



Features:

- 5W Compact Size 32.5 x 27.5 x 19.5mm
- Wide AC & DC Input 90V to 264VAC (100 to 370VDC)
- Temperature Range -20°C to +70°C
- Dual Isolated Outputs
- Fully Isolated Pri - Sec >4000Vrms
- Insulation: Class II
- Materials: UL94-V0
- Safety: EN61558, EN60950, CE, UKCA



Description

VTX-214-005-### is a compact size Dual Output AC-DC converter. It features a wide AC input 90V to 264Vac and a DC input voltage 120 to 370VDC. The converters have been designed with low power consumption, Isolated Outputs and reinforced isolation. It offers good EMC performance. The converters are widely used in industrial power, instrumentation, communication and civil applications. For extremely harsh EMC environment, we recommend using the application circuit show in this Datasheet or contact our Technical team for further support.

Selection Guide

| Part Number | Power Rating Watts | Output 1 Voltage Current | Output 2 Voltage Current | Output 1 Capacitive Load (uF) | Output2 Capacitive Load (uF) | Efficiency Typical |
|------------------|--------------------|--------------------------|--------------------------|-------------------------------|------------------------------|--------------------|
| VTX-214-005-403 | 5 | 3.3V/750mA | 3.3V/750mA | 470 | 470 | >70% |
| VTX-214-005-405 | 5 | 5V/500mA | 5V/500mA | 470 | 470 | |
| VTX-214-005-407 | 5 | 7.5V/330mA | 7.5V/330mA | 100 | 100 | |
| VTX-214-005-409 | 5 | 9V/250mA | 9V/250mA | 100 | 100 | |
| VTX-214-005-412 | 5 | 12V/166mA | 12V/166mA | 100 | 100 | |
| VTX-214-005-415 | 5 | 15V/138mA | 15V/138mA | 100 | 100 | |
| VTX-214-005-424 | 5 | 24V/104mA | 24V/104mA | 100 | 100 | |
| VTX-214-005-0305 | 5 | 3.3V/750mA | 5V/500mA | 470 | 470 | |
| VTX-214-005-0312 | 5 | 3.3V/750mA | 12V/208mA | 470 | 100 | |
| VTX-214-005-0315 | 5 | 3.3V/750mA | 15V/160mA | 470 | 100 | |
| VTX214-005-0324 | 5 | 3.3V/750mA | 24V/100mA | 470 | 100 | |
| VTX-214-005-0503 | 5 | 5V/500mA | 3.3V/750mA | 470 | 100 | |
| VTX-214-005-0512 | 5 | 5V/500mA | 12V/208mA | 470 | 100 | |
| VTX-214-005-0515 | 5 | 5V/500mA | 15V/160mA | 470 | 100 | |
| VTX-214-005-0524 | 5 | 5V/500mA | 24V/100mA | 470 | 100 | |
| VTX-214-005-1203 | 5 | 12V/200mA | 3.3V/750mA | 100 | 470 | |
| VTX-214-005-1205 | 5 | 12V/200mA | 5V/500mA | 100 | 470 | |
| VTX-214-005-1215 | 5 | 12V/200mA | 15V/160mA | 100 | 470 | |
| VTX-214-005-1512 | 5 | 5V/1000mA | 24V/200mA | 100 | 100 | |

Note: Other output voltages are available upon request.

Please contact Vigortronix for any enquiries. Products can be altered to suit custom requirements. The information contained in this document is subject to change without notice.

| Input Specification | | | | | |
|----------------------------|------------|---------------------|---------|-------|------|
| Item | Conditions | Min | Typical | Max | Unit |
| Input Voltage | AC Input | 90 | - | 264 | VAC |
| | DC Input | 120 | - | 370 | VDC |
| Input Frequency | | 47 | - | 63 | Hz |
| Input Current | 115VAC | - | - | 0.060 | A |
| | 230VAC | - | - | 0.035 | |
| Inrush Current | 115VAC | - | 15 | - | |
| | 230VAC | - | 25 | - | |
| External Input Fuse | | 1Amp Slow Blow Fuse | | | |

