ACL Line + Load Reactors

Line 43/45 + 63/65, Three-Phase, Iron-Core, PolyGap® Design

MANGOLDT's ACL Line/Load Reactors provide proven performance and reliable high quality for your application

MANGOLDT'S Type ACL Line Reactors set a new standard for line reactor performance and reliability. Precise 3-phase inductance and voltage drops, minimized stray flux, reduced losses due to harmonics, as well as low noise operation.

Based on knowledge gained from several decades of applications experience as well as ongoing R&D they provide stable feature properties for your application. PolyGap® core technology is utilized for low power losses as well as balanced inductance. This leads to a superior lifetime of MANGOLDT ACL Line Reactors.

Line Reactors from MANGOLDT are designed to suit both - line input or load output of drive systems. With the added impedance they provide you an easy solution for reducing nuisance tripping and harmonic distortion as well as minimizing long lead effects.

MANGOLDT applies the actual harmonics currents while testing for inductance, power loss and temperature rise assuring high performance and long product lifetime.

Features

- Line and load side application
- PolyGap® Core Construction
- Vacuum and overpressure impregnation
- Balanced inductance in all three phases
- Low losses, especially due to harmonics

Benefits

- Reduction of mains harmonics
- Reduction of commutation notches
- Protection of motor drive electronics
- Limitation of inrush currents
- Improvement of true power factor

Approvals / Standards

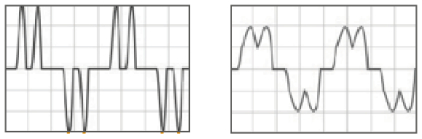
- CUL Listed (E173113),
- IEC/EN60076-6, VDE0532-76-6

RoHS 2011/65/EU

c UL us LISTED

Current Waveform

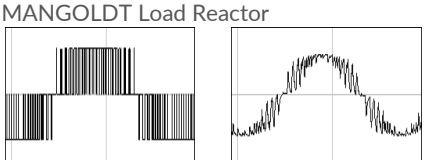
MANGOLDT Line Reactor



Without ACL Reactor **With** ACL Reactor

Voltage Waveform

MANGOLDT Load Reactor



Without ACL Reactor **With** ACL Reactor

Technical Data

Rated Voltage	U_N / [V_{AC}]	400/480	600
Rated Impedance	3/5% @	50/60Hz	60Hz
Rated Currents	I_N / [A_{RMS}]	3...1220	3...1170
Max. Voltage	U_{max} / [V_{AC}] 690		
Rated Frequency	f_N / [Hz] 50/60		
Test Voltage	U / [V_{AC}] 3000 (1 min)		
Overload	1.5 x I_N for 60s/every 10min (ta ≤ 45°C)		
Impregnation	Vacuum Overpressure (VPI)		
Insulation Class	T50/H		
Type of Cooling	Natural Convection (AN)		
Protection Class	IP00		
Altitude Maximum without derating	1000 Meters		
Relative Humidity	Maximum 95% non-condensing		

ACL43 Line + Load Reactors

Three-Phase, Iron-Core, PolyGap®-Design

The ACL product line is available as standard solution for several impedance ratings from 3% to 5% matching your application. For your specific demands MANGOLDT offers tailor-made solutions, our engineering team develops precise solutions to meet your specific application requirements.

MANGOLDT actually determines watts loss by measurement, while the reactor is fully loaded with both fundamental and harmonic currents. ACL Line Reactors are designed for the worst case magnitude of residual harmonics that will be experienced under full load operating conditions at rated voltage and current.

MANGOLDT ACL43 Line Reactor Selection Table

Reactor Type	Rated Current	Typical Motor Power Rating		Rated Inductance	Terminal Input/Output	Typical Power Loss	Total Weight
	[A]	[kW] @ 400V 50Hz	[hp] @ 480V 60Hz	[mH]		[W] @ 100% load	[kg]
ACL43-0003	**3**	1,5	1,5	**8**	Terminal Blocks	20	2,6
ACL43-0005	**5**	2,0	3	**4,7**	Terminal Blocks	25	2,6
ACL43-0008	**8**	4	5	**2,95**	Terminal Blocks	30	4,2
ACL43-0011	**11**	5,5	7,5	**2,2**	Terminal Blocks	40	4,2
ACL43-0014	**14**	5,5	10	**1,7**	Terminal Blocks	45	5,1
ACL43-0022	**22**	11	15	**1,1**	Terminal Blocks	50	6,8
ACL43-0028	**28**	13	20	**0,86**	Terminal Blocks	70	7,7
ACL43-0035	**35**	15	25	**0,7**	Terminal Blocks	80	9,3
ACL43-0040	**40**	20	30	**0,58**	Copper Bus Bar	90	9,7
ACL43-0052	**52**	25	40	**0,46**	Copper Bus Bar	120	12,9
ACL43-0066	**66**	30	50	**0,37**	Copper Bus Bar	120	15,4
ACL43-0081	**81**	40	60	**0,30**	Copper Bus Bar	140	16,6
ACL43-0100	**100**	50	75	**0,24**	Copper Bus Bar	160	18,6
ACL43-0125	**125**	60	100	**0,19**	Copper Bus Bar	190	20
ACL43-0158	**158**	75	125	**0,15**	Copper Bus Bar	200	24,5
ACL43-0185	**185**	90	150	**0,13**	Copper Bus Bar	240	28,7
ACL43-0242	**242**	110	200	**0,1**	Copper Bus Bar	270	36,2
ACL43-0302	**302**	150	250	**0,08**	Copper Bus Bar	330	41,2
ACL43-0365	**365**	175	300	**0,066**	Copper Bus Bar	380	50,8
ACL43-0415	**415**	200	350	**0,058**	Copper Bus Bar	420	52
ACL43-0480	**480**	225	400	**0,05**	Copper Bus Bar	500	57
ACL43-0515	**515**	250	450	**0,047**	Copper Bus Bar	460	65
ACL43-0594	**594**	275	500	**0,04**	Copper Bus Bar	560	73,1
ACL43-0731	**731**	355	600	**0,033**	Copper Bus Bar	730	80
ACL43-0841	**841**	400	700	**0,029**	Copper Bus Bar	830	100
ACL43-0961	**961**	475	800	**0,025**	Copper Bus Bar	920	100
ACL43-1089	**1089**	500	900	**0,022**	Copper Bus Bar	980	119
ACL43-1210	**1210**	550	1000	**0,02**	Copper Bus Bar	1050	139

