

## DESCRIPTION

## PRODUCT COVERED:

Component - Supplementary Protectors Cat. No WMS followed by 1, 2, 3 or 4, followed by B, C or D; followed by two numbers (00-60).

## ELECTRICAL RATINGS:

Amp	Voltage	Poles
0.5-60	120-480 V ac	1, 2, 3, 4
0.5-60	130 V dc	2
0.5-60	65 V dc	1

The interrupting ratings expressed in RMS symmetrical amperes are as follows:

1 Pole	6 kA at 277 V ac
1 Pole	10 kA at 120 V ac
2, 3, 4 Pole	10 kA at 240 V ac
2, 3, 4 Pole	5 kA at 480 V ac
2 Pole	10 kA at 130 V dc
1 Pole	10 kA at 65 V dc

Thermal tripping current 145 percent.

The magnetic trip range is as follows:

Type B - 3 to 5 times rating.

Type C - 5 to 10 times rating.

Type D - 10 to 20 times rating (40 A maximum rating).

## GENERAL CHARACTER AND USE:

These protectors employ an over center toggle mechanism. Thermal and magnetic features are used and the mechanism is trip free of the handle. When the breaker trips, the operating handle returns to the "off" position.

These protectors are suitable for reverse line and load connections. The mounting is for 35 mm Din Rail.

These protectors were tested in an enclosure 216 by 114 by 70 mm.

## MARKINGS:

The following information is marked on the protector.

1. Cutler-Hammer Trademark.
2. Voltage and Interrupting rating per UL 1077.
3. "ON/I" and "OFF/O".
4. Catalog Number - The catalog number indicates the rated current, magnetic trip type, protector type and the number of poles. For example, WMS3C60 identifies product Type WMS, "number of poles 3", "magnetic trip range C" and current rating 60.

## ACCESSORIES:

Type	Cat. No.	Rating
Auxiliary Switch	WAX1A1B	6 A, 240 V ac
Bell Alarm	WAL1A1B	6 A, 240 V ac
Shunt Trip	WST415A	230-415 V ac
		110-130 V dc
	WST48D	48 V ac
		9-48 V dc
Undervoltage Release	WUVR240A	240 V ac
		110-130 V dc
	WUVR48D	24-48 V ac
		48 V dc

## ENGINEERING CONSIDERATIONS (NOT FOR FIELD REPRESENTATIVE'S USE):

## Conditions of Acceptability -

1. These devices should be mounted within a suitable ultimate enclosure and with proper spacings being maintained.
2. These devices should be used within their marked electrical rating.
3. These devices are intended for field or factory wiring. They were investigated in accordance with the Standard UL 468E.
4. These devices were tested within an unventilated enclosure of 105 cubic inches. If mounted within a smaller enclosure, consideration should be given for the need of repeating temperature tests. Temperatures measured on the terminals should not exceed 50°C rise.
5. The current rating is limited to 55 A maximum with an accessory mounted to the protector.

6. The short circuit ratings were established without series overcurrent protection.

7. These devices have a 6 times overload rating for AC voltage, 1.5 times overload rating for DC voltage.

8. These devices are suitable for service after listed short circuit. Post dielectric and tripping tests were acceptable.

Fuji Relays  
Part Numbers  
RB105-DE  
RS4N-DE  
RS6N-DE  
UL#E44592  
CSA#LR20479  
TUV#R9551729

Marathon Motors  
UL#E49747  
CSA# LR37479  
CSA# LR45148

Diell Sensors  
FE Series (UL#E224302)  
FA Series (UL#E187310)  
FG Series (UL#E224302)  
AE6 Series (UL#E130644)  
AM6 Series (UL#E130644)  
SSF Series (UL#E187310)  
SU1 Series (UL#E187310)  
BX Series (UL#E197310)  
CDP Series (none)



