DELTA ELECTRONICS, INC.

www.delta.com.tw/industrialautomation

ASIA

Delta Electronics, Inc.
Taoyuan1
31-1, Xingbang Road, Guishan Industrial Zone,
Taoyuan County 33370, Taiwan, R.O.C.
TEL: 886-3-362-6301 / FAX: 886-3-362-7267

Delta Electronics (Jiang Su) Ltd.
Wujiang Plant3
1688 Jiangxing East Road,
Wujiang Economy Development Zone,
Wujiang City, Jiang Su Province,
People's Republic of China (Post code: 215200)
TEL: 86-512-6340-3008 / FAX: 86-769-6340-7290

Delta Electronics (Japan), Inc.
Tokyo Office
Delta Shibadaimon Building, 2-1-14 Shibadaimon,
Minato-Ku, Tokyo, 105-0012, Japan
TEL: 81-3-5733-1111 / FAX: 81-3-5733-1211

Delta Electronics (Korea), Inc.
234-9, Duck Soo BD 7F, Nonhyun-dong, Kangnam-Gu,
Seoul, Korea (Post code : 135-010)
TEL: 82-2-515-5305 / FAX: 82-2-515-5302

Delta Electronics (Singapore) Pte. Ltd.
8 Kaki Bukit Road 2, #04-18 Ruby Warehouse Complex,
Singapore 417841
TEL: 65-6747-5155 / FAX: 65-6744-9228

AMERICA

Delta Products Corporation (USA)
Raleigh Office
P.O. Box 12173,5101 Davis Drive,
Research Triangle Park, NC 27709, U.S.A.
TEL: 1-919-767-3813 / FAX: 1-919-767-3969

EUROPE

Deltronics (The Netherlands) B.V.
Eindhoven Office
De Witbogt 15, 5652 AG Eindhoven, The Netherlands
TEL: 31-40-2592850 / FAX: 31-40-2592851

20081104 Power Suppy-E

POWER SUPPLY

DELTA ELECTRONICS, INC.

POWER SUPPLY

DIN Rail series

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www.delta.com.tw/industrialautomation

POWER SUPPLY

Features

- Easy wiring
- Overload protection
- Thermal protection
- Expected life time: 10 years
- RoHS compliant
- Power boost 150% for 3 seconds
- Compact design for easy handling
- Overvoltage protection
- Redundancy: Yes (with external oring diode)
- Warranty: 3 years

Introduction

The new DVP series & CliQ series power supplies are the latest offering from Delta Electronics, the world's largest power supply manufacturer. The product offers a nominal output voltage of 24V, a wide temperature range from -20℃ to +75℃ and a minimum holdup time of 20ms. The state-of-the-art design is made to withstand harsh industrial environments. The rugged, ultra-compact case material is shock and vibration resistant according to IEC 60068-2. The power supply provides overvoltage, overload and thermal protection. The wide input voltage ranges from 85 to 264VAC (1 phase) and 320 ~ 575VAC (3 phase), and the multiple output terminals are for fast wiring and easy installation.

Currently DIN Rail DC24V and 1 phase/3 phase 11 models are available:

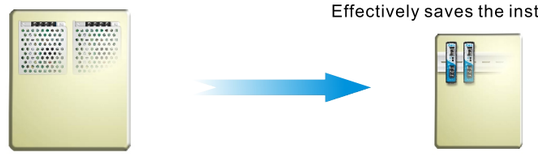
Model	Spec	
DVP-PS01/02	24W/48W,DC24V, 1 phase (White plastic case)	
DRP024V060W1AZ	60W, DC24V, 1 phase (Black plastic case)	
DRP024V060W1AA	60W, DC24V, 1 phase (Aluminum case)	
DRP024V120W1AA	120W, DC24V, 1 phase (Aluminum case)	
DRP024V240W1AA	240W, DC24V, 1 phase (Aluminum case)	
DRP024V480W1AA	480W, DC24V, 1 phase (Aluminum case)	
DRP024V060W3AA	60W, DC24V, 3 phase (Aluminum case)	
DRP024V120W3AA	120W, DC24V, 3 phase (Aluminum case)	
DRP024V240W3AA	240W, DC24V, 3 phase (Aluminum case)	
DRP024V480W3AA	480W, DC24V, 3 phase (Aluminum case)	

Easy Wiring

Adopting standard M3/M4 terminals and standard DIN rail installation, which simplify the wiring and save space.

