RTK Instruments Limited
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Web: www.rtkinstruments.com
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RT-AD Dual Redundant Power Supply

Introduction

The RT-A/D range of power supplies provides a single enclosure containing 2 x independent power supplies each complete with a power-on LED and a supply monitor relay with change over contact for use with 3rd party devices.

The DC output of each power supply is combined using “OR” diodes to ensure the output remains available if either the primary or aux supply is available.

The redundant power supply is available in a range of wattages, (25, 40, 60, 100, 150, 200, 320 watts), using combinations of AC/DC and DC/DC switched mode power supplies as required for each application.

The available Power Supplies are listed on the following page.

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Available DC Power Supplies –

*The following Power Supplies can be used when the primary or aux supply is within the range of 36 to 72VDC (**OPTION L**)*

MODEL NO	*WATTAGE*	*PRIMARY*	*OUTPUT*
RT-D-50C-24	50	36 – 72VDC	24VDC
RT-D-100C-24	100	36 – 72VDC	24VDC
RT-D-150C-24	150	36 – 72VDC	24VDC
RT-D-200C-24	200	36 – 72VDC	24VDC
RT-D-320C-24	320	36 – 72VDC	24VDC

Available DC Power Supplies

*The following Power Supplies can be used when the primary or aux supply is within the range of 72 to 144VDC (**OPTION M**)*

MODEL NO	*WATTAGE*	*PRIMARY*	*OUTPUT*
RT-D-100D-24	100	72 – 144VDC	24VDC
RT-D-150D-24	150	72 – 144VDC	24VDC
RT-D-200D-24	200	72 – 144VDC	24VDC
RT-D-320D-24	320	72 – 144VDC	24VDC

Available AC Power Supplies

*The following Power Supplies can be used when the primary or aux supply is within the range of 85 to 264VAC (**OPTION H**) Please note these Power Supplies will also operate in the range 120VDC to 370VDC.*

MODEL NO	*WATTAGE*	*PRIMARY*	*OUTPUT*
RT-A-25-24	25	85 – 264VAC	24VDC
RT-A-40-24	40	85 – 264VAC	24VDC
RT-A-60-24	60	85 – 264VAC	24VDC
RT-A-100-24	100	85 – 264VAC	24VDC
RT-A-150-24	150	85 – 264VAC	24VDC
RT-A-200-24	200	85 – 264VAC	24VDC
RT-A-320-24	320	85 – 264VAC	24VDC

As an example:-

The RT-A/D-M-H-100-24 Redundant Power Supply would be equipped with

- 1 x RT-D-100D-24 DC/DC Supply plus
- 1 x RT-A-100-24 AC/DC Supply

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REDUNDANT POWER SUPPLY MODEL NO KEY

Code	Function		
RT-A/D	*Remote Mounting Redundant Power Supply c/w power monitoring relays*		
* Supply 1	**L**	*Primary 36 – 72VDC*	***OR***
	M	*Primary 72-144VDC*	***OR***
	H	*Primary 85 – 264VAC (120 – 370VDC)*	
* Supply 2	**L**	*Aux. 36 – 72VDC*	***OR***
	M	*Aux. 72-144VDC*	***OR***
	H	*Aux. 85 – 264VAC (120 – 370VDC)*	
****	*Wattage (Available sizes 25, 40, 60, 100, 150, 200, 320)*		
24	*24VDC Logic Voltage*		

Typical Model Number RT-A/D-M-H-100-24 which provides:-

- *SUPPLY-1 ……. M = 72 – 144VDC*
- *SUPPLY-2 ……..H = 85 – 264VAC (OR) 120 – 370VDC*
- *WATTAGE …….100W*
- *OUTPUT ……..24VDC*

