

# (Specifications)

<b>Product.</b>	SMPS	<b>Date.</b>	2007. 8. 16
<b>Model.</b>	MSF100-S	<b>Rev.</b>	A
<b>Customer.</b>	STANDARD	<b>Page.</b>	1 / 2

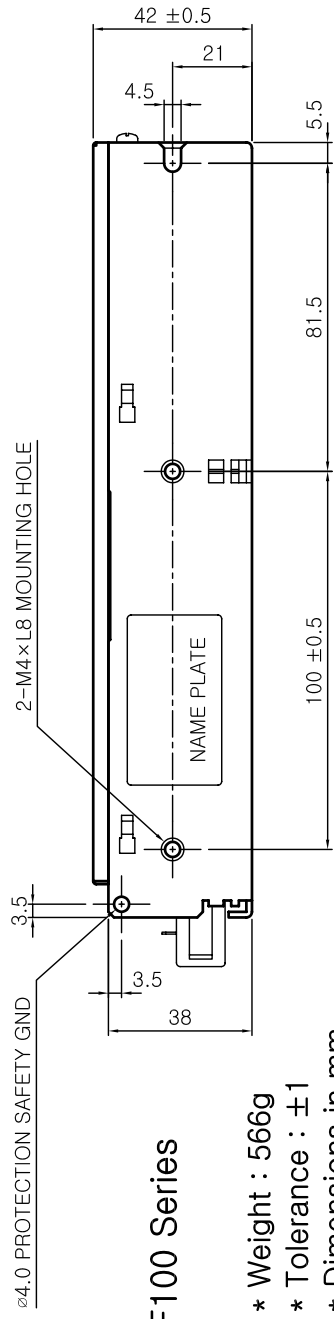
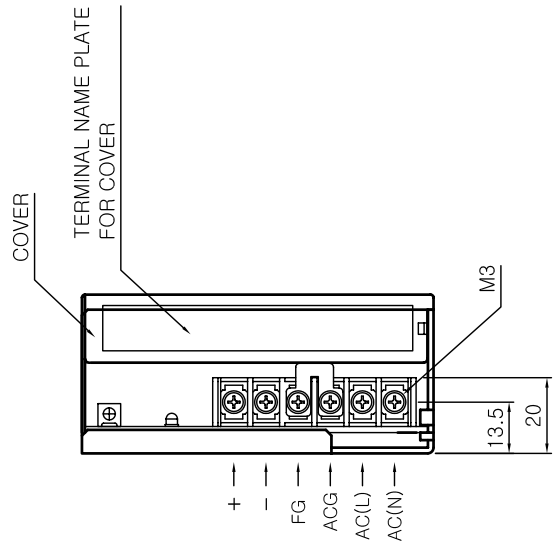
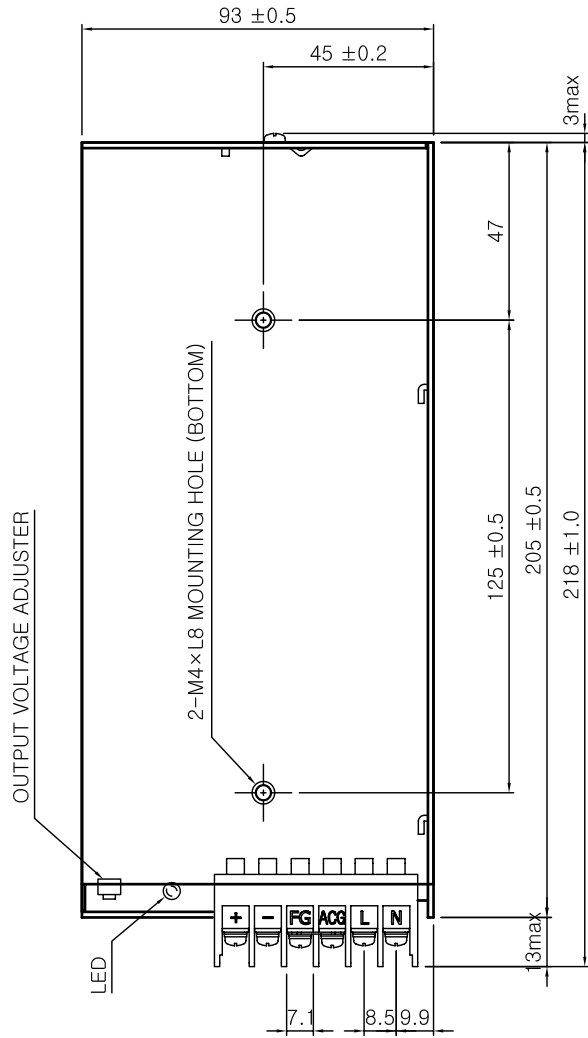
MODEL/CHANNEL		Unit.	3R3	05	06	09	12	
<b>INPUT</b>	Voltage , Frequency	[V]	AC 100 120 / 200 240 (AC 85 132 / 170 264), 50/60Hz					
	Current	110V	2.5					
	Typ.	220V	1.4					
	Efficiency	220V	70	80	80	81	81	
	Typ.	220V	-					
	Power factor	220V	-					
<b>OUTPUT</b>	Norminal Voltage	[V]	3.3	5	6	9	12	
	Setting Voltage Range	[V]	3.27 3.33	4.95 5.05	5.94 6.06	8.91 9.09	11.88 12.12	
	current	[A]	20	20	16.6	11.1	8.3	
<b>Function</b>	Line Regulations	[mV]	25	25	30	45	60	
	Load Regulations	[mV]	50	50	60	90	120	
	Cross Regulations	[mV]	-	-	-	-	-	
	Temperature Drift	[mV]	50	75	90	135	180	
	Ripple(pk-pk)	[mV]	50	50	60	90	120	
	Ripple & Noise(pk-pk)	[mV]	100	100	110	140	170	
	Turn-on Time max	[ms]	500 (AC IN 110V, Io = 100%)					
	Hold-up Time typ.	[ms]	16 (AC IN 110V, Io = 100%)					
