

# High-current EMC/RFI Filter



- Off-the-shelf high power filter for rated currents up to 2500 A
- HV versions designed for 690 VAC IT power networks
- Busbars for convenient and universal electrical connection
- Protective plastic covers optionally available for unsurpassed safety

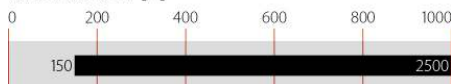


### Performance indicators

Attenuation performance



Rated current [A]



### Approvals



(600 VAC)

### Features and benefits

- High-power filter for Class A compliance. With approval measurement also Class B compliance possible for some applications
- Extremely compact high-current filter solution with minimum space requirement
- FN 3359HV versions for 690 VAC are also designed for use in IT power networks
- All filters 320 A and above are suitable for regenerative motor drive system (with a suitable line reactor)
- Optionally available transparent protective covers for all filters up to 1000 A, to protect the installer, operator or inspector from undeliberate touching of life conductors. They can easily be retrofitted even if the filter is already installed and connected
- FN 3359 also improves conducted immunity of installations

## Technical specifications

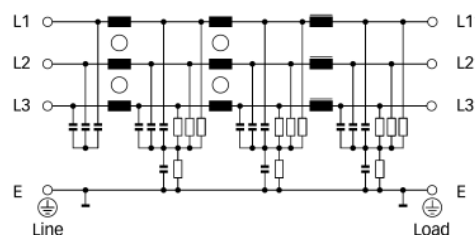
<b>Design corresponding to</b>	UL 1283, CSA 22.2 No. 8 1986, IEC/EN 60939
<b>Flammability corresponding to</b>	UL 94 V-2 or better
<b>High potential test voltage</b>	P → E 2700 VDC for 2 sec (FN 3359) P → P 3000 VDC for 2 sec (FN 3359 HV) P → E 3100 VDC for 2 sec (FN 3359 HV) P → E 2150 VDC for 2 sec (FN 3359)
<b>Maximum continuous operating voltage</b>	3x 520/300 VAC (FN 3359) 3x 690/400 VAC (FN 3359 HV)
<b>MTBF @ 45°C/480V (Mil-HB-217F)</b>	130,000 hours
<b>Operating frequency</b>	dc to 60 Hz
<b>Overload capability</b>	4x rated current at switch on, 1.5x rated current for 1 minute, once per hour
<b>Protection category</b>	IP00
<b>Rated currents</b>	150 to 2500 A @ 50 °C max
<b>Temperature range (operation and storage)</b>	-25 °C to +100 °C (25/100/21)

## Typical applications

- High-power motor drives, inverters and converters
- Industrial three-phase systems
- Entire factories, plants and installations
- Large UPS
- Machinery
- Mining equipment
- Photovoltaic systems with galvanic isolation\*
- Wind turbines



\* For EMI solutions for PV system without galvanic isolation, please contact your local Schaffner partner.

### Typical electrical schematic



Note: HV versions without discharge resistor to ground.

## Filter selection table

Filter	Rated current @ 50 °C (40 °C)	Typical drive power rating*	Leakage current** @ 480 VAC/50 Hz	Power loss @ 25 °C/50 Hz	Input/Output connections		Weight	Protective covers***
	[A]	[kW]	[mA]	[W]			[kg]	Order code
FN 3359-150-28	150 (164)	75	<6	24	-28		6.5	801917
FN 3359-180-28	180 (197)	90	<6	34	-28		6.5	801917
FN 3359-250-28	250 (250)	132	<6	49	-28		7.0	801918
FN 3359-320-99	320 (350)	160	<6	19		-99	10.5	801919
FN 3359-400-99	400 (438)	220	<6	29		-99	10.5	801919
FN 3359-600-99	600 (657)	315	<6	44		-99	11.0	801920
FN 3359-800-99	800 (876)	400	<6	39		-99	18.0	806276
FN 3359-1000-99	1000 (1095)	560	<6	60		-99	18.0	806276
FN 3359-1600-99	1600 (1600)	900	<6	131		-99	27.0	n.a.
FN 3359-2500-99	2500 (2500)	1320	<6	300		-99	55.0	n.a.
FN 3359HV-150-28	150 (164)	110	<6	24	-28		6.5	801917
FN 3359HV-180-28	180 (197)	132	<6	34	-28		6.5	801917
FN 3359HV-250-28	250 (250)	200	<6	49	-28		7.0	801918
FN 3359HV-320-99	320 (350)	250	<6	19		-99	10.5	801919
FN 3359HV-400-99	400 (438)	315	<6	29		-99	10.5	801919
FN 3359HV-600-99	600 (657)	500	<6	44		-99	11.0	801920
FN 3359HV-800-99	800 (876)	630	<6	39		-99	18.0	806276
FN 3359HV-1000-99	1000 (1095)	710	<6	60		-99	18.0	806276
FN 3359HV-1600-99	1600 (1600)	1320	<6	131		-99	27.0	n.a.
FN 3359HV-2500-99	2500 (2500)	2000	<6	300		-99	67.0	n.a.

