



Datasheet | EA01 EP-402 Series



El.italia EC-EA01[EP-402] serie

General Purpose AC EMI Filter

Approvals /Conformance



Technical specifications

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

*Image shown is for illustrative purpose only

Features and benefit:

- | All filters provide high attenuation performance.
- | All filters compliance to EN60939-3:2015 & EN60939- 2:2005 standards.
- | Compact PCB-mountable design.
- | High reliable.
- | Plastic housing with good aesthetic.
- | Single stage.
- | Input and output connection through soldering pins.
- | Filters available in medical version without capacitor to earth.
- | With surge suppressor filters also available.
- | Cost effective solution.

Attenuation Type:

Single Stage **Standard**

Application:

- | Electrical and electronic equipment
- | Consumer product
- | Medical equipment
- | SMPS
- | Test & measurement equipment
- | Small to medium-sized machines and household equipment
- | Office automation equipment

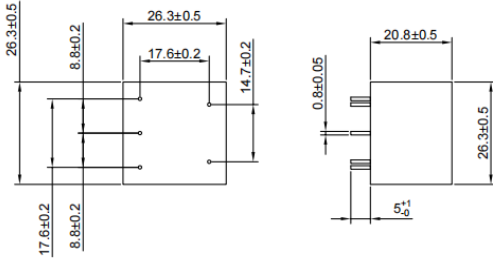


Datasheet | EA01 EP-402 Series

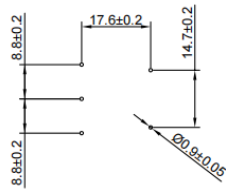


El.italia EC-EA01 [EP-402] serie

Electrical schematic for Filter



PCB DRILLING DETAILS

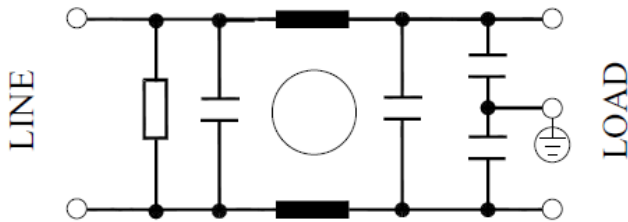


*All dimensions are in mm.

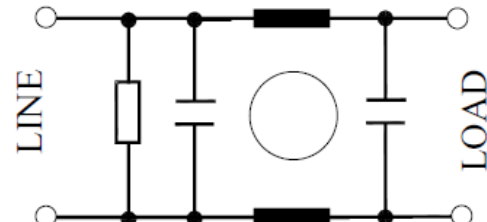
Note: For medical application filter, earthing terminal is not provided.

Electrical schematic for Filter

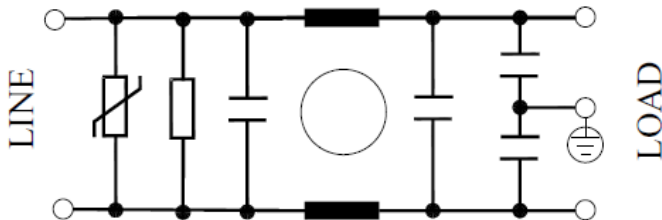
General purpose -



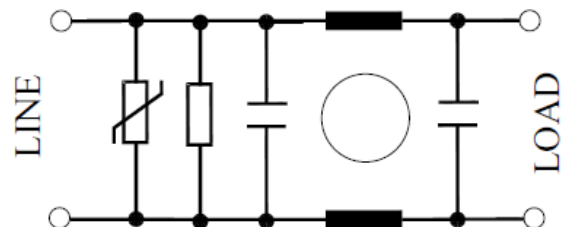
Medical equipment application -



General purpose with surge suppressor -



Medical equipment application with surge suppressor -



Datasheet | EA01

EP-402 Series



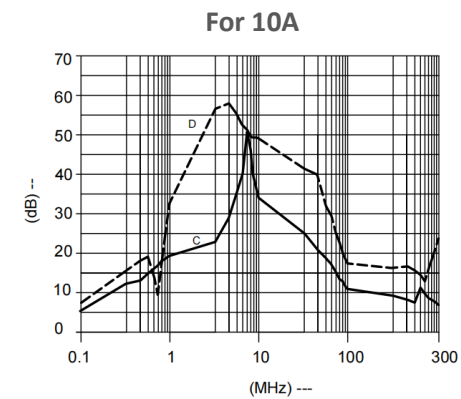
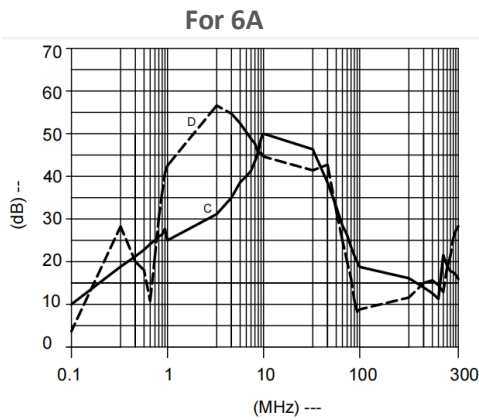
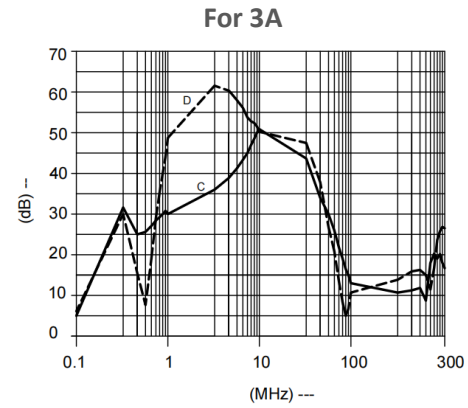
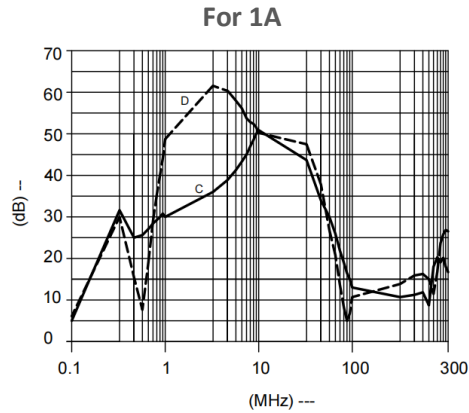
El.italia EC-EA01 [EP-402] serie

