

## 350W to 1000W Compact Single Output General Purpose Power Supplies



Industrial



Test



LED



Broadcast



COMM



Semi-Fab



The compact 350W, 600W and 1000W rated GUS power supplies are designed to provide reliable performance at an economical price. The GUS models are available with 12, 24, 36 and 48V output voltages and have efficiencies up to 95%. All models are certified to IEC62368-1, designed to meet IEC61010-1 and meet Class B radiated and conducted EMI standards. Remote on/off is an option for all models, with the GUS350 having an optional output voltage adjustment function (standard on GUS600 and GUS1000). The GUS600 and GUS1000 models have an internal cooling fan with the GUS350 being convection cooled.

### Features

- Compact Size
- Conservative Electrolytic Capacitor Ratings
- Class B Conducted and Radiated EMI
- IEC62368-1 Certification, Compliant to IEC61010-1

### Benefits

- Saves Space in System
- Long Field Life
- Easier System EMC Compliance
- Quicker System Compliance

### Model Selector

| Model      | Voltage (V) | Output Adjustment (V)<br>(Specify ADJ option suffix for GUS350, standard on the GUS600 and GUS1000) | Max Current (A)  | Max Output Power (W) | Ripple & Noise (mV) | Ovevoltage (V) | Overcurrent (A) | Efficiency (typ) (115 / 230Vac) (%) |
|------------|-------------|-----------------------------------------------------------------------------------------------------|------------------|----------------------|---------------------|----------------|-----------------|-------------------------------------|
| GUS350-12  | 12          | 11.7 - 12.9                                                                                         | 29.2             | 350.4                | 240                 | 13.80 - 16.20  | >30.66          | 93 / 95                             |
| GUS600-12  | 12          | 11.7 - 12.9                                                                                         | 50               | 600                  | 240                 | 13.80 - 16.20  | >52.50          | 92 / 94                             |
| GUS1000-12 | 12          | 11.7 - 12.6                                                                                         | 66.7 (83.4 peak) | 800.4 (1000.8 peak)  | 240                 | 13.80 - 16.20  | >87.6           | 91 / 93                             |
| GUS350-24  | 24          | 23.4 - 25.9                                                                                         | 14.6             | 350.4                | 360                 | 27.60 - 32.40  | >15.33          | 94 / 95.5                           |
| GUS600-24  | 24          | 23.4 - 25.9                                                                                         | 25               | 600                  | 360                 | 27.60 - 32.40  | >26.25          | 93 / 95                             |
| GUS1000-24 | 24          | 23.4 - 25.9                                                                                         | 41.7             | 1000.8               | 360                 | 27.60 - 32.40  | <43.8           | 93 / 95                             |
| GUS350-36  | 36          | 35.1 - 38.8                                                                                         | 9.8              | 352.8                | 480                 | 41.40 - 48.60  | >10.29          | 94 / 95.5                           |
| GUS600-36  | 36          | 35.1 - 38.8                                                                                         | 16.7             | 601.2                | 480                 | 41.40 - 48.60  | >17.54          | 93 / 95                             |
| GUS1000-36 | 36          | 35.1 - 38.8                                                                                         | 27.8             | 1000.8               | 480                 | 41.40 - 48.60  | >29.2           | 93.3 / 95.3                         |
| GUS350-48  | 48          | 46.8 - 51.8                                                                                         | 7.4              | 355.2                | 480                 | 55.20 - 64.80  | >7.77           | 94 / 95.5                           |
| GUS600-48  | 48          | 46.8 - 51.8                                                                                         | 12.6             | 604.8                | 480                 | 55.20 - 64.80  | >13.23          | 93 / 95                             |
| GUS1000-48 | 48          | 46.8 - 51.8                                                                                         | 20.9             | 1003.2               | 480                 | 55.20 - 64.80  | 22              | 93.5 / 95.5                         |

### GUS350

24

/

R

Model and Output power

Output voltage 12, 24, 36, 48

|       |                                                                                                         |
|-------|---------------------------------------------------------------------------------------------------------|
| Blank | No options                                                                                              |
| R     | Remote On/Off                                                                                           |
| ADJ   | Output voltage adjustment potentiometer<br>(option for GUS350 only, standard on the GUS600 and GUS1000) |
| /D    | DIN rail mounting bracket (GUS350-24 only)                                                              |

