


**SERIES:** VSCP-600 | **DESCRIPTION:** AC-DC POWER SUPPLY

**FEATURES**

- up to 600 W continuous power
- universal input (90~260 Vac / 130~370 Vdc)
- single output from 5~60 V
- programmable output voltage
- active power correction (98%)
- current sharing capable
- remote sense, remote on/off control
- built-in DC fan
- over load and over voltage protections
- UL and TUV safety approvals
- efficiency up to 90%


**MODEL**

|             | output<br>voltage <sup>1</sup><br>(Vdc) | output<br>current <sup>2</sup><br>max<br>(A) | output<br>power<br>max<br>(W) | ripple<br>and noise <sup>3</sup><br>max<br>(mVp-p) | efficiency<br><br>typ<br>(%) |
|-------------|-----------------------------------------|----------------------------------------------|-------------------------------|----------------------------------------------------|------------------------------|
| VSCP-600-05 | 5                                       | 80/100                                       | 500                           | 50                                                 | 78                           |
| VSCP-600-09 | 9                                       | 44 / 66                                      | 600                           | 90                                                 | 83                           |
| VSCP-600-12 | 12                                      | 33 / 50                                      | 600                           | 120                                                | 84                           |
| VSCP-600-15 | 15                                      | 26 / 40                                      | 600                           | 150                                                | 85                           |
| VSCP-600-18 | 18                                      | 22 / 33.3                                    | 600                           | 150                                                | 85                           |
| VSCP-600-24 | 24                                      | 16 / 25                                      | 600                           | 150                                                | 88                           |
| VSCP-600-36 | 36                                      | 11 / 16.6                                    | 600                           | 150                                                | 88                           |
| VSCP-600-48 | 48                                      | 8 / 12                                       | 600                           | 150                                                | 89                           |
| VSCP-600-60 | 60                                      | 6 / 10                                       | 600                           | 150                                                | 90                           |

Notes: 1. output voltage is measured at output power connector  
 2. maximum current is measured at 100~120 V input / 200~240 V input  
 3. ripple and noise is measured from 10 KHz to 20 MHz at output terminals with 0.1  $\mu$ F ceramic capacitor and a 22  $\mu$ F electrolytic capacitor in parallel

**PART NUMBER KEY**
**VSCP-600 - XX**

Base Number

Output Voltage

## INPUT

| parameter               | conditions/description | min       | typ  | max        | units      |
|-------------------------|------------------------|-----------|------|------------|------------|
| voltage                 |                        | 90<br>130 |      | 260<br>370 | Vac<br>Vdc |
| frequency               |                        | 47        |      | 63         | Hz         |
| current                 | at 230 Vac             |           | 3.5  |            | A          |
| inrush current          | at 230 Vac, cold start |           | 60   |            | A          |
| power factor correction | at 230 Vac, full load  |           | 0.98 |            |            |

## OUTPUT

| parameter               | conditions/description                                                                                                                                                | min | typ   | max | units |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|-------|-----|-------|
| temperature coefficient | 0 ~ 50°C                                                                                                                                                              |     | ±0.04 |     | %/°C  |
| hold-up time            | 230 Vac at full load                                                                                                                                                  |     |       | 12  | ms    |
| adjustability           | adjustable with built-in trim pot                                                                                                                                     | -12 |       | +3  | %     |
| programming             | output voltage programmable through external 1 ~ 5 V control voltage on VCI. Control voltage can also be obtained from VCO via a 470 KΩ pot. see application diagrams | 25  |       | 100 | %     |
| remote sense            | Designated as (VS+) and (VS-). Total voltage compensation from cable losses with respect to the main output.                                                          |     |       |     |       |
| remote inhibit          | Designated as (INH), requires a low signal to inhibit the output.                                                                                                     |     |       |     |       |
| current sharing         | Designated as (PAR), use in parallel for forced current sharing function.                                                                                             |     |       |     |       |

## PROTECTION

| parameter                            | conditions/description                                      | min | typ | max | units |
|--------------------------------------|-------------------------------------------------------------|-----|-----|-----|-------|
| over voltage protection              |                                                             | 110 |     | 135 | %     |
| over current protection <sup>1</sup> | current limiting 3 times with auto recovery before shutdown |     |     |     |       |

Notes: 1. Protection mode sends a pulse, waits 1.5 seconds, sends second pulse, waits 3 seconds, sends third pulse, waits 5 seconds. If overload is still present, the unit will shutdown.

