DESCRIPTIONS

DC-DC Parallel Redundancy Module



RoHS

3 Years Warranty

CE Report EN62368-1

UKCA Report BS EN62368-1

FEATURES

- Input voltage range: 9-60VDC
- Operating ambient temperature range: -40℃ to +85℃
- High efficiency up to 98%
- 1500VAC insulation voltage
- Built-in DC OK signal and alarm relay contact
- Double side conformal coating
- Operating altitude up to 5000m
- Supporting for N+1 parallel redundancy
- Safety according to UL/IEC62368, UL61010/508, ATEX, IECEx, EN61558, EN62477, IEC/UL60664

APPLICATIONS

- Industrial
- Electricity
- Security
- Telecommunications

Selection Guide

Certification	Part No*	Voltage Drop Vin-Vo (V/Typ.)	Nominal Output Current (A) Max.	Efficiency (24/48VDC, %/Typ.)
EN/BS EN	DDR40	0.2	40	98

Note:1.*The rated voltage difference of the product is related to the input voltage and load condition, the higher the load, the higher the voltage difference.
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		DC input		9	12/24/48	60	VDC
	Input Current Range		Each input 0-40A, continuous		--	--	40	A
	Input peak current		Each input 0-40A for 5s without damage		--	--	60	A
	Hot Plug				Unavailable			
Output Specifications	Ripple & Noise*		20MHz bandwidth (peak-to-peak value)		--	200	--	mV
	Output Power		48V/40A		--	1920	--	W
	DC OK Function		The two input voltages are normal		DC OK function is normal (relay on), two input LED indicator light on			
	LED1 (Vin1 OK)		ON		Vin1 input ok			
	LED2 (Vin2 OK)		ON		Vin2 input ok			
General Specifications	Isolation Test	Input output - ⏚	Electric strength test for 1min., leakage current < 2mA		1500	--	--	VAC
	Insulation Resistance	Input output - ⏚	At 500VDC		100	--	--	MΩ
	Operating Temperature				-40	--	+85	℃
	Storage Temperature				-40	--	+85	
	Storage Humidity		Non-condensing		--	--	95	%RH
	Power Derating		Operating temperature derating	+60℃ to +70℃	2.5	--	--	%/℃
				+70℃ to +85℃	2.33	--	--	
	Safety Class				CLASS I			
	MTBF		MIL-HDBK-217F@25℃		>1700,000 h			
Mechanical Specifications	Case Material		Metal (AL1100, SGCC)					
	Dimensions		124.00mm × 54.00mm × 110.00mm					
	Weight		400g (Typ.)					
	Cooling Method		Natural air cooling					

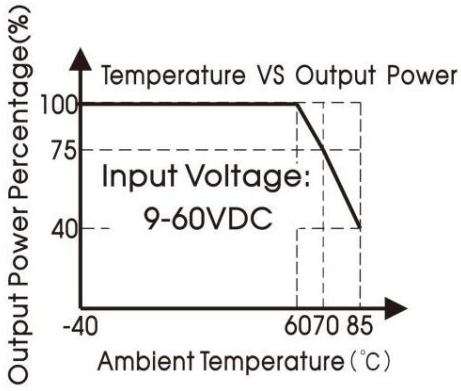
Note: 1.*LED state: Vin1 triggers the under-voltage alarm, Vin1 LED turns off, Vin2 LED turns on; Vin1 triggers the over-voltage alarm, Vin1 LED turns on, Vin2 LED turns off;

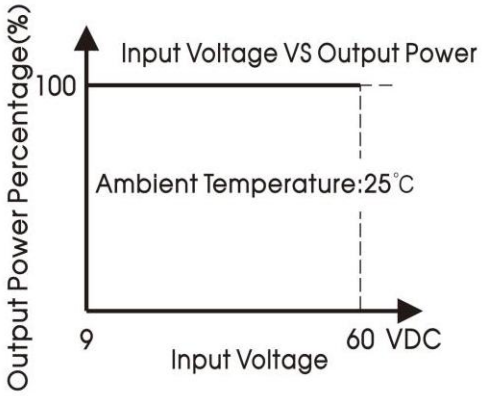
2.*The "Tip and barrel method" is used for ripple and noise test, output parallel 47uF electrolytic capacitor and 0.1uF ceramic capacitor.

