# Genesys™

Programmable DC Power Supplies
3.3kW in 2U
Built in RS-232 & RS-485 Interface
Advanced Parallel Operation
Optional Interface:
LXI Compliant LAN
IEEE488.2 SCPI (GPIB) Multi-Drop
Isolated Analog Programming



Genesys™ Family GENH 750W Half Rack GEN1U 750/1500/2400W Full Rack GEN2U 3.3/5kW

# TDK-Lambda

#### TDK·Lambda

The Genesys™ family of programmable power supplies sets a new standard for flexible, reliable, AC/DC power systems in OEM, Industrial and Laboratory applications.

#### Features include:

- High Power Density 3.3kW in 2U
- Wide Range of popular worldwide AC inputs, 1ø (230VAC) & 3ø (208VAC, 400VAC)
- Active Power Factor Correction (Single-Phase & Three-Phase AC Input)
- Output Voltage up to 600V, Current up to 400A
- Built-in RS-232/RS-485 Interface Standard
- Global Commands for Serial RS-232/RS-485 Interface
- Auto-Re-Start / Safe-Start: user selectable
- Last-Setting Memory
- High Resolution 16 bit ADCs & DACs
- Low Ripple & Noise
- Front Panel Lock selectable from Front Panel or Software
- Reliable Encoders for Voltage and Current Adjustment
- Constant Voltage/Constant Current auto-crossover
- Parallel Operation with Active Current Sharing; up to four identical units.
- Advanced Parallel Master / Slave. Total Current is Programmed and Measured via the Master.
- Independent Remote ON/OFF and Remote Enable/Disable
- External Analog Programming and Monitoring (user selectable 0-5V & 0-10V)
- Reliable Modular and SMT Design
- 19" Rack Mount capability for ATE and OEM applications
- Optional Interfaces

Isolated Analog Programming and Monitoring Interface (0-5V/0-10V & 4-20mA) IEEE 488.2 SCPI (GPIB) Multi-Drop

### LX Compliant LAN

- LabView® and LabWindows® drivers
- Five Year Warranty

Worldwide Safety Agency Approvals; CE Mark for LVD and EMC Regulation





#### **Applications**

Genesys™ power supplies have been designed to meet the demands of a wide variety of applications.

Test & Measurement systems, Component Device Testing.

Semiconductor Processing & Burn-In, Aerospace & Satellite Testing, Medical Imaging, Green Technology.

System Designers will appreciate new, standard, remote programming features such as Global commands. Also, new high-speed status monitoring is available for the RS-485 bus.

Test Systems using the IEEE-488 bus may achieve significant cost savings by incorporating the Optional IEEE Multi-Drop Interface for a Master and up to 30 RS-485 Multi-Drop Slaves.

Higher power systems can be configured with up to four 3.3kW modules. Each module is 2U with zero space between them (zero stack).

Flexible configuration is provided by the complete Genesys™ Family: 1U 750W Half-Rack, 1U 750W, 1500W and 2400W Full-Rack. All are identical in Front Panel, Rear Panel Analog, and all Digital Interface Commands.

**OEM Designers** have a wide variety of Inputs and Outputs from which to select depending on application and location.

#### **Front Panel Description**



- 1. ON/OFF Switch
- 2. Air Intake allows zero stacking for maximum system flexibility and power density.
- 3. Reliable encoder controls Output Voltage, Address, OVP and UVL settings.
- 4. Volt Display shows Output Voltage and directly displays OVP, UVL and Address settings.
- 5. Reliable encoder controls Output Current, sets baudrate and Advanced Parallel mode.
- 6. Current Display shows Output Current and displays Baud rate. Displays total current in Parallel Master/Slave Mode
- 7. Function/Status LEDs:
- Alarm

- Fine Control
- Preview Settings

- Foldback Mode
- Remote Mode
- Output On
- 8. Pushbuttons allow flexible user configuration
  - Coarse and Fine adjustment of Output Voltage/Current and Advanced Parallel Master or Slave
  - Preview settings and set Voltage/Current with Output OFF, Front Panel Lock
  - Parallel Master/Slave
  - Set OVP and UVL Limits
  - Set Current Foldback Protection
  - Go to Local Mode and select Address and Baud rate
  - Output ON/OFF and Auto-Re-Start/Safe-Start Mode

#### **Rear Panel Description**



- 1. Remote/Local Output Voltage Sense Connections.
- 2. DIP Switches select 0-5V or 0-10V Programming and other functions.
- 3. DB25 (Female) connector allows (Non-isolated) Analog Program and Monitor and other functions.
- 4. RS-485 OUT to other Genesys™ Power Supplies.
- 5. RS-232/RS-485 IN Remote Serial Programming.
- 6. Output Connections: Rugged busbars (shown) for up to 100V Output; wire clamp connector for Outputs >100V.
- 7. Exit air assures reliable operation when zero stacked.
- 8. Input: 230VAC Single Phase (shown), 208 & 400VAC Three Phase, 50/60 Hz AC Input Connector: PHOENIX CONTACT Power Combicon PC 6/... Series with strain relief.
- 9. Optional Interface Position for IEEE 488.2 SCPI (shown) or Isolated Analog Interface or LAN Interface.

