DESCRIPTIONS 75W，DC-DC DIN-Rail Power Supply



RoHS

UL1741

FEATURES

- Universal 150 - 1500VDC input voltage (Transient 1600VDC last for 30s)
- Operating ambient temperature range: -40℃ to +85℃
- High I/O isolation voltage up to 4000VAC
- Low ripple & noise, high efficiency, high reliability
- DC OK function
- Input under-voltage protection, input reverse polarity protection, output short circuit, over-current, over-voltage, over-temperature protection
- Operating altitude up to 5000m
- Design refer to UL1741, EN/IEC62109

APPLICATIONS

- Energy storage equipment
- Photovoltaic

Selection Guide

Certification	Part No.	Output Power (W)	Nominal Output Voltage and Current (vo/Io)	Output Voltage Adjustable Range ADJ (V)*	Efficiency at 800VDC (%) Typ.	Capacitive Load (μF) Max.
--	DPVI75-15B-24	75	24V/3.125A	24-29	87	2500
UL	DPVI75-15B-48		48V/1.563A	48-54	88	1000

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 (30s)		--	--	1600	VDC
				150	--	1500	
	Input Current	150VDC (Steady power)		--	--	0.41	A
		750VDC (Steady power)		--	--	0.15	
	Inrush Current	150VDC	Cold start	--	30	--	
		800VDC		--	100	--	
		1500VDC		--	200	--	
	Input Under-voltage Protection	Under-voltage protection start		60	--	130	VDC
		Under-voltage protection release		90	--	140	
	Input Reverse Polarity Protection			Available			
	External Input Fuse			1500VDC/2A, required (brand: Adler, model: A851200b00, base model: BH100-01)			
	Hot Plug			Unavailable			
Output Specifications	Output Voltage Accuracy	Full load range		--	±1.0	--	%
	Line Regulation	Rated load		--	±0.5	--	
	Load Regulation	800VDC		--	±0.5	--	
	Minimum Load			0	--	--	
	Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	24V	--	--	150	mV
			48V	--	--	200	
	Stand-by Power Consumption	Full voltage range		--	1	3	W
	Temperature Coefficient			--	±0.02	--	%/°C
	Start-up Delay Time			--	1	2	s
	Hold-up Time	Full load	800VDC input	--	30	--	ms
			1500VDC input	--	100	--	
	DC OK Signal**	Resistive load		30VDC/1A Max.			
	Over-current Protection			In CV mode, when the output voltage is ≥ 70%, the protection mode is 110%-150% Io constant current output; When the output voltage is less than 70%, the protection mode is hiccup or constant current output (110%-150% Io); In CC mode, the overcurrent point is 110%-250% Io, and the protection mode is hiccup.			

	Short Circuit Protection				Hiccup, continuous, self-recovery			
	Over-temperature Protection		1500VDC input, rated load	Over-temperature protection start	70	--	85	℃
				Over-temperature protection release	55	--	70	
	Over-voltage Protection		24V		≤38V	Output voltage clamp		
			48V		≤60V			
General Specifications	Isolation	Input - output	Electric Strength Test for 1min., leakage current<5mA		4000	--	--	VAC
		Output - DC OK			500	--	--	
	Insulation Resistance	Input - output	Test voltage: 500VDC		100	--	--	MΩ
	Operating Temperature				-40	--	+85	℃
	Storage Temperature				-40	--	+85	
	Storage Humidity		Non-condensing		--	--	95	%RH
	Output Power Derating		Operating temperature derating	-40℃ to -25℃	2.67	--	--	%/℃
				+55℃ to +85℃	2.67	--	--	
			Input voltage derating	150VDC - 200VDC	0.32	--	--	%/VDC
				200VDC - 300VDC	0.20	--	--	
			Altitude derating	2000m - 5000m	6.70	--	--	%/Km
	Safety Class				CLASS II			
	MTBF		MIL-HDBK-217F@25℃		≥300,000 h			
Mechanical Specifications	Case Material		Plastic case					
	Package Dimensions		102.00 x 55.00 x 91.50mm					
	Weight		680g (Typ.)					
	Cooling Method		Free air convection					

