

Datasheet | EC09

EP-612 Series



General Purpose AC EMI Filter

El.italia EC-EC09 [EP-612] serie



*Image shown is for illustrative purpose only

Technical specifications

Operating voltage	120/250 VAC
Current rating	10A-60A
Frequency	50/60Hz
Voltage drop	1 Volt max.
High potential test voltage	P -> E 1500VAC P -> N 1414VDC (applicable for excluding surge suppressor filter)
Insulation resistance	≥ 300 MΩ @ 500VDC (PN→E)
Operating temperature	40°C / -25°C +85°C

Features and benefits

- | Filters available in single stage and double stage
- | All filters provide high attenuation performance.
- | Two stage filters designed for noisy application requiring excellent filter performance.
- | All filters compliance to EN60939-3:2015 & EN60939-2:2005 standards.
- | High reliable
- | Chassis mountable filter in fabricated metal can.
- | CRCA metal can with nickel plating provides good aesthetic and corrosion protection.
- | Filters available in medical version without capacitor to earth.
- | General purpose filters with low leakage current for safety critical application.
- | With surge suppressor filters also available.
- | Various terminal options are available.

Attenuation Type

Single Stage	Standard
Double Stage	High

Application

- | Consumer product
- | Defence equipment
- | Medical equipment
- | Industrial application
- | Automotive application
- | Toggle machines
- | UPS/Inverter
- | Electrical equipment application
- | Office automation equipment

