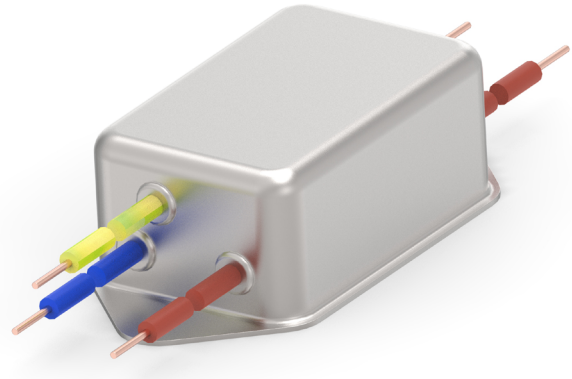


# CORCOM LIGHTING EMI FILTERS

FB, FBL & FBH SERIES

## INTRODUCTION

TE Connectivity adds even more range to the FB series product line with new part numbers designated with the FBL and FBH. FBL is part of the FB series and is targeted toward applications that need standard EMI performance levels in a smaller package size. The FBH series has the added benefit of operating to 480V<sub>AC</sub> and up to a 90°C ambient temperature. LED Drivers have different levels of integrated filtering but when connected to a load the filtering may not be enough to attenuate the conducted emissions. In addition, some lighting applications can reach higher currents and the 10 and 20A versions of the FBL products will satisfy those types of applications. The FB and FBH series have current levels up to 5 Amps.



## BENEFITS

- Compact size
- 277 V<sub>AC</sub>/V<sub>DC</sub> (FB Series)
- 480V<sub>AC</sub>/V<sub>DC</sub> (FBH Series)
- Strong differential mode performance (FB series part numbers)
- Solid lead wires (FB series)
- Stranded lead wires (FBL and FBH series)
- Ambient temperature 50°C (FB & FBL series)
- Ambient temperature 90°C (FBH series)

## APPLICATIONS

- LED lighting/drivers/controllers
- LED displays
- Office and hospital lighting
- Architectural lighting
- Instrumentation lighting
- Outdoor signage
- UV curing lights
- Lower current industrial applications
- Fluorescent ballasts
- Horticulture lighting

## APPROVALS

- CSA Certified FB only
- VDE Approved FB only
- cURus Recognized FBL and FBH only



# CORCOM LIGHTING EMI FILTERS

FB, FBL & FBH SERIES

## CORCOM FB SERIES

### ELECTRICAL SPECIFICATIONS

|   |                                       |                      |
|---|---------------------------------------|----------------------|
| Max. Leakage current<br>each Line to Ground | @277 V <sub>AC</sub> 60 Hz            | 0.28 mA              |
|   | @250 V <sub>AC</sub> 50Hz             | 0.21 mA              |
| Hipot rating (one minute)                   | Line to Ground                        | 2300 V <sub>DC</sub> |
|   | Line to Line                          | 1853 V <sub>DC</sub> |
| Rated Voltage (max.)                        | 277 V <sub>AC</sub> / V <sub>DC</sub> |                      |
| Operating Frequency                         | 50/60 Hz                              |                      |
| Rated Current                               | 0.5 to 5A                             |                      |

\* VDE Approved at 250 V<sub>AC</sub> & 250 V<sub>DC</sub>

### MINIMUM INSERTION LOSS - MEASURED IN CLOSED 50 Ohm SYSTEM

#### COMMON MODE / ASYMMETRICAL (LINE TO GROUND)

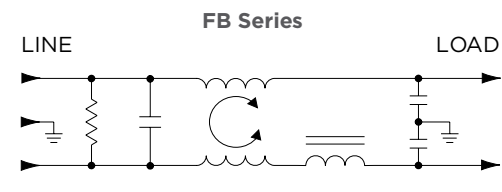
| Part Number | Frequency — MHz |      |     |      |     |    |    |    |    |    |
|-------------|-----------------|------|-----|------|-----|----|----|----|----|----|
|             | 0.03            | 0.05 | 0.1 | 0.15 | 0.5 | 1  | 5  | 10 | 20 | 30 |
| HFB3        | 4               | 8    | 12  | 14   | 26  | 32 | 45 | 44 | 38 | 42 |
| 2FB3        | 3               | 7    | 13  | 16   | 28  | 34 | 45 | 44 | 41 | 41 |
| 3FB3        | -               | 1    | 6   | 8    | 20  | 26 | 41 | 41 | 47 | 50 |
| 5FB3        | -               | 2    | 5   | 9    | 21  | 26 | 41 | 40 | 44 | 48 |

