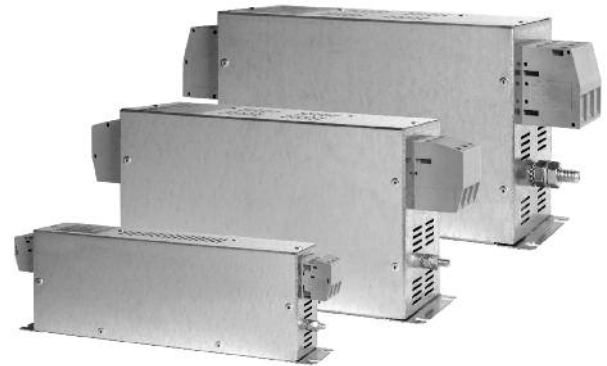


Compact 3-phase Delta RFI Filters for Universal Applications

BCF Series



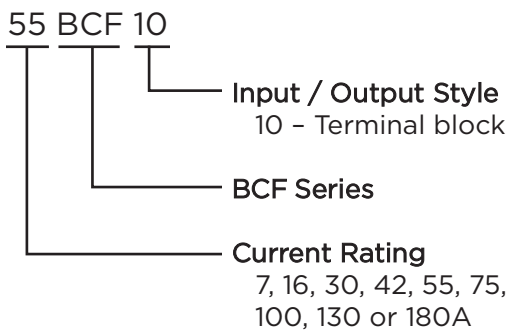
UL Recognized
VDE Approved



BCF Series

- Designed for universal applications
- Compact book-form design
- Low weight
- Insulated, high quality safety terminals for input and output
- Cost-effective design
- Good common and differential mode performance below 100kHz
- Applications include; 3-phase inverters, converters, variable speed motor drives and process automation equipment
- Touch safe terminals provide easy connections and prevent inadvertent contact for safety in the most demanding applications

Ordering Information



Available Part Numbers

| | |
|----------|----------|
| 7BCF10 | 16BCF10 |
| 30BCF10 | 42BCF10 |
| 55BCF10 | 75BCF10 |
| 100BCF10 | 130BCF10 |
| 180BCF10 | |

Specifications

Maximum leakage current each Line to Ground*:
@ 277 VAC 50 Hz: 30 mA

**If 2 phases are interrupted, this leakage current may rise to a significantly higher level*

Hipot rating (one minute):
Line to Ground: 1850 VAC
Line to Line: 1850 VDC

Rated Voltage (max):
Phase to Phase: 480 VAC
Phase to Ground: 277 VAC

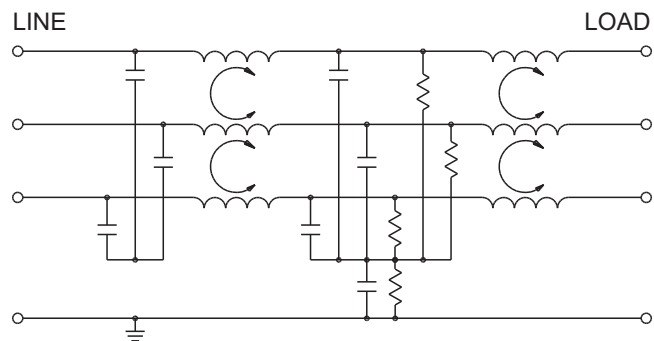
Operating Frequency: 50/60 Hz

Rated Current: 7 to 180A

Operating Ambient Temperature Range (at rated current I_r): -10°C to +50°C

In an ambient temperature (T_a) higher than +50°C the maximum operating current (I_o) is calculated as follows: $I_o = I_r \sqrt{(85-T_a)/35}$

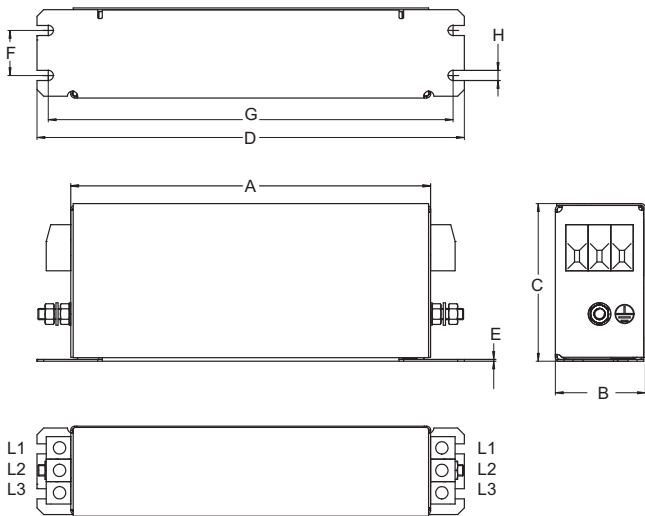
Electrical Schematic



Compact 3-phase Delta Filters for Universal Applications *(continued)*

BCF Series

Case Style



Terminals

| Part No. | Ground Terminals | Line/Load Terminals |
|--------------------|------------------|---------------------|
| 7BCF10, 16BCF10 | M5 | 4mm ² |
| 30BCF10 | M5 | 10mm ² |
| 42BCF10 | M6 | 10mm ² |
| 55BCF10 | M6 | 16mm ² |
| 75BCF10 | M6 | 25mm ² |
| 100BCF10, 130BCF10 | M10 | 50mm ² |
| 180BCF10 | M10 | 95mm ² |

