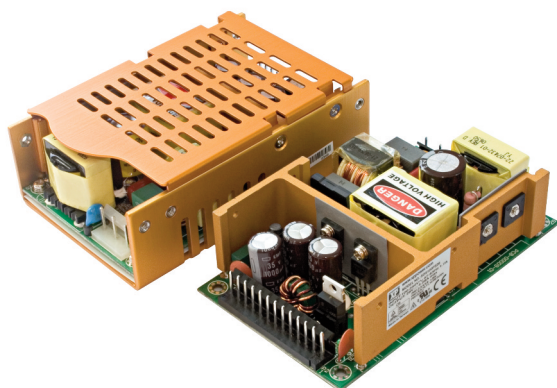


## SDS Series



- Convection-cooled
- 3"x 5" Footprint
- Up to 90% Efficiency
- Open Frame, U-Channel & Covered Versions
- Low Temperature Option
- Single & Multi Outputs
- 3 Year Warranty

## Specification

## Input

|                       |                                                                                                                            |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------|
| Input Voltage         | • 90-264 VAC (120-370 VDC)                                                                                                 |
| Input Frequency       | • 47-63 Hz                                                                                                                 |
| Input Current         | • 120 W: 1.7 / 1.0 A max at 115 / 230 VAC<br>150 W: 2.0 / 0.8 A max at 115 / 230 VAC<br>180 W: 2.7 A max at 90 VAC         |
| Inrush Current        | • 120 W: 20 / 51 A max at 115 / 230 VAC<br>150 W: 54 / 63 A max at 115 / 230 VAC<br>180 W: 54 / 108 A max at 115 / 230 VAC |
| Power Factor          | • >0.9                                                                                                                     |
| Earth Leakage Current | • 120 W: 0.30 / 0.75 mA at 115 / 230 VAC<br>150 W: 0.40 / 0.75 mA at 115 / 230 VAC<br>180 W: 0.75 mA at 230 VAC            |
| Input Protection      | • Internal T3.15 A / 250 VAC fuse in line                                                                                  |
| No Load Input Power   | • 180 W: <0.5 W                                                                                                            |

## Output

|                          |                                                                                          |
|--------------------------|------------------------------------------------------------------------------------------|
| Output Voltage           | • See table                                                                              |
| Output Voltage Trim      | • $\pm 5\%$ output 1 only (3.3 V variant $\pm 10\%$ )<br>SDS180: not user adjustable     |
| Initial Set Accuracy     | • Single output models: $\pm 1\%$<br>Multi-output models: $\pm 5\%$                      |
| Minimum Load             | • No minimum load required for single output models. For multi-output models (see table) |
| Start Up Delay           | • 2 s max                                                                                |
| Start Up Rise Time       | • 2 ms typical                                                                           |
| Hold Up Time             | • 16 ms minimum at full load and 110 VAC                                                 |
| Line Regulation          | • 0.5% typical                                                                           |
| Load Regulation          | • 3.0% typical                                                                           |
| Transient Response       | • 4% max deviation, recovery to within 1% in 500 $\mu$ s for a 50% load change           |
| Ripple & Noise           | • 1% pk-pk typical, 20 MHz bandwidth                                                     |
| Overvoltage Protection   | • 112-132% V1 only, recycle input to reset                                               |
| Overload Protection      | • All outputs: 110-150% with auto recovery (primary power limit)                         |
| Short Circuit Protection | • Trip & restart (hiccup mode), auto recovery                                            |
| Temperature Coefficient  | • $\pm 0.04\%/^{\circ}\text{C}$                                                          |