Electromagnetic Compatibility (EMC)

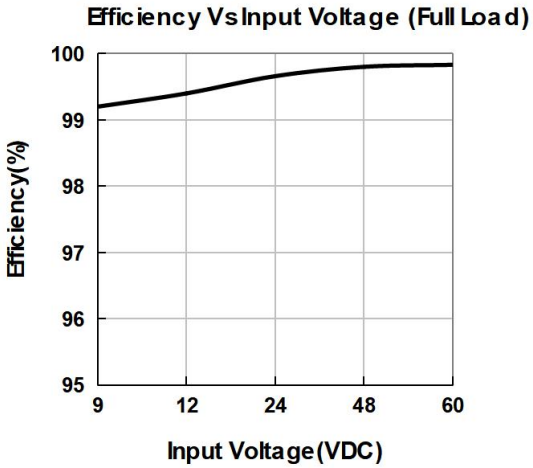
Electromagnetic Compatibility (EMC)	Emissions (EMI)	CE	CISPR32/EN55032 CLASS B	
		RE	CISPR32/EN55032 CLASS B	
	Immunity (EMS)	ESD	IEC/EN 61000-4-2 Contact ±8KV/Air ±15KV	Perf. Criteria A
		RS	IEC/EN 61000-4-3 20V/m	perf. Criteria A
		EFT	IEC/EN 61000-4-4 ±2KV	perf. Criteria A
		Surge	IEC/EN 61000-4-5 line to line ±1KV/line to ground ±2KV	perf. Criteria A
		CS	IEC/EN61000-4-6 20 Vr.m.s	perf. Criteria A

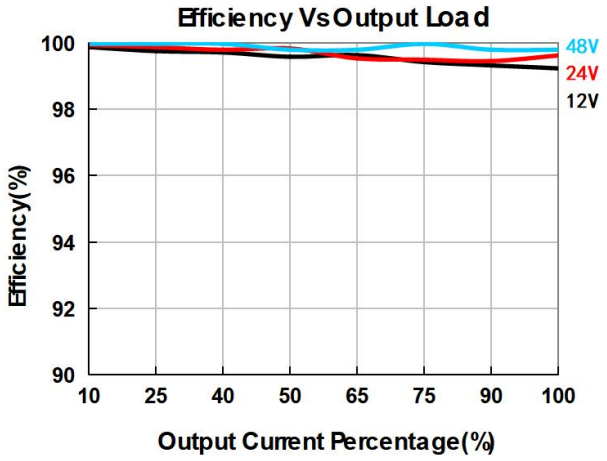
Characteristic Curve





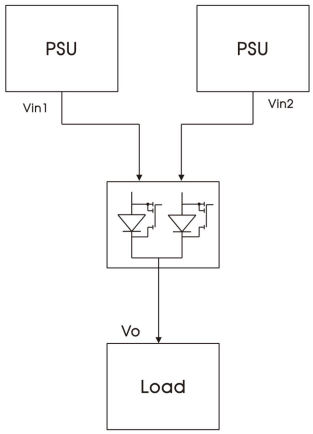
Note: This product is suitable for applications using natural air cooling.



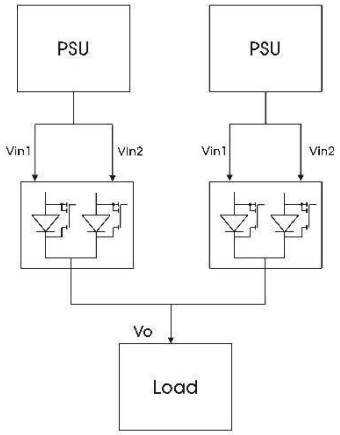


Typical Application

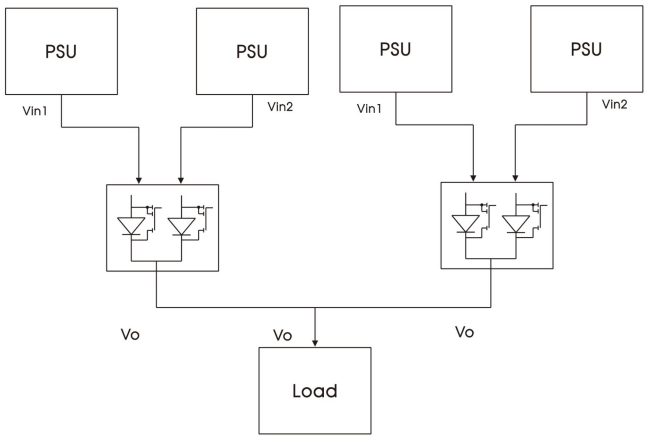
1. 1+1 Redundancy: Using 1 more PSU as the redundant unit.



