



# NexTek - Protection for the *NexT* Generation™



**NexTek, LLC.** has designed and manufactured the EMI Filters in the US since 1986. Being an industry leader, NexTek is a trusted source with proven experience and has built its reputation by providing outstanding solutions and extremely reliable products while offering excellent customer service. NexTek's philosophy combines our 35+ years of engineering, innovation, manufacturing, and quality expertise early in the design cycle to provide ideal solutions at the desired price point is the key to much of our success. Building long-term partnerships with our customers is paramount to our success.

We are a leader and innovator in the field of custom EMI filters. NexTek has proven experience in delivering quality driven EMI filters that mitigate interference in severe conditions.

NexTek's custom solutions usually can be delivered quickly and at a more economical price point than many of our competitor's Commercial Off-the-Shelf (COTS) products. In addition, we are able to modify these solutions to meet your exact requirements with minimal cost added.

NexTek's EMI Filter designs provide high insertion loss from kHz to GHz frequencies. Our feedthrough filters are available in T,  $\pi$ , and double L type circuits and different mechanical configurations and are ideal solutions for EMC Compliance for the following markets and applications:

- Medical and Industrial Lasers
- Intelligent Power Supplies or Controllers
- Power Line Filter for 110/240 VAC Power Lines
- Telecom or Wireless Supply Filtering
- Medical Imaging Devices
- Mobile (Land, Sea, Aerospace) Power Filtering
- Emissions and Susceptibility Compliance
- Automotive and EV Markets
- Computer Servers

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This brochure illustrates our products and capabilities. You may not find your exact solution, the intent here is to give you a prospective of our extensive product offerings and varied capabilities. Please contact us to discuss your exact requirements and give us the opportunity to design a solution that meets and exceeds your expectations.



### HPR Series

The NexTek HPR Series feedthrough filters offer a wide range of current ratings, 50A to 400A with a large selection of capacitance values and voltage ratings to select based on the requirements. The HPR products are RoHS compliant and offer the smallest form factor and footprint of any C-type feedthrough filters on the market. These filter solutions enable cost-effective methods of achieving desired noise reduction levels in smaller, tighter installations.



- Excellent EMI Filtering from 1KHz to >1 GHz.
- Varying Ratings: 50A to 400A
- Voltage Ratings: up to 1000Vdc and 480Vac
- High Capacitance up to 22 $\mu$ F
- High Quality Robust Designs

#### Product Examples:

HPR0551004Z10  
HPR1752204M10  
HPR2504704Z10  
HPR4001006K10

### HPR "E" Series

The NexTek HPR "E" series is similar in design to the widely popular HPR series, but the Extreme series undergoes a 96-Hr Burn-In Cycle to ensure High Reliability out in the field. Our standard E-Class version has been Tested and Qualified to military standard MIL-C-49467 Group A ratings. Specialized custom units to MIL-PRF-55681, MIL-PRF-123 are designed to meet and exceed customer specific requirements. If you require the security of the knowledge that comes with using parts that undergo High-Rel Screening, then specify NexTek's HPR-E Series.



- Excellent EMI Filtering from 1KHz to >1 GHz.
- Varying Ratings: 50A to 400A
- Multiple Voltage Ratings: up to 1000Vdc and 480Vac
- High Capacitance Ratings and Tolerances.
- High Quality Robust Designs

#### Product Examples:

HPR0551004M10E  
HPR2501004K10E  
HPR3001004Z10E  
HPR4001006K10E

The new NexTek Failsafe, HiRel series EMI filter is designed for harsh environments. The core design is based off our widely popular, field proven C.O.T.S. (Commercial-Off-The-Shelf) products. The expected environments encountered by many applications in the military, automotive, aerospace and medical industries demand highly robust and reliable components, including Filters, which must cope with the extreme operating conditions determined by the applications.

Inherited in the design Fail Safe redundancy, the redundancy feature increases the reliability by 20x over the standard COTS product.

NexTek's portfolio of HiRel filters are specifically manufactured to withstand the electrical and mechanical stresses caused by factors such as vibration, extremes of temperature, corrosion, magnetism, and outgassing.

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### FSF Series – FailSafe

The NexTek FSF series is designed specifically to manage or prevent random failures while in operation. The patent pending internal design of this filter is abuse-tolerant and provides a level of failure-mode control and reliability over and above most feedthrough filter capacitor designs in the market. The redundancy increases the reliability by a factor of 40X compared to NexTek's HPR series. The FSF filters are built on advantages of ceramic technology, including high temperature operation, high capacitance, volume efficiency particularly for dc applications.



