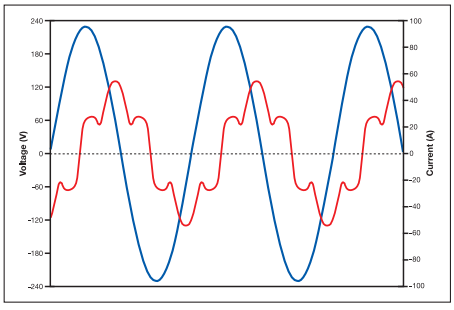
Power quality is a significant concern for manufacturing and power generation facilities. This is due to harmonic disturbance and reactive power, which is produced by unbalanced loads, variable frequency drives and motors. These issues have serious consequences, including prematurely aging of equipment, unreliable controls, system synchronization loss, and increased energy, maintenance and replacement costs.

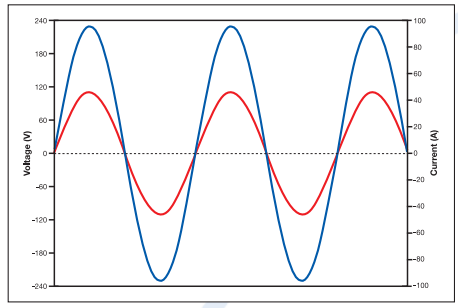
Enerdoor is an industry leader in radio frequency interference solutions. The Enerdoor harmonic filter series solves harmonic disturbance and power quality issues by compensating current harmonic and power factor correction generated by industrial loads.



Example of a distorted drawn current due to a 6P rectifier

FINHRM
FINHRM5

FINHRMA
FINHRMAC



Example of a sinusoidal drawn current

Problems generated by harmonic and displacement power factor

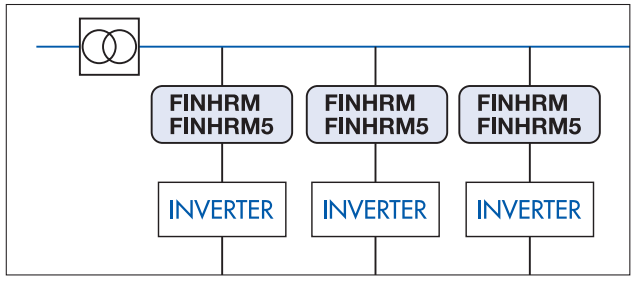
Both harmonic distortion and displacement power cause the following problems in an installation:

- Over sizing of power cables, transformers and generators to support higher currents due to reactive energy
- Voltage harmonic distortion due to an unbalanced load propagated to other loads in the installation
- Disruptive resonance with other reactive components on the same power line
- Higher utility costs due to kVAR returning to the mains
- Communication interference
- Energy loss

The majority of automation systems and manufacturers are required to follow the IEC 61000-3-2, IEC 61000-3-12 and IEEE 519 International Standards which regulate harmonic distortions in the mains.

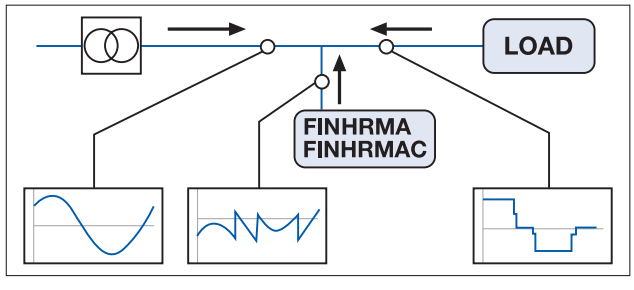
Passive Harmonic Filters

Enerdoor's passive harmonic FINHRM and FINHRM5 series attenuates the distorted current and is connected in series to the load (normally 6 pulse rectifier) without causing a significant voltage drop.



Active Harmonic Filters

Enerdoor's active harmonic FINHRMA and FINHRMAC series eliminates harmonic distortion due to nonlinear loads and improves power factor by minimizing reactive power generated by the load. These models are connected in parallel to the mains to compensate the harmonic distorted current.



FINHRM5

ELECTRIC CHARACTERISTICS

Nominal voltage	**Up to 480 Vac**
Peak current @ 50°C	**150% for 60 s every 10 minutes**
Frequency	**50 Hz (.6 for 60 Hz)**
Case	**Enclosure or open frame**
THDI reduction	**<5%**
Overvoltage on no load condition	**<5%**
Reactive power on no load	**25%**

RoHS

FINHRM5	Current (A) @ 50°C	Rated Power (KW) 400 Vac	Rated Power (KW) 480 Vac	Power Loss (W) 400 (480) Vac	Connection
FINHRM5.010.M	10	4	5.5	55 (80)	Terminal blocks
FINHRM5.016.M	16	7,5	11	105 (160)	Terminal blocks
FINHRM5.032.M	32	15	18,5	210 (275)	Terminal blocks
FINHRM5.045.M	45	22	30	273 (370)	Terminal blocks
FINHRM5.080.M	80	40	48	398 (475)	Terminal blocks
FINHRM5.120.M	120	60	72	492 (672)	Terminal blocks
FINHRM5.160.M	160	80	96	590 (710)	Lugs
FINHRM5.210.M	210	105	126	610 (750)	Lugs
FINHRM5.260.B	260	130	160	780 (940)	Busbars
FINHRM5.320.B	320	160	200	940 (1150)	Busbars
FINHRM5.400.B	400	200	241	940 (1150)	Busbars
FINHRM5.460.B	460	230	277	1280 (1410)	Busbars
FINHRM5.600.B	600	280	360	1480 (1750)	Busbars
FINHRM5.750.B	750	360	440	1690 (1920)	Busbars

FINHRM

ELECTRIC CHARACTERISTICS

Nominal voltage	**Up to 480 Vac (600 optional)**
Peak current @ 50°C	**150% for 60 s every 10 minutes**
Frequency	**50 Hz / 60 Hz**
Case	**Enclosure**
THDI reduction	**<15%**
Overvoltage on no load condition	**<5%**

RoHS

FINHRM	Current (A) @ 40°C	Rated Power (KW) 400 Vac	Rated Power (KW) 480 Vac	Power Loss (W) 400 (480) Vac	Connection
FINHRM.016.M	16	7,5	11	80 (116)	Terminal blocks
FINHRM.030.M	30	15	18,5	97 (145)	Terminal blocks
FINHRM.050.M	50	25	34	170 (250)	Terminal blocks
FINHRM.075.M	75	37	45	225 (335)	Terminal blocks
FINHRM.100.M	100	50	68	257 (380)	Terminal blocks
FINHRM.150.M	150	75	90	320 (480)	Terminal blocks
FINHRM.200.M	200	100	120	575 (850)	Terminal blocks