| Output Specification | | | | | |
|---------------------------------|--------------------------------------|-----------------------------------|---------|------|------|
| Item | Conditions | Min | Typical | Max | Unit |
| Output Voltage | Output V01 | - | +/-5 | +/-7 | % |
| | Output V02 | - | +/-10 | - | |
| Line Regulation | Full Load Output V01 | - | +/-2 | - | |
| | Full Load Output V02 | - | +/-5 | - | |
| Load Regulation | 0% - 100% Load V01 | - | +/-3 | - | |
| | 0% - 100% Load V02 | | +/-10 | | |
| Ripple / Noise | 20MHz Bandwidth (Peak to Peak Value) | - | - | 250 | mV |
| Temp. Coefficient | | - | +/-0.02 | - | %/°C |
| Short Circuit Protection | | Hiccup, Continuous, Self-recovery | | | |
| Over Current Protection | | >150% Load Self-recovery | | | |
| Over Voltage Protection | | Hiccup, Continuous, Self-recovery | | | |
| Minimum Load | | 0 | - | - | % |
| Hold-up Time | 115VAC Input | - | 10 | - | mS |
| | 230VAC Input | - | 60 | - | |

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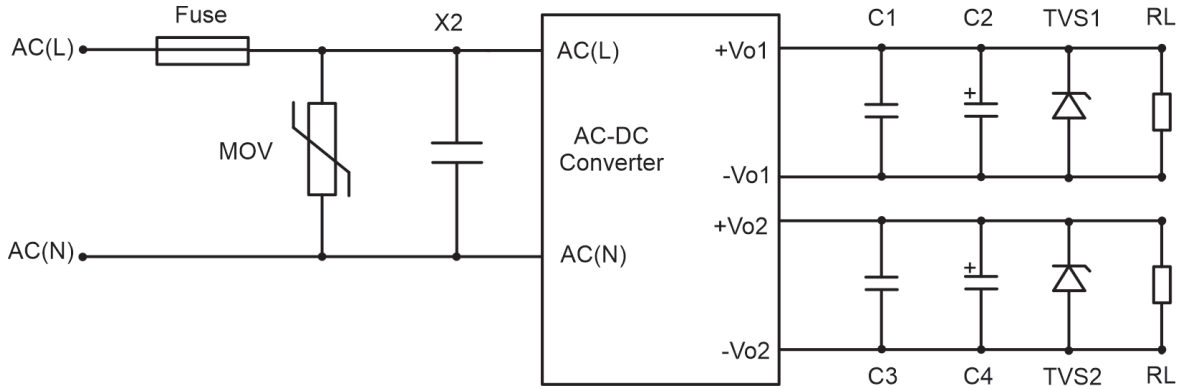
| General Specification | | | | | |
|------------------------------|--|------------------------------------|---------|------|------|
| Item | Conditions | Min | Typical | Max | Unit |
| Dielectric Strength | Input to Output (1Min, 5mA) | 4000 | - | - | VAC |
| | Output 1 to Output 2 (Isolated Output) | 1000 | - | - | VDC |
| Operating Temperature | | -20 | - | +70 | °C |
| Storage Temperature | | -40 | - | +105 | |
| Storage Humidity | | - | - | +95 | %RH |
| Soldering Temperature | Wave Soldering | 260 +/-5°C | | | |
| | Manual Soldering | 360 +/-5°C | | | |
| Switching Frequency | | - | 60 | - | KHz |
| Safety Class | | CLASS II | | | |
| MTBF | | >300,000Hrs @ 25°C (MIL-HDBK-217F) | | | |
| Designed Life | 25°C, 230VAC 100% Load | >150x10 ³ h | | | |
| | 70°C, 230VAC 100% Load | >27x10 ³ h | | | |
| Safety Approvals | | Compliant to IEC62368, EN61558 | | | |
| Cooling Method | | Free Air Convection | | | |
| Weight | | 30g | | | |

| EMC Specification | | |
|-------------------|-------------------|--|
| Emissions | CE /RE | CISPR32 / EN55022 CLASS B EN55014-1 |
| Immunity | ESD | IEC/EN 61000-4-2 CONTACT +/-6KV EN55014-2 |
| | RS | IEC/EN 61000-4-3 10V/m EN55014-2 |
| | EFT | IEC/EN 61000-4-4 |
| | SURGE | IEC/EN 61000-4-5, EN55014-2 |
| | CS | IEC/EN 61000-4-6 10V/r.m.s. EN55014-2 |
| | Voltage Variation | IEC/EN 61000-4-11, EN55014-2 |