- Excellent EMI Filtering from 1KHz to >1 GHz.
- Built in Redundancy for High Reliability, (MTBF): 66M Hrs
- Varying Ratings: 50A to 400A
- Multiple Voltage Ratings: up to 1000Vdc and 480Vac
- High Capacitance Ratings and Tolerances.

#### Product Examples:

FSF0554705Z10  
FSF3001004Z10

### NexTek HCP High Current pi ( $\pi$ ) Filter Series

The NexTek HCP Series feedthroughs are a type of passive capacitor-inductor-capacitor (CLC) filter that features its internal components in a pi shaped configuration. This type of filter name is derived from the internal circuit layout which resembles the Greek letter pi ( $\pi$ ).

Pi filters are generally used as a rectifier, low pass, and high pass filters. In each of these applications, a properly designed pi filter will dramatically improve the output quality of the signal. Thanks to its combination of capacitors and inductors, these pi filters have substantially increased insertion loss above 1 MHz and achieve higher output quality than simpler filters such as the L, C, or LC filters.



- Maximum Filtering at Minimum Frequency, 1KHz to >1 GHz.
- Extremely Compact Design
- High Capacitance up to 22µF
- High Quality Robust and Compact Design

#### Product Examples:

HCP1801004Z10  
HCP1802206M10  
HCP1804704Z10

### NexTek HCS High Current pi ( $\pi$ ) Filter Series

The NexTek HCS Series feedthroughs are very similar and has all the characteristics of the HCP but with added transient suppression. The transient suppression is a combination of nonlinear components and filtering action. The suppression components can withstand high currents, which can reduce switching reactive energy as well as externally produced transients.



- Integrated Various Transient Suppression Configurations
- Maximum Filtering at Minimum Frequency, 1KHz to >1 GHz.
- Extremely Compact Design
- High Capacitance up to 22µF
- High Quality Robust and Compact Design

