



Very High Performance Single Phase EMI Powerline Filter

- Very high differential & common mode attenuation performance and superior noise suppression. Two-Stage
- Rated currents from 1 to 30 Amps
- Optional medical versions available (Type B)
- Optional safety versions available (Type A)
- Optional overvoltage protection (Type Z)

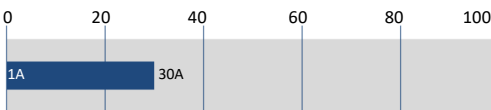


Performance Indicators

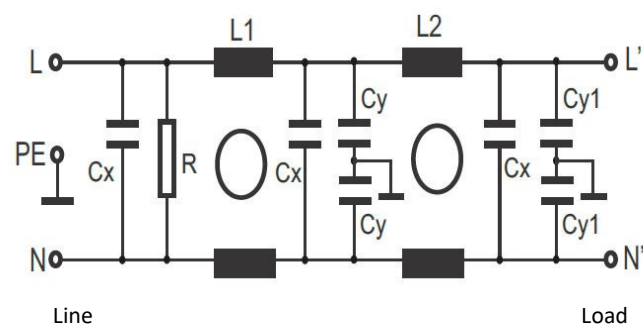
Attenuation Performance



Rated Current (Amps)



Electrical Diagram



Features and Benefits

- BL2090 filters are designed for easy and fast chassis mounting
- BL2090 filters are also available as B versions without Y-capacitors for medical applications, A versions with low capacitance for safety critical applications and also Z versions for overvoltage protection
- All filters provide a very high conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behaviour
- BL2090 filters can be used to cover a broad range of usage and they offer a good size/ampere ratio
- Various terminal options allow you to select the desired connection type

Technical Specification

Operating voltage	250 VAC, 50/60 Hz
Operating frequency	dc to 400 Hz
Rated currents	1 to 30 A @ 40 °C max
High potential test voltage	L → PE 3000 VDC for 2 sec (Standard Types) L → N 1100 VDC for 2 sec L → PE 3500 VAC for 2 sec (B types)
Temperature range (operation and storage)	-25 °C to +100 °C (25/100/21)
Design corresponding to	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939

Typical Applications

- Electrical and electronic equipment
- Consumer goods
- Household equipment
- Medical equipment
- Office automation equipment
- Datacom equipment

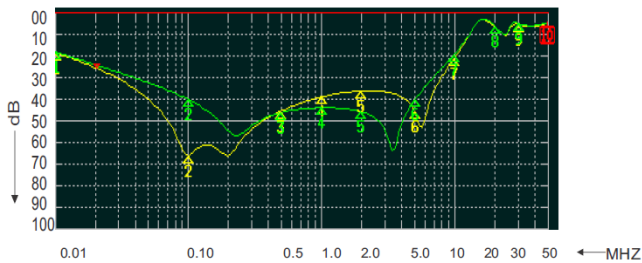
Filter Selection Table

Filter Model (where X = connection)	Rated Current @40 °C (Amps)	Leakage Current @230Vac/50Hz (mA)	Inductance L (mH)	Capacitance		Resistance R (kΩ)	Input/Output Connections		
				Cx (μF)	Cy (nF)				
BL2090-01-X	1	0.5	40	0.66	6.4	680	F	W	
BL2090-03-X	3	0.5	28	0.99	6.4	470	F	W	
BL2090-04-X	4	0.5	28	0.99	6.4	470	F	W	
BL2090-06-X	6	0.67	16	1.41	8.6	330	F	W	
BL2090-08-X	8	0.67	16	1.41	8.6	330	F	W	
BL2090-10-X	10	0.67	16	1.41	8.6	330	F	W	
BL2090-12-X	12	1.02	8	3	22	220	F	W	
BL2090-16-X	16	1.02	8	3	22	220	F	W	
BL2090-20-X	20	1.02	5.4	3	22	220	F		S
BL2090-30-X	30	1.02	3	3	22	220			S
Safety Version (A)									
BL2090A-01-X	1	0.08	40	0.66	0.94	680	F	W	
BL2090A-03-X	3	0.08	28	0.99	0.94	470	F	W	
BL2090A-04-X	4	0.08	28	0.99	0.94	470	F	W	
BL2090A-06-X	6	0.08	16	1.41	0.94	330	F	W	
BL2090A-08-X	8	0.08	16	1.41	0.94	330	F	W	
BL2090A-10-X	10	0.08	16	1.41	0.94	330	F	W	
BL2090A-12-X	12	0.08	8	3	0.94	220	F	W	
BL2090A-16-X	16	0.08	8	3	0.94	220	F	W	
BL2090A-20-X	20	0.08	5.4	3	0.94	220	F		S
BL2090A-30-X	30	0.08	3	3	0.94	220			S
Medical Version (B)									
BL2090B-01-X	1	0.002	40	0.66		680	F	W	
BL2090B-03-X	3	0.002	28	0.99		470	F	W	
BL2090B-04-X	4	0.002	28	0.99		470	F	W	
BL2090B-06-X	6	0.002	16	1.41		330	F	W	
BL2090B-08-X	8	0.002	16	1.41		330	F	W	
BL2090B-10-X	10	0.002	16	1.41		330	F	W	
BL2090B-12-X	12	0.002	8	3		220	F	W	
BL2090B-16-X	16	0.002	8	3		220	F	W	
BL2090B-20-X	20	0.002	5.4	3		220	F		S
BL2090B-30-X	30	0.002	3	3		220			S

