



Auxiliary contactors (Ith = 20A)

- Control circuit:
Alternating current up to 690V
Direct current up to 440V
- Terminal numbering in accordance with EN 50005 and EN 50011
- Fixing system for rapid and simple mounting onto standard 35mm DIN-rail (EN 50022)
- Terminals protected against accidental contact in accordance with VDE 0106 T.100, VBG4
- Three coil terminals
- Facility to mount side and/or front instantaneous contact blocks, timed auxiliary contacts, mechanical latch, voltage suppressor blocks and interface modules
- Degree of protection IP20 in accordance with IEC 144



RL4RA031TN

Control circuit: alternating current up to 690V

Utilisation category				Control circ.	Contacts	Cat. no. (1)	Weight
AC15		DC13					
V	A	V	A				
120	10	24	6	AC	4 0 0 0	RL4RA040T◆	0.280
230/220	10	48	4		3 1 0 0	RL4RA031T◆	0.280
400/380	6	110	2		2 2 0 0	RL4RA022T◆	0.280
440/415	5	220	0.7		0 4 0 0	RL4RA004T◆	0.280
500	4	440	0.35		1 1 1 1	RL4RA022G◆	0.280
690/660	2						

Spare coil	LB1A◆	0.063
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Control circuit: direct current up to 440V

V	A	V	A	Control circ.	Contacts	Cat. no. (1)	Weight
120	10	24	6	DC	4 0 0 0	RL4RD040T◆	0.490
230/220	10	48	4		3 1 0 0	RL4RD031T◆	0.490
400/380	6	110	2		2 2 0 0	RL4RD022T◆	0.490
440/415	5	220	0.7		0 4 0 0	RL4RD004T◆	0.490
500	4	440	0.35		1 1 1 1	RL4RD022G◆	0.490
690/660	2						

Spare coil	LB1D◆	0.205
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Available coil voltages

Alternating current (V)

◆	C	D	F	G	J	K	M	N	S	U	V	W	X	Y	Z
50Hz		24	42	48	110			220 230		380 400		415	440	500	660 690

Direct current (V)

◆	B	D	E	F	G	H	I	J	K	N	P	R
Voltage	12	24		42	48			110	120	220		240

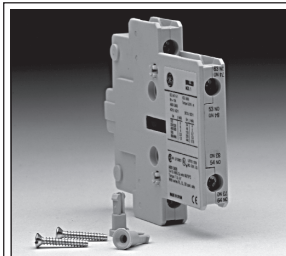
(1) To complete the catalogue number, replace the symbol ◆ by the code corresponding to the voltage and frequency of the control circuit

Accessories

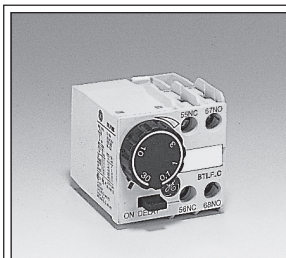
- Terminal numbering in accordance with EN 50005 and EN 50011
- Terminals protected against accidental contact in accordance with VDE 0106 T.100, VBG4
- Facility to mount up to four auxiliary contact blocks
- Combination of front/side contact blocks, see pages 1.21 and 1.22



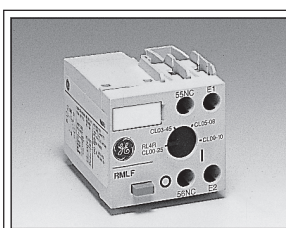
BCLF10



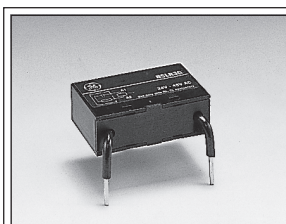
BRLL20



BTLF60C



RMLFN



BSLR ...

Instantaneous and timed auxiliary contact blocks

For use with	Mounting	Type	Contacts	Cat. no.	Weight
RL4R...	Frontal	one pole	1 0 0 0	BCLF10	0.015
			0 1 0 0	BCLF01	0.015
			0 0 1 0	BCLF10G	0.015
			0 0 0 1	BCLF01G	0.015
Side	two poles	2 0 0 0	BRLL20	0.048	
		1 1 0 0	BRL11	0.048	

Pneumatic timer blocks

For use with	Mounting	Type	Contacts	Time	Cat. no.	Weight
RL4R...	Frontal	Delayed ON	1 1	0.1...30s	BTLF30C	0.085
			1 1	1... 60s	BTLF60C	0.085
	Frontal	Delayed OFF	1 1	0.1...30s	BTLF30D	0.085
			1 1	1...60s	BTLF60D	0.085
Sealing cover protection for pneumatic timer					BTLFX	0.001

