

3-phase filters FN 3359

High-current three-phase EMC/RFI filter

SCHAFNER

energy efficiency and reliability



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

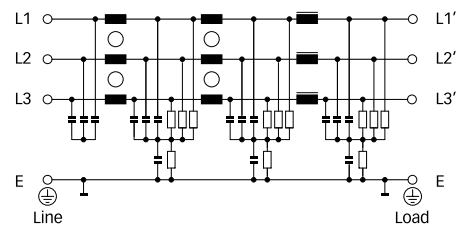
Approvals (filters up to 1000A)



Technical specifications

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

Typical electrical schematic



Note: HV versions without discharge resistor to ground.

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 690VAC are also designed for use in IT power networks.
- All filters 320A and above are suitable for regenerative motor drive system (with a suitable line reactor).
- Optionally available transparent protective covers for all filters up to 1000A, to protect the installer, operator or inspector from undeliberate touching of live conductors. They can easily be retrofitted even if the filter is already installed and connected.
- FN 3359 also improves conducted immunity of installations.

Typical applications

- High-power motor drives, inverters and converters
- Industrial three-phase systems
- Entire factories, plants and installations
- Large UPS
- Machinery
- Mining equipment
- Renewable power generation

Filter selection table

Filter	Rated current @ 50°C (40°C)	Typical drive power rating*	Leakage current** @ 480VAC/50Hz	Power loss @ 25°C/50Hz	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	1151-050
FN 3359-180-28	180 (197)	90	<6	34	-28	6.5	1151-050
FN 3359-250-28	250 (250)	132	<6	49	-28	7.0	1151-051
FN 3359-320-99	320 (350)	160	<6	19	-99	10.5	1151-052
FN 3359-400-99	400 (438)	220	<6	29	-99	10.5	1151-052
FN 3359-600-99	600 (657)	315	<6	44	-99	11.0	1151-053
FN 3359-800-99	800 (876)	400	<6	39	-99	18.0	1151-054
FN 3359-1000-99	1000 (1095)	560	<6	60	-99	18.0	1151-054
FN 3359-1600-99	1600 (1600)	900	<6	131	-99	27.0	
FN 3359-2500-99	2500 (2500)	1320	<6	300	-99	55.0	
FN 3359HV-150-28	150 (164)	110	<6	24	-28	6.5	1151-050
FN 3359HV-180-28	180 (197)	132	<6	34	-28	6.5	1151-050
FN 3359HV-250-28	250 (250)	200	<6	49	-28	7.0	1151-051
FN 3359HV-320-99	320 (350)	250	<6	19	-99	10.5	1151-052
FN 3359HV-400-99	400 (438)	315	<6	29	-99	10.5	1151-052
FN 3359HV-600-99	600 (657)	500	<6	44	-99	11.0	1151-053
FN 3359HV-800-99	800 (876)	630	<6	39	-99	18.0	1151-054
FN 3359HV-1000-99	1000 (1095)	710	<6	60	-99	18.0	1151-054
FN 3359HV-1600-99	1600 (1600)	1320	<6	131	-99	27.0	
FN 3359HV-2500-99	2500 (2500)	2000	<6	300	-99	55.0	

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

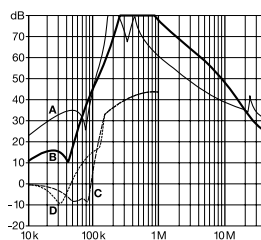
** Maximum leakage under normal operating conditions. Note: if two phases are interrupted, worst case leakage could be much higher than the value shown.