File E203908

Vol. 3

Issued: 9-1-00

**FOLLOW - UP SERVICE PROCEDURE  
(TYPE R)**

**COMPONENT - TRANSIENT VOLTAGE SURGE SUPPRESSORS  
(XUHT2)**

\*\*\*\*\*

**with Complimentary Listing to  
COMPONENT - ELECTROMAGNETIC INTERFERENCE FILTERS  
(FOKY2)**

**Manufacturer:** CUTLER-HAMMER  
(689590-002) #10  
2256 29TH ST NE  
CALGARY AB CANADA T1Y 7G4

**Applicant:** SAME AS MANUFACTURER  
(689590-002)

**Listee:** SAME AS MANUFACTURER  
(689590-002)

This Procedure authorizes the above Manufacturer to use the marking specified by Underwriters Laboratories Inc. only on products covered by this Procedure, in accordance with the applicable Follow-Up Service Agreement.

The Prescribed Mark or Marking shall be used only at the above manufacturing location on such products which comply with this Procedure and any other applicable requirements.

The Procedure contains information for the use of the above named Manufacturer and the representatives of Underwriters Laboratories Inc. and is not to be used for any other purpose. It is lent to the Manufacturer with the understanding that it is not to be copied, either wholly or in part, and that it will be returned to Underwriters Laboratories Inc. upon request.

This PROCEDURE, and any subsequent revision, is the property of UNDERWRITERS LABORATORIES INC. and is not transferable.

UNDERWRITERS LABORATORIES, INC.

J. J. Ritchie  
Vice President  
Laboratory Management and Operations

INDEX

Product Name	Models	Section	Requirements Evaluated to (US and/or CN)
* AGS/APF/ AGSVL	120N or 230L, followed by 01-05	1	US
AGSHW	120N or 230L, followed by 01-20, followed by XS, XC, or HS, may be followed by M	2	US
* Clipper Power Series, CPS (20mm)	CPS-AAA, where AAA is 100-200 followed by -208Y, -240S, -220Y, -240D, -240H, -400Y, -480Y, - 480D, followed by X, where X is the monitor display type and may be A-Z, followed by A-Z which represents the mounting options.	3	US
* Clipper Power Series, CPS (40mm)	CPS-AAA, where AAA is 250-500 followed by -208Y, -240S, -220Y, -240D, -240H, -400Y, -480Y, - 480D, 600Y, -600D followed by X, where X is the monitor display type and may be A-Z, followed by A-Z which represents the mounting options	4	US
CVL Series (20mm)	CVL/SML-XXX-YY, followed by: -120N, -240S, -230L, -208Y, -220Y, - 240D, -240H -400Y, -480Y, -600Y, - -240D, -400D, -480D, -600D, followed by -BD, followed by -INT, may be followed by -NF, where XXX may 050, 080 or 100, and YY may be "CH" or any two letters A to Z	5	US

DESCRIPTIONPRODUCT COVERED:

USR - Permanently Connected Transient Voltage Surge Suppressor and Electromagnetic Interference Filter, Aegis Series, Models AGS/APF, followed by 120N or 230L, followed by 01-05.

PRODUCT NOMENCLATURE:

	<u>AGS/APF/AGSVL</u>	<u>120N</u>	<u>01</u>
	A	B	C
A	Model Designation	AGS or AGSVL APF	Aegis Automation Powerline Filter
B	Model Type	120N 230L	120 VAC single phase (1W+G) 230 VAC single phase (1W+G)
C	Current Level	01 - 05	1 Amp to 5 Amps

ELECTRICAL RATINGS:

Voltage: as noted below.  
 Current: 1 – 5 Amps, Series Connected  
 Frequency: 50 / 60 Hz

Model	Rated Voltage (V ac)	Phase Type (#)	Suppressed Voltage Ratings (SVRs) (V pk)			
			L-N	L-G	N-G	L-L
* AGS/APF/AGSVL 120N	120	1	330	400	400	-
* AGS/APF/AGSVL 230L	230*	1	400	700	800	-

\* -230L models are used for 220-240 V ac applications

(#) Phase Type	Designation
1	Single phase system
3	Three phase system
D	Delta configuration
Y	Wye Configuration