### Related Products

| Type                 | Part Number(s) | Description                                     |
|----------------------|----------------|-------------------------------------------------|
| AC-DC power supplies | RWS-B          | 50 to 1500W, industrial 7-year warranty         |
| AC-DC power supplies | CUS-M          | 30 to 1500W, industrial/medical 5-year warranty |

GUS600 and GUS1000 models are preliminary

| Specifications                            |        |                                                                                                        |                    |                                       |
|-------------------------------------------|--------|--------------------------------------------------------------------------------------------------------|--------------------|---------------------------------------|
| Model                                     |        | GUS350                                                                                                 | GUS600             | GUS1000                               |
| Input                                     |        |                                                                                                        |                    |                                       |
| AC Input Voltage Range (Operating)        | Vac    | 85 - 265 <sup>(1)</sup>                                                                                |                    |                                       |
| Nominal Input Voltage Range               | Vac    | 100 - 240 (Note: Safety certified for 90 - 264Vac only)                                                |                    |                                       |
| AC Input Frequency                        | Hz     | 47 - 63                                                                                                |                    |                                       |
| Input Current (115/230Vac)                | A      | 3.4 / 1.7                                                                                              | 6 / 3              | 12V: 4 / 4, 24-48V: 10 / 5            |
| Inrush Current at 115/200Vac (Cold Start) | A      | 25 / 50                                                                                                |                    |                                       |
| Leakage Current                           | mA     | < 0.75                                                                                                 |                    | < 0.5                                 |
| Power Factor (10/200Vac)                  | -      | 0.99 / 0.95                                                                                            |                    |                                       |
| Harmonic Compliance                       | -      | Meets IEC61000-3-2, Class A                                                                            |                    |                                       |
| Hold Up Time (typical)                    | ms     | 12                                                                                                     |                    | 11                                    |
| Efficiency                                | -      | See model selector table                                                                               |                    |                                       |
| Conducted & Radiated EMI                  | -      | EN55011/EN55032-B                                                                                      |                    |                                       |
| Immunity                                  | -      | IEC61000-6-2 IEC61000-4-2, -3, -4, -5, -6, -8, -11                                                     |                    |                                       |
| Safety Certifications and Markings        | -      | IEC/EN/UL/CSA 62368-1, CE Mark and UKCA Mark.<br>Designed to meet IEC 61010-1 and IEC62477-1 (OVC III) |                    |                                       |
| Output                                    |        |                                                                                                        |                    |                                       |
| Switching Frequency                       | kHz    | 40 to 260                                                                                              | TBA                | TBA                                   |
| Line Regulation                           | -      | 12V: 48, 24V: 96, 36V: 144, 48: 192                                                                    |                    | 12V: 60, 24V: 120, 36V: 180, 48: 240  |
| Load Regulation                           | -      | 12V: 96, 24V: 192, 36V: 288, 48: 384                                                                   |                    | 12V: 120, 24V: 240, 36V: 360, 48: 480 |
| External Load Capacitance (Maximum)       | uF     | 12V: 10,000, 24V: 7,200, 36V: 1,400, 48V: 1,300                                                        | TBA                | TBA                                   |
| Ripple & Noise                            | -      | See model selector table                                                                               |                    |                                       |
| Temperature Coefficient                   | %/°C   | 0.02                                                                                                   |                    |                                       |
| Minimum Load                              | -      | No minimum load required                                                                               |                    |                                       |
| Overcurrent Protection                    | %      | See model selector table                                                                               |                    |                                       |
| Overvoltage Protection                    | -      | Latching (unit shutdown), cycle AC input to reset                                                      |                    |                                       |
| Overtemperature Protection                | -      | Latching (unit shutdown), cycle AC input to reset                                                      |                    |                                       |
| Remote Sense                              | -      | No                                                                                                     |                    |                                       |
| Remote On/Off                             | -      | Specify option R                                                                                       |                    |                                       |
| Indicators                                | -      | Green LED indicates DC is OK                                                                           |                    |                                       |
| Environmental                             |        |                                                                                                        |                    |                                       |
| Operating Temperature                     | °C     | -20 to +70 (See derating curves below, GUS1000 TBD) (-40 start-up)                                     |                    |                                       |
| Storage Temperature                       | °C     | -40 to +85                                                                                             |                    |                                       |
| Humidity (non condensing)                 | %RH    | Operating and Storage: 10 - 95                                                                         |                    |                                       |
| Cooling                                   | -      | Convection                                                                                             | Internal fan       |                                       |
| Altitude                                  | m      | <5000 (<4,000 for IEC62477-1)                                                                          |                    |                                       |
| Withstand Voltage (For 1 minute)          | Vac    | Input to ground 2,000, Input to output 3,000, Output to ground 500 for 1 minute                        |                    |                                       |
| Vibration (Non operating)                 | -      | 10-55Hz (Sweep for 1min.) 19.6m/s2 Constant X,Y,Z 1 hour each                                          |                    |                                       |
| Shock (Non operating)                     | -      | Less than 196m/s2, 11ms, ±X, ±Y, ±Z 3 times each                                                       |                    |                                       |
| Other                                     |        |                                                                                                        |                    |                                       |
| Weight (Typ)                              | g      | 550                                                                                                    | 800                | 910                                   |
| Size (WxHxD)                              | mm     | 101.6 x 41 x 127                                                                                       | 101.6 x 41 x 152.4 | 101.6 x 41 x 177.8                    |
| Size (WxHxD)                              | Inches | 4 x 1.61 x 5                                                                                           | 4 x 1.61 x 6       | 4 x 1.61 x 7                          |
| Connectors                                | -      | Screw terminal input and output. Signal connectors JST S2B-EH. See output drawings                     |                    |                                       |
| MTBF - Telcordia SR-332 issue 3*          | Hours  | 1,573,939                                                                                              | TBD                | TBD                                   |
| Warranty                                  | Years  | 3 years                                                                                                |                    |                                       |

