

SHP Series: Heavy Duty Modular Power Supplies

This new generation of high power, intelligent modular power supplies, range from 1500 through 4920 watts and were designed for optimum flexibility. The modular design makes these units easy to customize for unusual voltage and power combinations, and the intelligent modules allow the use of I²C or CANBUS/RS485 communication to monitor and control many attributes of the power supply.

All units have power factor corrected inputs, an end mounted fan for cooling and a variety of built-in signals and controls. High reliability and a flexible design make these power supplies an excellent choice for process control and semiconductor fabrication applications.





Applications

- Process Controls
- Semi-Conductor Fabrication
- Automated Service Equipment

Features

- Available in intelligent and non-intelligent models
- Single, dual and triple output modules configurable in combinations up to 24 different outputs
- Single phase and three phase inputs
- I²C control in intelligent modules
- End mounted intelligent fan (speed control/fault status)
- Voltage adjustment on all outputs (manual or I²C)
- CANBUS and RS-485 optional interface
- Overload protection on all outputs
- Power factor correction (.99 typ.)
- Configurable output UP/DOWN sequencing
- Modular Construction
- Configurable input and output OK signals and indicators
- Programmable voltage, current limit, inhibit/enable through I²C
- Three year limited warranty

Certifications and Compliances

-  UL Recognized Component, ITE, E137632
- UL 60950-1/CSA C22.2 No. 60950-1, 2nd Edition
-  - Low Voltage Directive
- IEC/EN 60950-1, 2nd Edition

Related Products

- Surge Protective Devices
- SCD DC to DC Converters
- Active Tracking[®] Filters

Standard Offering Selection Table

| Catalog Number | Output Voltage | Output Current | Watts |
|-----------------|----------------|----------------|-------|
| SH30-4LS-0Z | 12 V | 125 A | 1500 |
| SH30-4NS-0Z | 15 V | 100 A | 1500 |
| SH30-4QS-0Z | 24 V | 62 A | 1500 |
| SH30-4RS-0Z | 28 V | 53 A | 1500 |
| SH30-4WS-0Z | 48 V | 31 A | 1500 |
| SH45-4QS-3QS-4Z | 24 V | 92 A | 2000 |

Accessories Table

| Catalog Number | Description |
|----------------|--|
| 73-769-001 | USB to I ² C adapter |
| 70-841-004 | Mating Connector Kit for Control & Signals (J1 Connector) |
| 70-841-023 | Mating Connector Kit for I ² C Interface (J2 Connector) |

Note: Connector kit includes connector housing and 10 terminals.

Specifications

| Description | SH30 | SH45 | S3H3 | S3H5 |
|--|--|---------------------------------------|---------------------------------------|---------------------------------------|
| Input | | | | |
| Input voltage range | 90–264 Vac; 120–300 Vdc; Single-phase | | 170–264 Vac; Three-phase | |
| Frequency | 47–63 Hz | | | |
| Inrush current | 40 A peak maximum (soft start) | | | |
| Efficiency | Up to 85% at full load | | | |
| Power factor | 0.99 typical | | | |
| Turn–on time | AC on 1.5 s typical, inhibit/enable 150 ms typical, configurable through I ² C; 50 ms internal turn-on delay (dual output only) | | | |
| Hold–up time | 10 ms minimum | | | |
| AC OK | >5 ms early warning before outputs lose regulation, full cycle ride through at 50 Hz, configurable through I ² C | | | |
| Output | | | | |
| Output voltage range | ±10% minimum for all outputs, user-adjustable pot, full adjustment range using I ² C | | | |
| Factory set point accuracy | 0.01 | | | |
| I ² C output program accuracy | ±5% | | | |
| Margining | ±4–6% nominal analog (single output module only) | | | |
| Line/load regulation | 0.4% or 20 mV maximum (1% maximum for 1500 W module) | | | |
| Ripple | RMS: 0.1% or 10 mV maximum; Pk-Pk: 1.0% or 50 mV maximum; bandwidth limited to 20 MHz | | | |
| Dynamic response | <2% or 100 mv with 25% load step | | | |
| Recovery time | Within 1% in <300 μs | | | |
| Overcurrent protection | Single output module and main output of the dual output module 105–120% of rated output current. Aux output of dual output module 105–140% of rated output current. Special programmable OCP delay on 1500 W module from 100 ms to 25.5 s with shutdown features. Configurable through I ² C with load calibration required (except for 1500 W module). | | | |
| Short–circuit protection | Protected for continuous short-circuit; recovery is automatic upon removal of short. Shutdown mode available on the 1500 W module. | | | |
| Overvoltage protection | Single output module: 2–5.5 V, 122–134%; 6–60 V, 110–120%; Dual output module: 2–6 V, 122–134%; 8–28 V, 110–120% Triple output module: No overvoltage protection provided; Configurable through I ² C | | | |
| Thermal protection | All outputs are disabled when the internal temperature exceeds the safe operating range; configurable through I ² C | | | |
| Remote sense | Up to 0.5 V drop (not available on triple output module) | | | |
| Single wire parallel | Current share to within 2% of total rated current | | | |
| DC OK | ±5% of nominal; configurable through I ² C | | | |
| Minimum load | Not required | | | |
| Housekeeping bias voltage | 5 V dc @ 1.0 A maximum present whenever ac input is applied | | | |
| Module inhibit | Configured and controlled through I ² C | | | |
| Output/output isolation | >1 MΩ, 500 V | | | |
| Global inhibit/enable | TTL, Logic “1” and Logic “0”; configurable through I ² C | | | |
| Environmental | | | | |
| Operating temperature | –40 °C to +70 °C ambient; derate each output 2.5% per degree from 50 °C to 70 °C | | | |
| Storage temperature | –40 °C to +85 °C | | | |
| Humidity | 10% to 95% RH, non-condensing | | | |
| Vibration | IEC68-2-6 to the levels of IEC721-3-2 | | | |
| MTBF demonstrated | >550,000 hr. @ full load, 220 V ac, 25 °C ambient | | | |
| Safety | | | | |
| Electromagnetic susceptibility | EN61000-4-2, EN61000-4-4, EN61000-4-5 Level 3 | | | |
| EMI filter | CISPR 22/EN55022 Level B when installed in a properly grounded and shielded metal enclosure | | | |
| Radiated EMI | CISPR 22/EN55022 Level B when installed in a properly grounded and shielded metal enclosure | | | |
| General | | | | |
| Case dimensions H x W x D in (mm) | 5 x 5 x 11 (127.0 x 127.0 x 279.4) | 5 x 8 x 11 (127.0 x 203.2 x 279.4) | 5 x 5 x 11 (127.0 x 127.0 x 279.4) | 5 x 8 x 11 (127.0 x 203.2 x 279.4) |
| Case weight | 6.2 lbs (2.81 kg) | 9.0 lbs (4.08 kg) | 6.2 lbs (2.81 kg) | 9.0 lbs (4.08 kg) |
| Slots available per case | 9 | 14 | 9 | 14 |
| Limited warranty | 3 years | | | |

