

# APS

## Advanced Power Solutions

### AC INPUT AC/DC DUAL SELECTABLE SINGLE & MULTIPLE OUTPUT 45-100 WATTS 19" COMPATIBLE SWITCHING POWER SUPPLIES APS45SU, APS60SU & APS100SU SERIES EUROCARD VMEbus SYSTEM



#### FEATURES:

- DUAL INPUT RANGE USER SELECTABLE
- 19" COMPATIBLE EUROCARD FORMAT
- MEETS THE SAFETY STANDARDS
- EMI MEETS CISPR PUB.22 & FCC CLASS B
- CE MARKING COMPLIANCE
- APS45SU 6TEX3U X160MM VMEbus STANDARD
- APS60SU 8TEX3U X160MM VMEbus STANDARD
- APS100SU 10TEX3U X160MM VMEbus STANDARD

#### SPECIFICATION

##### INPUT SPECIFICATION

**Input Voltage:** 115Vac/230Vac dual selectable  
**Input Connector:** DIN 41612 at rear  
**Input Frequency:** 47-63Hz  
**Inrush Current:** Typ. 25A @230Vac  
**Input Current:**  
 APS45SU 0.88A@115Vac/0.44A@230Vac use T2.0A/250Vac fuse  
 APS60SU 1.2A@115Vac/0.7A@230Vac use T2.5A/250Vac fuse  
 APS100SU 2.2A@115Vac/1.2A@230Vac use T3.15A/250Vac fuse  
**Dielectric Withstand:** Meet IEC950  
**EMI:** Meet CISPR PUB.22 or FCC Class B  
**Power Fail Signal:** Installed  
**Remote (Logic) Inhibit:** Available  
**Hold-up Time:** Typ. 20mS @115Vac/50mS @230Vac  
**Earth leakage:** Typ. 0.3mA @230Vac  
**Overload Protection (OLP):** Fully protected against  
 output overload and short circuit  
 Consult the factory for OLP setting

##### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart  
**Output Current:** See Ratings Chart  
**Output Wattage:** Typ. 45 Watts for APS45SU  
 Typ. 60 Watts for APS60SU  
 Typ. 100 Watts for APS100SU  
**Output Connector:** DIN 41612 at rear  
**Line Regulation:** Typ. 0.4%  
**Load Regulation:** Main VO1 typ.  $\pm 1.0\%$   
 Aux. VO2 typ.  $\pm 2-3.0\%$  (PR)  $\pm 2.0\%$  (Mag. Amp)  
 Aux. VO3 typ.  $\pm 2-3.0\%$  (P.R.); Aux. VO4 typ.  $\pm 2-3.0\%$  (P.R.)  
**Noise & Ripple:** Typ. 1% peak to peak  
**OVP:** Built-in at main VO1 (latch)  
**Adjustability:** Available at main output VO1 and  
 Aux. output VO2 (Mag. Amp)  
**Remote Sense:** Installed in main VO1

##### GENERAL SPECIFICATION

**Efficiency:** Typ. 70-75%.  
**Switching Frequency:** Typ. 100K Hz.  
**Circuit Topology:** Forward circuit.  
**Transient Response:** Output voltage returns in less than  
 3mS following a 25% load change.  
**Safety Standard:** IEC950/UL1950.  
**Power Density:** 1.4 Watt / Cubic Inch for APS45SU &  
 APS60SU.  
 1.9 Watt / Cubic Inch for APS100SU.

**Operating Temperature:** 0 to +40°C at full load.  
 Derate linearly to +70°C at half load.  
**Storage Temperature:** -20 to +85°C.  
**Temperature Coefficient:** Typ. 0.04%/°C.  
**Cooling:** Free air convection cooling.  
**Construction format:** 6,8,10Tex3U compatible  
 Eurocard VMEbus standard.

Note: All measurements are at nominal input, full load, and +40°C unless otherwise specified.



# OUTPUT VOLTAGE/CURRENT RATINGS CHART

## APS45SU Series

### SINGLE OUTPUT

| MODEL NO.      | MAIN VO1 ★@#<br>Typ. Volt. |
|----------------|----------------------------|
| APS45SU-10/(E) | 9.0A 5.0V                  |
| APS45SU-11     | 4.0A 12.0V                 |
| APS45SU-11/(E) | 3.7A 12.0V                 |
| APS45SU-12/(E) | 3.0A 15.0V                 |
| APS45SU-13/(E) | 2.0A 24.0V                 |