	<b>Electrical Isolation</b>	Over Voltage Protection	[V]	3.8 4.62	5.75 7.0	6.9 8.4	10.35 12.6	13.8 16.8
		Over Current Protection	[A]	22.0 29.0	22.0 29.0	18.3 24.1	12.2 16.1	9.13 12.04
Remote ON.OFF		-	-					
Remote Sensing		-	-					
Power Fail Signal		-	-					
Parallel/Series Operation		-	-					
Cooling / O.T.P		-	-					
<b>Environment</b>	(1) Input - Output	-	AC 3.0KV 1min, cut-off: 20mA / DC 500V 100MΩ					
	(2) Input - F.G	-	AC 2.0KV 1min, cut-off: 20mA / DC 500V 100MΩ					
	(3) Output - F.G	-	AC 0.5KV 1min, cut-off:100mA / DC 500V 100MΩ					
<b>Dimension</b>	Operating temp. & Humidity	-	- 10 50 , 20 90% RH (Non Condensing)					
	Storage temp. & Humidity	-	- 20 75 , 20 90% RH (Non Condensing)					
	Vibration	-	10 55Hz at 1G 3minutes period, 30minutes along X,Y and Z axis					
<b>Safety</b>	Size(WxHxD) / Weight	mm / g	93 x 42 x 218		/	550		
	Safety Regulation	-	UL, C-UL, CE	UL, C-UL, CE	-	UL, C-UL, CE	UL, C-UL, CE	
<b>Emission</b>	Conducted Emission	-	Complied with FCC Part15 and EN55022 Class A Limits					
<b>PFHC</b>	-	-	-					