ACL43 Line + Load Reactors

Three-Phase, Iron-Core, PolyGap®-Design

MANGOLDT ACL Line Reactors are a cost-effective way for the limitation of mains harmonics. The harmonic reduction is related to the reactor impedance. Types listed on this page are designed to carry continuous fundamental and harmonic currents according to the table below. The current spectrum is defined with reference to both the RMS and the fundamental current.

Residual Harmonics (worst case at full load)

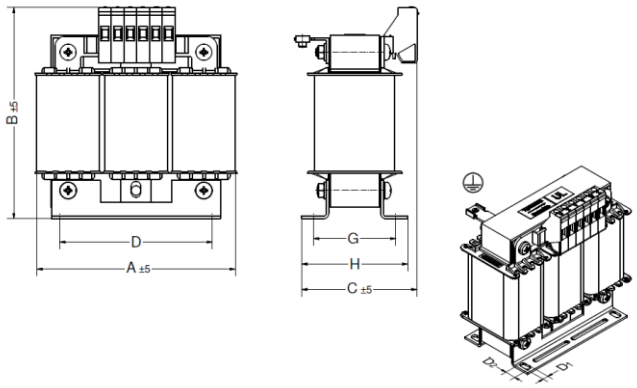
Ref.	I1	I5	I7	I11	I13	I17	I19	I23	I25	Irms
% rms	91,6%	35,7%	16,0%	6,8%	4,4%	2,6%	2,1%	1,4%	1,0%	100,0%
%fund	100,0%	39,0%	17,4%	7,4%	4,8%	2,9%	2,3%	1,5%	1,1%	109,2%

When rated current flows through the 3% impedance line reactor, the VFD input harmonic current distortion will typically be about 44% THDi or less. Please contact our engineering team for any other ratings you need.

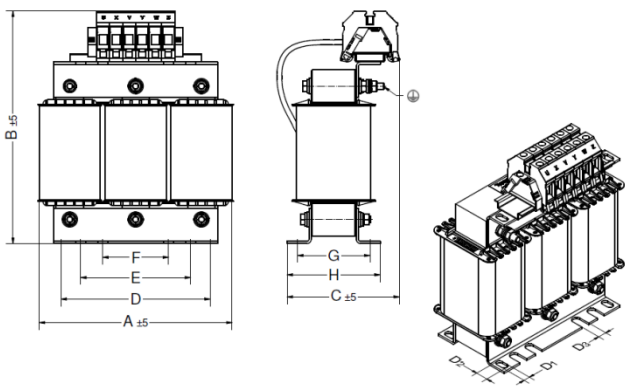
Mechanical Data

Reactor Type	A	B	C	D	E	F	G	H	D1	D2	D3	Terminal	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]²	[Nm]
ACL43-0003	94	105	62	56	-	-	43	56	5	9	-	0,5-4	0,5
ACL43-0005	94	105	62	56	-	-	43	56	5	9	-	0,5-4	0,5
ACL43-0008	117	125	68	90	-	-	49	63	5	9	-	0,5-4	0,5
ACL43-0011	117	125	68	90	-	-	49	63	5	9	-	0,5-4	0,5
ACL43-0014	125	152	86	113	-	-	49	66	6	11	-	0,2-10	1,2
ACL43-0022	125	152	101	113	-	-	64	81	6	11	-	0,2-10	1,2
ACL43-0028	174	213	93	136	100	60	56	75	7	13	9	2,5-16	2-4
ACL43-0035	176	213	103	136	100	60	66	85	7	13	9	2,5-16	2-4

4...22 A Types (Terminal Block)



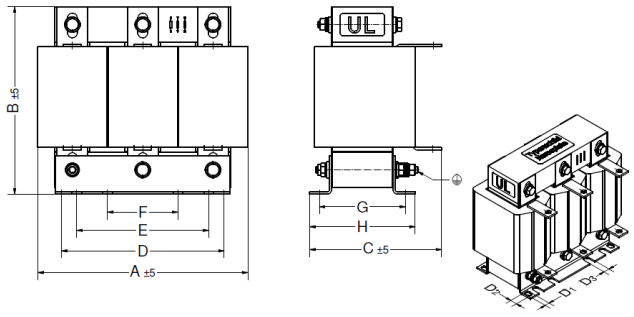
22...35 A Types (Terminal Block)



