# GTICV1000320

*320W Constant Voltage Power Supply*

GROUP TECHNOLOGY ITALIA

## Features:

- *Constant voltage design*
- *Built-in active PFC function*
- *Universal AC input / Full range up to 305VAC*
- *Protections: Short Circuit / Over Voltage / Over Current / Over temperature*
- *Surge immunity: Differential Mode – 5kV, Common Mode - 10kV*
- *Cooling by free air convection*
- *IP67 design for indoor and outdoor applications*

## Application:

- *Landscape lighting*
- *LED street lighting*
- *Industrial lighting*

## © MODEL INFORMATION

| Model Number | Output Power [W] | Output Voltage [V] | Output Current [A] | Efficiency typ. [%] | Power Factor typ. |
|---|---|---|---|---|---|
| GTICV1000320-12V | 264.0 | 12 | 22.00 | 91% | 0.97 |
| GTICV1000320-24V | 319.9 | 24 | 13.33 | 92% | 0.96 |
| GTICV1000320-36V | 320.4 | 36 | 8.90 | 91% | 0.96 |
| GTICV1000320-48V | 320.2 | 48 | 6.67 | 94% | 0.97 |

## © APPROVAL MARKS and SYMBOLS

| | | | |
|---|---|---|---|
| GTICV1000320-12V | RoHS IP67 SELV | tc: 85°C<br>ta: 50°C | TÜV SÜD |
| GTICV1000320-24V | RoHS IP67 SELV | tc: 85°C<br>ta: 50°C | TÜV SÜD |
| GTICV1000320-36V | RoHS IP67 SELV | tc: 85°C<br>ta: 50°C | TÜV SÜD |
| GTICV1000320-48V | RoHS IP67 SELV | tc: 85°C<br>ta: 50°C | TÜV SÜD |

## © MODEL ENCODING

| | % | &'( | ) | ... |
|---|---|---|---|---|
| Series name | | Rated Output Power [W] | Option name | (*' - rated output voltage is 12V |
| | | | | ('+ - rated output voltage is 24V |
| | | | | (&, - rated output voltage is 36V |
| | | | | (+- - rated output voltage is 48V |

## © ELECTRICAL SPECIFICATION

| MODEL | GTICV1000320-12V | GTICV1000320-24V | GTICV1000320-36V | GTICV1000320-48V |
|---|---|---|---|---|
| **OUTPUT** | | | | |
| *Output Voltage* | 12VDC | 24VDC | 36VDC | 48VDC |
| *No Load Voltage (max.)* | 12.96VDC | 24.96VDC | 37.44VDC | 49.92VDC |
| *Load Current Range* | 0 ÷ 22A | 0 ÷ 13.33A | 0 ÷ 8.9A | 0 ÷ 6.67A |
| *Rated Power* | 264W | 319.9W | 320.4W | 320.2W |
| *Output Voltage Precision* | ± 8.0% | ± 5.0% | ± 4.0% | |
| *Line Regulation (from 115VAC to 305VAC)* | ± 3.0% | | | |
| *Load Regulation (from 50% to 100% load)* | ± 3.0% | | | |
| *Output Voltage Ripple* | < 6% $v_{OUT}$ | < 5% $v_{OUT}$ | < 2% $v_{OUT}$ | |
| *Turn-on Delay Time* | 3s for 100% load | | | |
| **INPUT** | | | | |
| *Voltage Range* | 90 ÷ 305VAC (Refer to Input Voltage vs. Load Curve) | | | |
| *Frequency Range* | 47 ÷ 63Hz | | | |
| *Efficiency at 100% load (typ.)* | 91% | 92% | 91% | 94% |
| | Refer to Efficiency vs. Output Load Curve | | | |
| *AC Current (max.)* | 4.0A | | | |
| *Inrush Current (max.)* | 150A / 230VAC | | | |
| *Leakage Current (max.)* | 0.75mA/230VAC | | | |
| *Power Factor (typ.)* | 0.97 | 0.96 | 0.96 | 0.97 |
| | For 230VAC and 100% load (Refer to Power Factor vs. Load Curve) | | | |
| *THD* | < 20% / 230VAC at 70-100% load (Refer to THD vs. Load Curve) | | | |
| **PROTECTIONS** | | | | |
| *Short Circuit* | Type: decrease of input power, auto-recovery. | | | |
| *Over Voltage* | 13.2 ÷ 15.6VDC | 26.4 ÷ 31.2VDC | 39.6 ÷ 46.8VDC | 52.8 ÷ 62.4VDC |
| | Type: shut off output voltage, re-power on to recovery. | | | |
| *Over Current* | 100-150% rated output current | | | |
| | Type: hiccup mode, auto-recovery. | | | |
| *Over Temperature* | Temperature Tc > 90°C | | | |
| | Type: shut off output voltage, re-power on to recovery. | | | |
| **WORKING ENVIRONMENT** | | | | |
| *Working Temperature* | -40°C ÷ 60°C (Refer to Derating Curve) | | | |
| *Working Humidity* | 20 ÷ 95% RH non-condensing | | | |
| *Storage Temperature and Humidity* | -40°C ÷ 85°C, 20 ÷ 95% RH non-condensing | | | |
| *Vibration* | 10 to 500Hz sweep at constant acceleration 1G (depth 3.5mm) for 1 hour for each X, Y, Z axes | | | |
| *Degree Of Protection* [2] | IP67 | | | |