Datasheet | EC09

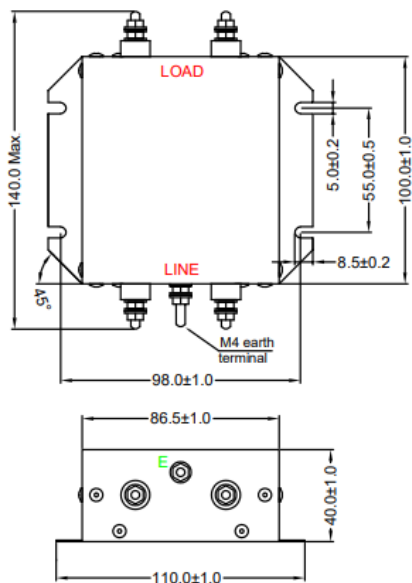
EP-612 Series

Mechanical details



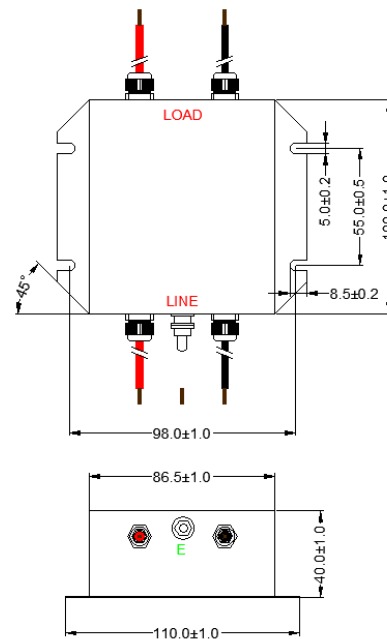
El.italia EC-EC09 [EP-612] serie

| For screw terminal



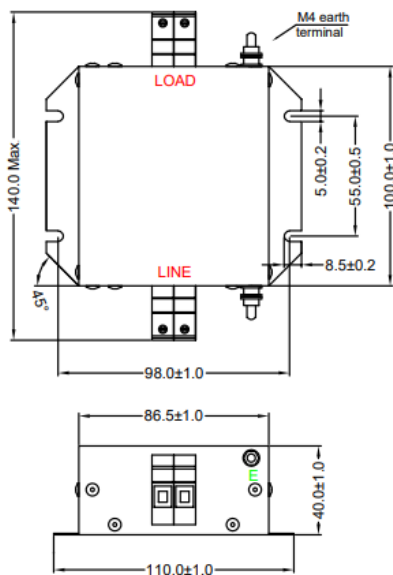
All dimensions in mm

| For wire lead terminal



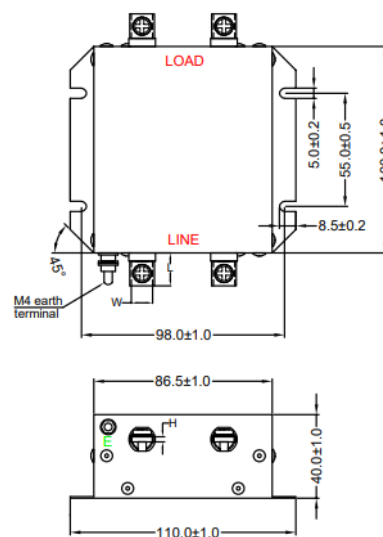
All dimensions in mm

| For touch safe terminal



All dimensions in mm

| For bus-bar terminal



All dimensions in mm

- Over 40A current rating touch will be unstackable.

Datasheet | EC09

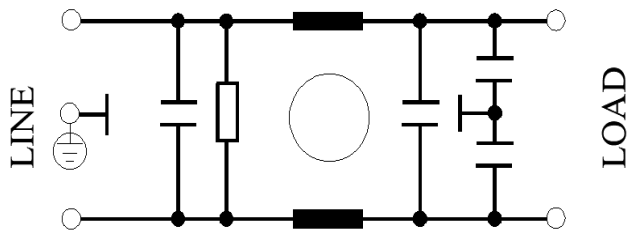
EP-612 Series



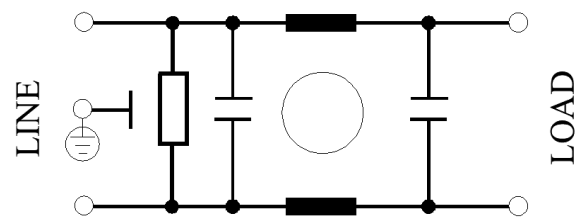
Electrical schematic for Single Stage Filter

