

MFS-150-H series

150W Constant Voltage Enclosed Switching Power Supply with PFC function



■ Features:

- Universal AC input / Full range
- Built-in active PFC function
- Remote ON-OFF control
- 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



© MODEL NUMBERING

MFS	-	150	-	X	-	H	-	Y	
SERIES		RATED OUTPUT POWER		RATED OUTPUT VOLTAGE		INPUT VOLTAGE RANGE		OPTIONS	
ENCLOSED TYPE SWITCHING POWER SUPPLY, 1U PROFILE, CONSTANT VOLTAGE DESIGN, PFC FUNCTION		150 means 150W		X = 12	12V	H means 85~305VAC / 120~430VDC		Y = C	Terminal block with cover
				X = 15	15V				
				X = 24	24V				
				X = 48	48V			Y = Q	Conformal coating

© ELECTRICAL SPECIFICATION

MODEL	MFS-150-12-H	MFS-150-15-H	MFS-150-24-H	MFS-150-48-H
OUTPUT				
RATED VOLTAGE	12V	15V	24V	48V
ADJUSTABLE VOLTAGE RANGE (MIN.)	10.2V ÷ 13.8V	13.5V ÷ 18V	21.6V ÷ 26.8V	45.6V ÷ 55.2V
RATED CURRENT	12.5A	10A	6.3A	3.2A
RATED POWER	150W	150W	151.2W	153.6W
LINE REGULATION	± 0.5%			
LOAD REGULATION	± 0.5%			
RIPPLE & NOISE (MAX.) [2]	100mV _{p-p}	100mV _{p-p}	150mV _{p-p}	250mV _{p-p}
HOLD UP TIME (TYP.)	16ms / 230VAC at full load			
INPUT				
VOLTAGE RANGE	85 ÷ 305VAC; 120 ÷ 430VDC			
FREQUENCY RANGE	47 ÷ 63Hz			
EFFICIENCY (TYP.)	85.5%	86%	87%	88%
POWER FACTOR (TYP.)	0.98 / 230VAC; 0.99 / 115VAC			
AC CURRENT (TYP.)	1.0A / 230VAC; 2.0A / 115VAC			
INRUSH CURRENT (TYP.)	45A / 230VAC; 30A / 115VAC			
LEAKAGE CURRENT (MAX.)	2mA / 240VAC			

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PROTECTIONS

OVER CURRENT	Range: 105% ÷ 150% rated current
	Type: constant current limiting, auto-recovery
SHORT CIRCUIT	Type: constant current limiting, auto-recovery < 3s after the short circuit disappear
OVER VOLTAGE	≤ 16.8VDC ≤ 24.5VDC ≤ 33.6VDC ≤ 60VDC
	Type: shut down output voltage. Re-power on to recovery.
OVER TEMPERATURE	Activation: max. 85°C; Deactivation: min. 50°C

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	± 0.05% / °C

SAFETY AND EMC REGULATIONS

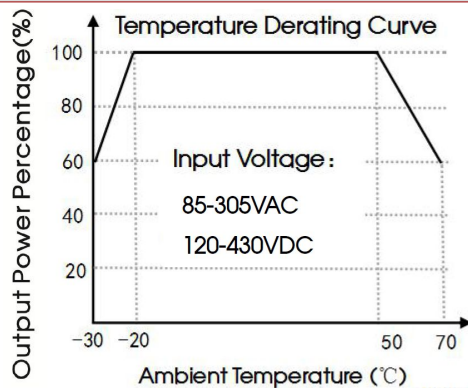
SAFETY STANDARDS	Compliance to EN62368-1, EN60335-1, EN61558-1, EN61558-2-16
WITHSTAND VOLTAGE	IN/OUT: 4000VAC (< 10mA); IN/GND: 2000VAC (< 10mA) ; OUT/GND: 500VAC (< 5mA)
ISOLATION RESISTANCE	IN/OUT, IN/GND, OUT/GND: 100MΩ/500VDC
EMC EMISSION	Compliance to EN55032
EMC IMMUNITY	Compliance to EN55035; EN61000-4-2, -3, -4, -5, -6, -11
HARMONIC CURRENT	Compliance to EN61000-3-3, EN61000-3-2