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MODEL/CHANNEL		Unit.	15	24	28	36	48
<b>INPUT</b>	Voltage , Frequency	[V]	AC 100 120 / 200 240 (AC 85 132 / 170 264), 50/60Hz				
	Current	110V	2.0				
	Typ.	220V	1.1				
	Efficiency	220V	81	82	82	82	82
	Typ.	220V	-				
	Power factor	220V	-				
<b>OUTPUT</b>	Inrush Current	110V	20 ( Ta=25 , Cold Start )				
	Typ.	220V	40 ( Ta=25 , Cold Start )				
	Leakage Current	220V	3.5				
Max.	220V	3.5					
<b>OUTPUT</b>	Norminal Voltage	[V]	15	24	28	36	48
	Setting Voltage Range	[V]	14.85 15.15	23.76 24.24	27.72 28.28	35.64 36.36	47.52 48.48
	current	[A]	6.7	4.2	3.5	2.8	2.1
	Line Regulations	[mV]	75	120	140	180	240
	Load Regulations	[mV]	150	240	280	360	480
	Cross Regulations	[mV]	-	-	-	-	-
	Temperature Drift	[mV]	225	360	420	540	720
	Ripple(pk-pk)	[mV]	150	240	280	360	480
	Ripple & Noise(pk-pk)	[mV]	200	290	330	410	530
	Turn-on Time max	[ms]	500 (AC IN 110V, Io = 100%)				
	Hold-up Time typ.	[ms]	16 (AC IN 110V, Io = 100%)				
<b>Function</b>	Over Voltage Protection	[V]	17.25 21	27.6 33.6	32.2 39.2	41.4 50.4	55.2 67.2
	Over Current Protection	[A]	7.37 9.72	4.62 6.09	3.85 5.08	3.08 4.06	2.31 3.05
	Remote ON.OFF	-	-				
	Remote Sensing	-	-				
	Power Fail Signal	-	-				
	Parallel/Series Operation	-	-				
	Cooling / O.T.P	-	-				
<b>Electrical Isolation</b>	(1) Input - Output	-	AC 3.0KV 1min, cut-off: 20mA / DC 500V 100MΩ				
	(2) Input - F.G	-	AC 2.0KV 1min, cut-off: 20mA / DC 500V 100MΩ				
	(3) Output - F.G	-	AC 0.5KV 1min, cut-off:100mA / DC 500V 100MΩ				
<b>Environment</b>	Operating temp. & Humidity	-	- 10 50 , 20 90% RH (Non Condensing)				
	Storage temp. & Humidity	-	- 20 75 , 20 90% RH (Non Condensing)				
	Vibration	-	10 55Hz at 1G 3minutes period, 30minutes along X,Y and Z axis				
<b>Dimension</b>	Size(WxHxD) / Weight	mm / g	93 x 42 x 218		/ 550		
<b>Safety</b>	Safety Regulation	-	UL, C-UL, CE	UL, C-UL, CE	UL, C-UL, CE	UL, C-UL, CE	UL, C-UL, CE
<b>Emission</b>	Conducted Emission	-	Complied with FCC Part15 and EN55022 Class A Limits				
<b>PFHC</b>	-	-	-				

