

DRA120 SERIES



AC - DC DIN RAIL MOUNTABLE
120W
INDUSTRIAL CONTROL EQUIPMENT

FEATURES

- COMPACT DESIGN
- HIGH EFFICIENCY UP TO 87%
- P.F.C. FUNCTION AVAILABLE (OPTION)
- PARALLEL MODELS AVAILABLE (OPTION)
- INPUT VOLTAGE 115/230VAC SELECTABLE

SELECTION CHART

DRA 120 - 12 x y z

Wattage

12 : 12VOUT
24 : 24VOUT
48 : 48VOUT

A : SCREW TERMINALS
B : DETACHABLE CONNECTOR

P : WITH PARALLEL FUNCTION
S : W/O PARALLEL FUNCTION

F : WITH P.F.C. FUNCTION
S : W/O P.F.C. FUNCTION

MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. ¹⁾ (typ.)	EFF. (min.)
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Single Output Models

DRA120-12xyz	115 / 230 VAC	120 WATTS	+ 12 VDC	10A	84%	82%
DRA120-24xyz	115 / 230 VAC	120 WATTS	+ 24 VDC	5A	86%	84%
DRA120-48xyz	115 / 230 VAC	120 WATTS	+ 48 VDC	2.5A	87%	85%

Note 1): 2% diminish for parallel models.

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	80			KHz
Isolation voltage	Input / Output	3,000			VAC
Isolation resistance	Input / Output, @ 500VDC	100			MΩ
Ambient temperature	Operating at Vinom, Io 70%...100%	-10		+ 50	°C
Derating	Vi nom, Io nom +51 to +71°C			1.5	% / °C
Storage temperature	Non operational	-25		+ 85	°C
M.T.B.F.	According to MIL-HDBK-217F, GF40		200,000		Hrs
Relative humidity	Vi nom, Io nom	20		95	% RH
Dimension	Screw terminal type	L125 x W63.5 x D126			mm
	Detachable connector type	L142 x W63.5 x D126			mm
Cooling	Free air convection				
Case material	Metal				

SPECIFICATION

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

INPUT SPECIFICATIONS

Characteristics	Conditions			min.	typ.	max.	unit
Rated input voltage	Io nom			115 / 230(selectable)			VAC
Input voltage range	Ta min ... Ta max, Io nom	AC	115V selected	93		132	VAC
		AC	230V selected	186		264	VAC
		DC	230V selected only	210		370	VDC
Line frequency	Vi nom, Io nom			47		63	Hz
Inrush current	Vi nom, Io nom		Vi : 115VAC			24	A
			Vi : 230VAC			48	A
P. F. C. (optional)	Vi : 230VAC, Io nom				0.7		

OUTPUT SPECIFICATIONS

Characteristics	Conditions		min.	typ.	max.	unit
Output voltage accuracy (Adjusted before shipment)	Vi nom, Io max		-0		+ 1	%
Minimum load	Vi nom		5			%
Line regulation	Io nom, Vi min ...Vi max				± 0.5	%
Load regulation	Vi nom, Io min ...Io nom	non - parallel models			± 1	%
		parallel models			± 5	%
Temperature coefficient	Vi nom, Io min				± 0.3	% / °C
Ripple & noise	Vi nom, Io nom,BW = 20MHz				50	mV
Hold up time	Vi nom, Io nom	Vi = 115VAC	25			ms
		Vi = 230VAC	30			ms
Voltage trim range 2)	Vi nom, Io nom	12V models	11.4		14.5	VDC
		24V models	22.5		30	VDC
		48V models	45		55	VDC
DC ON indicator threshold at start up	Vi nom, Io nom	12V models	10		11	VDC
		24V models	21		22	VDC
		48V models	42		44	VDC
DC LOW indicator threshold after start up	Vi nom, Io nom	12V models	10		11.2	VDC
		24V models	20.5		22.5	VDC
		48V models	41		45	VDC
Parallel operation	For parallel model only				3	unit
Efficiency	Vi nom, Io nom, Po / Pi		Up to 87%, See model list			

NOTE 2 : N / A for parallel model. Output voltage is fixed in house. Cannot be trimmed by user.

CONTROL AND PROTECTION

Characteristics	Conditions	min.	typ.	max.	unit
Input fuse		T4A / 250VAC internal			
Rated over load protection	Vi nom	105		125	%
Power Rdy (for 24V model only)	Threshold voltage of contact closed(at start up)	21.1		23.1	VDC
	Threshold voltage of contact open(after start up)	20.6		19.0	VDC
	Electrical isolation	500			VDC
	Contact rating at 60VDC			0.3	A
Over voltage protection	Vi nom, Io nom	125		145	%
Output short circuit	Vi nom, Io nom	Current limited			