Case Dimensions

| Part No. | A (max.) | B (max.) | C (max.) | D (max.) | E (max.) | F (max.) | G (max.) | H (max.) |
|----------|------------------------------|-----------------------------|-----------------------------|------------------------------|--------------------------|----------------------------|------------------------------|--------------------------|
| 7BCF10 | 6.30 <i>160.0</i> | 1.57 <i>40.0</i> | 2.76 <i>70.0</i> | 7.48 <i>190.0</i> | .03 <i>.8</i> | .79 <i>20.0</i> | 7.09 <i>180.0</i> | .18 <i>4.5</i> |
| 16BCF10 | 8.66 <i>220.0</i> | 1.77 <i>45.0</i> | 2.76 <i>70.0</i> | 9.84 <i>250.0</i> | .03 <i>.8</i> | .98 <i>25.0</i> | 9.25 <i>235.0</i> | .21 <i>5.4</i> |
| 30BCF10 | 9.45 <i>240.0</i> | 1.97 <i>50.0</i> | 3.35 <i>85.0</i> | 10.63 <i>270.0</i> | .03 <i>.8</i> | 1.18 <i>30.0</i> | 10.04 <i>255.0</i> | .21 <i>5.4</i> |
| 42BCF10 | 11.02 <i>280.0</i> | 1.97 <i>50.0</i> | 3.35 <i>85.0</i> | 12.20 <i>310.0</i> | .03 <i>.8</i> | 1.18 <i>30.0</i> | 11.61 <i>295.0</i> | .21 <i>5.4</i> |
| 55BCF10 | 8.66 <i>220.0</i> | 3.35 <i>85.0</i> | 3.54 <i>90.0</i> | 9.84 <i>250.0</i> | .04 <i>1.0</i> | 2.36 <i>60.0</i> | 9.25 <i>235.0</i> | .21 <i>5.4</i> |
| 75BCF10 | 9.45 <i>240.0</i> | 3.15 <i>80.0</i> | 5.31 <i>135.0</i> | 10.63 <i>270.0</i> | .04 <i>1.0</i> | 2.36 <i>60.0</i> | 10.04 <i>255.0</i> | .26 <i>6.5</i> |
| 100BCF10 | 9.45 <i>240.0</i> | 3.54 <i>90.0</i> | 5.91 <i>150.0</i> | 10.63 <i>270.0</i> | .04 <i>1.0</i> | 2.56 <i>65.0</i> | 10.04 <i>255.0</i> | .26 <i>6.5</i> |
| 130BCF10 | 9.45 <i>240.0</i> | 3.54 <i>90.0</i> | 5.91 <i>150.0</i> | 10.63 <i>270.0</i> | .04 <i>1.0</i> | 2.56 <i>65.0</i> | 10.04 <i>255.0</i> | .26 <i>6.5</i> |
| 180BCF10 | 13.78 <i>350.0</i> | 4.72 <i>120.0</i> | 6.69 <i>170.0</i> | 14.96 <i>380.0</i> | .04 <i>1.0</i> | 4.2 <i>102.0</i> | 14.37 <i>365.0</i> | .26 <i>6.5</i> |

