Three Phase Power Line Filters

Excellent attenuation for high voltage impulse. Epoxy molded for internal component reliability and metal case provides effective EMI shielding. Ideal for digital, industrial and automation equipment.

Low Current/High Performance **PF80-PF81**

Three-Phase Power Line Filters **PF82-PF83**

High Performance **PF84-PF89**

api technologies corp.
Spectrum Control

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Spectrum Control

Power Line Filters
Three Phase

Low Current/High Performance

62-PMB/63-PMF Series

Features

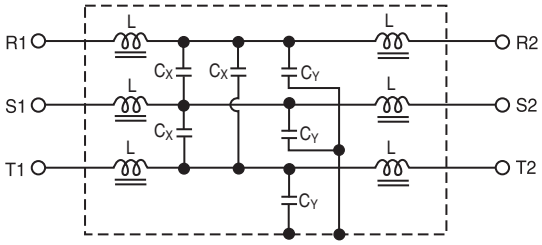
- Excellent attenuation for high voltage impulse
- Effective for both balanced and unbalanced three-phase loads
- Metal case provides effective EMI shielding
- Epoxy molded for internal component reliability
- Compact and economical
- Excellent filtering characteristics for both normal and common mode
- Various current ratings available: 3, 5, 8 and 16 Amps
- Safety agency approvals pending
- Operating temperature: -25°C to +85°C (including temperature rise, see graph on page PF81)

Applications

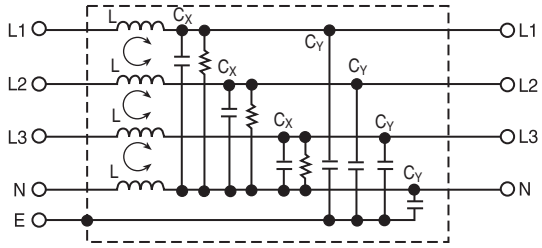
- Digital equipment
- Industrial equipment (UPS, inverters and converters)
- Automation equipment
- Computerized washing machines

Circuit Diagram

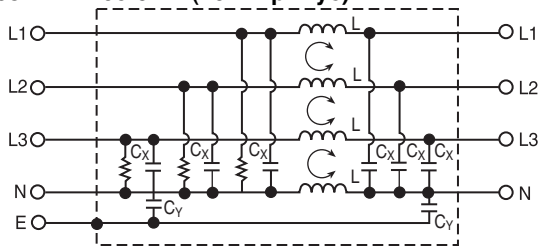
62-PMB-050-6-12 (5 Amp Delta)



63-PMF-030-8-14 and 63-PMF-080-8-14 (3 and 8 Amp Wye)



63-PMF-160-9-21 (16 Amp Wye)



Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Capacitance C_Y	Capacitance C_X	Inductance (L_1)	Temperature Rise (Max.)
62-PMB-050-6-12	250VAC	5A	0.6mA	2200pF	0.22uF	115mH	45°C
63-PMF-030-8-14	480VAC	3A	1.0mA	4700pF (4X)	470uF (3X)	1.0mH (4X)	30°C
63-PMF-080-8-14		8A				0.74mH (4X)	40°C
63-PMF-160-9-21		16A	3.0mA	0.015uF (2X)	1.0uF (6X)	1.2mH (4X)	45°C

Note: Test Voltage 1500VAC one minute, line to ground.
Insulation Resistance: 300 MΩ min. at 500VDC.
Voltage Drop: 1V max. at rated current.
Weight: 8.82 ounces (250 grams) for 63-PMF-030-8-14 and 63-PMF-080-8-14
19.4 ounces (550 grams) for 62-PMB-050-6-12
51.5 ounces (1450 grams) for 63-PMF-160-9-21

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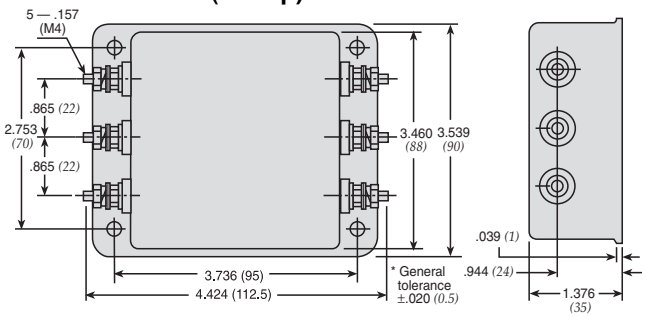
Spectrum Control

Power Line Filters
Three Phase

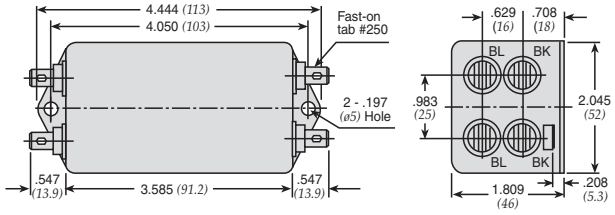
Low Current/High Performance

62-PMB/63-PMF Series

62-PMB-050-6-12 (5 Amp)

