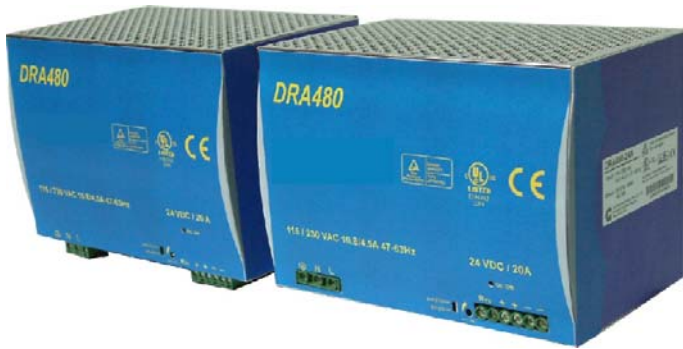


AC - DC Power Modules



Features:

- Compact design
- High efficiency up to 90%
- Active PFC function
- Parallel function (switch selectable)
- Universal input voltage

AC - DC Din rail mountable
Industrial control equipment

Model List

Model No.	Input Voltage	Output Wattage	Output Voltage	Output Current	EFF. (Minimum)	EFF. (Typical)
Single Output Models						
DRA480-48A	90 to 264 V ac	480 W	+48 V dc	10 A	87%	90%

Specifications:

All specifications typical at nominal line, full load, 25°C unless otherwise noticed

General						
Characteristics	Conditions		Minimum	Typical	Maximum	Unit
Isolation Voltage	Input / output		3,000	-	-	V ac
Isolation Resistance	Input / output, at 500 V dc		100	-	-	MΩ
Ambient Temperature	Operating at Vi nom		-10	-	+71	°C
Derating	Vi nom, Io nom +61 to +71°C		-	-	2.5	% / °C
Storage Temperature	Non Operational		-25	-	+85	°C
Relative Humidity	Vi nom, Io nom		20	-	95	% RH
Dimension	Screw terminal type		L125 × W175 × D126			mm
	Detachable connector type		L142 × W175 × D126			
Cooling	Free air convection		-	-	-	-
Case Material	Metal		-	-	-	-

Input Specifications						
Characteristics	Conditions		Minimum	Typical	Maximum	Unit
Rated Input Voltage	Io nom		100	-	240	V ac
Input Voltage Range	Ta minimum to Ta maximum,	AC in	90	230	264	
	Io nom		DC in	120	-	370
Rated Input Current	Vi nom		Vi : 115 V ac	6.9	-	A
			Vi : 230 V ac	3.3	-	
Line Frequency	Vi nom, Io nom		47	-	63	Hz
Inrush Current	Vi nom, Io nom		Vi : 115 V ac	-	25	A
	Vi nom, Io nom		Vi : 230 V ac	-	50	
P.F.C.	Vi : 230 V ac, Io nom		-	0.99	-	-

AC - DC Power Modules



Output Specifications					
Characteristics	Conditions	Minimum	Typical	Maximum	Unit
Output Voltage Accuracy (Adjusted before shipment)	Vi nom, Io maximum	-0	-	+1	%
Minimum Load	Vi nom	0	-	-	
Line Regulation	Io nom, Vi minimum to Vi maximum	-	-	±0.5	
Load Regulation	Vi nom, Io nom to Io nom single mode	-	-	±1	
	Io minimum to Io nom parallel mode	-	-	±5	
Temperature Coefficient	Vi nom, Io minimum	-	-	±0.02	% / °C
Ripple and noise	Vi nom, Io nom, BW = 20 MHz	-	-	100	mV
Hold up Time	Vi nom, Io nom	35	-	-	ms
Voltage Trim Range	Vi nom, Io nom 48 V models	47	-	56	V dc
DC on Indicator Threshold at Start up	Vi nom, Io nom 48 V models	37	-	43	
DC Low Indicator Threshold at Start up	Vi nom, Io nom 48 V models		-		
Parallel Operation	0.9 Io maximum	-	-	3	Unit
Efficiency	Vi nom, Io nom, Po / Pi	Up to 90%, see model list			

