

T e s t R e p o r t

Report No : U10037 Amd 2

Client: : Link By Design Ltd
Business Development Centre
Stafford Park 4
Telford
Shropshire
TF3 3BA

Description : Invinca VAS

Manufacturer : Not disclosed

Type/Model : GA283-01

Test Specification : Measurement of power consumption in accordance with the
'Unmetered Supplies Operational Information Document' –
Version 17.0 (15/03/2017)

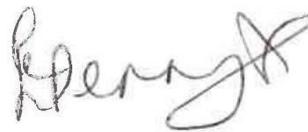
Date Testing Started : 25/06/2018

Conclusion : Refer to body of report

Date of Issue : 11/07/2018

Date of Expiry : 01/07/2023

Tested by: E. PERRY
Position: Technical Administrator
Apprentice



Approved by: T. MALIK
Position: Operations Manager



1286

Note: This amendment 2 includes omission of additional table which was added in error.

INTRODUCTION

Link By Design Ltd has supplied the product identified in table 1 for measurement of power consumption in accordance with the 'Unmetered Supplies Operational Information Document' – Version 17.0 (15/03/2017).

The units were configured to display the image with the highest power consumption (Your Speed) during testing.

PRODUCT DETAILS

Table 1. Test Sample Details

| | |
|--------------------------------------------------------------------------------------------------------|----------------------|
| Product Description | Invinca VAS |
| Model No. | GA283-01 |
| Number of Samples | Five |
| Condition on Receipt | Good |
| Nominal Dimensions | Ø – 610mm; H – 250mm |
| Product Supply Requirement | 220-240V AC, 50/60Hz |
| Lamp Type and Power | LED, Variable power |
| Sampling Method: Test samples selected and supplied by client, no sampling method specified by client. | |

The customer has declared that the equipment load does not vary with ambient temperature.

Continued on following page

RESULTS

Table 2. *Wattage and VA results for Invinca VAS*

| Operating Mode | 100% (Brightness Level 31) | | | | |
|--------------------------------------|----------------------------|---------|-------|-------|-------|
| Watts | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 23.02 | 23.12 | 23.09 | 23.12 | 23.23 |
| 220 | 23.04 | 23.17 | 23.13 | 23.14 | 23.24 |
| 230 | 23.08 | 23.19 | 23.18 | 23.17 | 23.26 |
| 240 | 23.12 | 23.23 | 23.22 | 23.21 | 23.31 |
| 250 | 23.15 | 23.26 | 23.26 | 23.24 | 23.37 |
| VA | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 53.46 | 54.02 | 53.32 | 52.85 | 52.30 |
| 220 | 55.02 | 55.65 | 54.67 | 54.21 | 54.23 |
| 230 | 56.54 | 57.02 | 55.95 | 55.89 | 55.62 |
| 240 | 58.18 | 58.46 | 57.43 | 56.98 | 56.99 |
| 250 | 59.48 | 60.12 | 58.76 | 58.37 | 58.41 |
| Power Factor | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 0.43 | 0.43 | 0.43 | 0.44 | 0.44 |
| 220 | 0.42 | 0.42 | 0.42 | 0.43 | 0.43 |
| 230 | 0.41 | 0.41 | 0.41 | 0.41 | 0.42 |
| 240 | 0.40 | 0.40 | 0.40 | 0.41 | 0.41 |
| 250 | 0.39 | 0.39 | 0.40 | 0.40 | 0.40 |
| Ambient Temperature During Test (°C) | | 25.5 | | | |
| PF Leading/Lagging | | Leading | | | |

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This page is to be read in conjunction with the first page of this report