Traditional iron-case power supply

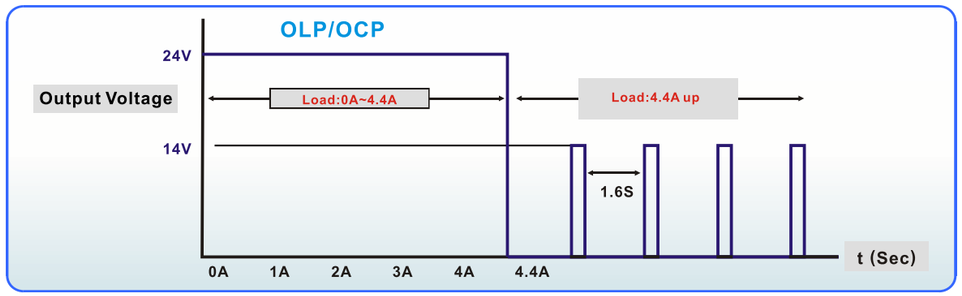
DVP & CliQ DIN Rail power supply
Effectively saves the installation space



Enhanced Security Level

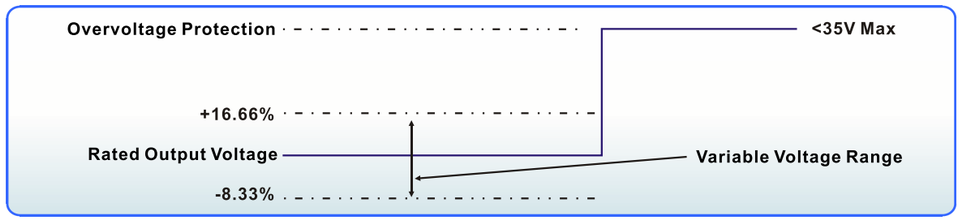
Overload Protection

CliQ series power supply offers overload protection (OLP/OCP) to prevent damages resulted from overcurrent.When the rated current is higher than 150%, the output voltage will start to drop automatically. When the power exceeds the maximum limit and reaches UVLO (under voltage point), the power supply will enter the bouncing mode. Once the overload is eliminated, the output voltage will return to its normal volume.



Overvoltage Protection

When error occurs in the feedback device inside the power supply, the overvoltage protection (OVP) will force the power supply to enter level 2 output (30 ~ 32VDC) and the output voltage to be lower than 35V. After the error is eliminated, the output voltage will restore to 24V automatically.



Short Circuit Protection

When short circuit occurs at the output voltage terminal, the short circuit protection will force the power supply to enter the bouncing mode until the fault is eliminated.

Thermal Protection

When the overcurrent or overvoltage persists for a period of time and causes high temperature, the thermal protection will force the power supply to enter the bouncing mode until the fault is eliminated.

Redundancy Mode

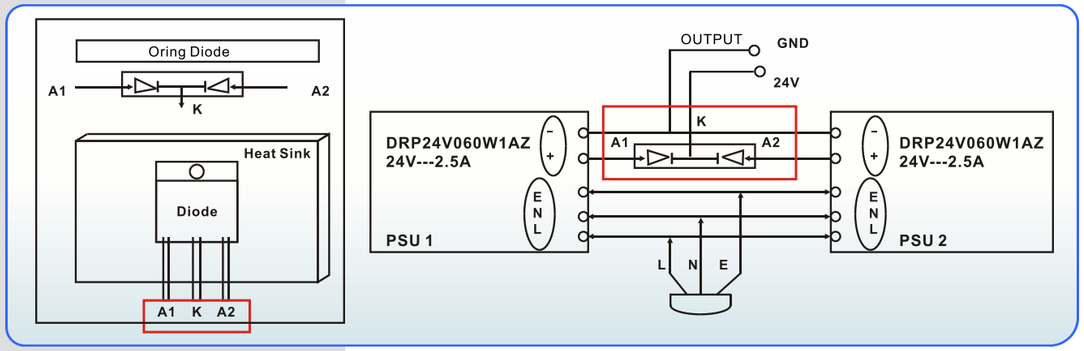
Connect the 2 power supplies, PSU1 and PSU2 as shown in the illustration below, and the power supply of bigger load will take over the entire load. The other will enter the redundancy mode.

Parallel Mode

The parallel mode is shown as the wiring method below. Each of the 2 power supplies is responsible for half of the load.

- Step 1: Measure the voltage from A1 to GND of PSU1 and the voltage from A2 to GND of PSU2. If the voltages measured are the same, skip to step 3; otherwise, move on to step 2.
- Step 2: Adjust the output voltage with the help of VR available on the front panel of the PSU marked as ADJUST for both PSU1 and PSU2 at the same level.
- Step 3: Confirm the output voltages from PSU1 and PSU2 are the same at a tolerance of ±25mV.

