TEST RECORD NO. 1

SAMPLES:

Samples of the Model Number HIS-WL followed by 15-, 17-, 19- followed by any two alphanumeric suffixes followed by A or B, followed by any alphanumeric suffix and Accessories for use with HIS-WL Series for Suffix V, A and B – Model CP-BLNK-BLK, CP-CON-BLK, CP-GL, CP-PG-BLK, and CP-RG1-BLK and Accessories for use with HIS-WL Series for Suffix V, A and B – Model CP-BLNK-SS, CP-CON-SS, CP-PG-SS and CP-RG1-SS. as indicated below and constructed as described herein, were submitted by the manufacturer for examination and test.

The Model No. HIS-WL19 was used for test purposes and was considered representative of both the HIS-WL15 and HIS-WL17.

GENERAL:

Test results relate only to the items tested.

Due to the similarity of these devices to Models HIS-ML Listed previously by this manufacturer, only limited tests were considered necessary

| Test | Model | Report Date | File Reference | Test Record No. |
|---|---|---|---|---|
| All | HIS-ML21 | 208-05-07 | E318630 | 1-3 |

The following tests were conducted.

| Test | Reference |
|---|---|
| DRIP TEST | UL 50E 1st Edition, issued September 4th, 2007 Sec. 8.2 |
| HOSEDOWN TEST | UL 50E 1st Edition, issued September 4th, 2007 Sec. 8.6 |
| ULTRAVIOLET LIGHT EXPOSURE TEST | UL 746 C 6th Edition, revised September 10th, 2004 Sec. 59 |

The following tests were conducted in accordance with UL508 and are considered representative of the same tests required by Canadian National Standard, CAN/CSA C22.2 No. 142-2004.

The test methods and results of the above tests have been reviewed and found to comply with the requirements in the Standard for Industrial Control Equipment, UL 508, 17th Edition, issued January 28th, 1999, revised April 15th, 2010.

Test Record Summary:

The results of this investigation, including construction review and testing, indicate that the products evaluated comply with the applicable requirements in UL508 – The Standard for Industrial Control Equipment, 17th Edition, revised 2010/04/15 as well as CSA C22.2 No 142-2004 and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report. Any information and documentation involving UL Mark services are provided on behalf of Underwriters Laboratories Inc. (UL) or any authorized licensee of UL.

TEST RECORD NO. 2

SAMPLES:

A sample of the Model Number HIS-WL followed by 19- or 22- followed by any two alphanumeric suffixes followed by A or B, followed by any alphanumeric suffix and Models KVM2EXT-BLK-N4 and KVM2EXT-SS-N4X as indicated below and constructed as described herein, was submitted by the manufacturer for examination and test.

ALTERNATE COMPONENT:

LCD Monitor - (Model Number HIS-WL19 only) - Listed (NWGQ/7) Model No. E1910TW, rated 100-240 VAC, 0.8 A, manufactured by LG Electronics.

Alternate – (Model Number HIS-ML19 only) Listed (NWGQ/7) Model No. VS13642, rated 100-240 VAC, 1.5 A, manufactured by Viewsonic.

GENERAL:

Test results relate only to the items tested.

Due to the similarity of these devices to Models HIS-ML Listed previously by this manufacturer, only limited tests were considered necessary

| Test | Model | Report Date | File Reference | Test Record No. |
|---|---|---|---|---|
| All | HIS-ML21 | 2008-05-07 | E318630 | 1-3 |

The following tests were conducted.

| Test | Reference |
|---|---|
| HOSEDOWN TEST | UL 50E 1st Edition, issued September 4th, 2007 Sec. 8.6 |

The following tests were conducted in accordance with UL508 and are considered representative of the same tests required by Canadian National Standard, CAN/CSA C22.2 No. 142-2004.

The test methods and results of the above tests have been reviewed and found to comply with the requirements in the Standard for Industrial Control Equipment, UL 508, 17th Edition, issued January 28th, 1999, revised April 15th, 2010.

