

Contactors

KNL CONTACTORS

KNL43, KNL63



- KNL43/63 contactors are mainly used for switching electric motors
- Possibility of direct connection of the BR63 bimetal relay for protection against overload and in case of phase failure
- Quick assembly to a 35 mm wide mounting rail in accordance with EN 60715
- Possibility of mounting the NDL4 snap-on auxiliary switch block with four auxiliary contacts
- Uniform marking of connection terminals in accordance with EN 50005 and EN 50011
- Use of the MBL43 mechanical interlock
- Degree of protection IP20

TECHNICAL DATA				MOTOR CONTACTORS		
				KNL43	KNL63	
GENERAL	Type					
	Standards			IEC/EN 60947-4-1, IEC/EN 60947-5-1, IEC/EN 60947-1, UL 508		
	Approvals			UL, CSA, GOST		
	Ambient temperature	open	°C	-20 ... +60		
		closed		-20 ... +45		
	Storage temperature			°C		
				-30 ... +80		
	Power dissipation per pole			5	6	
	Mechanical endurance			op. c.	3 x 10 ⁶	
	Max. mechanical operating frequency with no load			c./h	3000	
Max. electrical operating frequency AC-3/AC-4/AC-15/DC-13			c./h	600/300/1200/1200		
Weight			kg	0,93		
MAIN CIRCUIT	Rated insulation voltage	U_i	V	690		
	Thermal current	I_{th}	A	75	85	
	Rated frequency	f	Hz	50/60		
	Rated motor power	three-phase	230 V	P_e	12,5	15
			400 V		22	30
			690 V		30	40
	Rated operational current	three-phase	230 V	I_e	45	63
			400 V		45	63
			690 V		33	45
	Rated operational current	three-phase	400 V	P_e	15	22
			690 V		18,5	25
	Electrical endurance AC-3 / AC-4			op. c.	diagram 1 / diagram 2	
	Max. back-up fuse for short-circuit protection gL Coordination type 2			I_v	A	80 / 125
	Terminal capacity	rigid	S	mm ²	35	
		flexible			25	
Screw			M6			
Screw head			PZ2			
Tightening torque			Nm	4		
AUXILIARY CIRCUIT	Rated insulation voltage	U_i	V	690		
	Thermal current	I_{th}	A	16		
	Rated operational current	230 V	I_e	A	6	
		400 V			4	
	AC-15	500 V			2	
690 V				1		

Contactors

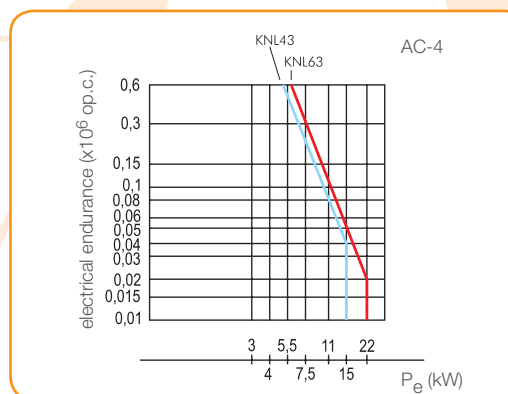
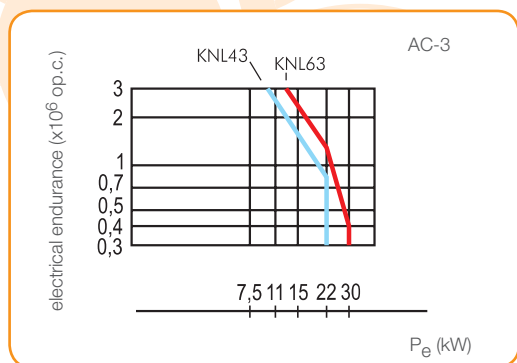
KNL CONTACTORS

