

SXN15 Series

Single output

- High efficiency topology, 87% typical at 5V
- Wide operating temperature, up to and exceeding 70°C (natural convection)
- 90% to 110% output trim
- No minimum load
- Overvoltage protection
- Remote on/off control



The SXN15 is a new high efficiency open frame isolated 15 Watt converter series in an industry standard footprint. The first four models in the series feature an input voltage range of 33 to 75VDC and are available in output voltages of 5V, 3.3V, 2.5V and 1.8V. The output voltage on each model is adjustable from 90% to 110% of the nominal value. Typical efficiencies for the models are 87% for the 5V, 86% for the 3.3V, 85% for the 2.5V and 83% for the 1.8V version. The SXN15 series also has a remote on/off capability with active high or active low logic. Overcurrent and overvoltage protection features are included as standard. With full international safety approval including EN60950 and cUL1950, the SXN15 reduces compliance costs and time to market.



2 YEAR WARRANTY

All specifications are typical at nominal input, full load at 25°C unless otherwise stated

SPECIFICATIONS

OUTPUT SPECIFICATIONS

Voltage adjustability		90% to 110%
Total error band	(See Note 11)	±3.5% max.
Line regulation	1V8 and 2V5 models	0.5% max.
Low line to high line	3V3 and S05 models	0.1% max.
Load regulation	1V8 model	2.0% max.
Full load to min. load	2V5 model	1.5% max.
	3V3 and S05 models	0.5% max.
Minimum load		0%
Overshoot	1V8 and 2V5 models	3.5% max.
At turn-on and turn-off	3V3 and S05 models	None
Undershoot		None
Ripple and noise	1V8 and 2V5 models	40mV pk-pk
(See Note 1)		14mV rms
5Hz to 20MHz	3V3 and S05 models	70mV pk-p
		20mV rms
Transient response	1V8 and 2V5 models	150mV
(See Note 2)	3V3 and S05 models	100mV
typ. deviation		400µs recovery to within total error band

INPUT SPECIFICATIONS

Input voltage range	48Vin nominal	33 to 75VDC
Input current	No load	35mA max.
	Remote OFF	25mA max.
Input current (max.)	(See Note 4)	0.55A max. @ Io max. and Vin = 33 to 75V
Input reflected ripple	(See Note 6)	5mA (pk-pk) typ.
Active high remote ON/OFF		(See Note 8)
Logic compatibility	Open collector ref to -input	
ON	Open circuit or >2VDC	
OFF	<1.2VDC	
Undervoltage lockout	Power up	33V (typ.)
	Power down	30V (typ.)
Start-up time	Power up	1.5ms (typ.)
(See Note 7)	Remote ON/OFF	2.5ms (typ.)

EMC CHARACTERISTICS

Conducted emissions	EN55022 (See Note 3)	Level A
	EN55022 (See Note 3)	Level B
Radiated emissions	EN55022 (See Longform Data Sheet)	Level B
Immunity:		
ESD air	EN61000-4-2	8kV, 15kV
ESD contact	EN61000-4-2	6kV, 8kV
Radiated field enclosure	EN61000-4-3	10V/m
Conducted (DC power)	EN61000-4-6	10V
Conducted (signal)	EN61000-4-6	10V (See Note 10)
Input transients	ETS 300 132-2, ETR 283	

GENERAL SPECIFICATIONS

Efficiency		See table
Operational insulation	Input/output	1500VDC
Switching frequency	Fixed	265kHz typ.
Approvals and standards	(See Note 5)	UL/cUL1950, EN60950 TÜV Rheinland
Material flammability		UL94V-0
Weight		12g (0.42oz)
MTBF	MIL-HDBK-217F	>600,000 hours
Representative model:	48S05 @ 48Vin, 40°C, 100% load ground benign	
	BELLCORE 332	>1,500,000 hours

ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Operating ambient temp. (3.3V and 5V)	-40°C to +65°C
(See Note 9)	Operating ambient temp. (1.8V and 2.5V)	-40°C to +70°C
	Non-operating (All models)	-40°C to +120°C

SXN15 Series

Single output

DC/DC CONVERTERS | 10.8-15W High Efficiency DC/DC Converters

2

For the most current data and application support visit www.artesyn.com/powergroup/products.htm