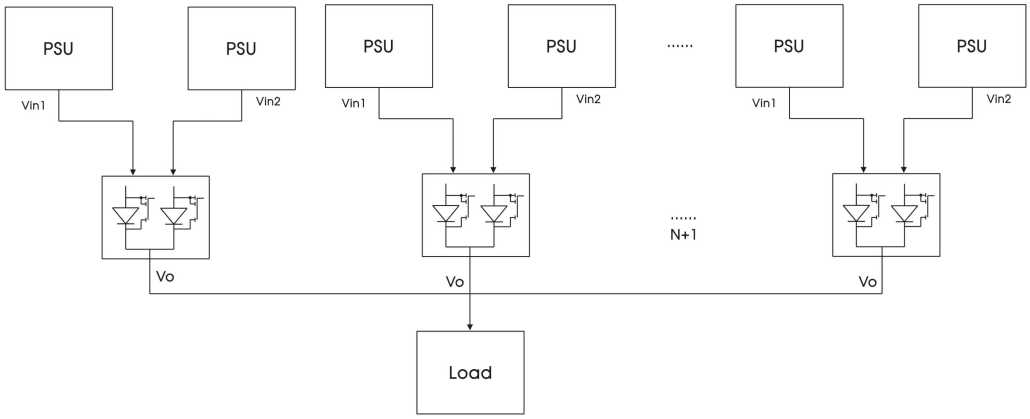
2. Single Use: Connecting only one PSU to one DDR40 module to reduce the stress of the MOS and hence increase the reliability.



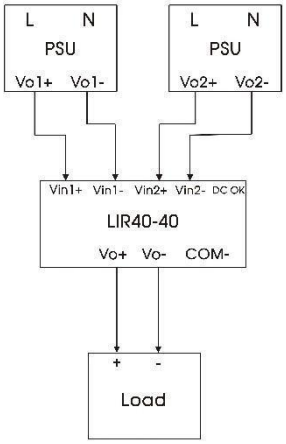
3. 2+2 Redundancy: Using 2 more PSU as the redundant unit.



4. N+1Redundancy: Using more PSUs as the redundant units to increase the reliability.



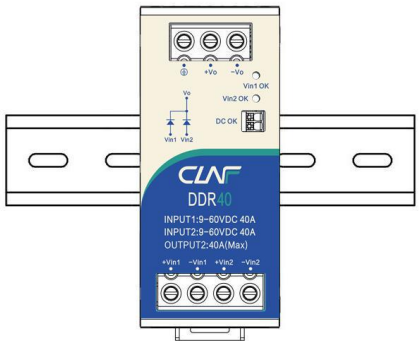
5. Cable connection reference

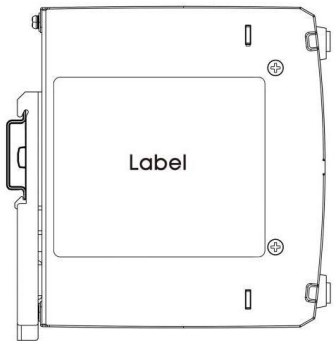


Note: 1. Please add AC-DC module;

2. When the output is short circuited, the pre-stage AC-DC module short circuit protection will be triggered.

Installation Diagram





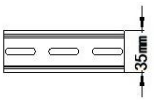
Materials required in the installation		
1	Product	1 PCS
2	Phillips screwdriver Slotted screwdriver	1 PCS
3	TS35/7.5 or TS35/15	1 PCS
4	24–6AWG wire	/ PCS
	The content is for reference only. Regarding the actual wire diameter and tightening torque, refer to the dimensional drawing.	



