

KEY FEATURES

- Switching Power Modules for PCB Mounting
- Fully Encapsulated Plastic Case
- Universal Input Range 90-264VAC, 47-440 Hz
- Regulated Output
- Low Ripple and Noise
- High Efficiency
- Isolation class II
- UL60601-1 / IEC60601-1 / EC60601-1 Medical Safety Approvals
- 2-Years Product Warranty


ELECTRICAL SPECIFICATIONS

| Model No. (Single Output) | MTC-3.3S | MTC-5S | MTC-7.35S | MTC-9S | MTC-12S | MTC-15S | MTC-24S |
|-----------------------------|---------------------------------|--------|-----------|--------|---------|---------|---------|
| Max output wattage (W) | 9.9W | 15W | 15W | 15W | 15W | 15W | 15W |
| Output | Voltage (V.DC.) | 3.3V | 5V | 7.35V | 9V | 12V | 24V |
| | Current (mA) max | 3000 | 3000 | 2040 | 1666 | 1250 | 625 |
| | Voltage set accuracy | ±2% | ±2% | ±2% | ±2% | ±2% | ±2% |
| | Line regulation (Max..) | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% | 0.5% |
| | Load regulation (0-100%) (Max.) | 1% | 1% | 1% | 1% | 1% | 1% |
| | Minimum load | 0% | 0% | 0% | 0% | 0% | 0% |
| | Efficiency (Typ) | 74% | 78% | 79% | 79% | 81% | 81% |

| Model No. (Dual Output) | MTC-5D | | MTC-12D | | MTC-15D | | |
|---------------------------|----------------------------------|---------------------|----------|---------------------|----------|---------------------|------|
| Max output wattage (W) | 15W | | 15W | | 15W | | |
| Output | Output 1 | Output 2 | Output 1 | Output 2 | Output 1 | Output 2 | |
| | Voltage (V.DC.) | +5V | -5V | +12V | -12V | +15V | -15V |
| | Current (mA) max | 1500 | 1500 | 625 | 625 | 500 | 500 |
| | Voltage set accuracy | ±2% | | ±2% | | ±2% | |
| | Line regulation (Max.) | 0.5% | | 0.5% | | 0.5% | |
| | Load regulation (10-100%) (Max.) | 1% (symmetric load) | | 1% (symmetric load) | | 1% (symmetric load) | |
| | Cross regulation | 5% | | 3% | | 3% | |
| | Minimum load | 10% | | 10% | | 10% | |
| | Efficiency (Typ) | 78% | | 80% | | 81% | |

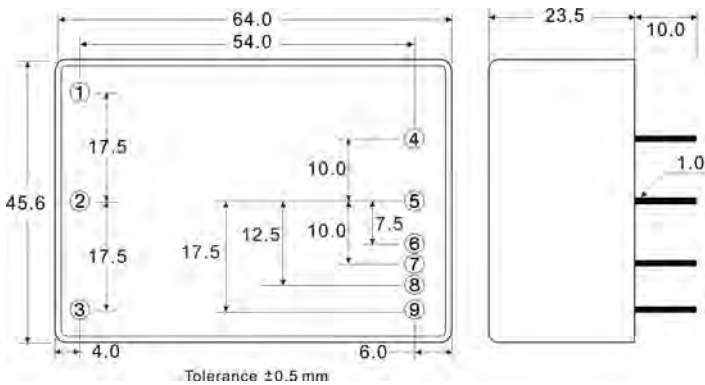
| Model No. (Triple Output) | MTC-5S12D | | | MTC-5S15D | | | |
|-----------------------------|----------------------------------|----------|---------------------|-----------|----------|---------------------|-----|
| Max output wattage (W) | 15W | | | 15W | | | |
| Output | Output 1 | Output 2 | Output 3 | Output 1 | Output 2 | Output 3 | |
| | Voltage (V.DC.) | 5 | +12 | -12 | 5 | +15 | -15 |
| | Current (mA) max | 2000 | 200 | 200 | 2000 | 150 | 150 |
| | Voltage set accuracy | ±2% | ±3% | | ±2% | ±3% | |
| | Line regulation (Max..) | 0.5% | 2% | | 0.5% | 2% | |
| | Load regulation (10-100%) (Max.) | 1% | 5% (symmetric load) | | 1% | 5% (symmetric load) | |
| | Cross regulation | 1% | 5% | | 1% | 5% | |
| | Minimum load | 25% | | | 25% | | |
| | Efficiency (Typ) | 78% | | | 78% | | |