Filter attenuation Graph

C = Common mode (asymmetrical) —————

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

For General application (Single Stage)



Filter Selection Table –

Sr. No	Elcom part codes (ordering code)	Rated Current rating (A) @40°C	Leakage current (mA) @250VAC	Pin-type terminal ⌋	Max. Peak current (8/20 μ sec 1 time) (KA)	Energy surge rating (10/1000 μ sec) (Joules)	Approx. weight (gm)	Attenuation
1	EF-1B001A01E-A01	1	< 0.5	A	----	----	25	Standard
2	EF-1B001A02E-A01	1	< 0.5	A	1.75	42	25	Standard
3	EF-1B001A03E-A01	1	< 0.003	A	----	----	25	Standard
4	EF-1B001A04E-A01	1	< 0.003	A	1.75	42	25	Standard
5	EF-1B003A01E-A01	3	< 0.5	A	----	----	25	Standard

Datasheet | EA01

EP-402 Series



El.italia EC-EA01 [EP-402] serie

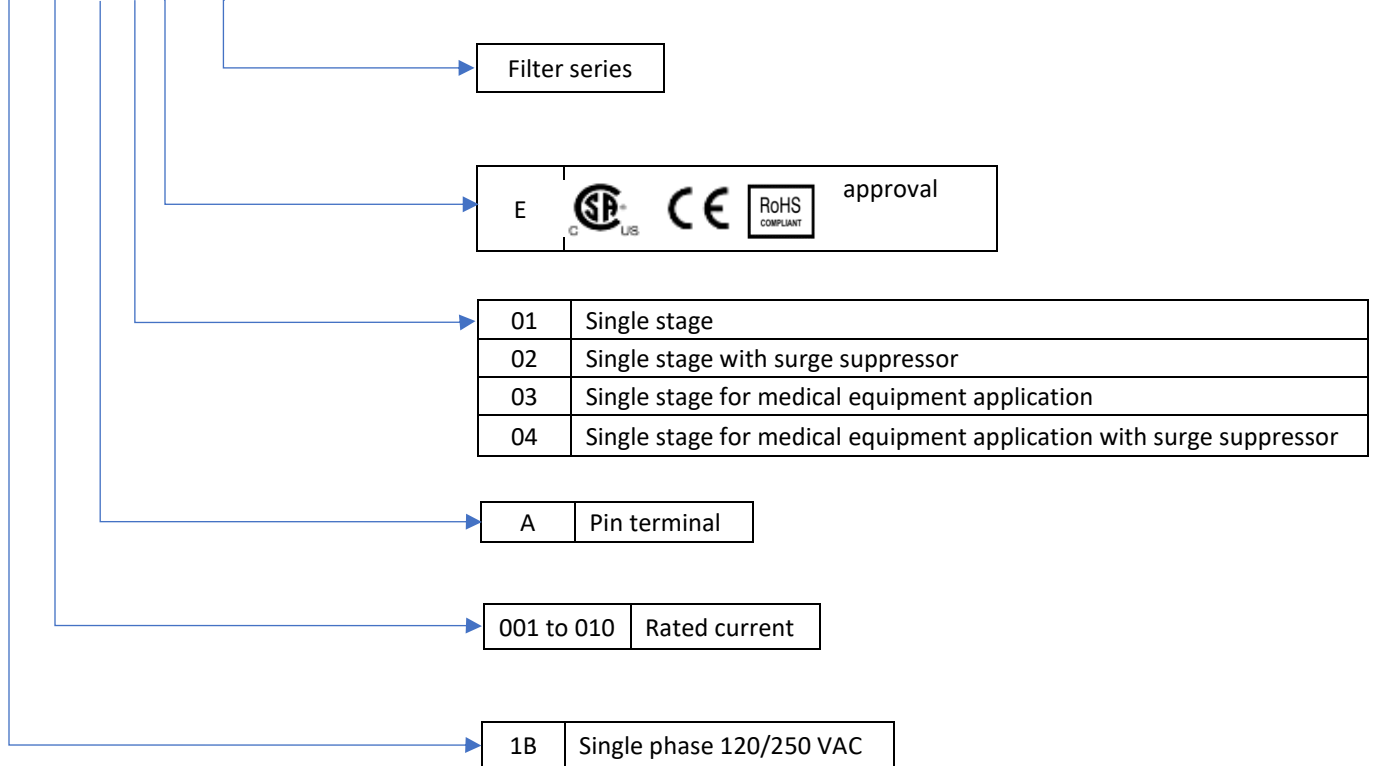
6	EF-1B003A02E-A01	3	< 0.5	A	1.75	42	25	Standard
7	EF-1B003A03E-A01	3	< 0.003	A	----	----	25	Standard
8	EF-1B003A04E-A01	3	< 0.003	A	1.75	42	25	Standard
9	EF-1B006A01E-A01	6	< 0.5	A	----	----	25	Standard
10	EF-1B006A02E-A01	6	< 0.5	A	1.75	42	25	Standard
11	EF-1B006A03E-A01	6	< 0.003	A	----	----	25	Standard
12	EF-1B006A04E-A01	6	< 0.003	A	1.75	42	25	Standard
13	EF-1B010A01E-A01	10	< 0.5	A	----	----	25	Standard
14	EF-1B010A02E-A01	10	< 0.5	A	1.75	42	25	Standard
15	EF-1B010A03E-A01	10	< 0.003	A	----	----	25	Standard
16	EF-1B010A04E-A01	10	< 0.003	A	1.75	42	25	Standard

- Customize products provided on request.
- 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.