## Notes:

See website for detailed specifications, test methods and installation manual

(1) Derate below 115Vac input. See derating curves

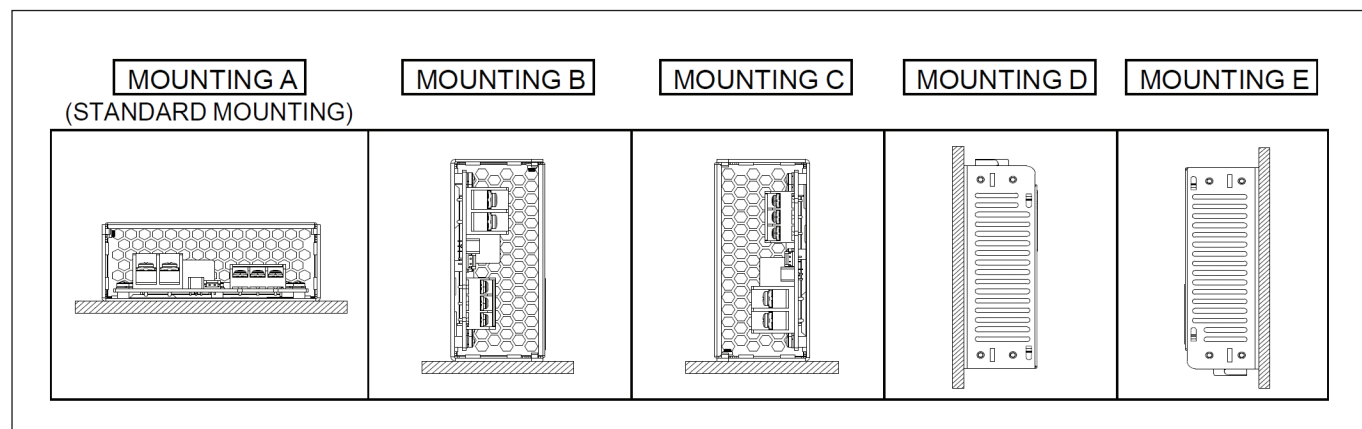
\*25°C ambient, full load, 24Vdc output, 230Vac input

