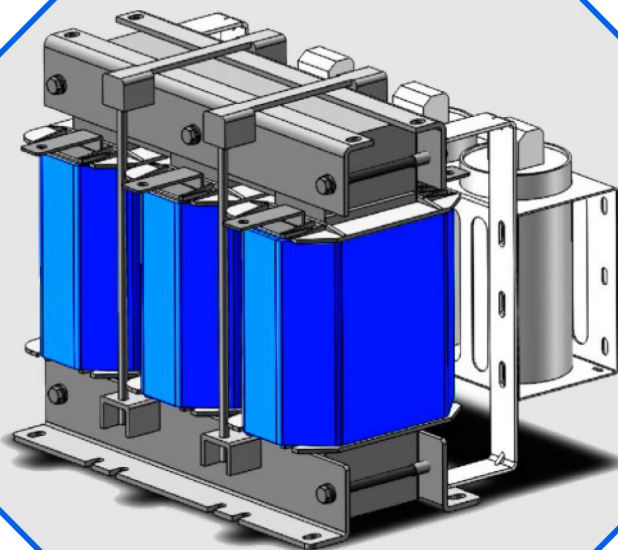


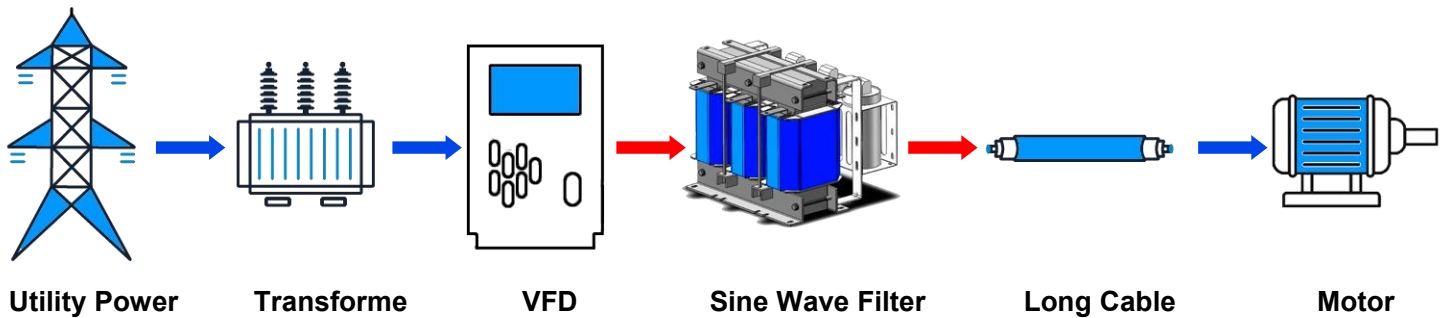


Sine Wave Filter

About

Sine Wave Filters

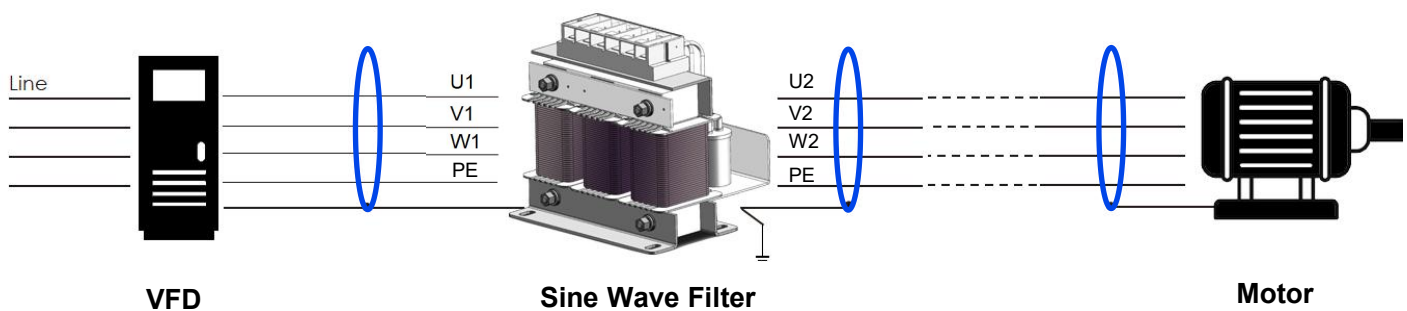
Sine Wave Filters enhance waveform quality and prevent over voltages in VFD systems. Installed between the inverter's PWM output and the motor, these low-pass filters mitigate high-frequency voltage peaks caused by IGBT switching, which can exceed 1300 V at the motor terminals and coils.



