



## Features:

- 120W High Power Density 76.2 x 50.8 x 31.0mm
- Wide AC & DC Input 85V to 264VAC
- Active PFC
- Temperature Range -40°C to +85°C
- Protection: OVP, OCP and Output Short Circuit
- Output Range: 12V - 54VDC
- Low Standby Power <0.5W
- Fully Isolated Pri - Sec >4000Vrms
- Insulation: Class II
- Materials: UL94-V0
- IEC/EN/UL62368, EN61558, EN60335, EN60601
- 3 Year Warranty



## Description

VTX-210-120-0## is a compact Open style AC-DC power converter with PFC. It features universal AC input and at the same time accepts DC input voltage, low power consumption, high efficiency, high reliability, reinforced isolation. It offers good EMC performance compliant to IEC/EN61000-4 and CISPR32/EN55032 and meets UL/EN/IEC62368, EN60335 and EN60601 standards. The converters are widely used in industrial, office and civil applications. Please contact our Technical team for further support.

## Selection Guide

| Part Number     | Power Rating Watts | Output Voltage (VDC) | Output Voltage Adj. Range | Output Current (mA) | Ambient Temp. (°C)   | Efficiency Typical | Input Range                   |
|-----------------|--------------------|----------------------|---------------------------|---------------------|----------------------|--------------------|-------------------------------|
| VTX-210-120-012 | 114                | 12                   | 11.4~12.6                 | 8000                | 50°C<br>(85°C @ 40%) | >94%               | 85 - 264VAC<br>(100 - 370VDC) |
| VTX-210-120-015 | 114                | 15                   | 14.3~15.8                 | 8000                |                      |                    |                               |
| VTX-210-120-024 | 120                | 24                   | 22.8~25.2                 | 5000                |                      |                    |                               |
| VTX-210-120-027 | 120                | 27                   | 25.6~28.4                 | 4440                |                      |                    |                               |
| VTX-210-120-036 | 120                | 36                   | 35.3~37.8                 | 3330                |                      |                    |                               |
| VTX-210-120-048 | 120                | 48                   | 45.6~50.4                 | 2500                |                      |                    |                               |
| VTX-210-120-054 | 120                | 54                   | 51.3~55.5                 | 2220                |                      |                    |                               |

**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         | 120            | -       | 370 | VDC  |
| Input Frequency     |                  | 47             | -       | 63  | Hz   |
| Input Current       | 115VAC           | -              | -       | 2   | A    |
|                     | 230VAC           | -              | -       | 1   |      |
| Inrush Current      | 115VAC           | -              | 40      | -   |      |
|                     | 230VAC           | -              | 75      | -   |      |
| Power Factor        | 230VAC Full Load | 0.94           | -       | -   | -    |
| Leakage Current     | 240VAC / 50Hz    | <0.1mA RMS Max |         |     |      |

| Output Specification        |                                           |                                                    |         |     |      |
|-----------------------------|-------------------------------------------|----------------------------------------------------|---------|-----|------|
| Item                        | Conditions                                | Min                                                | Typical | Max | Unit |
| Output Voltage              | Output 12V/15V                            | -                                                  | +/-2    | -   | %    |
|                             | 24V/27V/36V/48V/54V                       | -                                                  | +/-1    | -   |      |
| Line Regulation             | Full Load                                 | -                                                  | +/-0.5  | -   |      |
| Load Regulation             | 0% - 100% Load                            | -                                                  | +/-1    | -   |      |
| Ripple / Noise              | 12V to 27V<br>20MHz Bandwidth (P-P Value) | -                                                  | -       | 150 | mV   |
|                             | 36V/48V/54V                               | -                                                  | -       | 200 |      |
| Stand by Power              | 230VAC                                    | -                                                  | 0.5     | -   | W    |
| Temp. Coefficient           |                                           | -                                                  | +/-0.02 | -   | %/°C |
| Short Circuit Protection    |                                           | Hiccup, Continuous, Self-recovery                  |         |     |      |
| Over Current Protection     |                                           | >130% Load, Self-recovery                          |         |     |      |
| Over Voltage Protection     |                                           | Hiccup, Continuous, Self-recovery                  |         |     |      |
| Over Temperature Protection |                                           | Recovery after Supply Power Reset and load removed |         |     |      |
| Minimum Load                |                                           | 0                                                  | -       | -   | %    |
| Hold-up Time                | 230VAC Input                              | -                                                  | 15      | -   | mS   |