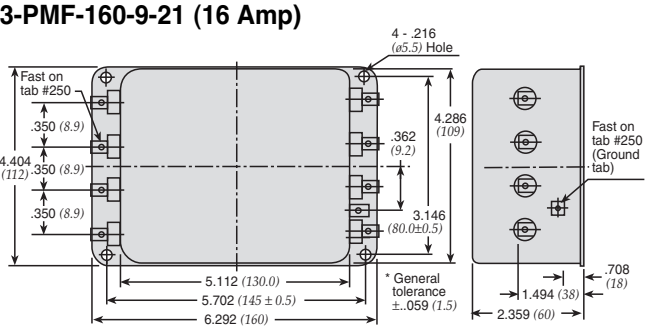


63-PMF-030-8-14 and 63-PMF-080-8-14 (3 and 8 Amp)

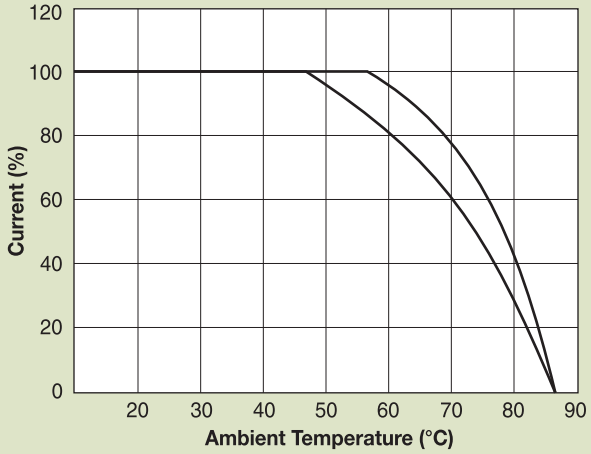


Dimensions in inches *(mm)*

63-PMF-160-9-21 (16 Amp)

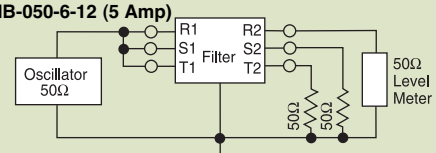


Temperature Characteristics

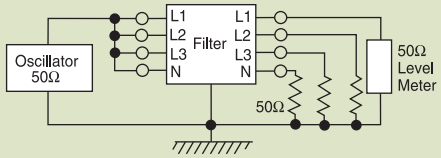


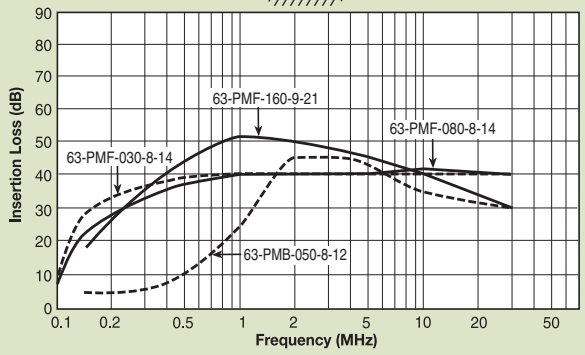
Common Mode

62-PMB-050-6-12 (5 Amp)



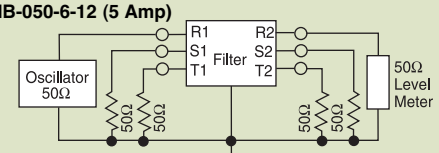
63-PMF (3, 8 and 16 Amp)



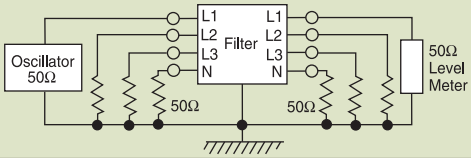


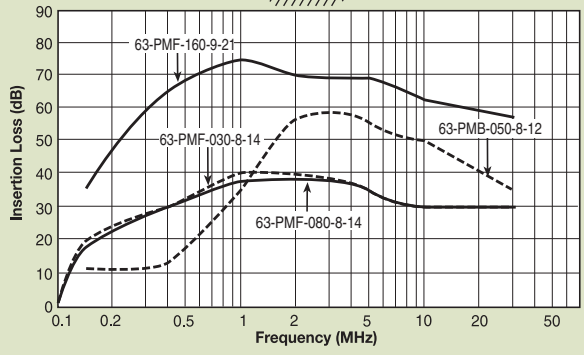
Normal Mode

62-PMB-050-6-12 (5 Amp)



63-PMF (3, 8 and 16 Amp)





api technologies corp.
Spectrum Control

Power Line Filters
Three Phase

13-PWF/PWL/PWB Series

Features

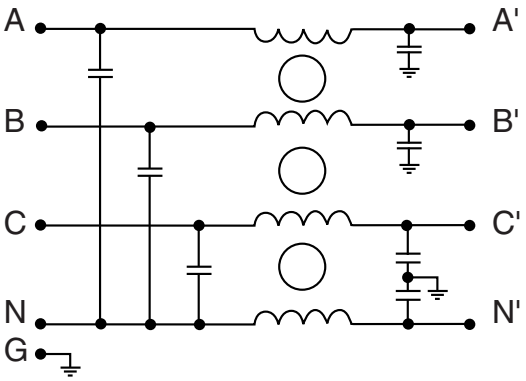
- Excellent attenuation for high voltage impulse
- Effective for both balanced and unbalanced three-phase loads
- Metal case provides effective EMI shielding
- Epoxy molded for internal component reliability
- Suitable for both Wye and Delta connection
- Excellent filtering characteristics for both normal and common mode
- Operating temperature: -40°C to +85°C
- Designed for 3-phase 4-line power supply systems

