Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

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We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

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excelsys

Xsolo

Ultra compact 500W and 1000W single output power supplies

- High Efficiency
- Convection Cooled
- Digital Communications

Xsolo

Ultra-high efficiency 1U size

FEATURES

- Single output: 24V, 36V or 48V
- IEC60950 2nd Edition, IEC60601-1 2nd & 3rd Edition & IEC60601-1-2 4th Edition EMC compliant
- Ultra high efficiency, >92%
- Low profile: 1U height (40mm)
- Convection Cooled 500W
- Fan Cooled 1000W (variable speed fan)
- 12V/300mA bias standby voltage provided
- Remote ON/OFF Signal
- Power Good Signal
- MIL810G
- 2 MOPP
- SEMI F47 Compliant
- Suitable for type B and BF rated applications
- Optional I²C PMBus™ Communications
- Optional OR-ing Function
- 5 Year Warranty
- Adjustable output voltage
- 5000m altitude for EN60950 applications
- All models feature active power factor correction as standard
- Product Options: Conformal Coating, Low Leakage Current and Ruggedised

APPLICATIONS INCLUDE

- Industrial
- Test & Measurement
- Medical
- Hi-Rel COTS
- Communication

The Xsolo family of single output power supplies provides up to an incredible 1008W in an extremely compact package.

Available in two package types, the high efficiency Xsolo delivers an incredible ***convection cooled 504W*** in an open-frame U-channel form factor and up to ***1008W in an enclosed, fan cooled chassis.***

The Xsolo platform comes with a host of features including: variable speed fan, 12V/300mA isolated bias supply, remote ON/OFF, output voltage control and parallel operation for higher power applications. Nominal output voltages are 24, 36V and 48V with wide adjustment ranges and user defined set-points. Xsolo carries ***dual safety certification***, ***EN60950 2nd Edition*** for Industrial Applications and ***EN60601-1 2nd and 3rd Edition*** for Medical Applications, meeting the stringent creepage and clearance requirements, 4KVAC isolation and <300uA leakage current. Xsolo is designed to meet ***MIL810G*** and is also compliant with ***SEMI F47*** for voltage dips and interruptions as well as being compliant with all relevant EMC emission and immunity standards.

Optional features include I²C digital communications and OR-ing Function for N+1 redundancy. The product can also be conformal coated and ruggedised for use in harsh environments. With convection cooled power capability of over 500W, the Xsolo is ideal for use in a wide range of applications: industrial, Hi-Rel MIL-COTS applications, as well as acoustically sensitive laboratory and medical environments.

5 YEAR Warranty

XS Models

	Model	Power (W)	Output Voltage	Output Current (A)	Medical Approval UL/EN60601-1 3rd edition	Industrial Approval UL/EN60950 2nd edition
XS	XS500-24	504	24	21.0	Yes	Yes
	XS1000-24	1008	24	42.0	Yes	Yes
	XS500-36	504	36	14.0	Yes	Yes
	XS1000-36	1008	36	28.0	Yes	Yes
	XS500-48	504	48	10.5	Yes	Yes
	XS1000-48	1008	48	21.0	Yes	Yes

	Model	Vnom (V)	Power (W)	Description	Set Point Adjust Range (V)	Dynamic Vtrim Range (V)	Imax (A)	Remote Sense	Power Good
XS	XS500-24	24	504	Convection Cooled U-Channel	19-28	14-28	21.0	Yes	Yes
	XS1000-24	24	1008	Enclosed Fan Cooled	19-28	14-28	42.0	Yes	Yes
	XS500-36	36	504	Convection Cooled U-Channel	26-40	20-40	14.0	Yes	Yes
	XS1000-36	36	1008	Enclosed Fan Cooled	26-40	20-40	28.0	Yes	Yes
	XS500-48	48	504	Convection Cooled U-Channel	36-58	29-58	10.5	Yes	Yes
	XS1000-48	48	1008	Enclosed Fan Cooled	36-58	29-58	21.0	Yes	Yes

Full part numbering information including product options and ordering information on page 65.

