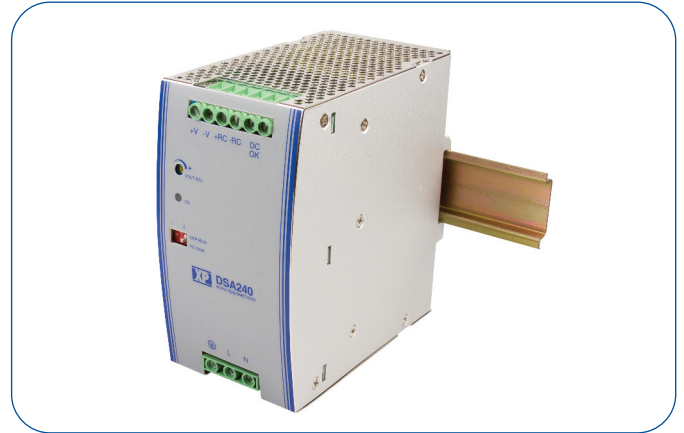


240 Watts

- Ultra Slim Design
- 150% Peak Load for 3 seconds
- Ambient Operation from -25 °C to +70 °C
- High Efficiency – Up to 92%
- Selectable Overload Characteristic
- Selectable Remote Inhibit or Enable
- 3 Year Warranty



Dimensions:

DSA240:
4.64 x 4.93 x 2.59" (117.8 x 125.2 x 65.8 mm)

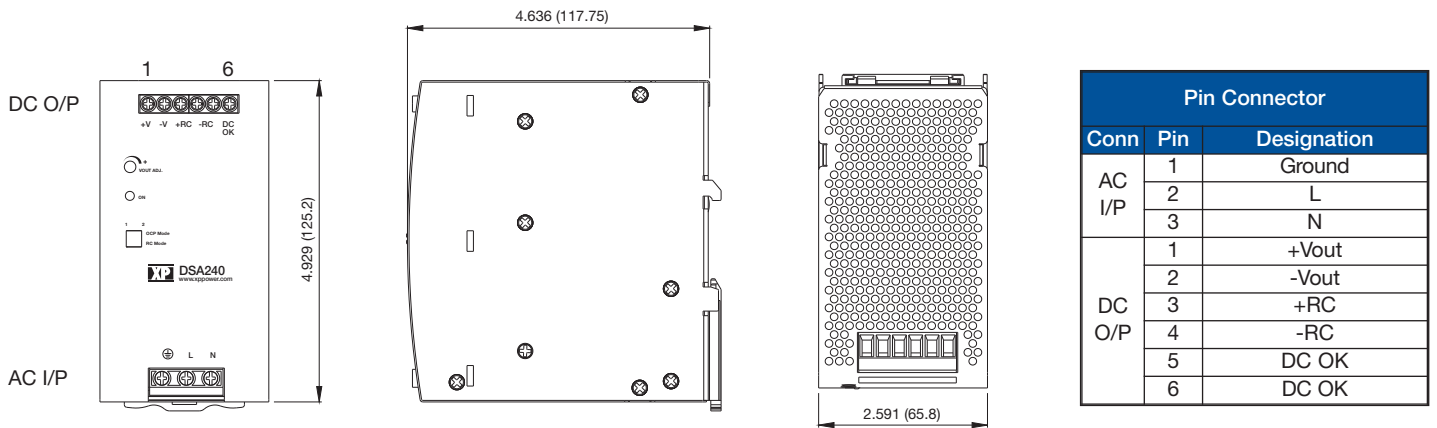
Models & Ratings

| Output Voltage | Output Power | Output Voltage Trim ⁽³⁾ | Output Current | Peak Load ⁽²⁾ | Typical Efficiency ⁽¹⁾ | Model Number |
|----------------|--------------|------------------------------------|----------------|--------------------------|-----------------------------------|--------------|
| 24 V | 240 W | 23.52-25.92 V | 10 A | 15.0 A | 91% | DSA240PS24 |
| 48 V | 240 W | 47.04-51.84 V | 5 A | 7.5 A | 92% | DSA240PS48 |

Notes

1. Typical efficiency at 230 VAC and full load.
2. Peak load is for a maximum of 3 s, see Application Notes. Average power is not to exceed nominal output power.
3. Output current should be limited so that nominal output power is not exceeded.