### DUAL OUTPUT

| MODEL NO.  | MAIN VO1 ★@#<br>Typ. Volt. | AUX. VO2 ••<br>Typ. Volt. |
|------------|----------------------------|---------------------------|
| APS45SU-20 | 4.0A 5.0V                  | 2.0A 12.0V                |
| APS45SU-21 | 2.0A 12.0V                 | 1.5A 12.0V                |
| APS45SU-22 | 4.0A 5.0V                  | 1.2A 15.0V                |
| APS45SU-23 | 1.5A 15.0V                 | 1.5A 15.0V                |
| APS45SU-24 | 4.0A 5.0V                  | 1.0A 24.0V                |
| APS45SU-25 | 1.0A 24.0V                 | 1.0A 24.0V                |

### TRIPLE OUTPUT

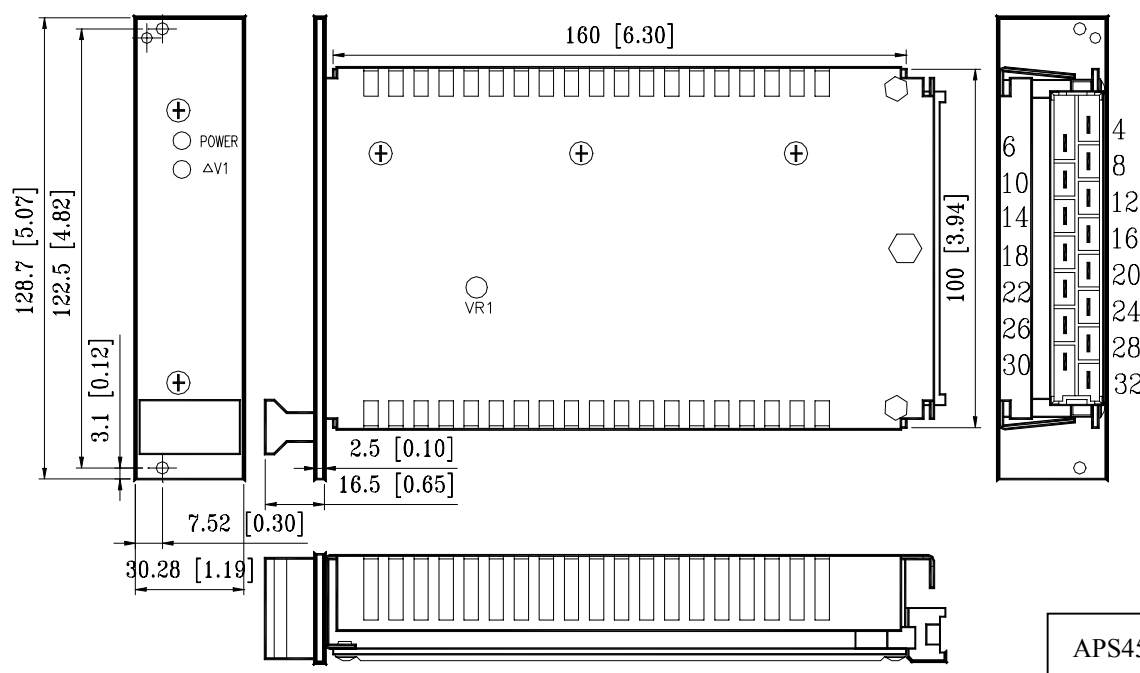
| MODEL NO.  | MAIN VO1 ★@#<br>Typ. Volt. | AUX. VO2 ••<br>Typ. Volt. | AUX. VO3 ••<br>Typ. Volt. |
|------------|----------------------------|---------------------------|---------------------------|
| APS45SU-30 | 3.0A 5.0V                  | 2.0A 12.0V                | 0.5A 5.0V                 |
| APS45SU-31 | 3.0A 5.0V                  | 2.0A 15.0V                | 0.5A 15.0V                |
| APS45SU-32 | 3.0A 5.0V                  | 2.0A 12.0V                | 0.5A 12.0V                |
| APS45SU-33 | 3.0A 5.0V                  | 1.0A 24.0V                | 0.5A 12.0V                |

Symbol: ★"OVP built-in. "@Adjustable. "#Remote sensing. "▲" Magnetic Amplifier.

"••" Post of Regulator. "†"Stacked on main output.

