

Size: 5in x 3in x 1.09in  
(127mm x 76.2mm x 27.7mm)

#### FEATURES

- Input Range of 85-264VAC
- ITE & Medical Safety Standards
- AUX 12V Fan Power
- High Efficiency
- Power Good Signal
- Optional 5V Standby + Remote ON/OFF
- Optional AC/DC Input and Base Plate
- Class I
- Short Circuit, Over Load, Over Temperature, and Over Voltage Protection
- Optional OVC III
- IEC 62368-1 Edition 2.0, IEC 62368-1 Edition 3.0, EN 62368-1, UL62368-1, CAN/CSA-C22.2 NO.62368-1, IEC 60601-1 Edition 3.1, IEC 60601-1 Edition 3.2, EN60601-1, ANSI/AAMI ES60601-1, CAN/CSA-C22.2 NO. 60601-1 Safety Approvals

#### DESCRIPTION

The PSMSG600 series of AC/DC power supplies offers 600 watts of output power in a 5" x 3" x 1.09" open frame package. This series consists of single output models with an input voltage range of 85-264VAC. Several options are available for this series including remote on/off, base plate, and OVC III. This series rated for ITE and medical applications and has IEC 62368-1 Edition 2.0, IEC 62368-1 Edition 3.0, EN 62368-1, UL62368-1, CAN/CSA-C22.2 NO.62368-1, IEC 60601-1 Edition 3.1, IEC 60601-1 Edition 3.2, EN60601-1, ANSI/AAMI ES60601-1, and CAN/CSA-C22.2 NO. 60601-1 safety approvals.

#### MODEL SELECTION TABLE

##### Open Frame and Open Frame with Baseplate ("P") Models with 5V Standby

Model Number <sup>(1)</sup>	Input Voltage Range	Output Voltage			Rated Output Current				Output Power	Efficiency	Ripple Noise	Max. No Load Consumption (Remote OFF)
		Vo	Standby	Fan	Convection	Forced Air <sup>(3)</sup>	Standby <sup>(3)</sup>	Fan				
PSMSG600-12S05	85~264VAC	12VDC	5VDC	12VDC	20.83A	50A	2A	0.5A	600W	92%	120mV	0.15W
PSMSG600-19S05		19VDC	5VDC	12VDC	13.15A	31.5A	2A	0.5A	600W	92%	190mV	
PSMSG600-24S05		24VDC	5VDC	12VDC	10.41A	25A	2A	0.5A	600W	93%	240mV	
PSMSG600-48S05		48VDC	5VDC	12VDC	5.20A	12.5A	2A	0.5A	600W	94%	480mV	

#### MODEL SELECTION TABLE

##### Enclosure and Top Fan Type ("T") with 5V Standby

Model Number <sup>(1)</sup>	Input Voltage Range	Output Voltage		Rated Output Current		Output Power	Efficiency	Ripple Noise	Max. No Load Consumption (Remote OFF)
		Vo	Standby	Vo	Standby <sup>(6)</sup>				
PSMSG600-12ST05	85~264VAC	12VDC	5VDC	50A	2A	600W	92%	120mV	0.15W
PSMSG600-19ST05		19VDC	5VDC	31.5A	2A	600W	92%	190mV	
PSMSG600-24ST05		24VDC	5VDC	25A	2A	600W	93%	240mV	
PSMSG600-48ST05		48VDC	5VDC	12.5A	2A	600W	94%	480mV	

