DESCRIPTIONS 120W，DC/DC DIN-Rail Power Supply

RoHS

FEATURES

- Universal 80-850VDC input voltage (Transient 900VDC last for 5s)
- Meet 150% over-load for 3s
- Operating ambient temperature range: -40℃ to +85℃
- High I/O isolation voltage up to 4000VAC
- Industrial-grade design
- Low ripple & noise, high efficiency, high reliability
- LED indicator for power on
- Input under-voltage protection, output short circuit, over-current, over-voltage protection
- OVC III, 2000m altitude (design refer to IEC/ EN62477)
- Design refer to UL61010, UL1741, EN/IEC62109, EN62477

APPLICATIONS

- energy storage
- industrial control

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V)*	Efficiency at 400VDC (%) Typ.	Capacitive Load (μF) Max.
--	DPVI120-8B-12	100.8	12V/8.4A	12-13.8	87	3500
	DPVI120-8B-24	120.0	24V/5.0A	24-28.0	89	2500
	DPVI120-8B-48		48/2.5A	48-54.0	91	1500

Note: 1.* The actual adjustment range may extend outside the values stated, care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.
2.The product picture is for reference only.For details, please refer to the actual product.

Specifications

Product Specifications	Item		Operating Conditions		Min.	Typ.	Max.	Unit
Input Specifications	Input Voltage Range		Transient (5s)		--	--	900	VDC
					80	--	850	
	Input Current		400VDC		--	--	1.0	A
			800VDC		--	--	0.5	
	Inrush Current		400VDC	Cold start	--	--	80	
			800VDC		--	--	150	
	Input Under-voltage Protection		Load after derating, under-voltage protection start		30	--	70	VDC
			Load after derating, under-voltage protection release		60	--	80	
	External Input Fuse				1000VDC/3A, required (brand: adler models: A831300710 base models: BH100-01)			
	Input Reverse Polarity Protection				Available			
	Hot Plug				Unavailable			
Output Specifications	Output Voltage Accuracy		All load range	12V	--	±1.5	--	%
				24V/48V	--	±1.0	--	
	Line Regulation		Rated load		--	±0.5	--	
	Load Regulation		400VDC		--	±0.5	±1.0	
	Ripple & Noise*		20MHz bandwidth (peak-to-peak value)	12V/24V	--	50	120	mV
				48V	--	70	150	
	Stand-by Power Consumption		250VDC/400VDC		--	0.5	--	W
			850VDC		--	1.0	--	
	Temperature Coefficient				--	±0.03	--	%/℃
	Short Circuit Protection		Recovery time < 15s		Hiccup, continuous, self-recovery			
	Over-current Protection				≥120%Io, output off for >5s, restart for recover			
	Over-voltage Protection		12V		≤18V			Output voltage hiccup
			24V		≤35V			
			48V		≤63V			
	Minimum Load				0	--	--	%
	Start-up Delay Time				--	--	3	s
	Hold-up Time		Full load	550VDC input	--	10	--	ms
				850VDC input	--	40	--	
	Isolation	Input - output	Electric Strength Test for 1min., leakage current < 5mA		4000	--	--	VAC
		Input - PE	Electric Strength Test for 1min., leakage current < 6mA		3000	--	--	
		Output - PE	Electric Strength Test for 1min., leakage current < 5mA		500	--	--	

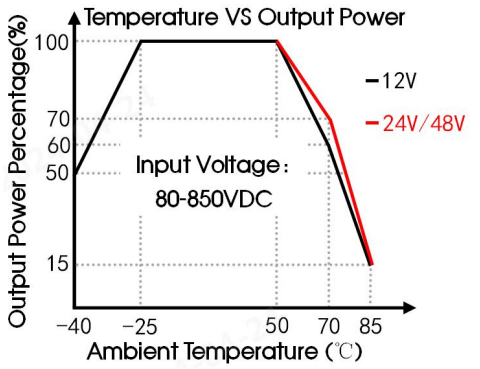
General Specifications	Insulation Resistance	Input - output	Test voltage: 500VDC		100	--	--	MΩ
		Input - PE						
		Output - PE						
	Operating Temperature				-40	--	+85	℃
	Storage Temperature				-40	--	+85	
	Storage Humidity		Non-condensing		--	--	90	%RH
	Output Power Derating	Operating temperature derating	+40℃ to -25℃		3.33	--	--	%/℃
			+50℃ to +70℃	12V	2.00	--	--	
			+50℃ to +70℃	24V/48V	1.50	--	--	
			+70℃ to +85℃	12V	3.00	--	--	
			+70℃ to +85℃	24V/48V	3.67	--	--	
		Input voltage derating	80VDC - 140VDC	12V/48V	0.33	--	--	%/VDC
			80VDC - 140VDC	24V	0.50	--	--	
			250VDC - 400VDC		0.33	--	--	
		Altitude derating	2000-5000m		13.33	--	--	%/Km
	MTBF		MIL-HDBK-217F@25℃		≥300,000 h			
Mechanical Specifications	Case Material		Metal (AL1100, SGCC)					
	Package Dimensions		124.60 x 43.10 x 118.54mm					
	Weight		500g (Typ.)					
	Cooling Method		Free air convection					

