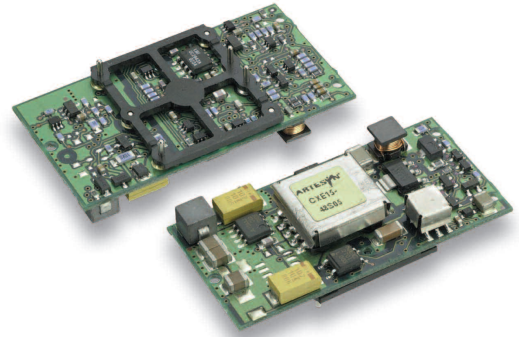


CXE15 Series

Single output

- High efficiency topology, 87% typical at 5 V
- Industry standard footprint
- 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 CXE15 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 Vdc to 75 Vdc and are available in output voltages of 5 V, 3.3 V, 2.5 V and 1.8 V. 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 5 V, 86% for the 3.3 V, 85% for the 2.5 V and 83% for the 1.8 V version. The CXE15 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 CXE15 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	1.8 V and 2.5 V models	0.5% max.
Low line to high line	3.3 V and S05 models	0.1% max.
Load regulation	1.8 V model	2.0% max.
Full load to min. load	2.5 V model	1.5% max.
	3.3 V and S05 models	0.5% max.
Minimum load		0%
Overshoot	1.8 V and 2.5 V models	3.5% max.
	3.3 V and S05 models	None
Undershoot		None
Ripple and noise	1.8 V and 2.5 V models	40 mV pk-pk
(See Note 1)		14 mV rms
5 Hz to 20 MHz	3.3 V and S05 models	70 mV pk-p
		20 mV rms
Transient response	1.8 V and 2.5 V models	150 mV
(See Note 2)	3.3 V and S05 models	100 mV
typ. deviation		400 µs recovery to within total error band

INPUT SPECIFICATIONS

Input voltage range	48 Vin nominal	33-75 Vdc
Input current	No load	35 mA max.
	Remote OFF	25 mA max.
Input current (max.)	(See Note 4)	0.55 A max. @ Io max. and Vin = 33-75 Vdc
Input reflected ripple	(See Note 6)	5 mA (pk-pk) typ.
Active high remote ON/OFF	(See Note 10)	
Logic compatibility	Open collector ref to -input	
ON	Open circuit or >2 Vdc	
OFF	<1.2 Vdc	
Undervoltage lockout	Power up	33 V (typ.)
	Power down	30 V (typ.)
Start-up time	Power up	1.5 ms (typ.)
(See Note 7)	Remote ON/OFF	2.5 ms (typ.)

EMC CHARACTERISTICS

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

GENERAL SPECIFICATIONS

Efficiency		See table
Operational insulation	Input/output	1500 Vdc
Switching frequency	Fixed	265 kHz typ.
Approvals and standards		UL/cUL1950, EN60950 TÜV Rheinland (See Note 5)
Material flammability		UL94V-0
Weight		12 g (0.42 oz)
MTBF	MIL-HDBK-217F	3,628,000 hours
Representative model:	48S05J @ 48 Vin, 40 °C, 100% load ground benign	
	BELLCORE 332	>1,500,000 hours

ENVIRONMENTAL SPECIFICATIONS

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

CXE15 Series

Single output

DC-DC CONVERTERS 10.8-15 W 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 ⁽¹⁰⁾
							LINE	LOAD	
10.8 W	33-75 Vdc	2.3 Vdc	1.8 V	0 A	6 A	83%	0.3%	2.0%	CXE15-48S1V8
15 W	33-75 Vdc	3.2 Vdc	2.5 V	0 A	6 A	85%	0.3%	1.5%	CXE15-48S2V5
15 W	33-75 Vdc	4 Vdc	3.3 V	0 A	4.5 A	86%	0.1%	0.5%	CXE15-48S3V3

Notes

- 1 Measured as per recommended set-up. See Application Note 116 for details.
- 2 $di/dt = 0.1 \text{ A}/\mu\text{s}$, $V_{in} = 48 \text{ Vdc}$, $T_c = 25^\circ\text{C}$, 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 CXE15 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 details.
- 4 Recommended input fusing is a 2 A HRC 200 V 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 details.
- 7 Start-up into resistive load.
- 8 Signal line assumed < 3 m in length.
- 9 Operating ambient temperatures are specified at natural convection. Higher operating temperatures are possible with increased airflow. See Application Note 116 for details.
- 10 Remote ON/OFF (pin 3) and Trim (pin 5) are currently available individually or together by special order only. Manufacturing lead times may apply. The base model includes pins 1, 2, 4, and 6. Use the suffix '-R' for pin 3 with negative logic, '-S' for pin 3 with positive logic, and '-T' for the Trim pin.
- 11 This parameter is calculated at worst case line, load, temperature and initial settings.

