

ARTESYN CSV900BP

900 Watts Distributed Power System



Advanced Energy's Artesyn CSV series bulk front end power AC-DC supply is designed for systems where scalability and density are requirements. With multiple power levels to choose from, this family provides designers with the ability to change the power supply to optimize according to system power consumption.

SPECIAL FEATURES

- 900 W output power
- 1U power supply
- Active Power Factor Correction
- EN61000-3-2 Harmonic compliance
- Inrush current control
- 80PLUS® Platinum efficiency
- N+N Redundant
- Hot-pluggable
- Active current sharing
- PMBus® compliant
- Two-year warranty

SAFETY

- UL/cUL
- CB Test Certificate
- CE Mark
- KC
- CCC
- TÜV

COMPLIANCE

- Conducted/Radiated EMI Class A Limits
- RoHS
- IEC 60950

DATA SHEET

Front-end Bulk Power

Total Output Power:

900 W

Wide Input Voltage:

90 to 264 Vac



ELECTRICAL SPECIFICATIONS

| Input | | | | | | |
|-------------------------------|--|------|-----------|-------------------|------|-----------|
| Input range | 90 - 264 Vac: 900 W | | | | | |
| Frequency | 47 Hz to 63 Hz | | | | | |
| Efficiency | Platinum level | | | | | |
| Max input current | 10.3 A @ 100 Vac | | | | | |
| Inrush current | 30 Apk | | | | | |
| Conducted EMI | Class A | | | | | |
| Radiated EMI | Class A | | | | | |
| Power factor | >0.9 beginning at 20% load | | | | | |
| Hold-up time | 12 ms at full load | | | | | |
| Leakage current | 0.8 mA | | | | | |
| Output | | | | | | |
| | Main DC Output | | | Standby DC Output | | |
| | MIN | NOM | MAX | MIN | NOM | MAX |
| Nominal setting | -0.20% | 12.2 | 0.20% | -3.5% | 12.0 | +3.5% |
| Total output regulation range | 11.59V | | 12.81 V | 11.4 V | | 12.6 V |
| Dynamic load regulation range | 11.59 V | | 12.81 V | 11.4 V | | 12.6 V |
| Output ripple | | | 120 mVp-p | | | 120 mVp-p |
| Output current | 1.0 A ¹ | | 73.8 A | 0.0 A | | 2.5 A |
| Current sharing | Within ±10% of full load rating, starting at 30% of rated load | | | N/A | | |
| Capacitive loading | 1,000 µF | | 20,000 µF | 50 µF | | 500 µF |
| Start-up from AC to output | | | 3,000 ms | | | 2,500 ms |
| Output rise time | 2 ms | | 20 ms | 2 ms | | 20 ms |

¹ Minimum current for transient load response testing only. Unit is designed to operate without damage at zero load.

| Protections | | | |
|-------------------------------------|--------|-----|--------|
| Main Output | MIN | NOM | MAX |
| Overcurrent protection ² | >100% | | 125% |
| Overvoltage protection ¹ | 13.8 V | | |
| Undervoltage protection | | | 10.0 V |
| Overtemperature protection | | Yes | |
| Fan fault protection | | Yes | |
| Standby Output | | | |
| Overcurrent protection ³ | 3.9 A | | |
| Overvoltage protection ³ | 13.8 V | | |
| Undervoltage protection | | | 10.0 V |

¹ Latch mode

² THROTTLE warning of at least 1 second before latching off

³ Standby protection is auto-recovery

ELECTRICAL SPECIFICATIONS (CONTINUED)

| LED Indicators | | | |
|---|--------------------|---------------------|----------------|
| | Input Good (Green) | Output Good (Green) | Fault (Yellow) |
| Output ON and OK | On | On | Off |
| Standby mode (input present, main output off) or zero output mode | On | Blinking 1 Hz | Off |
| No input/Input out of range | Off | Off | Off |
| OCP, or over-subscription fault, or OVP, or fan failure, or OTP | On | Off | On |

