Installation Manual

- **Type：DDRH Ultra Wide Input DIN Rail Type DC-DC Converter**

DDRH-15-5P/ST/DR	INPUT: 150~1500VDC	OUTPUT: 5V 2A 10W
DDRH-15-12P/ST/DR	INPUT: 150~1500VDC	OUTPUT: 12V 1.25A 15W
DDRH-15-15P/ST/DR	INPUT: 150~1500VDC	OUTPUT: 15V 1A 15W
DDRH-15-24P/ST/DR	INPUT: 150~1500VDC	OUTPUT: 24V 0.625A 15W
DDRH-30-12P/ST/DR	INPUT: 150~1500VDC	OUTPUT: 12V 2.5A 30W
DDRH-30-15P/ST/DR	INPUT: 150~1500VDC	OUTPUT: 15V 2A 30W
DDRH-30-24P/ST/DR	INPUT: 150~1500VDC	OUTPUT: 24V 1.25A 30W
DDRH-30-48P/ST/DR	INPUT: 150~1500VDC	OUTPUT: 48V 0.625A 30W
DDRH-45-12P/ST/DR	INPUT: 150~1500VDC	OUTPUT: 12V 3.75A 45W
DDRH-45-15P/ST/DR	INPUT: 150~1500VDC	OUTPUT: 15V 3A 45W
DDRH-45-24P/ST/DR	INPUT: 150~1500VDC	OUTPUT: 24V 1.87A 45W
DDRH-45-48P/ST/DR	INPUT: 150~1500VDC	OUTPUT: 48V 0.938A 45W
DDRH-60-5	INPUT: 150~1500VDC	OUTPUT: 5V 10A 60W
DDRH-60-12	INPUT: 150~1500VDC	OUTPUT: 12V 5A 60W
DDRH-60-24	INPUT: 150~1500VDC	OUTPUT: 24V 2.5A 60W
DDRH-60-48	INPUT: 150~1500VDC	OUTPUT: 48V 1.25A 60W
DDRH-120-12	INPUT: 250~1500VDC	OUTPUT: 12V 8.4AV 100.8W
DDRH-120-24	INPUT: 250~1500VDC	OUTPUT: 24V 5A 120W
DDRH-120-32	INPUT: 250~1500VDC	OUTPUT: 32V 3.75A 120W
DDRH-120-48	INPUT: 250~1500VDC	OUTPUT: 48V 2.5A 120W
DDRH-240-12	INPUT: 250~1500VDC	OUTPUT: 12V 16.7A 200.4W
DDRH-240-24	INPUT: 250~1500VDC	OUTPUT: 24V 10A 240W
DDRH-240-32	INPUT: 250~1500VDC	OUTPUT: 32V 7.5A 240W
DDRH-240-48	INPUT: 250~1500VDC	OUTPUT: 48V 5A 240W

NOTE:

DDRH-15/30/45-xxP： PCB mounting type

DDRH-15/30/45-xxST：Screw terminal type

- **Introduction**

DDRH series is a DIN Rail type DC-DC converter with main features including DIN rail-type easy installation, ultra wide input voltage, wide range operating temperature, DC OK relay contact and full protective functions...etc.

DDRH-15 series has ultra-high input voltage: 150~1500Vdc and various output options: 5V/12V/24V/48V. DDRH-30/45/60 series has ultra-high input voltage: 150~1500Vdc and various output options: 12V/15V/24V/48V. DDRH-120/240 series has ultra-high input voltage: 250~1500Vdc and various output options: 12V/24V/32V/48V. DDRH series 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 and so forth.