## General

|                      |                                                                                                                                                |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Efficiency           | • 120 W: 80% typical<br>150 W and 180 W: 88% typical                                                                                           |
| Isolation            | • 3000 VAC Input to Output, 1500 VAC Input to Ground, 500 VDC Output to Ground                                                                 |
| Isolation Resistance | • 50 M $\Omega$                                                                                                                                |
| Switching Frequency  | • 120 W: PFC 100 kHz typical, PWM 67 kHz typical. 150 W: PFC 34 kHz minimum, PWM 55 kHz typical. 180 W: PFC 67 kHz typical, PWM 67 kHz typical |
| Power Density        | • 120 W: 4.87 W/In <sup>3</sup> , 150 W: 6.50 W/In <sup>3</sup><br>180 W: 7.47 W/In <sup>3</sup>                                               |
| Signals              | • Power Fail Detect = TTL active low, combined AC and DC OK signal (-P versions SDS120 & 150 only)<br>Warning time 16 ms                       |
| MTBF                 | • >130 kHrs to MIL-HDBK-217F at 25 $^{\circ}\text{C}$ , GB                                                                                     |

## Environmental

|                       |                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Operating Temperature | • 0 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$ (-20 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$ , SDS180), derate linearly from 100% load at +50 $^{\circ}\text{C}$ to 50% load at +70 $^{\circ}\text{C}$ , for low temperature option add suffix -L: -40 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$ , SDS120 and SDS150, not available for SDS180 |
| Cooling               | • Convection-cooled                                                                                                                                                                                                                                                                                                                                     |
| Operating Humidity    | • 5-95% RH, non-condensing                                                                                                                                                                                                                                                                                                                              |
| Storage Temperature   | • -40 $^{\circ}\text{C}$ to +85 $^{\circ}\text{C}$                                                                                                                                                                                                                                                                                                      |

## EMC &amp; Safety

|                      |                                                                                         |
|----------------------|-----------------------------------------------------------------------------------------|
| Emissions            | • EN55022, level B conducted & radiated.                                                |
| Harmonic Currents    | • EN61000-3-2 class A                                                                   |
| Voltage Flicker      | • EN61000-3-3                                                                           |
| ESD Immunity         | • EN61000-4-2, level 2 contact, Perf Criteria A<br>SDS150: level 3 air, Perf criteria A |
| Radiated Immunity    | • EN61000-4-3, level 2, Perf Criteria A                                                 |
| EFT/Burst            | • EN61000-4-4, level 2, Perf Criteria A                                                 |
| Surge                | • EN61000-4-5, installation class 3, Perf Criteria A                                    |
| Conducted Immunity   | • EN61000-4-6, level 2, Perf Criteria A                                                 |
| Magnetic Field       | • EN61000-4-8, 1 A/m, Perf Criteria A                                                   |
| Dips & Interruptions | • EN61000-4-11, 30% 10 ms, 60% 100 ms, >95% 5000 ms Perf Criteria A, B, B               |
| Safety Approvals     | • EN60950-1, UL60950-1, CSA60950-1 per cUL.                                             |

