CXA20 Series

Single and dual output

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



The CXA20 is a new 20 W 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 Vdc to 75 Vdc, 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 3.3 V, 5 V, 12 V, ±5 V and ±12 V. The 3.3 V version delivering up to 6 A is fully rated to 20 W. Typical efficiency for the CXA20 is 83%. The CXA20 offers remote ON/OFF as well as overvoltage, overtemperature and short circuit protection features.

(LVD / RoHS)

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 20 MHz bandwidth	S3V3, S05, D05 S12, D12 All models	75 mV pk-pk max. 100 mV pk-pk max. 20 mV rms max.
Temperature coefficient		±0.02%/°C
Overvoltage protection		See Application Note 107
Short circuit protection Short <20 mΩ	Hiccup	Continuous automatic recovery
Transient response	25% load step	±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	±7.0%

INPUT SPECIFICATIONS

Input voltage range	48 Vin nominal	18-75 Vdc
Input fuse	HRC recommended	2.0 A
Max. input rise and fall time	48 V ETS300-132	5 V/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 >2 Vdc <1.2 Vdc

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 ESD contact EFT DC power EFT signal Radiated field enclosure Surges indoor signal Conducted (dc power) Conducted (signal) Input transients	 EN61000-4-2 EN61000-4-2 EN61000-4-4 EN61000-4-4 EN61000-4-3 EN61000-4-5 EN61000-4-6 EN61000-4-6 ETS 300 132-2, ETR 283	 8 kV (NP), 15 kV (RP) 6 kV (NP), 8 kV (RP) 2 kV (NP), 4 kV (LFS) 1 kV (NP), 2 kV (LFS) 10 V/m (NP) 500 V (RP) 10 V (NP) 10 V (NP)

GENERAL SPECIFICATIONS

Efficiency		See table
Overtemp. shutdown		120 ˚C
Isolation voltage	Input/output test voltage	1500 Vdc
Switching frequency	Fixed	400 kHz
Approvals and standards (See Notes 6,7,8)		EN60950 UL1950 File No. E136005
Material flammability		UL94V-0
Weight		26 g (0.92 oz)
MTBF (Representative model 48S05J @ 48 Vin)	MIL-HDBK-217F Parts stress method Ground Benign @ 25 °C	3,485,000 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

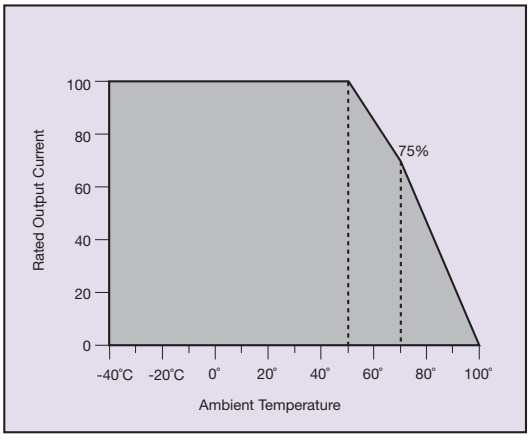
INPUT VOLTAGE	OUTPUT VOLTAGE	OVERVOLTAGE PROTECTION (2,3)	OUTPUT CURRENT (MAX.)	TYPICAL EFFICIENCY	MODEL NUMBER (10,11)
18-75 Vdc	3.3 V	3.7 V	6 A	80%	CXA20-48S3V3J
18-75 Vdc	5 V	6.67 V	4 A	83%	CXA20-48S05J
18-75 Vdc	12 V	14.25 V	1.66 A	83%	CXA20-48S12J
18-75 Vdc	±5 V	6.67 V	2 A ea.	84%	CXA20-48D05J
18-75 Vdc	±12 V	14.25 V	0.83 A ea.	84%	CXA20-48D12J

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 4 µF capacitor across the input.
6 Unit provides basic insulation up to the 75 Vdc maximum input voltage.
7 Maximum continuous output power not to exceed 20 Watts.
8 User must provide 2 A 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.
10 The 'J' suffix indicates that these parts are Pb-free (RoHS 6/6) compliant. TSE RoHS 5/6 (non Pb-free) compliant versions may be available on special request, please contact your local sales representative for details.
11 NOTICE: Some models do not support all options. Please contact your local Artesyn representative or use the on-line model number search tool at http://www.artesyn.com/powergroup/products.htm to find a suitable alternative.