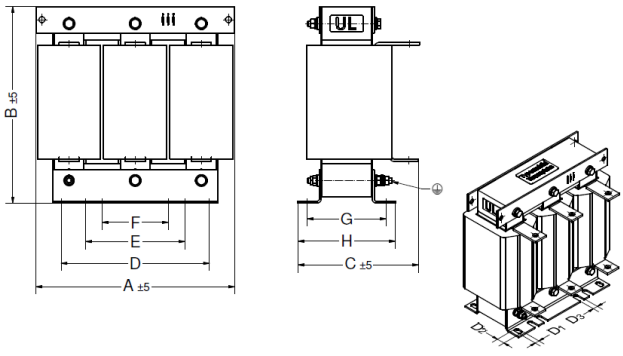
Mechanical Data

Reactor Type	A	B	C	D	E	F	G	H	D1	D2	D3	Terminal	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]^2	[Nm]
ACL43-0040	178	159	122	136	100	60	76	95	7	13	9	20x3	20
ACL43-0052	200	179	131	156	100	68	87	106	7	13	9	20x3	20
ACL43-0066	223	162	141	176	150	76	95	114	7	13	11	20x3	20
ACL43-0081	223	177	141	176	150	76	95	114	7	13	11	20x3	20
ACL43-0100	223	202	141	176	150	76	95	114	7	13	11	20x3	20
ACL43-0125	239	212	149	185	150	80	88	110	9	13	11	30x3	45
ACL43-0158	240	212	165	185	150	80	102	124	9	13	11	30x3	45
ACL43-0185	261	233	170	200	150	88	104	132	10	18	11	30x4	45
ACL43-0242	300	236	186	224	150	100	134	162	10	18	11	30x5	45
ACL43-0302	300	268	194	224	150	100	134	162	10	18	11	40x4	75
ACL43-0365	300	297	209	224	150	100	134	162	10	18	11	40x5	75
ACL43-0415	300	298	216	224	150	100	134	162	10	18	11	40x8	75
ACL43-0480	300	330	215	224	150	100	134	162	10	18	11	40x8	75
ACL43-0514	300	329	226	224	150	100	144	172	10	18	11	40x8	75
ACL43-0594	300	422	215	224	150	100	134	162	10	18	11	40x8	75
ACL43-0731	300	455	219	224	150	100	134	162	10	18	11	40x10	75
ACL43-0841	330	517	234	224	150	100	134	162	10	18	11	50x10	75
ACL43-0961	330	550	234	224	150	100	134	162	10	18	11	50x10	75
ACL43-1089	394	575	244	264	120	-	141	169	10	18	13	60x10	75
ACL43-1210	394	662	244	264	120	-	141	169	10	18	13	60x10	75

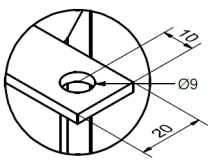
40...185 A Types (Copper Bus Bars)



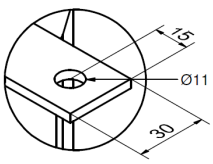
242...1210 A Types (Copper Bus Bars)



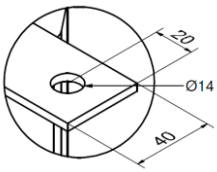
Bus Bar 20 mm



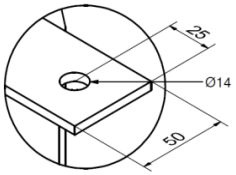
Bus Bar 30 mm



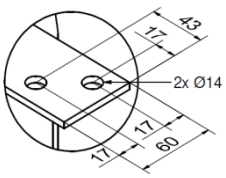
Bus Bar 40 mm



Bus Bar 50 mm



Bus Bar 60 mm



ACL45 Line + Load Reactors

Three-Phase, Iron-Core, PolyGap®-Design

The ACL product line is available as standard solution for several impedance ratings from 3% to 5% matching your application. For your specific demands MANGOLDT offers tailor-made solutions, our engineering team develops precise solutions to meet your specific application requirements.

MANGOLDT actually determines watts loss by measurement, while the reactor is fully loaded with both fundamental and harmonic currents. ACL Line Reactors are designed for the worst case magnitude of residual harmonics that will be experienced under full load operating conditions at rated voltage and current.

MANGOLDT ACL45 Line Reactor Selection Table

Reactor Type	Rated Current	Typical Motor Power Rating		Rated Inductance	Terminal Input/Output	Typical Power Loss	Total Weight
	[A]	[kW] @ 400V 50Hz	[hp] @ 480V 60Hz	[mH]		[W] @ 400V 50Hz	[kg]
ACL45-0003	3	1,5	2	**13**	Block Terminals	20	3,2
ACL45-0005	5	2,0	3	**7,8**	Block Terminals	35	3,2
ACL45-0008	8	4,0	5	**4,9**	Block Terminals	40	5,2
ACL45-0011	11	5,5	7,5	**3,5**	Block Terminals	45	5,2
ACL45-0014	14	5,5	10	**2,7**	Block Terminals	50	6,8
ACL45-0021	21	10,0	15	**1,85**	Block Terminals	70	9,2
ACL45-0027	27	12,5	20	**1,45**	Block Terminals	80	11,2
ACL45-0034	34	15	25	**1,15**	Copper Bus Bar	110	11
ACL45-0040	40	20	30	**0,96**	Copper Bus Bar	120	12
ACL45-0052	52	25	40	**0,75**	Copper Bus Bar	130	18
ACL45-0065	65	30	50	**0,60**	Copper Bus Bar	140	19
ACL45-0080	80	40	60	**0,49**	Copper Bus Bar	180	20
ACL45-0106	106	50	75	**0,37**	Copper Bus Bar	210	23
ACL45-0129	129	60	100	**0,3**	Copper Bus Bar	235	30,5
ACL45-0159	159	75	125	**0,245**	Copper Bus Bar	260	35
ACL45-0185	185	90	150	**0,21**	Copper Bus Bar	295	41
ACL45-0243	243	110	200	**0,159**	Copper Bus Bar	390	44
ACL45-0302	302	150	250	**0,13**	Copper Bus Bar	420	51
ACL45-0366	366	175	300	**0,106**	Copper Bus Bar	510	58
ACL45-0429	429	200	350	**0,092**	Copper Bus Bar	570	58
ACL45-0488	488	225	400	**0,08**	Copper Bus Bar	660	74
ACL45-0530	530	250	450	**0,074**	Copper Bus Bar	750	97
ACL45-0615	615	300	500	**0,065**	Copper Bus Bar	800	103
ACL45-0731	731	355	600	**0,053**	Copper Bus Bar	870	123
ACL45-0848	848	425	700	**0,046**	Copper Bus Bar	990	125
ACL45-0975	975	475	800	**0,040**	Copper Bus Bar	1050	152
ACL45-1081	1081	500	900	**0,036**	Copper Bus Bar	1300	154
ACL45-1224	1224	550	1000	**0,032**	Copper Bus Bar	1350	180

ACL45 Line + Load Reactors

Three-Phase, Iron-Core, PolyGap®-Design

MANGOLDT ACL Line Reactors are a cost-effective way for the limitation of mains harmonics. The harmonic reduction is related to the reactor impedance. Types listed on this page are designed to carry continuous fundamental and harmonic currents according to the table below. The current spectrum is defined with reference to both the RMS and the fundamental current.

