



## Features:

- 3W Small Compact Size 37.0 x 24.5 x 18.0mm
- Wide AC & DC Input 85V to 264VAC
- Temperature Range -40°C to +70°C
- Output Range: 3.3V - 24VDC
- Output short circuit, Over-current protection
- Low Standby Power <0.2W
- Fully Isolated Pri - Sec >4000Vrms
- Insulation: Class II
- Materials: UL94-V0
- UL/EN/IEC62368, EN55032 Class B



## Description

VTX-214-003-5## is a compact AC-DC power converter. It features a wide AC input 85V to 264Vac and a DC input voltage 100 to 370VDC. The converters have been designed with low power consumption, high efficiency, high reliability, reinforced isolation. It offers good EMC performance compliant to IEC/EN61000-4 and CISPR32/EN55032 and meets IEC/EN/UL62368, EN61558 standards. The converters are widely used in industrial, power, home appliances, 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 Voltage (VDC) | Output Current (mA) | Ambient Temp. (°C)   | Efficiency Typical | Input Range                   |
|-----------------|--------------------|----------------------|---------------------|----------------------|--------------------|-------------------------------|
| VTX-214-003-503 | 2.3                | 3.3                  | 700                 | 55°C<br>(70°C @ 85%) | >70%               | 85 - 264VAC<br>(100 - 370VDC) |
| VTX-214-003-505 | 3                  | 5                    | 600                 |                      |                    |                               |
| VTX-214-003-509 | 3                  | 9                    | 333                 |                      |                    |                               |
| VTX-214-003-512 | 3                  | 12                   | 250                 |                      |                    |                               |
| VTX-214-003-515 | 3                  | 15                   | 200                 |                      |                    |                               |
| VTX-214-003-518 | 3                  | 18                   | 166                 |                      |                    |                               |
| VTX-214-003-524 | 3                  | 24                   | 125                 |                      |                    |                               |

**Note: Other output voltages are available upon request.**

Please contact Vigortronix for any enquiries. Products can be altered to suit custom requirements.  
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| Input Specification |               |                     |         |       |      |
|---------------------|---------------|---------------------|---------|-------|------|
| Item                | Conditions    | Min                 | Typical | Max   | Unit |
| Input Voltage       | AC Input      | 85                  | -       | 264   | VAC  |
|                     | DC Input      | 100                 | -       | 370   | VDC  |
| Input Frequency     |               | 47                  | -       | 63    | Hz   |
| Input Current       | 115VAC        | -                   | -       | 0.08  | A    |
|                     | 230VAC        | -                   | -       | 0.045 |      |
| Inrush Curent       | 115VAC        | -                   | 10      | -     |      |
|                     | 230VAC        | -                   | 20      | -     |      |
| Leakage Current     | 230VAC / 50Hz | 0.1mA RMS Max       |         |       |      |
| External Input Fuse |               | 1Amp Slow Blow Fuse |         |       |      |

