

# IBU61 SERIES

## 63W Open frame switching power supplies for Industrial Equipment

### Description:

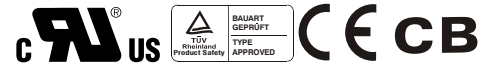
The IBU61 series of compact, open frame constructed, AC/DC or DC/DC switching mode power supplies provide 63 Watts of continuous output power. They are ideally suited for use in CRT terminals, disc drive systems, microprocess or based systems, portable equipments and many other applications, all models are designed to meet the safety requirements of UL/c-UL (UL 60950-1), TUV-Bauart (EN60950-1) and new CE requirements. All units are 100% burned in and tested.



### Features:

- Wide Input Voltage 85 to 280 VAC, 47 to 400 Hz or 100 to 400VDC
- Internal EMI filter
- Single to Quad Output
- Input connector mates with screw terminal (DINKLE#ESK750V-02P)
- Output connector mates with Molex housing 09-50-3081 and Molex 2478 series crimp terminal
- Output Voltage Available From 3 VDC Thru 48VDC
- Input Surge Current and Over Load protection
- Over voltage protection (Crowbar Design)
- Size: 3"x5"x1.1"
- Class I Insulation
- Two Years Warranty
- Power Fail Detect (Optional)

### Safety Approvals :



### Electrical Characteristics:

| Sym.  | Parameter                     | Test Conditions                                      | Min.             | Typ. | Max. | Unit |
|-------|-------------------------------|--|------------------|------|------|------|
| Vin   | Input Voltage                 | Universal Input Voltage                              | 90               |      | 264  | VAC  |
|       |                               | Operating Voltage                                    | 106              |      | 350  | VDC  |
|       |                               |  | 85               |      | 280  | VAC  |
|       |                               |  | 100              |      | 400  | VDC  |
| Fin   | Input Frequency               |  | 47               |      | 400  | Hz   |
| Wo    | Output Power Range            | Vin= Operating Voltage                               | 0                |      | 63   | W    |
| Vo    | Output Voltage Range          |  | See rating chart |      |      | V    |
| Io    | Output Current Range          |  | See rating chart |      |      | A    |
| Iil   | Input Current (Low Line)      | Io=Full load, Vin=115VAC or 160VDC                   |                  |      | 1.6  | A    |
| Iih   | Input Current (High Line)     | Io=Full load, Vin=230VAC or 325VDC                   |                  |      | 0.8  | A    |
| Irl   | Low Line Inrush Current       | Io=Full load, 25 c, Cool start, Vin=115VAC or 160VDC |                  | 12   | 15   | A    |
| Irh   | High Line Inrush Current      | Io=Full load, 25 c, Cool start, Vin=230VAC or 325VDC |                  | 26   | 30   | A    |
| Eff   | Efficiency                    | Io=Full Load, Vin=230VAC or 325VDC                   | 70               | 80   | 88   | %    |
| REG-i | Line Regulation               | Io=Full Load   |                  | 0.5  | 1    | %    |
| REG-o | Load Regulation               | Vin=230VAC or 325VDC                                 |                  | 3    | 6    | %    |
| OVP   | Over Voltage Protection       |  | 112              |      | 132  | %    |
| OCP   | Over Current Protection       |  | 110              |      | 150  | %    |
| Ttr   | Transient Response            | Io=Full Load to Half Load, Vin=100VAC or 140VDC      |                  |      | 5    | mS   |
| Thold | Hold-Up Time                  | Io=Full Load, Vin=110VAC or 160VDC                   | 16               |      |      | mS   |
| Ts    | Start Up Time                 | Io=Full Load, Vin=100VAC or 140VDC                   | 0.3              | 1    | 2    | S    |
| Vrn   | Ripple & Noise (Peak to Peak) | Full Load, Vin=85VAC or 100VDC                       |                  | 1    | 2    | %    |
| Ilk   | Safety Ground Leakage Current | Io=Full Load, Vin=240VAC                             |                  | 0.4  | 0.45 | mA   |
| Tc    | Temperature Coefficient       | All output   | -0.05            |      | 0.05 | %/c  |

### Environmental :

| Sym.  | Parameter  | Test Conditions | Min. | Typ. | Max. | Unit |
|-------|--|-----------------|------|------|------|------|
| Toper | Operating Temperature                                      |                 | -20  |      | 70   | °C   |
| Tstg  | Storage Temperature  |                 | -40  |      | 85   | °C   |
| Hr    | Relative Humidity  |                 | 5    |      | 95   | %    |
| Pd    | Derate linearly from 100% load at 50°C to 50% load at 70°C |                 |      |      |      |      |

### Safety Specifications:

| Sym.  | Parameter  | Test Conditions      | Min. | Typ. | Max. | Unit  |
|-------|--|----------------------|------|------|------|-------|
| Vps   | Dielectric Withstanding Voltage for Primary to secondary | Primary to secondary | 4242 |      |      | VDC   |
| Vpg   | Dielectric Withstanding Voltage for Primary to Ground    | Primary to ground    | 2121 |      |      | VDC   |
| Ri    | Isolation Resistance                                     | Test Voltage=500VDC  | 50   |      |      | MΩ    |
| CISPR | EMI requirements for CISPR-22                            | Vin=220VAC           | B    |      |      | CLASS |
| FCC   | EMI requirements for FCC PART-15                         | Vin=110VAC           | B    |      |      | CLASS |

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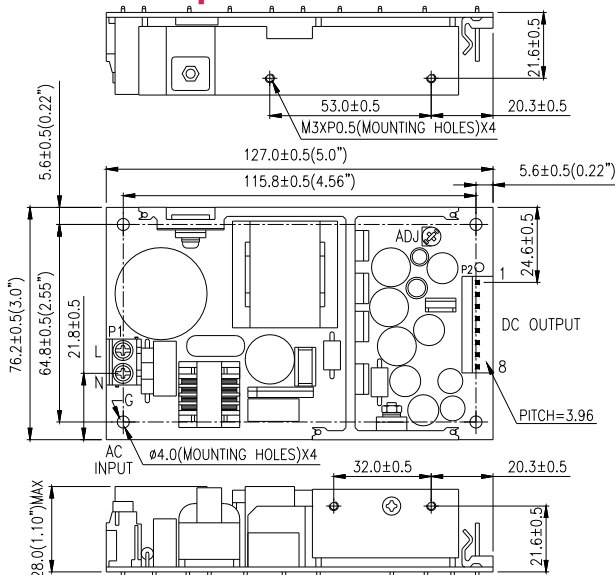
## 63W Open frame switching power supplies for Industrial Equipment Output Voltage And Current Rating Chart (Single Output) :

| Model Number | Output Voltage | Output Current | Total Regulation | Maximum Output Power |
|--------------|----------------|----------------|------------------|----------------------|
| IBU61-101    | 3 - 5 VDC      | 16.66 - 10.0 A | 5%               | 50W                  |
| IBU61-102    | 5 - 6 VDC      | 11.0 - 9.16 A  | 5%               | 55W                  |
| IBU61-103    | 6 - 8 VDC      | 10.0 - 7.50 A  | 4%               | 60W                  |
| IBU61-104    | 8 - 11 VDC     | 7.87 - 5.72 A  | 3%               | 63W                  |
| IBU61-105    | 11 - 13 VDC    | 5.72 - 4.84 A  | 3%               | 63W                  |
| IBU61-105-1  | 11 - 13 VDC    | 4.09 - 3.46 A  | 3%               | 45W                  |
| IBU61-106    | 13 - 16 VDC    | 4.84 - 3.93 A  | 3%               | 63W                  |
| IBU61-107    | 16 - 21 VDC    | 3.93 - 3.00 A  | 3%               | 63W                  |
| IBU61-108    | 21 - 27 VDC    | 3.00 - 2.33 A  | 2%               | 63W                  |
| IBU61-109    | 27 - 33 VDC    | 2.33 - 1.90 A  | 2%               | 63W                  |
| IBU61-110    | 33 - 40 VDC    | 1.90 - 1.57 A  | 2%               | 63W                  |
| IBU61-111    | 40 - 48 VDC    | 1.57 - 1.31 A  | 2%               | 63W                  |

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

| Model Number | Output #1        |                   |                   |                    | Output #2        |                   |                   |                    | Output #3        |                   |                   |                    | Output #4        |                   |                   |                    | Maximum Output Power |
|--------------|------------------|-------------------|-------------------|--------------------|------------------|-------------------|-------------------|--------------------|------------------|-------------------|-------------------|--------------------|------------------|-------------------|-------------------|--------------------|----------------------|
|              | V <sub>nom</sub> | I <sub>omin</sub> | I <sub>omax</sub> | Reg <sub>max</sub> | V <sub>nom</sub> | I <sub>omin</sub> | I <sub>omax</sub> | Reg <sub>max</sub> | V <sub>nom</sub> | I <sub>omin</sub> | I <sub>omax</sub> | Reg <sub>max</sub> | V <sub>nom</sub> | I <sub>omin</sub> | I <sub>omax</sub> | Reg <sub>max</sub> |                      |
| IBU61-200    | +3.3V            | 1.4A              | 7A                | 7%                 | +12V             | 0.6A              | 3A                | 5%                 |                  |                   |                   |                    |                  |                   |                   |                    | 59.1W                |
| IBU61-201    | +5V              | 0.7A              | 7A                | 5%                 | +12V             | 0.3A              | 3A                | 5%                 |                  |                   |                   |                    |                  |                   |                   |                    | 63W                  |
| IBU61-202    | +5V              | 0.7A              | 7A                | 5%                 | +15V             | 0.3A              | 3A                | 5%                 |                  |                   |                   |                    |                  |                   |                   |                    | 63W                  |
| IBU61-203    | +5V              | 0.7A              | 7A                | 5%                 | +24V             | 0.4A              | 2A                | 5%                 |                  |                   |                   |                    |                  |                   |                   |                    | 63W                  |
| IBU61-204    | +3.3V            | 1.4A              | 7A                | 7%                 | +5V              | 0.5A              | 5A                | 5%                 |                  |                   |                   |                    |                  |                   |                   |                    | 48.1W                |
| IBU61-215    | +5V              | 0.7A              | 7A                | 5%                 | -24V             | 0.2A              | 2A                | 5%                 |                  |                   |                   |                    |                  |                   |                   |                    | 63W                  |
| IBU61-300    | +3.3V            | 1.2A              | 6A                | 7%                 | +12V             | 0.6A              | 3A                | 5%                 | -12V             | 0A                | 0.8A              | 5%                 |                  |                   |                   |                    | 63W                  |
| IBU61-300-1  | +3.3V            | 1.2A              | 6A                | 7%                 | +12V             | 0.6A              | 3A                | 5%                 | +12V             | 0A                | 0.8A              | 5%                 |                  |                   |                   |                    | 63W                  |
| IBU61-301    | +5V              | 0.6A              | 6A                | 5%                 | +12V             | 0.3A              | 3A                | 5%                 | -5V              | 0A                | 0.8A              | 5%                 |                  |                   |                   |                    | 63W                  |
| IBU61-301-1  | +5V              | 0.6A              | 6A                | 5%                 | +12V             | 0.3A              | 3A                | 5%                 | +5V              | 0A                | 0.8A              | 5%                 |                  |                   |                   |                    | 63W                  |
| IBU61-302    | +5V              | 0.6A              | 6A                | 5%                 | +12V             | 0.6A              | 3A                | 5%                 | -12V             | 0A                | 0.8A              | 5%                 |                  |                   |                   |                    | 63W                  |
| IBU61-302-1  | +5V              | 0.6A              | 6A                | 5%                 | +12V             | 0.6A              | 3A                | 5%                 | +12V             | 0A                | 0.8A              | 5%                 |                  |                   |                   |                    | 63W                  |
| IBU61-303    | +5V              | 0.6A              | 6A                | 5%                 | +15V             | 0.3A              | 3A                | 5%                 | -15V             | 0A                | 0.8A              | 5%                 |                  |                   |                   |                    | 63W                  |
| IBU61-303-1  | +5V              | 0.6A              | 6A                | 5%                 | +15V             | 0.3A              | 3A                | 5%                 | +15V             | 0A                | 0.8A              | 5%                 |                  |                   |                   |                    | 63W                  |
| IBU61-305    | +5V              | 1.2A              | 6A                | 5%                 | +24V             | 0.4A              | 2A                | 5%                 | -12V             | 0A                | 0.8A              | 5%                 |                  |                   |                   |                    | 63W                  |
| IBU61-305-1  | +5V              | 1.2A              | 6A                | 5%                 | +24V             | 0.4A              | 2A                | 5%                 | +12V             | 0A                | 0.8A              | 5%                 |                  |                   |                   |                    | 63W                  |
| IBU61-306    | +3.3V            | 1.2A              | 6A                | 7%                 | +12V             | 0.6A              | 3A                | 5%                 | -5V              | 0A                | 0.8A              | 5%                 |                  |                   |                   |                    | 59.8W                |
| IBU61-306-1  | +3.3V            | 1.2A              | 6A                | 7%                 | +12V             | 0.6A              | 3A                | 5%                 | +5V              | 0A                | 0.8A              | 5%                 |                  |                   |                   |                    | 59.8W                |
| IBU61-308    | +3.3V            | 0.5A              | 5A                | 7%                 | +5V              | 0.5A              | 5A                | 5%                 | -12V             | 0A                | 1A                | 5%                 |                  |                   |                   |                    | 53.5W                |
| IBU61-308-1  | +3.3V            | 0.5A              | 5A                | 7%                 | +5V              | 0.5A              | 5A                | 5%                 | +12V             | 0A                | 1A                | 5%                 |                  |                   |                   |                    | 53.5W                |
| IBU61-400    | +3.3V            | 1.2A              | 6A                | 7%                 | +12V             | 0.6A              | 3A                | 5%                 | -12V             | 0A                | 0.8A              | 5%                 | -5V              | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-400-1  | +3.3V            | 1.2A              | 6A                | 7%                 | +12V             | 0.6A              | 3A                | 5%                 | -12V             | 0A                | 0.8A              | 5%                 | +5V              | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-400-2  | +3.3V            | 1.2A              | 6A                | 7%                 | +12V             | 0.6A              | 3A                | 5%                 | +12V             | 0A                | 0.8A              | 5%                 | -5V              | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-400-3  | +3.3V            | 1.2A              | 6A                | 7%                 | +12V             | 0.6A              | 3A                | 5%                 | +12V             | 0A                | 0.8A              | 5%                 | +5V              | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-401    | +5V              | 0.6A              | 6A                | 5%                 | +12V             | 0.3A              | 3A                | 5%                 | -12V             | 0A                | 0.8A              | 5%                 | -5V              | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-401-1  | +5V              | 0.6A              | 6A                | 5%                 | +12V             | 0.3A              | 3A                | 5%                 | -12V             | 0A                | 0.8A              | 5%                 | +5V              | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-401-2  | +5V              | 0.6A              | 6A                | 5%                 | +12V             | 0.3A              | 3A                | 5%                 | +12V             | 0A                | 0.8A              | 5%                 | -5V              | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-401-3  | +5V              | 0.6A              | 6A                | 5%                 | +12V             | 0.3A              | 3A                | 5%                 | +12V             | 0A                | 0.8A              | 5%                 | +5V              | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-402    | +5V              | 1.2A              | 6A                | 5%                 | +12V             | 0.6A              | 3A                | 5%                 | -12V             | 0A                | 0.8A              | 5%                 | -12V             | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-402-1  | +5V              | 1.2A              | 6A                | 5%                 | +12V             | 0.6A              | 3A                | 5%                 | -12V             | 0A                | 0.8A              | 5%                 | +12V             | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-402-2  | +5V              | 1.2A              | 6A                | 5%                 | +12V             | 0.6A              | 3A                | 5%                 | +12V             | 0A                | 0.8A              | 5%                 | -12V             | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-402-3  | +5V              | 1.2A              | 6A                | 5%                 | +12V             | 0.6A              | 3A                | 5%                 | +12V             | 0A                | 0.8A              | 5%                 | +12V             | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-403    | +5V              | 1.2A              | 6A                | 5%                 | +12V             | 0.6A              | 3A                | 5%                 | -12V             | 0A                | 0.8A              | 5%                 | -24V             | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-403-1  | +5V              | 1.2A              | 6A                | 5%                 | +12V             | 0.6A              | 3A                | 5%                 | -12V             | 0A                | 0.8A              | 5%                 | +24V             | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-403-2  | +5V              | 1.2A              | 6A                | 5%                 | +12V             | 0.6A              | 3A                | 5%                 | +12V             | 0A                | 0.8A              | 5%                 | -24V             | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-403-3  | +5V              | 1.2A              | 6A                | 5%                 | +12V             | 0.6A              | 3A                | 5%                 | +12V             | 0A                | 0.8A              | 5%                 | +24V             | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-404    | +5V              | 0.6A              | 6A                | 5%                 | +15V             | 0.3A              | 3A                | 5%                 | -15V             | 0A                | 0.8A              | 5%                 | -5V              | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-404-1  | +5V              | 0.6A              | 6A                | 5%                 | +15V             | 0.3A              | 3A                | 5%                 | -15V             | 0A                | 0.8A              | 5%                 | +5V              | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-404-2  | +5V              | 0.6A              | 6A                | 5%                 | +15V             | 0.3A              | 3A                | 5%                 | +15V             | 0A                | 0.8A              | 5%                 | -5V              | 0A                | 0.8A              | 5%                 | 63W                  |
| IBU61-404-3  | +5V              | 0.6A              | 6A                | 5%                 | +15V             | 0.3A              | 3A                | 5%                 | +15V             | 0A                | 0.8A              | 5%                 | +5V              | 0A                | 0.8A              | 5%                 | 63W                  |

## Mechanical Specifications :



## PIN CHART

| MODEL     | PIN 1 | PIN 2 | PIN 3 | PIN 4 | PIN 5 | PIN 6 | PIN 7 | PIN 8 (Optional) |
|-----------|-------|-------|-------|-------|-------|-------|-------|------------------|
| IBU61-1XX | OUT   | OUT   | OUT   | RTN   | RTN   | RTN   | RTN   | PFD              |
| IBU61-2XX | Vo2   | Vo1   | Vo1   | COM   | COM   | N/C   | N/C   | PFD              |
| IBU61-3XX | Vo2   | Vo1   | Vo1   | COM   | COM   | Vo3   | N/C   | PFD              |
| IBU61-4XX | Vo2   | Vo1   | Vo1   | COM   | COM   | Vo3   | Vo4   | PFD              |

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

## Note:

- Dimensions are shown in inches or mm.
- Weight: 300gs approx.
- Input connector mates with screw terminal (DINKLE#ESK750V-02P).
- Output connector mates with Molex housing 09-50-3081 and Molex2478 series crimp terminal.