Residual Harmonics (worst case at full load)

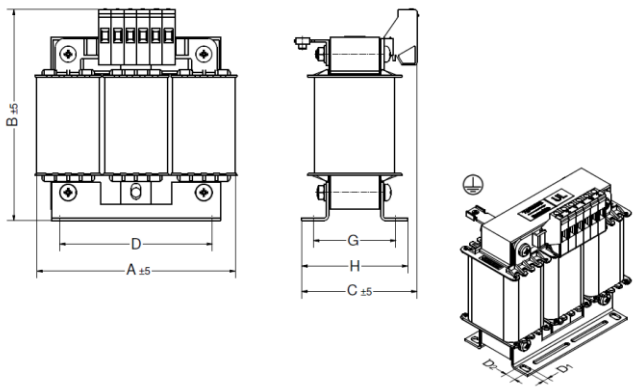
Ref.	I1	I5	I7	I11	I13	I17	I19	I23	I25	Irms
% rms	94%	30,2%	11,7%	5,5%	3,7%	2,1%	1,6%	1,0%	0,8%	100,0%
%fund	100,0%	32,0%	12,4%	5,8%	3,9%	2,2%	1,7%	1,1%	0,9%	106,0%

When rated current flows through the 5% impedance line reactor, the VFD input harmonic current distortion will typically be about 35% THDi or less. Please contact our engineering team for any other ratings you need.

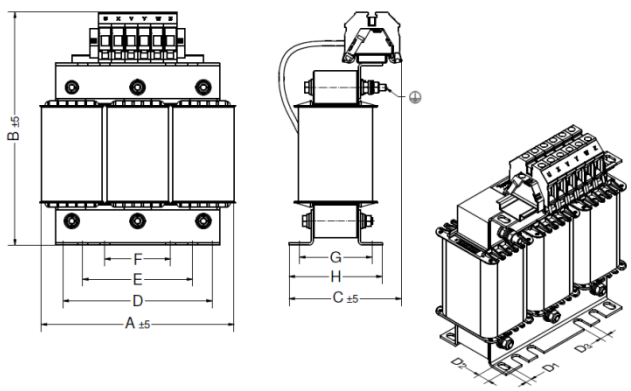
Mechanical Data

Reactor Type	A	B	C	D	E	F	G	H	D1	D2	Terminal	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]²	[Nm]
ACL45-0003	117	125	58	90			39	53	5	9	0,5-4	0,5
ACL45-0005	117	125	58	90			39	53	5	9	0,5-4	0,5
ACL45-0008	144	152	86	113			49	66	6	11	0,2-10	1,2
ACL45-0011	144	152	86	113			49	66	6	11	0,2-10	1,2
ACL45-0014	147	152	101	113			64	81	6	11	0,2-10	1,2
ACL45-0021	175	213	103	136	100	60	66	85	7	13	2,5-16	2-4
ACL45-0027	175	213	113	136	100	60	76	95	7	13	2,5-16	2-4

4...18 A Types (Terminal Block)



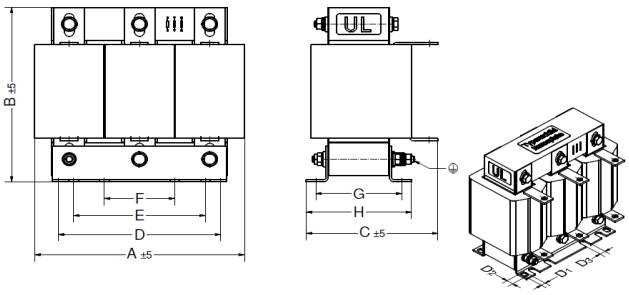
33...840 A Types (Copper Bus Bars)



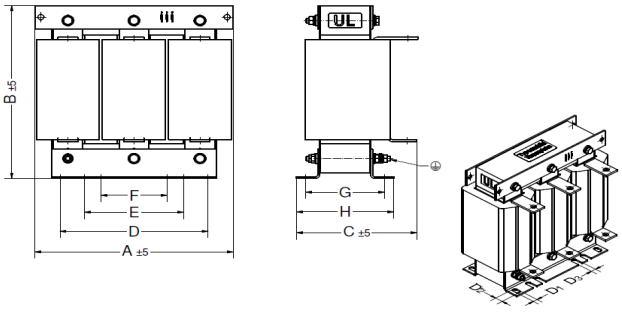
Mechanical Data

Reactor Type	A	B	C	D	E	F	G	H	D1	D2	Terminal	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]²	[Nm]
ACL45-0034	200	179	121	156	100	68	77	96	14	24	20x3	20
ACL45-0040	200	179	131	156	100	68	87	106	14	24	20x3	20
ACL45-0052	224	177	142	176	150	76	95	114	7	13	20x3	20
ACL45-0065	226	201	142	176	150	76	95	114	7	13	20x3	20
ACL45-0080	239	212	139	185	150	80	88	110	9	13	20x3	20
ACL45-0106	239	212	150	185	150	80	98	120	9	13	20x3	20
ACL45-0129	263	251	159	200	150	88	104	132	10	18	20x3	20
ACL45-0159	297	235	181	224	150	100	119	147	10	18	30x3	45
ACL45-0185	300	236	199	224	150	100	134	162	10	18	30x4	45
ACL45-0243	300	297	182	224	150	100	119	147	10	18	30x4	45
ACL45-0302	300	297	201	224	150	100	134	162	10	18	30x5	45
ACL45-0366	300	300	211	224	150	100	134	162	10	18	40x5	75
ACL45-0429	300	329	243	224	150	100	166	194	10	18	40x5	75
ACL45-0488	300	423	217	224	150	100	134	162	10	18	40x8	75
ACL45-0530	300	421	249	224	150	100	166	194	10	18	40x8	75
ACL45-0615	300	515	225	224	150	100	144	172	10	18	40x8	75
ACL45-0731	360	533	234	264		120	154	182	10	18	40x10	75
ACL45-0848	360	566	243	264		120	154	182	10	18	50x10	75
ACL45-0975	420	591	255	316		140	161	189	13	20	60x8	75
ACL45-1081	360	662	254	264		120	154	180	10	18	60x10	75
ACL45-1224	420	686	259	316		140	161	189	13	20	60x10	75

