

## AEGIS Powerline Filters



*AEGIS Solutions*

### Product Description

Eaton's Cutler-Hammer AEGIS solutions are specifically designed to protect expensive electronics from the hazards that exist within a facility. This critical load protection is effective at reducing harmful surges and noise. Applying this high performance series powerline filter at your critical loads results in "clean" power entering the electronics and reduction of "soft" errors, operational malfunction, and damage to components.

### Standards and Certifications

Cutler-Hammer products are designed in accordance with ANSI/IEEE C62.41 (1991) recommended spectrum of transient waveforms. The AEGIS protects against all ringing and impulse disturbances.

### Application Description

The AEGIS is the ideal protection solution for your critical loads and facilities.

#### Loads

- Programmable controllers (PLCs).
- Scanning devices.
- ATMs (Automatic Teller Machines).
- Cash registers.
- Alarm systems.
- Microprocessor-controlled OEM products.
- Robotics.
- CAD/CAM systems.
- Control equipment.
- Medical electronics and devices.

### Why Should Sensitive Electronic Loads be Protected?

PLC manufacturers and service technicians recommend the use of surge suppressors and filters to prevent downtime and equipment damage due to surges and electrical line noise. One study shows failure to protect sensitive electronic loads costs American manufacturing, commercial and service industries over \$39 billion per year in lost time and revenue. Preventing these losses is a major cost-saving opportunity.

### AEGIS Powerline Filters Protect Against the Full Spectrum of Transient Disturbances

AEGIS filters the entire sine wave and is effective against both frequently occurring low energy and occasional high energy transients. High energy transients can create immediate damage, while low energy transients cause microprocessor failure over time.



*Hardwired Surge Filter that Protects Critical Loads (3, 5, 10, 15 or 20 Ampere Models)*



*Lightning Protection for ac Powerline Applications (1-, 2-, 3-Phase Applications to 100 Amperes)*



*AEGIS VL Hardwired Critical Load Filter 1, 3 and 5 Ampere Modules Only*

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### Features, Benefits and Functions

Table 10-14. AEGIS Powerline Filters Features and Benefits

Features	Benefits
<b>Unique Series Hybrid Design</b> (AEGIS-HW, AEGIS+)	<ul style="list-style-type: none"> <li>■ Protection against high and low energy transients and noise.</li> <li>■ The tracking filter reacts instantly to changes in frequency and voltage, regardless of phase angle, magnitude or polarity.</li> <li>■ Active at all times, providing more protection than a conventional surge suppressor.</li> <li>■ Extends the life of your microprocessors by eliminating degrading power disturbances.</li> </ul>
<b>High Performance Suppression Capabilities</b> (AEGIS-HW, AEGIS+)	AEGIS-HW and AEGIS-PR have up to 45,500 amperes of surge current suppression and 75 dB of noise attenuation at 100 kHz. This guarantees a superior level of protection and reliability. AEGIS+ has additional protection up to 160 kA/phase.
<b>Status Monitoring Lights</b> (AEGIS-HW, AEGIS+)	No more testing or guessing whether your unit is working properly. Filter indicator lights expedite your troubleshooting efforts during downtime situations.
<b>5-Year Downstream Equipment Warranty</b> (AEGIS-HW only)	Eaton provides a 5-year Extended Warranty on the microprocessor power supply protected by AEGIS. No other manufacturer offers this level of assurance in backing up its claim of product performance, quality and reliability.
<b>Value</b> (AEGIS-HW, AEGIS+)	AEGIS provides superior value when considering the level of performance and benefits offered. It truly delivers the best “bang” for your dollar.
<b>Optional Remote Monitoring Capabilities</b> (AEGIS-HW, AEGIS VL, and AEGIS+ only)	Observe all your operations on a remote basis, including the power protection devices used to safeguard your critical and sensitive electronic loads.
<b>DIN-Rail, J-Rail or Flange Mounting Connections</b> (AEGIS-HW only)	The DIN-Rail mountable enclosures greatly reduce installation time, effort and cost. This unique container is the preferred choice among OEMs and contractors.
<b>Thermal Cut-Off Protection (TCO)</b> (AEGIS-HW only)	Thermal fuse improves indication, monitor and control during fault conditions.

### Standards and Certifications

Based on ANSI/IEEE C62.41, 1991 and C62.45, 1992.

Table 10-15. Let-Through Voltages (L-N)

Description	AEGIS-HW (L-N Mode)
Category A3 Ringwave (600 V, 200 A)	6 V <sup>②</sup>
Category B3 Ringwave (600 V, 500 A)	9.6 V <sup>②</sup>
Category B3/C1 Combination (Impulse) Wave (600 V, 300 A)	70 V <sup>②</sup> (206 V, dynamic at 90°)

② Static testing.