Syntax

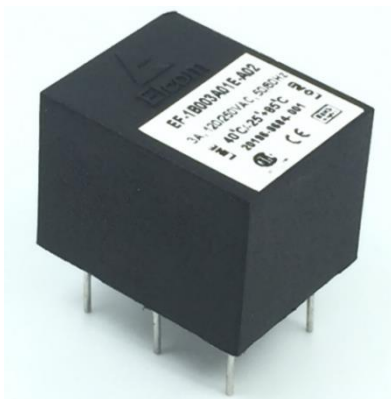
EF - 1B CCC A YY E - A01



Datasheet | EA02

EP-403 Series

General Purpose AC EMI Filter



*Image shown is for illustrative purpose only



El.italia EC-EA02[EP-403] serie



Technical specifications

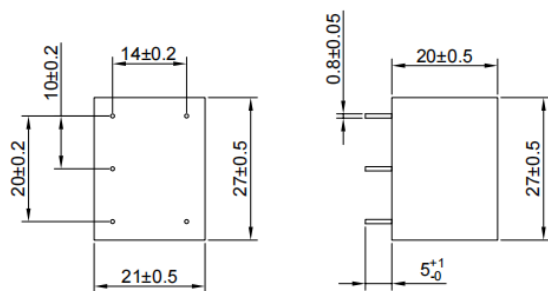
Operating voltage	120/250 VAC
Current rating	1A-6A
Frequency	50/60Hz
Voltage drop	1 Volt max.
High potential test voltage	P -> E 1500VAC P -> N 1414VDC (applicable excluding surge suppressor filter)
Insulation resistance	≥ 300 MΩ @ 500VDC (PN→E)
Operating temperature	40°C / -25°C +85°C

Attenuation Type

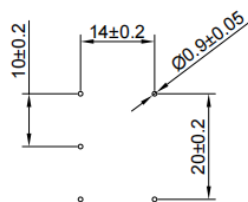
Single Stage

Standard

Mechanical details



PCB DRILLING DETAILS



All dimensions in mm.

Features and benefits

- | All filters provide high attenuation performance.
- | All filters compliance to EN60939-3:2015 & EN60939-2:2005 standards.
- | Compact PCB-mountable design.
- | High reliable.
- | Plastic housing with good aesthetic.
- | Single stage.
- | Input and output connection through soldering pins.
- | Filters available in medical version without capacitor to earth.
- | With surge suppressor filters also available.
- | Cost effective solution.

Application

- | Electrical and electronic equipment
- | Consumer product
- | Medical equipment
- | SMPS
- | Test & measurement equipment
- | Small to medium-sized machines and household equipment
- | Office automation equipment

Note: For medical application filter, earthing terminal is not provided.

Datasheet | EA02

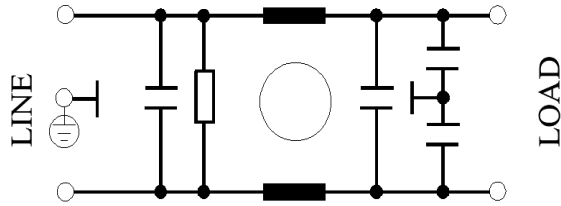
EP-403 Series



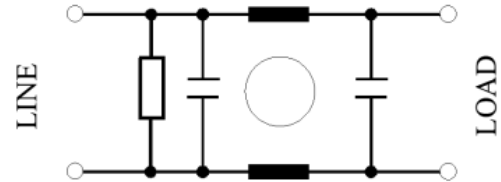
El.italia EC-EA02[EP-403] serie

Electrical schematic

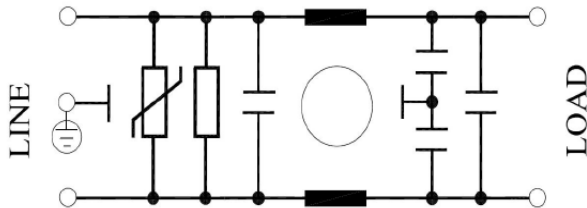
General Purpose -



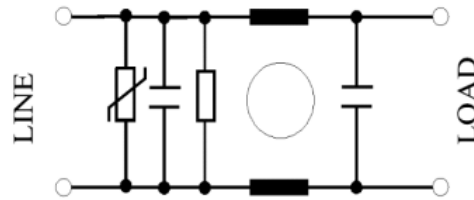
Medical equipment application -



General Purpose with Surge Suppressor -



Medical equipment application with Surge Suppressor -



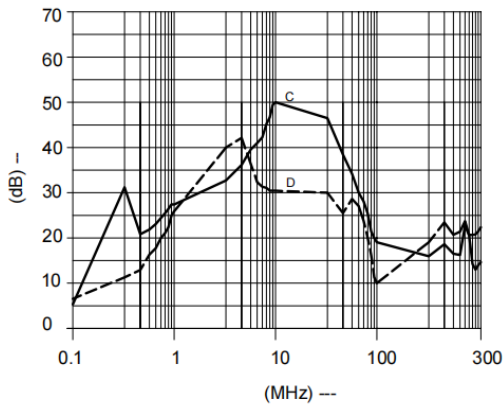
Filter attenuation graph

C = Common mode (asymmetrical) —————

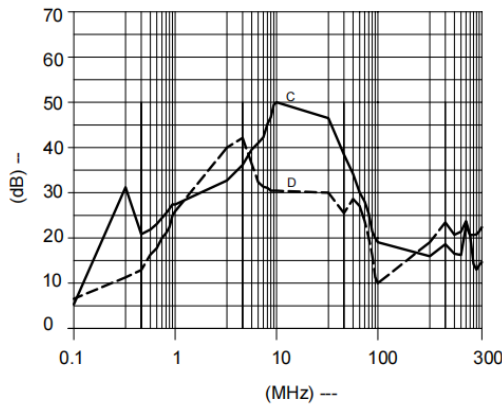
D = Differential mode (symmetrical) - - - - -

