# electromagnetic integrated solutions





# optimized designs for a wide range of new applications & markets

## Defense

- Specialty Connectors
- QPL'd Coaxial Filters
- Military Custom Power Filters
- Ceramic Capacitors
- Magnetics

### Communications

- Coaxial Interconnects
- Commercial Custom
   Power Filters
- Surface Mount Filters
- Magnetics

## **Avionics**

- Specialty Connectors
- Coaxial Filters & Interconnects
- Film Modules
- Custom Power Filters
- Magnetics

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## **Alternate Energy**

- Film Modules
- Specialty Ceramics
- Magnetics

## Medical

- Coaxial Filters
   & Interconnects
- Ceramic Capacitors
- Power Filters
- Magnetics

## Industrial

- Ceramic Capacitors
- Coaxial Filters
   & Interconnects
- Film Modules
- Specialty Connectors
- & Harnessing
- Magnetics

## electromagnetic integrated solutions

API Technologies has been the world's leading provider of custom application-specific EMI filter solutions since 1968. Whether modifying an existing component or working from a "clean sheet" approach, we'll develop a new product or integrated assembly to help you address the mechanical, electrical and/or power requirements of your next design. API Technologies' Spectrum Control line of electromagnetic integrated solutions includes not only the industry's most complete line of coaxial EMI components, but also an expanded offering of advanced ceramics, power film capacitors, filtered and unfiltered interconnects, and magnetics.

### Innovative Solutions from Components to Complex Assemblies

Understanding how and where potential EMI and other problems exist in an electronic system can be a daunting challenge. API's solutions address all mechanical, electrical, and environmental concerns of your system while ensuring the project is kept on

#### Most Complete EMI Line

We offer the flexibility to filter EMI at the power source, at the I/O connection, in a barrier wall or on the PCB. Our industry-leading line includes inductors, glass and resin seal filters, SMT filters, filter plates, filtered connectors, power entry and power line filters, and military/aerospace multisection filters... most available RoHS compliant.

#### New Specialty Connectors, Ceramics, Film Capacitors and Magnetics

API Technologies' Spectrum Control product line has grown significantly in recent years. We now offer an expanded line of unfiltered and filtered connectors and custom connector harnessing, advanced ceramics and ceramic capacitors, power film capacitors and a broad range of magnetic solutions.

#### Low Cost Manufacturing

Our commitment to be the world's most efficient EMI filter, interconnect and magnetics manufacturer has resulted in only using the best technology and people for our global network of design and manufacturing facilities. Our ability to achieve this goal is strengthened by our 75,000 sq. ft. manufacturing plant in Guang Dong, China and our state-of-the-art plant in Juarez, Mexico.

#### MIL Qualified Products

We offer over 800 standard QPL products & DSCC part numbers. Look to us for the largest number of MIL-PRF-15733, MIL-PRF-28861, DSCC 84084, MIL-PRF-49470 and MIL-C-11015 filters. Whether a COTS buy or engineered solution, we're the ideal source for your design.

budget and schedule. API's Spectrum Control design process begins with our extensive library of standard components, which we frequently develop into custom assemblies offering a more complete, high performance solution... saving you time and money.

#### Design & Testing Support

Integral to solving EMC problems is the ability to test for compliance. We conduct a wide range of EMC and environmental tests and use that data in our design process. The result is the most comprehensive EMI evaluation and design resource available.

#### Meet Vendor Reduction Goals

The breadth of API's Spectrum Control product line can help you reduce your sourcing base. Combined with our sister divisions of API Technologies, you've got a real opportunity to reduce suppliers and lower overall costs.



