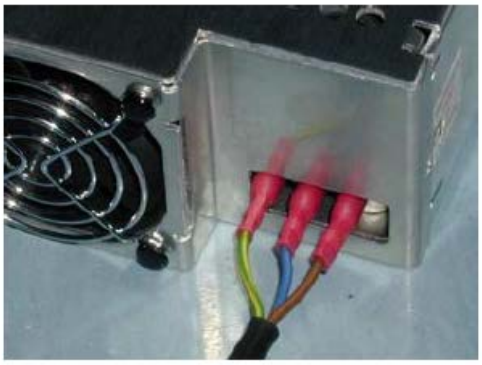
Connecting Vega to the input supply.

The AC input connection is situated adjacent to the cooling fan inlet as shown above. The faston tabs are tin plated 6.3 x 0.8mm at 9mm centres. Connection is made using insulated 6.35mm 'faston' connectors rated at 15amps each.

Wire Size (awg)	AMP termination	Colour
22-18	2-520407-2	RED
16-14	3-520408-2	BLUE

A moulded connector housing (Lambda part number 665699A without fastons) is also available which accepts 3 low insertion force 'faston' connectors (fastons are AMP 42100-2). The housing incorporates two locking tabs and a tywrap may be used for additional strain relief of the AC cable. Kits of 25pcs including the moulded housing and faston connectors and ty-wraps are available CLL (part number = 88537).



There is also available a screw terminal input version of Vega. This has a perspex safety cover and access to fit the screw terminals to the input is via 3 holes in the lid.

Vega imposes no special requirements for mains installation over and above standard good practise in using switchmode power supplies:

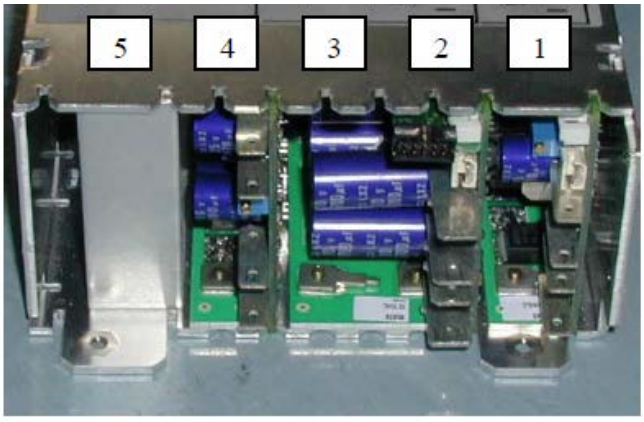
1) Use either twisted cable of about 1 twist per centimetre or standard sheathed mains cable. Efficiency of a Vega power supply is typically 75% (depends on the configuration). Efficiency is slightly worse with many low voltage / high current outputs and slightly better with high voltage outputs. Input power will be 1 / (efficiency) times greater than the specified output power. Use 75% as an estimate and consult technical sales for more accurate efficiency estimate if it is vital.

2) Avoid running the input mains cable near to the DC output cables. This is likely to cause noise pickup which result either in generally high levels of noise on the system power rails or worse, random system errors which can be very hard to trace and solve and poor RFI performance.

3) Pay special attention to the design of the system earth to prevent earth loops. The system earth should be connected via a "star" network with all earth connections joining at the system earth starpoint at the input filter.

4) Vega power supplies are designed to meet EN55022 conducted RFI emissions. However, this may not remove the requirement for an RFI filter at the system inlet due to noise picked up from looming as part of the system installation. Cable runs within the system can pick up noise which can degrade the overall RFI performance. Also, when connecting power supplies in parallel, each power supply will contribute it's own noise to the total emitted RFI.

Connecting Vega to the Load



The picture shows a typical Vega configuration with faston output connections :-

Slot 5 = blank slot.
Slot 4 = Single slot, Twin module (2outputs) Slot 3&2 = Dual slot module (1 output)
Slot 1 = Single slot module (1 output)

Output Voltages are delivered factory set according to customer requirement. Adjustment can be made via multi- turn potentiometers at the front of each module. CLOCKWISE = INCREASE VOLTAGE.

Refer to the handbook for module adjustment range when adjusting output voltages and ensure that maximum power and maximum ampere turns are not exceeded.

Modules are available with SCREW TERMINALS or FASTON TERMINALS specified at purchase.

Suggested faston Terminals & Current handling capacities of Copper Multi Stranded TRI-Rated cable.