| Output Specification     |                                      |                                   |         |     |      |
|--------------------------|--------------------------------------|-----------------------------------|---------|-----|------|
| Item                     | Conditions                           | Min                               | Typical | Max | Unit |
| Output Voltage           | Output                               | -                                 | +/-2    | -   | %    |
| Line Regulation          | Full Load                            | -                                 | +/-0.5  | -   |      |
| Load Regulation          | 0% - 100% Load                       | -                                 | +/-1    | -   |      |
| Ripple / Noise           | 20MHz Bandwidth (Peak to Peak Value) | -                                 | 50      | 100 | mV   |
| Stand by Power           | 230VAC                               | -                                 | 0.2     | -   | W    |
| 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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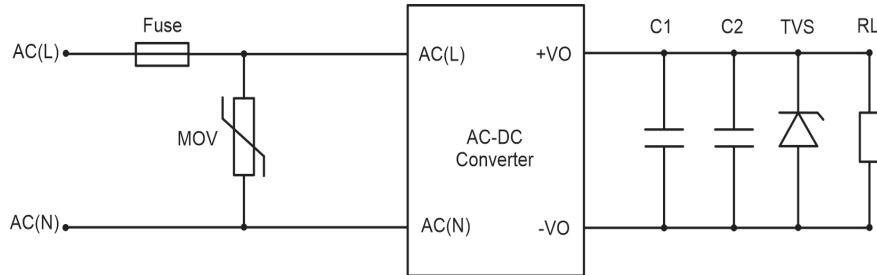
| General Specification        |                             |                                 |         |      |       |
|------------------------------|-----------------------------|---------------------------------|---------|------|-------|
| Item                         | Conditions                  | Min                             | Typical | Max  | Unit  |
| <b>Dielectric Strength</b>   | Input to Output (1Min, 5mA) | 4000                            | -       | -    | VAC   |
| <b>Insulation Resistance</b> | Input to Output (500VDC)    | 100                             |         |      | M.Ohm |
| <b>Operating Temperture</b>  |                             | -40                             | -       | +70  | °C    |
| <b>Storage Temperture</b>    |                             | -40                             | -       | +105 |       |
| <b>Storage Humidity</b>      |                             | -                               | -       | +95  | %RH   |
| <b>Soldering Temperature</b> | Wave Soldering              | 260 +/-5°C                      |         |      |       |
|                              | Manual Soldering            | 360 +/-5°C                      |         |      |       |
| <b>Switching Frequency</b>   |                             | -                               | 100     | -    | KHz   |
| <b>Altitude</b>              |                             | -                               | -       | 5000 | m     |
| <b>Safety Class</b>          |                             | CLASS II                        |         |      |       |
| <b>MTBF</b>                  |                             | >300KHrs @ 25°C (MIL-HDBK-217F) |         |      |       |
| <b>Power Derating</b>        | -40°C to -25°C,             | 1.0%/°C                         |         |      |       |
|                              | +55°C to +70°C,             | 1.0%/°C                         |         |      |       |
| <b>Safety Approvals</b>      |                             | IEC62368, EN62368, UL62368      |         |      |       |
| <b>Weight</b>                |                             | 25g                             |         |      |       |

| EMC Specification |                   |                                 |
|-------------------|-------------------|---------------------------------|
| <b>Emissions</b>  | CE /RE            | CISPR32 / EN55032 CLASS B       |
| <b>Immunity</b>   | ESD               | IEC/EN 61000-4-2 CONTACT +/-6KV |
|                   | RS                | IEC/EN 61000-4-3 10V/m          |
|                   | EFT               | IEC/EN 61000-4-4                |
|                   | SURGE             | IEC/EN 61000-4-5, EN55014-2     |
|                   | CS                | IEC/EN 61000-4-6 10V/r.m.s.     |
|                   | Voltage Variation | IEC/EN 61000-4-11               |

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## Application Schematic for EMC

