

Military/Aerospace Multisection Filters

Features

- High common and differential mode attenuation
- Standard designs up to 100 Amps
- Excellent insertion loss characteristics up to 1 GHz
- Voltage rating 115-250VAC and 400VDC up to 400 Hz
- Available to meet MIL-F-15733 and MIL-STD-461 standards
- Available to meet TEMPEST and FCC requirements
- Custom designs available

Applications

- Military
- Commercial & military/aerospace
- Secured communications
- Switching power supplies
- Data processing equipment
- Ruggedized computers
- Radar
- Electronic warfare
- Ground/air weapon systems
- Satellites

Test Specifications

Test Group	Order of Test	Examination or Test	Test Method (Per MIL-STD-202)	Post Test Requirements
IIA	1	Voltage Drop	Paragraph 4.6.8 of MIL-F-15733	Three percent of rated voltage max.
	2	Leakage Current	UL 1283	Per applicable specification
	3	Temperature Rise	MIL-F-15733 Paragraph 4.6.4	25°C max.
	4	Terminal Strength	Method 211, Condition A	No evidence of loosening or rupture. 5 lb. applied force. Line Cords: 35 Lbs.
IIB	1	Shock, Medium Impact	Method 213, Condition G	Must pass DWV and Insertion Loss
	2	Vibration, High Frequency	Method 204, Condition A	Monitor for shorts or open
	3	Thermal Shock	Method 107, Test Condition A	Pass 90% DWV IR to be 30% of initial
	4	Humidity	Method 107, Condition B, except temperature equals 25°C	Pass 90% DWV IR to be 30% of initial
III	1	Life	Method 108, Condition D 1.2 x Rated AC voltage at max. operating temp. or 1.4 x DC voltage	Pass 90% DWV insulation resistance to be 30% of initial.



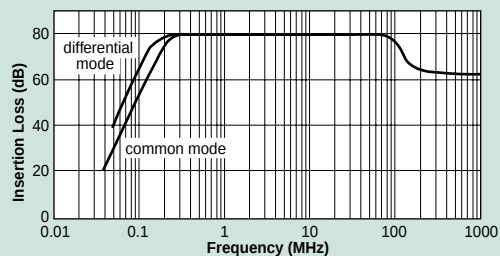
The High Performance Power Line Filters shown on pages 99 through 105 are designed to meet the following criteria.

The information shown can be used as a basis for filter specifications. (Contact factory for additional details).

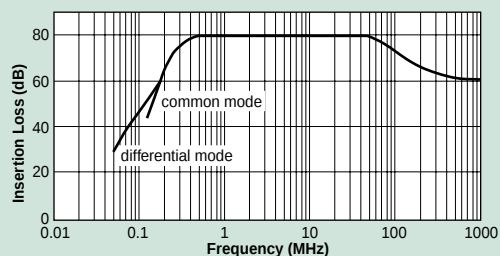
Military/Aerospace Multisection Filters

Insertion Loss

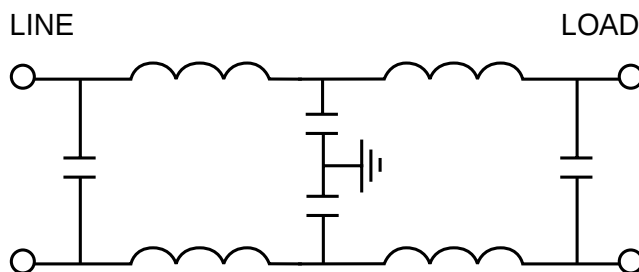
52-600-001



52-600-002

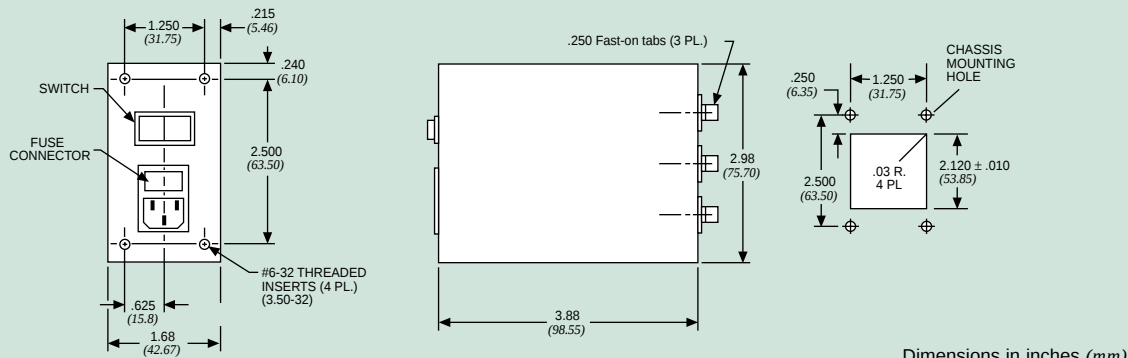


Circuit Schematic



Dimensions

52-600-001
52-600-002



Dimensions in inches (mm)