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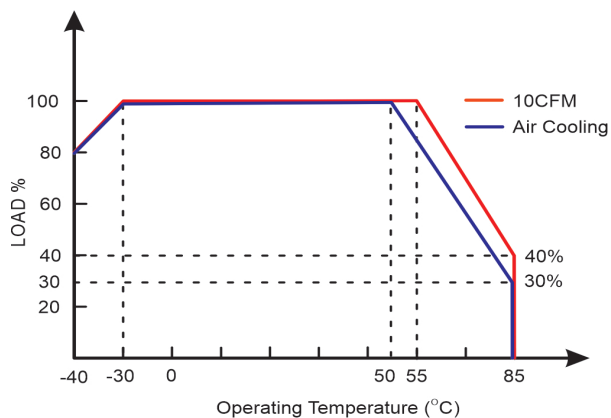
| General Specification        |                               |                                                    |         |      |       |
|------------------------------|-------------------------------|----------------------------------------------------|---------|------|-------|
| Item                         | Conditions                    | Min                                                | Typical | Max  | Unit  |
| <b>Dielectric Strength</b>   | Input to Output (1Min, <10mA) | 4000                                               | -       | -    | VAC   |
|                              | Input to Earth(1Min, <10mA)   | 1500                                               | -       | -    |       |
| <b>Insulation Resistance</b> | Input to Output (500VDC)      | 100                                                | -       | -    | M.Ohm |
| <b>Operating Temperture</b>  |                               | -40                                                | -       | +85  | °C    |
| <b>Storage Temperture</b>    |                               | -40                                                | -       | +85  |       |
| <b>Operating Humidity</b>    |                               | 20                                                 | -       | 90   | %RH   |
| <b>Storage Humidity</b>      |                               | -                                                  | -       | 95   |       |
| <b>Switching Frequency</b>   |                               | -                                                  | 65      | -    | KHz   |
| <b>Altitude</b>              |                               | -                                                  | -       | 5000 | m     |
| <b>Safety Class</b>          |                               | CLASS I (With PE)<br>CLASS II (Without PE)         |         |      |       |
| <b>MTBF</b>                  |                               | >300KHrs @ 25°C (MIL-HDBK-217F)                    |         |      |       |
| <b>Safety Approvals</b>      |                               | IEC/EN/UL62368, IEC/EN61558,<br>EN60335, EN60601-1 |         |      |       |
| <b>Dimensions</b>            |                               | 76.2 x 50.8 x 31.0mm (3 x 2 Inch)                  |         |      |       |
| <b>Cooling Method</b>        |                               | Free air convection / 10CFM                        |         |      |       |
| <b>Weight</b>                |                               | 125g                                               |         |      |       |

| EMC Specification |                   |                                              |
|-------------------|-------------------|----------------------------------------------|
| <b>Emissions</b>  | CE /RE            | CISPR32 / EN55032 CLASS B<br>EN55014-1       |
| <b>Immunity</b>   | ESD               | IEC/EN 61000-4-2 CONTACT +/-8KV<br>EN55014-2 |
|                   | RS                | IEC/EN 61000-4-3 10V/m<br>EN55014-2          |
|                   | EFT               | IEC/EN 61000-4-4 +/-2KV                      |
|                   | 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                 |

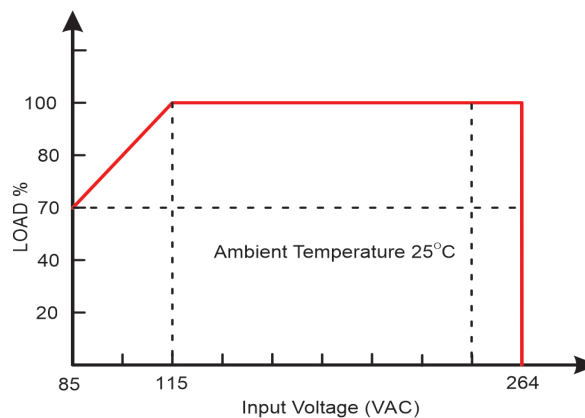
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## Derating Graphs

