TOPPOWER

# TPC/NE-15-XS series

**15W Wide input AC/DC switching power supply**

**DESCRIPTION :**

The rated output power of TPC/NE-15-XS series is 15W，input voltage range：90~264Vac, output voltage : 5V,12V,24V ,High reliability, precision,effificency , with short circuit,over-load protection, Widely used in telecommunications, industrial control, instrument, data acquisition, signal control , New Energy, Security,and other electronic systems.

## FEATURES

| | | |
|---|---|---|
| AC input selectable by switch ： 90~264 VAC | 100% full load burn-in test | short circuit ,over-voltage, over-load protection |
| Operating temperature：-20℃~70℃ | RoHS complaint | High reliability,effificency |
| All using 105℃ long-life electrolytic capacitors | Standby power <0.5W | / |

## SELECTION GUIDE

| Part Number | Input | | Output | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Volatge（VAC） | | Voltage (VDC) | Pre-set voltage @25℃(V) | Rated current (A) | Current range(A) | Rated power(W) | Efficiency @25℃, (Typ) % |
| | Rated | Range values | | | | | | |
| TPC/NE-15-5S | 220 | 90-264 | 5 | 5.00-5.05 | 3 | 0-3 | 15 | ⩾76 |
| TPC/NE-15-12S | 220 | 90-264 | 12 | 12.00-12.10 | 1.3 | 0-1.3 | 15.6 | ⩾80 |
| TPC/NE-15-24S | 220 | 90-264 | 24 | 24.00-24.10 | 0.7 | 0-0.7 | 16.8 | ⩾83 |

All specifications typical at TA=25°C, nominal input voltage and rated output current unless otherwise specified.

## OUTPUT CHARACTERISTICS

| Conditions | Conditions | Parameter |
|---|---|---|
| Ripple and noise,Ta is ambient @0~70℃ | 5V output voltage | ⩽50mVp-p |
| | 12V output voltage | ⩽120mVp-p |
| | 24V output voltage | ⩽120mVp-p |
| Ripple and noise,Ta is ambient @-20~0℃ | 5V output voltage | ⩽150mVp-p |
| | 12VV output voltage | ⩽150mVp-p |
| | 24V output voltage | ⩽200mVp-p |
| Output adjustment range @25℃ | 5V output voltage | 4.75V-5.25V |
| | 12V output voltage | 11.4V~12.6V |
| | 24V output voltage | 22.8V-25.2V |
| Voltage regulation accuracy@-20~70℃ | ±2%@5V, ±1%@ others | |
| Line regulation@-20~70℃ | ±1%@5V ±0.5%@others | |
| Load regulation@-20~70℃ | ±1.5%@5V ±0.5%@others | |
| Temp. coefficient@-20~70℃ | ±0.03%/℃ | |
| Set-up time@25℃ | ⩽2.0S (115Vac input, full load), ⩽1.0S (230Vac input, full load) | |
| Hold-up time@25℃ | ⩾10mS(115Vac input, Full load) ⩾20mS(230Vac input, Full load) | |
| Overshoot&Undershoot@-20~70℃ | <5.0% | |

## INPUT CHARACTERISTICS

| Conditions | Parameter |
|---|---|
| Input voltage range | 90~264Vac |
| Rated input voltage range | 100~240Vac |
| Max input voltage | 280Vac |

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| INPUT CHARACTERISTICS | |
|---|---|
| Frequency Range | 47Hz~63Hz |
| Set-up voltage@-20~70℃ | 85Vac（refer to the derating curve）@-40℃ 220Vac input, full load output, |
| Input current@25℃ | <0.7A |
| Inrush current @25℃ | ＜65A@230Vac Cold start |
| Standby power@25℃ | ＜0.5W |
| Capacitive load | 5V,12V @10000uF |
| | 24V,48V @5000uF |

| PROTECTION @-20～70℃ | |
|---|---|
| Conditions | Parameter |
| Over-power | 105%~150% of rated power, Hiccup mode, auto recovery |
| Over-load | 105%~150% of rated current ,Hiccup mode, auto recovery |
| Output short circuit protection | Long-term mode, Auto recovery |

| ENVIRONMENT CHARACTERISTICS | |
|---|---|
| Conditions | Parameter |
| Operating amb. Temp.&Humi. | -20℃~70℃; 20%~90%RH No condensing |
| Storage Temp. & Humi. | -40℃~85℃; 10%~95%RH No condensing |
| Vibration | 10 ~ 150Hz, 5G 10min./1cycle, period for60min. each along X,Y, Z axes |
| Pulse | 20G/11mS pulse ,3 times at each X,Y,Z axes |
| Altitude | 5000m |

