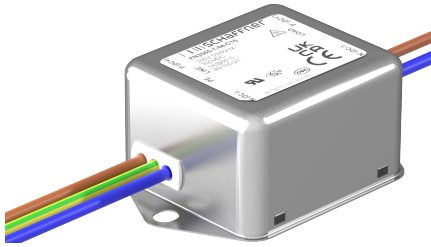


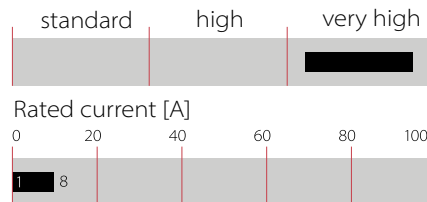
# EMC/EMI line filter for lighting applications



- Excellent EMC filter for lighting applications
- Choice between 3 different leakage ratings C00/C11/C16:
- -C00: no leakage current, medical applications
- -C11: low leakage current, safety applications
- -C16: standard version, best filter performance
- Voltage rating up to 300 VAC
- Choice between 4 current ratings: 1 A, 2 A, 5 A and 8 A
- Compact, space-saving design
- Cable outlets with enhanced length give freedom for flexible installation
- Versions without X-capacitor available - FN2564



### Performance indicators



## Technical specifications

|  |   |
|--|---|
| <b>Rated operating voltage</b>                   | 300 VAC / 300 VDC   |
| <b>Rated currents</b>                            | 1 A, 2 A, 5 A and 8 A @ 60°C  |
| <b>Operating frequency</b>                       | DC to 60 Hz   |
| <b>Temperature range (operation and storage)</b> | -40°C to 100°C (40/100/21)*   |
| <b>Climatic class</b>                            | 40/100/21   |
| <b>Cooling</b>                                   | AN  |
| <b>Flammability corresponding to</b>             | Plastic material: UL-94V-0<br>Laces: UL94- VW1  |
| <b>High potential test voltage</b>               | P(DC+) → PE 3000 VDC for 2 sec<br>P(DC+) → N(DC-) 1500 VDC for 2 sec                  |
| <b>Altitude</b>                                  | 2000m (above derating applies)*   |
| <b>Certified to</b>                              | UL 60939-3, IEC/EN 60939-3, GB/T 15287  |
| <b>Design corresponding to</b>                   | IEC 61347-1 - Lamp controlgear<br>IEC 61547 - Equipment for general lighting purposes |
| <b>Protection category</b>                       | IP20  |
| <b>Pollution degree</b>                          | 2 acc. IEC 60664-1  |
| <b>MTBF</b>                                      | > 1.800.000 h   |
| <b>Vibration and shock</b>                       | 3M4 (operation); 2M2 (transport) acc. to IEC 60721-3-3;<br>IEC 60721-3-2              |
| <b>Overvoltage category</b>                      | III acc. IEC 60664-1  |
| <b>Terminals</b>                                 | Single strand solid wires AWG16 / AWG18   |

\* for dedicated requests exceeding this specification, please contact your local Schaffner sales office

### Approvals & Compliances



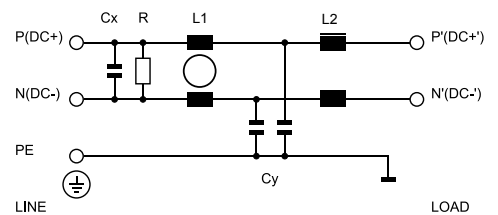
### Features and benefits

- Very high differential mode attenuation
- Suitable for AC and DC applications
- Offering a very high differential and common mode performance in low profile housing
- Easy installation with single strand wires
- Voltage rating according to high voltage LED lighting market

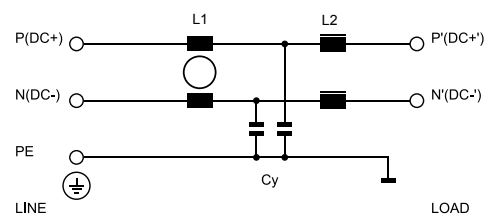
### Typical applications

- Lighting equipment
- LED driver and displays
- Street lamps and signage
- Industrial and architectural lighting
- Fluorescent ballasts
- Other applications with high demand for differential mode performance

