



MICRO PRECISION CALIBRATION PTE LTD  
BLOCK 5008 ANG MO KIO AVENUE 5 #07-04  
TECHPLACE II SINGAPORE 569874  
65 67484384



## Certificate of Calibration

Date: February 21, 2019

Cert No. 551220082826674

**Customer:**

GES SINGAPORE PTE LTD  
28 MARSILING LANE  
SINGAPORE 739152

Work Order #: SG-11010042

MPC Control #: 97015  
Asset ID: NA  
Gage Type: DC POWER SUPPLY  
Manufacturer: TDK-LAMBDA  
Model Number: GENH 60-12.5  
Size: N/A  
Temp/RH: 24.2°C / 42 %  
Location: Calibration performed at Customer's facility

Serial Number: 97015  
Department: N/A  
Performed By: STEVEN CHOO  
Received Condition: IN TOLERANCE  
Returned Condition: IN TOLERANCE  
Cal. Date: February 21, 2019  
Cal. Interval: 12 MONTHS  
Cal. Due Date: February 21, 2020

**Calibration Notes:**

Please refer to the attached calibration data. (1 page)

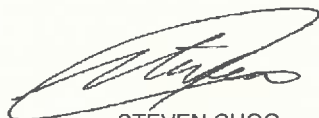
### Standards Used to Calibrate Equipment

| I.D.   | Description.  | Model  | Serial     | Manufacturer    | Cal. Due Date | Traceability #  |
|--------|---------------|--------|------------|-----------------|---------------|-----------------|
| CA8179 | MULTIMETER    | 3458A  | 2823A23892 | HEWLETT PACKARD | May 31, 2019  | 551220081398539 |
| CH2324 | CURRENT SHUNT | 34330A | 0804       | AGILENT         | Sep 7, 2019   | 551220081550644 |

### Procedures Used in this Event

| Procedure Name | Description        |
|----------------|--------------------|
| MANUFACTURER   | MANUAL REV CONTROL |

Calibrating Technician:

  
STEVEN CHOO

QC Approval:

  
JULES PHILIPPE AGPANGAN

The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for normal distribution corresponds to a coverage probability of approximately 95%. The standard uncertainty of measurement has been determined in accordance with EA's Publication and NIST Technical Note 1297, 1994 Edition. Services rendered comply with ISO/IEC 17025:2017, ANSI/NCCL Z540-1-1994, ANSI/NCCL Z540.3-2006, MPC Quality Manual, MPC CSD and with customer purchase order instructions.

Calibration cycles and resulting due dates were submitted/approved by the customer. Any number of factors may cause an instrument to drift out of tolerance before the next scheduled calibration. Recalibration cycles should be based on frequency of use, environmental conditions and customer's established systematic accuracy. The information on this report, pertains only to the instrument identified.

All standards are traceable to SI through the National Institute of Standards and Technology (NIST) and/or recognized national or international standards laboratories. Services rendered include proper manufacturer's service instruction and are warranted for no less than thirty (30) days. This report may not be reproduced in part or in a whole without the prior written approval of the issuing MPC lab.



## TDK-LAMBDA GENH60-12.5 DC Power Supply

Procedure: Manufacturer

Order Number: SG-11010042

ID Number: 97015

Date Calibrated: Feb 21, 2019

### Section 1 - DC Voltage Accuracy

| Measurement     | Nominal  | Lower Limit | As Found  | As Left   | Upper Limit | Result | Uncertainty ( $\pm$ ) |
|-----------------|----------|-------------|-----------|-----------|-------------|--------|-----------------------|
| Output Accuracy | 1.000 V  | 0.9743 V    | 1.0019 V  | 1.0019 V  | 1.0257 V    | PASS   | 0.000059V             |
|                 | 5.000 V  | 4.9715 V    | 5.0021 V  | 5.0021 V  | 5.0285 V    | PASS   | 0.000087V             |
|                 | 10.000 V | 9.9680 V    | 10.0033 V | 10.0033 V | 10.0320 V   | PASS   | 0.00014V              |
|                 | 15.000 V | 14.9645 V   | 15.0042 V | 15.0042 V | 15.0355 V   | PASS   | 0.00020V              |
|                 | 20.000 V | 19.9610 V   | 20.0073 V | 20.0073 V | 20.0390 V   | PASS   | 0.00027V              |
|                 | 25.000 V | 24.9575 V   | 25.0078 V | 25.0078 V | 25.0425 V   | PASS   | 0.00033V              |
|                 | 30.000 V | 29.9540 V   | 30.0080 V | 30.0080 V | 30.0460 V   | PASS   | 0.00039V              |
|                 | 60.000 V | 59.9330 V   | 60.0073 V | 60.0073 V | 60.0670 V   | PASS   | 0.00046V              |

### Section 2 - DC Current Accuracy

| Measurement     | Nominal  | Lower Limit | As Found  | As Left   | Upper Limit | Result | Uncertainty ( $\pm$ ) |
|-----------------|----------|-------------|-----------|-----------|-------------|--------|-----------------------|
| Output Accuracy | 1.000 A  | 0.9835 A    | 0.9972 A  | 0.9972 A  | 1.0165 A    | PASS   | 0.00014 A             |
|                 | 5.000 A  | 4.9775 A    | 4.9900 A  | 4.9900 A  | 5.0225 A    | PASS   | 0.00037 A             |
|                 | 10.000 A | 9.9700 A    | 10.0024 A | 10.0024 A | 10.0300 A   | PASS   | 0.00061 A             |
|                 | 12.500 A | 12.4663 A   | 12.5026 A | 12.5026 A | 12.5338 A   | PASS   | 0.00014 A             |

Jeff 12-MAR-19  
JASON AGABAYAN