JASPER ELECTRONICS



BUILD AMERICA BUY AMERICA STANDARD

POPULAR OPTIONS

- Additional Labeling
- Custom Silkscreening
- Bar Codes



CONTACT

1580 No. Kellogg Dr.
Anaheim, California, 92807

(714) 917-0749

www.jasperelectronics.com
sales@jasperelectronics.com

Model TC206E

AC Input, 240W Single DC Output



TC206E FRONT VIEW



TC206E BACK VIEW

GENERAL OVERVIEW

The CalTrans TEES Model 206E Cabinet Power Supply is built to the specifications of the State of California Department of Transportation (CalTrans) Transportation Electrical Equipment Specification (TEES) November 05, 2020. No changes affecting form, fit, function or other features of the module outlined in this document are permitted without prior notification and written approval of CalTrans.

The TEES Model 206E is a switching power supply capable of delivering up to 240 Watts of DC power through a single, regulated +24V DC output. The unit is an open frame design, with a main PCB assembly installed in a grounded sheet metal chassis designed to be rack mounted in a TEES type PDA #2LX or PDA #3LX assemblies commonly found in 332LS, 336LS, 342LX, 344LS and 346LX style traffic signal control cabinets.

The TEES Model 206E provides full output regulation across changes in AC Line voltage and output load over the full operating temperature range of -34°C to +74°C. Power Factor Correction is provided reducing peak AC Line input current and the associated stress on wiring. The TEES Model 206E functional AC input range is 80V AC to 150V AC input and 47 to 63Hz.

Please refer to the product Operating Manual for more information.

Caltrans CALIFORNIA DEPARTMENT OF TRANSPORTATION

NEW YORK STATE OF OPPORTUNITY. Department of Transportation

RoHS compliant

Rev C-June-22-2026

TECHNICAL SPECIFICATIONS

INPUT	
Voltage/ Current	AC 90-135V, 57-63Hz, 3.3A max, 1Ø
Input Fuse	AC 5.0A, 250V delayed (slow-blow) action 5x20mm AG cartridge type external line fuse provided, operator accessible. Fuse IEC 60127-2/3 compliant (TEES 3.4.2.3)
Power Factor	>0.96 line PFC typical at AC 115V, full load
Inrush Current	Soft start (~25ºC cold start) 30Apk @ AC 115V
Efficiency	At AC 115V: >82% @ 100% load
Under Voltage Protection	Auto output shutdown when AC input falls below safe operating limits. Automatic recovery when input rises to within normal operating range
OUTPUT	
Voltage/ Current (V/A)	V1
Model TC206E	24.0V, 10.0A
	Total loading not to exceed 240 Watts at +165.2°F[+74ºC]
Output Voltage Setpoint	Factory preset within ±2.0% of nominal voltage
Load/ Line Regulation	<±2.0% at the output connection over the full AC input range and 0 – 100% output loading
Minimum Loading	None required
Stability	<±0.2% output drift after 20 minute warm-up
Output Turn-on Delay	<1000mSec from AC turn-on, 115VAC, full load @25ºC
Over/ Under Shoot	<5% at turn-on or turn-off
Temperature Coefficient	<±0.02%/ºC, 0º - 50ºC, after 20 minute warm-up
Dynamic Response	<±5.0% deviation with a 50% load change at a slew rate of 1A/µsec. Output recovers to within 5% in less than 300µsec
Ripple and Noise (PARD)	2.0V max peak-to-peak / 500mV RMS nominal at the output terminal with a 20MHz bandwidth limit. May be measured with a 0.1µF ceramic capacitor in parallel with a 22µF tantalum capacitor connected between the measured output and its return
Over Voltage Protection (OVP)	Non-crowbar type from 27.6V to 32.4V. Will cause the output to latch off. AC input recycle required to reset
Over Current/ Short Circuit Protection	Fuse protected against overload and short-circuit faults. Fault recovery requires correcting the overload/ short circuit condition and replacing the output fuse
Over Temperature Protection	Internal temperature sensing. Causes output to shut down. Automatic recovery
Output Transient Protection	Minimum 1400W voltage transient suppressor provided
Output Fusing	AC 15.0A, 250V delayed (slow-blow) action 5x20mm AG cartridge type external fuse provided in the (+) output, operator accessible. Fuse IEC 60127-2/3 certified
SIGNALS, INDICATORS AND CONTROLS	
AC Power Indicator	Front panel mounted, single-color LED. Red indicates AC power ON. Off indicates an input fault
DC Power Indicator	Front panel mounted, single-color LED. Green indicates DC power ON. Off indicates an output fault
Output Test Points	Two "banana jack" type test sockets provided on the front panel, color coded red and black. Allows operator to verify output voltage
MECHANICAL	
(Refer to JE Outline Configuration Dwg, P/N 04011-000.))	
Mounting Orientation	Designed for horizontal insertion into a TEES specified Power Distribution Assembly (PDA) # 2LX or 3LX
Weight	1.36Kg [3.00 lbs]
Retaining Fastener	Operator accessible, 8-32 UNC threaded stud and wing nut provided on the rear panel
Size	Refer to the JE Outline Dwg or the Mechanical Outline in this data sheet
OPERATING ENVIRONMENT	
Operating Temperature	-34.6º – +165.2ºF (-37.0º – +74.0ºC) ambient at full load
Cooling	Convection only