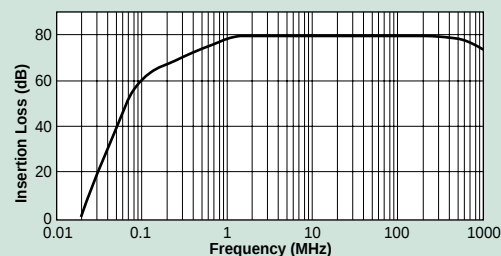
Model	Current Rating	Voltage Rating	Temperature Rating	DCR. max. (ohms)	Leakage Current (max.)	Mode (max.)	Minimum Insertion Loss (db) Per MIL-STD-220						
							50K	150K	300K	1M	10M	100M	1G
52-600-001	5A	120/240VAC 60 Hz	-40°C to +65°C	.20	1 mA	COMM	33	65	80	80	80	80	60
						DIFF	37	65	80	80	80	-	-
52-600-002	10A	120/240VAC 60 Hz	-40°C to +65°C	.10	1 mA	COMM	-	50	70	80	80	70	60
						DIFF	25	50	75	80	80	-	-

Consult factory for UL/CSA approval availability.

Military/Aerospace Multisection Filters

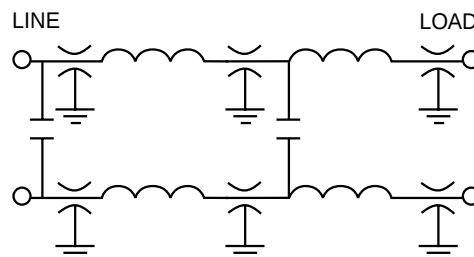
Insertion Loss

52-523-002



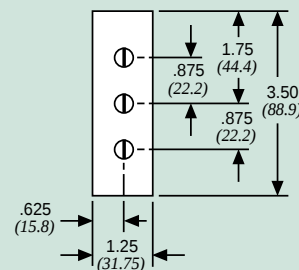
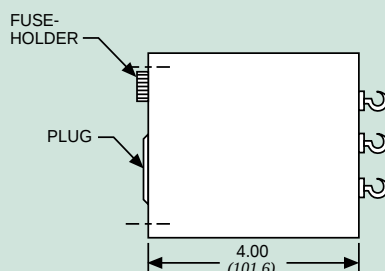
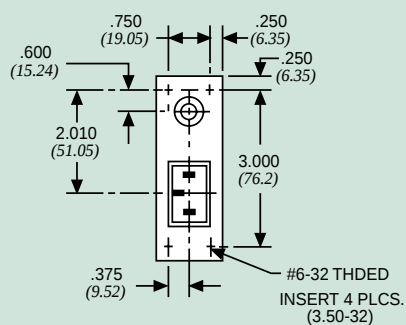
Circuit Schematic

52-523-002



Dimensions

52-523-002



Dimensions in inches (mm)

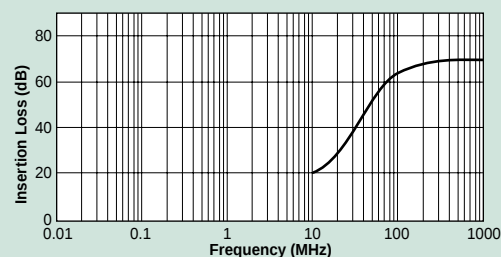
Model	Current Rating	Voltage Rating	Temperature Rating	DCR max. (ohms)	Leakage Current (max.)	Mode (max.)	Minimum Insertion Loss (db) Per MIL-STD-220						
							50K	150K	300K	1M	10M	100M	1G
52-523-002	5A	120/240VAC 60 Hz	-40°C to +65°C	.25	1 mA	COMM	—	55	60	80	80	70	60
						DIFF	—	50	60	80	80	—	—

Consult factory for UL/CSA approval availability.

Military/Aerospace Multisection Filters

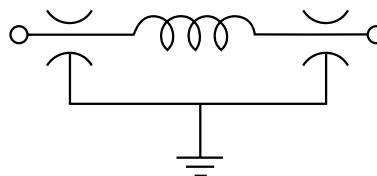


Insertion Loss
1212-0502



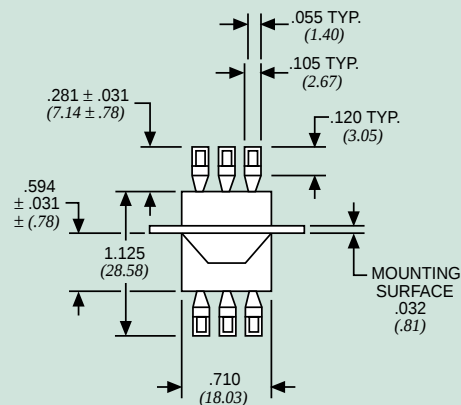
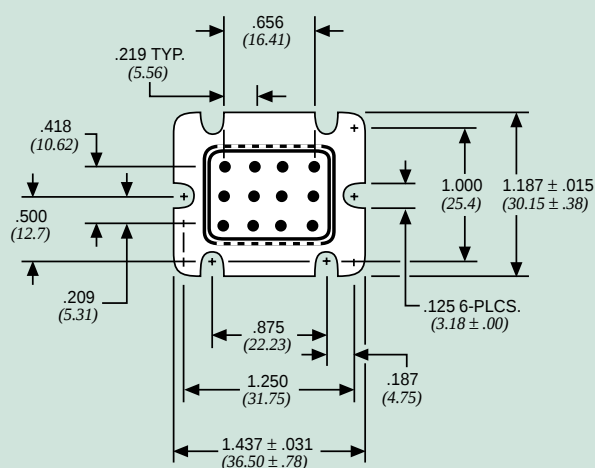
Circuit Schematic

