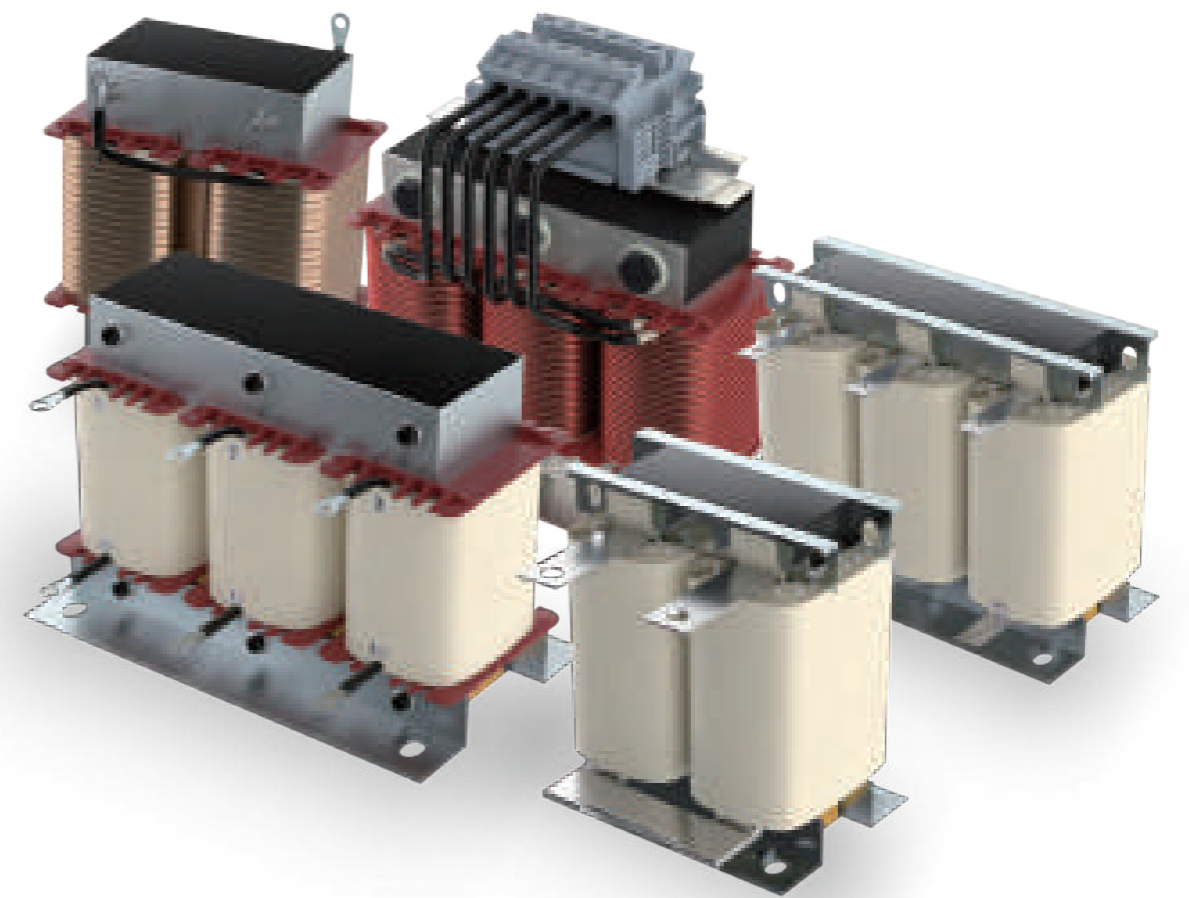


VEICHI



VEICHI

Suzhou Veichi Electric Co., Ltd

No.1000 Songjia Road, Wuzhong Economic and Technological Development Zone, Suzhou, Jiangsu Province, China.

Tel: +86-512-6617 1988 Fax: +86-512-6617 3610

Hotline: 400-600-0303 [Https: //www.veichi.cn](https://www.veichi.cn)