# Dimension



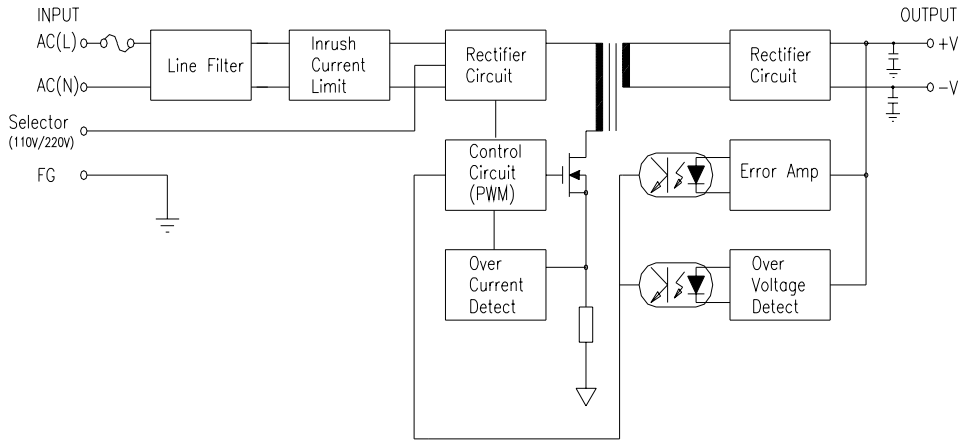
※ NAME PLATE : MSF100 Series

**MSF100-05**  
 INPUT : 100 - 120V ~ 2.5A 50/60Hz  
 200 - 240V ~ 1.4A  
 OUTPUT : 5V = 20A  
 Fine Suntronix  
 MADE IN KOREA  
 RoHS  
 CE  
 S060219502  
 Level 3

- \* Weight : 566g
- \* Tolerance : ± 1
- \* Dimensions in mm
- \* Cover is optional.

# User's guide

## 1. BLOCK DIAGRAM



## 2. Terminal Connection

Mark	Pin Connection	Function
L	AC L	SMPS AC Terminal ( Fuse in Line)
N	AC N	SMPS AC Terminal
ACG	AC Frame ground	SMPS AC , CASE
F.G	Frame ground	SMPS AC , CASE
+V	DC Output (+)	DC (+) Terminal
-V	DC Output (-)	DC (-) Terminal

## 3. Function

3-1. (Adjustable output voltage range)

○ 가 5%

3-2. (O.C.P : Over Current Protection)

○ SMPS 가 110%  
○ short 가

3-3. ( O.V.P : Over Voltage Protection)

○ 115% SMPS  
○ AC 3 A/S

# User's guide

## 4. / ( Series operation / Parallel operation)

4-1. A (Fig 1.) B (Fig 2.)

4-2. 가 가 (Fig 4.) 가 SMPS , ,

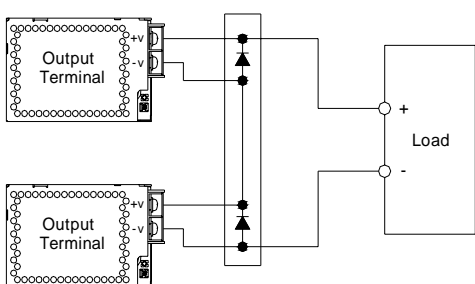


Fig 1. A

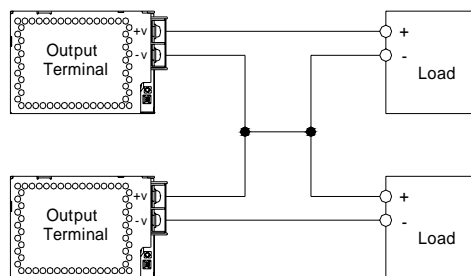


Fig 2. B

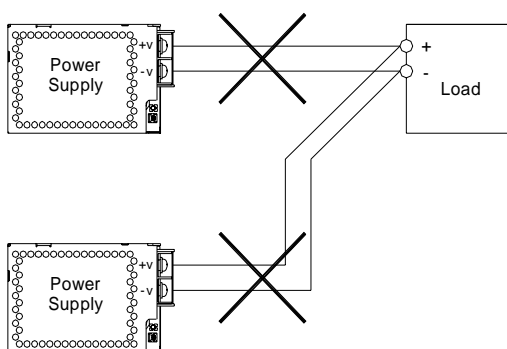


Fig 3. A ( 가)

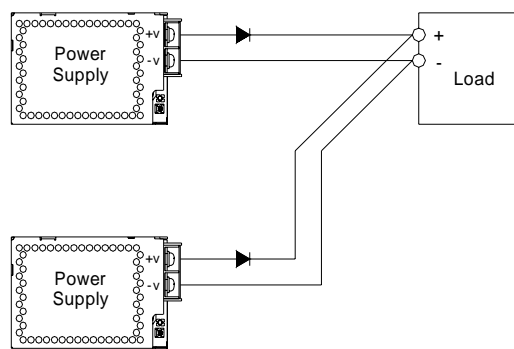


Fig 4. B (Back up )