*** Please contact your local Schaffner partner to order the optional protective covers with the order code in the table above

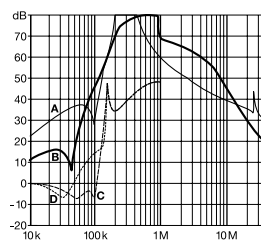
Typical filter attenuation

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

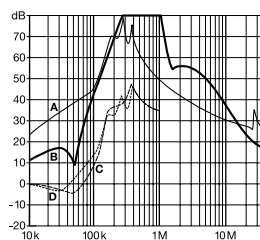
150 to 180A types



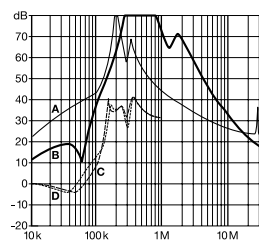
250 to 600A types



800 and 1000A types

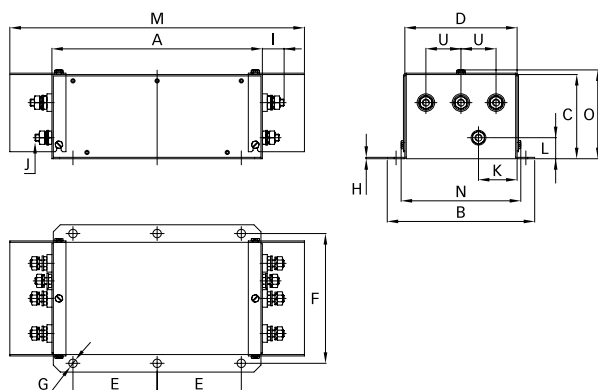


1600 and 2500A types

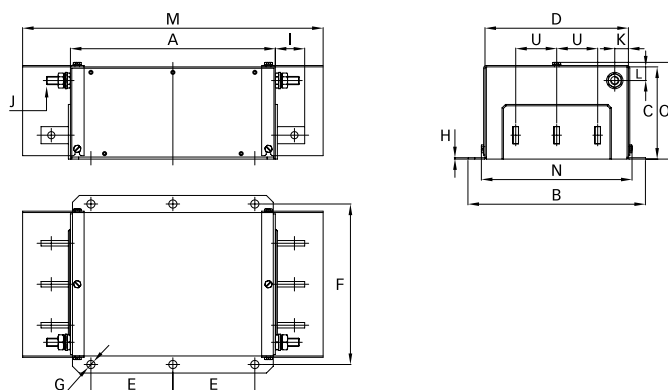


Mechanical data

150 to 250A types

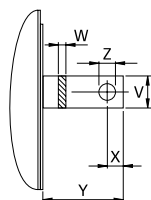


320 to 2500A types

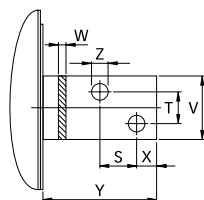


Busbar connections

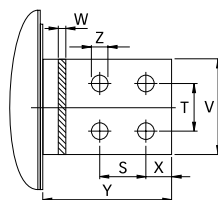
320 to 1000A types



1600A types



2500A types



Dimensions

	150A	180A	250A	320A	400A	600A	800A	1000A	1600A	2500A
A	300	300	300	300	300	300	350	350	400	600
B	210	210	230	260	260	260	280	280	300	370
C	120	120	125	115	115	135	170	170	160	200
D	160	160	180	210	210	210	230	230	250	300
E	120	120	120	120	120	120	145	145	170	250
F	185	185	205	235	235	235	255	255	275	330
G	Ø12	Ø12	Ø12	Ø12	Ø12	Ø12	Ø12	Ø12	Ø12	Ø14
H	2	2	2	2	2	2	3	3	3	3
I	33	33	33	43	43	43	53	53	93	98
J	M10	M10	M10	M12	M12	M12	M12	M12	M12	M16
K	55	55	62.5	20	20	20	25	25	25	25
L	30	30	35	20	20	20	25	25	25	25
M	420	420	420	440	440	440	510	510		
N	171	171	191	221	221	221	241	241		
O	127	127	132	122	122	142	177	177		
S									26	35
T									26	35
U	50	50	55	60	60	60	60	60	60	100
V				25	25	25	40	40	60	70
W				6	6	8	8	8	10	15
X				15	15	15	20	20	17	20
Y				40	40	40	50	50	90	95
Z				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