



■ Features :

- Three-Phase 340 ~ 550VAC wide range input (Dual phase operation possible)
- Width only 110mm
- Built-in active PFC function compliance to EN61000-3-2
- High efficiency 94.5% and low power dissipation
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Built-in constant current limiting circuit
- Can be installed on DIN rail TS-35/7.5 or 15
- UL508(industrial control equipment)approved
- EN61000-6-2(EN50082-2) industrial immunity level
- Current sharing up to 3840W(3+1)
- Built-in DC OK relay contact
- 100% full load burn-in test
- 3 years warranty



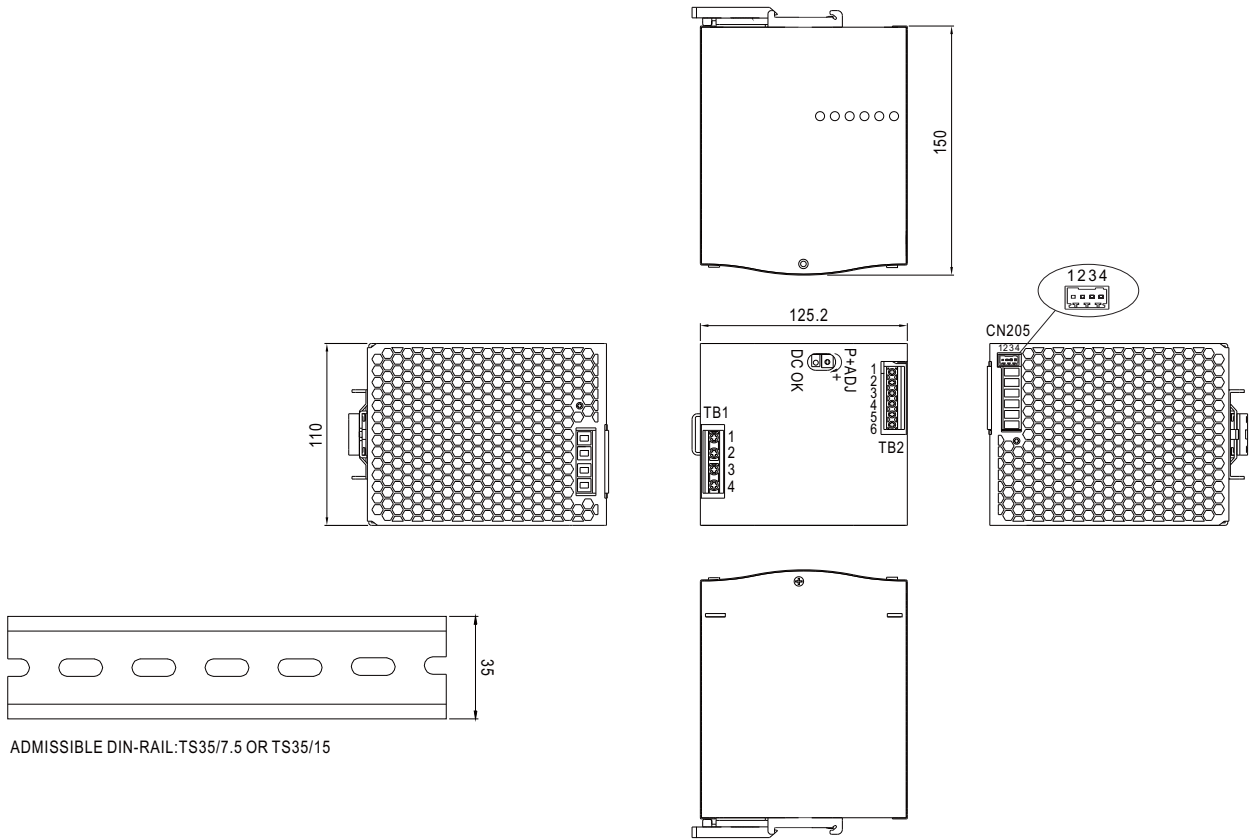
SPECIFICATION

| MODEL                 |  | PSU024-1000S3X4BBD1A   | PSU048-1000S3X4BBD1A | PSU072-1000S3X4BBD1A |
|-----------------------|--|--|----------------------|----------------------|
| OUTPUT                | DC VOLTAGE   | 24V  | 48V                  | 72V                  |
|                       | RATED CURRENT  | 40A  | 20A                  | 12A                  |
|                       | CURRENT RANGE  | 0 ~ 40A  | 0 ~ 20A              | 0 ~ 12A              |
|                       | RATED POWER  | 960W   | 960W                 | 864W                 |
|                       | RIPPLE & NOISE (max.) Note.2   | 180mVp-p   | 250mVp-p             | 250mVp-p             |
|                       | VOLTAGE ADJ. RANGE   | 24 ~ 28V   | 48 ~ 55V             | 70 ~ 90V             |
|                       | VOLTAGE TOLERANCE Note.3   | ±1.0%  | ±1.0%                | ±1.0%                |
|                       | LINE REGULATION  | ±0.5%  | ±0.5%                | ±0.5%                |
|                       | LOAD REGULATION  | ±1.0%  | ±1.0%                | ±1.0%                |
|                       | SETUP, RISE TIME   | 1000ms, 100ms/400VAC      800ms, 100ms/500VAC at full load   |                      |                      |
| HOLD UP TIME (Typ.)   | 12ms / 400VAC      14ms / 500VAC at full load  |  |                      |                      |
| INPUT                 | VOLTAGE RANGE Note.4   | Three-Phase 340 ~ 550VAC (Dual phase operation possible) 480 ~ 780VDC  |                      |                      |
|                       | FREQUENCY RANGE  | 47 ~ 63Hz  |                      |                      |
|                       | POWER FACTOR (Typ.)  | PF ≥ 0.88/400VAC      PF ≥ 0.86/500VAC at full load  |                      |                      |
|                       | EFFICIENCY (Typ.)  | 94%  |                      |                      |
|                       | AC CURRENT (Typ.)  | 2A/400VAC      1.4A/500VAC   |                      |                      |
|                       | INRUSH CURRENT (Typ.)  | COLD START 60A   |                      |                      |
| LEAKAGE CURRENT       | <3.5mA / 530VAC  |  |                      |                      |
| PROTECTION            | OVERLOAD   | 105 ~ 130% rated output power<br>Protection type : Constant current limiting, unit will shut down after 3 sec. ,re-power on to recover |                      |                      |
|                       | OVER VOLTAGE   | 29 ~ 33V   | 56 ~ 65V             | 94 ~ 105V            |
|                       | OVER TEMPERATURE   | Shut down o/p voltage, recovers automatically after temperature goes down  |                      |                      |