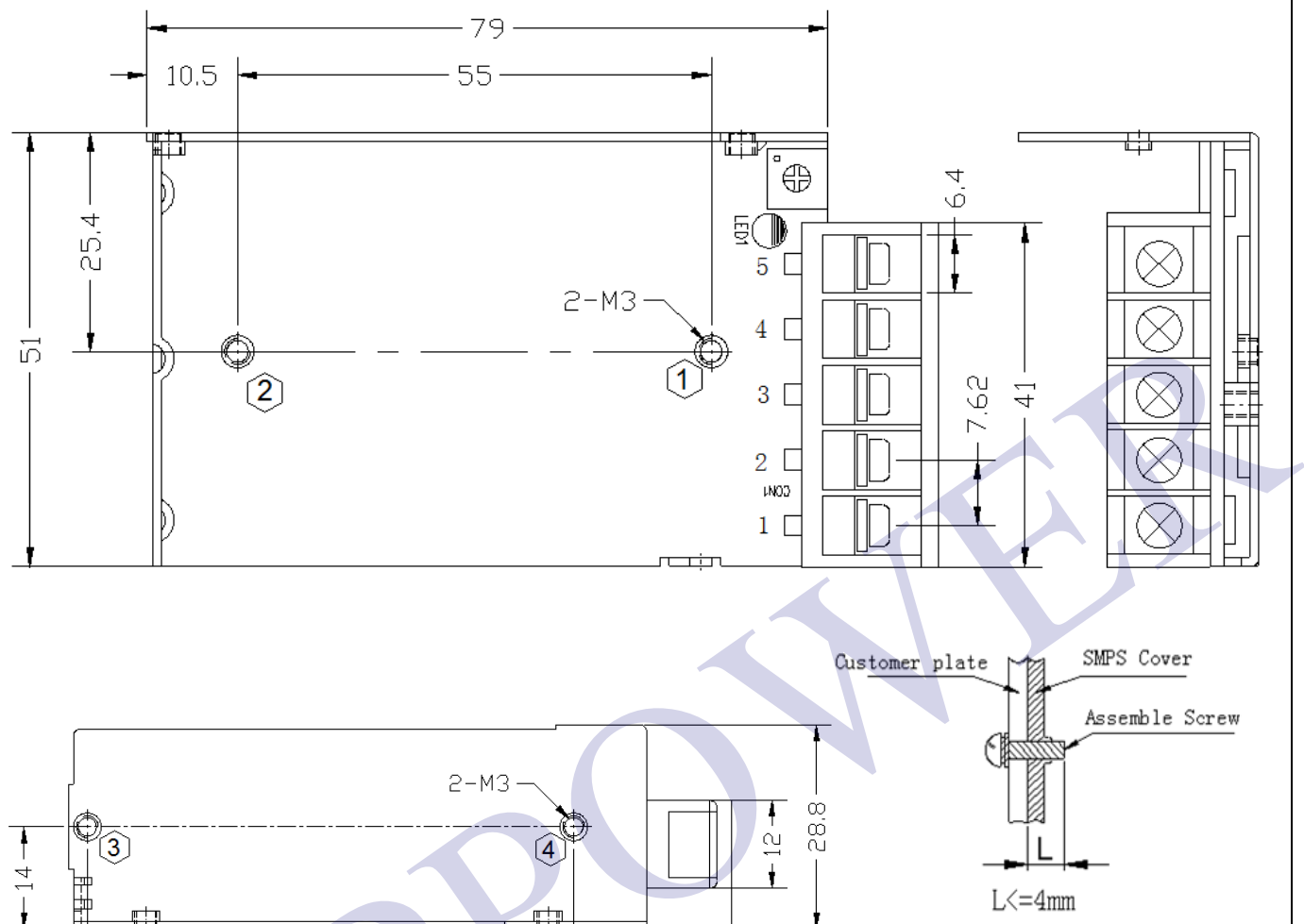
| SAFETY&EMC STANDARDS @25℃ | |
|---|---|
| Conditions | Parameter |
| Safety Standards | GB4943/EN60950/IEC60950/UL60950 (for reference) |
| Withstand Voltage | I/P-O/P:3.0KVac/10mA; I/P-FG:1.5KVac/10mA; O/P-FG:0.5KVdc/10mA test time:1min. |
| Grounding test | Test condition：40A／2min.；Grounding resistance：＜0.1 ohms. |
| Leakage Current | I/P-Grounding≤3.5mA； I/P-O/P ≤0.25mA 264Vac input 63Hz |
| Isolation resistance | I/P-O/P: 10M ohms; I/P-FG : 10M ohms; O/P-FG : 10M ohms |
| EMC emission | EN55022 EN55024 Class B |
| EMC immunity | EN61000-4-2,4,5,8,11 light industry level, criteria A |

| OTHERS | |
|---|---|
| Conditions | Parameter |
| Cooling method | Cooling by flow air |
| Dimension (L*W*H) | 79*51*28.8mm |
| Net Weight | 0.13kg |

| RELIABIILITY CHARACTERISTICS | |
|---|---|
| Conditions | Parameter |
| MTBF | 100,000Hrs AT 25℃, MIL-217 Method 2 Components Stress Method |
| Design electrolytic capacitor life-time | >2years AT 50℃ full load |

## MECHANICAL DIMENSIONS

Unit: mm




1.Mounting Way

| Mounting position | Mounting type | Mounting position No. | Screw Type | L max | Mounting Torque(max) |
|---|---|---|---|---|---|
| Bottom mounting | Fixing by Screw | ①—② | M3 | 3mm | 6.5Kgf.cm |
| Side mounting | | ③—④ | M3 | 3mm | |

