

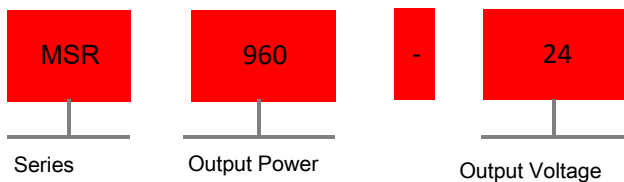
MSR960-□ Series



▲ Features

- Input:180-264VAC
- Peak load capability up to 130%
- Only110mm width
- Built-in active PFC function
- Efficiency >94%, Low power dissipation
- Protections:short circuit/overload/over voltage/over temperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- Mounting: DIN rail TS-35/7.5 or 15
- Parallel operation. Total power up to 3840W(3+1)
- Built-in DC OK relay contact
- 100% full load burn-in test
- 3 years warranty

▲ Model Encoding



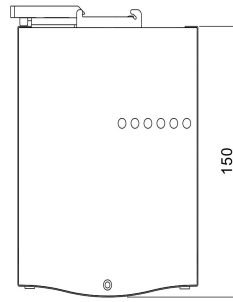
Specification

Input			
Input voltage *1	180-264VAC 254-370VDC		
AC current	6A/230VAC		
Frequency range	47-63Hz		
Inrush current(max.)	Cold start: 50A/230VAC		
Output			
DC voltage	24V	48V	
Rated current	40A	20A	
Current range	0-40A	0-20A	
Rated power	960W	960W	
Peak current	52A	26A	
Peak power *2	1248W(3s)		
Rippl & noise(max.) *4	180mVp-p	250mVp-p	
Voltage ADJ. range	24-28V	48-55V	
Voltage tolerance *5	±1%	±1%	
Line regulation	±0.5%	±0.5%	
Load regulation	±1%	±1%	
Efficiency	94%	94%	
Start up, rise time	1000ms 100ms/230VAC (@Full load)		
Hold up time	14ms/230VAC(@Full load)		
Status indicator	Green LED		
Protection			
Over load	Normally works within 105 ~ 130% rated output power for more than 3 seconds and then shut down o/p voltage, automatically recover in 30 seconds after the peak load is removed		
	Protection type: Constant current limiting within 130-150% of rating output. shut down O/P in 3s, repower on to recover		
Over voltage	29-33V	56-65V	
	Protection type: Shut down O/P voltage ,auto-recover or re-power on to recover		
Over temperature	90°C±5°C (TSW) (Detect on the heat sink of power supply)		
	Protection type: Shut down O/P voltage, automatically recover after the temperature goes down		
DC OK relay contact capacity	60Vdc/0.3A, 30Vdc/1A, 30Vac/0.5A resistive load		
Parallel operation	Refer to function description		
Safety & EMC			
Withstand voltage	I/P-O/P:3KVAC I/P-FG:2KVAC O/P-FG:0.5KVAC O/P-DC OK:0.5KVAC		
Isolation resistance	I/P-O/P, I/P-FG, O/P-FG:>100M Ohms/500VDC/25°C/70%RH		
Safety standards	Design refer to EN IEC 62368-1、GB4943.1		
EMC emission	Parameter	Standard	Test level
	Conducted	EN 55032	Class B
	Radiated	EN 55032	Class A
	Voltage Flicker	EN 61000-3-3	Design refer to Class A
EMC immunity	Harmonic Current	EN IEC 61000-3-2	Class A
	Parameter	Standard	Test class
	ESD	EN 61000-4-2	Level 3 8KV air;Level 2 4KV contact
	Radiated Susceptibility	EN 61000-4-3	Level 3 10V/m
	EFT/Burest	EN 61000-4-4	Level 3 2KV/5KHZ
	Surge	EN 61000-4-5	Level 3 2KV/L-N;Level3 4kV/L-N-FG
	Conducted	EN 61000-4-6	Level 3 10V
Magnetic Field	EN 61000-4-8	Level 4 30A/m	
Voltage Dips and interruptions	EN 61000-4-11	<5% residual voltage for 0.5 cycles ,70% residual voltage for 25 cycles ,<5% residual voltage for 250 cycles:	
Environment			
Operating temperature	- 30~+70 °C (Refer to "Derating curve")		
Storage temp & humidity	- 40~+85°C, 10~95%RH		
Operating humidity	20~95%RH,Non-condensing		
Vibration	10-500Hz,2G 10min/1 cycle, 60 min along with each X,Y,Z axes		
Customization(optional)	Conformal coating/NSS120H/Impregnated silica gel process, application in harsh environment		

Others		
MTBF	≥69.8Khrs MIL-HDBK-217F(25°C)	
Installation	TS35 DIN rail	
Protection class	IP20	
Weight	about 2.47kg	
Dimension	110*125.2*150mm(W*H*D)	
Data	Description	Model
	MSR 960W 40A/24V	MSR960-24
	MSR 960W 20A/48V	MSR960-48

