

Tracewell S27 for VME

12-Slot Rackmount VME System

Description

The Tracewell S27 is designed for VMEbus applications requiring extensive disc storage and I/O. A low-profile design and numerous standard features make Tracewell S27 ideal for any commercial or industrial VME requirement.

Tracewell S27 provides space for up to 12 front loading VME boards and 12 rear loading transition cards. The unit has flush front and rear cardcages for unrestricted external cable access, with plenty of space for internal cabling as well. Occupying only 8U of total rack space, multiple systems can be stacked for 19" rack or bench-top operation without effecting cooling performance. Durable construction includes a formed steel cardcage and 0.125" thick aluminum sides to add strength without excessive weight. Cooling is provided by two 130cfm high-pressure fans drawing filtered air through the chassis and exhausting through the rear panel. A removable rear fan assembly allows access to the power supply and internal wiring, and reduces service time. The power supply includes a 250 or 500 watt option, which provides up to 80 amps on +5V. Both power options have power factor correction and universal AC input. The 12-slot backplane supports both 32 and 64-bit protocol, and features auto-configuration and SMD/press-fit assembly for speed and reliability. Other options include a front storage bay housing up to four 5.25" half-height devices and rack slides.

Available in several standard configurations, Tracewell S27 is the perfect choice for both new and existing VMEbus requirements.



Features

- Low profile, 8U overall height
- 12-slot rear transition cardcage for I/O
- Stackable 19" rack or bench-top operation
- Two 130cfm high-pressure fans for cooling
- 250W or 500W power supply with PFC
- 12-slot auto-configuring backplane, 32/64 bit compatible
- Removable rear fan assembly
- Storage bay option for four (4) 5.25" devices
- Rugged steel and aluminum construction



 Specifications

Physical

Option code RS1†: Rack-slide set; non-pivoting, detachable, ball bearing

Construction: Sheet aluminum, 5052-H32 alloy; right and left sides (0.080"), top and bottom covers (0.062"), front filler panel, rear fan panel and optional rear filler panel (0.100")
Sheet steel, ASTM A366; front and rear upper/lower cardcages (0.060")
Aluminum extrusion, 6101-T6 alloy; cardcage front profile
Cardguide, snap-in, 0.062" pcb thickness, white nylon, UL 94V-2 flame rated material

Cardcage††: Front loading, 6U x 160mm, 12 slots maximum, IEEE 1101.1 compliant
Rear loading, 6U x 100mm, 12 slots maximum, mirror image alignment with front cardcage

Dimensions: 14.0" H (9U; 400 mm), 19.0" W (483 mm), 19.0" D (483 mm)
Weight: 35 lbs. (15.9 kg)
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 paint over primer

Front filler panel: Removable 9 slot (36 HP) front DIN filler panel and (9) air restrictors are installed across the unused front slots 13-21

Rear cover: Optional 12 slot (48 HP) rear filler panel controls airflow by covering rear transition slots when not in use

Rack-Slides (RS1): Option includes machined side plates, provided installed
Length: 20", 2.0" rear bracket kit provided;
Overall load <125 lbs. (Barnes Engineering Co. ST-20-PL)

Backplane†††

General: 12 slot, J1/J2 monolithic, 96 pin DIN; installed left-justified in front cardcage

Bus Structure: VME 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)

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

Option code (PS1): 250W, AC input with PFC
Option code (PS2): 500W, AC input with PFC

Total output: 250W (PS1); 500W (PS2); maximum all output combined

Input: 90 – 264Vac, universal input

Frequency: 47 – 440 Hz (PS1); 47 – 63 Hz (PS2)

Efficiency: 75% typical

Power factor: 0.99 with PFC

Input current: 4A at 90VAC; 2A at 230VAC (PS1); 8A at 90VAC; 3A at 230VAC (PS2)

Inrush current: 20A maximum at 230VAC (PS1); 40A at 120VAC, 80A at 230VAC (PS2)

Hold-up time: 20 ms minimum after removal of power at full load

AC-fail: Logic low signal asserted to backplane after removal of AC power

DC outputs: +5.0V/35A, +12V/10A, -12V/6A (PS1); +5.0V/ 80A, +12V/ 20A, -12V/ 20A (PS2)

Output adjustment: +5V main output adjustable +/-5% (PS1); Outputs 1, 2, 3 adjustable +/-5% (PS2)

Ripple/noise: Less than 1% peak-to-peak or 100mV, whichever is greater

Load requirement: 3A on +5V main output (PS1); Output 1 is >5A and 2, 3 is >1A (PS2)

