Mibbo

MHR060-□ Series

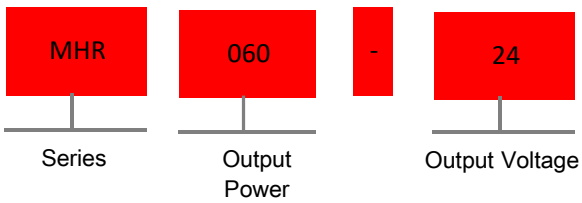
▲ Features

180-550VAC ultra wide input for 1-phase or 2-phase
32mm slim width
4.7KVac I/O high isolation（Reinforced isolation）
Protections：Short circuit/Over load/Over voltage/Over temp.
Mounting on DIN rail TS-35/7.5 or 15
DC OK relay contact
Cooling by free air convection
-30~+85°C ultra wide operating temperature（＞+60℃ derating）
DC output voltage adjustable（+20%）
3 years warranty

▪ Applications

Industrial control system
Factory automation
Semi-conductor fabrication equipments
Electric-mechanical apparatus

▲ Model encoding



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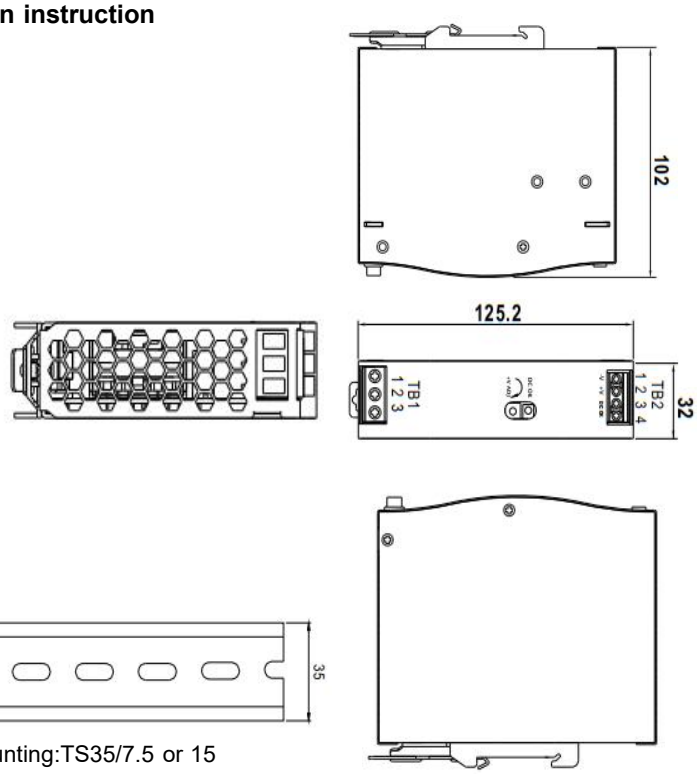
Specification

Input				
Voltage range*1	180-550VAC or 254-780VDC			
AC current	0.4A/400VAC 0.7A/230VAC			
Frequency range	47-63Hz			
Inrush current (max)	Cold start 50A /400VAC 30A/230VAC			
Output				
DC voltage	5V	12V	24V	48V
Voltage ADJ. range	5-6V	12-15V	24-29V	48-57V
Rated current	10A	5A	2.5A	1.25A
Current range	0-10A	0-5A	0-2.5A	0-1.25A
Rated power	50W	60W	60W	60W
Ripple & Noise(Max.)*3	100mVp-p	120mVp-p	150mVp-p	200mVp-p
Voltage tolerance*4	±2%	±1.5%	±1%	±1%
Line regulation	±0.5%	±0.5%	±0.5%	±0.5%
Load regulation	±1.5%	±0.5%	±0.5%	±0.5%
Efficiency	83.5%/400VAC	86.5%/400VAC	89%/400VAC	90.5%/400VAC
Setup/Rise/Hold up time	1000ms, 70ms, 20ms/400Vac 2000ms, 70ms, 10ms/230Vac (@Full load)			
Status indicator	Green LED			
Protection				
Overload	105%-135% of rated power			
	Hiccup mode when output voltage＜50%，recover automatically after the fault condition is removed			
	Constant voltage mode when output voltage within 50% ~ 100%, recover automatically after the fault condition is removed			
Over voltage	6.2-7.2V	16-18V	31-37V	58-60.5V
	Shut down output voltage. Re-power On to recover			
Over temp.	Shut down output voltage. Recover automatically when the temperature goes down			
DC OK signal	Relay contact capacity：30V/1A resistive load			
Safety & EMC				
Withstand voltage	I/P-O/P:4.7KVAC I/P-FG:2.5KVAC 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℃/ 70% RH			
Safety standard	Design refer to EN IEC 62368-1、GB4943.1			
EMC emission	**Parameter**	**Standard**	**Test Level**	
	Conducted	EN 55032	Class B	
	Radiated	EN 55032	Class B	
	Voltage Flicker	EN 61000-3-3	Design refer to Class A	
	Harmonic Current	EN IEC 61000-3-2	Class A	
EMC immunity	**Parameter**	**Standard**	**Test Level**	
	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	
Environment				
Operating Temp.	-30～+85 ℃ (Refer to "Derating Curve")			
Storage Temp.	-40～+85℃			
Storage Humidity	20-90%RH，non-condensing			
Vibration	10～500Hz, 2G 10 min/1 cycle, period for 60 min. each along X, Y, Z axes			
Others				
MTBF	≥313.7K hrs min. MIL-HDBK-217F(25℃)			
Weight	~0.45kg			
Dimension	125.2*32*102mm			

