IEC inlet filters
FN 380

Versatile filtered power entry module

energy efficiency and reliability

- **Rated currents up to 6A**
- **Single or dual-fuse holder**
- **Fuses Ø6.3 x 32mm or Ø5 x 20mm**
- **2-pole rocker switch**
- **General purpose application**
- **Optional medical versions (B type)**

Approvals

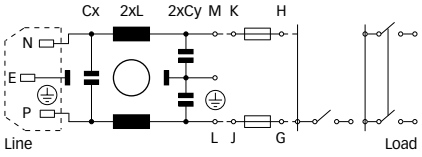
RoHS 2002/95/EC

Technical specifications

Maximum continuous operating voltage:	250VAC, 50/60Hz
Operating frequency:	50 to 400Hz
Rated currents:	2 to 6A @ 40°C max.
High potential test voltage:	P –> E 2000VAC for 2 sec (standard types)
	P –> E 2500VAC for 2 sec (B types)
	P –> N 760VAC for 2 sec
Protection category:	IP40 according to IEC 60529
Temperature range (operation and storage):	-25°C to +85°C (25/85/21)
Design corresponding to:	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
Flammability corresponding to:	UL 94V-2 or better
MTBF @ 40°C/230V (Mil-HB-217F):	550,000 hours
Rocker switch description:	
Function:	2-pole, dark not illuminated
	Marking I - 0
Electrical specifications:	Inrush current 51A
	6,000 on-off operations according to UL 1054, TV 5
	10,000 on-off operations according to ENEC
Mechanical life:	50,000 cycles
Switch ratings:	
USA (UL):	6A, 125VAC; 4A, 250VAC; 1/10HP
Canada (CSA):	6A, 125VAC; 4A, 250VAC; 1/10HP
Europe (ENEC):	6A (4A), 250VAC*

* Value in () relates to the inductive current charge: cos γ = 0.65

Typical electrical schematic



The FN 380 power entry module combines an IEC inlet, a mains filter with asingle or dual-fuse holder and a 2-pole rocker switch. Choosing FN 380 product line brings you the rapid availability of a standard filter associated with the necessary safety acceptances. Standard IEC connector filters are a practical solution helping you to pass EMI system approval in a short time. A wide selection on amperage ratings, fuse options, mounting possibilities and filters for medical applications are designed to offer you the desired solution.

Features and benefits

- Good conducted attenuation performance, based on chokes with high saturation resistance and excellent thermal behavior.
- Rear/front or snap-in mounting.
- Single or dual-fuse holder.
- USA Ø6.3 x 32mm or EU Ø5 x 20mm fuses.
- 2-pole rocker switch.
- Voltage selector 110-120V / 220-240V.
- Custom-specific versions are available on request.

Typical applications

- Portable electrical and electronic equipment
- Consumer goods
- EDP and office equipment
- Single-phase power supplies, switch-mode power supplies
- Test and measurement equipment
- Medical equipment

Filter selection table

Filter*	Rated current @ 40°C (25°C) [A]	Leakage current** @ 230VAC/50Hz [µA]	Inductance L [mH]	Capacitance Cx [nF]	Capacitance Cy [nF]	Resistance R [kΩ]	Output connections	Fuses*** [Qty]	Weight [g]
FN 380-2-2.	2 (2.4)	373	0.70	47	2.2		13	1	55
FN 380-4-2.	4 (4.8)	373	0.30	47	2.2		13	1	55
FN 380-6-2.	6 (7.2)	373	0.18	47	2.2		13	1	55
FN 382-2-2.	2 (2.4)	373	0.70	47	2.2		13	2	55
FN 382-4-2.	4 (4.8)	373	0.30	47	2.2		13	2	55
FN 382-6-2.	6 (7.2)	373	0.18	47	2.2		13	2	55
FN 385-2-2.	2 (2.4)	373	2.00	47	2.2		13	2	65
FN 385-4-2.	4 (4.8)	373	0.80	47	2.2		13	2	65
FN 385-6-2.	6 (7.2)	373	0.50	47	2.2		13	2	65
FN 388-2-2.	2 (2.4)	373	0.70	47	2.2		13	2	60
FN 388-4-2.	4 (4.8)	373	0.30	47	2.2		13	2	60
FN 388-6-2.	6 (7.2)	373	0.18	47	2.2		13	2	60
FN 389-2-2.	2 (2.4)	373	2.00	47	2.2		13	2	70
FN 389-4-2.	4 (4.8)	373	0.80	47	2.2		13	2	70
FN 389-6-2.	6 (7.2)	373	0.50	47	2.2		13	2	70
FN 382B-2-2.	2 (2.4)	2	0.70	47		1000	13	2	55
FN 382B-4-2.	4 (4.8)	2	0.30	47		1000	13	2	55
FN 382B-6-2.	6 (7.2)	2	0.18	47		1000	13	2	55
FN 389B-2-2.	2 (2.4)	2	2.00	47		1000	13	2	70
FN 389B-4-2.	4 (4.8)	2	0.80	47		1000	13	2	70
FN 389B-6-2.	6 (7.2)	2	0.50	47		1000	13	2	70

* Select the requested fuse holder for fuse EUR-1 or USA-1.

