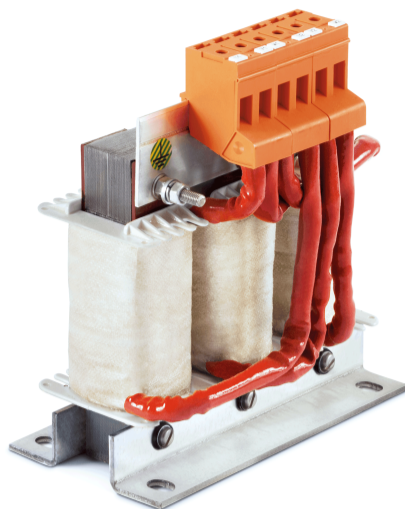


Three-phase dv/dt reactor for motor protection

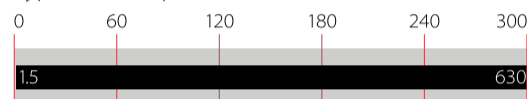


- Reduction of drive output voltage dv/dt
- Reduction of motor temperature
- Increase of motor service life
- Compact and economic open frame design
- Standard catalog reactors up to 1100 A
- UL rated materials used

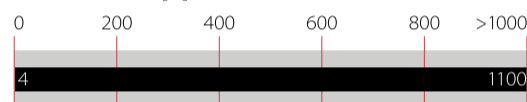


Performance indicators

Typical motor power [kW]



Rated current [A]



Technical Specifications

Nominal operating voltage	3x500 VAC
Rated operating voltage	3x530 VAC
Rated currents	4 to 1100 A @ 40°C
Impedance (uk)	0.8% @ 400 VAC, 50 Hz and rated current
Typical dv/dt reduction	≥factor 5
Motor frequency	0 to 60 Hz
Switching frequency fPWM	2 to 16 kHz
Overload capability	2 x rated current at switch on for 30 seconds 1.5 x rated current for 1 minute, once per hour
High potential test voltage	P → E 3000 VAC for 3 sec P → P 3000 VAC for 3 sec
Insulation class	T40/N (200°C) for ≤182 A types T40/F (155°C) for ≥230 A types
Overvoltage category	OV III (IEC 60664-1)
Protection category	IP 00 (KL types according to VBG 4)
Motor cable length	30 m max. @ 16 kHz (see derating curve page 2)
Ambient temperature range	-25°C to +100°C (25/100/21) operation and storage
Design corresponding to	EN 61558-2-20 (VDE 0570-2-20), UL 508C, CSA C22.2 NO. 14
Flammability corresponding to	UL 94 V-2
MTBF @ 45°C/480 V (Mil-HB-217F)	>500'000 hours

Approvals & Compliances



UL 508C up to 182 A. For use with AC or DC drives (power conversion equipment) only

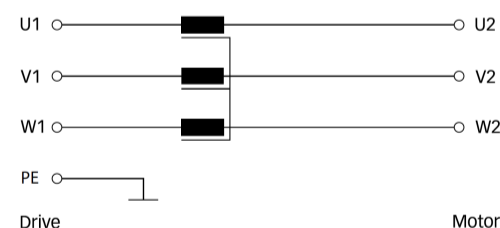
Features and Benefits

- Efficient reduction of high output voltage dv/dt from IGBT motor drives
- Protection of motor coil insulation from premature aging and destruction
- Significantly increased service life of electric motors
- High reliability and secured production up time for mission critical applications
- Reduced converter pulse load
- Less interference propagation towards neighboring equipment of lines
- "Output filter" with low impedance, ideal for processes requiring exceptional precision and reproducibility of movements
- Vacuum impregnation for reduced humming noise and high durability




Typical Applications

- Servo drives
- Close loop vector drives
- Motor drive applications with short motor cables
- Machinery comprising servo or torque motors
- Robots
- Pick and place machines

