

DRA60 SERIES



AC - DC DIN RAIL MOUNTABLE
60W CLASS 2 OUTPUT
INDUSTRIAL CONTROL EQUIPMENT

FEATURES

- AC/DC POWER MODULE
- UNIVERSAL INPUT 90~265VAC
- HIGH EFFICIENCY UP TO 86%
- SHORT CIRCUIT PROTECTION
- INTERNAL INPUT FILTER
- 2 YEARS WARRANTY

MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
Single Output Models						
DRA60-05	90~265 VAC	50 WATTS	+ 5 VDC	10000 mA	78%	80%
DRA60-12	90~265 VAC	60 WATTS	+ 12 VDC	5000 mA	80%	84%
DRA60-24	90~265 VAC	60 WATTS	+ 24 VDC	2500 mA	84%	86%
DRA60-48	90~265 VAC	60 WATTS	+ 48 VDC	1250 mA	83%	86%

SPECIFICATION

All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

GENERAL						
Characteristics	Conditions	min.	typ.	max.	unit	
Switching frequency	Vi nom, Io nom	50			KHz	
Isolation voltage	Input / Output	3,000			VAC	
Isolation resistance	Input / Output, @ 500VDC	100			MΩ	
Ambient temperature	Operating at Vi nom	-10		+ 71	°C	
Derating	Vi nom, from +61°C to +71°C			2.5	% / °C	
Storage temperature	Non operational	-25		+ 85	°C	
Relative humidity	Vi nom, Io nom			90	% RH	
Dimension	L90 x W40.5 x D115				mm	
Cooling	Free air convection					
Case material	Plastic					
INPUT SPECIFICATIONS						
Characteristics	Conditions	min.	typ.	max.	unit	
Rated input voltage	Io nom	100		240	VAC	
Input voltage range	Ta min ... Ta max, Io nom	AC in		265	VAC	
		DC in	120		370	VDC
Line frequency	Vi nom, Io nom	47		63	Hz	
Inrush current	Io nom	Vi : 115VAC		21	A	
		Vi : 230VAC		42	A	

SPECIFICATION

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OUTPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit
Output voltage accuracy	V_i nom, I_o min ... I_o nom			± 2	%
Minimum load	V_i nom	0			%
Line regulation	I_o nom, V_i min ... V_i max			± 1	%
Load regulation	V_i nom, I_o min ... I_o nom			± 2	%
Transient recovery time	50% load step changed		300		μ S
Temperature coefficient	V_i nom, I_o min			± 0.02	% / °C
Ripple & noise	V_i nom, I_o nom, BW = 20MHz			50	mV
Hold up time	$V_i = 115$ VAC, I_o nom	20			ms
	$V_i = 230$ VAC, I_o nom	75			ms
Voltage trim range	V_i nom, I_o nom	5V model	5	5.5	VDC
		12V model	12	14	VDC
		24V model	24	28	VDC
		48V model	44	55	VDC
DC ON indicator	V_i nom, I_o nom	Green LED			
Efficiency	V_i nom, I_o nom, P_o / P_i	Up to 86%. See model list			

CONTROL AND PROTECTION

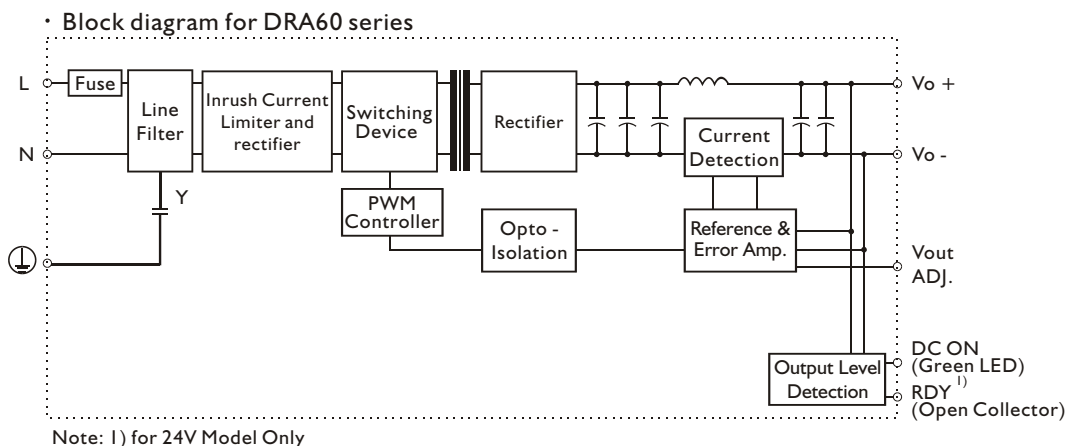
Characteristics	Conditions	min.	typ.	max.	unit
Input fuse		T2A / 250VAC internal			
Rated over load protection	V_i nom	105		125	%
Power Rdy (24V model only) 1)	Threshold	20	22	24	VDC
Output short circuit	V_i nom, I_o nom	Hiccup mode			

Note 1): Pls see fig1 for Rdy connection.

