



V1606

3U RACK ENCLOSURE

Installation and Operation

© Pro-Bel Ltd

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1. DESCRIPTION

The V1606 chassis is designed for rack mounting into an industry standard 19" racking system conforming to IEC297-2 (BS5954). The chassis will accommodate up to 14 modules from the V1600 modular product range and an optional Rack Controller card for remote control (either the original V606 or more recent V6081 required for the newer complex modules). The V1606 chassis may be fitted with either single or dual redundant V1610 power supplies. A single PSU chassis may be upgraded to dual redundant format by simply plugging in the second power supply.

The standard V1606 chassis draws cooling air from the front and left hand side and expels air from the right hand side (as viewed from the front). For applications that have insufficient side clearance, there is a version that expels air to the rear (V1606RV).

Changeover contacts presented on a rear connector provide individual indication of loss of output or cooling fan failure for each power supply.

2. INSTALLATION

It is essential that the information in this section is followed, and the warnings/cautions observed.

Caution! This equipment is intended only for installation in a RESTRICTED ACCESS LOCATION.

2.1 UNPACKING

On receipt of the equipment examine the transit packing for obvious signs of damage. If damaged, retain the packaging and inform the carrier immediately.

When the equipment is unpacked check the items against the dispatch note. Visually inspect for mechanical damage and report immediately any shortages or damage to Pro-Bel Ltd, or your Distributor.

Retain the packaging, as it may be useful should it be necessary to return the equipment for repair.

2.2 SUPPLY VOLTAGE CONNECTION

Warning! This equipment does not include a mains disconnect device. To meet the requirements of EN60950/IEC950/UL60950 the supply socket outlet must be installed near the equipment and be easily accessible.

Warning! To avoid electric shock, the power cord protective ground (earth) must be connected earth ground.

Caution! Fitting a fuse of the incorrect rating may cause damage to the equipment.

The V1606 accepts a line voltage of 90 – 265V ac, 45 – 66Hz. No voltage range selection is necessary.



2.3 INSTALLING IN AN EQUIPMENT RACK

Secure the enclosure chassis to the equipment rack by means of the retaining lugs at the front of the unit using four M6 fixing screws fitted with plastic protective washers.

The enclosure uses forced air cooling across the chassis and the standard side ventilation version requires **30mm clearance** for the exhaust air on the right hand side (as viewed from the front). If the installation does not provide this clearance, use of the rear ventilation version (V1606RV) should be considered.

After installing in the equipment rack, ensure that the ventilation slots and fan exhaust holes in the chassis sides are not obstructed in any way.

Caution! Care must be taken to ensure the enclosure chassis is secure in the rack frame and does not represent a hazard to users. Injury may be caused by the enclosure falling from the rack particularly when mounted above head height or where slide mounts are used.

Caution! The enclosure chassis is designed to operate in an ambient temperature of 0° to 35°C. Temperature within the rack mount environment must not exceed +35°C. Ensure localised heating from adjacent equipment does not cause the ambient temperature of the enclosure to rise above +35°C.

2.4 INSTALLING V1600 MODULES

The enclosure will normally be supplied already configured with rear modules from the V1600 range. (Some or all of the modules themselves may be packed separately.) If adding further modules or signal connection information is needed, refer to the manuals for the appropriate module types.

When installing modules in slots that were previously unoccupied, remove the rear connector blanking panel by releasing the four screws and fit the appropriate rear connector panel. When inserting the new rear connector panel, take care that the power supply and remote control connectors at the top and bottom engage correctly. Do not use excessive force.

Ensure that adequate strain relief is provided for all cabling.

Caution! Do not connect a 10/100baseT Ethernet network to the RJ45 connector. This is used for DARTnet remote control network.

