Powerstax plc

D0601 Power Module

DC Input: 80V to 350V, Single DC Output: 24V to 56.2V, 600W

DC–DC SERIES

- **600W DC-DC**
- **1U PROFILE**
- **83% - 88% EFFICIENCY TYPICAL**
- **ACTIVE LOAD SHARING**
- **REMOTE ON / OFF**
- **HOT SWAP**
- **LOW STARTUP TEMPERATURE: -30°C**
- **2 YEAR WARRANTY**

CE RoHS Compliant

POWER SUPPLY DESIGN EXCELLENCE

The D0601 DC-DC power module embraces established and proven technology, in use in critical process control installations worldwide. It yields a front end power module which is designed to operate as an integral part of a complete distributed power system, with or without battery backup. This efficient design means reduced energy costs, a greater return on your investment, greater reliability and longer product life.

COMPLETE PROTECTION

A full complement of protection, alarm and control features have been incorporated into the power unit to provide application versatility.

UNMATCHED FLEXIBILITY

When up to three D0601 modules are used with the 1U high S1801 19" rack, a total of 1800W (or 1200W of N+1) of 24VDC, 28VDC , 48VDC, 54.5VDC or 56.2VDC output can provide a low profile, flexible and scalable solution.

The flexible feature set make this front-end power module an excellent choice for applications requiring modular DC to DC power systems, such as distributed power and DC UPS.

MODEL	OUTPUT	VOLTAGE	REGULATION	MAXIMUM CURRENT	RIPPLE (P-P)	NOISE (P-P)
D0601-080-240	V1	24V	±2%	25.0A	150mV	300mV
D0601-080-280	V1	28V	±2%	21.4A	150mV	300mV
D0601-080-480	V1	48V	±2%	12.5A	300mV	300mV
D0601-080-545	V1	54.5V	±2%	11.0A	300mV	300mV
D0601-080-562	V1	56.2V	±2%	10.7A	300mV	300mV

INPUT SPECIFICATIONS	
Input Voltage	80VDC – 350VDC
Startup Voltage	105VDC minimum
Inrush Current (peak)	50A
Hold-Up Time	20ms minimum @ 600W
Lightning Surge and Transients	IEC1000-4-5 Level 3 IEC1000-4-4 Level 3
EMC (conducted)	CISPR22 Class B, EN55022 Class B, with 3dB margin

PROTECTION	
Overcurrent	Power supply limits the output current
Overvoltage	Turns off when the output voltage reaches OVP threshold. Restart by cycle supply off/on
Overtemperature	Turns off and restarts automatically after cooling down
ORing Diode	A diode at the output protects the DC bus during a power supply failure or hot plugging

OUTPUT SPECIFICATIONS	
Total Ouput	600W
Remote Sense Drop	0.5VDC
Output Rise Time	250ms maximum
Overvoltage Protection	29VDC - 32VDC for 24V and 28V 60VCD - 64VDC for 48V, 54.5V and 56.2V
Output Current Limit (steady state)	40ADC for 24V and 28V 23ADC for 48V, 54.5V and 56.2V
Transient Response* Voltage Range	±2%
Active Current Sharing Differential (up to 12 units)	±3.2A for 24V and 28V ±1.7A for 48V, 54.5V and 56.2V
Efficiency	83% to 88% typical at full load including ORing diode, depending on input voltage
Start-Up Delay	2s maximum
Turn-On Delay	250ms

* 25% step load transient with a slew rate 0.1A/us within the range of 25% to 75% of full load.

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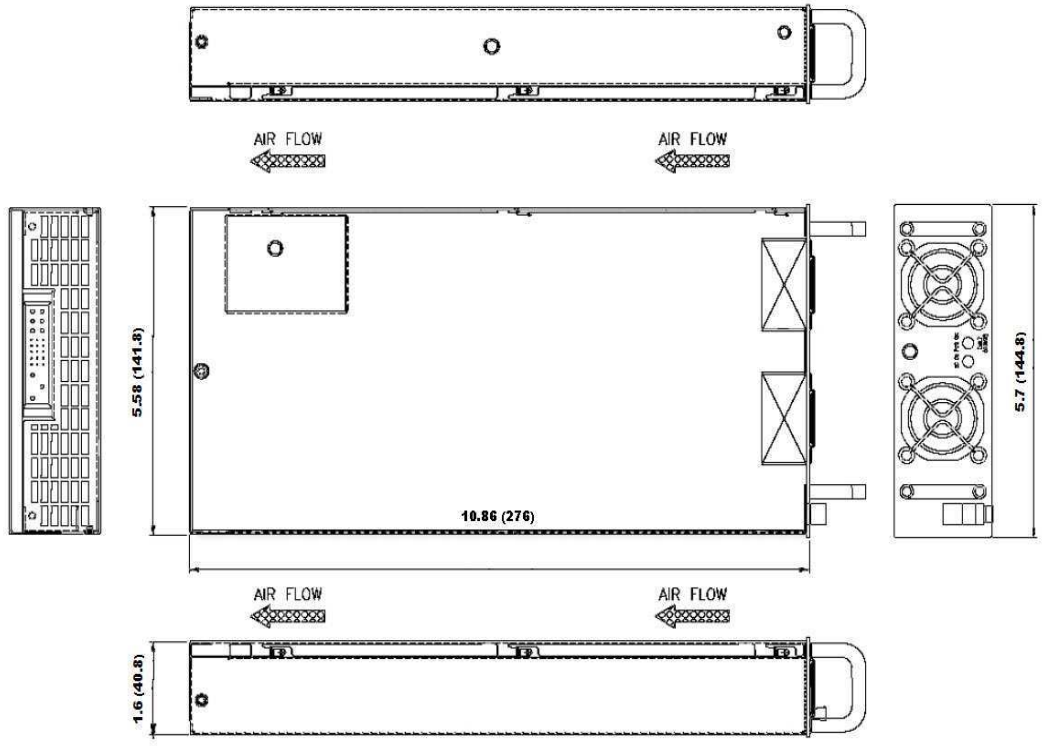
ENVIRONMENTAL CHARACTERISTICS	
Storage Temperature	-40°C to 85°C
Operating Temperature	0°C to 70°C, derate linearly above 50°C to 50% output power
Acoustics	SPL @1m 52dBA typical
Humidity	5% to 95%, non-condensing
Altitude	-200ft – 13,000ft, derated at 2°C/1000ft above 8000ft
ESD	IEC1000-4-2 Level 3 stand-alone
Isolation Voltage	1,500VAC primary to secondary plus chassis (ground) 500VDC secondary to primary plus chassis (ground)
MTBF (Bellcore SR332)	400khours @ 30°C
Vibration	Meets IEC68-2-6
Shock	Meets IEC68-2-36
Weight	2.2kg maximum

STATUS SIGNALS	
Front Panel LED 1	Green – DC input voltage OK
Front Panel LED 2	Green – DC output OK, unit operating normally Amber – DC output fail , unit has detected an internal fault
DC FAIL	Signal becomes low with a turn on delay of 100 to 500ms after the output voltage reaches the regulation window. It will go to a high level at least 1ms before the output voltage runs out of the regulation window.
OTP	Fan fail or over temperature. Signal becomes low with a turn on delay of 100 to 500ms after the output voltage reaches the regulation window. It will go to a high level 200ms before the unit shuts down.
I^2C	For voltage, current, temperature and PSU ID

Typical Mechanical Drawing:

Inches (mm)



Connector Pin Assignment

The input/output connector is PCIB24W9M400A1/Positronic, with 9 power pins and 15 signal pins. 3 out of the 9 power pins are for the DC input.

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