Size:
3.5 x 2.5 x 1.06 inches
89.0 x 63.5 x 27.0 mm

FEATURES

- RoHS Compliant
- Isolation Class II
- 40 Watts Output Power
- Low Ripple and Noise
- Single, Dual, and Triple Outputs
- Fully Encapsulated Plastic Case
- UL/cUL, CE, and CB Approval
- PCB Mountable Switching Power Supply
- -25°C to +70°C Operating Temperature Range
- Optional -40°C~+71°C Operating Temperature Range
- Universal Input Voltage Range: 90-264VAC (100-375VDC)
- Short Circuit, Over Current, Over Voltage, and Over Temperature Protection
- Screw Terminal Mechanical Options Available

DESCRIPTION

The PSMSC series of medical AC/DC switching power supplies provides 40 watts of output power in a 3.5” x 2.5” x 1.06” encapsulated PCB mountable package. This series consists of single, dual, and triple output models with a universal input range of 90-264VAC (100-375VDC). Some features include low ripple and noise, -25°C to +70°C operating temperature range, and short circuit, over current, over voltage, and over temperature protection. The PSMSC series also has two types of screw terminal mechanical options and an extended operating temperature option available. All models are RoHS compliant and have UL/cUL, CE, and CB safety approvals.

MODEL SELECTION TABLE

SINGLE OUTPUT MODELS

Model Number	Input Voltage	Output Voltage	Output Current		Voltage Accuracy	Line Regulation	Load Regulation (1% - 100%)	Output Power	Efficiency	Maximum Capacitive Load
			Min Load[1]	Max Load						
PSMSC-3.3S	90~264 VAC (100~375 VDC)	3.3 VDC	1%	8000mA	±2%	0.5%	1%	26.4W	76%	70,000µF
PSMSC-5S		5 VDC	1%	8000mA	±2%	0.5%	1%	40W	79%	33,000µF
PSMSC-9S		9 VDC	1%	4444mA	±2%	0.5%	1%	40W	82%	10,000µF
PSMSC-12S		12 VDC	1%	3333mA	±2%	0.5%	1%	40W	83%	4000µF
PSMSC-15S		15 VDC	1%	2666mA	±2%	0.5%	1%	40W	83%	3000µF
PSMSC-24S		24 VDC	1%	1667mA	±2%	0.5%	1%	40W	83%	1200µF

DUAL OUTPUT MODELS

Model Number		Output Voltage	Output Current		Voltage Accuracy	Line Regulation	Load Regulation (10% - 100%)	Cross Regulation	Output Power	Efficiency	Maximum Capacitive Load
			Min Load[1]	Max Load							
PSMSC-5D	Vo_1 Vo_2	+5 VDC -5 VDC	10%	4000mA 4000mA	±2% ±2%	0.5% 0.5%	1% (sym. load) 1% (sym. load)	5% 5%	40W	80%	6000µF 6000µF
PSMSC-12D	Vo_1 Vo_2	+12 VDC -12 VDC	10%	1666mA 1666mA	±2% ±2%	0.5% 0.5%	1% (sym. load) 1% (sym. load)	5% 5%	40W	83%	1000µF 1000µF
PSMSC-15D	Vo_1 Vo_2	+15 VDC -15 VDC	10%	1333mA 1333mA	±2% ±2%	0.5% 0.5%	1% (sym. load) 1% (sym. load)	5% 5%	40W	83%	2000µF 2000µF
PSMSC-5S12S	Vo_1 Vo_2	5 VDC 12 VDC	25%	5000mA 1250mA	±3% ±5%	0.5% 5%	2% (sym. load) 6% (sym. load)	1% 7%	40W	80%	15,000µF 750µF
PSMSC-5S24S	Vo_1 Vo_2	5 VDC 24 VDC	25%	5000mA 625mA	±3% ±5%	0.5% 5%	2% (sym. load) 6% (sym. load)	1% 7%	40W	80%	15,000µF 200µF