## SPECIFICATIONS

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	Nominal Input Voltage	100		240	VAC		
	Derate linearly from 100% Load at 115VAC to 80% Load at 85VAC	85		264			
Frequency	Sine Wave	47		63	Hz		
Input Current (rms)	Low Line, Full Load, Vin=100VAC		6.7		A		
	High Line, Full Load, Vin=240VAC		2.9				
Inrush Current	Low Line, Full Load, 25°C, Cool Start, Vin=100VAC			20	A		
	High Line, Full Load, 25°C, Cool Start, Vin=230VAC			45			
Power Factor	@115VAC, Full Load	0.9		1			
Earth Leakage Current	Vin=240VAC. Fin=60Hz			0.3	mA		
OUTPUT SPECIFICATIONS							
Output Voltage			See Table				
Output Current			See Table				
Line Regulation	Full Load, Vin=100-120VAC or 200-240VAC			1	%		
Load Regulation	Vin=100-240VAC			3	%		
Total Regulation			±3.0		%		
Output Power				600	Watts		
Hold Up Time	Hold up time is measured from the end of the last charging pulse to the time which the main output drops down to low limit of main output at rated load and nominal line (at 70% Full Load)		10		mS		
Start Up Time	Full Load, Vin=100-240VAC		1 <sup>(7)</sup>		s		
Rise Time	At 115VAC & 230VAC			10	ms		
No Load Power Consumption			See Table				
Temperature Coefficient	All Conditions			±0.04	%/°C		
PROTECTION							
Short Circuit Protection	Hiccup Mode, Non-Latching		Automatic Recovery				
Over Load Protection	Hiccup Mode, Non-Latching, Automatic Recovery	105		150	%		
Over Voltage Protection	Latch Mode	105		130	%		
Over Temperature Protection			Latch Mode				
ENVIRONMENTAL SPECIFICATIONS							
Operating Temperature	Derate linearly from 100% Load at 50°C to 40% Load at 85°C	-40		85	°C		
Storage Temperature	Surrounding Air Temperature	-40		85	°C		
Operating Humidity	Non-Condensing	10		95	%		
Storage Humidity		0		95	%		
Altitude				5000	M		
Vibration	10-500Hz, 10min./1cycle, 60min. each along X, Y, Z axes			5	G		
Fan Audio Noise	Background Noise 18dB at a distance of 50cm		35		dB		
GENERAL SPECIFICATIONS							
Efficiency	Full Load, Vin=230VAC		See Table				
Isolation	Input to Output		4000		VAC		
	Input to PE		2000		VAC		
	Output to STB Output		500		VDC		
PHYSICAL SPECIFICATIONS							
Weight	Weight varies depending on the model and accessories	12.88oz ~ 13.51oz (365-383g)					
Dimensions (L x W x H)		5in x 3in x 1.09in (127mm x 76.2mm x 27.7mm)					
SAFETY CHARACTERISTICS							
Safety Standards <sup>(8)</sup>		IEC 62368-1				Edition 2.0	
		IEC 62368-1				Edition 3.0	
		EN 62368-1					
		UL62368-1					
		CAN/CSA-C22.2 NO.62368-1					
		IEC 60601-1				Edition 3.1	
		IEC 60601-1				Edition 3.2	
		EN60601-1					
		ANSI/AAMI ES60601-1					
		CAN/CSA-C22.2 NO. 60601-1					

### NOTES

1. To indicate model with baseplate, add "P" to end of model number.  
To indicate model with enclosure and top fan, add "T" to end of model number.
2. With 29 CFM Forced Air to max load.
3. Standby = 1A with Convection; Standby = 2A with Forced Air
4. Total output power =  $V_o + \text{standby} = 600\text{W max.}$
5. With 29 CFM Forced Air
6. Standby = 2A with Forced Air
7. For models equipped with 5V STB, the startup time is 2 seconds maximum.
8. This product is Listed to applicable standards and requirements by UL

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

### EMC EMISSION

Description	Parameter	Standard	Test Level
Medical	Conducted	EN55011	Class B
	Radiated	EN55011	Class A/Class B <sup>*(1)</sup>
	Harmonics	EN61000-3-2	-
	Flicker	EN61000-3-3	-
ITE	Conducted	EN55032	Class B
	Radiated	EN55032	Class A/Class B <sup>*(1)</sup>
	Harmonics	EN61000-3-2	N/A
	Flicker	EN61000-3-3	-

\* The EMC test requires the integration of the switching power supply with the load of an end system.  
Consequently, variations in the application or assembly of the end system will influence the test results.