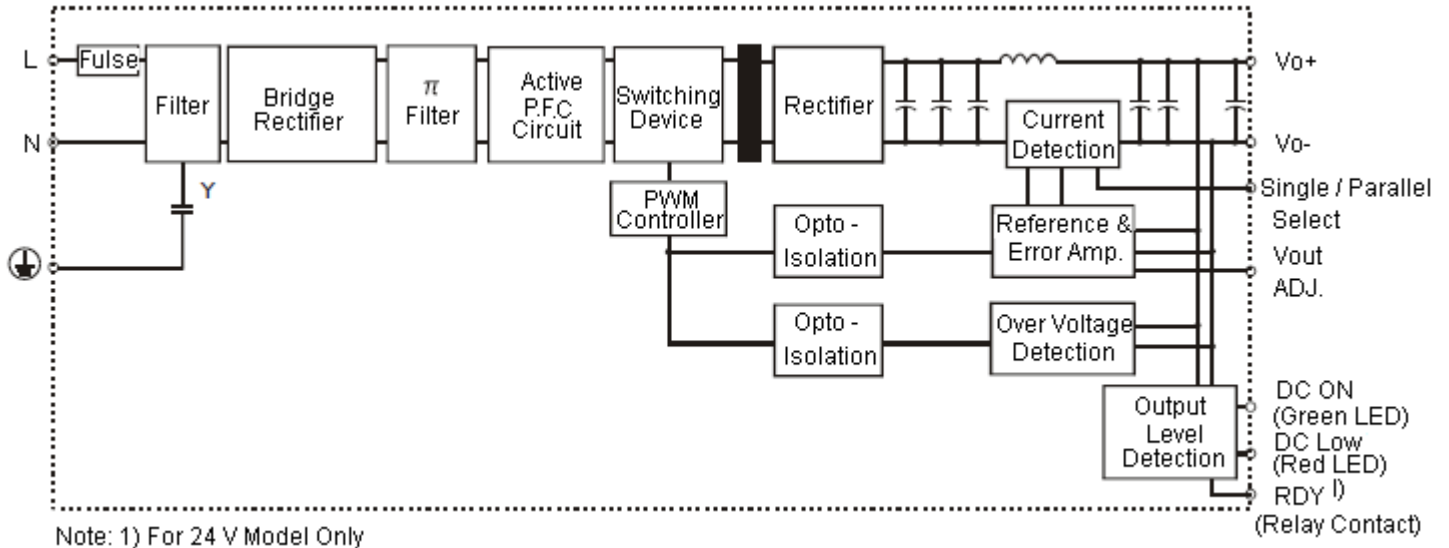
Control and Protection					
Characteristics	Conditions	Minimum	Typical	Maximum	Unit
Input Fuse	-	10 A / 250 V ac internal			
Rated Over Load Protection	Vi nom	110	-	140	%
Power Rdy (for 24 V model only)	Threshold voltage of contact closed (at start up)	17.6	-	19.4	V dc
	Electrical isolation	500	-	-	
	Contact rating at 60 V dc	-	-	0.3	A
Over Voltage Protection	Vi nom, Io nom	120	-	145	%
Output Short Circuit	Vi nom	Continuous current limited			

