

Preliminary

VRH 100 SERIES



2PH / Single PH AC - DC DIN RAIL MOUNTABLE
100W
INDUSTRIAL CONTROL EQUIPMENT

FEATURES

- 2 PHASE / Single PHASE HIGH AC INPUT VOLTAGE
- COMPACT DESIGN
- HIGH EFFICIENCY UP TO 89%

SELECTION CHART

VRH 100 - 24

Wattage

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

MODEL LIST

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
Single Output Models						
VRH100-12	2 ϕ /1 ϕ 340~575VAC	100.8 WATTS	+ 12 VDC	8400mA	84%	86%
VRH100-24	2 ϕ /1 ϕ 340~575VAC	100.8 WATTS	+ 24 VDC	4200mA	85%	87%
VRH100-48	2 ϕ /1 ϕ 340~575VAC	100.8 WATTS	+ 48 VDC	2100mA	87%	89%

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			M Ω	
Ambient temperature	Operating at Vi nom	-25		+ 71	°C	
Derating	Vi nom, from +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	L90 x W54 x D113.5			mm	
Cooling	Free air convection					
Case material	Plastic					



SPECIFICATION

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

INPUT SPECIFICATIONS

Characteristics	Conditions		min.	typ.	max.	unit
Nominal Voltage			I ϕ or 2 ϕ 380 / 480 VAC			
Rated input voltage	I _o nom		400		500	VAC
Input voltage range	T _a min ... T _a max, I _o nom	AC IN	340		575	VAC
		DC IN	480		820	VDC
Rated input current	I _o nom	V _i : 380VAC		0.75		A
		V _i : 500VAC		0.55		A
Line frequency	V _i nom, I _o nom		47		63	Hz
Inrush current	V _i nom, I _o nom			10		A
P. F. C.	V _i : 500VAC, I _o nom			0.6		

OUTPUT SPECIFICATIONS

Characteristics	Conditions		min.	typ.	max.	unit
Output voltage accuracy (Adjusted before shipment)	V _i nom, I _o max		-0		± 1	%
Minimum load	V _i nom		0			%
Line regulation	I _o nom, V _i min ... V _i max				± 1	%
Load regulation	V _i nom, I _o min ... I _o nom	single mode			± 1	%
Temperature coefficient	V _i nom, I _o min				± 0.02	% / °C
Ripple & noise	V _i nom, I _o nom, BW = 20MHz				100	mV
Hold up time	V _i nom, I _o nom		20			ms
Voltage trim range	V _i nom, I _o nom	12V model	11.4		14.5	VDC
		24V model	22.5		28.5	VDC
		48V model	47		56	VDC
DC ON indicator threshold at start up	V _i nom, I _o nom	12V model	10		11.2	VDC
		24V model	17.6		19.4	VDC
		48V model	37		43	VDC
DC LOW indicator threshold at start up	V _i nom, I _o nom	12V model	10		11.2	VDC
		24V model	17.6		19.4	VDC
		48V model	37		43	VDC
Efficiency	V _i nom, I _o nom, P _o / P _i		Up to 89%			

CONTROL AND PROTECTION

Characteristics	Conditions		min.	typ.	max.	unit
Input fuse			2A / 600VAC internal			
Rated over load protection	V _i nom		115		135	%
Power R _{dy} (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	V _i nom, I _o nom	12V model	14.5		17.4	V
		24V model	30		33	V
		48V model	60		66	V
Output short circuit	V _i nom		Current limited			

SPECIFICATION

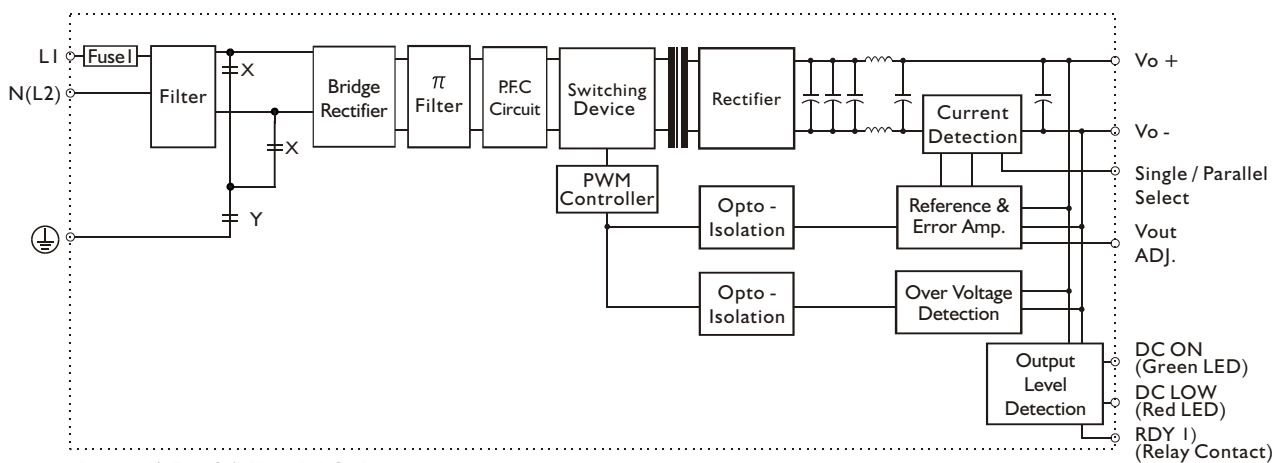
All Specifications Typical At Nominal Line, Full Load, 25°C Unless Otherwise Noticed