TRIPLE OUTPUT MODELS

Model Number		Output Voltage	Output Current		Voltage Accuracy	Line Regulation	Load Regulation (25% - 100%)	Cross Regulation	Output Power	Efficiency	Maximum Capacitive Load
			Min Load[1]	Max Load							
PSMSC-5S12D	Vo_1 Vo_2 Vo_3	5 VDC +12 VDC -12 VDC	25%	5000mA 600mA 600mA	±3% ±5% ±5%	0.5% 5% 5%	3% (sym. load) 7% (sym. load) 7% (sym. load)	3% 7% 7%	40W	79%	18,000µF 150µF 150µF
PSMSC-5S15D	Vo_1 Vo_2 Vo_3	5 VDC +15 VDC -15 VDC	25%	5000mA 500mA 500mA	±3% ±5% ±5%	0.5% 5% 5%	3% (sym. load) 7% (sym. load) 7% (sym. load)	3% 7% 7%	40W	79%	18,000µF 400µF 400µF

NOTES

1. All models require a minimum loading on the output to maintain specified regulations. Operation under no-load conditions will not damage these devices; however, they may not meet all listed specifications.
2. For -40°C to +71°C extended operating temperature range please add the suffix –E1 to the model number (Ex: PSMSC-12S-E1).
3. Screw terminal mechanical options available (see page 4). Please call factory for ordering details.
4. This product is Listed to applicable standards and requirements by UL.

**Due to advances in technology, specifications subject to change without notice.*

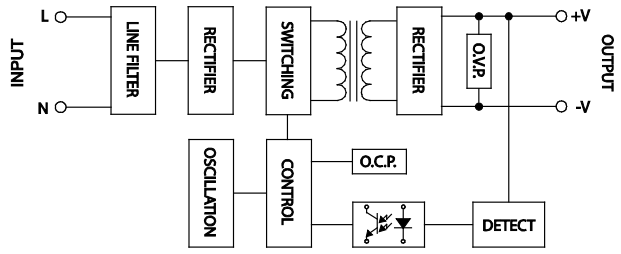
SPECIFICATIONS: PSMSC SERIES

All specifications are based on 25°C, Nominal Input Voltage, and Maximum Output Current unless otherwise noted.
We reserve the right to change specifications based on technological advances.

