

# TPIUU61 SERIES

63W U Bracket Type  
Industrial Power Supplies

## Features:

- Wide Operating Voltage 81 to 280 VAC, 47 to 400 Hz or 90 to 420VDC
- Internal EMI filter
- Single to Quad Output
- Power Fail Detect (Optional)
- Operating temperature -20~70°C
- Class I
- 3 year warranty



## Electrical Characteristics:

|       |  |  |                         |
|-------|--|--|-------------------------|
| Vin   | Universal Input Voltage                                  |  | 90~264VAC<br>106~250VDC |
|       | Operating Voltage  |  | 81~280VAC<br>90~420VDC  |
| fin   | Input Frequency  |  | 47~63Hz                 |
| Po    | Output Power Range                                       |  | See rating chart        |
| Vo    | Output Voltage Range                                     |  | See rating chart        |
| Io    | Output Current Range                                     |  | See rating chart        |
| Iil   | Input Current (Low Line)                                 | Io=Full load, Vin=100VAC or 160VDC                   | 1.6A                    |
| Iih   | Input Current (High Line)                                | Io=Full load, Vin=240VAC or 325VDC                   | 0.8A                    |
| Ir    | Low Line Inrush Current                                  | Io=Full load, 25°C, Cool start, Vin=115VAC or 160VDC | 35A (max.)              |
|       | High Line Inrush Current                                 | Io=Full load, 25°C, Cool start, Vin=230VAC or 325VDC | 70A (max.)              |
| Eff   | Efficiency   | Io=Full load, Vin=230VAC or 325VDC                   | 70~88%                  |
| REG-i | Line Regulation  | Io=Full Load   | 0.5~1%                  |
| REG-o | Load Regulation  | Vin=230VAC or 325VDC                                 | 5~6%                    |
| OVP   | Over Voltage Protection                                  |  | 112~132%                |
| OCP   | Over Current Protection                                  |  | 110~150%                |
| Ttr   | Time of Transient Response                               | Io=Full Load to Half Load, Vin=100VAC or 140VDC      | 5mS (max.)              |
| Th    | Hold-Up Time   | Io=Full Load, Vin=110VAC or 160VDC                   | 16mS (min.)             |
| Ts    | Start Up Time  | Io=Full Load, Vin=100VAC or 140VDC                   | 2S (max.)               |
| Vp-p  | Ripple & Noise(Peak to Peak)                             | Full Load, Vin=85VAC or 100VDC                       | 1% (max.)               |
| Ilk   | Safety Ground Leakage Current                            | Vin=240VAC/60Hz                                      | 0.45mA (max.)           |
| TC    | Temperature Coefficient                                  | All output   | ±0.05%/°C               |
| Pno   | No-Load Power Consumption                                | No load, Vin=230VAC                                  | See rating chart        |
| Vps   | Dielectric Withstanding Voltage for Primary to secondary | Primary to secondary                                 | 4242VDC (min.)          |
| Vpg   | Dielectric Withstanding Voltage for Primary to PE        | Primary to PE  | 2414VDC (min.)          |
| Ris   | Isolation Resistance                                     | Test Voltage=500VDC                                  | 50MΩ (min.)             |

**Note:** The Ripple & Noise which is under 3.3VDC at 2% max

## Environmental

|      |   |                    |
|------|---|--------------------|
| To   | Operating Temperature                                       | See derating curve |
| Ts   | Storage Temperature   | -40~85°C           |
| Ho   | Operating Humidity  | 0~95%              |
| Hr   | Storage Humidity  | 0~95%              |
| MTBF | Operating Temperature at 25°C, Calculated per MIL-HDBK-217F | 0.1M Hrs (min.)    |
| Pd   | Derate linearly from 100% load at 50°C to 50% load at 70°C  |                    |

## Application:

- Monitor
- Industrial PC
- Set-top box
- AV equipment
- CCD recorder

## Safety Approvals:

cULus CBCE



UL/c-UL(UL 60950-1:2nd Edition)  
TUV/GS(EN 60950-1:2nd Edition)



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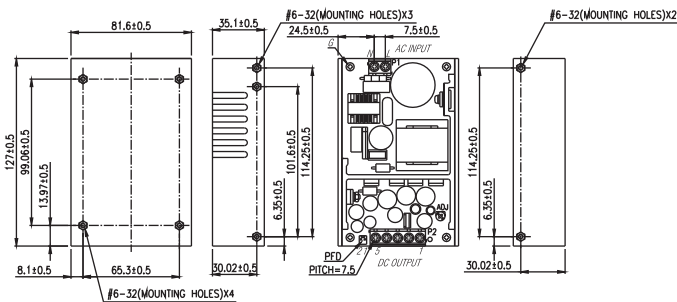
## Output Voltage And Current Rating Chart ( Single Output ) :