1212-0502



Dimensions

1212-0502



Dimensions in inches (mm)

Model	Current Rating	Voltage Rating	Temperature Rating	DCR max. (ohms)	Leakage Current (max.)	C _x Value	Minimum Insertion Loss (db) Per MIL-STD-220			
							10M	100M	500M	1G
1212-0502	10A	350VDC 240VAC 60 Hz	-55°C to +125°C	.01	1 mA	5000pF	20	65	70	70

Consult factory for UL/CSA approval availability.

Military/Aerospace Multisection Filters

Secure Communications

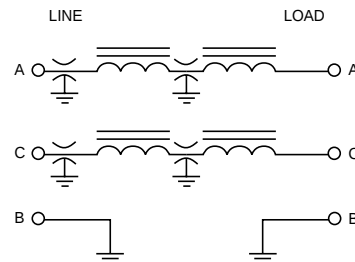
Spectrum's electromagnetic compatibility expertise in the secure communication or "TEMPEST" arena is represented by this group of high performance filters. These units are especially well suited for use in MIL-STD-461 applications to reduce conducted emissions. The filters are manufactured with glass sealed terminals and connectors.

Features

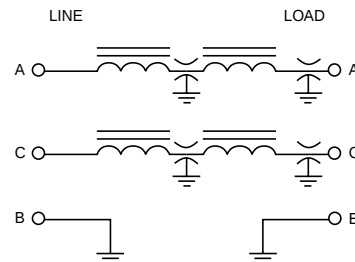
- Excellent insertion loss profile
- Available for DC & AC applications up to 400 Hz
- Available for 3-14 Amp applications
- Custom systems can be designed to your specific needs
- QPL to MIL-F 15733/63-0001



Filter Schematic A

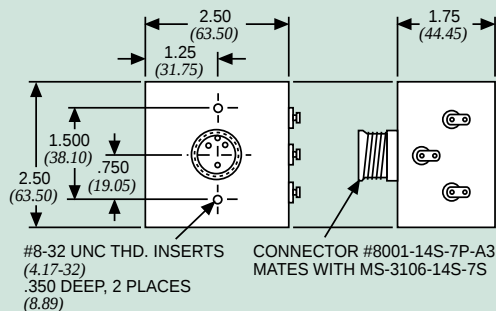


Filter Schematic B



Dimensions

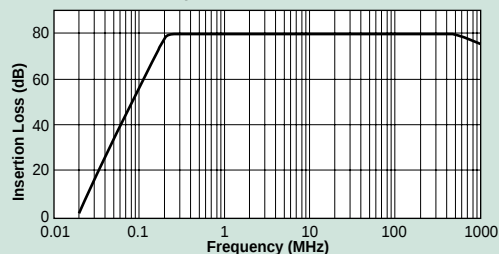
52-378-002



Dimensions in inches (mm)

Insertion Loss

52-378-002, -004 MIL-STD-220

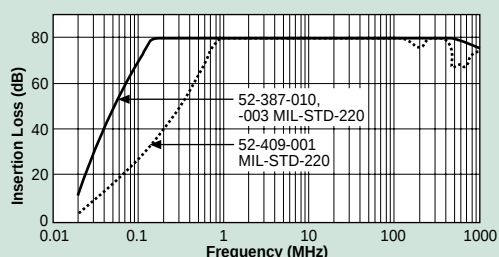


Model	Current Rating	Voltage Rating	Temperature Range	DCR max. (ohms)	Leakage Current (max.)	Schematic	Minimum Insertion Loss (db)						
							50 KHz	150 KHz	300 KHz	1 MHz	10 MHz	100 MHz	1 GHz
52-378-001	3 Amps	240VAC 60 Hz Line to Line	-55°C to 85°C	.3	50 mA	A	30	60	70	80	80	70	70
52-378-002	5 Amps	240VAC 60 Hz Line to Line	-55°C to 85°C	.2	50 mA	B	24	64	70	80	80	70	70
52-378-004	5 Amps	240VAC 60 Hz Line to Line	-55°C to 85°C	.2	50 mA	A	34	64	70	80	80	70	70
52-378-005	3 Amps	240VAC 60 Hz Line to Line	-55°C to 85°C	.3	50 mA	B	40	70	80	80	80	70	60

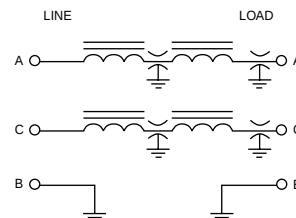
Military/Aerospace Multisection Filters

Insertion Loss

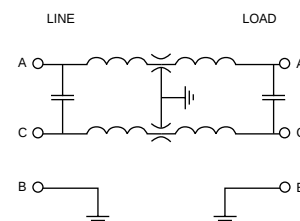
52-387-010, -003 MIL-STD-220
52-409-001 MIL-STD-220



