Astrodyne

75W Triple Output with PFC Function

# TP-75/DRL series



■ Features :

- Universal AC input / Full range
- Built-in active PFC function, PF>0.95
- Protections:Short circuit/Over load/Over voltage
- Low profile: 33mm thickness
- LED indicator for power on
- Cooling by free air convection
- Fixed switching frequency at PFC:67KHz PWM:134KHz

## SPECIFICATION

| MODEL | | TP-75A | | | TP-75B | | | TP-75C | | |
|---|---|---|---|---|---|---|---|---|---|---|
| OUTPUT | OUTPUT NUMBER | CH1 | CH2 | CH3 | CH1 | CH2 | CH3 | CH1 | CH2 | CH3 |
| | DC VOLTAGE | 5V | 12V | -5V | 5V | 12V | -12V | 5V | 15V | -15V |
| | RATED CURRENT | 7A | 3A | 0.6A | 7A | 3A | 0.4A | 6A | 2.5A | 0.5A |
| | CURRENT RANGE | 1.5 ~ 10A | 0.2 ~ 4A | 0 ~ 0.6A | 1.5 ~ 10A | 0.2 ~ 4A | 0 ~ 0.6A | 1.5 ~ 10A | 0.2 ~ 3A | 0 ~ 0.6A |
| | RATED POWER | 74W | | | 75.8W | | | 75W | | |
| | RIPPLE & NOISE (max.) Note.2 | 100mVp-p | 120mVp-p | 100mVp-p | 100mVp-p | 120mVp-p | 120mVp-p | 100 mVp-p | 120mVp-p | 120mVp-p |
| | VOLTAGE ADJ. RANGE | CH1: 4.75 ~ 5.5V | | | | | | | | |
| | VOLTAGE TOLERANCE Note.3 | ±3.0% | ±4.0% | ±8.0% | ±3.0% | ±4.0% | ±8.0% | ±3.0% | ±4.0% | ±8.0% |
| | LINE REGULATION | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| | LOAD REGULATION | ±3.0% | ±4.0% | ±8.0% | ±3.0% | ±4.0% | ±8.0% | ±3.0% | ±4.0% | ±8.0% |
| | SETUP, RISE TIME | 800ms, 60ms at full load | | | | | | | | |
| | HOLD TIME (Typ.) | 36ms at full load | | | | | | | | |
| INPUT | VOLTAGE RANGE Note.5 | 90 ~ 264VAC 127 ~ 370VDC | | | | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | | | | |
| | POWER FACTOR (Typ.) | PF>0.95/230VAC PF>0.98/115VAC at full load | | | | | | | | |
| | EFFICIENCY (Typ.) | 70% | | | | | | | | |
| | AC CURRENT (Typ.) | 1.5A/115VAC 0.8A/115VAC | | | | | | | | |
| | INRUSH CURRENT (Typ.) | COLD START 20A/230VAC | | | | | | | | |
| | LEAKAGE CURRENT | <2mA / 240VAC | | | | | | | | |
| PROTECTION | OVER LOAD | 105 ~ 150% rated output power | | | | | | | | |
| | | Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | | | | |
| | OVER VOLTAGE | 5.75 ~ 6.75V on +5V | | | | | | | | |
| | | Protection type : Shut down o/p voltage, re-power on to recover | | | | | | | | |
| ENVIRONMENT | WORKING TEMP. | -10 ~ +60℃ (Refer to output load derating curve) | | | | | | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | | | | | | |
| | STORAGE TEMP., HUMIDITY | -20 ~ +85℃, 10 ~ 95% RH | | | | | | | | |
| | TEMP. COEFFICIENT | ±0.03%/℃ (0 ~ 50℃) | | | | | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes | | | | | | | | |
| SAFETY & EMC (Note 4) | SAFETY STANDARDS | UL60950-1, TUV EN60950-1 Approved | | | | | | | | |
| | WITHSTAND VOLTAGE | I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC 1min. | | | | | | | | |
| | ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC | | | | | | | | |
| | EMI CONDUCTION & RADIATION | Compliance to 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, Light industry level, criteria A | | | | | | | | |
| OTHERS | MTBF | 198.4K hrs min. MIL-HDBK-217F (25℃) | | | | | | | | |
| | DIMENSION | 179*99*33mm (L*W*H) | | | | | | | | |
| | PACKING | 0.65Kg; 20pcs/12.7Kg/0.64CUFT | | | | | | | | |
| NOTE | 1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25℃ 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.<br>5. Derating may be needed under low input voltages. Please check the derating curve for more details. | | | | | | | | | |