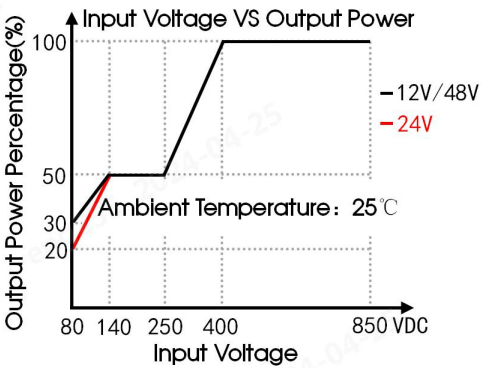
Note: * The "Tip and barrel method" is used for ripple and noise test, by using a 12" twisted pair-wire terminated, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor.

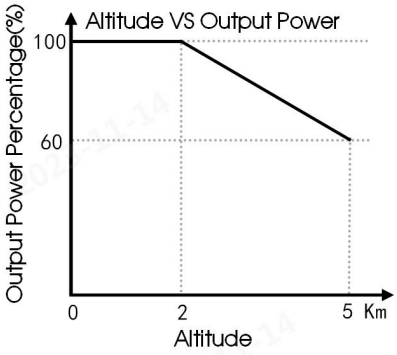
Electromagnetic Compatibility (EMC)

Electromagnetic Compatibility (EMC)	Emissions	CE	CISPR32 EN55032 CLASS A	
		RE	CISPR32 EN55032 CLASS A	
		EN61000-6-4		
	Immunity	ESD	IEC/EN61000-4-2 Contact ±4KV/Air ±8KV	Perf. Criteria A
		RS	IEC/EN61000-4-3 10V/m	Perf. Criteria A
		EFT	IEC/EN61000-4-4 ±2KV	Perf. Criteria A
		Surge	IEC/EN61000-4-5 Line to line ±1KV/line to PE ±2KV	Perf. Criteria A
		CS	IEC/EN61000-4-6 10Vr.m.s	Perf. Criteria A
		MS	IEC/EN61000-4-8 30A/m	Perf. Criteria A
		EN55035、EN61000-6-2		

Product Characteristic Curve



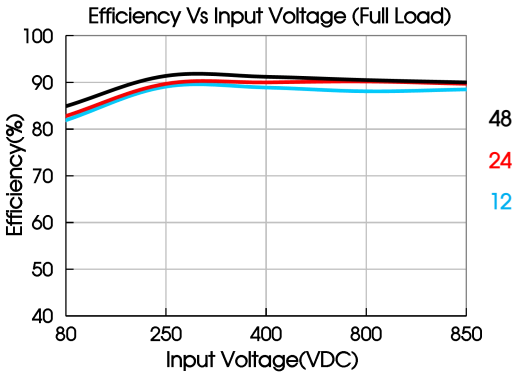


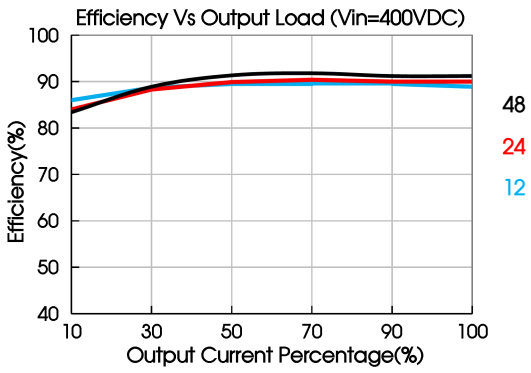


Note:

1. With an DC input between 80-140VDC/250-400VDC, the output power must be derated as per temperature derating curves;

2. This product is suitable for applications using natural air cooling.





Design Reference

1. Typical application

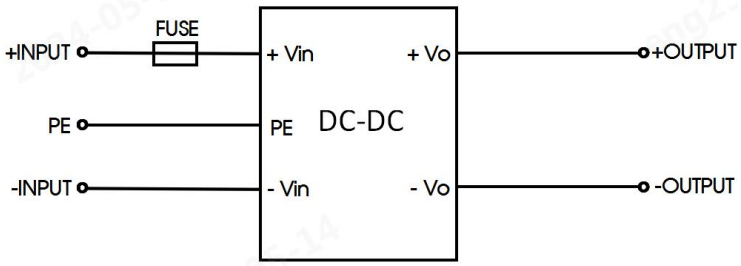
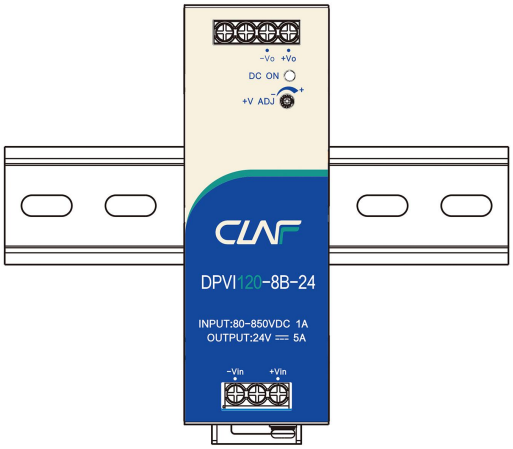
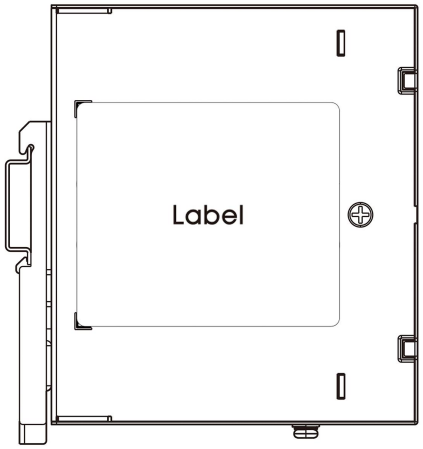


Fig. 1

Part No.	FUSE
DPVI120-8B-xx	1000VDC/3A, required (brand: adler models: A831300710 base models: BH100-01)

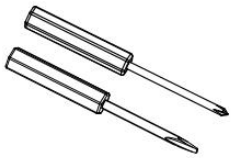
Installation Diagram



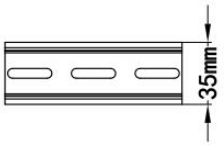


Materials required in the installation		
1	Product	1 PC
2	Phillips screwdriver Slotted screwdriver	1 PC
3	TS35/7.5 or TS35/15	1 PC
4	24–10AWG Wire	/ PCS
	The content is for reference only. Regarding the actual wire diameter and tightening torque, refer to the dimensional drawing.	

