

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
- Isolation Class II
- UL60601-1 / IEC60601-1 / EN60601-1 Medical Safety Approvals
- 3-Year 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) | 75% | 79% | 79% | 80% | 81% | 82% |
| | Maximum Capacitive Load (at 230 VAC) | 40000 uF | 10000 uF | 4700 uF | 3000 uF | 1100 uF | 1000 uF |

| 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) | 79% | | 82% | | 82% | |
| | Maximum Capacitive Load (at 230 VAC) | ±4700 uF | | ±560 uF | | ±500 uF | |

| Model No. (Triple Output) | MTC-5S12D | | | MTC-5S15D | | | |
|-----------------------------|---|----------|----------|-----------|----------|----------|--|
| Max output wattage (W) | 15W | | | 15W | | | |
| Output | | Output 2 | Output 3 | Output 1 | Output 2 | Output 3 | |
| | Voltage (V.DC.) | +12 | -12 | 5 | +15 | -15 | |
| | Current (mA) max | 200 | 200 | 2000 | 150 | 150 | |
| | Voltage set accuracy | ±5% | | ±3% | ±5% | | |
| | Line regulation (max.) | 2% | | 0.5% | 2% | | |
| | Load regulation (10-100%) (max.) (symmetric load) | 5% | | 1% | 5% | | |
| | Cross regulation | 5% | | 1% | 5% | | |
| | Minimum load | 25% | | | 25% | | |
| | Efficiency (Typ) | 78% | | | 78% | | |
| | Maximum Capacitive Load (at 230 VAC) | ±470 uF | | 10000 uF | ±600 uF | | |

ELECTRICAL SPECIFICATIONS

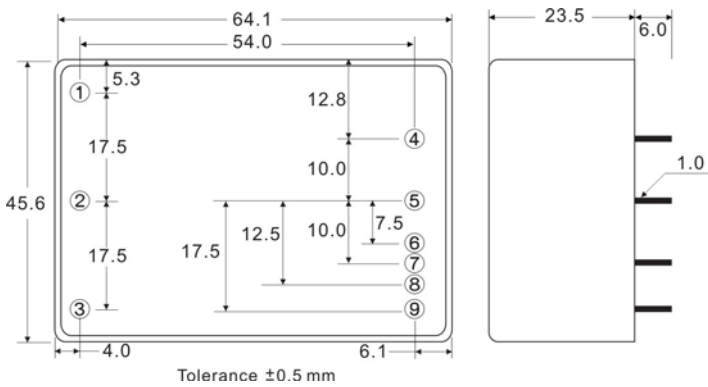
All specifications valid at normal input voltage, full load and +25°C after warm-up time unless otherwise stated.

| | | |
|-------------|----------------------------|---|
| Input | Voltage | 90-264 VAC or 120-375 VDC |
| | Frequency (Hz) | 47-440 Hz |
| | Current (Full load) | 292 mA max. (115 VAC) / 188 mA max. (230 VAC) |
| | Inrush current (<2ms) | 10 A max. (115 VAC) / 20 A max. (230 VAC) |
| | Leakage Current | < 0.1mA / 264 VAC (Touch Current) |
| Output | External fuse (recommend) | 2.0 A slow blow type |
| | Ripple & Noise | 1% of Vout |
| Protection | Hold-up time | 20 ms min. |
| | Over current protection | Above 105% rated output power |
| | Over voltage protection | Zener diode clamp |
| | Short circuit protection | Hiccup mode, indefinite (automatic recovery) |
| Isolation | OTP | 100°C |
| | Input-Output (V.AC) | 4000V |
| Environment | Operating temperature | -25°C...+70°C (Case Temperature max. +95°C) |
| | Storage temperature | -40°C...+85°C |
| | Temperature coefficient | 0.01%/°C |
| | Altitude During Operation | 5000m |
| | Humidity | 95% RH |
| | MTBF | 200,000 h~400,000 h @ 25°C |
| Physical | Atmospheric Pressure | 540 hPa to 1060 hPa |
| | Dimensions (L x W x H) | 2.52 x 1.8 x 0.93 Inches (64.1 x 45.6 x 23.5 mm) Tolerance ±0.5 mm |
| | Case Material | Plastic resin (flammability to UL 94V-0) |
| | Weight | 120 g |
| Safety | Approval | Free air convection |
| | Approval | cUL / UL Standard: ANSI/AAMI ES 60601-1: 2005 , CAN/CSA-C22.2 No. 60601-1:08 CB Standard: IEC 60601-1:2005 (Third Edition) + CORR. 1 (2006) + CORR. 2 (2007) + AM1 (2012) or IEC 60601-1 (2012 reprint) |
| EMC | Conducted and radiated EMI | EN55011 Conducted & Radiated Class B |
| | EMS | EN60601-1-2 4th edition |