El.italia EC-EC09 [EP-612] serie

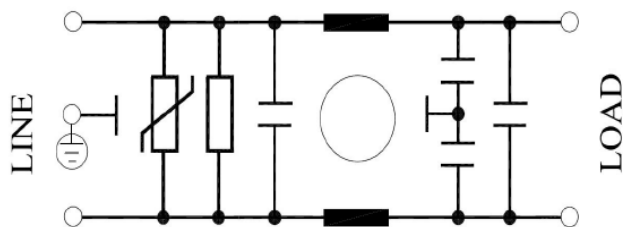
General purpose -



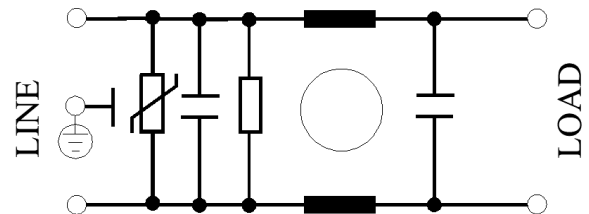
Medical equipment application -



General purpose with Surge Suppressor -

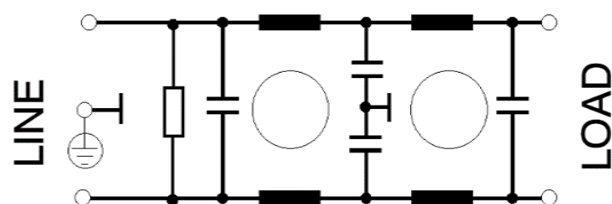


Medical equipment application with Surge Suppressor -

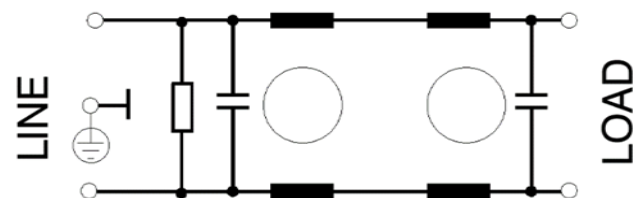


Electrical schematic for Double Stage Filter

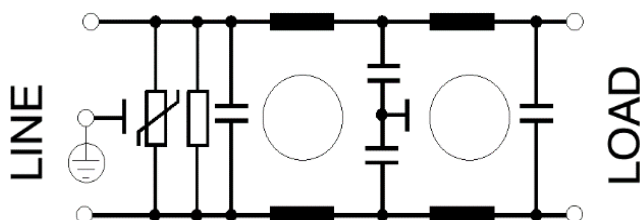
General purpose -



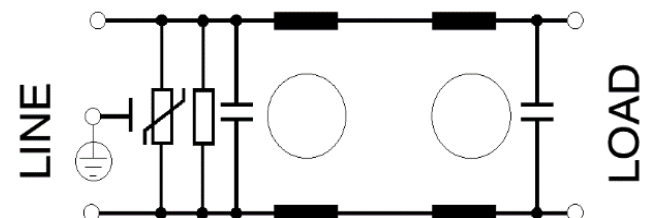
Medical equipment application -



General purpose with Surge Suppressor -



Medical equipment application with Surge Suppressor -



Datasheet | EC09

EP-612 Series



El.italia EC-EC09 [EP-612] serie

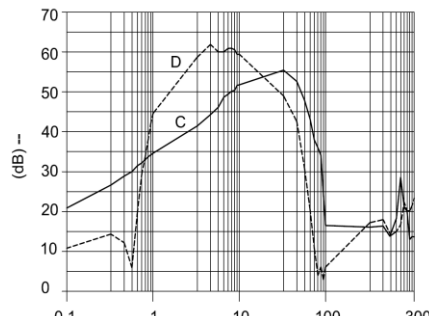
Filter attenuation Graph

C = Common mode (asymmetrical) -----

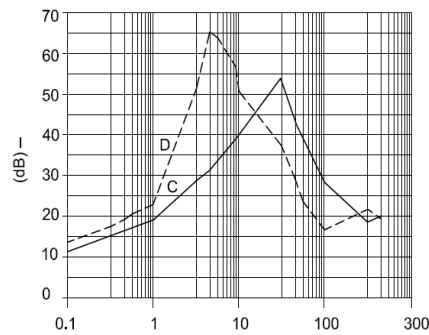
D = Differential mode (symmetrical) -----

For general application (Single Stage)