MTC SERIES
15 Watts

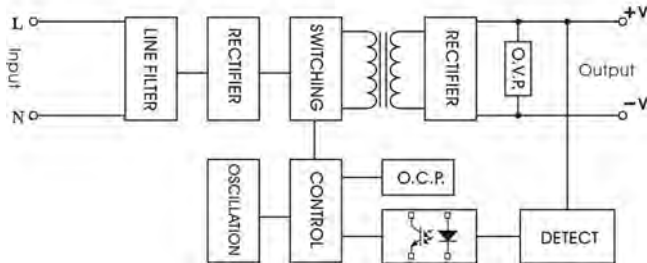
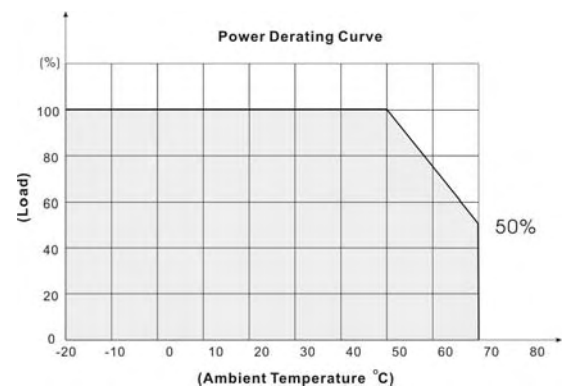
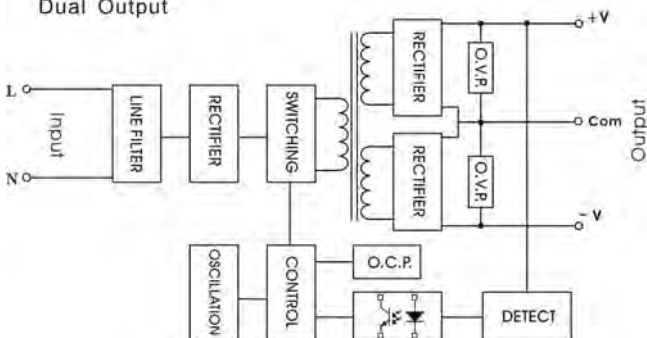
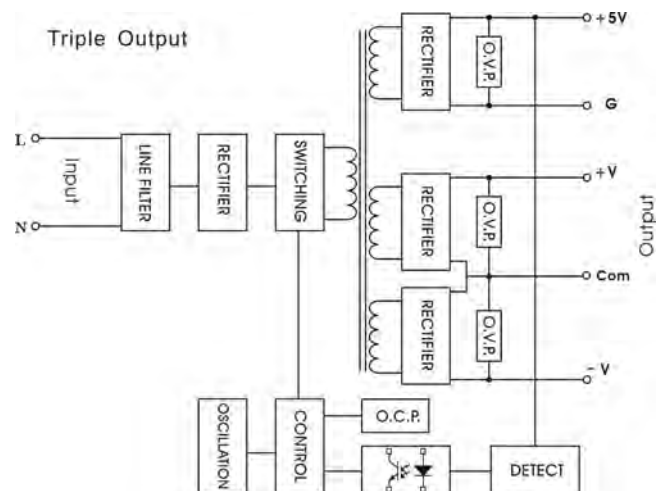
| | | |
|--------------------------|---------------------------|--|
| Input | Voltage | 90-264 VAC or 100-375 VDC |
| | Frequency (Hz) | 47-440 Hz |
| | Current (Full load) | 220 mA max. (115 VAC) / 118 mA max. (230 VAC) |
| | Inrush current (<2ms) | 10 A max. (115 VAC) / 20 A max. (230 VAC) |
| | Leakage Current | 0.1 mA max. (115 VAC) / 0.2 mA max. (230 VAC) |
| | External fuse (recommend) | 2.0 A slow blow type |
| Output | Maximum capacitive load | 330-23,000 μ F depending on model |
| | Ripple & Noise | 1% of Vout |
| | Hold-up time | 20 ms min. |
| | Switching frequency | 132 kHz |
| Protection | Over current protection | Above 105% rated output power |
| | Over voltage protection | Zener diode clamp |
| | Short circuit protection | Hiccup mode, indefinite (automatic recovery) |
| | OTP | 100°C |
| Isolation | Input-Output (V.AC) | 4000V |
| Environment | Operating temperature | -25°C...+70°C (Case Temperature max. +95°C) |
| | Storage temperature | -40°C...+100°C |
| | Temperature coefficient | 0.01%/°C |
| | Humidity | 95% RH |
| | MTBF | 200,000 h~400,000 h @ 25°C |
| Physical | Dimension (L x W x H) | 2.52 x 1.79 x 0.92 Inches (64.0 x 45.6 x 23.5 mm) Tolerance \pm 0.5 mm |
| | Case Material | Plastic resin + Fiberglass (flammability to UL 94V-0) |
| | Weight | 120 g |
| | Cooling method | Free air convection |
| Safety & EMC | Safety Approvals | UL60601-1 / IEC60601-1 |
| | approval | cUL / UL / CB |
| | EMI / PFI conducted | EN 55011 class A |
| | EMC Standards | EN60601-1-2 |
| | ESD Susceptibility | EN60601-1-2 |
| | Radiated Susceptibility | EN60601-1-2 |
| | EFT / Burst | EN60601-1-2 |
| | Surge | EN60601-1-2 |
| Conducted Susceptibility | EN60601-1-2 | |

