



ECOsine Active harmonic filters

Multiple functions: **harmonic filtering - reactive power compensation - load balancing**

Reliability and efficiency are important to business operation. This includes reliable operation of machines, manufacturing systems, and office equipment. Nevertheless, this is frequently not the case and often there is no obvious reason, despite the use of UPS and back-up generators. Unlike passive harmonic filters, these filters can provide harmonic mitigation under any load conditions up to their rated capacity.

- Global or selective compensation of harmonic currents up to the 50th order (*reduces THID to 1.5% - 3%*)
- Compensation of displacement power factor
- Load balancing
- Response time: less than 300 μs
- Adapts to changing network topologies instantly
- Up to 5 units can be wired in parallel to increase overall system requirements

type	rated current 400V (A)	phase	IP rating	power loss (W)	dimensions (mm) (H) (W) (D)		
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ECOsine three wire active harmonic 380 - 480 VAC ±10% (500 - 690 VAC available on request)

FN3420-50-480-3	50A	3 wire	IP20	<1300	615	358	288
FN3420-120-480-3	120A	3 wire	IP20	<2500	972	469	412
FN3420-200-480-3	200A	3 wire	IP54	<5000	2105	808	604
FN3420-300-480-3	300A	3 wire	IP54	<7500	2105	808	604

4-wire version available on request for triple harmonic filtering eg. 3rd, 9th, 15th...orders

ECOsine passive harmonic filters

ECOsine FN 3416 represent very compact "economy line" with THID performance of ≤10 % in conjunction with the VSD's built in DC-link choke. Ideal for non-linear three-phase equipment with 6-pulse front end rectifier circuits. Sufficient to comply with EN61000-3-12 or IEEE-519 and other power quality standards. Schaffner ECOsine filters help to unburden electrical infrastructures from excess loading and heat caused by current harmonics, and therefore support better utilization of electric system capacity. Lower harmonics also reduce the risk of system resonances and potential downtime of sensitive electronic equipment.

FN 3416 filters upgrade standard motor drives to "low-harmonic drives" quickly and easily.

- THID performance of <10% (*5% available on request*)
- Compact design - Quick installation
- Efficient: >98% nominal line voltage and power
- Conformity to: UL508, EN61558-2-20, CE (LVD2006 / 95 / EC)

type	rated current 400V (A)	rated load power (kW)		power loss (W)	dimensions (mm) (H) (W) (D)		
		400V	500V		(H)	(W)	(D)

FN3416-45-33	45A	22	30	306	455	280	230
FN3416-60-34	60A	30	37	408	520	280	248
FN3416-75-34	75A	37	45	410	520	280	248
FN3416-110-35	110A	55	75	546	580	280	248
FN3416-150-40	150A	75	90	784	700	450	385

Larger sizes up to 200kW available on request

EMC/RFI filters three-phase filters

Electro Magnetic Interference (EMI) unwanted high frequencies which ride on the AC waveform. Many products such as variable frequency drives generate EMI, which may interrupt, obstruct, degrade or limit the effective performance of electronic equipment.

- Max. continuous operating voltage: 480/277 VAC
- Exceptional attenuation performance from 150kHz to 30Mhz
- Excellent saturation resistance up 50 meters cable length
- Most compact and slim filter design in its class
- Increases the immunity of the equipment being protected
- Compliance with class A according to EN 55011

type	rated current 50°C	typical drive size	leakage current 400V	power loss (W)	dimensions (mm) (H) (W) (D)		
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FN3258-16-44	16A	7.5kW	33.0 mA	6.1	250	45	70
FN3258-30-33	30A	15kW	33.0 mA	11.8	270	50	85
FN3258-42-33	42A	22kW	33.0 mA	15.7	310	50	85
FN3258-55-34	55A	30kW	33.0 mA	25.9	250	85	90
FN3258-75-34	75A	37kW	33.0 mA	32.2	270	80	135
FN3258-100-35	100A	55kW	33.0 mA	34.5	270	90	150
FN3258-130-35	130A	75kW	33.0 mA	43.1	270	90	150
FN3258-180-40	180A	90kW	33.0 mA	58.3	380	120	170