Note: *The "parallel cable" method is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 1uF ceramic capacitor;

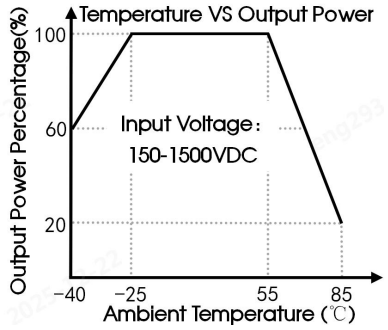
**DC OK Signal: When the output voltage is normal, the relay is connected. When the output voltage is abnormal (<90%Vo), the relay is disconnected;

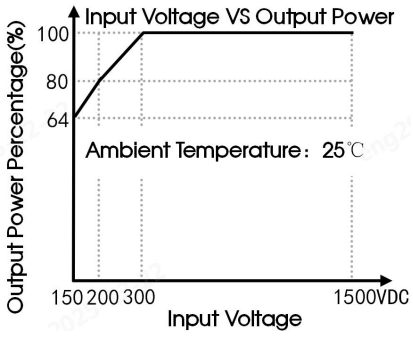
Electromagnetic Compatibility (EMC)

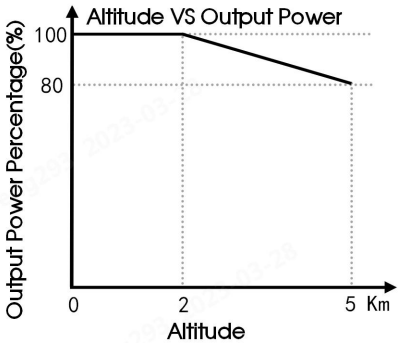
Electromagnetic Compatibility (EMC)	Emissions (EMI)	CE	CISPR32 EN55032	CLASS A	
		RE	CISPR32 EN55032	CLASS A	
		Voltage Flicker	EN61000-3-3	Fulfilled	
		EN61000-6-4			
	Immunity (EMS)	ESD	IEC/EN61000-4-2	Contact ±6KV/Air ±8KV	Perf. Criteria A
		RS	IEC/EN61000-4-3	10V/m	Perf. Criteria A
		EFT	IEC/EN61000-4-4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

		Voltage dips*	IEC61000-6-2/IEC61000-4-11	70% U_n, 25/30 cycle(50/60Hz); 40% U_n, 10/12 cycle(50/60Hz); 0% U_n, 1 cycle	Perf. Criteria B
		Voltage interruptions*	IEC61000-6-2/IEC61000-4-11	0% U_n, 250/300 cycle(50/60Hz)	Perf. Criteria C
		EN61000-6-2			
Note: *U_n Maximum input nominal voltage.					