#### Genesys ™ 3.3kW Specifications

| 1.0 MODEL   |  |  |   |   |   |  |   |  |  |   |   | ions in bl  |   |   |  |
|---|--|--|---|---|---|--|---|--|--|---|---|---|---|---|--|
| MODEL   | GEN  | 8-400  | 10-330  | 15-220  | 20-165  |  | 40-85   | 60-55  | 80-42  |   |   | 200-16.5  |   |   |  |
| 1.Rated output voltage(*1)  | V  | 8  | 10  | 15  | 20  | 30   | 40  | 60   | 80   | 100   | 150   | 200   | 300   | 600   |  |
| 2.Rated Output Current(*2)  | A  | 400  | 330   | 220   | 165   | 110  | 85  | 55   | 42   | 33  | 22  | 16.5  | 11  | 5.5   |  |
| 3.Rated Output Power 1.1 CONSTANT VOLTAGE MODE  | W  | 3200   | 3300  | 3300  | 3300  | 3300   | 3400  | 3300   | 3360   | 3300  | 3300  | 3300  | 3300  | 3300  |  |
| 1.Max.line regulation (0.01% of rated Vo+ 2mV)(*6)  | mV   | 2.8  | 3   | 3.5   | 4   | 5  | 6   | 8  | 10   | 12  | 17  | 22  | 32  | 62  |  |
| 2.Max load regulation (0.015% of rated Vo+5mV)(*7)  |  | 6.2  | 6.5   | 7.25  | 8   | 9.5  | 11  | 14   | 17   | 20  | 27.5  | 35  | 50  | 95  |  |
| 3.Ripple and noise p-p 20MHz (*8)   | mV   | 55   | 55  | 55  | 55  | 55   | 55  | 60   | 70   | 100   | 100   | 275   | 300   | 350   |  |
| 4.Ripple r.m.s 5Hz~1MHz   | mV   | 8  | 8   | 7   | 7   | 7  | 7   | 7  | 20   | 25  | 20  | 70  | 80  | 80  |  |
| 5.Remote sense compensation/wire  | V  | 2  | 2   | 2   | 2   | 5  | 5   | 5  | 5  | 5   | 5   | 5   | 5   | 5   |  |
| 6.Temp. coefficient   | PPM/°C   |  | °C of rat   |   |   |  |   |  |  |   |   |   |   |   |  |
| 7.Temp. stability   |  |  |   |   |   |  |   |  |  |   | t line, load  | d & temp.   |   |   |  |
| 8.Warm-up drift   |  | Less thai  | n 0.05% o   |   |   | tage+2m  | V over 30   | minutes  |  |   | ار.   | 20  |   | 250   |  |
| 9.Up-prog. response time, 0~Vo Rated (*9) 10.Down-prog response Full-load (*9)  | mS<br>mS   | 20   |   | 100   | 0   | 1  | 160   |  | 15   | 50  | 300   | 20  | 10  | 250<br>500  |  |
| 10.Down-prog response Full-load (*9) No-load (*10)  | mS   | 500  | 600   | 700   | 800   | 900  | 1000  | 1100   | 1200   | 1500  | 2000  | 3000  | 3500  | 4000  |  |
|   |  |  |   |   |   |  |   |  |  |   |   | rated outp  |   |   |  |
| 11.Transient response time  | mS   | set-noin   | ουιραί να<br>+∙ 10-1000   | % local s   | anca Lace   | than 1m  | Sec for m   | nodels un  | 101 a 10au<br>1 to 2nd ir  | cluding   | 10-90%01<br>100V 2mg  | ec for mo   | dels abov   | 100V  |  |
| 1.2 CONSTANT CURRENT MODE   |  | set-poin   | t. 10-100 /   | o, iocai s  | elise, Les  | tilali iiii  | 3ec 101 11  | ioueis up  | to and n   | icidaling   | 100 v. 21113  | ec ioi iiioi  | ueis abov   | E 100V  |  |
| 1.Max.line regulation (0.01% of rated lo+ 2mA)(*6)  | mA   | 42   | 35  | 24  | 18.5  | 13   | 10.5  | 7.5  | 6.2  | 5.3   | 4.2   | 3.65  | 3.1   | 2.6   |  |
| 2.Max.load regulation (0.02% of rated to + 5mA)(*11)  |  | 85   | 71  | 49  | 38  | 27   | 22  | 16   | 13.4   | 11.6  | 9.4   | 8.3   | 7.2   | 6.1   |  |
| 3.Ripple r.m.s 5Hz~1MHz . (*12)   | mA   | 1000   | 650   | 400   | 300   | 250  | 150   | 70   | 60   | 50  | 20  | 30  | 15  | 8   |  |
| 4.Load regulation thermal drift   |  |  | n 0.1% of   |   |   |  |   |  |  |   |   |   |   |   |  |
| 5.Temp. coefficient   | PPM/°C   | 70PPM/   | °C from   | rated ou  | itput cui   | rrent, fol   | lowing 30   | ) minutes  | warm-u   | p.  |   |   |   |   |  |
| 6.Temp. stability   |  |  |   |   |   |  |   |  |  |   |   | & temper  | ature.  |   |  |
| 7.Warm-up drift   |  |  |   |   |   |  |   |  |  |   | ng power  |   |   |   |  |
| ·   |  | 30V~600  | V model   | s: Less th  | an ±0.259   | % of rated   | output o  | current o  | ver 30 mi  | nutes foll  | owing po  | wer On.   |   |   |  |
| 1.3 PROTECTIVE FUNCTIONS  |  |  | _   | _   |   |  |   |  |  |   |   |   |   |   |  |
| 1. OCP  |  |  | Constant  |   |   | ا جاء براما  | ao fu 1   | V+o CC   | Hear!  | ctabl-  |   |   |   |   |  |
| 2. OCP Foldback   |  |  | hut dow   |   |   |  |   |  |  |   |   |   |   |   |  |
| 3. OVP type   |  |  |   |   |   |  |   |  |  |   |   | ion port co<br>5~220V   |   |   |  |
| 4. OVP trip point 5. Output Under Voltage Limit   |  |  | y front pa  |   |   |  |   |  |  |   |   | 3~22UV  | J3~33UV   | 3~000   |  |
| 6. Over Temp. Protection  |  |  | ectable , la  |   |   |  | r revent  | 3 110111 ac  | ijusting v   | out belo  | vv IIIIII.  |   |   |   |  |
| 1.4 ANALOG PROGRAMMING AND MONITO   | RING   | OSCI SCIO  | ctubic, ii  | aterica o   | i iioii iate  | iicu.  |   |  |  |   |   |   |   |   |  |
| 1.Vout Voltage Programming  |  | 0~100%   | 0~5V or   | 0~10V. u  | ser select  | . Accurac  | v and line  | arity:+0.  | 5% of rat  | ed Vout.  |   |   | -   |   |  |
| 2.lout Voltage Programming (*13)  |  |  |   |   |   |  |   |  |  |   |   |   |   |   |  |
| 3.Vout Resistor Programming   |  | 0~100%, 0~5V or 0~10V, user select. Accuracy and linearity:±1% of rated lout. 0~100%, 0~5/10Kohm full scale, user select. Accuracy and linearity: ±1% of rated Vout. |   |   |   |  |   |  |  |   |   |   |   |   |  |
| 4.lout Resistor Programming (*13)   |  | 0~100%, 0~5/10Kohm full scale, user select. Accuracy and linearity:±1.5% of rated lout.  |   |   |   |  |   |  |  |   |   |   |   |   |  |
| 5.On/Off control (rear panel)   |  | By electrical. Voltage: 0~0.6V/2~15V,or dry contact ,user selectable logic.  |   |   |   |  |   |  |  |   |   |   |   |   |  |
| 6.Output Current monitor (*13)  |  | 0~5V or 0~10V , Accuracy:±1% , user selectable.  |   |   |   |  |   |  |  |   |   |   |   |   |  |