KNL43, KNL63

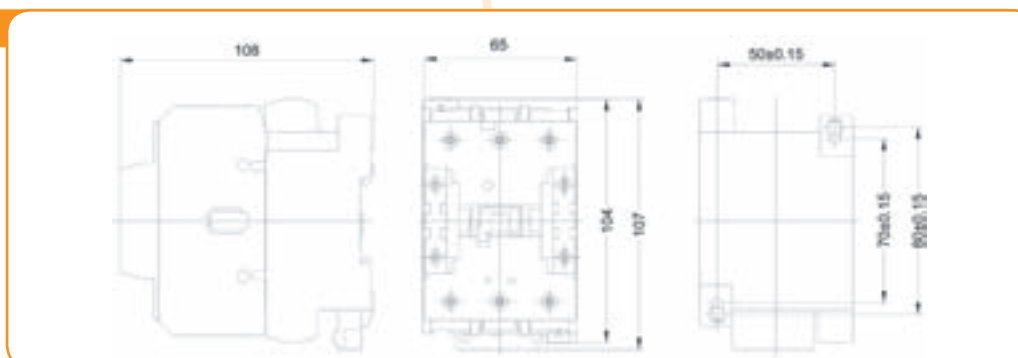
TECHNICAL DATA				MOTOR CONTACTORS		
AUXILIARY CIRCUIT	Type			KNL43	KNL63	
	Rated operational current	24 V		4		
	DC-13	110 V	I_e	A	0.25	
		220 V			0.1	
	Max. back-up fuse for short-circuit protection gL Coordination type 2		I_v	A	10	
	Terminal capacity	rigid	S	mm ²	1 ... 2.5	
		flexible			1 ... 2.5	
Screw				M3.5		
Screw head				PZ 2		
Tightening torque			Nm	0.8		
MAGNETIC SYSTEM	Coil consumption	switch-on	P_c	VA	130	
				W	80	
		operation		VA	10	
				W	3	
	Make / brake delays	make		ms	10 - 20	
		brake			8 - 15	
	Range of control voltage		U_c	%	85 ... 110	
	Control voltage		U_c	V	12 ... 500	
	Terminal capacity	rigid	S	mm ²	1 ... 2.5	
		flexible			1 ... 2.5	
	Screw				M3.5	
Screw head				PZ 2		
Tightening torque			Nm	0.8		

STANDARD CONTROL VOLTAGES AND DESIGNATIONS (AC)

V	24	42	48	220/240	380/415
50/60 Hz	B7	D7	E7	M7	Q7



DIMENSIONS



Contactors

KNL CONTACTORS

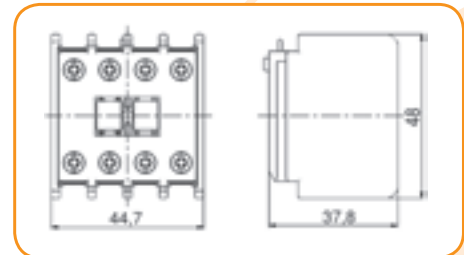
KNL43, KNL63

ACCESSORIES

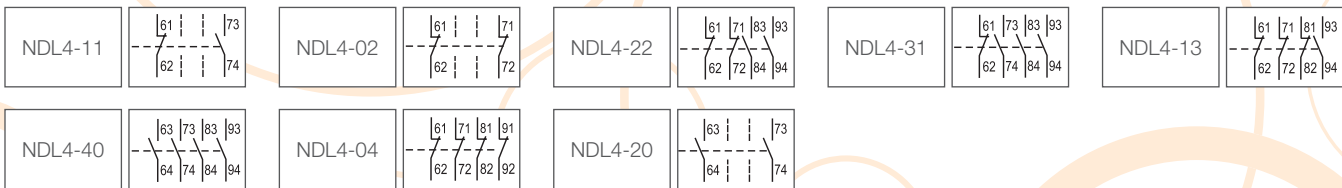


NDL4

Two- and four-pole snap-on auxiliary switch blocks (mounting on a basic contactor)



Type	Version	Rated operational current I _e (A) at AC-15			
		230 V	400 V	500 V	690 V
NDL4	-11, -02, -20, -22, -31, -13, -40, -04	6	4	2	1



MBL43 Mechanical interlock

ORDERING DATA

The type designation and control voltage are stated when ordering the contactors.