Test Record Summary:

The results of this investigation indicate that the products evaluated comply with the applicable requirements in UL 508, Standard for Industrial Control Equipment, 17th Edition, Revision Date 2010-04-15, and CSA C22.2 No. 142, Process Control Equipment, reaffirmed 2004, and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

Test Record by:

Daniel S. Wong

Project Engineer

Reviewed by:

John J. Carrigan

Staff Engineer

TEST RECORD NO. 3

SAMPLES:

A representative production line samples of the Industrial Monitors as indicated below and constructed as described herein, was submitted by the manufacturer for examination.

New Models for Accessories for use with HIS-WL Series for Suffix V, A and B as indicated below:
CP-RG2-BLK, CP-RG2-SS, KVM2EXT-BLK-N4-PS2, KVM2EXT-BLK-N4-USB, KVM2EXT-SS-N4X-PS2, KVM-SS-N4X-USB.

Nomenclature Breakdown:
KVM2EXT-(a)-(b)-(c)
a –
SS for stainless steel enclosure
BLK for black powder coat carbon steel enclosure
b –
N4X for Type 12/4/4X
N4 for Type 12.4
c –
PS2 for serial kvm extender
USB for USB kvm extender

GENERAL:

No additional testing was deemed necessary to add the above mentioned alternate model numbers as they are identical to existing models except for insignificant suffixes changes.

Test Record Summary:

The results of this investigation indicate that the products evaluated comply with the applicable requirements of the Standard for Industrial Control Equipment, UL508 17th edition, revised April 15, 2010, and Process Control equipment, Industrial Products, CSA C22.2 No. 142-M1987, (Reaffirmed 2009) and, therefore, such products are judged eligible to bear UL’s Mark as described on the Conclusion Page of this Report.

| Test Record by: | Reviewed by: |
|---|---|
| Karl Moeller | Ryan Bridgemohansingh |
| Senior Project Engineer | Staff Engineer |

TEST RECORD NO. 4

SAMPLES:

A representative production line samples of the Industrial Monitors as indicated below and constructed as described herein, was submitted by the manufacturer for examination.

Change 1: New Model HIS-WL23, 90-264 VAC, 0.6 A-0.25 A, 63-47 Hz or 12Vdc/3.3 A or 24Vdc/1.7 A, employing Listed (NWGQ/7) Model No. VS14822, rated 12- 24 Vdc, 2.1 A, mfr'd by Viewsonic.

For unit which is rated 100-240 V a power supply is employed as follows: R/C (QQGQ2/8) rated 90-264Vac, 0.8A/0.56A, 44.4W, mfr by Mean Well(E183223), Cat. No. PS-45-12 or R/C (QQGQ2/8), rated 90-264Vac, 60W,mfr by Cincon, Cat. No. CFM60S120.

Change 2: Alternate – (For all 17 inch versions) Listed (NWGQ/7) Model No. VS14863 or VS14814, rated 100-240 V, 50/60Hz, 1.5 A, mfr'd by Viewsonic.

Change 3: Alternate – (Model Number HIS-WL22 only) – Listed (NWGQ/7) Model No. VS14517, rated 100-240 Vac, 1.5 A, mfr'd by Viewsonic.

GENERAL:

Due to the similarity of these devices being previously evaluated under Test Records No. 1 to 3 and suitable ratings and evaluation of the alternate components, no additional evaluation was deemed necessary to process these changes.

No additional environmental testing was deemed necessary on the Model HIS-WL23 based upon the rear cover screw spacing of the Model HIS-WL19 2-1/8 in and HIS-WL22 3-9/16 in as compared to the lesser rear cover screw spacing of the Model HIS-WL23 3-5/16 in and based upon the Hose Down Testing conducted on the Model HIS-WL19 under Test Record No. 1 and Model HIS-WL22 under Test Record No. 2 of this Report.

