

Cost-effective Medium Performance Power Inlet Filter

EEJ Series

Including the EJH/EJHS, EJM/EJMS and EJS Models



**UL Recognized
CSA Certified
VDE Approved***



EEJ Series

- Compact EMI filter with IEC 60320-1 C14 Inlet
- Enhanced two element circuit provides medium attenuation to 30MHz
- Compact and cost-effective design
- Supersedes most ED Series versions
- Includes 20A version with standard IEC 60320-1 C20 inlet
- Several termination styles
- Flanged mounting

EJS Models

- Same performance as the EEJ Series
- Snap-in mounting
- Several termination styles
- Includes 20A version with standard IEC 60320-1 C20 inlet

EJH & EJHS Models

- Minimal leakage current suitable for patient-contact medical applications
- Flanged mounting the same as the EEJ Series
- Also available in snap-in versions (EJHS)
- Two element circuit provides modest EMI attenuation above 1MHz
- Capacitive input (refer to the H Series for capacitive output)
- EJHS models feature snap-in mounting

EJM & EJMS Models

- Low leakage current, suitable for most medical applications
- Improved EMI attenuation up to 200MHz
- Mechanically the same as the EEJ Series with flange or snap-in mounting
- EJMS models feature snap-in mounting

Specifications

Maximum leakage current each Line to Ground:

| | <u>EEJ/EJS</u> | <u>EJH</u> | <u>EJM</u> |
|------------------|----------------|------------|------------|
| @ 120 VAC 60 Hz: | .22 mA | 2 µA | .01 mA |
| @250 VAC 50 Hz: | .38 mA | 5 µA | .017 mA |

Hipot rating (one minute):

| | |
|-----------------|----------|
| Line to Ground: | 2250 VDC |
| Line to Line: | 1450 VDC |

Rated Voltage (max.):

250 VAC

Operating Frequency:

50/60 Hz

Rated Current:

1 to 20A*

Operating Ambient Temperature Range

(at rated current I_r): -10°C to +40°C
In an ambient temperature (T_a) higher than +40°C the maximum operating current (I_o) is calculated as follows: $I_o = I_r \sqrt{(85-T_a)/45}$

Electrical Schematic



Note 1: Not present in EJH versions

**15A versions are tested by Underwriters Laboratories to US and Canadian requirements and are VDE approved at 10A, 250VAC*

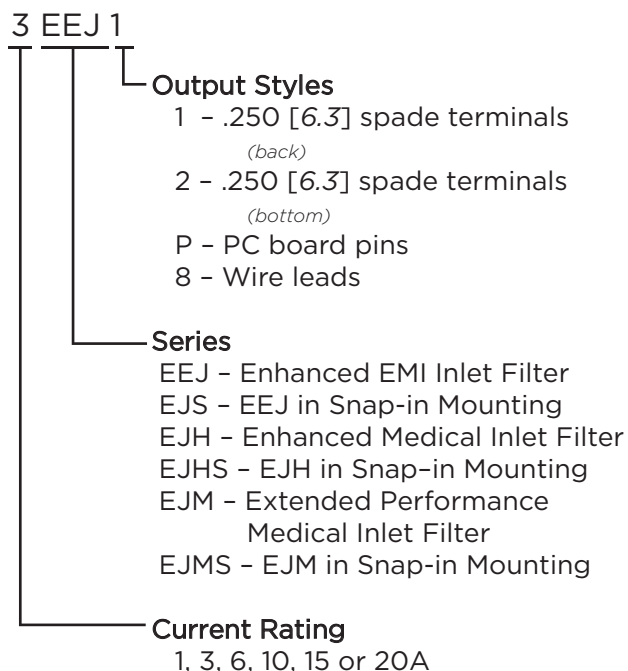
20A versions are tested by Underwriters Laboratories to US and Canadian requirements and are VDE approved at 16A, 250VAC