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Application Schematic for EMC

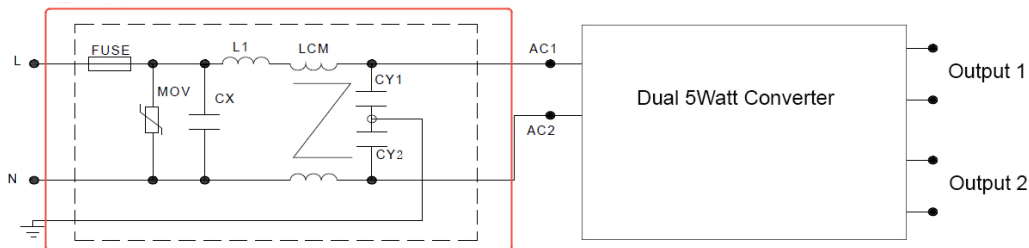
Typical Application EMC



| Output Voltage | C1/C3 (uF) | X2 | C2/C4 (uF) | TVS1 | TVS2 | Fuse | MOV |
|----------------|------------|----------------|------------|----------|----------|---------------------|---------|
| 3.3VDC | 1.0 | 104/274 X2-CAP | 470 | SMBJ7.0A | SMBJ7.0A | 1Amp/250V Slow Blow | 14D431K |
| 5VDC | | | 470 | SMBJ70A | SMBJ20A | | |
| 7.5VDC | | | 100 | SMBJ12A | SMBJ20A | | |
| 9VDC | | | 100 | SMBJ7.0A | SMBJ7.0A | | |
| 12VDC | | | 100 | SMBJ7.0A | SMBJ20A | | |
| 15VDC | | | 100 | SMBJ7.0A | SMBJ20A | | |
| 24VDC | | | 100 | SMBJ7.0A | SMBJ30A | | |

Note: For additional filtering requirements, contact technical support

Application Schematic for EMC Filter



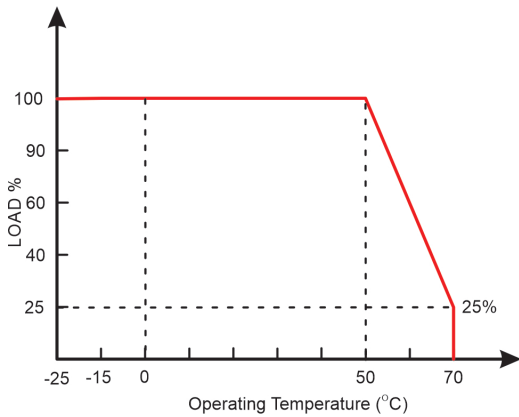
| ITEM | MOV | CX | L1 | LCM | CY1,CY2 | FUSE |
|--------|---------|------------|--------------|---------|-------------------|------------|
| 1~2W | 14D561K | 0.1-0.47uF | 0.5~2mH/0.5A | 10-30mH | 100~2200pF/400VAC | 1A/250V |
| 3-10W | 14D561K | 0.1-0.47uF | 0.5~2mH/1A | 10-30mH | 100~2200pF/400VAC | 2A/250V |
| 10~20W | 14D561K | 0.1-0.47uF | 0.5~2mH/1A | 10-30mH | 100~2200pF/400VAC | 3.15A/250V |

Note: External circuit components are only recommendations, customers should choose their own components and values according to their specific system application requirements.