#### Product Examples:

HCS1801004Z2A  
HCS1802206M04  
HCS1804704K01



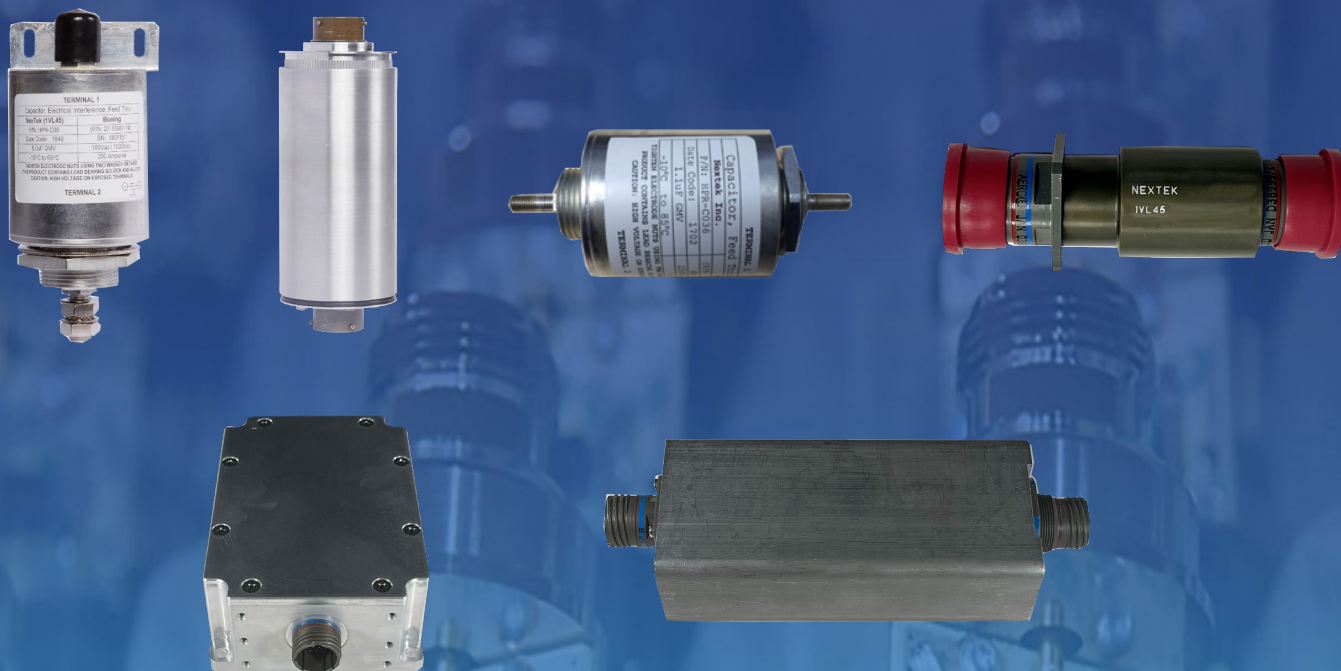
### NexTek Custom Filters

NexTek designs custom high quality EMI filters in accordance with various stringent design regulations, Military Standards, MIL-STD, Radio Technical Commission for Aeronautics, RTCA and Military Performance Standards, MIL-PERF. NexTek EMI filters provide exceptional electrical performance at a cost-effective price point. We have extensive product knowledge and know how to glean from our decades of design experience. NexTek designs, engineers, and manufactures all our EMI Filters to suit your applicable requirements in the USA.

- Frequency ranges: DC to 1 GHz
- Current: 10A to 1000A
- Voltage: up to 1000Vdc and 480Vac
- Capacitance: Nano (nF) to Micro Farads ( $\mu$ F)
- Operating Temperature: -55 to +85°C
- Various Mounting Configurations

### Typical Product Design Standards:

MIL-STD-461  
MIL-PRF-15733  
MIL-STD-202  
MIL-STD 220



For more details on specific products that meet these standards listed above or to discuss our custom offerings and EMI Filter capabilities, please contact a NexTek representative or sales engineer for immediate assistance.

## Testing Service Capabilities:

NexTek has the capability to perform a wide range of tests for EMI filters. Testing is performed in accordance with customer requirements and other electrical and environmental tests to guarantee a quality product that meets and exceeds customer expectations. These tests typically consist of electrical, mechanical, and environmental parameters within MIL-STD-202.

We also offer Environmental Stress Screening and Qualification Testing. This testing process assures the absolute best quality and accuracy required in today's demanding environments. Screening and testing is performed on every production unit and can help identify any latent defects that can occur in manufacturing. Qualification testing is performed on new products for proof of design. ESS and Qualification testing that can be performed at NexTek's facility or at an authorized Lab this includes, but is not limited to, electrical ATP, vibration, shock, thermal cycling, thermal shock, altitude, humidity, hermetic sealing, and burn-in.

Unique custom testing systems designed by NexTek assures the accuracy required in today's demanding environments. Testing is performed by employing a 50-ohm source and load impedance per MIL-STD-220. The individual filter performance is stated in terms of insertion loss.

## Quality and Manufacturing Standards:

NexTek prides itself in providing high quality products to meet and exceed customer expectations. We are fully committed to comply with all applicable quality and regulatory requirements and standards. We execute our business by leveraging an effective quality management system. The drive for quality enables us to offer a ten (10) year warranty knowing we confidently deliver products free from defects and on time.

- ISO 9001:2015
- AS9100D
- IPC 610
- J-STD

## Who we are and what we do

Since 1986, NexTek is recognized as a World-Class leading supplier of innovative, high-quality coaxial RF surge protection devices (SPD's) and EMI/EMC/EMP Filters and capacitor products that protect critical and sensitive electronic equipment. NexTek is a proven innovative supplier with an extensive coaxial product offering covering a vast range from DC to 18 GHz. NexTek designs and manufactures these products from its Billerica, Massachusetts USA headquarters, approximately 30 minutes from Boston.

All NexTek Coaxial and EMI Filter products feature field proven designs and construction. Products come with a Ten (10) year factory warranty. These SPD and EMI Filter products are designed to withstand harsh environmental conditions. With hundreds of thousands of products installed and operational on all seven (7) continents and in many space applications, NexTek has built an exceptional reputation for quality and service.

NexTek is continually expanding its product offering, so please visit our website for the latest news and product releases. [www.nextek.com](http://www.nextek.com)

Other Filter and Surge Arrestor Products from NexTek:

- RF Coaxial Surge Protector Devices
  - DC/AC Power Line Surge Suppressors - DCL Series and ACL Series
  - Apapters and Custom Connectors
  - Coaxial HIRF Limiters
  - Data Line Surge Suppressors - DLP Series
  - Grounding Kits and Hardware
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The information contained in the brochure is accurate and representative of the parts described herein. NexTek reserves the right to make necessary modifications to the part without notice to implement improvements as required.