SPECIFICATION

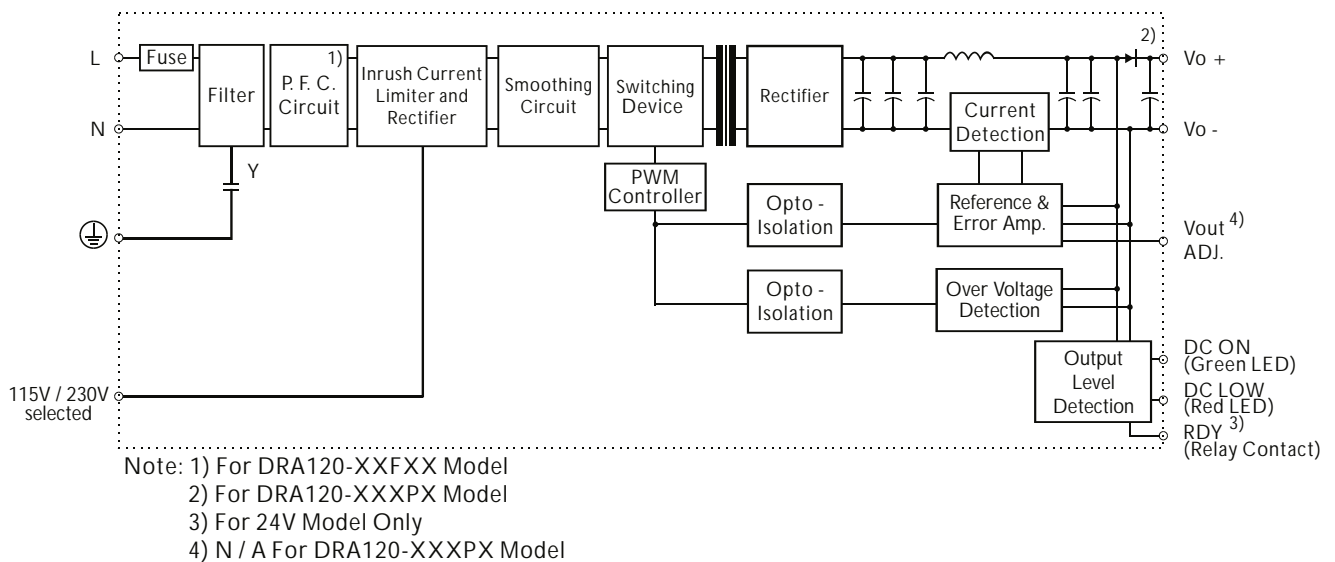
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APPROVALS AND STANDARDS

UL / cUL	UL508 Listed
TUV	EN60950
CE	EN50081-1 EN50082-2 EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8

CIRCUIT SCHEMATIC

• Block diagram for DRA120 series



PHYSICAL CHARACTERISTICS

CASE SIZE

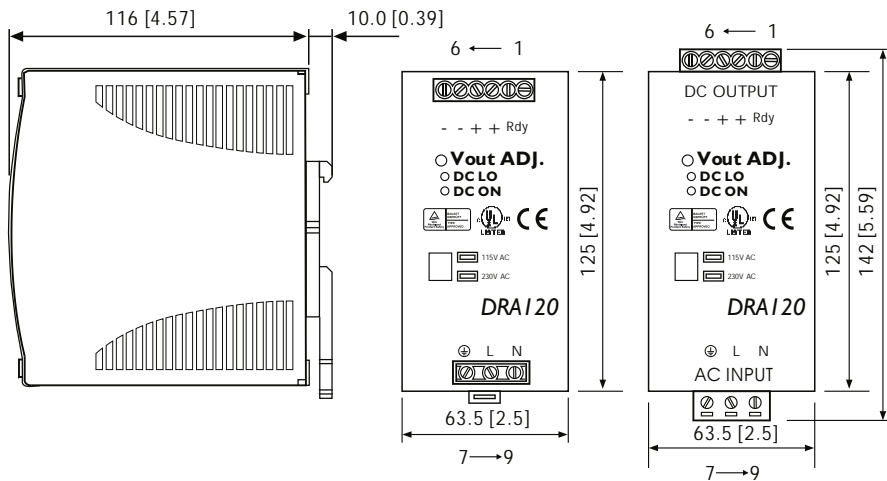
SCREW TERMINAL TYPE	125 x 63.5 x 126 mm 4.92 x 2.5 x 4.96 inches
DETACHABLE CONNECTOR TYPE	142 x 63.5 x 126 mm 5.59 x 2.5 x 4.96 inches

WEIGHT

P.F.C. TYPE	860g
None P.F.C. TYPE	640g

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.

INSTALLATION

Ventilation / Cooling
Normal convection
Above/below 25m/m free space
For cooling recommended
Connector size range
Screw terminal:
10-24AWG flexible / solid cable,
8 m/m stripping at cable end recommends
Detachable connector:
14-24AWG flexible / solid cable,
7 m/m stripping at cable end recommends

PIN ASSIGNMENT

PIN NO.	Designation	Description
1	OUT	RDY
2		A normal open relay contact for DC ON level control (Never connect except 24V model)
3		V +
4		V +
5	IN	V -
6		V -
7		⊕
8		L
9	OTHER	N
		DC ON
		DC LO
		Vout ADJ.
		115 / 230
		Input voltage selection switch

DERATING

