CXA20 Series

Single and dual output

ARTESYN TECHNOLOGIES

- **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.

CE (LVD) VDE c UL us CSA

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%/°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 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	Level A Level B
Radiated emissions	EN55022-B	See App. Note 107
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

ARTESYN TECHNOLOGIES

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

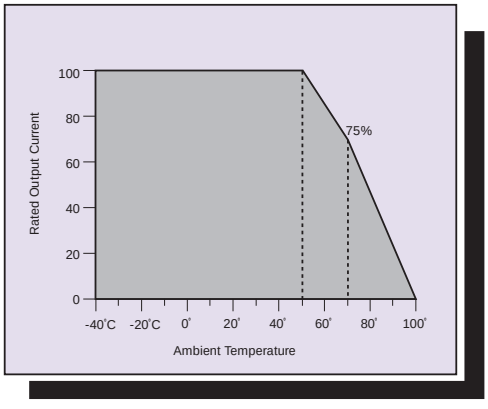
1. Negative output voltage deviation when either load is changed.
2. For TVS/Zener specifications please see Application Note 107.
3. On dual output models, OVP protection is on positive outputs only.
4. With respect to minimum input voltage.
5. With one external 4µF capacitor across the input.
6. Unit 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 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.