### Typical electrical schematic - FN2560



### Typical electrical schematic - FN2564 (no X-cap)



## Filter selection table

| Filter                 | Rated current<br>@ 60°C<br>[A] | Leakage current*<br>@ 300 VAC/60 Hz<br>[mA] | Inductance** |      | Capacitance** |         | Dis. Resistor**<br>R<br>[kΩ] | Weight<br>m<br>[g] | Typ. Dissipation<br>P<br>[W] |
|------------------------|--------------------------------|---|--------------|------|---------------|---------|------------------------------|--------------------|------------------------------|
|                        |                                |   | L1           | L2   | Cx            | Cy      |                              |                    |                              |
|                        |                                |   | [mH]         | [μH] | [μF]          | [nF]    |                              |                    |                              |
| <b>FN2560-1-04-C00</b> | 1                              | 0.0   | 4.0          | 198  | 0.470         | -       | 1000                         | 119                | 0.54                         |
| <b>FN2560-1-04-C11</b> | 1                              | 0.4   | 4.0          | 198  | 0.470         | 2 x 4.7 | 1000                         | 119                | 0.54                         |
| <b>FN2560-1-04-C16</b> | 1                              | 3.1   | 4.0          | 198  | 0.470         | 2 x 33  | 1000                         | 119                | 0.54                         |
| <b>FN2560-2-04-C00</b> | 2                              | 0.0   | 2.0          | 98   | 0.470         | -       | 1000                         | 125                | 1.52                         |
| <b>FN2560-2-04-C11</b> | 2                              | 0.4   | 2.0          | 98   | 0.470         | 2 x 4.7 | 1000                         | 125                | 1.52                         |
| <b>FN2560-2-04-C16</b> | 2                              | 3.1   | 2.0          | 98   | 0.470         | 2 x 33  | 1000                         | 125                | 1.52                         |
| <b>FN2560-5-04-C00</b> | 5                              | 0.0   | 1.0          | 51   | 0.470         | -       | 1000                         | 130                | 2.65                         |
| <b>FN2560-5-04-C11</b> | 5                              | 0.4   | 1.0          | 51   | 0.470         | 2 x 4.7 | 1000                         | 130                | 2.65                         |
| <b>FN2560-5-04-C16</b> | 5                              | 3.1   | 1.0          | 51   | 0.470         | 2 x 33  | 1000                         | 130                | 2.65                         |
| <b>FN2560-8-04-C00</b> | 8                              | 0.0   | 0.5          | 26   | 0.470         | -       | 1000                         | 135                | 3.45                         |
| <b>FN2560-8-04-C11</b> | 8                              | 0.4   | 0.5          | 26   | 0.470         | 2 x 4.7 | 1000                         | 135                | 3.45                         |
| <b>FN2560-8-04-C16</b> | 8                              | 3.1   | 0.5          | 26   | 0.470         | 2 x 33  | 1000                         | 135                | 3.45                         |

\* Maximum leakage under usual AC operating conditions (acc. IEC 60939-3), calculated at 50Hz. If the neutral line is interrupted, worst case leakage could reach twice this level.

\*\* Tolerances apply: Inductance: -30/+50%, Capacitance: ±20%, Resistance: ±10%

## Performance adaptations available

Series for reduced reactive currents: FN2564

All FN2560 designations can also be ordered without X-capacitor. For example: FN2564-1-04-C00

- Pro: Lower reactive currents P (DC+) and N(DC-)
- Con: Lower differential mode attenuation performance

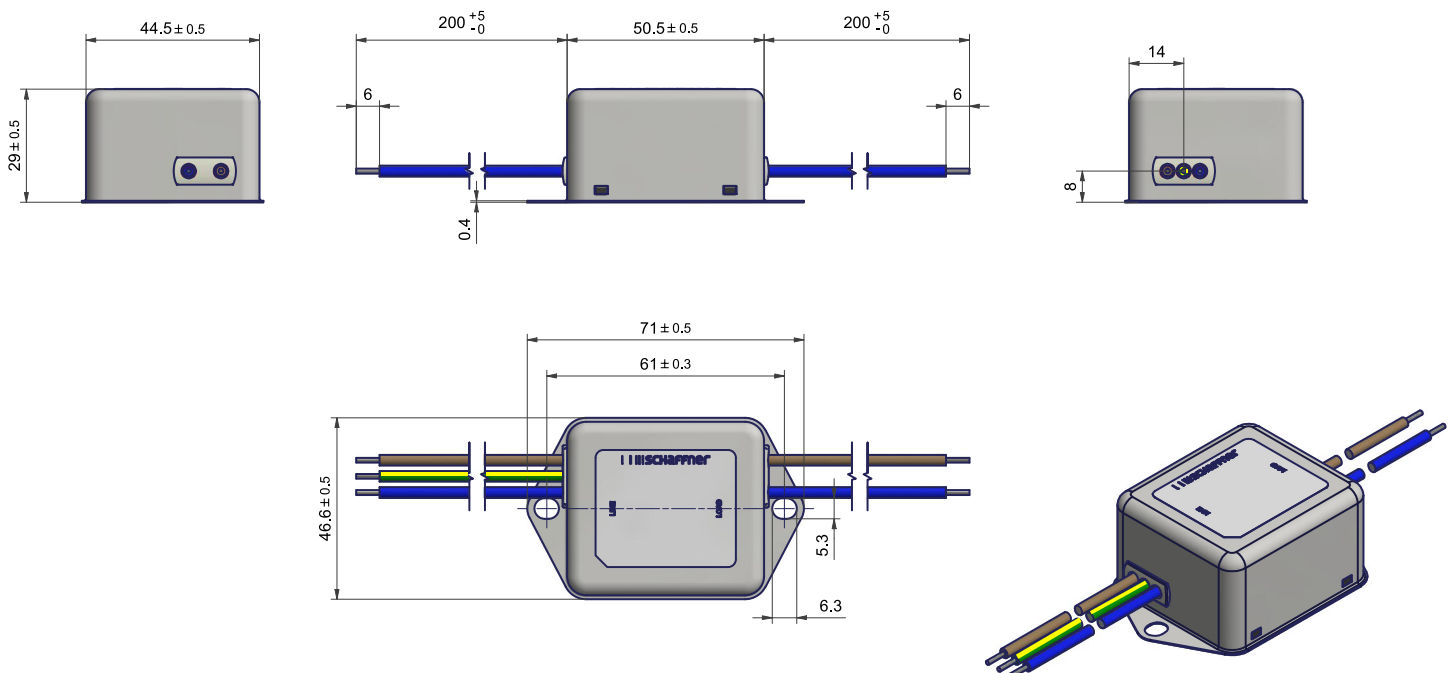
Options with adapted leakage currents (on request)

