

# DRA18 SERIES



AC - DC DIN RAIL MOUNTABLE  
18W CLASS 2 POWER SUPPLY  
INDUSTRIAL CONTROL EQUIPMENT

## FEATURES

- UL / cUL / TUV / CE
- UNIVERSAL INPUT 90~265VAC
- HIGH EFFICIENCY UP TO 77%
- 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.)
<b>Single Output Models</b>						
DRA18-05	90~265 VAC	15 WATTS	+ 5 VDC	3000 mA	73%	75%
DRA18-12	90~265 VAC	18 WATTS	+ 12 VDC	1500 mA	75%	77%
DRA18-15	90~265 VAC	18 WATTS	+ 15 VDC	1200 mA	75%	77%
DRA18-24	90~265 VAC	18 WATTS	+ 24 VDC	750 mA	75%	77%

## 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	100			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			3	% / °C	
Storage temperature	Non operational	-25		+ 85	°C	
Relative humidity	Vi nom, Io nom	20		95	% RH	
Dimension	L90 x W22.5 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		10	A	
		Vi : 230VAC		18	A	

## SPECIFICATION

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

### OUTPUT SPECIFICATIONS

Characteristics	Conditions	min.	typ.	max.	unit	
Output voltage accuracy	$V_i$ nom, $I_o$ min ... $I_o$ nom			$\pm 1$	%	
Minimum load	$V_i$ nom	0			%	
Line regulation	$I_o$ nom, $V_i$ min ... $V_i$ max			$\pm 1$	%	
Load regulation	$V_i$ nom, $I_o$ min ... $I_o$ nom			$\pm 2$	%	
Transient recovery time	50% load step changed		300		$\mu$ S	
Temperature coefficient	$V_i$ nom, $I_o$ min			$\pm 0.02$	% / °C	
Ripple & noise	$V_i$ nom, $I_o$ nom, BW = 20MHz			50	mV	
Hold up time	$I_o$ nom	$V_i = 115VAC$	20		ms	
		$V_i = 230VAC$	75		ms	
Voltage trim range	$V_i$ nom, $I_o$ nom	5V ...15V models	- 10		+ 15	%
		24V model	- 10		+ 20	%
DC ON indicator threshold at start up	$V_i$ nom, $I_o$ nom	5V model	4.5			VDC
		12V model	10.8			VDC
		15V model	13.5			VDC
		24V model	21.6			VDC
DC LOW indicator threshold after start up	$V_i$ nom, $I_o$ nom	5V model	3.75		4.5	VDC
		12V model	9		10.8	VDC
		15V model	11.25		13.5	VDC
		24V model	18		21.6	VDC
Efficiency	$V_i$ nom, $I_o$ nom, $P_o / P_i$	Up to 77%, See model list				

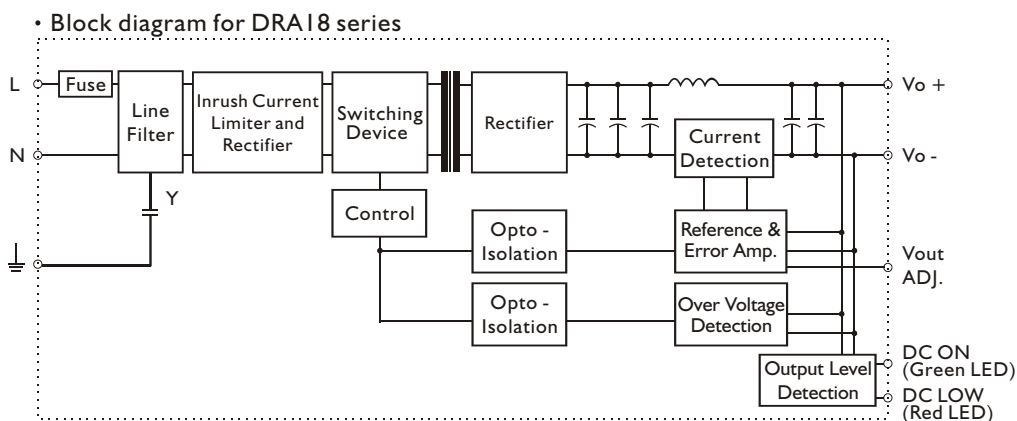
### CONTROL AND PROTECTION

Characteristics	Conditions	min.	typ.	max.	unit
Input fuse		T2A / 250VAC internal			
Rated over load protection	$V_i$ nom	110		135	%
Over voltage protection	$V_i$ nom, $I_o$ nom	125		145	%
Output short circuit	$V_i$ nom, $I_o$ nom	Hiccup mode			

### APPROVALS AND STANDARDS

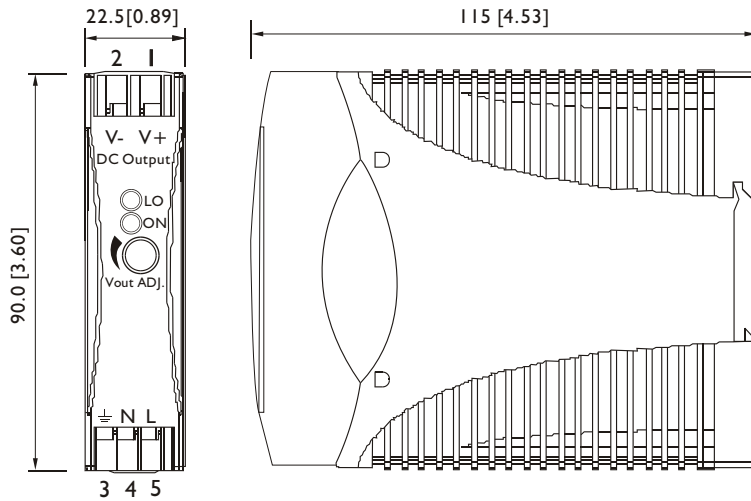
UL / cUL	UL508 Listed UL60950-1, UL1310 Class 2 Power Supply Recognized
TUV	EN60950-1
CE	EN50081-1 / EN55022 Class B, EN61000-3-2, EN61000-3-3 EN50082-1 / EN55024