| FUNCTION              | DC OK REALY CONTACT RATINGS (max.)   | 60Vdc/0.3A, 30Vdc/1A, 30Vdc/0.5A resistive load  |                      |                      |
|                       | CURRENT SHARING  | Please refer to function manual  |                      |                      |
| ENVIRONMENT           | WORKING TEMP. Note.5   | -30 ~ +70°C (Refer to "Derating Curve")  |                      |                      |
|                       | WORKING HUMIDITY   | 20 ~ 95% RH non-condensing   |                      |                      |
|                       | STORAGE TEMP., HUMIDITY  | -40 ~ +85°C, 10 ~ 95% RH non-condensing  |                      |                      |
|                       | TEMP. COEFFICIENT  | ±0.03%/°C (0 ~ 50°C )  |                      |                      |
|                       | VIBRATION  | Component:10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6                           |                      |                      |
| SAFETY & EMC (Note 6) | SAFETY STANDARDS   | UL508 approved, EAC TP TC 004, IEC60950-1 CB approved by SIQ   |                      |                      |
|                       | WITHSTAND VOLTAGE  | I/P-O/P:3KVAC    I/P-FG:2KVAC    O/P-FG:0.5KVAC    O/P-DC OK:0.5KVAC   |                      |                      |
|                       | ISOLATION RESISTANCE   | I/P-O/P, I/P-FG, O/P-FG:>100M Ohms / 500VDC / 25°C / 70% RH  |                      |                      |
|                       | EMC EMISSION   | Compliance to EN55032 (CISPR32), EN61204-3 Class B, EN61000-3-2,-3, EAC TP TC 020  |                      |                      |
| OTHERS                | EMC IMMUNITY   | Compliance to EN61000-4-2,3,4,5,6,8,11, EN55024, EN61000-6-2 (EN50082-2), EN61204-3, heavy industry level, criteria A, EAC TP TC 020   |                      |                      |
|                       | MTBF   | 59.4K hrs min.    MIL-HDBK-217F (25°C)   |                      |                      |
|                       | DIMENSION  | 110*125.2*150mm (W*H*D)  |                      |                      |
|                       | PACKING  | 2.47Kg ; 6pcs/15.8Kg/1.47CUFT  |                      |                      |
| NOTE                  | 1. All parameters NOT specially mentioned are measured at 400VAC input, rated load and 25°C of ambient temperature.<br>2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.<br>3. Tolerance : includes set up tolerance, line regulation and load regulation.<br>4. Dual phase operation is allowed under certain derating to output load.<br>Please refer to derating curves for details.<br>5. Installation clearances : 40mm on top, 20mm on the bottom, 5mm on the left and right side are recommended when loaded permanently with full power.<br>In case the adjacent device is a heat source, 15mm clearance is recommended.<br>6. The power supply is considered a component which will be installed into a final equipment. The final equipment must be re-confirmed that it still meets EMC directives.<br>7. The ambient temperature derating of 3.5°C/1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m(6500ft). |  |                      |                      |