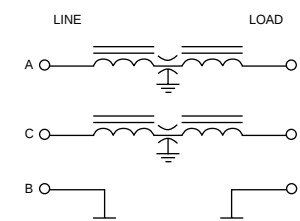
Filter Schematic C



Filter Schematic D

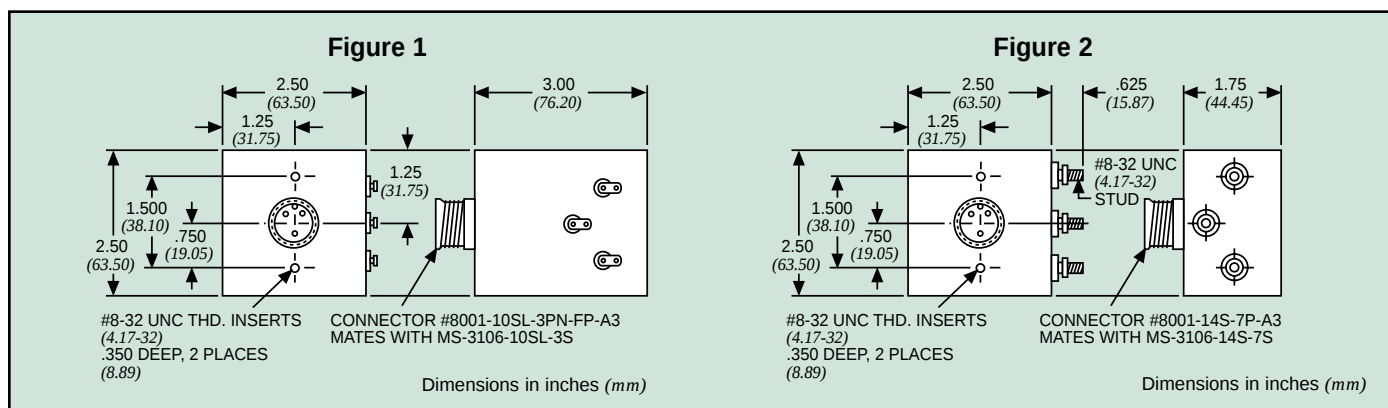


Filter Schematic E



3 Phase and 400 Hz models available.
Please consult the factory.

Dimensions



Model	Fig.	Current Rating	Voltage Rating	Temperature Range	DCR max. (ohms)	Leakage Current (max.)	Sch.	Mode	Minimum Insertion Loss (db)						
									50 KHz	150 KHz	300 KHz	1.0 MHz	10 MHz	100 MHz	1 GHz
52-387-010	1	10 Amps	240VAC 60 Hz Line to Line	-55°C to 85°C	.2	50 mA	C	common	24	60	70	80	80	70	70
52-387-012	1	5 Amps	240VAC 400 Hz Line to Line	-55°C to 85°C	.2	5 mA	D	common	34	64	70	80	80	70	70
								differential	30	30	70	80	80	-	-
52-409-001	2	14 Amps	240VAC 60 Hz Line to Line	-55°C to 85°C	.04	50 mA	E	common	14	30	45	80	80	70	60

Military/Aerospace Multisection Filters

Secure Communications

Features

- Meets applicable sections of MIL-F-15733
- Excellent performance
- Integral IEC connector
- Available with integral fused IEC connector and two pole switch
- Current ratings to 15 Amps
- Custom designs available
- Designed to meet TEMPEST requirements

