

# Power Entry Modules

*The industry's most complete line of power entry modules are ideal for products that must conform to FCC Part 15 regulations. These metal cased miniature filters offer high performance.*



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# Power Entry Modules Bolt-in Rear Terminals

## 60-BPR & BPS Series

### Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Solder lug and Fast-on tab terminals available
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF17)
- UL approved low leakage version also available

### Applications

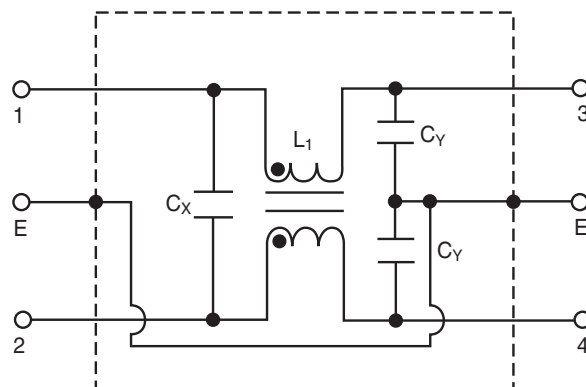
- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Tested and found to be  
IAW VDE 0565 Part 3.



### Circuit Diagram



### Specifications

Model*	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L <sub>1</sub> )	Temperature Rise (Max.)
				C <sub>Y</sub>	C <sub>X</sub>		
60-XXX-010-3-2	250VAC	1A	0.35mA	2200pF ± 20%	.022uF ± 20%	6.0mH	30°C
60-XXX-010-3-4					.047uF ± 20%		
60-XXX-010-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-010-5-4					.047uF ± 20%		
60-XXX-020-3-2	250VAC	2A	0.35mA	2200pF ± 20%	.022uF ± 20%	2.4mH	30°C
60-XXX-020-3-4					.047uF ± 20%		
60-XXX-020-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-020-5-4					.047uF ± 20%		
60-XXX-030-3-2	250VAC	3A	0.35mA	2200pF ± 20%	.022uF ± 20%	1.2mH	30°C
60-XXX-030-3-4					.047uF ± 20%		
60-XXX-030-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-030-5-4					.047uF ± 20%		
60-XXX-060-3-2	250VAC	6A	0.35mA	2200pF ± 20%	.022uF ± 20%	0.53mH	45°C
60-XXX-060-3-4					.047uF ± 20%		
60-XXX-060-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-060-5-4					.047uF ± 20%		
60-XXX-100-3-2	250VAC	10A	0.35mA	2200pF ± 20%	.022uF ± 20%	0.26mH	45°C
60-XXX-100-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-BPR-150-3-11	250VAC	15A	0.35mA	2200pF ± 20%	.1uF ± 20%	0.15mH	45°C

Note: Test voltage: 1500VAC one minute, line to ground  
Insulation resistance: 300 Mohm min. at 500VDC  
Voltage drop: 1V max. at rated current  
Weight: 45g  
Input: Compatible with IEC-320

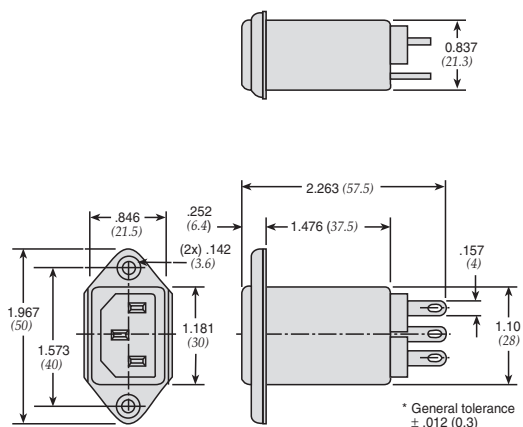
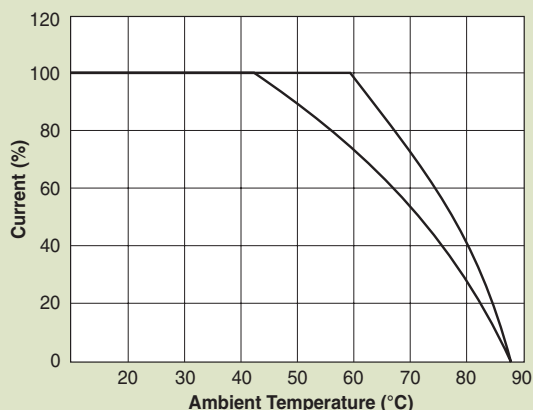
\* Substitute BPR or BPS for XXX

BPS - Solder lug terminals  
BPR - Fast-on tab terminals

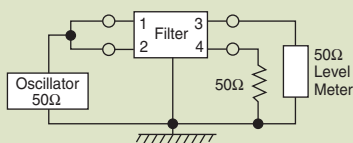
# Power Entry Modules Bolt-in Rear Terminals

## 60-BPR & BPS Series

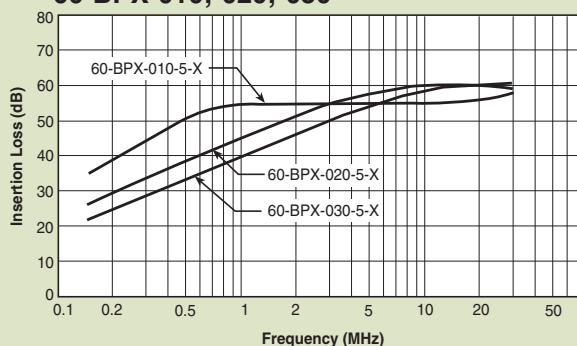
### Temperature Characteristics



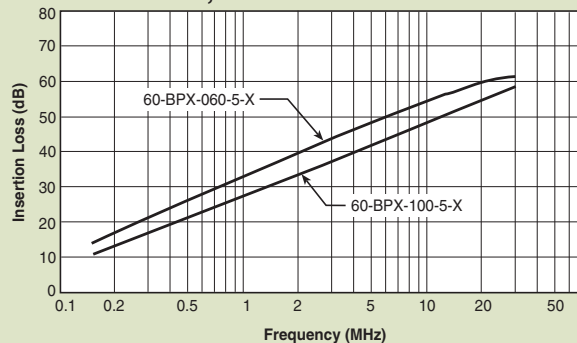
### Common Mode



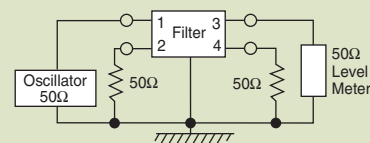
#### 60-BPX-010;-020;-030



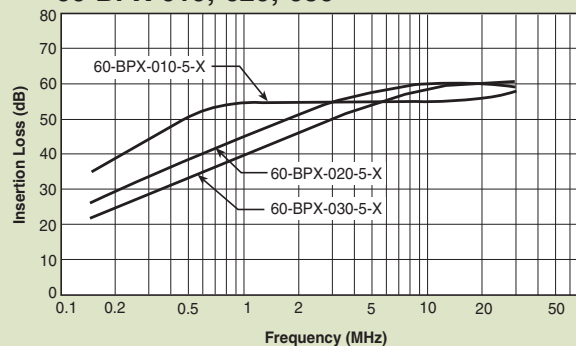
#### 60-BPX-060;-100



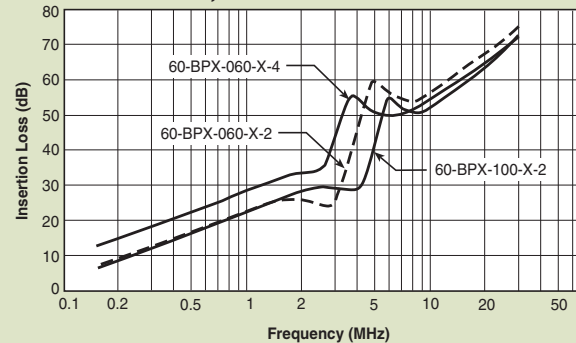
### Normal Mode



#### 60-BPX-010;-020;-030



#### 60-BPX-060;-100



# Power Entry Modules Bolt-in Right Angle Terminals

## 60-BPF Series

### Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- PCB mounting types available (see page PF46)
- Length under tab is shortened for small spaces
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF19)
- UL approved low leakage version also available

### Applications

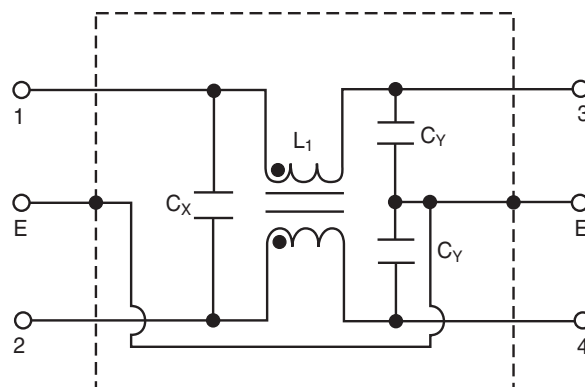
- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Tested and found to be  
IAW VDE 0565 Part 3.



### Circuit Diagram



## Specifications

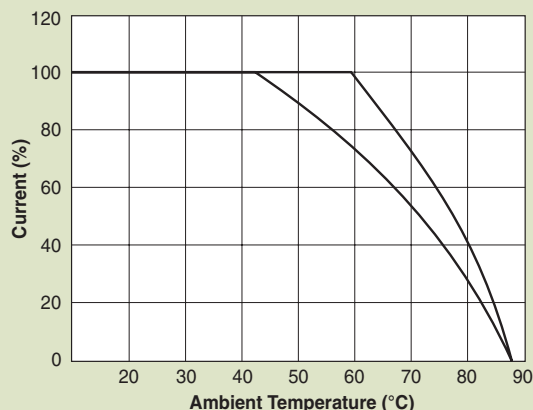
Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L <sub>1</sub> )	Temperature Rise (Max.)
				C <sub>Y</sub>	C <sub>X</sub>		
60-BPF-010-3-2	250VAC	1A	0.35mA	2200pF ± 20%	.022uF ± 20%	6.0mH	30°C
60-BPF-010-3-4					.047uF ± 20%		
60-BPF-010-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-BPF-010-5-4					.047uF ± 20%		
60-BPF-020-3-2	250VAC	2A	0.35mA	2200pF ± 20%	.022uF ± 20%	2.4mH	30°C
60-BPF-020-3-4					.047uF ± 20%		
60-BPF-020-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-BPF-020-5-4					.047uF ± 20%		
60-BPF-030-3-2	250VAC	3A	0.35mA	2200pF ± 20%	.022uF ± 20%	1.2mH	30°C
60-BPF-030-3-4					.047uF ± 20%		
60-BPF-030-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-BPF-030-5-4					.047uF ± 20%		
60-BPF-060-3-2	250VAC	6A	0.35mA	2200pF ± 20%	.022uF ± 20%	0.53mH	45°C
60-BPF-060-3-4					.047uF ± 20%		
60-BPF-060-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-BPF-060-5-4					.047uF ± 20%		

Note: Test voltage: 1500VAC one minute, line to ground  
Insulation resistance: 300 Mohm min. at 500VDC  
Voltage drop: 1V max. at rated current  
Weight: 50g  
Input: Compatible with IEC-320

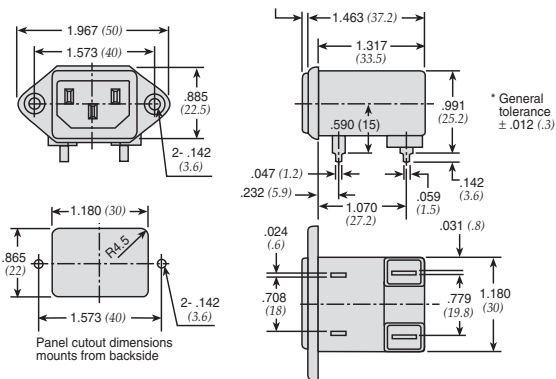
# Power Entry Modules Bolt-in Right Angle Terminals

## 60-BPF Series

### Temperature Characteristics

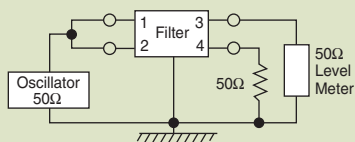


### 60-BPF Fast-on Terminals

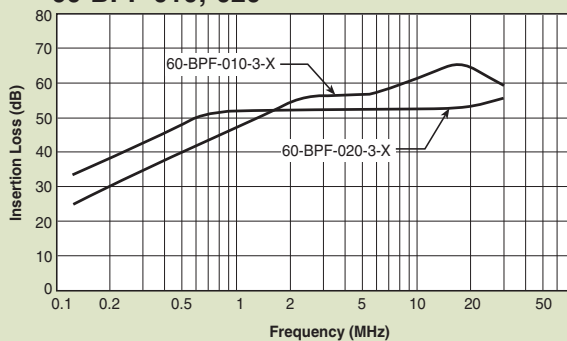


Dimensions in inches (mm)

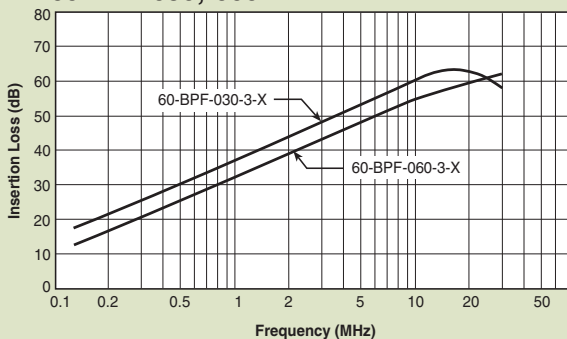
### Common Mode



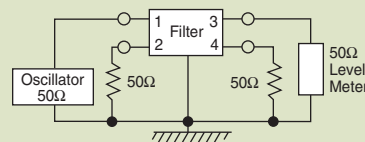
#### 60-BPF-010;-020



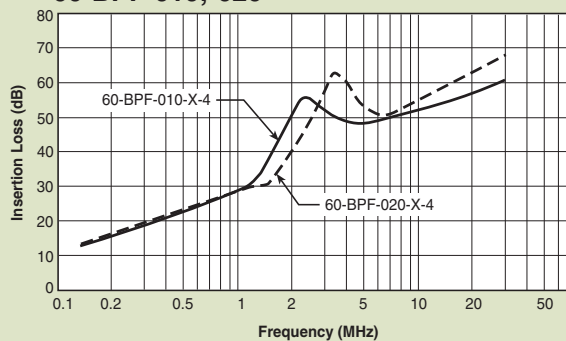
#### 60-BPF-030;-060



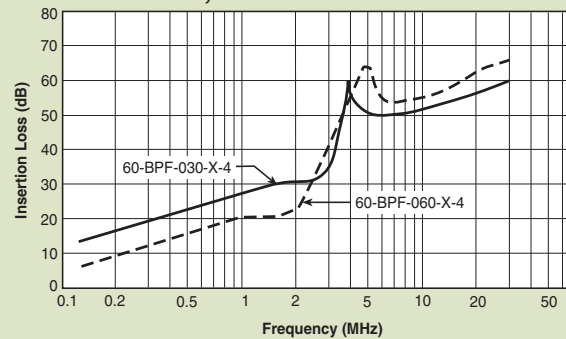
### Normal Mode



#### 60-BPF-010;-020



#### 60-BPF-030;-060



# Power Entry Modules High Frequency Attenuation

## 60-BHS Series

### Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal cased miniature filter offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- PCB mounting types available (see page PF48)
- PCB mounting minimizes space and provides economical installation
- Excellent filtering characteristics for high frequencies
- Earth coil standard
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF21)

### Applications

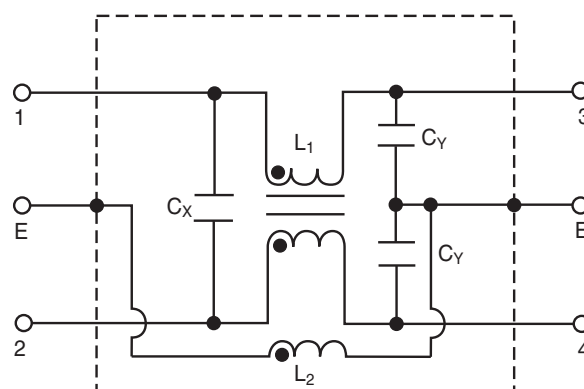
- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Tested and found to be  
IAW VDE 0565 Part 3.



