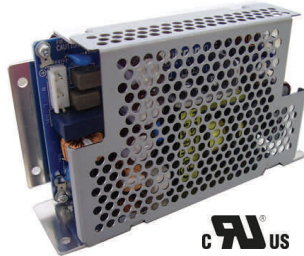


Ultra Low Noise / Low Leakage Current  
AC/DC Switching Power Supply  
for Medical applications

# MFS50



MFS50 is a Switching Power Supply specifically designed for medical applications.

The resonant switching technology significantly reduces the noise level for critical systems.

The low leakage current feature greatly improves the external filter circuit design work space by minimizing the necessary footprint.

These create an ideal solution for ultra low noise, low leakage current, small, light weight and high efficiency power supply applications.

## Features

- Ultra Low Ripple & Noise  
10mVp-p
- Low Leakage Current  
25uA@100Vin, 60uA@264Vin
- Universal Input
- Approved UL60601-1 Reinforced insulation
- Meet EMC Safety Standards
- RoHS Free, Vinyl Chloride Free, Halogen Free \* PCB

## Model No.

MFS50 - XX\*

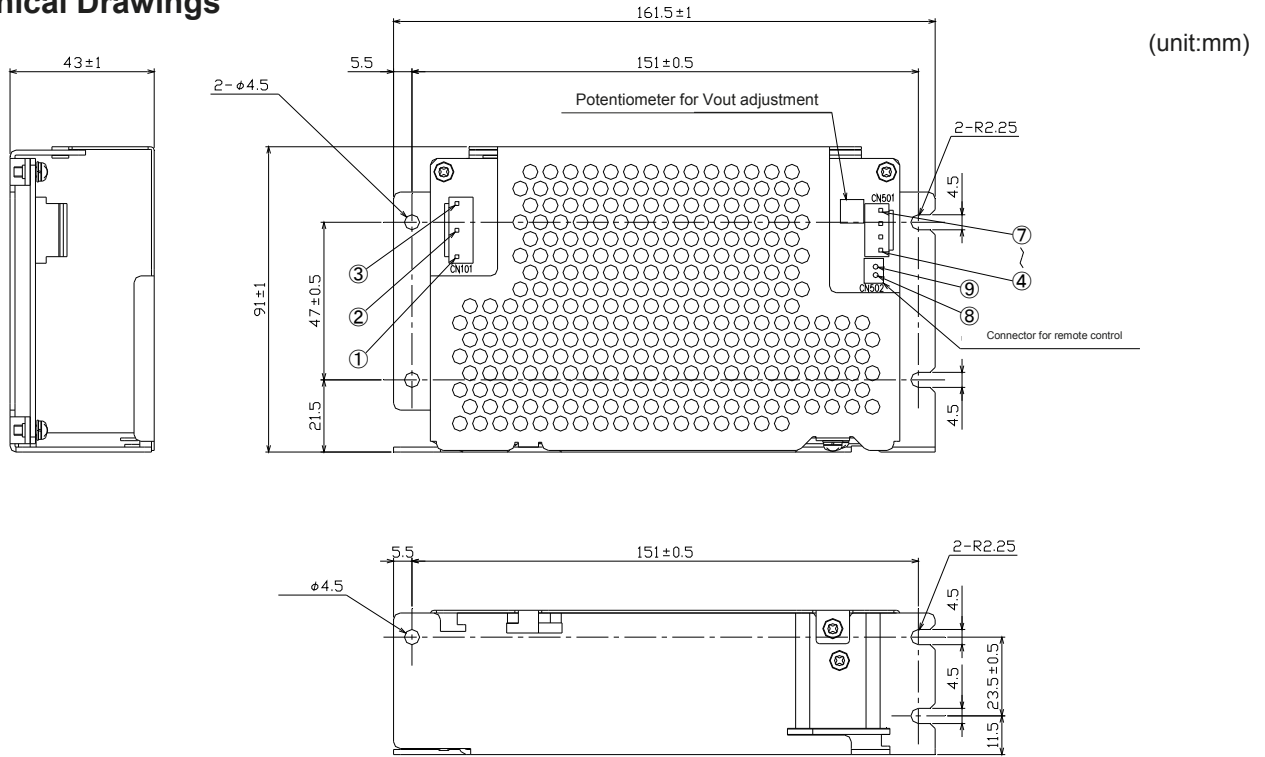
\* Specify output voltage option 5/12/15/24/30/48