Mechanical latch blocks

- Terminal numbering in accordance with EN 50005
- Disconnection of the auxiliary contactor either using an electrical pulse or manually
- Terminals protected against accidental contact in accordance with VDE 0106 T.100, VBG4
- Frontal selector allows for adaptation in function of the housing of the contactor

For use with	Cat. no.	Weight
RL4R ...	RMLF♦	0.082

Available voltages

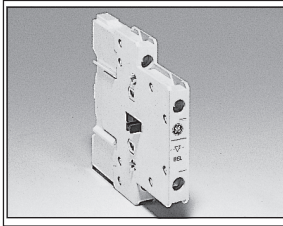
♦	D	G	HC	J	N	U	Y
50Hz	24, 32	42, 48		110, 115, 120, 127	220, 230, 240	380, 400, 415, 440, 480	500, 660/690
DC	24	42, 48		110, 120	220, 240, 250		

Transient voltage suppressor block

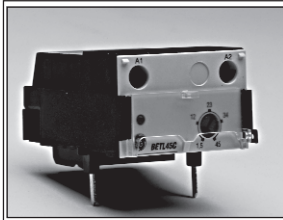
Directly connected parallel to the coil terminals A1-A2 without cables

Control circ.	For use with	Type	Ue	Cat. no.	Weight
AC	RL4RA...	R/C	12V to 48V	BSLR2G	0.020
			50V to 127V	BSLR2K	0.020
			130V to 250V	BSLR2R	0.020
DC	RL4RC ...	Diode	12V to 600V	BSLDZ	0.020
AC / DC	RL4RA ... RL4RC ...	Varistor	24V to 48V	BSLV3G	0.020
			50V to 127V	BSLV3K	0.020
			130V to 250V	BSLV3R	0.020
			277V to 500V	BSLV3U	0.020

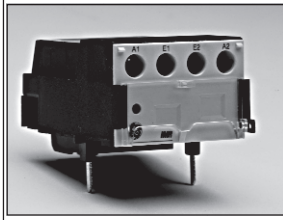
Accessories



BELA



BETL...



IMRD



IMRD

Mechanical interlock

Side mounted to the contactor

	Contacts	Cat. no.	Weight
Mechanical	- -	BELA	0.025
Mechanical / electrical	0 2	BELA02	0.025

Electronic timer module

Control circ.	For use with	Type	Time	Cat. no.	Weight
24-250V AC/DC	RL... CL00 to CL10	Delayed ON	0.1...2 s. 1.5...45 s.	BETL02C BETL45C	0.040 0.040
		Delayed OFF	0.1...2 s. 1.5...45 s.	BETL02D BETL45D	0.040 0.040

Interface module

Directly connected parallel to the coil terminals A1-A2

Voltage suppressor block to use with interface module, see K.16

Control circ.	For use with	Type	Ue (DC)	Cat. no.	Weight
24-250V AC	RL... CL00 to CL10	Relay	24V 48V	IMRD IMRG	0.060 0.060
		Relay + forced operation	24V 48V	IMRFD IMRFG	0.050 0.050
24-250V DC	RL... CL00 to CL45	Solid state	24V	IMSSD	0.045
		Auto / Manual / Off control		IMAMS	0.045

Transient voltage suppressor block to use with interface modules

To be plugged inside the interface module / electronic timers.

	For use with	Type	Cont. circ. AC/DC	Cat. no.	Weight
	RL... CL00...CL45...	R/C	24V...48V	IMRC2G	0.020
			50V...127V	IMRC2K	0.020
			130V...240V	IMRC2R	0.020
	RL... CL05A...CL10A...	R/C	24V...48V	IMRC3G	0.020
			50V...127V	IMRC3K	0.020
			130V...240V	IMRC3R	0.020
	RL... / CL...D...	Diode	12V...600V	IMD1Z	0.020
	RL... CL...	Varistor	24V...48V	IMV3G	0.020
			50V...127V	IMV3K	0.020
			130V...240V	IMV3R	0.020

Identification of contactors

	Cat. no.	Weight
Sheets of labels (10 sheets of 260 labels each)	EAT260	0.050
Plug-in labeling plate bases (50 pieces in one pack)	SPR	0.001



