Pin No.	Assignment	
1,2	-Vin	
3,4	+Vin	

## ■ External FUSE wiring instruction

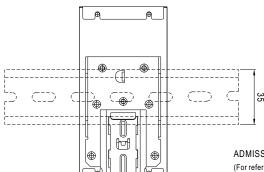
External FUSE is required.FUSE specification: 4A/1500Vdc.







## ■ Installation Instruction



This series fits DIN rail TS35/7.5 or TS35/15. For installation details, please refer to the Instruction manual.

ADMISSIBLE DIN rail:TS35/7.5 OR TS35/15 (For reference only. Not included with unit.)

## ■ Installation Manual

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