**Mechanical Specification**

Case No.214A Unit:mm



ADMISSIBLE DIN-RAIL: TS35/7.5 OR TS35/15

Terminal Pin No. Assignment (TB1)

| Pin No. | Assignment  |
|---------|-------------|
| 1       | FG $\oplus$ |
| 2       | AC/L3       |
| 3       | AC/L2       |
| 4       | AC/L1       |

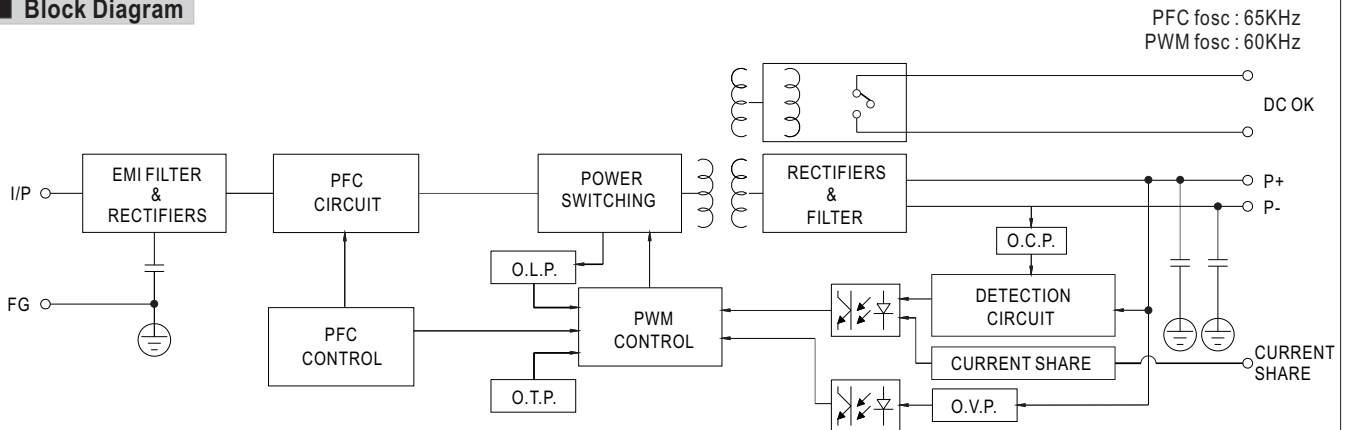
Terminal Pin No. Assignment (TB2)

| Pin No. | Assignment   |
|---------|--------------|
| 1,2,3   | DC OUTPUT P+ |
| 4,5,6   | DC OUTPUT P- |