Electrical Specifications

Rated current ranges 3, 6, 10, 15 Amps

Rated voltage..... 115-250VAC

Operating frequency..... 50-60 Hz

Maximum leakage current

@115VAC 60 Hz..... 1.2 mA

@250VAC 50 Hz..... 2.5 mA

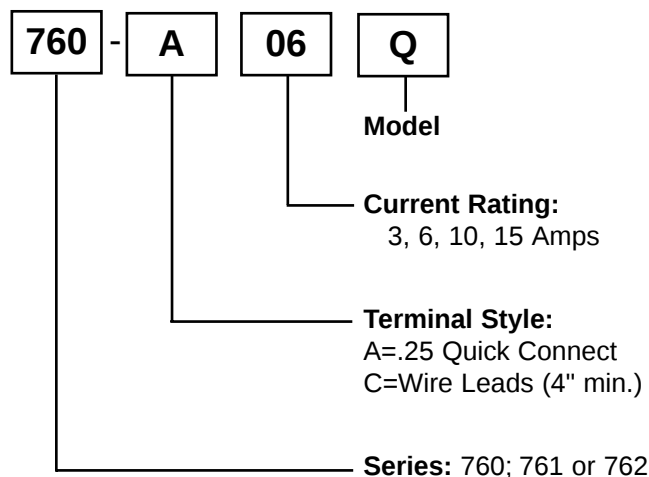
Test voltage

Line-to-Line..... 1450VDC

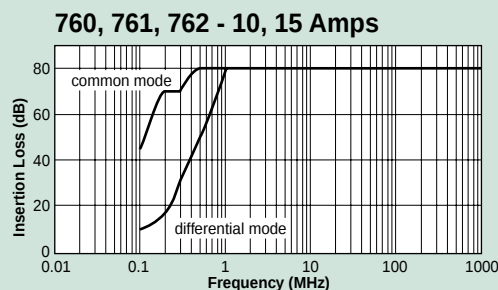
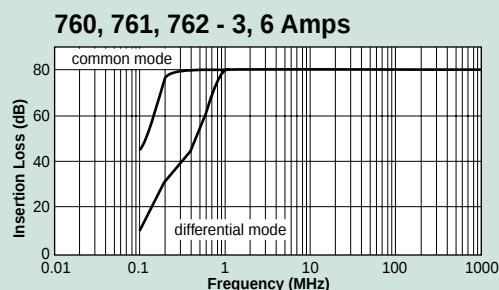
Line-to-Ground..... 2250VDC



Part Numbering System:



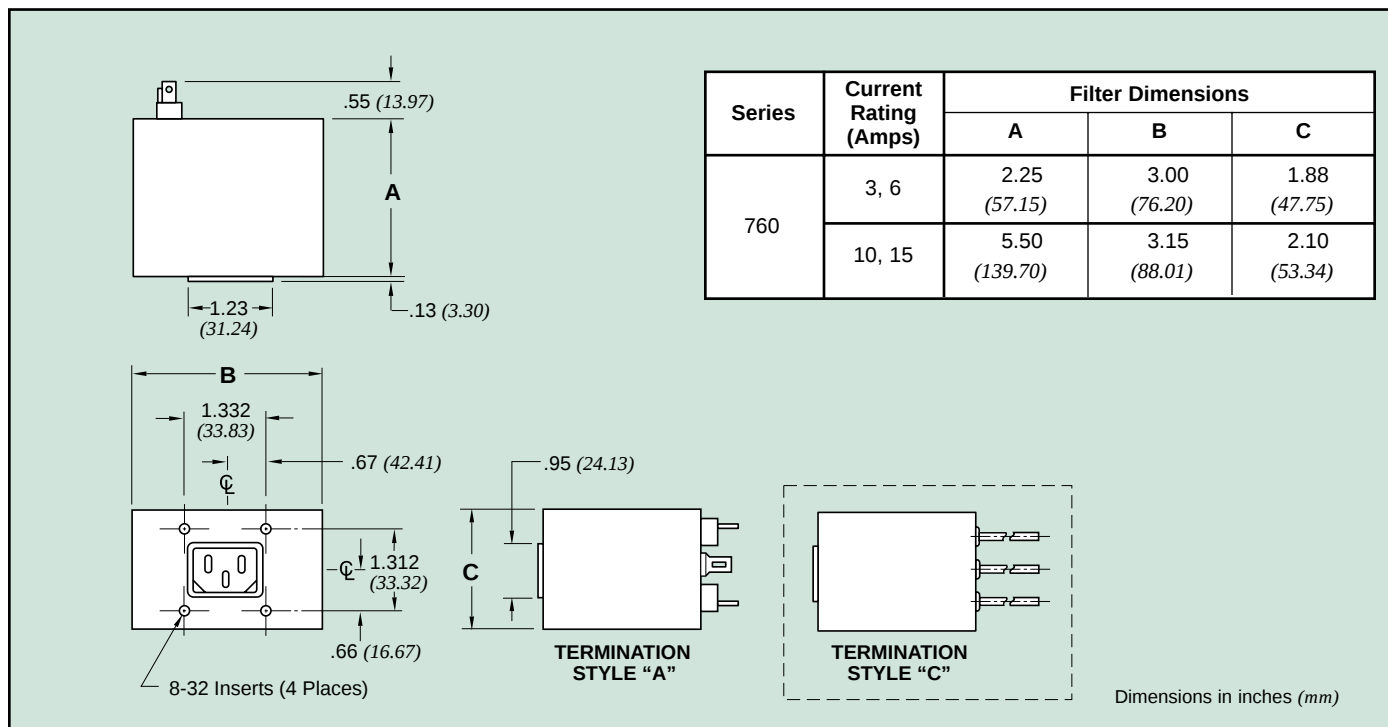
Insertion Loss



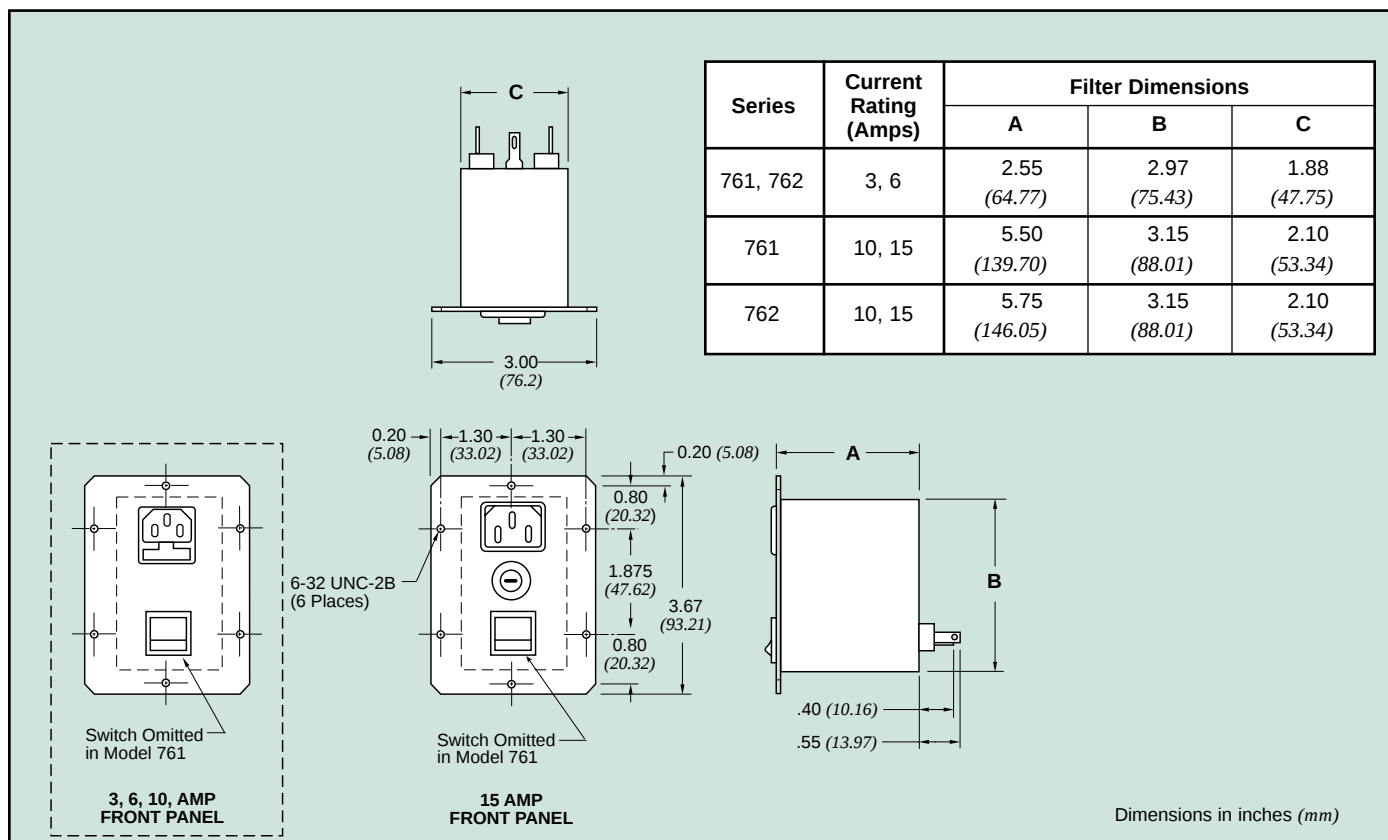
Common Mode (CM) is tested in a 50 ohm system with all lines tied together on the line and load sides of the filter.
Differential Mode (DM) is tested in a 50 ohm system using a 180° phase splitter on both sides of the filter.

Military/Aerospace Multisection Filters

Dimensions - 760 Series



Dimensions - 761, 762 Series



Custom/Application Specific Filters

SpectrumControl will address virtually any requirement for a custom power product. Our many years of experience in providing EMI/RFI solutions has allowed us to satisfy both global EMC regulations and time-to-market constraints. Spectrum Control's engineering expertise and vertical integration reduces your speed-to-market, as well as saves you money.

Features/Benefits

- Incorporates filtering and custom circuitry into one design package
- SCI's EMC Test Facility will define compliance issues
- Current and voltage ratings to meet your specifications
- Specific circuit designs to accommodate your application
- Reduces your development time
- Increases speed-to-market
- Designed to perform in industrial environments
- Designs incorporate filtering for both common and differential modes
- Ensures reliability (all parts are 100% tested)
- Designed to meet agency approvals

Options

- EMI filtering
- Transient protection
- Circuit breaker protection
- Voltage cut-off
- Reverse polarity
- Power distribution
- Indicator lights
- Leads or studs
- Agency approvals

Performance Characteristics

Insertion loss range Effective filtering from 10 KHz to 10 MHz with proper installation