### Circuit Diagram



## Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L <sub>1</sub> ) (L <sub>2</sub> )		Temperature Rise (Max.)
				C <sub>Y</sub>	C <sub>X</sub>			
60-BHS-010-3-11	250VAC	1A	0.35mA	2200pF ± 20%	0.1uF ± 20%	6mH	18.3uH	30°C
60-BHS-010-3-4					.047uF ± 20%			
60-BHS-010-5-11			0.50mA	3300pF ± 20%	0.1uF ± 20%			
60-BHS-010-5-4					.047uF ± 20%			
60-BHS-020-3-11	250VAC	2A	0.35mA	2200pF ± 20%	0.1uF ± 20%	2.4mH	18.3uH	30°C
60-BHS-020-3-4					.047uF ± 20%			
60-BHS-020-5-11			0.50mA	3300pF ± 20%	0.1uF ± 20%			
60-BHS-020-5-4					.047uF ± 20%			
60-BHS-030-3-11	250VAC	3A	0.35mA	2200pF ± 20%	0.1uF ± 20%	1.2mH	18.3uH	30°C
60-BHS-030-3-4					.047uF ± 20%			
60-BHS-030-5-11			0.50mA	3300pF ± 20%	0.1uF ± 20%			
60-BHS-030-5-4					.047uF ± 20%			
60-BHS-060-3-11	250VAC	6A	0.35mA	2200pF ± 20%	0.1uF ± 20%	.53mH	18.3uH	45°C
60-BHS-060-3-4					.047uF ± 20%			
60-BHS-060-5-11			0.50mA	3300pF ± 20%	0.1uF ± 20%			
60-BHS-060-5-4					.047uF ± 20%			

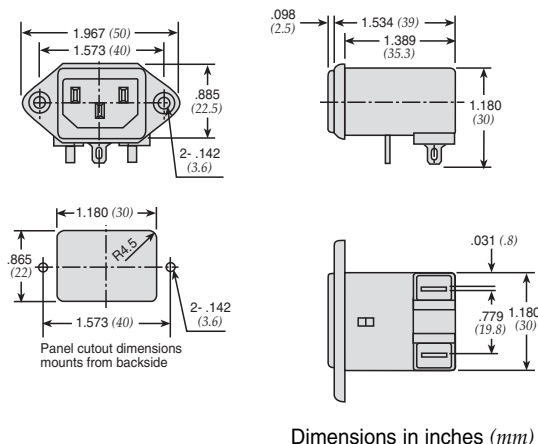
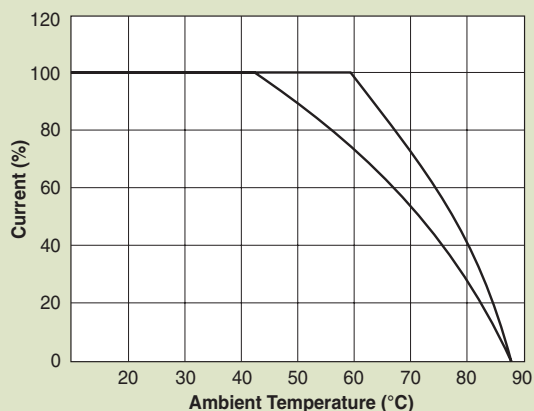
Note: Test voltage: 1500VAC one minute, line to ground  
Insulation resistance: 300 Mohm min. at 500VDC  
Voltage drop: 1V max. at rated current  
Weight: 50g  
Input: Compatible with IEC-320



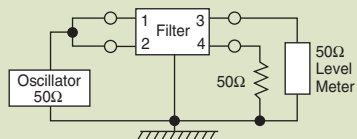
# Power Entry Modules High Frequency Attenuation

## 60-BHS Series

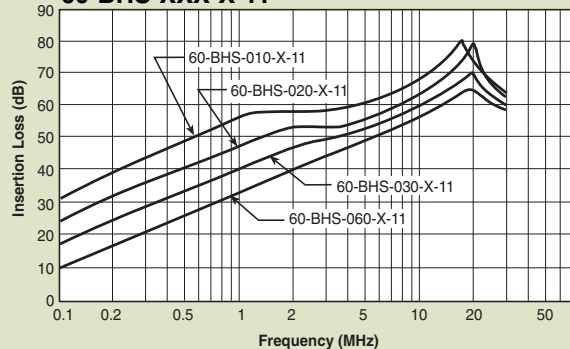
### Temperature Characteristics



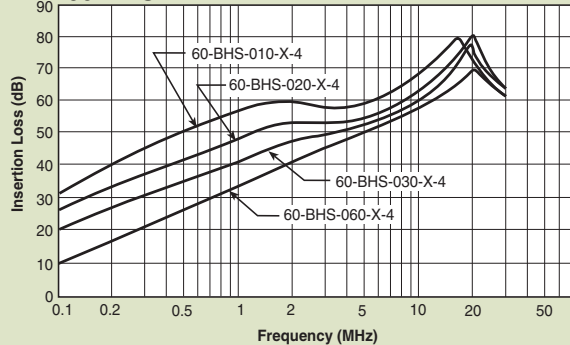
### Common Mode



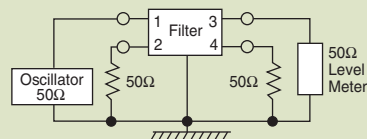
#### 60-BHS-XXX-X-11



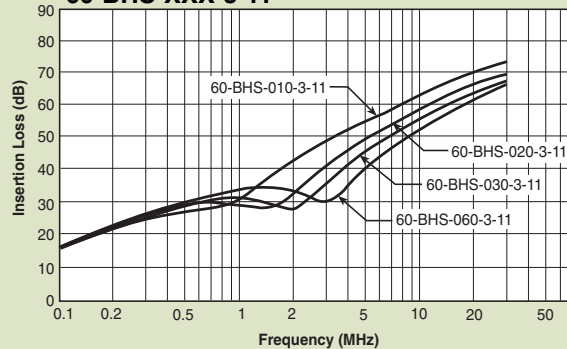
#### 60-BHS-XXX-X-4



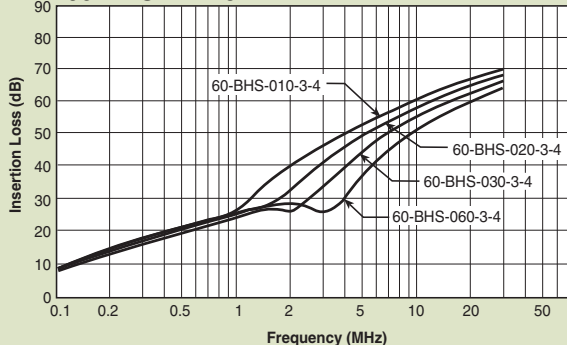
### Normal Mode



#### 60-BHS-XXX-3-11



#### 60-BHS-XXX-3-4



# Power Entry Modules Bolt-in Rear Terminals For General Purpose Applications

## 10-BPF Series



### Features

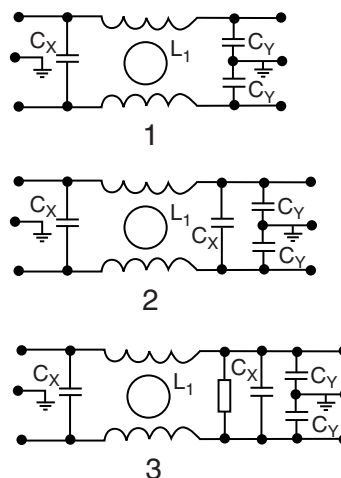
- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Operating temperature: -25°C to +70°C
- Compact configuration

### Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



### Circuit Diagram



### Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L <sub>1</sub> )	Circuit Diagram	Figure	Temperature Rise (Max.)
10-BPF-001-5-A	120/250VAC	1A	0.50mA	3300pF	2200pF	3.0mH	1	A	30°C
10-BPF-001-5-C								C	
10-BPF-003-5-A		3A		4700pF	0.01uF	1.5mH	2	A	
10-BPF-003-5-C								C	
10-BPF-003-5-D		6A		3300pF		0.5mH	1	A	
10-BPF-006-5-A								C	
10-BPF-006-5-C		10A		3300pF & 0.01uF	3300pF & 0.01uF	1.5mH	2	B	
10-BPF-006-5-D				3300pF	0.01uF	0.5mH	1	A	
10-BPF-010-5-A				3300pF & 0.01uF	3300pF & 0.01uF	1.5mH	3	B	
10-BPF-010-5-D									

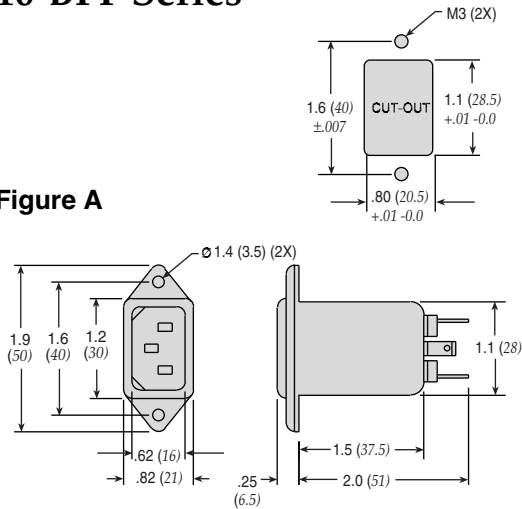
Note: Test voltage: 1500VAC one minute, line to ground  
Insulation resistance: 300 Mohm min. at 500VDC  
Voltage drop: 1V max. at rated current  
Weight: 45g  
Input: Compatible with IEC-320



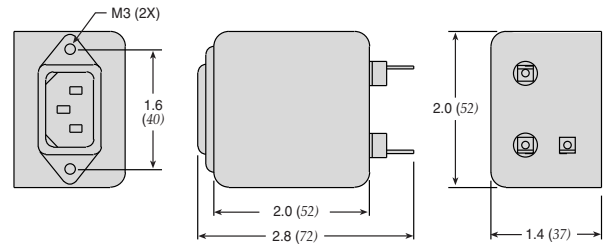
# Power Entry Modules Bolt-in Rear Terminals For General Purpose Applications

## 10-BPF Series

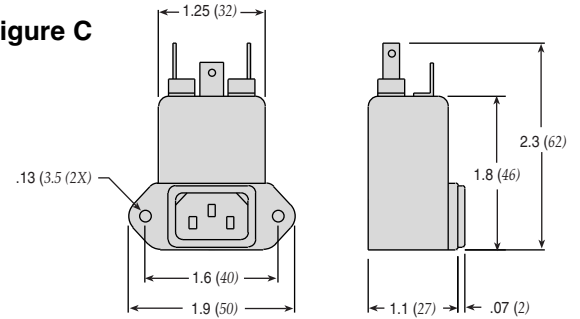
**Figure A**



**Figure B**

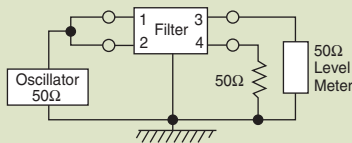


**Figure C**

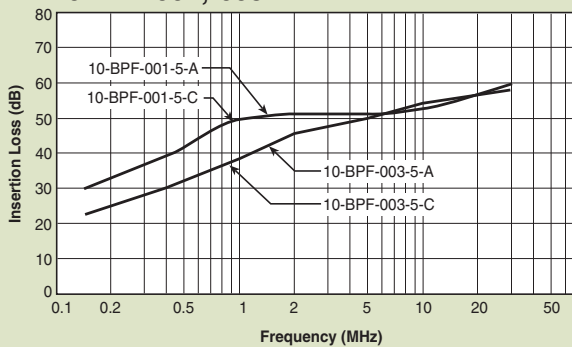


Dimensions in inches (mm)

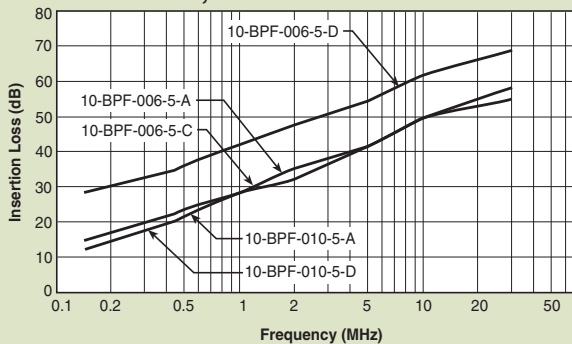
### Common Mode



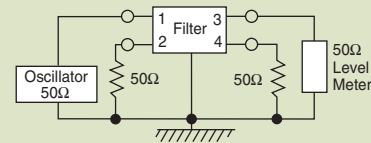
#### 10-BPF-001;-003



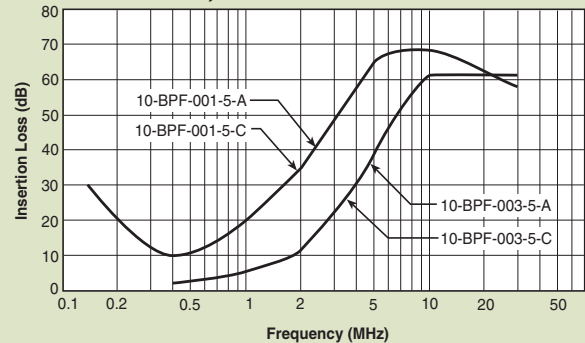
#### 10-BPF-006;-010



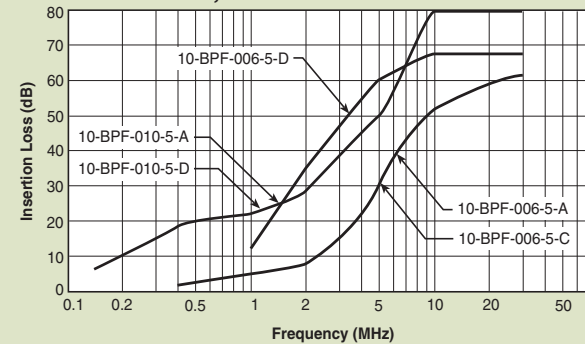
### Normal Mode



#### 10-BPF-001;-003



#### 10-BPF-006;-010



# Power Entry Modules Bolt-in Rear Terminals For Medical Purpose Applications

## 10-BPF Series



### Features

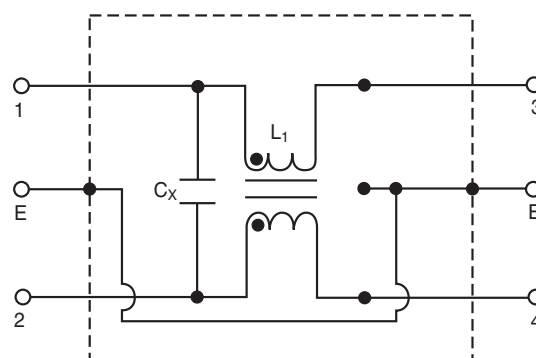
- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Operating temperature: -25°C to +70°C
- Compact configuration
- Low leakage current

### Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



### Circuit Diagram



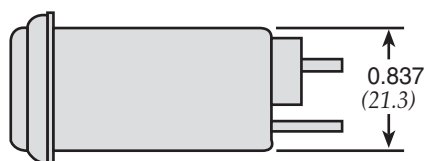
## Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance $C_x$	Inductance ( $L_1$ )	Circuit Diagram	Figure	Temperature Rise (Max.)
10-BPF-001-2-A	120/250VAC	1A	5uA	0.01uF	3.0mH	1	A	30°C
10-BPF-003-2-A		3A			1.5mH			
10-BPF-006-2-A		6A			0.5mH			

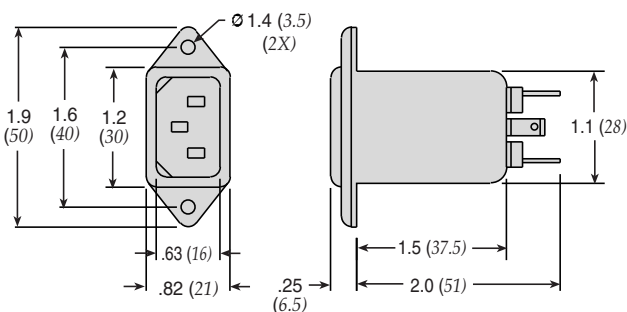
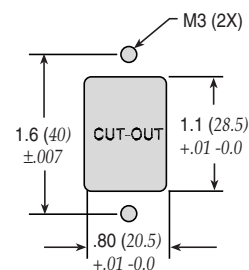
Note: Test voltage: 1500VAC one minute, line to ground  
Insulation resistance: 300 Mohm min. at 500VDC  
Voltage drop: 1V max. at rated current  
Weight: 45g  
Input: Compatible with IEC-320