Mechanical Details



Input

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|---------------------------|--------------------------------------|---------|---------|-------|---------------------------------------------|
| Input Voltage - Operating | 90 | | 264 | VAC | |
| Input Frequency | 47 | 50/60 | 63 | Hz | |
| Power Factor | | 0.95 | | | At 230 VAC. Conforms to EN61000-3-2 Class A |
| Input Current - Full Load | | 2.5/1.3 | | A | 115/230 VAC |
| Inrush Current | | | 33/65 | A | At 115/230 VAC |
| Earth Leakage Current | | | 1.0 | mA | At 264 VAC, 60 Hz |
| Input Protection | T5.0 A / 250 V internal in-line fuse | | | | |

Output

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|---------------------------|----------------------------------------------------------|---------|---------|---------|-----------------------------------------------------------------------------------|
| Output Voltage - V1 | 24 | | 48 | VDC | See Models and Ratings table |
| Initial Set Accuracy | | | ±1 | % | At 100% load |
| Output Voltage Adjustment | | | -2/+8 | % | See Models and Ratings table |
| Minimum Load | 0 | | | A | No minimum load required |
| Start Up Delay | | | 1.0 | s | |
| Start Up Rise Time | | | 50 | ms | |
| Hold Up Time | 20 | | | ms | At full load and 115 VAC |
| Line Regulation | | | ±0.5 | % | |
| Load Regulation | | | ±1 | % | |
| Transient Response - V1 | | | 4 | % | Recovery within 1% in less than 2 ms for a 50% step load change at 0.2 A/μs |
| Ripple & Noise | | | 1 | % pk-pk | Measured at 20 MHz bandwidth with 0.1 μF ceramic capacitor and 47 μF electrolytic |
| Overvoltage Protection | 28 | | 33 | V | 24 V model |
| | 56 | | 65 | V | 48 V model |
| Overload Protection | | | | % | See Application Notes |
| Short Circuit Protection | | | | | Trip & restart (hiccup mode) for 5 cycles then latch. Recycle AC to reset. |
| Thermal Protection | | | 95 (±5) | °C | Measured on internal heatsink auto recovery |
| Temperature Coefficient | | | 0.03 | %/°C | |
| Remote On/Off | Selectable as Enable or Inhibit using front panel switch | | | | |

General

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------|------------|---------|--------|----------------------------|
| Efficiency | 91 | | 92 | % | See Models & Ratings table |
| Isolation: Input to Output Input to Ground Output to Ground | 3000 | | | VAC | |
| | 1500 | | | VAC | |
| | 500 | | | VAC | |
| Switching Frequency | | 60/100 | | kHz | PFC/Main converter |
| DC OK Signal | Volt free contacts rated at 60 VDC/0.3 A, 30 VDC/1.0 A or 30 VAC/0.5 A (resistive load) | | | | |
| Output LED | Green LED to indicate output on. | | | | |
| Mean Time Between Failure | | >150 | | kHrs | MIL-HDBK-217F, +25 °C GB |
| Weight | | 2.01 (910) | | lb (g) | |

Environmental

| Characteristic | Minimum | Typical | Maximum | Units | Notes & Conditions |
|-----------------------|---------|---------|---------|-------|---------------------------------------------------------------------|
| Operating Temperature | -25 | | +70 | °C | See derating curve in Application Notes |
| Storage Temperature | -40 | | +85 | °C | |
| Cooling | | | | | Natural convection |
| Operating Humidity | 20 | | 95 | %RH | Non-condensing |
| Operating Altitude | | | 3000 | m | |
| Shock | | | | | IEC68-2-27, 4 g, 22 ms half sine, 3 times in each of 6 axes |
| Vibration | | | | | IEC68-2-6, 10-500 Hz, 2 g 10 mins/sweep. 60 mins for each of 3 axes |

EMC: Emissions

| Phenomenon | Standard | Test Level | Criteria | Notes & Conditions |
|----------------------|-------------|------------|----------|--------------------|
| Conducted | EN55022 | Class B | | |
| Radiated | EN55022 | Class B | | |
| Harmonic Current | EN61000-3-2 | Class A | | |
| Voltage Fluctuations | EN61000-3-3 | | | |