General

Maximum number of contacts	4
Rated thermal current (Ith) $\theta \leq 55^\circ\text{C}$	20A
Rated operational voltage (Ue)	690V
Rated insulation voltage (Ui)	1000V

Conformity to standards

IEC 947-1	EN 90947	CSA C 22.2/14
IEC 947-5	BS 4794	EN 50005
CENELEC HD 410, 420	ASE 1025	EN 50011
NF C 63-110	NEMA ICS 1	VDE 0660/102
NF C63-140	UL-508	EN60947

Approvals

UL	DEMKO	Bureau Veritas
CSA	NEMKO	Lloyd's Register
SEMKO	FI	

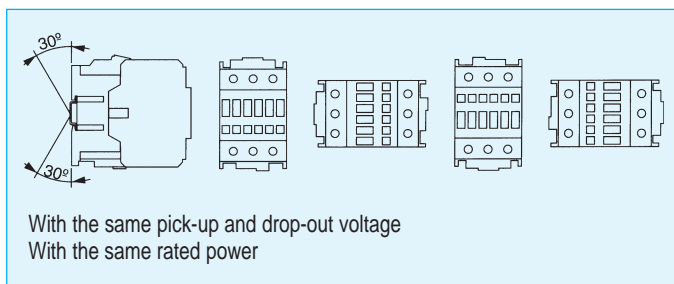
Ambient conditions

Storage temperature	- 55°C up to + 80°C
Operation temperature	- 40°C up to + 60°C
Altitude up to 3,000 m	Nominal values
Altitude from 3,000 to 4,000 m	90 % Ie 80 % Ue
Altitude from 4,000 to 5,000 m	80 % Ie 75 % Ue

Climatic resistance (IEC 68-2)

Continuous tests	40 / 125 / 56	Cyclical tests (6 cycles)	
Cold (72 h)		Humid heat	
- Temperature	- 40°C	First half-cycle (12 h)	
Dry heat (96 h)		- Low temperature	+ 25°C
- Temperature	+ 125°C	- Relative humidity	93 %
- Relative humidity	< 50 %	Second half-cycle (12 h)	
Humid heat (56 days)		- Low temperature	+ 55°C
- Temperature	+ 40°C	- Relative humidity	95 %
- Relative humidity	95 %		

Mounting positions



(1) Terminal with wire 1.5 mm² Ith = 16A / terminal with wire 1 mm² Ith = 10A.

Control circuit

Rated insulation voltage Ui	(V)	1000	1000
Standard voltages Us			
50Hz	(V)	24 to 690	-
60Hz	(V)	24 to 600	-
DC	(V)	-	12 to 440
Voltage ⁽¹⁾			
Operating limits	xUs	0.8 to 1.1	0.8 to 1.1
Pick-up	xUs	0.65 to 0.75	0.45 to 0.65
Seal	xUs	0.4 to 0.55	0.15 to 0.3
Consumption	AC Magnetic circuit closed (VA)	6	-
	Magnetic circuit open (VA)	45	-
	DC Magnetic circuit closed (W)	-	5.5
	Magnetic circuit open (W)	-	5.5
	Power dissipation (W)	2.4	5.5
Power factor	Magnetic circuit closed	cos ϕ	0.34
	Magnetic circuit open	cos ϕ	0.82
Opening and closing times			
at 0.8 to 1.1 Us			
Making time at excitation NO	(ms)	6 to 25	35 to 65
Breaking time at desexcitation NO	(ms)	6 to 13	30 to 60
at Us			
Making time at excitation NO	(ms)	8 to 20	40 to 50
Breaking time at desexcitation NO	(ms)	6 to 1	30 to 60
Mechanical endurance	#10 ⁶ ops.	15	15
Maximum rate no load	# ops./h	9000	3600



