Descriptions

75W, DC/DC Converter



RoHS

Report Report

EN62109-1 BS EN62109-1 EN 62109-1

Features

- Ultra-wide input voltage range of 80 - 1000VDC
- Transient power 120W last for 3s
- Industrial grade operating temperature: -40℃ to +85℃
- High I/O isolation voltage up to 4000VAC
- High efficiency, low ripple & noise
- High reliability, long lifespan, low power consumption
- Input under-voltage protection, input reverse polarity protection, over-temperature protection, output short circuit, over-current, over-voltage protection
- Safety according to IEC62109

Applications

- Industrial control
- Power
- Energy storage

Selection Guide

Certification	Part No.	Output Power		Nominal Output Voltage and Current (Vo/Io)	Efficiency at 500VDC (%) Typ.	Capacitive Load (μF) Max.
		Steady	Transient (duration 3s)			
EN/BS EN/TUV	DPV75-10B-12V2	75	120	12V/6250mA	87	3000
	DPV75-10B-15V2			15V/5000mA	87	3000
	DPV75-10B-24V2			24V/3125mA	89	1500

Note: The product picture is for reference only. For details, please refer to the actual product.

Specifications

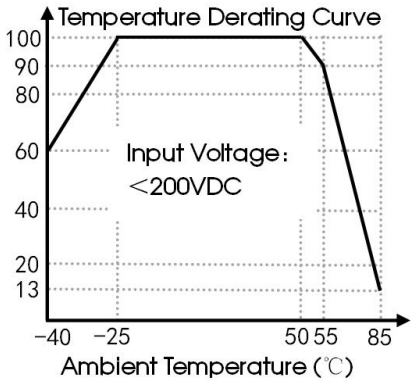
Product Specifications	Item		Operating Conditions		Min.	Typ.	Max.	Unit
Input Specifications	Input Voltage Range		Operating Conditions		80	--	1000	VDC
	Input Current		150VDC		--	--	0.70	A
			750VDC		--	--	0.15	
	Inrush Current		1000VDC		--	--	150	
	Input Under-voltage Protection		Lockout activation range		20	--	70	VDC
			Lockout deactivation range		30	--	80	
	Input Reverse Polarity Protection				Available			
	Required External Output Fuse				4A/1000VDC, required			
	Hot Plug				Unavailable			
Output Specifications	Output Voltage Accuracy		All load range		--	±2	--	%
	Line Regulation		Rated load		--	±1	--	
	Load Regulation		500VDC		--	±2	--	
	Ripple & Noise*		20MHz bandwidth (peak-to-peak value)		--	--	300	mV
	Stand-by Power Consumption		500VDC		--	--	0.5	W
			1000VDC		--	--	1	
	Temperature Coefficient				--	±0.02	--	%/℃
	Short Circuit Protection				Hiccup, continuous, self-recovery			
	Over-voltage Protection		12V output		≤20VDC		Output voltage clamp or hiccup	
			15V output		≤23VDC			
			24V output		≤32VDC			
	Over-current Protection				≥170%Io, self-recovery			
	Over-temperature Protection		Full load	Over-temperature protection start	60	--	75	ms
				Over-temperature protection release	55	--	70	s
	Minimum Load				0	--	--	%
	Hold-up Time		Room temperature, full load	750VDC input	--	20	--	ms
	Start-up Delay Time		Room temperature		--	--	3	s
General Specifications	Isolation	Input - output	Electric Strength Test for 1min., leakage current ＜10mA		4000	--	--	VAC
		Input - PE			4000	--	--	
		Output - PE	Electric Strength Test for 1min., leakage current ＜5mA		2000	--	--	

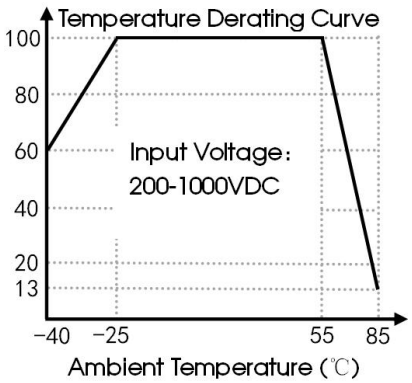
General Specifications	Insulation Resistance	Input - output	500VDC		100	--	--	MΩ
		Input - PE						
		Output - PE						
	Operating Temperature				-40	--	+85	℃
	Storage Temperature				-40	--	+85	
	Storage Humidity				--	--	95	%RH
	Switching Frequency				--	65	--	KHz
	Power Derating		-40℃ to -25℃		2.67	--	--	%/℃
			+50℃ to +55℃	80-200VDC	2.00	--	--	
			+55℃ to +85℃	80-200VDC	2.56	--	--	
			+55℃ to +85℃	200-1000VDC	2.90	--	--	
			80-100VDC		1.50	--	--	%/VAC
			100-150VDC		0.80	--	--	
			2000- 5000m		10	--	--	%/Km
	MTBF		MIL-HDBK-217F@25℃		≥300,000 h			
Mechanical Specifications	Case Material		Metal					
	Dimensions		140.00 x 70.00 x 42.00mm					
	Weight		420g (Typ.)					
	Cooling Method		Free air convection					
Note: *The "Tip and barrel method" is used for ripple and noise test.								