| 7.Output Voltage monitor  |  | 0~5V or 0~10V ,Accuracy:±1% ,user selectable.  TTL high (4~5V) -OK, 0V-Fail 500ohm series resistance.  |   |   |   |  |   |  |  |   |   |   |   |   |  |
| 8.Power Supply OK signal  |  |  |   |   |   |  |   |  |  |   |   |   |   |   |  |
| 9. CV/CC Indicator  |  |  |   |   |   |  |   |  |  | <u>ximum si</u>   | nk curren   | t: 10mA   |   |   |  |
| 10. Enable/Disable  |  |  | act. Oper   |   |   |  |   |  |  |   |   |   |   |   |  |
| 11. Local/Remote analog control   |  |  | rical signa   |   |   |  |   |  |  |   | ı.<br>ırrent: 10n   | n A   |   |   |  |
| 12. Local/Remote analog control Indicator 1.5 FRONT PANEL   |  | Орепсо   | nector, Lo  | Call Off,   | nemote: v   | On. Maxii  | num von   | age: 50v,  | IIIaxiiiiu   | III SIIIK CU  | ment: ioi   | na.   |   |   |  |
| 1.3 FRONT PANEL   |  | Vout/In  | ut manua  | l adjust h  | w senarat   | te encode  | ars (cnars  | e and fine   | a adjustm  | ent selec   | rtahle)   |   |   |   |  |
|   |  |  | _ manual  |   |   |  |   | <u>c ana min</u>   | c aujustii   | iciic scice   | tubic).   |   |   |   |  |
| 1.Control functions   |  |  |   |   |   |  |   | dback co   | ntrol (CV  | to CC), G   | o to local  | control.  |   |   |  |
| 3.14.15.15.15   |  |  | selection   |   |   |  |   |  |  |   |   |   |   |   |  |
|   |  |  | modes (a  |   |   |  |   |  |  |   |   |   |   |   |  |
|   |  | Baud rat   | e selectio  | n: 1200,2   | 400,4800  | 0,9600 an  | d 19,200.   |  |  |   |   |   |   |   |  |
|   | Voltage: 4 digits, Accuracy: 0.05% of rated output Voltage ±1 count. |  |   |   |   |  |   |  |  |   |   |   |   |   |  |
| 2 Display   | 2.Display Cu   |  |   |   |   | Current: 4 digits, Accuracy: 0.2% of rated output current ±1 count.                      |   |  |  |   |   |   |   |   |  |
| 2.Display   |  |  |   | 3.Indications Voltage, Current, Alarm, Fine, Preview, Foldback, Local, Output On, Front Panel Lock, CVCC. |   |  |   |  |  |   |   |   |   |   |  |
| ' '   |  |  |   |   |   | w, Foldb   |   |  | On, Fron   | t Panel Lo  | ock, CVCC   |   |   |   |  |
| ' '   | S Series   | Voltage,   | Current,  | Alarm, Fi   | ne, Previe  |  | ack, Loca   | l, Output  |  | t Panel Lo  | ock, CVCC   |   |   |   |  |
| 3.Indications   | S Series   | Voltage,   | Current,  | Alarm, Fi   | ne, Previe  |  | ack, Loca   | l, Output  |  | t Panel Lo  | 150   | 200   | 300   | 600   |  |
| 3.Indications  1.6 Interface Specifications for the GENESY  |  | Voltage,<br>with RS  | Current, 2<br>-232/RS   | Alarm, Fi<br>- <b>485 O</b> r   | Option  | al GPIB/   | ack, Loca<br>'LAN Int   | l, Output<br><b>erface I</b> I   | nstalled   |   |   |   | 300   | 600   |  |
| 3.Indications 1.6 Interface Specifications for the GENESY 1. Remote Voltage Programming (16 bit)  | V  | Voltage,<br>with RS<br>8   | Current, 2<br>5- <b>232/RS</b><br>10                            | Alarm, Fi<br>- <b>485 Or</b><br>15  | ne, Previe<br>Option<br>20  | al GPIB/<br>30   | ack, Loca<br>'LAN Int<br>40   | l, Output<br><b>erface lı</b><br>60  | nstalled<br>80   | 100   | 150   | 200   |   |   |  |
| 3.Indications 1.6 Interface Specifications for the GENESY 1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)   | V<br>mV  | Voltage,<br>with RS<br>8<br>0.16   | Current, 6-232/RS<br>10<br>0.2                                  | Alarm, Fi<br>- <b>485 Or</b><br>15<br>0.3   | Option<br>20<br>0.4   | 30<br>0.6  | ack, Loca<br>LAN Int<br>40<br>0.8   | l, Output<br>erface II<br>60<br>1.2  | 80<br>1.6  | 100   | 150   | 200<br>4  | 6   | 12  |  |
| 3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit)  Resolution (0.002% of Vo Rated)   | V<br>mV<br>mV  | Voltage,<br>with RS<br>8<br>0.16<br>4  | Current, 6-232/RS 10 0.2 5                                      | Alarm, Fi<br>- <b>485 Or</b><br>15<br>0.3<br>8  | Option<br>20<br>0.4<br>10   | 30<br>0.6<br>15  | 40<br>0.8<br>20   | l, Output<br>erface II<br>60<br>1.2<br>30  | 80<br>1.6<br>40  | 100<br>2<br>50  | 150   | 200<br>4<br>100   | 6<br>150  | 12<br>300   |  |
| 3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit)   | V<br>mV<br>mV  | Voltage,<br>with RS<br>8<br>0.16<br>4  | Current, 6-232/RS<br>10<br>0.2                                  | Alarm, Fi<br>- <b>485 Or</b><br>15<br>0.3   | Option<br>20<br>0.4   | 30<br>0.6<br>15  | 40<br>0.8<br>20   | l, Output<br>erface II<br>60<br>1.2  | 80<br>1.6  | 100   | 150<br>3<br>75  | 200<br>4<br>100   | 6<br>150<br>0.22  | 12<br>300<br>0.11   |  |
| 3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.2% of Io Rated) Accuracy (0.2% of Io Rated+0.1% of Io Actual Output) (*13)  | V<br>mV<br>mV  | Voltage,<br>with RS<br>8<br>0.16<br>4  | Current, 6-232/RS 10 0.2 5                                      | Alarm, Fi<br>-485 Or<br>15<br>0.3<br>8  | 20<br>0.4<br>10   | 30<br>0.6<br>15  | 40<br>0.8<br>20   | l, Output<br>erface II<br>60<br>1.2<br>30  | 80<br>1.6<br>40  | 100<br>2<br>50  | 150<br>3<br>75  | 200<br>4<br>100   | 6<br>150  | 12<br>300   |  |
| 3.Indications 1.6 Interface Specifications for the GENESY 1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14) 2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.2% of lo Rated) Accuracy (0.2% of lo Rated) 3. Readback Voltage  | W mV mV mA mA  | Voltage,   8   | Current, 2<br>5-232/RS<br>10<br>0.2<br>5                        | Alarm, Fi -485 Or 15 0.3 8 4.4 660  | 20<br>0.4<br>10<br>3.3<br>495   | 30<br>0.6<br>15<br>2.2<br>330  | ack, Loca<br>(LAN Int<br>40<br>0.8<br>20<br>1.7<br>255  | 1, Output<br>erface II<br>60<br>1.2<br>30<br>1.1<br>165  | 80<br>1.6<br>40<br>0.84<br>126   | 100<br>2<br>50<br>0.66<br>99                              | 150<br>3<br>75<br>0.44<br>66  | 200<br>4<br>100<br>0.33<br>49.5   | 0.22<br>33  | 12<br>300<br>0.11<br>16.5   |  |