# Power Entry Modules Bolt-in Rear Terminals For Medical Purpose Applications

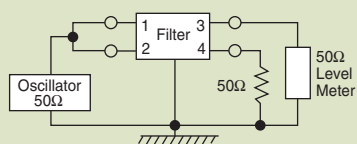
## 10-BPF Series



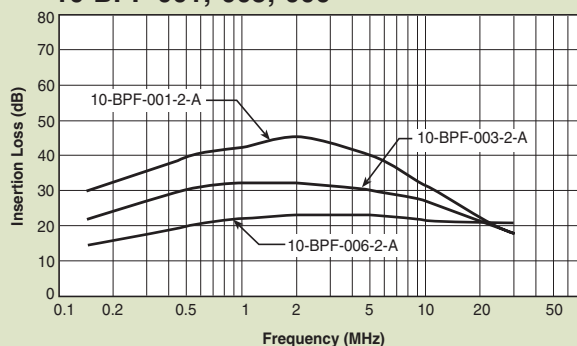
Dimensions in inches (mm)



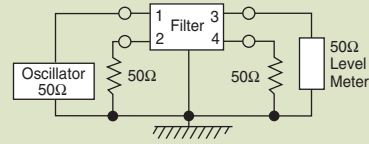
### Common Mode



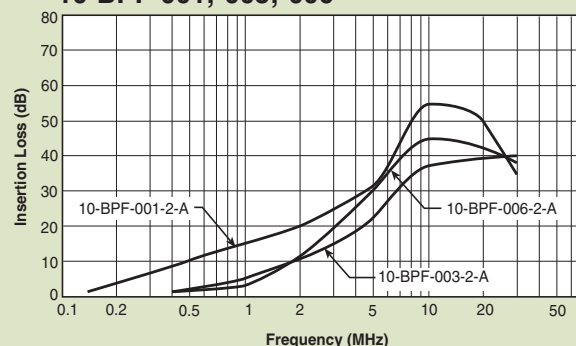
#### 10-BPF-001;-003;-006



### Normal Mode



#### 10-BPF-001;-003;-006



# Power Entry Modules Snap-in with Wire Leads

## 60-SPL Series

### Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal cased miniature filter offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Snap-in style saves labor and hardware inventory
- Wire output minimizes space and provides economical installation
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF27)

### Applications

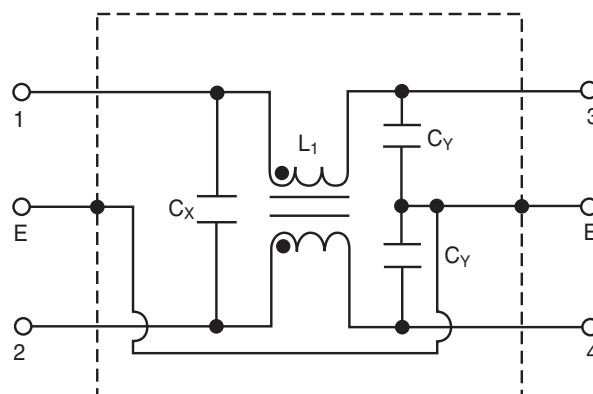
- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Tested and found to be  
IAW VDE 0565 Part 3.



### Circuit Diagram



### Specifications

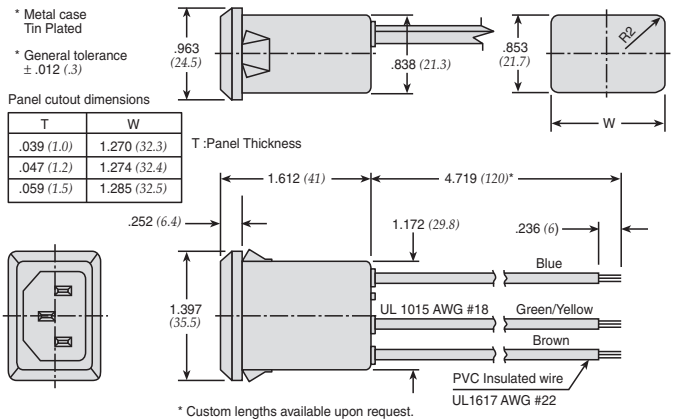
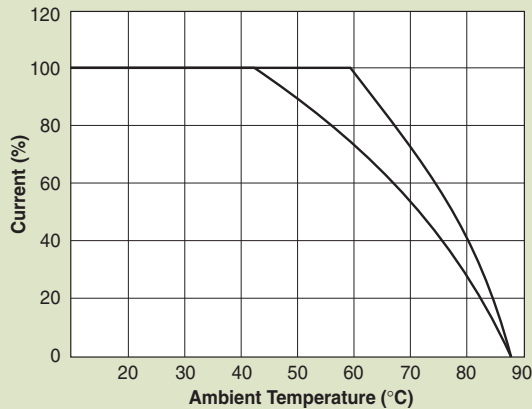
Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L <sub>1</sub> )	Temperature Rise (Max.)
				C <sub>Y</sub>	C <sub>X</sub>		
60-SPL-010-3-2	250VAC	1A	0.35mA	2200pF ± 20%	22nF ± 20%	6.0mH	30°C
60-SPL-010-3-3					33nF ± 20%		
60-SPL-010-5-2			0.50mA	3300pF ± 20%	22nF ± 20%		
60-SPL-010-5-3					33nF ± 20%		
60-SPL-020-3-2	250VAC	2A	0.35mA	2200pF ± 20%	22nF ± 20%	2.4mH	30°C
60-SPL-020-3-3					33nF ± 20%		
60-SPL-020-5-2			0.50mA	3300pF ± 20%	22nF ± 20%		
60-SPL-020-5-3					33nF ± 20%		
60-SPL-030-3-2	250VAC	3A	0.35mA	2200pF ± 20%	.022uF ± 20%	1.2mH	30°C
60-SPL-030-3-3				3300pF ± 20%			
60-SPL-030-5-2			0.50mA	2200pF ± 20%	.033uF ± 20%		
60-SPL-030-5-3				3300pF ± 20%			
60-SPL-060-3-2	250VAC	6A	0.35mA	2200pF ± 20%	22nF ± 20%	0.53mH	45°C
60-SPL-060-3-3					33nF ± 20%		
60-SPL-060-5-2			0.50mA	3300pF ± 20%	22nF ± 20%		
60-SPL-060-5-3					33nF ± 20%		

Note: Test voltage: 1500VAC one minute, line to ground  
Insulation resistance: 300 Mohm min. at 500VDC  
Voltage drop: 1V max. at rated current  
Weight: 50g  
Input: Compatible with IEC-320

# Power Entry Modules Snap-in with Wire Leads

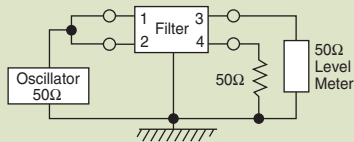
## 60-SPL Series

### Temperature Characteristics

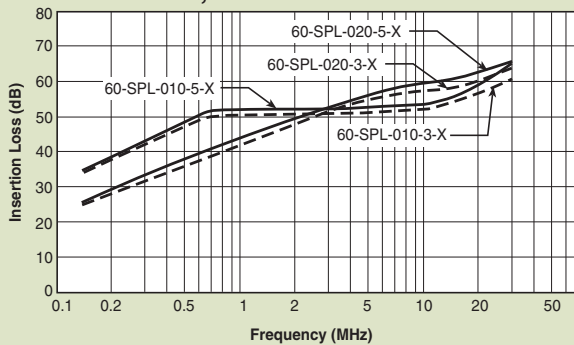


Dimensions in inches (mm)

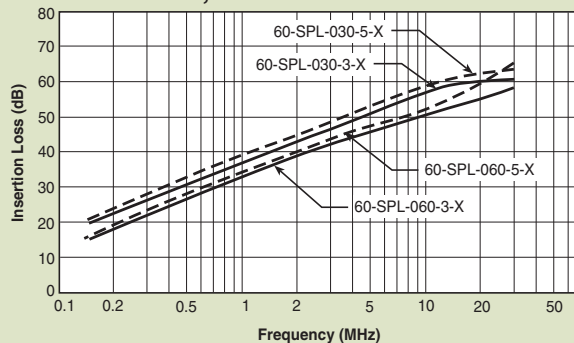
### Common Mode



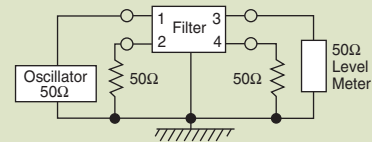
#### 60-SPL-010;-020



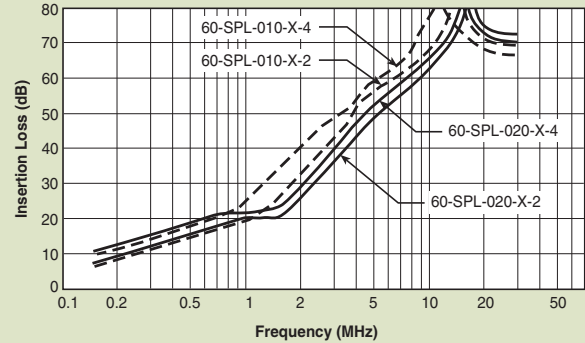
#### 60-SPL-030;-060



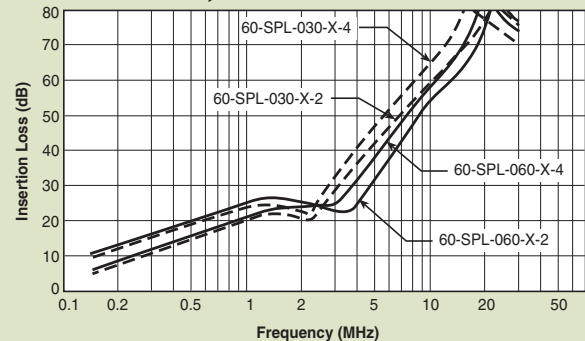
### Normal Mode



#### 60-SPL-010;-020



#### 60-SPL-030;-060



# Power Entry Modules Bolt-in with Wire Leads

## 60-BPL Series

### Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case filter offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Wire output for minimizing space use and economical installation
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF28)

### Applications

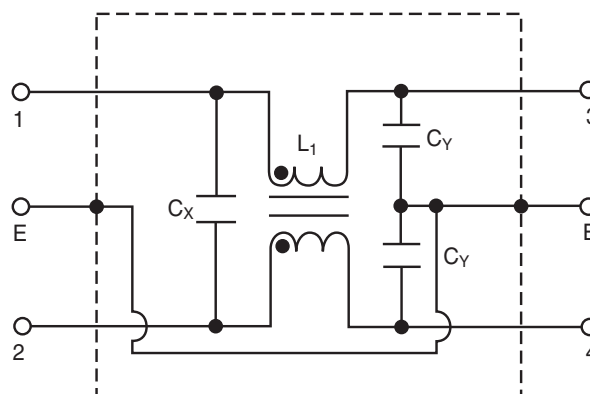
- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



Tested and found to be  
IAW VDE 0565 Part 3.



### Circuit Diagram



### Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L <sub>1</sub> )	Temperature Rise (Max.)
60-BPL-010-3-2	250VAC	1A	0.35mA	2200pF ± 20%	22nF ± 20%	6.0mH	30°C
60-BPL-010-3-3					33nF ± 20%		
60-BPL-010-5-2			0.50mA	3300pF ± 20%	22nF ± 20%		
60-BPL-010-5-3					33nF ± 20%		
60-BPL-020-3-2	250VAC	2A	0.35mA	2200pF ± 20%	22nF ± 20%	2.4mH	30°C
60-BPL-020-3-3					33nF ± 20%		
60-BPL-020-5-2			0.50mA	3300pF ± 20%	22nF ± 20%		
60-BPL-020-5-3					33nF ± 20%		
60-BPL-030-3-2	250VAC	3A	0.35mA	2200pF ± 20%	.022uF ± 20%	1.2mH	30°C
60-BPL-030-3-3				3300pF ± 20%			
60-BPL-030-5-2			0.50mA	2200pF ± 20%	.033uF ± 20%		
60-BPL-030-5-3				3300pF ± 20%			
60-BPL-060-3-2	250VAC	6A	0.35mA	2200pF ± 20%	22nF ± 20%	0.53mH	45°C
60-BPL-060-3-3					33nF ± 20%		
60-BPL-060-5-2			0.50mA	3300pF ± 20%	22nF ± 20%		
60-BPL-060-5-3					33nF ± 20%		

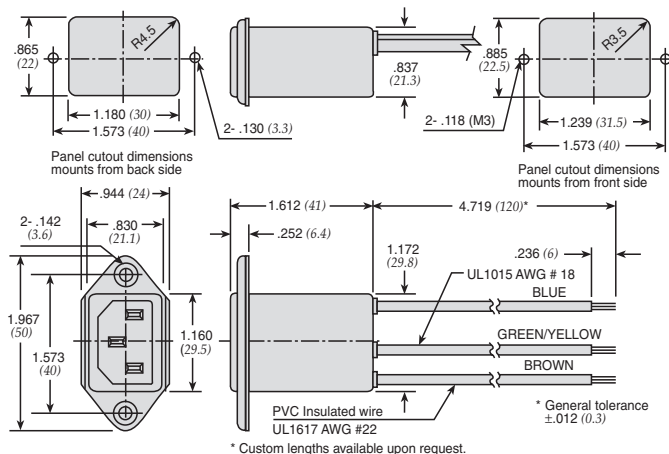
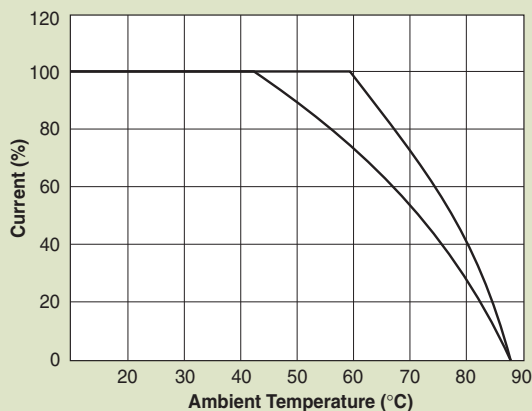
Note: Test voltage: 1500VAC one minute, line to ground  
Insulation resistance: 300 Mohm min. at 500VDC  
Voltage drop: 1V max. at rated current  
Weight: 50g  
Input: Compatible with IEC-320



# Power Entry Modules Bolt-in with Wire Leads

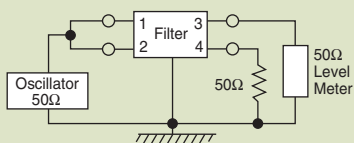
## 60-BPL Series

### Temperature Characteristics

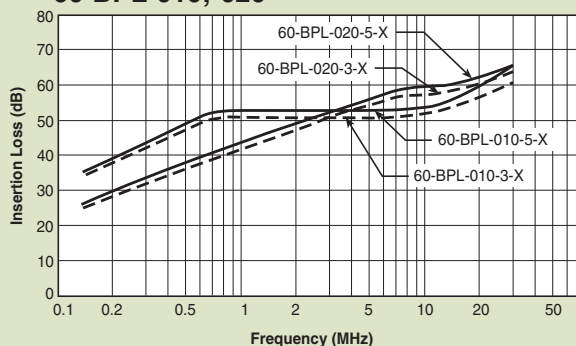


Dimensions in inches (mm)