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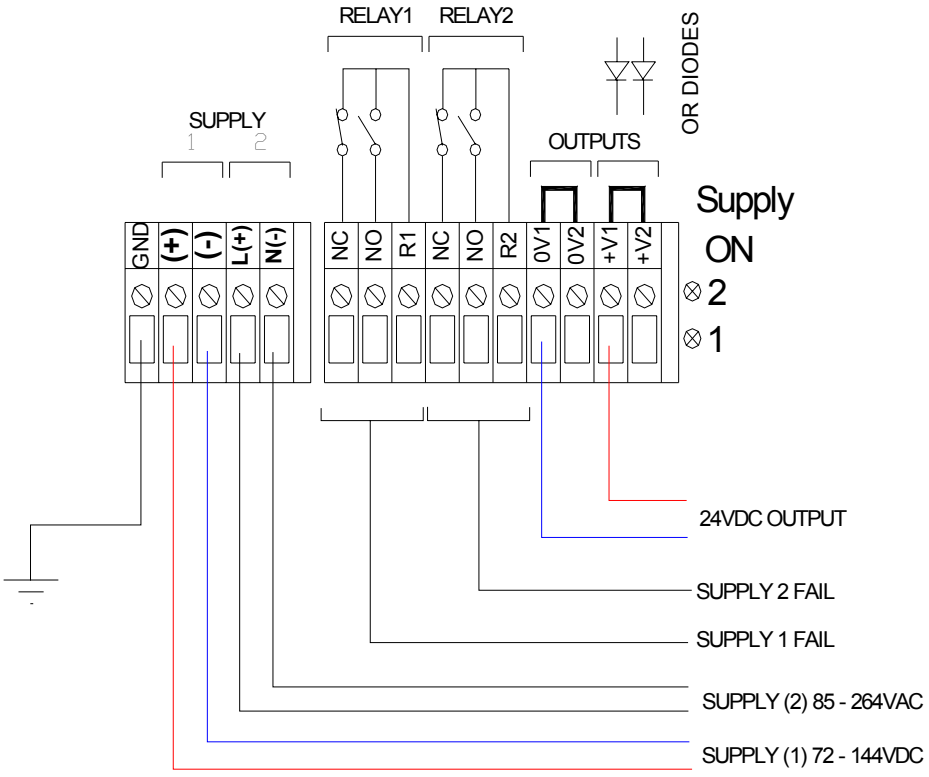
Connections

The following connection details are provided for a typical RT-A/D-M-H-100-24 Redundant Supply

- SUPPLY 1 = 72 – 144VDC
- SUPPLY 2 = 85 – 264VAC (120 – 370VDC)
- 2 x Monitor Relay Outputs
- 1 x 24VDC Output



Contacts shown in the de-energised state

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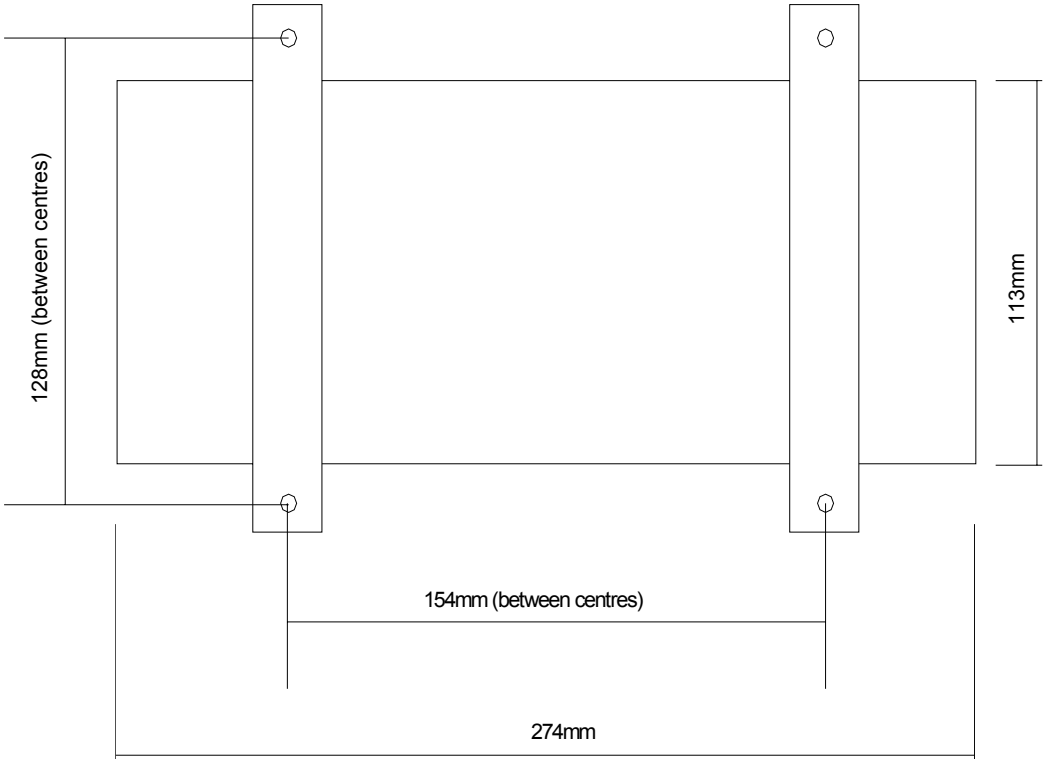
Mounting Details

There are two sizes of enclosures available.