| 3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.% of lo Rated) 3. Readback Voltage Resolution (% of Vo Rated)   | V<br>mV<br>mV  | Voltage,   8   | Current, 2<br>5-232/RS<br>10<br>0.2<br>5<br>6.6<br>990          | Alarm, Fi -485 Or 15 0.3 8 4.4 660  | 20<br>0.4<br>10<br>3.3<br>495   | 30<br>0.6<br>15<br>2.2<br>330  | ack, Loca<br>(LAN Int<br>40<br>0.8<br>20<br>1.7<br>255  | 1, Output<br>erface II<br>60<br>1.2<br>30<br>1.1<br>165  | 80<br>1.6<br>40<br>0.84<br>126   | 100<br>2<br>50<br>0.66<br>99                              | 150<br>3<br>75<br>0.44<br>66  | 200<br>4<br>100<br>0.33<br>49.5   | 0.22<br>33  | 12<br>300<br>0.11<br>16.5   |  |
| 3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of lo Rated) Accuracy (0.2% of lo Rated) Resolution (% of Vo Rated) Resolution (% of Vo Rated) Resolution (Readback Voltage)   | W mV mV mA mA  | Voltage,   S   with RS     8     0.16     4  | Current, 6-232/RS 10 0.2 5 6.6 990 0.011 1.10                   | Alarm, Fi<br>-485 Or<br>15<br>0.3<br>8<br>4.4<br>660<br>0.007<br>1.05                                     | 20<br>0.4<br>10<br>3.3<br>495<br>0.006<br>1.20  | 30<br>0.6<br>15<br>2.2<br>330<br>0.004<br>1.20   | 1.7<br>255<br>0.003<br>1.20   | I, Output erface II 60 1.2 30  1.1 165  0.002 1.20   | 80<br>1.6<br>40<br>0.84<br>126<br>0.002<br>1.60                          | 100<br>2<br>50<br>0.66<br>99                              | 150<br>3<br>75<br>0.44<br>66  | 200<br>4<br>100<br>0.33<br>49.5   | 0.22<br>33<br>0.004<br>12.00                                | 0.11<br>16.5<br>0.002<br>12.00  |  |
| 3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.2% of Io Rated) Accuracy (0.2% of Io Rated) Accuracy (0.2% of Io Rated) Resolution (% of Vo Rated) Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated)  | V<br>mV<br>mV  | Voltage,   8   | Current, 2<br>5-232/RS<br>10<br>0.2<br>5<br>6.6<br>990          | Alarm, Fi -485 Or 15 0.3 8 4.4 660  | 20<br>0.4<br>10<br>3.3<br>495   | 30<br>0.6<br>15<br>2.2<br>330  | ack, Loca<br>(LAN Int<br>40<br>0.8<br>20<br>1.7<br>255  | 1, Output<br>erface II<br>60<br>1.2<br>30<br>1.1<br>165  | 80<br>1.6<br>40<br>0.84<br>126   | 100<br>2<br>50<br>0.66<br>99                              | 150<br>3<br>75<br>0.44<br>66  | 200<br>4<br>100<br>0.33<br>49.5   | 0.22 33   | 0.11<br>16.5<br>0.002<br>12.00  |  |
| 3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of lo Rated) Accuracy (0.2% of lo Rated) Accuracy (0.2% of lo Rated) 3. Readback Voltage Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated) 4. Readback Current   | MA MA MV MV  | Voltage,   voltage,   with RS   8   0.16   4   | Current, 6-232/RS 10 0.2 5  6.6 990  0.011 1.10 5               | Alarm, Fi -485 Or -485 Or 15 0.3 8 4.4 660 0.007 1.05 8   | ne, Preview<br>Option:<br>20<br>0.4<br>10<br>3.3<br>495<br>0.006<br>1.20                                | al GPIB/<br>30<br>0.6<br>15<br>2.2<br>330<br>0.004<br>1.20                               | ack, Loca<br>(LAN Int<br>40<br>0.8<br>20<br>1.7<br>255<br>0.003<br>1.20<br>20                         | 1, Output<br>erface II<br>60<br>1.2<br>30<br>1.1<br>165<br>0.002<br>1.20<br>30                               | 90<br>1.6<br>40<br>0.84<br>126<br>0.002<br>1.60<br>40                    | 100<br>2<br>50<br>0.66<br>99<br>0.011<br>11.00<br>50      | 150<br>3<br>75<br>0.44<br>66<br>0.007<br>10.50<br>75                        | 200<br>4<br>100<br>0.33<br>49.5<br>0.006<br>12.00                                 | 0.22<br>33<br>0.004<br>12.00                                | 0.11<br>16.5<br>0.002<br>12.00<br>300                                       |  |
| 3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.2% of Io Rated) Accuracy (0.2% of Io Rated) 3. Readback Voltage Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated) 4. Readback Current Resolution (% of Io Rated)  | V   mV   mV   mA   mA   %   mV   mV   mV   mV   mV   %               | Voltage,   voltage,   with RS     8     0.16   4   | Current, 6-232/RS 10 0.2 5 6.6 990 0.011 1.10 5                 | Alarm, Fi -485 Or -485 Or 15 0.3 8 4.4 660 0.007 1.05 8   | ne, Preview<br>Option:<br>20<br>0.4<br>10<br>3.3<br>495<br>0.006<br>1.20<br>10                          | al GPIB/<br>30<br>0.6<br>15<br>2.2<br>330<br>0.004<br>1.20<br>15                         | ack, Loca<br>(LAN Int<br>40<br>0.8<br>20<br>1.7<br>255<br>0.003<br>1.20<br>20                         | , Output<br>  erface   II<br>  60<br>  1.2<br>  30<br>  1.1<br>  165<br>  0.002<br>  1.20<br>  30<br>  0.002 | 1.6<br>40<br>0.84<br>1.26<br>0.002<br>1.60<br>40                         | 100<br>2<br>50<br>0.66<br>99<br>0.011<br>11.00<br>50      | 150<br>3<br>75<br>0.44<br>66<br>0.007<br>10.50<br>75<br>0.005               | 200<br>4<br>100<br>0.33<br>49.5<br>0.006<br>12.00<br>100                          | 0.22<br>33<br>0.004<br>12.00<br>150                         | 12<br>300<br>0.11<br>16.5<br>0.002<br>12.00<br>300                          |  |