INPUT

Parameter	Conditions/Decription	Min	Nom	Max	Units
Input Voltage Range	Universal Input 47-440Hz	85 120		264 380	VAC VDC
Power Rating	XS500 XS1000		504 1008		W W
Input Current	XS500 XS1000		5 10		A A
Inrush Current	230VAC @ 25°C			25	A
Undervoltage Lockout	Shutdown	65		74	VAC
Fusing	XS500 250VAC XS1000 250VAC		F8A HRC F12A HRC		

OUTPUT

Parameter	Conditions/Description	Min	Nom	Max	Units
Output Voltage Range	XS500/1000-24: Multi-turn potentiometer XS500/1000-24: Dynamic Vtrim range XS500/1000-36: Multi-turn potentiometer XS500/1000-36: Dynamic Vtrim range XS500/1000-48: Multi-turn potentiometer XS500/1000-48: Dynamic Vtrim range	19 14 26 20 36 29		28 28 40 40 58 58	VDC VDC VDC VDC VDC VDC
Output Current Range	XS500-24 XS1000-24 XS500-36 XS1000-36 XS500-48 XS1000-48			21 42 14 28 10.5 21	A A A A A A
Load & Cross Regulation	For 25% to 75% load change ORing Option			±0.2 ±0.4	% %
Transient Response	For 25% to 75% load change Voltage Deviation Settling Time			2.5 500	% µs
Ripple and Noise	XS500/1000-24: 20MHz XS500/1000-36: 20MHz XS500/1000-48: 20MHz		240 360 480		mV pk-pk mV pk-pk mV pk-pk
Overvoltage Protection	XS500/1000-24: Latching XS500/1000-36: Latching XS500/1000-48: Latching	33 44 61	34 47 63	37 52 69	VDC VDC VDC
Overcurrent Protection	Straight line with hiccup activation at <30% of Vnom.	105	115	130	%
Line Regulation	For ±10% change from nominal line		±0.5		%
Remote Sense				0.5	VDC
Overshoot				2	%
Rise Time	Monotonic		3	5	ms
Turn-on Delay	From AC in From Remote On/Off		500 10	800	ms ms
Hold-up Time	For nominal output voltages at full load.	17			ms

GENERAL

Parameter	Conditions/Description	Min	Nom	Max	Units
Isolation Voltage	Input to Output Input to Chassis Output to Chassis	4000 1500 1500			VAC VAC VAC
Efficiency	230VAC, 1008W @ 24V/36V/48V		>92		%
Safety Agency Approvals	EN60601-1 2nd and 3rd Edition, cTUVus 60601-1 EN60950 2nd Edition, cTUVus 60950				
Leakage Current	264VAC, 60Hz, 25°C 264VAC, 60Hz, 25°C (Option 4)			300 150	µA µA
Signals	See Page 3				
Bias Supply	Always on, current 300mA XS1000, 50mA XS500		12.0		VDC
Weight	XS500 XS1000		1.1 1.3		Kg Kg
MTBF	Telecordia SR-332, 40°C ground benign, parts count.			550,000	Hours

EMC

Parameter	Standard		Level		Units
Emissions					
Conducted	EN55011, EN55022, FCC		Class B		
Radiated	EN55011, EN55022, FCC		Class B		
Harmonic Distortion	EN61000-3-2 Class A		Compliant		
Flicker & Fluctuation	EN61000-3-3		Compliant		
Immunity					
Electrostatic Discharge	EN61000-4-2		Level 2		
Radiated Immunity	EN61000-4-3		Level 3		
Fast Transients-Burst	EN61000-4-4		Level 3		
Input Line Surges	EN61000-4-5		Level 3		
Conducted Immunity	EN61000-4-6		Level 3		
Voltage Dips	EN61000-4-11, SEMI F47 Compliant.(1)		Compliant		

ENVIRONMENTAL

Parameter	Conditions/Description	Min	Nom	Max	Units
Operating Temperature		-40		+70	°C
Storage Temperature		-40		+85	°C
Derating	See Page 62 for full temperature deratings				
Relative Humidity	Non-condensing	5		95	%RH
Shock and Vibration	Designed to meet MIL810G (2)		55		G
Altitude	EN60601-1 Operational: 3000m, Storage 8000m EN60950 Operational: 5000m, Storage 8000m			3000 5000	m m