| Model Number  | Output Voltage | Output Current | Total Regulation | Max. Output Power | Pno (max.) |
|---------------|----------------|----------------|------------------|-------------------|------------|
| TPIUU61-101   | 3 ~ 5 VDC      | 16.66 ~ 10.0 A | 5%               | 50W               | 2W         |
| TPIUU61-102   | 5 ~ 6 VDC      | 11.00 ~ 9.16 A | 5%               | 55W               | 2W         |
| TPIUU61-103   | 6 ~ 8 VDC      | 10.00 ~ 7.50 A | 5%               | 60W               | 2W         |
| TPIUU61-104   | 8 ~ 11 VDC     | 7.87 ~ 5.72 A  | 3%               | 63W               | 2W         |
| TPIUU61-105   | 11 ~ 13 VDC    | 5.72 ~ 4.84 A  | 3%               | 63W               | 2W         |
| TPIUU61-105-1 | 11 ~ 13 VDC    | 4.09 ~ 3.46 A  | 3%               | 45W               | 2W         |
| TPIUU61-106   | 13 ~ 16 VDC    | 4.84 ~ 3.93 A  | 3%               | 63W               | 2W         |
| TPIUU61-107   | 16 ~ 21 VDC    | 3.93 ~ 3.00 A  | 3%               | 63W               | 2W         |
| TPIUU61-108   | 21 ~ 27 VDC    | 3.00 ~ 2.33 A  | 2%               | 63W               | 2W         |
| TPIUU61-109   | 27 ~ 33 VDC    | 2.33 ~ 1.90 A  | 2%               | 63W               | 2W         |
| TPIUU61-110   | 33 ~ 40 VDC    | 1.90 ~ 1.57 A  | 2%               | 63W               | 2W         |
| TPIUU61-111   | 40 ~ 48 VDC    | 1.57 ~ 1.31 A  | 2%               | 63W               | 2W         |