#### DIFFERENTIAL MODE / SYMMETRICAL (LINE TO LINE)

| Part Number | Frequency — MHz |      |     |      |     |    |    |    |    |    |
|-------------|-----------------|------|-----|------|-----|----|----|----|----|----|
|             | 0.03            | 0.05 | 0.1 | 0.15 | 0.5 | 1  | 5  | 10 | 20 | 30 |
| HFB3        | 6               | 11   | 20  | 25   | 43  | 51 | 55 | 51 | 42 | 41 |
| 2FB3        | 6               | 11   | 20  | 25   | 43  | 51 | 51 | 44 | 40 | 39 |
| 3FB3        | 6               | 10   | 17  | 21   | 37  | 47 | 54 | 48 | 44 | 42 |
| 5FB3        | 6               | 10   | 16  | 20   | 31  | 40 | 51 | 47 | 44 | 41 |



### ELECTRICAL SCHEMATICS



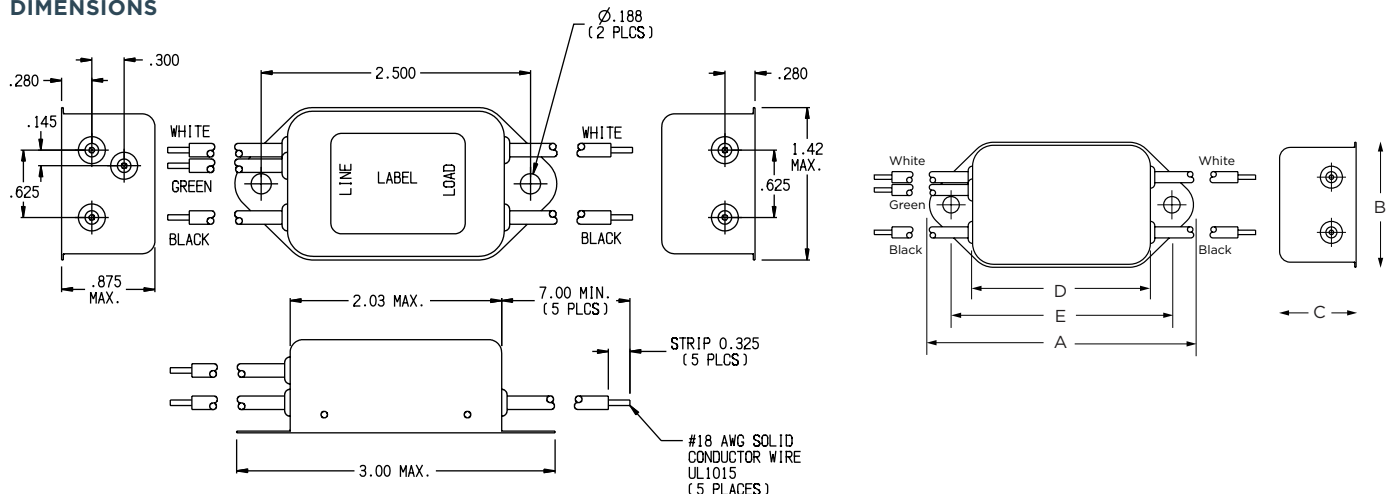
### PRODUCT SELECTION INFORMATION

| Part Number | Catalog PN | Description                    |
|-------------|------------|--------------------------------|
| 8-1609095-8 | HFB3       | 0.5A FB Series with wire leads |
| 8-1609095-9 | 2FB3       | 2A FB Series with wire leads   |
| 9-1609095-0 | 3FB3       | 3A FB Series with wire leads   |
| 9-1609095-1 | 5FB3       | 5A FB Series with wire leads   |

