



### Features:

- 10W Compact Size 55.0 x 45.0 x 21.0mm
- Wide AC & DC Input 85V to 264VAC (100 to 370VDC)
- Temperature Range -40°C to +70°C
- Dual Output
- Output Short Circuit, Overcurrent, OVC Protection
- Fully Isolated Pri - Sec >4000Vrms
- Insulation: Class I
- Materials: UL94-V0
- EMC performance meets CISPR32 RoHS / EN55032 CLASS B
- 3 Year Warranty



### Description

VTX-214-010-4#### is a compact size Dual Output AC-DC 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. 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 |
|-------------------------|--------------------|--------------------------|--------------------------|-------------------------------|------------------------------|--------------------|
| <b>VTX-214-010-4005</b> | 10                 | +5V/1000mA               | -5V/1000mA               | 8800                          | 8800                         | >75%               |
| <b>VTX-214-010-4012</b> | 10                 | +12/450mA                | -12/450mA                | 1970                          | 1970                         |                    |
| <b>VTX-214-010-4015</b> | 10                 | +15V/350mA               | -15V/350mA               | 1970                          | 1970                         |                    |
| <b>VTX-214-010-4505</b> | 10                 | 5V/1800mA                | 5V/200mA                 | 8000                          | 540                          |                    |
| <b>VTX-214-010-4512</b> | 10                 | 5V/1500mA                | 12V/200mA                | 4400                          | 260                          |                    |
| <b>VTX-214-010-4515</b> | 10                 | 5V/1400mA                | 15V/200mA                | 4400                          | 170                          |                    |
| <b>VTX-214-010-4524</b> | 10                 | 5V/1000mA                | 24V/200mA                | 4000                          | 170                          |                    |

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

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| Input Specification        |            |                     |         |      |      |
|----------------------------|------------|---------------------|---------|------|------|
| Item                       | Conditions | Min                 | Typical | Max  | Unit |
| <b>Input Voltage</b>       | AC Input   | 85                  | -       | 264  | VAC  |
|                            | DC Input   | 100                 | -       | 370  | VDC  |
| <b>Input Frequency</b>     |            | 47                  | -       | 63   | Hz   |
| <b>Input Current</b>       | 115VAC     | -                   | -       | 0.26 | A    |
|                            | 230VAC     | -                   | -       | 0.16 |      |
| <b>Inrush Current</b>      | 115VAC     | -                   | 13      | -    |      |
|                            | 230VAC     | -                   | 23      | -    |      |
| <b>External Input Fuse</b> |            | 1Amp Slow Blow Fuse |         |      |      |

| Output Specification            |                                      |                                   |         |     |      |
|---------------------------------|--------------------------------------|-----------------------------------|---------|-----|------|
| Item                            | Conditions                           | Min                               | Typical | Max | Unit |
| <b>Output Voltage</b>           | Output V01                           | -                                 | +/-2    | -   | %    |
|                                 | Output V02                           | -                                 | +/-10   | -   |      |
| <b>Line Regulation</b>          | Full Load Output V01                 | -                                 | +/-0.5  | -   |      |
|                                 | Full Load Output V02                 | -                                 | +/-1.5  | -   |      |
| <b>Load Regulation</b>          | 0% - 100% Load V01                   | -                                 | +/-3    | -   |      |
|                                 | 0% - 100% Load V02                   |                                   | +/-5    |     |      |
| <b>Ripple / Noise</b>           | 20MHz Bandwidth (Peak to Peak Value) | -                                 | -       | 130 | mV   |
| <b>Temp. Coefficient</b>        |                                      | -                                 | +/-0.02 | -   | %/°C |
| <b>Short Circuit Protection</b> |                                      | Hiccup, Continuous, Self-recovery |         |     |      |
| <b>Over Current Protection</b>  |                                      | >150% Load Self-recovery          |         |     |      |
| <b>Over Voltage Protection</b>  |                                      | Hiccup, Continuous, Self-recovery |         |     |      |
| <b>Minimum Load</b>             |                                      | 10                                | -       | -   | %    |
| <b>Hold-up Time</b>             | 115VAC Input                         | -                                 | 8       | -   | mS   |
|                                 | 230VAC Input                         | -                                 | 60      | -   |      |