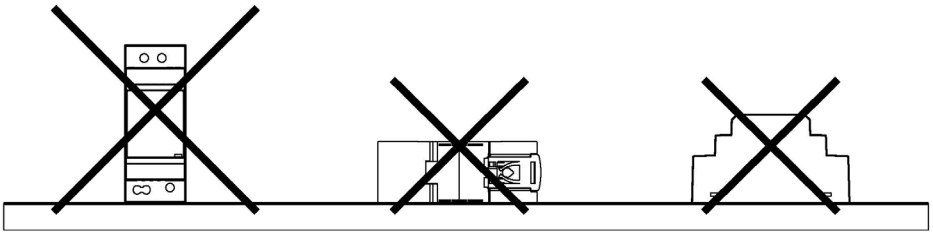
- **Installation**

（1）Always allow good ventilation clearances, 5mm left and right, 40mm above and 20mm below, around the unit in use to prevent it from overheating. Also a 10-15 cm clearance must be kept when the adjacent device is a heat source.

（2）The appropriate mounting orientation for the unit is vertical, the input terminals at the bottom and output on the top. Mounting orientations other than that, such as upside down, horizontal, or table-top mounting, is not

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allowed.



（3）Use copper wire only, and recommended wires are shown as below.

AWG	20	18	16	14
Rated Current of Equipment (Amp)	5A	7A	10A	15A
Cross-section of Lead(mm^2)	0.5	0.8	1.3	2.1
Note：Current each wire carries should be de-rated to 80% of the current suggested above when using 4-6 wires connected to the unit.				

Make sure that all strands of each stranded wire enter the terminal connection and the screw terminals are securely fixed to prevent poor contact. If the power supply possesses multi-output terminals, please make sure each contact is connected to wires to prevent too much current stress on a single contact.

（4）Use wires that can withstand temperatures of at least 90°C, such as UL1015.

（5）Recommended wire strapping length is 6mm (0.236”).

（6）Recommended screwdriver is 3mm, slotted type.

（7）The recommended torque setting for terminals is shown as below.

Terminal Screw / Series	INPUT	OUTPUT
DDRH-15	5 kgf-cm (4.4Lb-in)	5 kgf-cm (4.4Lb-in)
DDRH-30	5 kgf-cm (4.4Lb-in)	5 kgf-cm (4.4Lb-in)
DDRH-45	5 kgf-cm (4.4Lb-in)	5 kgf-cm (4.4Lb-in)
DDRH-60	6 kgf-cm (5.2Lb-in)	5.1kgf-cm (4.42 Lb-in)
DDRH-120	5.1kgf-cm (4.42 Lb-in)	5.1kgf-cm (4.42 Lb-in)
DDRH-240	8.15kgf-cm (7 Lb-in)	5.1kgf-cm (4.42 Lb-in)

（8）External fuse wiring instruction :

External fuse is required. Fuse specification: 4A/1500Vdc.

The suggested fuse and fuse holder model:

Fuse brand	Manufacturer Part NO.		MW’s Order NO.
	Fuse	Fuse Holder	Fuse + Fuse Holder
Walter	WJ30-4	WJ30-H	DDRH-WJ30-4-H
Littelfuse	SPXV-4A	LFPXV/LPXV	Not provide
Bussmann	PV-4A10F85L	CHPV15L85	Not provide

For more details about the fuse and fuse holder, please refer to the below links.

The Walter fuse and fuse holder links:

http://www.walterfuse.com/pdf/powerfuse/powerfuse_wj30.pdf

http://www.walterfuse.com/pdf/holder/holder_wj-30h.pdf

The Littelfuse fuse and fuse holder links:

https://www.littelfuse.com/~/media/electrical/datasheets/fuses/solar-fuses/littelfuse_fuse_solar_spxv_datasheet.pdf

