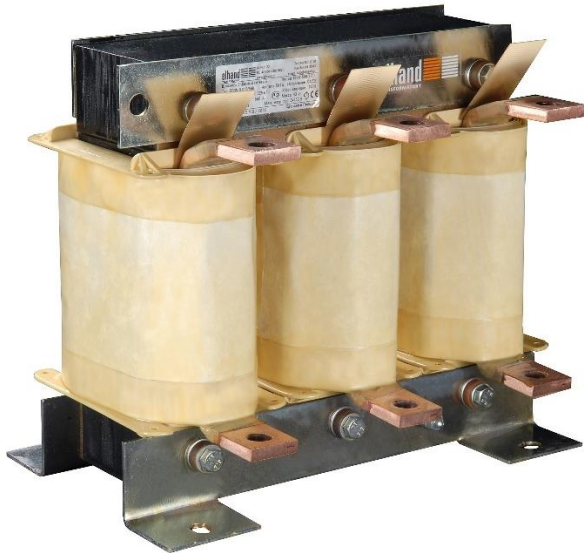


**ED3N,  
Line reactor, Cu version**

3 A up to 1250 A



Certificates



Technical data

<b>Rated current</b>	3-1250 A
<b>Rated voltage</b>	400 V
<b>Rated frequency</b>	50 Hz
<b>Overloadability</b>	110% In (continuous) 160% In (momentary)
<b>Cooling</b>	AN – air natural
<b>Ambient temperature</b>	40°C – standard design 45°C – maritime design ≥50°C – special design
<b>Insulation class</b>	F (155°C)
<b>Winding material</b>	Copper
<b>Standard equipment</b>	NC temperature switch from 700 A (355 kW) - 2% reactors from 500 A (250 kW) - 4% reactors
<b>Mounting</b>	Standing, vertical
<b>Degree of protection</b>	IP00
<b>Applied standards</b>	EN 61558-20, EN 60076-6

\*- UL approved insulation system

**Function**

The line reactor increases the impedance at the connection point of the frequency converter. As a result, the current consumed by the converter has a lower value of the THDi distortion coefficient, which reduces its effective value. ED3N reactor helps to eliminate negative effects of transients, limiting steepness and peak value of current pulses. 4% reactors are mainly used in drives without a built-in DC-link choke.

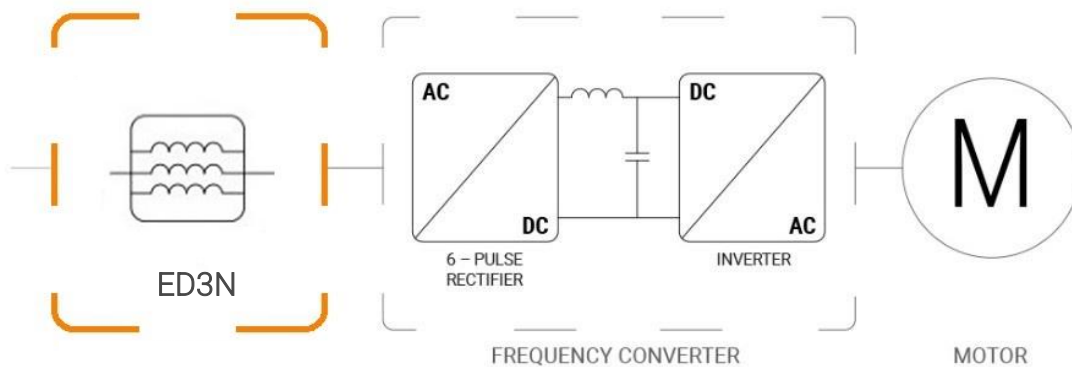
**Benefits**

- Reduction of short-circuit and inrush currents
- Limitation of di/dt steepness
- Reduction of current harmonics content
- Extended lifetime of rectifier

**Application**

- AC drive systems with frequency converters
- High short circuit power grids
- Frequency converters without DC-link choke