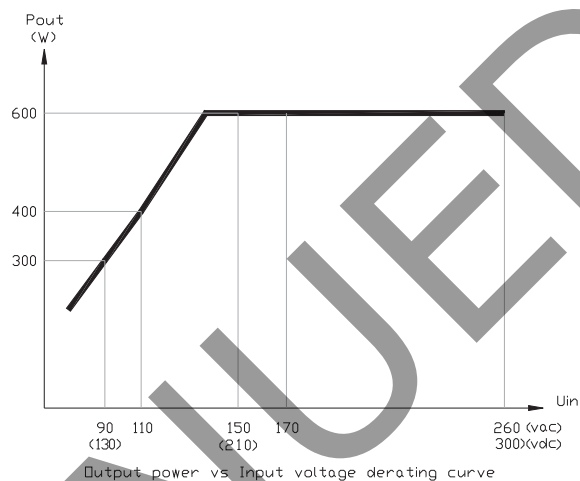
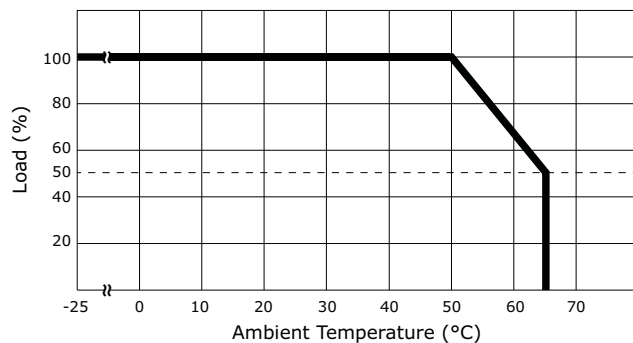
## SAFETY & COMPLIANCE

| parameter        | conditions/description                                            | min | typ | max | units |
|------------------|-------------------------------------------------------------------|-----|-----|-----|-------|
| safety approvals | TUV EN60950, UL/cUL 1950                                          |     |     |     |       |
| EMI/EMC          | EN 55022, EN 61000-4-(2,3,4,5,6,8,11), EN 61000-3-(2,3), ENV50204 |     |     |     |       |
| leakage current  | at 240 Vac                                                        |     |     | 3.5 | mA    |
| RoHS compliant   | yes                                                               |     |     |     |       |

## ENVIRONMENTAL

| parameter             | conditions/description    | min | typ | max | units |
|-----------------------|---------------------------|-----|-----|-----|-------|
| operating temperature |                           | 0   |     | 50  | °C    |
| storage temperature   |                           | -20 |     | 85  | °C    |
| operating humidity    |                           | 20  |     | 90  | %     |
| storage humidity      |                           | 10  |     | 95  | %     |
| vibration             | for 60 minutes, each axis | 10  |     | 200 | Hz    |