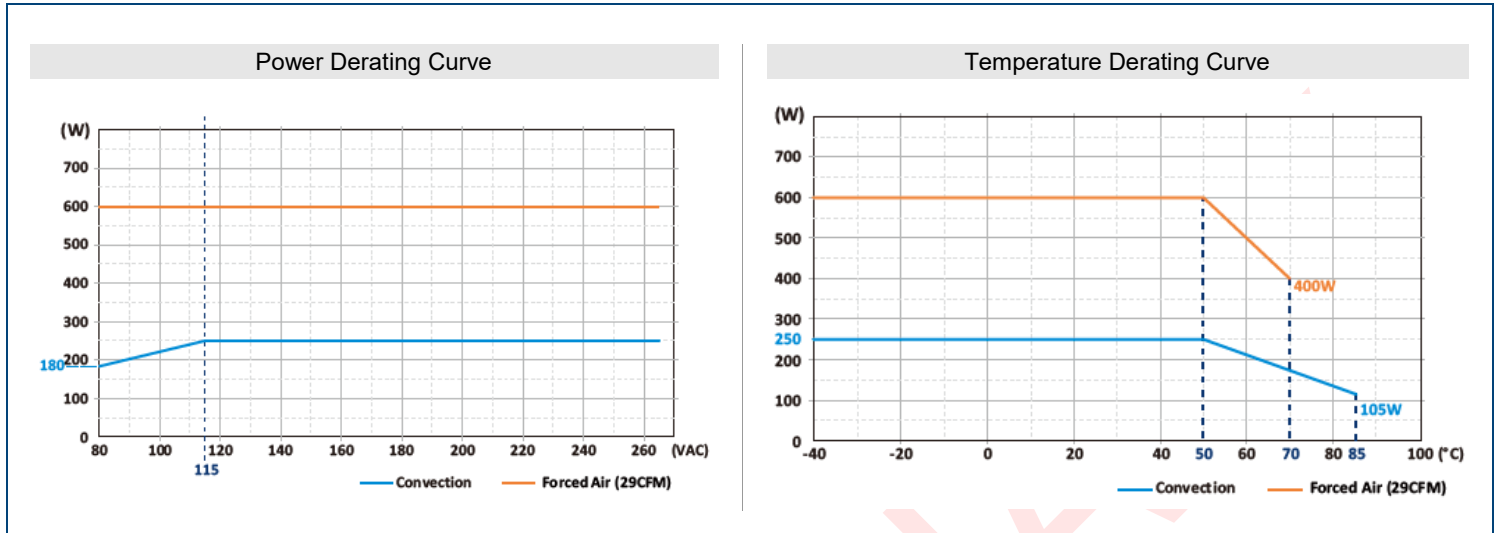
<sup>\*(1)</sup> Condition: Install a metal grounded shielding enclosure & add K5B material cores to both the AC input and DC output wires, with 2 turns of winding.