Internal contacts

Rated insulation voltage (Ui) acc. IEC 947-5	1000V
Rated thermal current (Ith) $\theta < 55^{\circ}\text{C}$	20A
Making capacity (r.m.s.) acc. IEC 947-5 AC15 $U_e \leq 400\text{V}, 50/60\text{ Hz}$ DC13 $U_e \leq 220\text{V DC}$	250A 250A
Breaking capacity (r.m.s.) according to IEC 947-5 AC15 $U_e \leq 400\text{V}, 50/60\text{ Hz}$ DC13 $U_e \leq 220\text{V DC}$	250A
	2A (4A with 2 contacts in series)
	7A (12A with 2 contacts in series)
	10A (18A with 2 contacts in series)
Rated voltage and rated current $U_e\text{-}I_e$ AC15 according to IEC	110/120V - 10A 220/240V - 10A 380/400V - 6A 415/440V - 5A 500V - 4A 660/690V - 2A
	according to UL, CSA A600
DC13 according to IEC	24V - 6A 48V - 4 A 110V - 2A 220V - 0.7A 415/440V - 5A 440V - 0.35A
	according to UL, CSA P600
Electrical endurance	1×10^6 ops.
Minimum operational voltage (operational safety)	17V
Minimum operational current	5mA
Short-circuit protection	Max. class gI fuse Without welding 20A 10A
Insulation resistance between contacts between contacts and earth between input and output	$> 10\text{ M}\Omega$ $> 10\text{ M}\Omega$ $> 10\text{ M}\Omega$
Guaranteed no overlap between NO and NC contacts	space minimum time 1.3 mm 1.5 ms
Impedance	1.28 m Ω

Terminal capacity for basic auxiliary contactors

Solid, stranded and finely stranded without end sleeve	2×0.5 to 6 mm^2
Finely stranded with end sleeve	2×1 to 6 mm^2
AWG wires, solid and stranded	2×20 to 12
Tightening torque	1.1 Nm / 10 Lb.in

Instantaneous auxiliary contact blocks

	BCLF... / BRLL...
Rated insulation voltage (Ui) acc. IEC 947-5	1000V
Rated thermal current (Ith) $\theta < 55^{\circ}\text{C}$	10A
Making capacity (r.m.s.) acc. IEC 947-5 AC15 / AC11 $U_e \leq 440\text{V}, 50/60\text{ Hz}$ DC13 / DC11 $U_e \leq 220\text{V DC}$	90A 90A
Breaking capacity (r.m.s.) according to IEC 947-5 AC15 / AC11 $U_e \leq 400\text{V}, 50/60\text{ Hz}$ DC13 / DC11 $U_e \leq 220\text{V DC}$	60A 0.95A
Rated voltage and rated current $U_e\text{-}I_e$ AC15 according to IEC	110/120V - 6A 220/240V - 6A 380/400V - 4A 415/440V - 3.5A 500V - 2.5A 660/690V - 1.5A
	according to UL, CSA A600
DC13	24V - 4A 48V - 2A 110V - 0.7A 220V - 0.3A 415/440V - 0.15A
	according to UL, CSA Q600
Electrical endurance	1×10^6 ops.
Minimum operational voltage (operational safety)	17V
Minimum operational current	5mA
Short-circuit protection (without welding) gL	10A
Insulation resistance between contacts between contacts and earth between input and output	$> 10\text{ M}\Omega$ $> 10\text{ M}\Omega$ $> 10\text{ M}\Omega$
Guaranteed no overlap between NO and NC contacts	space minimum time 1.3 mm 1.5 ms
Impedance of the contacts	1.28 m Ω



Timed auxiliary contact blocks

	BTLF...
Rated insulation voltage (Ui) acc. IEC 947-5	1000V
Rated thermal current (Ith) $\theta < 55^{\circ}\text{C}$	10A
Making capacity (r.m.s.) acc. IEC 947-5	
AC15 / AC11 $U_e \leq 440\text{V}$, 50/60 Hz	90A
DC13 / DC11 $U_e \leq 220\text{V DC}$	90A
Breaking capacity (r.m.s.) acc. IEC 947-5	
AC15 / AC11 $U_e \leq 400\text{V}$, 50/60 Hz	60A
DC13 / DC11 $U_e \leq 220\text{V DC}$	0.95A
Rated voltage and rated current U_e -Ie AC15 according to IEC	110/120V - 6A 220/240V - 6A 380/400V - 4A 415/440V - 3.5A
500V - 2.5A	660/690V - 1.5A
according to UL, CSA	A600
DC13 according to IEC	24V - 4A 48V - 2A 110V - 0.7A 220V - 0.3A 415/440V - 0.15A
according to UL, CSA	Q600
Electrical endurance	1×10^6 ops.
Minimum operational voltage (operational safety)	17V
Minimum operational current	5mA
Short-circuit protection (without welding) gL	10A
Insulation resistance	
between contacts	$> 10 \text{ MW}$
between contacts and earth	$> 10 \text{ MW}$
between input and output	$> 10 \text{ MW}$
Guaranteed no overlap space between NO and NC contacts minimum time	1.3 mm 5 ms
Timing (Ambient temperature between -25 and $+55^{\circ}\text{C}$)	
Accuracy	$\pm 5 \%$
Loss of accuracy after 0.5×10^6 ops.	$+ 20 \%$
Loss of accuracy per rise $^{\circ}\text{C}$ ($0 - 55^{\circ}\text{C}$)	$+ 0.75 \%$ per $^{\circ}\text{C}$
Impedance of the contacts	1.28 m Ω
Mechanical endurance	5×10^6 ops.
Peak current	
during 1 s.	50A
during 0.1 s.	100A

