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Tracewell Systems

Data Sheets

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Tracewell S22

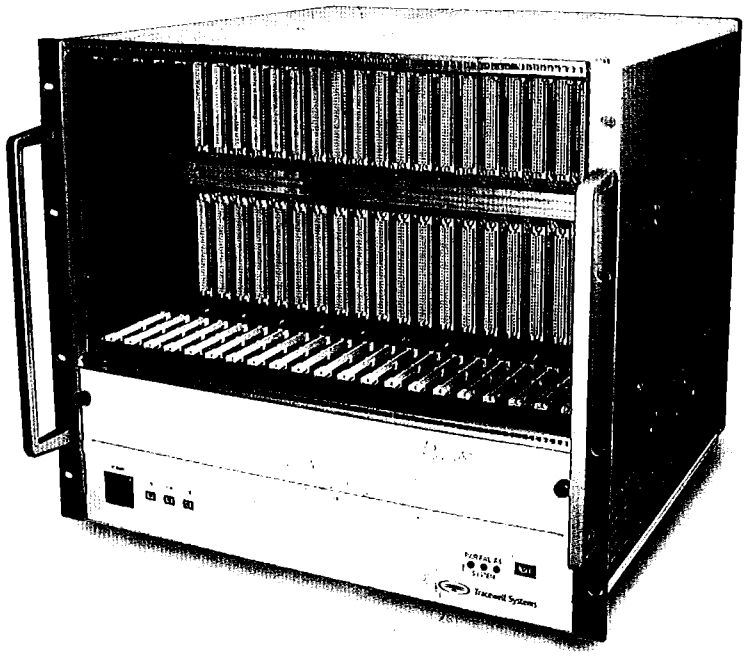
12-21 Slot VME Rackmount System

Description

The Tracewell S22 is designed for I/O intensive VMEbus applications requiring high power and cooling capacity. This rugged design includes a number of standard features making Tracewell S22 ideal for any commercial or industrial requirement.

The Tracewell S22 is a solid, serviceable chassis that is easy-to-use and maintain. Solid design consists of a formed steel cardcage, 0.125" thick aluminum sides and extrusion frame construction, providing strength without excessive weight. Standard on Tracewell S22 is a front plugging, high-capacity fan tray, which produces 390 cfm of airflow. Perfect for rack installations, the cooling system takes air in through side vents and pressurizes a plenum area below the cardcage for consistent cooling across all slots. Side intake and top exhaust allow this unit to work in bench-top and top-evacuated racks without effecting cooling performance. System power includes a robust 750 watt power supply providing up to 120 amps of +5 volts, universal input and power factor correction. Similar to the fan tray, the power supply is also mounted in a plugging tray for ease of access. Estimated MTTR for cooling or power is less than 5 minutes. Tracewell S22 was designed to support rear I/O and cabling with a standard 21-slot rear transition rack. Depending on the number of system boards, 12 and 21-slot backplanes are offered providing 32 and 64-bit support, auto-configuration and SMD/press-fit assembly for speed and reliability. Both front and rear cardcages are flush mount allowing direct access for cabling. Options include a front storage bay housing up to four 5.25" half-height devices, rack slides and a rear cover panel.

Well-engineering performance in an easy-to-use design makes Tracewell S22 the perfect choice for both new and existing VMEbus applications.



Features

- Rugged steel and aluminum construction
- Versatile 19" rack or bench-top operation
- High-capacity cooling from (3) 130 cfm fans
- Powerful 750W power supply provides 120A of 5V
- 12 or 21 slot backplanes add flexibility
- I/O support with a 21-slot rear transition card
- Auto-configuring backplane is 32 and 64-bit compatible
- Storage bay for four (4) 5.25" devices available
- Plugging power and cooling for MTTR <5 minutes