Additionally to the existing C00, C11 and C16 options, 10 other Y-capacitor options (0.47 - 22 nF) are available.

For FN2560 and FN2564 series

- Pro: Fine adaptation of leakage current between 0.00 mA and 3.11 mA
- Con: -

## Mechanical data



1 A - 5 A: Single strand solid wire 18 AWG

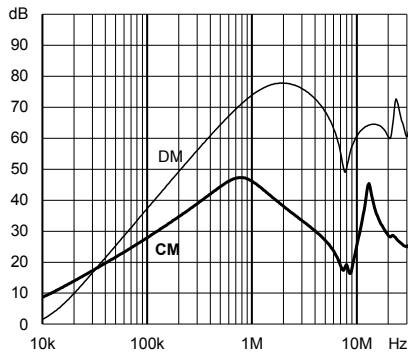
8 A: Single strand solid wire 16 AWG

All dimensions in mm; 1 inch = 25.4 mm Tolerances according: ISO 2768-m/EN 22768-m

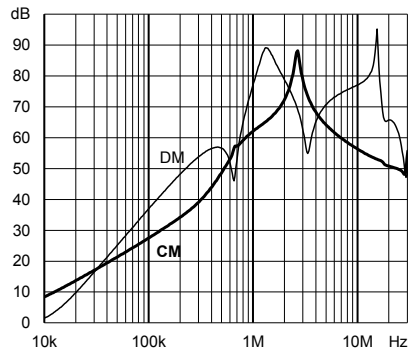
### Typical filter attenuation

Per CISPR 17; DM=50 Ω/50 Ω sym, differential mode; CM=50 Ω/50 Ω asym, common mode

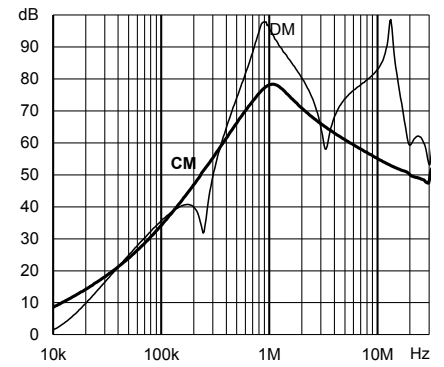
FN2560-1-04-C00 - no Y-Capacitor



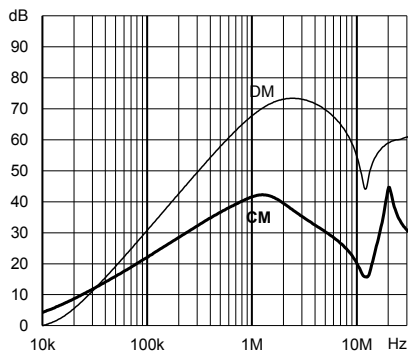
FN2560-1-04-C11 - 2 x 4.7 nF Y-Capacitor