## Models and Ratings

SDS120 XP

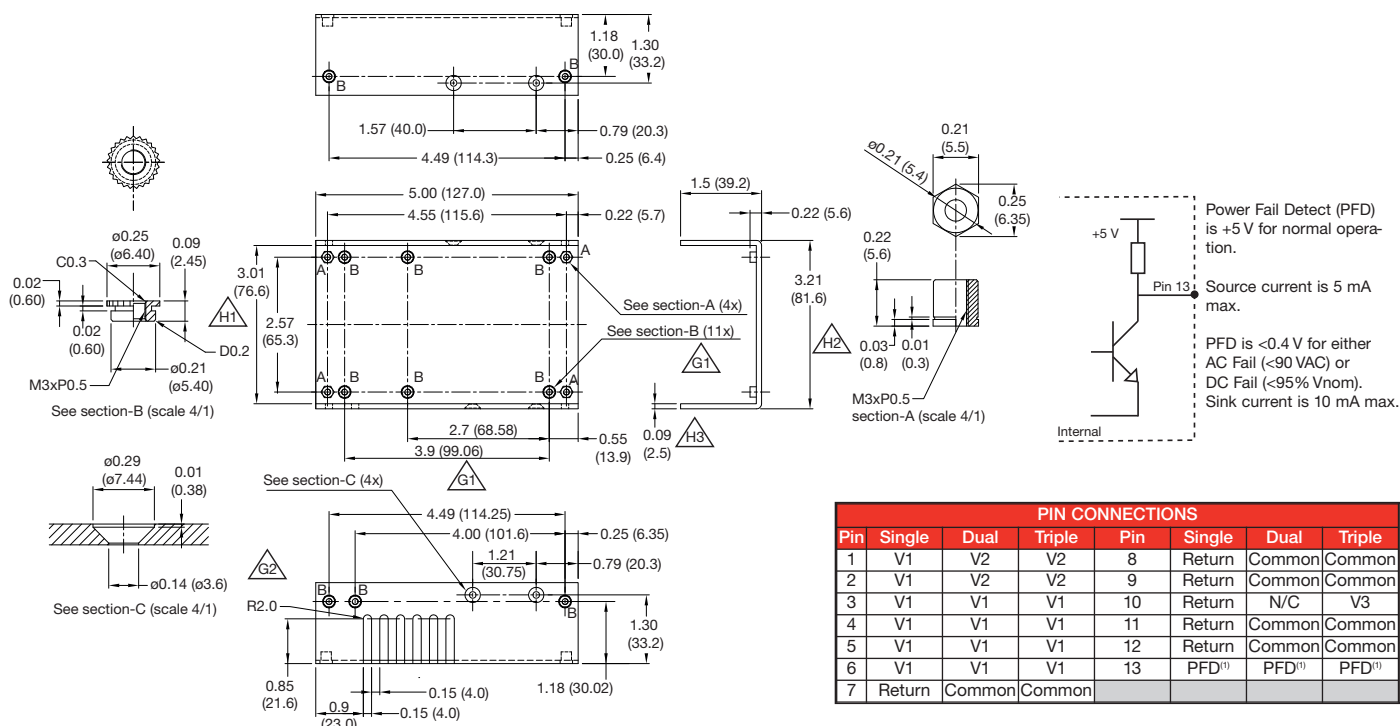
| Output Power | Output 1 |        |         |                     | Output 2 |        |       |                     | Output 3 |        |       |                     | Model Number <sup>(2, 4, 5)</sup> |
|--------------|----------|--------|---------|---------------------|----------|--------|-------|---------------------|----------|--------|-------|---------------------|-----------------------------------|
|              | Vnom     | Imin   | Imax    | Tol. <sup>(1)</sup> | Vnom     | Imin   | Imax  | Tol. <sup>(1)</sup> | Vnom     | Imin   | Imax  | Tol. <sup>(1)</sup> |                                   |
| 72.0 W       | 3.3 V    | 0.00 A | 22.00 A | 5%                  |          |        |       |                     |          |        |       |                     | SDS120PS03B                       |
| 110.0 W      | 5.0 V    | 0.00 A | 22.00 A | 5%                  |          |        |       |                     |          |        |       |                     | SDS120PS05B                       |
| 115.0 W      | 7.0 V    | 0.00 A | 16.42 A | 5%                  |          |        |       |                     |          |        |       |                     | SDS120PS07B                       |
| 120.0 W      | 9.0 V    | 0.00 A | 13.33 A | 4%                  |          |        |       |                     |          |        |       |                     | SDS120PS09B                       |
| 120.0 W      | 12.0 V   | 0.00 A | 10.00 A | 3%                  |          |        |       |                     |          |        |       |                     | SDS120PS12B                       |
| 120.0 W      | 15.0 V   | 0.00 A | 8.00 A  | 3%                  |          |        |       |                     |          |        |       |                     | SDS120PS15B                       |
| 120.0 W      | 18.0 V   | 0.00 A | 6.66 A  | 3%                  |          |        |       |                     |          |        |       |                     | SDS120PS18B                       |
| 120.0 W      | 24.0 V   | 0.00 A | 5.00 A  | 2%                  |          |        |       |                     |          |        |       |                     | SDS120PS24B                       |
| 120.0 W      | 28.0 V   | 0.00 A | 4.28 A  | 2%                  |          |        |       |                     |          |        |       |                     | SDS120PS28B                       |
| 120.0 W      | 36.0 V   | 0.00 A | 3.33 A  | 2%                  |          |        |       |                     |          |        |       |                     | SDS120PS36B                       |
| 120.0 W      | 48.0 V   | 0.00 A | 2.50 A  | 2%                  |          |        |       |                     |          |        |       |                     | SDS120PS48B                       |
| 79.5 W       | +3.3 V   | 1.50 A | 15.00 A | 5%                  | +5.0 V   | 0.40 A | 6.0 A | 5%                  |          |        |       |                     | SDS120PD00B                       |
| 120.0 W      | +3.3 V   | 1.50 A | 15.00 A | 5%                  | +12.0 V  | 0.20 A | 6.0 A | 5%                  |          |        |       |                     | SDS120PD01B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +12.0 V  | 0.20 A | 6.0 A | 5%                  |          |        |       |                     | SDS120PD02B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +15.0 V  | 0.20 A | 6.0 A | 5%                  |          |        |       |                     | SDS120PD03B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +24.0 V  | 0.10 A | 3.5 A | 5%                  |          |        |       |                     | SDS120PD04B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | -24.0 V  | 0.20 A | 2.0 A | 5%                  |          |        |       |                     | SDS120PD05B                       |