### EMC EMISSION

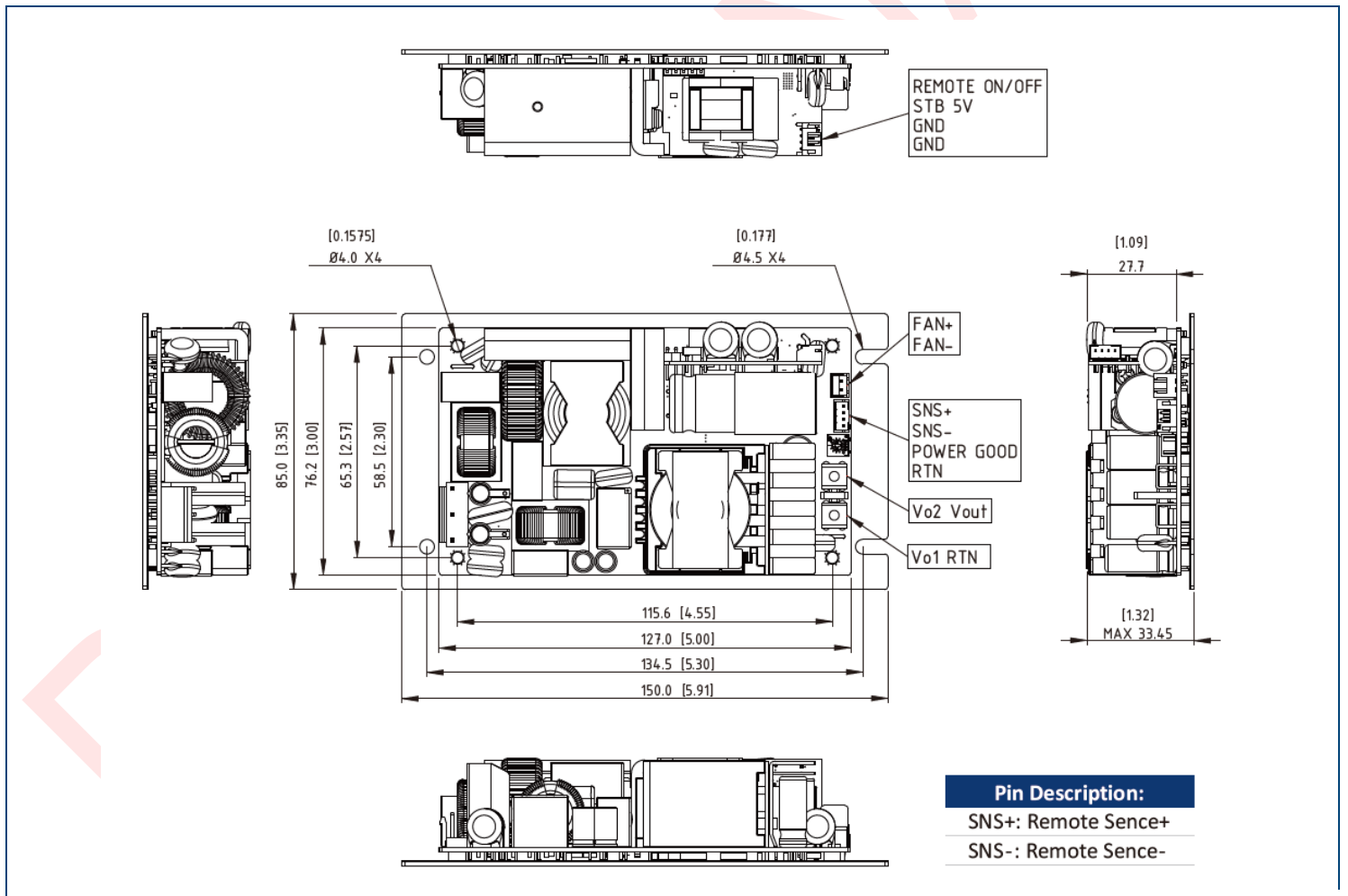
Description	Parameter	Standard	Test Level	Criteria
Medical	ESD	EN61000-4-2	15kV Air Discharge, 8kV Discharge Coupling Plane	A
	RS	EN61000-4-3	-	A
	EFT	EN61000-4-4	2kV	A
	Surge	EN61000-4-5	Line to Line $\pm 1\text{kV}$ , Line to Ground $\pm 2\text{kV}$	A
	CS	EN61000-4-6	0.15-80(MHz)	A
	PFMF	EN61000-4-8	-	A
	Voltage Dips (230V & 100V)	EN61000-4-11	0% UT, 0.5 cycle (10 ms) @ Full Load 0°/45°/90°/135°/180°/225°/270°/315°/360°	A
			0% UT, 1 cycle (20ms), 0° @ Full Load	B
			70% UT, 25 cycle (500ms), 0° @ Full Load	A
	Voltage Interruptions (230V & 100V)	EN61000-4-11	0% Ut, 250 cycle (5s) @ Full Load 0°/45°/90°/135°/180°/225°/270°/315°/360°	B
ITE	Radiated Fields in Close Proximity	EN61000-4-39	-	A
	ESD	EN61000-4-2	8kV Air Discharge, 4kV Discharge Coupling Plane	A
	RS	EN61000-4-3	80-1000 (MHz) 1800, 2600, 3500, 5000 (MHz) ( $\pm 1\%$ )	A
	EFT	EN61000-4-4	2kV	A
	Surge	EN61000-4-5	Line to Line $\pm 1\text{kV}$ , Line to Ground $\pm 2\text{kV}$	A
	CS	EN61000-4-6	0.15-80(MHz)	A
	PFMF	EN61000-4-8	-	A
	Voltage Dips (230V & 100V)	EN61000-4-11	0% UT, 0.5 cycle (10 ms) @ Full Load 0°/45°/90°/135°/180°/225°/270°/315°/360°	A
			0% UT, 1 cycle (20ms), 0° @ Full Load	B
			70% UT, 25 cycle (500ms), 0° @ Full Load	A
	Voltage Interruptions (230V & 100V)	EN61000-4-11	0% Ut, 250 cycle (5s) @ Full Load 0°/45°/90°/135°/180°/225°/270°/315°/360°	B

\* The EMC test requires the integration of the switching power supply with the load of an end system.  
Consequently, variations in the application or assembly of the end system will influence the test results.

