MRS-200-S series

200W Constant Voltage Enclosed Switching Power Supply

GLOBAL LEADER POWER

■ Features:

- *Selectable AC input range: 90~132VAC / 180~264VAC*
- *Low no-load power consumption < 0.75W*
- *Protections: Over current / Short circuit / Over Voltage / Over temperature*
- *Compact size with a low 1U profile*
- *LED indicator for power on*
- *Wide range of operating temperature range: -30°C to +70°C*
- *Operating altitude up to 5000m*

RoHS

MODEL NUMBERING

MRS	-	200	-	X	-	S	-	Y

Series	Rated Output Power	Rated Output Voltage		Input Voltage Range	Options	
	200 means 200W	X = 05	5V	S means 90~132VAC / 180~264VAC / 240~373VDC	Y = C	Terminal block with cover
		X = 12	12V			
		X = 15	15V			
		X = 24	24V		Y = Q	Conformal coating
		X = 36	36V			
		X = 48	48V			

ELECTRICAL SPECIFICATION

MODEL	MRS-200-05-S	MRS-200-12-S	MRS-200-15-S	MRS-200-24-S	MRS-200-36-S	MRS-200-48-S
OUTPUT						
Rated Voltage	5V	12V	15V	24V	36V	48V
Rated Current	30A	17A	14A	8.8A	5.9A	4.4A
Rated Power	150W / 200W *[2]*	204W	210W	211.2W	212.4W	211.2W
Line regulation	± 0.5%					
Load Regulation 0-100% (typ.)	± 2.0%	± 1.0%	± 0.5%			
Ripple & Noise (max.) [4]	150mV$_{P-P}$				200mV$_{P-P}$	
Hold Up Time (typ.)	16ms / 230VAC at full load; 12ms / 115VAC at full load					
INPUT						
Voltage Range — Switch in Position 115	90 ÷ 132VAC					
Voltage Range — Switch in Position 230	180 ÷ 264VAC; 240 ÷ 373VDC					
Frequency Range	47 ÷ 63Hz					
Efficiency (typ.)	87%	87.5%	88%	88.5%	89%	89.5%
AC Current (typ.)	3A / 230VAC; 5A / 115VAC					
Inrush Current (typ.)	60A / 230VAC; 60A / 115VAC					

PROTECTIONS

Over Current	Range: 110% ÷ 180% rated current					
	Type: hiccup mode, auto-recovery					
Short Circuit	Type: hiccup mode, auto-recovery (recovery time < 5s)					
Over Voltage	≤ 8VDC	≤ 18VDC	≤ 22VDC	≤ 33.6VDC	≤ 48.6VDC	≤ 60VDC
	Type: shut off output voltage, re-power on for recovery.					
Over Temperature	Type: shut off output voltage, re-power on for recovery.					

WORKING ENVIRONMENT

Working Temperature		-30°C ÷ 70°C (Refer to Temperature Derating Curve)
Working Humidity		20 ÷ 90% RH non-condensing
Storage Temperature and Humidity		-40°C ÷ 85°C, 10 ÷ 95% RH non-condensing
Temperature Coefficient		± 0.03% / °C
Operation Altitude (max.)	***[7]***	5000m

SAFETY AND EMC REGULATIONS

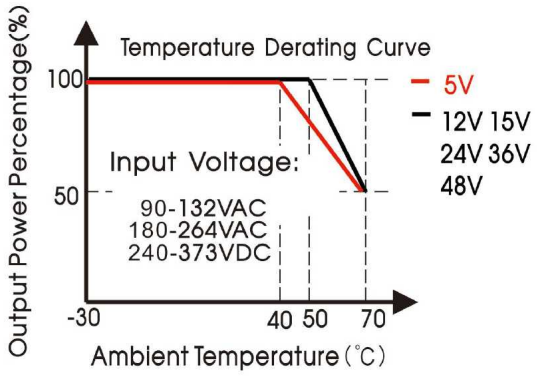
Safety Standards	Compliance to EN 62368-1. Design refer to EN 60335-1, EN 61558-1, EN 61558-2-16
Withstand Voltage	IN/OUT: 3000VAC (< 10mA / 1min); IN/GND: 2000VAC (< 10mA / 1min) ; OUT/GND: 500VAC (< 5mA / 1min)
Isolation Resistance	IN/OUT, IN/GND, OUT/GND: 100MΩ/500VDC
EMC Emission	Compliance to EN55032
EMC Immunity	Compliance to EN55035; EN61000-4-2, -3, -4, -5, -6, -11