| 120.0 W      | +28.0 V  | 0.39 A | 3.92 A  | 5%                  | +5.0 V   | 0.20 A | 2.0 A | 5%                  |          |        |       |                     | SDS120PD06B                       |
| 91.5 W       | +3.3 V   | 1.50 A | 15.00 A | 5%                  | +5.0 V   | 0.60 A | 6.0 A | 5%                  | +12.0 V  | 0.00 A | 1.0 A | 5%                  | SDS120PT00B                       |
| 91.5 W       | +3.3 V   | 1.50 A | 15.00 A | 5%                  | +5.0 V   | 0.60 A | 6.0 A | 5%                  | -12.0 V  | 0.00 A | 1.0 A | 5%                  | SDS120PT01B                       |
| 120.0 W      | +3.3 V   | 1.50 A | 15.00 A | 5%                  | +12.0 V  | 0.60 A | 6.0 A | 5%                  | +5.0 V   | 0.00 A | 0.8 A | 5%                  | SDS120PT02B                       |
| 120.0 W      | +3.3 V   | 1.50 A | 15.00 A | 5%                  | +12.0 V  | 0.60 A | 6.0 A | 5%                  | -5.0 V   | 0.00 A | 0.8 A | 5%                  | SDS120PT03B                       |
| 120.0 W      | +3.3 V   | 1.50 A | 15.00 A | 5%                  | +12.0 V  | 0.60 A | 6.0 A | 5%                  | -12.0 V  | 0.00 A | 0.8 A | 5%                  | SDS120PT04B                       |
| 120.0 W      | +3.3 V   | 1.50 A | 15.00 A | 5%                  | +12.0 V  | 0.60 A | 6.0 A | 5%                  | +12.0 V  | 0.00 A | 0.8 A | 5%                  | SDS120PT05B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +12.0 V  | 0.60 A | 6.0 A | 5%                  | +5.0 V   | 0.00 A | 0.8 A | 5%                  | SDS120PT06B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +12.0 V  | 0.60 A | 6.0 A | 5%                  | -5.0 V   | 0.00 A | 0.8 A | 5%                  | SDS120PT07B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +12.0 V  | 0.60 A | 6.0 A | 5%                  | -12.0 V  | 0.00 A | 0.8 A | 5%                  | SDS120PT08B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +12.0 V  | 0.60 A | 6.0 A | 5%                  | +12.0 V  | 0.00 A | 0.8 A | 5%                  | SDS120PT09B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +15.0 V  | 0.60 A | 6.0 A | 5%                  | -15.0 V  | 0.00 A | 0.8 A | 5%                  | SDS120PT10B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +15.0 V  | 0.60 A | 6.0 A | 5%                  | +15.0 V  | 0.00 A | 0.8 A | 5%                  | SDS120PT11B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +24.0 V  | 0.35 A | 3.5 A | 5%                  | -24.0 V  | 0.00 A | 0.8 A | 5%                  | SDS120PT12B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +24.0 V  | 0.35 A | 3.5 A | 5%                  | +24.0 V  | 0.00 A | 0.8 A | 5%                  | SDS120PT13B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +24.0 V  | 0.35 A | 3.5 A | 5%                  | -12.0 V  | 0.00 A | 0.8 A | 5%                  | SDS120PT14B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +24.0 V  | 0.35 A | 3.5 A | 5%                  | +12.0 V  | 0.00 A | 0.8 A | 5%                  | SDS120PT15B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +10.0 V  | 0.60 A | 6.0 A | 5%                  | -10.0 V  | 0.00 A | 1.0 A | 5%                  | SDS120PT16B                       |
| 120.0 W      | +5.0 V   | 1.50 A | 15.00 A | 5%                  | +10.0 V  | 0.60 A | 6.0 A | 5%                  | +10.0 V  | 0.00 A | 1.0 A | 5%                  | SDS120PT17B                       |