Output Module Specification Overview

| Intelligent Module Code | 1 | 2 | 3 | 4 | 5 | 6 | |
|---|----------------------|----------------------|----------------------|----------------------|--|--|-----|
| Module Type | Single | Single | Single | Single | Dual | Triple | |
| Max output power ¹ | 210 W | 360 W | 750 W | 1500 W | 144 W | 36 W | |
| Max output current ² | 35 A | 60 A | 150 A | 140 A | 10 A | 2 A | |
| Output voltages available | 2-60 V | 2-60 V | 2-60 V | 6-60 V | 8-15, 24-28; 8-15, 8-15; 8-15, 2-6; 2-6, 2-6; 24-28, 24-28; 24-28, 2-6 | 8-15, 8-15, 2-6; 8-15, 8-15; 8-15, 8-15, 18-28; 8-15, 18-28, 2-6 | |
| Standard voltage increments | 25 | 25 | 25 | 18 | 16 | 18 | |
| Remote sense | Yes | Yes | Yes | Yes | Yes | Yes | No |
| Remote margin | Yes | Yes | Yes | Yes | No | No | No |
| V-Program – I ² C control | Yes | Yes | Yes | Yes | Yes | Yes | No |
| Active current share | Yes | Yes | Yes | Yes | Yes | No | No |
| Module inhibit – I ² C control | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Module inhibit – Analog | Yes | Yes | Yes | Yes | No | No | No |
| Overvoltage/Overcurrent protection | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| Minimum load required | No | No | No | No | No | No | No |
| Slots occupied in any SHP case | 1 | 2 | 3 | 4 | 1 | 1 | |
| Weight | 0.6 lbs (0.27 kg) | 1.0 lbs (0.45 kg) | 1.6 lbs (0.73 kg) | 2.0 lbs (0.91 kg) | 0.6 lbs (0.27 kg) | 0.5 lbs (0.23 kg) | |

| Non-Intelligent Module Code | 1 | 2 | 3 | - | 5 | 6 | |
|------------------------------------|----------------------|----------------------|----------------------|---|----------------------|----------------------|-------------|
| Module Type | Single | Single | Single | - | Dual | Triple | |
| Max output power | 210 W | 360 W | 600 W | - | 144 W | 36 W | |
| Max output current | 35 A | 60 A | 120 A | - | 10 A | 2 A | |
| Output voltages available | 2-60 V | 2-60 V | 2-60 V | - | 2-28 V | 2-28 V | |
| Standard voltage increments | 25 | 25 | 25 | - | 19 | 18 | |
| Remote sense | Yes | Yes | Yes | - | Yes | Yes | No |
| Remote margin/V-Program | Yes | Yes | Yes | - | No | No | No |
| Module inhibit – isolated | Yes | Yes | Yes | - | - | - | - |
| Single wire active current share | Yes | Yes | Yes | - | Yes | No | - |
| Overvoltage/Overcurrent protection | Yes | Yes | Yes | - | Yes | Yes | Overcurrent |
| Minimum load required | No | No | No | - | Yes (10% of load) | No | No |
| Slots occupied in any SHP case | 1 | 2 | 3 | - | 1 | 1 | |
| Weight ³ | 0.6 lbs (0.27 kg) | 1.0 lbs (0.45 kg) | 2.0 lbs (0.91 kg) | - | 0.6 lbs (0.27 kg) | 0.5 lbs (0.23 kg) | |

Notes:

1) For dual & triple output modules: the max output power is the total amount of power for the module.

2) For dual & triple output modules: the max output current is the total max current for each output.

3) To calculate the total weight of the power supply: sum up the weight for each module and add it to the weight of the case given under the Specifications Table.






Catalog Numbering Selection

Intelligent Model

Example: 4500W case with: a 1500W module set at 24V @ 62.5A and a 750W module set at 24V @ 30A connected in parallel for a total of 24V @ 92.5A single output.

SH45-4QS-3QS-4Z

| Case Size | Module Codes | Case Options |
|---|--|--|
| Single Phase Input SH30 = 1500 W - 3210 W, 9 Slots SH45 = 1800 W - 4500 W, 14 Slots Three Phase Input S3H3 = 3120 W, 9 Slots S3H5 = 4920 W, 14 Slots | 1 = 210 W single O/P (1 slot) 2 = 360 W single O/P (2 slot) 3 = 750 W single O/P (3 slot) 4 = 1500 W single O/P (4 Slot) 5 = 144 W dual O/P (1 slot) 6 = 36 W triple O/P (1 slot) X = Extra 30mS hold-up (1 slot) ¹ Output Voltage Codes See Output Module Voltage/Current Table for Intelligent Modules Module Option Codes S = Standard T = Module enable U = Constant current V = T & U combined W = Shutdown mode for 1500 W Y = T & W combined | Paralleling Options 0 = No Parallel Option 1-19 = See Parallel Code Table Special Options Z = No Options R = Reverse air N = Not used G = Global enable F = Fan Idle w/inhibit H = Opt R + Opt G I = Opt R + Opt F J = Opt G + Opt F K = Opt R + G + F C = CANBUS/RS485 (73-544-001) B = USB (73-546-001) |

| SHP Series: Intelligent Modules | |
|---|---|
| Single | |
|  |  |
| 210 W | 750 W |
|  |  |
| 360 W | 1500 W |
| Dual | |
|  |  |
| 144 W | 36 W |