For general purpose

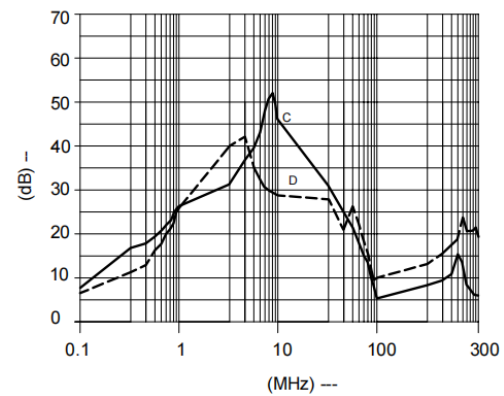
For 1A



For 3A



For 6A





Filter Selection Table

Sr. No.	Elcom part codes (ordering code)	Rated Current rating (A) @40°C	Leakage current (mA) @250VAC	Pin-type terminal ⊥	Max. Peak current (8/20 μ sec 1 time) (KA)	Energy surge rating (10/1000 μ sec) (Joules)	Approx. Weight (gm)	Attenuation
1	EF-1B001A01E-A02	1	< 0.5	A	----	----	20	Standard
2	EF-1B001A02E-A02	1	< 0.5	A	1.75	42	20	Standard
3	EF-1B001A03E-A02	1	< 0.003	A	----	----	20	Standard
4	EF-1B001A04E-A02	1	< 0.003	A	1.75	42	20	Standard
5	EF-1B003A01E-A02	3	< 0.5	A	----	----	20	Standard
6	EF-1B003A02E-A02	3	< 0.5	A	1.75	42	20	Standard
7	EF-1B003A03E-A02	3	< 0.003	A	----	----	20	Standard
8	EF-1B003A04E-A02	3	< 0.003	A	1.75	42	20	Standard
9	EF-1B006A01E-A02	6	< 0.5	A	----	----	20	Standard
10	EF-1B006A02E-A02	6	< 0.5	A	1.75	42	20	Standard
11	EF-1B006A03E-A02	6	< 0.003	A	----	----	20	Standard
12	EF-1B006A04E-A02	6	< 0.003	A	1.75	42	20	Standard

- Customize products provided on request.
- 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.