## Notes

1. Tol. (total regulation) includes line regulation and load regulation.
2. For optional PCB only version, delete suffix 'B' from model number.  
Example SDS120PS03.
3. For non-standard voltages contact sales.

4. For optional low temperature -40 °C operation, add suffix '-L' to model number. Example: SDS120PS12B-L.
5. For optional Power Fail Detect circuit, add suffix '-P' to model number, example: SDS120PS12B-P.

## Mechanical Details



## Notes

1. Optional Power Fail Detect signal on '-P' versions only. Standard models pin 13 is N/C.
2. I/P connector P1 mates with Molex housing 09-50-3051 & Molex 2878 series crimp terminal.
3. O/P P2 mates with Molex housing 09-50-3131 & Molex 2878 series crimp terminal.
4. For optional cover kit order part number SDS120 COVER, to receive unit with cover fitted add suffix '-C' to model number, e.g. SDS120PS12B-C (overall height is 1.73 (44.0)).

5. For mating connector kit order part number SDS120/SDS150 CON KIT.
6. For cable harness order part number SDS120S LOOM for single output models & SDS120M LOOM for multi-output models.
7. Maximum mounting screw penetration: 0.14 (3.5)
8. All dimensions are in inches (mm).
9. Weight: 0.77-0.99 lbs (350-450 g) approx.
10. For PCB-only version, overall dimensions are max 5.00 x 3.00 x 1.44 (127.0 x 76.2 x 36.6).