KNL43/63 - 11 - M7 - 50/60



Contactors

MOTOR CONTACTORS

KNL95, K



45, KNL180, KNL250, KNL400, KNL500, KNL630/1000

- Contactors are used for switching electric motors and other resistive inductive and capacitive loads
- Three and four-pole versions up to 1000 A for AC-1 utilization category
- Three and four-pole versions up to 630 A for AC-3 utilization category
- AC/DC control voltages
- A wide variety of snap-on auxiliary switch blocks and accessories
- Fixing to the vertical and horizontal surface by $\pm 30^\circ$ deviation

MOTOR CONTACTORS

				KNL95	KNL115	KNL145	KNL180	KNL250			
GENERAL	Type										
	Standards			IEC/EN 60947-4-1, UL 508							
	Approvals			UL, GOST							
	Ambient temperature			°C		-50 ... +70					
	Storage temperature			°C		-60 ... +80					
	Mechanical endurance			op. c.		10 x 10 ⁶					
	Max. mechanical operating frequency with no load			op. c./h		2400					
	Weight			kg	5.96	5.96	6.10	10.60	10.80		
MAIN CIRCUIT	Rated insulation voltage	U_i		V		1000					
	Thermal current at $\leq 40^\circ\text{C}$	I_{th}		A		125	160	250	275	350	
	Rated frequency	f		Hz		50/60					
	Rated power at $\leq 40^\circ\text{C}$	AC-1	230 V	P_e	kW	47	57	91	95	124	
			400 V			82	98	150	160	214	
			500 V			103	129	196	213	282	
			690 V			142	173	270	298	380	
	Rated motor power at $\leq 55^\circ\text{C}$	AC-3	three-phase	P_m	kW	27.6	33	46	57	83	
						400 V	50	61	80	100	140
						500 V	56	80	100	123	176
						690 V	74	100	120	144	212
	1000 V	46	63	75	103	156					
	Rated motor power AC-4	three-phase	P_m	kW	23	25	31	36	52		
	Rated motor power acc. to UL	three-phase	240 V	P_m	HP	30	40	50	75	100	
			480 V			50	75	100	150	200	
			600 V			75	100	125	150	250	
	Rated motor power AC-4	≤ 400 V	P_m	kW	23	25	31	36	52		
	Electrical endurance AC-3 / AC-4	$x 10^6$		op. c.	1.1/0.2	1.1/0.2	1.1/0.2	1/0.2	1/0.2		
	Rated operational current at: 24/110/220 V	DC-1 L/R ≤ 1 ms	1 ¹⁾	I_e	A	70/8/6	160/100/-	220/110/-	260/120/-	350/160/-	
			2 ¹⁾			100/80/40	160/130/130	220/150/150	260/170/150	350/300/250	
3 ¹⁾			100/85/55			160/130/130	220/150/150	260/170/170	350/300/300		
1 ¹⁾ Number of poles in series	DC-3 – DC-5 L/R ≤ 15 ms	1 ¹⁾	I_e	A	40/3/1	140/70/-	160/80/-	180/90/-	280/150/-		
		2 ¹⁾			60/40/7	140/100/80	160/120/90	180/140/100	280/250/200		
		3 ¹⁾			80/60/35	140/120/100	160/140/120	180/160/140	180/280/250		
Max. back-up fuse for short-circuit protection Coordination type 2	gG	I_v	A	160	200	250	315	400			
	aM			100	125	160	200	250			
Terminal capacity	rigid	S	mm ²	70	70	120	150	240			
	busbar		mm	20 x 3 (1 x or 2 x)	20 x 3 (1 x or 2 x)	25 x 3 (1 x or 2 x)	25 x 3 (1 x or 2 x)	30 x 4 (1 x or 2 x)			
Screw				M6	M6	M8	M8	M10			
Wrench jaw opening			mm	10	10	13	13	17			
Tightening torque			Nm	3	3	6	6	10			

Contactors

MOTOR CONTACTORS

KNL95, KNL115, KNL145, KNL180, KNL250, KNL400, KNL500, KNL630/1000

		KNL95	KNL115	KNL145	KNL180	KNL250	
MAGNETIC SYSTEM	Type						
	Coil consumption	switch-on	P_c	VA	300		
				W	300		
		operation		VA	10		
				W	10		
	Make / Break delay	make	AC/DC	ms	13-25/60-90	60 - 100	80 - 120
		break			8 - 12	25 - 60	30 - 75
Range of control voltage	U_c	%	85 ... 110				
Control voltages	U_c	V	24 to 480				
Connection		fast-on	2/ 2.8 x 0.8 or 6.3 x 0.8				

