

DRA480 SERIES



AC - DC DIN RAIL MOUNTABLE
480W
INDUSTRIAL CONTROL EQUIPMENT

FEATURES

- COMPACT DESIGN
- HIGH EFFICIENCY UP TO 90%
- ACTIVE PFC FUNCTION
- PARALLEL FUNCTION AVAILABLE (SWITCH)
- UNIVERSAL INPUT VOLTAGE

SELECTION CHART

DRA 480 - 24 x

Wattage

A : SCREW TERMINALS
 B : DETACHABLE CONNECTOR

24 : 24VOUT
48 : 48VOUT

MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
Single Output Models						
DRA480-24x	90 ~ 264 VAC	480 WATTS	+ 24 VDC	20A	86%	89%
DRA480-48x	90 ~ 264 VAC	480 WATTS	+ 48 VDC	10A	87%	90%

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 Vinom	-25		+ 71	°C	
Derating	Vi nom, from +61 to +71°C			4	% / °C	
Storage temperature	Non operational	-25		+ 85	°C	
Relative humidity	Vi nom, Ionom	20		95	% RH	
Dimension	Screw terminal type	L125 x W175 x D123			mm	
	Detachable connector type	L142 x W175 x D123			mm	
Cooling	Free air convection				mm	
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		VAC
Input voltage range	Ta min ... Ta max, Io nom	AC IN	90	230	264	VAC
		DC IN	120		370	VDC
Rated input current	Io nom	Vi : 115VAC		7		A
		Vi : 230VAC		3.5		A
Line frequency	Vi nom, Io nom		47		63	Hz
Inrush current	Vi nom, Io nom	Vi : 115VAC			25	A
		Vi : 230VAC			50	A
P. F. C.	Vi : 230VAC, Io nom			0.99		

OUTPUT SPECIFICATIONS

Characteristics	Conditions		min.	typ.	max.	unit
Output voltage accuracy (Adjusted before shipment)	Vi nom, Io max		-0		+ 1	%
Minimum load	Vi nom		0			%
Line regulation	Io nom, Vi min ...Vi max				± 0.5	%
Load regulation	Vi nom, Io min ...Io nom	single mode			± 0.5	%
		parallel mode			± 5	%
Temperature coefficient	Vi nom, Io min				± 0.02	% / °C
Ripple & noise	Vi nom, Io nom, BW = 20MHz				100	mV
Hold up time	Vi nom, Io nom		30			ms
Voltage trim range	Vi nom, Io nom	24V models	22.5		28.5	VDC
		48V models	47		56	VDC
DC ON indicator threshold at start up	Vi nom, Io nom	24V models	17.6		19.4	VDC
		48V models	37		40	VDC
DC LOW indicator threshold after start up	Vi nom, Io nom	24V models	17.6		19.4	VDC
		48V models	37		40	VDC
Parallel operation	0.9 Io max				3	unit
Efficiency	Vi nom, Io nom, Po / Pi		Up to 90%, See model list			

CONTROL AND PROTECTION

Characteristics	Conditions		min.	typ.	max.	unit
Input fuse			10A / 250VAC internal			
Rated over load protection	Vi nom		120		140	%
Power Rdy (for 24V model only)	Threshold voltage of contact closed(at start up)		17.6		19.4	VDC
	Electrical isolation		500			VDC
	Contact rating at 60VDC				0.3	A
Over voltage protection	Vi nom, Io nom	24V models	30		33	V
		48V models	57		63	V
Output short circuit	Vi nom		Continuous current limited			



SPECIFICATION

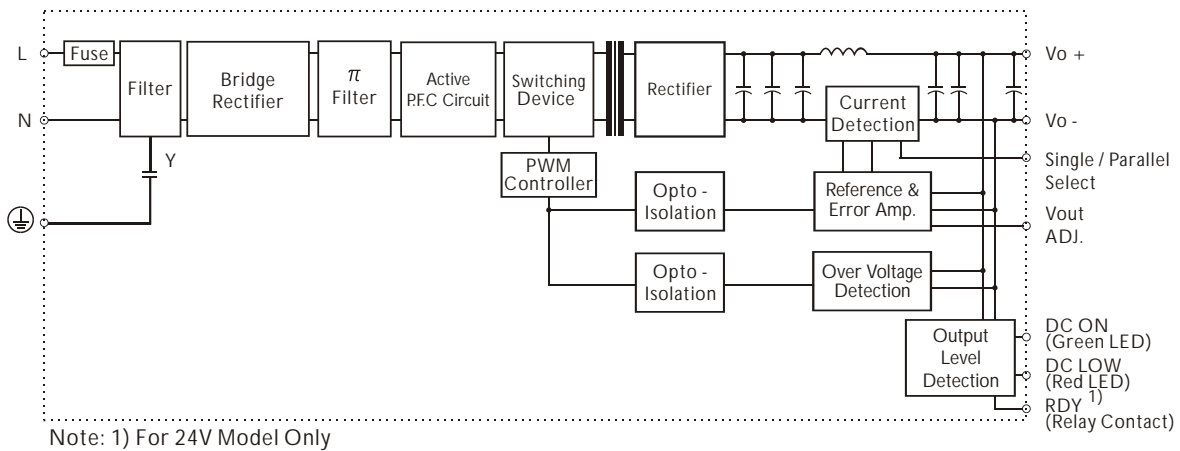
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APPROVALS AND STANDARDS