Typical electrical schematic



Reactor Selection Table

Reactor	Rated current @ 40°C	Typical motor power rating*	Nominal inductance	Typical power loss**	Input/Output connections			Weight Total
	[A]	[kW]	[mH]	[W]				[kg]
RWK 305-4-KL	4	1.5	1.47	22	KL			1.2
RWK 305-7.8-KL	7.8	3	0.754	25	KL			1.2
RWK 305-10-KL	10	4	0.588	30	KL			1.8
RWK 305-14-KL	14	5.5	0.42	34	KL			2.2
RWK 305-17-KL	17	7.5	0.346	38	KL			2.5
RWK 305-24-KL	24	11	0.245	45	KL			2.5
RWK 305-32-KL	32	15	0.184	55	KL			3.9
RWK 305-45-KL	45	22	0.131	60	KL			6.1
RWK 305-60-KL	60	30	0.098	65	KL			6.1
RWK 305-72-KL	72	37	0.082	70	KL			6.1
RWK 305-90-KL	90	45	0.065	75	KL			7.4
RWK 305-110-KL	110	55	0.053	90	KL			8.2
RWK 305-124-KS	124	55	0.047	110		KS		8.2
RWK 305-143-KS	143	75	0.041	115		KS		10.7
RWK 305-156-KS	156	75	0.038	120		KS		10.7
RWK 305-170-KS	170	90	0.035	130		KS		10.7
RWK 305-182-KS	182	90	0.032	140		KS		16
RWK 305-230-KS	230	132	0.026	180		KS		22
RWK 305-280-KS	280	160	0.021	220		KS		29
RWK 305-330-KS	330	160	0.018	240		KS		32
RWK 305-400-S	400	200	0.015	330			S	34
RWK 305-500-S	500	250	0.012	340			S	35
RWK 305-600-S	600	355	0.01	380			S	37
RWK 305-680-S	680	400	0.009	410			S	38
RWK 305-790-S	790	450	0.007	590			S	43
RWK 305-910-S	910	500	0.006	740			S	49
RWK 305-1100-S	1100	630	0.005	760			S	66