Output Voltage/Current Table for Intelligent Modules ²

| Voltage | Voltage Code | Single Output | | | | Dual Output ³ | | Triple Output | | | I ² C Adjustment Ranges ⁴ |
|---------|--------------|---------------|--------|--------|---------|--------------------------|------|---------------|-------|-------|---|
| | | Module Code | | | | | | | | | |
| | Module Code | 1 | 2 | 3 | 4 | 5 | 5 | 6 | 6 | 6 | |
| 2 V | A | 35 A | 60 A | 150 A | - | 10 A | 10 A | - | - | 2 A | 1.8 - 2.2 V |
| 2.2 V | B | 35 A | 60 A | 150 A | - | 10 A | 10 A | - | - | 2 A | 2.0 - 2.4 V |
| 3 V | C | 35 A | 60 A | 150 A | - | 10 A | 10 A | - | - | 2 A | 2.7 - 3.3 V |
| 3.3 V | D | 35 A | 60 A | 150 A | - | 10 A | 10 A | - | - | 2 A | 3.0 - 3.6 V |
| 5 V | E | 35 A | 60 A | 150 A | - | 10 A | 10 A | - | - | 2 A | 4.5 - 5.5 V |
| 5.2 V | F | 35 A | 60 A | 144 A | - | 10 A | 10 A | - | - | 2 A | 4.7 - 5.7 V |
| 5.5 V | G | 34 A | 58 A | 136 A | - | 10 A | 10 A | - | - | 2 A | 5.0 - 6.1 V |
| 6.0 V | H | 23 A | 42 A | 97.5 A | 140 A | 10 A | 10 A | - | - | 2 A | 5.4 - 6.6 V |
| 8.0 V | I | 20 A | 36 A | 84.4 A | 140 A | 10 A | 4 A | 1 A | 1 A | 1 A | 7.2 - 8.8 V |
| 10 V | J | 18 A | 32 A | 75 A | 140 A | 10 A | 4 A | 1 A | 1 A | 1 A | 9.0 - 11.0 V |
| 11 V | K | 17 A | 31 A | 68 A | 136.3 A | 10 A | 4 A | 1 A | 1 A | 1 A | 9.9 - 12.1 V |
| 12 V | L | 17 A | 30 A | 62.5 A | 125 A | 10 A | 4 A | 1 A | 1 A | 1 A | 10.8 - 13.2 V |
| 14 V | M | 14 A | 21 A | 53.5 A | 107 A | 9 A | 4 A | 1 A | 1 A | 1 A | 12.6 - 15.4 V |
| 15 V | N | 14 A | 20 A | 50 A | 100 A | 8 A | 4 A | 1 A | 1 A | 1 A | 13.5 - 16.5 V |
| 18 V | O | 11 A | 19 A | 41.6 A | 83.3 A | - | - | - | 0.5 A | 0.5 A | 16.2 - 19.8 V |
| 20 V | P | 10.5 A | 18 A | 37.5 A | 75 A | - | - | - | 0.5 A | 0.5 A | 18.0 - 22.0 V |
| 24 V | Q | 8.5 A | 15 A | 30 A | 62.5 A | 4 A | 2 A | - | 0.5 A | 0.5 A | 21.6 - 26.4 V |
| 28 V | R | 6.7 A | 11 A | 26.8 A | 53.5 A | 3 A | 2 A | - | 0.5 A | 0.5 A | 25.2 - 30.8 V |
| 30 V | S | 6.5 A | 11 A | 25 A | 50 A | - | - | - | - | - | 27.0 - 33.0 V |
| 33 V | T | 6.2 A | 10.9 A | 22.7 A | 35.8 A | - | - | - | - | - | 29.7 - 36.3 V |
| 36 V | U | 5.8 A | 10 A | 20.8 A | 35.8 A | - | - | - | - | - | 32.4 - 39.6 V |
| 42 V | V | 4.2 A | 7.5 A | 16 A | 35.7 A | - | - | - | - | - | 37.8 - 46.2 V |
| 48 V | W | 4.0 A | 7.5 A | 15.6 A | 31.2 A | - | - | - | - | - | 43.2 - 52.8 V |
| 54 V | X | 3.7 A | 6.0 A | 13.9 A | 27.7 A | - | - | - | - | - | 48.6 - 59.4 V |
| 60 V | Y | 3.5 A | 6.0 A | 12.5 A | 25 A | - | - | - | - | - | 54.0 - 66.0 V |

Notes:

1) Certifications pending.

2) Increments of current not shown can be achieved by paralleling modules. See Parallel Code Table.

3) Total output power on dual and triple modules must not exceed the max output power rating for the module.

4) I²C Adjustment Ranges apply to single output modules only.

Catalog Numbering Selection

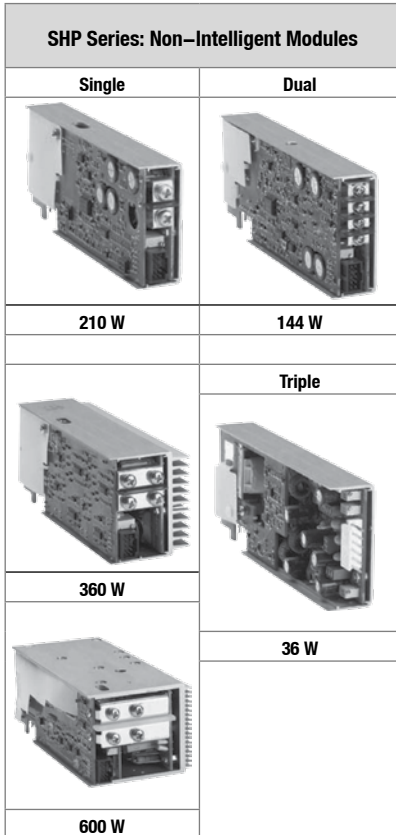
Non-Intelligent Model

Example: 3210W case with: a 36W triple output module set at 11V @ 1A, 24V @ 0.5A, 5V @ 2A and a 600W module set at 24V @ 23.5A.