Table 3. Wattage and VA results for Invinca VAS

| Operating Mode | 65% (Brightness Level 20) | | | | |
|--------------------------------------|---------------------------|---------|-------|-------|-------|
| Watts | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 17.90 | 18.01 | 17.98 | 17.98 | 18.06 |
| 220 | 17.93 | 18.08 | 18.02 | 18.02 | 18.11 |
| 230 | 17.98 | 18.08 | 18.07 | 18.06 | 18.13 |
| 240 | 18.03 | 18.12 | 18.11 | 18.10 | 18.19 |
| 250 | 18.07 | 18.18 | 18.17 | 18.14 | 18.21 |
| VA | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 44.59 | 45.16 | 44.33 | 44.26 | 44.06 |
| 220 | 45.82 | 46.47 | 45.54 | 45.42 | 45.33 |
| 230 | 47.15 | 47.76 | 46.88 | 46.62 | 46.51 |
| 240 | 48.54 | 49.13 | 48.20 | 47.97 | 47.87 |
| 250 | 49.94 | 50.52 | 49.61 | 49.33 | 49.37 |
| Power Factor | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 0.40 | 0.40 | 0.41 | 0.41 | 0.41 |
| 220 | 0.39 | 0.39 | 0.40 | 0.40 | 0.40 |
| 230 | 0.38 | 0.38 | 0.39 | 0.39 | 0.39 |
| 240 | 0.37 | 0.37 | 0.38 | 0.38 | 0.38 |
| 250 | 0.36 | 0.36 | 0.37 | 0.37 | 0.37 |
| Ambient Temperature During Test (°C) | | 25.5 | | | |
| PF Leading/Lagging | | Leading | | | |

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Table 4. Wattage and VA results for Invinca VAS

| Operating Mode | 26% (Brightness Level 8) | | | | |
|--------------------------------------|--------------------------|---------|-------|-------|-------|
| Watts | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 12.39 | 12.47 | 12.47 | 12.27 | 12.52 |
| 220 | 12.44 | 12.54 | 12.53 | 12.31 | 12.57 |
| 230 | 12.50 | 12.59 | 12.59 | 12.34 | 12.61 |
| 240 | 12.55 | 12.64 | 12.64 | 12.41 | 12.68 |
| 250 | 12.61 | 12.68 | 12.70 | 12.45 | 12.70 |
| VA | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 34.58 | 34.81 | 34.69 | 33.84 | 34.21 |
| 220 | 35.89 | 36.17 | 35.86 | 35.18 | 35.49 |
| 230 | 37.31 | 37.56 | 37.21 | 36.58 | 36.79 |
| 240 | 38.77 | 39.03 | 38.61 | 38.09 | 38.23 |
| 250 | 40.29 | 40.53 | 40.06 | 39.62 | 39.63 |
| Power Factor | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 0.36 | 0.36 | 0.36 | 0.36 | 0.37 |
| 220 | 0.35 | 0.35 | 0.35 | 0.35 | 0.35 |
| 230 | 0.34 | 0.34 | 0.34 | 0.34 | 0.34 |
| 240 | 0.32 | 0.32 | 0.33 | 0.33 | 0.33 |
| 250 | 0.31 | 0.31 | 0.32 | 0.31 | 0.32 |
| Ambient Temperature During Test (°C) | | 25.6 | | | |
| PF Leading/Lagging | | Leading | | | |

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Table 5. Wattage and VA results for Invinca VAS

| Operating Mode | 10% (Brightness Level 3) | | | | |
|--------------------------------------|--------------------------|---------|-------|-------|-------|
| Watts | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 10.15 | 10.22 | 10.24 | 10.02 | 10.07 |
| 220 | 10.20 | 10.28 | 10.30 | 10.08 | 10.10 |
| 230 | 10.24 | 10.33 | 10.35 | 10.12 | 10.18 |
| 240 | 10.27 | 10.37 | 10.39 | 10.16 | 10.21 |
| 250 | 10.30 | 10.40 | 10.42 | 10.19 | 10.27 |
| VA | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 30.60 | 30.78 | 30.55 | 30.14 | 29.89 |
| 220 | 31.96 | 32.12 | 31.88 | 31.52 | 31.23 |
| 230 | 33.41 | 33.62 | 33.29 | 32.98 | 32.66 |
| 240 | 34.88 | 35.13 | 34.75 | 34.49 | 34.09 |
| 250 | 36.40 | 36.82 | 36.24 | 36.06 | 35.61 |
| Power Factor | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 0.33 | 0.33 | 0.34 | 0.33 | 0.34 |
| 220 | 0.32 | 0.32 | 0.32 | 0.32 | 0.32 |
| 230 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 |
| 240 | 0.29 | 0.30 | 0.30 | 0.29 | 0.30 |
| 250 | 0.28 | 0.28 | 0.29 | 0.28 | 0.29 |
| Ambient Temperature During Test (°C) | | 25.6 | | | |
| PF Leading/Lagging | | Leading | | | |