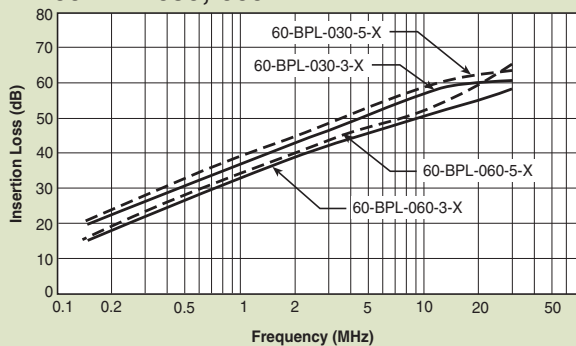
### Common Mode



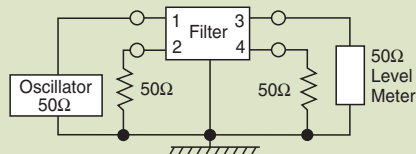
#### 60-BPL-010;-020



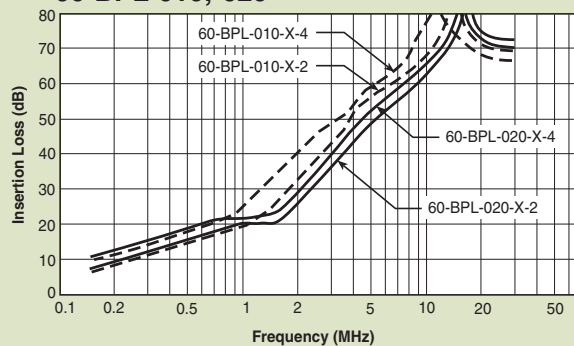
#### 60-BPL-030;-060



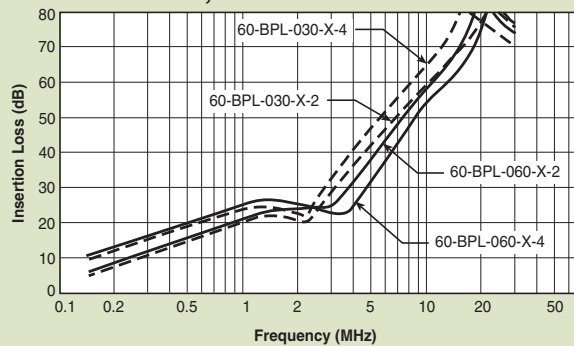
### Normal Mode



#### 60-BPL-010;-020



#### 60-BPL-030;-060



# Power Entry Modules Bolt-in with Wire Leads

## 10-BPL Series



### Features

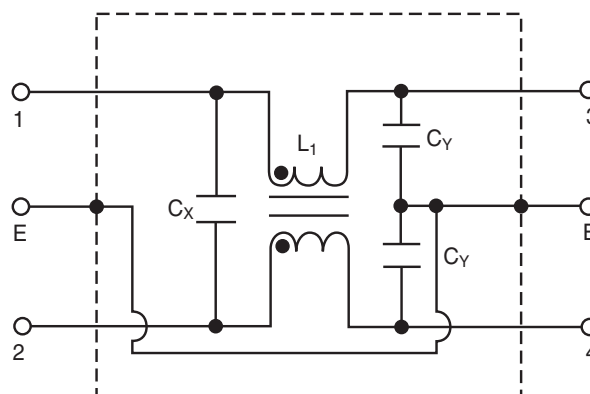
- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case filter offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Wire output for minimizing space use and economical installation
- Operating temperature: -25°C to +70°C
- Compact configuration

### Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



### Circuit Diagram



## Specifications

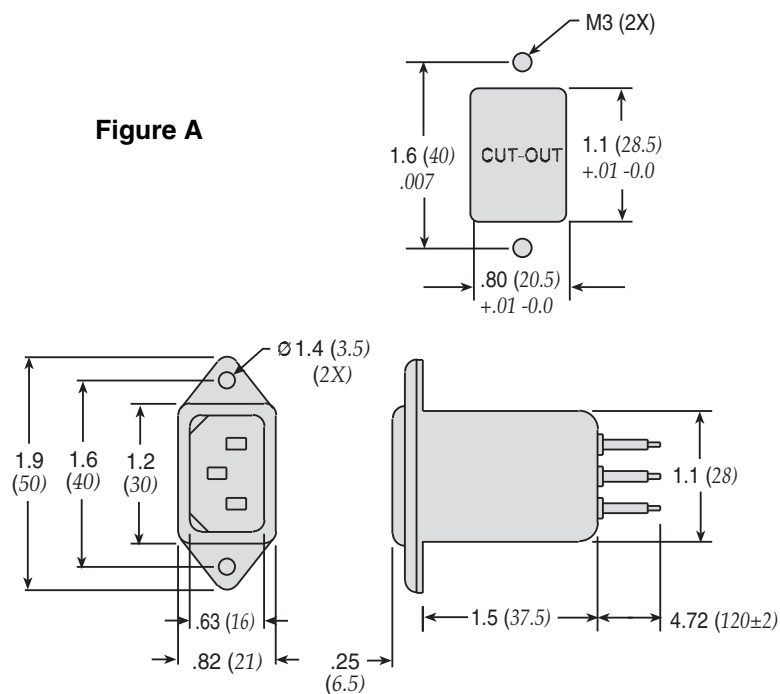
Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L <sub>1</sub> )	Circuit Diagram	Figure	Temperature Rise (Max.)
				C <sub>Y</sub>	C <sub>X</sub>				
10-BPL-001-5-B	250VAC	1A	0.50mA	3300pF	0.01uF	3.0mH	1	A	30°C
10-BPL-003-5-B		3A				1.5mH			
10-BPL-006-5-B		6A				0.5mH			

Note: Test voltage: 1500VAC one minute, line to ground  
 Insulation resistance: 300 Mohm min. at 500VDC  
 Voltage drop: 1V max. at rated current  
 Weight: 50g  
 Input: Compatible with IEC-320

# Power Entry Modules Bolt-in with Wire Leads

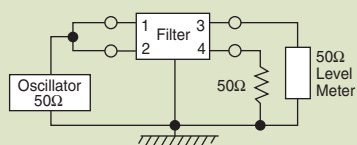
## 10-BPL Series

**Figure A**

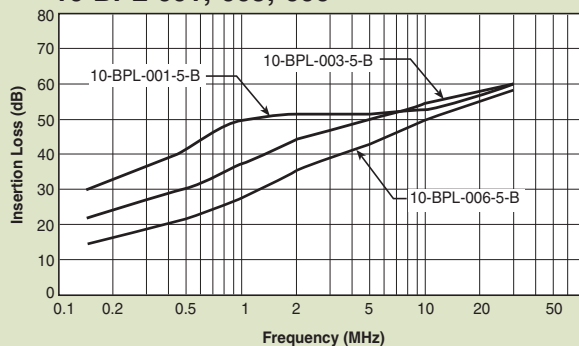


Dimensions in inches (mm)

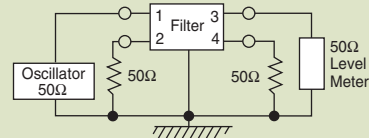
### Common Mode



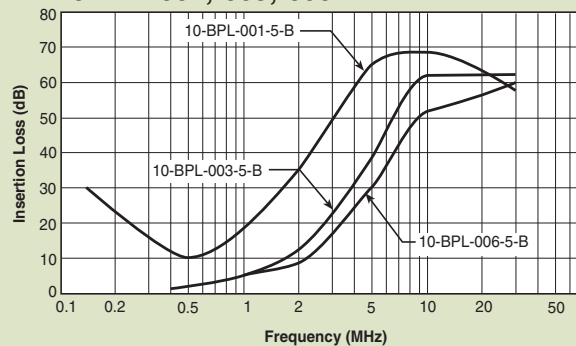
#### 10-BPL-001;-003;-006



### Normal Mode



#### 10-BPL-001;-003;-006



# Power Entry Modules Snap-in Mount

## 60-SPR & SPS Series

### Features

- Ideally suited for products that must conform to FCC part 15 regulations
- Metal cased miniature filter offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards
- Snap-in style saves labor and hardware inventory
- Solder lug and fast-on tab terminations available
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF33)
- UL approved low leakage version also available

### Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units

### Specifications

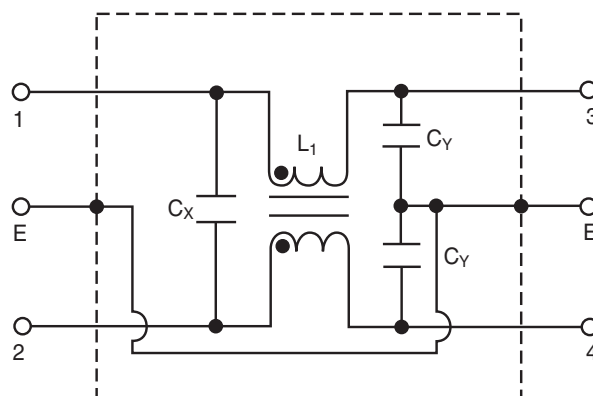
Model*	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L <sub>1</sub> )	Temperature Rise (Max.)
				C <sub>Y</sub>	C <sub>X</sub>		
60-XXX-010-3-2	250VAC	1A	0.35mA	2200pF ± 20%	.022uF ± 20%	6.0mH	30°C
60-XXX-010-3-4					.047uF ± 20%		
60-XXX-010-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-010-5-4					.047uF ± 20%		
60-XXX-020-3-2	250VAC	2A	0.35mA	2200pF ± 20%	.022uF ± 20%	2.4mH	30°C
60-XXX-020-3-4					.047uF ± 20%		
60-XXX-020-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-020-5-4					.047uF ± 20%		
60-XXX-030-3-2	250VAC	3A	0.35mA	2200pF ± 20%	.022uF ± 20%	1.2mH	30°C
60-XXX-030-3-4					.047uF ± 20%		
60-XXX-030-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-030-5-4					.047uF ± 20%		
60-XXX-060-3-2	250VAC	6A	0.35mA	2200pF ± 20%	.022uF ± 20%	0.53mH	45°C
60-XXX-060-3-4					.047uF ± 20%		
60-XXX-060-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-XXX-060-5-4					.047uF ± 20%		
60-XXX-100-3-2	250VAC	10A	0.35mA	2200pF ± 20%	.022uF ± 20%	0.26mH	45°C
60-XXX-100-5-2			0.50mA	3300pF ± 20%	.022uF ± 20%		
60-SPR-150-3-11	250VAC	15A	0.35mA	2200pF ± 20%	.1uF ± 20%	0.15mH	45°C

Note: Test voltage: 1500VAC one minute, line to ground  
Insulation resistance: 300 Mohm min. at 500VDC  
Voltage drop: 1V max. at rated current  
Weight: 45g  
Input: Compatible with IEC-320

\* **Substitute SPR or SPS for XXX**  
60-SPR - Fast-on terminals  
60-SPS - Solder lug terminals



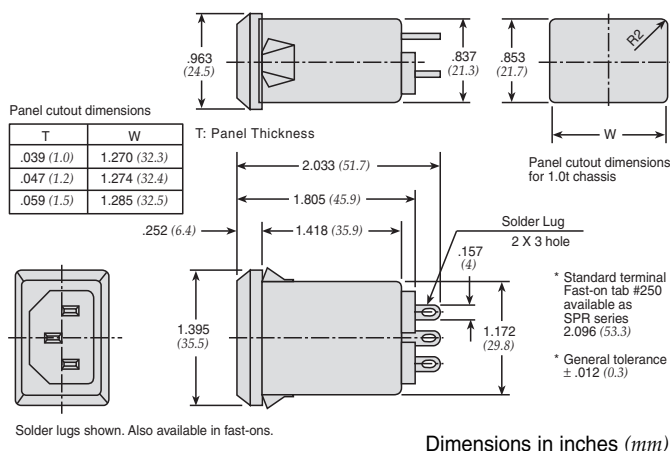
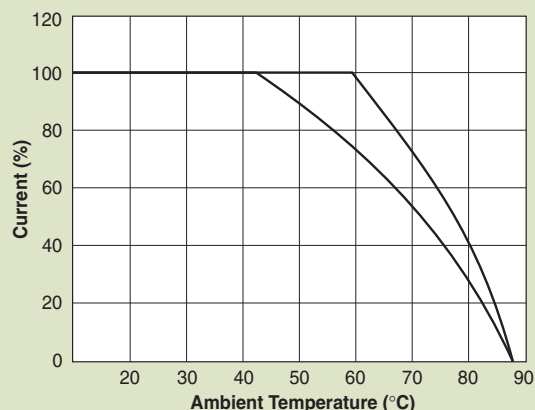
### Circuit Diagram



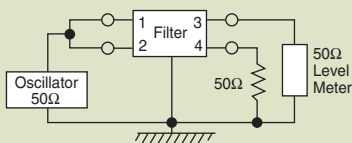
# Power Entry Modules Snap-in Mount

## 60-SPR & SPS Series

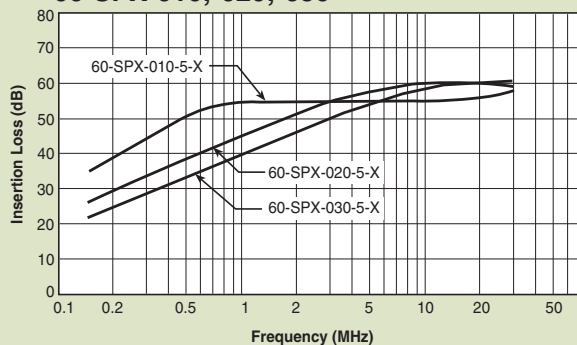
### Temperature Characteristics



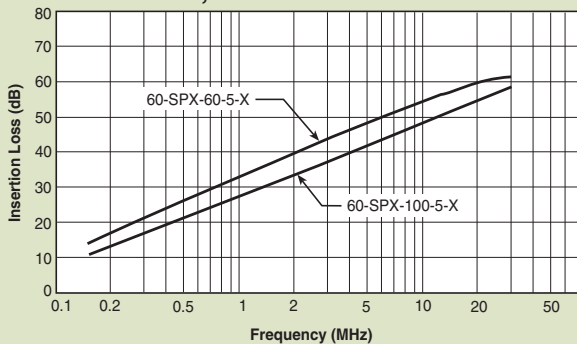
### Common Mode



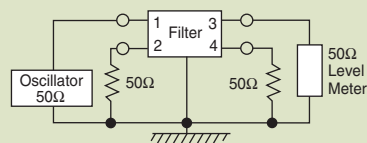
#### 60-SPX-010;-020;-030



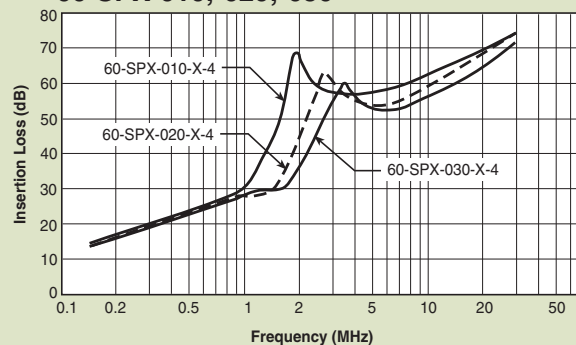
#### 60-SPX-060;-100



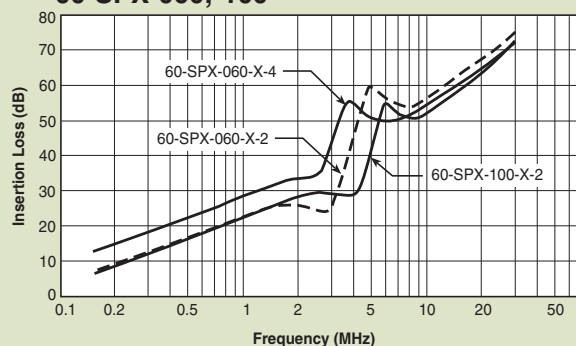
### Normal Mode



#### 60-SPX-010;-020;-030



#### 60-SPX-060;-100



# Fused Filtered Power Entry Modules For General Purpose Applications

## 64-65-BFF/64-65-BFS Series



Tested and found to be  
IAW VDE 0565 Part 3.