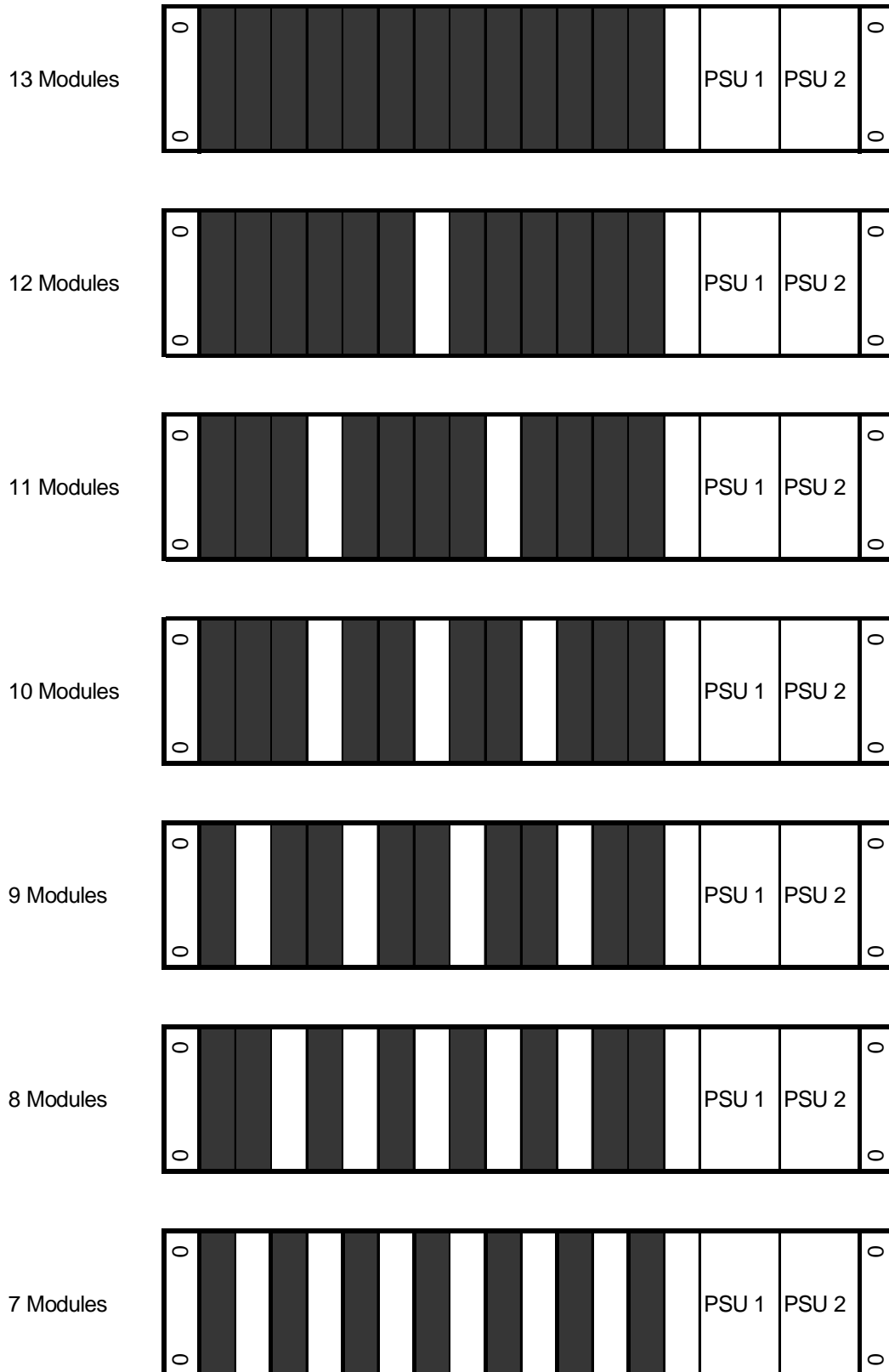
Caution! The V1606 chassis is designed to accept modules from the following manufacturers only:- Vistek Electronics Ltd, V1600 and V6000 range. Broadcast Technology Ltd (BTL), 3000 range. DB Broadcast Ltd, Hawkeye range.

In all cases the maximum power of each module must not exceed 15W. The supply voltage is 15V \pm 0.5V protected by a 1.6A re-settable fuse.

Customers wishing to configure their own racks for optimum cooling should distribute modules as shown below. The slot numbering convention runs from slot 1 at the left, to slot 14 at the right, adjacent to PSU 1 (as viewed from the front).

Where a single power supply is used, this must be fitted in the PSU 2 position.