GUS600 and GUS1000 models are preliminary

## GUS350 Immunity

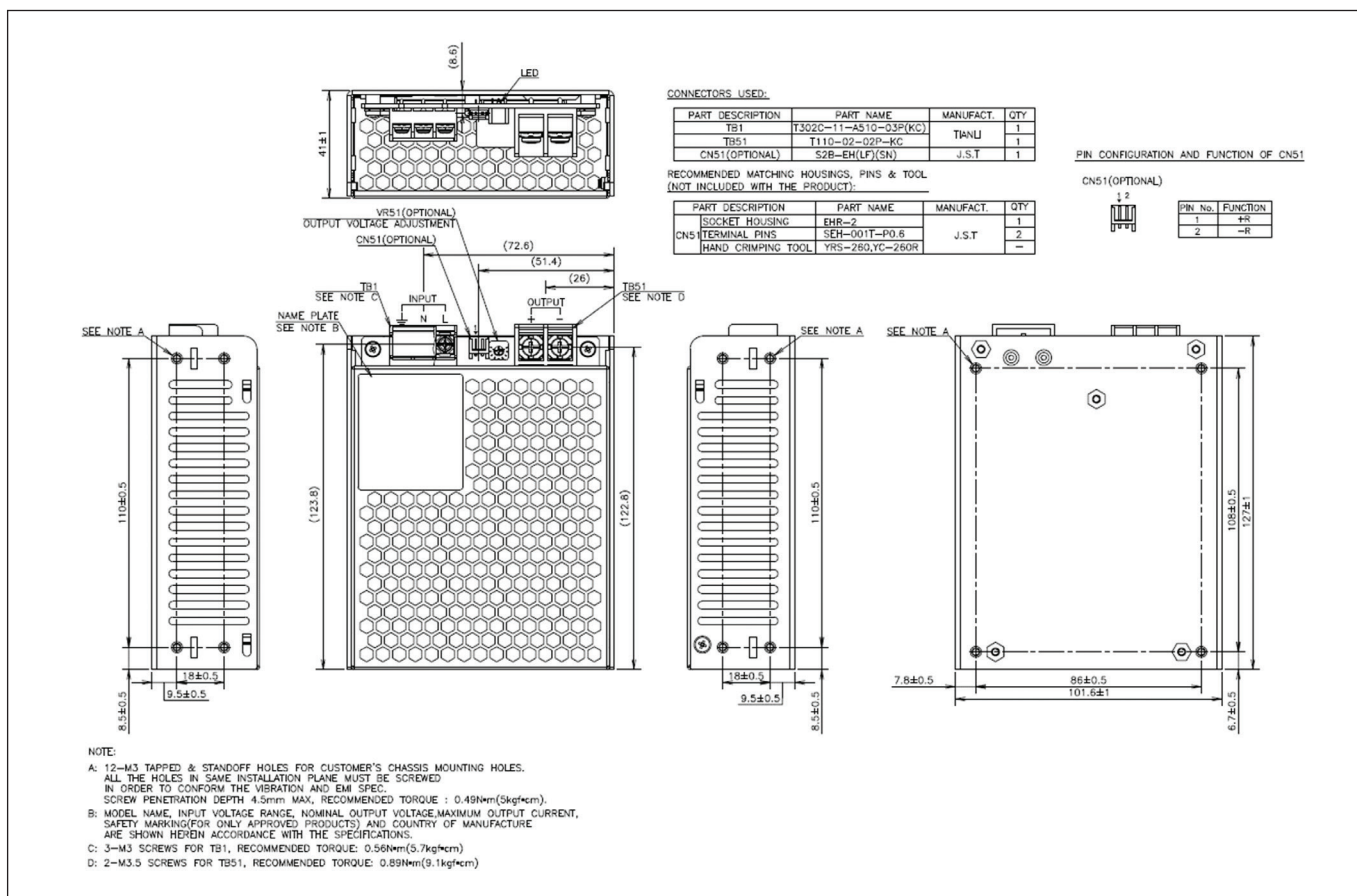
| Test                                    | Standard                          | Test Level                                                                         | Criteria | Notes:                                                                           |
|-----------------------------------------|-----------------------------------|------------------------------------------------------------------------------------|----------|----------------------------------------------------------------------------------|
| ESD                                     | EN61000-4-2                       | Contact Discharge: 8kV<br>Air Discharge: 15kV                                      | A        | -                                                                                |
| Radiated Susceptibility                 | EN61000-4-3                       | Radiation Field Strength 3V/m<br>Radiation Field Strength 10V/m                    | A        | Electromagnetic Frequency: 1.4 - 6GHz<br>Electromagnetic Frequency: 80 - 1000GHz |
| Electrical Fast Transient Burst         | EN61000-4-4                       | Input Power Port and Enclosure Port: 4kV<br>Output Power Port and Signal Port: 2kV | A        | -                                                                                |
| Surge                                   | EN61000-4-5                       | Common Mode: 4kV<br>Normal Mode: 2kV                                               | A        | -                                                                                |
| Conducted Susceptibility                | EN61000-4-6                       | 10V                                                                                | A        | -                                                                                |
| Magnetic fields                         | EN61000-4-8                       | 30A/m                                                                              | A        | -                                                                                |
| Voltage Dips and<br>Input Interruptions | IEC61000-4-11<br>100-120Vac input | Dip: 20% 5000ms                                                                    | A        | -                                                                                |
|                                         |                                   | Dip: 30% 500ms                                                                     | A        | -                                                                                |
|                                         |                                   | Dip: 60% 200ms                                                                     | A/B      | A: ≤150W, B: >150W                                                               |
|                                         |                                   | Dip: 100% 10ms                                                                     | A        | -                                                                                |
|                                         |                                   | Dip: 100% 20ms                                                                     | A/B      | A: ≤200W, B: >200W                                                               |
|                                         |                                   | Dip: 100% 5000ms                                                                   | B        | -                                                                                |
|                                         | IEC61000-4-11<br>200-240Vac input | Dip: 20% 5000ms                                                                    | A        | -                                                                                |
|                                         |                                   | Dip: 30% 500ms                                                                     | A        | -                                                                                |
|                                         |                                   | Dip: 60% 200ms                                                                     | A        | -                                                                                |
|                                         |                                   | Dip: 100% 10ms                                                                     | A        | -                                                                                |
|                                         |                                   | Dip: 100% 20ms                                                                     | A/B      | A: ≤200W, B: >200W                                                               |
|                                         |                                   | Dip: 100% 5000ms                                                                   | B        | -                                                                                |
| SEMI F47 Line Dip                       | SEMI F47                          | -                                                                                  | -        | At input voltages > 200Vac                                                       |