# User's guide

## 5. (Mounting method)

5-1.

o  
o  
o

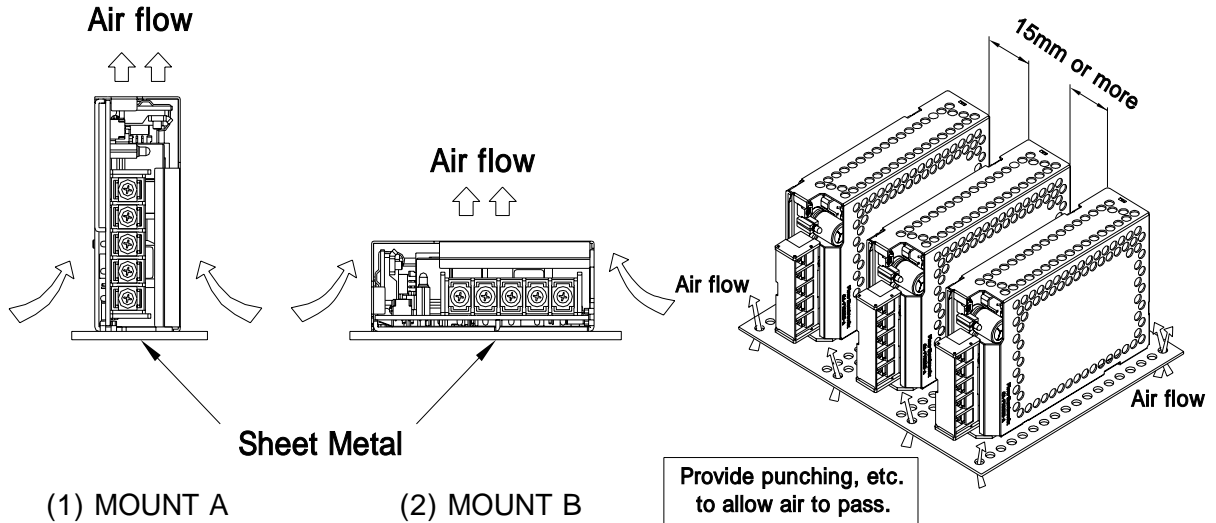


Fig 1.

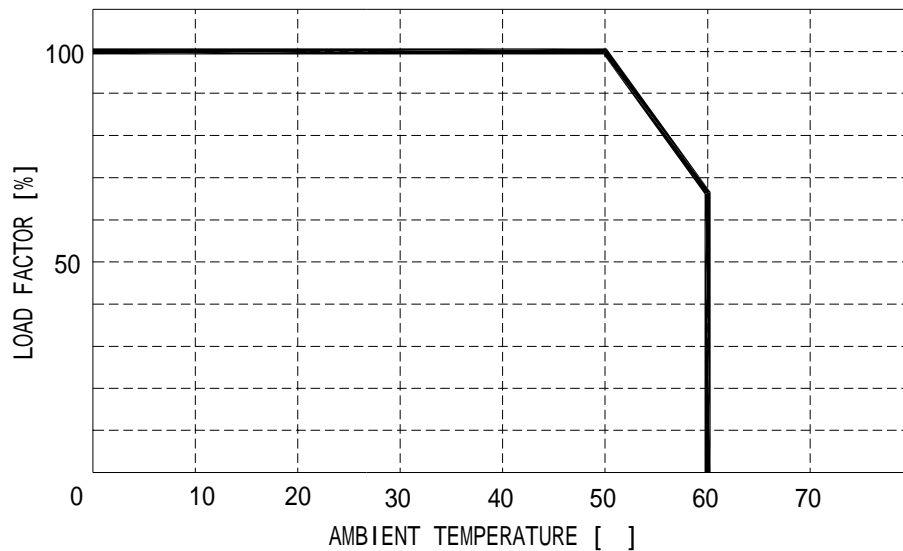
Fig 2.

## 6. Output derating curve

6-1. (Mount A, Mount B) TOP CASE output derating curve

6-2. Output derating curve (Mount A, Mount B, Convection Cooling)

6-2-1. MSF100-S



# User's guide

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7.