Applications

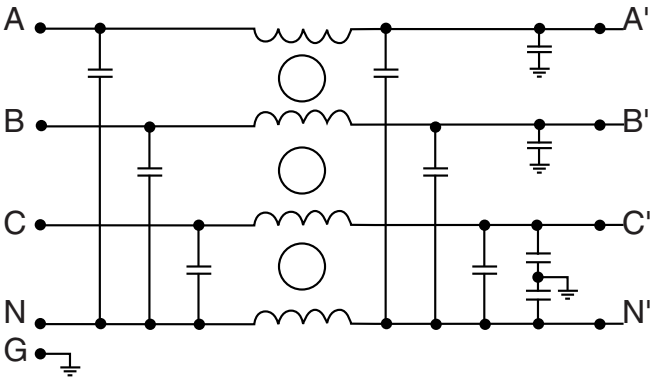
- Digital equipment
- Industrial equipment (UPS, inverters and converters)
- Automation equipment
- Computerized washing machines

Circuit Diagram

Circuit 1



Circuit 2



Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Circuit Diagram	Figure	Temperature Rise (Max.)
13-PWF-005-12-H	440/250VAC	5A	1.5mA	1	A	30°C
13-PWL-005-12-C					B	
13-PWF-010-12-H		10A			A	
13-PWL-010-12-C					B	
13-PWB-010-12-D				2	C	
13-PWB-015-12-D		15A				
13-PWB-020-12-D		20A				
13-PWB-025-12-D		25A				
13-PWB-030-12-D		30A				

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

api technologies corp.
Spectrum Control

Power Line Filters
Three Phase

13-PWF/PWL/PWB Series

Figure A

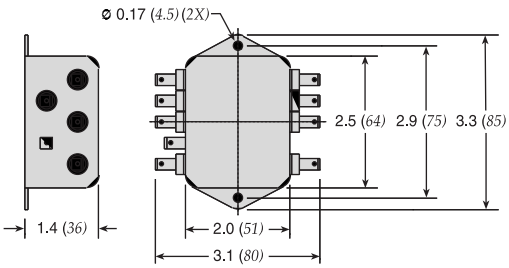


Figure B

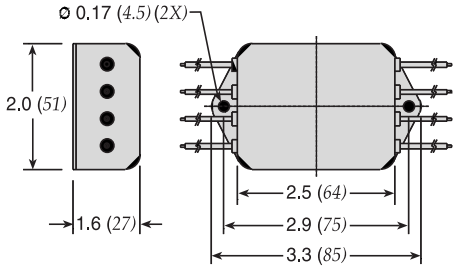
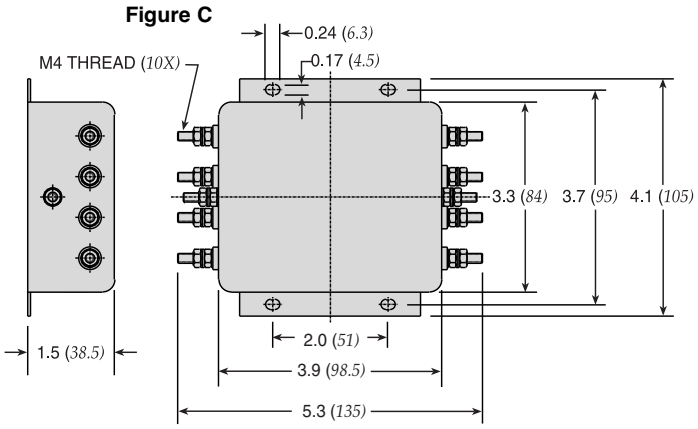
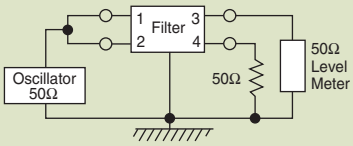


