

# CXA20 Series

## Single and dual output

- 4:1 input voltage range
- No minimum load on singles
- 6A on 3.3V output (@ 48Vin) at 50°C in still air
- Wide operating temperature with overtemperature protection
- ±10% output voltage trim
- Remote On/Off control
- Overvoltage protection

The CXA20 is a new 20W addition to the CXA family of open-frame, isolated, DC/DC converters. The five model series features a 4:1 input voltage range of 18 to 75VDC, making it suitable for a wide variety of communications and distributed power applications. With its 2.0 x 1.6 inch industry standard footprint, the CXA20 provides an easy upgrade option for new and existing Artesyn customers seeking a high-performance, cost-effective power supply. The CXA20 is available in output voltages of 3.3V, 5V, 12V, ±5V and ±12V. The 3.3V version delivering up to 6A is fully rated to 20W. Typical efficiency for the CXA20 is 83 percent. The CXA20 offers remote on/off, as well as overvoltage, overtemperature and short circuit protection features.



2 YEAR WARRANTY

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

## SPECIFICATIONS

### OUTPUT SPECIFICATIONS

Voltage accuracy	±1.0%	
Line regulation (LL to HL)	Singles/dual positives Dual negatives	±0.1% ±0.1%
Load regulation (not incl. cross reg.)	Full load to minimum load S3V3 Singles/dual positives Dual negatives	±0.2% ±0.1% ±0.1%
Minimum load	Singles Duals (for imbalanced loads)	None 10%
Ripple and noise 20MHz bandwidth	S3V3, S05, D05 S12, D12 All models	75mV pk-pk max. 100mV pk-pk max. 20mV rms max.
Temperature coefficient	±0.02%/ <sup>°</sup> C	
Overvoltage protection	See Application Note 107	
Short circuit protection Short <20mΩ	Hiccup	Continuous automatic recovery
Transient response	25% load step	±2.0% max. dev., 300µs recovery to within total error band
Load cross regulation (See Note 1)	10% load to full load, either output	±7.0%

### INPUT SPECIFICATIONS

Input voltage range	48Vin nominal	18 to 75VDC
Input fuse	HRC recommended	2.0A
Max. input rise and fall time	48V ETS300-132	5V/ms
UVLO turn ON voltage	(See Note 4)	92%
UVLO turn OFF voltage	(See Note 4)	86%
Remote ON/OFF	CMOS/TTL/Open Collector	
Logic compatibility	Open circuit or >2VDC	
ON	<1.2VDC	
OFF		

### EMC CHARACTERISTICS

ETS 300 386-1 table 5 Conducted emissions	EN55022, ext. cap. (Note 5) EN55022, external filter, VDE0878, 48V models EN55022-B	Level A Level B See App. Note 107
Radiated emissions		
Immunity:		
ESD air	EN61000-4-2 8kV (NP), 15kV (RP)	
ESD contact	EN61000-4-2 6kV (NP), 8kV (RP)	
EFT DC power	EN61000-4-4 2kV (NP), 4kV (LFS)	
EFT signal	EN61000-4-4 1kV (NP), 2kV (LFS)	
Radiated field enclosure	EN61000-4-3 10V/m (NP)	
Surges indoor signal	EN61000-4-5 500V (RP)	
Conducted (DC power)	EN61000-4-6 10V (NP)	
Conducted (signal)	EN61000-4-6 10V (NP)	
Input transients	ETS 300 132-2, ETR 283	

### GENERAL SPECIFICATIONS

Efficiency	See table
Overtemp. shutdown	120°C
Isolation voltage	Input/output test voltage 1500VDC
Switching frequency	Fixed 400kHz
Approvals and standards (See Notes 6,7,8)	EN60950 UL1950 File No. E136005
Material flammability	UL94V-0
Weight	26g (0.92 oz)
MTBF (Representative model 48S05 @ 48Vin)	MIL-HDBK-217F Parts stress method Ground Benign @ 25°C 400,000 hours

### ENVIRONMENTAL SPECIFICATIONS

Thermal performance	Operating ambient temperature Non-operating	-40°C to +60°C, (See Note 9) -55°C to +125°C
ETS 300 019-2-3	Classes T3.1, 3.2, 3.3, 3.5	
Air temperature	Low: IEC 68-2-1 High: IEC 68-2-2 Change: IEC 68-2-14	-40°C +60°C -40°C to +60°C
Relative humidity	IEC 68-2-56 IEC 68-2-30	10% to 100% RH Condensation

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For the most current data and application support visit [www.artesyn.com/powergroup/products.htm](http://www.artesyn.com/powergroup/products.htm)

INPUT VOLTAGE	OUTPUT VOLTAGE	OVERVOLTAGE PROTECTION <sup>(2,3)</sup>	OUTPUT CURRENT (MAX.)	TYPICAL EFFICIENCY	MODEL NUMBER
18-75VDC	3.3V	3.7V	6.0A	80%	CXA20-48S3V3
18-75VDC	5.0V	6.67V	4.0A	83%	CXA20-48S05
18-75VDC	12V	14.25V	1.66A	83%	CXA20-48S12
18-75VDC	±5V	6.67V	2.0A ea.	84%	CXA20-48D05
18-75VDC	±12V	14.25V	0.83A ea.	84%	CXA20-48D12

### Notes

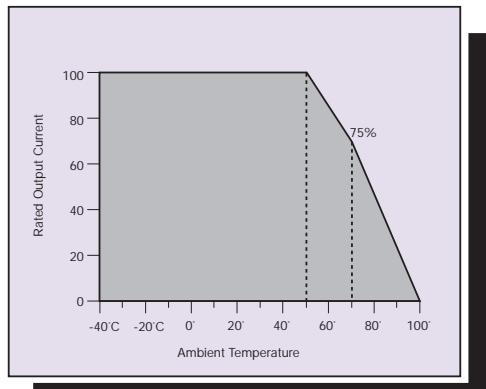
- 1 Negative output voltage deviation when either load is changed.
- 2 For TVS/Zener specifications please see Application Note 107.
- 3 On dual output models, OVP protection is on positive outputs only.
- 4 With respect to minimum input voltage.
- 5 With one external 4μF capacitor across the input.
- 6 Unit provides basic insulation up to the 75VDC maximum input voltage.
- 7 Maximum continuous output power not to exceed 20 Watts.
- 8 User must provide 2A HRC (recommended) in line fuse in order to comply with safety approvals.
- 9 Download Application Note 107 and the full data sheet from our website.

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

PIN CONNECTIONS		
PIN NUMBER	SINGLE OUTPUT	DUAL OUTPUT
1	+ Input	+ Input
2	- Input	- Input
3	No Pin	No Pin
4	Remote On/Off	Remote On/Off
5	No Pin	+ Output
6	+ Output	Common
7	- Output	- Output
8	Trim	Trim

### MAX. TEMPERATURES FOR FULL RATED OUTPUT CURRENT

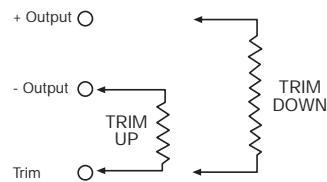
MODEL	FULL Vin RANGE	Vin <60VDC
48S3V3	50°C	50°C
48S05	55°C	60°C
48S12	50°C	55°C
48D05	55°C	60°C
48D12	50°C	60°C



Derating Curve Output Current vs Temperature S3V3  
Natural Convection (<0.1m/s airflow)

### EXTERNAL OUTPUT TRIMMING

All models can be externally trimmed by ±10% using either method shown below. See Application Note 107 for details.



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