Tracewell Systems

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

Data Sheets

Tracewell S24 for VXI bus

6-Slot Benchtop/Portable VXI System

Description

The Tracewell S24 for VXI is the ideal test and development platform for any VXI application. Featuring increased power and cooling capacity, small size and low weight, S24 is perfect for use in the field or the lab. These features, combined with the ability to operate as a desktop or portable system, make it the ideal platform for software and board-level development as well as manufacturing and test.

A full-featured VXI platform, the Tracewell S24 for VXI provides space for up to 6 C-size VXI boards. A rigid steel cardcage and formed aluminum housing add strength without excessive weight. The flush front cardcage and open back give unrestricted access for probes and cabling. Two high-performance 150 cfm fans supply enough airflow to cool even highly restrictive boards. An 800-watt power supply provides ample power with power factor correction and universal AC input. A 6-slot C-size VXI auto-configuring backplane uses special DIN connectors to deliver higher current per pin and SMD/press-fit assembly for speed and reliability. Other standard conveniences include LED voltage indicators and pull-down feet for better accessibility. An optional removable rear cover is also available.

With compact size and increased cooling and power per slot, the Tracewell S24 for VXI is ready to support the latest generation of high performance VXI instrumentation.

Features

- Compact bench-top design; <15" overall height
- Flush vertical subrack for improved access
- (2) 150 cfm high-pressure cooling fans
- 800 watt power supply with PFC
- 6-slot high-current VXI backplane
- Rear of backplane fully accessible for probing and I/O
- Removable rear cover option
- Rugged steel and aluminum construction

VXI bus

ISO 9001 certified

Physical

Construction:	***Sheet aluminum***, 5052-H32 alloy; housing and power supply cover (0.080") optional rear cover (0.062"), ***Sheet steel***, ASTM A366; upper/lower cardcages (0.060") ***Aluminum extrusion***, 6101-T6 alloy; cardcage front and mid profiles ***Cardguide***, snap-in, 0.062" pcb thickness, white nylon, UL 94V-2 flame rated material
Cardcage:	Front loading, 6U x 340mm 'C' size, 6 slots maximum, IEEE 1101.1 compliant
Dimensions:	16.02"D (407mm), 12.09" W (307mm), 15.68" H (399mm)
Weight:	23.7 lbs. (10.8 kg)
Finish:	Textured paint, Carbide Black per Sherwin Williams F63B12; all exterior surfaces; All other aluminum is brushed gold chromate per MIL-STD 5541, steel is black paint over primer
Feet:	(4) non-skid feet with front pull-downs that tilt the chassis, providing an improved working angle
Rear cover:	Optional rear cover protects backplane and wiring during transport or non-use; attaches using (4) thumbscrews

Backplane

General:	6 slot, VXI 'C' size monolithic, 96 pin high current DIN connectors
Bus structure:	VXI 32/64 bit
Assembly:	SMT/press-fit assembly
Layer count:	8 layers
Control:	Active automatic bus-grant and IACK jumpering, active termination
PCB construction:	FR4 epoxy-glass laminate, multilayer, all-stripline, SMOBC, silkscreen on two sides, 1oz. copper signal and power planes minimum, UL94V-0, 0.125" (3.18mm) pcb thickness
Impedance:	50 Ohms nominal on all signal lines, non-loaded pcb
Termination:	Active onboard, electrically inboard; Thevinin equivalent to 194 Ohms at 2.94V
Decoupling:	High frequency decoupling at each slot (0.1F SMD ceramic); Bulk distributed low frequency (100F SMD Tantalum)
DC distribution:	Power bolts on all voltages and and return (70A rating)
Compliance:	VXI-1 Rev. 1.4