## DERATING CURVES

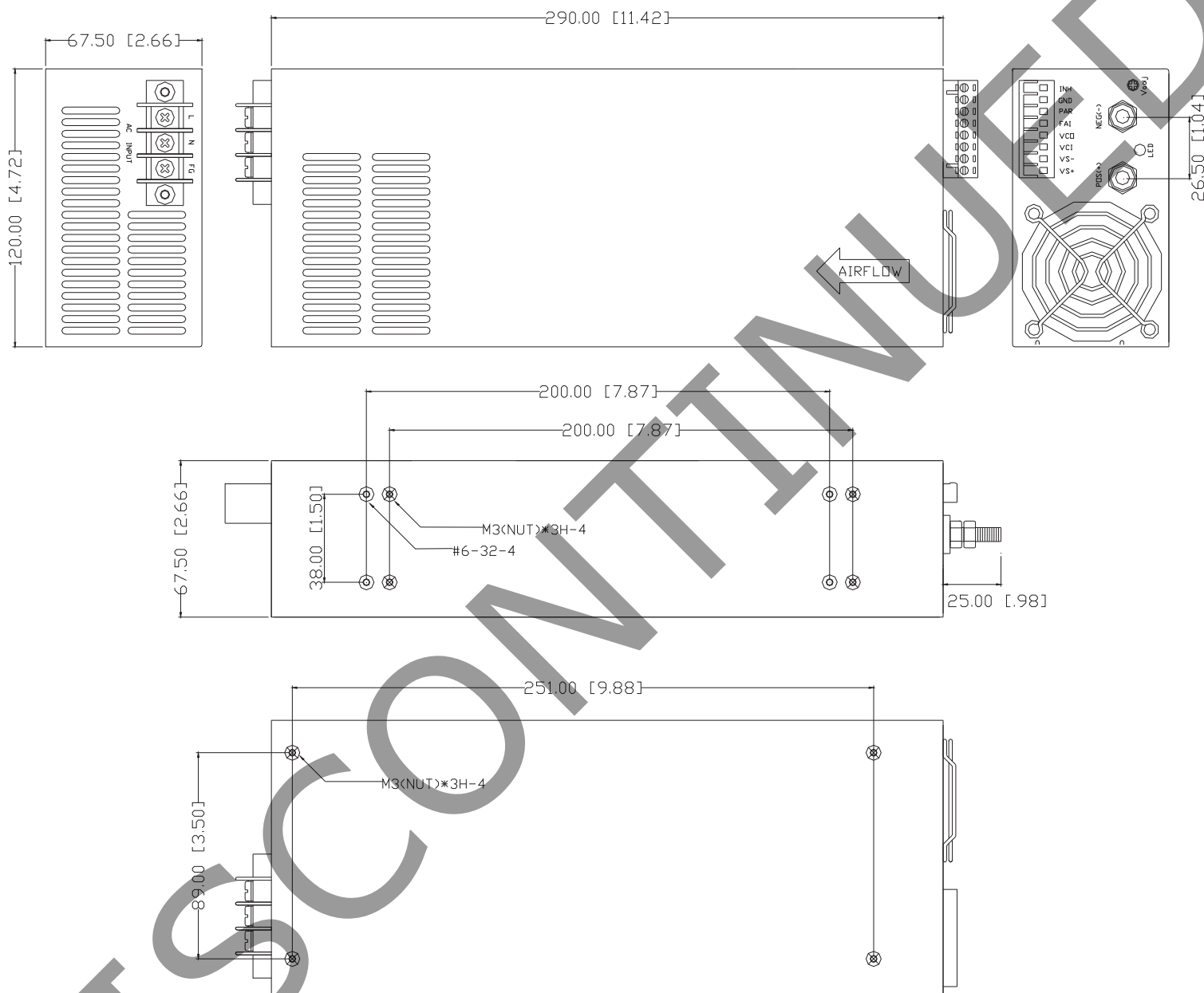


## MECHANICAL

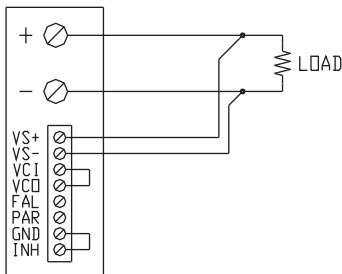
| parameter  | conditions/description                    | min | typ | max | units |
|------------|-------------------------------------------|-----|-----|-----|-------|
| weight     |                                           |     | 2.3 |     | Kg    |
| dimensions | 11.42 x 4.72 x 2.66 (290 x 120 x 67.5 mm) |     |     |     | inch  |