**MECHANICAL DIMENSIONS: MM [INCHES]**

**WEIGHT: APS45SU 537.0g (18.90 Oz.)**



### INPUT & OUTPUT CONNECTORS PIN ASSIGNMENTS

| ASSIGNMENT | AC INPUT |      |      | SINGLE/DUAL/TRIPLE OUTPUT |       |      |      |      |      |                   | ASSORTED SIGNAL |    |    |            |
|------------|----------|------|------|---------------------------|-------|------|------|------|------|-------------------|-----------------|----|----|------------|
|            | AC-L     | AC-N | AC-G | +VO1                      | -VO1  | +VO2 | -VO2 | +VO3 | -VO3 | NC                | LOG. INH.       | +S | -S | POWER FAIL |
| APS45SU-1X | 28       | 30   | 32   | 4,6                       | 12,14 | -    | -    | -    | -    | 16,18,24,26       | 20              | 8  | 10 | 22         |
| APS45SU-2X | 28       | 30   | 32   | 4                         | 6     | 8    | 10   | -    | -    | 12,14,16,18,24,26 | 20              | -  | -  | 22         |
| APS45SU-3X | 28       | 30   | 32   | 8,6                       | 8,10  | 12   | 14   | 16   | 18   | 24,26             | 20              | -  | -  | 22         |

Mating connector: DIN41612-H15 Female.

# OUTPUT VOLTAGE/CURRENT RATINGS CHART

## APS60SU Series

### SINGLE OUTPUT

| MODEL NO.    | MAIN VO1 ★@#<br>Typ. Volt. |
|--------------|----------------------------|
| APS60SU-10   | 12.0A 5.0V                 |
| APS60SU-10B1 | 10.0A 6.0V                 |
| APS60SU-11   | 5.0A 12.0V                 |
| APS60SU-12   | 4.0A 5.0V                  |
| APS60SU-13   | 2.5A 24.0V                 |
| APS60SU-15   | 3.0A 19.0V                 |

### DUAL OUTPUT

| MODEL NO.  | MAIN VO1 ★@#<br>Typ. Volt. | AUX. VO2 •▲<br>Typ. Volt. |
|------------|----------------------------|---------------------------|
| APS60SU-20 | 5.0A 5.0V                  | 3.0A 12.0V                |
| APS60SU-21 | 2.5A 12.0V                 | 2.5A 12.0V                |
| APS60SU-22 | 5.0A 5.0V                  | 2.5A 15.0V                |
| APS60SU-23 | 2.0A 15.0V                 | 2.0A 15.0V                |
| APS60SU-24 | 5.0A 5.0V                  | 1.5A 24.0V                |
| APS60SU-25 | 1.4A 24.0V                 | 1.4A 24.0V                |

### TRIPLE OUTPUT

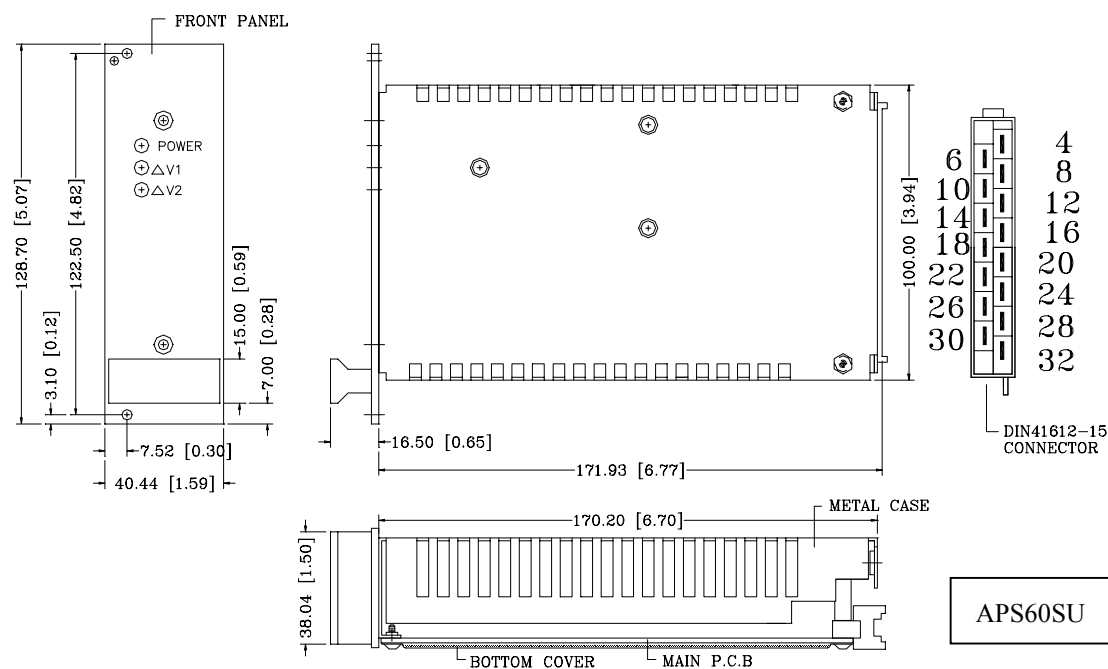
| MODEL NO.  | MAIN VO1 ★@#<br>Typ. Volt. | AUX. VO2 •▲<br>Typ. Volt. | AUX. VO3 •●<br>Typ. Volt. |
|------------|----------------------------|---------------------------|---------------------------|
| APS60SU-30 | 5.0A 5.0V                  | 2.5A 12.0V                | 1.0A 5.0V                 |
| APS60SU-31 | 5.0A 5.0V                  | 2.0A 12.0V                | 0.5A 15.0V                |
| APS60SU-32 | 5.0A 5.0V                  | 2.5A 12.0V                | 0.5A 12.0V                |
| APS60SU-33 | 5.0A 5.0V                  | 1.5A 24.0V                | 0.5A 12.0V                |

Symbol: "★" OVP built-in. "@Adjustable. "#Remote sensing. "▲" Magnetic Amplifier.

"●" Post of Regulator. "†" Stacked on main output. "•" Floating(or isolated) output.

## MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: APS60SU 707.0g (24.94 Oz.)



## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENTS

| ASSIGNMENT | AC INPUT |      |      | SINGLE/DUAL/TRIPLE OUTPUT |       |      |      |      |      |                   | ASSORTED SIGNAL |    |    |            |
|------------|----------|------|------|---------------------------|-------|------|------|------|------|-------------------|-----------------|----|----|------------|
|            | AC-L     | AC-N | AC-G | +VO1                      | -VO1  | +VO2 | -VO2 | +VO3 | -VO3 | NC                | LOG. INH.       | +S | -S | POWER FAIL |
| APS60SU-1X | 28       | 30   | 32   | 4,6                       | 12,14 | -    | -    | -    | -    | 16,18,24,26       | 20              | 8  | 10 | 22         |
| APS60SU-2X | 28       | 30   | 32   | 4                         | 6     | 8    | 10   | -    | -    | 12,14,16,18,24,26 | 20              | -  | -  | 22         |
| APS60SU-3X | 28       | 30   | 32   | 8,6,                      | 8,10  | 12   | 14   | 16   | 18   | 24,26             | 20              | -  | -  | 22         |

Mating connector: DIN41612-H15 Female.

**OUTPUT VOLTAGE/CURRENT RATINGS CHART****APS100SU Series****SINGLE OUTPUT**

| MODEL NO.   | MAIN VO1 ★@#<br>Typ. Volt. |
|-------------|----------------------------|
| APS100SU-10 | 20.0A 5.0V                 |
| APS100SU-11 | 8.0A 12.0V                 |
| APS100SU-12 | 7.0A 15.0V                 |
| APS100SU-13 | 4.2A 24.0V                 |
| APS100SU-16 | 3.6A 28.0V                 |
| APS100SU-18 | 2.0A 48.0V                 |

**DUAL OUTPUT**

| MODEL NO.    | MAIN VO1 ★@#<br>Typ. Volt. | AUX. VO2 •▲<br>Typ. Volt. |
|--------------|----------------------------|---------------------------|
| APS100SU-20  | 8.0A 5.0V                  | 5.0A 12.0V                |
| APS100SU-21  | 4.2A 12.0V                 | 4.2A 12.0V                |
| APS100SU-22  | 8.0A 5.0V                  | 4.0A 15.0V                |
| APS100SU-23  | 3.4A 15.0V                 | 3.4A 15.0V                |
| APS100SU-24  | 8.0A 5.0V                  | 2.5A 24.0V                |
| APS100SU-25  | 2.1A 24.0V                 | 2.1A 24.0V                |
| APS100SU-26E | 8.0A 12.0V                 | 0.5A 24.0V                |

