

# TOTAL POWER INT'L

## DUAL SELECTABLE AC INPUT AC-DC 19" COMPATIBLE DOUBLE EUROCARD MULTIPLE OUTPUT 250-360 WATTS SWITCHING MODE POWER SUPPLIES HSU250, HSU300 & HSU360 SERIES



### FEATURES:

- DUAL INPUT RANGE USER SELECTABLE
- DOUBLE OR TRIPLE CONVERTER ARCHITECTURE
- 19" COMPATIBLE EUROCARD FORMAT
- MEET THE SAFETY STANDARDS
- EMI MEET CISPR PUB. 22 & FCC CLASS A
- CE MARKING COMPLIANCE
- 6U X 12HP X 160MM DOUBLE EUROCARD VMEbus STANDARD

### SPECIFICATION

#### INPUT SPECIFICATION

**Input Voltage:** 115Vac/230Vac dual selectable.  
**Input Connector:** DIN 41612 for HSU250/300/360T.  
IEC320 AC receptacle for HSU360.  
**Input Frequency:** 47-63Hz  
**Inrush Current:** Typ. 65A @230Vac.  
**Input Current:** HSU250 6.0A@115Vac/3.0A@230Vac.  
HSU300 1.2A@115Vac/0.7A@230Vac.  
HSU360 6.5A@115Vac/3.5A@230Vac.  
HSU360T 6.2A@115Vac/3.0A@230Vac.  
**Dielectric Withstand:** Meet IEC950.  
**EMI:** Meet CISPR PUB. 22 & FCC Class A.  
**Power Fail/OK:** Option.  
**Remote (Logic) Inhibit:** Available.  
**Hold-up Time:** Typ. 20mS.  
**Earth leakage:** Typ. 0.3mA @230Vac.  
**Over Temperature Protection (OTP):** Option.

#### OUTPUT SPECIFICATION

**Output Voltage:** See Ratings Chart.  
**Output Current:** See Ratings Chart.  
**Output Wattage:** Typ. 250 Watts for HSU250.  
Typ. 300 Watts for HSU300.  
Typ. 360 Watts for HSU360/HSU360T.  
**Output Connector:** DIN 41612 at rear.  
**Line Regulation:** Typ. 0.4%.  
**Load Regulation:** VO1 typ.  $\pm 1.0\%$ (Main).  
VO2 typ.  $\pm 1.0\%$ (Main).  
VO3 typ.  $\pm 1.0\%$ (Main).  
or typ.  $\pm 3.0\%$ (PR) for HSU360T.  
**Noise & Ripple:** Typ. 1% peak to peak.  
**OVP:** Built-in at main VO1/VO2/VO3 (Latch).  
**Adjustability:** Available at main output VO1, VO2, VO3.  
**Remote Sense:** Installed at main VO1.  
**Overload Protection (OLP):** Fully protected against output overload and short circuit.  
Consult factory for OLP setting.

#### GENERAL SPECIFICATION

**Efficiency:** Typ. 75-80.0%.  
**Switching Frequency:** Typ. 100K Hz.  
**Circuit Topology:** Forward circuit.  
HSU250/HSU300/HSU360 triple converter.  
HSU360T dual converter architecture.  
**Transient Response:** Typ. 3mS following a 25% load change.  
**Power Density:** 1.58 Watts / Cubic Inch for HSU250.  
1.90 Watts / Cubic Inch for HSU300.  
2.28 Watts / Cubic Inch for HSU360 & HSU360T.  
**Operating Temperature:** 0 to +50°C at full load. Derates linearly to +70°C at half load.  
**Storage Temperature:** -20 to +85°C.  
**Temperature Coefficient:** Typ. 0.04%/°C.  
**Cooling:** At least 60cfm forced air flow is required for full load.  
**Construction format:** 12HP(TE)x6Ux160mm 19" compatible double Eurocard VMEbus standard.  
**Safety Standard:** IEC950/UL1950 Class I.

Note: All measurements are at nominal input, full load, and +25°C unless otherwise specified.

# OUTPUT VOLTAGE/CURRENT RATINGS CHART

## HSU250 Series

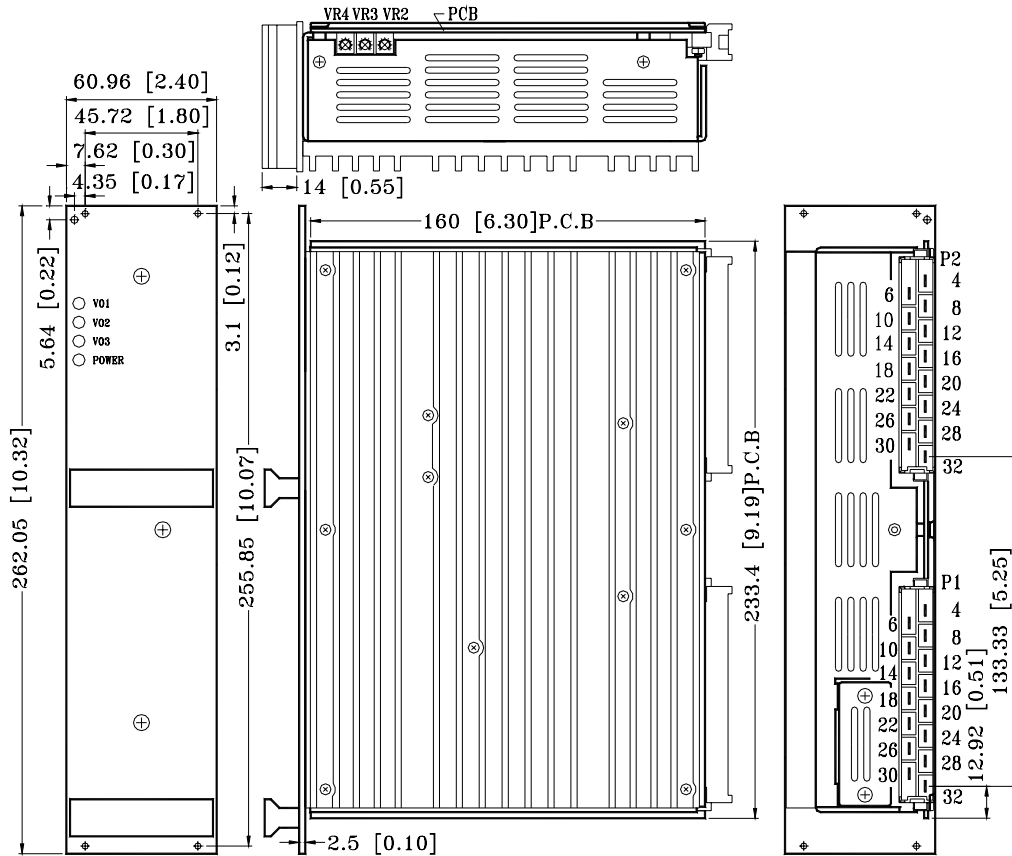
### TRIPLE OUTPUT

| MODEL NO.                           | MAIN VO1 ★@# |             |      | MAIN VO2 @★ |              |      | MAIN VO3 @★ |              |      |
|-------------------------------------|--------------|-------------|------|-------------|--------------|------|-------------|--------------|------|
|                                     | Typ.         | Volt.       | Max. | Typ.        | Volt.        | Max. | Typ.        | Volt.        | Max. |
| <b>HSU250-T050II</b><br>(HSU250-32) | 25.0A        | <b>5.0V</b> | 30A  | 5.0A        | <b>12.0V</b> | 10A  | 5.0A        | <b>12.0V</b> | 10A  |
| <b>HSU250-T050KK</b>                | 25.0A        | <b>5.0V</b> | 30A  | 4.0A        | <b>15.0V</b> | 8A   | 4.0A        | <b>15.0V</b> | 8A   |
| <b>HSU250-T050MI</b>                | 25.0A        | <b>5.0V</b> | 30A  | 2.5A        | <b>24.0V</b> | 5A   | 5.0A        | <b>12.0V</b> | 10A  |
| <b>HSU250-T033II</b>                | 35.0A        | <b>3.3V</b> | 40A  | 5.0A        | <b>12.0V</b> | 10A  | 5.0A        | <b>12.0V</b> | 10A  |
| <b>HSU250-T033EI</b>                | 35.0A        | <b>3.3V</b> | 40A  | 12.0A       | <b>5.0V</b>  | 20A  | 5.0A        | <b>12.0V</b> | 10A  |
| <b>HSU250-T050DI</b>                | 25.0A        | <b>5.0V</b> | 30A  | 15.0A       | <b>3.3V</b>  | 20A  | 5.0A        | <b>12.0V</b> | 10A  |

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

**MECHANICAL DIMENSIONS: MM [INCHES]**

**WEIGHT: HSU250 2.54kg (5.60 lb.)**



### INPUT & OUTPUT CONNECTORS PIN ASSIGNMENTS

| ASSIGNMENT      | AC INPUT |       |       | TRIPLE OUTPUT  |          |       |                   |                                 | ASSORTED SIGNAL |       |           |         |
|-----------------|----------|-------|-------|----------------|----------|-------|-------------------|---------------------------------|-----------------|-------|-----------|---------|
|                 | AC-L     | AC-N  | AC-G  | +VO1           | +VO2     | -VO3  | DC COM            | NC                              | S(+)            | S(-)  | SYS Reset | AC Fail |
| <b>HSU250-T</b> | P1-28    | P1-30 | P1-32 | P2-4,6,8,10,12 | P2-28,30 | P2-16 | P2-18,20,22,24,26 | P1-8,10,12,24,16,18,20,22,24,26 | P2-14           | P2-32 | P1-6      | P1-4    |

Mating connector: DIN41612-H15 Female

# OUTPUT VOLTAGE/CURRENT RATINGS CHART

## HSU300 Series

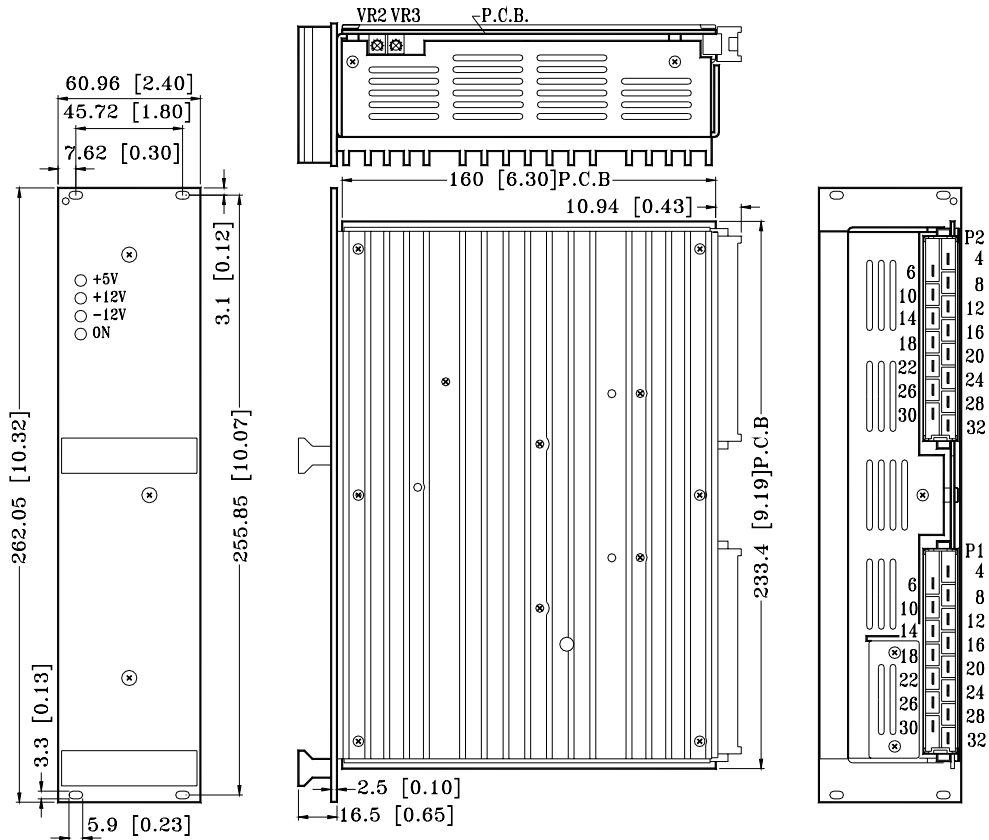
### TRIPLE OUTPUT

| MODEL NO.                    | MAIN VO1 ★@# |       |      | MAIN VO2 @★ |       |      | MAIN VO3 @★ |       |      |
|------------------------------|--------------|-------|------|-------------|-------|------|-------------|-------|------|
|                              | Typ.         | Volt. | Max. | Typ.        | Volt. | Max. | Typ.        | Volt. | Max. |
| HSU300-T050II<br>(HSU300-32) | 36.0A        | 5.0V  | 40A  | 6.0A        | 12.0V | 12A  | 6.0A        | 12.0V | 12A  |
| HSU300-T050KK                | 36.0A        | 5.0V  | 40A  | 5.0A        | 15.0V | 10A  | 5.0A        | 15.0V | 10A  |
| HSU300-T050MI                | 36.0A        | 5.0V  | 40A  | 3.0A        | 24.0V | 6A   | 6.0A        | 12.0V | 12A  |
| HSU300-T033II                | 50.0A        | 3.3V  | 55A  | 6.0A        | 12.0V | 12A  | 6.0A        | 12.0V | 12A  |
| HSU300-T033EI                | 50.0A        | 3.3V  | 55A  | 15.0A       | 5.0V  | --   | 6.0A        | 12.0V | 12A  |
| HSU300-T050DI                | 36.0A        | 5.0V  | 40A  | 18.0A       | 3.3V  | --   | 6.0A        | 12.0V | 12A  |

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

### MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: HSU300 2.75kg (6.06 lb.)



### INPUT & OUTPUT CONNECTORS PIN ASSIGNMENTS

| ASSIGNMENT | AC INPUT |       |       | TRIPLE OUTPUT  |          |       |                   |                                 | ASSORTED SIGNAL |       |           |         |
|------------|----------|-------|-------|----------------|----------|-------|-------------------|---------------------------------|-----------------|-------|-----------|---------|
|            | AC-L     | AC-N  | AC-G  | +VO1           | +VO2     | -VO3  | DC COM            | NC                              | S(+)            | S(-)  | SYS Reset | AC Fail |
| HSU300-T   | P1-28    | P1-30 | P1-32 | P2-4,6,8,10,12 | P2-28,30 | P2-16 | P2-18,20,22,24,26 | P1-8,10,12,24,16,18,20,22,24,26 | P2-14           | P2-32 | P1-6      | P1-4    |

Mating connector: DIN41612-H15 Female

# OUTPUT VOLTAGE/CURRENT RATINGS CHART

## HSU360 Series

### TRIPLE OUTPUT

| MODEL NO.     | MAIN VO1 ★@# |       |      | MAIN VO2 @★ |       |      | MAIN VO3 @★ |       |      |
|---------------|--------------|-------|------|-------------|-------|------|-------------|-------|------|
|               | Typ.         | Volt. | Max. | Typ.        | Volt. | Max. | Typ.        | Volt. | Max. |
| HSU360-T050H  | 42.0A        | 5.0V  | 45A  | 6.0A        | 12.0V | 12A  | 6.0A        | 12.0V | 12A  |
| HSU360-T050KK | 42.0A        | 5.0V  | 45A  | 5.0A        | 15.0V | 10A  | 5.0A        | 15.0V | 10A  |
| HSU360-T050MI | 42.0A        | 5.0V  | 45A  | 3.0A        | 24.0V | 6A   | 6.0A        | 12.0V | 12A  |
| HSU360-T033H  | 55.0A        | 3.3V  | 60A  | 6.0A        | 12.0V | 12A  | 6.0A        | 12.0V | 12A  |
| HSU360-T033EI | 55.0A        | 3.3V  | 60A  | 15.0A       | 5.0V  | --   | 6.0A        | 12.0V | 12A  |
| HSU360-T050DI | 42.0A        | 5.0V  | 45A  | 18.0A       | 3.3V  | --   | 6.0A        | 12.0V | 12A  |

## HSU360T Series

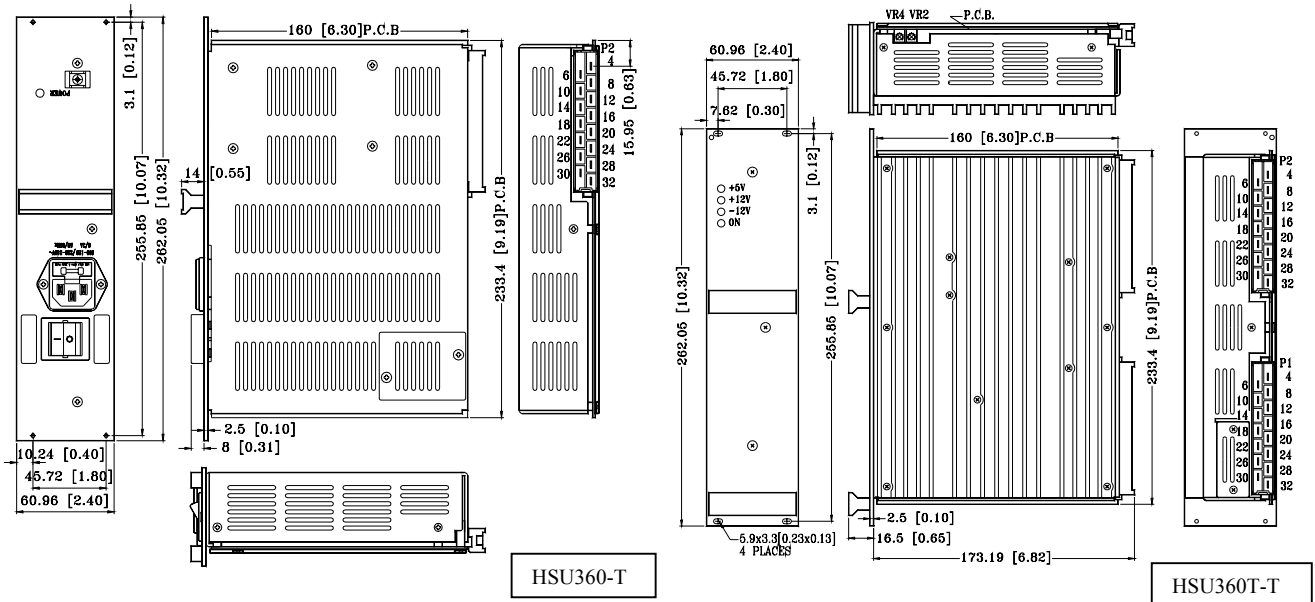
### TRIPLE OUTPUT

| MODEL NO.                     | MAIN VO1 ★@# |       |      | MAIN VO2 @★ |       |      | MAIN VO3 ● |       |      |
|-------------------------------|--------------|-------|------|-------------|-------|------|------------|-------|------|
|                               | Typ.         | Volt. | Max. | Typ.        | Volt. | Max. | Typ.       | Volt. | Max. |
| HSU360T-T050H<br>(HSU360T-32) | 60.0A        | 5.0V  | 70A  | 2.5 A       | 12.0V | 3.5A | 2.0A       | 12.0V | 3.0A |
| HSU360T-T050KK                | 60.0A        | 5.0V  | 70A  | 2.0 A       | 15.0V | 3.0A | 2.0A       | 15.0V | 3.0A |
| HSU360T-T050MI                | 60.0A        | 5.0V  | 70A  | 1.25 A      | 24.0V | 2.5A | 2.0A       | 12.0V | 3.0A |
| HSU360T-T033H                 | 65.0A        | 3.3V  | 75A  | 2.5 A       | 12.0V | 3.5A | 2.0A       | 12.0V | 3.0A |
| HSU360T-T033EI                | 65.0A        | 3.3V  | 75A  | 6.0 A       | 5.0V  | --   | 2.0A       | 12.0V | 3.0A |
| HSU360T-T050DI                | 60.0A        | 5.0V  | 70A  | 8.0 A       | 3.3V  | --   | 3.0A       | 12.0V | 8.0A |

Symbol: "★" OVP built-in. "@#" Adjustable. "#" Remote sensing. "●" Installed with Post Regulator.

## MECHANICAL DIMENSIONS: MM [INCHES]

WEIGHT: HSU360&T 2.80kg (6.17 lb.)



## INPUT & OUTPUT CONNECTORS PIN ASSIGNMENTS

| ASSIGNMENT | AC INPUT |       |       | TRIPLE OUTPUT  |          |          |                      |                                    | ASSORTED SIGNAL |       |           |         |
|------------|----------|-------|-------|----------------|----------|----------|----------------------|------------------------------------|-----------------|-------|-----------|---------|
|            | AC-L     | AC-N  | AC-G  | +VO1           | +VO2     | -VO3     | DC COM               | NC                                 | S(+)            | S(-)  | SYS Reset | AC Fail |
| HSU360-T   | L        | N     | G     | P2-4,6,8,10,12 | P2-28,30 | P2-14,16 | P2-20,22<br>24,26,32 | P2-18                              | P2-12           | --    | --        | --      |
| HSU360T-T  | P1-28    | P1-30 | P1-32 | P2-4,6,8,10,12 | P2-28,30 | P2-16    | P2-18,20,22<br>24,26 | P1-8,10,12,24,16<br>18,20,22,24,26 | P2-14           | P2-32 | P1-6      | P1-4    |

Mating connector: DIN41612-H15 Female