## MECHANICAL DRAWING

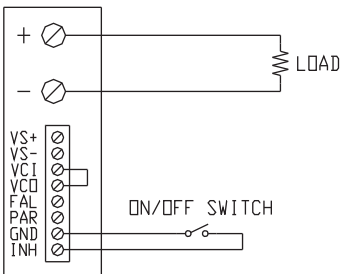
units: mm[inch]

tolerance:  $\pm 1.0$ mm unless otherwise specified

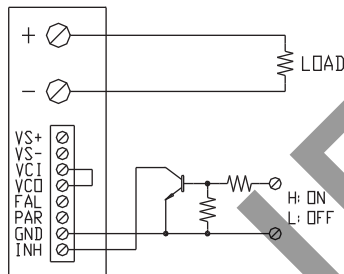
## LOGIC CONNECTIONS



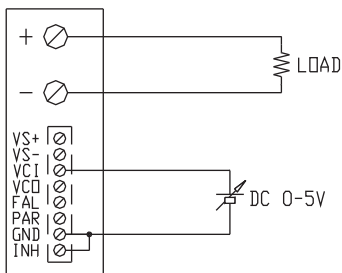
## REMOTE SENSING



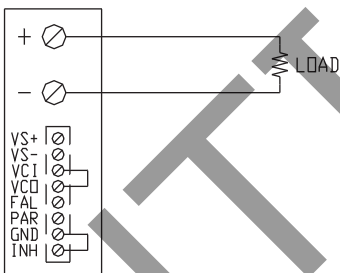
### ON/OFF CONTROL BY SWITCH



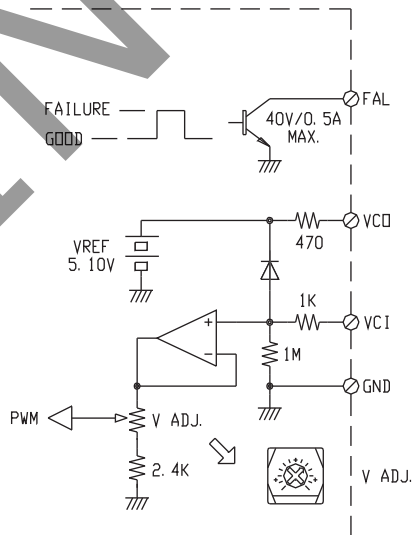
## ON/OFF CONTROL BY TRANSISTOR



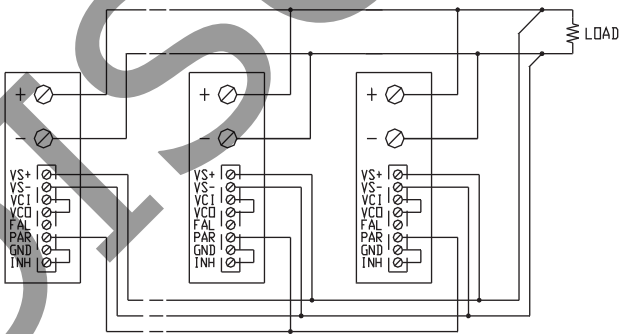
OUTPUT VOLTAGE ADJUST WITH DC 0-5V



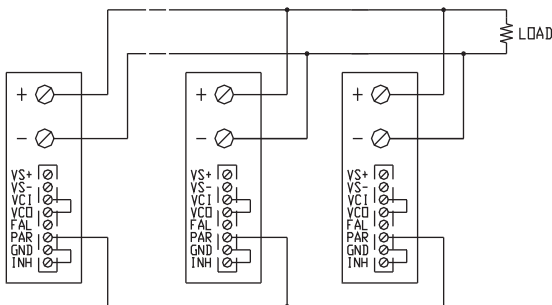
## USING INTERNAL VOLTAGE CONTROL



### VCI AND VCO SIGNAL



### PARALLEL OPERATION WITH REMOTE SENSING



### PARALLEL OPERATION WITHOUT REMOTE SENSING

## REVISION HISTORY

| rev. | description                                       | date       |
|------|---------------------------------------------------|------------|
| 1.0  | initial release                                   | 07/24/2006 |
| 1.01 | new template applied, V-Infinity branding removed | 08/28/2012 |

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

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