Tracewell Systems

567 Enterprise Drive Westerville, OH 43081 1.800.848.4525 phone 614.846.6175 fax 614.846.4450 www.tracewellsystems.com

Data Sheet

Tracewell S33-1U for VME64x

2-slot Rugged Rack/Benchtop System

Description

The Tracewell S33-1U for VME64x is the industry's highest performance 2-slot 1U VME64x chassis. Featuring increased power and cooling, system monitoring, and a rugged machined design, S33-1U is ideal for the latest generation of high-performance processors used in government/military and data/ telecom applications.

To accommodate the heat generated by high-density boards, the S33-1U employs a push/pull cooling scheme providing cooling for of up to 75 watts for each of two VME64x slots. The unique push/pull design provides the added pressure performance needed to overcome the backpressure of these highly restrictive boards. The result is evenly distributed cooling and minimal temperature rise. A 250-watt power supply provides high current 5V and 3.3V current as well as isolated cooling.

To help maintain critical power and cooling operating conditions within the chassis, the S33-1U employs enhanced processor-based monitoring Allowing greater flexibility and software control, it particularly useful in remote monitoring applications. A serial interface and front panel LEDs provide real-time temperature and voltage status to the user.

The S33-1U provides greater stiffness than similar 1U chassis due to its unique machined design. Rather than thin formed steel, the S33-1U top and bottom covers are machined from 0.125" aluminum. This approach allows for thick material to be used in most areas other than the shielding interface resulting in less flexure and better heat distribution.

Tracwell's S33-1U for VME64x provides the solution for critical high-performance applications where cooling and robust design are a must.

Features

- True-1U rugged machined designed
- Advanced push-pull cooling for up to 75W per slot
- Multi-point temperature monitoring
- 2-slot VME64x backplane with P0
- Software-based monitoring with serial interface
- EMI shielded design
- 24 and 48VDC input options available
- Ideal for high-wattage processors

MEMBER VITA Open Standards, Open Markets

ISO 9001:2000

Physical

Construction:	Aluminum sheet, 5052-H32 alloy; top and bottom covers (.125”) Steel sheet, ASTM A366; front/rear upper/lower cardcages (.060”), sides (.050”) Aluminum Extrusion, 6101-T6 alloy; cardcage front profile Cardguide, snap-in, .062” pcb thickness, nylon, UL 94V-2 flame rated material Cardguide entry, snap-in, .062” pcb thickness, nylon, UL 94V-0 flame rated material Front door, .125” thickness, tinted, GE Lexan 500, UL 94HB flame rated material
Cardcage:	Front: 6U x 160mm, recessed, 2 slots, IEEE 1101.10; Rear: 6U x 80mm, recessed, 2 slots, IEEE 1101.11 compliant
Dimensions:	14.68” D (373 mm) 17.31” W (440 mm, less rack flanges) 19.00”W (483 mm, including rack flanges) 1.72”H (44 mm, 1U)
Weight:	10 lbs. (4.5 kg)
Finish:	Textured paint, carbide black; all exterior surfaces; All other aluminum is brushed clear chromate per MIL STD 5541, steel is brightzinc plate
Additional:	(2) removable rack flanges, (4) removable feet, (1) removable linecord, removable/hinded tinted polycorbonate front door

Backplane

Bus Structure:	VME 32-bit and 64-bit extension compatible
Assembly:	SMT and press-fit assembly
Layer count:	10
Control:	Active automatic bus-grant and IACK jumpering, passive termination
PCB construction:	FR4 epoxy-glass laminate, multilayer, all-stripline, SMOBC, silkscreen on two sides, 1oz. copper signal and power planes minimum, UL94V-0, .154”(3.9mm) pcb thickness
Impedance:	50 Ohms nominal on all signal lines, non-loaded pcb
Termination:	Passive onboard, mechanically inboard; 330/ 440 voltage divider networks
Decoupling:	High frequency per slot (0.1mF SMD ceramic); Bulk distributed low frequency (100mF SMD Tantalum)
Connectors:	J1/J2 connectors, IEC-603 160 pin, 5 row, all slots; J0 connectors, IEC-1076-4-101 130 pin feed-thru connectors (2mm 7 x 19) with shrouds, all slots
Rear I/O:	Extended tails and shrouds on J0 and J2, all slots
Compliance:	ANSI/VITA 1.1-1997