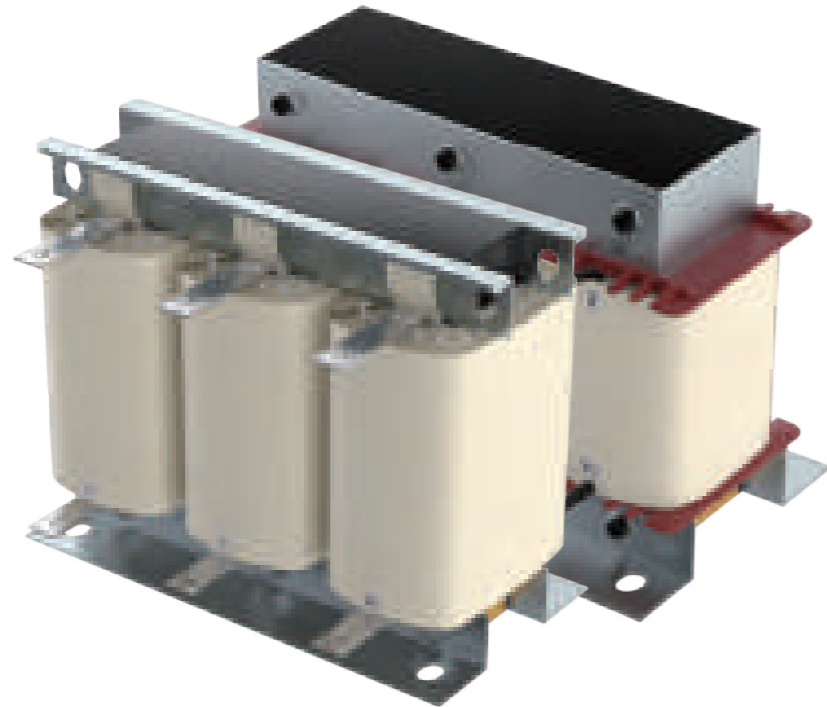


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Output Filter and Reactor

Use filters and reactors for worry-free efficient operation

Drive Output Solution



Output reactors and filters are mainly used in the industrial automation systems, especially where AC drives are used.

Output Reactor

The main function is to compensate for the effect of charging and discharging of the coupling capacitor when the motor is running on long cables to avoid drive over-current. It has two types: iron core reactor and ferrite reactor, which are suitable for different carrier frequency ranges. By increasing the cable distance from the drive to the motor, the output reactor effectively suppresses the instantaneous high voltage generated when the IGBT module is switched on and off, and reduces the adverse effect of this voltage on the cable insulation and the motor. At the same time, use thick or unshielded cables can also enhance the insulation strength.

Output Filter

Add a filter, a sinusoidal filter for example to the output side of the drive to ensure that the output voltage and current waves are nearly sinusoidal, so that to reduce the motor harmonic distortion factor and insulation stress. It can effectively filter out the high harmonics in the output current, reduce the additional torque caused by high-frequency harmonics, and reduce the temperature rise and noise from the motor. Moreover, it can effectively inhibit the surge voltage from the drive to protect the motor, and improve the power factor of the frequency conversion speed control system.

The difference between a reactor and a filter is mainly in their roles and application scenarios.

In short, reactors protect motors and cables by limiting instantaneous high voltages and compensating for the effects of cable length, while filters improve the waveforms of output voltages and currents to reduce the effects of harmonics on motors.

In frequency conversion systems, each device plays a crucial role. Please select the appropriate equipment based on specific application requirements and conditions



Shielded cables

- Use shielded cables on AC drives to avoid interference to other appliances.
- A larger cable cross-sectional area enhances the cable capacity and reduces the impact of voltage drops and current fluctuations on the motor.



Lowered carrier

- Properly reduce the carrier frequency of the drive to minimize the damage to the motor insulation due to the peak voltage in each cycle.



Output Reactor

- Add a reactor to the output side of the drive to effectively suppress the voltage rise rate and peak voltage, so as to reduce the voltage reflection and current waveform distortion, to weaken the damage to the motor insulation.



Output Filter

- Add a dv/dt and VPL filter or a sinusoidal filter to suppress voltage and current fluctuations and interference to the motor.



Separate signal and power lines

- Signal lines are not arranged in parallel with power lines to minimize electromagnetic interference.



Ground and shielding

- A good grounding and shielding is ensured to reduce electromagnetic interference signals effectively for normal operation.



Separate drive and motor

- Separate the stepper motor from the drive to reduce the mutual influence of electromagnetic interference signals.