### Features

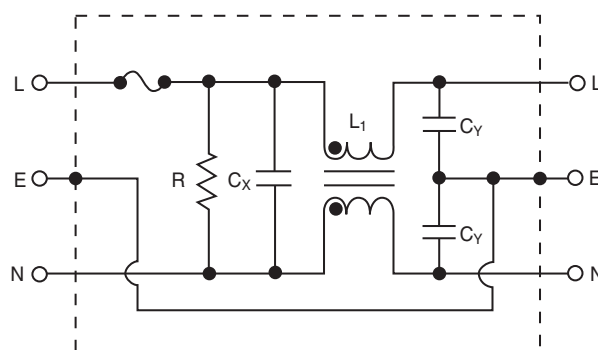
- North American and Metric fuse holders available
- Fuse holder provides effective EMI suppression of common and differential mode
- Suitable for products that must conform to FCC and FTZ requirements
- Meets over voltage category II of IEC 664 and complies with IEC 950
- Fast-on terminals or solder lug terminals
- Metal case provides effective EMI shielding
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF35)

### Applications

- Computers and peripheral equipment
- Electronic equipment
- Digital equipment
- Measuring and testing instruments
- Telecommunications equipment



### Circuit Diagram



### Specifications

Model*	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L <sub>1</sub> )	Temperature Rise (Max.)
				C <sub>Y</sub>	C <sub>X</sub>		
64-XXX-020-3-11	250VAC	2A	0.35mA	2200pF ± 20%	0.1uF	6.5mH	40°C
64-XXX-020-5-11			0.50mA	3300pF ± 20%			
64-XXX-020-3-12			0.35mA	2200pF ± 20%	0.22uF		
64-XXX-020-5-12			0.50mA	3300pF ± 20%			
64-XXX-040-3-11	250VAC	4A	0.35mA	2200pF ± 20%	0.1uF	4.2mH	45°C
64-XXX-040-5-11			0.50mA	3300pF ± 20%			
64-XXX-040-3-12			0.35mA	2200pF ± 20%	0.22uF		
64-XXX-040-5-12			0.50mA	3300pF ± 20%			
64-XXX-060-3-11	250VAC	6A	0.35mA	2200pF ± 20%	0.1uF	1.6mH	45°C
64-XXX-060-5-11			0.50mA	3300pF ± 20%			
64-XXX-060-3-12			0.35mA	2200pF ± 20%	0.22uF		
64-XXX-060-5-12			0.50mA	3300pF ± 20%			
65-XXX-020-3-11	125VAC	2A	0.20mA	2200pF ± 20%	0.1uF	6.5mH	40°C
65-XXX-020-5-11			0.25mA	3300pF ± 20%			
65-XXX-020-3-12			0.20mA	2200pF ± 20%	0.22uF		
65-XXX-020-5-12			0.25mA	3300pF ± 20%			
65-XXX-040-3-11	125VAC	4A	0.20mA	2200pF ± 20%	0.1uF	4.2mH	45°C
65-XXX-040-5-11			0.25mA	3300pF ± 20%			
65-XXX-040-3-12			0.20mA	2200pF ± 20%	0.22uF		
65-XXX-040-5-12			0.25mA	3300pF ± 20%			
65-XXX-060-3-11	125VAC	6A	0.20mA	2200pF ± 20%	0.1uF	1.6mH	45°C
65-XXX-060-5-11			0.25mA	3300pF ± 20%			
65-XXX-060-3-12			0.20mA	2200pF ± 20%	0.22uF		
65-XXX-060-5-12			0.25mA	3300pF ± 20%			

Note: Test Voltage 1500VAC one minute, line to ground  
Insulation Resistance: 300 MΩ min. at 500VDC  
F(S) = Fast-on or (Solder lug terminals)

Voltage Drop: 1V max. at rated current  
Weight: 78g  
Inlet: Compatible with IEC-320

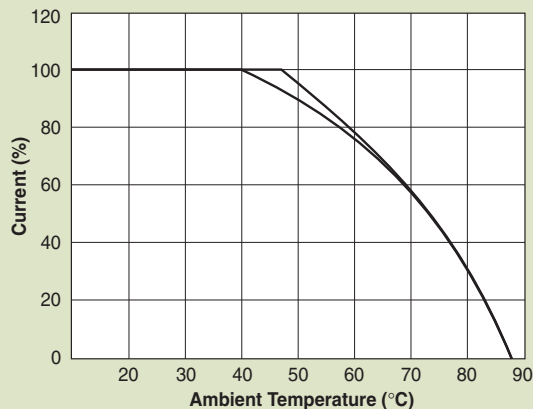
\* **Substitute BFF or BFS for XXX**  
BFF - Fast-on terminals  
BFS - Solder lug terminals



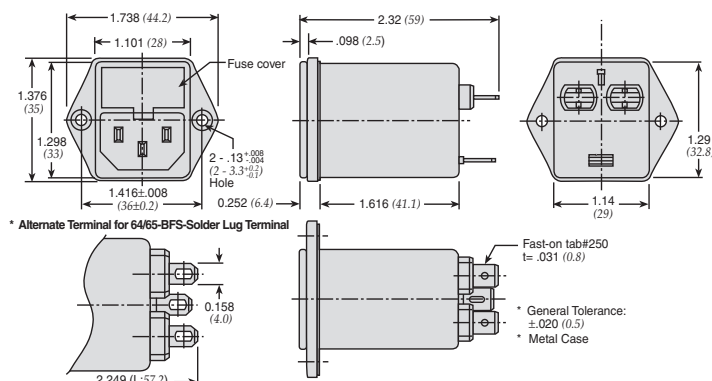
# Fused Filtered Power Entry Modules For General Purpose Applications

## 64-65-BFF/64-65-BFS Series

### Temperature Characteristics

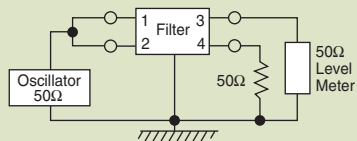


### Dimensions 64/65-BFF Series

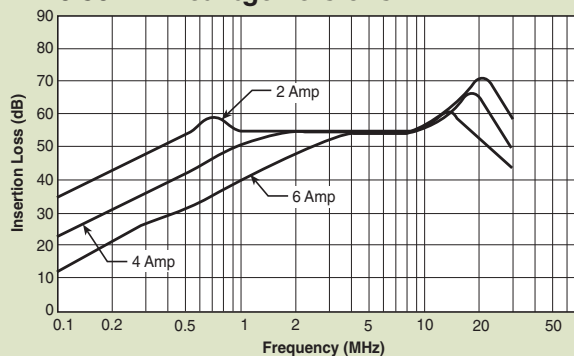


Dimensions in inches (mm)

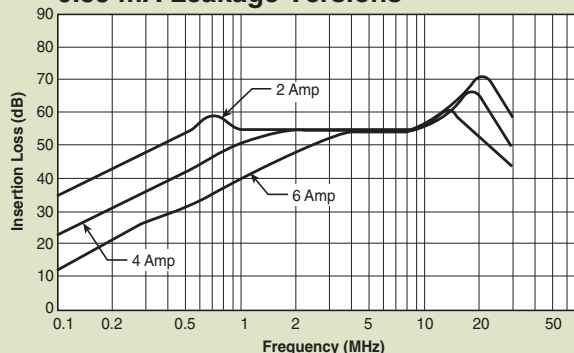
### Common Mode



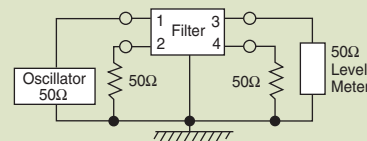
#### 0.50 mA Leakage Versions



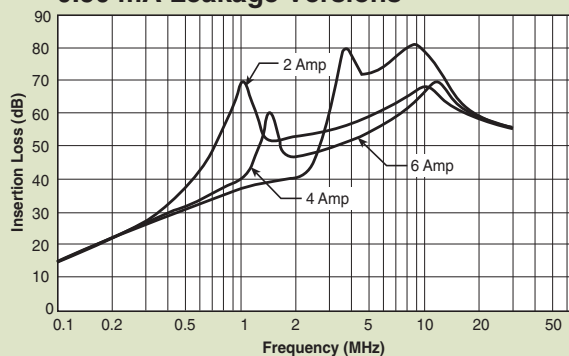
#### 0.35 mA Leakage Versions



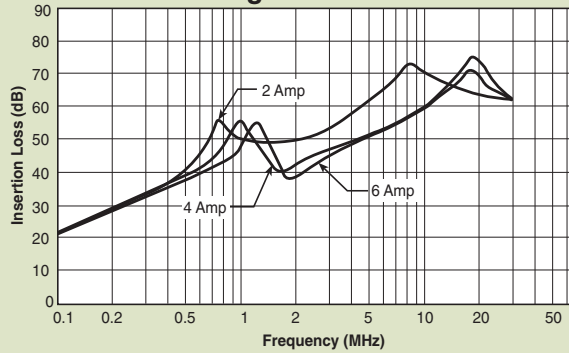
### Normal Mode



#### 0.50 mA Leakage Versions



#### 0.35 mA Leakage Versions



# Fused Filtered Power Entry Modules

For Medical or General Purpose Applications

## 66-67-BFF/66-67-BFS Series



Tested and found to be  
IAW VDE 0565 Part 3.

### Features

- Metric and North American fuse holders available
- Fuse holder provides effective EMI suppression of common and differential mode
- Suitable for products that must conform to FCC and FTZ requirements
- Meets over voltage category II of IEC 664 and complies with IEC 950
- Fast-on terminations or solder lug terminations
- Metal case provides effective EMI shielding
- Provides susceptibility protection without the leakage current associated with line-to-ground capacitance
- Reduces the line to ground capacitance in order to meet patient care requirements
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF37)

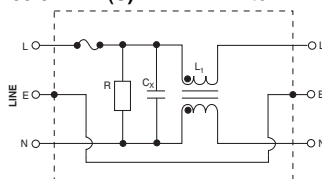


### Applications

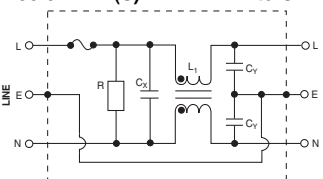
- Medical equipment
- Electronic equipment
- Digital equipment
- Industrial equipment
- Telecommunications equipment
- Measuring and testing instruments
- Personal computers and peripherals

### Circuit Diagrams

66/67-BFF(S)-XXX-1-X Filter



66/67-BFF(S)-XXX-0-X and  
66/67-BFF(S)-XXX-4-X Filters



### Specifications

Model*	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L <sub>1</sub> )	Temperature Rise (Max.)
				C <sub>V</sub>	C <sub>X</sub>		
66-XXX-020-1-11	250VAC	2A	0.01mA	none	0.1uF	6.5mH	40°C
66-XXX-020-1-12					0.22uF		
66-XXX-020-0-11					0.1uF		
66-XXX-020-4-11					330pF ± 20%		
66-XXX-020-0-12					470pF ± 20%		
66-XXX-020-4-12					330pF ± 20%		
66-XXX-040-1-11	250VAC	4A	0.01mA	none	0.1uF	2.4mH	45°C
66-XXX-040-1-12					0.22uF		
66-XXX-040-0-11					0.1uF		
66-XXX-040-4-11					330pF ± 20%		
66-XXX-040-0-12					470pF ± 20%		
66-XXX-040-4-12					330pF ± 20%		
66-XXX-060-1-11	250VAC	6A	0.01mA	none	0.1uF	1.6mH	45°C
66-XXX-060-1-12					0.22uF		
66-XXX-060-0-11					0.1uF		
66-XXX-060-4-11					330pF ± 20%		
66-XXX-060-0-12					470pF ± 20%		
66-XXX-060-4-12					330pF ± 20%		
67-XXX-020-1-11	125VAC	2A	0.005mA	none	0.1uF	6.5mH	40°C
67-XXX-020-1-12					0.22uF		
67-XXX-020-0-11					0.1uF		
67-XXX-020-4-11					330pF ± 20%		
67-XXX-020-0-12					470pF ± 20%		
67-XXX-020-4-12					330pF ± 20%		
67-XXX-040-1-11	125VAC	4A	0.005mA	none	0.1uF	2.4mH	45°C
67-XXX-040-1-12					0.22uF		
67-XXX-040-0-11					0.1uF		
67-XXX-040-4-11					330pF ± 20%		
67-XXX-040-0-12					470pF ± 20%		
67-XXX-040-4-12					330pF ± 20%		
67-XXX-060-1-11	125VAC	6A	0.005mA	none	0.1uF	1.6mH	45°C
67-XXX-060-1-12					0.22uF		
67-XXX-060-0-11					0.1uF		
67-XXX-060-4-11					330pF ± 20%		
67-XXX-060-0-12					470pF ± 20%		
67-XXX-060-4-12					330pF ± 20%		

Note: Test Voltage 1500VAC one minute, line to ground  
Insulation Resistance: 300 MΩ min. at 500VDC  
F(S) = Fast-on or (Solder lug terminals)

Voltage Drop: 1V max. at rated current  
Weight: 78g  
Inlet: Compatible with IEC-320

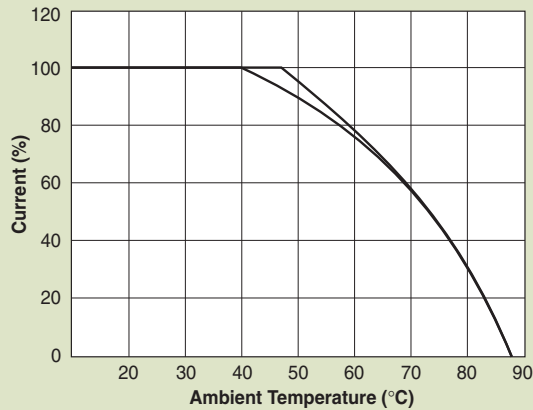
\* **Substitute BFF or BFS for XXX**  
BFF - Fast-on terminals  
BFS - Solder lug terminals

# Fused Filtered Power Entry Modules

For Medical or General Purpose Applications

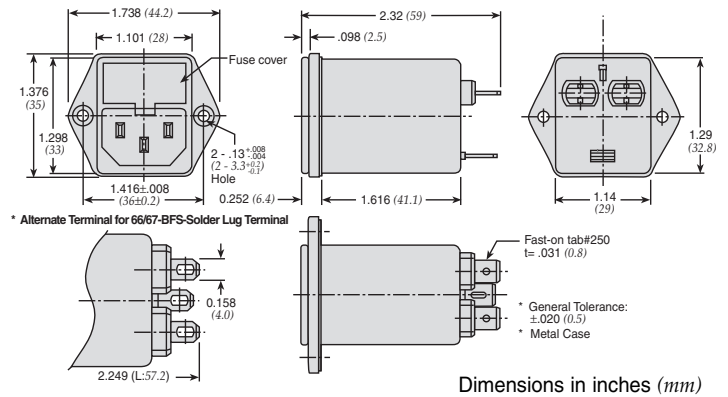
## 66-67-BFF/66-67-BFS Series

### Temperature Characteristics

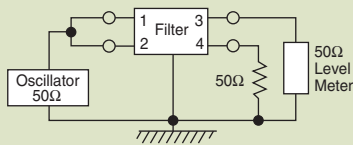


### Dimensions

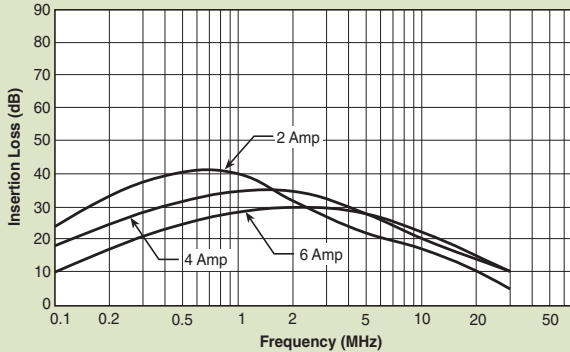
#### 66-67-BFF/66-67-BFS Series



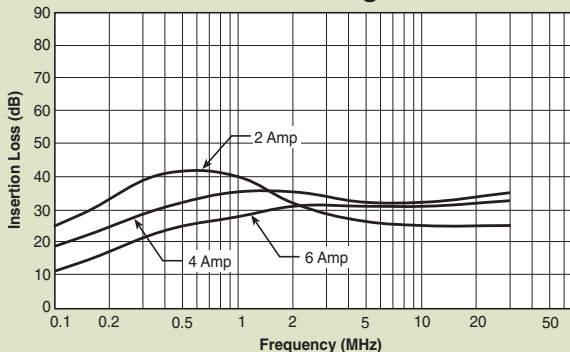
### Common Mode



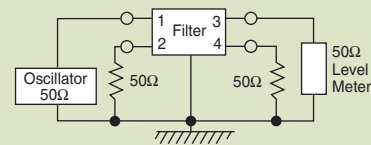
#### 0.01 mA Leakage Current



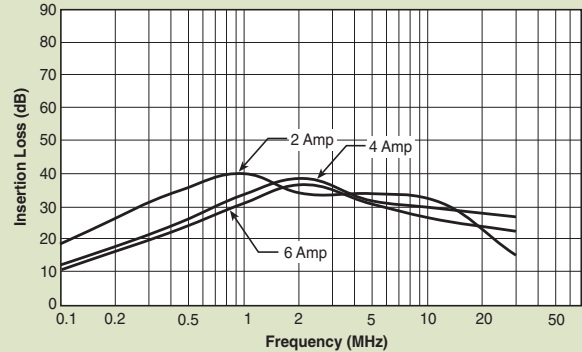
#### 0.075 and 0.1 mA Leakage Current



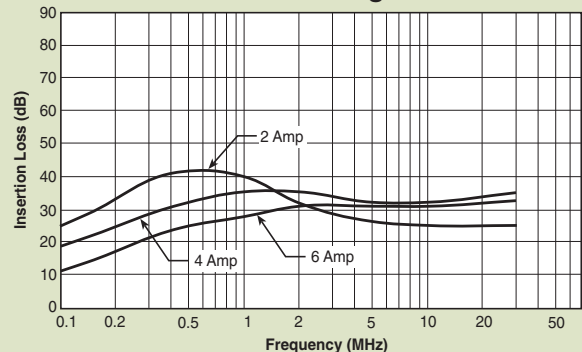
### Normal Mode



#### 0.01 mA Leakage Current



#### 0.075 and 0.1 mA Leakage Current



# Switched and Fused Filtered Power Entry Modules For General Purpose Applications

## 64-65-BSF/64-65-SSF Series



Tested and found to be  
IAW VDE 0565 Part 3.