OTHERS

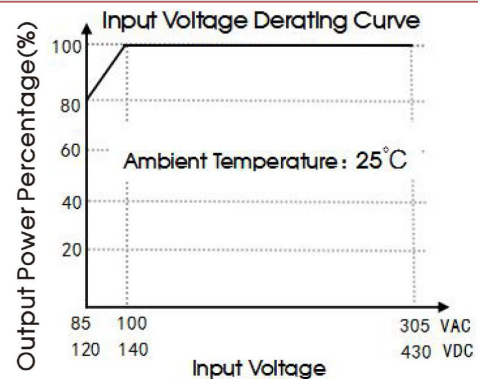
REMOTE CONTROL	0 ÷ 0.8VDC → Power ON; 4 ÷ 10VDC → Power OFF
MTBF (MIN.)	300 000h / 25°C per MIL-HDBK-217F
DIMENSIONS AND CASE MATERIAL	179 x 99 x 30mm (L x W x H); Metal (AL1100, SGCC)
NET WEIGHT	0.5kg

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load, 25°C of ambient temperatur and humidity <75% RH.
2. Ripple & noise is measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μF i 47μF parallel capacitor.
3. 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.
4. Case needs to be connected to the earth (⊕) of the system when the terminal equipment in operating.
5. The room temperature derating of 5°C / 1000m is needed for operating altitude greater than 2000m.
6. 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.

© DERATING CURVE



© STATIC CHARACTERISTIC

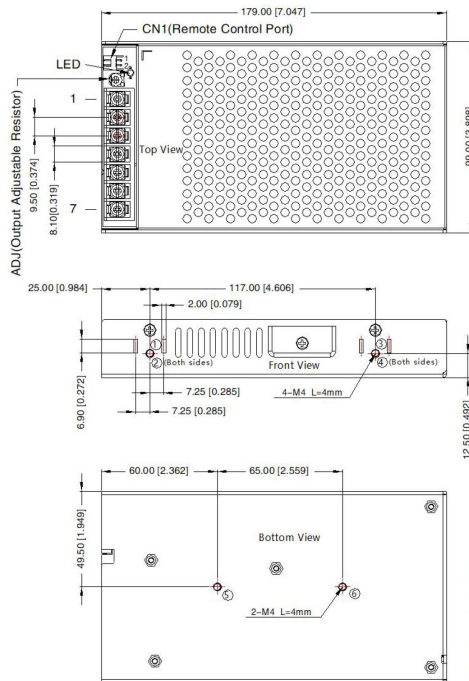


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MECHANICAL SPECIFICATION of MFS-150-H and MFS-150-H-Q



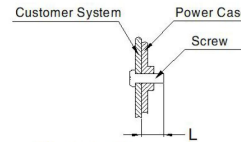
THIRD ANGLE PROJECTION

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

①-⑥ any position must be connected to the earth (⊕)

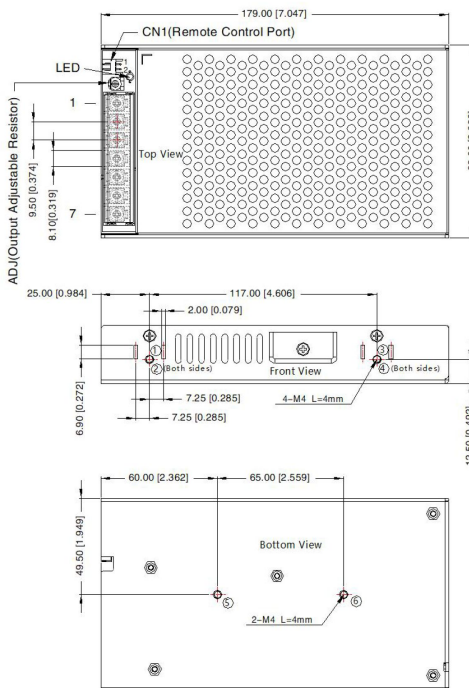
CN1: KANGDAO TJC3-NAWD-2P or the same spec.			
Pin	Function	Connector	Terminal
1	RC+	KANGDAO XH25001-2Y or the same spec.	KANGDAO XH2.54-TE or the same spec.
2	RC-		

Position	Screw Spec.	L(max)	Torque(max)
①-⑥	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 MFS-150-H-C



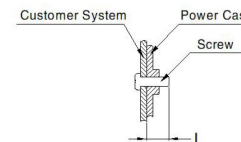
THIRD ANGLE PROJECTION

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

①-⑥ any position must be connected to the earth (⊕)

CN1: KANGDAO TJC3-NAWD-2P or the same spec.			
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