Datasheet | EA02

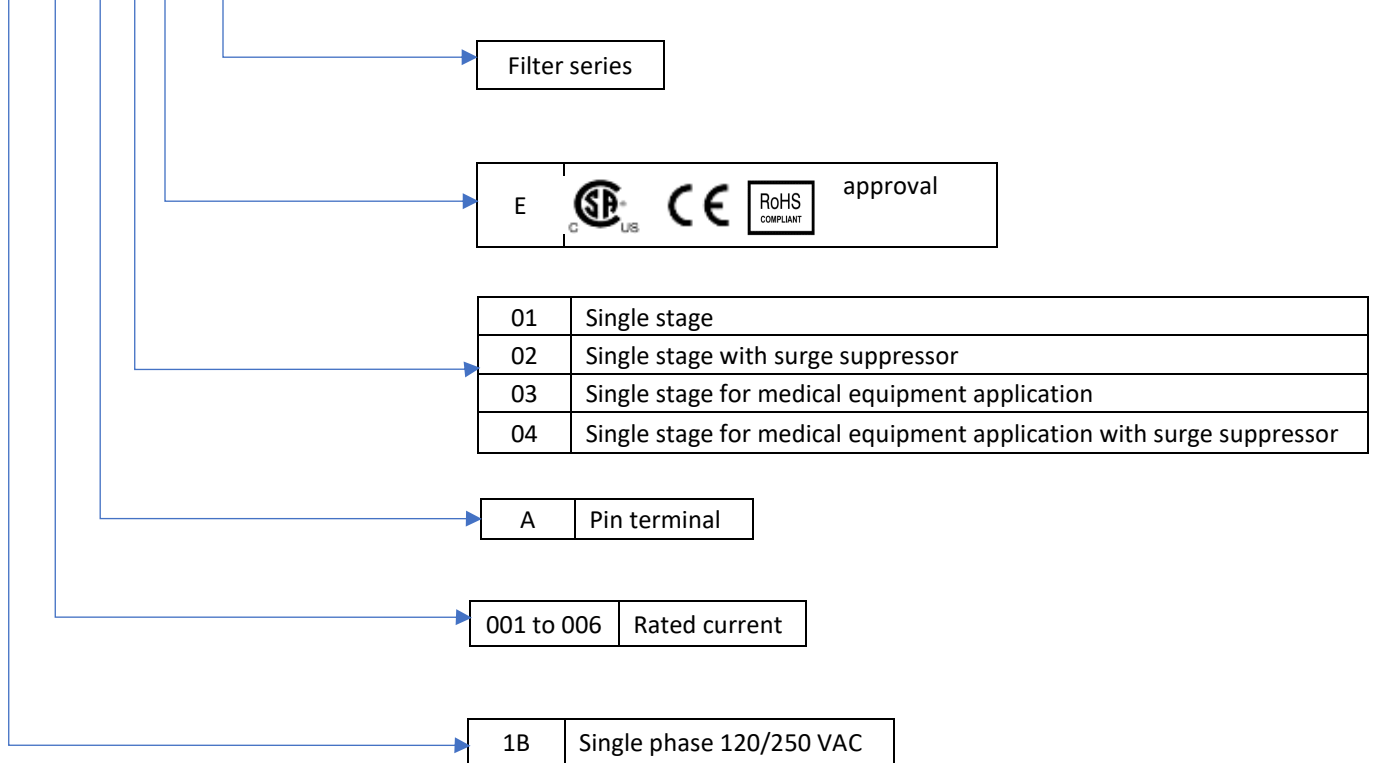
EP-403 Series



El.italia EC-EA02[EP-403] serie

Syntax

EF - 1B CCC A YY E - A02



Datasheet | EA03

EP-405 Series



General Purpose AC EMI Filter

El.italia EC-EA03[EP-405] serie



*Image shown is for illustrative purpose only



Technical specifications

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

Features and benefits

- | All filters provide high attenuation performance.
- | All filters compliance to EN60939-3:2015 & EN60939- 2:2005 standards.
- | Compact PCB-mountable design.
- | High reliable.
- | Plastic housing with good aesthetic.
- | Single stage.
- | Input and output connection through soldering pins.
- | Filters available in medical version without capacitor to earth.
- | With surge suppressor filters also available.
- | Cost effective solution.

Attenuation Type

Single Stage

Standard

Application

- | Electrical and electronic equipment
- | Consumer product
- | Medical equipment
- | SMPS
- | Test & measurement equipment
- | Small to medium-sized machines and household equipment
- | Office automation equipment

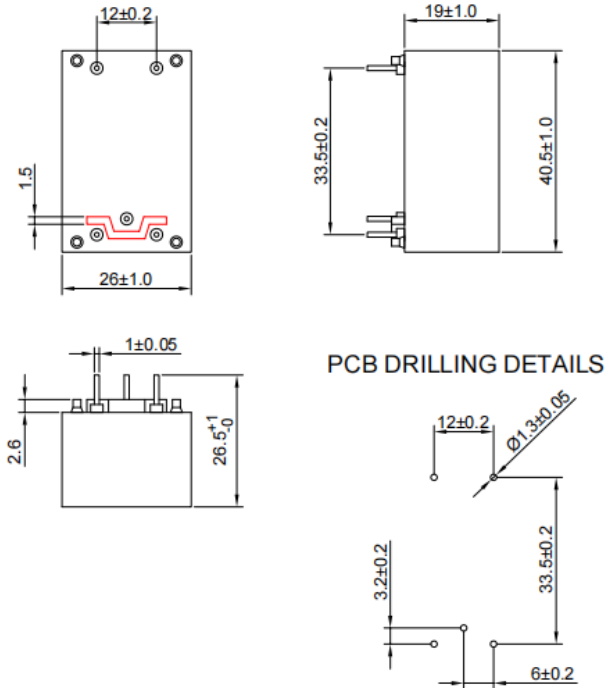
Datasheet | EA03

EP-405 Series



El.italia EC-EA03[EP-405] serie

Mechanical details

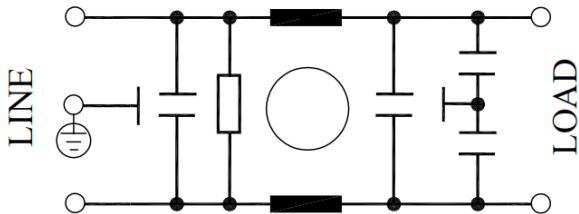


All dimensions in mm.

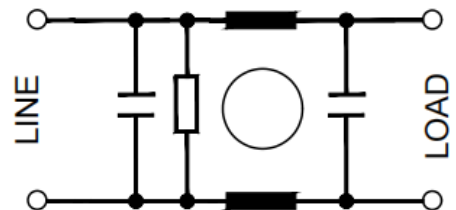
Note: For medical application filter, earthing terminal is not provided.