Cost-effective Medium Performance Power Inlet Filter *(continued)*

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Ordering Information



Accessories

GA400: NEMA 5-15P to IEC 60320-1 C-13 line cord



FA601: Insulating Shroud



Available Part Numbers

| EEJ Models | EJH Models |
|------------|-------------|
| 1EEJ1 | 1EJH1 |
| 1EEJ2 | 1EJH2 |
| 1EEJP | 1EJHP |
| 1EEJ8 | 1EJH8 |
| 3EEJ1 | 3EJH1 |
| 3EEJ2 | 3EJH2 |
| 3EEJP | 3EJHP |
| 3EEJ8 | 3EJH8 |
| 6EEJ1 | 6EJH1 |
| 6EEJ2 | 6EJH2 |
| 6EEJP | 6EJHP |
| 6EEJ8 | 6EJH8 |
| 10EEJ1 | 10EJH1 |
| 10EEJ2 | 10EJH2 |
| 10EEJP | 10EJHP |
| 10EEJ8 | 10EJH8 |
| 15EEJ1 | 15EJH1 |
| 15EEJ2 | 15EJH2 |
| 15EEJP | 15EJHP |
| 15EEJ8 | 15EJH8 |
| 20EEJ1 | 20EJH1 |
| 20EEJ8 | 20EJH8 |
| EJS Models | EJHS Models |
| 1EJS1 | 1EJHS1 |
| 1EJS8 | 1EJHS8 |
| 3EJS1 | 3EJHS1 |
| 3EJS8 | 3EJHS8 |
| 6EJS1 | 6EJHS1 |
| 6EJS8 | 6EJHS8 |
| 10EJS1 | 10EJHS1 |
| 10EJS8 | 10EJHS8 |
| 15EJS1 | 15EJHS1 |
| 15EJS8 | 15EJHS8 |
| 20EJS1 | |
| 20EJS8 | |
| EJM Models | EJMS Models |
| 1EJM1 | 1EJMS1 |
| 1EJM8 | 1EJMS8 |
| 3EJM1 | 3EJMS1 |
| 3EJM8 | 3EJMS8 |
| 6EJM1 | 6EJMS1 |
| 6EJM8 | 6EJMS8 |
| 10EJM1 | 10EJMS1 |
| 10EJM8 | 10EJMS8 |
| 15EJM1 | 15EJMS1 |
| 15EJM8 | 15EJMS8 |

Cost-effective Medium Performance Power Inlet Filter *(continued)*

EEJ Series

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Case Styles

EEJ1, EJH1 & EJM1 (1-15A)



Typical Dimensions:
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw
 Line Inlet (1): IEC 60320-1 C14
 Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

EEJ2 & EJH2 (1-15A)



Typical Dimensions:
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw
 Line Inlet (1): IEC 60320-1 C14
 Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

EEJP & EJHP (1-15A)



Typical Dimensions:
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw
 Line Inlet (1): IEC 60320-1 C14
 PC board pins (3): .031 [.07] square, ± .003 [.07]

EJS1, EJHS1 & EJMS1 (1-15A)



Typical Dimensions:
 Line Inlet (1): IEC 60320-1 C14
 Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

EEJ8, EJH8 & EJM8 (1-15A)



Typical Dimensions:
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw
 Line Inlet (1): IEC 60320-1 C14
 Wire Leads: 4.0 [101.6] Min., 18AWG, UL1015

EJS8, EJHS8 & EJMS8 (1-15A)



Typical Dimensions:
 Line Inlet (1): IEC 60320-1 C14
 Wire Leads: 4.0 [101.6] Min., 18AWG, UL1015

20EEJ1 & 20EJH1



Typical Dimensions:
 Mounting holes (2): .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw
 Line Inlet (1): IEC 60320-1 C20
 Load Terminals (2): .250 [6.3] with .07 [1.8] Dia. hole
 Ground Terminal (1): .250 [6.3] with .07 x .16 [1.8 x 3.8] slot

Cost-effective Medium Performance Power Inlet Filter *(continued)*

EEJ Series

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Case Styles *(continued)*

20EJS1



Typical Dimensions:

| | |
|----------------------|--|
| Line Inlet (1): | IEC 60320-1 C20 |
| Load Terminals (2): | .250 [6.3] with .07 [1.8] Dia. hole |
| Ground Terminal (1): | .250 [6.3] with .07 x .16 [1.8 x 3.8] slot |

