

## General-purpose filter

## FN 610

- current ratings from 1 to 30A
  - general-purpose filtering performance
  - optional medical version (B types)
  - optional safety version (A types)
- 
- Nennströme von 1 bis 30 A
  - Universelle Filterleistung
  - Für medizinische Geräte als Option (Typ B)
  - Optionale Sicherheitsversion (Typ A)
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- courants de service de 1 à 30 A
  - filtrage universel
  - version pour appareils médicaux en option (type B)
  - version pour la sécurité en option (type A)



### Filter selection table

Choose the family FN xxx with the required current rating and features, and add /?? to determine input/output (line/load) connection style. Example: FN 610-10/06 is a 10A filter with fast-on connections.

### Approvals



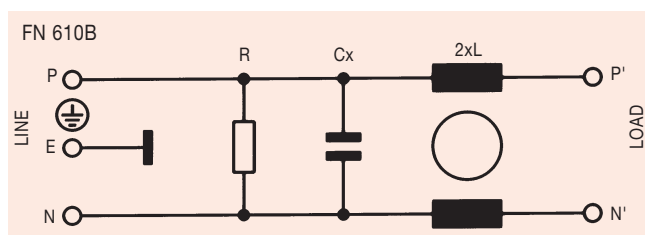
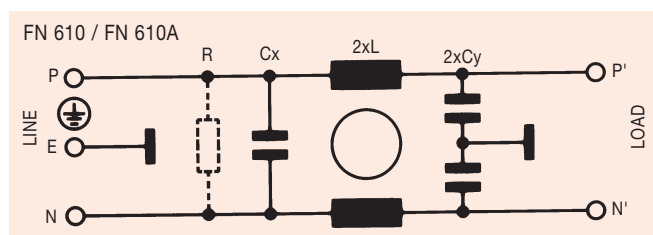
| Family         | Connections |     |     | Current ratings<br>at 40°C (25°)<br>A | Inductance<br>L<br>mH | Housing | Weight |     |
|----------------|-------------|-----|-----|---------------------------------------|-----------------------|---------|--------|-----|
|                |             |     |     |                                       |                       |         | g /??  | /07 |
| FN 610 -1 /??  | -           | /06 | /07 | 1 (1.15)                              | 3                     | F1      | 55     | 65  |
| FN 610 -3 /??  | -           | /06 | /07 | 3 (3.4)                               | 2                     | F1      | 60     | 70  |
| FN 610 -6 /??  | -           | /06 | /07 | 6 (6.9)                               | 0.75                  | F1      | 60     | 70  |
| FN 610 -10 /?? | -           | /06 | /07 | 10 (11.5)                             | 0.45                  | F2      | 85     | 95  |
| FN 610 -20 /?? | -           | /06 | -   | 20 (23)                               | 0.48                  | J1      | 220    | -   |
| FN 610 -30 /?? | /03         | -   | -   | 30 (34)                               | 0.61                  | L1      | 630    | -   |

### Additional specifications

| Filter type       | Capacitance |          | Res.<br>R<br>MΩ | Maximum<br>leakage<br>μA/phase | Maximum<br>operating voltage |       | Operating frequency<br>Hz | Hipot test voltage |            |
|-------------------|-------------|----------|-----------------|--------------------------------|------------------------------|-------|---------------------------|--------------------|------------|
|                   | Cx<br>nF    | Cy<br>nF |                 |                                | VAC                          | Hz    |                           | PN→E<br>VAC        | P→N<br>VAC |
| Standard types    | 33          | 2.2      | -               | 190                            | 250                          | 50/60 | DC to 400                 | 2000               | 1700       |
| A types (safety)  | 33          | 0.47     | 1               | 40                             | 250                          | 50/60 | DC to 400                 | 2500               | 1700       |
| B types (medical) | 33          | -        | 1               | 2                              | 250                          | 50/60 | DC to 400                 | 2500               | 1700       |

MTBF at 40°C, 230V, per Mil-HB-217F: 1,200,000 hours.

### Electrical schematics

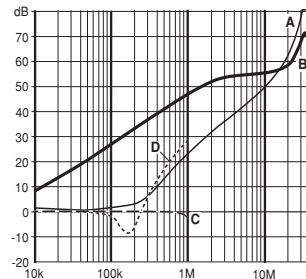


See tables for component values.

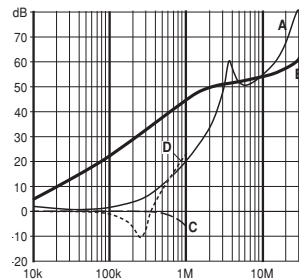
## FN 610 insertion loss

Per CISPR 17; A = 50Ω/50Ω sym, B = 50Ω/50Ω asym, C = 0.1Ω/100Ω sym, D = 100Ω/0.1Ω sym