### Features

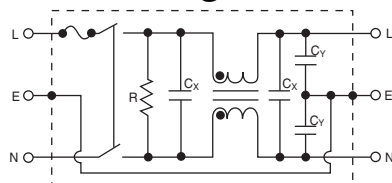
- North American and Metric fuse holders available
- Fuse holder and double pole power ON/OFF switch provided in a convenient/compact package
- Suitable for products that must conform to FCC and FTZ requirements
- Meets over voltage category II of IEC 664 and complies with IEC 950
- Metal case provides effective EMI shielding
- Easy access fuse drawer with space for spare fuse
- Flange-mounted or snap-in styles available for quick mounting
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF39)



### Applications

- Computers and peripheral equipment
- Digital equipment
- Electronic equipment
- Measuring and testing instruments
- Telecommunications equipment

### Circuit Diagram



### Specifications

Model*	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance			Inductance (L <sub>1</sub> )	Temperature Rise (Max.)
				C <sub>Y</sub>	C <sub>X1</sub>	C <sub>X2</sub>		
64-XXX-020-3-12	250VAC	2A	0.35mA	2200pF	0.22uF	NONE	10.5mH	45°C
64-XXX-020-3-04					0.47uF	NONE		
64-XXX-020-3-14					0.22uF	NONE		
64-XXX-020-3-06			0.50mA	3300pF	0.22uF	NONE		
64-XXX-020-5-12					0.47uF	NONE		
64-XXX-020-5-04					0.22uF	NONE		
64-XXX-040-3-12	250VAC	4A	0.35mA	2200pF	0.22uF	NONE	4.2mH	45°C
64-XXX-040-3-04					0.47uF	NONE		
64-XXX-040-3-14					0.22uF	NONE		
64-XXX-040-3-06			0.50mA	3300pF	0.22uF	NONE		
64-XXX-040-5-12					0.47uF	NONE		
64-XXX-040-5-04					0.22uF	NONE		
64-XXX-060-3-12	250VAC	6A	0.35mA	2200pF	0.22uF	NONE	1.6mH	45°C
64-XXX-060-3-04					0.47uF	NONE		
64-XXX-060-3-14					0.22uF	NONE		
64-XXX-060-3-06			0.50mA	3300pF	0.22uF	NONE		
64-XXX-060-5-12					0.47uF	NONE		
64-XXX-060-5-04					0.22uF	NONE		
65-XXX-020-3-12	125VAC	2A	0.20mA	2200pF	0.22uF	NONE	10.5mH	45°C
65-XXX-020-3-04					0.47uF	NONE		
65-XXX-020-3-14					0.22uF	NONE		
65-XXX-020-3-06			0.25mA	3300pF	0.22uF	NONE		
65-XXX-020-5-12					0.47uF	NONE		
65-XXX-020-5-04					0.22uF	NONE		
65-XXX-040-3-12	125VAC	4A	0.20mA	2200pF	0.22uF	NONE	4.2mH	45°C
65-XXX-040-3-04					0.47uF	NONE		
65-XXX-040-3-14					0.22uF	NONE		
65-XXX-040-3-06			0.25mA	3300pF	0.22uF	NONE		
65-XXX-040-5-12					0.47uF	NONE		
65-XXX-040-5-04					0.22uF	NONE		
65-XXX-060-3-12	125VAC	6A	0.20mA	2200pF	0.22uF	NONE	1.6mH	45°C
65-XXX-060-3-04					0.47uF	NONE		
65-XXX-060-3-14					0.22uF	NONE		
65-XXX-060-3-06			0.25mA	3300pF	0.22uF	NONE		
65-XXX-060-5-12					0.47uF	NONE		
65-XXX-060-5-04					0.22uF	NONE		

Note: Test Voltage 1500VAC one minute, line to ground  
Insulation Resistance: 300 MΩ min. at 500VDC  
B(S) = Bolt-in terminals or (Snap-in terminals)

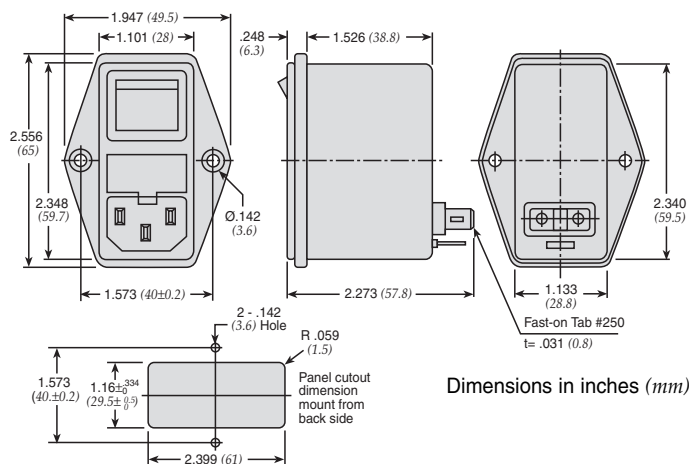
Voltage Drop: 1V max. at rated current  
Weight: 130g  
Inlet: Compatible with IEC-320

\* **Substitute BSF or SSF for XXX**  
BSF - Bolt-in switched and fused  
SSF - Snap-in switched and fused

The graph shows the relationship between Ambient Temperature (°C) on the x-axis and Current (%) on the y-axis. The x-axis ranges from 20 to 90, and the y-axis ranges from 0 to 120. Two curves are plotted: a solid line for the 1000 Series and a dashed line for the 1000 Series. Both curves show a sharp drop in current as temperature increases above 40°C.

Ambient Temperature (°C)	Current (%) - 1000 Series (Solid)	Current (%) - 1000 Series (Dashed)
20	100	100
30	100	100
40	100	100
50	95	95
60	85	85
70	65	65
80	35	35
90	0	0

## 64/65-BSF Series



Technical drawings of the R-079 panel cutout showing front, side, and rear views with dimensions in inches and millimeters.

**Front View Dimensions:**

- Top width: 1.313 (33.4)
- Top width (inner): 1.101 (28)
- Left height: 2.556 (65)
- Bottom height: 2.348 (59.7)

**Side View Dimensions:**

- Top width: 1.154 (38.8)
- Left height: 2.48 (6.3)
- Fast-on tab #250, t = .031 (0.8)
- Bottom width: 2.273 (57.8)

**Rear View Dimensions:**

- Top width: 1.133 (28.8)
- Right height: 2.340 (59.5)

**Panel Cutout Dimensions:**

- Left height: R.079 (2.0)
- Bottom width: 1.16<sup>±.02</sup> (29.5<sup>±.5</sup>)
- Panel cutout dimension mount from back side

Thickness of Panel	A
.031 (0.8)	2.430 (61.8±0.1)
.039 (1.0)	2.446 (62.2±0.1)
.047 (1.2)	2.462 (62.6±0.1)
.059 (1.5)	2.470 (62.8±0.1)
.071 (1.8)	2.473 (62.9±0.1)
.079 (2.0)	2.477 (63.0±0.1)

\* General Tolerance ± .039 (1.0)  
\* Metal Case

The graph plots Insertion Loss (dB) on the y-axis (0 to 90) against Frequency (MHz) on the x-axis (0.1 to 50). Three curves are shown for different current levels: 2 Amp, 4 Amp, and 6 Amp. The 2 Amp curve starts at ~40 dB at 0.1 MHz, peaks at ~62 dB around 0.5 MHz, and then rises to a sharp peak of ~78 dB at ~15 MHz. The 4 Amp curve starts at ~30 dB at 0.1 MHz, peaks at ~52 dB around 1 MHz, and rises to a sharp peak of ~70 dB at ~15 MHz. The 6 Amp curve starts at ~22 dB at 0.1 MHz, peaks at ~42 dB around 1 MHz, and rises to a sharp peak of ~65 dB at ~15 MHz. All curves converge to ~50 dB at 10 MHz and then decrease after their respective peaks.

Frequency (MHz)	2 Amp (dB)	4 Amp (dB)	6 Amp (dB)
0.1	40	30	22
0.5	62	45	38
1	50	52	42
5	58	55	52
10	52	55	58
15	78	70	65
20	55	50	48

The graph shows the insertion loss of a 100-ohm resistor as a function of frequency and current. The x-axis is Frequency (MHz) on a logarithmic scale from 0.1 to 50. The y-axis is Insertion Loss (dB) on a linear scale from 0 to 90. Three curves are plotted: 2 Amp (solid line), 4 Amp (dashed line), and 6 Amp (dotted line). All curves show a peak in insertion loss around 0.5 MHz, which decreases as current increases. At higher frequencies, the curves converge and show a sharp increase in insertion loss starting around 10 MHz, peaking near 20 MHz.

Frequency (MHz)	2 Amp (dB)	4 Amp (dB)	6 Amp (dB)
0.1	38	32	22
0.2	45	38	28
0.5	62	48	38
1.0	50	45	42
2.0	50	45	42
5.0	50	45	42
10.0	50	45	42
20.0	78	70	62
50.0	55	50	45

The graph plots Insertion Loss (dB) on the y-axis (0 to 100) against Frequency (MHz) on the x-axis (0.1 to 50). Three curves are shown for different current levels: 2 Amp, 4 Amp, and 6 Amp. The 2 Amp curve starts at ~40 dB at 0.1 MHz, peaks at ~100 dB at 1.5 MHz, and ends at ~65 dB at 30 MHz. The 4 Amp curve starts at ~30 dB at 0.1 MHz, peaks at ~90 dB at 1.5 MHz, and ends at ~60 dB at 30 MHz. The 6 Amp curve starts at ~20 dB at 0.1 MHz, peaks at ~80 dB at 1.5 MHz, and ends at ~60 dB at 30 MHz. All curves show a general downward trend at higher frequencies, with some local maxima and minima.

Figure 10 is a line graph showing Insertion Loss (dB) on the y-axis (0 to 100) versus Frequency (MHz) on the x-axis (0.1 to 50). Three curves are plotted for different power levels: 2 Amp, 4 Amp, and 6 Amp. The curves show that insertion loss increases with frequency and power, peaking around 5-10 MHz.

Frequency (MHz)	2 Amp (dB)	4 Amp (dB)	6 Amp (dB)
0.1	10	10	10
0.2	25	25	25
0.5	35	35	35
1	40	40	40
2	50	55	60
5	60	65	70
10	65	70	70
20	60	60	60
50	60	60	60



# Switched and Fused Filtered Power Entry Modules For Medical or General Purpose Applications

## 66-67-BSF/66-67-SSF Series



Tested and found to be  
IAW VDE 0565 Part 3

### Features

- Metric and North American fuse holders available
- Fuse holder and a double pole power ON/OFF switch provides a convenient/compact package
- Suitable for products that must conform to FCC and FTZ requirements
- Meets over voltage category II of IEC 664 and complies with IEC 950
- Provides susceptibility protection without the leakage current associated with line-to-ground capacitors
- Designed to meet requirements for non-patient and patient care equipment
- Metal case provides effective EMI shielding
- Easy access fuse drawer - space for spare fuse
- Flange-mounted or snap-in styles available for quick mounting
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF41)

### Specifications

Model*	Rated Voltage 50/60Hz	Rated Current	Leakage Current (Max.)	Capacitance			Temp. Induct. (L <sub>1</sub> )	Rise (Max.)
				C <sub>Y</sub>	C <sub>X1</sub>	C <sub>X2</sub>		
66-XXX-020-0-12	250 VAC	2A	.075mA	330pF	0.22uF	NONE	10.5mH	40°C
66-XXX-020-0-04						0.22uF		
66-XXX-020-0-14						NONE		
66-XXX-020-0-06						0.22uF		
66-XXX-020-1-12			.01mA	NONE	0.22uF	NONE		
66-XXX-020-1-04						0.22uF		
66-XXX-020-1-14						NONE		
66-XXX-020-1-06						0.22uF		
66-XXX-020-4-12			0.1mA	470pF	0.22uF	NONE		
66-XXX-020-4-04						0.22uF		
66-XXX-020-4-14						NONE		
66-XXX-020-4-06						0.22uF		
66-XXX-040-0-12		4A	.075mA	330pF	0.22uF	NONE	4.2mH	45°C
66-XXX-040-0-04						0.22uF		
66-XXX-040-0-14						NONE		
66-XXX-040-0-06						0.22uF		
66-XXX-040-1-12			.01mA	NONE	0.22uF	NONE		
66-XXX-040-1-04						0.22uF		
66-XXX-040-1-14						NONE		
66-XXX-040-1-06						0.22uF		
66-XXX-040-4-12			.01mA	470pF	0.22uF	NONE		
66-XXX-040-4-04						0.22uF		
66-XXX-040-4-14						NONE		
66-XXX-040-4-06						0.22uF		
66-XXX-060-0-12		6A	.075mA	330pF	0.22uF	NONE	1.6mH	
66-XXX-060-0-04						0.22uF		
66-XXX-060-0-14						NONE		
66-XXX-060-0-06						0.22uF		
66-XXX-060-1-12			.01mA	NONE	0.22uF	NONE		
66-XXX-060-1-04						0.22uF		
66-XXX-060-1-14						NONE		
66-XXX-060-1-06						0.22uF		
66-XXX-060-4-12			0.1mA	470pF	0.22uF	NONE		
66-XXX-060-4-04						0.22uF		
66-XXX-060-4-14						NONE		
66-XXX-060-4-06						0.22uF		

Note: Test Voltage: 1500VAC one minute, line to ground  
Insulation Resistance: 300 MΩ min. at 500VDC  
Voltage Drop: 1V max. at rated current

Weight: 130g  
Inlet: Compatible with IEC-320  
B(S) = Bolt-in terminals or (Snap-in terminals)

\* Substitute BSF or SSF for XXX  
BSF - Bolt-In Switched and Fused  
SSF - Snap-In Switched and Fused

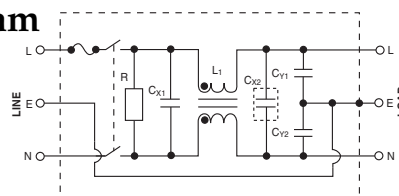


### Applications

- Medical equipment
- Industrial equipment
- Telecommunications equipment
- Measuring and testing instruments
- Digital equipment (including switching power supplies)
- General purpose filter for susceptibility or high frequency "clean up" applications

### Circuit Diagram

Note: C<sub>V1</sub> and C<sub>V2</sub> capacitors  
omitted on 66/67  
B(S)F-XXX-1-X Filters