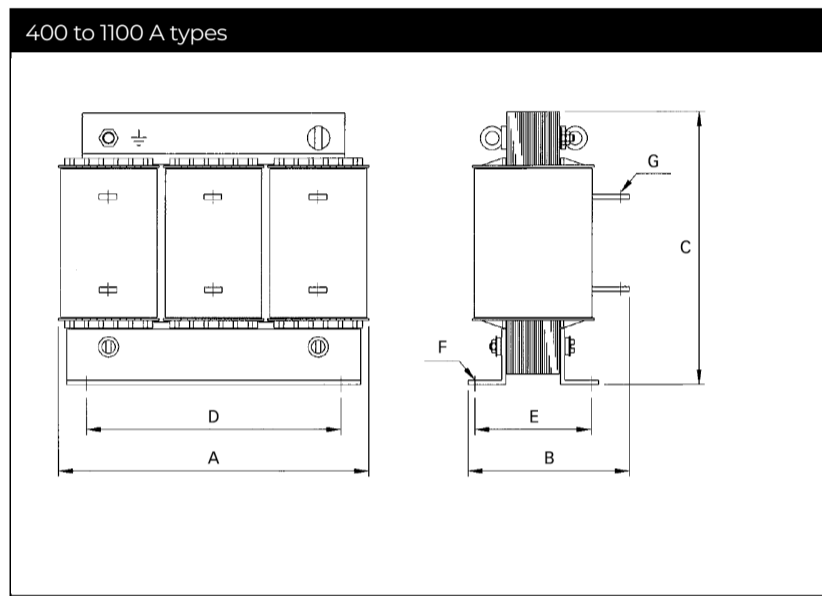
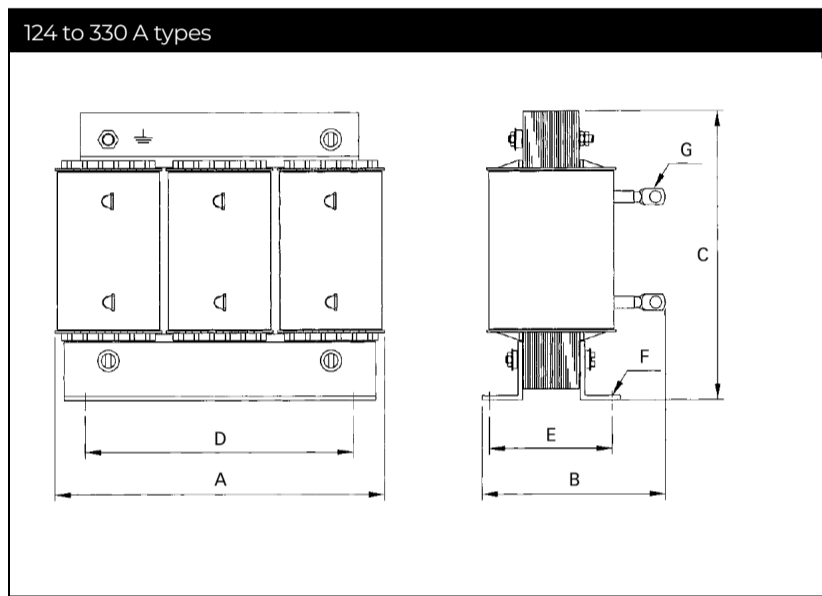
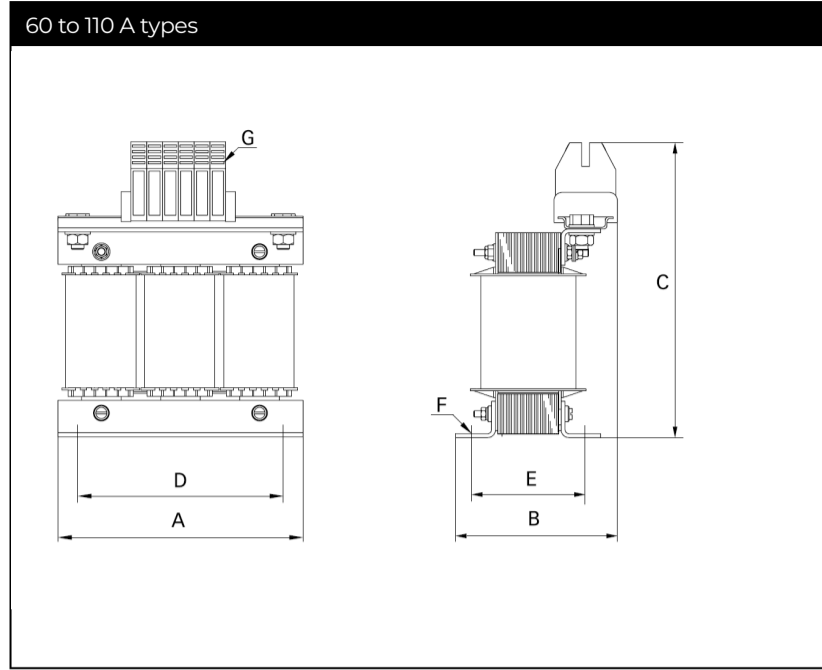
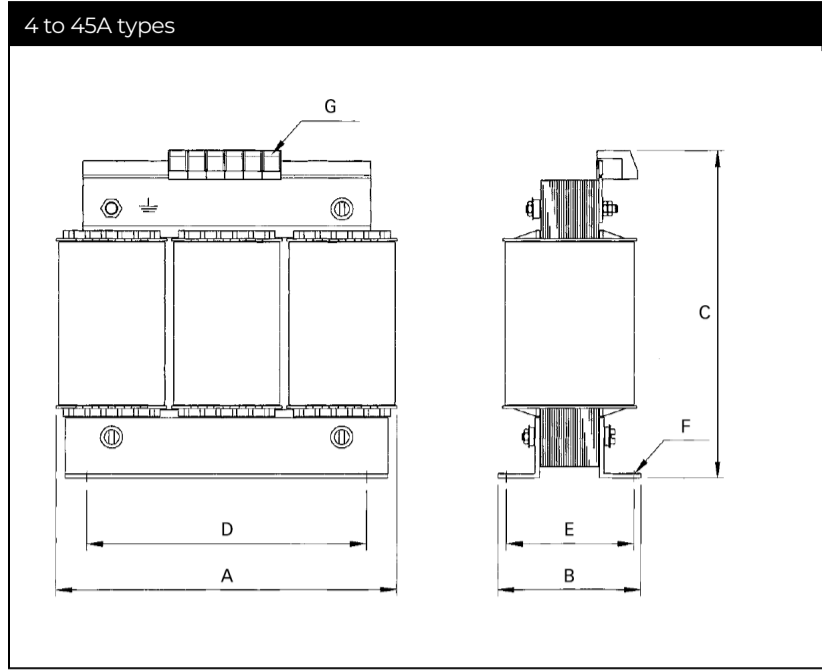
* General purpose four-pole (1500 r/min) AC induction motor rated 400 V/50 Hz.