Control Pin (CN205) : DINKLE ECH250R-04P or equivalent

| Pin No. | Assignment          | Mating Housing   | Wire Diameter                         |
|---------|---------------------|--|---------------------------------------|
| 1       | C-(Current Share)   | DINKLE ESC250V-04P or equivalent (including in the single package) | 0.081~0.517mm <sup>2</sup> (28~20AWG) |
| 2       | C+(Current Share)   |  |                                       |
| 3,4     | DC OK Relay Contact |  |                                       |

**Block Diagram**

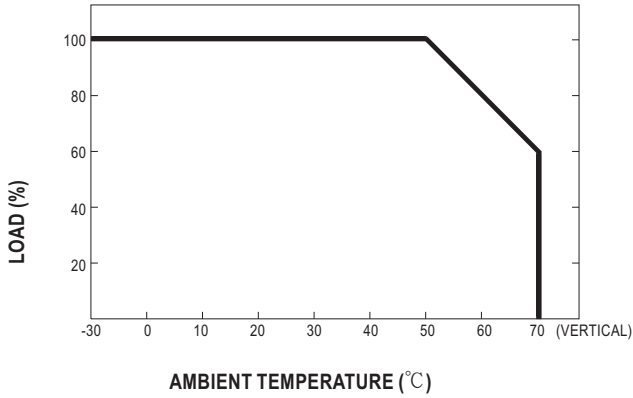


**DC OK Relay Contact**

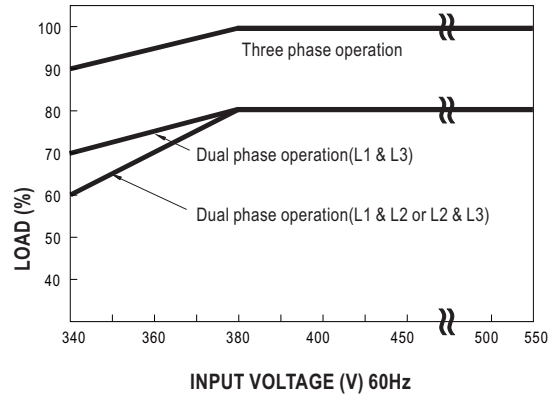
|                        |                          |
|------------------------|--------------------------|
| Contact Close          | PSU turns on / DC OK.    |
| Contact Open           | PSU turns off / DC Fail. |
| Contact Ratings (max.) | 30V/1A resistive load.   |



Derating Curve



Output derating VS input voltage



Function Manual

1. Current sharing

- (1) Parallel operation is available by connecting the units shown as below (C+,C- are connected mutually in parallel).
- (2) Difference of output voltages among parallel units should be less than 0.2V.
- (3) The total output current must not exceed the value determined by the following equation (Output current at parallel operation)=(The rated current per unit) x (Number of unit) x 0.9.
- (4) In parallel operation 4 units is the maximum, please consult the manufacture for other applications.
- (5) The power supplies should be paralleled using short and large diameter wiring and then connected to the load.
- (6) When in parallel operation, the minimum output load should be greater than 5% of total output load.  
(Min. load >5% rated current per unit x number of unit)
- (7) In parallel connection, maybe only one unit (master) operate if the total output load is less than 5% of rated load condition.  
The other PSUs (slaves) may go into standby mode and their output LEDs & relays will not turn on.
- (8) Some minor noise may be heard at light load condition under parallel operation.  
This is a normal phenomenon and the performance of the PSU will not be influenced.