Remote sense: All outputs, 500mV (PS1) maximum compensation; 250mV (PS2)

Inhibit: Global DC inhibit available (not wired)

Cooling: Internal 30cfm fan

Cooling

Airflow: Front intake, rear exhaust, evacuated

Fans: (2) 130 CFM, tube-axial, 12Vdc

Accessibility: Rear removable fan assembly, tool accessible

Air filter: Front accessible, washable media, 30 PPI

Storage

Option Code S1††††: Front accessible storage bay supports (4) 5.25" half height devices

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 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), and power-on (green) LED indicators

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 ††††

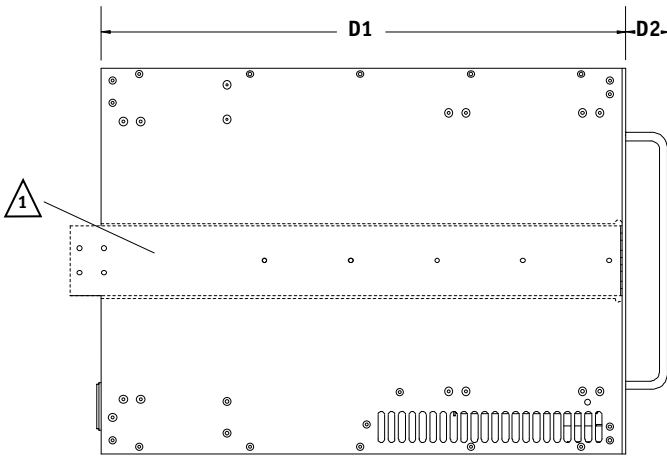
Safety/Emissions: Information available for power supply only
Consult factory for more details

Warranty

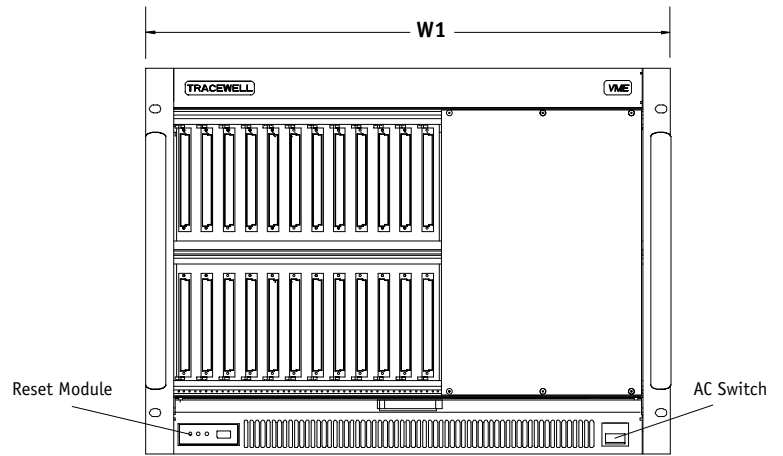
1 year limited warranty

Drawings

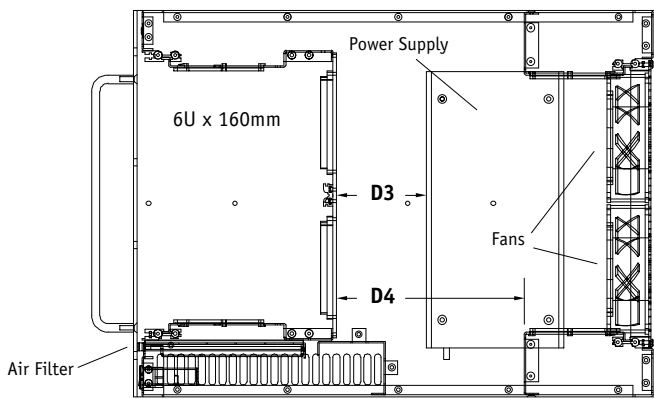
Main Assembly



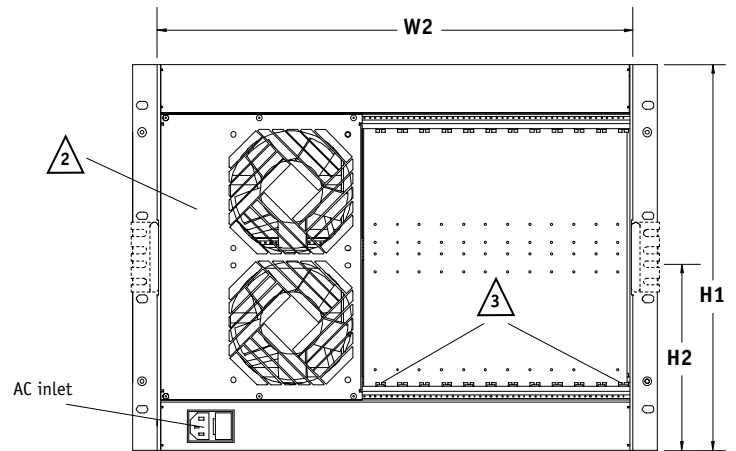
Left-Side View



Front View (front cover removed)