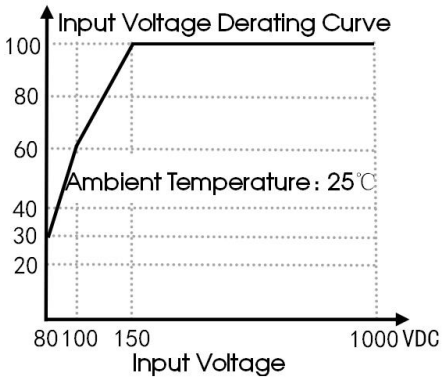
Electromagnetic Compatibility (EMC)

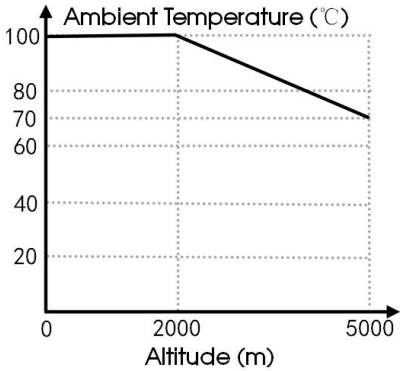
Electromagnetic Compatibility (EMC)	Emissions	CE	CISPR32/EN55032 CLASS A	
			CISPR32/EN55032 CLASS B*	
		RE	CISPR32/EN55032 CLASS A	
			CISPR32/EN55032 CLASS B*	
	Immunity	ESD	IEC/EN61000-4-2 Contact ±6KV/Air ±8KV	Perf. Criteria A
		RS	IEC/EN61000-4-3 10V/m	Perf. Criteria A
		EFT	IEC/EN61000-4-4 ±4KV	Perf. Criteria B
		Surge	IEC/EN61000-4-5 Line to line ±1KV/line to PE ±2KV	Perf. Criteria B
		CS	IEC/EN61000-4-6 10Vr.m.s	Perf. Criteria A
Note: *Class B tested with 60% load.				

Characteristic Curve



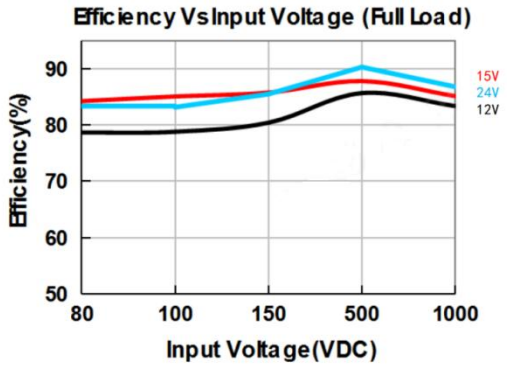


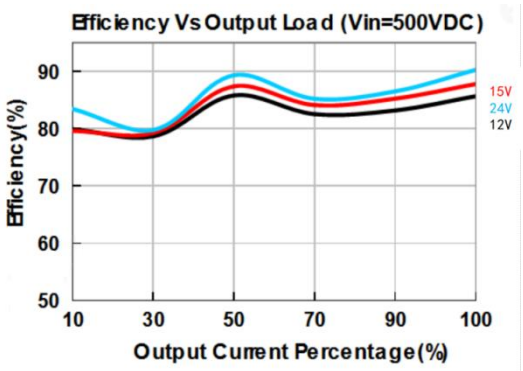




Note: ① With an input between 80 -150VDC, the output power of parts must be derated as per temperature derating curves;