Current ratings (max.) up to 500 Amps

Voltage ratings (max.) 400VDC and 240VAC standard, custom ratings available

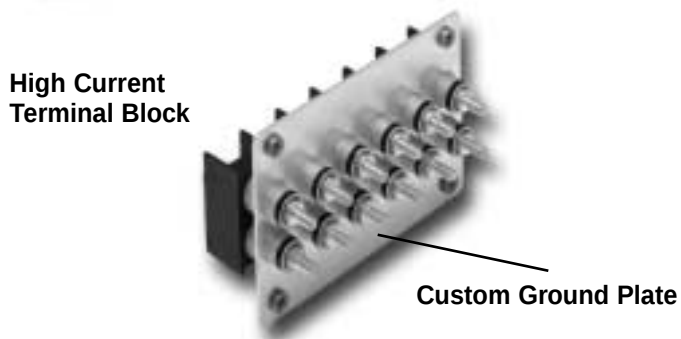
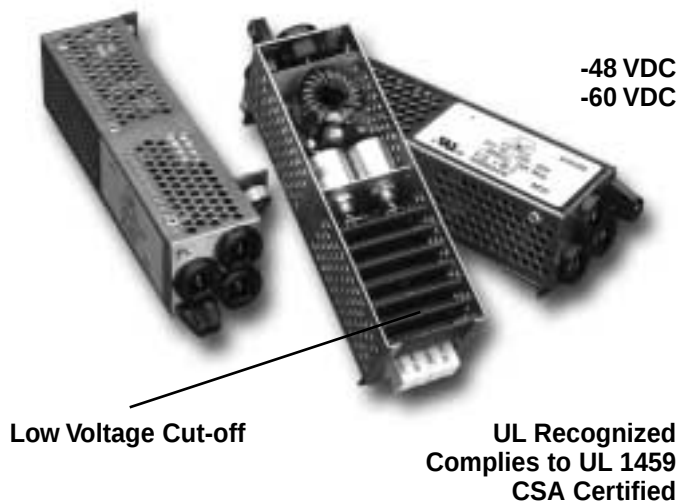
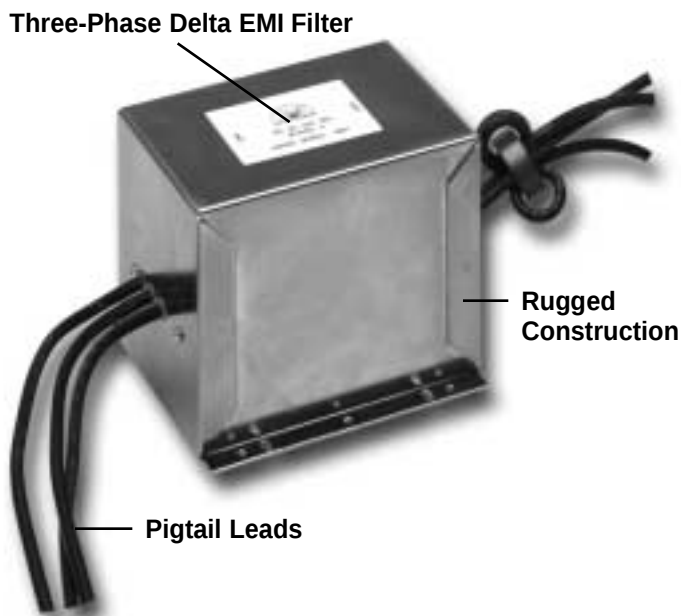
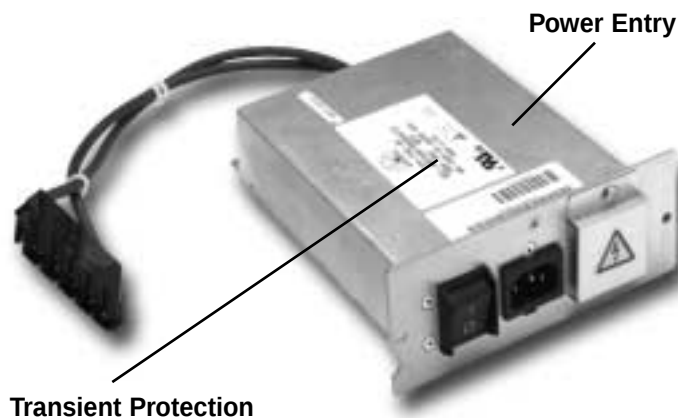
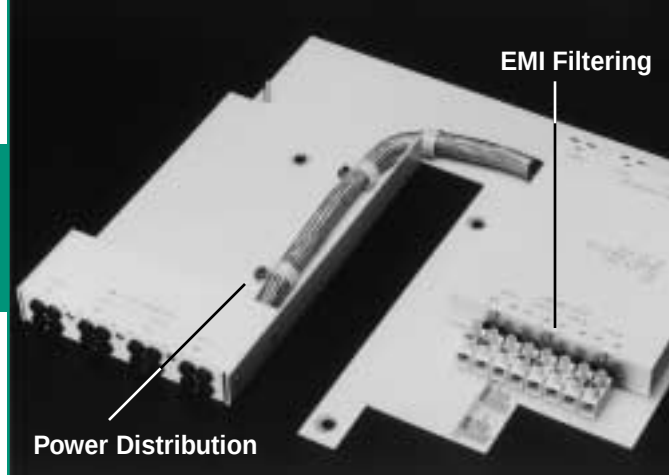
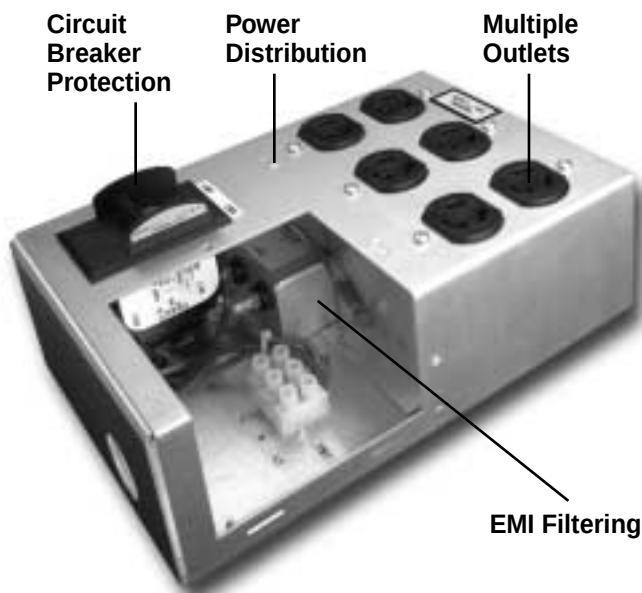
Leakage current ratings Varies, low leakage designs available