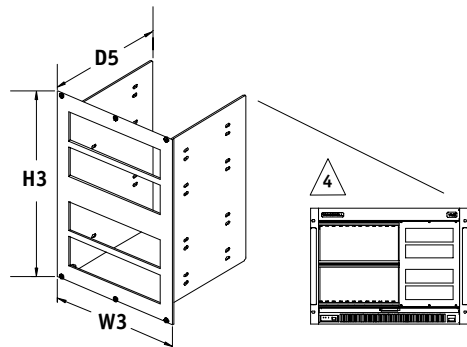


Right-Side View (Internal)

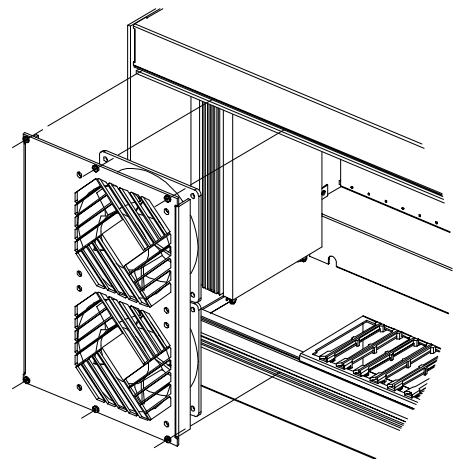


Rear View

Sub-Assemblies and Options



Storage Bay (S1)



Rear View (showing fan assembly removal)

Dimensions:

H1: 13.97" (355 mm, 9U)	W1: 19.00" (483 mm)	D1: 19.00" (483 mm)
H2: 6.11" (155 mm)	W2: 17.25" (438 mm)	D2: 1.53" (39 mm)
H3: 10.32" (262 mm)	W3: 7.27" (185 mm)	D3: 3.24" (82 mm)
		D4: 6.81" (173 mm)
		D5: 6.20" (158 mm)

- 1 Installed optional rack slide (RS1) shown
- 2 Rear fan assembly removes with captive screws (6 places)
- 3 Rear transition rack cardguide mirrors front cardcage
- 4 Optional storage bay (S1) shown installed

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Ordering Information

The Tracewell S27 includes chassis, backplane, power supply and cooling per the following standard configurations:

Part number	Description
527-6000-F00-00	Chassis with 12 slot VME backplane, 250W power supply
527-6000-F01-00	Chassis with 12 slot VME backplane, 250W power supply, Rack-Slides (RS1)
527-6000-F10-00	Chassis with 12 slot VME backplane , 250W power supply, Storage bay (S1)
527-6000-F11-00	Chassis with 12 slot VME backplane , 250W power supply, Rack-Slides (RS1), Storage bay (S1)
527-6001-F00-00	Chassis with 12 slot VME backplane, 500W power supply
527-6001-F01-00	Chassis with 12 slot VME backplane, 500W power supply, Rack-Slides (RS1)
527-6001-F10-00	Chassis with 12 slot VME backplane , 500W power supply, Storage bay (S1)
527-6001-F11-00	Chassis with 12 slot VME backplane , 500W power supply, Rack-Slides (RS1), Storage bay (S1)

Accessories

106-1001-099-01	Non-shielded single-slot filler panel, 6U X 4T; installs in vacant slots
106-1016-099-01	Non-shielded 12 slot filler panel, 6U X 48T; 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
- †† To maintain proper airflow, it is recommended that all unused cardcage slots (front and rear) be blocked with filler panels when not in use. Unused front cardcage slots should also use air restrictors
- ††† The 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) single slot air restrictors are installed in the remaining 9 slots (13 – 21) to maintain airflow through slots 1 - 12
- †††† Option S1 storage bay is provided installed and replaces the front 9 slot DIN filler panel and air restrictors
- ††††† As an option, Tracewell Systems can evaluate agency compliance for the customer’s specific integrated product Consult factory for more details

visit our website at:
www.tracewellsystems.com
or call toll free: 1.800.848.4525