# 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<br>Dual negatives | ±0.1%<br>±0.1% |
| Load regulation (not incl. cross reg.) | Full load to minimum load<br>S3V3<br>Singles/dual positives<br>Dual negatives | <br>±0.2%<br>±0.1%<br>±0.1% |
| Minimum load | Singles<br>Duals (for imbalanced loads) | None<br>10% |
| Ripple and noise 20 MHz bandwidth | S3V3, S05, D05<br>S12, D12<br>All models | 75 mV pk-pk max.<br>100 mV pk-pk max.<br>20 mV rms max. |
| Temperature coefficient | | ±0.02%/°C |
| Overvoltage protection | | See Application Note 107 |
| Short circuit protection<br>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<br>UVLO turn OFF voltage | (See Note 4)<br>(See Note 4) | 92%<br>86% |
| Remote ON/OFF<br>Logic compatibility<br>ON<br>OFF | | <br>CMOS/TTL/Open Collector<br>Open circuit or >2 Vdc<br><1.2 Vdc |

### EMC CHARACTERISTICS

| | | |
|---|---|---|
| ETS 300 386-1 table 5<br>Conducted emissions | <br>EN55022, ext. cap. (Note 5)<br>EN55022, external filter, VDE0878, 48V models | <br>Level A<br>Level B |
| Radiated emissions | EN55022-B | See App. Note 107 |
| Immunity:<br>ESD air<br>ESD contact<br>EFT DC power<br>EFT signal<br>Radiated field enclosure<br>Surges indoor signal<br>Conducted (dc power)<br>Conducted (signal)<br>Input transients | <br>EN61000-4-2<br>EN61000-4-2<br>EN61000-4-4<br>EN61000-4-4<br>EN61000-4-3<br>EN61000-4-5<br>EN61000-4-6<br>EN61000-4-6<br>ETS 300 132-2, ETR 283 | <br>8 kV (NP), 15 kV (RP)<br>6 kV (NP), 8 kV (RP)<br>2 kV (NP), 4 kV (LFS)<br>1 kV (NP), 2 kV (LFS)<br>10 V/m (NP)<br>500 V (RP)<br>10 V (NP)<br>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<br>UL1950 File No. E136005 |
| Material flammability | | UL94V-0 |
| Weight | | 26 g (0.92 oz) |
| MTBF (Representative model 48S05J @ 48 Vin) | MIL-HDBK-217F<br>Parts stress method<br>Ground Benign @ 25 °C | 3,485,000 hours |

### ENVIRONMENTAL SPECIFICATIONS

| | | |
|---|---|---|
| Thermal performance | Operating ambient temperature<br>Non-operating | -40 °C to +60 °C, (See Note 9)<br>-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<br>High: IEC 68-2-2<br>Change: IEC 68-2-14 | -40 °C<br>+60 °C<br>-40 °C to +60 °C |
| Relative humidity | IEC 68-2-56<br>IEC 68-2-30 | 10% to 100% RH<br>Condensation |

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*Single and dual output*



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

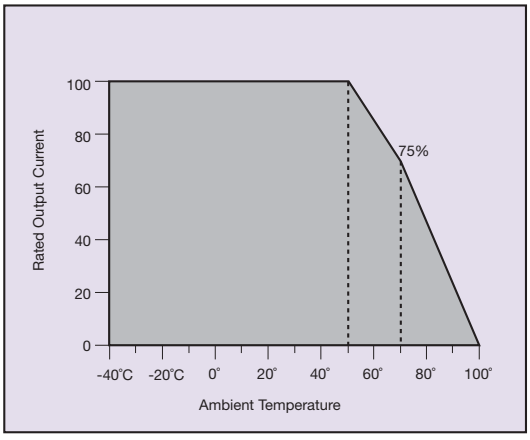
| INPUT VOLTAGE | OUTPUT VOLTAGE | OVERVOLTAGE PROTECTION (2,3) | OUTPUT CURRENT (MAX.) | TYPICAL EFFICIENCY | MODEL NUMBER (10,11) |
|---|---|---|---|---|---|
| 18-75 Vdc | 3.3 V | 3.7 V | 6 A | 80% | CXA20-48S3V3J |
| 18-75 Vdc | 5 V | 6.67 V | 4 A | 83% | CXA20-48S05J |
| 18-75 Vdc | 12 V | 14.25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