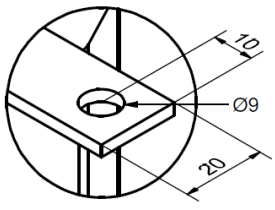
4…18 A Types (Terminal Block)



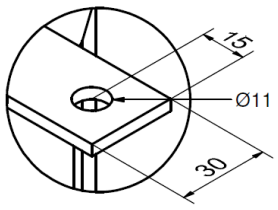
33…840 A Types (Copper Bus Bars)



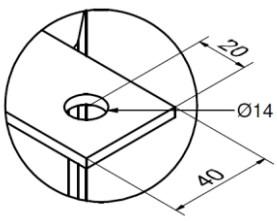
Bus Bar 20 mm



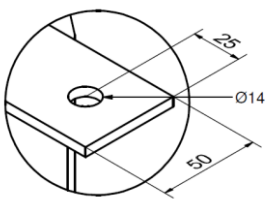
Bus Bar 30 mm



Bus Bar 40 mm



Bus Bar 50 mm



ACL63 Line + Load Reactors

Three-Phase, Iron-Core, PolyGap®-Design

The ACL product line is available as standard solution for several impedance ratings from 3% to 5% matching your application. For your specific demands MANGOLDT offers tailor-made solutions, our engineering team develops precise solutions to meet your specific application requirements.

MANGOLDT actually determines watts loss by measurement, while the reactor is fully loaded with both fundamental and harmonic currents. ACL Line Reactors are designed for the worst case magnitude of residual harmonics that will be experienced under full load operating conditions at rated voltage and current.

MANGOLDT ACL63 Line Reactor Selection Table

Reactor Type	Rated Current	Typical Motor Power Rating		Rated Inductance	Terminal Input/Output	Typical Power Loss	Total Weight
	[A]	[kW] @ 600V 50Hz	[hp] @ 600V 60Hz	[mH]		[W] @ 600V 60Hz	[kg]
ACL63-0003	**3**	2	2	**10**	Block Terminals	20	3,4
ACL63-0006	**6**	4	5	**5**	Block Terminals	40	3,4
ACL63-0009	**9**	5,5	7,5	**3,2**	Block Terminals	40	5,2
ACL63-0011	**11**	7,5	10	**2,7**	Block Terminals	50	5,2
ACL63-0017	**17**	12,5	15	**1,7**	Block Terminals	60	7,2
ACL63-0022	**22**	15	20	**1,35**	Block Terminals	70	9,1
ACL63-0028	**28**	20	25	**1,1**	Block Terminals	90	9,7
ACL63-0035	**35**	25	30	**0,86**	Block Terminals	110	11,1
ACL63-0043	**43**	30	40	**0,71**	Copper Bus Bar	120	15,1
ACL63-0053	**53**	37	50	**0,56**	Copper Bus Bar	130	16,3
ACL63-0067	**67**	45	60	**0,45**	Copper Bus Bar	150	18,5
ACL63-0082	**82**	60	75	**0,36**	Copper Bus Bar	180	19,2
ACL63-0104	**104**	75	100	**0,29**	Copper Bus Bar	220	22,6
ACL63-0131	**131**	90	125	**0,23**	Copper Bus Bar	260	29,3
ACL63-0144	**144**	110	150	**0,21**	Copper Bus Bar	290	28
ACL63-0198	**198**	132	200	**0,15**	Copper Bus Bar	320	38,2
ACL63-0247	**247**	175	250	**0,12**	Copper Bus Bar	400	42,3
ACL63-0300	**300**	200	300	**0,1**	Copper Bus Bar	440	49,9
ACL63-0344	**344**	250	350	**0,088**	Copper Bus Bar	490	56,9
ACL63-0388	**388**	275	400	**0,077**	Copper Bus Bar	580	68
ACL63-0420	**420**	315	450	**0,071**	Copper Bus Bar	680	72,3
ACL63-0480	**480**	355	500	**0,062**	Copper Bus Bar	650	77,6
ACL63-0579	**579**	425	600	**0,052**	Copper Bus Bar	740	80
ACL63-0677	**677**	500	700	**0,044**	Copper Bus Bar	910	109
ACL63-0775	**775**	550	800	**0,039**	Copper Bus Bar	910	122
ACL63-0873	**873**	630	900	**0,034**	Copper Bus Bar	1150	128
ACL63-0972	**972**	725	1000	**0,031**	Copper Bus Bar	1200	151
ACL63-1168	**1168**	830	1152	**0,026**	Copper Bus Bar	1250	175

ACL63 Line + Load Reactors

Three-Phase, Iron-Core, PolyGap®-Design

MANGOLDT ACL Line Reactors are a cost-effective way for the limitation of mains harmonics. The harmonic reduction is related to the reactor impedance. Types listed on this page are designed to carry continuous fundamental and harmonic currents according to the table below. The current spectrum is defined with reference to both the RMS and the fundamental current.

