

## Two-stage performance filter

## FN 680

- current ratings from 1 to 10A
- very high differential and common mode attenuation
- good low frequency attenuation
- Nennströme von 1 bis 10 A
- Sehr hohe differentiell und Gleichtakt-Dämpfung
- Gute Niederfrequenzdämpfung
- courants de service de 1 à 10 A
- très bonne atténuation en modes différentiel et commun
- bonne atténuation à des basses fréquences



### 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 682-4/07 is a 4A filter with wire connections.

### Approvals



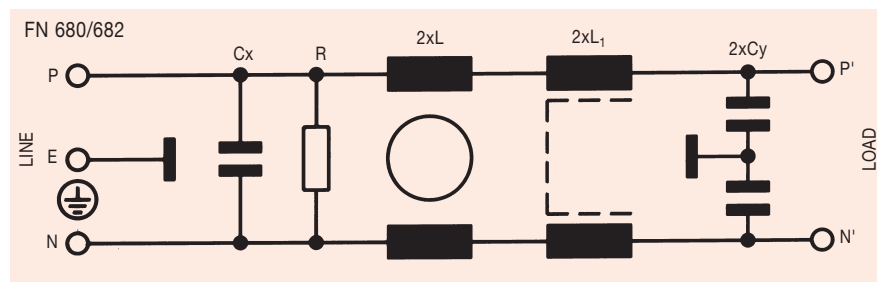
| Family          | Connections |     | Current ratings<br>at 40°C (25°)<br>A | Inductance<br>L/L <sub>1</sub><br>mH | Housing | Weight<br>g |     |
|-----------------|-------------|-----|---------------------------------------|--------------------------------------|---------|-------------|-----|
|                 |             |     |                                       |                                      |         | /06         | /07 |
| FN 680 -1 /??   | /06         | /07 | 1 (1.2)                               | 22.5/1.2                             | J11     | 120         | 130 |
| FN 680 -2.5 /?? | /06         | /07 | 2.5 (3)                               | 16/0.27                              | K2      | 230         | 245 |
| FN 682 -4 /??   | /06         | /07 | 4 (4.8)                               | 8/0.08                               | K2      | 250         | 255 |
| FN 682 -6.5 /?? | /06         | /07 | 6.5 (7.8)                             | 4.1/0.055                            | L1      | 590         | 600 |
| FN 682 -10 /??  | /06         | /07 | 10 (12)                               | 4/0.04                               | L2      | 950         | 970 |

### Additional specifications

| Filter type            | Capacitance          |                      | Res.<br>R<br>MΩ | Maximum<br>leakage<br>μA/phase | Maximum<br>operating voltage |       | Operating<br>frequency<br>Hz | Hipot test voltage |            |
|------------------------|----------------------|----------------------|-----------------|--------------------------------|------------------------------|-------|------------------------------|--------------------|------------|
|                        | C <sub>x</sub><br>nF | C <sub>y</sub><br>nF |                 |                                | VAC                          | Hz    |                              | PN→E<br>VAC        | P→N<br>VDC |
| FN 680 types           | 220                  | 4.7                  | 1               | 410                            | 250                          | 50/60 | DC to 400                    | 2000               | 1700       |
| FN 682 types (4A)      | 1000                 | 22                   | 0.33            | 1900                           | 250                          | 50/60 | DC to 400                    | 2000               | 1700       |
| FN 682 types (6.5-10A) | 470                  | 22                   | 0.47            | 1900                           | 250                          | 50/60 | DC to 400                    | 2000               | 1700       |

MTBF at 40°C, 230V, per Mil-HB-217F: 1,400,000 hours.

### Electrical schematic

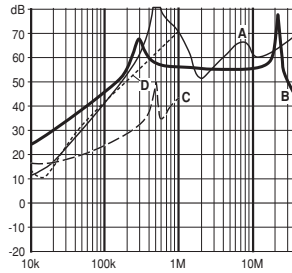


See tables for component values.