Output Filter and Reactor Specification

AC Filter	Drive Power kW	Rated Current A	Weight kg	Operating Temperature °C	Rated Frequency Hz	Inductance mH	Switching Frequency kHz	Max. Power Loss W	Efficiency %	Reactor Capacity VA
XGM-3Z-13A	5.5	13	14	-25~45	50Hz/60Hz	4	2-4	80	86	637
XGM-3Z-18A	7.5	18	20	-25~45	50Hz/60Hz	3.5	2-4	140	86	1068
XGM-3Z-24A	11	24	22	-25~45	50Hz/60Hz	2.6	2-4	150	89	1410
XGM-3Z-34A	15	34	30	-25~45	50Hz/60Hz	2	2-4	200	90	2170
XGM-3Z-38A	20	38	35	-25~45	50Hz/60Hz	1.6	2-4	210	90	2180
XGM-3Z-50A	22	50	38	-25~45	50Hz/60Hz	1.3	2-4	300	90	3060
XGM-3Z-60A	30	60	46	-25~45	50Hz/60Hz	1.1	2-4	340	90	3730
XGM-3Z-75A	37	75	47	-25~45	50Hz/60Hz	0.85	2-4	450	90	4500
XGM-3Z-110A	55	110	100	-25~45	50Hz/60Hz	0.58	2-4	400	93	6610
XGM-3Z-150A	75	150	112	-25~45	50Hz/60Hz	0.43	2-4	550	93	9110
XGM-3Z-180A	90	180	115	-25~45	50Hz/60Hz	0.36	2-4	660	93	10987
XGM-3Z-210A	110	210	128	-25~45	50Hz/60Hz	0.3	2-4	750	93	12460
XGM-3Z-265A	132	265	200	-25~45	50Hz/60Hz	0.24	2-4	780	95	15870
XGM-3Z-315A	160	315	315	-25~45	50Hz/60Hz	0.18	2-4	820	95	16820
XGM-3Z-420A	210	420	290	-25~45	50Hz/60Hz	0.16	2-4	950	96	26580
XGM-3Z-530A	280	530	355	-25~45	50Hz/60Hz	0.126	2-4	970	97	33340
XGM-3Z-600A	315	600	420	-25~45	50Hz/60Hz	0.11	2-4	1000	97	37300
XGM-3Z-800A	400	800	525	-25~45	50Hz/60Hz	0.084	2-4	1100	97	50640
XGM-3Z-1000A	500	1000	650	-25~45	50Hz/60Hz	0.067	2-4	1300	97	63110
XGM-3Z-1250A	630	1250	670	-25~45	50Hz/60Hz	0.054	2-4	1600	97	79480

AC Filter	Drive Power kW	Rated Current A	Weight kg	Operating Temperature °C	Rated Frequency Hz	Inductance mH	Switching Frequency kHz	Max. Power Loss W	Efficiency %	Reactor Capacity VA
CKSG2-0040/G3-4	4	11	4	-25~45	50Hz/60Hz	1.85	2-4	30	85	210
CKSG2-0075/G3-4	7.5	18	5	-25~45	50Hz/60Hz	1.6	2-4	60	87	488
CKSG2-0150/G3-4	15	34	5	-25~45	50Hz/60Hz	0.82	2-4	80	91	892
CKSG2-0220/G3-4	22	50	7	-25~45	50Hz/60Hz	0.56	2-4	110	91	1318
CKSG2-0300/G3-4	30	63	27	-25~45	50Hz/60Hz	0.45	2-4	140	91	1682
CKSG2-0370/G3-4	37	80	28	-25~45	50Hz/60Hz	0.35	2-4	150	92	2110
CKSG2-0450/G3-4	45	100	37	-25~45	50Hz/60Hz	0.28	2-4	210	92	2637
CKSG2-0550/G3-4	55	125	39	-25~45	50Hz/60Hz	0.22	2-4	220	93	3238
CKSG2-0750/G3-4	75	160	55	-25~45	50Hz/60Hz	0.175	2-4	330	92	4220
CKSG2-0900/G3-4	90	200	58	-25~45	50Hz/60Hz	0.14	2-4	340	93	5275
CKSG2-1100/G3-4	110	220	75	-25~45	50Hz/60Hz	0.127	2-4	390	93	5790
CKSG2-1320/G3-4	132	280	96	-25~45	50Hz/60Hz	0.1	2-4	450	93	7385