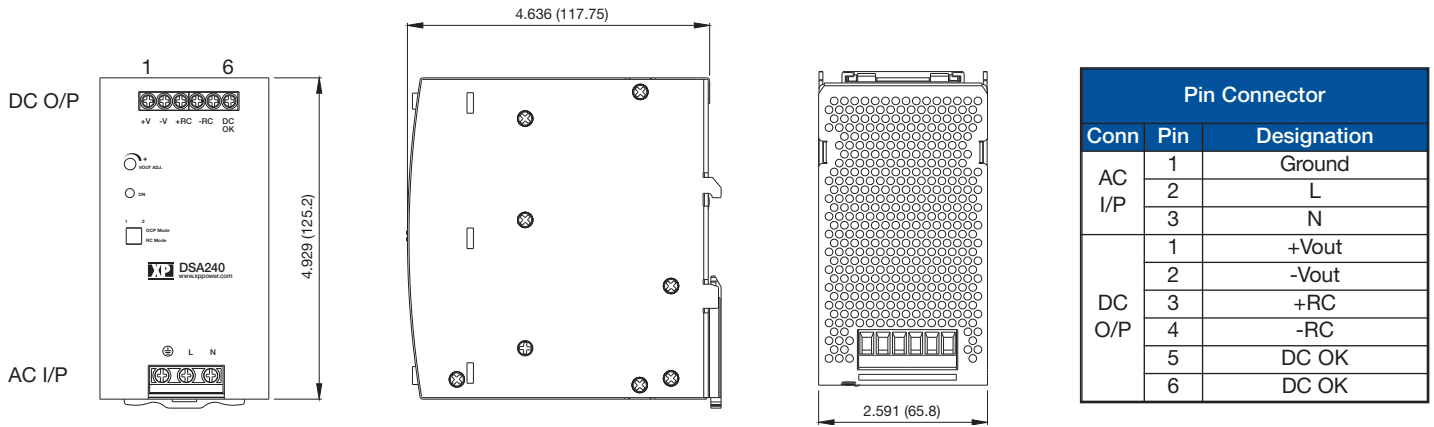
EMC: Immunity

| Phenomenon | Standard | Test Level | Criteria | Notes & Conditions |
|------------------------|-------------|----------------------|----------|--------------------|
| ESD Immunity | EN61000-4-2 | 6 kV | A | Contact |
| | | 8 kV | | Air Discharge |
| Radiated Immunity | EN61000-4-3 | 10 V/m | A | |
| EFT/Burst | EN61000-4-4 | 3 | A | |
| Surges | EN61000-4-5 | Installation class 3 | A | |
| Conducted | EN61000-4-6 | 10 V | A | |
| Magnetic Fields | EN61000-4-8 | 4 | A | |
| Dips and Interruptions | EN55024 | Dip: 30%, 10 ms | A | |
| | | Dip: 60%, 100 ms | A/B | High Line/Low Line |
| | | Dip: 100%, 5000 ms | B | |

Safety Approvals

| Safety Agency | Safety Standard | Notes & Conditions |
|---------------|-----------------|------------------------------|
| UL | UL508 | Industrial Control Equipment |
| TUV | EN60950-1 | Information Technology |
| CB | IEC60950-1 | Information Technology |

Mechanical Details

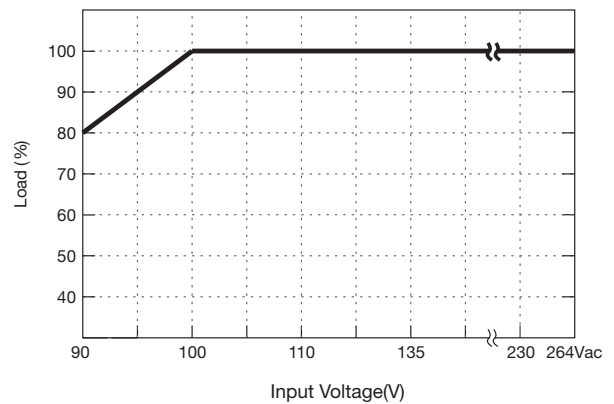
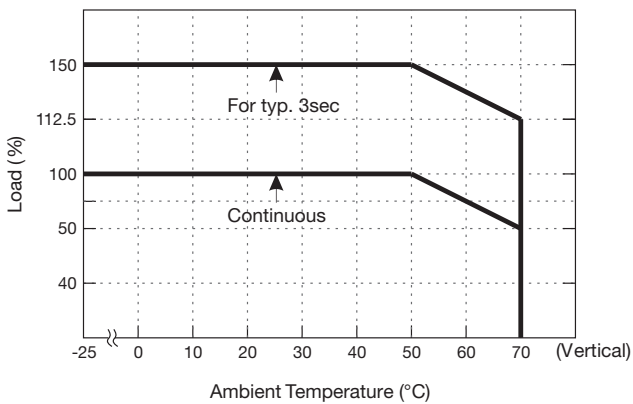


Notes

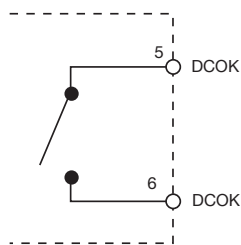
- All dimensions in inches (mm)
- Weight: 2.01 lbs (910 g)
- Tolerance: ± 0.02 in (± 0.5 mm)
- Screw terminal: 10-24 AWG cables size.
- Connection screw maximum torque: Input: 4.4lbs-in (0.5 Nm), Output: 7.0 lbs-in (0.79 Nm).