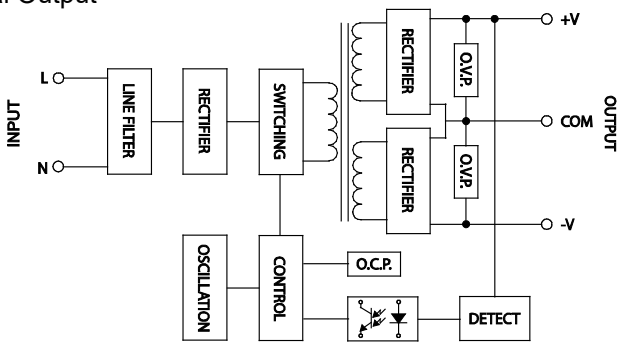
SPECIFICATION	TEST CONDITIONS		Min	Typ	Max	Unit
INPUT SPECIFICATIONS						
Input Voltage	AC input voltage range		90		264	VAC
	DC input voltage range		100		375	VDC
Input Frequency			47		440	Hz
Input Current	At 115VAC and full load				860	mA
	At 230VAC and full load				460	
Inrush Current (<2ms)	Standard Models	At 115VAC			10	A
		At 230VAC			20	
	-E1 Suffix Models	At 115VAC			23	A
		At 230VAC			46	
External Fuse (recommended)			3.15A slow blow type			
OUTPUT SPECIFICATIONS						
Output Voltage			See Table			
Voltage Accuracy			See Table			
Line Regulation	Low Line to High Line		See Table			
Load Regulation			See Table			
Cross Regulation			See Table			
Output Power					40	W
Output Current			See Table			
Minimum Load			See Table			
Ripple & Noise	3.3VDC Output Model	Measured at 20MHz BW with 0.1µF and 47µF capacitors in parallel		50		mV of Vo
	Others			1		% of Vo
Max Capacitive Load			See Table			
Hold-Up Time			18			ms
Temperature Coefficient				±0.01		%/°C
PROTECTION						
Short Circuit Protection			Hiccup mode, indefinite (auto-recovery)			
Over Voltage Protection			Zener diode clamp			
Over Current Protection			Above 105% rated output power			
Over Temperature Protection				100		°C
GENERAL SPECIFICATIONS						
Efficiency			See Table			
Switching Frequency				132		KHz
Isolation Voltage (Input to Output)			4000			VAC
Leakage Current	At 115VAC and full load				0.1	mA
	At 230VAC and full load				0.2	
ENVIRONMENTAL SPECIFICATIONS						
Operating Temperature	Standard Models		-25		+70	°C
	-E1 Suffix Models		-40		+71	
Case Temperature					+95	°C
Storage Temperature			-40		+85	°C
Humidity					95	% RH
Cooling			Free air convection			
MTBF	At 25°C		200,000		400,000	hours
PHYSICAL SPECIFICATIONS						
Weight			9.88oz (280g)			
Case Material			Plastic resin + fiberglass (Flammability to UL 94V-0)			
Dimensions (L x W x H)			3.5 x 2.5 x 1.06 inches (89.0 x 63.5 x 27.0 mm)			
SAFETY & EMC						
Class II			To IEC / EN 60536			
EMI			EN55011 Class B			
EMC Standards			EN60601-1-2			
ESD Susceptibility			EN60601-1-2			
Radiated Susceptibility			EN60601-1-2			
EFT / Burst			EN60601-1-2			
Surge			EN60601-1-2			
Conducted Susceptibility			EN60601-1-2			
Safety Approvals	UL/cUL[4], CE, CB, ANSI/AAMI ES 60601-1: 2005, 1st Edition and CAN/CSA-C22.2 No. 60601-1:08, 2nd Edition, MOPP					