## SAFETY AND EMC REGULATIONS

| | | |
|---|---|---|
| ***Safety Standards*** | CE | EN61347-1; EN61347-2-13 |
| ***EMC Standards*** | CE | EN55015; IEC61000-3-2; IEC61000-3-3; IEC61547 |
| ***Withstand Voltage*** | IN/OUT: 3.75kVAC; IN/GND: 1.6kVAC; OUT/GND: 1.6kVAC; 60s, current < 10mA | |
| ***rounding Resistance*** | < 0.1E (60S/25A) | |
| ***Insulation Resistance*** | IN/OUT, IN/GND, OUT/GND > 100MΩ (500VDC/60s) | |

## OTHERS

| | |
|---|---|
| ***Input Wire*** | CCC+VDE 3 x 1.0mm$^2$, length = 300 ± 10mm |
| | CCC+VDE 2 x 2.5mm$^2$, length = 300 ± 10mm for GLSV-320B012 |
| ***Output Wire*** | CCC+VDE 2 x 2 x 1.5mm$^2$, length = 300 ± 10mm for GLSV-320B24 |
| | CCC+VDE 2 x 1.5mm$^2$, length = 300 ± 10mm for GLSV-320B036 and GLSV-320B048 |
| ***MTBF (MIL-HDBK-217F)*** | 212 000h at 230VAC / 80% load and ta < 25°C |
| ***Life Time (min.)*** | 50 000h at 230VAC / 100% load and tc < 70°C (Refer to Life Time vs. $T_C$ Curve) |
| ***Dimensions (Length * Width x Height)*** | 234 * 98 * 40mm |
| ***Weight*** | 1750 ± 100g |

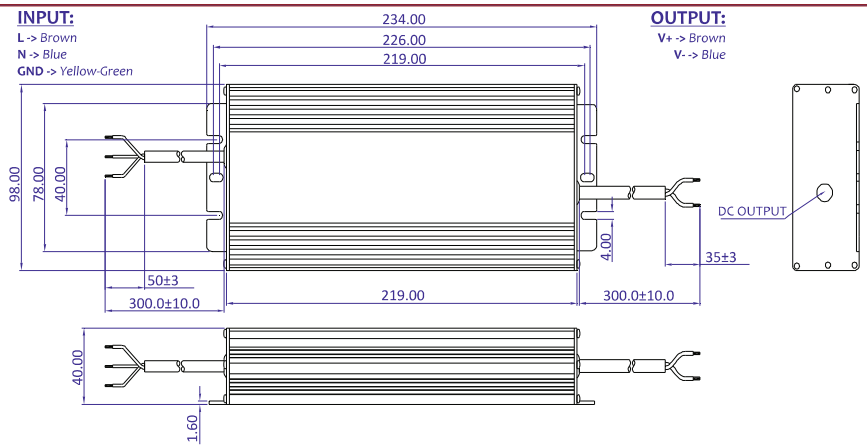
*1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.*
*2. Suitable for indoor or outdoor use. Please avoid direct exposure to sunlight and immersion in water for over 30 minutes.*
*3. Power supply is considered as component not indented to apply by end-user. Power supply meets safety and EMC standards however the final equipment with power supply must be re-quality to comply with EMC and LVD Directives.*