APPROVALS AND STANDARDS

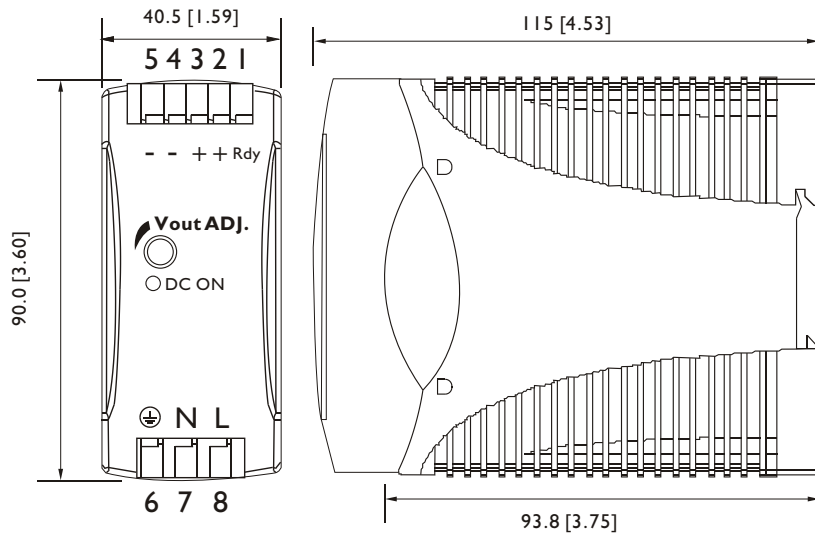
UL / cUL	UL508 Listed UL1310 Class 2 Power Supply (Only 5V w/o class 2), UL1950 Recongized
TUV	EN60950-1
CE	EN55022 class B, EN61000-3-2 , EN61000-3-3 EN55024

CIRCUIT SCHEMATIC



MECHANISM & PIN CONFIGURATION

mm [inch]



CONSTRUCTION

Easy snap-on mounting onto the DIN-Rail (TS35/7.5 or TS35/15), unit sits safely and firmly on the rail; no tools required even to remove

INSTALLATION

Ventilation / Cooling
 Normal convection
 All sides 25mm free space
 For cooling recommended
 Connector size range
 Solid: 0.2-2.0mm² (AWG24-14)
 (use copper conductors only)

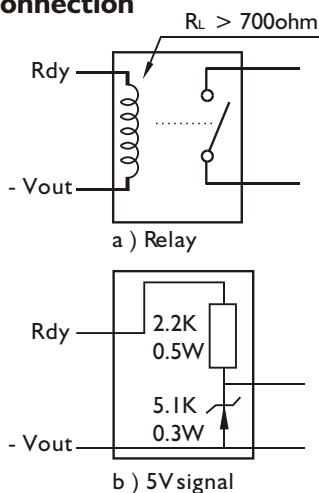
PHYSICAL CHARACTERISTICS

CASE SIZE	90 x 40.5 x 115 mm 3.6 x 1.59 x 4.53 inches
CASE MATERIAL	Plastic
WEIGHT	360g

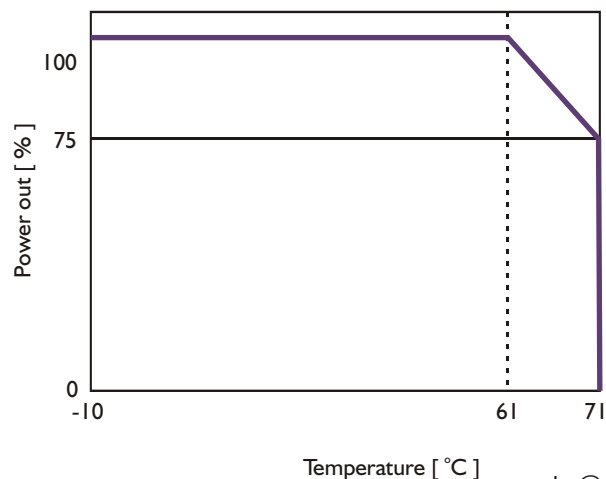
PIN ASSIGNMENT

PIN NO.	Designation	Description
1	RDY	DC OK output for relay (not connect except 24V model)
2	+	Positive output terminal
3	+	Positive output terminal
4	-	Negative output terminal
5	-	Negative output terminal
6	⊕	Ground this terminal to minimize high-frequency emissions
7	N	Input terminals (neutral conductor, no polarity at DC input)
8	L	Input terminals (phase conductor, no polarity at DC input)
	Vout ADJ.	Trimmer-potentiometer for Vout adjustment
	DC ON	Operation indicator LED