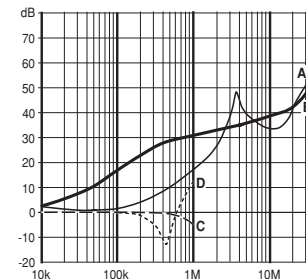
### 1 amp types



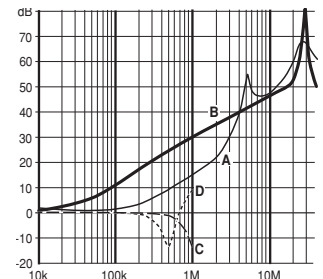
### 3 amp types



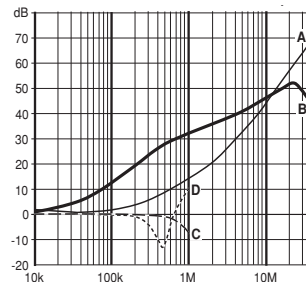
### 6 amp types



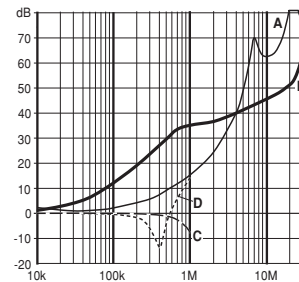
### 10 amp types



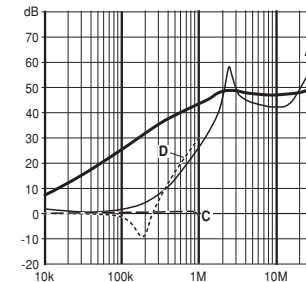
### 20 amp types



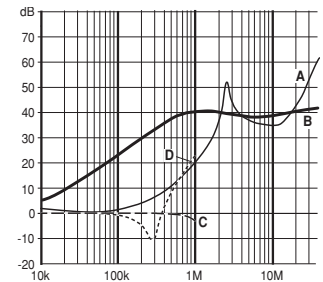
### 30 amp types



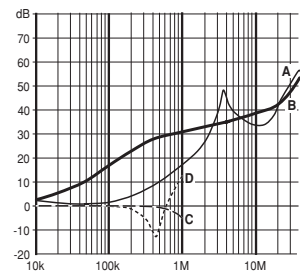
### 1 amp (A types)



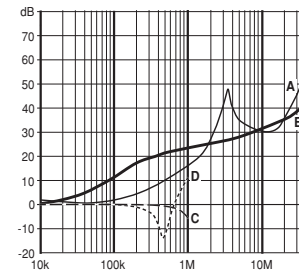
### 3 amp (A types)



### 6 amp (A types)



### 10 amp (A types)



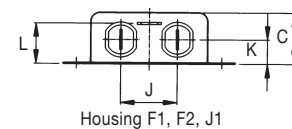
## Mechanical data

|   | FN 610<br>-1-3-6<br>F1 | FN 610<br>-10<br>F2 | FN 610<br>-20<br>J1 | Tol.*<br>mm |
|---|------------------------|---------------------|---------------------|-------------|
| A | 64                     |                     | 71                  | ± 0.5       |
| B | 33                     |                     | 52.6                | ± 0.5       |
| C | 19                     | 29                  |                     | ± 0.5       |
| D | 44                     |                     | 50.5 ± 1            | ± 0.3       |
| F | 54                     |                     | 61                  | ± 0.2       |
| J |                        | 21                  |                     | ± 0.5       |
| K | 9                      |                     | 14                  | ± 0.5       |
| L | 15                     |                     | 20                  | ± 0.5       |
| M |                        | 5.3                 |                     | ± 0.1       |
| N |                        | 6.3                 |                     | ± 0.1       |
| Y |                        | 6                   |                     | ± 1         |
| Z |                        | 140                 |                     | + 5         |

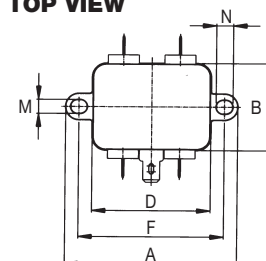
\* Measurements share this common tolerance unless otherwise stated.

|   | FN 610<br>-30<br>L1 | Tol.<br>mm |
|---|---------------------|------------|
| A | 105                 | ± 0.5      |
| B | 99.5                | ± 1        |
| C | 38                  | ± 1        |
| D | 84.5                | ± 1        |
| E | 79                  | ± 0.5      |
| F | 95                  | ± 0.2      |
| G | 51                  | ± 0.1      |
| J | 40                  | ± 0.5      |
| K | 9.5                 | ± 0.5      |
| L | 19                  | ± 0.5      |
| M | 4.4                 | ± 0.1      |
| N | 6                   | ± 0.1      |

## FRONT VIEW

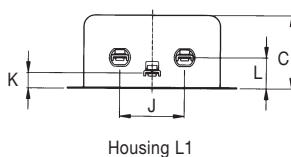


## TOP VIEW



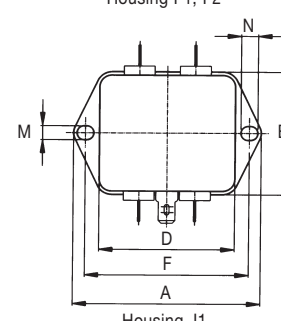
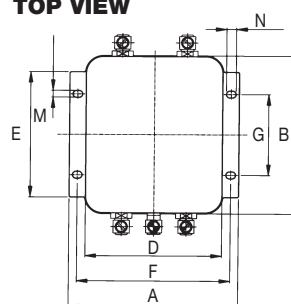
Housing F1, F2

## FRONT VIEW



Housing L1

## TOP VIEW



Housing J1

All dimensions in mm; 1 inch = 25.4 mm