## Specification

Model Number		MFS50-5	MFS50-12	MFS50-15	MFS50-24	MFS50-30	MFS50-48
Input	Input Voltage Range	Rating 100-240Vac Single Phase * Range : 85Vac to 264Vac					
	Frequency Range	Rating : 50/60Hz, * Range : 47Hz to 63Hz					
	Input Current	100VAC / 200VAC * 1	1.4A / 0.8A at Full Load				
	Efficiency	100VAC / 200VAC * 1	75% / 78%	80% / 82%	81% / 83%	81% / 83%	81% / 83%
	Inrush Current	100VAC / 200VAC * 1	20A / 40A				
	Leakage Current	25uA typ@100Vac, 60Hz / 35uA max @ 132Vac, 60Hz / 45uA typ@240Vac, 60Hz / 60uA max @ 264Vac, 60Hz					
Output	DC Output Voltage	5V	12V	15V	24V	30V	48V
	Output Current	10A	4.2A	3.4A	2.1A	1.7A	1.1A
	Maximum Output Power	50W	50.4W	51W	50.4W	51W	52.8W
	Line Regulation	20mV max	48mV max	60mV max	96mV max	120mV max	192mV max
	Load Regulation	40mV max	100mV max	120mV max	150mV max	188mV max	240mV max
	Ripple & Noise	* 2	10mVp-p				
Others	OCP	* 3	> 110% ( Shut down output)				
	OVP	* 3	> 115% (Shut down output)				
	Remote Control		Available				
	Cooling System		Convection				
Mechanical	Size & Weight	91 x 43 x 161.5 mm, 430 g					
	Input & Output Terminal	Connector					
	Noise Immunity	IEC61000-4-2, -3, -4, -5, -6, -8, -11					
Others	Conduction Noise	EN55022-B, FCC-B, VCCI-B					
	Safety Certifications	UL60601-1, CSA-C22.2, NO. 601.1-M90, EN60601-1 * UL File No. E320635					
<b>Environmental Condition</b>							
Operating Temperature / Humidity		- 10 degree C to + 60 degree C * With output / 30%RH to 90% RH * Non Condensing					
Storage Temperature / Humidity		- 20 degree C to + 85 degree C / 10%RH to 95% RH * Non Condensing					
Vibration Resistance		19.6m/s <sup>2</sup> 10 to 55Hz 1minute Period 1hour for each X, Y, Z direction					
Shock Resistance		< 196.1m/s <sup>2</sup> 11ms 1 time for each X, Y, Z direction					
<b>Isolation</b>							
Isolation Voltage		Input— Output : 4KVac for 1min Cut off current 20mA * Under normal temp & humidity condition					
		Input— PE : 2KVac for 1min Cut off current 20mA * Under normal temp & humidity condition					
		Output—PE : 500Vac for 1min Cut off current 20mA * Under normal temp & humidity condition					
Isolation Resistance		Input— Output , Input—PE, Output—PE DC500V > 100M ohm					

\*1 Conditions: Ta = 25 degree C \*2 JEITA specified measuring method  
 \*3 Upon over voltage or over current conditions, input power must be removed to allow unit reset to occur within 1 minute.  
 Note: Derating is required by operating temperature. Follow the overload and specification in manual to avoid the damage of power supply.

**Mechanical Drawings**



Connector	CN101
1	Input (L)
2	Input (N)
3	PE

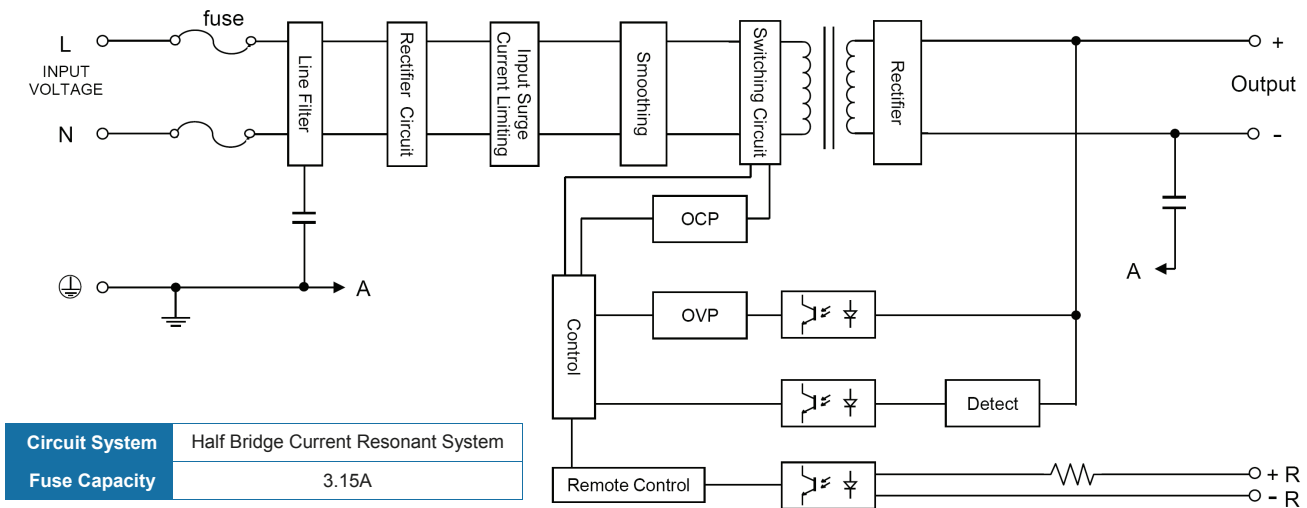
Connector	CN501
4	Output (+)
5	Output (+)
6	Output (-)
7	Output (-)

Connector	CN502
8	+R : + Remote Control
9	- R : - Remote Control

BOM	CN101	CN501	CN502
Connector	B3P5-VH JST	B4P-VH JST	B2B-XH-AM JST
Housing	VHR-5N	VHR-4N	XHP-2
Terminal	BVH-21T-P1.1 SVH-21T-P1.1	BXH-001T-P0.6 SXH-001T-P0.6	
Crimping Tool	YC-160R	YC-110R	

- Warning: Large capacitive load should be applied or removed only with NO AC power applied. Large inrush current may result in damage.
- Incorrect operation will damage Power Supply.

**Block Diagram**



• Specifications subject to change without notice