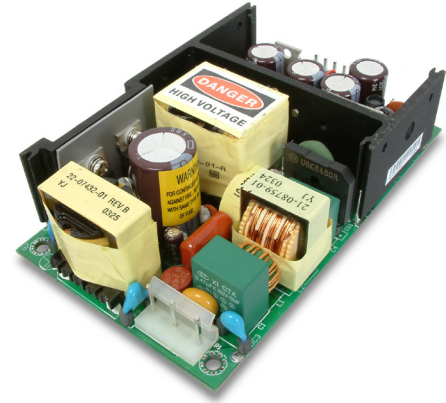




## SERIES: VSBU-120 | DESCRIPTION: AC-DC POWER SUPPLY

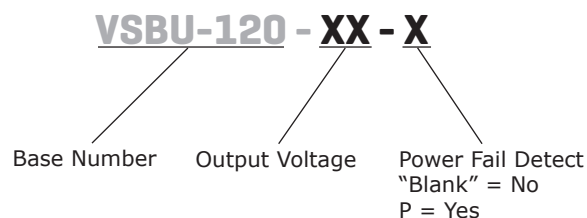
### FEATURES

- up to 120 W continuous power
- industry standard 3" x 5" footprint
- universal input 90~260 Vac
- single output from 3.3~48 V
- active power correction
- internal EMI filter
- no minimum load required
- input surge current, over voltage, over load, and over current protections
- UL/cUL and TUV safety approvals
- efficiency 80%



| MODEL        | output<br>voltage<br>range<br>(Vdc) | output<br>current<br>max<br>(A) | output<br>power<br>max<br>(W) | ripple and<br>noise<br>max<br>(mVp-p) | efficiency<br>typ<br>(%) |
|--------------|-------------------------------------|---------------------------------|-------------------------------|---------------------------------------|--------------------------|
| VSBU-120-3.3 | 3~5                                 | 22                              | 73                            | 66                                    | 80                       |
| VSBU-120-5   | 5~6                                 | 22                              | 110                           | 50                                    | 80                       |
| VSBU-120-7.5 | 6~9                                 | 15.3                            | 115                           | 75                                    | 80                       |
| VSBU-120-9   | 9~11                                | 13.33                           | 120                           | 90                                    | 80                       |
| VSBU-120-12  | 11~13                               | 10                              | 120                           | 120                                   | 80                       |
| VSBU-120-15  | 13~16                               | 8                               | 120                           | 150                                   | 80                       |
| VSBU-120-18  | 16~21                               | 6.67                            | 120                           | 180                                   | 80                       |
| VSBU-120-24  | 21~27                               | 5                               | 120                           | 240                                   | 80                       |
| VSBU-120-30  | 27~33                               | 4                               | 120                           | 300                                   | 80                       |
| VSBU-120-36  | 33~40                               | 3.33                            | 120                           | 360                                   | 80                       |
| VSBU-120-48  | 40~50                               | 2.5                             | 120                           | 480                                   | 80                       |

### PART NUMBER KEY



## INPUT

| parameter                | conditions/description                                                             | min  | typ      | max        | units  |
|--------------------------|------------------------------------------------------------------------------------|------|----------|------------|--------|
| voltage                  |                                                                                    | 90   |          | 260        | Vac    |
| frequency                |                                                                                    | 47   |          | 63         | Hz     |
| current                  | at 115 Vac, full load<br>at 230 Vac, full load                                     |      |          | 1.7<br>1.0 | A<br>A |
| inrush current           | at 115 Vac, 25°C, full load, cold start<br>at 230 Vac, 25°C, full load, cold start |      | 30<br>65 | 37<br>75   | A<br>A |
| power factor corrections | full load at 90 ~ 260 Vac                                                          | 0.95 | 0.97     | 1.0        |        |

## OUTPUT

| parameter               | conditions/description            | min   | typ | max  | units |
|-------------------------|-----------------------------------|-------|-----|------|-------|
| line regulation         | full load                         |       | 0.5 | 1    | %     |
| load regulation         | at 230 Vac                        |       | 3   | 5    | %     |
| temperature coefficient | all output                        | -0.04 |     | 0.04 | %/°C  |
| transient response      | full load to half load at 100 Vac |       |     | 4    | ms    |
| start-up                | full load at 100 Vac              | 0.3   | 1   | 2    | s     |
| hold-up                 | full load at 110 Vac              | 16    |     |      | ms    |

## PROTECTIONS

| parameter               | conditions/description | min | typ | max | units |
|-------------------------|------------------------|-----|-----|-----|-------|
| over voltage protection |                        | 112 |     | 132 | %     |
| over current protection |                        | 110 |     | 150 | %     |

## SAFETY & COMPLIANCE

| parameter            | conditions/description                          | min            | typ | max  | units      |
|----------------------|-------------------------------------------------|----------------|-----|------|------------|
| isolation voltage    | primary to secondary<br>primary to earth ground | 4,242<br>2,121 |     |      | Vdc<br>Vdc |
| isolation resistance | test voltage of 500 Vdc                         | 50             |     |      | MΩ         |
| safety approvals     | UL 60950-1 2nd edition, EN 60950-1 2nd edition  |                |     |      |            |
| EMI/EMC              | CISPR 22 class B, FCC part-15 class B           |                |     |      |            |
| leakage current      | full load at 240 Vac                            |                | 0.4 | 0.75 | mA         |
| RoHS compliant       | yes                                             |                |     |      |            |
| MTBF                 | MIL-HDSK-217F, 25°C ambient                     | 100,000        |     |      | hrs        |