OTHERS

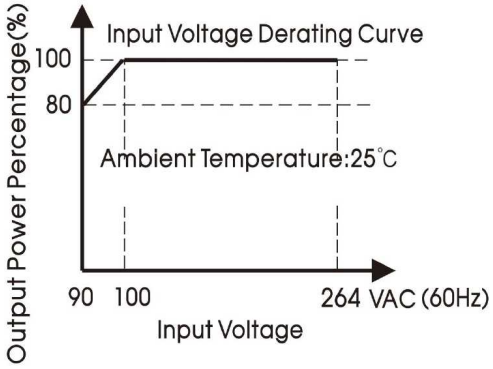
MTBF (min.)	300 000h / 25°C per MIL-HDBK-217F
Dimensions and Case Material	179 x 99 x 30mm (L x W x H); Metal (AL1100, SGCC)
Net Weight	0.52kg

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load, 25°C of ambient temperatur and humidity <75% RH.
2. Transient power = 200W, max. 60s non-cyclic.
3. One magnetic beed should be coupled with the output load line during CE/RE testing.
4. Ripple & noise is measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1µF i 47µF parallel capacitor.
5. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability.
6. Case needs to be connected to the earth (⏚) of the system when the terminal equipment in operating.
7. The room temperature derating of 5°C / 1000m is needed for operating altitude greater than 2000m.
8.Power supply is considered as component not indented to apply by end-user. Power supply meets safety and EMC standards however the final equipment with power supply must be re-quality to comply with EMC Directives.
9. This power supply does not meet the harmonic current requirements specified in EN61000-3-2. Please do not use this power supply under the following conditions:
a) The terminal equipment is used in the European Union
b) Supporting terminals are connected to a public power grid with 220VAC or a higher voltage that comply with the requirements of EN61000-3-2.
c) The power supplu is installed in terminal equipment with average or continous input power greater than 75W.
d) The power supply belongs to a part of lighting system.
Exception: The power supply used in the following terminal equipment does not need to meet EN61000-3-2:
a) Professionl equipment with a total rated input power greater than 1000W.
b) Symmetrically controller heating element with a rated power less than or equal to 200W.