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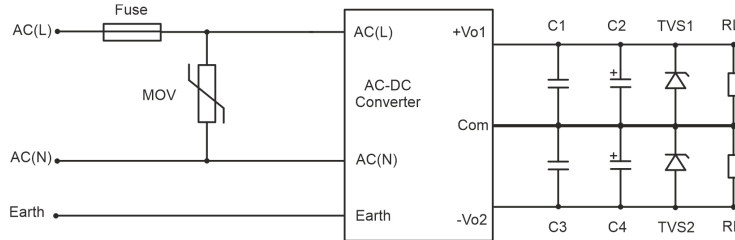
| General Specification        |  |                                    |         |     |      |
|------------------------------|--|------------------------------------|---------|-----|------|
| Item                         | Conditions                             | Min                                | Typical | Max | Unit |
| <b>Dielectric Strength</b>   | Input to Output (1Min, 5mA)            | 4000                               | -       | -   | VAC  |
|                              | Input to Earth (1Min, 5mA)             | 2500                               | -       | -   |      |
|                              | Output 1 to Output 2 (Isolated Output) | 500                                | -       | -   | VDC  |
| <b>Operating Temperature</b> |  | -40                                | -       | +70 | °C   |
| <b>Storage Temperature</b>   |  | -40                                | -       | +85 |      |
| <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>Safety Class</b>          |  | CLASS I                            |         |     |      |
| <b>MTBF</b>                  |  | >300,000Hrs @ 25°C (MIL-HDBK-217F) |         |     |      |
| <b>Designed Life</b>         | 25°C, 230VAC 100% Load                 | >150x10 <sup>3</sup> h             |         |     |      |
|                              | 70°C, 230VAC 100% Load                 | >27x10 <sup>3</sup> h              |         |     |      |
| <b>Safety Approvals</b>      |  | IEC/EN/UL62368                     |         |     |      |
| <b>Cooling Method</b>        |  | Free Air Convection                |         |     |      |
| <b>Weight</b>                |  | 75g                                |         |     |      |

| EMC Specification |                   |  |
|-------------------|-------------------|--|
| <b>Emissions</b>  | CE /RE            | CISPR32 / EN55032 CLASS B<br>EN55014-1       |
| <b>Immunity</b>   | ESD               | IEC/EN 61000-4-2 CONTACT +/-6KV<br>EN55014-2 |
|                   | RS                | IEC/EN 61000-4-3 10V/m<br>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.<br>EN55014-2     |
|                   | Voltage Variation | IEC/EN 61000-4-11, EN55014-2                 |

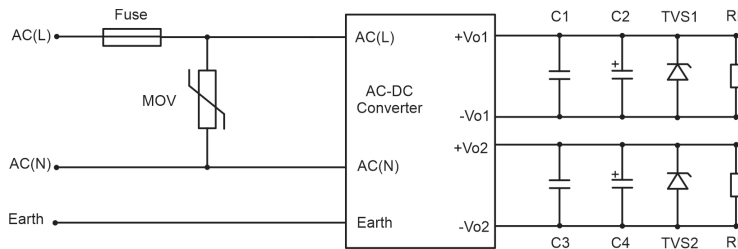
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## Application Schematic for EMC

### Typical Application EMC



Type A Schematic for parts:  
 VTX-214-010-4005  
 VTX-214-010-4012  
 VTX-214-010-4015



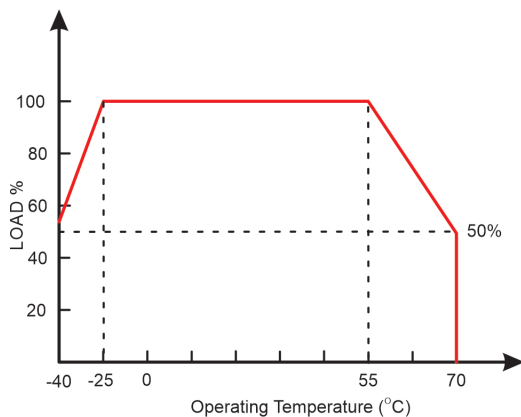
Type B Schematic for parts:  
 VTX-214-010-4505  
 VTX-214-010-4512  
 VTX-214-010-4515  
 VTX-214-010-4524

| Part Number      | C1/C3 (uF) | C2 (uF) | C4 (uF) | TVS1     | TVS2     | Fuse                   | MOV     |
|------------------|------------|---------|---------|----------|----------|------------------------|---------|
| VTX-214-010-4005 | 1.0        | 220     | 220     | SMBJ7.0A | SMBJ7.0A | 2Amp/300V<br>Slow Blow | S14K350 |
| VTX-214-010-4012 |            | 120     | 120     | SMBJ70A  | SMBJ20A  |                        |         |
| VTX-214-010-4015 |            | 47      | 47      | SMBJ12A  | SMBJ20A  |                        |         |
| VTX-214-010-4505 |            | 100     | 47      | SMBJ7.0A | SMBJ7.0A |                        |         |
| VTX-214-010-4512 |            | 100     | 47      | SMBJ7.0A | SMBJ20A  |                        |         |
| VTX-214-010-4515 |            | 100     | 47      | SMBJ7.0A | SMBJ20A  |                        |         |
| VTX-214-010-4524 |            | 100     | 47      | SMBJ7.0A | SMBJ30A  |                        |         |