\* Calculated at rated current, 480 VAC (FN 3359) / 690 VAC (FN 3359 HV) and  $\cos \phi = 0.8$ . The exact value depends upon the efficiency of the drive, the motor and the entire application.

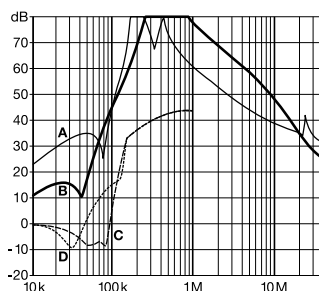
\*\* Maximum leakage under normal operating conditions. Note: if two phases are interrupted, worst case leakage could be much higher than the value shown.

\*\*\* Please contact your local Schaffner partner to order the optional protective covers with the order code in the table above (n.a.: not available)

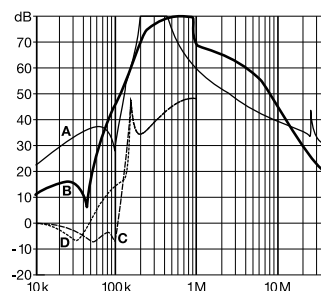
## Typical filter attenuation

Per CISPR 17; A = 50  $\Omega$ /50  $\Omega$  sym; B = 50  $\Omega$ /50  $\Omega$  asym; C = 0.1  $\Omega$ /100  $\Omega$  sym; D = 100  $\Omega$ /0.1  $\Omega$  sym

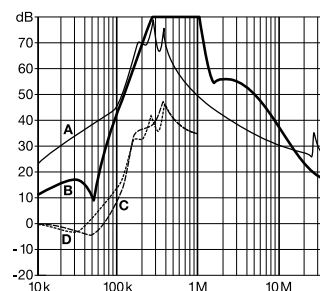
150 to 180 A types



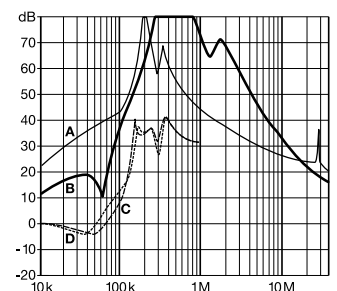
250 to 600 A types



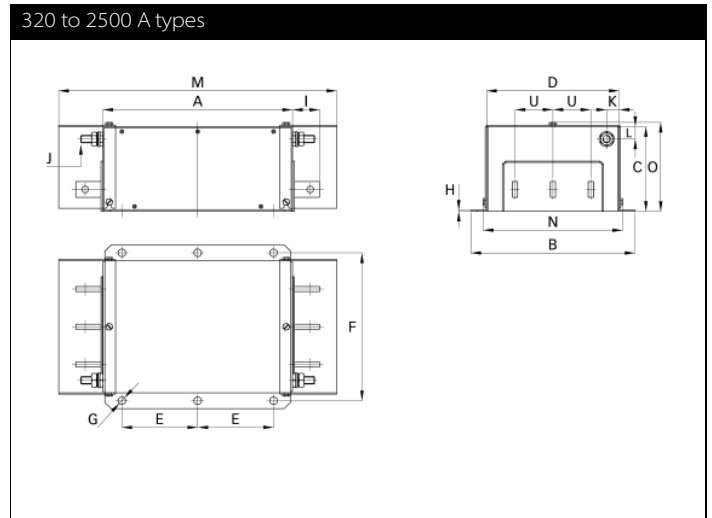
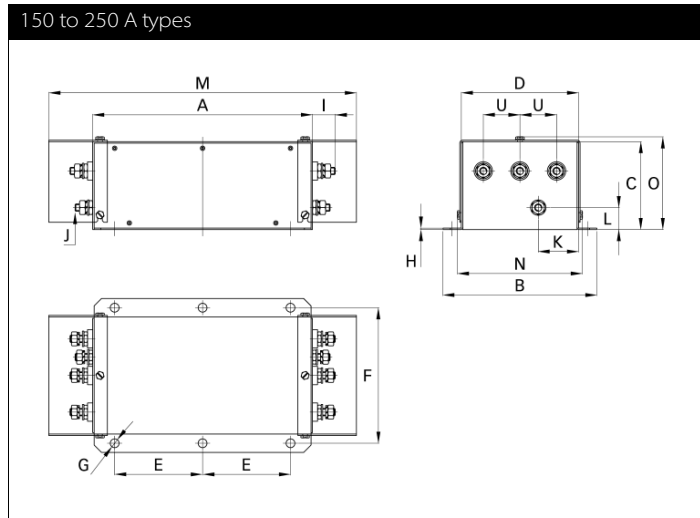
800 and 1000 A types