Application Notes

Derating Curves



DC OK

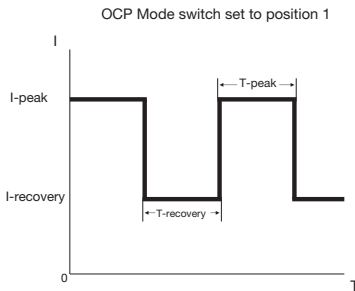


Open = Output fail, if voltage drops below 45% of nominal
 Closed = Output good

Contact Rating: 0.3 A at 60 VDC, 1.0 A at 30 VDC, 0.5 A at 30 VAC.
 500 VDC isolation to output.

Application Notes

Peak Loading



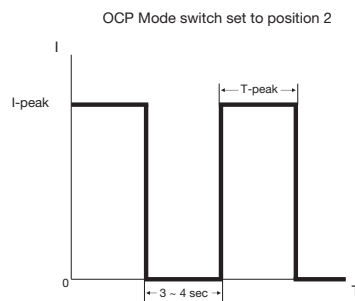
The peak loading and overload characteristics can be programmed into one of two modes by appropriate selection of the OCP mode switch on the front panel.

A peak load of up-to 150% can be taken for a given duration. This duration depends on the percentage of peak load taken and can be determined by graph A below.

If the load is reduced to less than 100% of nominal either before or at the end of the duration, then there is a period of recovery needed to allow the power supply to cool down before the peak load can be re-applied. The time required for recovery depends on the amount of reduction of load and can be determined by graph B below.

However, if the peak load period exceeds the duration indicated by graph A the output will go into constant current mode for protection. The constant current value will be 105% of the nominal rating.

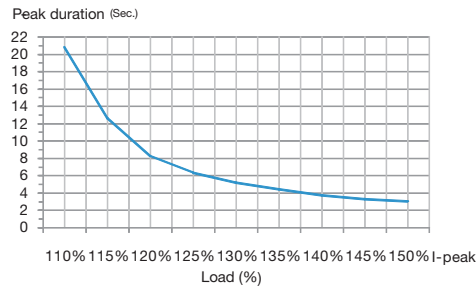
During constant current operation, if the output voltage should fall below 40% of the rated voltage then the output will turn off and try to restart for five times before turning off permanently. Once this has happened, the output will need to be reset by turning the AC mains off and on again.



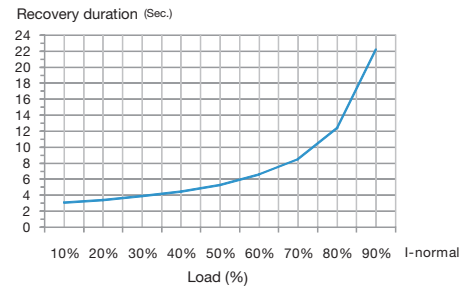
A peak load of up-to 150% can be taken for a given duration. This duration depends on the percentage of peak load taken as described by graph A.

Once the peak load duration is exceeded, the output will turn off for 3-4 seconds before automatically restarting.

GRAPH A



GRAPH B



Remote Control

The output can be controlled by applying a voltage between pin 3 of the DC output with respect to pin 4. The effect of the control is dependant upon the RC switch setting on the front panel.

If the switch is set to position 1 then the output can be disabled by applying a suitable voltage.

If the switch is set to position 2 then the output can be enabled by applying a voltage. In the range of 2.5 V to 9.0 V limited to 20 mA.

| Switch Position | Pin 3 Voltage with respect to Pin 4 | Output |
|-----------------|-------------------------------------|--------|
| 1 | <0.8 V or Open Circuit | ON |
| 1 | >2.5 V, <9.0 V | OFF |
| 2 | <0.8 V or Open Circuit | OFF |
| 2 | >2.5 V, <9.0 V | ON |