### 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: 0.2-2.0mm<sup>2</sup> (AWG24-14)  
 (use copper conductors only)

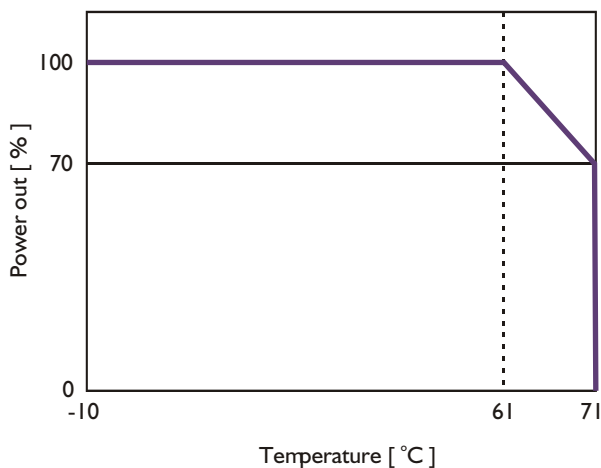
## PHYSICAL CHARACTERISTICS

CASE SIZE	90 x 22.5 x 115 mm 3.6 x 0.89 x 4.53 inches
CASE MATERIAL	Plastic
WEIGHT	150 g

## PIN ASSIGNMENT

PIN NO.	Designation	Description
1	V +	Positive output terminal
2	V -	Negative output terminal
3	⊥	Ground this terminal to minimize high-frequency emissions
4	N	Input terminals (neutral conductor, no polarity at DC input)
5	L	Input terminals (phase conductor, no polarity at DC input)
	ON	Operation indicator LED
	LO	DC LOW indicator LED
	Vout ADJ.	Trimmer-potentiometer for Vout adjustment

## DERATING



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Output voltage accuracy	$V_i$ nom, $I_o$ min ... $I_o$ nom			$\pm 1$	%	
Minimum load	$V_i$ nom	0			%	
Line regulation	$I_o$ nom, $V_i$ min ... $V_i$ max			$\pm 1$	%	
Load regulation	$V_i$ nom, $I_o$ min ... $I_o$ nom			$\pm 2$	%	
Transient recovery time	50% load step changed		300		$\mu$ S	
Temperature coefficient	$V_i$ nom, $I_o$ min			$\pm 0.02$	% / °C	
Ripple & noise	$V_i$ nom, $I_o$ nom, BW = 20MHz			50	mV	
Hold up time	$I_o$ nom	$V_i = 115VAC$	20		ms	
		$V_i = 230VAC$	75		ms	
Voltage trim range	$V_i$ nom, $I_o$ nom	5V ...15V models	- 10		+ 15	%
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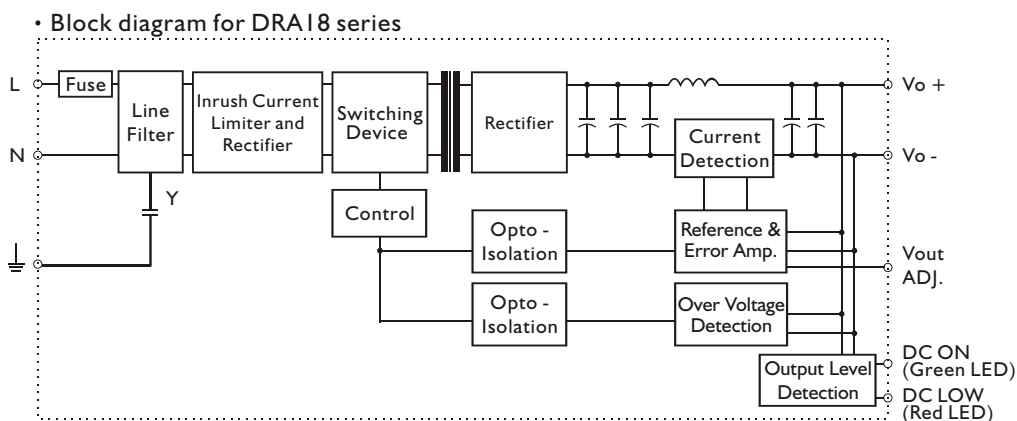
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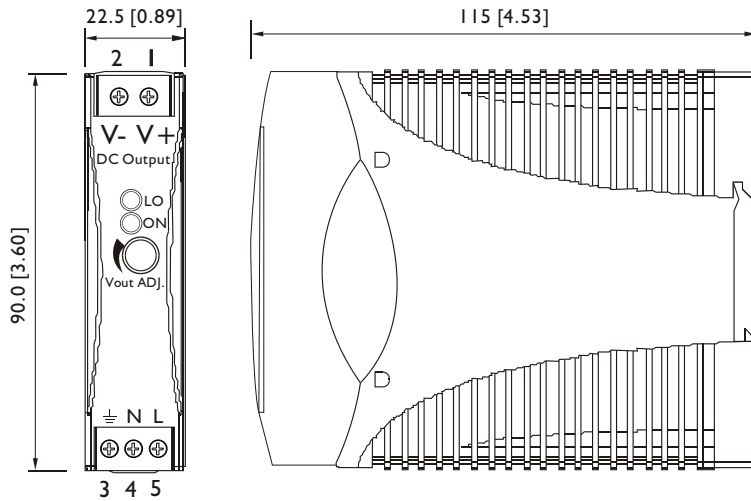
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