

DRAN60 SERIES

FOR DC BACKUP SYSTEM

AC - DC DIN RAIL MOUNTABLE

60W

INDUSTRIAL CONTROL EQUIPMENT



FEATURES

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

SELECTION CHART

DRAN 60 - 24 A *

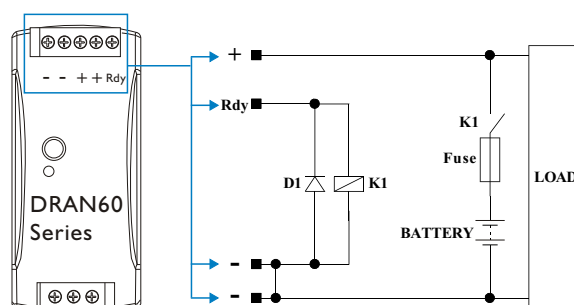


MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
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Single Output Models

DRAN60-12A*	85~264 VAC	60 WATTS	+ 13.6 VDC	4.4 A	84%	86%
DRAN60-24A*	85~264 VAC	60 WATTS	+ 27.2 VDC	2.2 A	86%	89%
DRAN60-48A*	85~264 VAC	60 WATTS	+ 54.5 VDC	1.1 A	86%	89%



DRAN60 Series For DC Backup System Application

Note :

- 1.The suffix "*" 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 active 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	-25		+ 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			30	A
		Vi : 230VAC			60	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 =60W max	12V model	12		14	VDC
	Vi nom, Wo =60W max	24V model	24		28	VDC
	Vi nom, Wo =60W max	48V model	48		55	VDC
Rdy on / DC ON indicator threshold at start up	Vi nom, Io nom	12V model	10.4 / 9.1		11.4 / 10.1	VDC
		24V model	21.2 / 18.7		22.2 / 19.7	VDC
		48V model	42.8 / 36.5		43.8 / 37.5	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

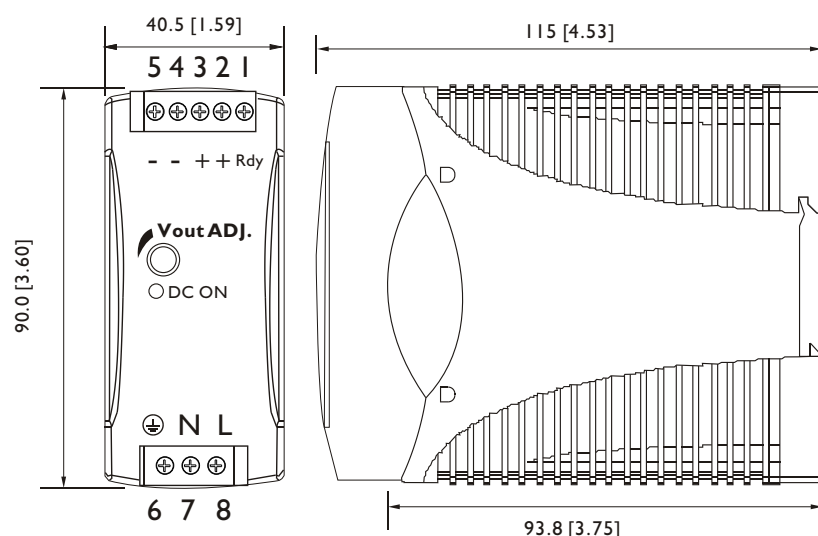
Characteristics	Conditions		min.	typ.	max.	unit
Rated over load protection	Vi nom		105		125	%
Over voltage protection	Vi nom, Io nom	12V model	15		16.5	VDC
		24V model	30		33	VDC
		48V model	60		66	VDC
Output short circuit	Vi nom, Io nom		Fold forward			

APPROVALS AND STANDARDS

UL / cUL	UL508 Listed UL1310 Class 2 power supply (12V w/o class 2), 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

MECHANISM & PIN CONFIGURATION

mm [inch]



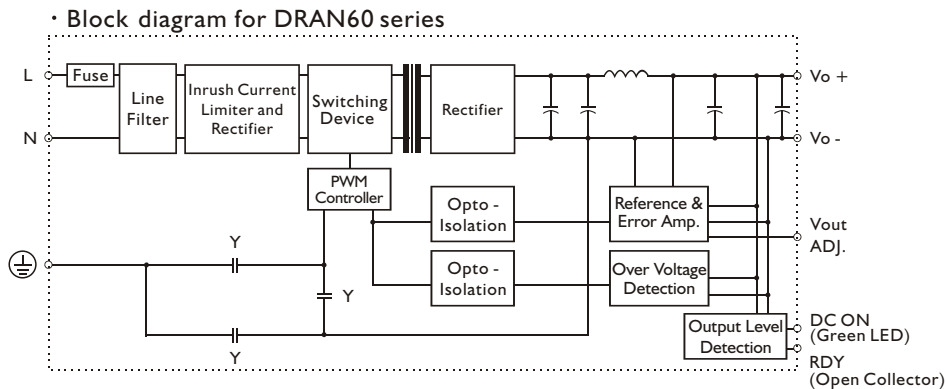
CONSTRUCTION

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)

CIRCUIT SCHEMATIC



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	OUT	RDY	DC OK output for relay
2		+	Positive output terminal
3		+	Positive output terminal
4		-	Negative output terminal
5		-	Negative output terminal
6	IN	⊕	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)
	OTHER	Vout ADJ.	Trimmer-potentiometer for Vout adjustment
		DC ON	Operation indicator LED

DERATING