Figure C

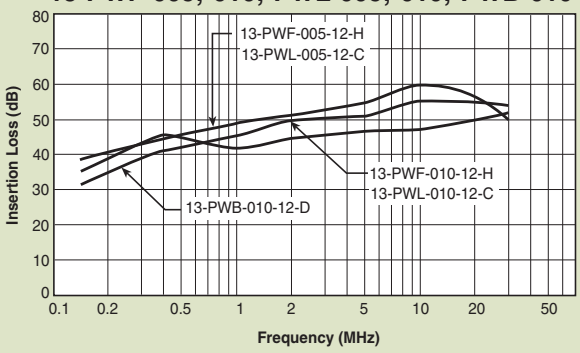


Dimensions in inches *(mm)*

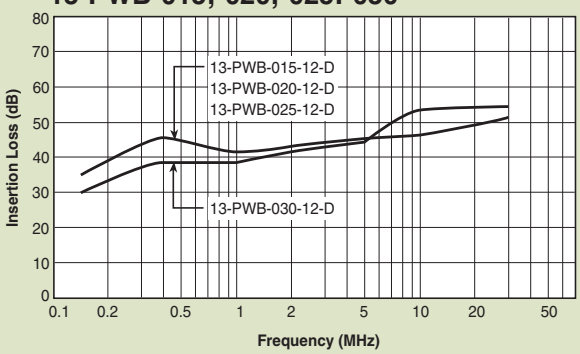
Common Mode



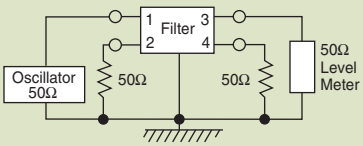
13-PWF-005;-010;-PWL-005;-010;-PWB-010



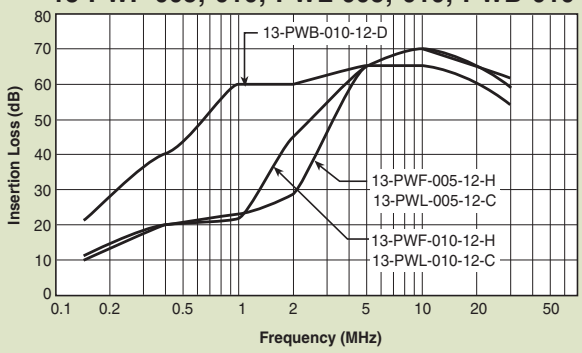
13-PWB-015;-020;-025:-030



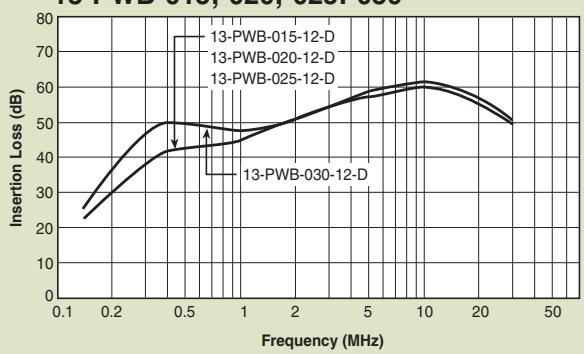
Normal Mode



13-PWF-005;-010;-PWL-005;-010;-PWB-010



13-PWB-015;-020;-025:-030



api technologies corp.
Spectrum Control

Power Line Filters
Three Phase
High Performance

13-PDF/PDL/PDB Series

Features

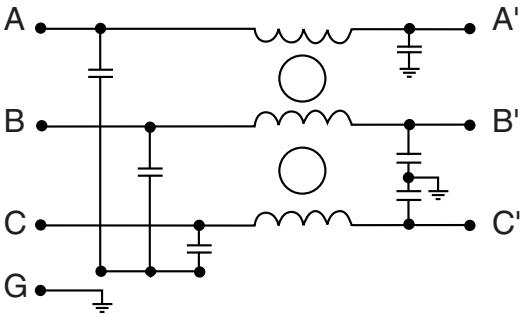
- Excellent attenuation for high voltage impulse
- Effective for both balanced and unbalanced three-phase loads
- Metal case provides effective EMI shielding
- Epoxy molded for internal component reliability
- Compact and economical
- Excellent filtering characteristics for both normal and common mode
- Operating temperature: -40°C to +85°C
- Designed for 3-phase, 3-Delta connection system

Applications

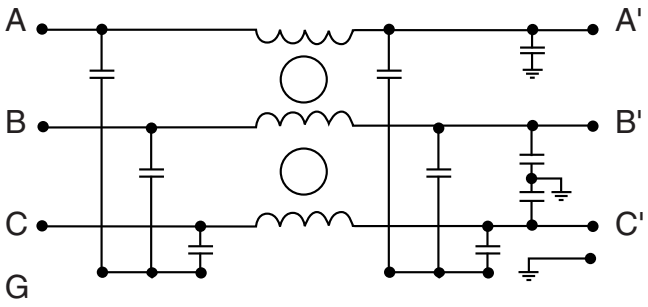
- Digital equipment
- Industrial equipment (UPS, inverters and converters)
- Automation equipment
- Switching power supplies

Circuit Diagram

Circuit 1



Circuit 2



Specifications

Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Circuit Diagram	Figure	Temperature Rise (Max.)
13-PDF-005-11-J	440/250VAC	5A	1.5mA	1	A	30°C
13-PDL-005-11-D					B	
13-PDF-010-11-J		10A			A	
13-PDL-010-11-D					B	
13-PDB-010-11-D				2	C	
13-PDB-015-11-D		15A				
13-PDB-020-11-D		20A				
13-PDB-025-11-D		25A				
13-PDB-030-11-D		30A				