CKSG2-1600/G3-4	160	315	98	-25~45	50Hz/60Hz	0.09	2-4	560	93	8412
CKSG2-2000/G3-4	200	380	105	-25~45	50Hz/60Hz	0.073	2-4	580	94	9929
CKSG2-2200/G3-4	220	420	116	-25~45	50Hz/60Hz	0.066	2-4	650	94	10967
CKSG2-0075/G3-HZ300	7.5	15	6	-25~45	50Hz/60Hz	0.139	2-4	45	74	176
CKSG2-0110/G3-HZ300	11	25	7	-25~45	50Hz/60Hz	0.094	2-4	50	84	332
CKSG2-0150/G3-HZ300	15	30	7	-25~45	50Hz/60Hz	0.078	2-4	50	87	396
CKSG2-0185/G3-HZ300	18.5	40	7.5	-25~45	50Hz/60Hz	0.059	2-4	50	90	533
CKSG2-0220/G3-HZ300	22	45	8	-25~45	50Hz/60Hz	0.052	2-4	50	91	595
CKSG2-0300/G3-HZ300	30	60	9	-25~45	50Hz/60Hz	0.039	2-4	60	92	789
CKLSG-0055/G3-T1	5.5	10	4	-25~45	50Hz/60Hz	0.7	2-4	18	72	65
CKLSG-0055/G3-T2	5.5	10	4	-25~45	50Hz/60Hz	1.4	2-4	20	84	131
CKLSG-0055/G3-T3	5.5	10	7	-25~45	50Hz/60Hz	2.1	2-4	25	87	197
CKLSG-0055/G3-T4	5.5	10	8	-25~45	50Hz/60Hz	2.8	2-4	30	88	263
CKLSG-0075/G3-T1	7.5	15	4	-25~45	50Hz/60Hz	0.46	2-4	18	81	97
CKLSG-0075/G3-T2	7.5	15	6	-25~45	50Hz/60Hz	0.93	2-4	25	87	197
CKLSG-0075/G3-T3	7.5	15	8	-25~45	50Hz/60Hz	1.4	2-4	35	88	296
CKLSG-0075/G3-T4	7.5	15	9	-25~45	50Hz/60Hz	1.8	2-4	35	90	381
CKLSG-0110/G3-T1	11	22	6	-25~45	50Hz/60Hz	0.32	2-4	25	82	145
CKLSG-0110/G3-T2	11	22	9	-25~45	50Hz/60Hz	0.64	2-4	35	87	291
CKLSG-0110/G3-T3	11	22	9	-25~45	50Hz/60Hz	0.95	2-4	40	90	433
CKLSG-0110/G3-T4	11	22	11	-25~45	50Hz/60Hz	1.27	2-4	50	91	579
CKLSG-0150/G3-T1	15	30	6	-25~45	50Hz/60Hz	0.235	2-4	30	84	199
CKLSG-0150/G3-T2	15	30	9	-25~45	50Hz/60Hz	0.47	2-4	40	89	398
CKLSG-0150/G3-T3	15	30	13	-25~45	50Hz/60Hz	0.7	2-4	45	92	593
CKLSG-0150/G3-T4	15	30	14	-25~45	50Hz/60Hz	0.93	2-4	50	93	788
CKLSG-0185/G3-T1	18.5	37	8	-25~45	50Hz/60Hz	0.19	2-4	35	85	245
CKLSG-0185/G3-T2	18.5	37	14	-25~45	50Hz/60Hz	0.38	2-4	50	89	490
CKLSG-0185/G3-T3	18.5	37	17	-25~45	50Hz/60Hz	0.57	2-4	85	88	735
CKLSG-0185/G3-T4	18.5	37	20	-25~45	50Hz/60Hz	0.75	2-4	100	89	967
CKLSG-0220/G3-T1	22	45	8	-25~45	50Hz/60Hz	0.155	2-4	60	79	295
CKLSG-0220/G3-T2	22	45	15	-25~45	50Hz/60Hz	0.31	2-4	75	87	591
CKLSG-0220/G3-T3	22	45	18	-25~45	50Hz/60Hz	0.45	2-4	95	89	877
CKLSG-0220/G3-T4	22	45	21	-25~45	50Hz/60Hz	0.62	2-4	120	89	1182
CKLSG-0300/G3-T1	30	60	9	-25~45	50Hz/60Hz	0.115	2-4	60	84	389
CKLSG-0300/G3-T2	30	60	17	-25~45	50Hz/60Hz	0.23	2-4	90	88	779
CKLSG-0300/G3-T3	30	60	20	-25~45	50Hz/60Hz	0.35	2-4	110	90	1186
CKLSG-0300/G3-T4	30	60	23	-25~45	50Hz/60Hz	0.46	2-4	140	91	1559
CKLSG-0370/G3-T1	37	75	11	-25~45	50Hz/60Hz	0.09	2-4	60	87	476