UL / cUL	UL508 Listed, UL60950-1 Recongized
TUV	EN60950-1
CE	EN61000-6-3, EN55022 class B, EN61000-3-2, EN61000-3-3 EN61000-6-2, EN55024

CIRCUIT SCHEMATIC

• Block diagram for DRA480 series

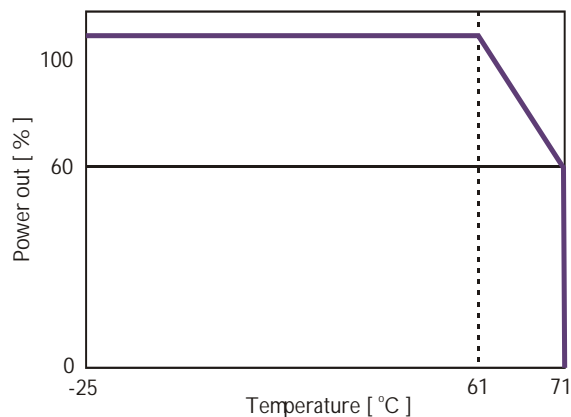


PHYSICAL CHARACTERISTICS

CASE SIZE

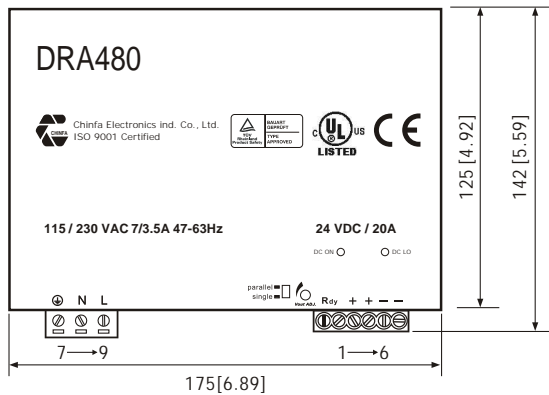
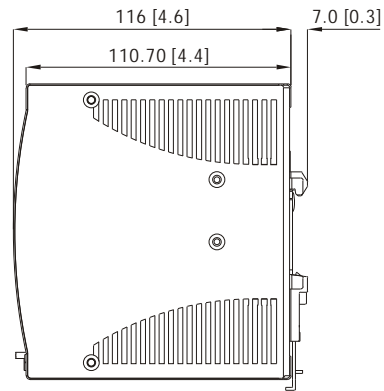
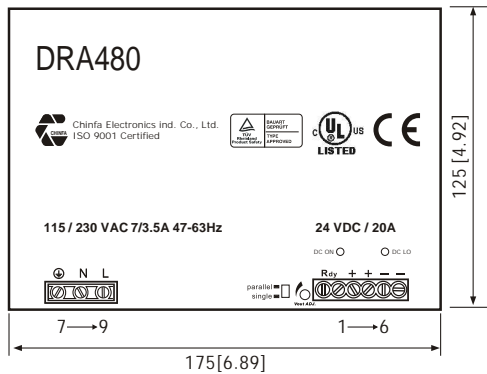
SCREW TERMINAL TYPE	125 x 175 x 123 mm	4.92 x 6.89 x 4.84 inches
DETACHABLE CONNECTOR TYPE	142 x 175 x 123 mm	5.59 x 6.89 x 4.84 inches
WEIGHT	1920g	

DERATING



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
All sides 25mm free space
For cooling recommended

Connector size range

Screw terminal:
10-24AWG flexible / solid cable,
8 mm stripping at cable end recommends

Detachable connector:

14-24AWG flexible / solid cable,
7 mm stripping at cable end recommends

PIN ASSIGNMENT

PIN NO.	Designation		Description
1	OUT	RDY	A normal open relay contact for DC ON level control (Only for 24V model)
2		V +	Positive output terminal
3		V +	Positive output terminal
4		V -	Negative output terminal
5		V -	Negative output terminal
6		⊕	Ground this terminal to minimize high-frequency emissions
7	IN	N	Input terminals (neutral conductor, no polarity at DC input)
8		L	Input terminals (phase conductor, no polarity at DC input)
9	OTHER	DC ON	Operation indicator LED
		DC LO	DC LOW voltage indicator LED
		Vout ADJ.	Trimmer-potentiometer for Vout adjustment
		S / P	Single / Parallel select switch