The smaller of the two sizes is able to house power supplies up to 200 Watts and mounting details are provided below



The unit can be mounted using the 4 mounting holes shown above.

The hole size is 4.0mm clear diameter, and the unit can be mounted using appropriate fixings.

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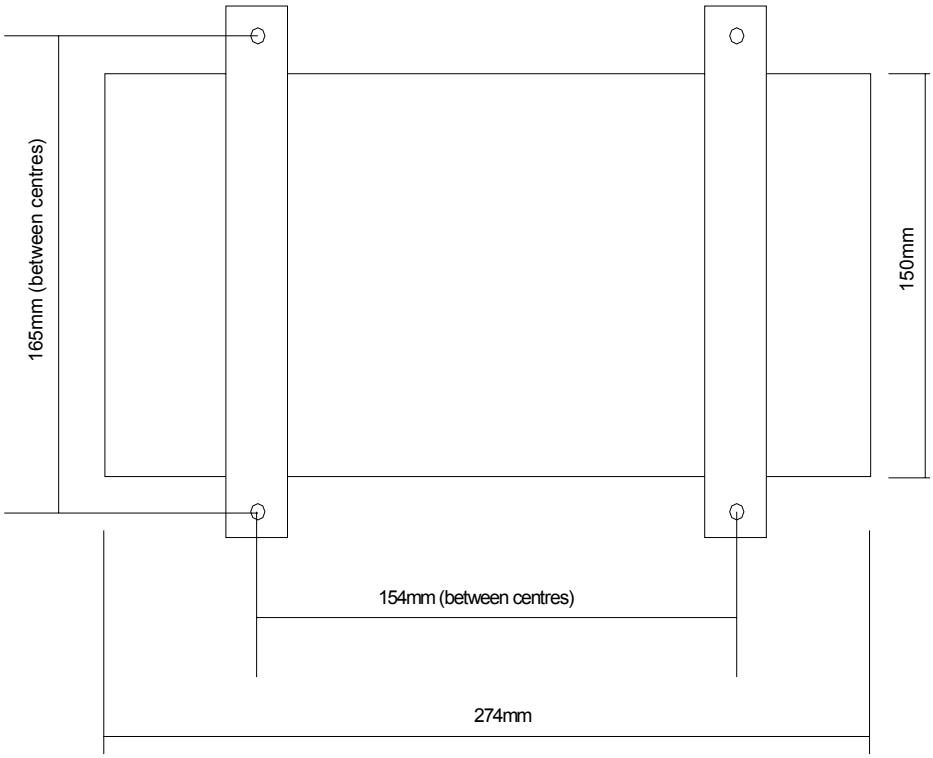
The larger of the two sizes is suitable for 320 Watt power supplies and the mounting details are provided below:-



BOTTOM VIEW

The unit can be mounted using the 4 mounting holes shown in above.

The hole size is 4.0mm clear diameter, and the unit can be mounted using appropriate fixings.

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Specification

DC Supply versions

- 110VDC nominal 72-144VDC
- 48VDC nominal 36-72VDC

AC Supply versions

- 85-264VAC

Please note:
The AC Power Supply Versions are capable of operating on 120-370VDC as an alternative to 85 – 264VAC (Universal Input)

Output Voltages
24VDC

Regulation
1 to 2% for all changes in line and load

Ripple and Noise
Typically 100mV

Over-voltage protection
115-135% of output voltage

Efficiency
79-85% at full load depending on model

Output Voltage adjustment
+/-10 to 15%

Hold up time
Typically 20ms at 230VA

REV	Detail of Change	Date
0	Original Issue	17-11-04
1	Updated to add 320W version	03-06-09