PROTECTION

Short circuit	Continuous
Overvoltage	Non-latching clamp

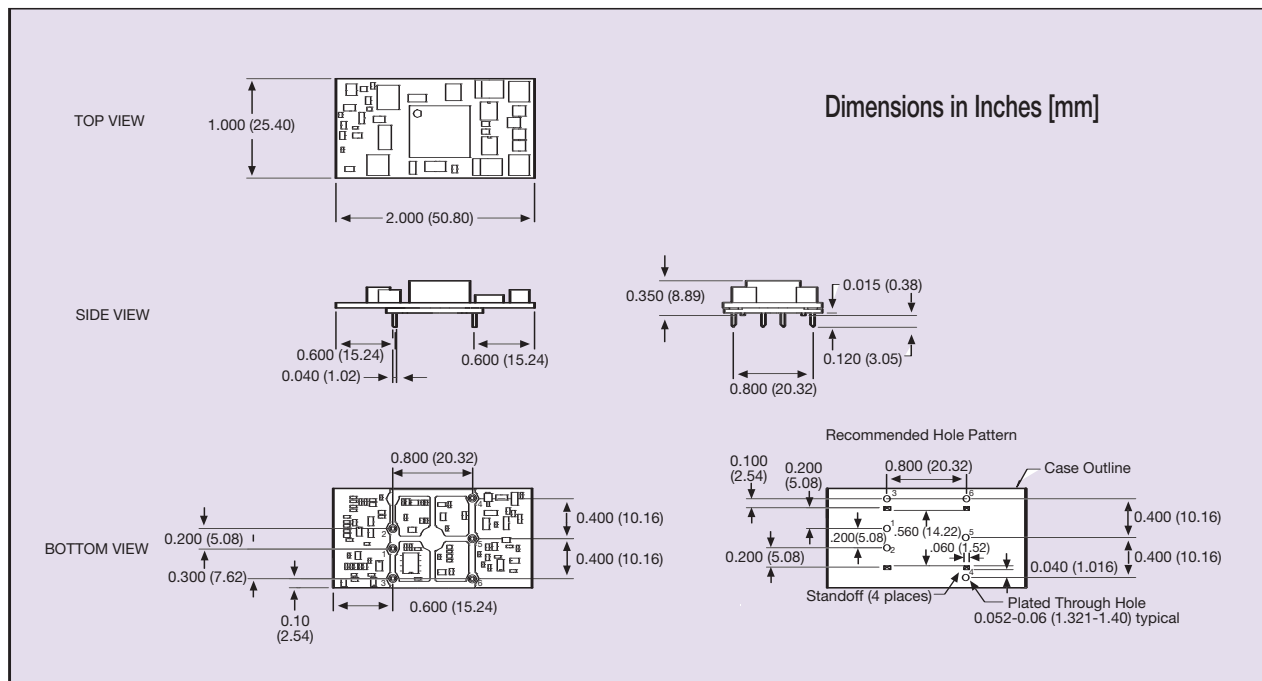
TELECOM SPECIFICATION

Central office interface A	ETS300-132-2, input voltage and current requirements
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CAUTION: Hazardous internal voltages and high temperatures. Ensure that unit is not user accessible.

CXE15 Series

Single output



PIN CONNECTIONS	
PIN NUMBER	FEATURE
1	Vin -
2	Vin +
3	On/Off (See Note 10)
4	Vout +
5	Trim (See Note 10)
6	Vout -

International Safety Standard Approvals

UL **us** UL/cUL 1950 3rd edition. File No. E135734
TÜV TÜV Rheinland. Certificate No. R2074133
 File No. 10401-3336-0916

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