Note: The oring diode has to be of appropriate rating. Minimum 20Amps and 50Vrr are recommended for DRP024V060W1AZ model.



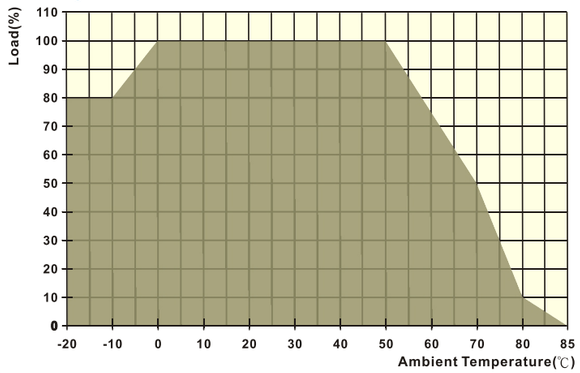
Output Voltage Adjustment

The output voltage is 24VDC, which can be adjusted from 22 ~ 28VDC on the potentiometer ADJUST on the front panel of each power supply.

Note:

1. DO NOT use the power supply in the area outside the shaded portion as shown in the graph ; otherwise the internal parts may be damaged.
2. If the ambient temperature is higher than 50℃, the output capacity will drop 2.5% per Kelvin increase in the temperature. If the output capacity does not drop, the power supply will enter the thermal protection mode.
3. If you would like to mount the power supply in other directions, please contact your supplier for technical supports.
4. Please leave 2cm space between the power supply and other devices.

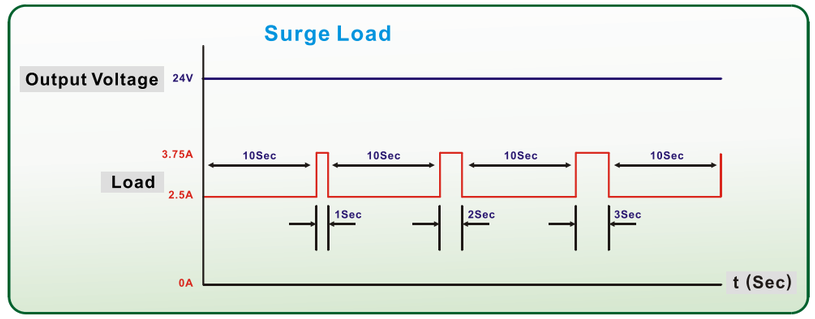
Derating Curve



Other Features

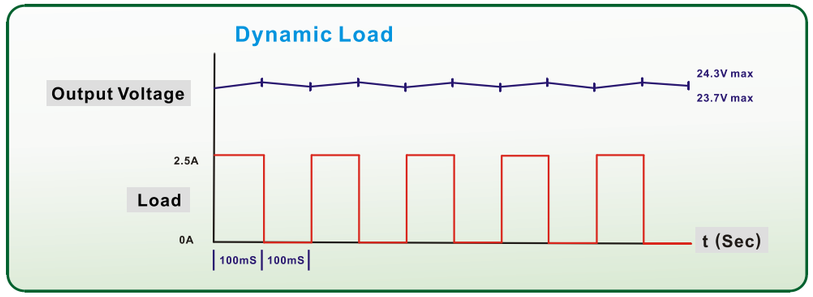
Surge Load

The graph below illustrates a typical surge load capability of the power supply. The power supply is capable of enduring 3 seconds of a surge load of 150% of output voltage ±5% of regulated limit.



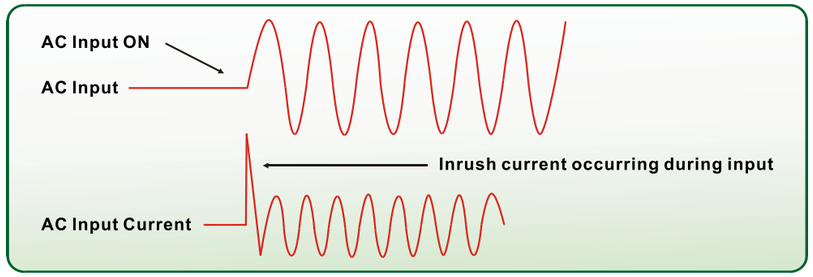
Dynamic Load

The power supply is capable of accepting a dynamic change of load from 0% to 100% with output voltage ±5% of regulated limit.