*Power **

Total output:	250 watts; maximum for all outputs combined
Input:	90 - 265VAC with active PFC
Frequency:	47 – 63 Hz
Efficiency:	>65% typical at full load
Input current:	6A at 120VAC; 3A at 240VAC
Inrush current:	30A peak at 115V; 60A at 240VAC
Hold-up time:	17ms minimum
DC outputs:	+5.0V/ 25A, +3.3V/ 20A, +12V/ 12A, -12V/ 0.5A, -5V/ 0.5A, +5VSTBY/ 3A (combined ouput of 5V and 3.3V shall not exceed 150W)
Minimum Load:	None
Protection:	Overvoltage and overcurrent; automatic recovery

Cooling

Airflow:	Front intake, side exhaust, push-pull design; chassis and power supply are cooled independently
Fans:	(7) 15 CFM, high pressure tube-axial, 12Vdc
Performance:	350 LFM per slot (free air); demostrated cooling for up to 75W per slot at 55 deg C
Control:	Temperature-based speed control

Control and Input

Switches:	Rear panel on/off
Power input:	Rear panel IEC320 inlet connector
Circuit protection:	Power supply internal breaker resets by cycling AC or front panel on/ standby switch

Monitoring

Interface:	Front panel LED visual indicators; rear panel RS232 interface
Functions:	Power: DC output over and under voltage verification for PS outputs +5, +3.3, +12, -12VDC; acceptable output range is +5 to -3%; monitor provides global DC okay/fail as well as individual voltage readings Temperature: 3 temperature sensors measure exhaust air temperature (2 for front subrack, 1 rear); overtemperture warning at 60 deg C; monitor provides global Overtemperature okay/fail as well as individual temperature sensor readings
Outputs:	Front panel: global DC okay LED (green; on=okay, off=fail), Overtemperature LED (red; on=fail, off=okay) RS232 Output: Rear panel 9-pin (AMP #747321-4): provides global DC okay and temperature status as well as providing specific voltage and temperature readings for all sensors All output warnings are latching and drive both a front panel LED state change and RS232 fail command; auto-recovery after fault removed Specific voltage and temperature readings must be polled by user (consult factory for command set)

Environmental

Temperature:	0°C to +55°C operating; -40°C to +70°C non-operating
Shock/ Vibration:	Basic transportation
Humidity:	5 – 95% non-condensing at 40°C operating, 0 – 95% non-operating
Acoustic:	< 58 dBa (1 meter) with fans at low speed; < 70 dBa full speed

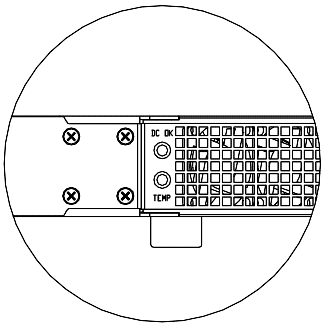
Agency Compliance **

Designed to meet or exceed the following:

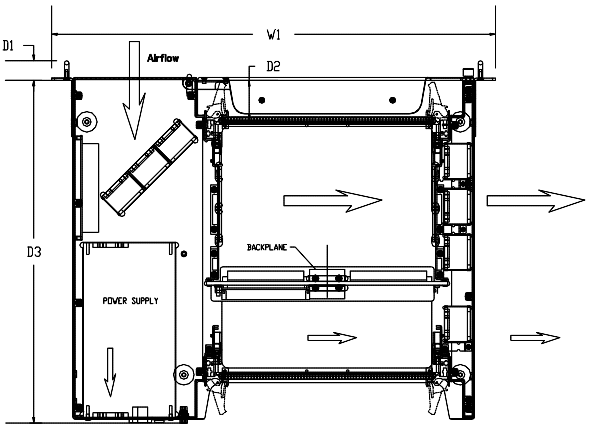
Safety:	UL/cUL
Emissions:	FCC Part 15, subpart B class B and CISPR 22