V1606 - Recommended Rack Configurations for Optimum Cooling



2.5 REMOTE CONTROL

Status monitoring and remote control of modules fitted are available through the DART remote control system. This requires a Rack Controller to be fitted in the position shown in figure 1. The current Rack Controller is the V6081. (Earlier systems use the V606, but this can be replaced by the V6081, and should be replaced if any modules use Class 7 DART messages.)

On both Rack Controllers it is necessary to set the DART address. On the V606 this was done on front access DIL switches. On the V6081 it is done on board switches, so the unit must be removed; however the actual address is then displayed on three seven-segment displays on the front. For details of setting the addresses see the DART Network Configuration Manual.

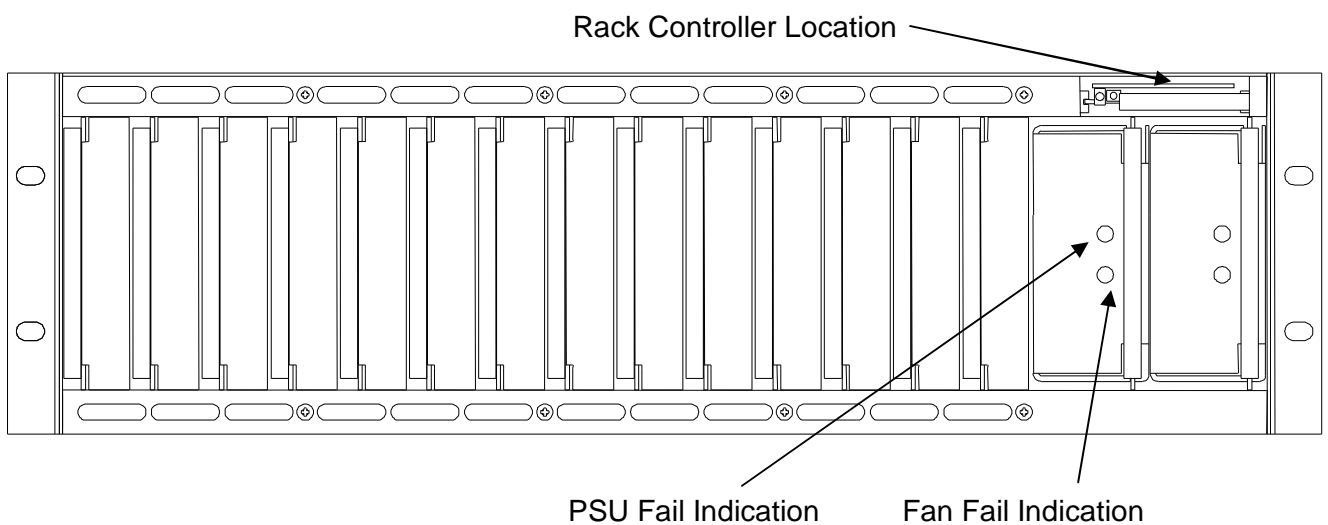


Figure 1 – Front Interior View

The DARTnet loopthrough connection and termination switch are located on the rear of the unit (refer to Figure 2, or Figure 3b for the RV version).