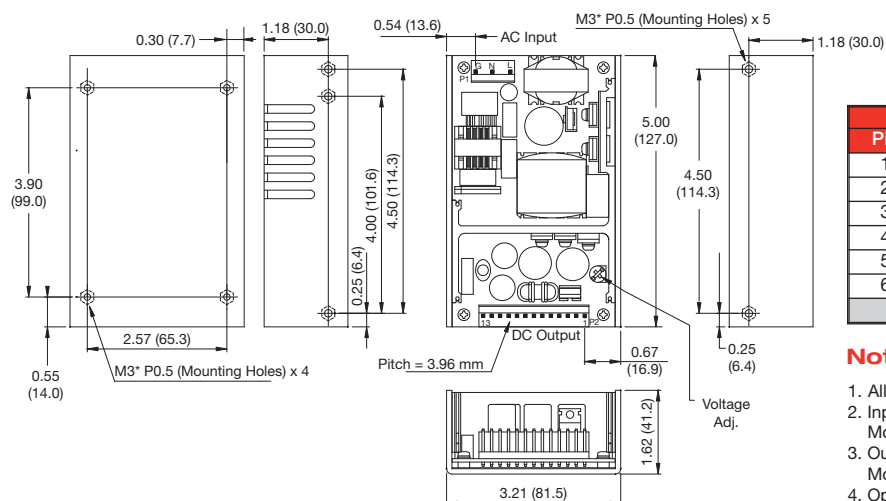


T H E X P E R T S I N P O W E R

| Output Power | Output Voltage | Output Current |         | Total Regulation <sup>(1)</sup> | Model Number <sup>(2,4,5,6)</sup> |
|--------------|----------------|----------------|---------|---------------------------------|-----------------------------------|
|              |                | Minimum        | Maximum |                                 |                                   |
| 144 W        | 9 V            | 0 A            | 16.00 A | 5%                              | SDS150PS09B                       |
| 150 W        | 12 V           | 0 A            | 12.50 A | 5%                              | SDS150PS12B                       |
| 150 W        | 15 V           | 0 A            | 10.00 A | 5%                              | SDS150PS15B                       |
| 150 W        | 18 V           | 0 A            | 8.33 A  | 4%                              | SDS150PS18B                       |
| 150 W        | 24 V           | 0 A            | 6.25 A  | 3%                              | SDS150PS24B                       |
| 150 W        | 30 V           | 0 A            | 5.00 A  | 2%                              | SDS150PS30B                       |
| 150 W        | 36 V           | 0 A            | 4.17 A  | 2%                              | SDS150PS36B                       |
| 150 W        | 48 V           | 0 A            | 3.13 A  | 2%                              | SDS150PS48B                       |

**Notes**

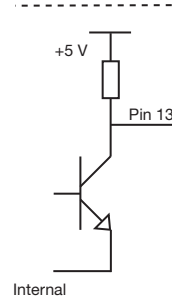
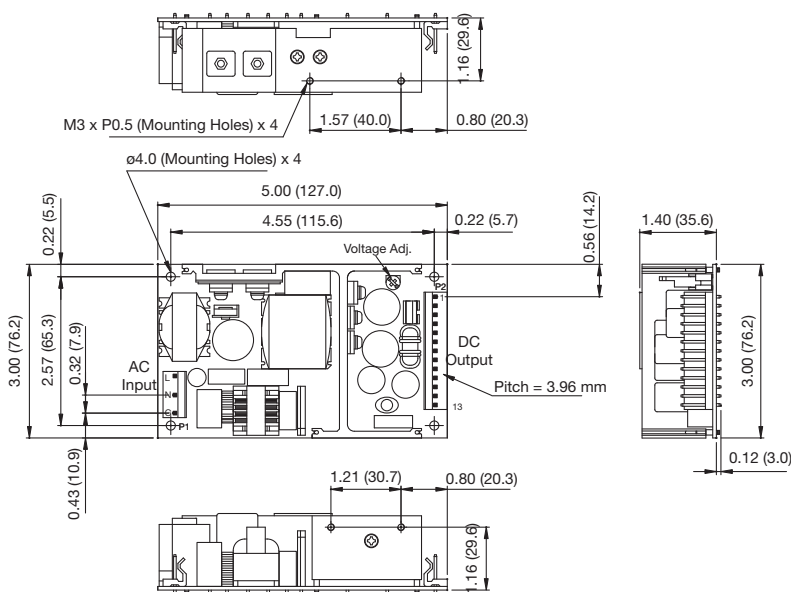
1. Total regulation includes line regulation and load regulation.
2. For optional 2 pin Molex input, add suffix '-D' to model number. Example SDS150PS12B-D.
3. For non-standard voltages contact sales.
4. For optional low temperature -40 °C operation, add suffix '-L' to model number. Example: SDS150PS12B-L.
5. For optional PCB only version, delete suffix 'B' from model number. Example SDS150PS48.
6. For optional Power Fail Detect signal (PFD), add suffix '-P' to model number. Example: SDS150PS48B-P.