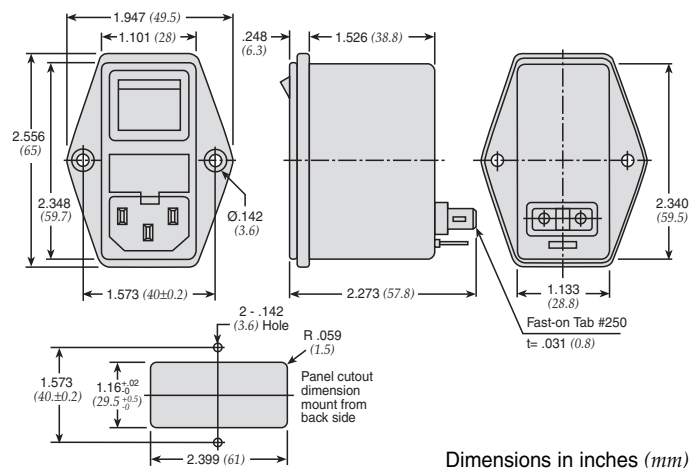


Model*	Rated Voltage 50/60Hz	Rated Current	Leakage Current (Max.)	Capacitance			Temp. Induct. (L <sub>1</sub> )	Rise (Max.)			
				C <sub>Y</sub>	C <sub>X1</sub>	C <sub>X2</sub>					
67-XXX-020-0-12	125 VAC	2A	0.04mA	330pF	0.22uF	NONE	10.5mH	40°C			
67-XXX-020-0-04					0.22uF	NONE					
67-XXX-020-0-14					0.47uF	NONE					
67-XXX-020-0-06					0.22uF	NONE					
67-XXX-020-1-12			.005mA	NONE	0.22uF	NONE			4.2mH	45°C	
67-XXX-020-1-04					0.22uF	NONE					
67-XXX-020-1-14					0.47uF	NONE					
67-XXX-020-1-06					0.22uF	NONE					
67-XXX-020-4-12			0.05mA	470pF	0.22uF	NONE					1.6mH
67-XXX-020-4-04					0.22uF	NONE					
67-XXX-020-4-14					0.47uF	NONE					
67-XXX-020-4-06					0.22uF	NONE					
67-XXX-040-0-12		4A	0.04mA	330pF	0.22uF	NONE	45°C				
67-XXX-040-0-04					0.22uF	NONE					
67-XXX-040-0-14					0.47uF	NONE					
67-XXX-040-0-06					0.22uF	NONE					
67-XXX-040-1-12			.005mA	NONE	0.22uF	NONE		45°C			
67-XXX-040-1-04					0.22uF	NONE					
67-XXX-040-1-14					0.47uF	NONE					
67-XXX-040-1-06					0.22uF	NONE					
67-XXX-040-4-12			0.05mA	470pF	0.22uF	NONE			45°C		
67-XXX-040-4-04					0.22uF	NONE					
67-XXX-040-4-14					0.47uF	NONE					
67-XXX-040-4-06					0.22uF	NONE					
67-XXX-060-0-12		6A	0.04mA	330pF	0.22uF	NONE	1.6mH				
67-XXX-060-0-04					0.22uF	NONE					
67-XXX-060-0-14					0.47uF	NONE					
67-XXX-060-0-06					0.22uF	NONE					
67-XXX-060-1-12			.005mA	NONE	0.22uF	NONE		45°C			
67-XXX-060-1-04					0.22uF	NONE					
67-XXX-060-1-14					0.47uF	NONE					
67-XXX-060-1-06					0.22uF	NONE					
67-XXX-060-4-12			0.05mA	470pF	0.22uF	NONE			45°C		
67-XXX-060-4-04					0.22uF	NONE					
67-XXX-060-4-14					0.47uF	NONE					
67-XXX-060-4-06					0.22uF	NONE					



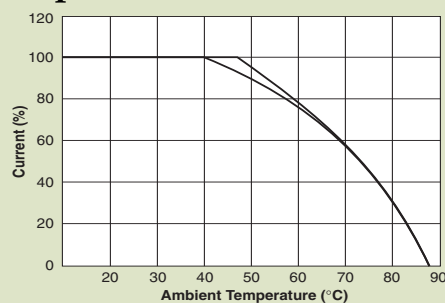
# Switched and Fused Filtered Power Entry Modules

## Dimensions

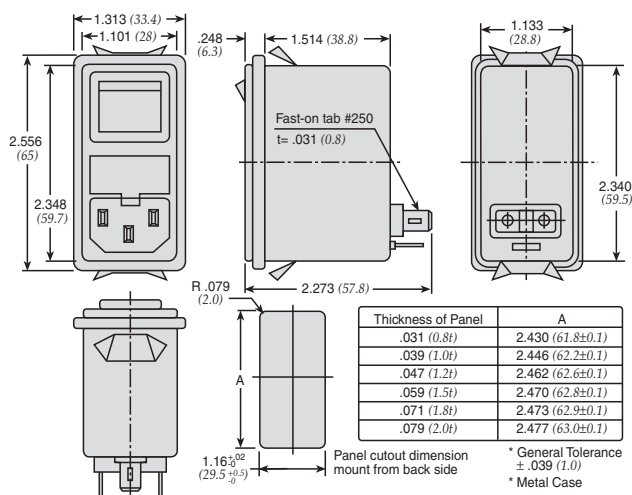


Dimensions in inches (*mm*)

## Temperature Characteristics

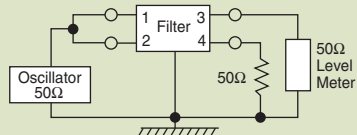


## 66/67-SSF Series

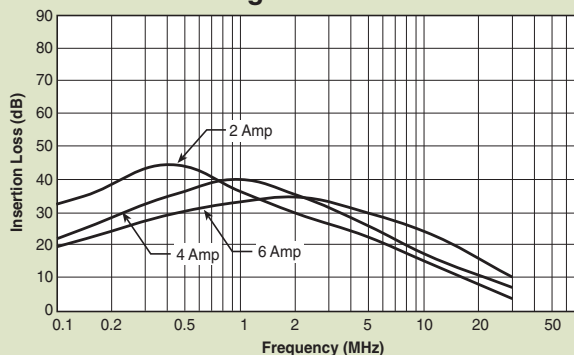


\* General Tolerance  
± .039 (1.0)  
\* Metal Case

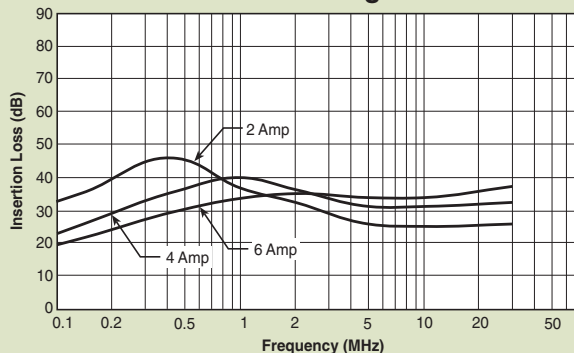
## Common Mode



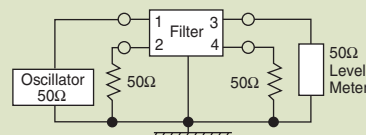
### 0.01 mA Leakage Current



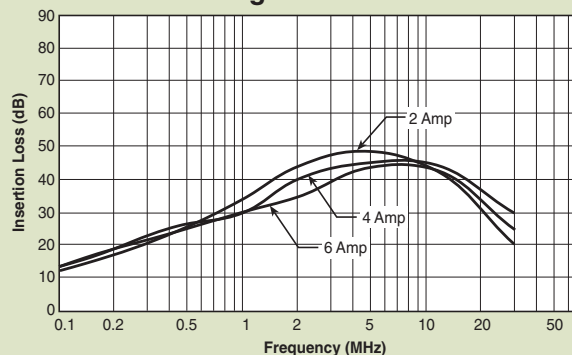
### 0.075 and 0.1 mA Leakage Current



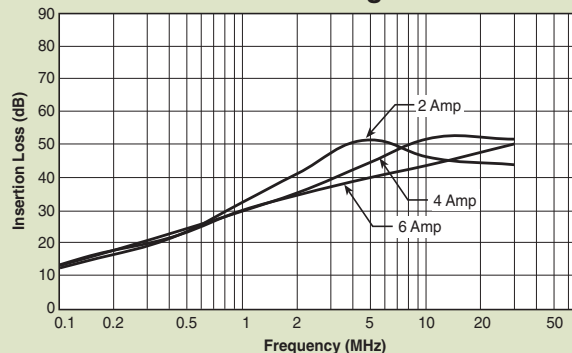
## Normal Mode



### 0.01 mA Leakage Current



### 0.075 and 0.1 mA Leakage Current



# Switched and Fused Filtered Power Entry Modules

Dual Fuse for European Applications

## 68-BSF Series

### Features

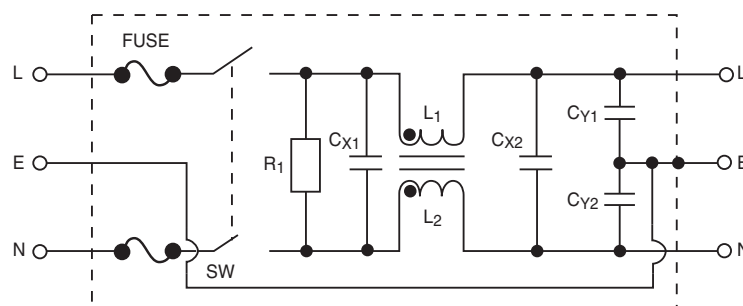
- Dual fuse for European applications
- Fuse holder and double pole power ON/OFF switch provides a convenient/compact package
- Suitable for products that must conform to FCC and FTZ requirements
- Meets over voltage category II of IEC 664 and complies with IEC 950
- Metal case provides effective EMI shielding
- IEC connector meets the safety standards of most certifying agencies
- Easy access fuse drawer
- Flange-mounted
- UL, CSA, and SEMKO approved
- Designed to be in accordance with VDE 0565, part 3
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF43)

### Applications

- Computers and peripheral equipment
- Electronic equipment
- Digital equipment
- Measuring and testing instruments
- Telecommunications equipment



### Circuit Diagram



## Specifications

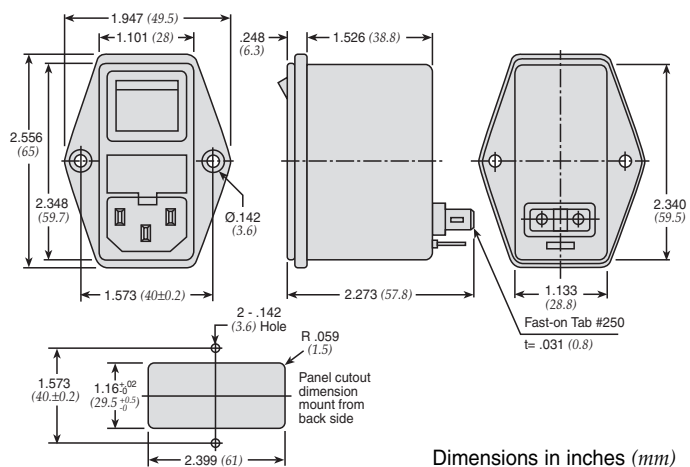
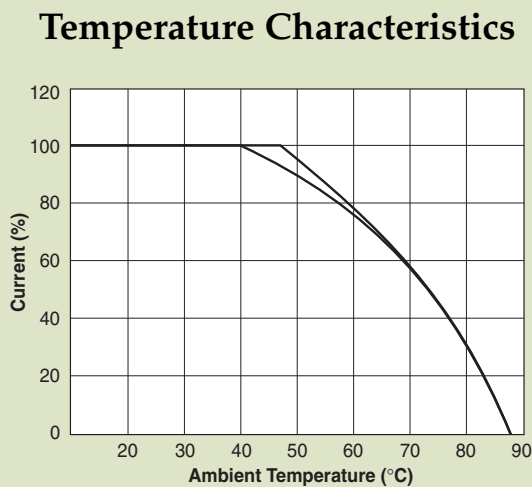
Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	C <sub>Y1</sub>	Capacitance			Inductance (L <sub>1</sub> )	Temperature Rise (Max.)
					C <sub>Y2</sub>	C <sub>X1</sub>	C <sub>X2</sub>		
68-BSF-020-3-01	250VAC	2A	0.35mA	2200pF	2200pF	0.1uF	0.1uF	10.5mH	45°C
68-BSF-020-3-04						0.22uF	0.22uF		
68-BSF-040-3-01		4A				0.1uF	0.1uF	4.2mH	
68-BSF-040-3-04						0.22uF	0.22uF		
68-BSF-060-3-01		6A				0.1uF	0.1uF	1.6mH	
68-BSF-060-3-04						0.22uF	0.22uF		

Note: Test Voltage 1500VAC one minute, line to ground  
Insulation Resistance: 300 MΩ min. at 500VDC  
Voltage Drop: 1V max. at rated current  
Weight: 130g  
Inlet: Compatible with IEC-320  
B(S) = Bolt-in terminals

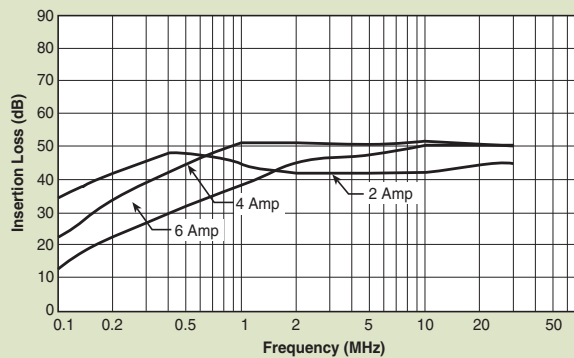
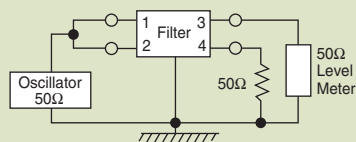
# Switched and Fused Filtered Power Entry Modules

## Dual Fuse for European Applications

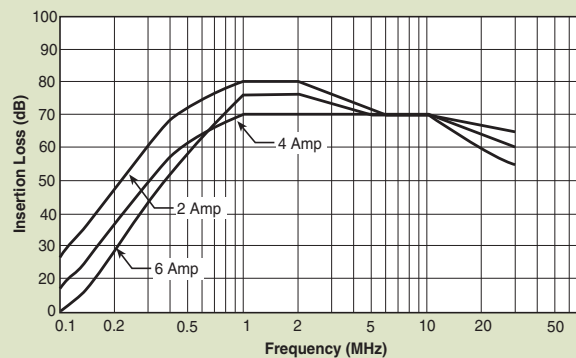
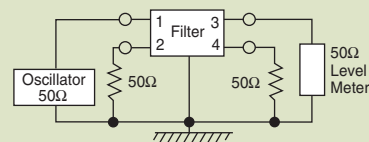
## 68-BSF Series



## Common Mode



## Normal Mode



# PCB Power Filters Miniature Printed Circuit Board

## 61-MPC Series



Tested and found to be  
IAW VDE 0565 Part 3

### Features

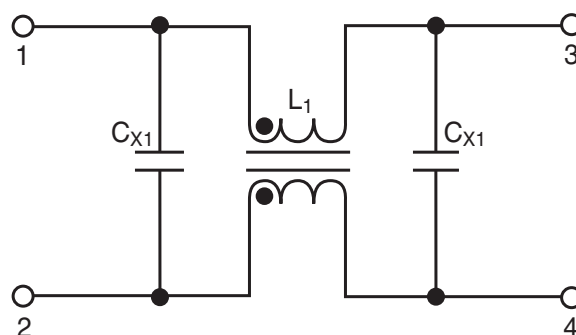
- Miniature general purpose PCB mounted filter
- Requires minimal PCB real estate space
- Low cost
- Designed for two wire cord systems
- For three wire cord systems, Y capacitors can be attached externally
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF45)

### Applications

- Personal computers and peripherals
- Digital equipment
- Measuring instruments and medical equipment
- TV & VCR monitors and display units
- Home appliances



### Circuit Diagram



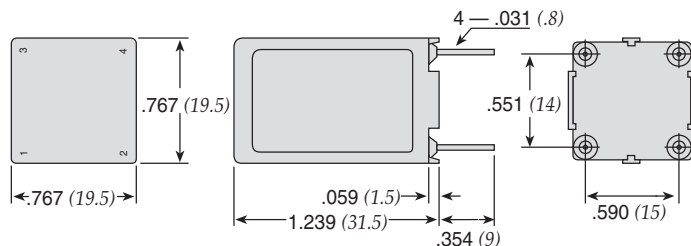
## Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L <sub>1</sub> )	Temperature Rise (Max.)
				C <sub>x1</sub>	C <sub>x2</sub>		
61-MPC-010-1-11	250VAC	1A	0.1mA	0.1uF	0.1uF	11mH	40°C
61-MPC-016-1-11		1.6A				6.0mH	
61-MPC-025-1-11		2.5A				2.4mH	
61-MPC-036-1-11		3.6A				1.2mH	

Note: Test voltage: 1500VAC one minute, line to ground  
Insulation resistance: 300 Mohm min. at 500VDC  
Voltage drop: 1V max. at rated current  
Weight: 17.5g

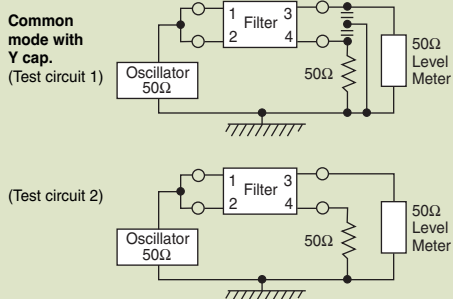
# PCB Power Filters Miniature Printed Circuit Board

## 61-MPC Series

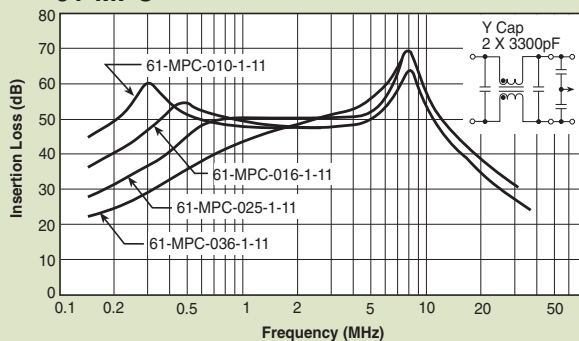


Dimensions in inches (mm)

