PSU-75

75W power supply for FR2AV, FR1AV, FR2-12, FR2-8 and FR1-6 frames

USER MANUAL

Crystal Vision

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General Safety Summary

Only use the PSU-75 in conjunction with a correctly installed Crystal Vision FR2AV, FR2-12 , FR1AV, FR1-6 or FR2-8 frame.

This product must be grounded through the grounding conductor of the power cord.

Do not operate the equipment with covers or panels removed.

To avoid fire hazard use only fuses of the type and rating specified.

To avoid electric shock do not operate this product in wet or damp conditions.

To avoid injury or fire hazard, do not operate this product in an explosive atmosphere.

To avoid overheating provide proper ventilation.

Only suitably trained personnel should perform service procedures.

There are no user serviceable parts in either of these products. **Do not remove the safety covers**, even when the power supply is disconnected.

CAUTION These servicing instructions are for use by qualified personnel only. To reduce risk of electric shock, do not perform any servicing other than that contained in the Operating Instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

Explanation of symbols used on the equipment

Protective ground connection.

Refer to the user manual.

USERS MANUAL

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INTRODUCTION

This manual describes the operation of the PSU-75 in the following 1U & 2U Crystal Vision Frames FR2AV, FR2-12, FR2-8 , FR1-6 and FR1AV
The PSU-75 converts the incoming mains supply into DC voltages +5.55V and –6.6V suitable for the other boards in a Crystal Vision frame. The unit is inserted and removed from the front of the frame. A dual supply capability allows two units to be fitted in the same frame, providing redundancy and continued operation in the event of a failure in one of the supply units. The PSU-75 has temperature sensor fitted to its metal cover to detect operating temperature. The hinged front panel of the case reveals an LED indication of supply status and temperature limit failure

SPECIFICATION

Mechanical
100mm x 290mm module with DIN mixed power connector. User indication at end of board to allow access from hinged front panel.

Weight	760g

Input	110-240V AC 50/60 Hz. Max power 100VA (excluding turn-on transient).	
Outputs	+5.55V DC +/-4%,	Maximum current 12A
	-6.6V DC + /-7%,	Maximum current 1.2A

FEATURES

PSU FRONT INDICATING LEDS

Green	+5V	Output voltage present
Green	-5V	Output voltage present
Red	Fail	PSU temperature is too high (Possible Fan failure) and / or power supply voltage problems.

SUPPLY STATUS INDICATION (ON FRONT PANEL)

On front panels which have a Text display , a warning message is flashed on the Text display, if the Red fail LED is lit-up on one or both of the PSU units.
On front panels which have a LED fitted labelled power, a change in colour of the LED from green to red provides an external visual warning that one of both of the PSU-75 units has its Red fail LED on.

RELAY STATUS OUTPUT (ON REAR D CONNECTOR)

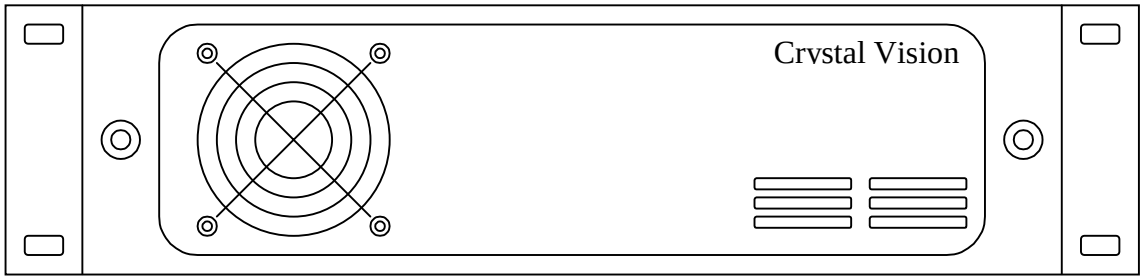
Changeover relay indication of output rail voltages are correct the temperature limits are correct (normally open, normally closed, and common) on power connector of PSU which is wired through to the rear D type connector on the frame.

SECOND FAN DRIVE

A switched output is provided on the PSU-75 unit to switch on a second Fan fitted on the front of 2U Frames (not supplied on 1U or older 2U Frames). This will occur when the Red Fail LED lights up. Note this Fan can be set to be continuously on

INSTALLATION INFORMATION

FR2AV Frame



The PSU-75 plugs into a dedicated slot in a 2U Crystal Vision frame. Each frame has two of these slots. The unit can plugged in and removed without damage with mains connected to the frame. If another PSU-75 is fitted the unit can be plugged in or removed without damage irrespective of the mains connections to the two units. The Fan on the front panel (if fitted) can be selected to be continuously on by moving the link labelled J3 to the 2-3 position. With the link in the 1-2 position, the front Fan is normally off and is only on, if the Red Fail LED on the front of the PSU is on , and in this case the front Fan is acting as a backup to a possible failure of the rear Fan, however if this situation was to occur the faulty rear Fan should be replaced as soon as possible. The J3 link is on the side of the PSU unit (see diagram of PSU-75).