Temperature -25° C to +85° C

Specify your required current rating, voltage ratings and capacitance value.



Custom/Application Specific Filters



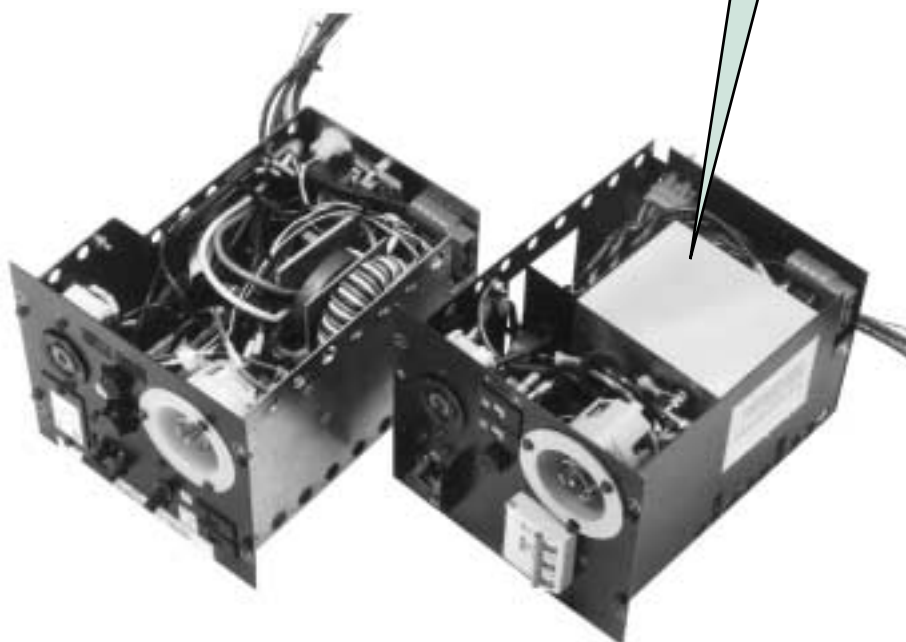
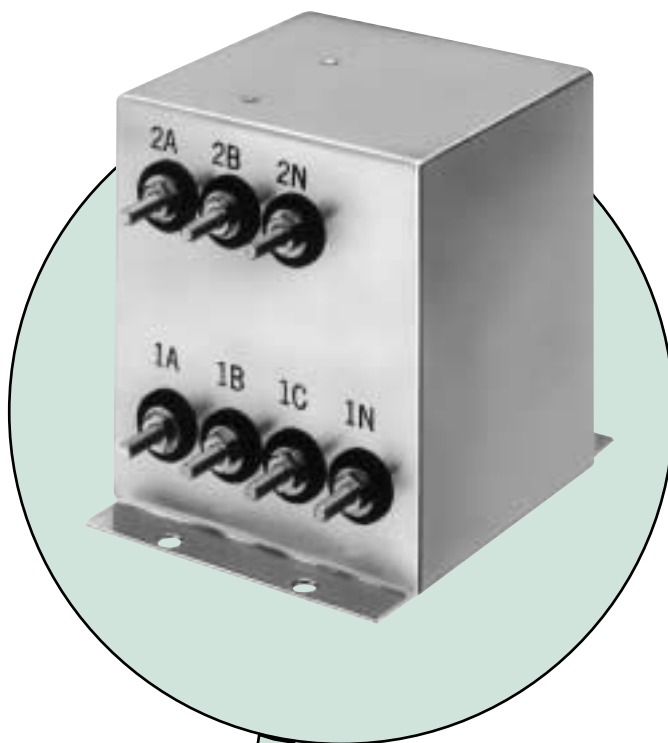
Custom/Application Specific Filters

Custom/Application Specific Filters

Spectrum Control's design teams can help transform a functional electronic design into an easy to install EMI filtered package containing all required components. We will define your EMC problem through our test facilities, develop a filter solution and manufacture product to meet your schedule.

By designing and manufacturing your entire assembly, Spectrum Control will:

- Reduce development time
- Combine your design into a compact, filtered package
- Simplify installation, saving time and money
- Increase productivity
- Complement your inventory control program
- Reduce your vendor base



Custom/Application Specific Filters



Power Distribution Units



Filtered Terminal Blocks



Single Line Filters



Power Line Filters



PSM High Current Surface Mount Filters



Remote control options available with intelligent power distribution units.