



## ■ Features :

- AC input range selectable by switch
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Cooling by free air convection
- Can be installed on DIN rail TS-35/7.5 or 15
- UL 508(industrial control equipment)approved
- LED indicator for power on
- 100% full load burn-in test
- Fixed switching frequency at 55KHz
- 3 years warranty

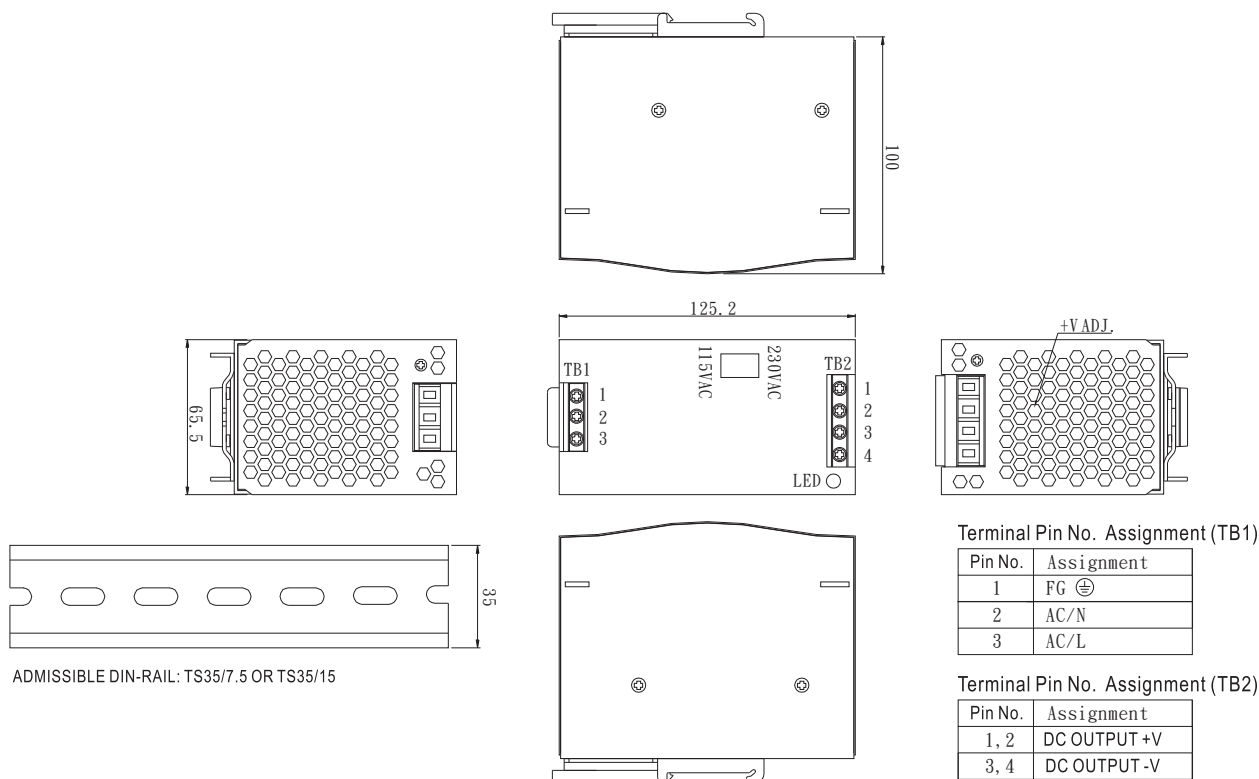


## SPECIFICATION

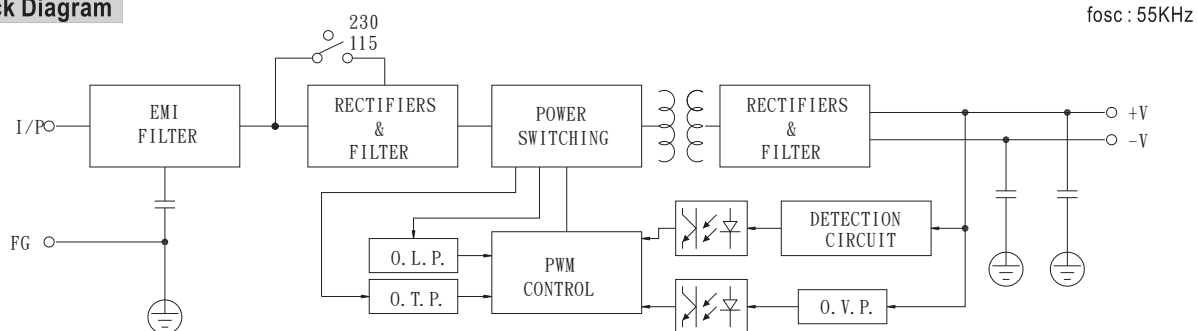
| MODEL                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | F-DR-120-12                                                                                                                | F-DR-120-24                     | F-DR-120-48           |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------|
| OUTPUT                | DC VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 12V                                                                                                                        | 24V                             | 48V                   |
|                       | RATED CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 10A                                                                                                                        | 5A                              | 2.5A                  |
|                       | CURRENT RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 0 ~ 10A                                                                                                                    | 0 ~ 5A                          | 0 ~ 2.5A              |
|                       | RATED POWER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 120W                                                                                                                       | 120W                            | 120W                  |
|                       | RIPPLE & NOISE (max.) Note. 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 80m V <sub>p-p</sub>                                                                                                       | 80m V <sub>p-p</sub>            | 100m V <sub>p-p</sub> |
|                       | VOLTAGE ADJ. RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 12 ~ 14V                                                                                                                   | 24 ~ 28V                        | 48 ~ 53V              |
|                       | VOLTAGE TOLERANCE Note. 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ±2. 0%                                                                                                                     | ±1. 0%                          | ±1. 0%                |
|                       | LINE REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ±0. 5%                                                                                                                     | ±0. 5%                          | ±0. 5%                |
|                       | LOAD REGULATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ±1. 0%                                                                                                                     | ±1. 0%                          | ±1. 0%                |
|                       | SETUP, RISE TIME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 500ms, 70ms/230VAC                                                                                                         | 500ms, 70ms/115VAC at full load |                       |
|                       | HOLD UP TIME (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 36ms/230VAC                                                                                                                | 32ms/115VAC at full load        |                       |
| INPUT                 | VOLTAGE RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 88 ~ 132VAC/176 ~ 264VAC by switch                                                                                         | 248 ~ 370VDC                    |                       |
|                       | FREQUENCY RANGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 47 ~ 63Hz                                                                                                                  |                                 |                       |
|                       | EFFICIENCY (Typ. )                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 80%                                                                                                                        | 84%                             | 85%                   |
|                       | AC CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2.6A/115VAC 1.6A/230VAC                                                                                                    |                                 |                       |
|                       | INRUSH CURRENT (Typ.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | COLD START 20A/115VAC 40A/230VAC                                                                                           |                                 |                       |
|                       | LEAKAGE CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <3.5mA / 240VAC                                                                                                            |                                 |                       |