ENVIRONMENTAL SPECIFICATIONS

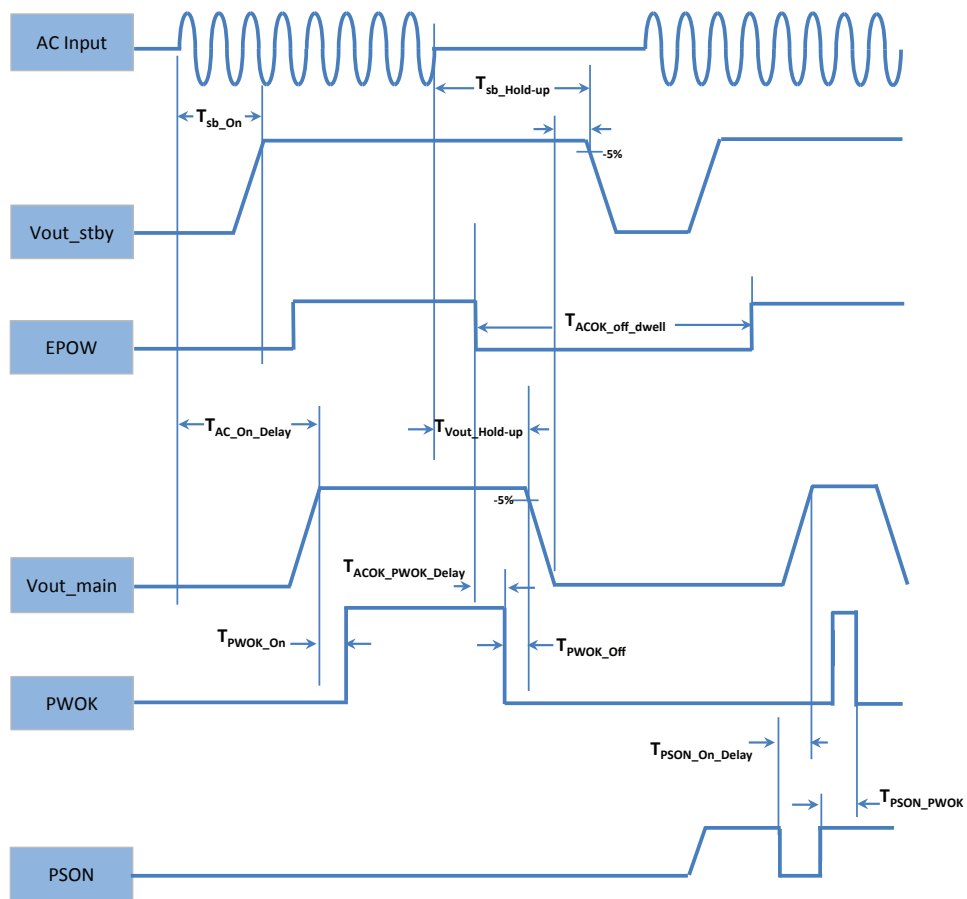
| | |
|--|---|
| Operating temperature | 5 to 50 °C |
| Operating altitude | up to 10,000 feet ¹ |
| Operating relative humidity | +8% to 93%, non-condensing |
| Non-operating temperature | -40 to +60 °C |
| Shipping and storage relative humidity | +5% to 100%, including condensing |
| Non-operating altitude | up to 50,000 feet |
| Vibration and shock | Standard operating/non-operating random shock and vibration |
| RoHS compliance | Yes |
| MTBF | 500 k hours at 40 °C, 70% load, nominal input |
| Operating life | Minimum of 5 years at typical conditions |

Notes: 1 PSU ambient temperature derated at 1°C per 600 ft above 3000 ft

ORDERING INFORMATION

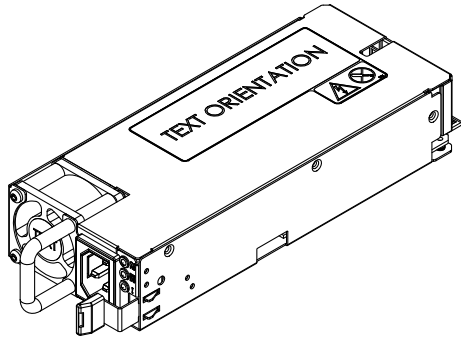
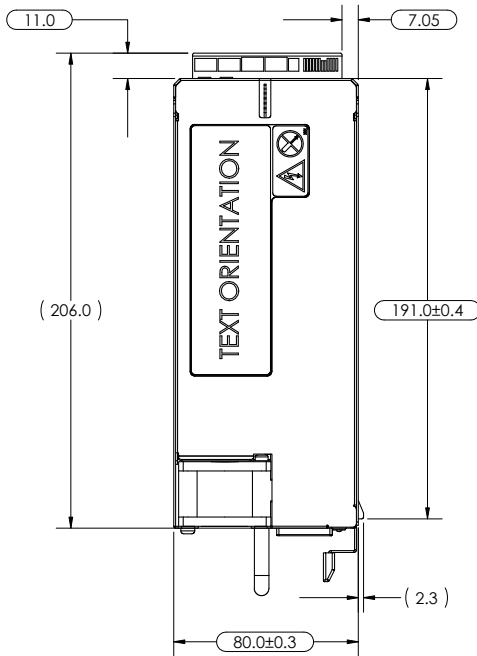
| Model Name | Ordering Part Number | Nominal Main Output | Standby Output | Airflow Direction |
|------------|----------------------|---------------------|----------------|--------------------|
| CSV900BP-3 | 700-013701-1000 | 12.2 V @ 73.8 A | 12 V @ 2.5 A | Standard (forward) |