Residual Harmonics (worst case at full load)

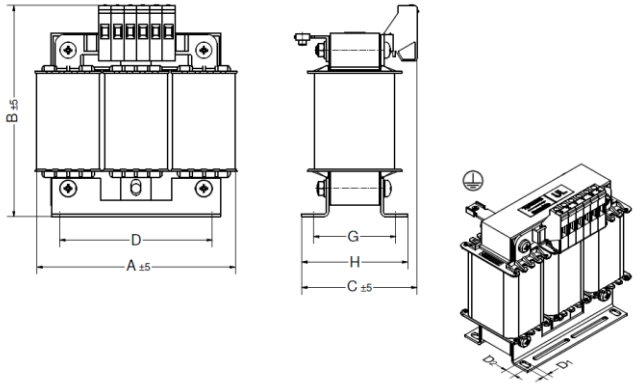
Ref.	I1	I5	I7	I11	I13	I17	I19	I23	I25	Irms
% rms	94%	30,2%	11,7%	5,5%	3,7%	2,1%	1,6%	1,0%	0,8%	100,0%
%fund	100,0%	32,0%	12,4%	5,8%	3,9%	2,2%	1,7%	1,1%	0,9%	106,0%

When rated current flows through the 3% impedance line reactor, the VFD input harmonic current distortion will typically be about 35% THDi or less. Please contact our engineering team for any other ratings you need.

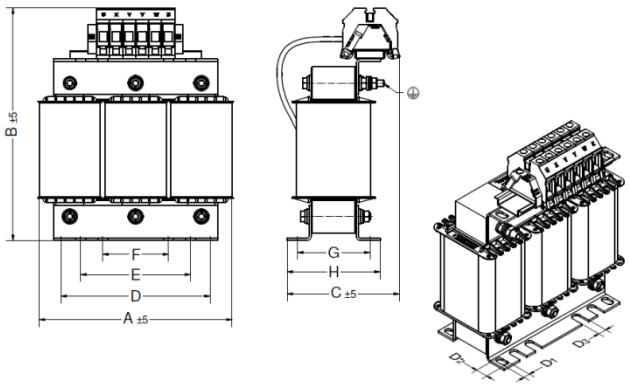
Mechanical Data

Reactor Type	A	B	C	D	E	F	G	H	D1	D2	Terminal	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]²	[Nm]
ACL63-0003	117	125	58	90			39	53	5	9	0,5-4	0,5
ACL63-0006	117	125	58	90			39	53	5	9	0,5-4	0,5
ACL63-0009	144	152	86	113			49	66	6	11	0,2-10	1,2
ACL63-0011	144	152	86	113			49	66	6	11	0,2-10	1,2
ACL63-0017	174	213	93	136	60	100	56	75	7	13	2,5-16	2-4
ACL63-0022	176	213	103	136	60	100	66	85	7	13	2,5-16	2-4

4...18 A Types (Terminal Block)



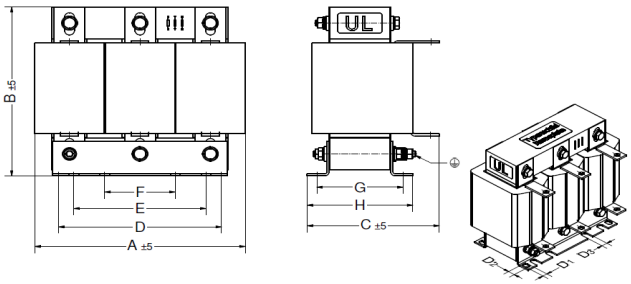
33...840 A Types (Copper Bus Bars)



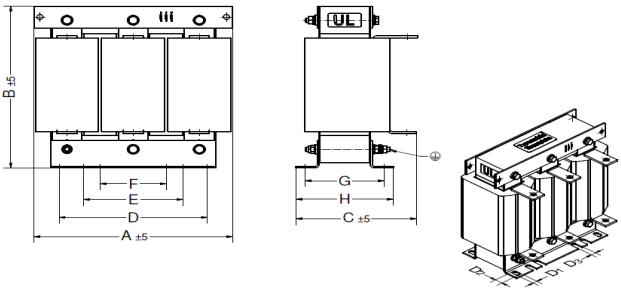
Mechanical Data

Reactor Type	A	B	C	D	E	F	G	H	D1	D2	Terminal	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]²	[Nm]
ACL63-0028	178	159	122	136	100	60	76	95	7	13	20x3	20
ACL63-0035	200	179	122	156	100	68	77	96	7	13	20x3	20
ACL63-0043	220	162	139	176	150	76	95	114	7	13	20x3	20
ACL63-0053	220	176	139	176	150	76	95	114	7	13	20x3	20
ACL63-0067	222	201	140	176	150	76	95	114	7	13	20x3	20
ACL63-0082	232	211	138	185	150	80	88	110	9	13	20x3	20
ACL63-0104	236	212	149	185	150	80	98	120	9	13	20x3	20
ACL63-0131	254	251	164	200	150	88	104	132	10	18	30x3	45
ACL63-0144	299	267	156	224	150	100	93	121	10	18	30x3	45
ACL63-0198	300	266	180	224	150	100	119	147	10	18	30x4	45
ACL63-0247	300	297	180	224	150	100	119	147	10	18	30x4	45
ACL63-0300	300	297	198	224	150	100	134	162	10	18	30x5	45
ACL63-0344	300	330	209	224	150	100	134	162	10	18	40x5	75
ACL63-0388	300	423	193	224	150	100	119	147	10	18	40x5	75
ACL63-0420	300	423	219	224	150	100	134	162	10	18	50x5	75
ACL63-0480	300	419	219	224	150	100	134	162	10	18	50x5	75
ACL63-0579	360	442	228	264		120	139	167	10	18	60x5	75
ACL63-0677	300	550	204	224	150	100	119	147	10	18	40x10	75
ACL63-0775	360	566	248	264		120	154	182	10	18	60x8	75
ACL63-0873	360	664	231	264		120	139	167	10	18	60x8	75
ACL63-0972	420	688	228	316		140	144	172	13	20	50x10	75
ACL63-1168	420	687	256	316		140	161	189	13	20	60x10	75