## ENVIRONMENTAL

| parameter             | conditions/description | min | typ | max | units |
|-----------------------|------------------------|-----|-----|-----|-------|
| operating temperature |                        | 0   |     | 70  | °C    |
| storage temperature   |                        | -40 |     | 85  | °C    |
| operating humidity    | non-condensing         | 5   |     | 95  | %     |
| storage humidity      |                        | 0   |     | 75  | %     |

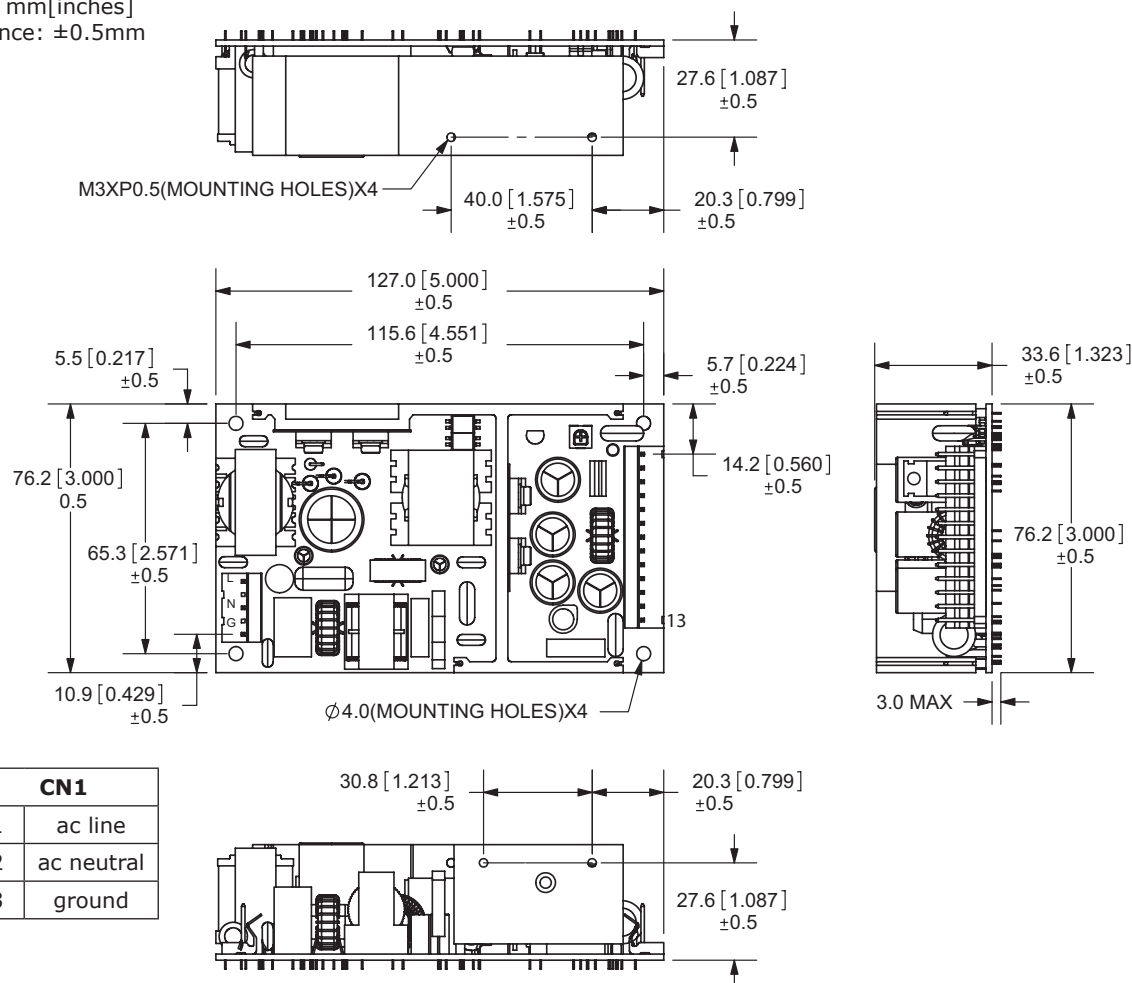
## DERATING CURVES

output power vs. ambient temperature



## MECHANICAL DRAWING

units: mm[inches]  
tolerance:  $\pm 0.5$ mm



| CN2 |     |
|-----|-----|
| 1   | V1  |
| 2   | V1  |
| 3   | V1  |
| 4   | V1  |
| 5   | V1  |
| 6   | V1  |
| 7   | com |
| 8   | com |
| 9   | com |
| 10  | com |
| 11  | com |
| 12  | com |
| 13  | n/c |

\*pin 13 for optional power fail detect

## REVISION HISTORY

| rev. | description                 | date       |
|------|-----------------------------|------------|
| 1.0  | initial release             | 11/19/2010 |
| 1.01 | applied new spec template   | 02/29/2012 |
| 1.02 | V-Infinity branding removed | 06/26/2012 |
| 1.03 | safety marks updated        | 08/14/2012 |
| 1.04 | updated derating curve      | 02/07/2013 |

The revision history provided is for informational purposes only and is believed to be accurate.



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