SH30-6KQE-3Q-0Z

| Case Size | Module Codes | Case Options |
|---|--|--|
| Single Phase Input SH30 = 1500 W - 3210 W, 9 Slots SH45 = 1800 W - 4500 W, 14 Slots Three Phase Input S3H3 = 3120 W, 9 Slots S3H5 = 4920 W, 14 Slots | 1 = 210 W single O/P (1 slot) 2 = 360 W single O/P (2 slot) 3 = 600 W single O/P (3 slot) 5 = 144 W dual O/P (1 slot) 6 = 36 W triple O/P (1 slot) X = Extra 30mS hold-up (1 slot) ¹ Output Voltage Codes See Output Module Voltage/Current Tables for Standard Modules | Paralleling Options 0 = No Parallel Option 1-19 = See Parallel Code Table Special Options Z = No Options R = Reverse air N = Not used G = Global enable F = Fan Idle w/inhibit H = Opt R + Opt G I = Opt R + Opt F J = Opt G + Opt F K = Opt R + G + F C = CANBUS/RS485 (73-544-001) ² B = USB (73-546-001) ² |

Output Voltage/Current Table for Non-Intelligent Modules ³



| Voltage | Voltage Code | Single Output | | | Dual Output ⁴ | | Triple Output | | |
|-------------|--------------|---------------|--------|--------|--------------------------|------|---------------|-------|-------|
| Module Code | | | | | | | | | |
| Module Code | | 1 | 2 | 3 | 5 | 5 | 6 | 6 | 6 |
| 2 V | A | 35 A | 60 A | 120 A | - | 10 A | - | - | 2 A |
| 2.2 V | B | 35 A | 60 A | 120 A | - | 10 A | - | - | 2 A |
| 3 V | C | 35 A | 60 A | 120 A | - | 10 A | - | - | 2 A |
| 3.3 V | D | 35 A | 60 A | 120 A | - | 10 A | - | - | 2 A |
| 5 V | E | 35 A | 60 A | 120 A | 10 A | 10 A | - | - | 2 A |
| 5.2 V | F | 35 A | 60 A | 115 A | - | 10 A | - | - | 2 A |
| 5.5 V | G | 34 A | 58 A | 109 A | - | 10 A | - | - | 2 A |
| 6.0 V | H | 23 A | 42 A | 78 A | - | 10 A | - | - | 2 A |
| 8.0 V | I | 20 A | 36 A | 68 A | - | - | 1 A | 1 A | 1 A |
| 10 V | J | 18 A | 32 A | 60 A | - | - | 1 A | 1 A | 1 A |
| 11 V | K | 17 A | 31 A | 54.5 A | - | - | 1 A | 1 A | 1 A |
| 12 V | L | 17 A | 30 A | 50 A | 10 A | 4 A | 1 A | 1 A | 1 A |
| 14 V | M | 14 A | 21 A | 40.5 A | 9 A | 4 A | 1 A | 1 A | 1 A |
| 15 V | N | 14 A | 20 A | 39 A | 8 A | 4 A | 1 A | 1 A | 1 A |
| 18 V | O | 11 A | 19 A | 33.3 A | - | - | - | 0.5 A | 0.5 A |
| 20 V | P | 10.5 A | 18 A | 30 A | - | - | - | 0.5 A | 0.5 A |
| 24 V | Q | 8.5 A | 15 A | 23.5 A | 4 A | 2 A | - | 0.5 A | 0.5 A |
| 28 V | R | 6.7 A | 12.8 A | 21.4 A | 3 A | 2 A | - | 0.5 A | 0.5 A |
| 30 V | S | 6.5 A | 12 A | 20 A | - | - | - | - | - |
| 33 V | T | 6.2 A | 10.9 A | 18.2 A | - | - | - | - | - |
| 36 V | U | 5.8 A | 10 A | 16.6 A | - | - | - | - | - |
| 42 V | V | 4.2 A | 7.5 A | 12.5 A | - | - | - | - | - |
| 48 V | W | 4.0 A | 7.5 A | 12.5 A | - | - | - | - | - |
| 54 V | X | 3.7 A | 6.0 A | 11 A | - | - | - | - | - |
| 60 V | Y | 3.5 A | 6.0 A | 10 A | - | - | - | - | - |

Notes:

- 1) Certifications pending.
- 2) Only the input parameters will have communications capabilities with these options. Non-intelligent modules do not provide communication capabilities on the output side.
- 3) Increments of current not shown can be achieved by paralleling modules. See Parallel Code Table.
- 4) Total output power on dual and triple modules must not exceed the max output power rating for the module.