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





Design Reference

1. Typical application circuit

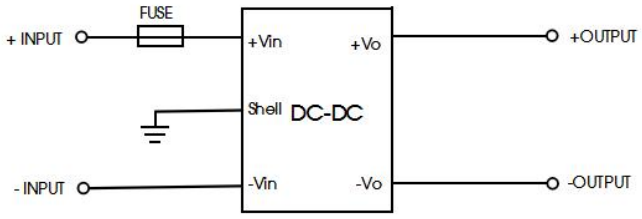


Fig. 1

Model	Recommended value
FUSE	4A/1000VDC, required

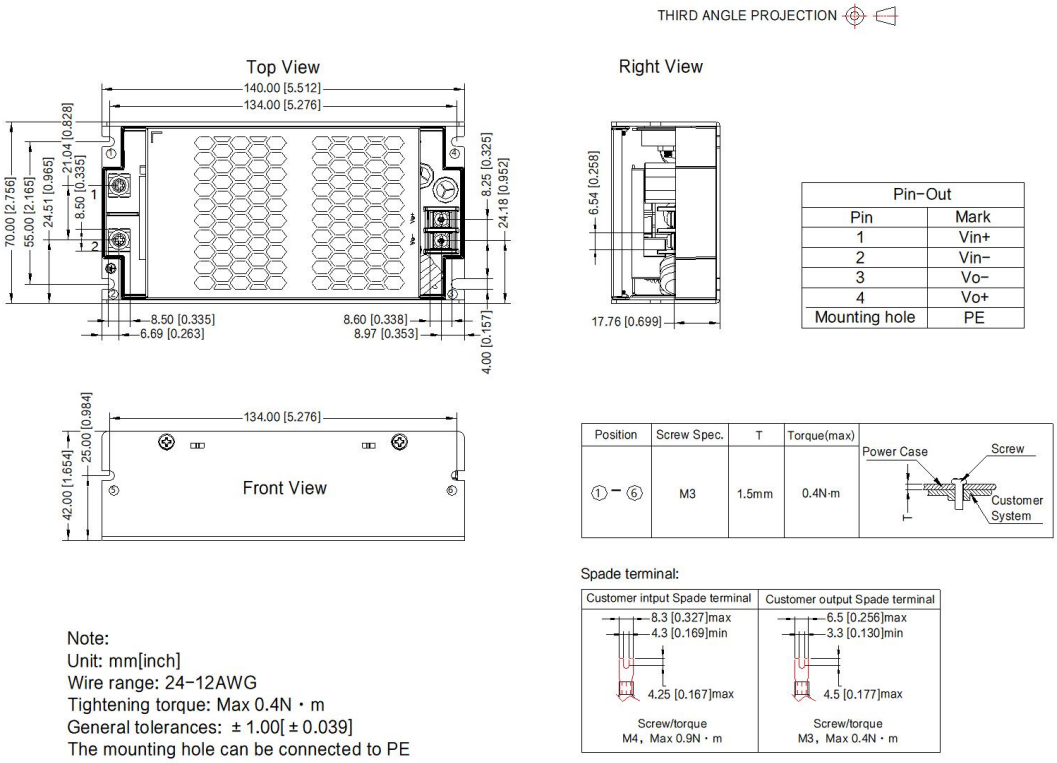
2. IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS – This manual contains important instructions for Models DPV75-10B-xxV2 series that Shall be followed during installation of the DC-DC converter.

① 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.

② For symbol ⎓, it means circuit shall be connected to a dc circuit.

DPV75-10B-xxV2 Dimensions and Recommended Layout



Pin-Out	
Pin	Mark
1	Vin+
2	Vin−
3	Vo−
4	Vo+
Mounting hole	PE

Position	Screw Spec.	T	Torque(max)
① – ⑥	M3	1.5mm	0.4N·m

Spade terminal:

Customer intput Spade terminal	Customer output Spade terminal
8.3 [0.327]max 4.3 [0.169]min 4.25 [0.167]max Screw/torque M4, Max 0.9N · m	6.5 [0.256]max 3.3 [0.130]min 4.5 [0.177]max Screw/torque M3, Max 0.4N · m

Note:
Unit: mm[inch]
Wire range: 24–12AWG
Tightening torque: Max 0.4N · m
General tolerances: ± 1.00[± 0.039]
The mounting hole can be connected to PE

⚠WARNING:

AVERTISSEMENT:

1. CAUTION: "To reduce the risk of fire, connect only to a circuit provided with 4 amperes maximum branch-circuit over-current protection in accordance with the National Electrical Code, ANSI/NFPA70."

1. Avertissement: Pour réduire le risque d'incendie, veuillez connecter uniquement à des circuits de dérivation avec protection contre les surintensités conformes au code électrique national ANSI/ NFPA 70.

2.WARNING: REPLACE ONLY WITH THE SAME RATINGS AND TYPE OF FUSE.

2. AVERTISSEMENT : N'UTILISER QUE DES FUSIBLES DE MÊMECALIBRE ET DE MÊME TYPE QUE LE FUSIBLE DORIGINE.

3. DANGER – HIGH VOLTAGE.

3. DANGER : HAUTE TENSION.

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

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

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

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

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

6.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% with nominal input voltage and rated output load;
2. All index testing methods in this datasheet are based on our company corporate standards;
3. Products are related to laws and regulations: see "Features" and "EMC";
4. Our products shall be classified according to ISO14001 and related environmental laws and regulations, and shall be handled by qualified units.
5. If the final product application is connected to a photovoltaic array, the array needs to be grounded and the voltage between the positive and negative poles of the product shall not be greater than 1000Vdc;
6. 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.