** Maximum leakage under normal operating conditions. Note: if the neutral line is interrupted, worst case leakage could reach twice this level.

*** Filters are delivered without fuse.

Product selector

FN 38xx-y-zz

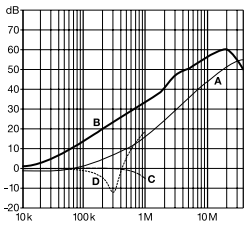
- 1: Fuse Ø5 x 20mm (FUSE-H EUR-1)
- 2: Fuse Ø6.3 x 32mm (FUSE-H USA-1)
- 2: Rocker switch, 2-pole, dark not illuminated
- 2 to 6: Rated current
- Blank: Standard version
- B: Medical version (with bleed resistor and without Y2-capacitor)
- 0: Snap-in version, single-fuse, standard performance
- 2: Snap-in version, dual-fuse, standard performance
- 5: Snap-in version, dual-fuse, high performance
- 8: Flange mounting version, dual-fuse, standard performance
- 9: Flange mounting version, dual-fuse, high performance

For example: FN 380-6-21, FN 388-4-22, FN 389B-2-21

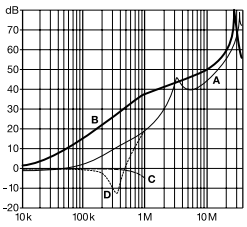
Typical filter attenuation

Per CISPR 17; A = 50Ω/50Ω sym; B = 50Ω/50Ω asym; C = 0.1Ω/100Ω sym; D = 100Ω/0.1Ω sym

FN 380 / FN 382 / FN 388

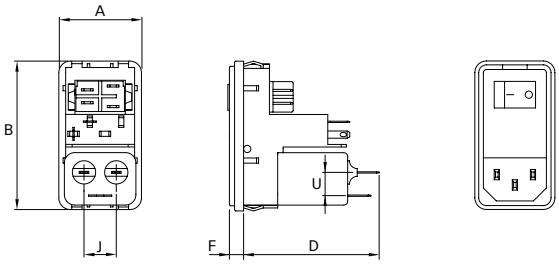


FN 385 / FN 389

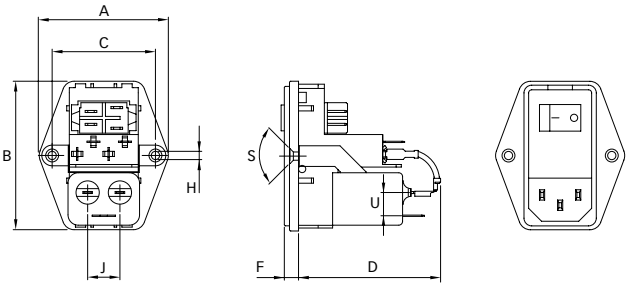


Mechanical data

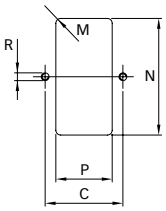
FN 380 / FN 382 / FN 385



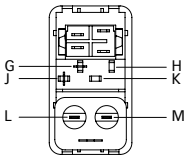
FN 388 / FN 389



Panel cut out



Connection designation



Dimensions

	FN 380	FN 382	FN 385	FN 388	FN 389	Tolerances
A	32	32	32	50	50	±0.3
B	58	58	58	58	58	±0.3
C				40	40	±0.1
D	51	51	61	51	61	
F	5.5	5.5	5.5	5.5	5.5	
H				Ø3.3	Ø3.3	
J	12.5	12.5	12.5	12.5	12.5	
M	R ≤ 2	R ≤ 2	R ≤ 2	R ≤ 2	R ≤ 2	±0.1
N	55.9*/56.2**	55.9*/56.2**	55.9*/56.2**	55.9*/56.2**	55.9*/56.2**	+0.2/-0
P	28.5	28.5	28.5	28.5	28.5	+0.2/-0
R				M3	M3	
S				90°	90°	
U	9	9	9	9	9	

* For a back panel thickness between 0.8 and 2.0mm

** For a back panel thickness between 2.1 and 3.2mm

All dimensions in mm; 1 inch = 25.4mm

Tolerances according: ISO 2768-m / EN 22768-m