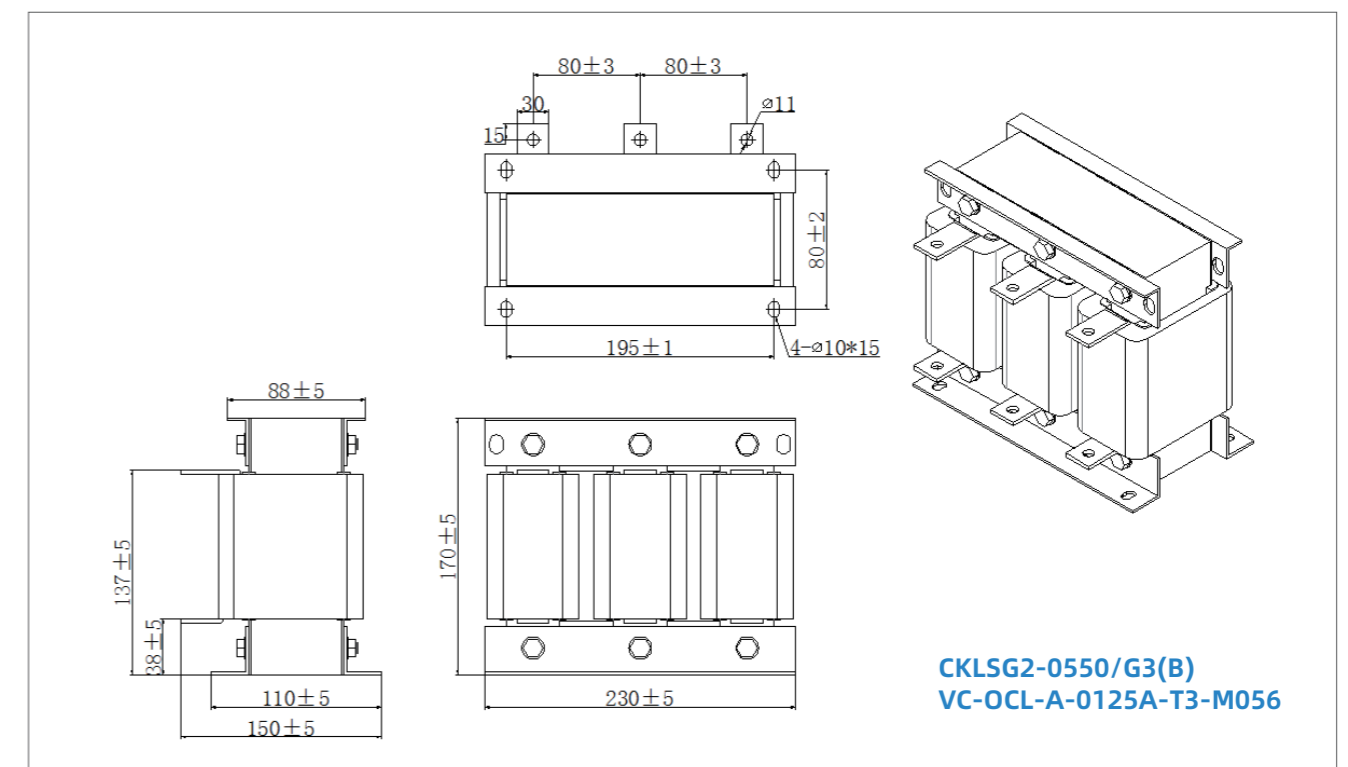
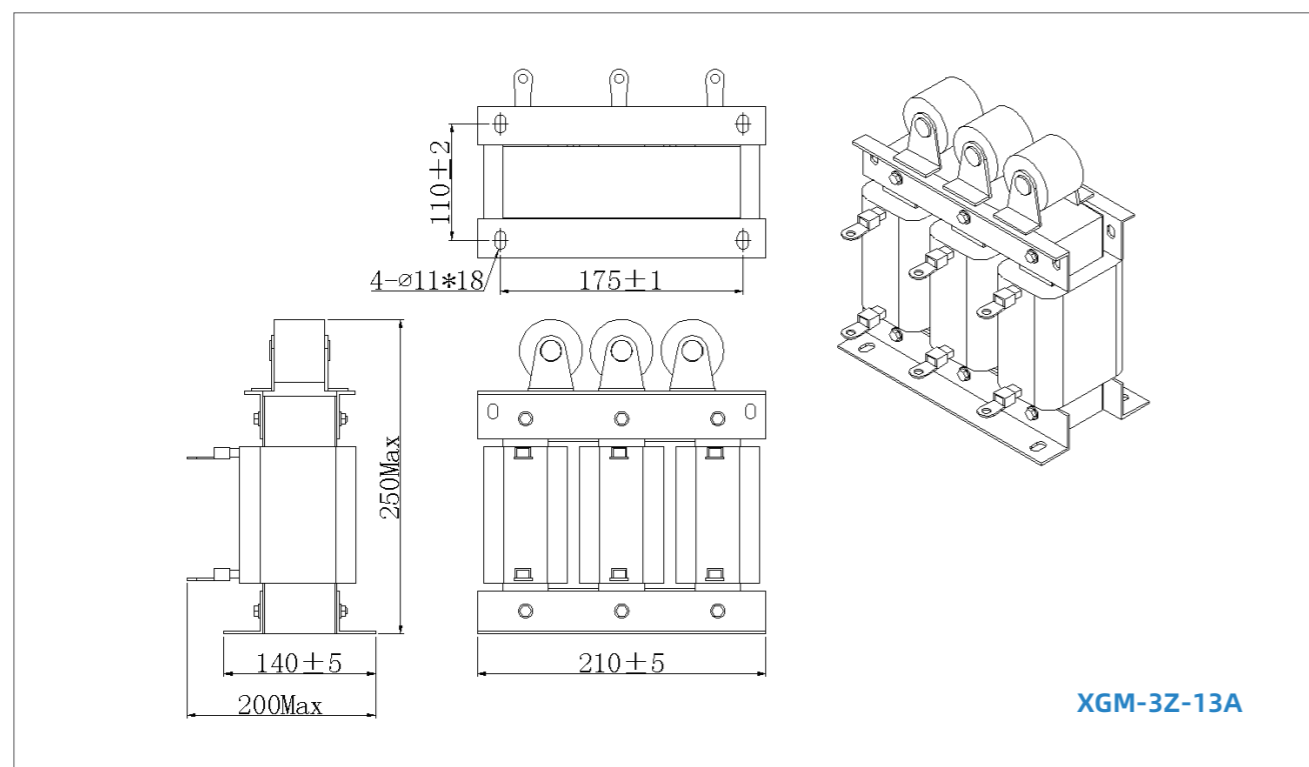
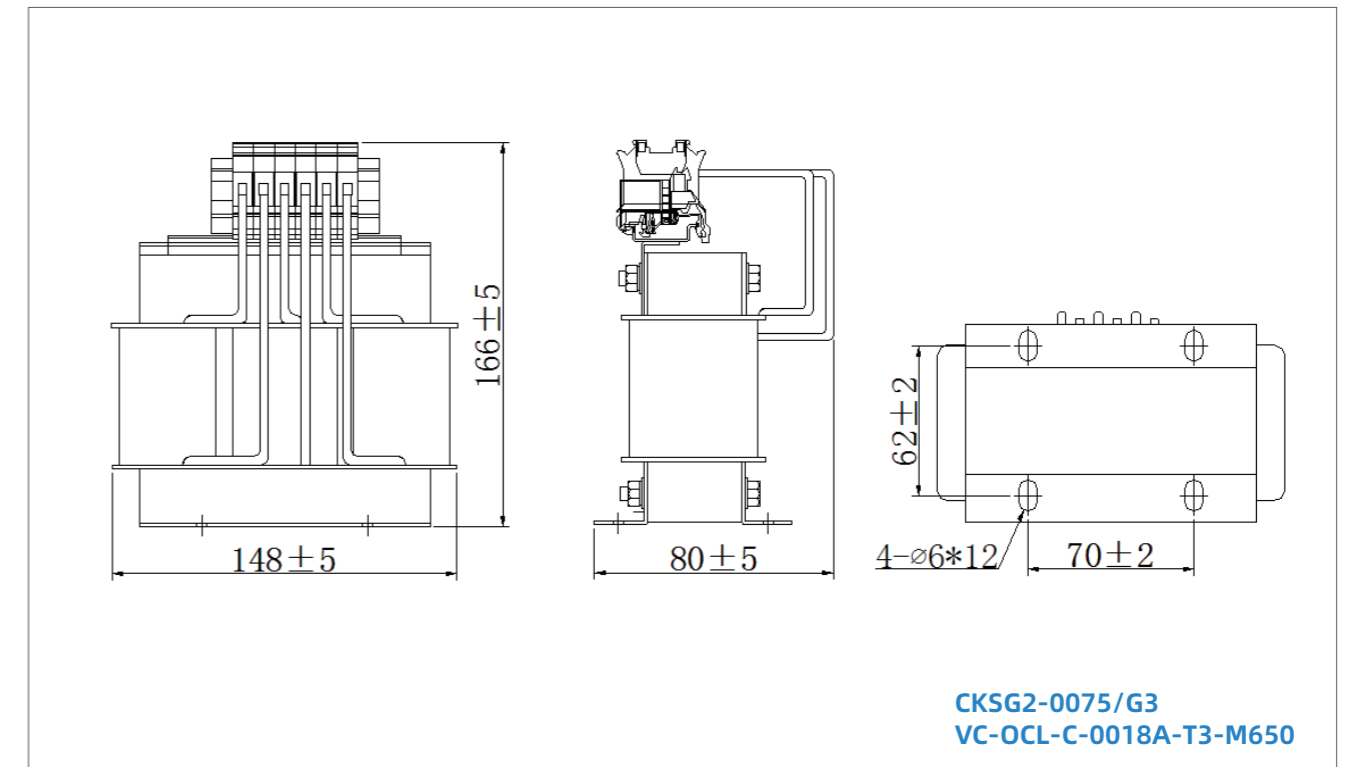
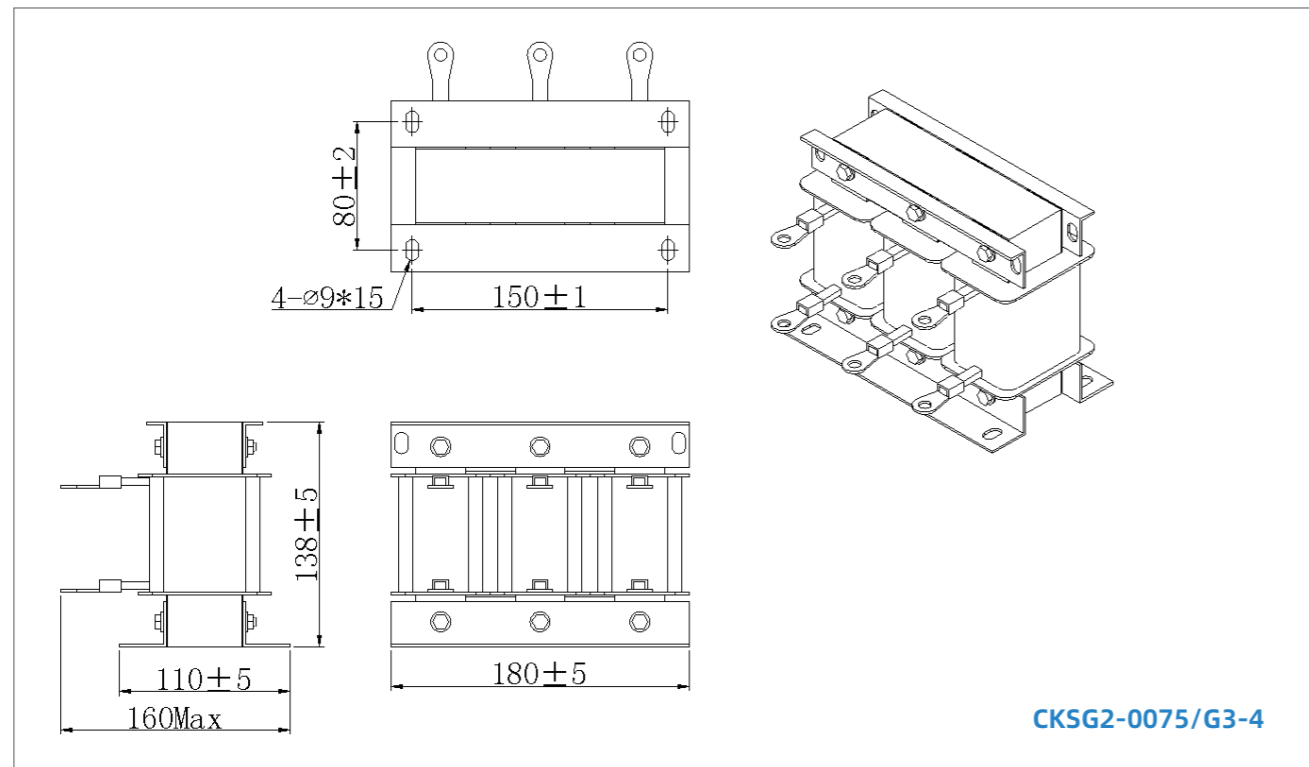
AC Filter	Drive Power kW	Rated Current A	Weight kg	Operating Temperature °C	Rated Frequency Hz	Inductance mH	Switching Frequency kHz	Max. Power Loss W	Efficiency %	Reactor Capacity VA
ACO-0011-T4	4	11	2.4	-25~45	50Hz/60Hz	1.1	2-4	30	76	125
ACO-0016-T4	5.5	16	3.4	-25~45	50Hz/60Hz	0.8	2-4	40	79	193
ACO-0018-T4	7.5	18	3.4	-25~45	50Hz/60Hz	0.65	2-4	50	74	198
ACO-0028-T4	11	28	4.4	-25~45	50Hz/60Hz	0.33	2-4	50	79	243
ACO-0035-T4	15	35	4.4	-25~45	50Hz/60Hz	0.25	2-4	60	79	288
ACO-0040-T4	18.5	40	6	-25~45	50Hz/60Hz	0.2	2-4	80	76	301
ACO-0050-T4	22	50	6	-25~45	50Hz/60Hz	0.18	2-4	80	81	424
ACO-0063-T4	30	63	7.2	-25~45	50Hz/60Hz	0.09	2-4	90	73	336
