



## Features:

- 60W Small Compact Size 70.0x 48.0x 27.0mm
- Wide AC & DC Input 85V to 305VAC
- Temperature Range -40°C to +85°C
- Over-voltage Category OVC III
- Output Range: 3.3V - 48VDC
- Low Standby Power <0.1W
- Fully Isolated Pri - Sec >4200Vrms
- Insulation: Class II
- Materials: UL94-V0
- UL/EN62368-1, EN61558-1, EN60335-1
- 3 Year Warranty



## Description

VTX-214-060-3### AC-DC converters is a compact size power converter. It features a wide AC input 85V to 305VAC and a DC input voltage 100 to 430VDC. 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, EN60335, 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<br>Watts | Output<br>Voltage<br>(VDC) | Output Current<br>(mA) | Ambient<br>Temp. (°C) | Efficiency<br>Typical | Input Range                   |
|---------------------------------------------------------|-----------------------|----------------------------|------------------------|-----------------------|-----------------------|-------------------------------|
| VTX-214-060-305                                         | 50                    | 5                          | 10000                  | 50°C<br>(85°C @ 40%)  | >91%                  | 85 - 305VAC<br>(100 - 430VDC) |
| VTX-214-060-312                                         | 60                    | 12                         | 5000                   |                       |                       |                               |
| VTX-214-060-315                                         | 60                    | 15                         | 4000                   |                       |                       |                               |
| VTX-214-060-318                                         | 60                    | 18                         | 3333                   |                       |                       |                               |
| VTX-214-060-324                                         | 60                    | 24                         | 2500                   |                       |                       |                               |
| VTX-214-060-348                                         | 60                    | 48                         | 1250                   |                       |                       |                               |
| Note: Other output voltages are available upon request. |                       |                            |                        |                       |                       |                               |

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Tel. +44 (0)1993 777570 Web. [www.vigortronix.com](http://www.vigortronix.com), E-mail: [sales@vigortronix.com](mailto:sales@vigortronix.com)  
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| Input Specification |               |                        |         |     |      |
|---------------------|---------------|------------------------|---------|-----|------|
| Item                | Conditions    | Min                    | Typical | Max | Unit |
| Input Voltage       | AC Input      | 85                     | -       | 305 | VAC  |
|                     | DC Input      | 100                    | -       | 430 | VDC  |
| Input Frequency     |               | 47                     | -       | 63  | Hz   |
| Input Current       | 115VAC        | -                      | -       | 1.8 | A    |
|                     | 230VAC        | -                      | -       | 1.0 |      |
| Inrush Curent       | 115VAC        | -                      | 30      | -   |      |
|                     | 230VAC        | -                      | 60      | -   |      |
| Leakage Current     | 277VAC / 50Hz | 0.25mA RMS Max         |         |     |      |
| External Input Fuse |               | 3.15Amp Slow Blow Fuse |         |     |      |

| Output Specification     |                                      |                                   |         |      |      |
|--------------------------|--------------------------------------|-----------------------------------|---------|------|------|
| Item                     | Conditions                           | Min                               | Typical | Max  | Unit |
| Output Voltage           | Output                               | -                                 | +/-2    | -    | %    |
| Line Regulation          | Full Load                            | -                                 | +/-1    | -    |      |
| Load Regulation          | 0% - 100% Load                       | -                                 | +/-1.5  | -    |      |
| Ripple / Noise           | 20MHz Bandwidth (Peak to Peak Value) | -                                 | 80      | 150  | mV   |
| Stand by Power           | 230VAC                               | -                                 | 0.3     | 0.45 | W    |
| Temp. Coefficient        |                                      | -                                 | +/-0.02 | -    | %/°C |
| Short Circuit Protection |                                      | Hiccup, Continuous, Self-recovery |         |      |      |
| Over Current Protection  |                                      | >110% Load Self-recovery          |         |      |      |
| Over Voltage Protection  |                                      | Hiccup, Continuous, Self-recovery |         |      |      |
| Minimum Load             |                                      | 0                                 | -       | -    | %    |
| Hold-up Time             | 115VAC Input                         | -                                 | 10      | -    | mS   |
|                          | 230VAC Input                         | -                                 | 50      | -    |      |

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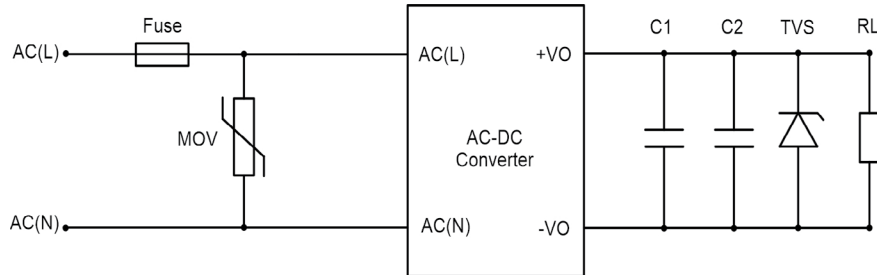
| General Specification        |                             |                                                                    |         |      |       |
|------------------------------|-----------------------------|--------------------------------------------------------------------|---------|------|-------|
| Item                         | Conditions                  | Min                                                                | Typical | Max  | Unit  |
| <b>Dielectric Strength</b>   | Input to Output (1Min, 5mA) | 4200                                                               | -       | -    | VAC   |
| <b>Insulation Resistance</b> | Input to Output (500VDC)    | 100                                                                |         |      | M.Ohm |
| <b>Operating Temperature</b> |                             | -40                                                                | -       | +85  | °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>   |                             | -                                                                  | 65      | -    | KHz   |
| <b>Altitude</b>              |                             | -                                                                  | -       | 5000 | m     |
| <b>Safety Class</b>          |                             | CLASS II                                                           |         |      |       |
| <b>MTBF</b>                  |                             | >500KHrs @ 25°C (MIL-HDBK-217F)                                    |         |      |       |
| <b>Safety Approvals</b>      |                             | IEC/UL62368-1, EN61558-1, EN60335-1<br>Refer to IEC/EN60601-1/ANSI |         |      |       |
| <b>Weight</b>                |                             | 130g                                                               |         |      |       |