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

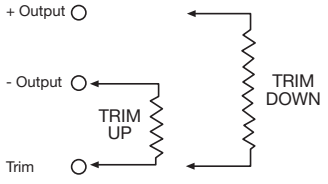
MAX. TEMPERATURES FOR FULL RATED OUTPUT CURRENT		
MODEL	FULL Vin RANGE	Vin <60 Vdc
48S3V3J	50 °C	50 °C
48S05J	55 °C	60 °C
48S12J	50 °C	55 °C
48D05J	55 °C	60 °C
48D12J	50 °C	60 °C



Derating Curve Output Current vs Temperature S3V3J Natural Convection (<0.1 m/s airflow)

EXTERNAL OUTPUT TRIMMING

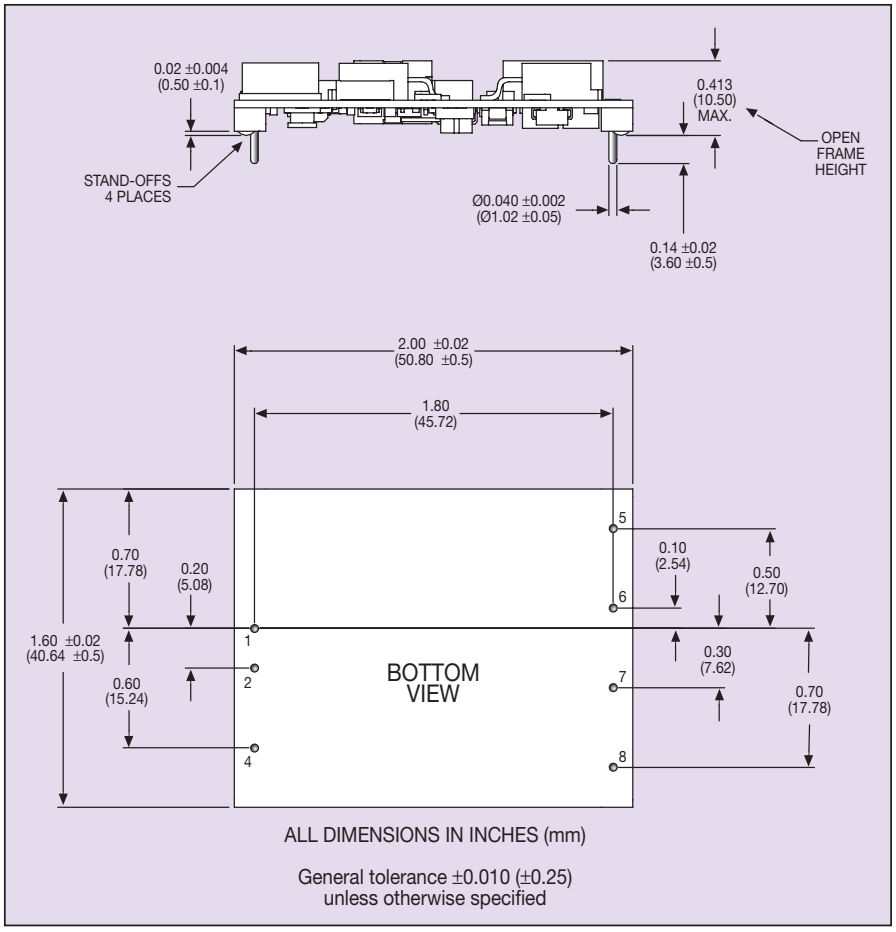
All models can be externally trimmed by ±10% using either method shown below. See Application Note 107 for details.



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

International Safety Standard Approvals

UL/cUL CAN/CSA 22.2 No. 60950-00 : UL 60950
File No. E174104
VDE Certificate No.112836. File No. 10401-3336-0154
CB Report and Certificate to IEC60950, Licence No. 121914



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