ACO-0080-T4	37	80	7.2	-25~45	50Hz/60Hz	0.08	2-4	100	79	482
ACO-0100-T4	45	100	7.8	-25~45	50Hz/60Hz	0.06	2-4	110	80	565
ACO-0125-T4	55	125	13	-25~45	50Hz/60Hz	0.056	2-4	150	81	824
ACO-0160-T4	75	160	15	-25~45	50Hz/60Hz	0.041	2-4	180	81	988
ACO-0200-T4	90	200	17	-25~45	50Hz/60Hz	0.035	2-4	215	83	1318
ACO-0224-T4	110	224	19	-25~45	50Hz/60Hz	0.028	2-4	220	83	1323
ACO-0280-T4	132	280	23	-25~45	50Hz/60Hz	0.0233	2-4	240	86	1720
ACO-0315-T4	160	315	25	-25~45	50Hz/60Hz	0.0194	2-4	270	85	1813
ACO-0400-T4	200	400	26	-25~45	50Hz/60Hz	0.0184	2-4	280	89	2773
ACO-0560-T4	280	560	34	-25~45	50Hz/60Hz	0.0132	2-4	420	89	3899
ACO-0690-T4	315	690	36	-25~45	50Hz/60Hz	0.0116	2-4	540	89	5202
ACO-0720-T4	400	720	41	-25~45	50Hz/60Hz	0.0092	2-4	580	87	4492
ACO-1000-T4	500	1000	47	-25~45	50Hz/60Hz	0.0074	2-4	750	89	6970
ACO-1250-T4	630	1250	63	-25~45	50Hz/60Hz	0.0058	2-4	820	90	8536