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- Low profile: 33mm thickness
- LED indicator for power on
- Cooling by free air convection
- Fixed switching frequency at PFC:67KHz PWM:134KHz

SPECIFICATION

| MODEL | | TP-75D | | | TP-7503 | | |
|---|---|---|---|---|---|---|---|
| OUTPUT | OUTPUT NUMBER | CH1 | CH2 | CH3 | CH1 | CH2 | CH3 |
| | DC VOLTAGE | 5V | 24V | 12V | 5V | 3.3V | 12V |
| | RATED CURRENT | 7A | 1.5A | 0.4A | 9A | 8A | 0.3A |
| | CURRENT RANGE | 1.5 ~ 10A | 0.2 ~ 2.5A | 0 ~ 0.6A | 1.5 ~ 10A | 0.2 ~ 8A | 0 ~ 0.6A |
| | RATED POWER | 75.8W | | | 75W | | |
| | RIPPLE & NOISE (max.) Note.2 | 100mVp-p | 120mVp-p | 120mVp-p | 100mVp-p | 50mVp-p | 120mVp-p |
| | VOLTAGE ADJ. RANGE | CH1: 4.75 ~ 5.5V | | | | | |
| | VOLTAGE TOLERANCE Note.3 | ±3.0% | ±4.0% | ±8.0% | ±3.0% | ±4.0% | ±8.0% |
| | LINE REGULATION | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% | ±1.0% |
| | LOAD REGULATION | ±3.0% | ±4.0% | ±8.0% | ±3.0% | ±4.0% | ±8.0% |
| | SETUP, RISE TIME | 800ms, 60ms at full load | | | | | |
| | HOLD TIME (Typ.) | 36ms at full load | | | | | |
| INPUT | VOLTAGE RANGE Note.5 | 90 ~ 264VAC 127 ~ 370VDC | | | | | |
| | FREQUENCY RANGE | 47 ~ 63Hz | | | | | |
| | POWER FACTOR | PF>0.95/230VAC PF>0.98/115VAC at full load | | | | | |
| | EFFICIENCY (Typ.) | 70% | | | | | |
| | AC CURRENT | 1.5A/115VAC 0.8A/115VAC | | | | | |
| | INRUSH CURRENT (max.) | COLD START 20A/230VAC | | | | | |
| | LEAKAGE CURRENT | <2mA / 240VAC | | | | | |
| PROTECTION | OVER LOAD | 105 ~ 150% rated output power | | | | | |
| | | Protection type : Hiccup mode, recovers automatically after fault condition is removed | | | | | |
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| | | Protection type : Shut down o/p voltage, re-power on to recover | | | | | |
| ENVIRONMENT | WORKING TEMP. | -10 ~ +60℃ (Refer to output load derating curve) | | | | | |
| | WORKING HUMIDITY | 20 ~ 90% RH non-condensing | | | | | |
| | STORAGE TEMP., HUMIDITY | -20 ~ +85℃, 10 ~ 95% RH | | | | | |
| | TEMP. COEFFICIENT | ±0.03%/℃ (0 ~ 50℃) | | | | | |
| | VIBRATION | 10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes | | | | | |
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| | WITHSTAND VOLTAGE | I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC 1min. | | | | | |
| | ISOLATION RESISTANCE | I/P-O/P, I/P-FG, O/P-FG:100M Ohms/500VDC | | | | | |
| | EMI CONDUCTION & RADIATION | Compliance to 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, Light industry level, criteria A | | | | | |
| OTHERS | MTBF | 198.4K hrs min. MIL-HDBK-217F (25℃) | | | | | |
| | DIMENSION | 179*99*33mm (L*W*H) | | | | | |
| | PACKING | 0.65Kg; 20pcs/12.7Kg/0.64CUFT | | | | | |
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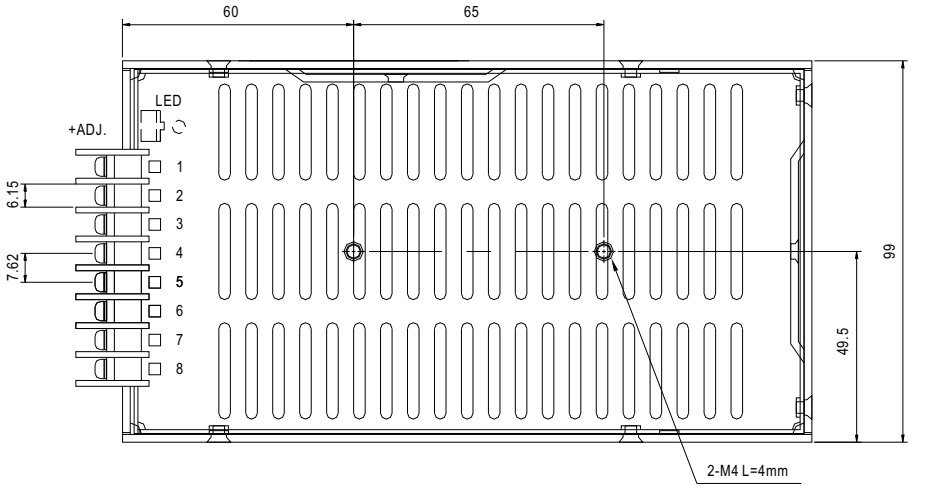
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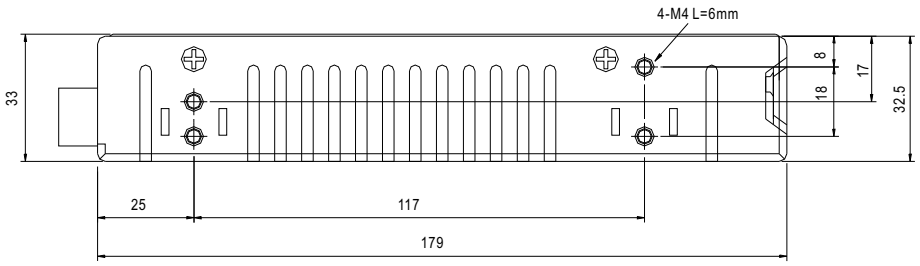
75W Triple Output with PFC Function