Electrical schematic for filter

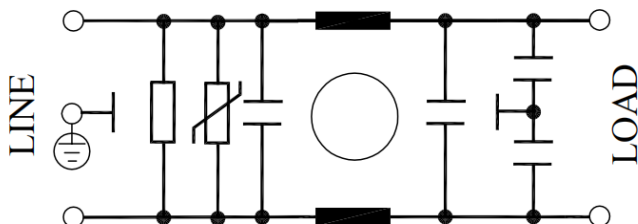
General purpose -



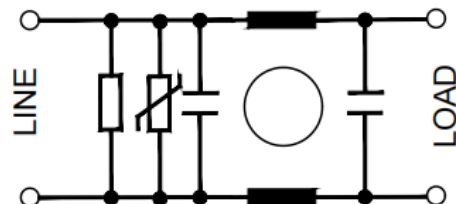
Medical equipment application -



General purpose with Surge Suppressor -



Medical equipment application with Surge Suppressor -





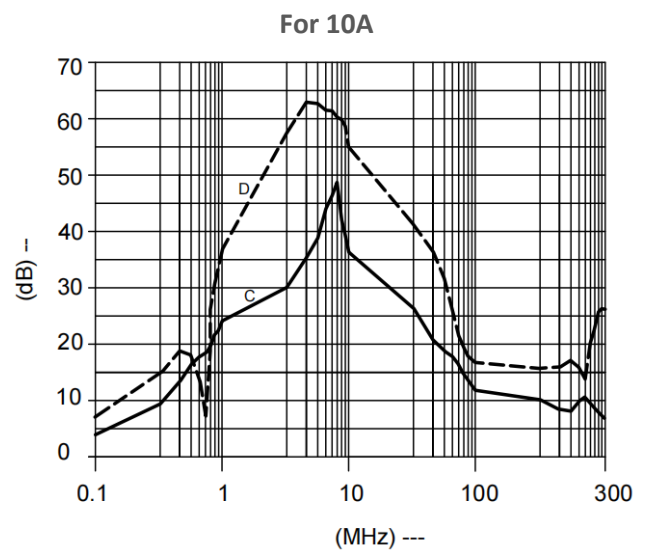
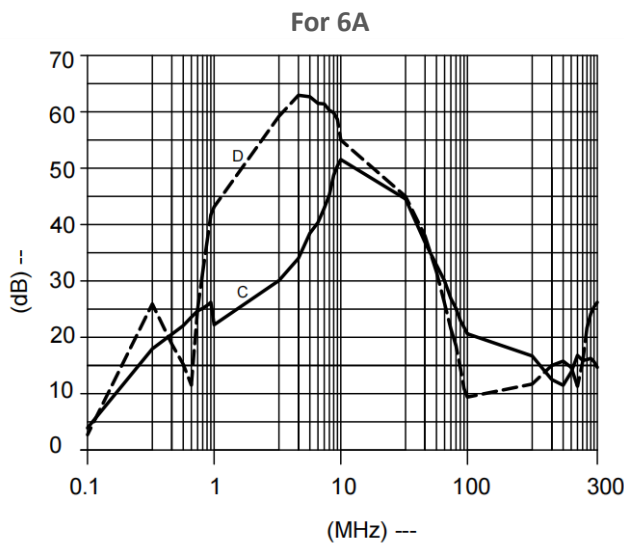
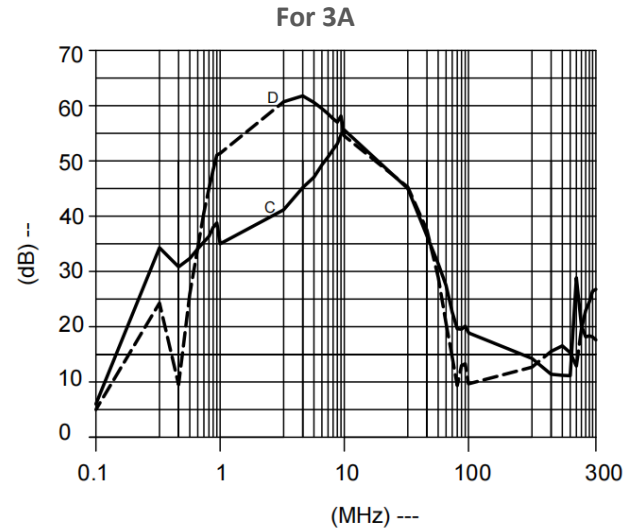
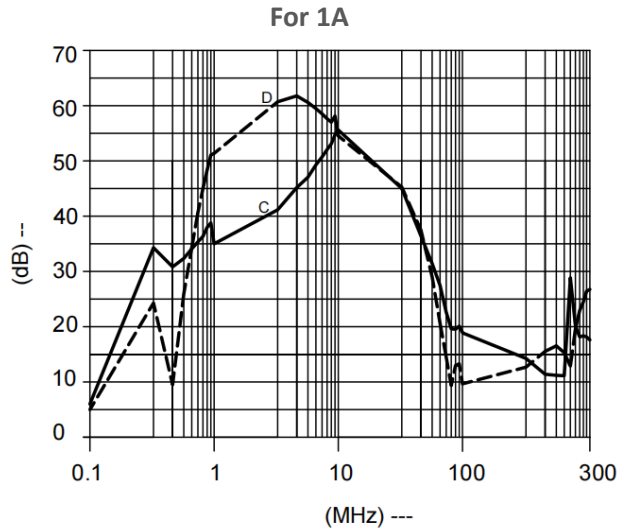
El.italia EC-EA03[EP-405] serie

Filter attenuation graph

C = Common mode (asymmetrical) —————

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

For general purpose





Filter Selection Table –

Sr. No.	Elcom part codes (ordering code)	Rated Current rating (A) @40°C	Leakage current (mA) @250VAC	Pin-type terminal ⊥	Max. Peak current (8/20 μ sec 1 time) (KA)	Energy surge rating (10/1000 μ sec) (Joules)	Approx. weight (gm)	Attenuation
1	EF-1B001A01E-A03	1	< 0.5	A	----	----	30	Standard
2	EF-1B001A02E-A03	1	< 0.5	A	6.5	175	30	Standard
3	EF-1B001A03E-A03	1	< 0.003	A	----	----	30	Standard
4	EF-1B001A04E-A03	1	< 0.003	A	6.5	175	30	Standard
5	EF-1B003A01E-A03	3	< 0.5	A	----	----	30	Standard
6	EF-1B003A02E-A03	3	< 0.5	A	6.5	175	30	Standard
7	EF-1B003A03E-A03	3	< 0.003	A	----	----	30	Standard
8	EF-1B003A04E-A03	3	< 0.003	A	6.5	175	30	Standard
9	EF-1B006A01E-A03	6	< 0.5	A	----	----	30	Standard
10	EF-1B006A02E-A03	6	< 0.5	A	6.5	175	30	Standard
11	EF-1B006A03E-A03	6	< 0.003	A	----	----	30	Standard
12	EF-1B006A04E-A03	6	< 0.003	A	6.5	175	30	Standard
13	EF-1B010A01E-A03	10	< 0.5	A	----	----	30	Standard
14	EF-1B010A02E-A03	10	< 0.5	A	6.5	175	30	Standard
15	EF-1B010A03E-A03	10	< 0.003	A	----	----	30	Standard
16	EF-1B010A04E-A03	10	< 0.003	A	6.5	175	30	Standard

- Customize products provided on request.

- 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.