ACO-0024-T4-4	11	24	11	-25~45	50Hz/60Hz	1.27	2-4	60	91	689
ACO-0180-T4-4	90	180	50	-25~45	50Hz/60Hz	0.155	2-4	280	94	4730
ACO-C-0063-T6	55	63	16	-25~45	50Hz/60Hz	0.192	2-4	60	91	717
ACO-C-0098-T6	90	98	21	-25~45	50Hz/60Hz	0.124	2-4	90	91	1121
ACO-C-0121-T6	110	121	26	-25~45	50Hz/60Hz	0.1	2-4	115	91	1379
ACO-C-0175-T6	160	175	29	-25~45	50Hz/60Hz	0.069	2-4	170	91	1990
ACO-C-0235-T6	220	235	33	-25~45	50Hz/60Hz	0.051	2-4	220	91	2653
ACO-C-0270-T6	250	270	40	-25~45	50Hz/60Hz	0.045	2-4	230	92	3090
ACO-C-0345-T6	315	345	47	-25~45	50Hz/60Hz	0.035	2-4	280	92	3924
ACO-C-0380-T6	355	380	47	-25~45	50Hz/60Hz	0.032	2-4	345	92	4352
ACO-C-0430-T6	400	430	50	-25~45	50Hz/60Hz	0.028	2-4	340	93	4877
ACO-C-0540-T6	500	540	69	-25~45	50Hz/60Hz	0.022	2-4	420	93	6043
ACO-C-0760-T6	710	760	92	-25~45	50Hz/60Hz	0.016	2-4	500	94	8705