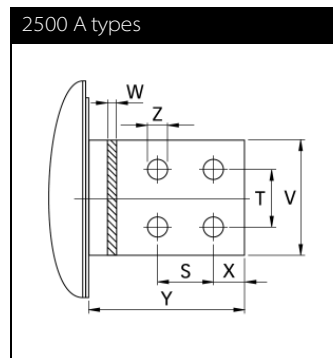
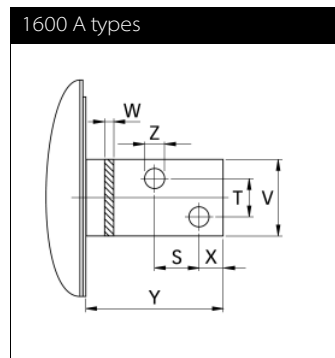
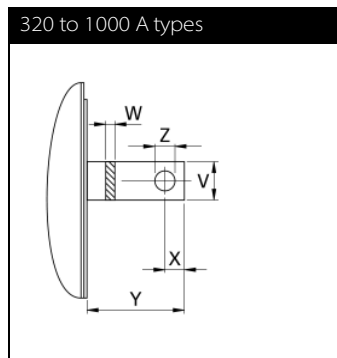
1600 and 2500 A types



## Mechanical data



## Busbar connections



## Dimensions

	150 A	180 A	250 A	320 A	400 A	600 A	800 A	1000 A	1600 A	2500 A
<b>A</b>	300	300	300	300	300	300	350	350	400	450
<b>B</b>	210	210	230	260	260	260	280	280	300	370
<b>C</b>	120	120	125	115	115	135	170	170	160	220
<b>D</b>	160	160	180	210	210	210	230	230	250	300
<b>E</b>	120	120	120	120	120	120	145	145	170	200
<b>F</b>	185	185	205	235	235	235	255	255	275	330
<b>G</b>	Ø12	Ø12	Ø12	Ø12	Ø12	Ø12	Ø12	Ø12	Ø12	Ø14
<b>H</b>	2	2	2	2	2	2	3	3	3	3
<b>I</b>	33	33	33	43	43	43	53	53	93	110
<b>J</b>	M10	M10	M10	M12	M12	M12	M12	M12	M12	M12
<b>K</b>	55	55	62.5	20	20	20	25	25	25	25
<b>L</b>	30	30	35	20	20	20	25	25	25	25
<b>M</b>	420	420	420	440	440	440	510	510	n.a.	n.a.
<b>N</b>	171	171	191	221	221	221	241	241	n.a.	n.a.
<b>O</b>	127	127	132	122	122	142	177	177	n.a.	n.a.
<b>S</b>									26	35
<b>T</b>									26	35
<b>U</b>	50	50	55	60	60	60	60	60	60	100
<b>V</b>				25	25	25	40	40	60	80
<b>W</b>				6	6	8	8	8	10	15
<b>X</b>				15	15	15	20	20	17	20
<b>Y</b>				40	40	40	50	50	93	110
<b>Z</b>				Ø10.5	Ø10.5	Ø10.5	Ø14	Ø14	Ø14	Ø14

All dimensions in mm; 1 inch = 25.4mm

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

(n.a.: not applicable)

Please visit [www.schaffner.com](http://www.schaffner.com) to find more details on filter connectors.