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

api technologies corp.
Spectrum Control

Power Line Filters
Three Phase
High Performance

13-PDF/PDL/PDB Series

Figure A

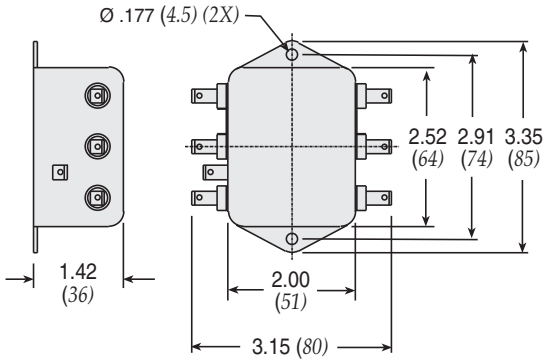


Figure B

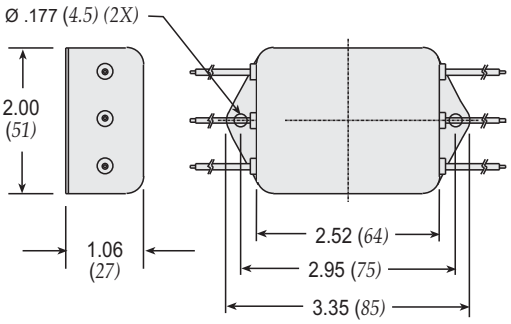
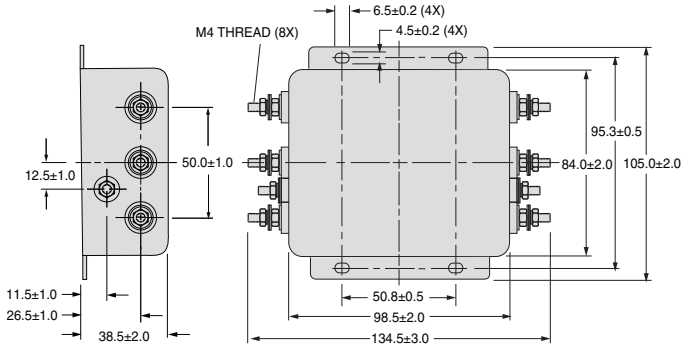
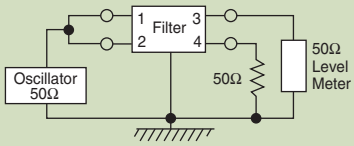


Figure C

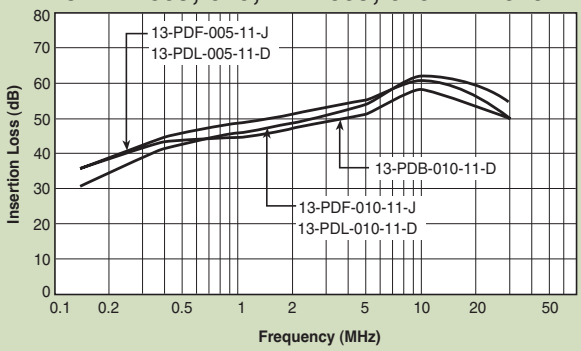


Dimensions in inches *(mm)*

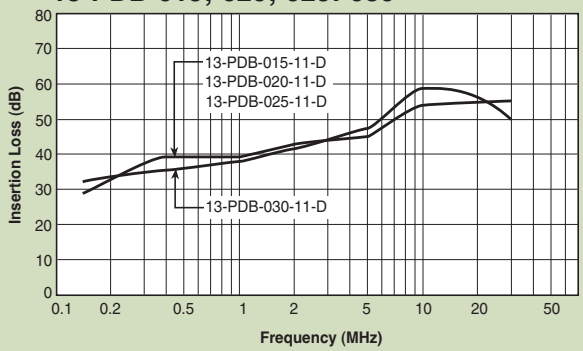
Common Mode



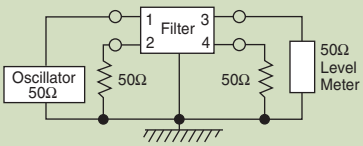
13-PDF-005;-010; PDL-005;-010 PDB-010



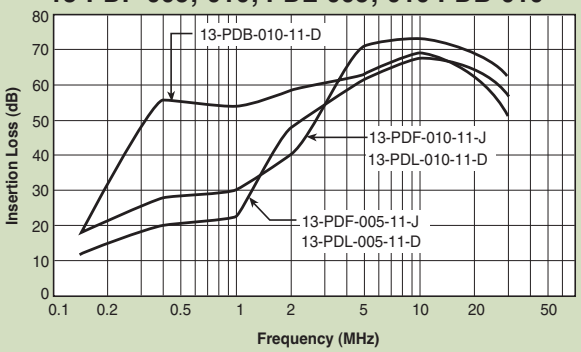
13-PDB-015;-020;-025:-030



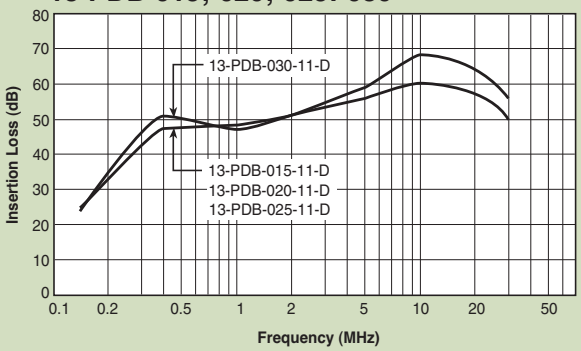
Normal Mode



13-PDF-005;-010; PDL-005;-010 PDB-010



13-PDB-015;-020;-025:-030



api technologies corp.
Spectrum Control

Power Line Filters
Three Phase
High Performance

13-PWB Series

Features

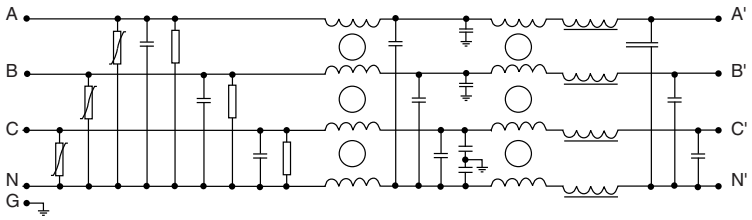
- Excellent attenuation for high voltage impulse
- Metal case provides effective EMI shielding
- Epoxy molded for internal component reliability
- Excellent filtering characteristics for both normal and common mode
- Various current ratings available: from 5 to 150 Amps
- Operating temperature: -40°C to +85°C
- Designed for 3-phase, 4-line power systems