TECHNICAL DATA				MOTOR CONTACTORS					
GENERAL	Type			KNL400	KNL500	KNL630	KNL630/1000		
	Standards			IEC/EN 60947-4-1, UL 508					
	Ambient temperature		°C	-50 ... +70					
	Storage temperature		°C	-60 ... +80					
	Mechanical endurance		op. c.	10 x 10 ⁶	5 x 10 ⁶				
	Max. mechanical operating frequency with no load		op. c/h	2400	1200				
	Weight		kg	10.80	20.80	21.50	25.62		
MAIN CIRCUIT	Rated insulation voltage	U_i	V	1000					
	Thermal current at $\leq 40^\circ\text{C}$	I_{th}	A	550	700	800	1000		
	Rated frequency	f	Hz	50/60					
	Rated power at $\leq 40^\circ\text{C}$	AC-1	P_e	kW	230 V	200	252	288	350
					400 V	345	438	500	600
					500 V	452	575	655	750
					690 V	598	755	860	1000
	Rated motor power	three-phase	P_m	kW	230 V	130	156	198	-
					400 V	225	290	335	-
					500 V	271	367	368	-
					690 V	352	416	440	-
					1000 V	208	312	368	-
	Rated motor power AC-4	$\leq 400\text{ V}$	P_m	kW	76	99	119	-	
	Electrical endurance AC-3 / AC-4		x 10 ⁶	op. c.	0.7/0.2	0.7/0.2	0.7/0.2	-	
	Rated operational current at: 75/110/220 V	DC-1 L/R $\leq 1\text{ms}$	1) 2) 3)	I_e	A	400/250/-	650/320/-	800/460/-	-
						400/400/350	650/550/450	800/800/700	-
400/400/400						650/600/600	800/800/800	-	
1) Number of poles in series	DC-3 – DC-5 L/R $\leq 1\text{ms}$	1) 2) 3)	I_e	A	350/200/-	550/320/-	800/460/-	-	
					350/350/280	650/550/450	800/800/700	-	
					350/350/350	650/550/550	800/800/800	-	
Max. back-up fuse for short-circuit protection Coordination type 2	gG aM	I_v	A	630	800	1000	-		
				400	500	630	-		
Terminal capacity	rigid	S	mm ²	2 x 150	2 x 240		-		
	busbar		mm	30 x 5 (1 x or 2 x)	50 x 5 (1 x or 2 x)	60 x 5 (1x or 2x)	-		
Screw				M10	M10	M12	2-M12		
Wrench jaw opening			mm	17	17	19	19		
Tightening torque			Nm	10	10	14	14		