Product Characteristic Curve

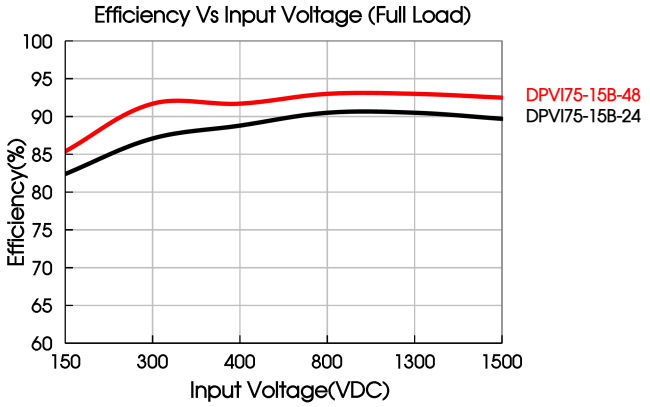


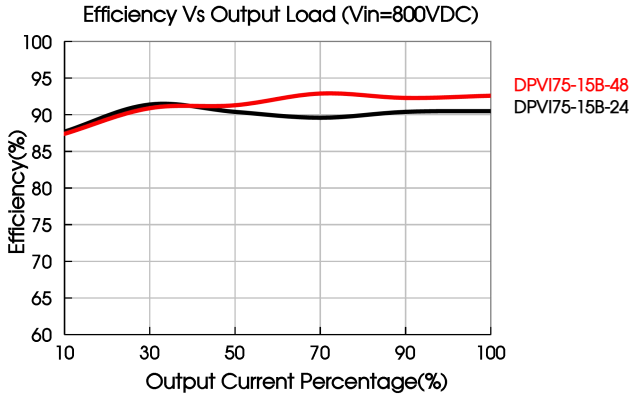




Note: 1.With an DC input between 150-300VDC, the output power must be derated as per temperature derating curves;

2.This product is suitable for applications using natural free air cooling; for applications in closed environment please consult our FAE.





Design Reference

1. Typical application

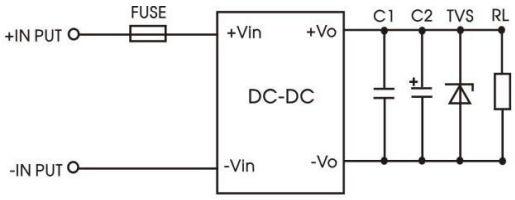


Fig. 1: Typical application circuit

Model	FUSE	C1(μF)	C2(μF)	TVS
DPVI75-15B-24	1500VDC/2A, required (brand: Adler, model: A851200b00, base model: BH100-01)	1μF/35V	47μF/35V	SMBJ30A
DPVI75-15B-48		1μF/63V	47μF/63V	SMBJ60A

Output Filter Components:

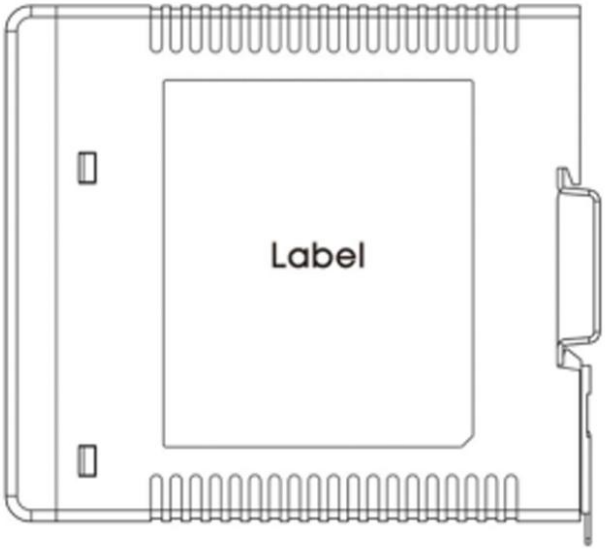
We recommend using an electrolytic capacitor with high frequency and low ESR rating for C2 (refer to manufacture's datasheet). Choose a capacitor voltage rating with at least 20% margin, in other words not exceeding 80%. C1 is a ceramic capacitor, used to filter high-frequency noise. TVS is a recommended suppressor diode to protect the application in case of a converter failure.

2. For additional information please refer to application notes

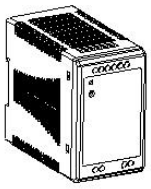
Additional protective devices, such as lightning protector need to be added if there is an transient pulse voltage greater than 6KV at the input of products in system applications.