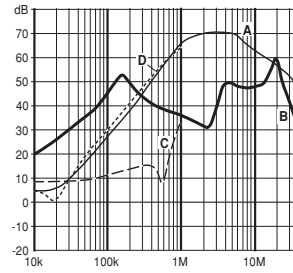
## FN 680 insertion loss

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

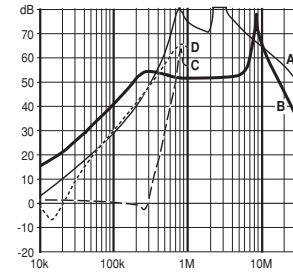
### 1 amp types



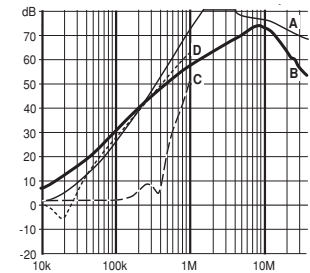
### 2.5 amp types



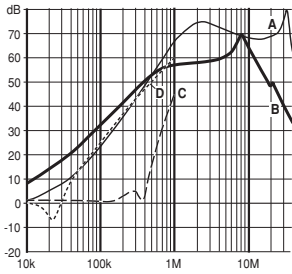
### 4 amp types



### 6.5 amp types



### 10 amp types



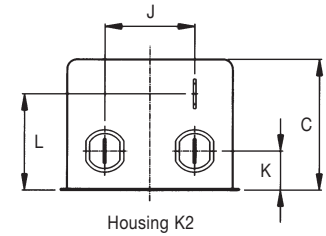
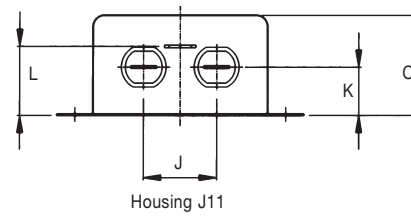
## Mechanical data

### FN 680-1

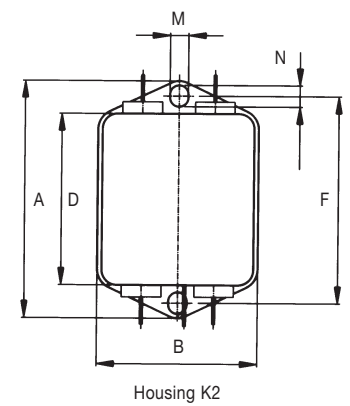
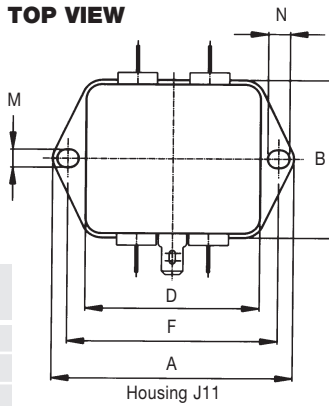
#### J11

|   |      | Tol.<br>mm |
|---|------|------------|
| A | 71   | ± 0.5      |
| B | 52.6 | ± 0.5      |
| C | 29   | ± 0.5      |
| D | 50.5 | ± 1        |
| F | 61   | ± 0.2      |
| J | 21   | ± 0.5      |
| K | 14   | ± 0.5      |
| L | 20   | ± 0.5      |
| M | 5.3  | ± 0.1      |
| N | 6.3  | ± 0.1      |
| Y | 6    | ± 1        |
| Z | 140  | + 5        |

### FRONT VIEW



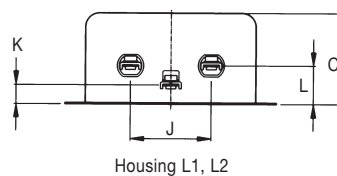
### TOP VIEW



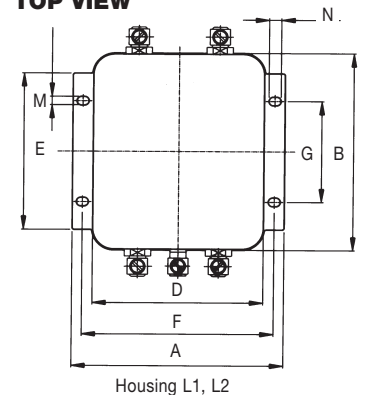
### FN 680-2.5 FN 682-6.5 FN 682-10 FN 682-4

|   | K2   | L1       | L2 | Tol.*<br>mm |
|---|------|----------|----|-------------|
| A | 85   | 105      |    | ± 0.5       |
| B | 54   | 99.5 ± 1 |    | ± 0.5       |
| C | 40   | 38       | 57 | ± 1         |
| D | 65   | 84.5     |    | ± 1         |
| E |      | 79       |    | ± 0.5       |
| F | 75   | 95       |    | ± 0.2       |
| G |      | 51       |    | ± 0.1       |
| J | 27   | 40       |    | ± 0.5       |
| K | 12   | 9.5      |    | ± 0.5       |
| L | 29.5 | 19       |    | ± 0.5       |
| M | 5.3  | 4.4      |    | ± 0.1       |
| N | 6.3  | 6        |    | ± 0.1       |
| Y |      | 6        |    | ± 1         |
| Z |      | 140      |    | + 5         |

### FRONT VIEW



### TOP VIEW



\* Measurements share this common tolerance unless otherwise stated.

All dimensions in mm; 1 inch = 25.4 mm