APPROVALS AND STANDARDS

UL / cUL	UL508 Listed, UL60950-I Recognized
TUV	EN60950-1
CE	EN61000-6-3, EN55022 class B EN61000-3-2, EN61000-3-3 EN61000-6-2, EN55024 EN61204-3

CIRCUIT SCHEMATIC

• Block diagram for VRH100 series

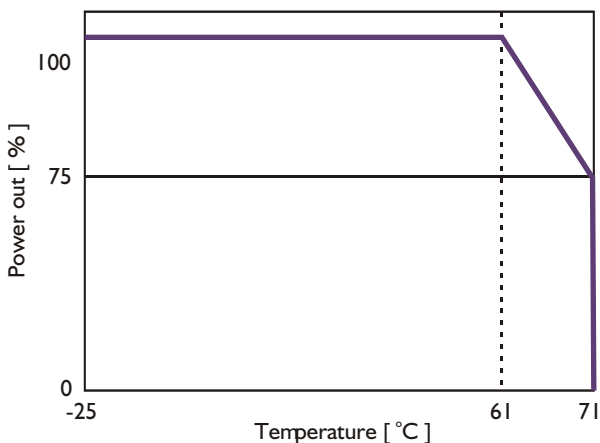


PHYSICAL CHARACTERISTICS

CASE SIZE

SCREW TERMINAL TYPE	90 x 54 x 113.5 mm (3.6 x 2.13 x 4.47 inches)
WEIGHT	530g

DERATING



MECHANISM & PIN CONFIGURATION

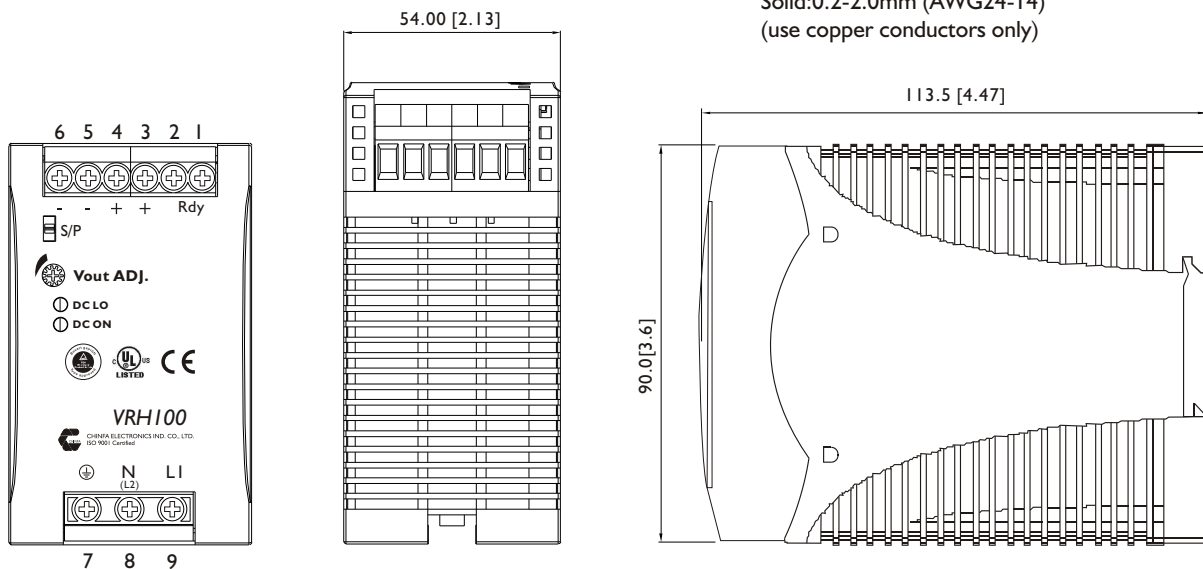
mm [inch]

CONSTRUCTION

Easy snap-on mounting onto the DIN-Rail (TS35/7.5 or TS35/15), unit sits safely and firmly on the rail; 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)



PIN ASSIGNMENT

PIN NO.	Designation	Description
1	RDY	A normal open relay contact for DC ON level control (Only for 24V model)
2	OUT	Vo+
3		Vo+
4		Vo-
5		Vo-
6	IN	⊕
7		N (L2)
8		LI
9	OTHER	Vout Adj.
		DC ON
		DC Lo
		S/P