1. All specifications valid at nominal input voltage, full load and +25°C after warm-up time unless otherwise stated.

2. Ripple & Noise are measured at 20MHz of bandwidth with 0.1 μ F & 47 μ F parallel capacitor.

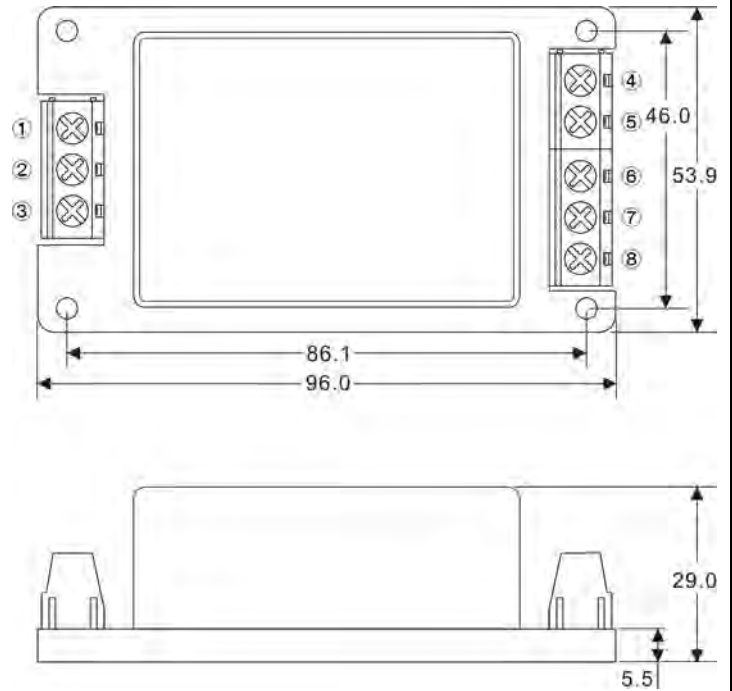
MECHANICAL DIMENSION (Top View)