VMEbus International Trade Association

ISO 9001 certified

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Specifications

Physical †

Option code RS1:	Rack-slide set; non-pivoting, detachable, solid bearing
Construction:	Sheet aluminum, 5052-H32 alloy; right and left sides (0.125"), top and bottom covers, front panels and fan tray (0.050), rear power supply panel (0.100") Sheet steel, ASTM A366; front and rear upper/lower cardcage (.060") Aluminum Extrusion, 6101-T6 alloy; cardcage front and middle profiles and all cross members Cardguide, snap-in, 0.062" pcb thickness, white nylon, UL 94V-2 flame rated material
Cardcage:	Front loading, 6U x 160mm, flush front, 21 slots maximum, IEEE 1101.1 compliant Rear loading, 6U x 100mm, flush rear, 21 slots maximum, mirror image alignment with front cardcage
Dimensions:	17.5"D (445 mm), 19.0" W (483 mm), 15.7"H (9U; 400 mm)
Weight:	42 lbs. (19.1kg)
Finish:	Textured paint, light gray per Sherwin Williams F63TXA9008; all exterior surfaces; All other aluminum is brushed gold chromate per MIL-STD 5541, steel is black paint over primer
Rack-Slides (RS1):	Optional slides include machined side plates, provided installed Length: 20" with 2" rear bracket kit provided; load <125 lbs.

Backplane

Option code B1:	21 slot, VME 32/ 64 bit, J1-J2 monolithic, 96 pin DIN
Option code B2††:	12 slot, VME 32/ 64 bit, J1-J2 monolithic, 96 pin DIN; installed left-justified in cardcage
Bus Structure:	VME, 32 or 64-bit compatible
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)
Rear shrouds:	J1 first slot, J2 first and last slots; includes latches
Rear tails:	13mm extended tails on J1 first slot, J2 all slots
DC distribution:	Power bridges for +5VDC and return (140A rating), power bolts for +/-12VDC (70A rating)
Compliance:	VITA Rev. C.1

Power

General:	750W, AC input with PFC
Total output:	750W; maximum all output combined
Input:	90 – 264VAC, universal input
Frequency:	47 – 63 Hz
Efficiency:	75% typical
Power factor:	0.99 with PFC
Input current:	12A at 90VAC; 5A at 230VAC
Inrush current:	50A at 110VAC, 100A at 230VAC
Hold-up time:	20 ms minimum after removal of power at full load
ACFAIL:	Logic low signal asserted to backplane after removal of AC power
DC outputs:	+5.0V/ 120A, +12V/ 12/20Apk, -12V/ 10A
Output adjustment:	Outputs 1, 2 adjustable +/-5%, 3 tracks 2
Ripple/Noise:	Less than 1% peak-to-peak or 100mV, whichever is greater
Load requirement:	Output 1 is >5A and 2, 3 is >1A
Remote sense:	All outputs, 250mV maximum compensation
Inhibit:	Global DC inhibit available (not wired)
Temperature:	25°C operating; 70°C non-operating
Cooling:	(2) internal 20cfm fans
Accessibility:	Power supply installed in a rear accessible, plugging tray

Cooling

Airflow:	Side intake, top exhaust, pressurized
Fans:	Three 130 CFM, tube-axial, 12Vdc
Air filter:	None provided
Accessibility:	Fans installed in a front accessible, plugging fan tray

Storage

Option code S1:	Front accessible storage bay supports (4) 5.25" half height devices (requires TI, B1)
Power harness:	(4) 4-pin IDC, AMP 1-480424-0 or equivalent; (1) 4-pin IE (mini), AMP 171822-4 or equivalent
Peripheral support:	(4) 5.25" half height devices
Cooling:	Utilizes system airflow
Accessibility:	Front removable storage module, tool accessible

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 switch or VME module
Indicators:	Front panel SYSRESET, SYSFAIL (red), power-on (green) LED indicators for +5, +/-12 VDC
Power input:	Rear panel AC inlet (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