BLOCK DIAGRAMS

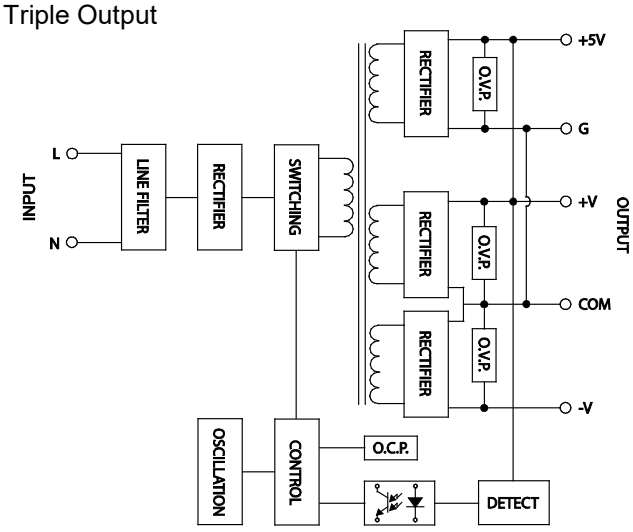
Single Output



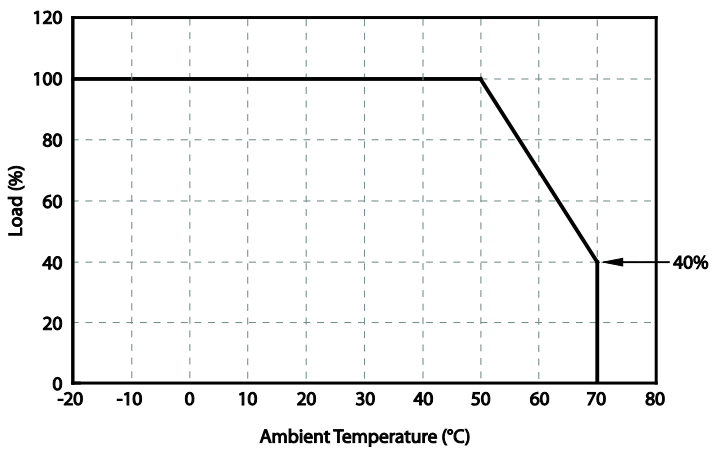
Dual Output



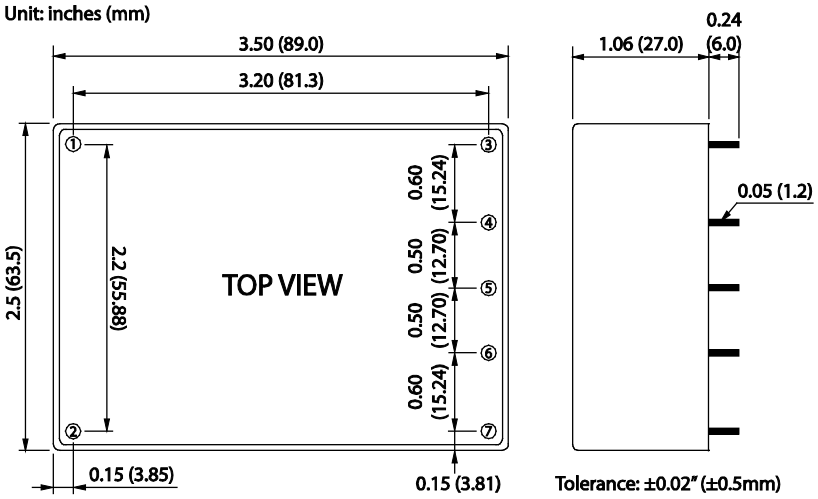
Triple Output



DERATING CURVE



MECHANICAL DRAWING



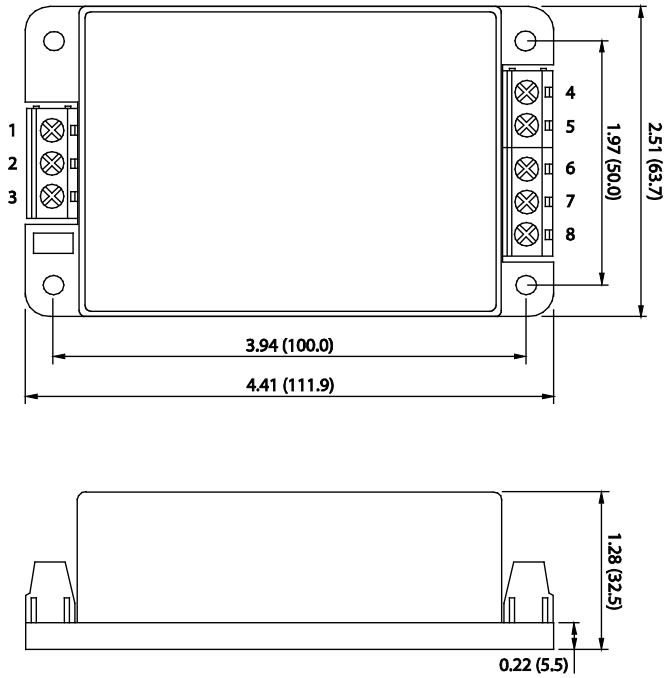
PIN CONNECTIONS				
PIN	SINGLE	DUAL	PSMSC-5S12S PSMSC-5S24S	TRIPLE
1	AC IN (L)	AC IN (L)	AC IN (L)	AC IN (L)
2	AC IN (N)	AC IN (N)	AC IN (N)	AC IN (N)
3	+DC OUT	+DC OUT	+OUT2	+DC OUT
4	NO PIN	NO PIN	+OUT1	+5V
5	-DC OUT	COMMON	+OUT2 RTN	COMMON
6	NO PIN	NO PIN	+OUT1 RTN	+5 RTN
7	NO CONNECT	-DC OUT	NO PIN	-DC OUT