Power

General:	800W, AC input with PFC
Total output:	800W, maximum all output combined
Input:	90 – 264VAC, universal input
Frequency:	47 – 440 Hz
Efficiency:	70 - 80% typical
Power factor:	0.99 with PFC
Input current:	13A at 90VAC; 5A at 230VAC
Inrush current:	40A maximum peak
Hold-up time:	20 ms minimum after removal of power at full load
ACFAIL:	Logic low signal asserted to backplane after removal of AC
DC outputs:	+5V/45A, -5.2V/45A, -2.2V/35A, +/-24V/4A, +/-12V/4A
Output adjustment:	All output adjustable +/-10%
Ripple/Noise:	Less than 1% peak-to-peak or 50mV, whichever is greater; bandwidth limited to 20MHz
Load requirement:	10% minimum load required on + and – 24VDC
Remote sense:	All outputs, 500mV maximum compensation
Inhibit:	Global DC inhibit available (not wired)
Cooling:	Dual internal DC fans

Cooling

Airflow:	Front/ bottom intake, top exhaust, evacuated
Fan:	(2) 150 cfm, tube-axial, 12VDC

Control and Input

Switches:	Front panel: AC on/off (rocker); backplane reset (pushbutton, momentary)
Reset control:	200ms debounced reset to backplane; asserted by front panel reset switch or VME module
SYSFAIL:	Signal driven only by backplane VME modules; front panel LED is only a status indicator
Indicators:	Front panel SYSRESET, SYSFAIL (red), power-on (green) LED indicators and individual LED power indicators for +5, -5.2, -2.2, +/-24, +/-12VDC
Power input:	Rear panel AC (IEC320) with fuse drawer, line cord provided
Circuit protection:	Rear panel single pole fuse drawer, 12A delay 1.25" x 0.25" fuse, spare provided

Environmental

Temperature:	0 – 50°C operating; -20 – 70°C non-operating
Shock/Vibration:	Basic transportation per ASTM 0775
Humidity:	5 – 95% non-condensing at 40°C operating, 0 – 95% non-operating
Acoustic:	<55 dBa (1 meter)

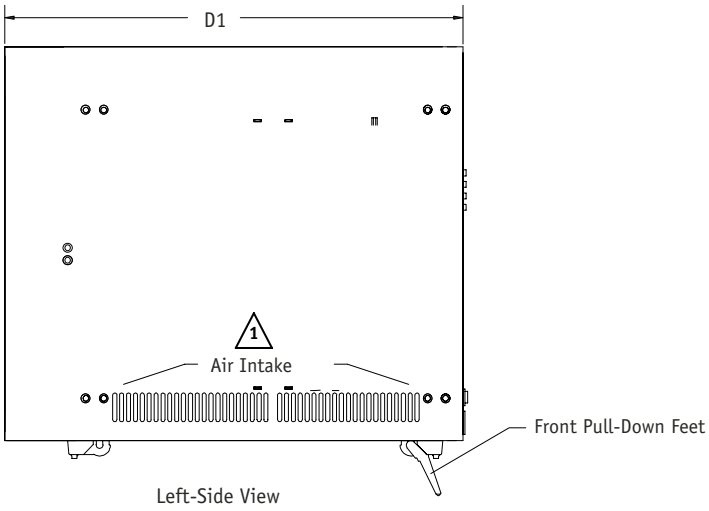
Agency Compliance†

Safety/Emissions:	Information available for power supply only Consult factory for more details