Contactors

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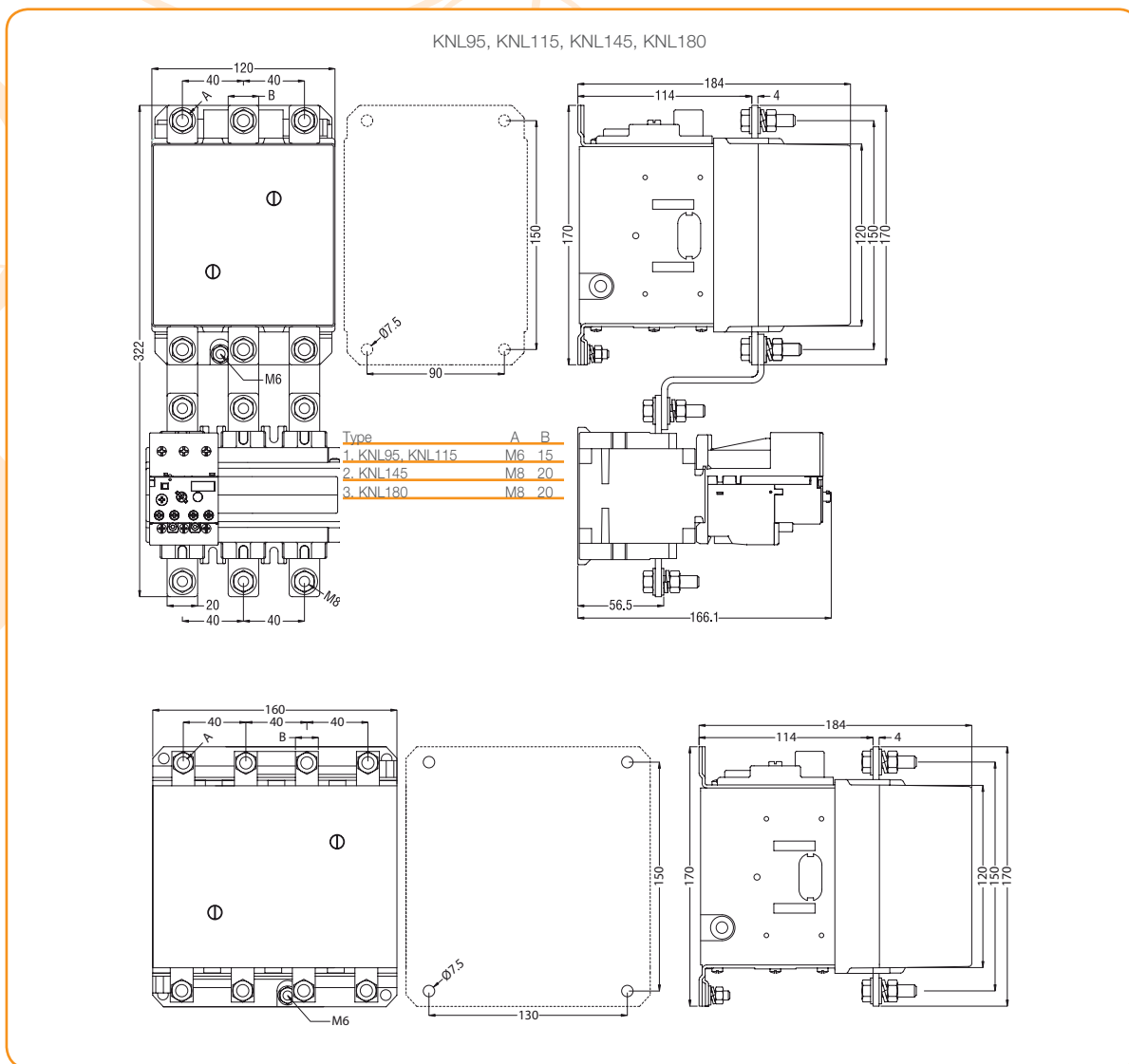
KNL95, KNL115, KNL145, KNL180, KNL250, KNL400, KNL500, KNL630/10000

MAGNETIC SYSTEM	Type			KNL400	KNL500	KNL630	KNL1000
	Coil consumption	switch-on	P_c	VA	300		400
W				300		400	
operation		VA		10		18	
		W		10		18	
Make / Break delay	make		ms	80 - 120		110 - 180	
	break			30 - 75		60 - 100	
Range of control voltage		U_c	%	85 ... 110			
Control voltages		U_c	V	24 to 480		48 to 480	
Connection			fast-on	2/ 2.8 x 0.8 or 6.3 x 0.8			

STANDARD CONTROL VOLTAGES (AC)

V	24	48	60	110/125	220/240	380/415	440/480
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DIMENSIONS