**Specifications subject to change without notice.*

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Relative Humidity	Up to 95% RH, non-condensing
Operational Vibration	0.75G peak, 5 – 500Hz along three orthogonal axis
Storage Temperature	-40º to +185ºF (-40º to +85ºC)
Altitude	Operating to 10,000 ft. Storage to 30,000 ft
MTBF	Designed for 150,000 hrs at 25ºC
Calibration	Modules will maintain the output voltage and load capacity over the life of the equipment. Annual re-calibration or routine maintenance service is not specified or required
Service Life	7 years, typical, before replacement should be considered
INTERCONNECT	
Input/ Output Connector	6-circuit (2x3) panel-to-panel plug with 0.250"[6.35mm]x0.055"[1.40mm] blade type contact terminals, rated 15A/pin. General purpose black phenolic insulator material. Secured in the unit rear panel. Cinch model P-2406H-SB. Mates with Cinch model S-2406-SB or equivalent.
Note: Use of the specified mating connector is required to insure proper current capacity	
Pin #	**Function**
7	+V1 (+24VDC) Output
8	DC Ground
9	Earth Ground
10	No Connection
11	N – Neutral (ACC) Input
12	L – Line (AC) Input
Note: Pin number assignments per CalTrans spec TEES 2009, based on the connector manufacturers pin identification method	
SAFETY, REGULATORY AND EMC	
Designed to comply with the relevant industry standards of the authorities having jurisdiction, typically UL 62368-1, CSA 22.2 and IEC 62368	
EMI Filtering	Meets CISPR22B Level B, EN55022 Level B, and FCC Part 15, Level B, for conducted emissions
Harmonics	Meets EN 61000-3 (harmonics and voltage fluctuations)
Touch Current	1.2mA max @ 50/60Hz, 264V AC per UL 60950 test procedures (Sec. 5.0)
Routine Factory Tests	Di-electric strength (hi-pot) to 2121V DC input-to-chassis and input-to-outputs; MegOhm to 500V output-to-chassis. Ground bond 30A, 2 sec., <0.08Ω

**Specifications subject to change without notice.*

MARKING AND LABELING

A 2.00"x1.00" (or smaller) adhesive label is applied to the rear panel. Imprinted with JE model identification data, including JE name, input/output ratings, model designation, JE part number, a 4-digit (week/year) manufacturing date code and manufacturing facility identification code.

Application of any future authorized product safety certification marks, user specified part number or model description, or user required markings such as bar codes, revision codes, name or logo is possible but may require an enlarged or additional label. Consult the factory.

ENVIRONMENTAL CONSIDERATIONS

The model TC206E is fully compliant with the requirements of EC Directive 2015/863/EU Restrictions of Hazardous Substances (RoHS-10). RoHS compliant models are identified with the letter code "G" suffix added to the model description and/or part number on the unit labels and related documents (sales orders, etc). All materials, processes and packaging used in the assembly and shipping of RoHS versions comply.

A Certificate of Compliance is available on request. Contact the factory.