20EEJ8 & 20EJH8



Typical Dimensions:

| | |
|---------------------|--|
| Mounting holes (2): | .132 [3.35] Dia. with .236 [5.99] Dia. x 90° countersink for #4 flathead screw |
| Line Inlet (1): | IEC 60320-1 C20 |
| Wire Leads: | 4.0 [101.6] Min., 14AWG, UL1015 |

20EJS8



Typical Dimensions:

| | |
|-----------------|---------------------------------|
| Line Inlet (1): | IEC 60320-1 C20 |
| Wire Leads: | 4.0 [101.6] Min., 14AWG, UL1015 |

Recommended Panel Cutouts

1 to 15A EEJ, EJH & EJM



Tolerances ± .005 [0.13] unless otherwise noted

- Note 1: EEJ/EJH/EJM1 and EEJ/EJH/EJM8 can be front or back mounted
 Note 2: EEJ/EJH2 and EEJ/EJH4 can be back mounted only

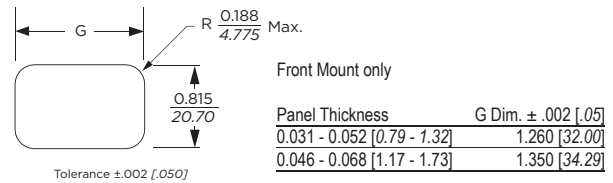
20A EEJ & EJH



Tolerances ± .005 [0.13] unless otherwise noted

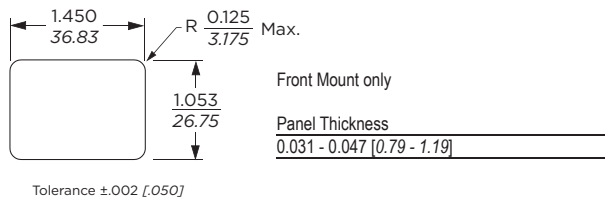
- Note 1: 20EEJ/EJH1 and 20EEJ/EJH8 can be front or back mounted

1 to 15A EJHS, EJMS & EJS



Alternate snap configurations to fit other cut-out sizes also available.
 Contact TE's Corcom product engineering group for more details.