## GUS Mounting

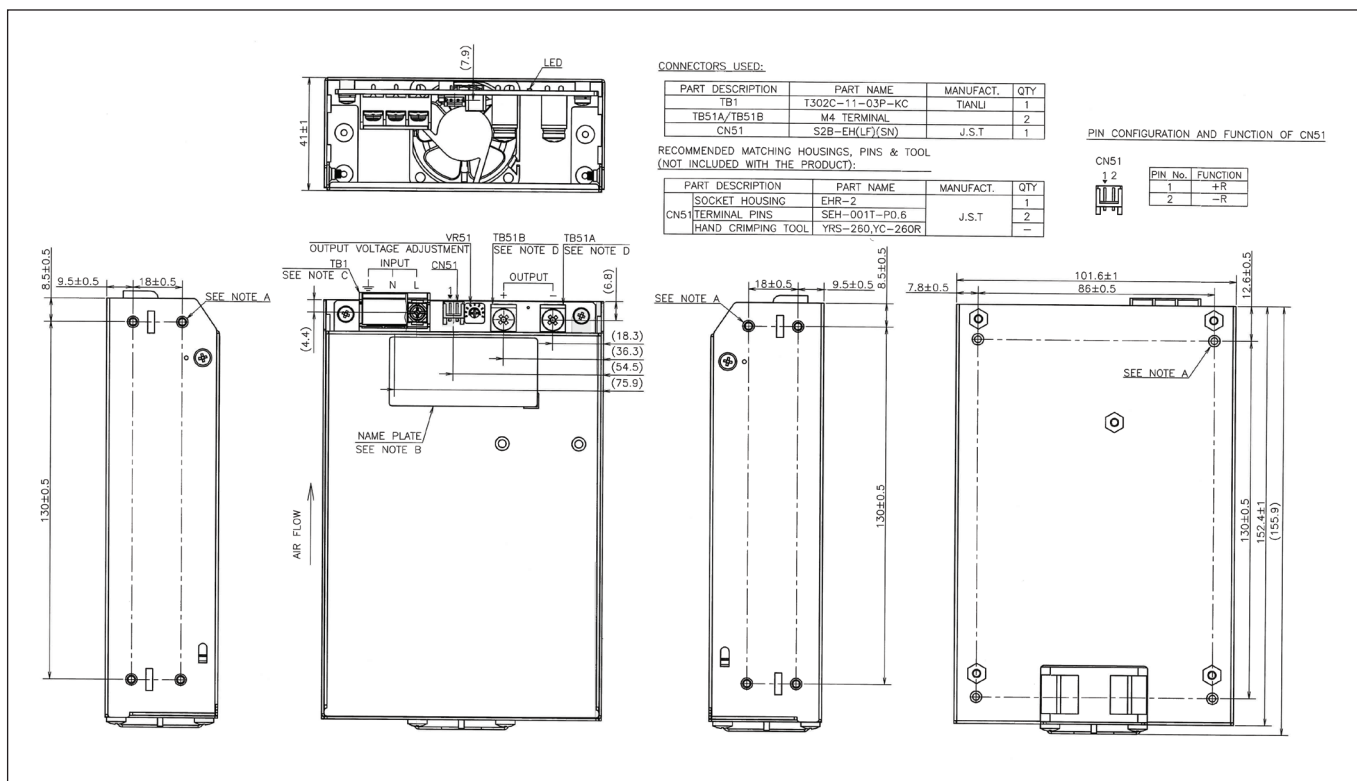


GUS600 and GUS1000 models are preliminary

## Outline Drawing GUS350

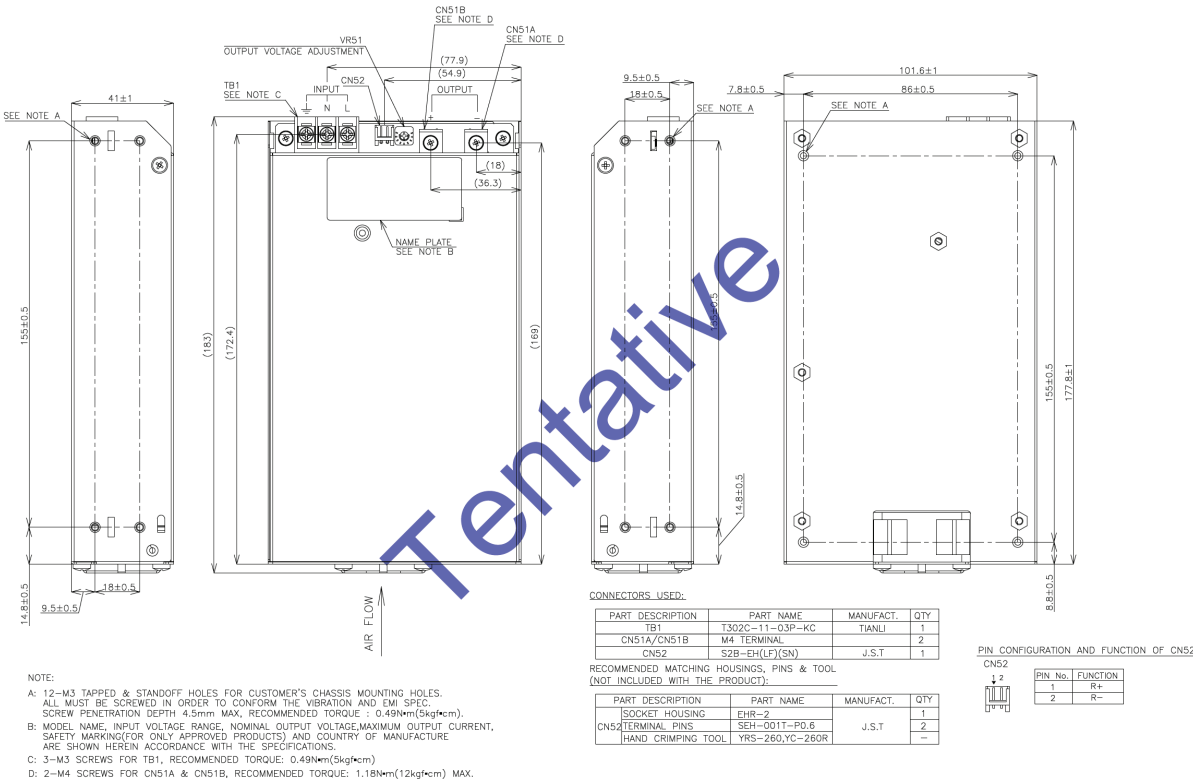


## Outline Drawing GUS600



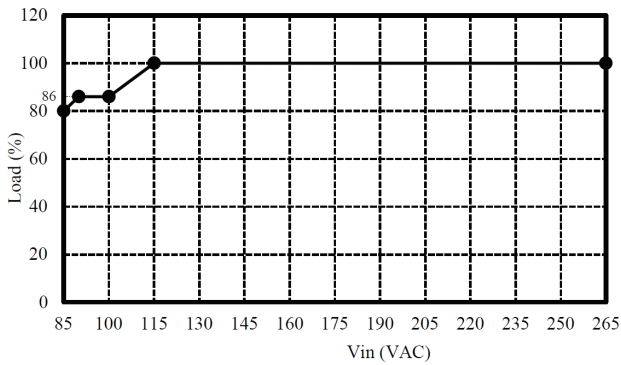
GUS600 and GUS1000 models are preliminary

Outline Drawing GUS1000

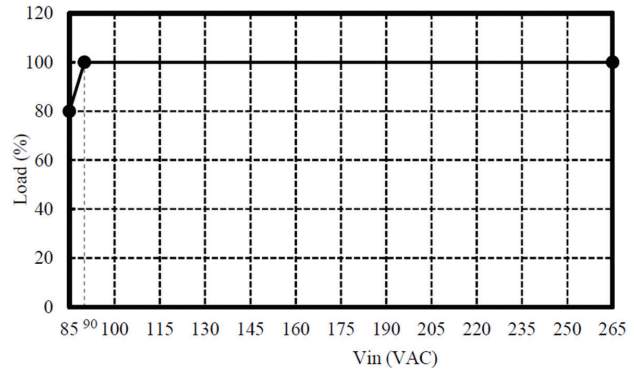


GUS600 and GUS1000 models are preliminary

## GUS350 derating Curves vs Input Voltage



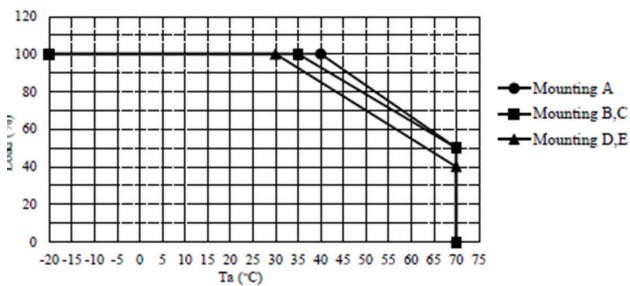