MAINS INPUT

A fused IEC mains input is provided on the rear of the frame. The universal input power supplies used can accept voltages between 85 and 264V rms. The supply must include a protective ground connection.
The fuse holder is part of the mains inlet connector and the mains cord must be disconnected before the fuse can be accessed. Replace the fuse only with one of the same type and rating.

STATUS RELAY CONNECTION

The supply voltage monitoring and temperature monitoring circuits in the power supply modules provide a set of relay outputs
On frames with a 9 way D-type socket these are brought out as :-
pin 7- Open when supplies present, connects to pin 8 on supply/temperature failure.
pin 8 - Common connection
pin 9 - Connects to pin 8 when supplies present, open on supply/temperature failure.

On frames with 26 way high density D-type connectors these are brought out on the plug connector Remote 2 on 1U Frames and in the case of 2U Frames Remote 2 (upper PSU) or Remote 4 (lower PSU)with connections as follows :-
pin 5 - Open when supplies present, connects to pin 14 on supply/temperature failure
pin 14 - Common connection
pin 23 - Connects to pin 14 when supplies present, open on supply/temperature failure.
NOTE The current though the relay contacts should be limited to a maximum of 200mA.
NOTE. To maintain EMC compliance any cable connected to these D-types must be of good quality screened construction with the screen connected

2U Frame slot numbers

The diagram below shows the positions of the slots in the frame when viewed from the front

Signal Card Slot Numbers 2U Frame

1	5	9	upper power supply
2	6	10	
3	7	11	lower power supply
4	8	12	

Signal slot protection fuses

There are six fuses on each power supply module. These fuses limit the current available to the signal card positions from the +5.4V dc power. Each fuse carries the +5.55V supply for two signal card slots. The fuses are self-resetting, they will automatically restore power if the fault is corrected.
On the 2U frames a pair of slots is grouped so that they share a self-resetting fuse.

Self-resetting fuse number See diagram below	FR2AV Frame	Older Frames FR2-12 and FR2-8
A	Slots 7 & 8	Slots 6 & 8
B	Slots 9 & 10	Slots 1 & 3
C	Slots 11 & 12	Slots 2 & 4
D	Slots 5 & 6	Slots 5 & 7
E	Slots 3 & 4	Slots 10 &12
F	Slots 1 & 2	Slots 9 & 11

On FR2AV Frame Fuse B also feeds +5.55V to the boards on the Front Panel

1U Frame slot numbers

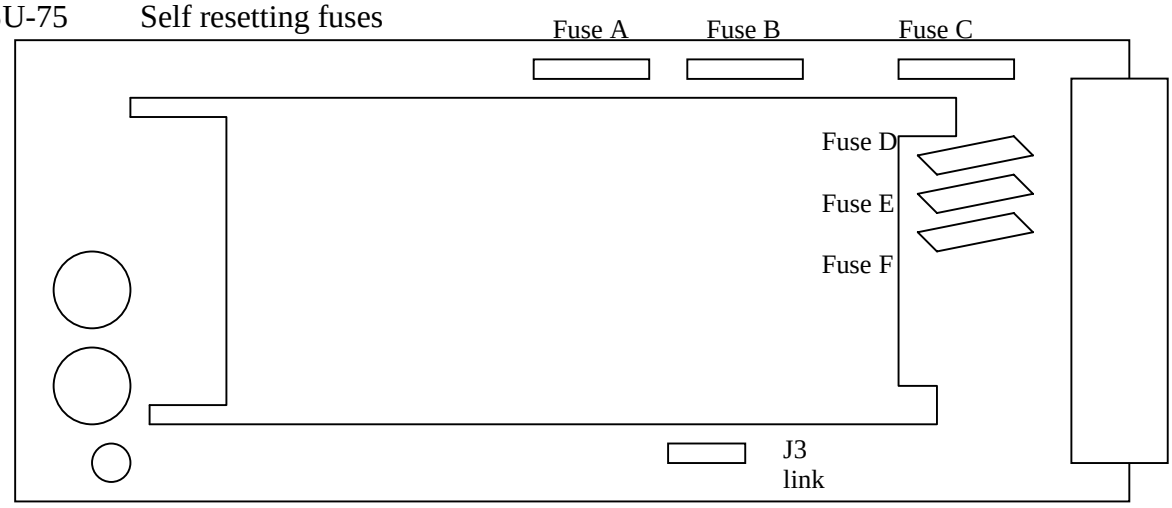
The diagram below shows the positions of the slots in the frame when viewed from the front

Signal Card Slot Numbers 1U Frame FR1AV and FR1-6

1	3	5	power supply
2	4	6	

On the 1U Frame, the PSU-75 +5.55V dc power line, feeds power to the signal cards in slot positions 1 to 6.There is one self re-setting fuse per slot position.

PSU-75 Self resetting fuses



There are no user serviceable parts in the power supply module.

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