Parallel Code Table

| Parallel Code | SH30 & S3H3 | | | SH45 & S3H5 | | |
|---------------|----------------|---|----------------------|---|--|--|
| | Slot No. | Possible Configurations (Modules in Watts) | | Slot No. | Possible Configurations (Modules in Watts) | |
| 1 | 1 & 2 | 210-210; 210-144; 144-144 | 1 & 2 | 210-210; 210-144; 144-144 | | |
| 2 | 2 & 3 | 360-360; 360-210; 360-144; + above | 2 & 3 | 360-360; 360-210; 360-144; + above | | |
| 3 | 3 & 4 | 750-360; 750-210; 750-144; 210-210; 210-144; 144-144 | 3 & 4 | 750-750; 750-360; 750-210; 750-144; 210-210; 210-144; 144-144 | | |
| 4 | 4 & 5 | 1500-210; 1500-144; 210-210; 210-144; 144-144; 360-210; 360-144 | 4 & 5 | 1500-1500; 1500-750; 1500-360; 1500-210; 1500-144; 210-210; 210-144; 144-144; 360-360; 360-210; 360-144 | | |
| 5 | 3, 4, & 5 | 750-210-210; 750-210-144; 750-144-144 | 3, 4, & 5 | 750-210-210; 750-210-144; 750-144-144 | | |
| 6 | 4 & 6 | 1500-1500; 1500-750 | - | - | | |
| 7 | 4, 5, & 6 | 1500-210-210; 1500-210-144; 1500-144-144 | 4, 5, & 6 | 1500-210-210; 1500-210-144; 1500-144-144 | | |
| 8 | 3 & 6 | 750-750 | 4, 5, & 9 | 1500-1500-1500; 1500-1500-750; 1500-1500-360; 1500-1500-210; 1500-1500-144 | | |
| 9 | 1 & 6 | 1500-1500; 1500-360; 1500-144 | 4, 5 & 9; 12 & 13 | 1500-1500-1500-360; 1500-1500-1500-210; 1500-1500-1500-144 | | |
| 10 | 3 & 4; 8 & 9 | 750-210 & 750-210 | 4 & 5; 11 & 12 | 1500-1500 & 750-750 | | |
| 11 | 3, 4 & 6 | 750-360-750 | 6 & 7; 3, 4, 11 & 12 | 750, 750, 360, 750, 750 | | |
| 12 | 3, 4, 6; 8 & 9 | 750, 360, 750, 210 | 3, 4, 11, & 12 | 750, 750, 750, 750 | | |
| 13 | 7 & 8 | 360-360 | 3 & 4; 11 & 12 | 750-360 & 750-210; 750-750 & 750-750 | | |
| 14 | - | - | 3, 4 & 9 | 750-750-750 | | |
| 15 | - | - | 11 & 12 | 750-750 | | |
| 16 | - | - | 4 & 5; 9 & 10 | 1500-210 & 210-1500 | | |
| 17 | - | - | 1 & 9; 5 & 12 | 1500-750 & 1500-750 | | |
| 18 | - | - | 3 & 4; 7 & 8; 9 & 10 | 750-210 & 750-210 & 210-1500 | | |
| 19 | - | - | 3, 4 & 9; 6 & 7 | 750, 750, 360, 750 | | |

Connector Tables

Table 1: AC Input

| PIN # | FUNCTION | |
|-------|------------------------|------------------------|
| | SH30 & SH45 | S3H3 & S3H5 |
| 1 | AC neutral (DC -) | L1 |
| 2 | AC line (DC +) | L2 |
| 3 | Chassis (earth) ground | L3 |
| 4 | — | Chassis (earth) ground |

BARRIER TYPE
 SH30: THREE #6-32 BH SCREWS, 6 in.-lbs. (0.67 N-m) TORQUE
 SH45: THREE M4 SCREWS, 7 in.-lbs. (0.79 N-m) TORQUE
 S3H3: FOUR M3 SCREWS, 6 in.-lbs. (0.67 N-m) TORQUE
 S3H5: THREE M3.5 SCREWS, 6 in.-lbs. (0.67 N-m) TORQUE

Table 2: PFC Input Connector (Control & Signals)

| PIN # | FUNCTION |
|-------|--|
| 1 | Input ac OK (emitter) |
| 2 | Input ac OK (collector) |
| 3 | Global dc OK (emitter) |
| 4 | Global dc OK (collector) |
| 5 | No connection |
| 6 | Global inhibit/optional enable logic "0" |
| 7 | Global inhibit/optional enable logic "1" |
| 8 | Global inhibit/optional enable return |
| 9 | +5 VSB housekeeping (1A max) |
| 10 | +5 VSB housekeeping return |

MATES WITH:
 MOLEX 90142-0010 HOUSING
 MOLEX 90119-2110 TERMINAL
CONNECTOR KIT P/N 70-841-004

Table 3: I²C Bus Output Connector

| PIN # | FUNCTION |
|-------|-----------------------------|
| 1 | |
| 2 | No connection |
| 3 | |
| 4 | Serial clock signal (SCL) |
| 5 | Serial data signal (SDA) |
| 6 | Address bit 0 (A0) |
| 7 | Address bit 1 (A1) |
| 8 | Address bit 2 (A2) |
| 9 | Secondary return (GND) |
| 10 | 5 VCC external bus (1A max) |

MATES WITH:
 JST PHDR-10VS HOUSING
 JST SPHD-002T-P0.5 TERMINAL (FOR 24-28 AWG WIRE)
 JST SPHD-001T-P0.5 TERMINAL (FOR 24-28 AWG WIRE) OR
 LAND WIN 2050S1000 HOUSING
 LAND WIN 2053T011P TERMINAL
CONNECTOR KIT P/N 70-841-023

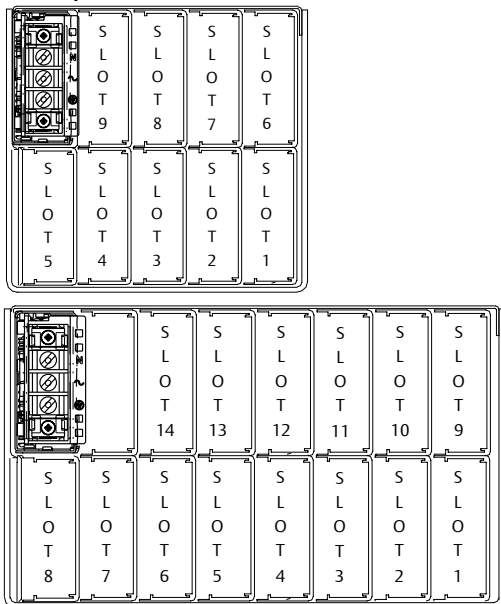
Table 4: DC Output Connector (Located on output modules)

| PIN # | FUNCTION |
|-------|---|
| 1 | + Remote sense (single or dual o/p main) |
| 2 | Remote margin/V. program (single o/p) |
| 3 | Margin high (single o/p) |
| 4 | - Remote sense/margin low (single or dual o/p main) |
| 5 | Spare |
| 6 | Module isolated inhibit (single or dual o/p) |
| 7 | Module inhibit return (single or dual o/p) |
| 8 | Current share (SWP) (single or dual o/p main) |
| 9 | + Remote sense V2 (dual o/p, single is spare) |
| 10 | - Remote sense V2 (dual o/p, single is spare) |