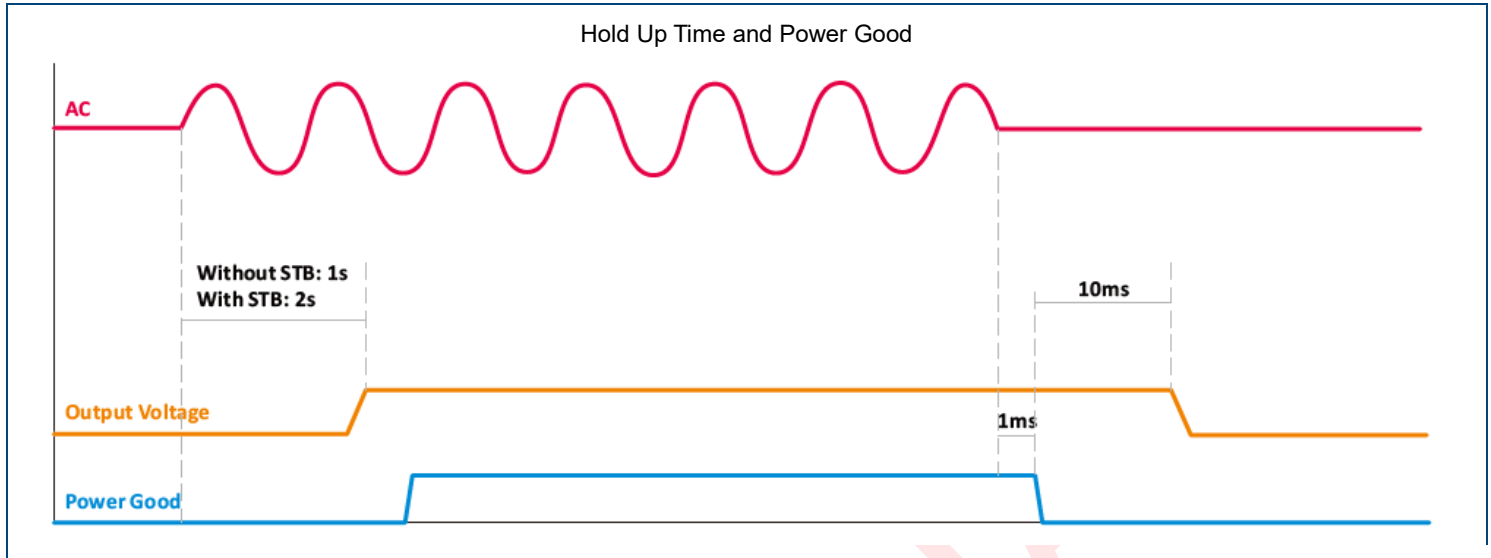
## DERATING CURVES



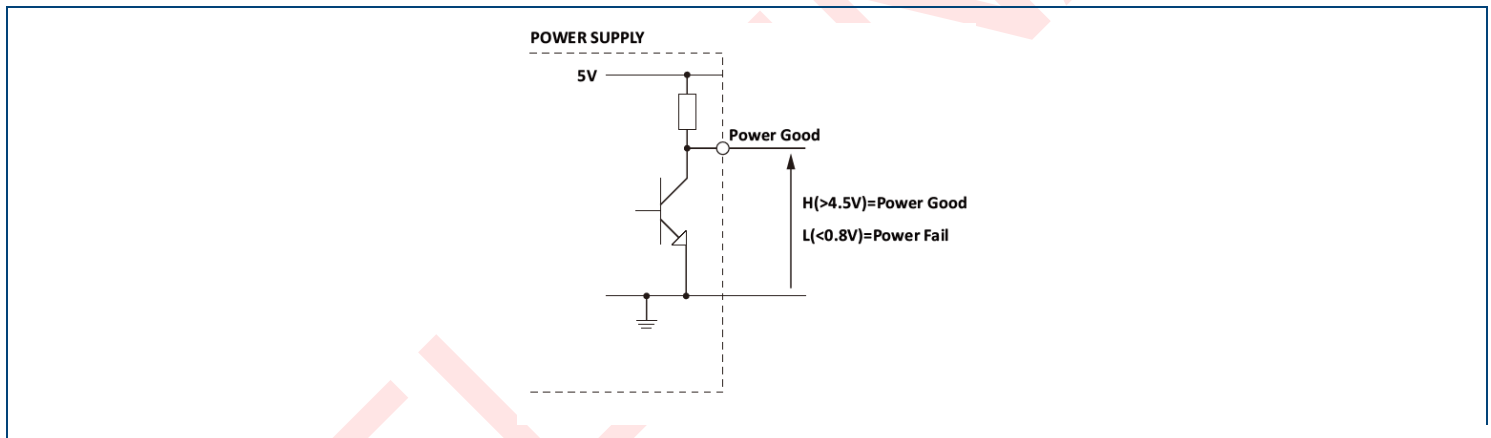
## MECHANICAL DRAWINGS



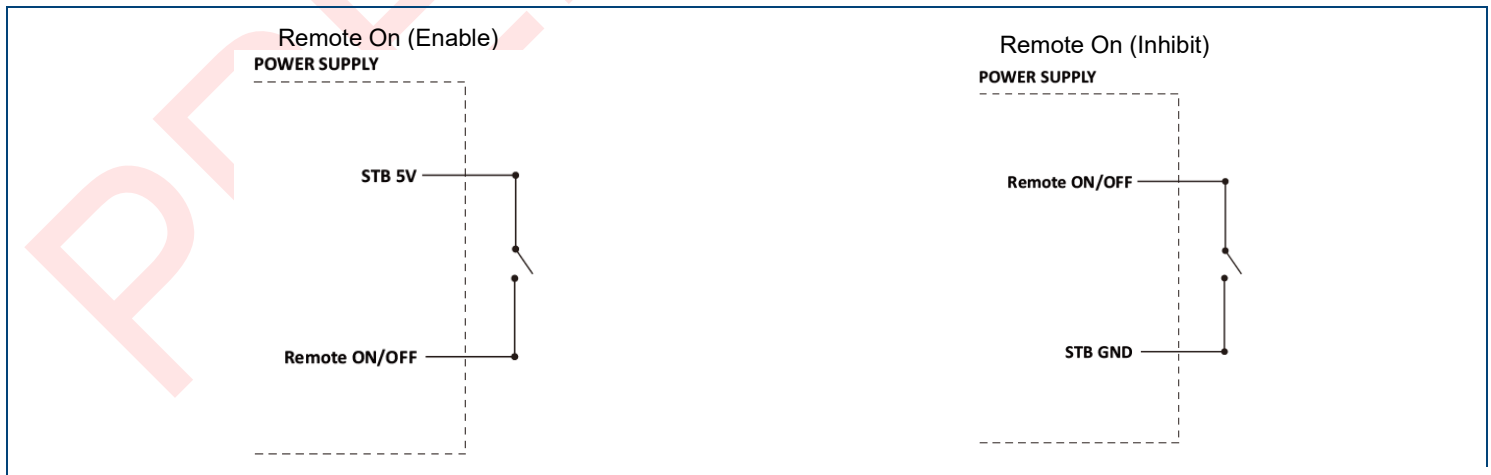
## TIMING DIAGRAMS



## POWER GOOD



## REMOTE ON/OFF



## MODEL NUMBER SETUP

PSMSG	600	-	12	S	T	05
Series Name	Output Power		Input Voltage	Output Quantity	Product Type	Standby Power
			<b>12:</b> 12VDC <b>19:</b> 19VDC <b>24:</b> 24VDC <b>48:</b> 48VDC	<b>S:</b> Single	<b>Blank:</b> Open Frame <b>P:</b> Open Frame + Base Plate <b>T:</b> Enclosure + Top Fan	<b>Blank:</b> Without 5V Standby Power <b>05:</b> With 5V Standby Power

## 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.

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