SCREW TERMINAL OPTIONS

PSMSC-A2

PIN CONNECTIONS				
PIN	SINGLE	DUAL	PSMSC-5S12S PSMSC-5S24S	TRIPLE
1	NO CONNECT	NO CONNECT	NO CONNECT	NO CONNECT
2	AC IN (L)	AC IN (L)	AC IN (L)	AC IN (L)
3	AC IN (N)	AC IN (N)	AC IN (N)	AC IN (N)
4	+DC OUT	+DC OUT	+OUT2	+DC OUT
5	NO CONNECT	NO CONNECT	+OUT1	+5V OUT
6	-DC OUT	COMMON	+OUT2 RTN	COMMON
7	NO CONNECT	NO CONNECT	+OUT1 RTN	+5V RTN
8	NO CONNECT	-DC OUT	NO CONNECT	-DC OUT

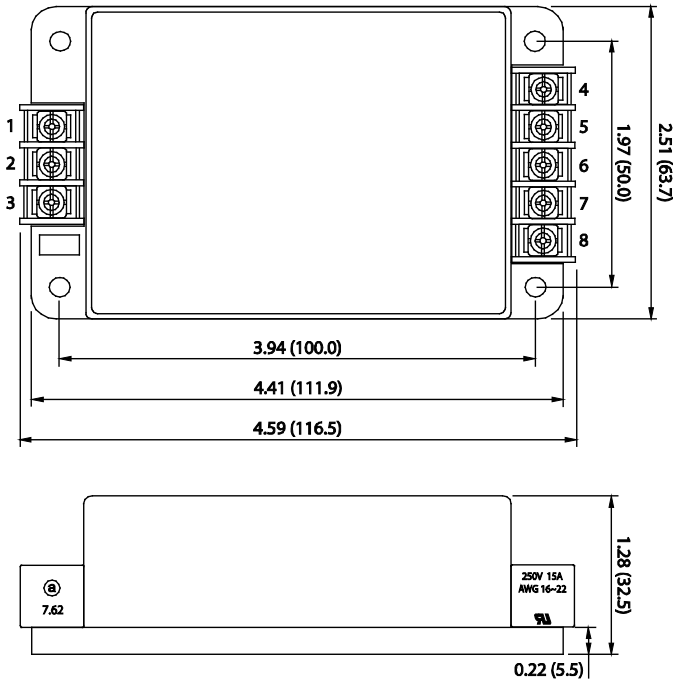
Unit: inches (mm)



PSMSC-A5

PIN CONNECTIONS				
PIN	SINGLE	DUAL	PSMSC-5S12S PSMSC-5S24S	TRIPLE
1	NO CONNECT	NO CONNECT	NO CONNECT	NO CONNECT
2	AC IN (L)	AC IN (L)	AC IN (L)	AC IN (L)
3	AC IN (N)	AC IN (N)	AC IN (N)	AC IN (N)
4	+DC OUT	+DC OUT	+OUT2	+DC OUT
5	NO CONNECT	NO CONNECT	+OUT1	+5V OUT
6	-DC OUT	COMMON	+OUT2 RTN	COMMON
7	NO CONNECT	NO CONNECT	+OUT1 RTN	+5V RTN
8	NO CONNECT	-DC OUT	NO CONNECT	-DC OUT

Unit: Inches (mm)



COMPANY INFORMATION

Wall Industries, Inc. has created custom and modified units for over 50 years. Our in-house research and development engineers will provide a solution that exceeds your performance requirements on-time and on budget. Our ISO9001: 2015 certification is just one example of our commitment to producing a high quality, well-documented product for our customers.

Our past projects demonstrate our commitment to you, our customer. Wall Industries, Inc. has a reputation for working closely with its customers to ensure each solution meets or exceeds form, fit and function requirements. We will continue to provide ongoing support for your project above and beyond the design and production phases. Give us a call today to discuss your future projects.

Contact **Wall Industries** for further information:

Phone: ☎(603)778-2300
Toll Free: ☎(888)597-9255
Fax: ☎(603)778-9797
E-mail: sales@wallindustries.com
Web: www.wallindustries.com
Address: 37 Industrial Drive
Exeter, NH 03833