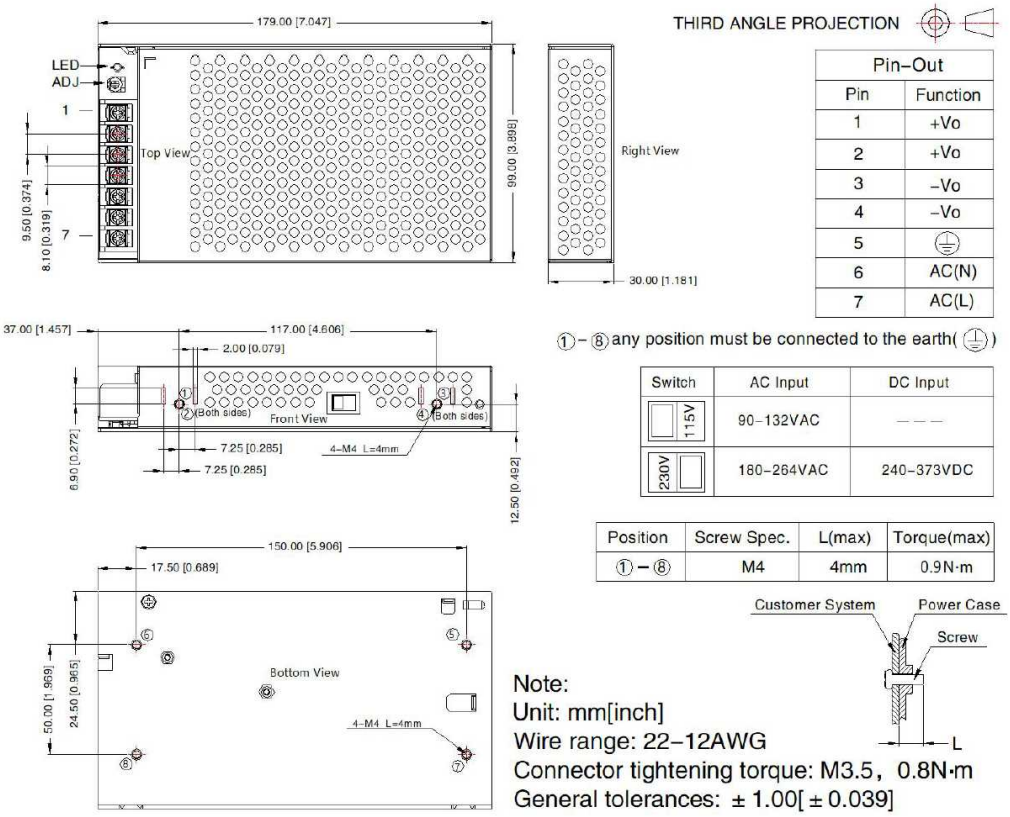
DERATING CURVE



STATIC CHARACTERISTIC



MECHANICAL SPECIFICATION of MRS-200-S and MRS-200-S-Q



THIRD ANGLE PROJECTION

Pin-Out	
Pin	Function
1	+Vo
2	+Vo
3	-Vo
4	-Vo
5	⏚
6	AC(N)
7	AC(L)

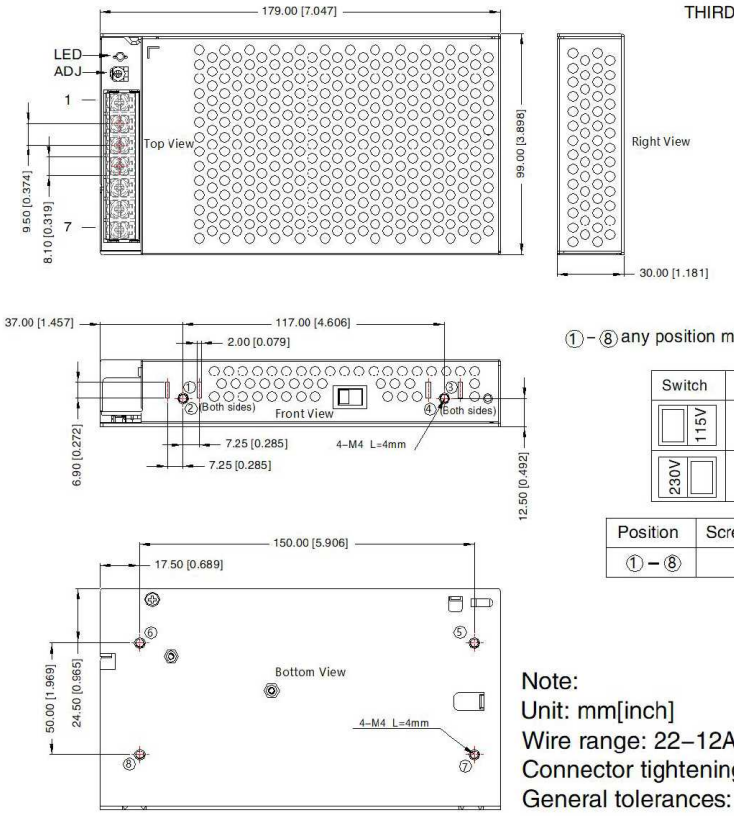
①-⑧ any position must be connected to the earth(⏚)

Switch	AC Input	DC Input
115V	90-132VAC	- - -
230V	180-264VAC	240-373VDC

Position	Screw Spec.	L(max)	Torque(max)
①-⑧	M4	4mm	0.9N·m

Note:
Unit: mm[inch]
Wire range: 22-12AWG
Connector tightening torque: M3.5, 0.8N·m
General tolerances: ± 1.00[± 0.039]

MECHANICAL SPECIFICATION of MRS-200-S-C



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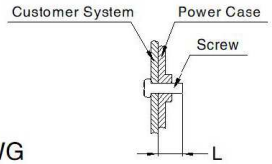

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