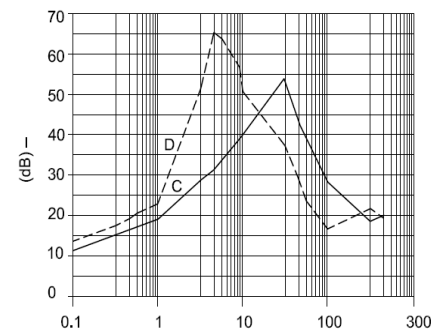
For 10A



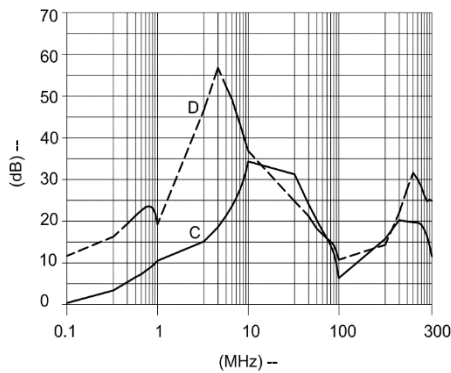
For 20A



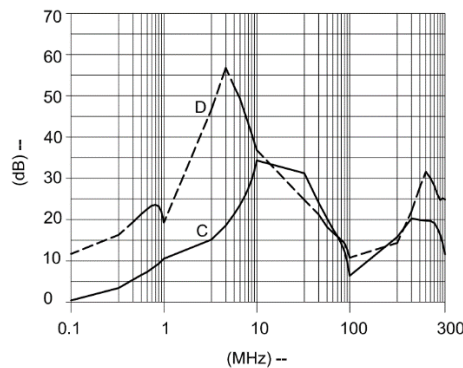
For 30A



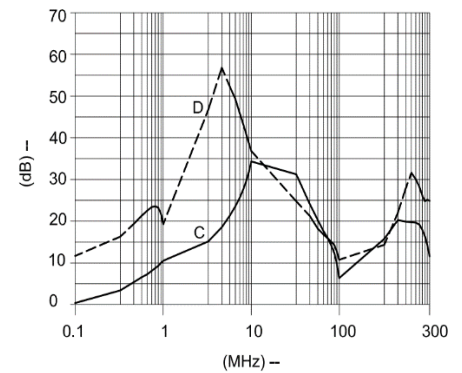
For 40A



For 50A

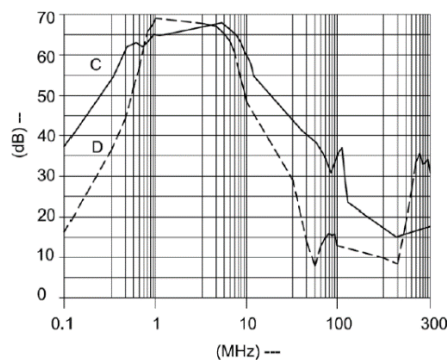


For 60A

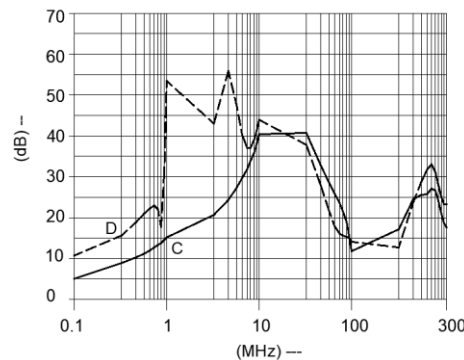


For general application (Double Stage)

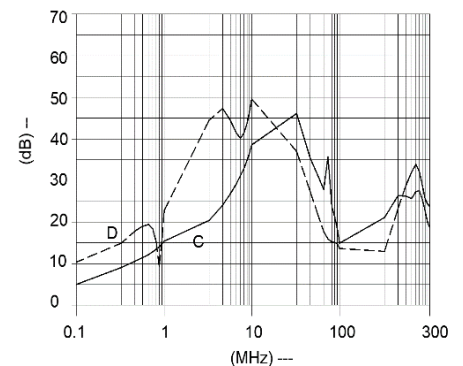
For 10A



For 20A



For 30A



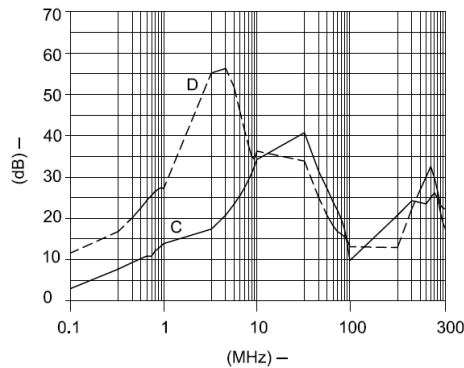
Datasheet | EC09

EP-612 Series



El.italia EC-EC09 [EP-612] serie

For 40A



Filter Selection Table

Sr. No.	Elcom part codes (ordering code)	Rated Current rating (A) @40°C	Leakage current (mA) @250VAC	Terminals (X)				Max. Peak current (8/20 μ sec 1 time) (KA)	Energy surge rating (10/1000 μ sec) (Joules)	Approx. Weight (gm)	Attenuation
				Screw 	Bus bar 	Touch-safe 	Wire 				
1	EF-1B010X01E-C09	10	< 0.5	D	E	F	G	----	----	450	Standard
2	EF-1B010X02E-C09	10	< 0.5	D	E	F	G	6.5	175	450	Standard
3	EF-1B010X03E-C09	10	< 0.003	D	E	F	G	----	----	450	Standard
4	EF-1B010X04E-C09	10	< 0.003	D	E	F	G	6.5	175	450	Standard
5	EF-1B020X01E-C09	20	< 0.5	D	E	F	G	----	----	450	Standard
6	EF-1B020X02E-C09	20	< 0.5	D	E	F	G	10	350	450	Standard
7	EF-1B020X03E-C09	20	< 0.003	D	E	F	G	----	----	450	Standard
8	EF-1B020X04E-C09	20	< 0.003	D	E	F	G	10	350	450	Standard
9	EF-1B030X01E-C09	30	< 0.5	D	E	F	G	----	----	450	Standard
10	EF-1B030X02E-C09	30	< 0.5	D	E	F	G	10	350	450	Standard
11	EF-1B030X03E-C09	30	< 0.003	D	E	F	G	----	----	450	Standard
12	EF-1B030X04E-C09	30	< 0.003	D	E	F	G	10	350	450	Standard
13	EF-1B040X01E-C09	40	< 0.5	D	E	F	G	----	----	450	Standard
14	EF-1B040X02E-C02	40	< 0.5	D	E	F	G	10	350	450	Standard
15	EF-1B040X03E-C09	40	< 0.003	D	E	F	G	----	----	450	Standard
16	EF-1B040X04E-C09	40	< 0.003	D	E	F	G	10	350	450	Standard