Installation Diagram





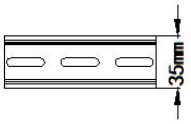
Bill Of Material		
1	Product	1 PCS
2	Phillips screwdriver Slotted screwdriver	1 PCS
3	TS35/7.5 or TS35/15	1 PCS
4	16–10AWG wires	/ PCS
	All above is only for reference, the actual wiring diameter and locking torque refer to the appearance size diagram	



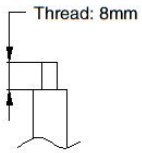
Product



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

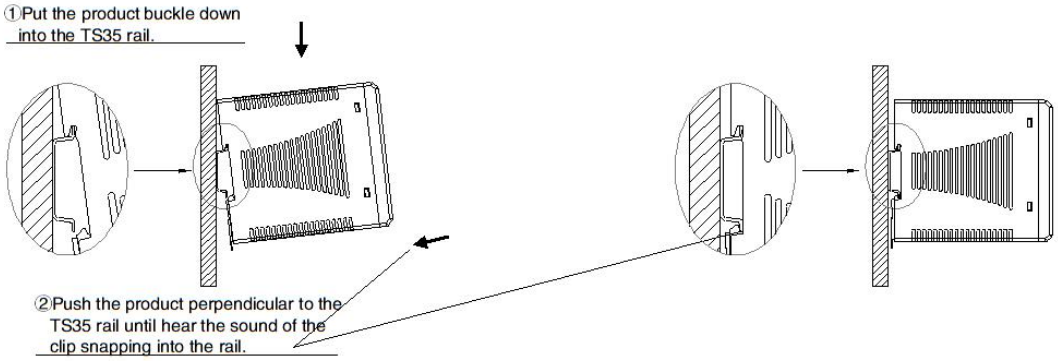


TS35/7.5 or TS35/15

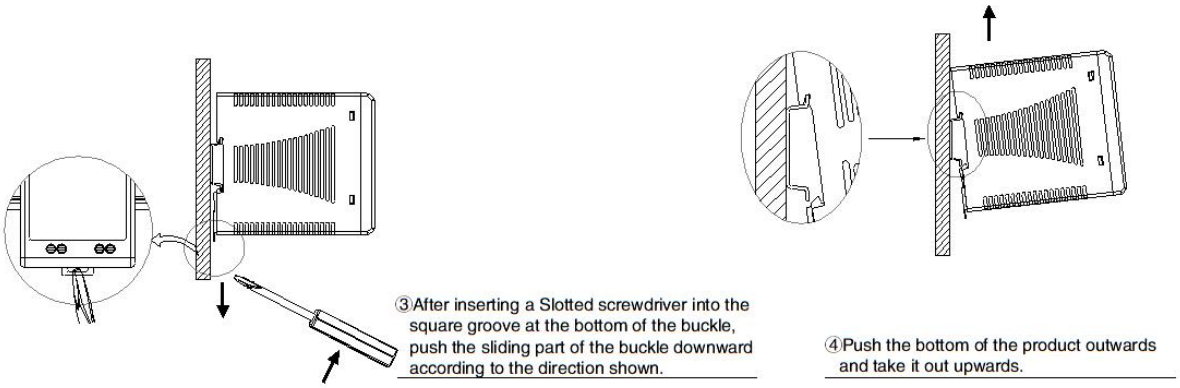


26–10AWG wires

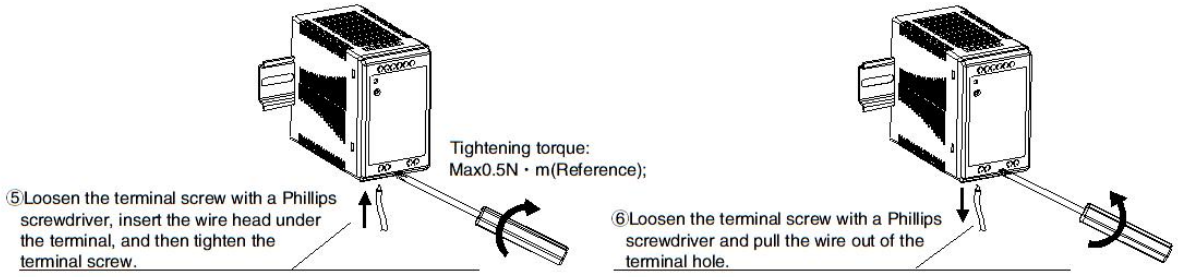
Installation steps ①–②



Disassembly steps ③–④



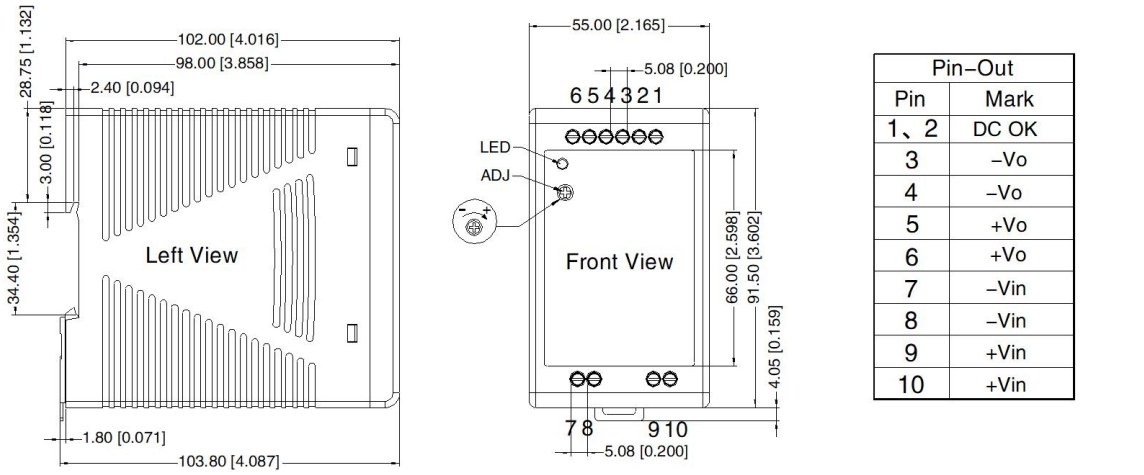
Connecting/Disconnecting Steps ⑤–⑥



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、2	DC OK
3	–Vo
4	–Vo
5	+Vo
6	+Vo
7	–Vin
8	–Vin
9	+Vin
10	+Vin

Note:
Unit: mm[inch]
Wire range: 16–12AWG
Terminal recommended torque: M3，0.5 N・m±10%
Mounting rail: TS35
General tolerances: ±1.00[±0.039]

1.DANGER

1.HIGH VOLTAGE

2.CAUTION: RISK OF ELECTRIC SHOCK. DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE.