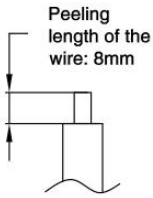
Product



Phillips screwdriver
Slotted screwdriver
Diameter of the cutting
Diameter: 3mm



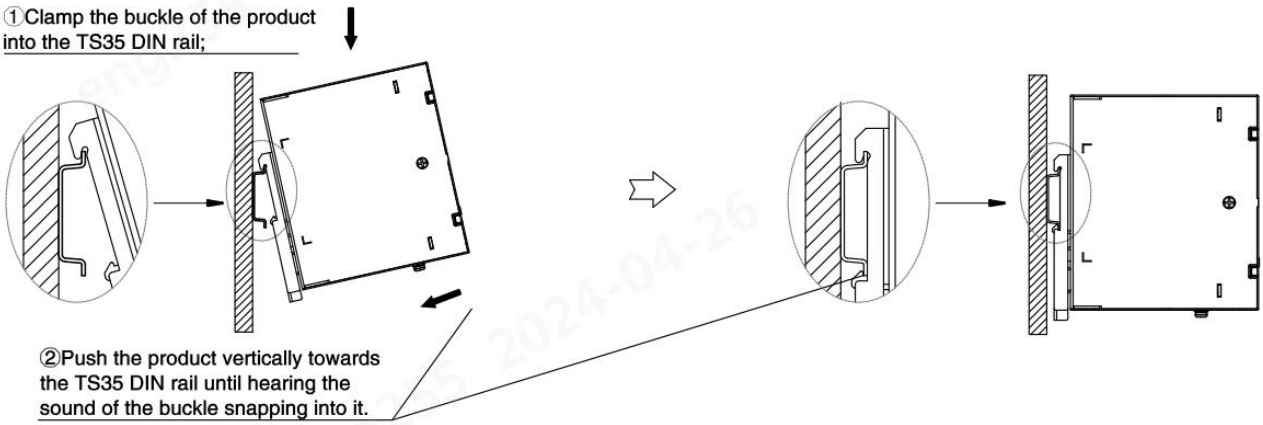
TS35/7.5 or TS35/15



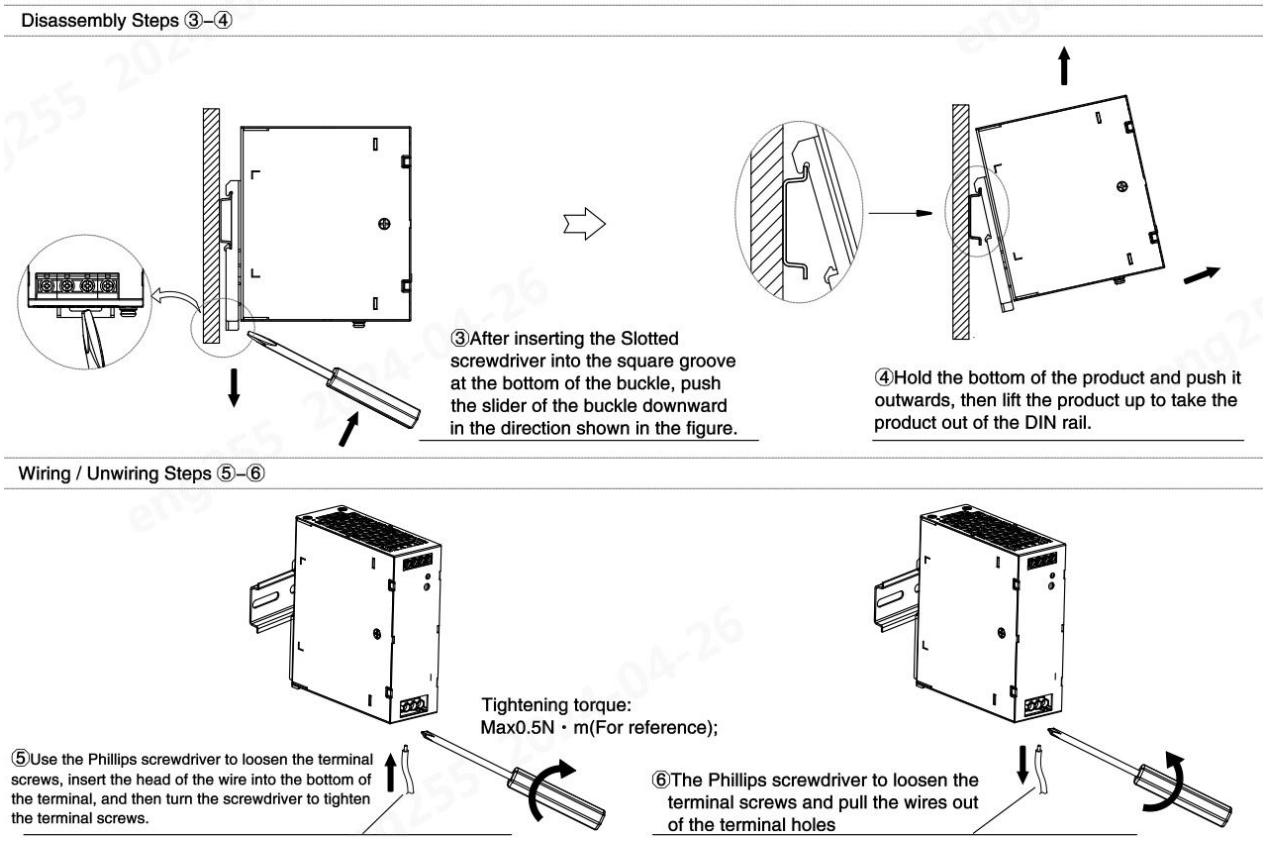
22–10AWG Wire

Installation Steps ①–②

①Clamp the buckle of the product into the TS35 DIN rail;