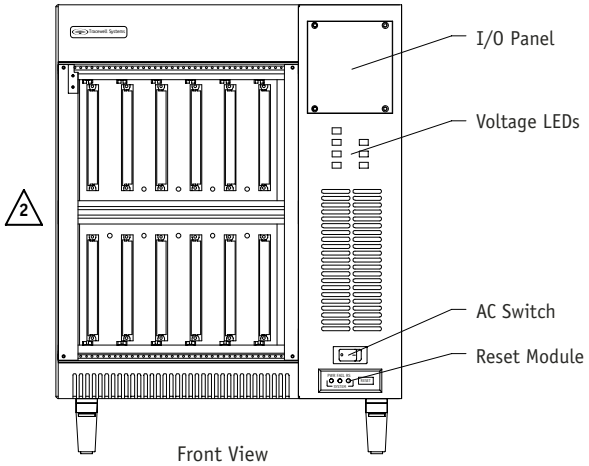
Warranty

1 year limited warranty

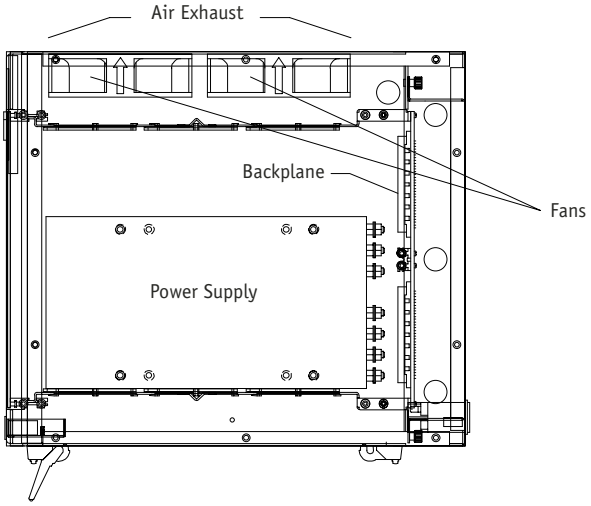
Main Assembly



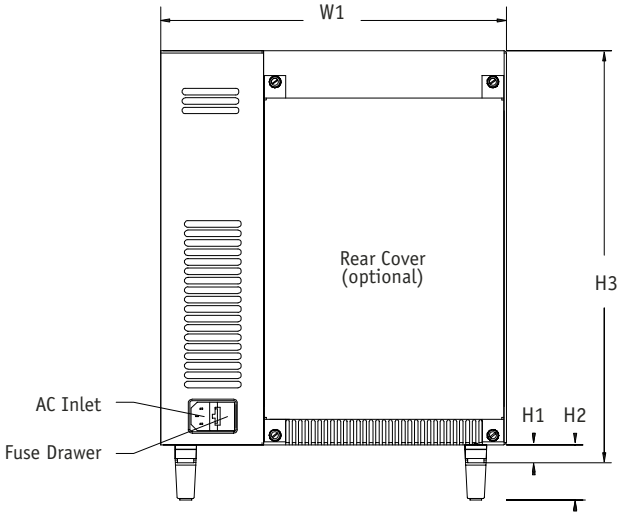
Left-Side View



Front View

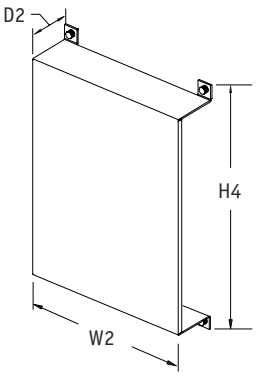


Right-Side View (internal)



Rear View (with optional rear cover)

Sub-Assemblies and Options



S24 VXI Rear Cover Kit

Dimensions:

D1: 16.02" (407 mm)
D2: 2.00" (51 mm)
W1: 12.09" (307 mm)
W2: 8.36" (213 mm)
H1: 0.63" (16 mm)
H2: 1.93" (49 mm)
H3: 14.39" (366 mm)
H4: 12.78" (325 mm)

Notes

1. Do not block intake or exhaust vents
2. For optimum cooling, air restrictor plates should be installed in unused slots

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Ordering Information

The Tracewell S24 for VXI includes chassis, backplane, power supply, and cooling per the following standard configurations:

Part number	Description
524-6100-F00-00	Chassis with 6-slot VXI backplane, 800W power supply

Accessories

106-1006-099-01	Non-shielded single-slot filler panel, 6U X 8T; installs in vacant slots
109-1249-099-01	Subrack air restrictor plate, 6T x 340mm
124-2060-001-01	S24 VXI rear cover kit, includes (4) 6-32 thumbscrews

Notes:

† As an option, Tracewell Systems can evaluate agency compliance for the customer's specific integrated product. Consult factory for more details.

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