MATES WITH:
 MOLEX 90142-0010 HOUSING
 MOLEX 90119-2110 TERMINAL
CONNECTOR KIT P/N 70-841-004

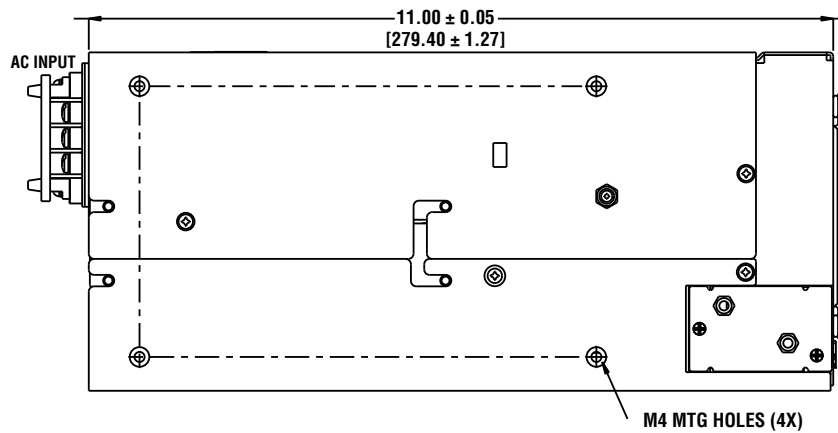
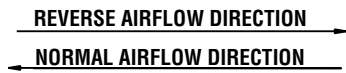
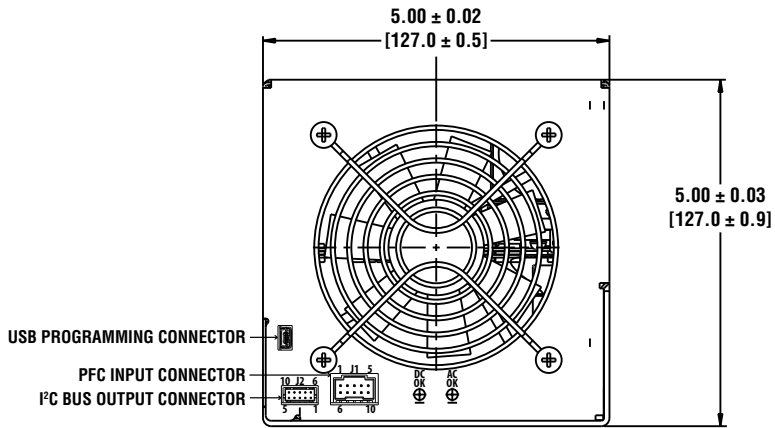
Notes:
 Output Module Connections: M4 x 8mm screws for all single output modules; maximum torque is 10 in.-lb. (1.13 N-m).
 M3 x 8mm screws for dual output module; maximum torque is 5 in.-lb. (0.57 N-m).
 36W triple output module connector mates with Molex 09-91-0600 housing and Molex 26-60-5060 terminals.

Case Specifications



| Case Dimensions | Input | |
|---|---------------------------|----------------------------|
| SH30 = 5" x 5" x 11" (127 x 127 x 279.4) 9 available slots, Single-phase | 90-264 Vac 1500 W max. | 170-264 Vac 3210 W max. |
| S3H3 = 5" x 5" x 11" (127 x 127 x 279.4) 9 available slots, Three-phase | N/A | 170-264 Vac 3210 W max. |
| SH45 = 5" x 8" x 11" (127 x 203.2 x 279.4) 14 available slots, Single-phase | 90-264 Vac 1800 W max. | 170-264 Vac 4500 W max. |
| S3H5 = 5" x 8" x 11" (127 x 203.2 x 279.4) 14 available slots, Three-phase | N/A | 170-264 Vac 4920 W max. |

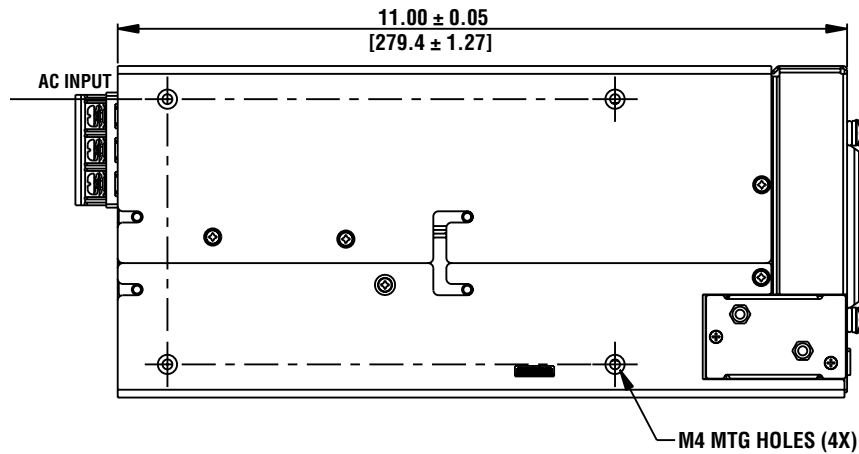
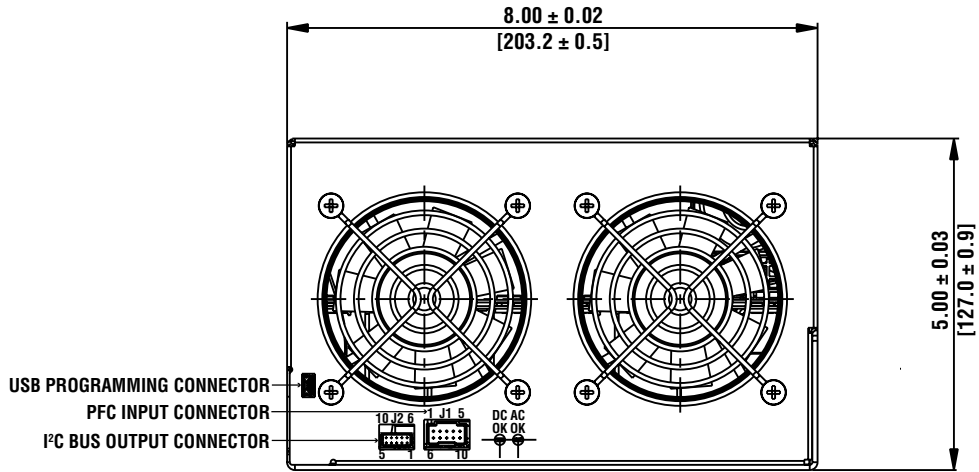
SH30 and S3H3 Dimensional Drawings



Notes:

1. See Connectors Table 1 for screw types.
2. Chassis material: aluminum with chemical film coating (conductive).
3. All dimensions are in millimeters and inches, and are typical.
4. Customer mounting - 3 sides M4, bottom also includes 8-32 mounting holes. Max. penetration is 0.155" (4.0mm). Max. torque: 5in-lbs. (0.57N-m).