# Statement of Compliance

Certificate Number: LR49616C

Revision: 02-003

Date Issued: 18 Nov 2002

Issued By: Cutler-Hammer  
Unit 10 2256 29<sup>th</sup> Street NE  
Calgary, Alberta  
T1Y 7G4

*The products listed below have been tested and evaluated in accordance with the CSA requirements for certified components and are eligible to bear the CSA Mark.*

Issued By:  Date Issued: 18 Nov 02  
Cutler-Hammer Representative

Audited By:  Date Issued: 27 Nov 02  
CSA Representative

## CLASS

9091 01 - Miscellaneous - Facility Filters/Transient Voltage Suppressors (Canadian Standards)

## PRODUCTS

- Appliance Filter/Transient Voltage Surge Suppressors, AGS Series, Models AGS, APF or AGSVL, Rated 120 or 230 V ac 50/60Hz, 5 A Max.

## APPLICABLE REQUIREMENTS

- CSA Standard C22.2 No 0-M1991 - General Requirements - Canadian Electrical Code, Part II
- No. 8-M1986 - Electromagnetic Interference (EMI) Filters (Used as a guide)
- T.I.L. ISA - Applicable Interim Requirements for Varistors
- T.I.L. II1B - Applicable Interim Requirements for Surge/Transient Voltage Suppressors

CSA\_COC

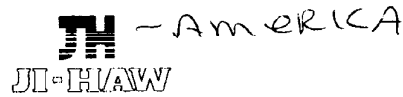


- 25 December 13, 1991 - Facility surge/transient voltage suppressor, Models ITS-HW and Ultimate-HW.
- 26 January 7, 1992 - Update to -24 Report to Field Wiring. - Facility surge/transient voltage suppressor, Model PLC 1201S15Y-MHT rated 120 V ac, 50/60 Hz, 15 Amps, 70-C ambient.
- 27 Status - New.
- 28 February 10, 1992 - Update to -24 Report to include Models PLC1201S15-H, PLC1201S15-X, PLC1201P15-H and PLC1201P15-X.
- 29 March 12, 1992 - Additional Models HPP2082Y4515 and HP2402Y4515 to -17 Report.
- 30 July 6, 1992 - Addition of Model Series 6515F to Report LR 49616-23. Alternate field wiring method Report LR 49616-17 and alternate transformer Report LR 49616-20.
- 31 December 1, 1992 - Update to -26 Report to include Models PLC2401S15Y-MHT, PLC2301S15Y-MHT and PLC2201S15Y-MHT.
- 32 February 12, 1993 - Surge/transient voltage suppressors: Models P2401S/6-15RFN, P24030/L6-30RFN; also update -17 and -16 reports.
- 33 November 18, 1993 - Update to Report LR 49616-24 to include the alternate construction of the Models PLC1201S15-X, PLC1201S15-H, PLC1201S15-M.
- 34 August 17, 1993 - Power bar with surge/transient suppression, new Model: MVG6M6.
- 35 May 5, 1994 - Update to -17, -18, -20, -23, -24 and -32 reports for corrections and alternate components.
- 36 December 14, 1994 - Clipper power system, clipper power system module set and CPS or PTY power filter.
- 37 Closed incomplete.
- 38 October 20, 1994 - Appliance Filters/ Transient Voltage Suppressors, Aegis Series, Models AGS and AGSII.
- 39 February 23, 1995 - Update to Report LR 49616-38 to include additional Models PLC(A) and PLC(B).
- 40 December 14, 1995 - Update to Report LR 49616-38 to include alternative enclosure and corrections.
- 41 November 7, 1995 - Update to -18 report to add an alternate varistor.
- 42 Not active.
- 43 August 20, 1996 - Update to Report LR 49616-36 to cover alternate construction, additional voltage ratings and CMOV/DCMOV Module Sets.
- 44C February 26, 1997 - Category Program, Qualification Report. Superseded by 1046725.
- 45 July 30, 1997 - Category Audit. Additional Models EPDCHP-120/240Y, CHP-120/240Y, HPP-120/240Y.  
- Alternate construction to CPS, PTY, EPD, MAG, AGSII, Clipper, CMOV, DCMOV ITSHG.  
- New contact name.