Cross sectional Area (sq mm)	Cable Gauge AWG	Typical Rated Current (Amps)	Suggested FASTON Terminal
0.5	22	11	AMP faston 2-520407-2 (red)
0.75	20	14	
1.0	18	17	
1.5	16	21	AMP faston 3-520408-2 (blue)
2.5	14	30	
4	12	41	AMP faston 280223-2
6	10	53	USE AMP ringtag 130191 and specify screw terminals
10	8	75	USE AMP ringtag 130552 and specify screw terminals
16	6	100	

Suggested sources for RING TAGS for use with SCREW TERMINATIONS.

Up to 50 Amps = AMP PIDG ringtags.

	RED	BLUE	YELLOW
M3	36151	320561	---------
M4	320551	320560	320568
M5	130660	130663	130167

Crimp tool = 169400, Die set 169404

Over 50 Amps = AMP AMPOWER III ringtags.

	TAGS
M5 - 6AWG	719551-1
M5 - 8AWG	719538-2

Terminals with crimp tool = 708777-4

General Installation.

All switch mode power supplies can be sensitive to stray inductance in the power leads and specifically in remote sense leads if installed poorly. Poor transient response or high noise pickup and also intermittent tripping of Overvoltage protection are possible problems. Observing a few simple installation rules will ensure trouble free function :-

When connecting Vega by means of a cable harness, run the remote sense and power output cables as separate pairs twisted tightly together with at least 1 twist per centimetre. Keep cable runs as short as possible.

When connecting Vega to the load by means of a PCB backplane, run the power tracks "back to back" on the PCB to minimise the projected area of the loop connecting the positive and negative outputs. Run the remote

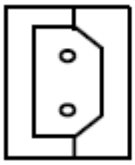
sense and power connections as separate pairs, avoiding close parallel runs and only coming together at the load.

The load should be de-coupled with 10uF of capacitance per Amp of load current. The greater the amount of de-coupling, the better the transient response of the system will be. (NB Max recommended de-coupling is 1000uF/Amp).

Remote Sense.

Permanent PSU failure may be caused if the remote sense is connected incorrectly. Care should be taken to ensure that remote sense is connected in the correct polarity and is disconnected from the load before the power connections are removed.

All single output Vega modules are provided with remote sense connector as standard. Twin output Vega modules are available with remote sense but need to be ordered with a secondary option "R" specified. In both cases the Molex connector viewed from the back of the power supply is :-

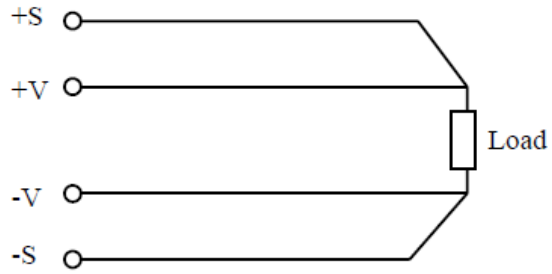


+Ve Sense

-Ve Sense

Remote sense can be used to compensate for the drop in voltage along the load cables or for the drop in voltage across blocking diodes. The voltage at the output terminals will be higher than that at the load by an amount equal to the voltage drop due to load lead resistance and/or blocking diodes if used. The maximum voltage at the terminals cannot exceed the maximum voltage specified for that module.

Always observe the following general rules for remote sense operation :-



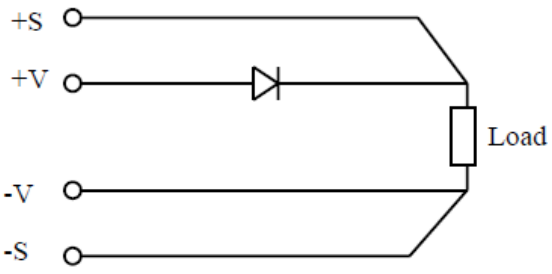
Ensure that the remote sense cables are twisted pairs.

PCB tracks for remote sense should be run back to

back.

Ensure that the remote sense cables / tracks are as short as possible.

Ensure that the sense cables are not twisted together with the power cables.



PCB power tracks and remote sense tracks should be kept away from each other as far as is possible.

Do not fit components (resistor, inductor or diode) into remote sense lines. This could make the system unstable.

See the data sheets for each module to see the maximum voltage drop that remote sense can compensate for, do not exceed this value.

Mating connector information: Note: housing and pins supplied with each power supply.
Housing: Molex 50-37-5023
Crimp pin: Molex 08-70-1039
Hand Crimp Tool: Molex 11-01-0194