## ⊙ MECHANICAL SPECIFICATION

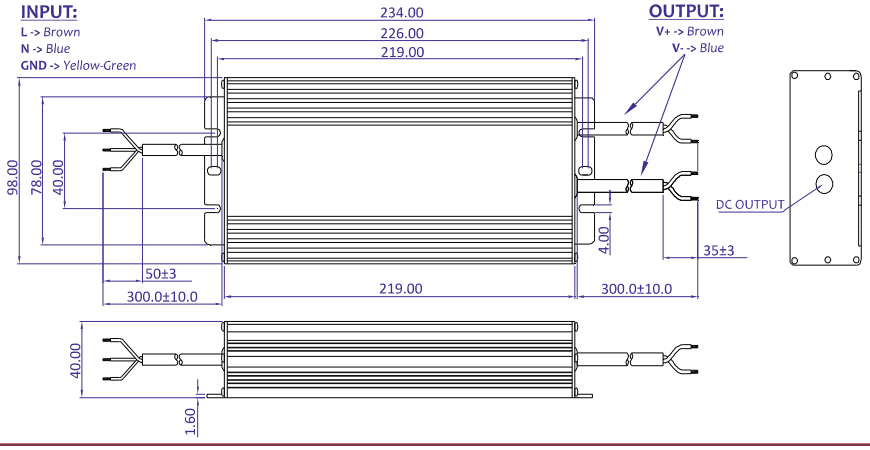
**GTICV1000320-12V**

**GTICV1000320-36V**

**GTICV1000320-48V**

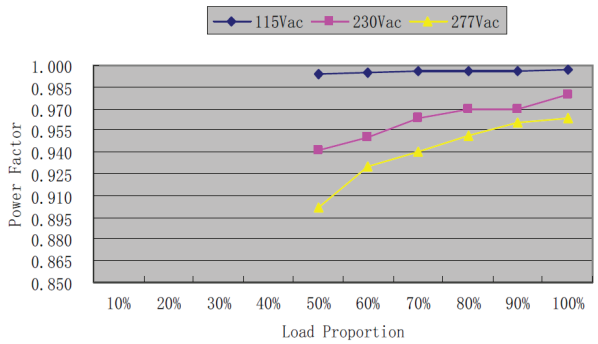



**GTICV1000320-24V**

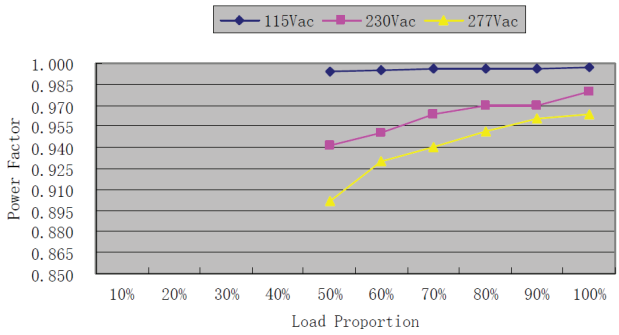


## © Power Factor vs. Load Curve

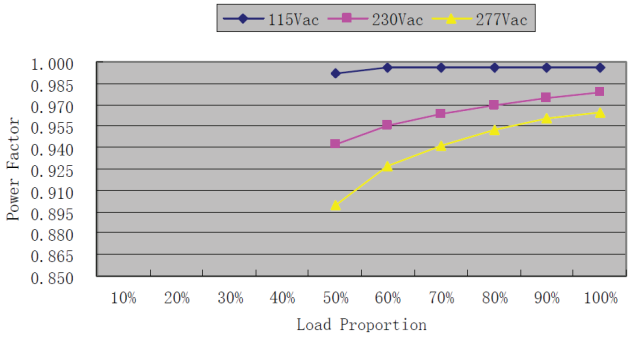
### GTICV1000320-12V



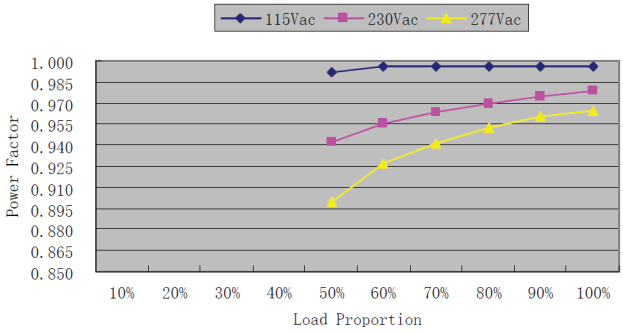