- 46C November 20, 1997 - Category Audit.  
- Alternate construction to ULTIMATE and ITS to cover alternate cord assembly.  
- New primary contact person.
- 47 March 6, 1998 - Category Audit. Revised model number designation for clipper power system and CPS or PTY power filter. Alternate construction - alternate transformer and addition of disconnect switch.
- 48C May 6, 1998 - Transfer of File from Tycor Int'l Corp. TO Cutler-Hammer Products Eaton Corp.
- 49C January 29, 1999 - Category Audit and Update to -44 report to include new Factory Location.
- 50C Ed. 1 March 22, 1999 - Original Certification for Model RWTCHR4, Reflected Wave Trap, used in a Class I, Division 2, Groups A, B, C and D Hazardous Locations and Model RWTCHR1 used in Ordinary Locations. Superseded by Report 1322104.
- 1322104 Ed. 2 May 21, 2002 - Report LR 49616-50C updated and reissued as 1322104. Minor corrections and revised layout of the conductive traces on the printed wiring board.
- 51C February 22, 1999 - Category Audit and Update to -44 report to include alternate contact person.
- 1046725 Ed. 5 December 16, 1999 - Category Audit and addition of Appliance Filter / Transient Voltage Surge Suppressors, AGS and APF Series, Models AGS or APF. Originally issued as 2500007457. Re-Issue Qualification Report.
- 1060311 June 30, 2000 - Category Audit.
- 1181311 Ed. 6 April 19, 2001 - Category Program, Compliance Review: include Appliance Filter/Transient Voltage Surge Suppressor CVL Series, SML Series. (Qualification Report)
- 1239214 October 17, 2001 - Category Audit of August 2000.
- 1280894 Ed. 7 April 25, 2002 - Category Program, compliance review and Re-Issue Qualification Report.
- 1359802 September 10, 2002 - Category Program, compliance review.
- 1384606 November 27, 2002 - Category Program, compliance review.
- 1416288 May 22, 2003 - Category Program, compliance review.

sn



**WIRING HARNESES:**

JI-HAW manufacture are approved UNDERWRITERS LABORATORIES INC.

File No: E 112102.



JI-HAW manufacture are approved CANADIAN STANDARDS ASSOCIATION

File No: LR 83825-1



**COMPUTER INTERCONNECTION CABLE ASSEMBLIES:**

JI-HAW computer interconnection cable assemblies UNDERWRITERS LABORATORIES INC.

File No: E 149306



**CONNECTOR :**

JI-HAW connector are approved UNDERWRITERS LABORATORIES INC.

File No: E 110892.

SYTLE:

- |                           |                            |
|---------------------------|----------------------------|
| D-SUB miniature connector | Double side edge connector |
| 57 series                 | IC socket, PLCC series     |
| Mini din type, DIN type   | Mini JUMPER                |
| Dip plug connector        | HEADER connectors          |
| IDC FC, EC series         | :                          |
|                           | :                          |

**CABLE :**

JI-HAW cable are approved UNDERWRITERS LABORATORIES INC.

FILE NO: E 118077.

UL SYTLE:



- |      |      |      |      |      |       |       |
|------|------|------|------|------|-------|-------|
| 2490 | 2493 | 2586 | 2777 | 1007 | 1061  | 1095  |
| 1015 | 1533 | 1085 | 2576 | 2464 | 2919  | 2960  |
| 2095 | 2405 | 2092 | 2093 | 2094 | 20251 | 20197 |
| :    | :    | :    | :    | :    | :     | :     |
| :    | :    | :    | :    | :    | :     | :     |



**POWER CORD, CORD SET:**

JI-HAW power card are approved UNDERWRITERS LABORATORIES INC. & CSA

File No: E 147422



File No: LR 77549 File No: LL 78674

**ISO 9002, 9003 Pending**

*We reserve the right to change the tooling of our products without notice.*