## technologies corp.

Spectrum Control

eis.apitech.com

ISO 9001:2008 TS-16949

# **Electromagnetic Integrated Solutions**

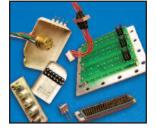
CERAMIC CAPACITORS COA				
Specialty Ceramic Components	Advanced Ceramics	Three Terminal Chips, Power/ Square & Mini Surface Mount Filters	Miniature & Solder-in Filters	Hermetic/Resin Sealed Filters & MLFT Filters
Medical implantable devices, EMI/RFI suppression filters, commercial and military applications, power supplies, converters	Chemical and fluid handling systems, microwave hybrid applications, HF/RF power amplifiers, computer, medical and network products, multi line designs, circular and D-sub connectors	Cellular telephones and base stations, telecommunication equipment, computer and peripheral equipment, digital AV equipment such as TV, VCR and DVD, power amplifiers, power supplies, and temperature and motor controls	Ideal for microwave applications such as attenuators and oscillators. Perform well in high impedance circuits where large capacitance values are not practical	Power supplies, signal lines, rocket ignitors, aerospace, DC motors, telecomm & military/secure communications, medical equipment, mining/oil drilling, transceivers, microwave filters, industrial control systems, multi-circuit filter assemblies
<ul> <li>Discoidals         <ul> <li>Low inductance, non-polar Filtering and decoupling of high frequency applications Reliable, low profile, multi-layered designs</li> </ul> </li> <li>Tubular Capacitors         <ul> <li>Small, lightweight, reliable, high dielectric strength</li> <li>Uniform insertion loss over a broad frequency range</li> </ul> </li> <li>Switch Mode Power Supplies         <ul> <li>Ideal for DC-DC power supply applications</li> <li>Capacitor assemblies with low ESR/ESL</li> <li>Leaded configuration safeguards the device against thermal and mechanical stresses</li> </ul> </li> <li>Fed/MIL approvals         <ul> <li>MIL-PRF-49470 approvals</li> </ul> </li> </ul>	<ul> <li>Structural Ceramics         <ul> <li>High wear and corrosion resistance             Temperature stability and strength             Superior thermal shock resistance             Custom solutions available</li> </ul> </li> <li>Capacitor Arrays         <ul> <li>Variable mounting style selection             Decreased assembly time –             one placement             Reduced component stress             Parallel and series configurations             of chip capacitors</li> </ul> </li> <li>Planars         <ul> <li>Custom geometry configurations             available             Design flexibility with multiple             capacitance values             Established circular, D-sub and             mini connector designs available</li> </ul></li></ul>	<ul> <li>Three Terminal Chips</li> <li>Non-polar, surface mountable</li> <li>Superior filtering characteristics</li> <li>Available in 0603, 0805, 1205, and 1806 sizes</li> <li>Power, Square &amp; Mini Surface Mount Filters</li> <li>PSM: 2 – 20 Amps (FI) 2 – 10 Amps (Pi)</li> <li>SSM &amp; MSM: 10 Amps</li> <li>High temperature construction</li> <li>Small, square mechanical geometry enhances soldering to a PCB</li> <li>Tape and reel and bulk packaging</li> <li>Simple structure and high withstanding voltage</li> </ul>	<ul> <li>Small size options         Ideal for use when real estate             is limited             Solder-in, Knurled press-in             &amp; 2-56 threaded Spanner     </li> <li>Design flexibility         Wide range of solder-in             bushings with a variety of             circuits: C, L, and Pi             Custom lead options available     </li> <li>Construction         High temperature construction     </li> <li>Plating         Suitable for gold bonding             when specified     </li> <li>Coaxial         Feed-through filtering     </li> <li>FED/MIL approvals         Qualified to MIL-C-11015         and MIL-PRF-15733     </li> </ul>	<ul> <li>Hermetic/Resin Sealed</li> <li>Cost-effective solutions Low cost filters provide protection in hostile environments</li> <li>Design flexibility Wide range of bushing sizes, lead configuration options and circuit types including C, L, Pi, transient suppression Pi, T, &amp; TT</li> <li>Reliability Built in accordance with MIL-PRF-15733 or MIL-PRF-28861</li> <li>FED/MIL approvals Qualified to MIL-PRF-15733, MIL-PRF-28861 and DSCC 84084</li> <li>Safety Some select filters U.L. 1459 recognized and CSAC22.2 certified</li> <li>MLFT - Motor Line Feed-Through Filters</li> <li>One component solution Eliminates the need for multiple capacitors, inductive coils, leads and PCB assemblies</li> <li>Easy installation Provides a connector interface for a space saving EMI solution</li> </ul>
<ul> <li>Discoidals         <ul> <li>.080 to 0.600 in. diameter</li> <li>50 to 500 Volt</li> <li>NPO, X7R and Z5U ceramic available</li> </ul> </li> <li>Tubular Capacitors         Feed-through and Pi circuit         <ul> <li>0.081 to 0.122 in. diameter</li> <li>50 to 200 Volt</li> </ul> </li> <li>Switch Mode         <ul> <li>Power Supplies</li> <li>BP, BX, BR or BQ ceramic available</li> <li>Lead options: in, out or straight</li> </ul> </li> </ul>	<ul> <li>Structural Ceramics Materials: Steatite, Cordierite and Alumina</li> <li>Finishing methods: glazing, tumbling, plating</li> <li>Planar &amp; Capacitor Arrays Capacitance values up to 40 μF depending on array</li> <li>Voltage ratings up to 1500 VDC</li> <li>Temperature rating -55°C to 125°C</li> </ul>	Three Terminal ■ Voltage Up to 100 VDC ■ Current Up to 2 Amps ■ Capacitance Up to 220,000 pF PSM/SSM/MSM ■ Rated voltage 50 - 200 VDC ■ Capacitance 47 pF to .01 μF ■ Temp range -55°C to +125°C	<ul> <li>Insertion loss range Effective filtering to 18 GHz in a shielded application</li> <li>Capacitance Up to 30,000 pF</li> <li>Operating voltage Up to 750 VDC</li> <li>Temperature range -55°C to +125°C</li> </ul>	<ul> <li>Insertion loss range Effective filtering from 10 KHz to 18 GHz with proper installation</li> <li>Capacitance and temperature characteristics To 5.2 μF NPO, X7R, Y5V, Z5U</li> <li>Temperature range -55°C to +125°C</li> <li>Voltage ratings (max.) To 2500 VDC 240 VAC @ 400 Hz</li> <li>Current ratings (max.) To 100 Amps</li> </ul>
50 to 500 Volt eis.apitech.com/ceramic	eis.apitech.com/ceramic	RoHS eis.apitech.com/smt	Rolls eis.apitech.com/lowpass	RoHS eis.apitech.com/lowpass