### GTICV1000320-24V




### GTICV1000320-36V

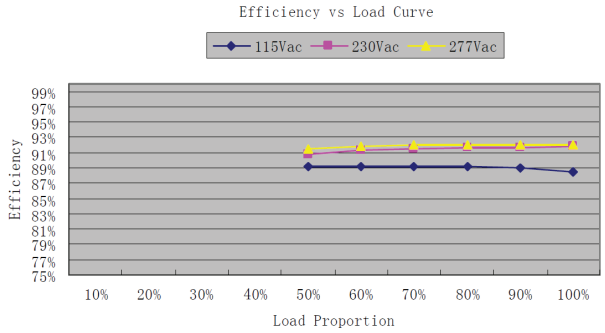



### GTICV1000320-48V

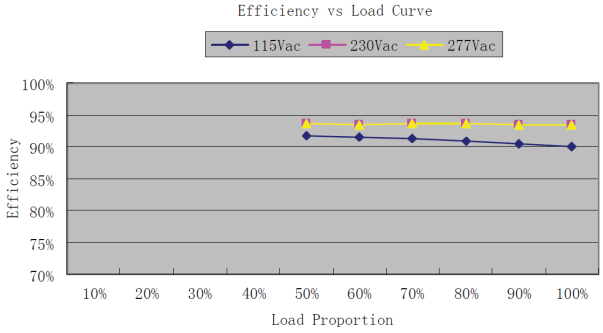



## © Efficiency vs. Load Curve

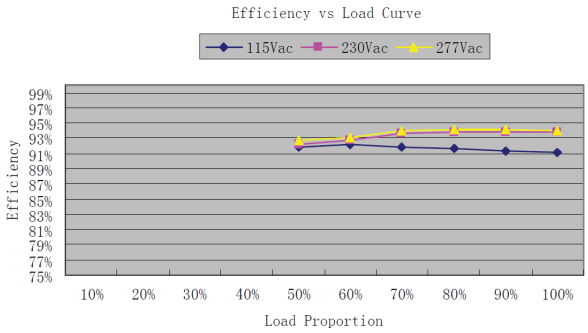
### GTICV1000320-12V



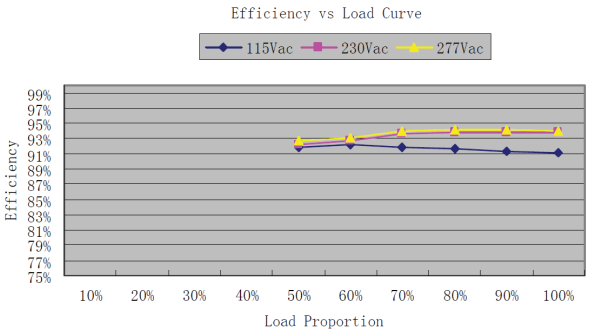

### GTICV1000320-24V




### GTICV1000320-36V

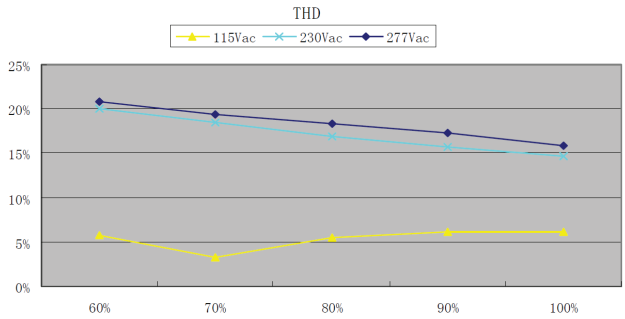



### GTICV1000320-48V

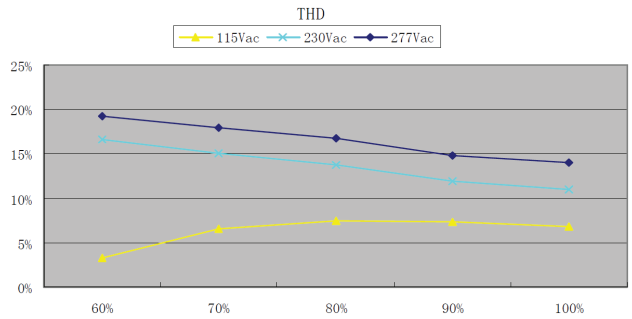