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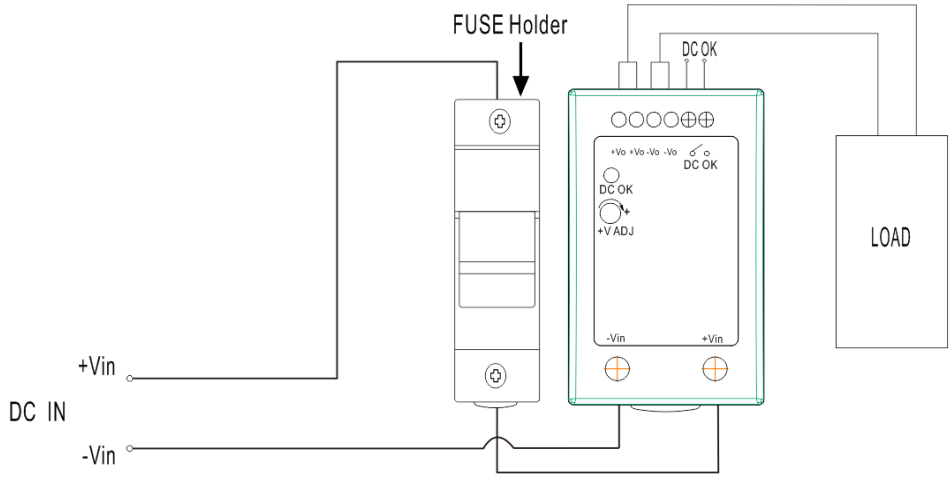
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https://www.littelfuse.com/~/media/electrical/datasheets/fuse-blocks-and-holders/dead-front-fuse-holders/littelfuse_fuse_holder_lfpxv_datasheet.pdf

https://www.littelfuse.com/~/media/electrical/datasheets/fuse-blocks-and-holders/littelfuse-fuse-holder-lpxv-datasheet.pdf

The Bussmann fuse and fuse holder links:

http://www.cooperindustries.com/content/dam/public/bussmann/Electrical/Resources/Catalogs/bus-ele-cat-1007-flc-2018-sec-06-pv.pdf?_ga=2.127114697.571121133.1577416796-883900423.1577416796



（9）Mounting Instruction：

Mount as shown in figure only, with input terminals down, or else sufficient cooling will not be possible.

Admissible DIN rail：TS35/7.5 or TS35/15

For rail fastening：



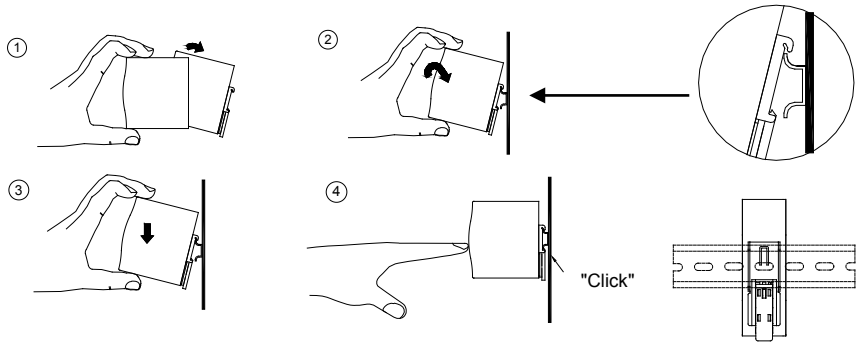
（a）Tilt the unit slightly rearwards.

（b）Fit the unit over top hat rail.

（c）Slide it downward until it hits the stop.

（d）Press against the bottom for locking.

（e）Shake the unit slightly to check the locking action.



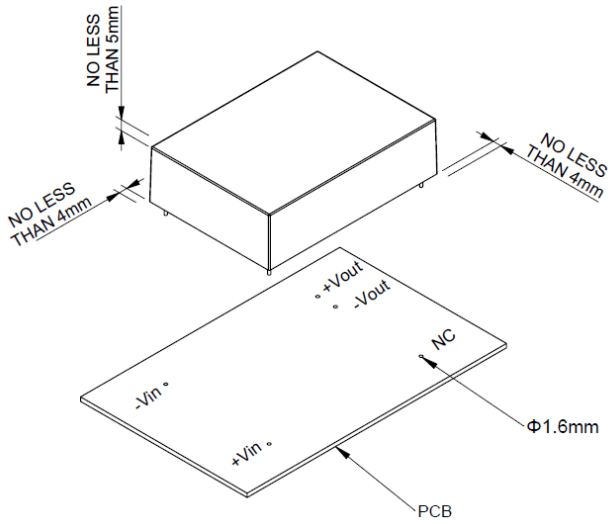
（10）Installation clearances: 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when loaded permanently with full power. In case the adjacent device is a heat source, 15mm clearance is recommended.