| 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

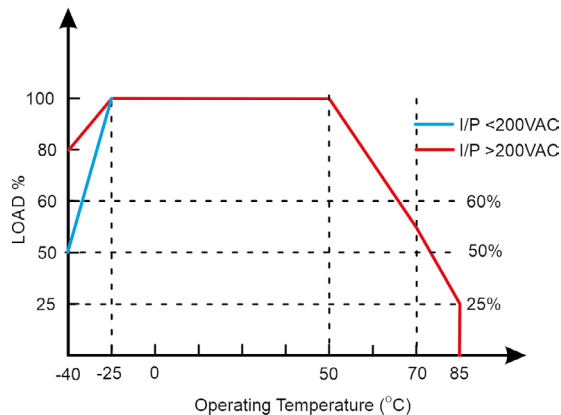
### Typical Application



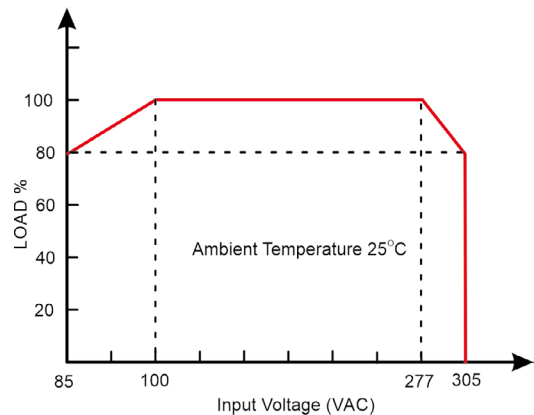
| Part Number                                                            | C1        | C2        | TVS     | Fuse                    | MOV     | Capacitance Load Max |
|------------------------------------------------------------------------|-----------|-----------|---------|-------------------------|---------|----------------------|
| VTX-214-060-305                                                        | 1uF /100V | 470uF/16V | SMBJ10A | 3.15A/300V<br>Slow Blow | S14K350 | 20000 uF             |
| VTX-214-060-312                                                        |           | 330uF/25V | SMBJ20A |                         |         | 5000 uF              |
| VTX-214-060-315                                                        |           | 330uF/25V | SMBJ30A |                         |         | 3000 uF              |
| VTX-214-060-318                                                        |           | 330uF/25V | SMBJ30A |                         |         | 2000 uF              |
| VTX-214-060-324                                                        |           | 220uF/35V | SMBJ40A |                         |         | 1800 uF              |
| VTX-214-060-348                                                        |           | 100uF/63V | SMBJ60A |                         |         | 470 uF               |
| Note: For additional filtering requirements, contact technical support |           |           |         |                         |         |                      |

## Derating Graphs

### Temperature Derating Graph



### Input Voltage Derating Graph

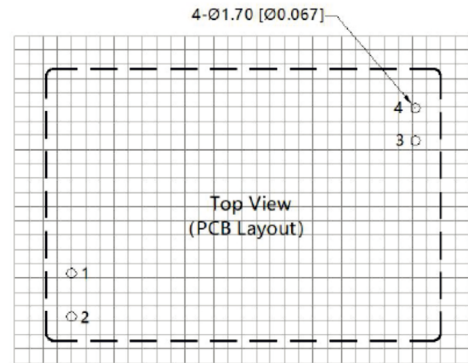
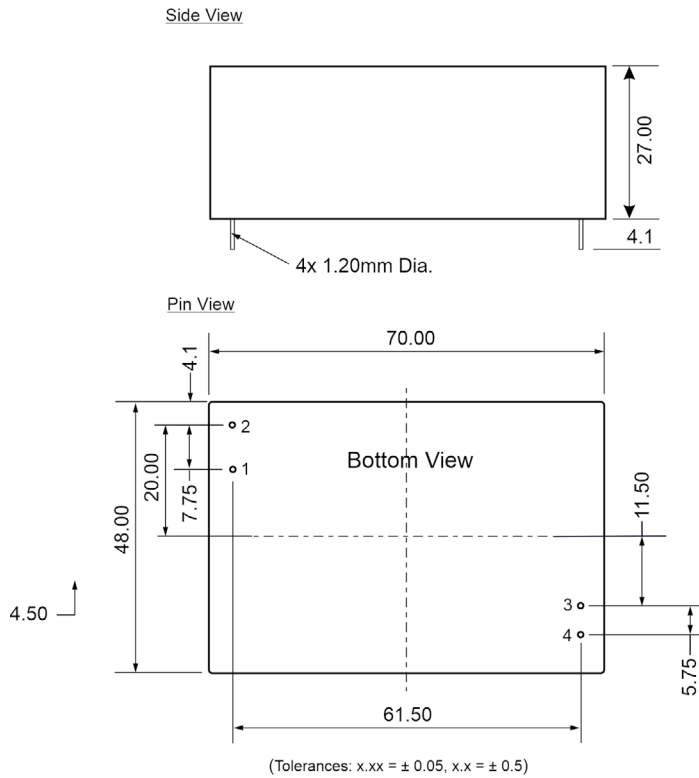


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## Dimensions



Grid Pitch 2.54 x 2.54mm (0.1 x 0.1 Inch)

Recommended PCB Pad hole 1.7mm Dia.

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

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