Applications

Features / Benefits

### AXIAL FILTERS & INTERCONNECTORS

**Filter Plates** & Shrouded Latch Plates & Assemblies



Telecommunications equipment, military, industrial, scientific, remote sensory and medical equipment

- Total reduced costs Economical method of meeting EMC requirements
- Excellent filtering Outperform surface mount filters at frequencies above 130 MHz; provide an EMI filtered signal line between electronic system modules
- Reliability Every filter plate is tested 100% for key parameters
- Standard centers 0.100" and 2 mm centers allow for easy termination
- Easy Mate<sup>™</sup> filter plate Design provides for quick installation into predefined cutout
- Microcircuit packages Custom designs available with a variety of materials, filtering and connectors
- Rugged construction Shroud protects filter element from potential damage
- Insertion loss range Effective insertion loss from 1 MHz to 18 GHz with proper installation
- Capacitance Pi: 68 pF to 5000 pF
- Feed-through: 10 pF to 4000 pF Temperature characteristics
- NPO, X7R, Y5V, Z5U
- Temperature range -55°C to +125°C
- Voltage ratings (max.) To 250 VDC
- Current ratings (max.) To 5 Amps standard

RoHS eis.apitech.com/plate

Filtered Terminal Blocks



Telecommunications equipment, industrial controls, power supplies, uninterruptible power supplies. military, instrumentation and power distribution equipment

- Rugged construction Provides protection to filtering element; especially useful for repeated changes in field wiring
- Design flexibility 2 to 6 terminals available in "Barrier Strip" 2 to 12 terminals available in European variety
- Performance Filter elements provide high insertion loss for EMI filtering of AC and DC power and control lines
- Reliability Every terminal block is tested 100% for key parameters
- European style blocks Available in English and metric spacing
- FED/MIL approvals Barrier strips are recognized to U.L. 1059 file E133076 and approved by CSA Std 22.2 No. 158-1987 and ECN584B, LR92537: 52-160 series 100 VDC UL/CSA 52-257 series 250 VAC UL/CSA
- Insertion loss range Effective insertion loss from 1 MHz to 18 GHz with proper installation
- Capacitance 2500 pF
- Temperature range -55°C to +105°C
- Voltage ratings (max.) Barrier: to 250 VAC European: to 100 VDC
- Current ratings (max.) Barrier: 30 Amps

European: 12 Amps

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Low Cost Ferrite **Filtered D-Sub Connectors** 



Personal computers, microcomputersapplied products, peripheral/terminal equipment, industrial process equipment, cellular base stations. PBX telecommunications equipment, araphics workstations, and medical electronics

- Cost-effective solutions Low cost, high performance; replaces individual filters on PCB, saving cost and space
- Design flexibility Available in 9, 15 and 25 lines standard density
- Compact design Interchangeable with standard D-subminiature connectors
- Performance Gold plated contacts

Superior filtering of high frequency interference; ground plane design provides superior EMI shielding

Reliability Each connector position is tested 100% for critical electrical parameters to ensure consistent performance