### CASE DIMENSIONS

| Part Number | A     | B     | C     | D     | E              |
|-------------|-------|-------|-------|-------|----------------|
|             | (max) | (max) | (max) | (max) | ±.025<br>±.635 |
| FB Series   | 3.0   | 1.42  | .875  | 2.03  | 2.5            |
|             | 76.2  | 36.07 | 22.23 | 51.56 | 63.5           |

### DIMENSIONS



# CORCOM LIGHTING EMI FILTERS

FB, FBL & FBH SERIES

## CORCOM FBL SERIES

### ELECTRICAL SPECIFICATIONS

|   |                                      |                      |
|---|--------------------------------------|----------------------|
| Max. Leakage current<br>each Line to Ground | @120 V <sub>AC</sub> 60 Hz           | 0.12 mA              |
|   | @250 V <sub>AC</sub> 60 Hz           | 0.25 mA              |
|   | @300 V <sub>AC</sub> 60 Hz           | 0.30 mA              |
| Hipot rating (one minute)                   | Line to Ground                       | 2300 V <sub>DC</sub> |
|   | Line to Line                         | 1853 V <sub>DC</sub> |
| Rated Voltage (max.)                        | 300V <sub>AC</sub> / V <sub>DC</sub> |                      |
| Operating Frequency                         | 50/60 Hz                             |                      |
| Rated Current                               | 1, 3, 5, 10 and 20A                  |                      |

\* VDE Approved at 250 V<sub>AC</sub> & 250 V<sub>DC</sub>

### MINIMUM INSERTION LOSS - MEASURED IN CLOSED 50 Ohm SYSTEM

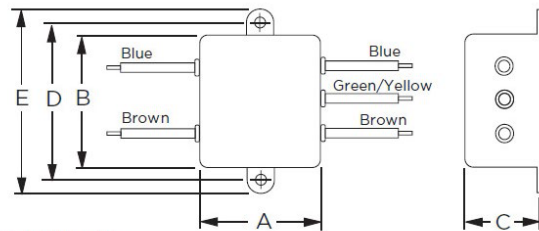
#### COMMON MODE/ASYMMETRICAL (LINE TO GROUND) INSERTION LOSS DATA

| Part Number | Frequency — MHz |     |    |    |    |    |
|-------------|-----------------|-----|----|----|----|----|
|             | 0.15            | 0.5 | 1  | 5  | 10 | 30 |
| 1FBL3       | 20              | 33  | 41 | 45 | 45 | 48 |
| 3FBL3       | 20              | 31  | 38 | 46 | 45 | 47 |
| 5FBL3       | 10              | 21  | 26 | 37 | 42 | 47 |
| 10FBL3      | 11              | 23  | 26 | 34 | 37 | 45 |
| 20FBL3      | 8               | 21  | 32 | 35 | 38 | 42 |

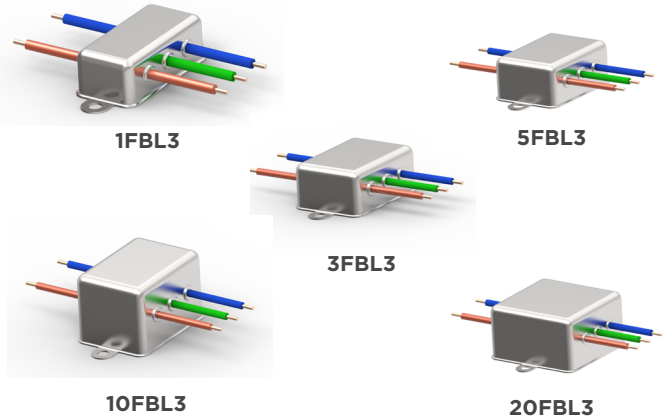
### PRODUCT SELECTION INFORMATION

| Part Number | Catalog PN | Description     |
|-------------|------------|-----------------|
| 6-1609091-4 | 1FBL3      | 1A FBL Version  |
| 6-1609091-5 | 3FBL3      | 3A FBL Version  |
| 6-1609091-6 | 5FBL3      | 5A FBL Version  |
| 6-1609091-7 | 10FBL3     | 10A FBL Version |
| 6-1609091-8 | 20FBL3     | 20A FBL Version |

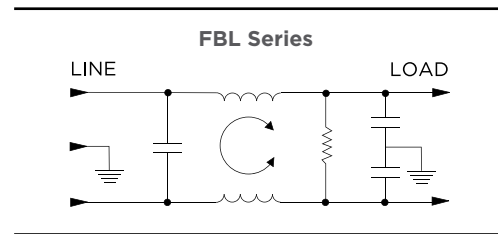
### DIMENSIONS



Typical Dimensions:  
 Wire leads (5): 4.0 [101.6] Min. AWG18, (AWG16 for 10A)  
 Mounting Holes (2): .188 [4.75] Dia.