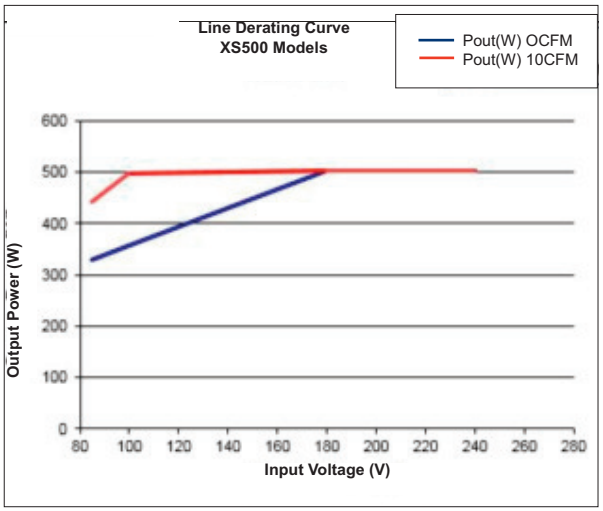
Section 5.2

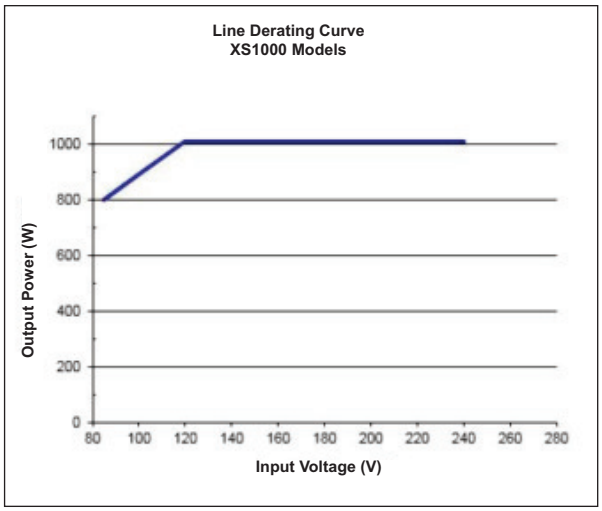
Xsolo Derating Curves

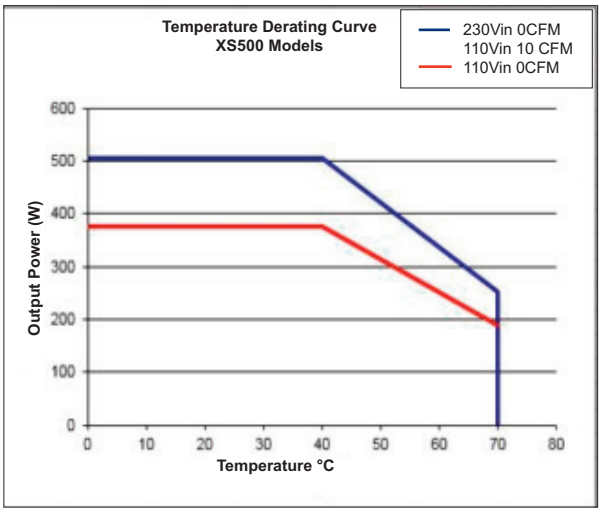
The line voltage and temperatures derating curves for the XS500 and XS1000 are shown below.

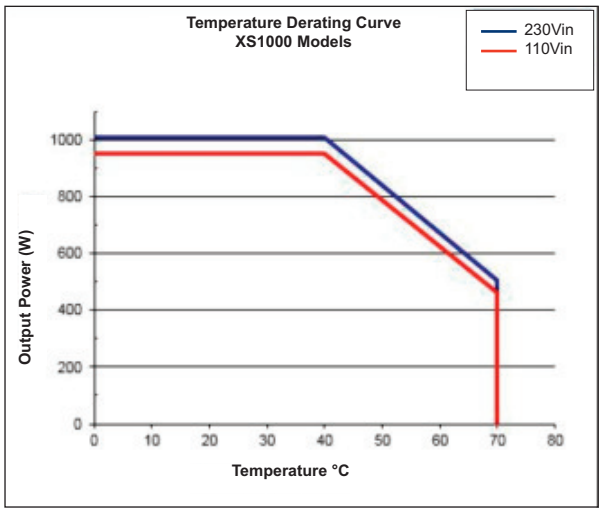
The XS500 is a 500W convection cooled part. The graphs below show the output power ratings with no system air flow and with 10CFM of system air flow applied to the product.

Contact support@excelsys.com for further information on the XS500 and XS1000 performance with system air flow applied to the product.