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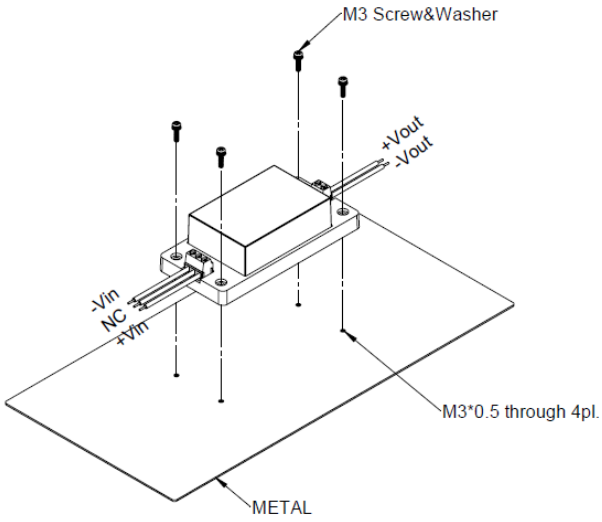
For DDRH-15/30/45-P fastening：

Pin mount as shown in figure only, Soldered on the PCB



Pin Installation clearances: mounting holes are 1.6mm. please allow 4mm side clearance from the components and all side of the pcb and case. allow 5mm clearance above the highest parts on the pcb and case

For DDRH-15/30/45-ST fastening： ST mount as shown in figure only, use screws to fix on the metal



DH-ST Installation clearancs: use 4pcs M3 screws to secure the unit. the vibration specification applies when the unit is mounted on metal. please allow 4mm side clearance from the components and all side of the unit. allow 5mm clearance above the highest parts on the unit.

（11）The ambient temperature derating of 3.5°C/1000m with fan less models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500fit).

（12）Please refer to the warranty statement on MEAN WELL's website at http://www.meanwell.com

（13）For any application note and IP water proof function installation caution, please refer our user manual before using. https://www.meanwell.com/Upload/PDF/LED_EN.pdf

（14）Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer .aspx

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（15）For other information about the products, please refer to www.meanwell.com for details.

- **Warning / Caution !!**

"CAUTION：FOR USE IN A CONTROLLED ENVIRONMENT. REFER TO MANUAL FOR ENVIRONMENTAL CONDITION"
ATTENTION: A UTILISER DANS UN ENVIRONNEMENT CONTROLE. REFEREZ VOUS AU MANUEL POUR LES CONDITIONS D'ENVIRONNEMENT.

（1）Risk of electrical shock and energy hazard. All failure should be examined by a qualified technician. Please do not remove the case of the power supply by yourself!
（2）Risk of electric arcs and electric shock (danger to life). Connecting both the primary and the secondary sides together is not allowed.
（3）Risk of burn hazard. Do not touch the unit in operation and shortly after disconnection!
（4）Risk of fire and short circuit. The openings should be protected from foreign objects or dripping liquids.
（5）Only install the unit in a pollution degree 2 environment (Note.1).
（6）Please do not install the unit in places with high moisture or near the water.
（7）The maximum operating temperature is 80°C for the DDRH-60, please do not install the unit in places with high ambient temperature or near fire source.
（8）Output current and output wattage must not exceed the rated value on its specification.
（9）Disconnect system from supply voltage:
Before commencing any installation, maintenance or modification work: Disconnect your system from supply voltage. Make sure that inadvertent connection in circuit will be impossible!
（10）Do not remove cover until 5 minutes after disconnecting all sources of supply.
（11）Field-wiring terminals for both DC Input and DC Output shall be marked:
Inputs: "Use No. 90°C Copper Wire only".
Outputs: "Use No. 90°C Copper Wire only".
（12）+Vin：Input positive terminal
- Vin：Input negative terminal
+Vo：Output positive terminal
-Vo：Output negative terminal
NC：No connection with pin


：Protective conductor terminal



CAUTION
- Risk of electric shock, do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.
- Do not remove cover until 5 minutes after disconnecting all sources of supply.

