

DRAN30 SERIES

DC BACKUP SYSTEM



AC - DC DIN RAIL MOUNTABLE
INDUSTRIAL CONTROL EQUIPMENT

FEATURES

- COMPACT DESIGN
- SIMPLE IN APPLICATION
- LOW PRICING
- WORKABLE FOR BOTH POWER SUPPLY / DC BACKUP SYSTEM

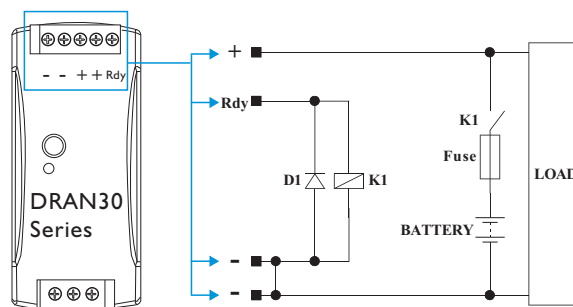
SELECTION CHART

DRAN 30 - 24 A *

Wattage | DC Backup System
 | SCREW TERMINALS
 12 : 13.6VOUT
 24 : 27.2VOUT
 48 : 54.5VOUT

MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (typ.)	EFF. (min.)
Single Output Models						
DRAN30-12A*	85~264 VAC	30 WATTS	+ 13.6 VDC	2.2 A	84%	82%
DRAN30-24A*	85~264 VAC	30 WATTS	+ 27.2 VDC	1.1 A	86%	83%
DRAN30-48A*	85~264 VAC	30 WATTS	+ 54.5 VDC	0.55 A	86%	83%



DRAN30 Series For DC Backup System Application

Note :

1. The suffix "A*" is part of the model number, which specifies the product is designed and pre-trim for low-cost DC backup power system with external Lead-Acid battery, Relay and Fuse.
2. The manufacturer is liable neither for the external components nor the damage to the power supply causing by external components.
3. The total consumption current including loading and battery charging current should not exceed the maximum rated current of power supply.
4. The operation concept of DC backup power system :
 - A. When AC power alive : The "Rdy" is close circuit to activate the external Relay . The power supply feeds current into the external loads and charges through Relay to the external battery as well.
 - B. When AC power interrupted : The "Rdy" is remain close circuit to maintain the external Relay remain active, the external battery supply current to the external loads.
 - C. When Battery power low : The "Rdy" become open circuit and the external Relay become inactive to disconnect the battery from external loads.



SPECIFICATION

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

GENERAL					
Characteristics	Conditions	min.	typ.	max.	unit
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	20		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	85	264	VAC
		DC in	90	375	VDC
Line frequency	Vi nom, Io nom	47		63	Hz
Inrush current	Io nom	Vi : 115VAC		20	A
		Vi : 230VAC		40	A

OUTPUT SPECIFICATIONS						
Characteristics	Conditions	min.	typ.	max.	unit	
Output voltage accuracy	Vi nom, Io min ... Io nom			± 1	%	
Minimum load	Vi nom	0			%	
Line regulation	Io nom, Vi min ... Vi max			0.5	%	
Load regulation	Vi nom, Io min ... Io nom			0.5	%	
Turn on time	After AC is applied to input at full resistive load			1,000	ms	
Voltage fall time	Io nom, Vo=95% ~ 10% rated voltage			150	ms	
Voltage rise time	At full resistive load			150	ms	
Hold up time	Io nom	Vi : 115VAC	20		ms	
		Vi : 230VAC	30		ms	
Ripple & noise	Vi nom, Io nom, BW = 20MHz			50	mV	
Voltage trim range	Vi nom, Wo = 30W max	12V model	12		14	VDC
		24V model	24		28	VDC
		48V model	48		55	VDC
Rdy on / DC ON indicator threshold at start up	Vi nom, Io nom	12V model	10.4		11.4	VDC
		24V model	21.2		22.2	VDC
		48V model	42.8		43.8	VDC
Rdy off threshold after start up	Vi nom, Io nom	12V model	10.3		11.3	VDC
		24V model	21.1		22.1	VDC
		48V model	42.7		43.7	VDC

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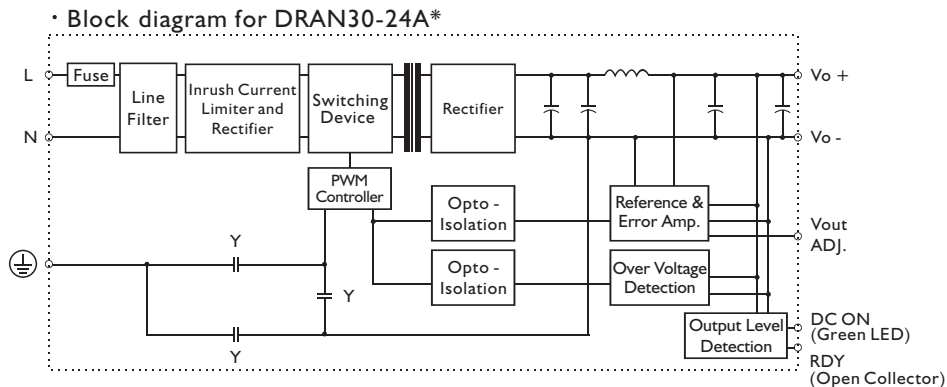
CONTROL AND PROTECTION

Characteristics	Conditions	min.	typ.	max.	unit
Rated over load protection	Vi nom	105		125	%
Over voltage protection	Vi nom, Io nom	12V model	15	16.5	VDC
		24V model	30	33	VDC
		48V model	60	66	VDC
Output short circuit	Vi nom, Io nom	Fold forward			

APPROVALS AND STANDARDS

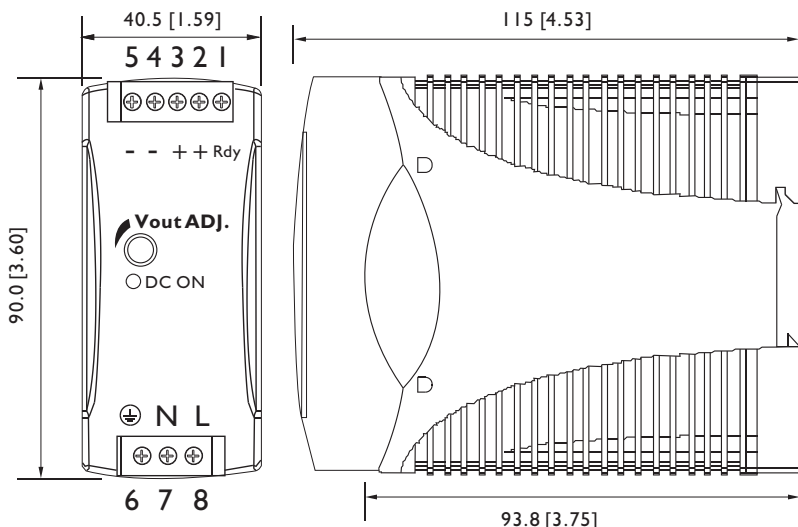
UL / cUL	UL508 Listed UL1310 Class 2 power supply, UL60950-1 Recognized
TUV	EN60950-1
CE	EN61000-6-3, EN55022 Class B EN61000-3-2, EN61000-3-3 EN61000-6-2, EN55024, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11

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	290g

PIN ASSIGNMENT

PIN NO.	Designation	Description
1	RDY	DC OK output for relay
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

DERATING