## GUS600 derating Curves vs Input Voltage



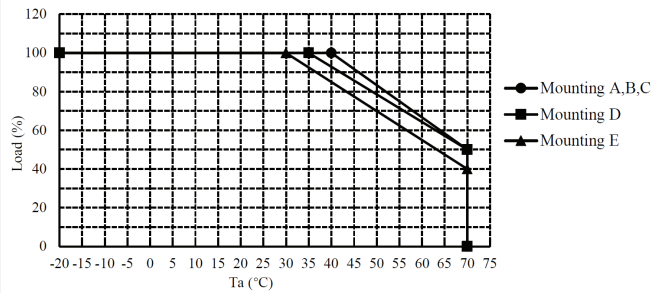
## GUS1000 derating Curves vs Input Voltage

TBD

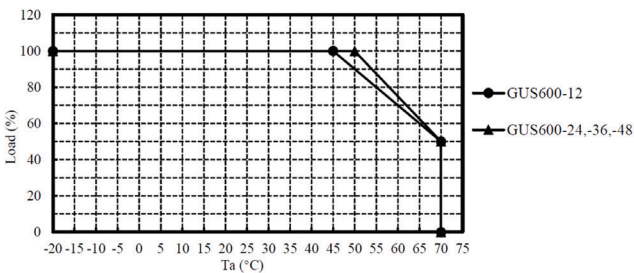
## GUS350-12 Derating Curves vs Temperature



## GUS350-24,-36,-48 Derating Curves vs Temperature



## GUS600 Derating Curves vs Temperature



GUS600 and GUS1000 models are preliminary



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GUS600 and GUS1000 models are preliminary