2.ATTENTION: RISQUES D'ÉLECTROCUTION. NE PAS RETIRER LE COUVERCLE. NE CONTIENT AUCUNE PIÈCE POUVANT ÊTRE RÉPARÉE PAR L' UTILISATEUR.

3.CAUTION: DISCONNECT ALL SOURCES OF SUPPLY BEFORE SERVICING.

3.ATTENTION: COUPER TOUTES LES SOURCES D'ALIMENTATION AVANT DE FAIRE L'ENTRETIEN ET LESL RÉPARATIONS.

4.CAUTION: RISK OF ELECTRIC SHOCK FROM STORED ENERGY. WAIT 5 MIN AFTER DISCONNECTING ALL SOURCES OF SUPPLY BEFORE ACCESSING.

4.ATTENTION:RISQUE D'ÉLECTROCUTION EN RAISON DE L'ÉLECTRICITÉ EMMAGASINÉE. ATTENDRE 5 MINUTES APRÈS AVOIR DÉBRANCHÉ TOUTES LES SOURCES D'ALIMENTATION AVANT D'Y ACCÉDER.

Note:

1. 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;
2. All index testing methods in this datasheet are based on our company corporate standards;
3. 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;
4. Products are related to laws and regulations: see "Features" and "EMC";
5. The output voltage can be adjusted by the ADJ, clockwise to increase;
6. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units;
7. The image certification marks are for reference only; please refer to the selection table for actual specifications. Certification is based on the physical mark or packaging label.