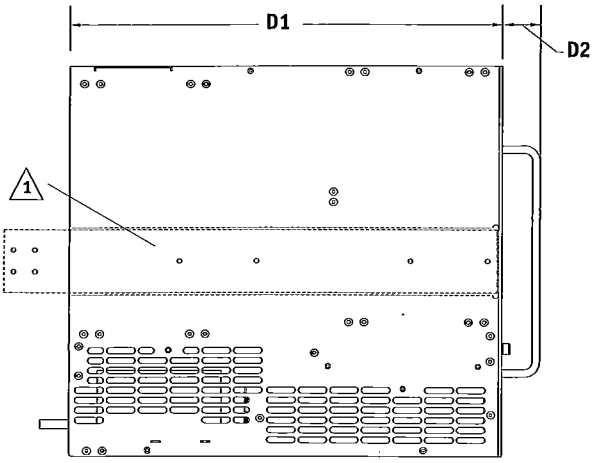
Warranty

1 year limited warranty

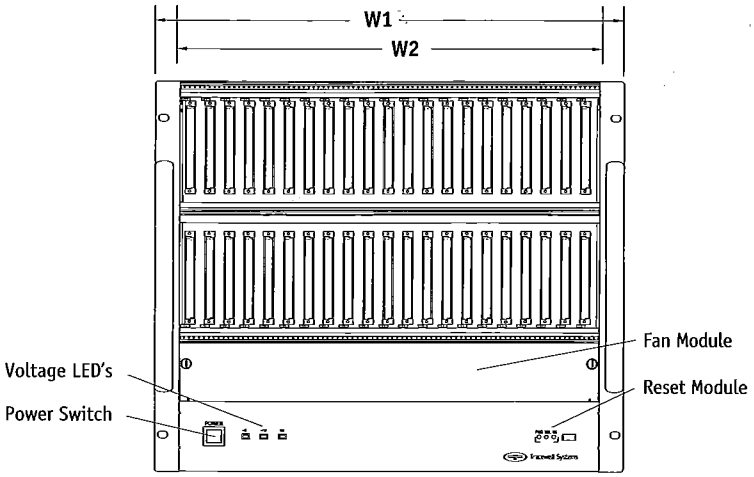
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Main Assembly

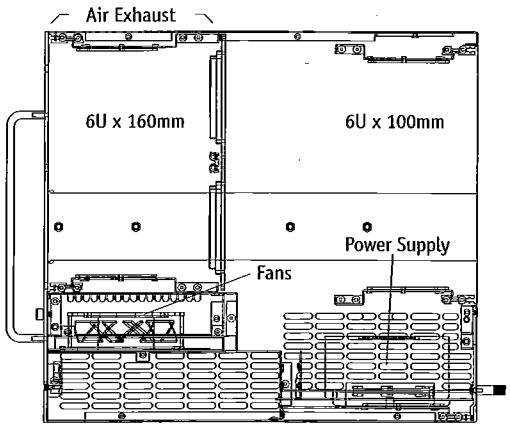
Drawings



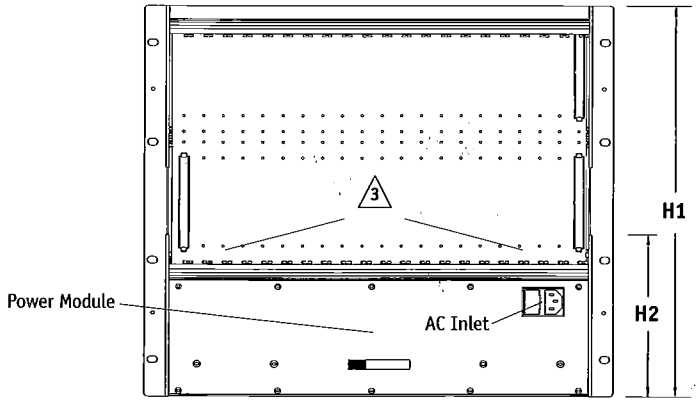
Left-Side View



Front View

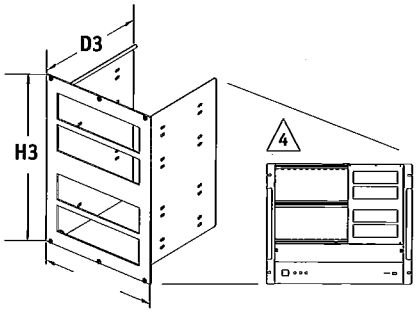


Right-Side View (Internal)