**Mechanical Details****U Channel**

| P2 - PIN CONNECTIONS |          |     |                    |
|----------------------|----------|-----|--------------------|
| Pin                  | Function | Pin | Function           |
| 1                    | V1       | 7   | Return             |
| 2                    | V1       | 8   | Return             |
| 3                    | V1       | 9   | Return             |
| 4                    | V1       | 10  | Return             |
| 5                    | V1       | 11  | Return             |
| 6                    | V1       | 12  | Return             |
|                      |          | 13  | PFD <sup>(4)</sup> |

**Notes**

1. All dimensions in inches (mm), tolerance  $\pm 0.02$  ( $\pm 0.5$ ).
2. Input connector P1 mates with Molex housing 09-50-3051 and Molex 2478 series crimp terminal.
3. Output connector P2 mates with Molex housing 09-50-3131 and Molex 2478 series crimp terminal.
4. Optional power fail detect signal on '-P' versions only. Standard models pin 13 is not connected.
5. For mating connector kit order part number SDS120/SDS150 CON KIT.
6. For cable harness order part number SDS150 LOOM.
7. Maximum mounting screw penetration: 0.14 (3.5)
8. For optional cover kit order part number SDS150 COVER
9. Weight: U Channel - 1.27 lbs (580 g) approx.  
Open Frame - 0.86 lbs (390 g) approx.

**Open Frame**

Power Fail Detect (PFD)  
is +5 V for normal operation.

Source current is 5 mA max.

PFD is <0.4 V for either  
AC Fail (<90 VAC) or  
DC Fail (<95% Vnom).  
Sink current is 10 mA max.

## Models and Ratings

SDS180 **XP**

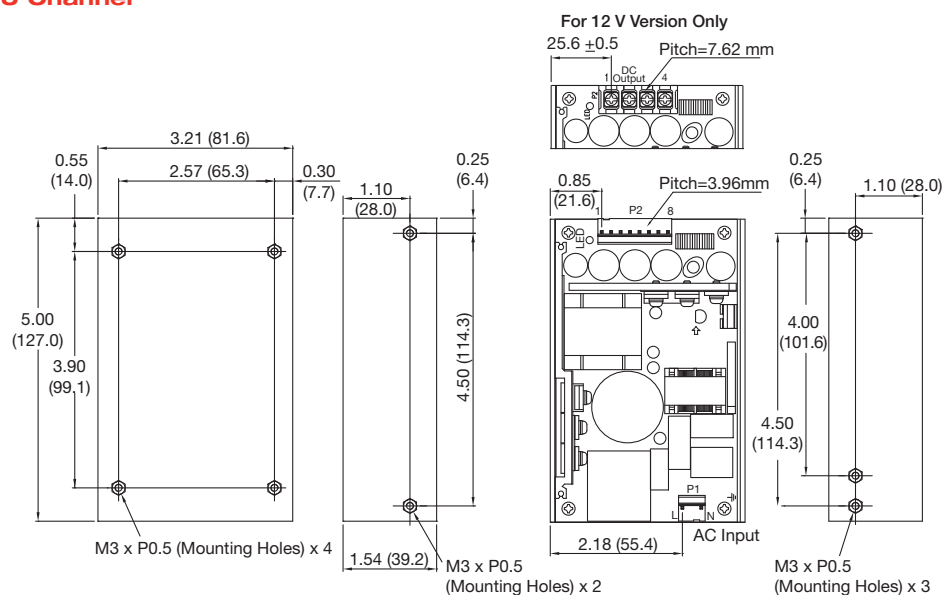
| Output Power         | Output Voltage | Output Current |         | Total Regulation <sup>(2)</sup> | Model Number <sup>(3)</sup> |
|----------------------|----------------|----------------|---------|---------------------------------|-----------------------------|
|                      |                | Minimum        | Maximum |                                 |                             |
| 170 W <sup>(1)</sup> | 12 V           | 0 A            | 14.16 A | 5%                              | SDS180PS12B                 |
| 180 W                | 24 V           | 0 A            | 7.50 A  | 3%                              | SDS180PS24B                 |
| 180 W                | 48 V           | 0 A            | 3.75 A  | 2%                              | SDS180PS48B                 |

## Notes

- Output power is 170 W at highline input and 160 W at low line input, (90-132 VAC).
- Total regulation includes line regulation and load regulation.
- For optional L-bracket version, delete suffix 'B' from model number. Example SDS180PS48.
- For non-standard voltages contact sales.