Applications

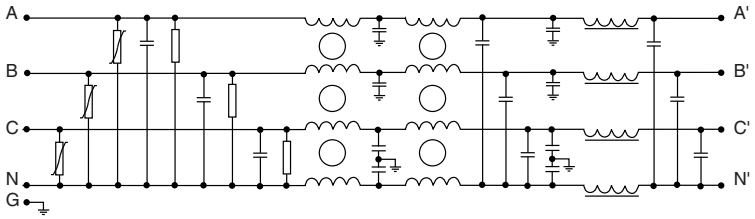
- Power supplies for data systems
- Industrial equipment (UPS, inverters and converters)
- Automation equipment
- Telecommunications systems and equipment

Circuit Diagram

Circuit 1



Circuit 2



Specifications

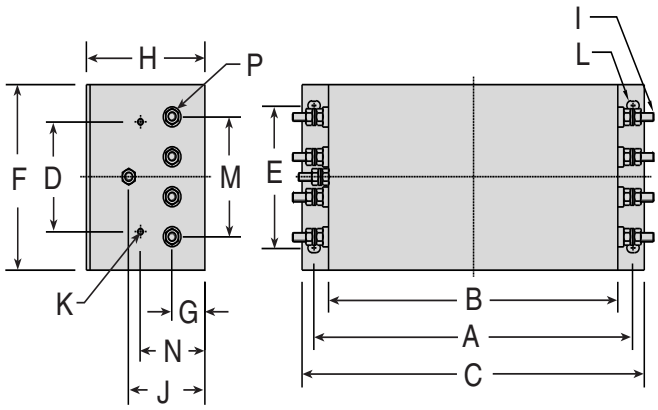
Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Circuit Diagram	Temperature Rise (Max.)
13-PWB-005-12-A	480/277VAC	5A	4.5mA	1	30°C
13-PWB-010-12-B		10A			
13-PWB-020-12-B		20A			
13-PWB-035-12-C		35A			
13-PWB-050-13-C		50A	9.0mA	2	
13-PWB-080-14-D		80A	20mA		
13-PWB-100-14-D		100A			
13-PWB-150-14-E		150A			

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

api technologies corp.
Spectrum Control

Power Line Filters
Three Phase
High Performance

13-PWB Series

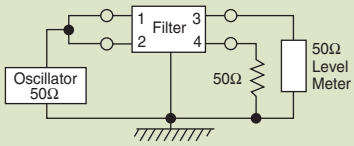


Dimensions

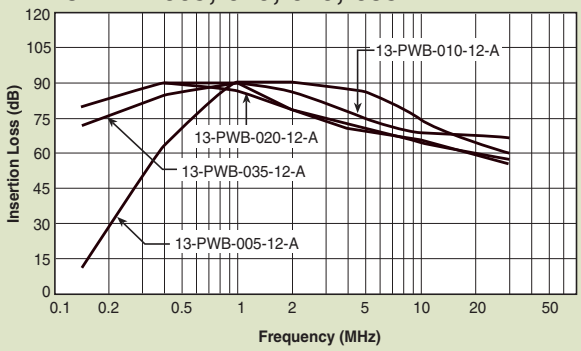
Dimensions in inches *(mm)*

Model	A	B	C	D	E	F	G	H	I	J	K	M	N	P	L
13-PWB-005-12-A	7.2 *(184)*	6.3 *(160)*	7.9 *(202)*	2.4 *(60)*	1.7 *(44)*	3.5 *(86)*	.70 *(18)*	2.3 *(58)*	M4	1.5 *(38)*	–	–	–	M4	.25 x .37 *(6.4 x 9.4)*
13-PWB-010-12-B	9.6 *(243)*	8.7 *(220)*	10.3 *(261)*			3.9 *(100)*	.98 *(25)*	3.5 *(90)*		1.8 *(45)*					.25 x .37 *(6.4 x 9.5)*
13-PWB-020-12-B															.25 x .38 *(6.4 x 9.6)*
13-PWB-035-12-C				3.1 *(81)*	3.8 *(96)*	4.9 *(125)*			M6	2.3 *(58)*	M4	2.9 *(74)*	1.9 *(49)*	M6	.25 x .38 *(6.4 x 9.7)*
13-PWB-050-13-C															.25 x .38 *(6.4 x 9.8)*
13-PWB-080-14-D	13.9 *(354)*	12.6 *(320)*	15.1 *(384)*	3.9 *(99)*	6.1 *(155)*	7.3 *(185)*	1.2 *(30)*		M8	2.4 *(62)*		3.4 *(86)*	2.2 *(56)*	M8	.25 x .39 *(6.4 x 9.9)*
13-PWB-100-14-D															.25 x .36 *(6.4 x 9.10)*
13-PWB-150-14-E					7.5 *(190)*	8.7 *(220)*	1.4 *(35)*	3.9 *(100)*					2.4 *(61)*		.25 x .36 *(6.4 x 9.11)*