| PIN# | SINGLE | Dual | Triple |
|------|-----------|-----------|-----------|
| 1 | NO PIN | NO PIN | NO PIN |
| 2 | AC IN (L) | AC IN (L) | AC IN (L) |
| 3 | AC IN (N) | AC IN (N) | AC IN (N) |
| 4 | -DC OUT | -DC OUT | +5V RTN |
| 5 | NO PIN | NO PIN | +5V OUT |
| 6 | NO PIN | COMMON | -DC OUT |
| 7 | +DC OUT | +DC OUT | NO PIN |
| 8 | NO PIN | NO PIN | COMMON |
| 9 | NO PIN | NO PIN | +DC OUT |

BLOCK DIAGRAM
Single Output

DERATING

Dual Output

Triple Output


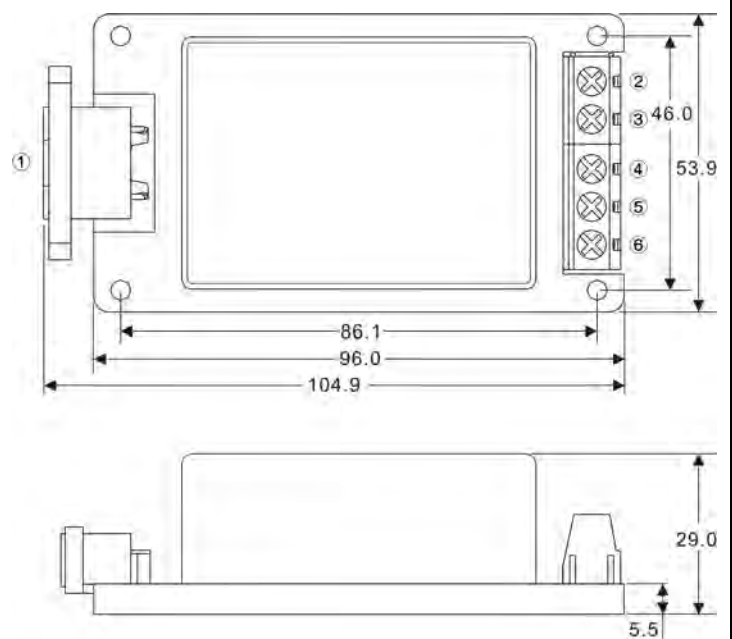
SCREW TERMINAL

MTC-A2

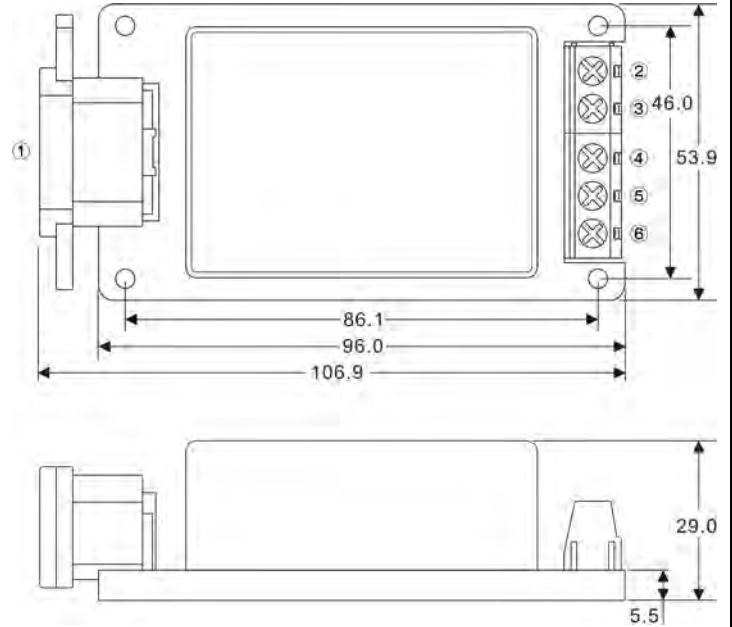


| PIN# | Single | Dual | Triple |
|------|------------|------------|------------|
| 1 | NO CONNECT | NO CONNECT | NO CONNECT |
| 2 | AC IN (L) | AC IN (L) | AC IN (L) |
| 3 | AC IN (N) | AC IN (N) | AC IN (N) |
| 4 | NO CONNECT | NO CONNECT | +5V RTN |
| 5 | -DC OUT | -DC OUT | +5V OUT |
| 6 | NO CONNECT | COMMON | -DC OUT |
| 7 | +DC OUT | +DC OUT | NO CONNECT |
| 8 | NO CONNECT | NO CONNECT | +DC OUT |