OUTPUT POWER (MAX.)	INPUT VOLTAGE	OVP	OUTPUT VOLTAGE	OUTPUT CURRENT (MIN.)	OUTPUT CURRENT (MAX.)	EFFICIENCY (TYP.)	REGULATION		MODEL NUMBER ^(B)
							LINE	LOAD	
10.8W	33-75VDC	2.3VDC	1.8V	0A	6A	83%	0.3%	2.0%	SXN15-48S1V8
15W	33-75VDC	3.2VDC	2.5V	0A	6A	85%	0.3%	1.5%	SXN15-48S2V5
15W	33-75VDC	4VDC	3.3V	0A	4.5A	86%	0.1%	0.5%	SXN15-48S3V3
15W	33-75VDC	6VDC	5.0V	0A	3A	87%	0.1%	0.5%	SXN15-48S05

Notes

- 1 Measured as per recommended set-up. See Application Note 116 for further details.
- 2 $di/dt = 0.1A/\mu s$, $V_{in} = 48VDC$, $T_c = 25^\circ C$, load change = 0.5 I_o max. to 0.75 I_o max. and 0.75 I_o max. to 0.5 I_o max.
- 3 The SXN15 meets level A and level B conducted emissions only with external components connected before the input pins to the converter. See Application Note 116 for further details.
- 4 Recommended input fusing is a 2A HRC 200V rated fuse.
- 5 This product is only for inclusion by professional installers within other equipment and must not be operated as a stand alone product.
- 6 Measured with external filter. See Application Note 116 for further details.
- 7 Start-up into resistive load.
- 8 Active low remote on/off is available. Standard product is active high. Designate with the Suffix '-R' e.g. SXN15-48S05-R.
- 9 Operating ambient temperatures are specified at natural convection. Higher operating temperatures are possible with increased airflow. See Application Note 116 for further details.
- 10 Signal Line assumed < 3m in length.
- 11 This parameter is calculated at worst case line, load, temperature and initial settings.

PROTECTION

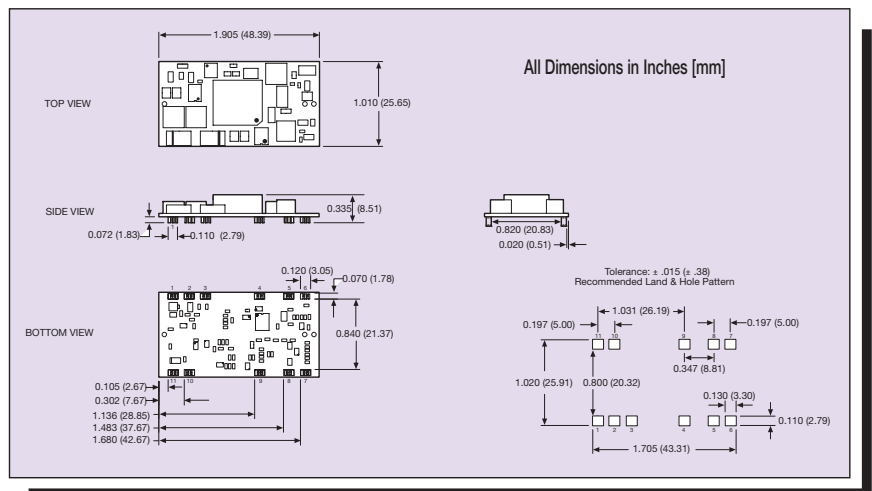
Short circuit protection	Continuous
Oversoltage protection	Non-latching clamp

TELECOM SPECIFICATION

Central office interface A	ETS300-132-2, input voltage and current requirements
----------------------------	--

CAUTION: Hazardous internal voltages and high temperatures. Ensure that unit is not user accessible.

PIN CONNECTIONS	
PIN NUMBER	FEATURE
1	Vout +
2	Vout -
3	N/C
4	Trim
5	N/C
6	N/C
7	N/C
8	On/Off
9	N/C
10	Vin -
11	Vin +



International Safety Standard Approvals

UL UL/cUL 1950 3rd edition. File No. E135734
TÜV TÜV Rheinland. Certificate No. R2074133

Data Sheet © Artesyn Technologies® 2002

The information and specifications contained in this data sheet are believed to be correct at time of publication. However, Artesyn Technologies accepts no responsibility for consequences arising from printing errors or inaccuracies. Specifications are subject to change without notice. No rights under any patent accompany the sale of any such product(s) or information contained herein.

Please consult our website for the following items: ✓ Application Note ✓ Longform Data Sheet

www.artesyn.com