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### AEGIS Hybrid Series Powerline Filters

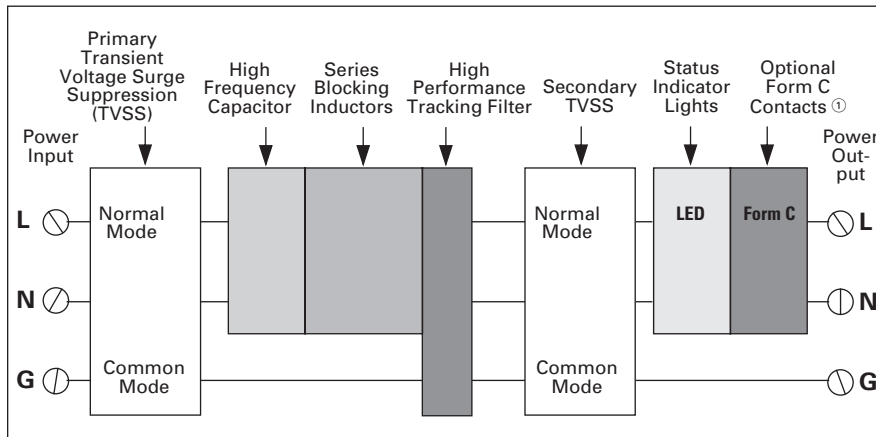
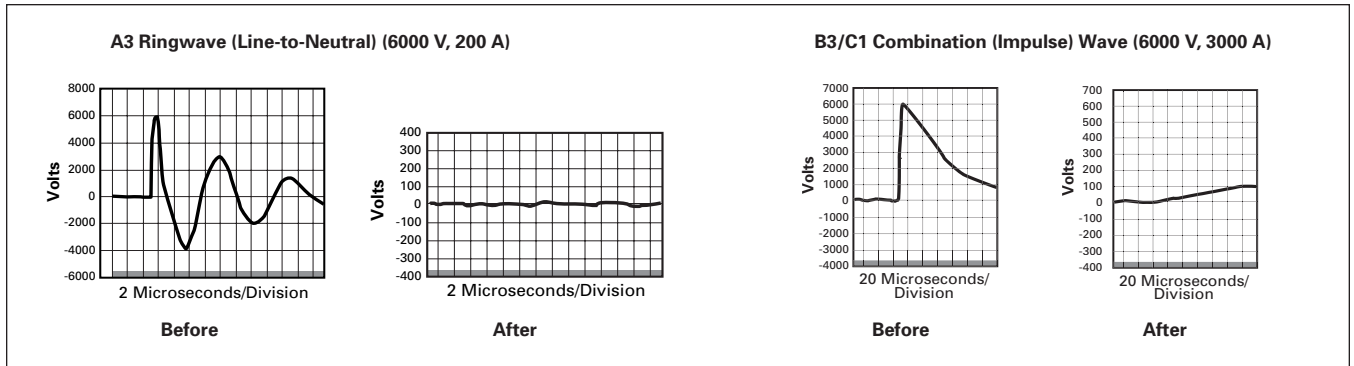


Figure 10-13. 3-Wire Design has Normal and Common Mode Protection (L-N, L-G, N-G)

① Option for AEGIS and AEGIS+.