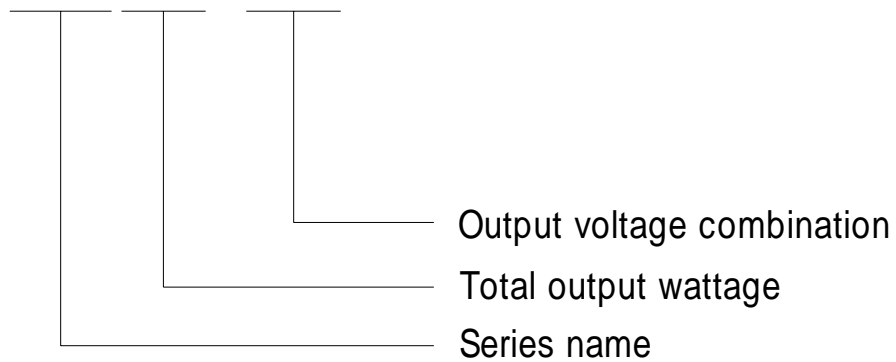
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8.

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- 2 ,

## 9. ORDERING INFORMATION

**MSF100- 3R3**



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## INPUT ( )

- o Input Voltage ( ): AC( ) (110VAC, 220VAC ) DC( )  
(5VDC, 12VDC )
- o Input Current ( ): 가
- o Input Wattage ( ): SMPS
- o Input Frequency ( ): AC( ) 50Hz, 60Hz( 60Hz)
- o Input Efficiency ( ):
- o Inrush Current ( ):
- o Leakage Current ( ): 1 Capacitor
- o Power Factor ( ):

## OUTPUT ( )

- o Output Voltage ( ): DC( )
- o Output Current ( ): DC( )
- o Output Wattage ( ): SMPS가 DC ( X )
- o Line Regulation ( ): AC( ) DC( )  
DC( )
- o Load Regulation ( ): min~100% DC( )
- o Cross Regulation ( ): SMPS min~100%  
DC( )
- o Temperature Drift ( ): SMPS DC( )
- o Ripple & Noise ( ): DC( )
- o Turn on Time ( ): DC( ) 90%
- o Hold up Time ( ): DC( ) 90%



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**FUNCTION ( )**

o Over Current Protection (OCP, ) : SMPS  
SMPS

o Over Voltage Protection (OVP, ) : SMPS가 DC( )  
SMPS가 DC( )

o Over Temperature Protection (OTP, ) : SMPS 가

o Remote ON/OFF (RC or CNT, ) : SMPS ON/OFF

o Remote Sensing (+S, -S, ) : SMPS 가

o Load Detect (LD, ) :

o Adjustable Output Voltage (V.R, ) : SMPS  
가 TRM

o Power Fail Signal (P.F, )

1) P.F : 가

2) P.F : SMPS

o Low Voltage alarm (LV alarm, ) : SMPS

o Power alarm (PR alarm, ) : SMPS AC , FAN  
(P.F, LV alarm, FAN alarm )

o Parallel / Series Operation ( / ) : SMPS  
가

o Voltage Balance (VB, ) : 가

o Current Balance (CB, ) : 가  
가

o Frame Gnd(FG), AC Gnd(ACG) : Frame Ground, AC Ground

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**ELECTRICAL ISOLATION ( )**

o Electrically Isolated Input-Output ( - ) : AC( )  
DC( ) .

o Electrically Isolated Input-Case, FG ( - , ) : AC( )  
,

o Electrically Isolated Output-Case, FG ( - , ) : DC( )  
.

**ENVIRONMENT ( )**

o Operating Temp and Humidity ( & ) : SMPS  
.

o Storage Temp and Humidity ( & ) : SMPS ,  
.

o Vibration ( ) : SMPS가 .

**ETC ( )**

o Safety ( ) :

o Safety Regulation ( ) :

o Line Conducted RF Voltage ( ) :