AC Output Reactor	Drive Power kW	Rated Current A	Weight kg	Operating Temperature °C	Rated Frequency Hz	Inductance mH	Switching Frequency kHz	Max. Power Loss W	Efficiency %	Reactor Capacity VA
FWD-REACTOR-35A	15	35	4.4	-25~45	50Hz/60Hz	0.25	2-4	60	79	288
FWD-REACTOR-50A	22	50	6	-25~45	50Hz/60Hz	0.18	2-4	80	80	424
FWD-REACTOR-80A	37	80	7.2	-25~45	50Hz/60Hz	0.08	2-4	95	80	482
FWD-REACTOR-125A	55	125	13	-25~45	50Hz/60Hz	0.056	2-4	150	81	824
FWD-REACTOR-224A	110	224	19	-25~45	50Hz/60Hz	0.028	2-4	230	82	1323

AC Single-phase Reactor	Drive Power kW	Rated Current A	Weight kg	Operating Temperature °C	Rated Frequency Hz	Inductance mH	Switching Frequency kHz	Max. Power Loss W	Efficiency %	Reactor Capacity VA
KDG-00075/G2	0.75	5	2	-25~45	50Hz/60Hz	2.8	2-4	10	55%	22
KDG-0015/G2	1.5	10	2	-25~45	50Hz/60Hz	1.4	2-4	11	75%	44
KDG-0022/G2	2.2	15	2.5	-25~45	50Hz/60Hz	0.93	2-4	15	77%	66
KDG-0037/G2	3.7	25	3	-25~45	50Hz/60Hz	0.56	2-4	16	85%	110
KDG-0055/G2	5.5	37	4	-25~45	50Hz/60Hz	0.38	2-4	24	85%	163
KDG-0075/G2	7.5	50	6	-25~45	50Hz/60Hz	0.25	2-4	29	87%	220
KDG-0110/G2	11	75	7	-25~45	50Hz/60Hz	0.18	2-4	32	90%	318

Single-phase Filter	Drive Power kW	Rated Current A	Weight kg	Operating Temperature °C	Rated Frequency Hz	Inductance mH	Switching Frequency kHz	Max. Power Loss W	Efficiency %	Reactor Capacity VA
XGM-2H-6A	1.5	6	0.6	-25~85	10KHz~30MHz	-20%*10mH~+70%*10mH	2-6	None	None	None
XGM-2H-10A	2.2	10	0.6	-25~85	10KHz~30MHz	-20%*10mH~+70%*10mH	2-6	None	None	None
XGM-2H-20A	3.7	20	0.8	-25~85	10KHz~30MHz	-20%*2mH~+70%*10mH	2-6	None	None	None
XGM-2H-30A	7.5	30	0.9	-25~85	10KHz~30MHz	20%*1.8mH~+70%*10mH	2-6	None	None	None
XGM-2H-50A	11	50	1.5	-25~85	10KHz~30MHz	20%*1.2mH~+70%*10mH	2-6	None	None	None

Installation and Dimensions



Electrical Principle

