

## Filter for motor drives

## FN 251

- 4 to 24A current ratings
- compact size
- insulated safety input terminals
- wire outputs

- Nennströme von 4 bis 24A
- Kompakte Bauform
- Berührungssichere Anschlußklemmen
- Litzen an den Ausgängen

- courant de service entre 4 et 24A
- taille réduite compacte
- connexions d'entrée par bornes de sécurité isolées
- connexions de sortie par fils



### Technical specifications

Maximum operating voltage: 440VAC at 40°C; Operating frequency: DC to 60Hz at 40°C

Hipot test voltage: P ⇒ E 2000VAC; P ⇒ P 1700VDC

MTBF at 40°C, 400V per Mil-HB-217F: 160,000 hours

Protection category: IP20

Overload: 4 times rated current at switch on, then 1.5 times rated current for 1 minute, once per hour

### Approvals



| Filter           | Current ratings<br>at 40°C (25°)<br>A | Leakage current†<br>(400V/50Hz)<br>mA | Power<br>loss<br>W | Component values/phase |          |          |          |         | Connections<br>input | Connections<br>output | Weight<br>kg |
|------------------|---------------------------------------|---------------------------------------|--------------------|------------------------|----------|----------|----------|---------|----------------------|-----------------------|--------------|
|                  |                                       |                                       |                    | L<br>mH                | L1<br>mH | Cx<br>μF | Cy<br>nF | R<br>kΩ |                      |                       |              |
| FN 251 - 4 / 07  | 4 (4.6)                               | 0.5                                   | 5.5                | 7                      | 1.5      | 1        | 15       | 470     | /29                  | /07                   | 0.75         |
| FN 251 - 8 / 07  | 8 (9.2)                               | 0.5                                   | 7                  | 4.2                    | 1.5      | 1        | 15       | 470     | /29                  | /07                   | 0.75         |
| FN 251 - 16 / 07 | 16 (18.4)                             | 0.5                                   | 14                 | 2.6                    | 0.7      | 1        | 15       | 470     | /29                  | /07                   | 1.8          |
| FN 251 - 24 / 07 | 24 (27.6)                             | 0.5                                   | 18                 | 1                      | 0.5      | 1        | 15       | 470     | /29                  | /07                   | 1.95         |

† Max. leakage under normal circumstances. Note: if two phases are interrupted, worst case leakage current could reach 7.7 times higher levels.

### Mechanical data

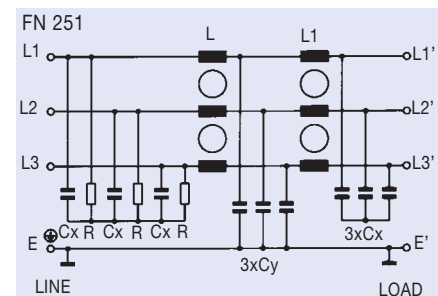
| Current | -4, -8              | -16, -24            | Tol.*<br>± mm |
|---------|---------------------|---------------------|---------------|
| A       | 145                 | 180                 | ± 0.5         |
| B       | 75                  | 115                 | ± 0.5         |
| C       | 40                  | 60                  | ± 0.5         |
| D       | 123                 | 85                  | ± 0.5         |
| E       | 135                 | 115                 | ± 0.2         |
| F       | 55 ± 0.1            | 100                 | ± 0.2         |
| G       |                     | 0.7                 | ± 0.05        |
| H       |                     | 20                  | ± 1           |
| M       | 7 x 5.3             | 6.4                 | ± 0.1         |
| P       |                     | M6                  | -             |
| W       | 1.31mm <sup>2</sup> | 2.08mm <sup>2</sup> | -             |
| Y       |                     | 6                   | + 1           |
| Z       |                     | 300                 | + 10          |

All dimensions in mm; 1 inch = 25.4mm

\* Measurements share this common tolerance unless otherwise stated

### Electrical schematic

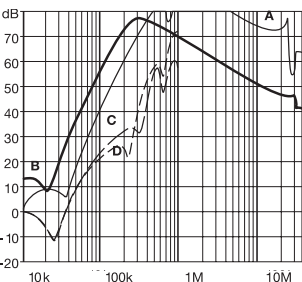
See table for component values



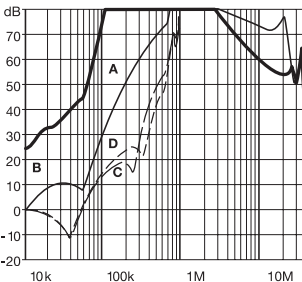
**FN 251 insertion loss**

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

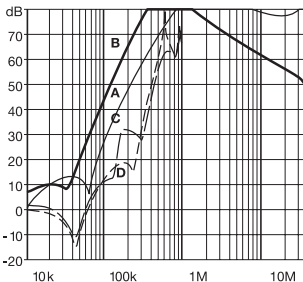
**4 amp types**



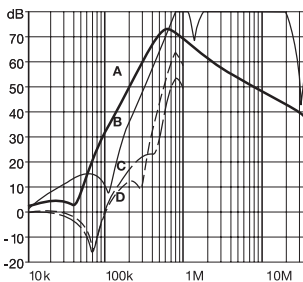
**8 amp types**



**16 amp types**



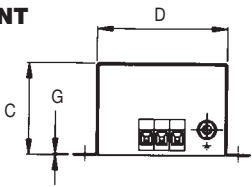
**24 amp types**



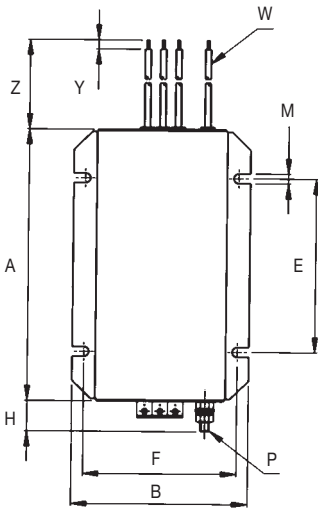
**Mechanical drawings**

See mechanical data table for dimensions

**FRONT**

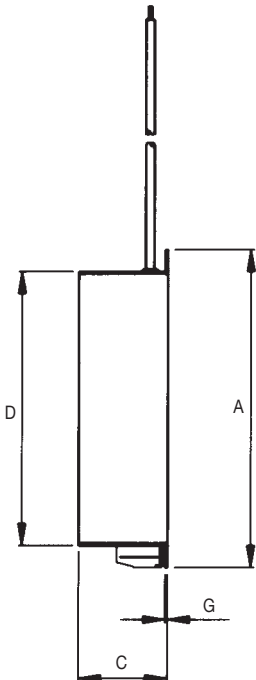


**TOP**

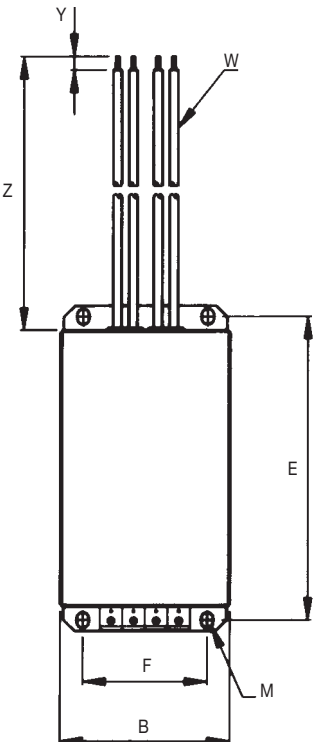


FN 251-16, -24  
Input connection: /29

**SIDE**



**TOP**



FN 251-4, -8  
Input connection: /29