## ◎ THD vs. Load Curve

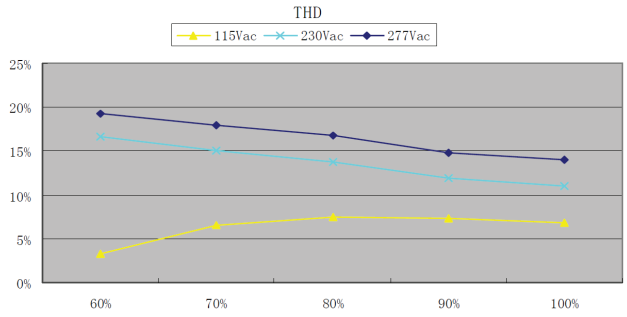
### GTICV1000320-12V



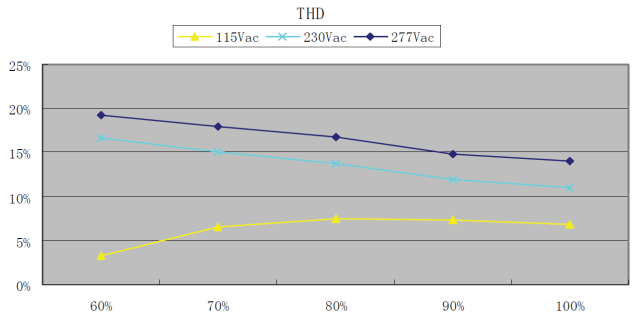

### GTICV1000320-24V



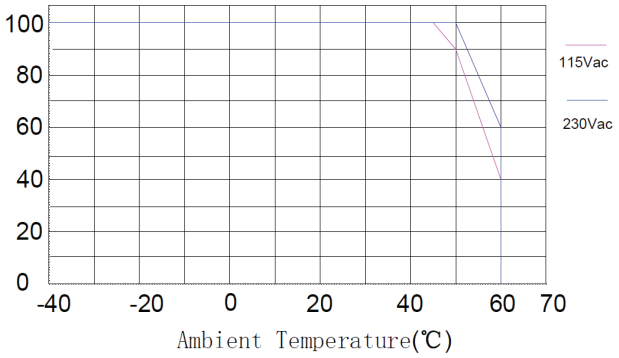

### GTICV1000320-36V



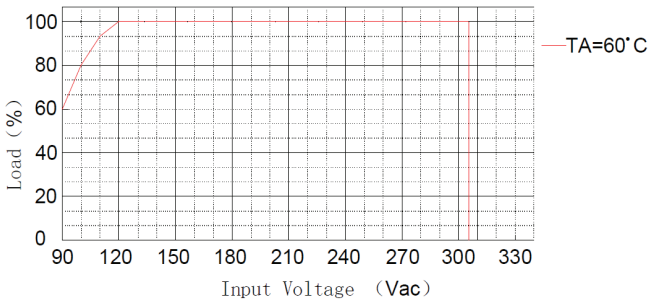

### GTICV1000320-48V




## ◎ Derating Curve




## ◎ Input Voltage vs. Load Curve




## ◎ Life time vs. $T_C$ curve