- FED/MIL approvals UL 94V-0, UL/CSA recognized
- Insertion loss range 1 MHz to 5 GHz and beyond
- Capacitance and temperature characteristics To 120 pF – 1500 pF
- Temperature range -40°C to +125°C
- Voltage ratings (max.) 500 VDC
- Current ratings (max.) 5 Amps

#### **High Performance** Filtered **D-Subminiature & Combo Connectors**



Telecommunications equipment, cellular base stations, secure communications, medical electronics, industrial process equipment, microwave TX/RX, personal computers, graphics work-stations and aerospace applications

- Excellent filtering Filter types include Pi or feed-through capacitors; signal, power contacts; groundplane design provides superior EMI shielding
- Design flexibility 9 through 50 line construction, standard, high density, mixed pin loading & selectively loaded lines
- Reliability Each connector position is tested 100% for critical electrical parameters to ensure consistent performance
- Numerous options Hardware, mounting, waved metal gaskets, hooded strain reliefs, combined filter types and plating
- FED/MIL approvals UL 94V-0, UL/CSA recognized
- Insertion loss range
- Capacitance and To 5600 pF
- Voltage ratings (max.) 200 VDC
- Current ratings (max.) 5 Amps

#### Filtered Datacom **Connectors**



Data networking equipment, personal and industrial computers and peripherals, workstations, fax/modems, copy machines, original telephone manufacturing, medical equipment, broadband transmission equipment, bay connectorization and multiplexing

Cost-effective solutions Modular jack connectors filtered with ferrites

Miniature ribbon connectors and adapters with chip capacitors

Mini din receptacles filtered with ferrites

USB connectors with inductors or chip capacitors for filtering

Design flexibility Modular jack receptacles available in single or multiport styles with various shielding options

Miniature ribbon connectors and adapters available in 50-line configurations with a variety of hardware options

Mini din receptacles available fully shielded with either straight or kink legs

- 1 MHz to 18 GHz and beyond
- temperature characteristics NPO, X7R, Y5V, Z5U
- Temperature range -55°C to +125°C

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#### Reliability

Each connector position is tested 100% for critical electrical parameters

- Insertion loss/ inductance range Effective insertion loss from 1 MHz to 18 GHz with proper installation
- Capacitance Up to 820 pF
- Temperature range -55°C to +125°C Voltage ratings (max.)

#### 1000 VDC (miniature ribbon connectors) 500 VDC (modular jack connectors)

Current ratings (max.) 5 Amps RoHS eis.apitech.com/data

eis.apitech.com/series100

### **CONNECTORS & HARNESSING**

### **POWER FILTERS & FILM M**

Specialty Connectors



Commercial and military avionics, satellites, telecommunications, power supplies, electronic warfare, ground/air weapon systems and mining and oil drilling exploration

 Excellent filtering Tubular and planar filtered arrays using Pi, LC, T, and C circuits; TVS protection available

Design flexibility
 Filtered MIL-DTL-38999,
 MIL-DTL-83723,
 MIL-DTL-26482,
 MIL-DTL-24308,
 MIL-DTL-55116 as well as custom filtered connectors

 Reliability
 Each connector position is tested 100% for critical electrical parameters

Specialty Unfiltered Connectors Built to MIL specifications, custom shells to fit available space. Integral strain relief. Power, signal & coax line combinations

Insertion loss range
 Effective insertion loss
 from 1 MHz to 18 GHz with
 proper installation

Capacitance and temperature characteristics To 0.1 µF

COG, X7R, Z5U

- Temperature range -55°C to +125°C
- Voltage ratings (max.) 125 VAC @ 400 Hz up to 1000 VDC

Custom Cable & Harnessing



Commercial and military avionics, telecommunications, industrial equipment, mining & oil exploration, medical equipment

Signal & Discrete Cables Point-to-point, multi-conductor, branched harness, flex, semi-rigid, rigid circuit card assembly

**RF Cables** Phase matching, rigid/semi-rigid cable, custom RF cable builder tool

**Power Cables** Cooper "Roughneck" 4/00 + power distribution cable fabrication

- Interconnects Harnesses can include a wide range of interconnects both unfiltered or API – Spectrum filtered products, sensors & potentiometers
- Manufacturing expertise Services include lead wire preparation, soldering & tinning, marking & ribbon cable processing Overmolding – rapid custom mold

 development (2 weeks typical)
 100% tested Continuity

Isolation (1500VDC)

Standard assured All cable assemblies & harnessing built in accordance with WHMA-IPC-620 & J-Std-001

Printed circuit board assemblies built in accordance with IPC-A-610 In house design & build

