

WE GO THE DISTANCE FOR YOU



Traffic UPS

Caltrans Approved BBS

TEES, July 2009, TEES Errata1, Jan. 2010,
TEES, Ch. 4 - BBS, July 2009 Certification

Product Info

- Suitable for wide temp range applications (-37°C to +74°C).
- Backs up power to traffic control and signal equipment.
- Anderson Powerpole connectors.
- Fits in all types of traffic enclosures, control panels and custom pedestals.
- Low harmonic AC sine wave output in backup mode.
- Fully programmable AC threshold voltages.
- Transient voltage protection from damaging spikes & surges.
- External connections accessible from the front panel.
- Six fully programmable dry contacts for greater control.
- Backlit LCD Display and LEDs indicators.
- Remote access via RS-232, USB & Network.
- Time / Date stamp of events and alarms – up to 100 events.
- Temperature-compensated charging. Maximizes battery life in harsh environments.

Traffic UPS Specifications TRTC-2002-N1

ELECTRICAL INPUT	
Voltage Range, VAC	90 to 150 programmable Default 100 to 130 +/- 2VAC
Frequency, Hz	60 +/- 3 Hz
Maximum Input Current, A	30 A (Resistive)
Inrush Current	Load Dependent
Over current Protection	Double pole single throw circuit breaker rated 30 A for input and output DC bus 60 A breaker
Transient Suppression	MOV transient suppression elements (>150 V)
Step Load Response (50% Load Charge)	1/2 Cycle Full Recovery (Full resistive load)
Short Circuit Protection	15 A Circuit Breaker
Battery String Voltage, VDC	48 (Four 12VDC Batteries)

ELECTRICAL PERFORMANCE	
Transfer Time	
- Controller	4 to 10 ms
- PTS	<30 ms
- TOTAL	<65 ms
Efficiency, Line Mode	>95% (Resistive Load)
Efficiency, Inverter Mode	>80% (Resistive Load)

ELECTRICAL OUTPUT	
Apparent Power, VA	2000VA (Inverter Mode) 2000VA (Line Mode)
Active Power, W	1500 (Inverter Mode) 1500 (Line Mode)
Power Factor	0.75
Output Voltage, VAC	120 nominal
Line and Buck/Boost Mode	100-130 +/- 2 VAC (follows input voltage)
Inverter Mode	120 VAC +/- 5%
Frequency, Hz	60 +/- 0.4 Hz
Transformer	Linear (non-isolated)
Output Waveform	Sine Wave
Output Waveform THD	<3% (Resistive Load)
Load Crest Factor	3:1 (Max)
Overload Capacity	110% for 3 min.



FUNCTIONS	
Brownout Protection	Unit boosts output voltage (or transfers to battery) during brownout or low input line conditions and returns to normal when input power stabilizes over user-selected time period. Setpoints for Transfer / Retransfer, To / From Battery / Boost are user programmable.
Generator Compatibility	Generator mode allows wider variation in input voltage and frequency for use with an AC generator
Battery Charger 10 A	PFC switch-mode, two-stage charger, temperature compensated (-2.5 to -5 mV/°C/cell), auto shutoff about 50°C
Inverter Mode	Capable of running continuously in inverter mode
Inverter Mode Current Limit	Continuous electronic current limit is provided
Remote Monitoring	- Input and output voltages - Input line frequency - Output power - Battery voltage - Battery temperature

CONTROL TERMINAL BLOCK	
Functions	A. Provides 6 sets of programmable contacts at pin 1 thru pin 18 for intersection flash control, Remote Alarms, Pagers or other user interface. 1. "Low Batt": batteries have reached approximately 40% capacity remaining 2. "On Batt": unit is in inverter mode 3. "Timer": unit has been in inverter mode for 2 hours (programmable) 4. "Alarm": any of the following conditions occur: a. Line Frequency error b. Low Output voltage c. No Temperature Probe d. Overload e. No battery connected f. High temperature g. Low temperature 5. "Fault": any of the following conditions occur: a. Short circuit b. Batt low voltage c. Batt high voltage d. High temperature e. Overload B. Provides 48 VDC signal to PTS on pins 21 & 22 C. Triggers self-test by momentarily shorting pin 19 & 20 with less than 100 ohm
Contact Type	Form C. Dry contacts rated 1 Amp at 240 V
Wiring	Uses 14-26 AWG

COMMUNICATIONS	
RS-232/USB/Ethernet ports	Monitors, controls with terminal emulation software
RS-232	DB-9, Female, Opto-Isolated, straight-thru cable
USB	B-Type receptacle
Ethernet (Optional)	10/100 Mbps Ethernet, auto-detected
Display Panel	2-line LCD

ENVIRONMENTAL	
Operating Temp °C	-37 to +74°C (See Notes 1 & 2)
Storage Temp °C	-50 to +75°C
Humidity	<95% non-condensing
Altitude, ft (m)	10,000 (3000) (See Note 2)

MECHANICAL	
Dimensions (WxDxH) inch/mm	W 17.5/444 - 19/483 w/flange D 10.5/267 H 5.25/133 - 3 U
Weight (lb/kg)	46.2/21
Mounting	19" (483 mm) rack or shelf mount
Input Connection	Anderson PowerPole Pak Connector
Output Connection to Loads	Anderson PowerPole Pak Connector
Cooling	Microprocessor controlled, 12 VDC, 3.6" (92 mm) fan
Audible Noise Level, dBA	<40
MBS/PTS Dimensions (WxDxH) inch/mm	W 17.5/444 - 19/483 w/flange D 8.5/216 H 3.5/89 - 2U
MBS/PTS Weight (lb/kg)	7.0/3.2
MBS/PTS Mounting	Shelf or 19" rack mount
MBS/PTS Input Connection	Hardwire Terminal Block
MBS/PTS Output Connection to Loads	Hardwire Terminal Block
MBS/PTS Output Connection to UPS	6 foot cable with Anderson Power-Pole Pak Connector to UPS
MBS/PTS Cooling	Convection (approx 7 W contractor coil dissipation)

DESIGNED TO CONFORM TO	
Meets	TEES, July 2009, TEES Errata 1, Jan 2010, TEES, Ch. 4 - BBS, July 2009
EMI	FCC Class A
Surge Immunity	Tested to: IEC 1000-4-5, IEEE C62.41

- Between 55' and 7 4' C, the unit is de-rated to a maximum rectified-capacitive load of 1500VA / 1200W.
- De-rate operating temperature above 4900 ft (1500m) by 2° per additional 1000 ft (300m).



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