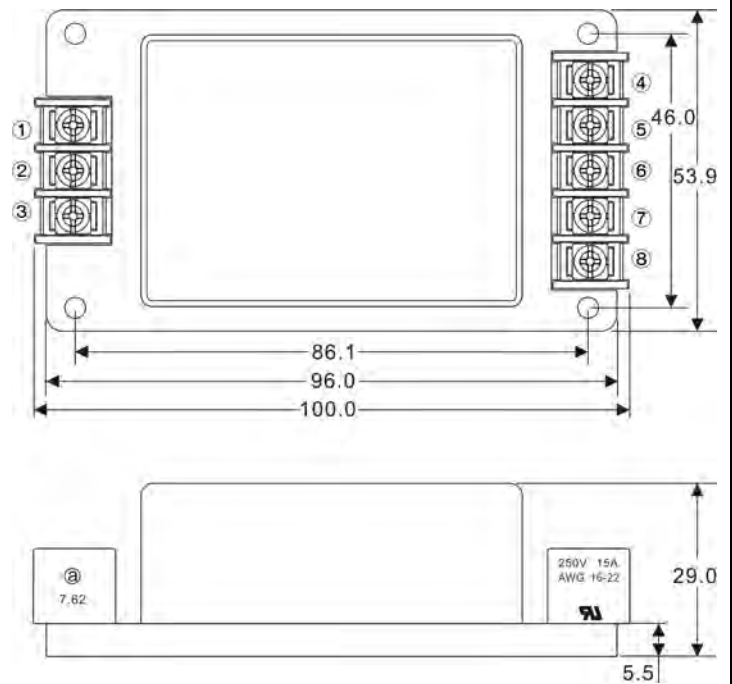
MTC-A3



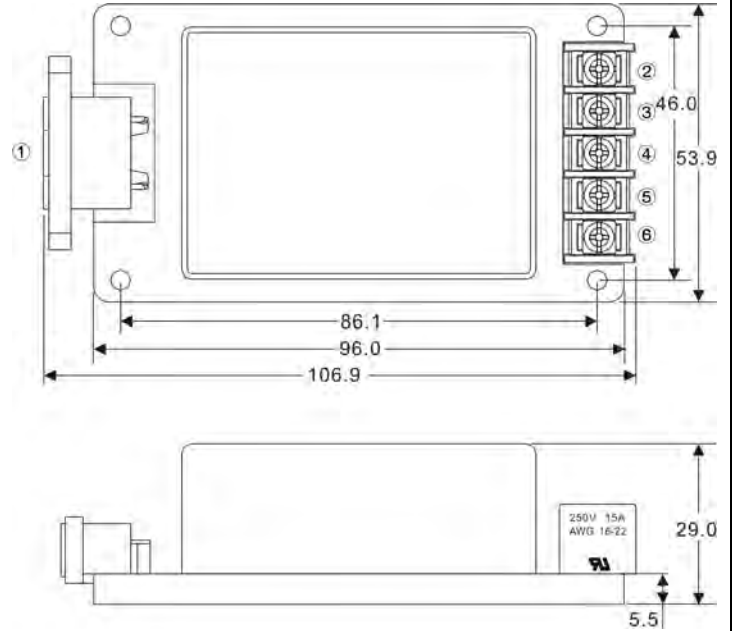
| PIN# | Single | Dual | Triple |
|------|------------|------------|------------|
| 1 | AC IN | AC IN | AC IN |
| 2 | NO CONNECT | NO CONNECT | +5V RTN |
| 3 | -DC OUT | -DC OUT | +5V OUT |
| 4 | NO CONNECT | COMMON | -DC OUT |
| 5 | +DC OUT | +DC OUT | NO CONNECT |
| 6 | NO CONNECT | NO CONNECT | +DC OUT |