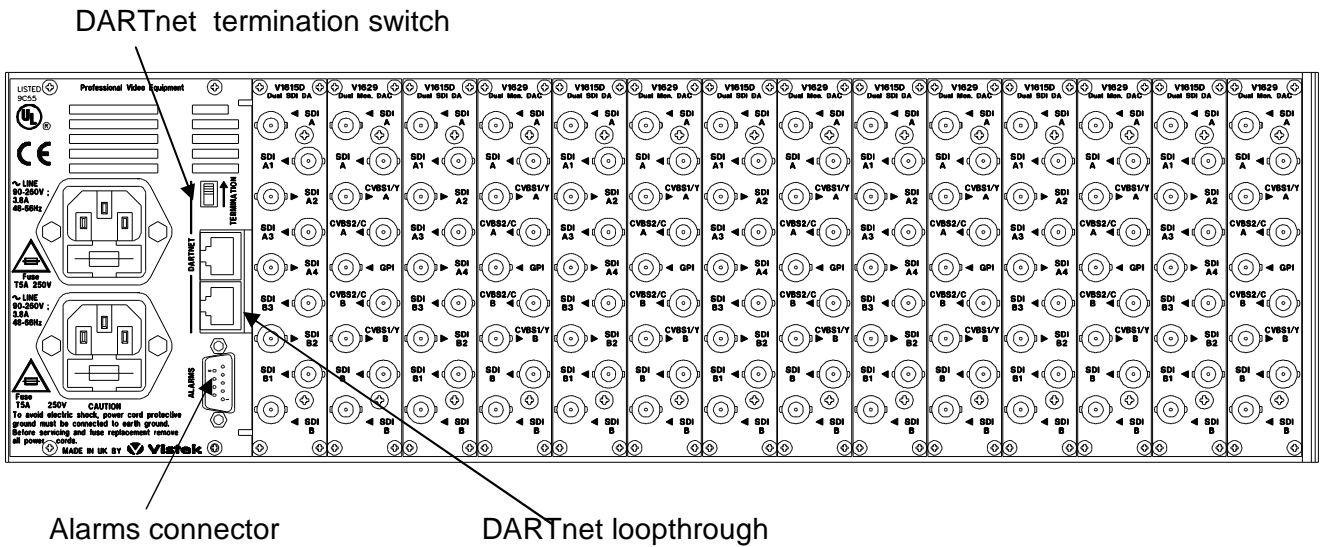


Figure 2 – Rear View

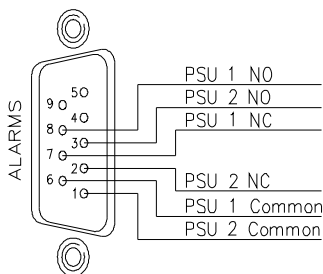
For further information on setting up the DARTnet, please refer to the DART Network Configuration manual

2.6 ALARMS

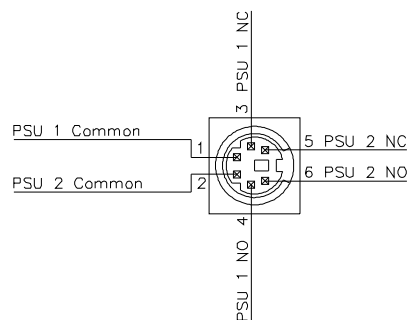
Indication of loss of output or cooling fan failure for each power supply is provided by independent relay changeover contacts presented on a D9 connector on the rear of the V1606 (refer to Figure 2).

On the V1606RV (rear ventilation version) these connections are presented on a six-pin mini-DIN connector.

Connections are as follows



Standard Version



RV Version



VISTEK V1606 3U rack enclosure

	D9 Connector	Mini-DIN Connector (RV Version only)	Function
PSU 1 Common	Pin 6	Pin 1	
PSU 1 NC	Pin 7	Pin 3	Connects to common on fail
PSU 1 NO	Pin 8	Pin 4	Connects to common on healthy
PSU 2 Common	Pin 1	Pin 2	
PSU 2 NC	Pin 2	Pin 5	Connects to common on fail
PSU 2 NO	Pin 3	Pin 6	Connects to common on healthy

IMPORTANT: These alarm relay contacts are suitable for low voltage, low current use only (<50V, <1A).

2.7 LABELS

The front panel extrusion has provision for slide-in labels on both front and rear surfaces. These are designed for standard jackfield type designation labels.

3. OPERATION & MAINTENANCE

Caution! Do not connect a 10/100baseT Ethernet network to the RJ45 connector. This is used for DARTnet remote control network.

Caution! The V1606 chassis is designed to accept modules from the following manufacturers only:- Vistek Electronics Ltd, V1600 and V6000 range. Broadcast Technology Ltd (BTL), 3000 range. DB Broadcast Ltd, Hawkeye range

3.1 FUSE REPLACEMENT

Disconnect the power cord from the IEC mains inlet. Lift the fuse cover adjacent to the mains inlet (refer to Fig.1) to gain access to the fuse holder. Use a screwdriver to remove the fuse. N.B. for safety reasons it is not possible to replace the fuse with the power cord connected to the enclosure. Replace fuse with the following type:-