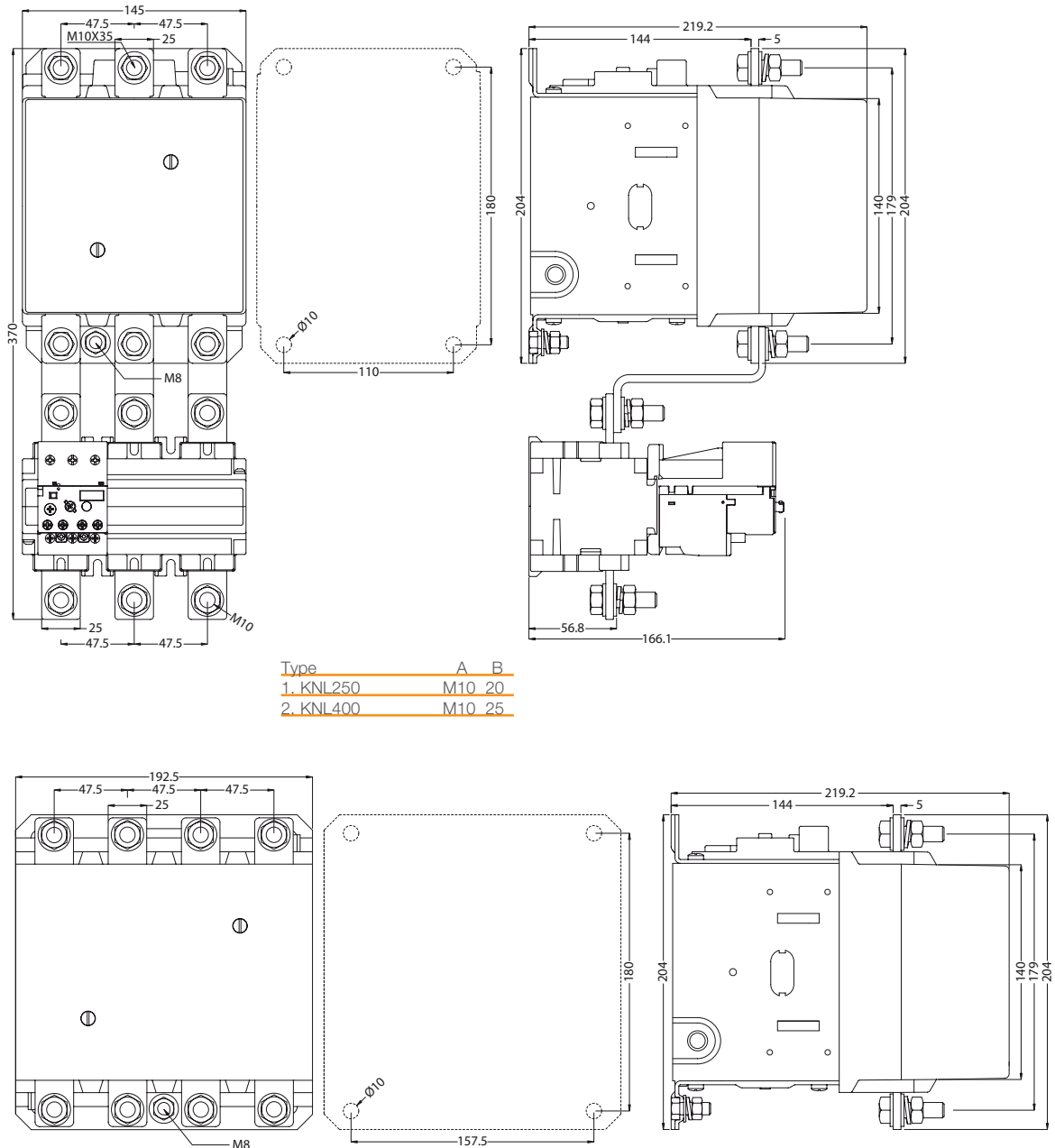


Contactors

MOTOR CONTACTORS

KNL95, KNL115, KNL145, KNL180, KNL250, KNL400, KNL500, KNL630/10000

KNL250, KNL400