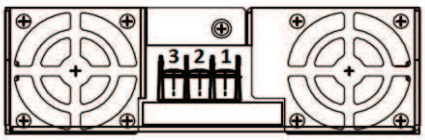




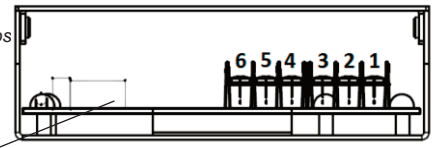


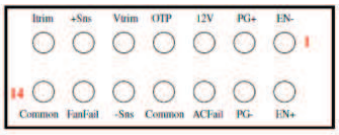
Section 5.3
Xsolo Connectors

Input Connector J7
Connector, Barrier Terminal Block,
Vertical, 3 position, Pitch:0.375in
Molex - 38720-7503



O/P Connector J10 and J12
Connector, Barrier STRIP DL 3CIRC .325
Tyco - 2-1437667-5
**Note maximum current per screw terminal is 20Amps*





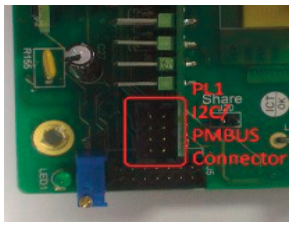
Output Signal Connector J5
Connector, Header 14POS 2MM Pitch T/H
Molex - 87831-1420

J5 Mating Connectors
Locking Molex 51110-1451; Non Locking 51110-1450;
Crimp Terminal: Molex p/n 50394

Connector Details

Pin	Input	Output	Signal	PMBus Connector
1	L	+Vo	EN-	Not Used
2	N	+Vo	EN+	SDA
3	PE	+Vo	PG+	SCL
4		-Vo	PG-	Not Used
5		-Vo	12V	Not Used
6		-Vo	ACFail	Not Used
7			OTP	Not Used
8			Common	GND
9			Vtrim	
10			-Sns	
11			+Sns	
12			FanFail	
13			Itrim	
14			Common	

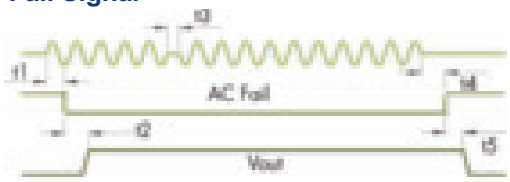
I²C Interface (Option)
The I²C PM Bus compatible interface can be used for monitoring the output voltage and current. It can also be used to manage real time data for the PSU.
For full details on PM Bus please contact sales@excelsys.com.



PMBus Connector:
PL1: Molex - 87833-0831

PL1 Mating Connector:
Locking Molex 51110-0860; Non Locking 51110-0850; Crimp Terminal: Molex p/n 50394

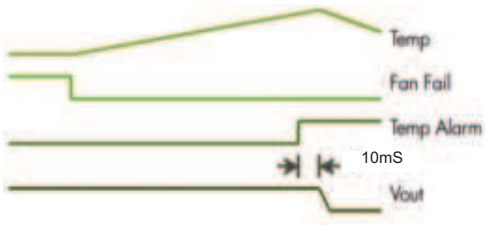
AC Fail Signal



80ms < t1 < 700ms
10ms < t2 < 100ms
t3 = 10ms
t4 > 15ms
t5 > 2ms

AC Fail
AC Mains Fail signal is implemented by an an open collector of an opto-isolater with a maximum sink current of 4mA. During normal operation the transistor is ON. When the input voltage is lost or goes below 80VAC, the opto-transistor is turned OFF at least 10mS before loss of output regulation (at nominal voltage or below).

Temperature Alarm
Open collector signal indicating that excessive temperature has been reached due to fan failure or operation beyond ratings. This signal is activated at least 10mS prior to system shutdown.

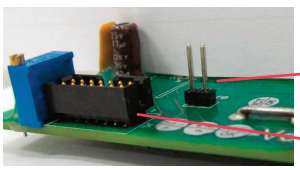


Fan Fail
Open collector signal indicating that at least one of the fans has failed. This does not cause power supply shutdown. The power supply will continue to operate until 10ms after the temperature alarm signal is generated.

*Fan Fail, Temperature Fail and AC Fail signal figures above assume use of a pull up resistor to a signal voltage

Paralleling Xsolo's
To achieve increased currents Xsolo products can be paralleled.
To connect in parallel the outputs must be trimmed to within 5mV of each other and then the current share header J20 must be added to each Xsolo product.