Ordering	**Description**	**Model**
	MHR 50W 10A/5V	MHR060-05
	MHR 60W 5A/12V	MHR060-12
	MHR 60W 2.5A/24V	MHR060-24
	MHR 60W 1.25A/48V	MHR060-48

Installation instruction



Mounting:TS35/7.5 or 15

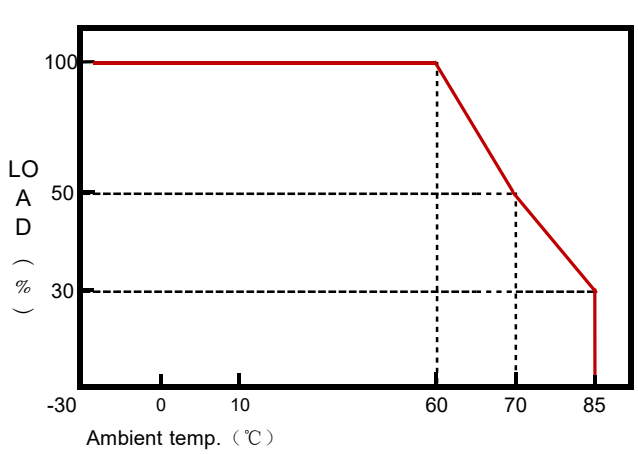
Terminal Pin No. assignment(TB1)

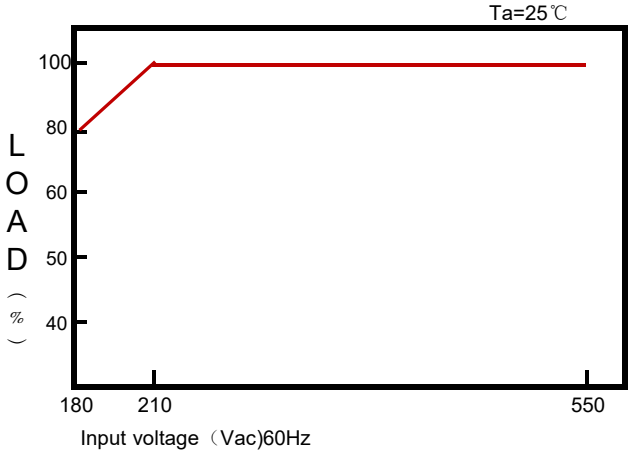
PIN No.	Assignment
1	FG ⏚
2	L2
3	L1

Terminal Pin No. assignment(TB2)

PIN No.	Assignment
1	DC OUTPUT -V
2	DC OUTPUT+V
3,4	Relay contact

Derating curve





■ DC OK Relay contact

Contact close	PSU turns ON/DC OK
Contact open	PSU turns OFF/DC fail
Contact rating	30V/1A resistive load

Note:
1.Derating may be needed under low input voltage.Please refer to derating curve for more details.
2.All parameters are measured at 400VAC input,rated load and 25℃ of ambient temperature unless otherwise specified.
3.Ripple & noise are measured at 20MHZ of bandwidth by using a 12' twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
4.Tolerance:includes set up tolerance,line regulation and load regulation.
5.Installation clearances:40mm on top,20mm on the bottom,5mm on the left and right side are recommended when loaded permanently with full power,In case the adjacent device is a heat source,15mm clearance is recommended.
6.The ambient temperature derating of 3.5℃/1000m with fanless models and of 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).。