## Output Voltage And Current Rating Chart ( Multi Output ) :

| Model Number  | Output #1 |       |       |        | Output #2 |       |       |        | Output #3 |       |       |        | Output #4 |       |       |        | Max. Output Power | Pno (max.) |
|---------------|-----------|-------|-------|--------|-----------|-------|-------|--------|-----------|-------|-------|--------|-----------|-------|-------|--------|-------------------|------------|
|               | Vonom     | Iomin | Iomax | Regmax | Vonom     | Iomin | Iomax | Regmax | Vonom     | Iomin | Iomax | Regmax | Vonom     | Iomin | Iomax | Regmax |                   |            |
| TPIUU61-200   | +3.3V     | 1.4A  | 7A    | 6%     | +12V      | 0.6A  | 3A    | 5%     |           |       |       |        |           |       |       |        | 59.1W             | 2W         |
| TPIUU61-201   | +5V       | 0.7A  | 7A    | 5%     | +12V      | 0.3A  | 3A    | 5%     |           |       |       |        |           |       |       |        | 63W               | 2W         |
| TPIUU61-202   | +5V       | 0.7A  | 7A    | 5%     | +15V      | 0.3A  | 3A    | 5%     |           |       |       |        |           |       |       |        | 63W               | 2W         |
| TPIUU61-203   | +5V       | 0.7A  | 7A    | 5%     | +24V      | 0.4A  | 2A    | 5%     |           |       |       |        |           |       |       |        | 63W               | 2W         |
| TPIUU61-204   | +3.3V     | 1.4A  | 7A    | 6%     | +5V       | 0.5A  | 5A    | 5%     |           |       |       |        |           |       |       |        | 48.1W             | 2W         |
| TPIUU61-215   | +5V       | 1.4A  | 7A    | 5%     |           |       |       |        | -24V      | 0.2A  | 2A    | 5%     |           |       |       |        | 63W               | 2W         |
| TPIUU61-300   | +3.3V     | 1.2A  | 6A    | 6%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W               | 2W         |
| TPIUU61-300-1 | +3.3V     | 1.2A  | 6A    | 6%     | +12V      | 0.6A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W               | 2W         |
| TPIUU61-301   | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | -5V       | 0A    | 0.8A  | 5%     |           |       |       |        | 63W               | 2W         |
| TPIUU61-301-1 | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | +5V       | 0A    | 0.8A  | 5%     |           |       |       |        | 63W               | 2W         |
| TPIUU61-302   | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W               | 2W         |
| TPIUU61-302-1 | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W               | 2W         |
| TPIUU61-303   | +5V       | 0.6A  | 6A    | 5%     | +15V      | 0.3A  | 3A    | 5%     | -15V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W               | 2W         |
| TPIUU61-303-1 | +5V       | 0.6A  | 6A    | 5%     | +15V      | 0.3A  | 3A    | 5%     | +15V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W               | 2W         |
| TPIUU61-305   | +5V       | 1.2A  | 6A    | 5%     | +24V      | 0.4A  | 2A    | 5%     | -12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W               | 2W         |
| TPIUU61-305-1 | +5V       | 1.2A  | 6A    | 5%     | +24V      | 0.4A  | 2A    | 5%     | +12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W               | 2W         |
| TPIUU61-306   | +3.3V     | 1.2A  | 6A    | 6%     | +12V      | 0.6A  | 3A    | 5%     | -5V       | 0A    | 0.8A  | 5%     |           |       |       |        | 59.8W             | 2W         |
| TPIUU61-306-1 | +3.3V     | 1.2A  | 6A    | 6%     | +12V      | 0.6A  | 3A    | 5%     | +5V       | 0A    | 0.8A  | 5%     |           |       |       |        | 59.8W             | 2W         |
| TPIUU61-308   | +3.3V     | 0.5A  | 5A    | 6%     | +5V       | 0.5A  | 5A    | 5%     | -12V      | 0A    | 1A    | 5%     |           |       |       |        | 53.5W             | 2W         |
| TPIUU61-308-1 | +3.3V     | 0.5A  | 5A    | 6%     | +5V       | 0.5A  | 5A    | 5%     | +12V      | 0A    | 1A    | 5%     |           |       |       |        | 53.5W             | 2W         |
| TPIUU61-400   | +3.3V     | 1.2A  | 6A    | 6%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | -5V       | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-400-1 | +3.3V     | 1.2A  | 6A    | 6%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | +5V       | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-400-2 | +3.3V     | 1.2A  | 6A    | 6%     | +12V      | 0.6A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     | -5V       | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-400-3 | +3.3V     | 1.2A  | 6A    | 6%     | +12V      | 0.6A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     | +5V       | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-401   | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | -5V       | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-401-1 | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | +5V       | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-401-2 | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     | -5V       | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-401-3 | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     | +5V       | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-402   | +5V       | 1.2A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | -12V      | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-402-1 | +5V       | 1.2A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | +12V      | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-402-2 | +5V       | 1.2A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     | -12V      | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-402-3 | +5V       | 1.2A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     | +12V      | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-403   | +5V       | 1.2A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | -24V      | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-403-1 | +5V       | 1.2A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | +24V      | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-403-2 | +5V       | 1.2A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     | -24V      | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-403-3 | +5V       | 1.2A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     | +24V      | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-404   | +5V       | 0.6A  | 6A    | 5%     | +15V      | 0.3A  | 3A    | 5%     | -15V      | 0A    | 0.8A  | 5%     | -5V       | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-404-1 | +5V       | 0.6A  | 6A    | 5%     | +15V      | 0.3A  | 3A    | 5%     | -15V      | 0A    | 0.8A  | 5%     | +5V       | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-404-2 | +5V       | 0.6A  | 6A    | 5%     | +15V      | 0.3A  | 3A    | 5%     | +15V      | 0A    | 0.8A  | 5%     | -5V       | 0A    | 0.8A  | 5%     | 63W               | 2W         |
| TPIUU61-404-3 | +5V       | 0.6A  | 6A    | 5%     | +15V      | 0.3A  | 3A    | 5%     | +15V      | 0A    | 0.8A  | 5%     | +5V       | 0A    | 0.8A  | 5%     | 63W               | 2W         |

## Mechanical Specifications :



- Note:
- Dimensions are shown in inches or mm.
  - Weight: 425gs approx.
  - Input connector mates with screw terminal (DINKLE#ESK750V-02P)(10-24AWG).
  - Output connector mates with screw terminal (DINKLE#ESK750V-05P)(10-24AWG).

## PIN CHART

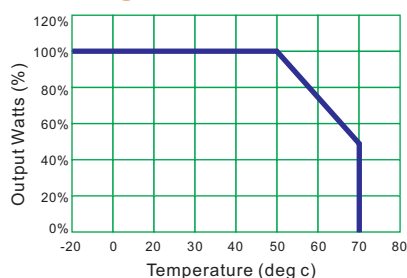
| MODEL       | 1   | 2   | 3   | 4   | 5   |
|-------------|-----|-----|-----|-----|-----|
| TPIUU61-1XX | OUT | OUT | RTN | RTN | RTN |
| TPIUU61-2XX | Vo2 | Vo1 | COM | N/C | N/C |
| TPIUU61-215 | N/C | Vo1 | COM | Vo3 | N/C |
| TPIUU61-3XX | Vo2 | Vo1 | COM | Vo3 | N/C |
| TPIUU61-4XX | Vo2 | Vo1 | COM | Vo3 | Vo4 |

Note: Vo1:Output#1 Vo2:Output#2 Vo3:Output#3 Vo4:Output#4

## PFD (Optional)

| Other connector |     |
|-----------------|-----|
| 1               | 2   |
| OUT             | RTN |
| OUT             | RTN |
| OUT             | RTN |
| OUT             | RTN |

## Derating Curve :



- Operating Temperature: -20 to 70°C
- Derate linearly from 100% load at 50°C to 50% load at 70°C