# TP-75/DRL series

## ■ Mechanical Specification

Case No. 920A Unit:mm

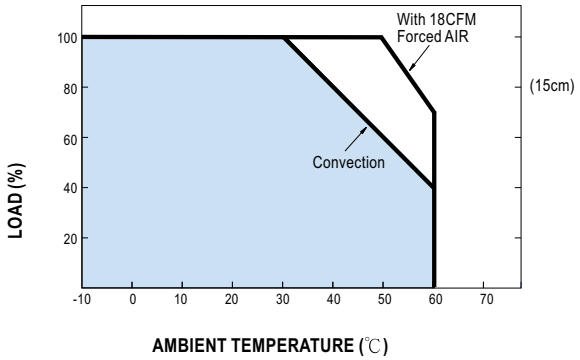


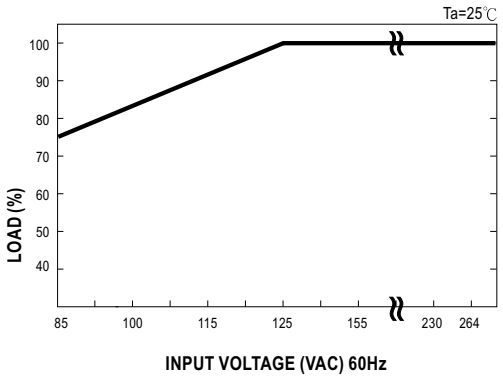

Terminal pin number assignment :