- Wire processing range 28AWG to 350MCM
- Temperature range -55°C to +200°C
- Current ratings (max.) To 750 Amps

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Frequency ratings To 40 GHz High Current Feed-Through Filters



Cellular base stations, telephone racks, high current switch mode power supplies, power amplifiers and servers, industrial equipment and laser welders

- Easy installation Bolt-in style, surface mount
- Design flexibility Available with single, dual, triple and quad configurations, different stud lengths, mounting brackets hardware and EMI gasketing available
- Performance Ideally suited to help meet NEBS, GR1089, and EN55022
- Agency approvals Designed to meet agency approvals, some selected filters UL 1950 recognized, CSA C22.2 certified and TüV approved

Custom options Custom interfacing, contact pins, wire leads, multiple outputs

- Environmental Can be used in both indoor and outdoor applications
- Current ratings (max) To 500 Amps
- Voltage ratings (max) To 1000 VDC and to 240 VAC
- AC: 1 MHz to 1 GHz

DC: 150 KHz to 10 GHz

High performance options available with IL up to 100 dB

- Temperature range -55°C to +125°C
- Capacitance 4.7µF max Class Y2 and Y4 available

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**Power Entry** 

Modules

Digital equipment, personal computers and peripherals, measuring instruments, home appliances, monitor and display units

- Rugged construction Designed to perform in industrial environments
- Design flexibility Available in PCB mount, bolt-in, and snap-in configurations, fast-on tab, solder lug or flying leads, Fused and Switched and Fused options available

Performance Ideally suited for products that must conform to FCC part 15 regulations

Meets over voltage of IEC 664 category II and complies with IEC 950 Metal case provides high performance

- Agency approvals UL recognized, CSA certified, TüV approved (tested and found to be in accordance with VDE 0565 Part 3)
- Custom options
   Value added connectors, wire leads, ring terminals
- Current ratings (max) Up to 15 Amps
- Switched/Fused 2, 4, and 6 Amps
- Voltage ratings (max) From DC to 250 VAC, 60 Hz
- Insertion loss range Effective filtering from 100 KHz to 30 MHz
- Temperature range -25°C to +85°C
- Leakage current
   0.35 mA to 0.50 mA max for general purpose filters

0.005 mA to 0.10 mA max for medical filters

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RoHS

Power Line Filters & 3 Phase Power Line Filters



Digital equipment, personal computers and peripherals, measuring instruments, medical, industrial, telecommunications equipment, factory automation, UPS, vending machines, elevators, and switch mode power supplies, welders, appliances, inverters and converters

- Rugged construction Designed to perform in industrial environments
- Design flexibility Available with fast-on or bolt-in terminals

Single and dual stage

Delta and Wye configurations

Performance Ideally suited for products that must conform to FCC part 15 regulations

Both metal and plastic cases provide high performance

Excellent attenuation for high voltage impulse

- Agency approvals Several styles are UL recognized, CSA certified, TüV approved (tested and found to be in accordance with VDE 0565 Part 3)
- Current ratings (max)
  Amp to 100 Amps
  Amps to 200 Amps (3 Phase)
- Voltage ratings (max) From 48 VDC to 250 VAC, 60 Hz 250 VAC to 440 VAC (3 Phase)
- Insertion loss range Effective filtering from 100 KHz to 30 MHz
- Temperature range -25°C to +85°C -40°C to +85°C (3 Phase)
- Leakage current 0.35 mA to 3.0 mA max

Rohs

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eis.apitech.com/circular

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### MAGNETICS

#### Military/Aerospace Multisection Filters & Custom Commercial Assemblies

**ODULES** 



Commercial and military avionics, satellites, secure communications, ruggedized computer, radar, electronic warfare and around weapons systems. telecommunications, cellular base stations, medical equipment, telephone switching and traffic control systems

#### Rugged construction

Metal enclosures built to withstand MIL-STD environmental conditions, designed to perform in industrial or military environments

#### Design flexibility

Filters designed to meet customers' requirements Transient protection Circuit breakers Voltage cut-off Other options available

#### Performance

Provides auick and economical solutions to meet customers' specific requirements Increases speed-to-market and decreases development time Designs optimized through EMC verification

Military approvals Available to meet MIL-PRF-15733 and MIL-STD-461

Military testing IAW MIL-STD-202, MIL-STD-105

Designed to meet NEBS and safety agency approvals

- EMI design verification Equipment verification can be accomplished through Spectrum Control's EMI test lab
- Current ratings (max) Up to 250 Amps