20A EJS



PC Board Layout



Cost-effective Medium Performance Power Inlet Filter *(continued)*

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Case Dimensions

| Part No. | A (max.) | B (max.) | C (max.) | D ± 0.15 $\pm .38$ | E (max.) | F (ref.) |
|----------------|--------------|--------------|--------------|------------------------------|--------------|--------------|
| EEJ1, EJH1 | 2.15 | 1.13 | 0.96 | 1.580 | 2.04 | - |
| | <i>54.61</i> | <i>28.70</i> | <i>24.38</i> | <i>40.00</i> | <i>51.76</i> | |
| EJM1 | 2.02 | 1.13 | 0.96 | 1.58 | 2.04 | - |
| | <i>51.3</i> | <i>28.7</i> | <i>24.4</i> | <i>40.00</i> | <i>51.8</i> | |
| 1-10A | 1.54 | 1.13 | 0.96 | 1.580 | 2.04 | - |
| EEJ2, EJH2 | 39.12 | 28.70 | 24.38 | 40.00 | 51.76 | - |
| 15A | 1.79 | 1.13 | 0.96 | 1.580 | 2.04 | - |
| EEJ2, EJH2 | 45.47 | 28.70 | 24.38 | 40.00 | 51.76 | - |
| 1-10A | 1.54 | 1.13 | 0.96 | 1.580 | 2.04 | - |
| EEJP, EJHP | 39.12 | 28.70 | 24.38 | 40.00 | 51.76 | - |
| 15A | 1.79 | 1.13 | 0.96 | 1.580 | 2.04 | - |
| EEJP, EJHP | 45.47 | 28.70 | 24.38 | 40.00 | 51.76 | - |
| EJS1, EJHS1 | 2.20 | 1.13 | 0.96 | 1.19 | 1.41 | - |
| | <i>55.88</i> | <i>28.70</i> | <i>24.38</i> | <i>30.10</i> | <i>35.81</i> | |
| EJMS1 | 2.02 | 1.13 | 0.96 | - | 1.41 | - |
| | <i>51.3</i> | <i>28.7</i> | <i>24.4</i> | | <i>35.8</i> | |
| EEJ8, EJH8 | 1.54 | 1.13 | 0.81 | 1.58 | 2.04 | - |
| | <i>39.12</i> | <i>28.70</i> | <i>20.70</i> | <i>40.00</i> | <i>51.76</i> | |
| EJM8 | 1.50 | 1.13 | 0.81 | 1.58 | 2.04 | - |
| | <i>38.1</i> | <i>28.7</i> | <i>20.7</i> | <i>40.00</i> | <i>51.8</i> | |
| EJS8, EJHS8 | 1.54 | 1.13 | 0.81 | 1.19 | 1.41 | - |
| | <i>39.12</i> | <i>28.70</i> | <i>20.70</i> | <i>30.10</i> | <i>35.81</i> | |
| EJMS8 | 1.50 | 1.13 | 0.96 | - | 1.41 | - |
| | <i>38.1</i> | <i>28.7</i> | <i>24.4</i> | | <i>35.8</i> | |
| 20EEJ1, 20EJH1 | 3.13 | 1.37 | 1.18 | 1.65 | 2.09 | - |
| | <i>79.38</i> | <i>34.79</i> | <i>29.99</i> | <i>42.01</i> | <i>53.00</i> | |
| 20EJS1 | 3.13 | 1.35 | 1.18 | 1.42 | 1.46 | - |
| | <i>79.38</i> | <i>34.29</i> | <i>29.99</i> | <i>36.07</i> | <i>37.08</i> | |
| 20EEJ8, 20EJH8 | 2.65 | 1.35 | 1.18 | 1.65 | 2.09 | .62 |
| | <i>67.31</i> | <i>34.29</i> | <i>29.99</i> | <i>42.01</i> | <i>53.00</i> | <i>15.75</i> |
| 20EJS8 | 2.63 | 1.35 | 1.18 | 1.46 | 1.42 | .62 |
| | <i>66.80</i> | <i>34.29</i> | <i>29.97</i> | <i>37.08</i> | <i>36.08</i> | <i>15.75</i> |



Performance Data

Typical Insertion Loss

Measured in closed 50 Ohm system

EEJ & EJS Models

1A



3A



6A



10A



15A



20A



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

Cost-effective Medium Performance Power Inlet Filter *(continued)*

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Including the EJH/EJHS, EJM/EJMS and EJS Models

Performance Data *(continued)*

Typical Insertion Loss

Measured in closed 50 Ohm system

EJH & EJHS Models

1A



3A



6A



10A



15A



20A



EJM & EJMS Models

1A



3A



6A



10A



15A



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

Cost-effective Medium Performance Power Inlet Filter *(continued)*

EEJ Series

Including the EJH/EJHS, EJM/EJMS and EJS Models

Minimum Insertion Loss

Measured in closed 50 Ohm system

Common Mode / Asymmetrical (Line to Ground)

| Current Rating | Frequency – MHz | | | | | | | | |
|-------------------------|-----------------|-----|----|-----|----|----|----|----|----|
| | .01 | .05 | .1 | .15 | .5 | 1 | 5 | 10 | 30 |
| EEJ / EJS Models | | | | | | | | | |
| 1A | 15 | 27 | 29 | 32 | 41 | 47 | 47 | 47 | 40 |
| 3A | - | 10 | 15 | 20 | 30 | 39 | 48 | 50 | 60 |
| 6A | - | 1 | 5 | 9 | 21 | 28 | 41 | 44 | 54 |
| 10A | - | 1 | 4 | 7 | 14 | 18 | 31 | 36 | 51 |
| 15A | - | - | - | 2 | 5 | 8 | 21 | 26 | 42 |
| 20A | - | - | 3 | 5 | 14 | 21 | 30 | 33 | 42 |
| EJH Models | | | | | | | | | |
| 1A | 13 | 26 | 33 | 36 | 41 | 41 | 31 | 26 | 18 |
| 3A | - | 9 | 15 | 19 | 27 | 31 | 30 | 26 | 20 |
| 6A | - | 2 | 6 | 9 | 20 | 22 | 31 | 20 | 18 |
| 10A | - | 1 | 4 | 7 | 12 | 17 | 19 | 18 | 18 |
| 15A | - | - | 1 | 2 | 3 | 3 | 4 | 2 | 2 |
| 20A | - | - | 3 | 5 | 14 | 16 | 12 | 11 | 11 |