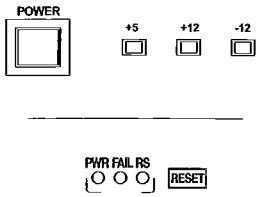


Rear View

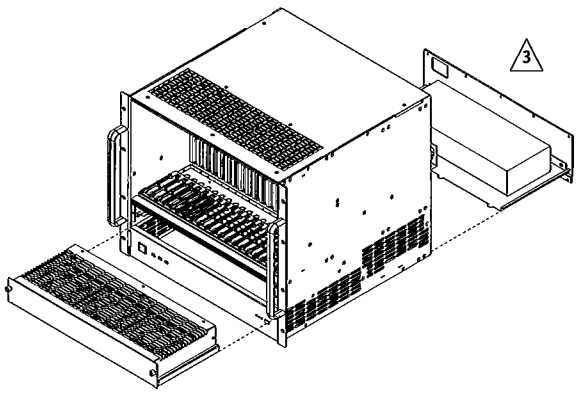
Sub-Assemblies and Options



Storage Bay (S1)



Front Panel Controls (Detailed View)



S22 Isometric View (power and fan modules removed)

Dimensions:

D1: 17.50" (445 mm)	W1: 19.00" (483 mm)	H1: 15.72" (400 mm, 8U)
D2: 1.53" (39 mm)	W2: 17.25" (438 mm)	H2: 6.51" (166 mm)
D3: 6.35" (161 mm)	W3: 7.27" (185 mm)	H3: 10.32" (262 mm)

1. Installed optional rack slide (RS1) shown
2. Rear transition rack mirrors front cardcage
3. WARNING! Disconnect power before servicing
4. Installed optional storage bay (S1) shown

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Ordering Information

The Tracewell S22 includes chassis, backplane, power supply and cooling per the following standard configurations:

Part number	Description
522-6000-F00-00	S22 21 slot VME backplane (B1), 750W power supply
522-6000-F01-00	S22 21 slot VME backplane (B1), 750W power supply, Rack-Slides (RS1)
522-6000-F10-00	S22 12 slot VME backplane (B1), 750W power supply
522-6000-F11-00	S22 12 slot VME backplane (B1), 750W power supply, Rack-Slides (RS1)
522-6000-F12-00	S22 12 slot VME backplane (B1), 750W power supply, Storage (S1)
522-6000-F13-00	S22 12 slot VME backplane (B1), 750W power supply, Rack-Slides (RS1), Storage (S1)

Accessories	
106-1020-099-01	Non-shielded, 21 slot filler panel, 6U X 85T; install over entire rear transition rack
106-1016-099-01	Non-shielded 12 slot filler panel, 6U X 48T; installs in vacant slots
106-1001-009-01	Non-shielded single-slot filler panel, 6U X 4T; installs in vacant slots
121-6012-099-01	Subrack air block, single slot; snaps into a vacant slot to block airflow
070-9930-000-0P	Shroud, 96 pin
070-9931-000-0P	Shroud latch

Notes:

† Option RS1 must be specified with system order. Rack-slides cannot be added later to non-RS1 systems

†† Option B2 12 slot backplane is installed left justified with slot 1 aligned with left-most slot of the subrack. (1) 9 slot (36HP) front filler panel and (9) air restrictors are installed in the remaining 9 slots (13 – 21) to direct airflow through slots 1 - 12. This option is not available with T2

††† 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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