Datasheet | EC09

EP-612 Series



Sr. No.	Elcom part codes (ordering code)	Rated Current rating (A) @40°C	Leakage current (mA) @250VAC	Terminals (X)				Max. Peak current (8/20 μ sec 1 time) (KA)	Energy surge rating (10/1000 μ sec) (Joules)	Approx. Weight (gm)	Attenuation
				Screw 	Bus bar 	Touch-safe 	Wire 				
17	EF-1B050X01E-C09	50	< 0.5	D	E	F	G	----	----	450	Standard
18	EF-1B050X02E-C09	50	< 0.5	D	E	F	G	10	350	450	Standard
19	EF-1B050X03E-C09	50	< 0.003	D	E	F	G	----	----	450	Standard
20	EF-1B050X04E-C09	50	< 0.003	D	E	F	G	10	350	450	Standard
21	EF-1B060X01E-C09	60	< 0.5	D	E	F	G	----	----	450	Standard
22	EF-1B060X02E-C09	60	< 0.5	D	E	F	G	10	350	450	Standard
23	EF-1B060X03E-C09	60	< 0.003	D	E	F	G	----	----	450	Standard
24	EF-1B060X04E-C09	60	< 0.003	D	E	F	G	10	350	450	Standard
25	EF-1B010X20E-C09	10	< 0.5	D	E	F	G	----	----	500	High
26	EF-1B010X21E-C09	10	< 0.5	D	E	F	G	10	350	500	High
27	EF-1B010X22E-C09	10	< 0.003	D	E	F	G	----	----	500	High
28	EF-1B010X23E-C09	10	< 0.003	D	E	F	G	10	350	500	High
29	EF-1B020X20E-C09	20	< 0.5	D	E	F	G	----	----	500	High
30	EF-1B020X21E-C09	20	< 0.5	D	E	F	G	10	350	500	High
31	EF-1B020X22E-C09	20	< 0.003	D	E	F	G	----	----	500	High
32	EF-1B020X23E-C09	20	< 0.003	D	E	F	G	10	350	500	High
33	EF-1B030X20E-C09	30	< 0.5	D	E	F	G	----	----	500	High
34	EF-1B030X21E-C09	30	< 0.5	D	E	F	G	10	350	500	High
35	EF-1B030X22E-C09	30	< 0.003	D	E	F	G	----	----	500	High
36	EF-1B030X23E-C09	30	< 0.003	D	E	F	G	10	350	500	High
37	EF-1B040X20E-C09	40	< 0.5	D	E	F	G	----	----	500	High
38	EF-1B040X21E-C09	40	< 0.5	D	E	F	G	10	350	500	High
39	EF-1B040X22E-C09	40	< 0.003	D	E	F	G	----	----	500	High
40	EF-1B040X23E-C09	40	< 0.003	D	E	F	G	10	350	500	High