Warranty

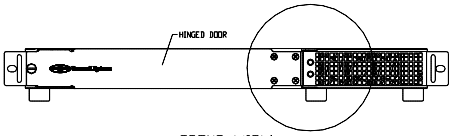
1 year limited warranty



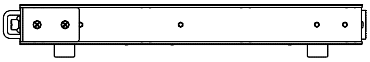
FRONT PANEL DETAIL



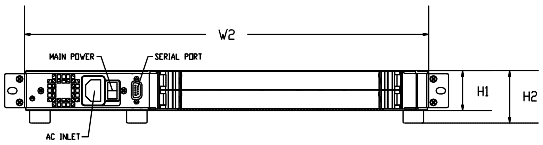
TOP VIEW (LESS COVER)



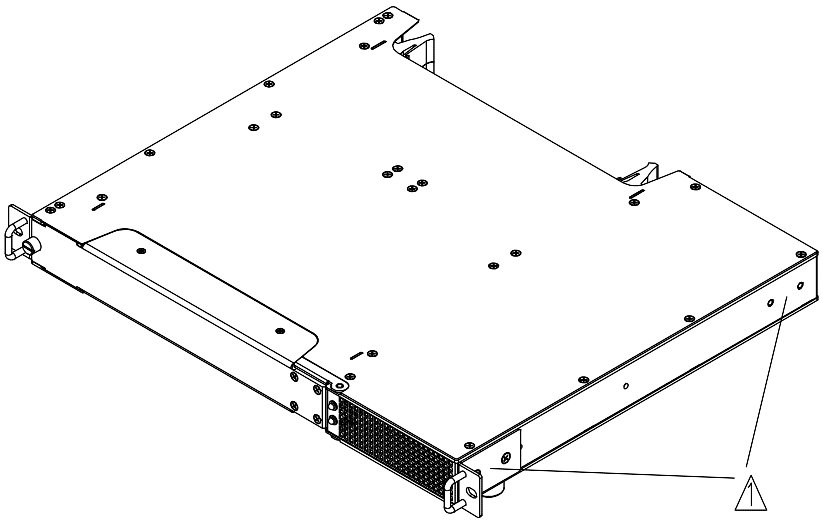
FRONT VIEW



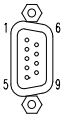
SIDE VIEW



REAR VIEW



SERIAL PORT PINOUT



PIN	ID
1	NC
2	RXDA
3	TXDA
4	PIN 6
5	GND
6	PIN 4
7	RTSA
8	CTSA
9	NC

Dimensions:

D1: 0.84” (21 mm)
D2: 1.72” (44 mm)
D3: 14.68” (373 mm)

W1: 19.00” (483 mm)
W2: 17.31” (440 mm)

H1: 1.72” (44 mm, 1U)
H2: 2.25” (57 mm)

Notes:

⚠ Rack flange alternate rear-mount location

567 Enterprise Drive Westerville, OH 43081 1.800.848.4525 phone 614.846.6175 fax 614.846.4450 www.tracewellsystems.com

Ordering Information
The S33-1U is available in the following standard configuration(s):

Part number	**Description**
533-6150-F00-00	Tracewell S33-1U for VME64x,2-slot,250W,M2

Accessories

014-6001-001-0P	Shielded single-slot filler panel, 6U X 4T; installs in vacant slots

Notes:

* Additional power supply options including 24 and 48VDC input available. Consult factory for more details.

** Agency compliance applies to the power supply only, as shipped from Tracewell Systems. As an option, Tracewell Systems can evaluate agency compliance for the customer's specific integrated product. Consult factory for more details.

095-6030-000-0P_110902