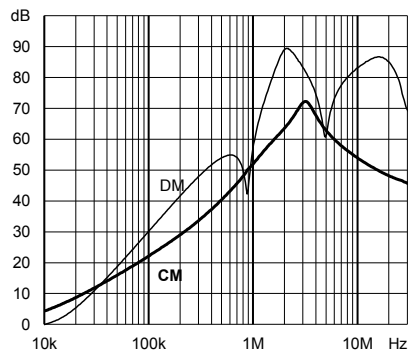
FN2560-1-04-C16 - 2 x 33 nF Y-Capacitor



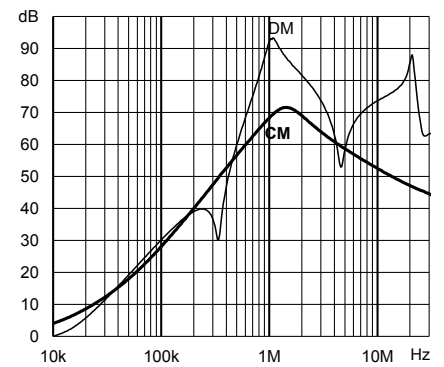
FN2560-2-04-C00 - no Y-Capacitor



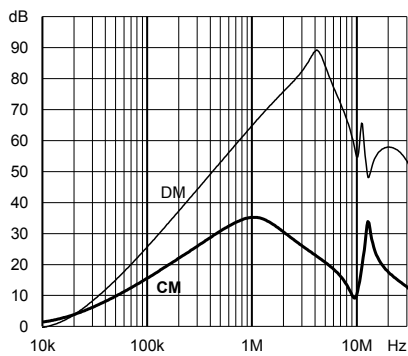
FN2560-2-04-C11 - 2 x 4.7 nF Y-Capacitor



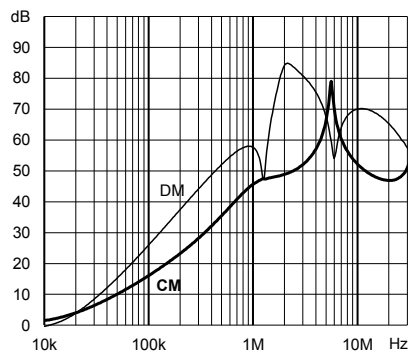
FN2560-2-04-C16 - 2 x 33 nF Y-Capacitor



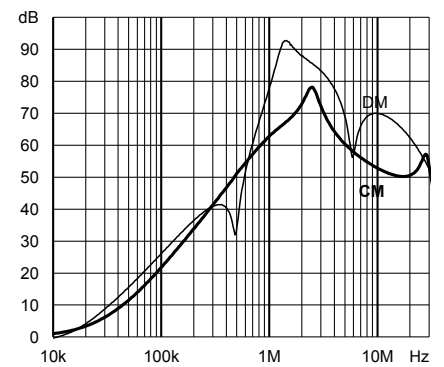
FN2560-5-04-C00 - no Y-Capacitor



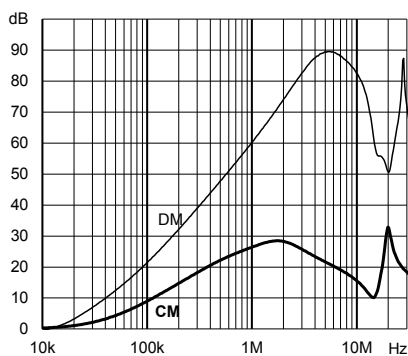
FN2560-5-04-C11 - 2 x 4.7 nF Y-Capacitor



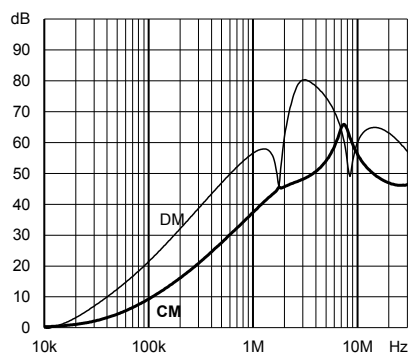
FN2560-5-04-C16 - 2 x 33 nF Y-Capacitor



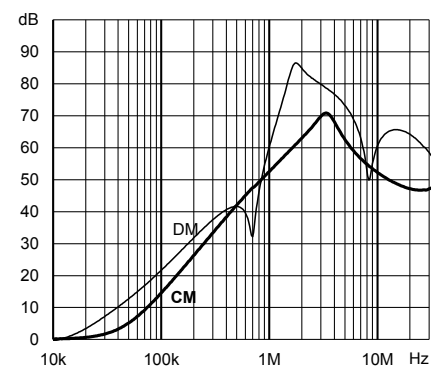
FN2560-8-04-C00 - no Y-Capacitor



FN2560-8-04-C11 - 2 x 4.7 nF Y-Capacitor



FN2560-8-04-C16 - 2 x 33 nF Y-Capacitor





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