## Mechanical Details

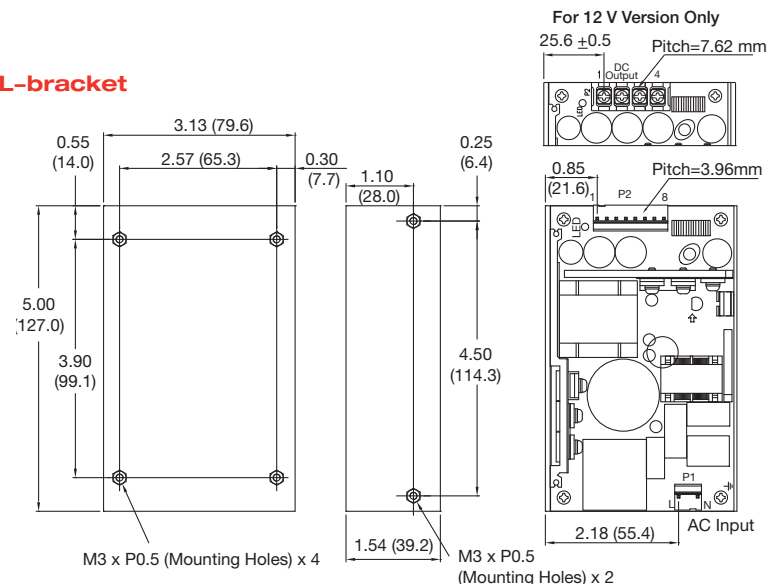
## U Channel



| P2 - PIN CONNECTIONS<br>24/48 V versions |          |     |          |
|------------------------------------------|----------|-----|----------|
| Pin                                      | Function | Pin | Function |
| 1                                        | Return   | 5   | V1       |
| 2                                        | Return   | 6   | V1       |
| 3                                        | Return   | 7   | V1       |
| 4                                        | Return   | 8   | V1       |

| PIN CONNECTIONS<br>12 V version |          |     |          |
|---------------------------------|----------|-----|----------|
| Pin                             | Function | Pin | Function |
| 1                               | Return   | 3   | V1       |
| 2                               | Return   | 4   | V1       |

## L-bracket



## Notes

- All dimensions in inches (mm), tolerance ±0.02 (±0.5).
- Input connector P1 mates with Molex housing 09-50-3031 and Molex 2478 series crimp terminal.
- Output connector P2 mates with Molex housing 09-50-3061 (or 09-50-3081) and Molex 2478 series crimp terminal for 24/48 V Versions. For 12 V Version, output terminal is screw terminal.
- For mating connector kit order part number: SDS180 CON KIT.
- For cable harness order part number SDS180 LOOM.
- Maximum mounting screw penetration: 0.14 (3.5)
- Weight: U Channel - 1.14 lbs (520 g)  
L-bracket - 1.06 lbs (480 g)



Компания «ЭлектроПласт» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Оперативные поставки широкого спектра электронных компонентов отечественного и импортного производства напрямую от производителей и с крупнейших мировых складов;
- Поставка более 17-ти миллионов наименований электронных компонентов;
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- Лицензия ФСБ на осуществление работ с использованием сведений, составляющих государственную тайну;
- Поставка специализированных компонентов (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Aeroflex, Peregrine, Syfer, Eurofarad, Texas Instrument, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Помимо этого, одним из направлений компании «ЭлектроПласт» является направление «Источники питания». Мы предлагаем Вам помощь Конструкторского отдела:

- Подбор оптимального решения, техническое обоснование при выборе компонента;
- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.