TIMING DIAGRAM

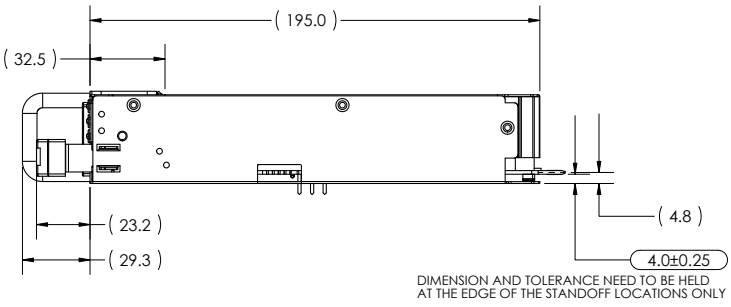
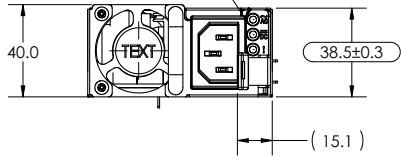


| Timing Specifications | | | | |
|------------------------------|---|-----|------|------|
| | Description | Min | Max | Unit |
| T _{sb_On} | Delay from AC being applied to standby output being within regulation | | 2500 | ms |
| T _{Vout_rise} | Rise time of output voltage going from 10% to 90% of the nominal regulation | 1 | 50 | ms |
| T _{AC_On_Delay} | Delay from AC being applied to main output being within regulation | | 3000 | ms |
| T _{PWOK_On} | Delay from output voltages within regulation limits to PWOK assertion | 180 | 220 | ms |
| T _{ACOK_PWOK_Delay} | Delay from ACOK going low to deassertion of PWOK | 6 | | ms |
| T _{Vout_Hold-up} | Delay from loss of AC to main output being within regulation | 12 | | ms |
| T _{sb_Hold-up} | Delay from loss of AC to standby output being within regulation | 50 | 1000 | ms |
| T _{PWOK_Off} | Delay from deassertion of PWOK to output falling out of regulation | 2 | | ms |
| T _{PSON_PWOK} | Delay from deassertion of PSON to deassertion of PWOK | | 1 | |
| T _{PSON_On_Delay} | Delay from PSON assertion to output being within regulation | | 100 | ms |

MECHANICAL OUTLINE



IT IS ACCEPTABLE FOR THE AC CONNECTOR HOUSING TO TOUCH THE LED HOUSINGS

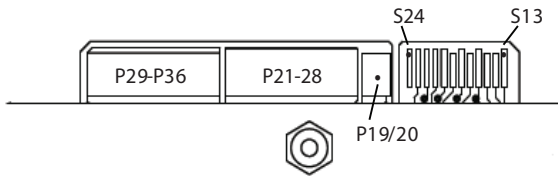


ALL DIMENSIONS ARE IN MM. TOLERANCE IS +/-0.5MM

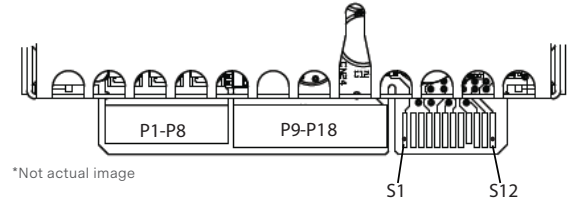
CONNECTOR DEFINITIONS

| | |
|------------------------------|--------------------------------------|
| Output connector part number | Card-edge |
| Mating connector part number | FCI Amphenol HPCE 10122238-320424FLF |

Power Supply Output Card Edge (Top Side)



Power Supply Output Card Edge (Bottom Side)



| Output Connector Pin Configuration | | | |
|------------------------------------|------------|---------|-------------|
| S1 | Reserved | S13 | SMBUS_RESET |
| S2 | Reserved | S14 | Reserved |
| S3 | +Vsense | S15 | ADDRESS |
| S4 | PSKILL | S16 | PSON |
| S5 | Reserved | S17 | PSON |
| S6 | PWOK | S18 | ACOK |
| S7 | PRESENT | S19 | Reserved |
| S8 | SMB_ALERT# | S20 | THROTTLE |
| S9 | ISHARE | S21 | Reserved |
| S10 | RETURN | S22 | -Vsense |
| S11 | SDA | S23 | Reserved |
| S12 | SCL | S24 | Reserved |
| P1-P8 | Vo | P29-P36 | Vo |
| P9-P18 | RTN | P21-P28 | RTN |
| | | P19-P20 | VSB |

| Power Supply Addressing (pin S15) | | |
|--|---------------|-------------|
| Resistance (pull-down at system side, 1% tol or better) | Voltage (nom) | Hex Address |
| OPEN | 12.00 V | D0 |
| 280 k | 10.49 V | D2 |
| 212 k | 9.01 V | D4 |
| 68.1 k | 7.55 V | D6 |
| 40.2 k | 6.00 V | D8 |
| 23.7 k | 4.45 V | DA |
| 13.3 k | 2.98 V | DC |
| 5.76 k | 1.50 V | DE |



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ABOUT ADVANCED ENERGY

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Our products enable customer innovation in complex applications for a wide range of industries including semiconductor equipment, industrial, manufacturing, telecommunications, data center computing, and medical. With deep applications know-how and responsive service and support across the globe, we build collaborative partnerships to meet rapid technological developments, propel growth for our customers, and innovate the future of power.

PRECISION | POWER | PERFORMANCE

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