### ELECTRICAL SCHEMATICS



\* VDE Approved at 250 V<sub>AC</sub> & 250 V<sub>DC</sub>

### CASE DIMENSIONS

| Part Number   | A     | B     | C     | D             | E     |
|---------------|-------|-------|-------|---------------|-------|
|               | (max) | (max) | (max) | ±.015<br>±.38 | (max) |
| 1FBL3         | 0.96  | 1.82  | 0.66  | 2.125         | 2.53  |
|               | 24.4  | 46.2  | 16.8  | 53.98         | 64.3  |
| 3FBL3 & 5FBL3 | 1.32  | 1.82  | 0.78  | 2.125         | 2.53  |
|               | 33.5  | 46.2  | 19.8  | 53.98         | 64.3  |
| 10FBL3        | 1.32  | 1.82  | 1.16  | 2.125         | 2.53  |
|               | 33.5  | 46.2  | 29.5  | 53.98         | 64.3  |
| 20FBL3        | 2.07  | 2.065 | 1.16  | 2.375         | 2.81  |
|               | 52.58 | 52.45 | 29.5  | 60.33         | 71.37 |

# CORCOM LIGHTING EMI FILTERS

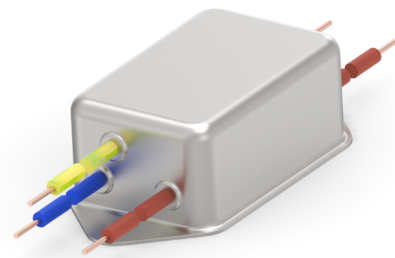
FB, FBL & FBH SERIES

## CORCOM FBH SERIES

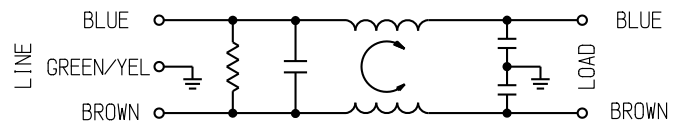
### ELECTRICAL SPECIFICATIONS

|   |                             |                      |
|---|-----------------------------|----------------------|
| Max. Leakage current<br>each Line to Ground | @ 277 V <sub>AC</sub> 60 Hz | .28 mA               |
|   | @ 250 V <sub>AC</sub> 50Hz  | .21 mA               |
| Hipot rating (one minute)                   | Line to Ground              | 2250 V <sub>DC</sub> |
|   | Line to Line                | 2275 V <sub>DC</sub> |
| Rated Voltage (max.)                        | 480 V <sub>AC</sub>         |                      |
| Operating Frequency                         | 50/60 Hz                    |                      |
| Rated Current - FBH                         | 1, 2, 3, 5 Amp              |                      |

\* VDE Approved at 250 V<sub>AC</sub> & 250 V<sub>DC</sub>



### ELECTRICAL SCHEMATICS



### TYPICAL LOSS - MEASURED IN CLOSED 50 Ohm SYSTEM

#### COMMON MODE / ASYMMETRICAL (LINE TO GROUND)

| Part Number | Frequency — MHz |      |     |      |     |    |    |    |    |    |
|-------------|-----------------|------|-----|------|-----|----|----|----|----|----|
|             | 0.03            | 0.05 | 0.1 | 0.15 | 0.5 | 1  | 5  | 10 | 20 | 30 |
| 1FBH3       | 3               | 6    | 11  | 15   | 21  | 24 | 35 | 40 | 48 | 61 |
| 2FBH3       | 3               | 6    | 11  | 15   | 21  | 24 | 35 | 40 | 48 | 61 |
| 3FBH3       | 3               | 6    | 11  | 15   | 21  | 24 | 35 | 40 | 48 | 61 |
| 5FBH3       | 3               | 6    | 11  | 15   | 21  | 24 | 35 | 40 | 48 | 61 |