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

AC - DC Power Modules

Circuit Schematic

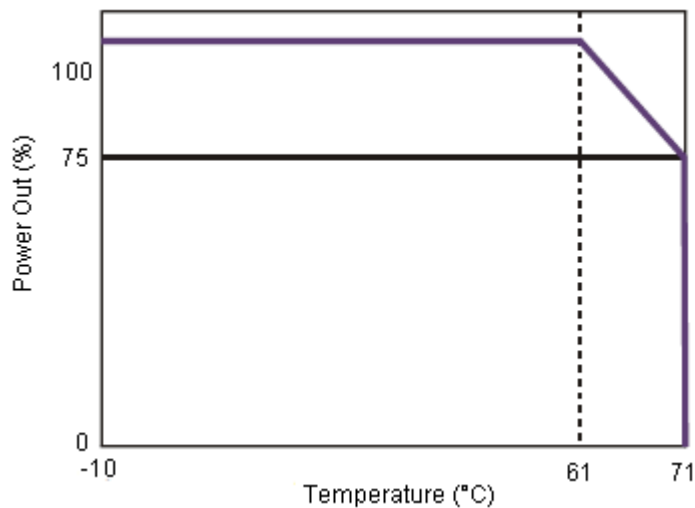
Block diagram for DRA480 series



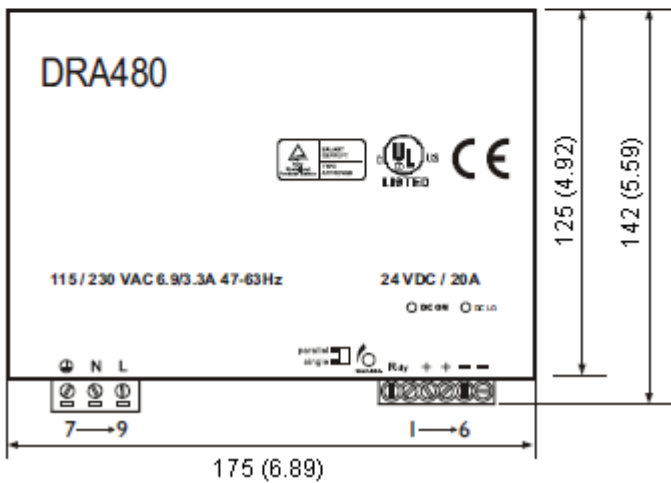
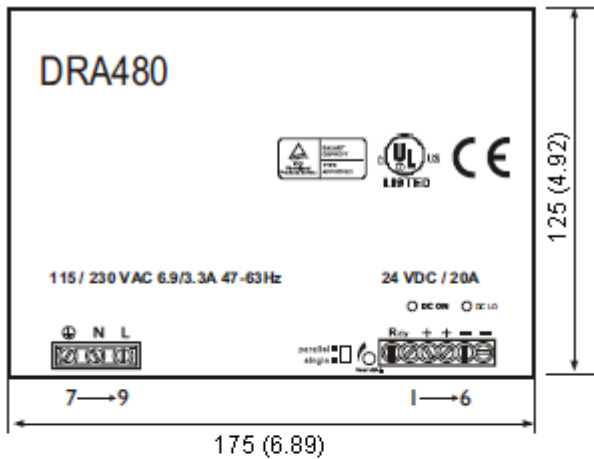
Physical Characteristics

Case Size	
Screw Terminal Type	: 125 × 175 × 126 mm 4.92 × 6.89 × 4.96 inches
Detachable Connector Type	: 142 × 175 × 126 mm 5.59 × 6.89 × 4.96 inches
Weight	: 1,800 g

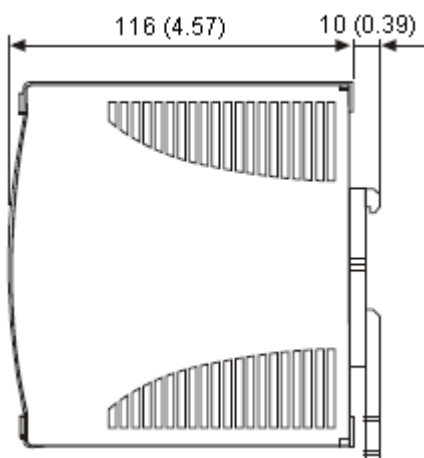
Derating



Mechanism and Pin Configuration



Dimensions : Millimetres (Inches)



Dimensions : Millimetres (Inches)

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 25 mm free space

For cooling recommended

Connector size range

Screw terminal :

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


Detachable connector:

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

AC - DC Power Modules



Pin Assignment

Pin Number	Designation	Description	
1	Out	RDY A normal open relay contact for DC ON level control (Only for 24 V model)	
2			
3		V+	Positive output terminal
4		V+	
5		V-	Negative output terminal
6		V-	
7	In	 Ground this terminal to minimize high-frequency emissions	
8		N Input terminals (neutral conductor, no polarity at DC input)	
9		L Input terminals (phase conductor, no polarity at DC input)	
	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	

Part Number Table

Description	Part Number
PSU, Din Rail, 480 W, 48 V	DRA480-48A

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