Common Mode



13-PWB-005;-010;-020;-035



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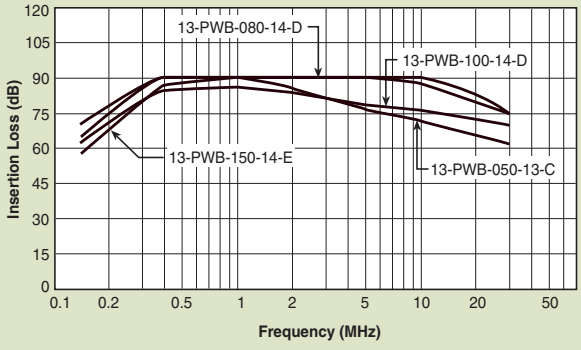

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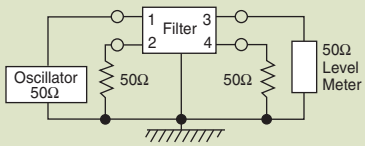

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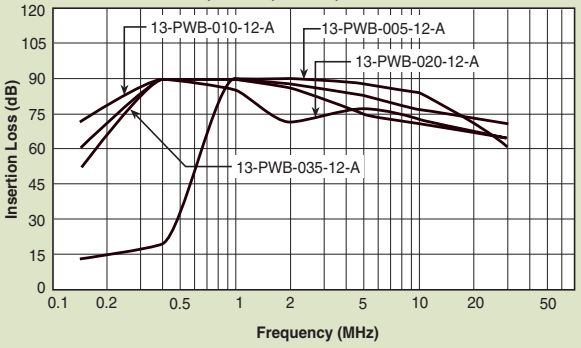

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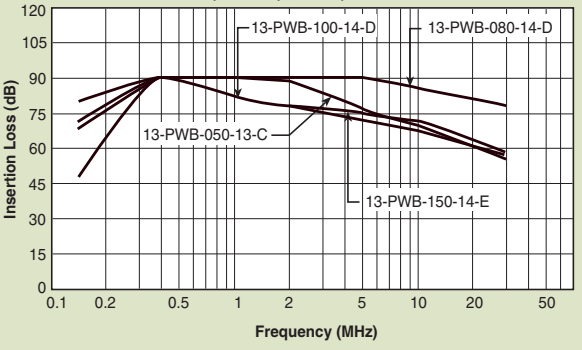


api technologies corp.
Spectrum Control

Power Line Filters
Three Phase
High Performance

13-PDB Series

Features

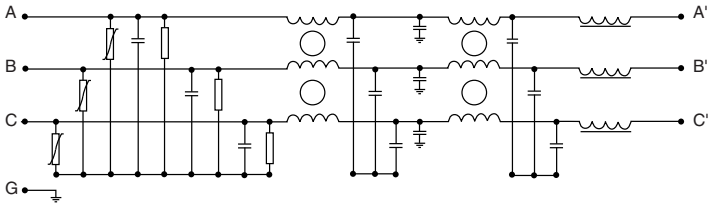
- Excellent attenuation for high voltage impulse
- Metal case provides effective EMI shielding
- Epoxy molded for internal component reliability
- Excellent filtering characteristics for both normal and common mode
- Various current ratings available: from 5 to 200 Amps
- Operating temperature: -40°C to +85°C
- Designed for 3-phase, 3-line connection systems

Applications

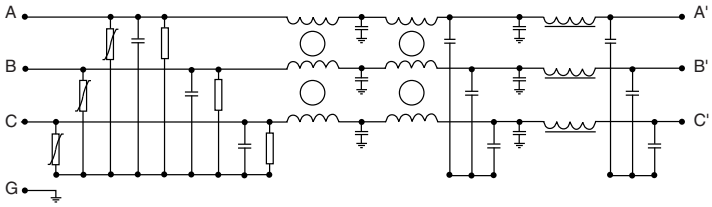
- Digital equipment
- Industrial equipment (UPS, inverters and converters)

Circuit Diagram

Circuit 1



Circuit 2



Specifications

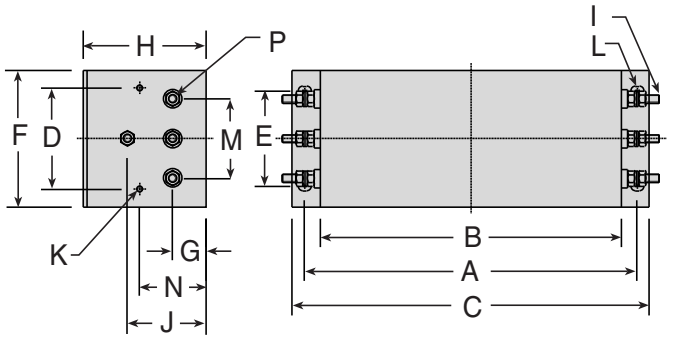
Model	Rated Voltage (@ 50/60Hz)	Rated Current	Leakage Current (Max.)	Circuit Diagram	Temperature Rise (Max.)
13-PDB-005-12-A	480/277VAC	5A	4.5mA	1	30°C
13-PDB-010-12-A		10A			
13-PDB-020-12-B		20A			
13-PDB-035-12-B		35A			
13-PDB-050-12-B		50A	9.0mA		
13-PDB-080-13-C		80A			
13-PDB-100-14-C		100A	20mA	2	
13-PDB-150-14-C		150A			
13-PDB-200-14-D		200A			

Note: Test Voltage 2250VDC one minute, line to ground.
Insulation Resistance: 500MΩ.