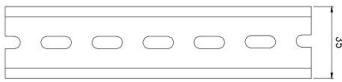
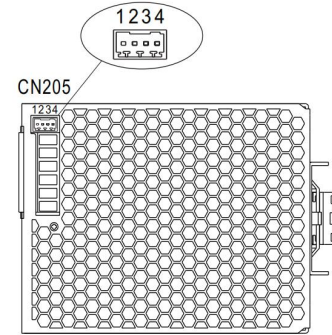
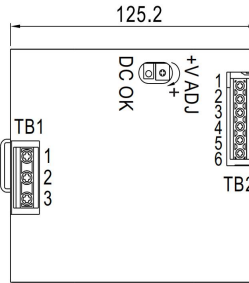
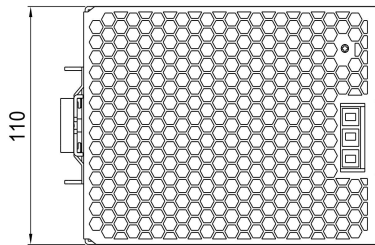
Installation instruction

PIN No.	Assignment	Connector	Wire Diameter
1	P-(Current Share)	DINKLE ESC250V-04P or equivalent (Including single package)	0.081~0.517mm #2(28~20AWG)
2	P+(Current Share)		
3,4	DC OK Relay Contact		



Terminal PIN No. assignment(TB1)

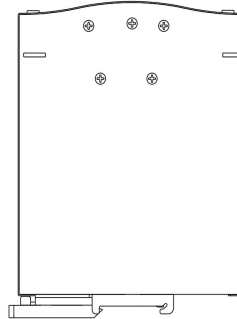
PIN No.	Assignment
1	FG(⊕)
2	AC/N
3	AC/L



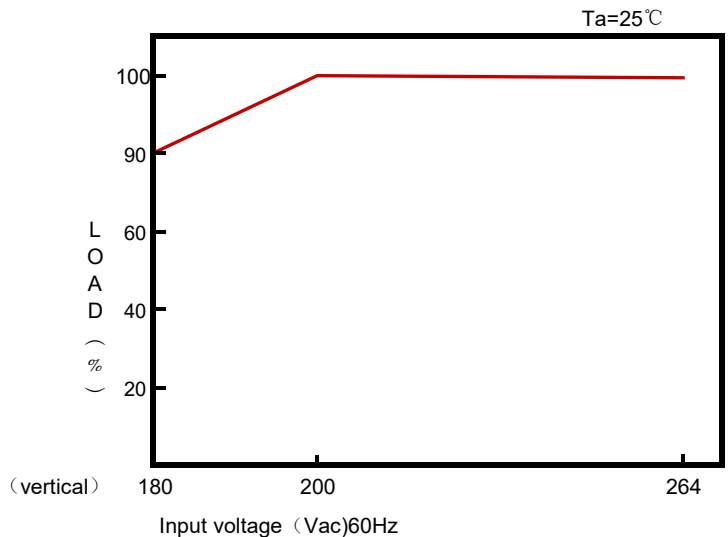
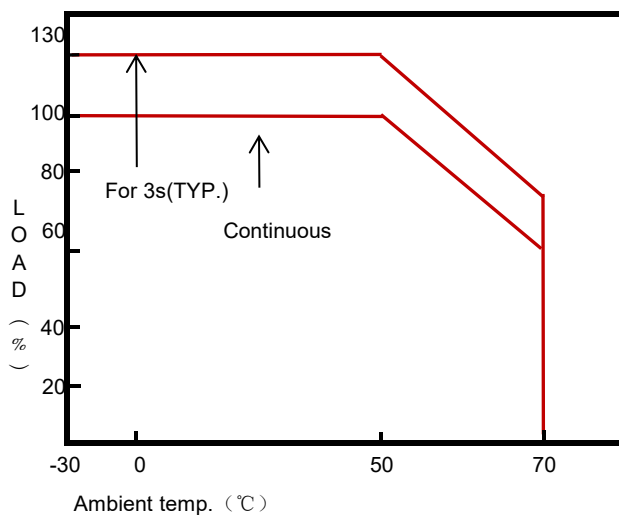
DIN rail: TS35/7.5 or TS35/15

Terminal PIN No. assignment(TB2)

PIN No.	Assignment
1,2,3	DC OUTPUT +V
4,5,6	DC OUTPUT -V



Derating curve



Notes: 1. Derating may be needed under low input voltage. Please refer to derating curve for more details.

2. 3s max. and the average power is not allowed to surpass rating power

3. All parameters are measured at 230VAC input, rated load and 25°C of ambient temperature unless otherwise specified.

4. Ripple & noise are measured at 20MHz of bandwidth by using a 12' twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.

5. Tolerance: includes set up tolerance, line regulation and load regulation.

6. Installation clearances: 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when loaded permanently with full case the power. In adjacent device is a heat source, 15mm clearance is recommended.

7. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft).