

## SIFA61SERIES



## 63W Open Frame Power Supply for Industrial Equipment

- Wide Input Voltage 81 to 280 VAC, 47 to 400 Hz or 90 to 420VDC
- Single to Quad Output
- DINKLE 3 pin input connector
- Output Voltage Available from 3VDC through 48VDC
- Input connector mates with screw terminal (DINKLE#ESK750V-02)(10-24AWG)
- Output connector mates with screw terminal (DINKLE#ESK750V-05P)(10-24AWG)
- Class I Insulation
- Size: 3"x5"x1.1"
- Power Fail Detect (Optional)

3 Year Warranty

Approvals:   

### Single Output

| Product Number | Output Voltage | Output Current | Total Regulation | Maximum Output Power |
|----------------|----------------|----------------|------------------|----------------------|
| SIFA61-S01     | 3 - 5 VDC      | 16.66 - 10.0 A | 5%               | 50W                  |
| SIFA61-S02     | 5 - 6 VDC      | 11.0 - 9.16 A  | 5%               | 55W                  |
| SIFA61-S03     | 6 - 8 VDC      | 10.0 - 7.50 A  | 4%               | 60W                  |
| SIFA61-S04     | 8 - 11 VDC     | 7.87 - 5.72 A  | 3%               | 63W                  |
| SIFA61-S05     | 11 - 13 VDC    | 5.72 - 4.84 A  | 3%               | 63W                  |
| SIFA61-S05-1   | 11 - 13 VDC    | 4.09 - 3.46 A  | 3%               | 45W                  |
| SIFA61-S06     | 13 - 16 VDC    | 4.84 - 3.93 A  | 3%               | 63W                  |
| SIFA61-S07     | 16 - 21 VDC    | 3.93 - 3.00 A  | 3%               | 63W                  |
| SIFA61-S08     | 21 - 27 VDC    | 3.00 - 2.33 A  | 2%               | 63W                  |
| SIFA61-S09     | 27 - 33 VDC    | 2.33 - 1.90 A  | 2%               | 63W                  |
| SIFA61-S10     | 33 - 40 VDC    | 1.90 - 1.57 A  | 2%               | 63W                  |
| SIFA61-S11     | 40 - 48 VDC    | 1.57 - 1.31 A  | 2%               | 63W                  |

### Multi Output

| Product Number | Output #1 |       |       |        | Output #2 |       |       |        | Output #3 |       |       |        | Output #4 |       |       |        | Maximum Output Power |
|----------------|-----------|-------|-------|--------|-----------|-------|-------|--------|-----------|-------|-------|--------|-----------|-------|-------|--------|----------------------|
|                | Vonom     | Iomin | Iomax | Regmax | Vonom     | Iomin | Iomax | Regmax | Vonom     | Iomin | Iomax | Regmax | Vonom     | Iomin | Iomax | Regmax |                      |
| SIFA61-D00     | +3.3V     | 1.4A  | 7A    | 7%     | +12V      | 0.6A  | 3A    | 5%     |           |       |       |        |           |       |       |        | 59.1W                |
| SIFA61-D01     | +5V       | 0.7A  | 7A    | 5%     | +12V      | 0.3A  | 3A    | 5%     |           |       |       |        |           |       |       |        | 63W                  |
| SIFA61-D02     | +5V       | 0.7A  | 7A    | 5%     | +15V      | 0.3A  | 3A    | 5%     |           |       |       |        |           |       |       |        | 63W                  |
| SIFA61-D03     | +5V       | 0.7A  | 7A    | 5%     | +24V      | 0.4A  | 2A    | 5%     |           |       |       |        |           |       |       |        | 63W                  |
| SIFA61-D04     | +3.3V     | 1.4A  | 7A    | 7%     | +5V       | 0.5A  | 5A    | 5%     |           |       |       |        |           |       |       |        | 48.1W                |
| SIFA61-D15     | +5V       | 0.7A  | 7A    | 5%     |           |       |       |        | -24V      | 0.2A  | 2A    | 5%     |           |       |       |        | 63W                  |
| SIFA61-T00     | +3.3V     | 1.2A  | 6A    | 7%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W                  |
| SIFA61-T00-1   | +3.3V     | 1.2A  | 6A    | 7%     | +12V      | 0.6A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W                  |
| SIFA61-T01     | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | -5V       | 0A    | 0.8A  | 5%     |           |       |       |        | 63W                  |
| SIFA61-T01-1   | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | +5V       | 0A    | 0.8A  | 5%     |           |       |       |        | 63W                  |
| SIFA61-T02     | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W                  |
| SIFA61-T02-1   | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W                  |
| SIFA61-T03     | +5V       | 0.6A  | 6A    | 5%     | +15V      | 0.3A  | 3A    | 5%     | -15V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W                  |
| SIFA61-T03-1   | +5V       | 0.6A  | 6A    | 5%     | +15V      | 0.3A  | 3A    | 5%     | +15V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W                  |
| SIFA61-T05     | +5V       | 1.2A  | 6A    | 5%     | +24V      | 0.4A  | 2A    | 5%     | -12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W                  |
| SIFA61-T05-1   | +5V       | 1.2A  | 6A    | 5%     | +24V      | 0.4A  | 2A    | 5%     | +12V      | 0A    | 0.8A  | 5%     |           |       |       |        | 63W                  |
| SIFA61-T06     | +3.3V     | 1.2A  | 6A    | 7%     | +12V      | 0.6A  | 3A    | 5%     | -5V       | 0A    | 0.8A  | 5%     |           |       |       |        | 59.8W                |
| SIFA61-T06-1   | +3.3V     | 1.2A  | 6A    | 7%     | +12V      | 0.6A  | 3A    | 5%     | +5V       | 0A    | 0.8A  | 5%     |           |       |       |        | 59.8W                |
| SIFA61-T08     | +3.3V     | 0.5A  | 5A    | 7%     | +5V       | 0.5A  | 5A    | 5%     | -12V      | 0A    | 1A    | 5%     |           |       |       |        | 53.5W                |
| SIFA61-T08-1   | +3.3V     | 0.5A  | 5A    | 7%     | +5V       | 0.5A  | 5A    | 5%     | +12V      | 0A    | 1A    | 5%     |           |       |       |        | 53.5W                |
| SIFA61-Q00     | +3.3V     | 1.2A  | 6A    | 7%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | -5V       | 0A    | 0.8A  | 5%     | 63W                  |
| SIFA61-Q00-1   | +3.3V     | 1.2A  | 6A    | 7%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | +5V       | 0A    | 0.8A  | 5%     | 63W                  |
| SIFA61-Q00-2   | +3.3V     | 1.2A  | 6A    | 7%     | +12V      | 0.6A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     | -5V       | 0A    | 0.8A  | 5%     | 63W                  |
| SIFA61-Q00-3   | +3.3V     | 1.2A  | 6A    | 7%     | +12V      | 0.6A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     | +5V       | 0A    | 0.8A  | 5%     | 63W                  |
| SIFA61-Q01     | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | -5V       | 0A    | 0.8A  | 5%     | 63W                  |
| SIFA61-Q01-1   | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | +5V       | 0A    | 0.8A  | 5%     | 63W                  |
| SIFA61-Q01-2   | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     | -5V       | 0A    | 0.8A  | 5%     | 63W                  |
| SIFA61-Q01-3   | +5V       | 0.6A  | 6A    | 5%     | +12V      | 0.3A  | 3A    | 5%     | +12V      | 0A    | 0.8A  | 5%     | +5V       | 0A    | 0.8A  | 5%     | 63W                  |
| SIFA61-Q02     | +5V       | 1.2A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | -12V      | 0A    | 0.8A  | 5%     | 63W                  |
| SIFA61-Q02-1   | +5V       | 1.2A  | 6A    | 5%     | +12V      | 0.6A  | 3A    | 5%     | -12V      | 0A    | 0.8A  | 5%     | +12V      | 0A    | 0.8A  | 5%     | 63W                  |

|              |     |      |    |    |      |      |    |    |      |    |      |    |      |    |      |    |     |
|--------------|-----|------|----|----|------|------|----|----|------|----|------|----|------|----|------|----|-----|
| SIFA61-Q02-2 | +5V | 1.2A | 6A | 5% | +12V | 0.6A | 3A | 5% | +12V | 0A | 0.8A | 5% | -12V | 0A | 0.8A | 5% | 63W |
| SIFA61-Q02-3 | +5V | 1.2A | 6A | 5% | +12V | 0.6A | 3A | 5% | +12V | 0A | 0.8A | 5% | +12V | 0A | 0.8A | 5% | 63W |
| SIFA61-Q03   | +5V | 1.2A | 6A | 5% | +12V | 0.6A | 3A | 5% | -12V | 0A | 0.8A | 5% | -24V | 0A | 0.8A | 5% | 63W |
| SIFA61-Q03-1 | +5V | 1.2A | 6A | 5% | +12V | 0.6A | 3A | 5% | -12V | 0A | 0.8A | 5% | +24V | 0A | 0.8A | 5% | 63W |
| SIFA61-Q03-2 | +5V | 1.2A | 6A | 5% | +12V | 0.6A | 3A | 5% | +12V | 0A | 0.8A | 5% | -24V | 0A | 0.8A | 5% | 63W |
| SIFA61-Q03-3 | +5V | 1.2A | 6A | 5% | +12V | 0.6A | 3A | 5% | +12V | 0A | 0.8A | 5% | +24V | 0A | 0.8A | 5% | 63W |
| SIFA61-Q04   | +5V | 0.6A | 6A | 5% | +15V | 0.3A | 3A | 5% | -15V | 0A | 0.8A | 5% | -5V  | 0A | 0.8A | 5% | 63W |
| SIFA61-Q04-1 | +5V | 0.6A | 6A | 5% | +15V | 0.3A | 3A | 5% | -15V | 0A | 0.8A | 5% | +5V  | 0A | 0.8A | 5% | 63W |
| SIFA61-Q04-2 | +5V | 0.6A | 6A | 5% | +15V | 0.3A | 3A | 5% | +15V | 0A | 0.8A | 5% | -5V  | 0A | 0.8A | 5% | 63W |
| SIFA61-Q04-3 | +5V | 0.6A | 6A | 5% | +15V | 0.3A | 3A | 5% | +15V | 0A | 0.8A | 5% | +5V  | 0A | 0.8A | 5% | 63W |

### Electrical Characteristics

| Parameter                       | Test Conditions                            | Min.  | Typ. | Max. | Unit |
|---------------------------------|--|-------|------|------|------|
| Input Voltage                   | Universal Input Voltage                    | 90    |      | 264  | VAC  |
|                                 |  | 106   |      | 350  | VAC  |
| Input Voltage                   | Operating Voltage                          | 81    |      | 280  | VAC  |
|                                 |  | 90    |      | 420  | VAC  |
| Input Frequency                 |  | 47    |      | 400  | Hz   |
| Output Power Range              | Vin=Operating Voltage                      | 0     |      | 63   | W    |
| Input Current (Low Line)        | Io=Full load, Vin=115VAC                   |       |      | 1.6  | A    |
| Input Current (High Line)       | Io=Full load, Vin=230VAC                   |       |      | 0.8  | A    |
| Low Line Inrush Current         | Io=Full load, 25°C, Cool start, Vin=115VAC |       | 12   | 15   | A    |
| High Line Inrush Current        | Io=Full load, 25°C, Cool start, Vin=230VAC |       | 26   | 30   | A    |
| Efficiency                      | Io=Full load, Vin=230VAC                   | 70    | 80   | 88   | %    |
| Line Regulation                 | Io=Full load                               |       | 0.5  | 1    | %    |
| Load Regulation                 | Vin=230VAC                                 |       | 3    | 7    | %    |
| Over Voltage Protection         |  | 112   |      | 132  | %    |
| Over Current Protection         |  | 110   |      | 150  | %    |
| Transient Response              | Io=Full load to Half Load, Vin=500VAC      |       |      | 5    | mS   |
| Hold-Up Time                    | Io=Full load, Vin=150VAC                   |       |      |      | mS   |
| Start Up Time                   | Io=Full load, Vin=500VAC                   | 0.3   | 1    | 2    | S    |
| * Ripple & Noise (Peak to Peak) | Full load, Vin=90VAC                       |       | 0.5  | 1    | %    |
| Safety Ground Leakage Current   | Io=Full load, Vin=240VAC                   |       | 0.4  | 0.45 | mA   |
| Temperature Coefficient         | All output                                 | -0.05 |      | 0.05 | %/°C |

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

### Conditions

| Parameter   | Test Conditions | Min. | Typ. | Max. | Unit |
|---|-----------------|------|------|------|------|
| Operating Temperature                                       |                 | -20  | 50   | 70   | °C   |
| Storage Temperature   |                 | -40  |      | 85   | °C   |
| Relative Humidity   |                 | 5    |      | 95   | %    |
| Operating Temperature at 25°C, Calculated per MIL-HDBK-217F |                 | 0.1M |      |      | Hrs  |
| De-rate linearly from 100% load at 50°C to 50% load at 70°C |                 |      |      |      |      |

### Approvals and Compliances

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

### Mechanical and PIN Out

#### PIN CHART

| MODEL      | PIN |     |     |     |     |
|------------|-----|-----|-----|-----|-----|
|            | 1   | 2   | 3   | 4   | 5   |
| SIFA61-SXX | OUT | OUT | OUT | RTN | RTN |
| SIFA61-DXX | Vo2 | Vo1 | COM | N/C | N/C |
| SIFA61-D15 | N/C | Vo1 | COM | Vo3 | N/C |
| SIFA61-TXX | Vo2 | Vo1 | COM | Vo3 | N/C |
| SIFA61-QXX | Vo2 | Vo1 | COM | Vo3 | Vo4 |

#### PFD (Optional)

| Other Connector |     |
|-----------------|-----|
| 1               | 2   |
| OUT             | RTN |
| OUT             | RTN |
| OUT             | RTN |
| OUT             | RTN |
| OUT             | RTN |

#### Note:

1. Dimensions are shown in mm.
2. Weight: 300gs approx.
3. Input connector mates with screw terminal (DINKLE#ESK750V-03P)(10-24AWG)
4. Output connector mates with screw terminal (DINKLE#ESK750V-05P)(10-24AWG)

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