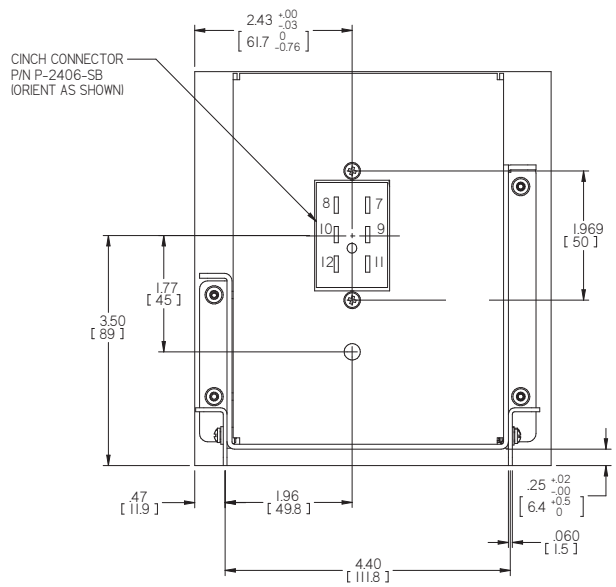
LIMITED WARRANTY POLICY

All Jasper Electronics (JE) standard model power supplies and products are guaranteed to be free of defects in workmanship and materials for a minimum of two (2) years from the date of original shipment, when operated within specification. Non-standard (custom) power supplies and products may be warranted on an individual basis. The unused portion of this warranty is fully transferable with the original equipment in which the power supply is installed. Please see our website for full warranty statement.

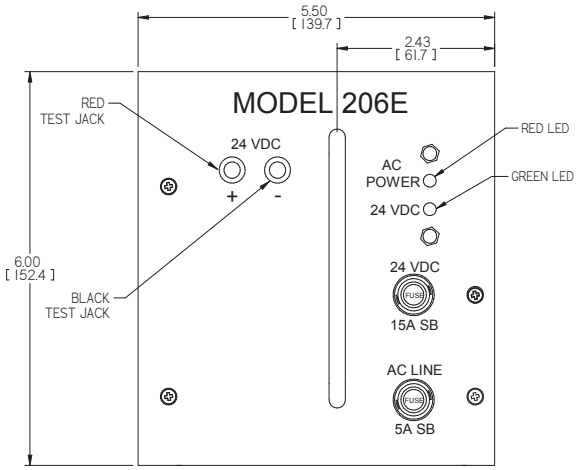
TC206-E OUTLINE DRAWING

Mechanical Outline

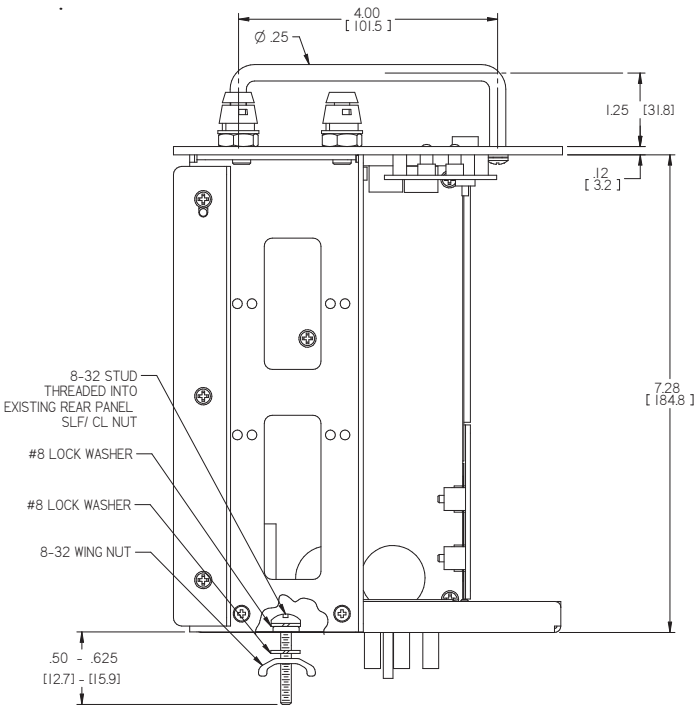
(Dimensions in inches[millimeters]. Not to scale.)