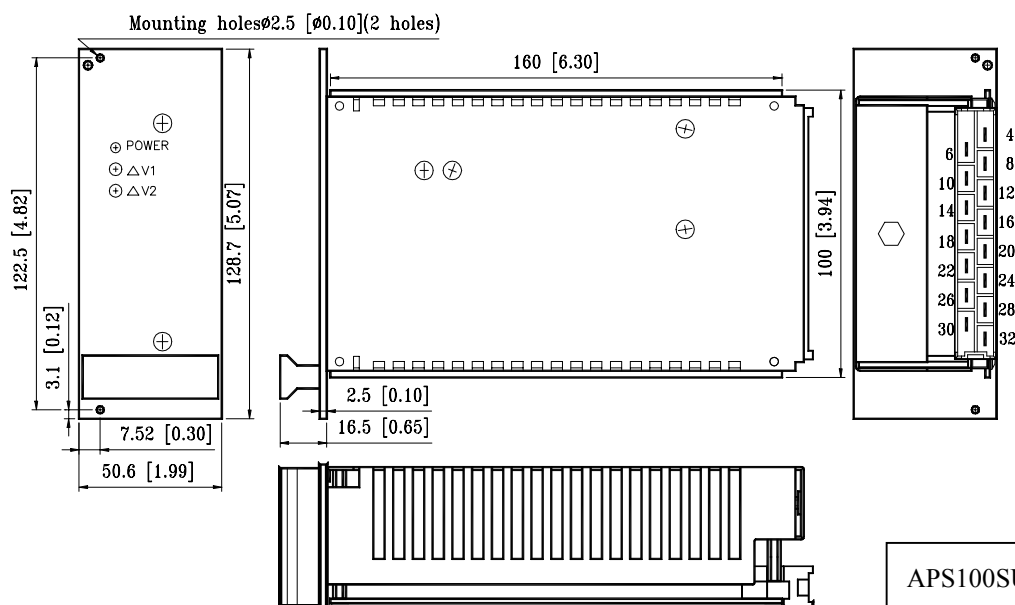
**TRIPLE OUTPUT**

| MODEL NO.   | MAIN VO1 ★@#<br>Typ. Volt. | AUX. VO2 •▲<br>Typ. Volt. | AUX. VO3 •●<br>Typ. Volt. |
|-------------|----------------------------|---------------------------|---------------------------|
| APS100SU-30 | 7.0A 5.0V                  | 5.0A 12.0V                | 1.0A 5.0V                 |
| APS100SU-31 | 6.0A 5.0V                  | 4.0A 15.0V                | 0.6A 15.0V                |
| APS100SU-32 | 7.0A 5.0V                  | 5.0A 12.0V                | 0.5A 12.0V                |
| APS100SU-33 | 7.0A 5.0V                  | 2.5A 24.0V                | 0.5A 12.0V                |

**QUAD OUTPUT**

| MODEL NO.        | MAIN VO1 ★@#<br>Typ. Volt. | AUX. VO2 ■†<br>Typ. Volt. | AUX. VO3 •●<br>Typ. Volt. | AUX. VO4 •●<br>Typ. Volt. |
|------------------|----------------------------|---------------------------|---------------------------|---------------------------|
| APS100SU-48      | 4.0A 12.0V                 | 2.0A 24.0V                | 0.5A 12.0V                | 0.5A 12.0V                |
| APS100SUQ-050MII | 10.0A 5.0V                 | 1.0A 24.0V                | 1.0A 12.0V                | 1.0A 12.0V                |
| APS100SUQ-050QII | 10.0A 5.0V                 | 1.0A 48.0V                | 0.5A 12.0V                | 0.5A 12.0V                |

Symbol: "★"OVP built-in. "@Adjustable. "#Remote sensing. "▲" Magnetic Amplifier. "●" Post of Regulator. "†"Stacked on main output.  
 "•" Floating(or isolated) output.

**MECHANICAL DIMENSIONS: MM [INCHES]****WEIGHT: APS100SU 943.0g (33.6 Oz.)****INPUT & OUTPUT CONNECTORS PIN ASSIGNMENTS**

|             | AC INPUT |      |      | SINGLE/DUAL/TRIPLE/DUAL OUTPUT |       |      |      |      |      |      |      |                   | ASSORTED SIGNAL |    |    |            |
|-------------|----------|------|------|--------------------------------|-------|------|------|------|------|------|------|-------------------|-----------------|----|----|------------|
| ASSIGNMENT  | AC-L     | AC-N | AC-G | +VO1                           | -VO1  | +VO2 | -VO2 | +VO3 | -VO3 | +VO4 | -VO4 | NC                | LOG. INH.       | +S | -S | POWER FAIL |
| APS100SU-1X | 28       | 30   | 32   | 4,6                            | 12,14 | -    | -    | -    | -    | -    | -    | 16,18,24,26       | 20              | 8  | 10 | 22         |
| APS100SU-2X | 28       | 30   | 32   | 4                              | 6     | 8    | 10   | -    | -    | -    | -    | 12,14,16,18,24,26 | 20              | -  | -  | 22         |
| APS100SU-3X | 28       | 30   | 32   | 8,6,                           | 8,10  | 12   | 14   | 16   | 18   | -    | -    | 24,26             | 20              | -  | -  | 22         |
| APS100SU-4X | 28       | 30   | 32   | 4                              | -     | 10   | -    | 12   | 14   | 16   | 18   | 6,8,20,22,24      | -               | -  | -  | -          |

Mating connector: DIN41612-H15 Female.