#### DIFFERENTIAL MODE / SYMMETRICAL (LINE TO LINE)

| Part Number | Frequency — MHz |      |     |      |     |    |    |    |    |    |
|-------------|-----------------|------|-----|------|-----|----|----|----|----|----|
|             | 0.03            | 0.05 | 0.1 | 0.15 | 0.5 | 1  | 5  | 10 | 20 | 30 |
| 1FBH3       | -               | -    | -   | 1    | 5   | 10 | 18 | 53 | 60 | 78 |
| 2FBH3       | -               | -    | -   | 1    | 5   | 10 | 18 | 53 | 60 | 78 |
| 3FBH3       | -               | -    | -   | 1    | 5   | 10 | 18 | 53 | 60 | 78 |
| 5FBH3       | -               | -    | -   | 1    | 5   | 10 | 18 | 53 | 60 | 78 |

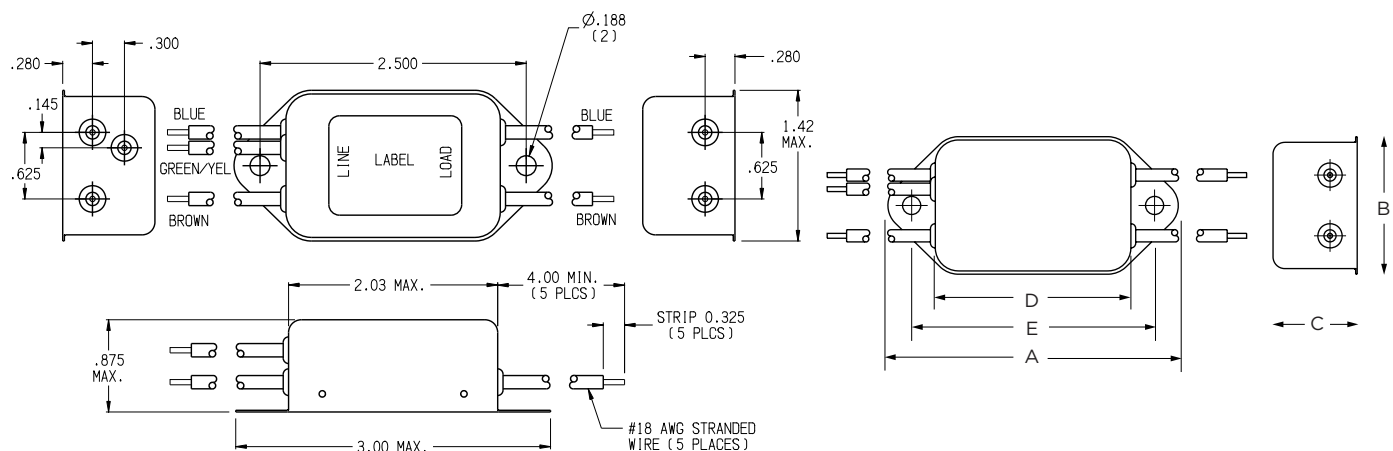
### CASE DIMENSIONS

| Part Number | A     | B     | C     | D     | E              |
|-------------|-------|-------|-------|-------|----------------|
|             | (max) | (max) | (max) | (max) | ±.025<br>±.635 |
| FBH Series  | 3.0   | 1.42  | .875  | 2.03  | 2.5            |
|             | 76.2  | 36.07 | 22.23 | 51.56 | 63.5           |

### PRODUCT SELECTION INFORMATION

| Part Number | Catalog PN | Description    |
|-------------|------------|----------------|
| 2-1609028-8 | 1FBH3      | 1A FBH Version |
| 2-1609028-9 | 2FBH3      | 2A FBH Version |
| 3-1609028-0 | 3FBH3      | 3A FBH Version |
| 3-1609028-1 | 5FBH3      | 5A FBH Version |

### DIMENSIONS



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INDUSTRY / CORCOM FB SERIES