| 3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.2% of Io Rated) Accuracy (0.2% of Io Rated) Accuracy (0.05% of Vo Rated) Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated)  4. Readback Current Resolution (% of Io Rated) Resolution (Readback Current)  | V   mV   mV   mA   mA   %   mV   mV   mV   mV   mV   mV   mV         | Voltage,   voltage,   with RS   8   0.16   4   | Current, 6-232/RS 10 0.2 5 6.6 990 0.011 1.10 5 0.004 13.20     | Alarm, Fi -485 Or 15 0.3 8 4.4 660 0.007 1.05 8   | ne, Previewe<br>Option:<br>20<br>0.4<br>10<br>3.3<br>495<br>0.006<br>1.20<br>10<br>0.007<br>11.55       | al GPIB/<br>30<br>0.6<br>15<br>2.2<br>330<br>0.004<br>1.20<br>15<br>0.01<br>11.00        | ack, Loca<br>(LAN Int<br>40<br>0.8<br>20<br>1.7<br>255<br>0.003<br>1.20<br>20                         |  | 0.84<br>1.6<br>40<br>0.84<br>126<br>0.002<br>1.60<br>40<br>0.003<br>1.26 | 0.66<br>99<br>0.011<br>11.00<br>50<br>0.004<br>1.32       | 150<br>3<br>75<br>0.44<br>66<br>0.007<br>10.50<br>75<br>0.005<br>1.10       | 200<br>4<br>100<br>0.33<br>49.5<br>0.006<br>12.00<br>100<br>0.007                 | 0.22<br>33<br>0.004<br>12.00<br>150                         | 0.11<br>16.5<br>0.002<br>12.00<br>300<br>0.002<br>0.11                      |  |
| 3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.2% of Io Rated) Accuracy (0.2% of Io Rated) 3. Readback Voltage Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated) 4. Readback Current Resolution (% of Io Rated) Resolution (% of Io Rated) Resolution (Readback Current) Accuracy (0.3% of Io Rated) (*13)                       | V   mV   mV   mA   mA   %   mV   mV   mV   mV   mV   %               | Voltage,   voltage,   with RS     8     0.16   4   | Current, 6-232/RS 10 0.2 5 6.6 990 0.011 1.10 5                 | Alarm, Fi -485 Or -485 Or 15 0.3 8 4.4 660 0.007 1.05 8   | ne, Preview<br>Option:<br>20<br>0.4<br>10<br>3.3<br>495<br>0.006<br>1.20<br>10                          | al GPIB/<br>30<br>0.6<br>15<br>2.2<br>330<br>0.004<br>1.20<br>15                         | ack, Loca<br>(LAN Int<br>40<br>0.8<br>20<br>1.7<br>255<br>0.003<br>1.20<br>20                         | , Output<br>  erface   II<br>  60<br>  1.2<br>  30<br>  1.1<br>  165<br>  0.002<br>  1.20<br>  30<br>  0.002 | 1.6<br>40<br>0.84<br>1.26<br>0.002<br>1.60<br>40                         | 100<br>2<br>50<br>0.66<br>99<br>0.011<br>11.00<br>50      | 150<br>3<br>75<br>0.44<br>66<br>0.007<br>10.50<br>75<br>0.005               | 200<br>4<br>100<br>0.33<br>49.5<br>0.006<br>12.00<br>100                          | 0.22<br>33<br>0.004<br>12.00<br>150                         | 12<br>300<br>0.11<br>16.5<br>0.002<br>12.00<br>300                          |  |
| 3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of lo Rated) Accuracy (0.2% of lo Rated) Accuracy (0.2% of lo Rated) 3. Readback Voltage Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated) 4. Readback Current Resolution (Readback Voltage) Accuracy (0.05% of lo Rated) Resolution (Readback Current) Accuracy (0.3% of lo Rated) 5. OVP/UVL Programming | W mV mV mA mA mA mA mA   | Voltage,   s with RS   | Current, 6-232/RS 10 0.2 5 6.6 990 0.011 1.10 5 0.004 13.20 990 | Alarm, Fi -485 Or 15 0.3 8 4.4 660 0.007 1.05 8 0.005 11.00 660   | ne, Preview<br>Options<br>20<br>0.4<br>10<br>3.3<br>495<br>0.006<br>1.20<br>10<br>0.007<br>11.55<br>495 | al GPIB/<br>30<br>0.6<br>15<br>2.2<br>330<br>0.004<br>1.20<br>15<br>0.01<br>11.00<br>330 | ack, Loca<br>(LAN Int<br>40<br>0.8<br>20<br>1.7<br>255<br>0.003<br>1.20<br>20<br>0.002<br>1.70<br>255 | I, Output erface II 60 1.2 30 1.1 165 0.002 1.20 30 0.002 1.10 165   | 0.84<br>1.6<br>0.002<br>1.60<br>40<br>0.002<br>1.60<br>40                | 0.66<br>99<br>0.011<br>11.00<br>50<br>0.004<br>1.32<br>99 | 150<br>3<br>75<br>0.44<br>66<br>0.007<br>10.50<br>75<br>0.005<br>1.10<br>66 | 200<br>4<br>100<br>0.33<br>49.5<br>0.006<br>12.00<br>100<br>0.007<br>1.16<br>49.5 | 0.22<br>33<br>0.004<br>12.00<br>150<br>0.01<br>0.11<br>33.0 | 12<br>300<br>0.11<br>16.5<br>0.002<br>12.00<br>300<br>0.002<br>0.11<br>16.5 |  |
| 3.Indications  1.6 Interface Specifications for the GENESY  1. Remote Voltage Programming (16 bit) Resolution (0.002% of Vo Rated) Accuracy (0.05% of Vo Rated) (*14)  2. Remote Current Programming (16 bit) Resolution (0.002% of Io Rated) Accuracy (0.2% of Io Rated) Accuracy (0.2% of Io Rated) 3. Readback Voltage Resolution (% of Vo Rated) Resolution (Readback Voltage) Accuracy (0.05% of Vo Rated) 4. Readback Current Resolution (% of Io Rated) Resolution (% of Io Rated) Resolution (Readback Current) Accuracy (0.3% of Io Rated) (*13)                       | V   mV   mV   mA   mA   %   mV   mV   mV   mV   mV   mV   mV         | Voltage,   voltage,   with RS   8   0.16   4   | Current, 6-232/RS 10 0.2 5 6.6 990 0.011 1.10 5 0.004 13.20     | Alarm, Fi -485 Or 15 0.3 8 4.4 660 0.007 1.05 8   | ne, Previewe<br>Option:<br>20<br>0.4<br>10<br>3.3<br>495<br>0.006<br>1.20<br>10<br>0.007<br>11.55       | al GPIB/<br>30<br>0.6<br>15<br>2.2<br>330<br>0.004<br>1.20<br>15<br>0.01<br>11.00        | ack, Loca<br>(LAN Int<br>40<br>0.8<br>20<br>1.7<br>255<br>0.003<br>1.20<br>20                         |  | 0.84<br>1.6<br>40<br>0.84<br>126<br>0.002<br>1.60<br>40<br>0.003<br>1.26 | 0.66<br>99<br>0.011<br>11.00<br>50<br>0.004<br>1.32       | 150<br>3<br>75<br>0.44<br>66<br>0.007<br>10.50<br>75<br>0.005<br>1.10       | 200<br>4<br>100<br>0.33<br>49.5<br>0.006<br>12.00<br>100<br>0.007                 | 0.22<br>33<br>0.004<br>12.00<br>150                         | 0.11<br>16.5<br>0.002<br>12.00<br>300<br>0.002<br>0.11                      |  |