**Figure 10-14. IEEE C62.41 (1991) Test Waveforms for AEGIS-HW and PR Versions**

## Product Specifications

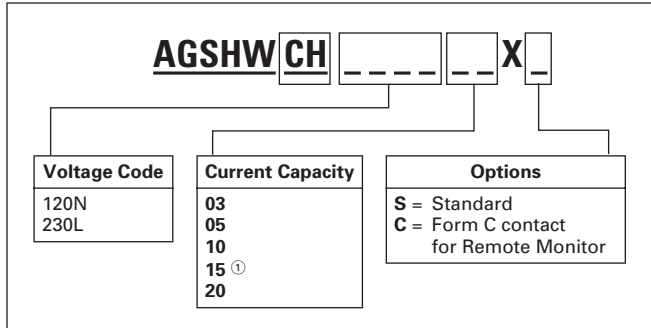
**Table 10-16. Specifications**

Application	AEGIS-HW 2 W&G Grounded Systems	AEGIS-VL 2 W&G Grounded Systems	AEGIS+ 1-, 2- and 3-Pole Systems
Input Voltage Single-Phase	120, 220, 240 Vac, single-phase	120, 220, 240 Vac, single-phase	120, 208, 240, 400, 480, 600 Vac; Wye, Delta and International systems
Amperage	3, 5, 10, 15, 20 amperes	1, 3, 5 amperes	20, 30, 50, 70, 100 amperes
Frequency	50/60 Hz	50/60 Hz	50/60 Hz
Protection Modes	L-N, L-G, N-G	L-N, L-G, N-G	L-N, L-G, and N-G modes (Wye system); L-L and L-G (Delta system)
MCOV	150, 320 volts	150, 320 volts	150, 320, 420 volts (Wye system) 300, 550, 680 volts (Delta system)
Noise Attenuation Normal Mode: Common Mode:	75 dB at 100 kHz 50 dB at 5 MHz	75 dB at 100 kHz 50 dB at 5 MHz	65 dB at 100 kHz 40 dB from 60 kHz to 5 MHz
Filter Bandwidth	10 kHz to 100 MHz	10 kHz to 100 MHz	10 kHz to 100 MHz
Total Peak Surge Current	45.5 kA per phase	39 kA per phase	40, 80 or 160 kA per phase
Operating Temperature	-40° to +50°C	-40° to +50°C	-40° to +40°C
Response Time	Less than 1 nanosecond	Less than 1 nanosecond	Less than 1 nanosecond
Options	Form C relay contacts	N/A	Form C relay contacts; NEMA 3R/4X container; disconnect switch; 40 kA or 160 kA
Agency Approvals	UL 1449, UL 1283, CSA	UL 1449, UL 1283, CSA	CE, UL 1449 (20 to 70 amperes up to 480 volts)
Warranty	5 years plus downstream connected warranty	5 years	5 years

AEGIS Powerline Filters

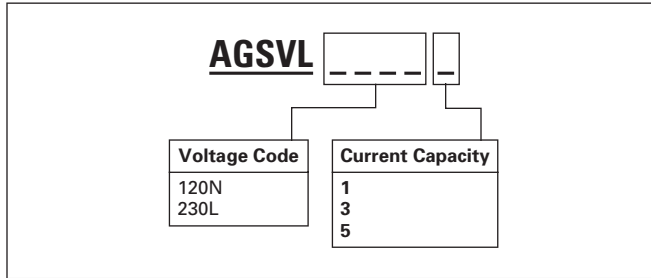
Product Selection

Table 10-17. AEGIS-HW (Hardwire Application) Catalog Numbering System



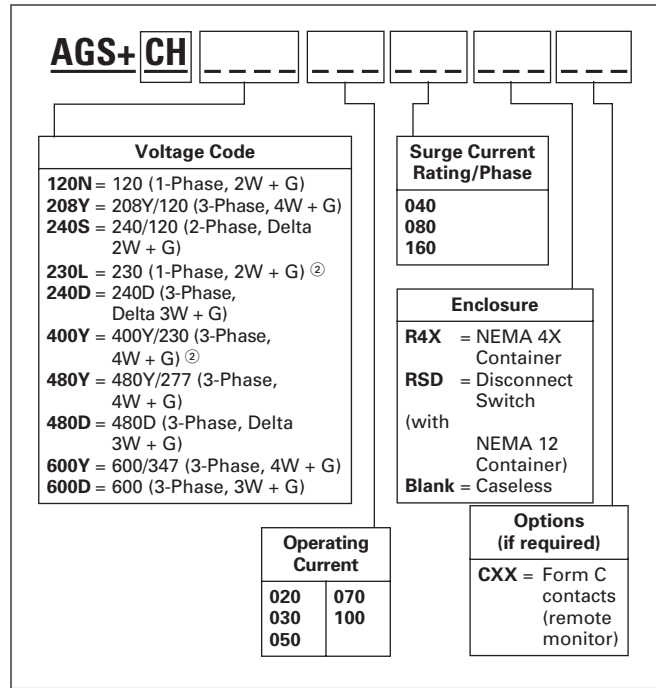
① Model rated at 15 amperes UL/CSA = 16 amperes CE.  
Note: 230 V applies to 220 and 240 volt applications.

Table 10-18. AEGIS-VL (Hardwire Application) Catalog Numbering System



Note: 230 V applies to 220 and 240 volt applications.

Table 10-19. AEGIS+ Catalog Numbering System



② 400/230 valid for 380/220 and 415/240 per IEC. Contact factory for resistive ground applications.

Table 10-20. AEGIS Price List

Catalog Number	Price U.S. \$
AGSHWCH120N03XC	
AGSHWCH120N03XS	
AGSHWCH120N05XC	
AGSHWCH120N05XS	
AGSHWCH120N10XC	
AGSHWCH120N10XS	
AGSHWCH120N15XC	
AGSHWCH120N15XS	
AGSHWCH120N20XC	
AGSHWCH120N20XS	
AGSHWCH230L03XC	
AGSHWCH230L03XS	
AGSHWCH230L05XC	
AGSHWCH230L05XS	
AGSHWCH230L10XC	
AGSHWCH230L10XS	
AGSHWCH230L15XC	
AGSHWCH230L15XS	
AGSHWCH230L20XC	
AGSHWCH230L20XS	
AGSPRCH120N15HG	
AGSPRCH120N15HW	
AGSPRCH120N15XX	
AGSPRCH230L15HG	
AGSPRCH230L15HW	
AGSVL120N1	
AGSVL120N3	
AGSVL120N5	
AGSVL230L1	
AGSVL230L3	
AGSVL230L5	

Discount Symbol..... 22-CD