api technologies corp.
Spectrum Control

Power Line Filters
Three Phase
High Performance

13-PDB Series

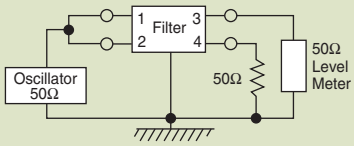


Dimensions

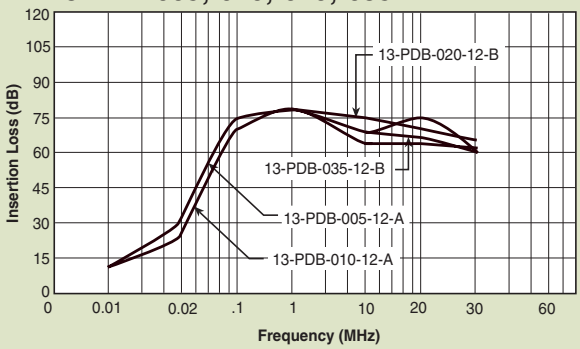
Dimensions in inches *(mm)*

Model	A	B	C	D	E	F	G	H	I	J	K	M	N	P	L
13-PDB-005-12-A	7.2 *(184)*	6.3 *(160)*	7.9 *(202)*	1.6 *(42)*	2.4 *(60)*	3.3 *(86)*	.70 *(18)*	2.3 *(58)*	M4	1.5 *(38)*	–	–	–	M4	.25 x .37 *(6.4 x 9.4)*
13-PDB-010-12-A															.25 x .37 *(6.4 x 9.5)*
13-PDB-020-12-B	9.6 *(243)*	8.7 *(220)*	10.3 *(261)*	2.3 *(58)*	2.7 *(70)*	3.9 *(100)*	.98 *(25)*	3.5 *(90)*	M6	2.3 *(58)*	M4	2.9 *(74)*	1.9 *(49)*	M6	.25 x .38 *(6.4 x 9.6)*
13-PDB-035-12-B															.25 x .38 *(6.4 x 9.7)*
13-PDB-050-12-B															.25 x .38 *(6.4 x 9.8)*
13-PDB-080-13-C	13.9 *(354)*	12.6 *(320)*	15.1 *(384)*	2.5 *(66)*	6.1 *(155)*	7.3 *(185)*	1.2 *(30)*		M8	2.4 *(62)*		3.3 *(86)*	2.2 *(56)*	M8	.25 x .39 *(6.4 x 9.9)*
13-PDB-100-14-C															.25 x .36 *(6.4 x 9.10)*
13-PDB-150-14-C															.25 x .36 *(6.4 x 9.11)*
13-PDB-200-14-D					7.5 *(190)*	8.6 *(220)*	1.4 *(35)*	3.9 *(100)*					2.4 *(61)*		.25 x .36 *(6.4 x 9.12)*

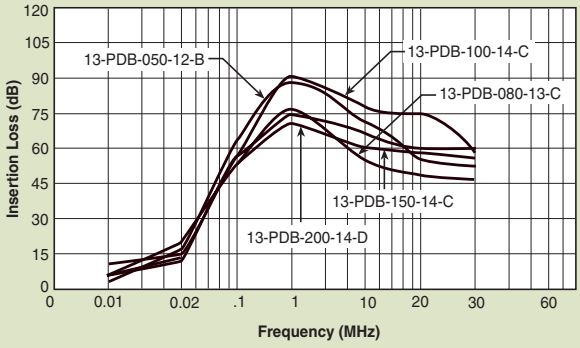
Common Mode



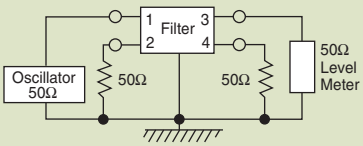
13-PDB-005;-010;-020;-035



13-PDB-050;-080;-100;-150;-200



Normal Mode



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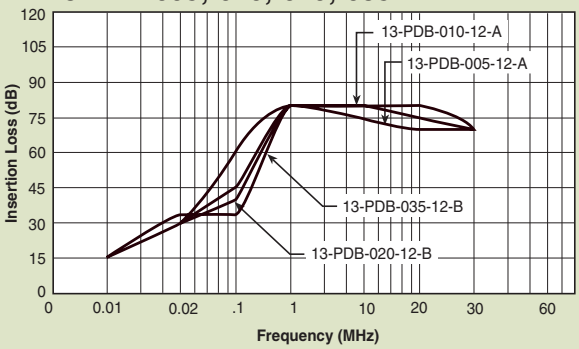
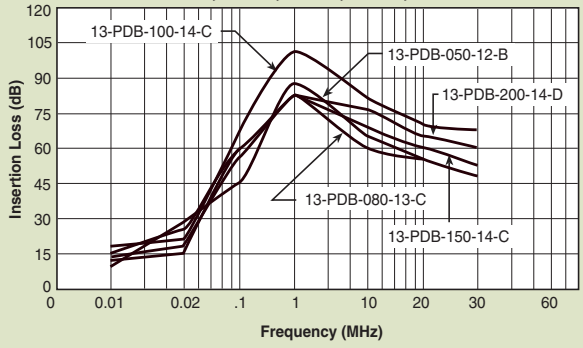
13-PDB-050;-080;-100;-150;-200