<sup>\*1:</sup> Minimum voltage is guaranteed to maximum 0.2% of rated output voltage.
\*2: Minimum current is guaranteed to maximum 0.4% of rated output current.
\*3: For cases where conformance to various safety standards (UL, IEC, etc.) is required, to be described as 190-240Vac (50/60Hz) for single phase and 3-Phase 208V models, and 380~415Vac (50/60Hz) for 3-Phase 400V models.

<sup>\*4:</sup> Single-Phase and 3-Phase 208V models: At 208Vac input voltage, 3-Phase 400V: At 380Vac input voltage. With rated output power.
\*5: Not including EMI filter inrush current, less than 0.2mSec.

<sup>\*6:</sup> Single-Phase and 3-Phase 208V models: 170~265Vac, constant load. 3-Phase 400V models: 342~460Vac, constant load.
\*7: From No-Load to Full-Load, constant input voltage. Maximum drop in Remote Sense.

<sup>\*8:</sup> For 8V~300V models: Measured with JEITA RC-9131A (1:1) probe.

For 600V model: Measured with 10:1 probe.
\*9: From 10% to 90% or 90% to 10% of Rated Output Voltage, with rated, resistive load.

<sup>\*10:</sup>From 90% to 10% of Rated Output Voltage.
\*11: For load voltage change, equal to the unit voltage rating, constant input voltage.

<sup>\*12:</sup> For 8V~15V models the ripple is measured from 2V to rated output voltage and rated output current. For other models, the ripple is measured at 10~100% of rated output voltage and rated

<sup>\*13:</sup> The Constant Current programming readback and monitoring accuracy does not include the warm-up and Load regulation thermal drift.
\*14: Measured at the sensing point.