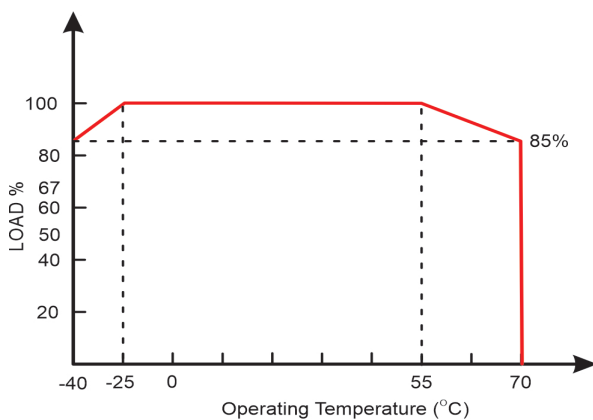
### Typical Application EMC



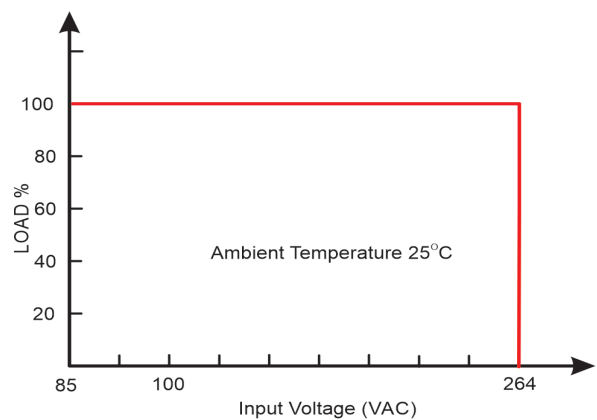
| Part Number                                                            | Cx          | C1       | C2        | TVS     | Fuse                | MOV     | Capacitance Load Max |
|------------------------------------------------------------------------|-------------|----------|-----------|---------|---------------------|---------|----------------------|
| VTX-214-003-503                                                        | 0.1uF /275V | 1uF /50V | 150uF/16V | SMBJ70A | 1Amp/270V Slow Blow | S14K350 | 4000 uF              |
| VTX-214-003-505                                                        |             |          | 150uF/16V | SMBJ70A |                     |         | 4000 uF              |
| VTX-214-003-509                                                        |             |          | 120uF/25V | SMBJ12A |                     |         | 2200 uF              |
| VTX-214-003-512                                                        |             |          | 120uF/25V | SMBJ20A |                     |         | 2200 uF              |
| VTX-214-003-515                                                        |             |          | 120uF/25V | SMBJ20A |                     |         | 1000 uF              |
| VTX-214-003-518                                                        |             |          | 120uF/35V | SMBJ20A |                     |         | 1000 uF              |
| VTX-214-003-524                                                        |             |          | 68uF/35V  | SMBJ30A |                     |         | 680 uF               |
| Note: For additional filtering requirements, contact technical support |             |          |           |         |                     |         |                      |

## Derating Graphs

Temperature Derating Graph



Input Voltage Derating Graph



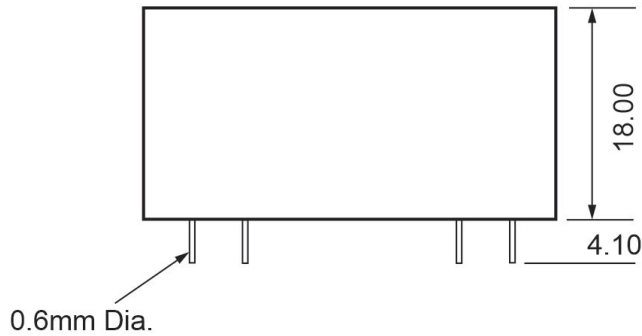
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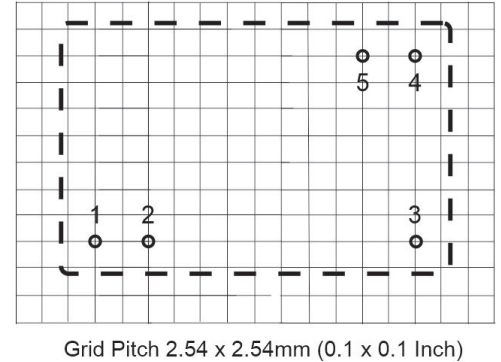
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## Dimensions

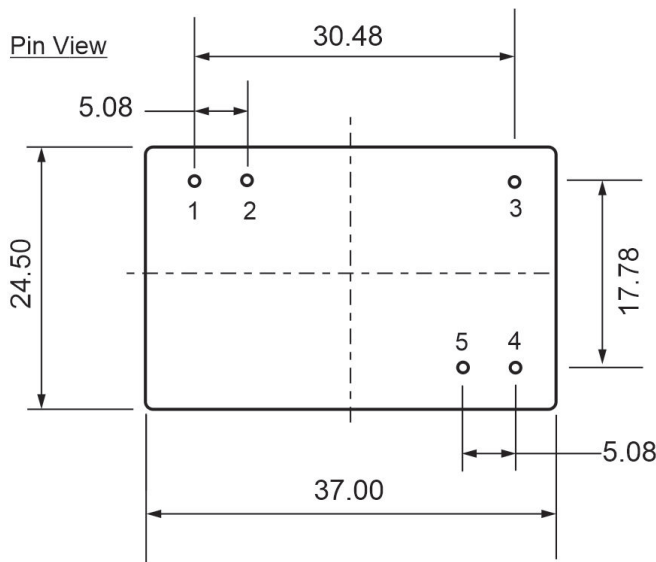
Side View



Top View



Pin View



(Tolerances: x.xx =  $\pm 0.05$ , x.x =  $\pm 0.1$ )

| PIN Number | Function |
|------------|----------|
| 1          | AC(L)    |
| 2          | AC(N)    |
| 3          | NC       |
| 4          | -Vo      |
| 5          | +Vo      |

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