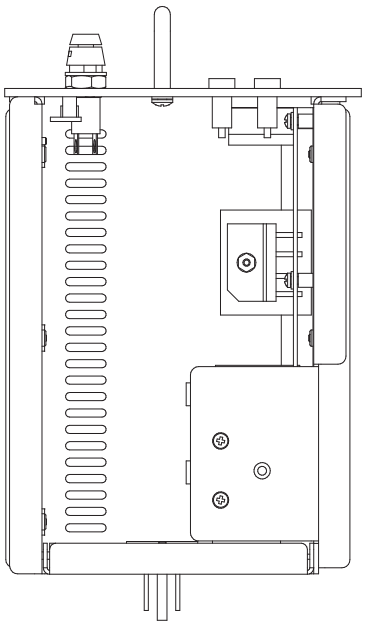
BACK



FRONT



SIDE



TOP

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Jasper Electronics

INNOVATIVE SPECIALTY DC POWER SYSTEMS

Standard and Custom Power Supplies from 5W to 10KW

TRAFFIC CONTROL POWER SUPPLIES



- 70-400+ Watts / 120 and 220 VAC Models Available
- CALTRANS TEES, NYSDOT, CDOT, GDOT Compliant for 332, 334, 336, 342, 344, and 346 Series cabinets
- RoHS and NEMA Compliant
- Custom labeling and barcoding available
- Ruggedization against shock / vibration / humidity available

CUSTOM POWER DISTRIBUTION ASSEMBLIES (PDAs)



- Compliant with TEES 2020
- 1U smaller than the PDA2-LX and PDA3-LX
- User accessible slots as specified
- Custom labeling and barcoding available
- Ruggedization against shock / vibration / humidity available

COMPACT PCI



- AC or DC input, 175W - 500W DC output, active PFC
- 3U x 8HP, 6U x 8HP sizes
- PICMG 2.11 compliant, UL/CSA, NEMKO/TUV/CE certified, ROHS compliant
- Ruggedization against shock/ vibration/ humidity optional

Primary Applications: Industrial Computing, Military, Satellite Comm, Test, Transportation, Telecom, Aerospace

SPECIALTY HOT-SWAPPABLE POWER SUPPLIES



- 200-1500W, Universal Input, 5-54VDC Output
- Hot Swap. N+1, 90+% Efficiency
- 1U Form Factors
- 30+ Variations for Various Applications Including Nuclear
- Ruggedization against shock/ vibration/ humidity optional

Primary Applications: Medical Equipment, Military, Test, Automotive, Computing, Audio, Sensitive Electronics

RACK POWER SYSTEMS



- 200W-1500W, 2-8 slots, single or mixed output voltages, up to 10KW total
- Single, dual, or individual unit AC or DC input
- Internally or externally redundant DC outputs
- Standard 19" and 23" size or user-specified configurations also available
- Ruggedization against shock/ vibration/ humidity optional

Primary Applications: Medical Equipment, Military, Test, Automotive, Computing, Audio, Sensitive Electronics

CUSTOMS & MODIFIED STANDARDS



- 75W-2KW
- Single to 7 outputs
- Designed and built to custom or semi-custom specifications
- Ruggedization against shock/ vibration/ humidity optional
- Custom electrical specs, chassis, paint, labeling, connectors, interface all available

Primary Applications: Medical Equipment, Military, Test, Automotive, Computing, Audio, Sensitive Electronics

LOW NOISE CONVECTION / CONDUCTION COOLED POWER SUPPLIES



- 200W-500W, 90—264VAC full range input with 12-54 VDC Output
- Wide operating temperature range / high efficiency
- Small form factors
- Ruggedization against shock/ vibration/ humidity optional

Primary Applications: Medical Equipment, Military, IT, Sensitive Electronics

MEDICAL ADAPTERS



- 6W-250W, Efficiency levels V & VI
- Desktop, Wall-mount, and Interchangeable AC plug types
- Large selection of output connectors – additional cable lengths available
- UL60601 (medical) approved adapters available
- Ruggedization against shock/ vibration/ humidity optional



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