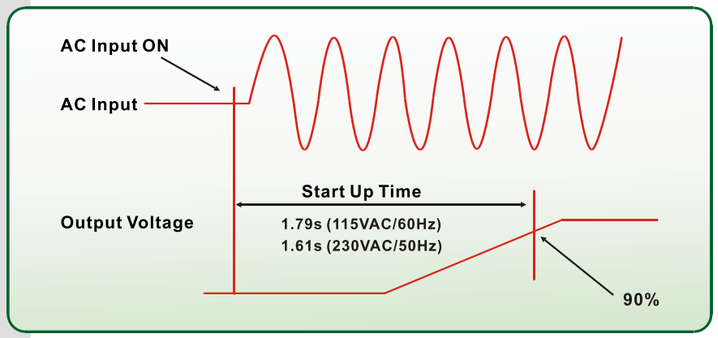
Start Up Current

The inrush current is the first surge current occurring when the AC input is applied to the power supply.



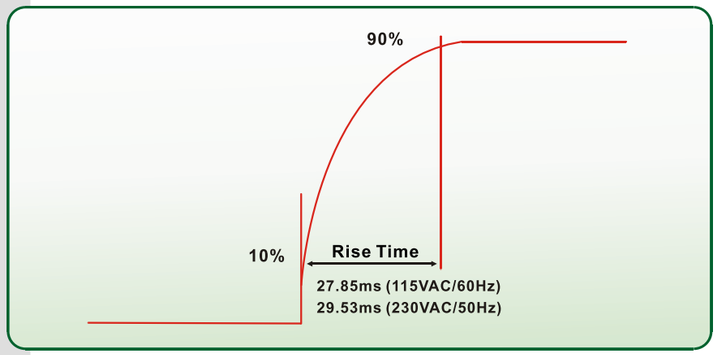
Start Up Time

The time measured from the AC input voltage is applied to it reaches 90% of the rated voltage.



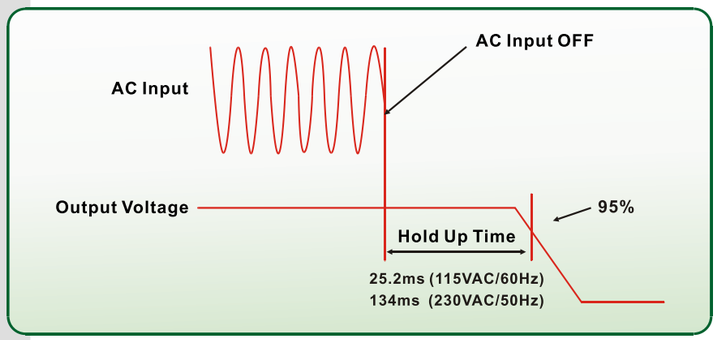
Rise Time

The time measured from 10% of the rated output voltage to 90% of the rated voltage.



Hold Up Time

The time measured from the input collapse to the output voltage drops to 95%.



● Take DRP024V060W1AZ as example.

Ordering Information

Series Name	Power Supply	Input	Output	Model Name	Certificates
DVP	1 Phase	85 ~ 264 VAC/ 120~375 VDC	24V	DVPPS01	CE UL
		85 ~ 264 VAC/ 120~375 VDC	24V	DVPPS02	CE UL
CliQ		85 ~ 264 VAC/ 120~375 VDC	24V	DRP024V060W1AZ	CE UL
		85 ~ 264 VAC/ 120~375 VDC	24V	DRP024V060W1AA	SP GS
		85 ~ 264 VAC/ 120~375 VDC	24V	DRP024V120W1AA	CE UL GS
		85 ~ 264 VAC/ 120~375 VDC	24V	DRP024V240W1AA	CE UL GS
		85 ~ 264 VAC/ 120~375 VDC	24V	DRP024V480W1AA	
	3 Phase	320~575 VAC/ 450~800 VDC	24V	DRP024V060W3AA	CE UL GS
		320~575 VAC/ 450~800 VDC	24V	DRP024V120W3AA	
		320~575 VAC/ 450~800 VDC	24V	DRP024V240W3AA	
		320~575 VAC/ 450~800 VDC	24V	DRP024V480W3AA	

Model Name Explanation

DVP PS 01
- DVP — Series Name
- PS — Power Supply
- 01 — 1A

DVP PS 02
- DVP — Series Name
- PS — Power Supply
- 02 — 2A

DRP 024V 060W 1 AA
- DRP — DIN Rail Power Supply
- 024V — Output Voltage
- 060W — Output Power
- 1 — 1 : 1 Phase, 3 : 3 Phase
- AA — AA : Aluminum Case, AZ : Plastic Case