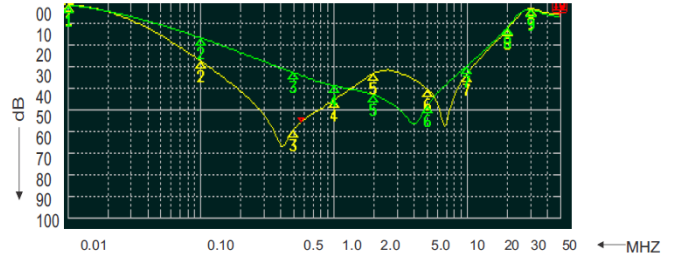
Typical Filter Attenuation

Insertion Loss: Common mode - —
 Differential mode - —

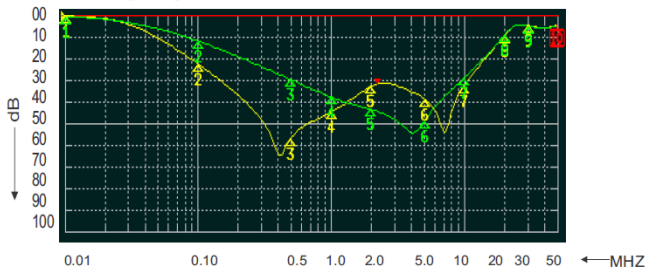
1 to 3 A



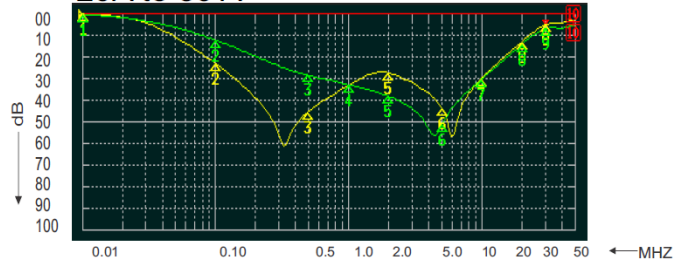
6 to 10 A



12 to 16 A

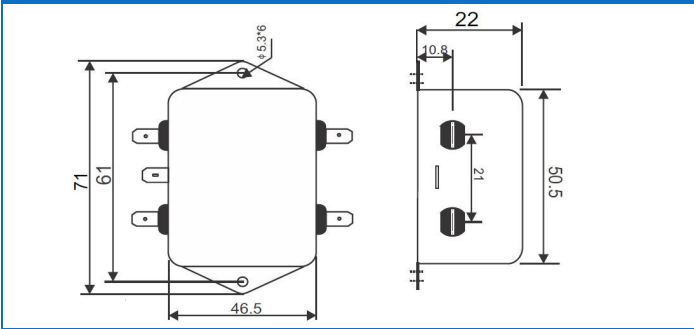


20A to 30 A

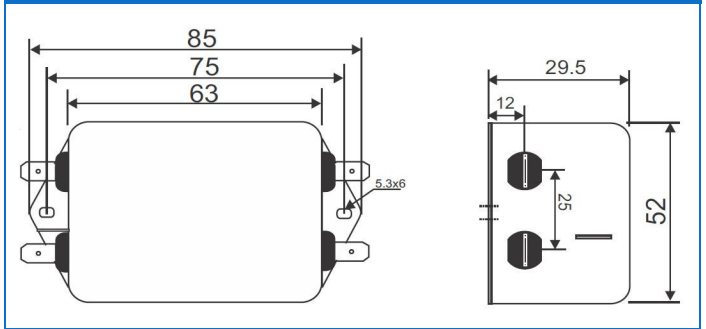


Mechanical Dimensions (mm)

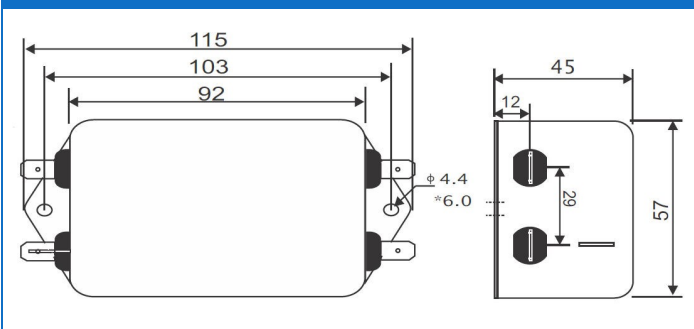
Connection Type F, 1A



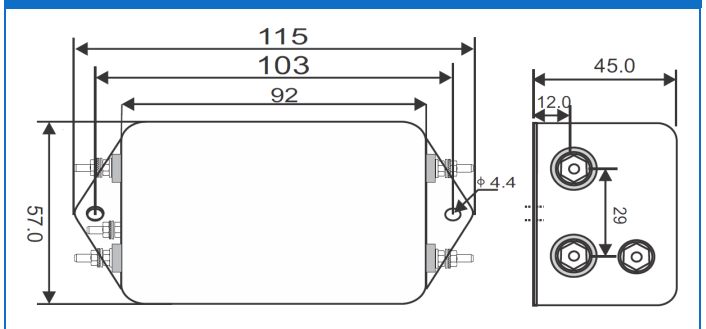
Connection Type F, 3A to 6A



Connection Type F, 8A to 20A



Connection Type S, 20A to 30A



Note: All dimensions in mm

Connection type F = Fast on Terminals (6.3 x 0.8)

Connection type S = Screw (M4)