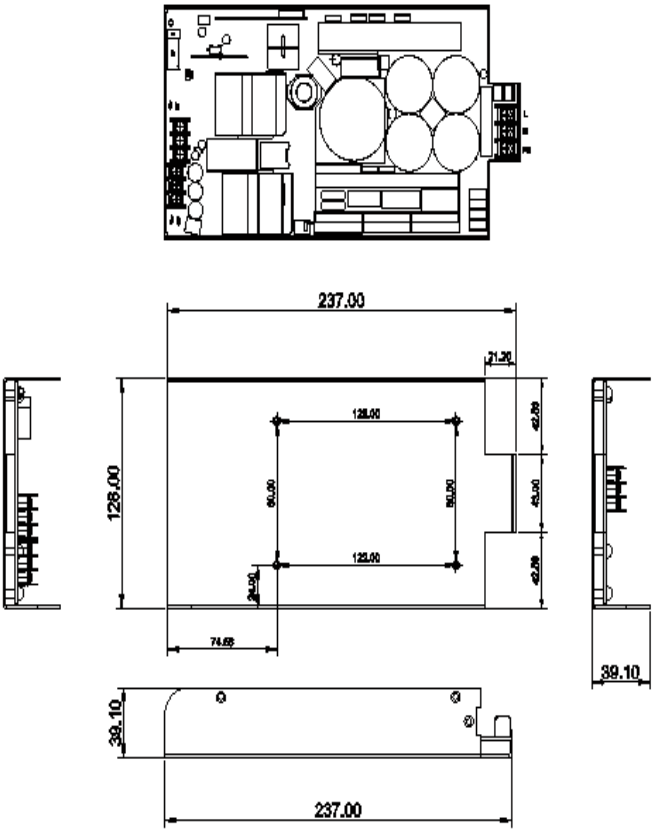
Recommended Jumper for J20: HARWIN M7567-05
(Jumper Socket, Black, 2.54mm, 2-way)



Section 5.4
Xsolo Mechanical Drawings

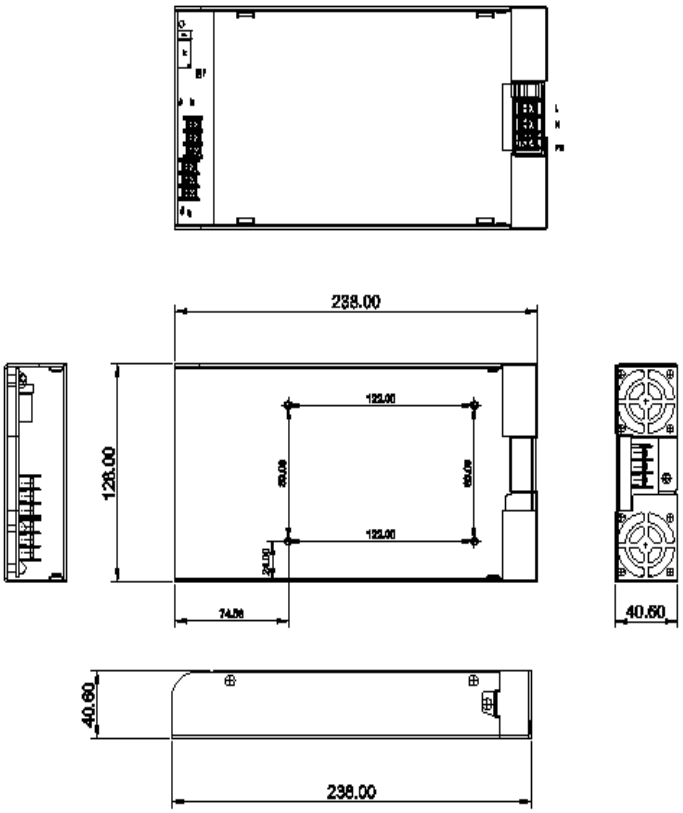
All 3D/CAD Models available for download : http://www.excelsys.com/technical-support/3d-files-and-cad-drawings/

XS500 Mechanical Specifications
(All dimensions in mm)



Mounting Holes
4 M3 threaded PEMS on Base. Max Screw Penetration is 6mm from Base

XS1000 Mechanical Specifications
(All dimensions in mm)