## Typical application diagram



## Dimensions: ED3N 400V 2% Cu

No	Type of reactor	Drive power	Inductance	Current	Reactance voltage drop	L	B	H	d	e	f	Weight [kg]	Execution
		[kW]	[mH]	[A]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]		
1	ED3N - 4,90mH/3A	1,5	4,90	3	2%	100	52	122	80	31	5 x 8	0,85	A
2	ED3N - 3,60mH/4A	2,2	3,60	4	2%	100	52	122	80	31	5x8	0,85	A
3	ED3N - 2,40mH/6A	3	2,40	6	2%	100	60	122	80	40	5 x 8	1,2	A
4	ED3N - 1,80mH /8A	4	1,8	8	2%	100	60	122	80	40	5X8	1,3	A
5	ED3N - 1,20mH /12A	5,5	1,2	12	2%	125	61	141	100	45	5x8	1,6	A
6	ED3N - 0,90mH/16A	7,5	0,90	16	2%	125	61	141	100	45	5x8	1,8	A
7	ED3N - 0,59mH/25A	11	0,59	25	2%	125	105	103	100	56	5X8	2,6	B
8	ED3N - 0,49mH/30A	15	0,49	30	2%	155	77	160	30	56	8x11	3,3	B
9	ED3N - 0,40mH/36A	18,5	0,40	36	2%	155	108	128	130	72	8x11	4,8	B
10	ED3N - 0,29mH/50A	22	0,29	50	2%	155	108	128	130	72	8 x 11	5,0	B
11	ED3N - 0,24mH/60A	30	0,24	60	2%	195	110	158	173	72	8 x 11	5,4	B
12	ED3N - 0,21mH/70A	37	0,21	70	2%	195	120	158	173	82	8 x 11	7,4	B
13	ED3N -0,16mH/90A	45	0,16	90	2%	195	130	158	173	92	8 x 11	8,8	B
14	ED3N - 0,13mH/110A	55	0,13	110	2%	208	110	181	173	78	8 x 11	8,8	C
15	ED3N - 0,12mH/120A	55	0,12	120	2%	208	110	181	173	78	8 x 11	9,2	C
16	ED3N - 0,10mH/150A	75	0,10	150	2%	208	127	181	173	95	8 x 11	13,2	C
17	ED3N - 0,08mH/180A	90	0,08	180	2%	240	142	207	198	105	11 x 29	16,2	C
18	ED3N - 0,067mH/220A	110	0,067	220	2%	240	165	207	198	125	11 x 29	20,8	C
19	ED3N - 0,057mH/260A	132	0,057	260	2%	300	157	264	240	122	11 x 15	23,0	C
20	ED3N - 0,046mH/320A	160	0,046	320	2%	300	170	264	240	135	11 x 15	29,1	C
21	ED3N - 0,037mH/400A	200	0,037	400	2%	300	190	264	240	147	11 x 15	35,7	C
22	ED3N - 0,029mH/500A	250	0,029	500	2%	358	195	306	300	133	11 x 21	41,3	C
23	ED3N - 0,023mH/630A	315	0,023	630	2%	420	202	415	370	131	11 x 21	44,8	D
24	ED3N - 0,021mH/700A	355	0,021	700	2%	420	212	415	370	141	11 x 21	56,0	D
25	ED3N - 0,018mH/800A	400	0,018	800	2%	420	222	415	370	151	11 x 21	60,0	D
26	ED3N - 0,016mH/900A	450	0,016	900	2%	420	230	415	370	151	11 x 21	63,0	D
27	ED3N - 0,015mH/1000A	500	0,015	1000	2%	420	290	415	370	166	11 x 21	78,0	D
28	ED3N - 0,013mH/1100A	560	0,013	1100	2%	420	280	415	370	166	11 x 21	83,0	D
29	ED3N - 0,012mH/1250A	630	0,012	1250	2%	420	300	415	370	181	11 x 21	98,5	D