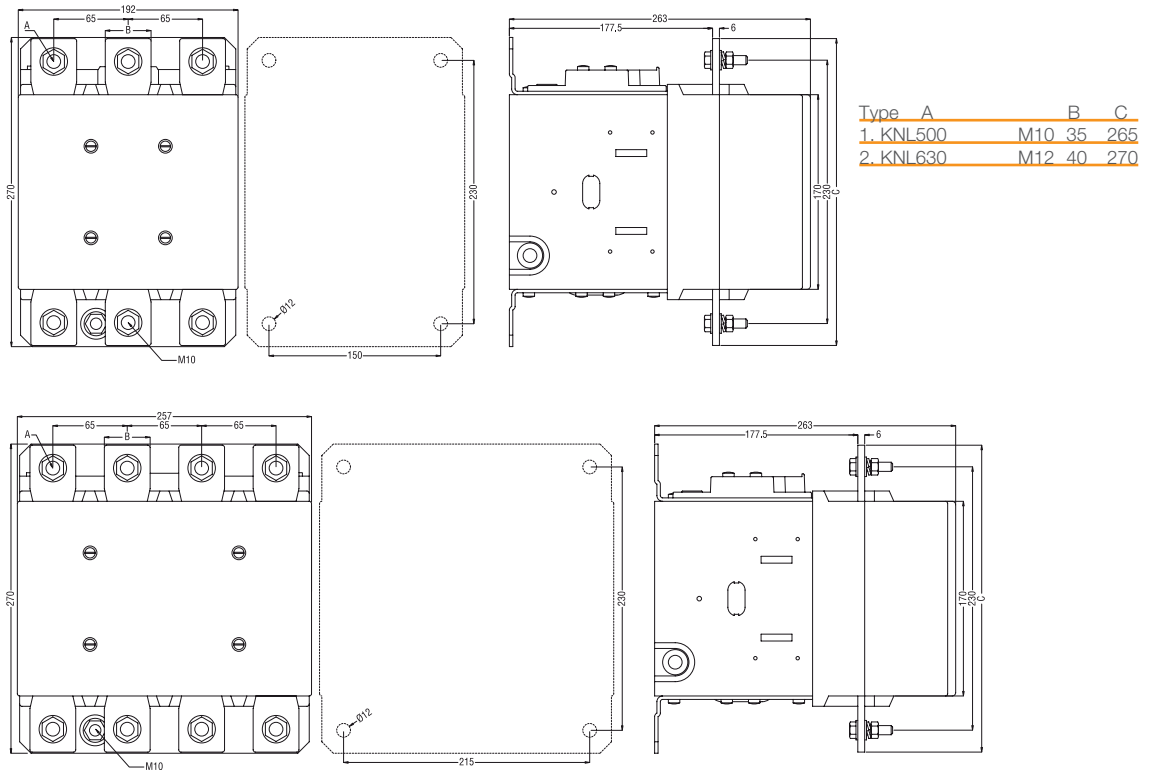


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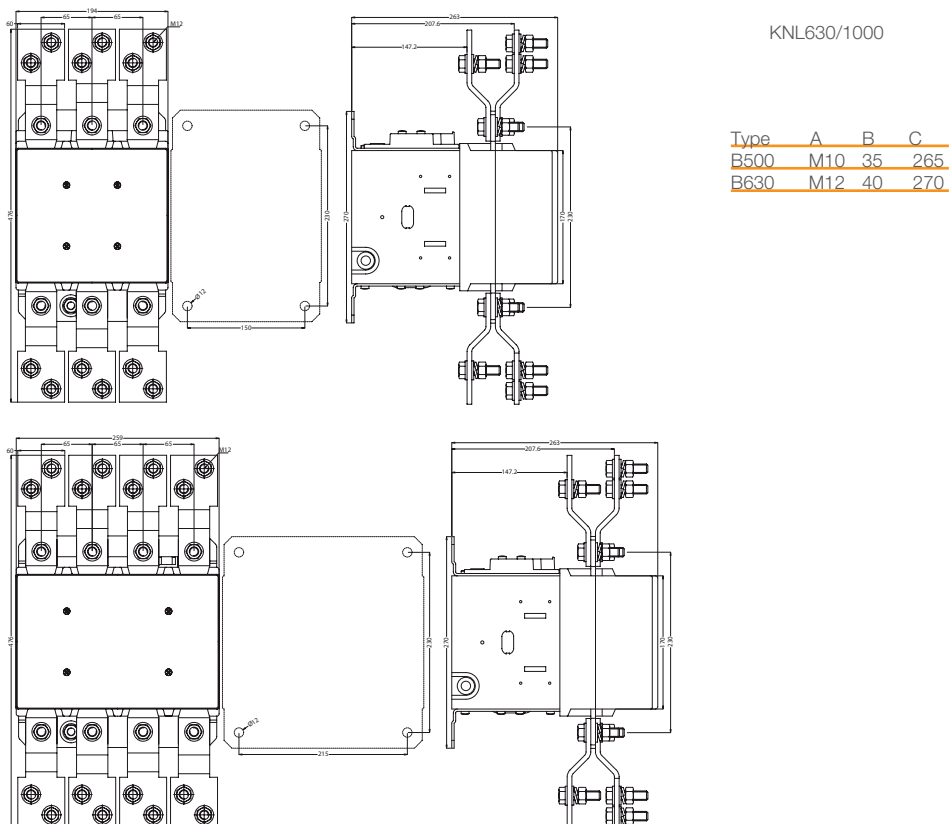
MOTOR CONTACTORS

