

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
- $\pm 10\%$ 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, $\pm 5V$ and $\pm 12V$. 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		$\pm 1.0\%$
Line regulation (LL to HL)	Singles/dual positives Dual negatives	$\pm 0.1\%$ $\pm 0.1\%$
Load regulation (not incl. cross reg.)	Full load to minimum load S3V3 Singles/dual positives Dual negatives	$\pm 0.2\%$ $\pm 0.1\%$ $\pm 0.1\%$
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		$\pm 0.02\%/^{\circ}\text{C}$
Overvoltage protection	See Application Note 107	
Short circuit protection Short <20m Ω	Hiccup Continuous automatic recovery	
Transient response	25% load step	$\pm 2.0\%$ max. dev., 300 μs recovery to within total error band
Load cross regulation (See Note 1)	10% load to full load, either output	$\pm 7.0\%$

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 UVLO turn OFF voltage	(See Note 4) (See Note 4)	92% 86%
Remote ON/OFF Logic compatibility ON OFF	CMOS/TTL/Open Collector Open circuit or >2VDC <1.2VDC	

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

CXA20 Series

Single and dual output

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

INPUT VOLTAGE	OUTPUT VOLTAGE	OVERVOLTAGE PROTECTION (2,3)	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

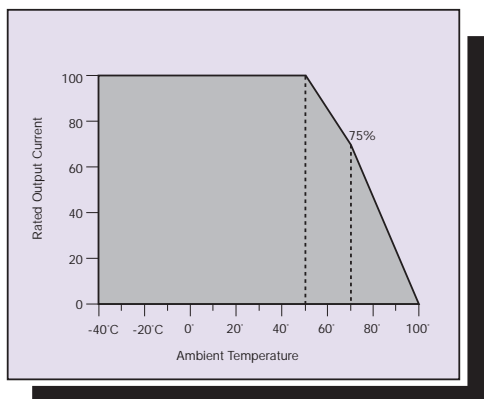
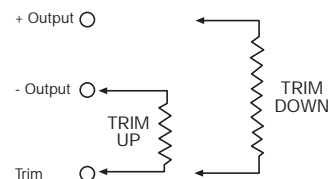
PIN NUMBER	SINGLE OUTPUT	DUAL OUTPUT
1	+ Input	+ Input
2	- Input	- Input
3	No Pin	No Pin
4	Remote On/Off	Remote On/Off
5	No Pin	+ Output
6	+ Output	Common
7	- Output	- Output
8	Trim	Trim

MAX. TEMPERATURES FOR FULL RATED OUTPUT CURRENT

MODEL	FULL V_{in} RANGE	$V_{in} < 60VDC$
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

EXTERNAL OUTPUT TRIMMING

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



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

CXA20 Series

Single and dual output

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