Datasheet | EC09

EP-612 Series



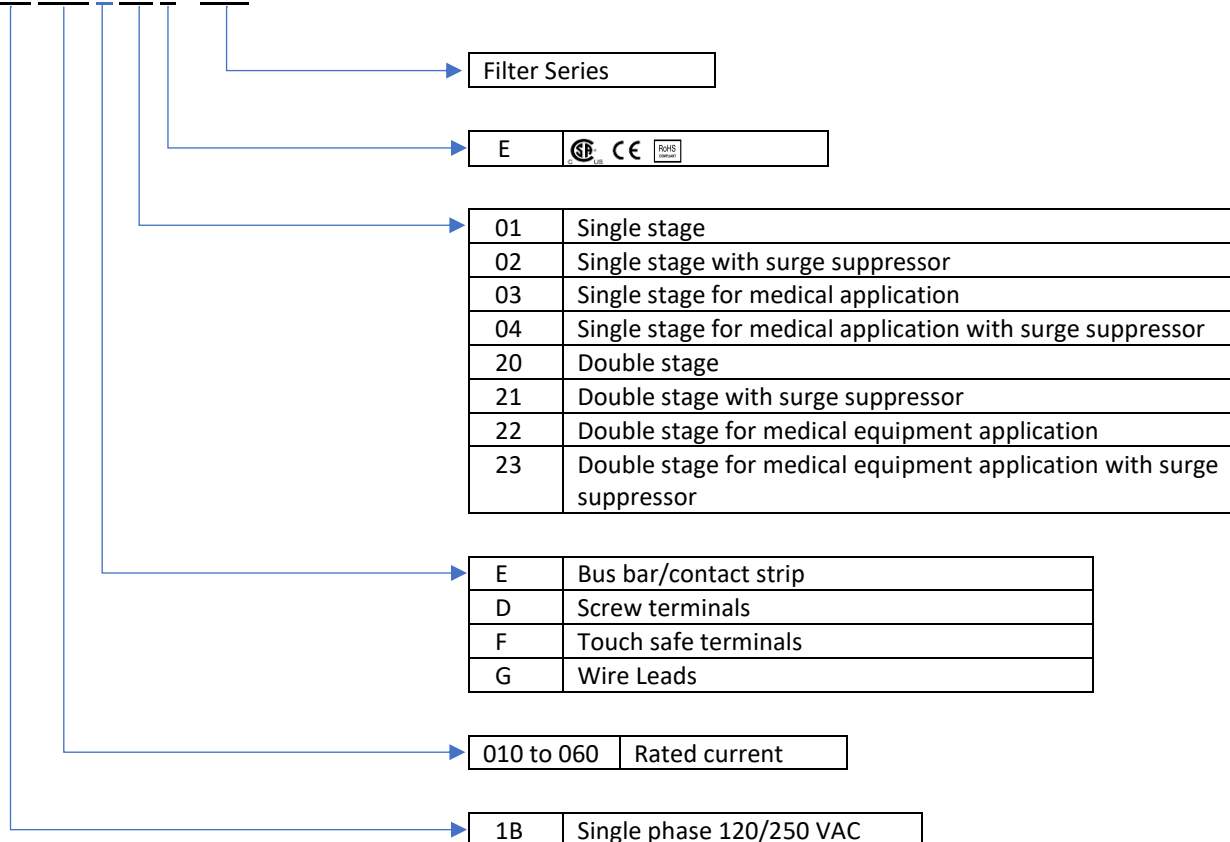
El.italia EC-EC09 [EP-612] serie

Connection Type

Current Rating (A)	Screw terminal	Bus bar (LxWxH)& Connection screw	Touch safe	Wire	Earthing
10	M4	12x10x2.5 & M4	6 Sq.mm	14 AWG	M4
20	M4	12x10x2.5 & M4	6 Sq.mm	12 AWG	M4
30	M4	12x10x2.5 & M4	6 Sq.mm	10 AWG	M4
40	M4	12x10x2.5 & M4	6 Sq.mm	8 AWG	M4
50	M6	NA	16 Sq.mm	8 AWG	M4
60	M6	NA	16 Sq.mm	6 AWG	M4

Syntax

EF – 1B CCC X YY E – C09



- To compile complete part number, replace the 'X' with required output connection terminal. (e.g. EF-1B0101B01E-C09)
- Maximum leakage under usual AC operating conditions (acc. IEC 60939-3). Note: if the neutral line is interrupted, worst case leakage could reach twice this level.
- Recommended tightening torque for touch safe – For 6 sqmm. – 10.6-13 lbf.in. and for 16 sqmm – 10.6-13 lbf.in.
- Customize products provided on request.