Compact 3-phase Delta Filters for Universal Applications *(continued)*

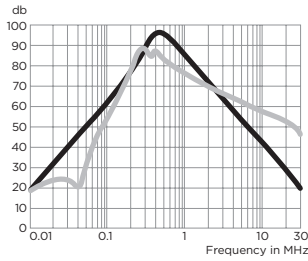
BCF Series

Performance Data

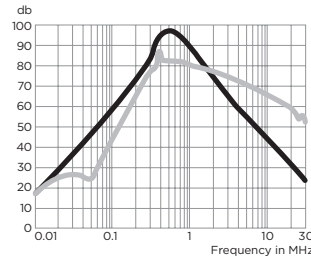
Typical Insertion Loss

Measured in closed 50 Ohm system

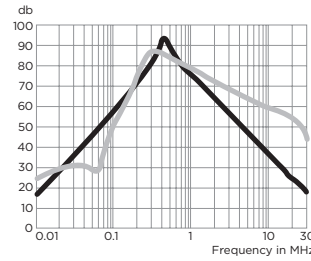
7BCF10



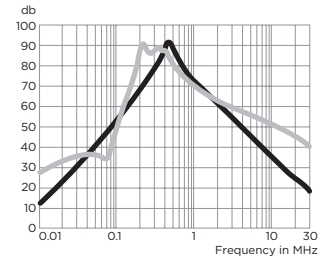
16BCF10



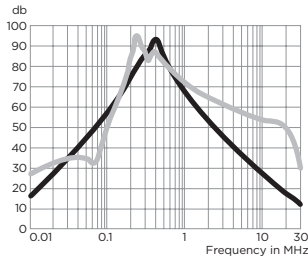
30BCF10



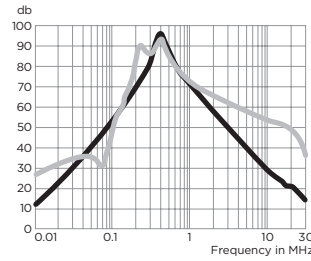
42BCF10



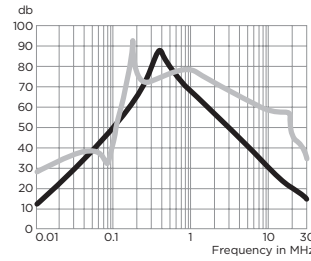
55BCF10



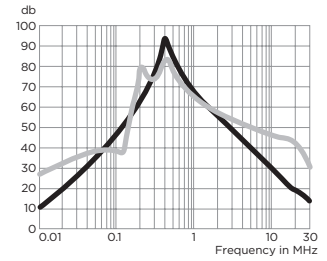
75BCF10



100BCF10

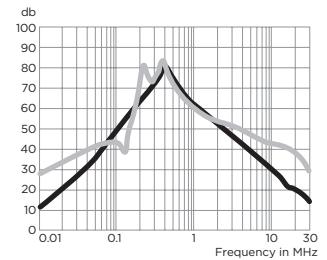


130BCF10



— Common Mode / Asymmetrical (L-G)
— Differential Mode / Symmetrical (L-L)

180BCF10



Minimum Insertion Loss

Measured in closed 50 Ohm system

Common Mode / Asymmetrical (Line to Ground)

| Current Rating | Frequency –MHz | | | | | | | | | | | |
|----------------|----------------|-----|-----|----|-----|----|----|----|----|----|----|----|
| | .01 | .03 | .05 | .1 | .15 | .3 | .5 | 1 | 3 | 5 | 10 | 30 |
| 7A | 18 | 39 | 48 | 62 | 68 | 89 | 96 | 83 | 62 | 53 | 41 | 20 |
| 16A | 17 | 37 | 45 | 58 | 65 | 85 | 96 | 88 | 65 | 56 | 43 | 23 |
| 30A | 16 | 36 | 44 | 58 | 64 | 82 | 90 | 74 | 56 | 48 | 36 | 18 |
| 42A | 12 | 30 | 40 | 52 | 61 | 79 | 90 | 72 | 54 | 47 | 35 | 18 |
| 55A | 16 | 35 | 44 | 58 | 66 | 87 | 87 | 67 | 47 | 38 | 26 | 12 |
| 75A | 12 | 30 | 40 | 53 | 60 | 84 | 90 | 70 | 50 | 42 | 30 | 15 |
| 100A | 12 | 29 | 38 | 50 | 59 | 79 | 80 | 67 | 49 | 40 | 29 | 15 |
| 130A | 11 | 26 | 35 | 48 | 55 | 78 | 83 | 67 | 49 | 40 | 29 | 15 |
| 180A | 11 | 27 | 36 | 49 | 57 | 72 | 77 | 61 | 47 | 40 | 29 | 15 |

Differential Mode / Symmetrical (Line to Line)

| Current Rating | Frequency –MHz | | | | | | | | | | | |
|----------------|----------------|-----|-----|----|-----|----|----|----|----|----|----|----|
| | .01 | .03 | .05 | .1 | .15 | .3 | .5 | 1 | 3 | 5 | 10 | 30 |
| 7A | 16 | 23 | 28 | 54 | 67 | 89 | 85 | 76 | 67 | 62 | 57 | 46 |
| 16A | 18 | 26 | 24 | 48 | 58 | 78 | 82 | 80 | 74 | 71 | 65 | 51 |
| 30A | 23 | 31 | 29 | 49 | 62 | 87 | 84 | 78 | 68 | 64 | 59 | 46 |
| 42A | 13 | 35 | 36 | 50 | 67 | 88 | 82 | 69 | 59 | 55 | 50 | 40 |
| 55A | 27 | 35 | 35 | 51 | 68 | 87 | 83 | 71 | 61 | 58 | 54 | 31 |
| 75A | 27 | 35 | 35 | 50 | 66 | 87 | 86 | 72 | 62 | 58 | 53 | 35 |
| 100A | 28 | 37 | 38 | 47 | 70 | 73 | 76 | 78 | 68 | 64 | 58 | 34 |
| 130A | 27 | 37 | 40 | 38 | 53 | 75 | 80 | 64 | 54 | 50 | 47 | 30 |
| 180A | 27 | 37 | 40 | 42 | 50 | 73 | 73 | 60 | 50 | 47 | 42 | 30 |