### General Specifications Genesys™ 3.3kW

|                                      | -                            |   |  |                        |              |            |            |            |            |              |             |              |               | ,              |          |
|--------------------------------------|------------------------------|---|--|------------------------|--------------|------------|------------|------------|------------|--------------|-------------|--------------|---------------|----------------|----------|
| 2.1 INPUT CH                         | ARACTERISTICS                | GEN   |  | 10-330                 |              |            |            | 40-85      | 60-55      | 80-42        | 100-33      | 150-22       | 200-16.5      | 300-11         | 600-5.5  |
|                                      |                              |   |  | nase,230V              |              |            |            | Hz         |            |              |             |              |               |                |          |
| 1. Input voltage/freq. (*3)          |                              | VAC 3-Phase, 208V models: 170~265Vac, 47~63Hz |  |                        |              |            |            |            |            |              |             |              |               |                |          |
|                                      |                              |   | 3-Phase, 400V models: 342~460Vac, 47~63Hz  |                        |              |            |            |            |            |              |             |              |               |                |          |
| 2. Maximum                           | Single Phase, 230V models:   |   | 24   | 24                     | 24           | 24         | 23         | 24         | 23         | 23.5         | 23          | 23           | 23            | 23             | 23       |
|                                      | 3-Phase, 208V models:        | Α   | 14.5   | 14.5                   | 14.5         | 14.5       | 14         | 14.5       | 13.6       | 14           | 13.7        | 13.7         | 13.7          | 13.8           | 13.9     |
|                                      | 3-Phase, 400V models:        |   | 7.2  | 7.2                    | 7.2          | 7.2        | 7.0        | 7.2        | 6.8        | 7.0          | 6.8         | 6.8          | 6.8           | 6.9            | 7.0      |
| <ol><li>Power Factor</li></ol>       |                              |   |  | 1                      |              |            |            |            | 1          | nodels: 0.9  | 1           | 1            | · ·           | · -            |          |
| 4. Efficiency (*4                    |                              | %   | 82   | 83                     | 83           | 83         | 86         | 86         | 88         | 88           | 88          | 87           | 87            | 87             | 87       |
| 5. Inrush Currer                     |                              | Α   | 3-Phase  | hase and 3<br>400V mod | els: Less t  | han 20A    |            |            |            |              |             |              |               |                |          |
| 6. Hold-up time                      | 1 717                        | mS  | 10mSec   | for Single-            | Phase an     | d 3-phase  | 208V mc    | dels, 6mS  | ec for 3-P | hase 400\    | / models.   | Rated out    | tput powe     | er.            |          |
|                                      | JPPLY CONFIGURATION          |   | Un en 4:   | dentical u             | -14-1        | -4/        |            |            |            |              |             |              |               |                |          |
| 1. Parallel Operat  2. Series Operat |                              |   | 1 1 1 1 1  |                        |              |            |            | 0\/ \/ + - | Charair .  |              |             |              |               |                |          |
|                                      | MENTAL CONDITIONS            |   | 10p to 2 i   | dentical u             | iits. with   | externar   | lloues. oc | OV MAX LC  | Chassis    | ground       |             |              |               |                |          |
| 1. Operating ter                     |                              |   | 0 50°C   | 100% load              | 1            |            |            |            |            |              |             |              |               |                |          |
| 2. Storage temp                      |                              |   | -20~85°C   |                        | ١.           |            |            |            |            |              |             | -            |               |                | -        |
| 3. Operating hu                      |                              |   |  | RH (non-c              | ondoncin     | (a)        |            |            |            |              |             |              |               |                |          |
| 4. Storage hum                       |                              |   |  | RH (non-c              |              | <u>J</u> , |            |            |            |              |             |              |               |                |          |
| 5. Vibration                         | uity                         |   |  | , method               |              |            | ved to the | vihrating  | ı curface  |              | -           | -            |               |                |          |
| 6. Shock                             |                              |   |  | n 20G , hal            |              |            |            |            | j surrace. |              |             |              |               |                |          |
|                                      |                              |   |  |                        |              |            |            |            | /100m ah   | OVE 2000     | m Alterna   | atively de   | rate mavir    | num ambie      | ent temr |
| 7. Altitude                          |                              |   | by 1°C/1   | 00m abov               | e 2000m.     | Non ope    | rating: 40 | 000ft (120 |            | 10 VE 20001  | II, AILEITI | divery, de   | i ate iliaxii | ilulii allibit | encteni  |
| 8. RoHS Compli                       | ance                         |   | Complie  | s with the             | requirem     | ents of Ro | oHS direct | ive.       |            |              |             |              |               |                |          |
| 2.4 EMC                              |                              |   | _  |                        |              |            |            |            |            |              |             | _            |               |                |          |
| 1.Applicable Sta                     | andards:                     |   |  |                        | 1 -101       |            |            |            |            |              |             | -            |               |                |          |
| 2.ESD                                |                              |   |  | 4-2. Air-d             | sch8KV,      | contact o  | lisch4KV   |            |            |              |             |              |               |                |          |
| 3.Fast transient                     |                              |   | IEC1000-4-4. 2KV IEC1000-4-5. 1KV line to line. 2KV line to ground   |                        |              |            |            |            |            |              |             |              |               |                |          |
| 4.Surge immun                        |                              |   |  |                        | ne to line   | , 2KV line | to groun   | d          |            |              |             |              |               |                |          |
| 5.Conducted in                       |                              |   | IEC1000-   |                        |              |            |            |            |            |              |             |              |               |                |          |
| 6.Radiated imm                       |                              |   | IEC1000-4-3, 3V/m  |                        |              |            |            |            |            |              |             |              |               |                |          |
| 7.Magnetic field                     | Immunity                     |   | EN61000-4-8, 1A/m  |                        |              |            |            |            |            |              |             |              |               |                |          |
| 8.Voltage dips                       |                              |   | EN61000-4-11   |                        |              |            |            |            |            |              |             |              |               |                |          |
| 9.Conducted er                       |                              |   | EN55022A, FCC part 15-A, VCCI-A.  EN55022A, FCC part 15-A, VCCI-A.   |                        |              |            |            |            |            |              |             |              |               |                |          |
| 10. Radiated em                      | ission                       |   | EN55022  | A, FCC pa              | rt 15-A, V   | LCI-A.     |            |            |            |              |             |              |               |                |          |
| 2.5 SAFETY                           |                              |   | 111 6005   | 1 CCA 2                | ) 2 N = . CO | 050 1 150  | C00F0 1    | EN COOFO   | 1          | -            |             |              |               |                |          |
| 1.Applicable sta                     | indards:                     |   | _  | 0-1, CSA 22            |              |            |            |            |            |              | (DC222      | 405 1555     | In class of a | A I I A        | N. C.    |
|                                      |                              |   | Remote   | Programn               | ing and h    | Monitorin  | g) are SEL | V.         |            |              |             |              |               | Analog, LA     |          |
| 2.Interface class                    | sification                   |   | Models with 60V Vout 400V: Output is Hazardous, communication/control interfaces: RS232/485, IEEE, Isolated Analog, LAN Remote Programing and Monitoring (pins 1-3, pins14-16) are SELV, Sense, Remote Programming and Monitoring (pins 8-13 pins 21-25) are Hazardous.    |                        |              |            |            |            |            |              |             |              |               |                |          |
|                                      |                              |   | Models with 400V <vout (rs232="" 485,="" 600v:="" all="" analog="" and="" are="" communication="" control="" hazardous,="" hazardous.<="" ieee,="" interfaces="" is="" isolated="" lan,="" monitoring)="" output="" programming="" remote="" sense,="" td=""></vout>       |                        |              |            |            |            |            |              |             |              |               |                |          |
|                                      |                              |   | Vout 50V models : Input-Output (SELV): 4242VDC 1min, Input-communication/control (SELV): 4242VDC 1min Input-Ground: 2828VDC 1min,  |                        |              |            |            |            |            |              |             |              |               |                |          |
| 3.Withstand vol                      | tage                         |   | 60V <vout (hazardous):="" (selv):="" 100v="" 1200vdc="" 1900vdc="" 1min,="" 1min,<="" 2600vdc="" 2828vdc="" 4242vdc="" control="" input-communication="" input-ground:="" input-output="" models:="" output(hazardous)-ground:="" output(hazardous)-selv:="" td=""></vout> |                        |              |            |            |            |            |              |             |              |               |                |          |
|                                      |                              |   | 100V< Vout 600V models: Input-Output(Hazardous): 3550VDC 1min, Input-communication/control (SELV): 4242VDC 1min, Hazardous. Output-communication/control(SELV): 4242VDC 1min, Output(Hazardous)-Ground: 2670VDC 1min, Input-Ground: 2828VDC 1min.                          |                        |              |            |            |            |            |              |             |              |               |                |          |
| 3.Insulation res                     | stance                       |   | More tha   | n 100Mol               | nm at 25°0   | C , 70% RF | l.         |            |            |              | -           |              |               |                |          |
|                                      | CAL CONSTRUCTION             |   |  |                        |              |            |            |            |            |              |             |              |               |                |          |
| 1. Cooling                           |                              |   | Forced a   | ir flow: fro           | m front to   | o rear. No | ventilatio | n holes at | the top o  | r bottom     | of the ch   | assis; Varia | able fan sp   | peed.          |          |
| 2. Dimensions (                      | WxHxD)                       |   |  |                        |              |            |            |            |            | s, handles   |             |              |               |                |          |
| 3. Weight                            |                              |   | 13 kg.   |                        |              |            |            |            |            |              |             |              |               |                |          |
| 1 AC Innut ac-                       | nector (with Protective Cove | )   | Single Pl  | nase,230V              | models, F    | Power Cor  | nbicon Po  | 6-16/3-0   | F-10,16 se | eries, with  | Strain rel  | ief.         |               |                |          |
| 4. AC IIIput con                     |                              | =1)   | 3-Phase,   | 208V & 40              | 00V mode     | ls, Power  | Combico    | n PC 6-16/ | 4-GF-10,1  | 6 series, w  | ith Strain  | relief.      |               |                |          |
| 5.Output conne                       | ctors                        |   | 8V to 100  | OV models              | : Bus-bars   | (hole Ø 1  | 0.5mm).    | 150V to 60 | 0V mode    | ls: wire cla | mp conn     | ector, Pho   | enix P/N:     | FRONT-4-I      | H-7.62   |
| 2.7 RELIABILI                        | TY SPECS                     |   |  |                        |              |            |            |            |            |              |             |              |               |                |          |
| 1. Warranty                          |                              |   | 5 years.   |                        |              |            |            |            |            |              |             |              |               |                |          |
|                                      | s subject to change withou   | t notice                                      |  |                        |              |            |            |            |            |              |             |              |               |                |          |

All specifications subject to change without notice.

#### TDK·Lambda

#### **Genesys™ Power Parallel and Series Configurations**

#### Parallel operation - Master/Slave:

Active current sharing allows up to four identical units to be connected in an auto-parallel configuration for four times the output power.

In Advanced Parallel Master/Slave Mode, total current is programmed.

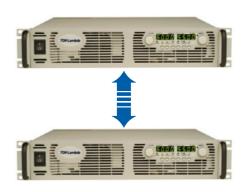
In Advanced Parallel Master/Slave Mode, total current is programmed and reported by the Master, Up to four supplies act as one.

#### **Series operation**

Up to two units may be connected in series to increase the output voltage or to provide bipolar output. (Max 600V to Chassis Ground).

#### Remote Programming via RS-232 & RS-485 Interface

Standard Serial Interface allows daisy-chain control of up to 31 power supplies on the same communication bus with built-in RS-232 & RS-485 Interface.