NOTE

1. Ripple & Noise are measured at 20MHz of bandwidth with 0.1uF & 47uF parallel capacitor.
2. It's recommended to add Varistor 14S471K at L / N input side in parallel.

MECHANICAL DIMENSIONS (Top View)

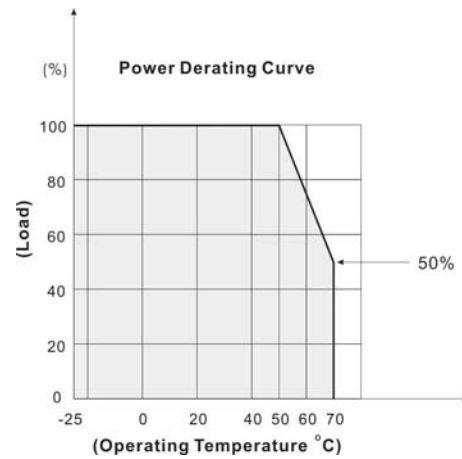
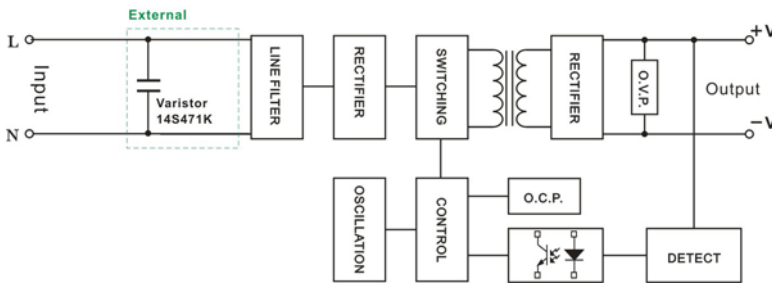


| PIN# | Single | Dual | Triple |
|------|-----------|-----------|-----------|
| 1 | NO PIN | NO PIN | NO PIN |
| 2 | AC IN (L) | AC IN (L) | AC IN (L) |
| 3 | AC IN (N) | AC IN (N) | AC IN (N) |
| 4 | -DC OUT | -DC OUT | +5V RTN |
| 5 | NO PIN | COMMON | +5V OUT |
| 6 | NO PIN | NO PIN | -DC OUT |
|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

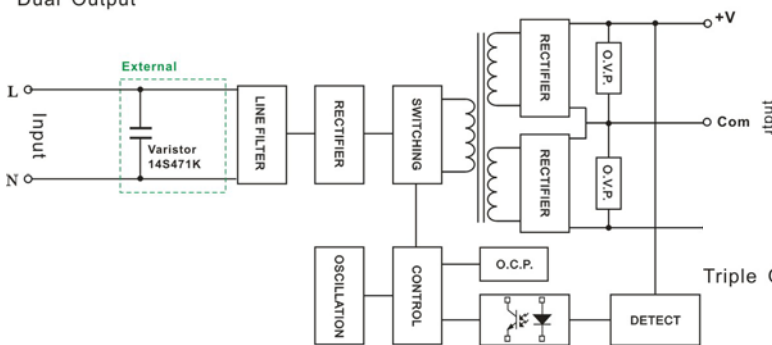
BLOCK DIAGRAM

DERATING

Single Output



Dual Output



Triple Output