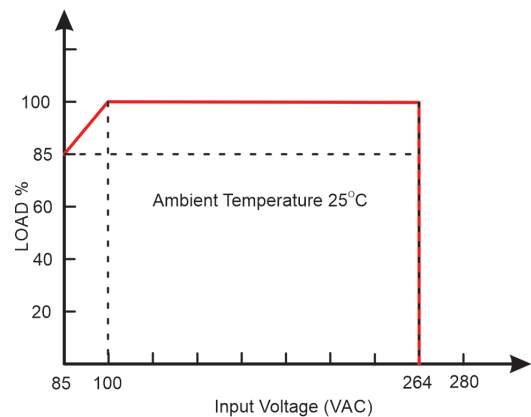
Note: For additional filtering requirements, contact technical support

### Derating Graphs

Temperature Derating Graph

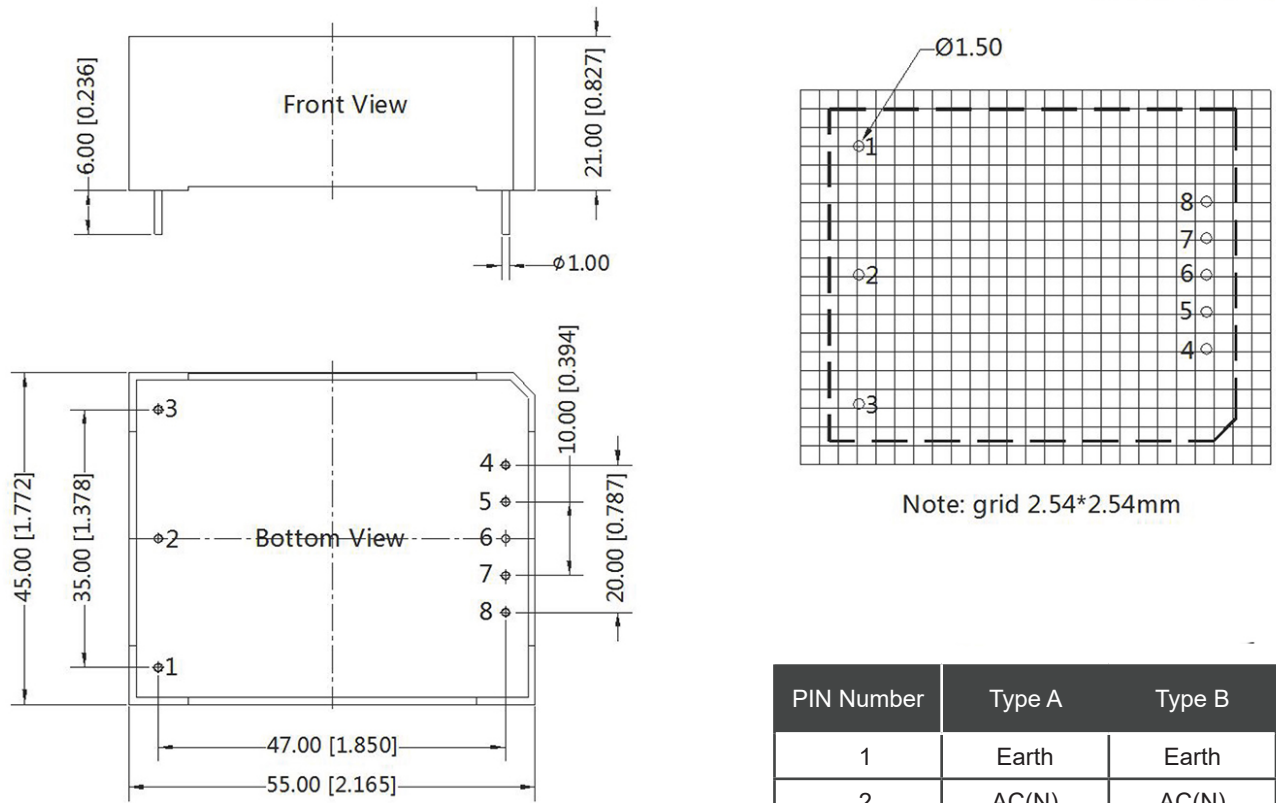


Input Voltage Derating Graph



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## Dimensions



Note: Measurements are in millimeters

| PIN Number | Type A | Type B |
|------------|--------|--------|
| 1          | Earth  | Earth  |
| 2          | AC(N)  | AC(N)  |
| 3          | AC(L)  | AC(L)  |
| 4          | +Vo    | +Vo2   |
| 5          | No Pin | -Vo2   |
| 6          | Common | No Pin |
| 7          | No Pin | +Vo1   |
| 8          | -Vo    | -Vo1   |

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