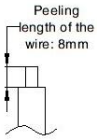
Product



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

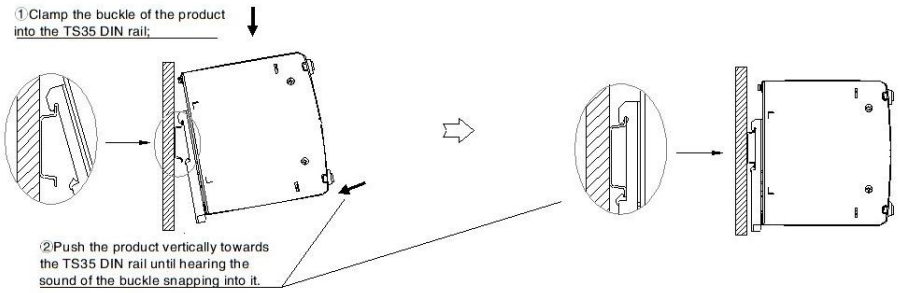


TS35/7.5 or TS35/15

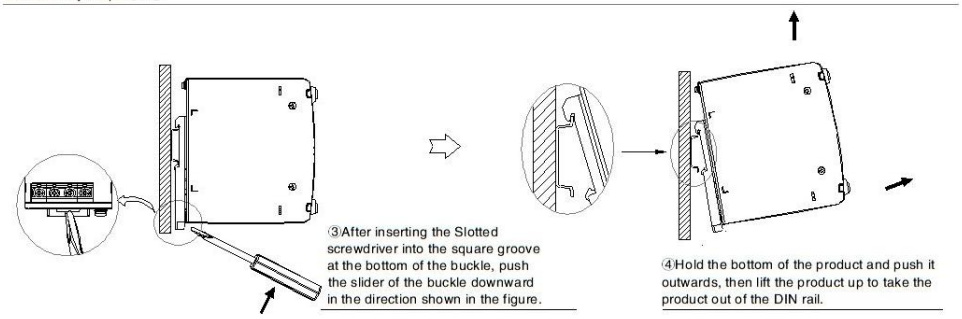


24–6AWG wires

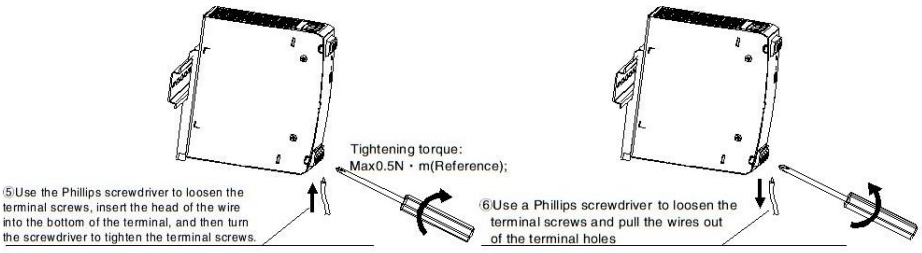
Installation Steps ①–②



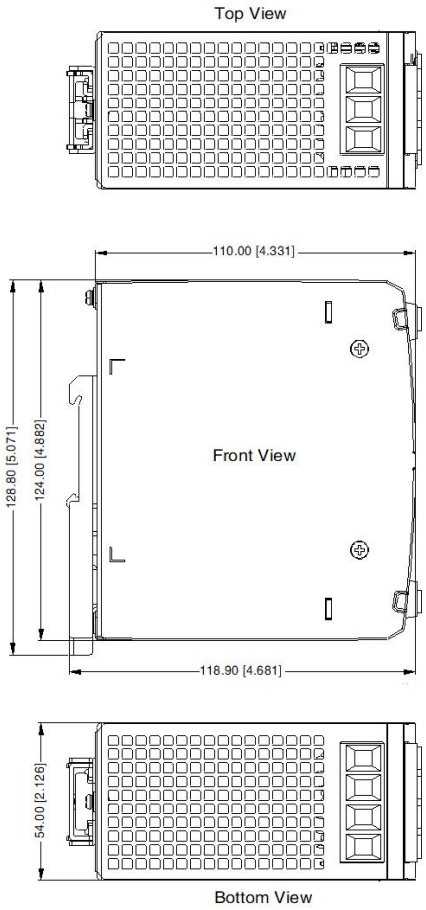
Disassembly Steps ③–④

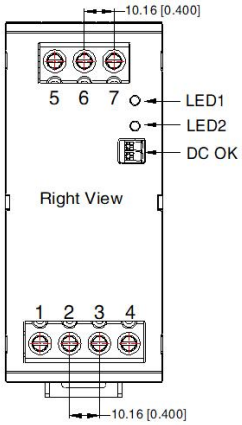


Wiring / Unwiring Steps ⑤–⑥



Dimensions and Recommended





THIRD ANGLE PROJECTION

Pin–Out	
Pin	Mark
1	+Vin1
2	–Vin1
3	+Vin2
4	–Vin2
5	⏚
6	+Vo
7	–Vo

Note:
Unit: mm[inch]
LED1: Output status indicator LED
LED2: Output status indicator LED
Wire range: Input: 10–6AWG
Output: 60V: 10–6AWG
DC OK: 24–16AWG
Tightening torque: Max 0.79 N・m
Mounting rail: TS35, rail needs to connect safety ground
General tolerances: ± 1.00[± 0.039]

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.The ambient temperature derating of 5℃/1000m is needed for operating altitude greater than 2000m;
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.Products are related to laws and regulations: see "Features" and "EMC";
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.