Fig. 1 Rdy connection



DERATING



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Minimum load	V_i nom	0			%
Line regulation	I_o nom, V_i min ... V_i max			± 1	%
Load regulation	V_i nom, I_o min ... I_o nom			± 2	%
Transient recovery time	50% load step changed		300		μ S
Temperature coefficient	V_i nom, I_o min			± 0.02	% / °C
Ripple & noise	V_i nom, I_o nom, BW = 20MHz			50	mV
Hold up time	$V_i = 115$ VAC, I_o nom	20			ms
	$V_i = 230$ VAC, I_o nom	75			ms
Voltage trim range	V_i nom, I_o nom	5V model	5	5.5	VDC
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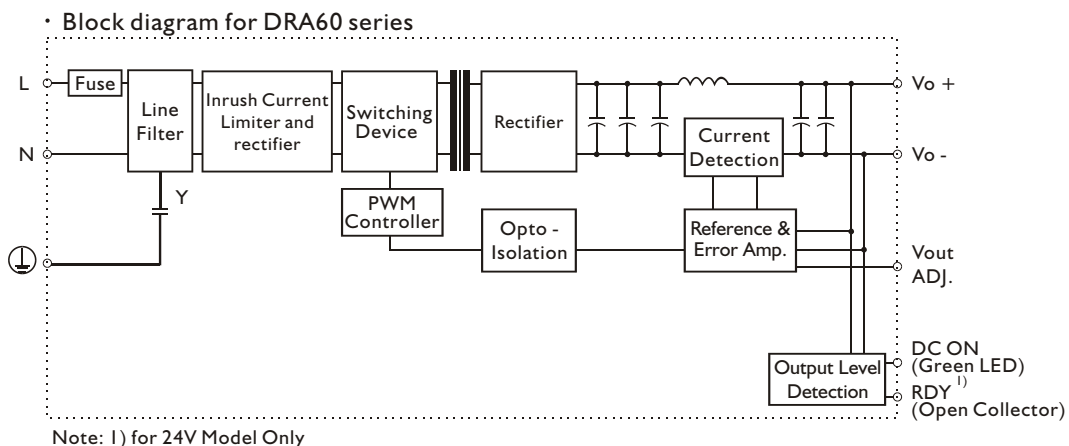
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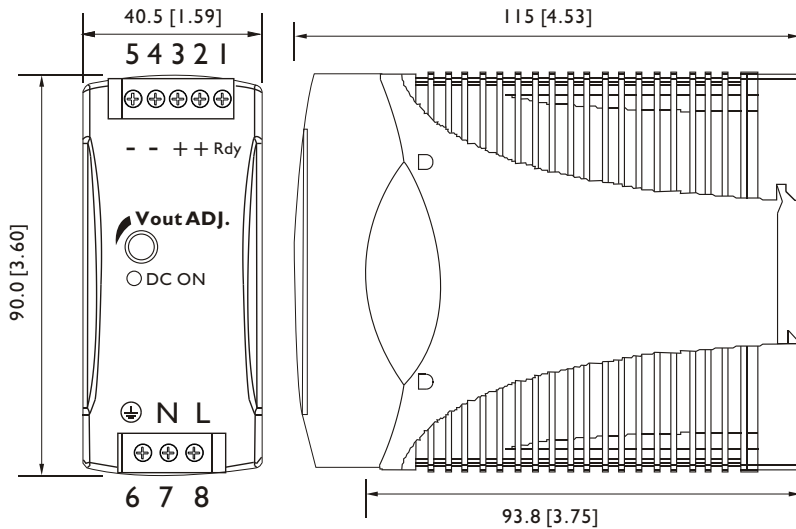
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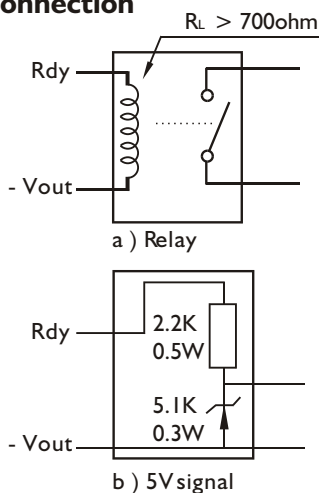
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