MTC-A4


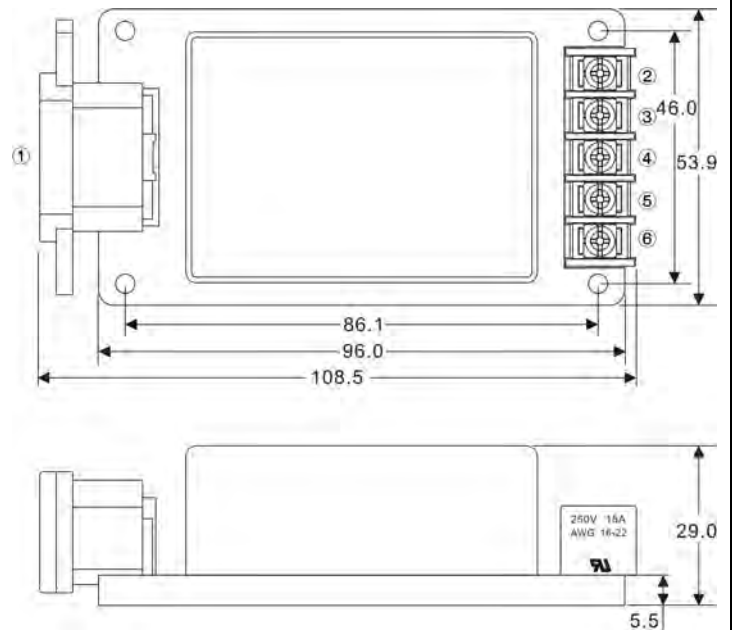
| PIN# | Single | Dual | Triple |
|------|------------|------------|------------|
| 1 | AC IN | AC IN | AC IN |
| 2 | NO CONNECT | NO CONNECT | +5V RTN |
| 3 | -DC OUT | -DC OUT | +5V OUT |
| 4 | NO CONNECT | COMMON | -DC OUT |
| 5 | +DC OUT | +DC OUT | NO CONNECT |
| 6 | NO CONNECT | NO CONNECT | +DC OUT |

MTC-A5


| PIN# | Single | Dual | Triple |
|------|------------|------------|------------|
| 1 | NO CONNECT | NO CONNECT | NO CONNECT |
| 2 | AC IN (L) | AC IN (L) | AC IN (L) |
| 3 | AC IN (N) | AC IN (N) | AC IN (N) |
| 4 | NO CONNECT | NO CONNECT | +5V RTN |
| 5 | -DC OUT | -DC OUT | +5V OUT |
| 6 | NO CONNECT | COMMON | -DC OUT |
| 7 | +DC OUT | +DC OUT | NO CONNECT |
| 8 | NO CONNECT | NO CONNECT | +DC OUT |

MTC-A6


| PIN# | Single | Dual | Triple |
|------|------------|------------|------------|
| 1 | AC IN | AC IN | AC IN |
| 2 | NO CONNECT | NO CONNECT | +5V RTN |
| 3 | -DC OUT | -DC OUT | +5V OUT |
| 4 | NO CONNECT | COMMON | -DC OUT |
| 5 | +DC OUT | +DC OUT | NO CONNECT |
| 6 | NO CONNECT | NO CONNECT | +DC OUT |

MTC-A7


| PIN# | Single | Dual | Triple |
|------|------------|------------|------------|
| 1 | AC IN | AC IN | AC IN |
| 2 | NO CONNECT | NO CONNECT | +5V RTN |
| 3 | -DC OUT | -DC OUT | +5V OUT |
| 4 | NO CONNECT | COMMON | -DC OUT |
| 5 | +DC OUT | +DC OUT | NO CONNECT |
| 6 | NO CONNECT | NO CONNECT | +DC OUT |