KNL95, KNL115, KNL145, KNL180, KNL250, KNL400, KNL500, KNL630/10000

KNL500, KNL630



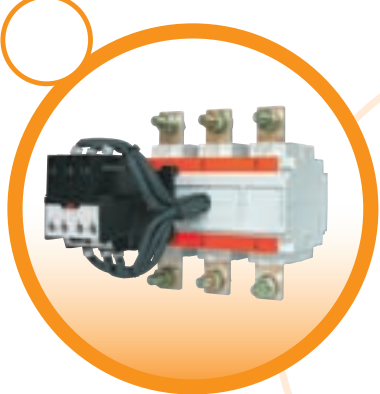
KNL630/1000



Contactors

KNL CONTACTORS

KNL95, KNL115, KNL145, KNL180, KNL250, KNL400, KNL500, KNL630/1000

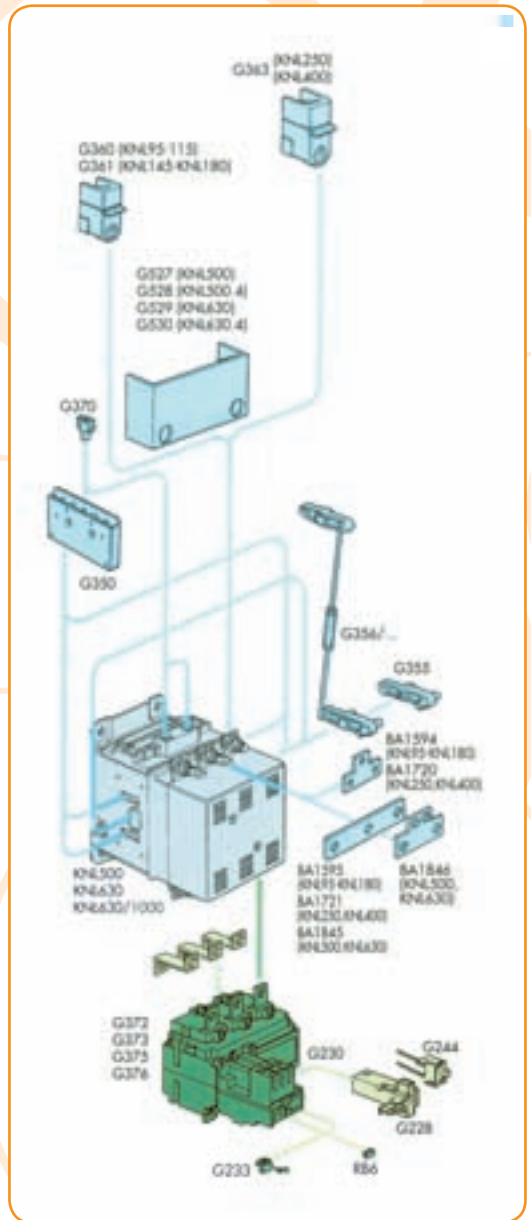


ACCESSORIES

BRA180, BRA400
Thermal overload relay

Type	Setting ranges (A)
BRA180	60 - 100; 75 - 125; 90 - 150; 120 - 200
BRA400	150 - 250; 180 - 300; 250 - 420
BRA25.5+G230+C.T.	300 - 500; 480 - 800

Description	Characteristic	Reference code	
SNAP-ON AUXILIARY SWITCH BLOCKS			
Auxiliary contacts	2NO + 1NC or 1NO + 2NC	G350	
Mechanical interlock	Side-by-side contactors	G355	
	One on top of other contactors		
	L(mm)	225 - 365	G356/1
		265 - 305	G356/2
		305 - 345	G356/3
		345 - 385	G356/4
	390 - 425	G356/5	
	470 - 500	G356/6	
Main terminal covers	for KNL 95, KNL 115	G360	
	for KNL 145, KNL 180	G361	
	for KNL 250, KNL 400	G363	
	for KNL 500	G527	
	for KNL 500.4	G528	
	for KNL 630	G529	
	for KNL 630.4	G530	
Bars for 3 poles star connection	for KNL 95 - KNL 180	BA1595	
	for KNL 250 - KNL 400	BA1721	
	for KNL 500 - KNL 630	BA1846	
Bars for 2 poles parallel connection	for KNL 95 - KNL 180	BA1594	
	for KNL 250 - KNL 400	BA1720	
	for KNL 500 - KNL 630	BA1845	
Adapter	for screw terminal	G370	
Identification plate		BA126/2	
THERMAL OVERLOAD RELAY			
Adapter for mounting on contactor	BRA 180		
	KNL 95 - KNL 180	G372	
	KNL 250 - KNL 400	G373	
	BRA 400		
	KNL 145 - KNL 180	G375	
	KNL 250 - KNL 400	G376	
Electric reset	all types	G228	
Sealing kit	all types	G233	
Start button	all types	G244	
Identification plate	all types	RB6	



ORDERING DATA

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KNL95 - 00 - 220/240 - 50/60