| PROTECTION            | OVERLOAD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 105 ~ 150% rated output power                                                                                              |                                 |                       |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Protection type : Constant current limiting, recovers automatically after fault condition is removed                       |                                 |                       |
|                       | OVER VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 15 ~ 16.5V                                                                                                                 | 29 ~ 33V                        | 58 ~ 65V              |
|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Protection type : Shut down o/p voltage, re-power on to recover                                                            |                                 |                       |
|                       | OVER TEMPERATURE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 85°C ±5°C (TSW1)                                                                                                           | 90°C ±5°C (TSW1)                | 90°C ±5°C (TSW1)      |
| ENVIRONMENT           | WORKING TEMP.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -10 ~ +60°C (Refer to output load derating curve)                                                                          |                                 |                       |
|                       | WORKING HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 20 ~ 90% RH non-condensing                                                                                                 |                                 |                       |
|                       | STORAGE TEMP., HUMIDITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | -20 ~ +85°C, 10 ~ 95% RH                                                                                                   |                                 |                       |
|                       | TEMP. COEFFICIENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | ±0.03%/°C (0 ~ 50°C)                                                                                                       |                                 |                       |
|                       | VIBRATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes; Mounting: Compliance to IEC60068-2-6                         |                                 |                       |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | UL508, UL60950-1, TUV EN60950-1 approved                                                                                   |                                 |                       |
|                       | WITHSTAND VOLTAGE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC                                                                                |                                 |                       |
|                       | ISOLATION RESISTANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC                                                                                   |                                 |                       |
|                       | EMI CONDUCTION & RADIATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Compliance to EN55011, EN55022 (CISPR22) Class B                                                                           |                                 |                       |
|                       | HARMONIC CURRENT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Compliance to EN61000-3-2, -3                                                                                              |                                 |                       |
|                       | EMS IMMUNITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Compliance to EN61000-4-2, 3, 4, 5, 6, 8, 11, ENV50204, EN55024, EN61000-6-2 (EN50082-2), heavy industry level, criteria A |                                 |                       |
| OTHERS                | MTBF                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 136.8Khrs min. MIL-HDBK-217F (25°C)                                                                                        |                                 |                       |
|                       | DIMENSION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 65.5*125.2*100mm (W*H*D)                                                                                                   |                                 |                       |
|                       | PACKING                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0.79Kg; 20pcs/16.5Kg/1.29CUFT                                                                                              |                                 |                       |
| NOTE                  | 1. All parameters NOT specially mentioned are measured at 230VAC 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. 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. |                                                                                                                            |                                 |                       |

## Mechanical Specification

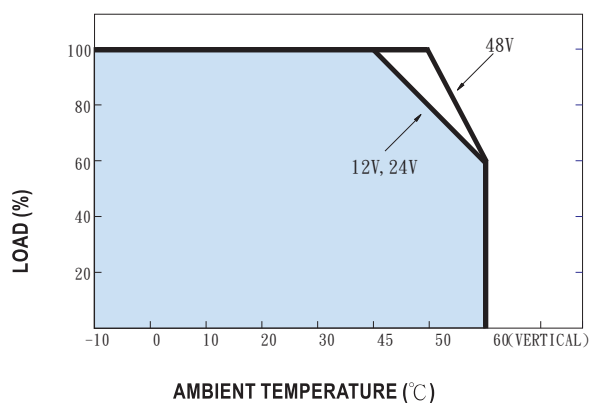
Case No. 921A Unit:mm



## Block Diagram



## Derating Curve



## Static Characteristics (24V)