** Exact value depends upon the motor cable type and length, switching frequency, motor frequency and further stray parameters within the system.

Reactor Derating

The maximum admissible motor cable length depends mainly on the switching frequency and the drive output voltage. The applicable value for a given application can be found in the derating curve below.

Mechanical Data



Dimensions

	A	B	C	D	E	F	G
4 and 7.8 A	100	max. 60	max. 115	56	34	4.8 x 9	2.5 mm ²
10 A	100	max. 70	max. 115	56	43	4.8 x 9	2.5 mm ²
14 A	125	max. 70	max. 135	100	45	5 x 8	2.5 mm ²
17 A	125	max. 75	max. 135	100	55	5 x 8	2.5 mm ²
24 A	125	max. 75	max. 135	100	55	5 x 8	4 mm ²
32 A	155	max. 95	max. 170	130	56	8 x 12	10 mm ²
45 A	155	max. 110	max. 190	130	72	8 x 12	10 mm ²
60 and 72 A	155	max. 125	max. 190	130	70	8 x 12	16 mm ²
90 A	190	max. 115	max. 225	170	57	8 x 12	35 mm ²
110 A	190	max. 130	max. 220	170	67	8 x 12	35 mm ²
124 A	190	max. 180	max. 160	170	67	8 x 12	Ø 8
143 A	190	max. 180	max. 160	170	77	8 x 12	Ø 8
156 and 170 A	190	max. 180	max. 160	170	77	8 x 12	Ø 10
182 A	210	max. 180	max. 185	175	95	8 x 12	Ø 10
230 A	240	220	220	190	119	11 x 15	Ø 12
280 A	240	235	220	190	133	11 x 15	Ø 12
330 A	240	240	220	190	135	11 x 15	Ø 12
400 and 500 A	240	220	325	190	119	11 x 15	Ø 11
600 and 680 A	240	230	325	190	128	11 x 15	Ø 14
790 A	300	218	355	240	136	11 x 15	2 x Ø 11
910 A	300	228	355	240	148	11 x 15	2 x Ø 11
1100 A	360	250	380	310	144	11 x 15	2 x Ø 11

All dimensions in mm; 1 inch = 25.4 mm

Tolerances according: ISO 2768-m / EN 22768-m

Please visit www.schaffner.com to find more details on filter connectors.

Headquarters, Global Innovation and Development

Switzerland

Schaffner Group

Industrie Nord
Nordstrasse 11e
4542
Luterbach
+41 32 681 66 26
info@schaffner.com

Sales and Application Centers

Switzerland

Schaffner EMV AG

Industrie Nord
Nordstrasse 11e
4542
Luterbach
+41 32 681 66 26
switzerlandsales@schaffner.com

China

Schaffner EMC Ltd. Shanghai

Building C
T20-3 C No 565 Chuangye Road Pudong
district
C 幢 上海市浦东新区创业路 565 号 T20-3
201201
Shanghai
+ 86 21 38 139 500
cschina@schaffner.com

Singapore

Schaffner EMC Pte Ltd.

Blk 3015A Ubi Road 1 #05-09 Kampong Ubi
Industrial Estate
408705
Singapore
+65 63773283
singaporesales@schaffner.com

To find your local partner within
Schaffner's global network schaffner.com

© 2023 Schaffner Group

The content of this document has been carefully checked and understood. However, neither Schaffner nor its subsidiaries assume any liability whatsoever for any errors or inaccuracies of this document and the consequences thereof. Published specifications are subject to change without notice. Product suitability for any area of application must ultimately be determined by the customer. In all cases, products must never be operated outside their published specifications. Schaffner does not guarantee the availability of all published products. This disclaimer shall be governed by substantive Swiss law and resulting disputes shall be settled by the courts at the place of business of Schaffner Holding AG. Latest publications and a complete disclaimer can be downloaded from the Schaffner website. All trademarks recognized.