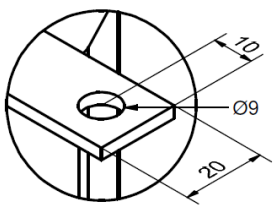
4...18 A Types (Terminal Block)



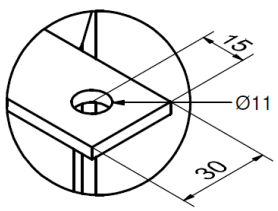
33...840 A Types (Copper Bus Bars)



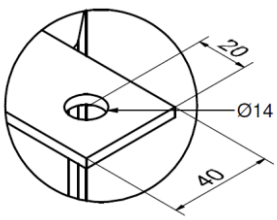
Bus Bar 20 mm



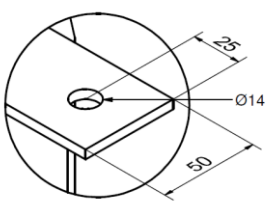
Bus Bar 30 mm



Bus Bar 40 mm



Bus Bar 50 mm



ACL65 Line + Load Reactors

Three-Phase, Iron-Core, PolyGap®-Design

The ACL product line is available as standard solution for several impedance ratings from 3% to 5% matching your application. For your specific demands MANGOLDT offers tailor-made solutions, our engineering team develops precise solutions to meet your specific application requirements.

MANGOLDT actually determines watts loss by measurement, while the reactor is fully loaded with both fundamental and harmonic currents. ACL Line Reactors are designed for the worst case magnitude of residual harmonics that will be experienced under full load operating conditions at rated voltage and current.

MANGOLDT ACL65 Line Reactor Selection Table

Reactor Type	Rated Current	Typical Motor Power Rating		Rated Inductance	Terminal Input/Output	Typical Power Loss	Total Weight
	[A]	[kW] @ 600V 50Hz	[hp] @ 480V 60Hz	[mH]		[W] @ 600V 60Hz	[kg]
ACL65-0003	3	2	2	**16,5**	Block Terminals	20	4,1
ACL65-0006	6	4	5	**7,5**	Block Terminals	40	4,1
ACL65-0009	9	5,5	7,5	**5,4**	Block Terminals	50	6,7
ACL65-0011	11	7,5	10	**4,5**	Block Terminals	60	6,7
ACL65-0017	17	12,5	15	**2,9**	Block Terminals	80	8,8
ACL65-0022	22	15	20	**2,2**	Block Terminals	90	10,2
ACL65-0027	27	20	25	**1,8**	Block Terminals		13,1
ACL65-0034	34	25	30	**1,4**	Block Terminals	120	16
ACL65-0041	41	30	40	**1,19**	Copper Bus Bar	140	17
ACL65-0052	52	37	50	**0,95**	Copper Bus Bar	170	19
ACL65-0066	66	45	60	**0,75**	Copper Bus Bar	190	23
ACL65-0081	81	60	75	**0,61**	Copper Bus Bar	220	28
ACL65-0106	106	75	100	**0,46**	Copper Bus Bar	260	29
ACL65-0129	129	90	125	**0,38**	Copper Bus Bar	300	35
ACL65-0148	148	110	150	**0,33**	Copper Bus Bar	350	45
ACL65-0192	192	132	200	**0,25**	Copper Bus Bar	400	44
ACL65-0244	244	175	250	**0,2**	Copper Bus Bar	500	49
ACL65-0291	291	200	300	**0,165**	Copper Bus Bar	590	68
ACL65-0339	339	250	350	**0,145**	Copper Bus Bar	590	68
ACL65-0382	382	275	400	**0,13**	Copper Bus Bar	660	78
ACL65-0424	424	315	450	**0,115**	Copper Bus Bar	710	93
ACL65-0488	488	355	500	**0,1**	Copper Bus Bar	810	103
ACL65-0577	577	425	600	**0,083**	Copper Bus Bar	940	102
ACL65-0673	673	500	700	**0,073**	Copper Bus Bar	990	115
ACL65-0774	774	550	800	**0,063**	Copper Bus Bar	1050	150
ACL65-0869	869	630	900	**0,056**	Copper Bus Bar	1150	172
ACL65-0975	975	725	1000	**0,050**	Copper Bus Bar	1400	175
ACL65-1166	1166	830	1152	**0,042**	Copper Bus Bar	1650	201

ACL65 Line + Load Reactors

Three-Phase, Iron-Core, PolyGap®-Design

MANGOLDT ACL Line Reactors are a cost-effective way for the limitation of mains harmonics. The harmonic reduction is related to the reactor impedance. Types listed on this page are designed to carry continuous fundamental and harmonic currents according to the table below. The current spectrum is defined with reference to both the RMS and the fundamental current.

Residual Harmonics (worst case at full load)

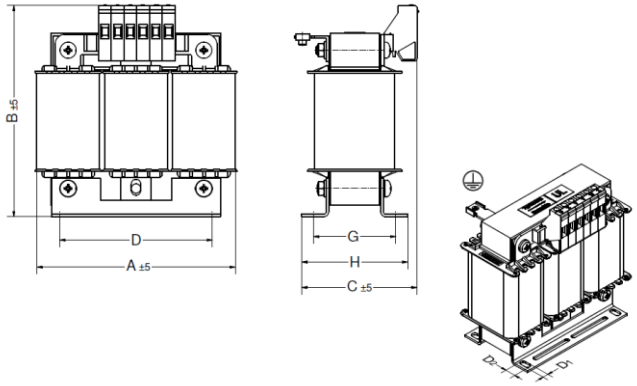
Ref.	I1	I5	I7	I11	I13	I17	I19	I23	I25	Irms
% rms	94%	30,2%	11,7%	5,5%	3,7%	2,1%	1,6%	1,0%	0,8%	100,0%
%fund	100,0%	32,0%	12,4%	5,8%	3,9%	2,2%	1,7%	1,1%	0,9%	106,0%

When rated current flows through the 5% impedance line reactor, the VFD input harmonic current distortion will typically be about 35% THDi or less. Please contact our engineering team for any other ratings you need.