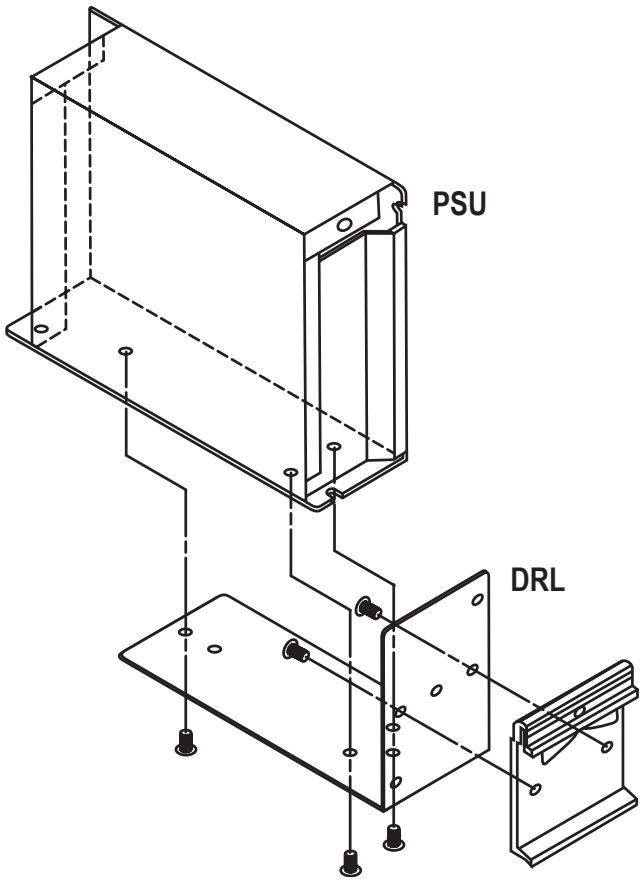
| Pin No. | Assignment | Pin No. | Assignment |
|---|---|---|---|
| 1 | DC OUTPUT +V2 | 6 | FG ⏚ |
| 2,3 | COM | 7 | AC/N |
| 4 | DC OUTPUT +V1 | 8 | AC/L |
| 5 | DC OUTPUT +V3 | | |

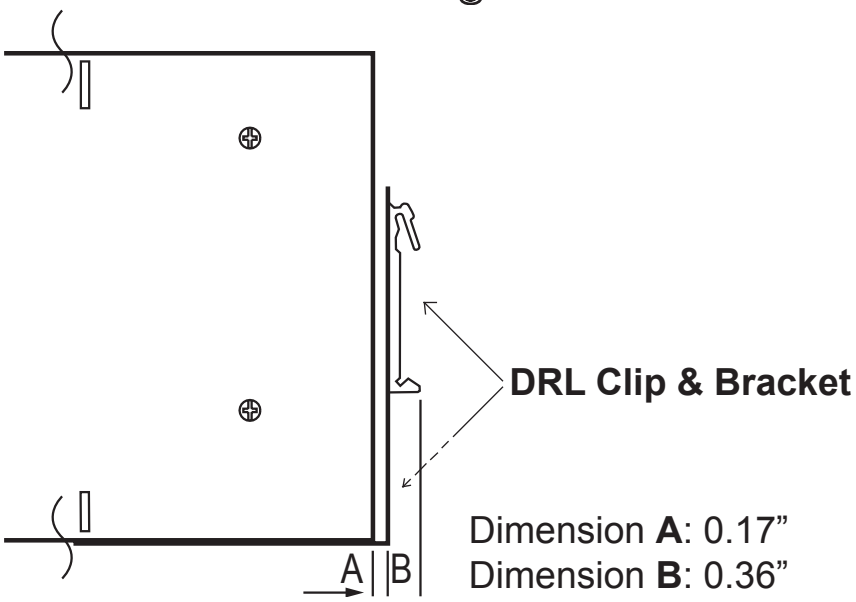
## ■ Derating Curve




## ■ Output Derating VS Input Voltage






Dimension **A**: 0.17”
Dimension **B**: 0.36”