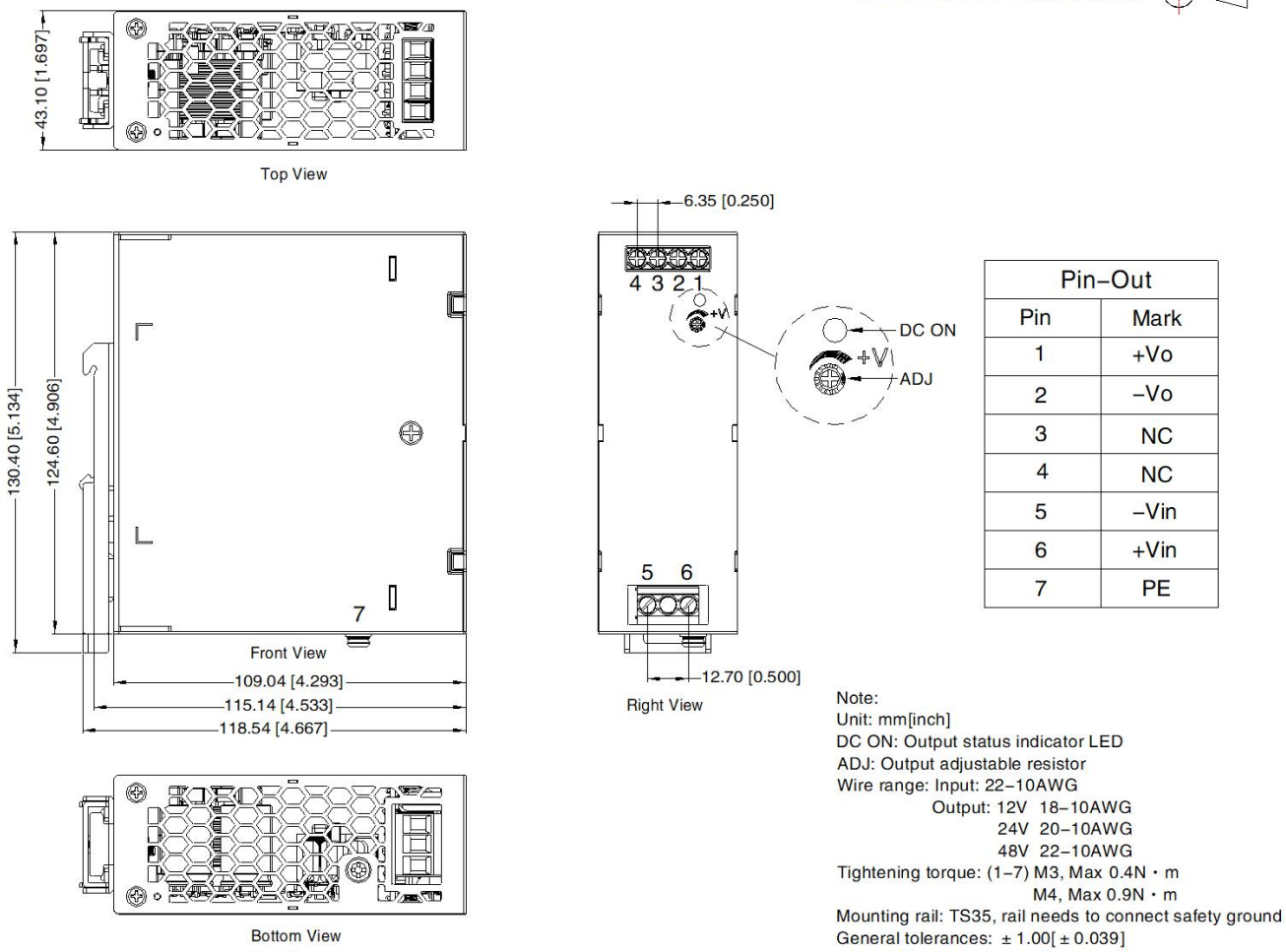
②Push the product vertically towards the TS35 DIN rail until hearing the sound of the buckle snapping into it.



Note: Keep the following installation clearances: 20mm on top, 20mm on the bottom, 5mm on the left and right sides are recommended when the device is loaded permanently with more than 50% of the rated power. Increase this clearance to 15mm in case the adjacent device is a heat source (e.g. another power supply).

Dimensions and Recommended Layout

THIRD ANGLE PROJECTION



Pin–Out	
Pin	Mark
1	+Vo
2	–Vo
3	NC
4	NC
5	–Vin
6	+Vin
7	PE

Note:
Unit: mm[inch]
DC ON: Output status indicator LED
ADJ: Output adjustable resistor
Wire range: Input: 22–10AWG
Output: 12V 18–10AWG
24V 20–10AWG
48V 22–10AWG
Tightening torque: (1–7) M3, Max 0.4N・m
M4, Max 0.9N・m
Mounting rail: TS35, rail needs to connect safety ground
General tolerances: ± 1.00[± 0.039]

Note:

1. For additional information on Product Packaging ;
2. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25℃, humidity<75%RH with nominal input voltage and rated output load;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
5. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" and "EMC";
7. The out case needs to be connected to PE (⏚) of system when the terminal equipment in operating;
8. The output voltage can be adjusted by the ADJ, clockwise to decrease;
9. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.