Voltage ratings (max) 400 VDC and 250 VAC standard; custom voltage ratings available

- Insertion loss range Effective filtering from 10 KHz to 10 GHz
- Temperature range -55°C to +125°C

Leakage current Standard and low leakage designs available

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#### **Film Capacitors** & Modules



Renewable energy conversion equipment; electric vehicle inverter and charger equipment; laser pulse power and radar systems: industrial welders. elevators and medical defibrillators; high voltage and aircraft power supplies and motor drives

#### Design flexibility

Wide range of dielectrics: polypropylene, polyester (mylar), polyphenylene sulphide (PPS) Variety of terminations: radial or axial leads, machined, stamped, lugs, PCB mount, threaded, inserts Multiple enclosures: metal case, pre-molded plastic, wrap and fill Hermetic, non-hermetic Various geometries: cylindrical, flat, modular, oval-wound Encapsulation options: Dry or impregnated Multitude of sizes: less than an inch to several cubic feet

Performance

Deliver high DC current, high pulse capability, high stability, low self-inductance, and low ESR

Compact size

#### Testing & Verification Simulation software replicates real work environment

In house testing and verification insures function and compliance

Voltage ratings AC: Up to 750 VAC DC: Up to 20,000 VDC

- Temperature range -55°C to +150°C
- 0.3% to 0.15% typical
- IR 3 GO min
- Ripple currents Up to 400 arms

## Current Transformers



#### **Current Sensors**

- Measures electrical current (AC & DC) and can transform current from high to low measurable values
- Wide primary current range of 3.5 Amps to 800 Amps

#### **High Frequency Current Transformers**

- 20 kHz-100 kHz operating frequency Available totally encapsulated, with
- or without wound primary turns and loading resistor
- Built to UL, MIL, VDE, CE specs, EMRL current transformers meet UL1244

#### Load Detector Current Sensors

- Innovative Snap-On load detectors mount on pre-wired systems without disrupting existing connections
- Broad frequency response of 30Hz to 15 kHz

• Measure currents up to 40 Amps RMS continuous and 120 Amps intermittent

#### **Toroidal Power** Transformers



- 50/60HZ, 5-15,000V (Europe ER series)

- Lower magnetic leakage, lower electrical noise and mechanical hum

#### Laminate Power Transformers



Value ranges from 3 VA to 100,000 VA

Transform line voltage to any other voltage

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#### Switch Mode Power **Supply Inductors**



- Filter inductors, toroidal current sense transformers and high frequency inverter transformers
- Performance verified in 25kHz power supply



- Precision wound heavy-duty toroidal inductors
- Up to 100 amps, standard
- Lighting dimmers low wattage residential to higher wattage commercial, motor controls, SCR controls and line filters

#### Lighting Chokes & Inductor/Filters



- Precision wound heavy-duty toroidal inductors
- 120 volt models from 12.5 to 100 Amps
- 240 volt models from 8.3 to 60 Amps

#### Modem & Module Transformers

- Broadband and voiceband transformers used for datacom and telecom applications
- xDSL, T1/E1, T3/DS3/E3/STS-1, ISDN interface modules
- ADSL / POTS splitter modules Impedance and line matching
- transformers

Custom designs available for all magnetics eis.apitech.com/magnetics

## RoHS



- - 60 Hz 120V (U.S. FR series)
  - 400Hz 115-230V (Military DR series)

- 10 to 1,000 watts with low power losses

#### Power Inductors/Chokes





#### electromagnetic ntegrated solutions api technologies corp. Spectrum Control

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- EMI Filters
- Filtered Interconnects
- Advanced Ceramics
- Specialty Connectors
- Power Filters & Capacitors
- Magnetics

#### **Sales Offices**

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## **About API Technologies**

API Technologies Corp. is a trusted provider of RF/microwave, microelectronics, and security solutions for critical and high-reliability applications. The company designs, develops and manufactures electronic components, modules, systems and products for technically demanding defense, commercial/industrial and aerospace applications. API Technologies' customers include many leading Fortune 500 companies, as well as a majority of NATO governments. While API was founded in 1981, our heritage brands have served the demanding, hi-rel marketplace for more than 60 years. API Technologies trades on the NASDAQ under the symbol ATNY.

**Power & Systems Solutions** 

**Sensors Solutions** 

**RF/Microwave & Microelectronics** 

**Electromagnetic Integrated Solutions** 

**Electronics Manufacturing Services** 

**Secure Systems & Information Assurance** 



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