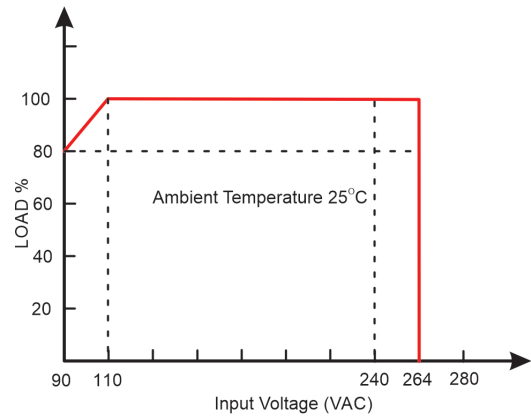
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Derating Graphs

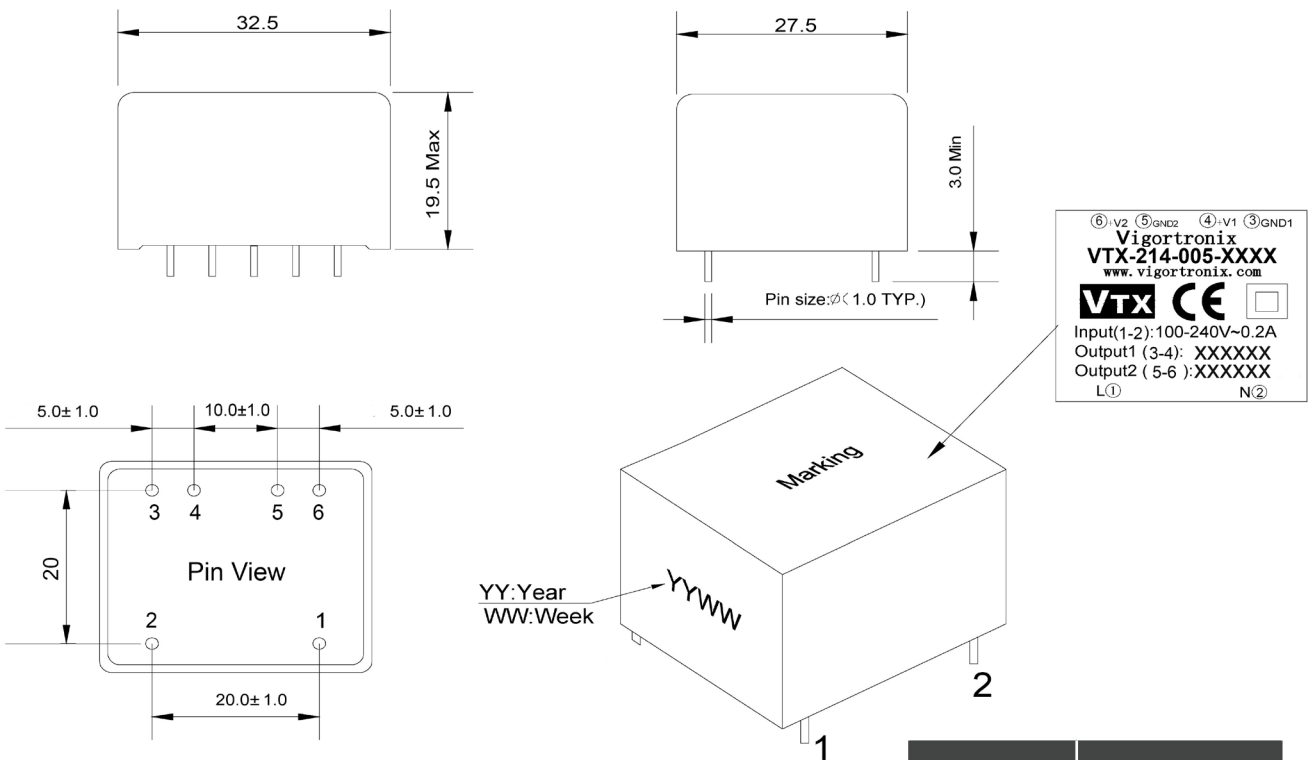
Temperature Derating Graph



Input Voltage Derating Graph



Dimensions



| PIN Number | Function |
|------------|----------|
| 1 | AC(L) |
| 2 | AC(N) |
| 3 | -Vo1 |
| 4 | +Vo1 |
| 5 | -Vo2 |
| 6 | +Vo2 |

Note: Measurements are in millimeters

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