## ED3N 400V 4% Cu

No	Type of reactor	Drive power	Inductance	Current	Reactance voltage drop	L	B	H	d	e	f	Weight	Execution
		[kW]	[mH]	[A]		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]	
1	ED3N - 9,80mH/3A	1,5	9,80	3	4%	100	52	122	80	31	5 x 8	0,92	A
2	ED3N - 7,30mH/4A	2,2	7,30	4	4%	100	60	122	80	40	5 x 8	1,3	A
3	ED3N - 4,90mH/6A	3	4,90	6	4%	100	60	122	80	40	5x8	1,4	A
4	ED3N - 3,60mH/8A	4	3,6	8	4%	125	61	141	100	45	5x8	1,8	A
5	ED3N - 2,40mH/12A	5,5	2,40	12	4%	125	71	141	100	55	5x8	2,4	A
6	ED3N - 1,80mH/16A	7,5	1,80	16	4%	155	77	160	130	57	8x11	3,4	A
7	ED3N - 1,20mH/25A	11	1,20	25	4%	155	121	130	130	72	8x11	5,4	B
8	ED3N - 0,98mH/30A	15	0,98	30	4%	195	110	160	173	72	8x11	5,9	B
9	ED3N - 0,82mH/36A	18,5	0,82	36	4%	195	120	160	173	82	8 x 11	7,5	B
10	ED3N - 0,59mH/50A	22	0,59	50	4%	195	134	160	173	92	8 x 11	9,3	B
11	ED3N - 0,49mH/60A	30	0,49	60	4%	195	134	180	173	78	8X11	10,4	B
12	ED3N - 0,42mH/70A	37	0,42	70	4%	240	157	210	198	95	11 x 29	11,8	B
13	ED3N - 0,33mH/90A	45	0,33	90	4%	240	160	210	198	95	11 x 29	12,8	B
14	ED3N - 0,27mH/110A	55	0,27	110	4%	240	146	210	198	105	11 x 29	16,2	C
15	ED3N - 0,24mH/120A	55	0,24	120	4%	240	152	210	198	115	11 x 29	19,5	C
16	ED3N - 0,20mH/150A	75	0,20	150	4%	300	161	265	240	122	11 x 15	25	C
17	ED3N - 0,16mH/180A	90	0,16	180	4%	260	180	225	198	126	11 x 29	29	C
18	ED3N - 0,13mH/220A	110	0,13	220	4%	300	196	265	240	147	11 x 15	36,5	C
19	ED3N - 0,11mH/260A	132	0,11	260	4%	300	211	265	240	162	11 x 15	43,5	C
20	ED3N - 0,092mH/320A	160	0,092	320	4%	357	203	310	300	148	11 x 21	53	C
21	ED3N - 0,087mH/400A	200	0,074	400	4%	420	205	415	370	141	11 x 15	57	D
22	ED3N - 0,059mH/500A	250	0,059	500	4%	420	215	415	370	151	11 x 15	66	D
23	ED3N - 0,047mH/630A	315	0,047	630	4%	420	272	415	370	181	11 x 15	94	D
24	ED3N - 0,042mH/700A	355	0,042	700	4%	480	280	475	430	191	13 x 18	104	D
25	ED3N - 0,037mH/800A	400	0,037	800	4%	480	263	475	430	208	13 x 18	122	D
26	ED3N - 0,033mH/900A	450	0,033	900	4%	480	288	490	430	208	13 x 18	128	D
27	ED3N - 0,029mH/1000A	500	0,029	1000	4%	480	318	490	430	238	13 x 18	155	D
28	ED3N - 0,027mH/1100A	560	0,027	1100	4%	540	338	535	490	258	13 x 18	176	D
29	ED3N - 0,024mH/1250A	630	0,024	1250	4%	540	350	535	490	268	13 x 18	196	D

Manufacturer reserves the right to make changes resulting from the continuous development of products offered

## Reactance voltage drop

One way to determine the reactor impedance is to express it as a percentage of the reactance voltage drop. The voltage drop is calculated by the following formula:

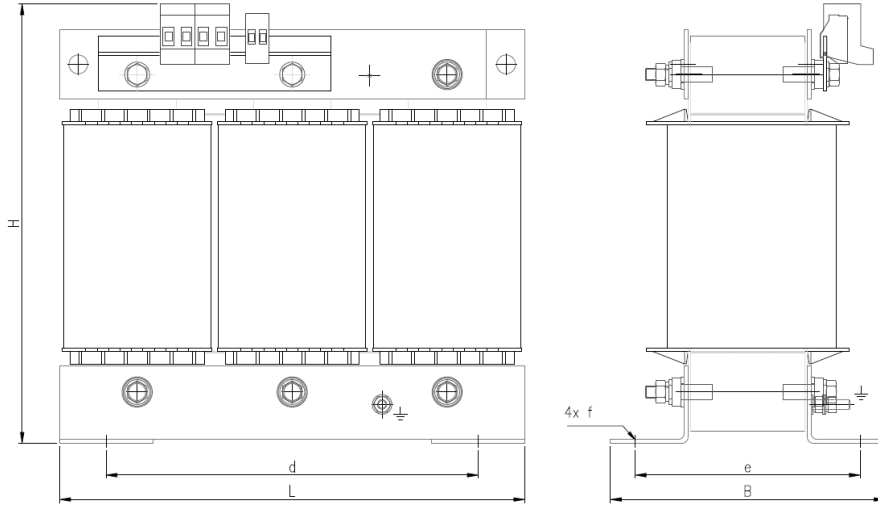
$$u_{\%} = \frac{2 \cdot \pi \cdot f \cdot L \cdot I_n}{U_n}$$

Where:

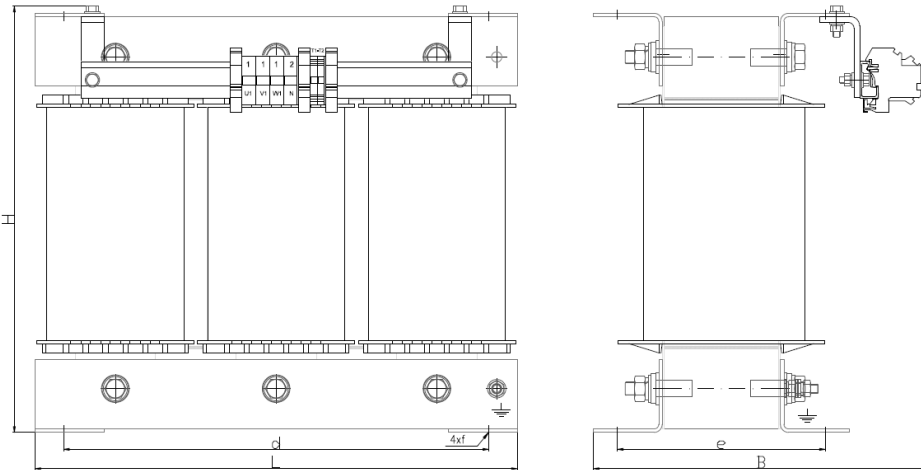
- f – rated frequency of the reactor,
- L – rated inductance of the reactor
- $I_n$  – rated current of the reactor
- $U_n$  – rated voltage of the reactor

Drawings

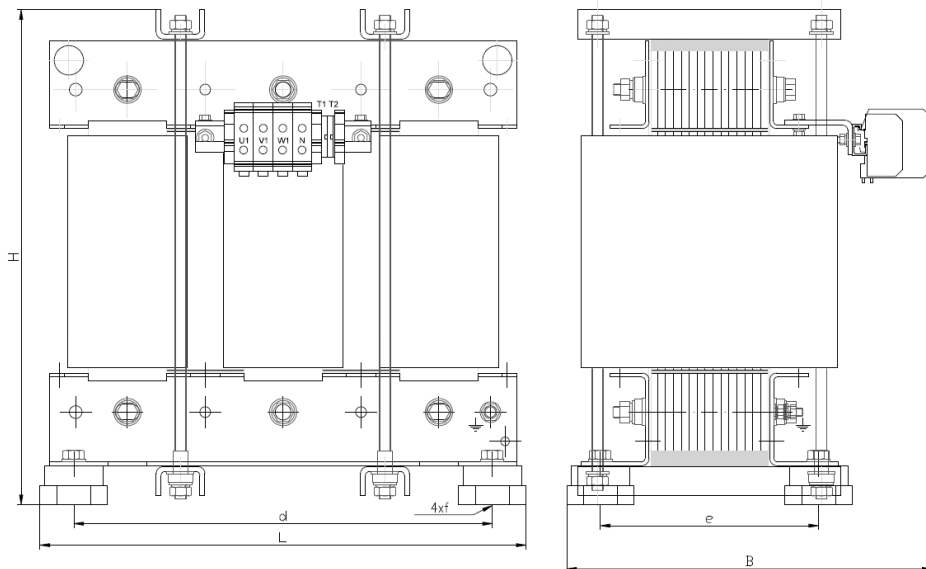
Execution A



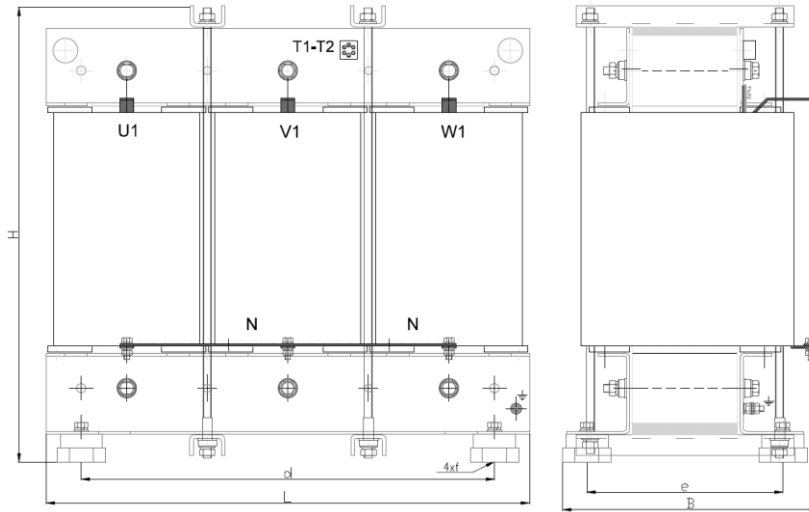
Execution B



Execution C



**Execution D**



Type code

<b>E</b>	<b>D</b>	<b>3</b>	<b>N</b>	<b>0,013mH/220A</b>	<b>400V</b>	<b>50/60Hz</b>	<b>T40F</b>	
Manufacturer symbol	Instrument type	Number of phases	Application type	Rated inductance / current	Rated voltage	Rated frequency	Insulation class	Protection degree Blank if IP00

Special execution

Products with parameters exceeding the catalogue card can be made upon prior contact

Contact

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