P/N:IEEE

#### **Programming Options (Factory installed)**

#### Digital Programming via IEEE Multi-Drop Interface

- Allows IEEE Master to control up to 30 slaves over RS-485 daisy-chain
- Only the Master needs be equipped with IEEE Interface
- IEEE 488.2 SCPI Compliant
- Program Voltage
- Measure Voltage
- Over Voltage setting and shutdown
- Error and Status Messages

- Program Current
- Measure Current
- Current Foldback shutdown

#### **Isolated Analog Programming**

Four Channels to Program and Monitor Voltage and Current. Isolation allows operation with floating references in harsh electrical environments. Choose between programming with Voltage or Current.

Connection via removable terminal block: Phoenix MC1,5/8-ST-3.81.

Voltage Programming, user-selectable 0-5V or 0-10V signal.
 Power supply Voltage and Current Programming Accuracy ±1%
 Power supply Voltage and Current Monitoring Accuracy ±1.5%

Current Programming with 4-20mA signal.
 Power supply Voltage and Current Programming Accuracy ±1%
 Power supply Voltage and Current Monitoring Accuracy ±1.5%

# P/N: LAN • VISA & SCPI Compatible

- LAN Fault Indicators
- Auto-detects LAN Cross-over Cable

P/N: IS510

P/N: IS420

Fast Startup

## LAN Interface Compliant to Class C

- Meets all LXI-C Requirements
- · Address Viewable on Front Panel
- Fixed and Dynamic Addressing
- Compatible with most standard Networks
- TCP / UDP Socket Programming

#### Power Supply Identification / Accessories How to order

| GEN    | 8       | 400      | <u></u>          | <u>-</u>                        |
|--------|---------|----------|------------------|---------------------------------|
|        |         |          | Factory Options: | Factory AC Input Options:       |
| Series | Output  | Output   | Option: IEEE     | 1P230 (Single Phase 170~265VAC) |
| Name   | Voltage | Current  | IS510            | 3P208 (Three Phase 170~265VAC)  |
|        | (0~8V   | (0~400A) | IS420            | 3P400 (Three Phase 342~460VAC)  |
|        |         |          | LAN              |                                 |

#### Models 3.3kW

| Model      | Output<br>Voltage<br>VDC | Output<br>Current<br>( A ) | Output<br>Power<br>(W) |
|------------|--------------------------|----------------------------|------------------------|
| GEN 8-400  | 0~8V                     | 0~400                      | 3200                   |
| GEN 10-330 | 0~10V                    | 0~330                      | 3300                   |
| GEN 15-220 | 0~15V                    | 0~220                      | 3300                   |
| GEN 20-165 | 0~20V                    | 0~165                      | 3300                   |
| GEN 30-110 | 0~30V                    | 0~110                      | 3300                   |
| GEN 40-85  | 0~40V                    | 0~85                       | 3400                   |

| Model        | Output<br>Voltage<br>VDC | Output<br>Current<br>( A ) | Output<br>Power<br>(W) |
|--------------|--------------------------|----------------------------|------------------------|
| GEN 60-55    | 0~60V                    | 0~55                       | 3300                   |
| GEN 80-42    | 0~80V                    | 0~42                       | 3360                   |
| GEN 100-33   | 0~100V                   | 0~33                       | 3300                   |
| GEN 150-22   | 0~150V                   | 0~22                       | 3300                   |
| GEN 200-16.5 | 0~200V                   | 0~16.5                     | 3300                   |
| GEN 300-11   | 0~300V                   | 0~11                       | 3300                   |
| GEN 600-5.5  | 0~600V                   | 0~5.5                      | 3300                   |

#### P/N **Factory option**

RS-232/RS-485 Interface built-in Standard

**GPIB** Interface **IEEE** Voltage Programming Isolated Analog Interface IS510 Current Programming Isolated Analog Interface IS420 LAN Interface (Complies with LAN Class C) LAN

#### Accessories

#### 1. Serial Communication cable

RS-232/RS-485 cable is used to connect the power supply to the Host PC.

| Mode  | RS-485  | RS-232  | RS-232   |
|---|---|---|--|
| PC Connector<br>Communication Cable<br>Power Supply Connector | DB-9F<br>Shield Ground L=2m<br>EIA/TIA-568A (RJ-45) | DB-9F<br>Shield Ground L=2m<br>EIA/TIA-568A (RJ-45) | DB-25F<br>Shield Ground L=2m<br>EIA/TIA-568A (RJ-45) |
| P/N   | GEN/485-9   | GEN/232-9   | GEN/232-25   |

#### 2. Serial link cable\*

Daisy-chain up to 31 Genesys<sup>™</sup> power supplies.

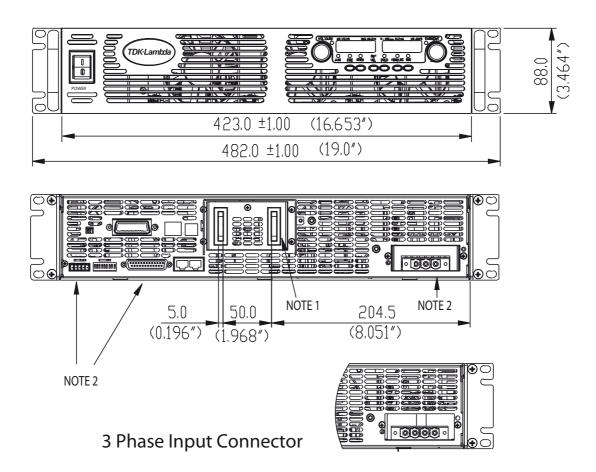
| Mode   | Power Supply Connector | Communication Cable  | P/N      |
|--------|------------------------|----------------------|----------|
| RS-485 | EIA/TIA-568A (RJ-45)   | Shield Ground L=50cm | GEN/RJ45 |

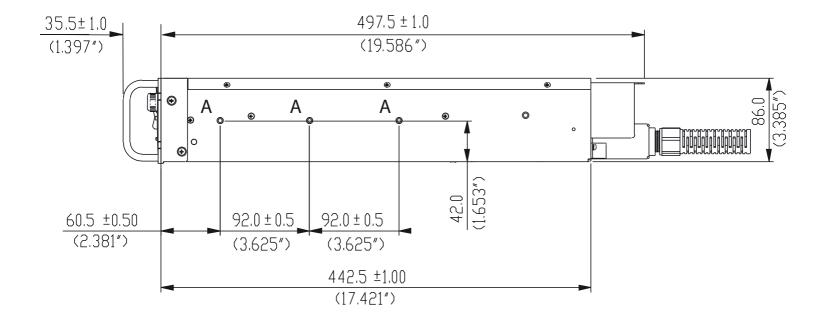
\* Included with power supply



Also available, Genesys™ 1U Half Rack 750W 1U full Rack 750W/1500W/2400W **2U full Rack 5000W** 

# Outline Drawing Genesys™ 3.3kW Units





#### **NOTE**

- 1. Bus bars for 8V to 100V models (shown) Wire clamp connector for 150V to 600V models
- 2. Plug connectors included with the power supply
- 3. Chassis slides mounting holes #10-32 marked "A" GENERAL DEVICES P/N: C-300-S-116 or equivalent

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