### Temperature Derating Graph



### Input Voltage Derating Graph



### Efficiency Guide

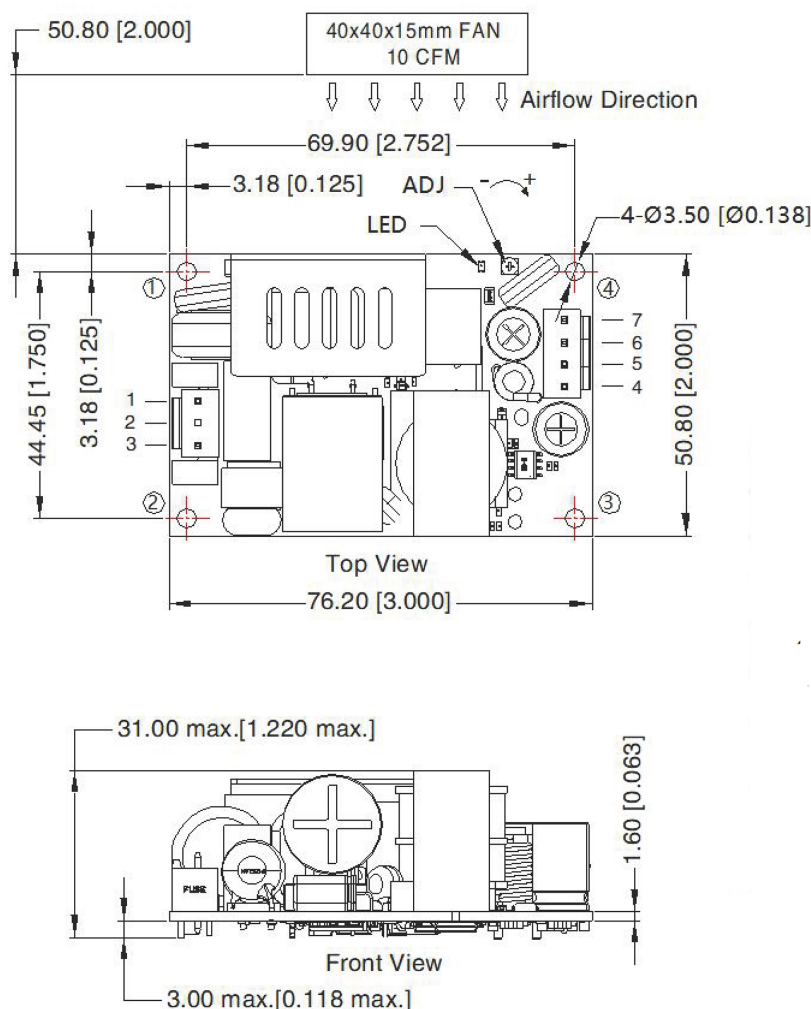
| Part Number                                                    | Output Voltage (VDC) | Efficiency Typical (%) | Capacitance Load Max |
|----------------------------------------------------------------|----------------------|------------------------|----------------------|
| VTX-210-120-012                                                | 12                   | 94                     | 6000 uF              |
| VTX-210-120-015                                                | 15                   | 94                     | 5000 uF              |
| VTX-210-120-024                                                | 24                   | 95                     | 3200 uF              |
| VTX-210-120-027                                                | 27                   | 95                     | 2400 uF              |
| VTX-210-120-036                                                | 36                   | 94                     | 2000 uF              |
| VTX-210-120-048                                                | 48                   | 94                     | 1600 uF              |
| VTX-210-120-054                                                | 54                   | 94                     | 1300 uF              |
| <b>Note: Other output voltages are available upon request.</b> |                      |                        |                      |

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## Dimensions



| PIN Number | Function | Connector                   | Housing                  | Terminal                          |
|------------|----------|-----------------------------|--------------------------|-----------------------------------|
| 1          | AC(N)    | JST B3P-VH<br>or Equivalent | JST VHR<br>or Equivalent | JST SVH-21T-P1.1<br>or Equivalent |
| 2          | No Pin   |                             |                          |                                   |
| 3          | AC(L)    |                             |                          |                                   |
| 4          | -Vo      | JST B4P-VH<br>or Equivalent | JST VHR<br>or Equivalent | JST SVH-21T-P1.1<br>or Equivalent |
| 5          | -Vo      |                             |                          |                                   |
| 6          | +Vo      |                             |                          |                                   |
| 7          | +Vo      |                             |                          |                                   |

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