Datasheet | EA03

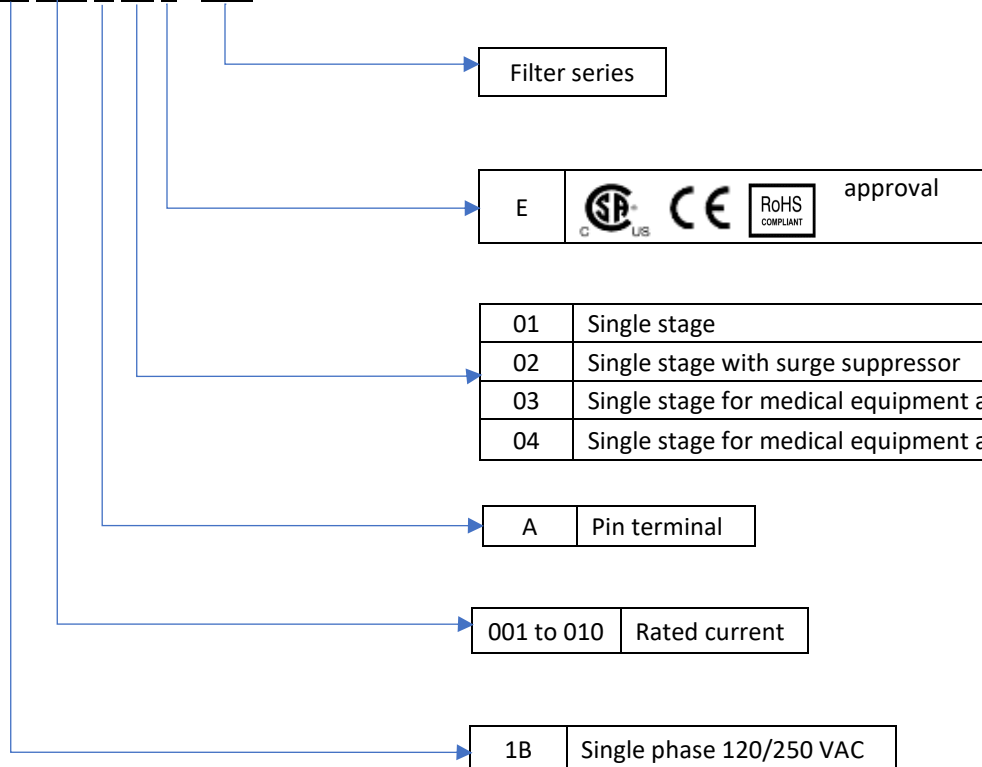
EP-405 Series



El.italia EC-EA03[EP-405] serie

Syntax

EF - 1B CCC A YY E - A03





General Purpose AC EMI Filter

El.italia EC-EA04 serie



*Image shown is for illustrative purpose only



Technical specifications

Operating voltage	120/250 VAC
Current rating	1A to 6A
Frequency	50/60Hz
Voltage drop	1 Volt max.
High potential test voltage	P -> E 1500VAC P -> N 1414VDC (applicable excluding surge suppressor filter)
Insulation resistance	≥ 300 MΩ @ 500VDC (PN→E)
Operating temperature	40°C / -25°C +85°C

Features and benefits

- | All filters provide high attenuation performance.
- | All filters compliance to EN60939-3:2015 & EN60939- 2:2005 standards.
- | Compact PCB-mountable design.
- | High reliable.
- | Plastic housing with good aesthetic.
- | Single stage.
- | Input and output connection through soldering pins.
- | Filters available in medical version without capacitor to earth.
- | With surge suppressor filters also available.
- | Cost effective solution.

Attenuation Type

Single Stage

Standard

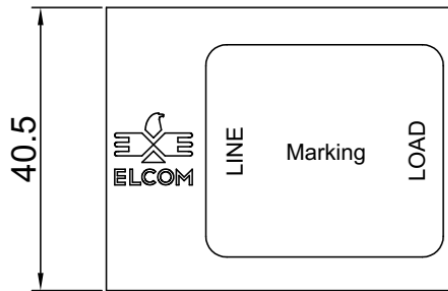
Application

- | Electrical and electronic equipment
- | Consumer product
- | Medical equipment
- | SMPS
- | Test & measurement equipment
- | Small to medium-sized machines and household equipment
- | Office automation equipment