Test Record Summary:

The results of this investigation indicate that the products evaluated comply with the applicable requirements of the Standard for Industrial Control Equipment, UL508 17th edition, revised April 15, 2010, and Process Control equipment, Industrial Products, CSA C22.2 No. 142-M1987, (Reaffirmed 2009) and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

| Test Record by: | Reviewed by: |
|---|---|
| Karl Moeller | Lenworth E. Grant |
| Senior Project Engineer | Senior Staff Engineer |

TEST RECORD NO. 5

SAMPLES:

A representative production line samples of the Industrial Monitors as indicated below and constructed as described herein, was submitted by the manufacturer for examination.

Alternate Monitor (For all 19 inch versions) Listed (NWGQ/7) Model No. VS15103, rated 100-240Vac, 50/60 Hz, 1.5 A, mfr'd by Viewsonic.

GENERAL:

Due to the similarity of these devices being previously evaluated under Test Records No. 1 to 3, suitable ratings and evaluation of the alternate components, no additional evaluation was deemed necessary to process these changes.

Test Record Summary:

The results of this investigation indicate that the products evaluated comply with the applicable requirements of the Standard for Industrial Control Equipment, UL508 17th edition, revised April 15, 2010, and Process Control equipment, Industrial Products, CSA C22.2 No. 142-M1987, (Reaffirmed 2009) and, therefore, such products are judged eligible to bear UL's Mark as described on the Conclusion Page of this Report.

| Test Record by: | Reviewed by: |
|---|---|
| Karl Moeller | Lenworth E. Grant |
| Senior Project Engineer | Senior Staff Engineer |

TEST RECORD NO. 6

SAMPLES:

No samples were required for adding DC-DC converters to programmable controller modules, Models HIS-WL19 and HIS-WL23.

Change 1: For programmable controller modules, Models HIS-WL19 and HIS-WL23, DC-DC converters are employed as following:

For unit rated 9.6-36.6 Vdc, a DC-DC converter is employed as follows: R/C (QQGQ2/8), Delta Electronics Inc., (E131881), Model S24SE12003, rated input 9.6-36.6 Vdc, 4.9 A; output 12 Vdc, 2.5 A.

GENERAL:

Test results relate only to the items tested.

Due to the similarity of these devices being previously evaluated and suitable ratings, no additional evaluation was deemed necessary to process these changes.

Tests were considered covered as follows:

| Model | Test | File | Report Date | Test Record No(s). |
|---|---|---|---|---|
| HIS-WL19 | ALL | E318630 | 2010-05-13 | 1, 2, 3, 5 |
| HIS-WL23 | ALL | E318630 | 2010-05-13 | 3, 4 |

The test methods and results of the above tests have been reviewed and found to comply with the requirements in the Standard for Industrial Control Equipment, UL 508, 17th Edition, revised March 15, 2013 and Canadian Standard for Process Control Equipment, CSA C22.2 No. 142-M1987, Third Edition, Reaffirmed 2009.

Test Record Summary:

The results of this investigation indicate that the products evaluated comply with the applicable requirements of UL 508, Standard for Industrial Control Equipment, 17$^{th}$ Edition, revised March 15, 2013, and CSA C22.2 No. 142, Process Control Equipment, reaffirmed 2009 and, therefore, such products are judged eligible to bear UL’s Mark as described on the Conclusion Page of this Report.

Test Record by:

TJ Cheng

Project Engineer

CONCLUSION

Samples of the products covered by this Report have been found to comply with the requirements covering the class and the products are judged to be eligible for Listing and Follow-Up Service. Under the service the manufacturer is authorized to use the Laboratories' Mark on such products which comply with the Follow-Up Service Procedure and any other applicable requirements of Underwriters Laboratories Inc. Only the products which properly bear the Laboratories' Mark are considered as Listed by Underwriters Laboratories Inc.

Test Record by:

Daniel S. Wong

Project Engineer

Conformity assessment Services

Reviewed by:

Len Grant

Engineer Sr. Staff

Conformity Assessment Services