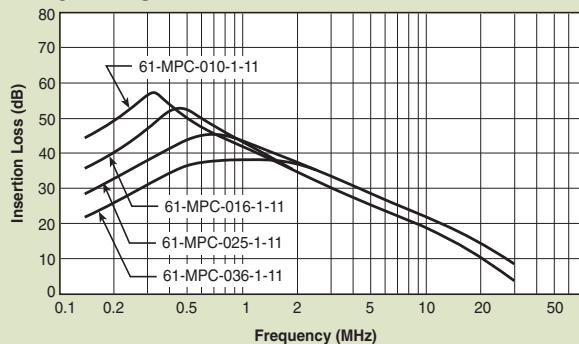
### Common Mode



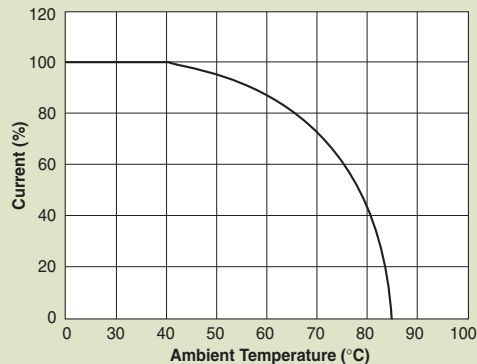
### 61-MPC



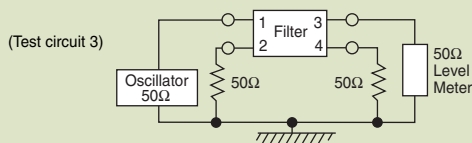
### 61-MPC



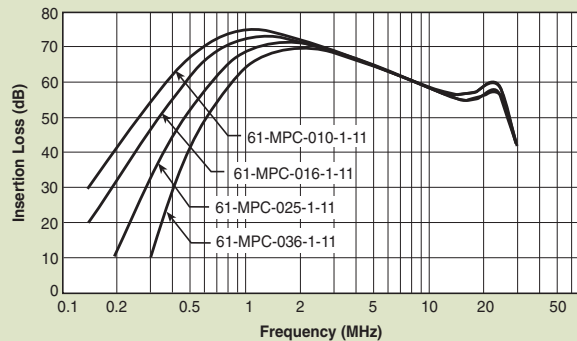
### Temperature Characteristics



### Normal Mode



### 61-MPC



# Power Entry Modules Bolt-in Right Angle Terminals for PCB Applications

## 60-BPP Series



Tested and found to be  
IAW VDE 0565 Part 3

### Features

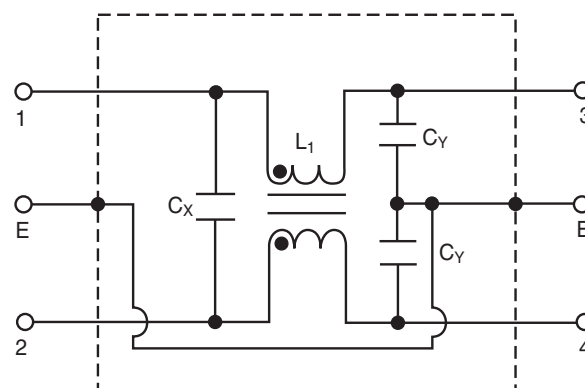
- Ideally suited for products that must conform to FCC part 15 regulations
- Metal case offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Uses IEC connector that meets most safety standards Solder lug, Fast-on tab styles available (see page PF18)
- PCB mounting style minimizes space and provides economical installation
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF47)
- UL approved low leakage version also available

### Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



### Circuit Diagram



### Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance (L <sub>1</sub> )	Temperature Rise (Max.)
				C <sub>Y</sub>	C <sub>X</sub>		
60-BPP-010-3-2	250VAC	1A	0.35mA	2200pF	0.022uF	6.0mH	30°C
60-BPP-010-3-4					0.047uF		
60-BPP-010-5-2			0.50mA	3300pF	0.022uF		
60-BPP-010-5-4					0.047uF		
60-BPP-020-3-2		2A	0.35mA	2200pF	0.022uF	2.4mH	
60-BPP-020-3-4					0.047uF		
60-BPP-020-5-2			0.50mA	3300pF	0.022uF		
60-BPP-020-5-4					0.047uF		
60-BPP-030-3-2		3A	0.35mA	2200pF	0.022uF	1.2mH	
60-BPP-030-3-4					0.047uF		
60-BPP-030-5-2			0.50mA	3300pF	0.022uF		
60-BPP-030-5-4					0.047uF		
60-BPP-060-3-2		6A	0.35mA	2200pF	0.022uF	0.53mH	45°C
60-BPP-060-3-4					0.047uF		
60-BPP-060-5-2			0.50mA	3300pF	0.022uF		
60-BPP-060-5-4					0.047uF		

Note: Test voltage: 1500VAC one minute, line to ground  
Insulation resistance: 300 Mohm min. at 500VDC  
Voltage drop: 1V max. at rated current  
Weight: 50g  
Input: Compatible with IEC-320

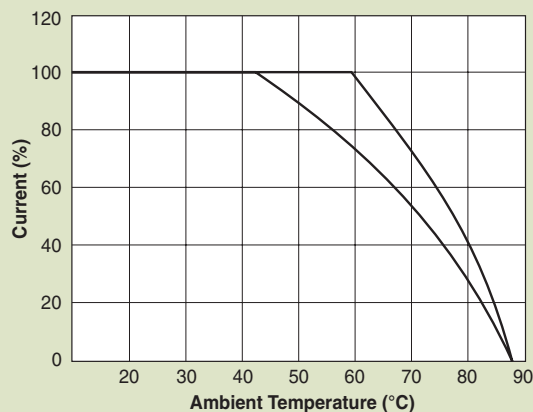


# Power Entry Modules Bolt-in Right Angle Terminals

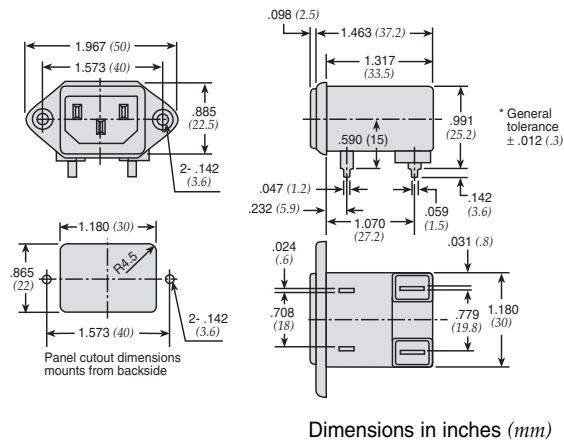
for PCB Applications

## 60-BPP Series

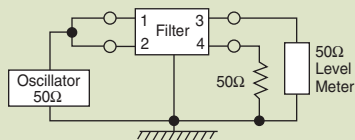
### Temperature Characteristics



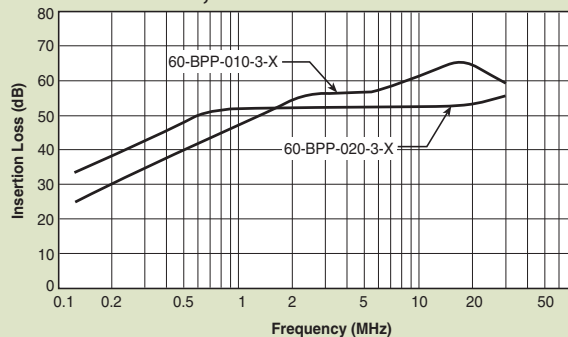
### 60-BPP PCB Mounting Type



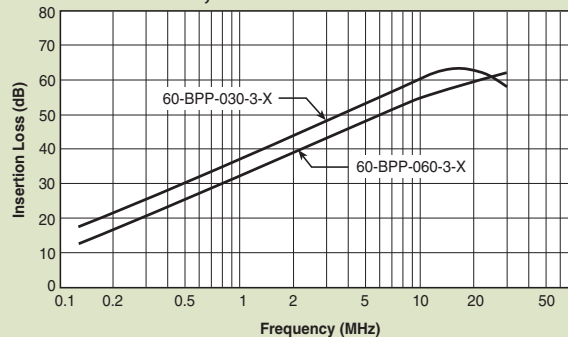
### Common Mode



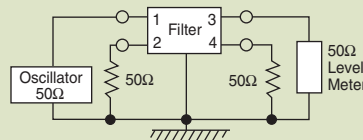
#### 60-BPP-010;-020



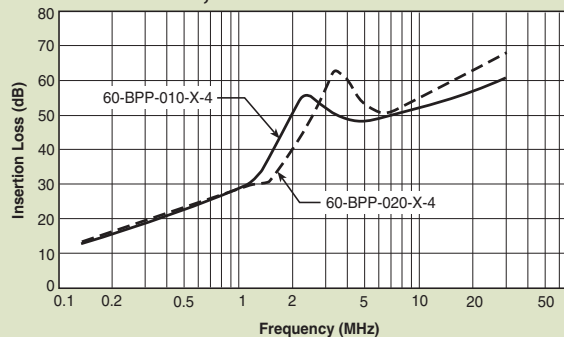
#### 60-BPP-030;-060



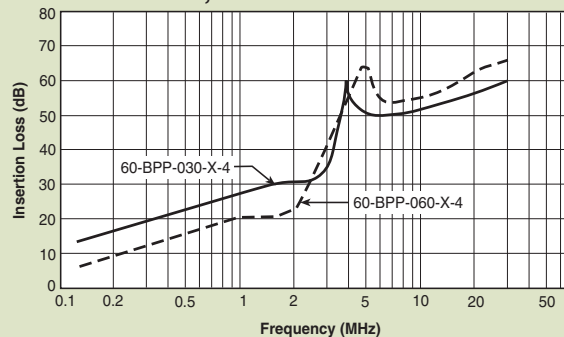
### Normal Mode



#### 60-BPP-010;-020



#### 60-BPP-030;-060



# Power Entry Modules High Frequency Attenuation

Bolt-in for PCB Applications

## 60-BHP Series



Tested and found to be  
IAW VDE 0565 Part 3

### Features

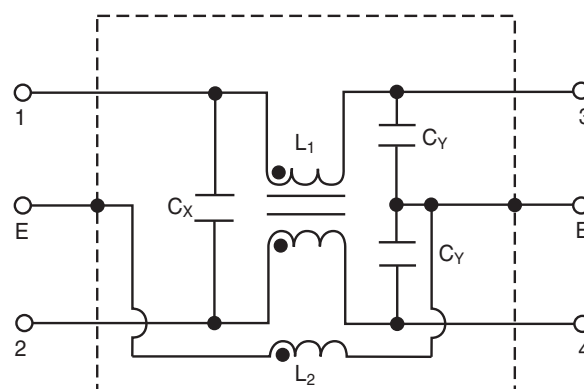
- Ideally suited for products that must conform to FCC part 15 regulations
- Metal cased filter offers high performance
- Meets over voltage of IEC 664 category II and complies with IEC 950
- Solder lug, Fast-on tab styles available (see page PF20)
- PCB mounting minimizes space and provides economical installation
- Excellent filtering characteristics for high frequencies
- Earth coil standard
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF49)

### Applications

- Digital equipment
- Personal computers and peripherals
- Measuring instruments
- Monitor and display units



### Circuit Diagram



### Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance		Inductance		Temperature Rise (Max.)
				C <sub>Y</sub>	C <sub>X</sub>	(L <sub>1</sub> )	(L <sub>2</sub> )	
60-BHP-010-3-11	250VAC	1A	0.35mA	2200pF±20%	0.1uF±20%	6mH	18.3 uH	30°C
60-BHP-010-3-4					.047uF±20%			
60-BHP-010-5-11			0.50mA	3300pF±20%	0.1uF±20%			
60-BHP-010-5-4					.047uF±20%			
60-BHP-020-3-11		2A	0.35mA	2200pF±20%	0.1uF±20%	2.4mH		
60-BHP-020-3-4					.047uF±20%			
60-BHP-020-5-11			0.50mA	3300pF±20%	0.1uF±20%			
60-BHP-020-5-4					.047uF±20%			
60-BHP-030-3-11		3A	0.35mA	2200pF±20%	0.1uF±20%	1.2mH		
60-BHP-030-3-4					.047uF±20%			
60-BHP-030-5-11			0.50mA	3300pF±20%	0.1uF±20%			
60-BHP-030-5-4					.047uF±20%			
60-BHP-060-3-11		6A	0.35mA	2200pF±20%	0.1uF±20%	0.53mH		45°C
60-BHP-060-3-4					.047uF±20%			
60-BHP-060-5-11			0.50mA	3300pF±20%	0.1uF±20%			
60-BHP-060-5-4					.047uF±20%			

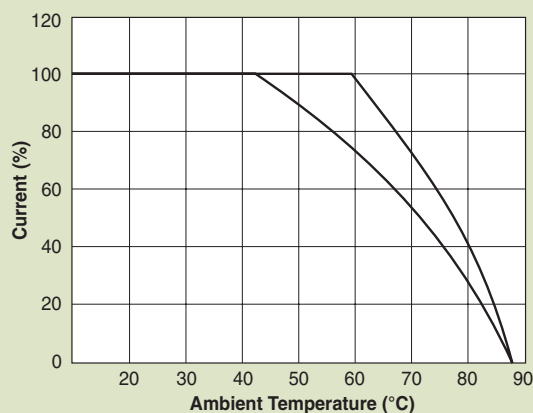
Note: Test voltage: 1500VAC one minute, line to ground  
Insulation resistance: 300 Mohm min. at 500VDC  
Voltage drop: 1V max. at rated current  
Weight: 50g  
Input: Compatible with IEC-320

# Power Entry Modules High Frequency Attenuation

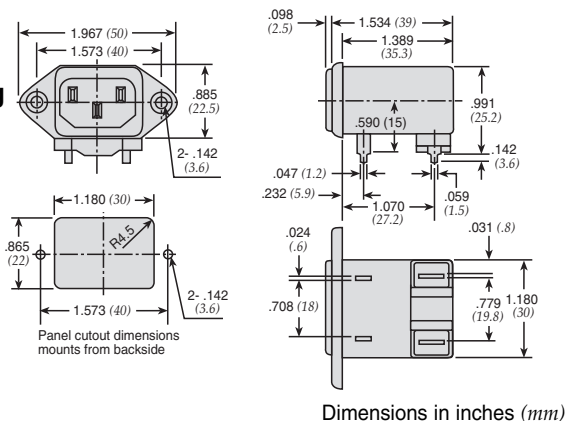
Bolt-in for PCB Applications

## 60-BHP Series

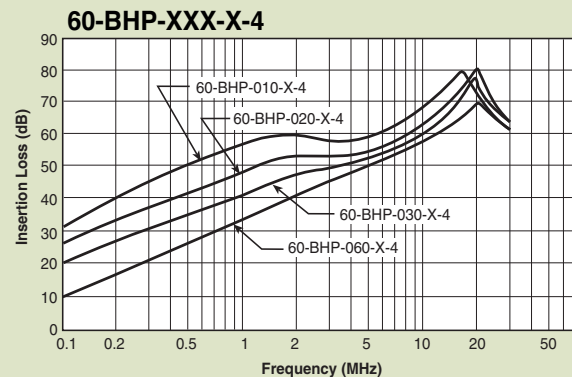
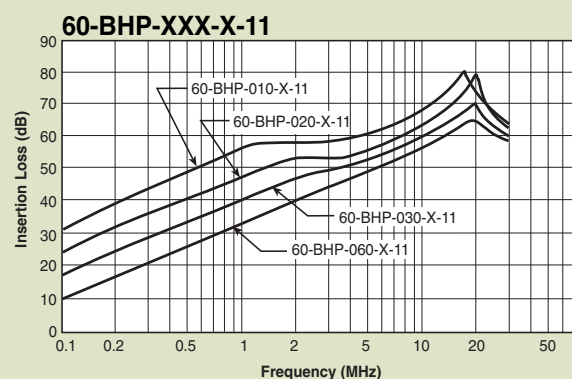
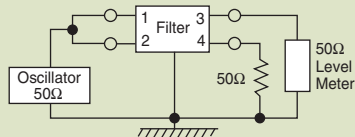
### Temperature Characteristics



### 60-BHP PCB Mounting Type



### Common Mode



### Normal Mode