2.Instruction of AC output Connector

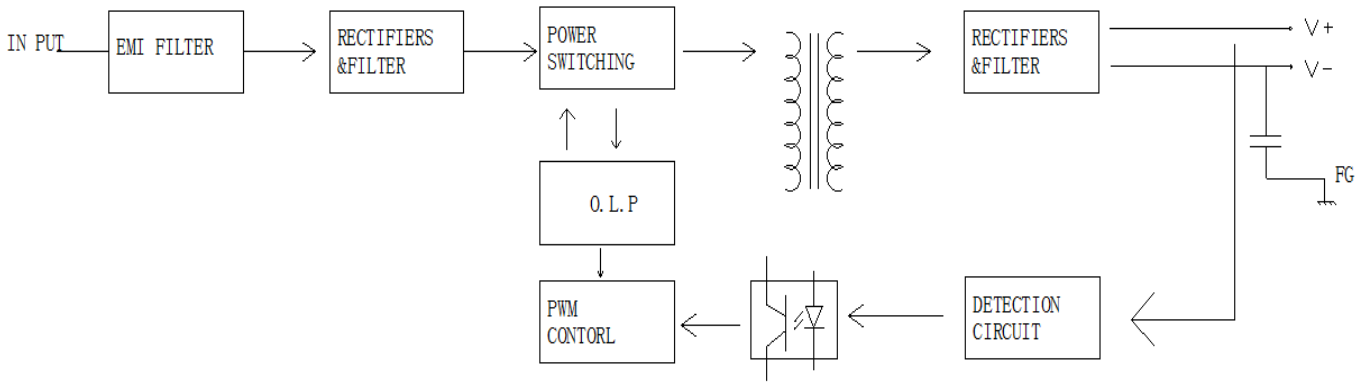
| Part No. | Function | Terminal Connector | Requirement for Cable | Torque(max) |
|---|---|---|---|---|
| 1 | AC-L | 7.62 | 22-14AWG | 7.5Kgf.cm |
| 2 | AC-N | | | |
| 3 | ⏚ | | | |

3.Instruction of DC output Connector

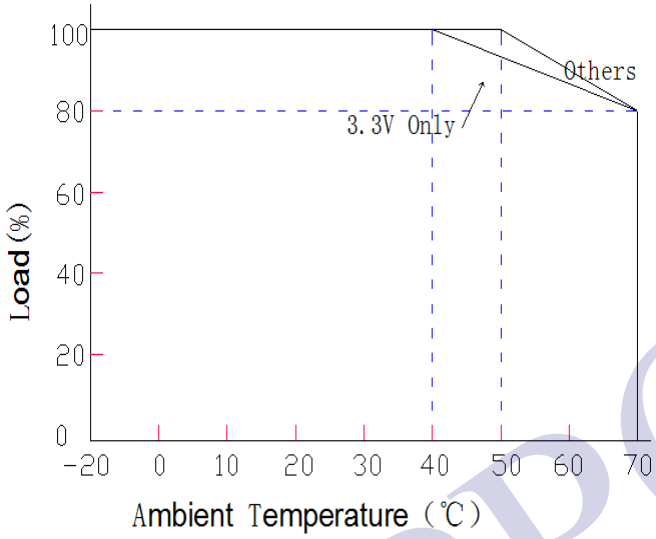
| Part No. | Function | Terminal Connector | Requirement for Cable | Torque(max) |
|---|---|---|---|---|
| 4 | -V | 7.62 | 22-14AWG | 7.5Kgf.cm |
| 5 | +V | | | |

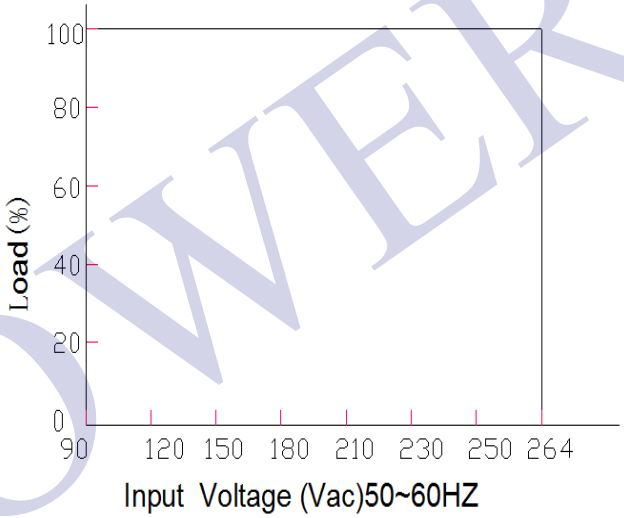
# TPC/NE-15-XS series

## BLOCK DIAGRAM




## DERATING CURVE




## MODEL SELECTION

**TP C / NE- 15 – X S**

- S: Single ouput; D: Dual output
- Output voltage
- Delimiter
- Rated output power
- Delimiter
- Series
- Delimiter
- Type
- Brand TOPPOWER