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Table 6. Wattage and VA results for Invinca VAS

| Operating Mode | Minimum (Brightness level 0) | | | | |
|--------------------------------------|------------------------------|---------|-------|-------|-------|
| Watts | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 8.70 | 8.78 | 8.81 | 8.60 | 8.68 |
| 220 | 8.73 | 8.82 | 8.81 | 8.62 | 8.71 |
| 230 | 8.77 | 8.86 | 8.87 | 8.63 | 8.73 |
| 240 | 8.81 | 8.90 | 8.92 | 8.66 | 8.75 |
| 250 | 8.84 | 8.93 | 8.95 | 8.70 | 8.80 |
| VA | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 28.13 | 28.32 | 28.04 | 27.82 | 27.59 |
| 220 | 29.49 | 29.70 | 28.08 | 29.18 | 28.88 |
| 230 | 30.98 | 31.21 | 30.85 | 30.63 | 30.26 |
| 240 | 32.52 | 32.74 | 32.37 | 32.17 | 31.71 |
| 250 | 34.12 | 34.35 | 33.92 | 33.80 | 33.24 |
| Power Factor | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 0.31 | 0.31 | 0.31 | 0.31 | 0.31 |
| 220 | 0.30 | 0.30 | 0.31 | 0.30 | 0.30 |
| 230 | 0.28 | 0.28 | 0.29 | 0.28 | 0.29 |
| 240 | 0.27 | 0.27 | 0.28 | 0.27 | 0.28 |
| 250 | 0.26 | 0.26 | 0.26 | 0.26 | 0.26 |
| Ambient Temperature During Test (°C) | | 25.6 | | | |
| PF Leading/Lagging | | Leading | | | |

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Table 7. Wattage and VA results for Invinca VAS

| Operating Mode | Radar | | | | |
|--------------------------------------|---------------|---------|-------|-------|-------|
| Watts | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 8.24 | 8.38 | 8.35 | 8.25 | 8.36 |
| 220 | 8.57 | 8.17 | 8.38 | 8.53 | 8.67 |
| 230 | 8.54 | 8.42 | 8.43 | 8.57 | 8.70 |
| 240 | 8.58 | 8.21 | 8.47 | 8.61 | 8.74 |
| 250 | 8.62 | 8.23 | 8.75 | 8.43 | 8.76 |
| VA | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 26.68 | 27.59 | 27.08 | 27.22 | 27.53 |
| 220 | 28.59 | 28.44 | 28.50 | 29.06 | 29.46 |
| 230 | 29.96 | 30.31 | 30.03 | 30.61 | 31.05 |
| 240 | 31.49 | 31.53 | 31.58 | 32.19 | 32.67 |
| 250 | 33.07 | 33.13 | 33.55 | 33.48 | 34.33 |
| Power Factor | | | | | |
| Voltage | Sample Number | | | | |
| | 1 | 2 | 3 | 4 | 5 |
| 210 | 0.31 | 0.30 | 0.31 | 0.30 | 0.30 |
| 220 | 0.30 | 0.29 | 0.29 | 0.29 | 0.29 |
| 230 | 0.29 | 0.28 | 0.28 | 0.28 | 0.28 |
| 240 | 0.27 | 0.26 | 0.27 | 0.27 | 0.27 |
| 250 | 0.26 | 0.25 | 0.26 | 0.25 | 0.26 |
| Ambient Temperature During Test (°C) | | 25.6 | | | |
| PF Leading/Lagging | | Leading | | | |

This page is to be read in conjunction with the first page of this report

DEVIATION(S) FROM TEST STANDARD

No reported deviations from test standard.

MEASUREMENT UNCERTAINTY

The following expanded uncertainties apply to the measurements shown in the results;

True Power (W): $\pm 0.69\%$, Apparent Power (VA): $\pm 0.61\%$

The reported expanded uncertainty is based on a standard uncertainty multiplied by a coverage factor $k=2$, providing a coverage probability of approximately 95%. The uncertainty evaluation has been carried out in accordance with UKAS requirements.

Continued on following page

ILLUSTRATION



Figure 1. *Product image*

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