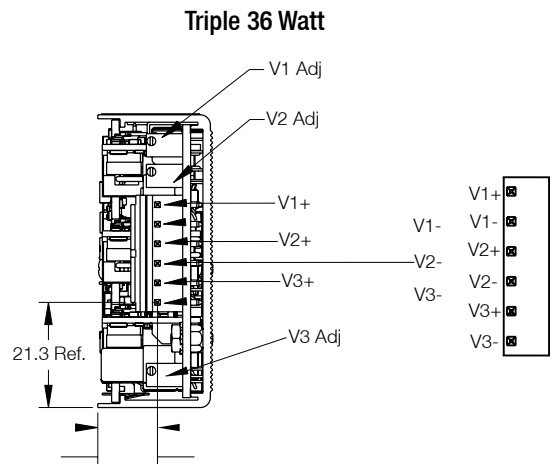
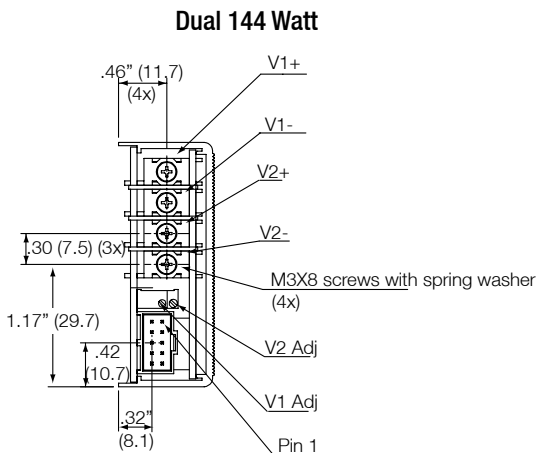
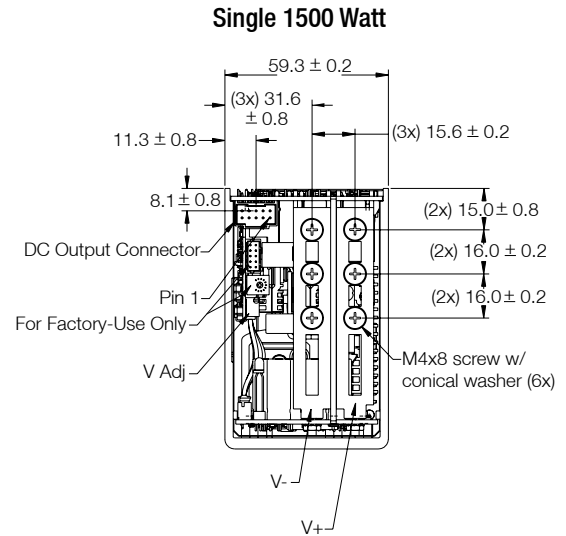
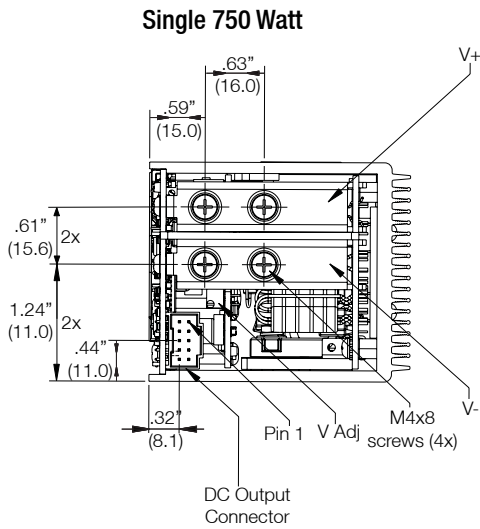
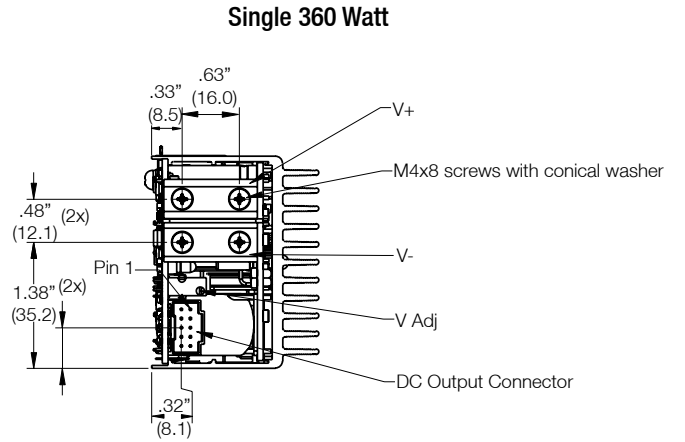
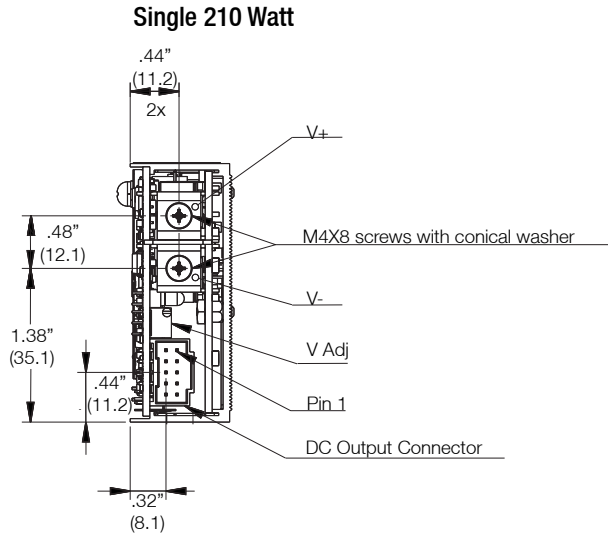
SH45 and S3H5 Dimensional Drawings



Notes:

1. See Connectors Table 1 for screw types.
2. Chassis material: aluminum with chemical film coating (conductive).
3. All dimensions are in millimeters and inches, and are typical.
4. Customer mounting - 3 sides M4, bottom also includes 8-32 mounting holes. Max. penetration is 0.155" (4.0mm). Max. torque: 5in-lbs. (0.57N-m).