Differential Mode / Symmetrical (Line to Line)

| Current Rating | Frequency – MHz | | | | | | | | | | |
|-------------------------|-----------------|-----|----|-----|----|----|----|----|----|-----|-----|
| | .01 | .05 | .1 | .15 | .5 | 1 | 5 | 10 | 30 | EEJ | EJS |
| EEJ / EJS Models | | | | | | | | | | | |
| 1A | - | - | 5 | 8 | 19 | 27 | 45 | 43 | 40 | 9 | |
| 3A | - | - | 5 | 8 | 17 | 20 | 39 | 42 | 40 | 11 | |
| 6A | - | - | 5 | 8 | 17 | 21 | 32 | 40 | 40 | 16 | |
| 10A | - | - | 5 | 8 | 17 | 21 | 23 | 36 | 38 | 16 | |
| 15A | - | - | 5 | 8 | 17 | 23 | 33 | 30 | 38 | 11 | |
| 20A | - | - | 5 | 2 | 17 | 25 | 38 | 48 | 48 | 48 | |
| EJH Models | | | | | | | | | | | |
| 1A | 13 | 26 | 33 | 36 | 41 | 41 | 31 | 26 | 18 | | |
| 3A | - | 9 | 15 | 19 | 27 | 31 | 30 | 26 | 20 | | |
| 6A | - | 2 | 6 | 9 | 20 | 22 | 31 | 20 | 18 | | |
| 10A | - | 1 | 4 | 7 | 12 | 17 | 19 | 18 | 18 | | |
| 15A | - | - | 1 | 2 | 3 | 3 | 4 | 2 | 2 | | |
| 20A | - | - | 3 | 5 | 14 | 16 | 12 | 11 | 11 | | |

EJM & EJMS Models

| Current Rating | Frequency – MHz | | | | | | | | |
|----------------|-----------------|----|----|----|----|----|----|-----|-----|
| | .05 | .5 | 1 | 10 | 20 | 30 | 80 | 150 | 200 |
| 1A | 25 | 41 | 37 | 18 | 15 | 13 | 15 | 14 | 7 |
| 3A | 6 | 27 | 30 | 21 | 19 | 19 | 23 | 13 | 7 |
| 6A | 2 | 17 | 20 | 17 | 17 | 14 | 23 | 13 | 7 |
| 10A | 1.5 | 11 | 12 | 9 | 8 | 9 | 20 | 19 | 12 |
| 15A | 0.5 | 2 | 3 | 4 | 2 | 10 | 12 | 17 | 11 |

| Current Rating | Frequency – MHz | | | | | | | | |
|----------------|-----------------|----|----|----|----|----|----|-----|-----|
| | .05 | .5 | 1 | 10 | 20 | 30 | 80 | 150 | 200 |
| 1A | 1.5 | 21 | 28 | 34 | 36 | 29 | 27 | 34 | 28 |
| 3A | 1.5 | 17 | 23 | 29 | 31 | 37 | 33 | 32 | 28 |
| 6A | 1.5 | 16 | 22 | 28 | 29 | 34 | 37 | 37 | 32 |
| 10A | 2 | 16 | 22 | 28 | 24 | 18 | 27 | 32 | 30 |
| 15A | 1.5 | 17 | 23 | 35 | 34 | 29 | 27 | 29 | 25 |