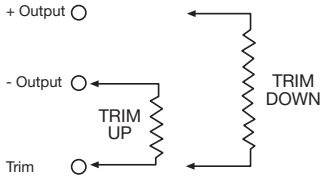
| MAX. TEMPERATURES FOR FULL RATED OUTPUT CURRENT | | |
|---|---|---|
| MODEL | FULL Vin RANGE | Vin <60 Vdc |
| 48S3V3J | 50 °C | 50 °C |
| 48S05J | 55 °C | 60 °C |
| 48S12J | 50 °C | 55 °C |
| 48D05J | 55 °C | 60 °C |
| 48D12J | 50 °C | 60 °C |




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

## EXTERNAL OUTPUT TRIMMING

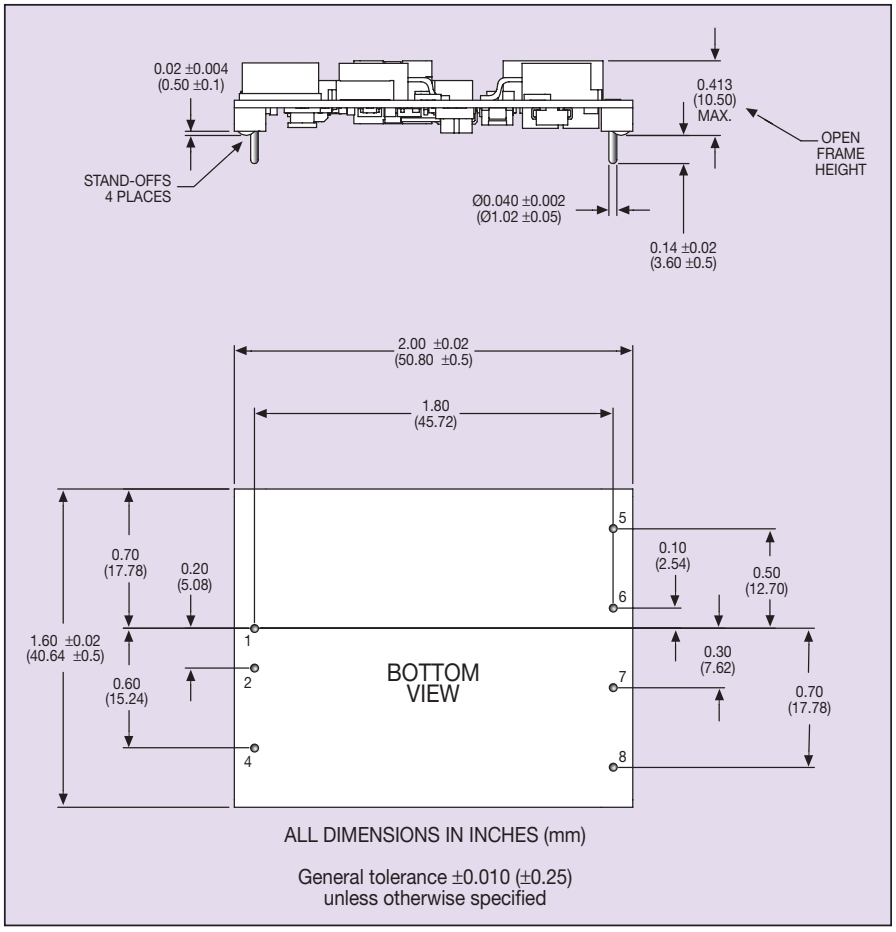
All models can be externally trimmed by ±10% using either method shown below. See Application Note 107 for details.




**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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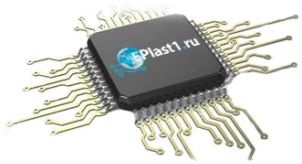
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- Защита от снятия компонента с производства.




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