Intelligent Modules Dimensional Drawings

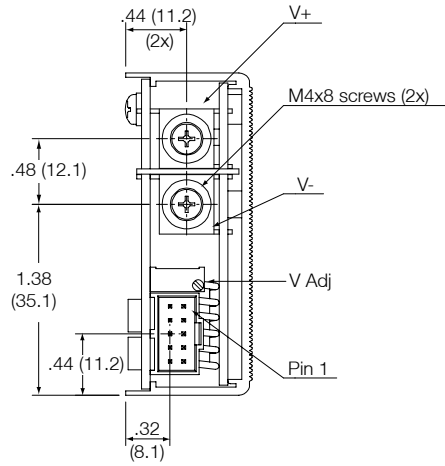


Notes:

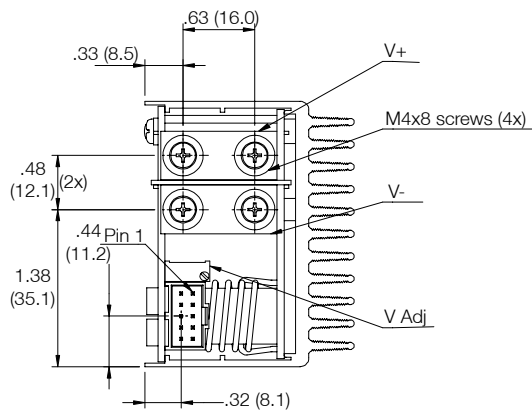
1. Output Module Connections: All single O/P modules are M4 x 8mm screws. Maximum torque: 10 in.-lbs. (1.13 N-m).
Dual O/P module is M3 x 8mm screws. Maximum torque: 5 in.-lbs. (0.57 N-m).
2. All output modules have a green DC OK LED, (except for 36W module).
3. See Connectors Table 4 for mating connector kits.

Non-Intelligent Modules Dimensional Drawings

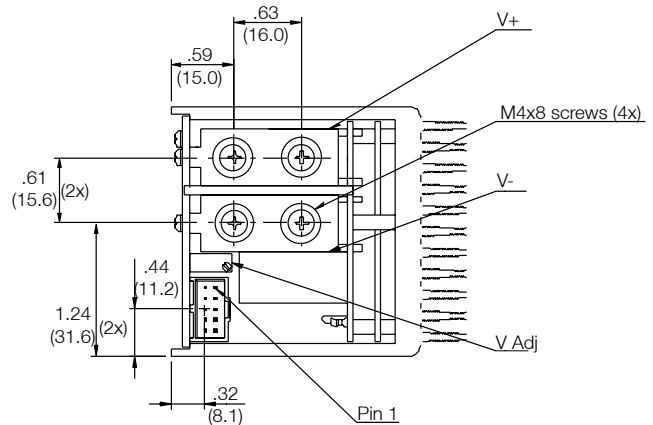
Single 210 Watt



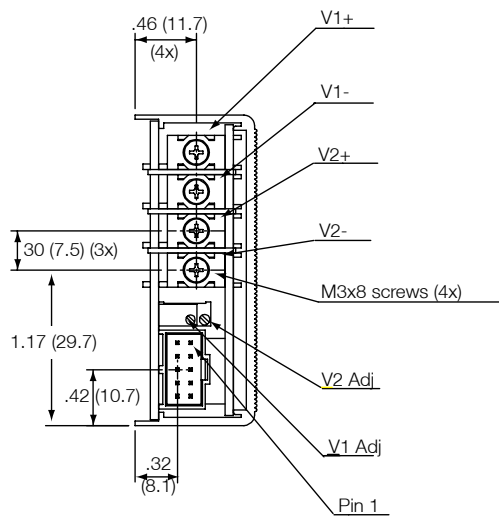
Single 360 Watt



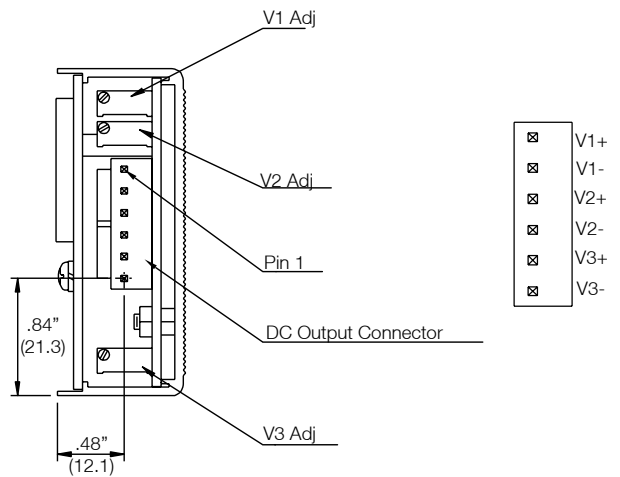
Single 600 Watt



Dual 144 Watt



Triple 36 Watt



Notes:

1. Output Module Connections: All single O/P modules are M4 x 8mm screws. Maximum torque:10 in.-lbs. (1.13 N-m).
Dual O/P module is M3 x 8mm screws. Maximum torque: 5 in.-lbs. (0.57 N-m).
2. All output modules have a green DC OK LED, (except for 36W module).
3. See Connectors Table 4 for mating connector kits.



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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