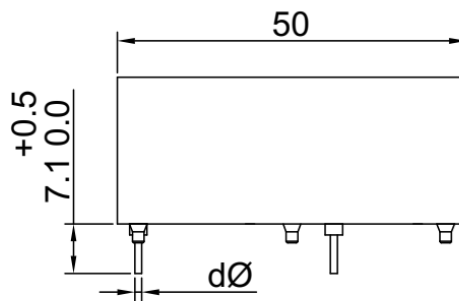


Mechanical details

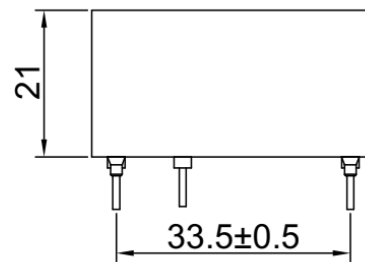
El.italia EC-EA04 serie



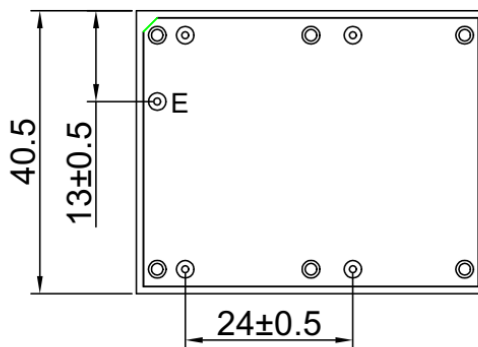
TOP VIEW



FRONT VIEW

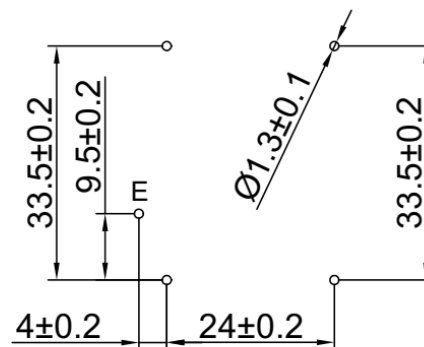


RHS VIEW



BOTTOM VIEW

PCB DRILLING DETAILS



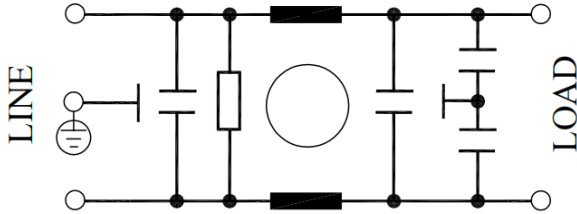
All dimensions in mm.
General tolerance = ±1mm

Note: For medical application filter, earthing terminal is not provided.

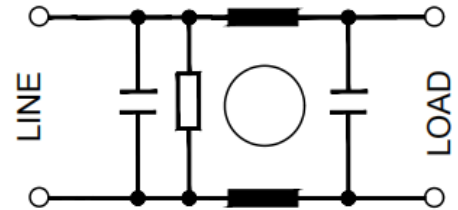


Electrical schematic for filter

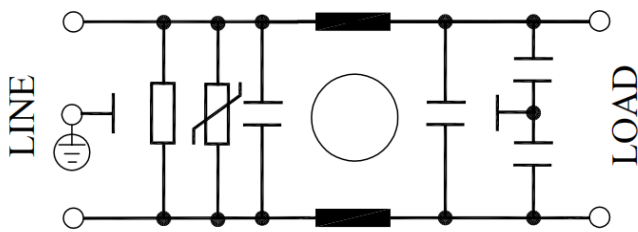
General purpose -



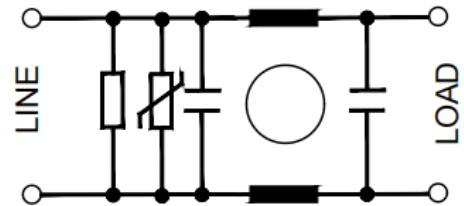
Medical equipment application -



General purpose with Surge Suppressor -



Medical equipment application with Surge Suppressor -



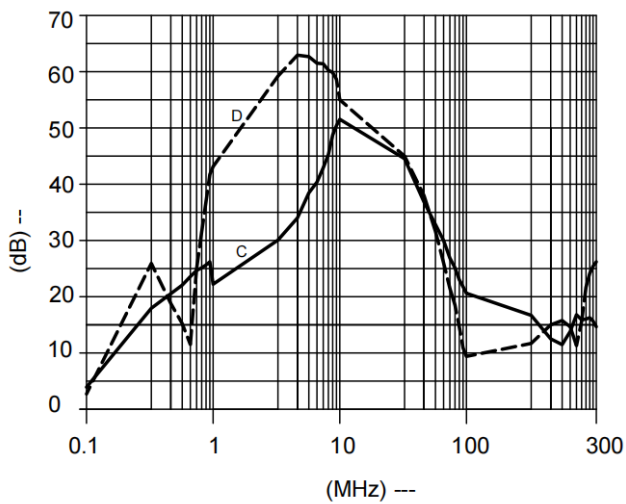
Filter attenuation graph

C = Common mode (asymmetrical) ———

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

For general purpose

1 Amp to 6 Amp





Filter Selection Table –

El.italia EC-EA04 serie

Sr. No.	Elcom part codes (ordering code)	Rated Current rating (A) @40°C	Leakage current (mA) @250VAC	Pin-type terminal ⊥	Max. Peak current (8/20 μ sec 1 time) (KA)	Energy surge rating (10/1000 μ sec) (Joules)	Approx. weight (gm)	Attenuation
1	EF-1B001A01E-A04	1	< 0.5	A	----	----	50	Standard
2	EF-1B001A02E-A04	1	< 0.5	A	6.5	175	50	Standard
3	EF-1B001A03E-A04	1	< 0.003	A	----	----	50	Standard
4	EF-1B001A04E-A04	1	< 0.003	A	6.5	175	50	Standard
5	EF-1B002A01E-A04-A	2	< 0.5	A	----	----	50	Standard
6	EF-1B002A02E-A04	2	< 0.5	A	6.5	175	50	Standard
7	EF-1B002A03E-A04	2	< 0.003	A	----	----	50	Standard
8	EF-1B002A04E-A04	2	< 0.003	A	6.5	175	50	Standard
9	EF-1B003A01E-A04	3	< 0.5	A	----	----	50	Standard
10	EF-1B003A02E-A04	3	< 0.5	A	6.5	175	50	Standard
11	EF-1B003A03E-A04	3	< 0.003	A	----	----	50	Standard
12	EF-1B003A04E-A04	3	< 0.003	A	6.5	175	50	Standard
13	EF-1B006A01E-A04	6	< 0.5	A	----	----	50	Standard
14	EF-1B006A02E-A04	6	< 0.5	A	6.5	175	50	Standard
15	EF-1B006A03E-A04	6	< 0.003	A	----	----	50	Standard
16	EF-1B006A04E-A04	6	< 0.003	A	6.5	175	50	Standard

- Customize products provided on request.
- 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.

Connection Type

Current Rating (A)	Pin type terminal	Earthing
1,2,3,6 Amp	Solder pins	Solder pins



El.italia EC-EA04 serie

Syntax

EF - 1B CCC A YY E - A04