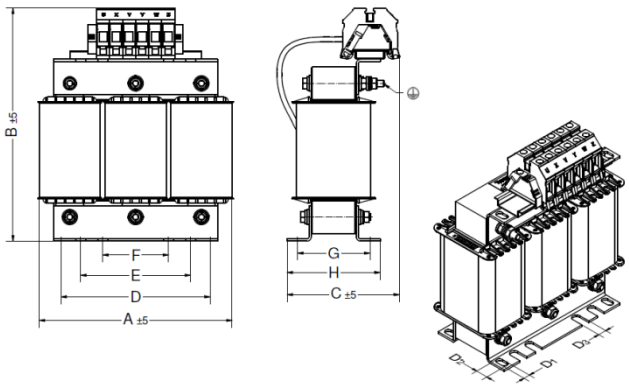
Mechanical Data

Reactor Type	A	B	C	D	E	F	G	H	D1	D2	Terminal	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]²	[Nm]
ACL65-0003	117	125	68	90			49	63	5	9	0,5-4	0,5
ACL65-0006	117	125	68	90			49	63	5	9	0,5-4	0,5
ACL65-0009	147	152	101	113			64	81	6	11	0,2-10	1,2
ACL65-0011	147	152	101	113			64	81	6	11	0,2-10	1,2
ACL65-0017	176	213	103	136	100	60	66	85	7	13	2,5-16	2-4
ACL65-0022	176	213	103	136	100	60	66	85	7	13	2,5-16	2-4

4...18 A Types (Terminal Block)



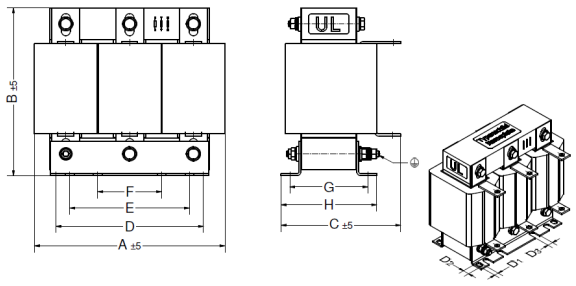
33...840 A Types (Copper Bus Bars)



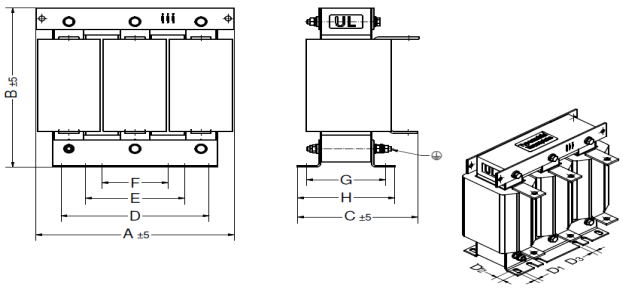
Mechanical Data

Reactor Type	A	B	C	D	E	F	G	H	D1	D2	Terminal	
	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]²	[Nm]
ACL65-0027	200	179	131	156	100	68	87	106	14	24	20x3	20
ACL65-0034	223	162	141	150		76	95	114	7	13	20x3	20
ACL65-0041	223	176	141	150		76	95	114	7	13	20x3	20
ACL65-0052	223	201	141	176	150	76	95	114	7	13	20x3	20
ACL65-0066	235	211	148	185	150	80	98	120	7	13	20x3	20
ACL65-0081	257	232	156	200	150	80	104	132	10	18	20x3	20
ACL65-0106	263	232	168	200	150	80	104	132	10	18	20x3	20
ACL65-0129	297	234	181	224	150	100	119	147	10	18	30x3	45
ACL65-0148	300	266	176	224	150	100	119	147	10	18	30x3	45
ACL65-0192	300	298	183	224	150	100	119	147	10	18	30x4	45
ACL65-0244	300	329	184	224	150	100	119	147	10	18	30x5	45
ACL65-0291	300	422	194	224	150	100	119	147	10	18	40x5	75
ACL65-0339	300	454	195	224	150	100	119	147	10	18	40x5	75
ACL65-0382	300	421	219	224	150	100	144	172	10	18	40x5	75
ACL65-0424	300	420	247	224	150	100	166	194	10	18	40x8	75
ACL65-0488	300	451	247	224	150	100	166	194	10	18	40x8	75
ACL65-0577	360	470	233	264		120	154	182	10	18	40x8	75
ACL65-0673	360	567	233	264		120	154	182	10	18	40x10	75
ACL65-0774	420	588	237	316		140	161	189	13	20	40x10	75
ACL65-0869	420	589	263	316		140	173	201	13	20	50x10	75
ACL65-0975	420	683	247	316		140	161	189	13	20	50x10	75
ACL65-1166	420	689	272	316		140	173	201	13	20	60x10	75

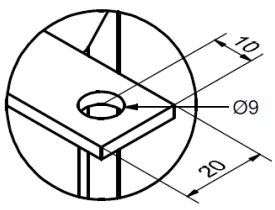
4...18 A Types (Terminal Block)



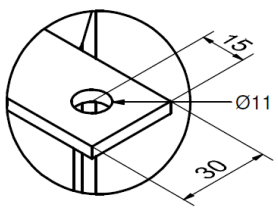
33...840 A Types (Copper Bus Bars)



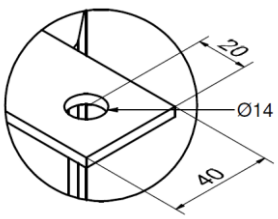
Bus Bar 20 mm



Bus Bar 30 mm



Bus Bar 40 mm



Bus Bar 50 mm