Functions

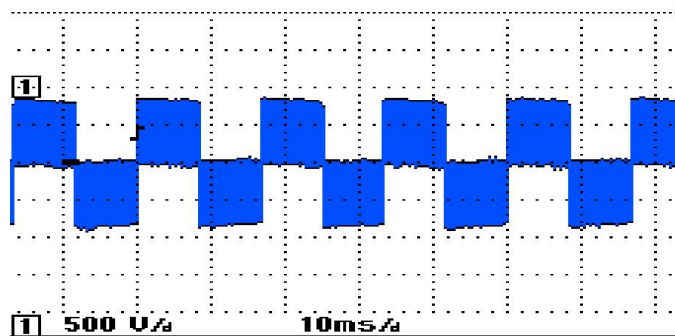
- 1. Reduces Overvoltage Peaks:** Lowers voltage spikes from PWM, protecting motor insulation and bearings.
- 2. Minimizes Motor Noise:** Decreases motor noise and boosts efficiency.
- 3. Improves PWM Output Quality:** Enhances PWM output, reducing discharge currents, especially in long cable systems (up to 500m).
- 4. Reduces EMC Interference:** Cuts radiated emissions, improving equipment EMC performance.

Block schema

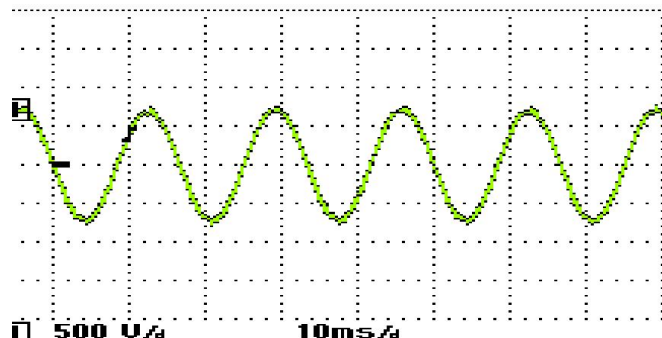


Characteristics of Sine Wave Filters

- 1. Improves Waveform Quality:** Enhances the output waveform, reducing distortion.
- 2. Prevents Over Voltages:** Protects motors from high-voltage spikes caused by PWM switching.
- 3. Decreases Motor Noise:** Lowers operational noise and improves efficiency.
- 4. Enhances EMC Performance:** Reduces electromagnetic interference, ensuring better compliance with EMC standards.
- 5. Optimizes PWM Output:** Improves the quality of PWM signals, reducing discharge currents.