ATTENTION
- Risque de choc é lectrique, ne pas enlever le couvercle. Aucune pièce utilisable par l'utilisateur à i'intérieur. référez l'entretien à du personnel de service qualifié.
- Ne retirez le couvercle que 5 minutes aprè s avoir débranché toutes les sources d'alimentation.

- **Applicable Requirements**

CSA C22.2 No. 107.1:16 (Fourth Edition);
UL 1741 (Third Edition; Reprint with revisions through and including May 19, 2023)

Note.1: Pollution Degree 2 applies where there is only non-conductive pollution that might temporarily become conductive due to occasional condensation. Generally refer to dry, well-ventilated locations, such as control cabinets.

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Declaration of China RoHS Conformity

In order to reduce the impacts on the environment and take the more responsibility for protecting the earth, MEAN WELL is confirming and announcing the conformity to China RoHS, an Administrative Measures for the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products.

Environment Friendly Use Period Label

	Observing SJT 11364-2024, Marking for the Restricted Use of Hazardous Substances in Electronic and Electrical Products Observing SJ/Z 11388-2009, General Guidelines of Environment-friendly Use Period of Electronic Information Products Appendix B, adopting table look-up to verify the Environment Friendly Use Period

Names and Contents of Hazardous Substances Lists

Part Name	Hazardous Substances									
	Lead (Pb)	Mercury (Hg)	Cadmium (Cd)	Hexavalent chromium (Cr^{6+})	Polybrominated biphenyls (PBB)	Polybrominated diphenyl ethers (PBDEs)	Bis(2-ethylhexyl) phthalate (DEHP)	Dibutyl phthalate (DBP)	Dibutyl phthalate (DBP)	Diisobutyl phthalate (DIBP)
PCB and its components	X	O	O	O	O	O	O	O	O	O
Metal structure parts	X	O	O	O	O	O	O	O	O	O
Plastic structure parts	O	O	O	O	O	O	O	O	O	O
Accessories	O	O	O	O	O	O	O	O	O	O
Cables	X	O	O	O	O	O	O	O	O	O

O: The concentration of the hazardous substances within the homogeneous material of that product is less than the concentration limits set by GB/T 26572-2011.
X: The concentration of the hazardous substances within the homogeneous material of that product is over the concentration limits set by GB/T 26572-2011; however, it follows the standard advised by 2011/65/EU.

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Declaration of China VOC Conformity

In order to reduce the impacts on the environment and take the more responsibility for protecting the earth, MEAN WELL is confirming and announcing the conformity to China's Standardization Administration Releases VOC Standards

Standard No.	Name of the Standard
GB 30981-2020	Limit of harmful substances of industrial protective coatings
GB 33372-2020	Limits for volatile organic compounds content in adhesive
GB 38507-2020	Limits for volatile organic compounds (VOCs) In printing ink
GB 38508-2020	Limits for volatile organic compounds content in cleaning agents

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Declaration of Five PBT TSCA Conformity

In order to reduce the impacts on the environment and take the more responsibility for protecting the earth, MEAN WELL hereby confirms that MEAN WELL product series comply with Use and Risk Management for Five PBT Chemicals under TSCA section 6(h)

CAS No.	Substance Name
1163-19-5	Decabromodiphenyl ether (DecaBDE)
68937-41-7	Phenol, isopropylated, phosphate (3:1) PIP (3:1)
732-26-3	2,4,6-Tris (tert-butyl) phenol (2,4,6-TTBP)
133-49-3	Pentachlorothiophenol (PCTP)
87-68-3	Hexachlorobutadiene (HCBD)

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