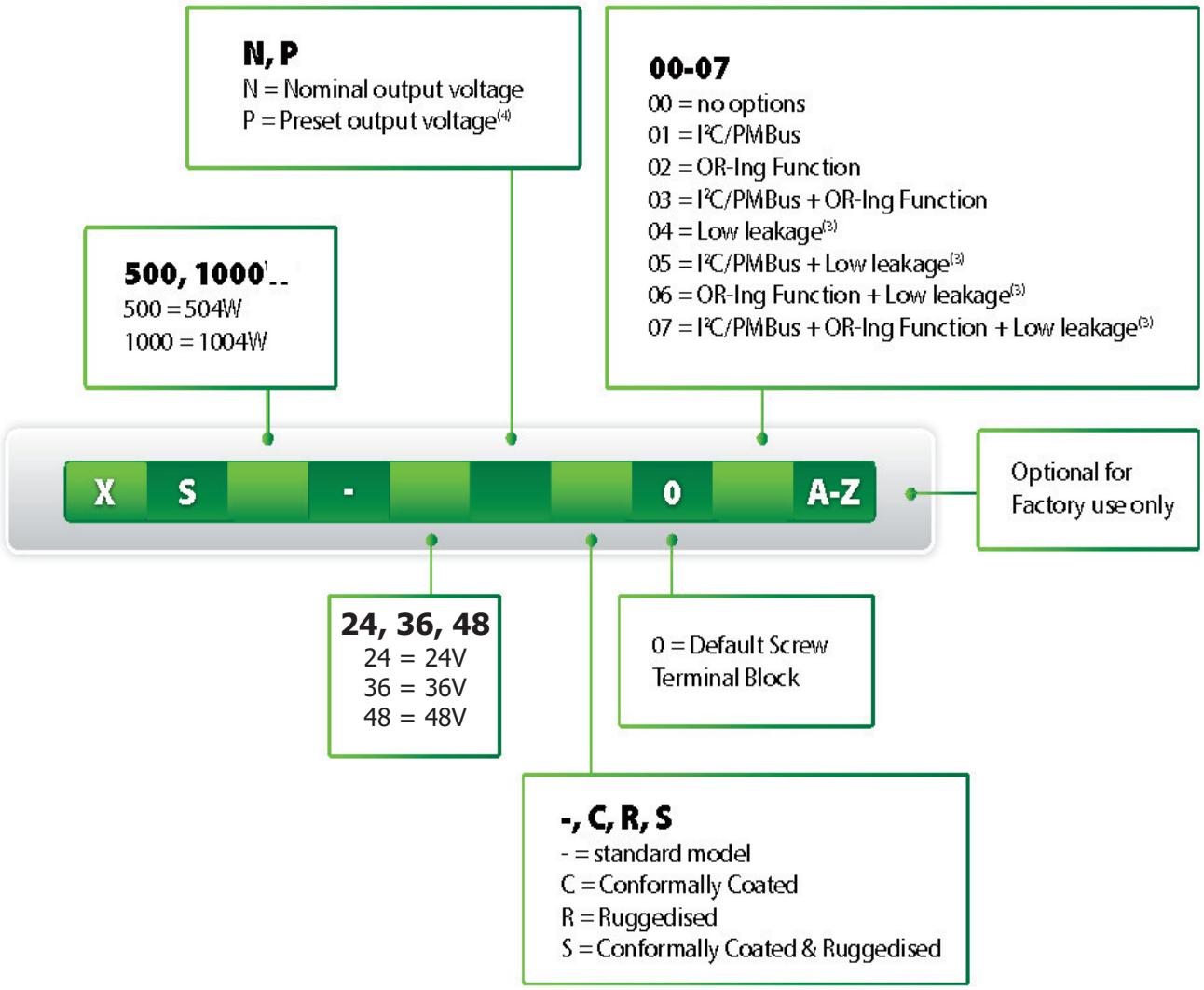


Mounting Holes
4 M3 threaded PEMS on Base. Max Screw Penetration is 6mm from Base

NOTES

Note 1. SEMI F47 compliant at input voltages >160VAC. Consult Excelsys for details.
Note 2. Consult Excelsys for HALT report (enhanced ruggedisation available as an option).
Note 3. System design with low leakage capacitors requires particular attention to EMI. Please consult Excelsys for application details.
Note 4. Contact sales@excelsys.com for details including MOQs on alternative preset output voltages.
Note 5. The specifications contained herein are believed to be correct at time of publication and are subject to change without notice.
Note 6. All specifications at nominal input, full load, 25°C unless otherwise stated.
Note 7. Compliance with MIL-STD-461 (CE101 & CE102) achieved with the addition of an external line filter from LCR p/n F19374.
Note 8. Product is not UL/EN certified for 120-380VDC input operation. Consult Excelsys for details.
Note 9. Above 2000m altitude, ambient operating temperature decreases by 1 °C per 305m (1000 ft) altitude increase

Section 5.5
Configuring your Xsolo



Example 1: XS1000-24N-000 = Xsolo 1000W, 24V output with no options
Example 2: XS1000-24N-003 = Xsolo 1000W, 24V output with I²C/PMBus and OR-Ing function.