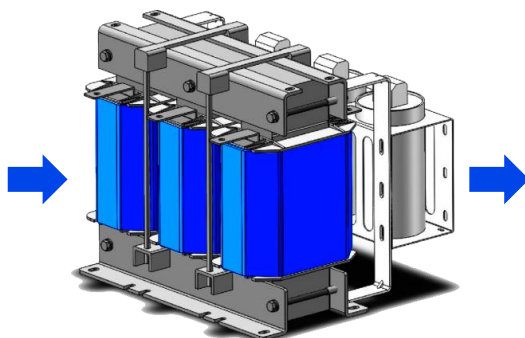
Without sine wave filter



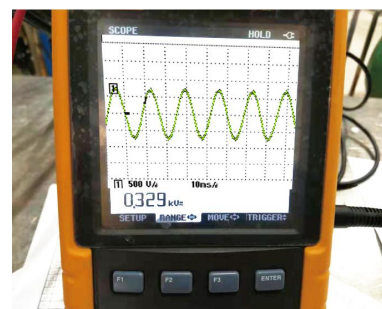
With sine wave filter



Before filtering

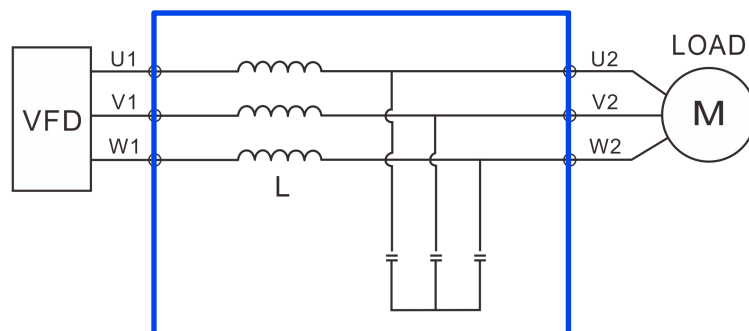


Sine wave filter



After filtering

Circuit diagram



Sine wave filter specifications

Main Characteristics	
Nominal system voltage (ph-ph)	200V ~480V ±10%
Operating frequency	5-120Hz
Switching frequency	3kHz to 10kHz
Rated load power (P)	1,5 to 315 kW
Nominal current (I)	3.3A to 600 A
Residual ripple voltage THD (full load)	< 5%
Maximum transient overload	2.0 times rated current
Maximum permanent overload	1.2 times rated current

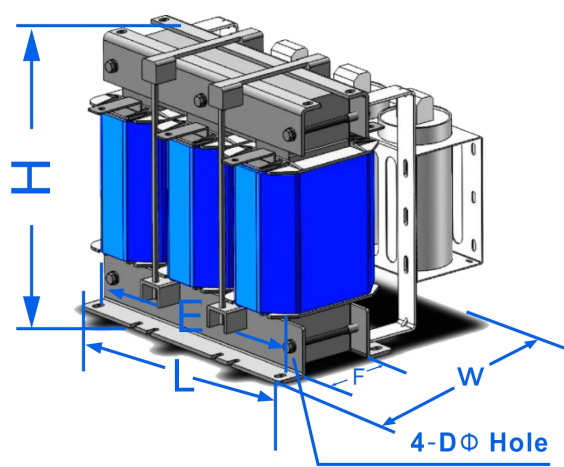
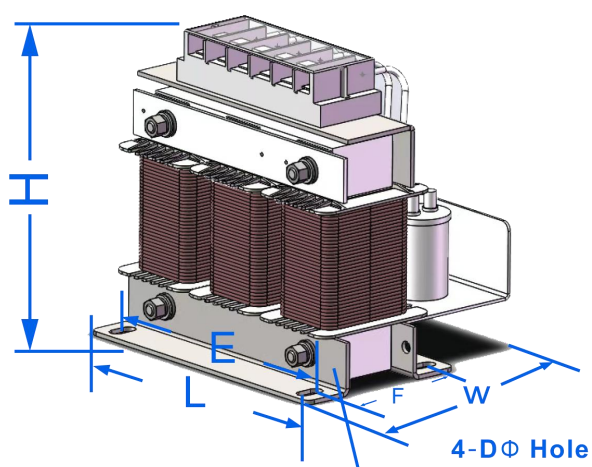
Design features	
Cabinet	On request
Degree of protection	IP 00 (other on request)
Construction and connection	Terminals or Copper bar
Ventilation	Natural
Mounting	On the floor
Installation	Indoor standards
Operating temperature	Ambient : -25°C to +40°C
Relative humidity	85 %

