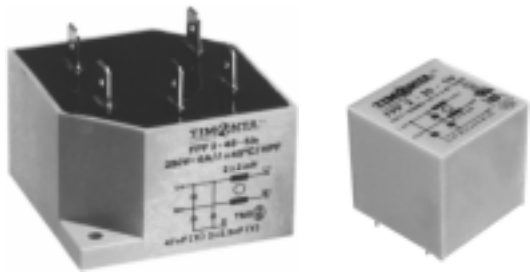
# EMC-Power Line Filters

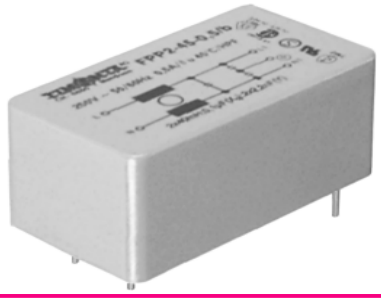
**FP Series, industrial-mains-filters to Protection Class I, in plastic case, conform to EN 133200, UL 1283 and IEC 60950**

| | |
|---|---|
| **Nominal current:** | **0.5 - 25 A @ ϑa 40°C** |
| **Rated voltage $U_R$ ($U_{max}$):** | **250 VAC 50/60 Hz *** |
| **Attenuation:** | **Standard** |
| **Leakage current:** | **for Standard applications** |
| **Test voltages: *** | **L/N → E 2.7 kVDC, 2 sec**<br>**L → N 1.7 kVDC, 2 sec** |
| **Climatic category:** | **25/085/21 to IEC 60068-1** |
| **50% saturation typ.:** | **2 to 3 x $I_N$ @ 20°C** |
| **Inrush current:** | **1.5 x $I_N$ 1 min. per hour** |
| **MTBF @ 40°C / $U_R$ ($U_{max}$):** | **> 200'000 h acc. to MIL-HB-217 F** |
| **Plastic case:** | **UL 94 V-0** |
| **Potting resin:** | **UL 94 V-0** |

* for FPD4... see "filter for 3-phase systems"

Approvals obtained or pending: SEV CCA-NTR EN 133200 VDE





**Interference suppression filter in plastic housing are low-priced suppressors, active over a large frequency range.**

A large program of various filter types with regard to nominal voltage, rated current, number of phases and type of connection is available. They are all in accordance with the international prescriptions of the radio interference filters like e.g. EN 133200.

Thanks to the simple construction, the plastic filters either with solder pins as PCB version or with faston respectively wire-connection as mounting-version, are mainly suitable for later installation in case of interference.

Provided that the right type of filter is selected, a double-faced effect can be achieved, namely from the apparatus outwards as noise suppression filter and in the other direction as power-transient-protective-filter.

**2 lines are available:**
- square type
- flat type

## Codes

**FPP 2-40 - 3 / a**

- Filter
- Plastic case
- P printed circuit
- F faston
- D wire connection
- version
- nominal $I_N$
- size of case
- lines

## Technical Data

| | Type | $I_N$ (1) @ ϑa 40°C [A] | $U_R$ ($U_{max}$) [V] | $L_N$ (2) -30% / +50% [mH] | Leakage curr. (3) @ 250 V/50 Hz [mA] | Co/C2(X2) [µF] | C1(Y2) [nF] | Circuit diagram | Case |
|---|---|---|---|---|---|---|---|---|---|
| SQUARE | FPP2-25-0.6/a | 0.6 | 250 | 2 x 40 | < 0.25 | 0.015 | 2.2 | S1 | 13P |
| | FPP2-25-1/a | 1 | 250 | 2 x 10 | < 0.25 | 0.015 | 2.2 | S1 | 13P |
| | FPP2-25-2/a | 2 | 250 | 2 x 4 | < 0.25 | 0.015 | 2.2 | S1 | 13P |
| | FPP2-30-0.7/a | 0.7 | 250 | 2 x 40 | < 0.25 | 0.015 | 2.2 | S1 | 18P |
| | FPP2-30-1/a | 1 | 250 | 2 x 20 | < 0.25 | 0.022 | 2.2 | S1 | 18P |
| | FPP2-30-2/a | 2 | 250 | 2 x 6 | < 0.25 | 0.022 | 2.2 | S1 | 18P |
| | FPP2-30-3/a | 3 | 250 | 2 x 3 | < 0.25 | 0.022 | 2.2 | S1 | 18P |
| | FPP2-40-1/a | 1 | 250 | 2 x 30 | < 0.25 | 0.047 | 2.2 | S1 | 24P |
| | FPP2-40-3/a | 3 | 250 | 2 x 4 | < 0.25 | 0.047 | 2.2 | S1 | 24P |
| | FPF2-48-1.5/a | 1.5 | 250 | 2 x 20 | < 0.25 | 0.047 | 2.2 | S1 | 29P |
| | FPF2-48-6/a | 6 | 250 | 2 x 3 | < 0.25 | 0.047 | 2.2 | S1 | 29P |
| | FPD4-120-25/a | 25 | 250/440 | 4 x 2.5 | _ | 0.47 | _ | S4 | 34P |
| FLAT | FPP2-45-0.5/b | 0.5 | 250 | 2 x 40 | < 0.25 | 0.1 | 2.2 | S2 | 27P |
| | FPP2-45-1.0/b | 1.0 | 250 | 2 x 10 | < 0.25 | 0.1 | 2.2 | S2 | 27P |
| | FPP2-45-1.6/b | 1.6 | 250 | 2 x 6 | < 0.25 | 0.1 | 2.2 | S2 | 27P |
| | FPP2-45-2.5/b | 2.5 | 250 | 2 x 2 | < 0.25 | 0.1 | 2.2 | S2 | 27P |
| | FPP2-45-4.0/b | 4.0 | 250 | 2 x 1 | < 0.25 | 0.1 | 2.2 | S2 | 27P |
| | FPP2-45-6.5/b | 6.5 | 250 | 2 x 1 | < 0.25 | 0.1 | 2.2 | S2 | 27P |
| | FPP2-45-0.8/a | 0.8 | 250 | 2 x 20 | < 0.25 | 0.068/0.015 | 2.2 | S3 | 27-1P |

(1) Current derating over 40°C : $I = I_N \times \sqrt{(85-\vartheta a)/45}$

(2) Nominal inductance measured according to EN 138100, see introduction of this catalog, paragraph 3.4

(3) Measured according to IEC 60950 5.2.3 Annex D, see introduction of this catalog, paragraph 3.5