T5A 250V type ceramic HBC 20mm x 5mm

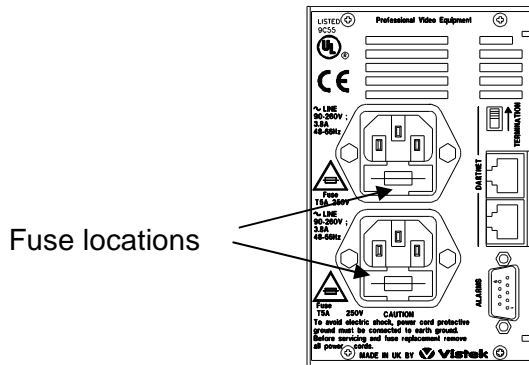


Figure 3a – PSU Rear Panel – Standard Version

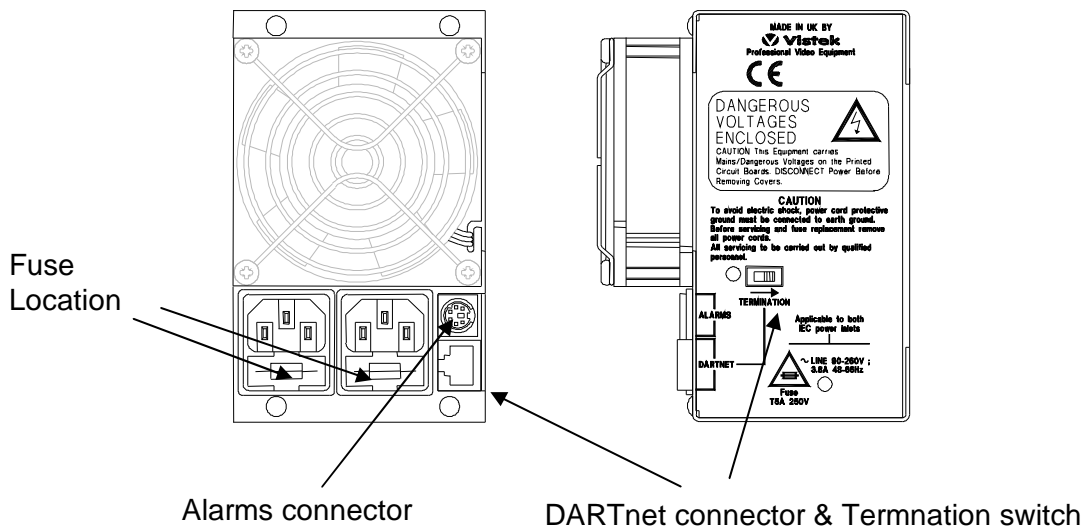


Figure 3B – PSU Rear Panel – Rear Ventilation Version



VISTEK V1606 3U rack enclosure

3.2 FRONT PANEL INDICATIONS

The power supply units have output and fan status indications lamps located on their front panel (refer to Figure 1). These indications are visible when the front cover is closed.

In normal operation, these indications are green. The lower light illuminates red for fan failure.

In dual redundant power supply configuration, loss of one psu output is indicated by the affected psu status light showing red. In single power supply configuration, if the psu fails, neither light will illuminate.

In the event of power supply or fan failure, it is strongly recommended that the power unit is returned to Vistek for repair.

3.3 AIR FILTER

A washable plastic foam air filter is fitted to the rear of the front panel. This may be washed in soapy water if it becomes dirty, and must be dried thoroughly before being replaced in position.

3.4 V606 LITHIUM BATTERY REPLACEMENT (IF FITTED)

Caution! The V606 Rack Controller contains a lithium battery. There is a danger of explosion if this is replaced incorrectly. It must only be replaced with the same, or equivalent type. Dispose of used batteries according to battery manufacturer's instructions. Batteries shall only be replaced by trained service technicians.

The V6081 does not contain a battery.

4. SPECIFICATION

POWER

Line Voltage	90 - 265Vac (Wide-ranging)
Line Frequency	45-66Hz
Input Power	Max 250W (Actual power depends on modules fitted)
Power Factor	0.9 (For full mains input and load output ranges)
Connector Type	IEC (x 2 for Dual redundancy)

PHYSICAL 3RU

Height	132.5mm
Depth	330mm
Depth (behind mounting flanges)	320mm
Width	448mm

ENVIRONMENTAL

Operating Temperature	0° to 35°C
Storage Temperature	-10° to + 70°C
Relative Humidity	0 – 95% non-condensing @ 35°C