Rated Size Chart

3-phase, 50~60 Hz, 220 V, IP00									
Model	[KW]	Rated Current [A]	Size [mm]						Weight [Kg]
			L	W	H	D	E	F	
SFR220R5	0.4	2.5	200	200	200	6	150	150	4.5
SFR22001	0.75	5	200	200	200	6	150	150	5.0
SFR22002	1.5	8	200	200	200	6	150	150	5.5
SFR22003	2.2	11	200	200	200	6	150	150	6.0
SFR22005	3.7	17	200	250	210	8	150	200	8.5
SFR22007	5.5	25	200	250	210	8	150	200	10.0
SFR22010	7.5	35	200	250	230	8	150	200	12.0
SFR22015	11	50	250	250	240	10	200	200	17.0
SFR22020	15	65	250	250	260	10	200	200	20.0
SFR22025	18.5	80	300	300	270	10	250	250	27.0
SFR22030	22	95	300	300	280	10	250	250	30.0
SFR22040	30	120	350	350	300	10	300	300	39.0
SFR22050	37	150	350	350	320	10	300	300	44.0
SFR22060	45	180	400	400	340	12	350	350	57.0
SFR22075	55	230	400	400	370	12	350	350	65.0
SFR22100	75	310	450	450	400	12	400	400	90

3-phase, 50~60 Hz, 440 V, IP00

Model	[KW]	Rated Current [A]	Size [mm]						Weight [Kg]
			L	W	H	D	E	F	
SFR440R5	0.4	1.5	200	200	200	6	150	150	4.5
SFR44001	0.75	3	200	200	200	6	150	150	5.0
SFR44002	1.5	4	200	200	200	6	150	150	5.5
SFR44003	2.2	6	200	200	200	6	150	150	6.0
SFR44005	3.7	10	200	250	210	8	150	200	8.5
SFR44007	5.5	12	200	250	210	8	150	200	10.0
SFR44010	7.5	16	200	250	230	8	150	200	12.0
SFR44015	11	24	250	250	240	10	200	200	17.0
SFR44020	15	30	250	250	260	10	200	200	20.0
SFR44025	18.5	37	300	300	270	10	250	250	27.0
SFR44030	22	48	300	300	280	10	250	250	30.0
SFR44040	30	60	350	350	300	10	300	300	39.0
SFR44050	37	75	350	350	320	10	300	300	44.0
SFR44060	45	90	400	400	340	12	350	350	57.0
SFR44075	55	115	400	400	370	12	350	350	65.0
SFR44100	75	150	450	450	400	12	400	400	90
SFR44120	90	180	450	450	440	12	400	400	100
SFR44150	110	220	450	450	500	12	400	400	120
SFR44200	150	330	500	500	520	14	450	450	170
SFR44250	185	360	500	500	550	14	450	450	190
SFR44300	220	440	550	550	500	14	500	500	230
SFR44375	280	550	550	550	500	14	500	500	270
SFR44400	300	600	550	550	570	14	500	500	290





Sino-German joint venture

About LTEC

We have specialized in the production of reactors, capacitors, filters, and transformers since 2004. Our primary production plant in Kunshan City spans an area of 20,000 square meters and is located just a one-hour drive from Shanghai Pudong International Airport (PVG).

Our R&D teams are based in Gelsenkirchen and Taipei, and we hold approximately 120 patents related to our products.

In 2023, **Drosseln GmbH** invested in **Jiangsu LTEC Electric Co., Ltd.**, forming a Sino-German joint venture with the purpose of enhancing competitiveness in the Asian market.

We provide our customers with world-class LV and HV products, along with reliable technology and friendly, flexible customer support. Additionally, we develop **"tailor-made"** products and solutions tailored to your applications.

Our products have been exported to the United States, Germany, the United Kingdom, Israel, Australia, and more than **60** countries and regions worldwide.

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We are right here waiting for you...