Mechanical latch blocks

	RMLF u
Rated insulation voltage (Ui)	1000V
Standard voltages (Us); 50 to 60 Hz and direct current	24 to 690V
Operating limits	0.75 to 1.1 x Us
Consumption for unlatching (auto cut-out)	210W / VA (24-72V) 130W / VA (110-440V)
Unlatching control	Electrical Min. impuls 10 ms Maintained auto cut-out by integral contact 55-56 (only AC coils)
	Manual By local push-button
Contactor control	Electrical Min. impuls 40 ms
	Manual By local push-button
Mechanical endurance	CL00 ... CL45 3 million (1200 ops./h) CL05 ... CL10 0.1 million (300 ops./h)

Terminal capacity of auxiliary contact blocks

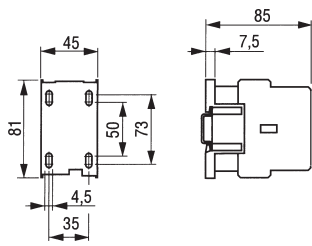
Solid, stranded and finely stranded without end sleeve	(mm ²)	2 x 0.5 to 2.5 or 2 x 2.5 to 4
Finely stranded with end sleeve	(mm ²)	2 x 0.5 to 2.5 or 2 x 2.5 to 4
AWG wires, solid and stranded	(mm ²)	2 x 20 to 10
Tightening torque		1.1 Nm / 10 Lb.in

Contact sequence (distance in mm)

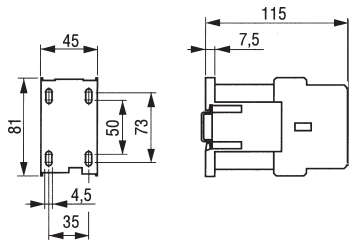
	Auxiliary contact NO	Auxiliary contact NC
<input type="checkbox"/> Open		
<input type="checkbox"/> Closed		
RL4R...Tu		
RL4R...Gu		
BCLF.../ BRLL...		
BCLF...G		



Auxiliary contactors



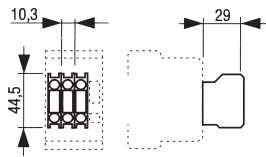
RL4RA...T .



RL4RD...T .

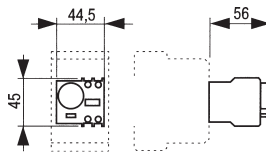
Auxiliary contact blocks

Instantaneous, frontal mounting



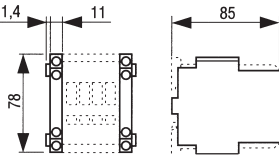
BCLF..

Timed, frontal mounting



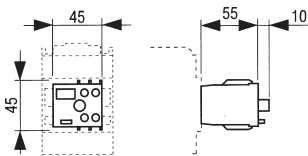
BTLF..

Instantaneous, lateral mounting



BRLL..

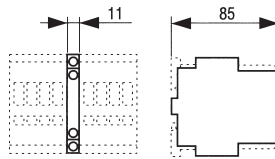
Mechanical latch, frontal mounting



RMLF..

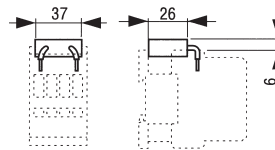
Accessories

Mechanical and mechanical/electrical interlock



BELA
BELA02

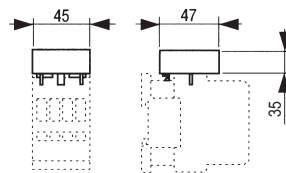
Transient voltage suppressor block



BSLR2 .
BSLDZ
BSLV3 .

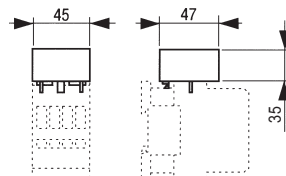
Electronic modules

Electronic timer block



BETL..C
BETL..D

Interface



IMR.
IMRF.
IMSSD
IMAMS