

## Auxiliary contactors $I_{th} = 16A$

- Control circuit: Alternating current up to 600V  
Direct current up to 250V
- Terminal numbering in accordance with EN 50011
- Fixing system for rapid and simple mounting by clamping onto standard 35 mm DIN rail (EN 50022).
- Screw and push-on terminals protected against accidental contacts in accordance with VDE 0106 T.100 and VBG4.
- Printed circuit version.
- Ring terminal version.
- Facility to mount instant or timed auxiliary contact blocks and voltage suppressor blocks.
- Maximum number of auxiliary contacts to add: 6
- Degree of protection IP20 (EN 60529).
- According to IEC/EN 60947-1.

### Standards

IEC/EN 60947-5-1	BS 4794
IEC/EN 60947-1	CENELEC HD 420
EN 50002	NFC 63-110
EN 50005	NFC 63-140
EN 50011	CSA C22.2/14
UL 508	VDE 0660

### General data

<b>Maximum number of contacts (MCR...)</b>								4
<b>Rated thermal current (<math>I_{th}</math>) <math>\theta \leq 60^\circ</math></b>								(A) 16
<b>Rated operational voltage (<math>U_e</math>) acc. IEC 60947-1</b>								(V) 690
<b>Insulation voltage (<math>U_i</math>) acc. IEC 60947-1</b>								(V) 750
<b>Utilisation category:</b>								
<b>AC-15</b>	<b>V</b>	110	220/240	380/400	415	440	500	660/690
	<b>A</b>	6	6	4	4	3	2.5	1.5
<b>DC-13</b>	<b>V</b>	24	48	110	220			
	<b>A</b>	5	3.5	1.2	0.6			

### Approvals



Lloyd's Register

Bureau Veritas

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### Standard voltages

To complete the catalogue number, replace the symbol  $\blacklozenge$  by the code corresponding to the voltage and frequency of the control circuit.

#### Alternating current (V). Bifrequency coil

$\blacklozenge$	10	1	2	9	3	4	5	6	7	8	12	13
AC	12	24	42	48	110	120	220	230	240	440	380	400
50/60Hz					115							

#### Voltage operating limits of dual-frequency coil:

at 60Hz =  $0.85 \text{ a } 1.1 \times U_s$

at 50Hz =  $0.8 \text{ a } 1.1 \times U_s$  for uninterrupted duty (ED=100%), temperature = 40°C

#### Alternating current (V)

$\blacklozenge$	A	E	G	K	M	N	S	U	W	Y
AC			48	115		220	260	380	415	500
50Hz				127		240		400	440	
AC	6	32	60		208	240		440	480	600
60Hz					220	277				

#### Direct current (V)

$\blacklozenge$	A	B	C	D	E	F	G	H	I	J	K	L	N	17	R	S	16
DC	6	12	32	24	36	42	48	60	72	110	120	125	220	230	240	250	440


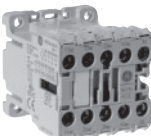



#### Direct current (V) - Wide voltage range

$\blacklozenge$	WD	WE	WG	WI	WJ	WN
DC	24	33	48	72	110	220

- Order codes ● pg. B.9
- Auxiliary contacts blocks ● pg. B.10
- Accessories ● pg. B.12
- Technical data ● pg. B.26
- Dimensions ● pg. B.34





### Auxiliary contactors

	Contacts acc. EN 50011		Control circuit: alternating current			Control circuit: direct current							
	•3	•1	Cat. no. <sup>(1)</sup>	Ref. no. see bottom	Pack	Cat. no. <sup>(1)</sup>	Ref. no. see bottom	Pack					
	•4	•2											
	<b>Screw terminal</b>												
	40E	4 0	MCRA040AT	◆	5	MCRC040AT	◆	10					
	31E	3 1	MCRA031AT	◆	5	MCRC031AT	◆	10					
	22E	2 2	MCRA022AT	◆	5	MCRC022AT	◆	10					
	13E	1 3	MCRA013AT	◆	5								
	04E	0 4	MCRA004AT	◆	5								
	<b>Ring terminal</b>												
	40E	4 0	MCRA040AR	◆	5	MCRC040AR	◆	10					
	31E	3 1	MCRA031AR	◆	5	MCRC031AR	◆	10					
	22E	2 2	MCRA022AR	◆	5	MCRC022AR	◆	10					
	13E	1 3	MCRA013AR	◆	5								
	04E	0 4	MCRA004AR	◆	5								
	<b>Terminal: faston 2x2,8 insulated (2)</b>												
	40E	4 0	MCRA040AF	◆	5	MCRC040AF	◆	10					
	31E	3 1	MCRA031AF	◆	5	MCRC031AF	◆	10					
	22E	2 2	MCRA022AF	◆	5	MCRC022AF	◆	10					
	13E	1 3	MCRA013AF	◆	5								
	04E	0 4	MCRA004AF	◆	5								
	<b>Terminal: printed circuit</b>												
	40E	4 0	MCRA040AI	◆	5	MCRC040AI	◆	10					
	31E	3 1	MCRA031AI	◆	5	MCRC031AI	◆	10					
	22E	2 2	MCRA022AI	◆	5	MCRC022AI	◆	10					
	13E	1 3	MCRA013AI	◆	5								
	04E	0 4	MCRA004AI	◆	5								
	<b>Spare coil</b>		MB0A			◆	10		MBOC		◆	10	

- (1) To complete the catalogue number, replace the symbol ◆ by the code corresponding to the voltage and frequency of the control circuit. (see pg.A.16).  
 (2) Terminal: - with wire 1.5 mm<sup>2</sup>: I<sub>e</sub> = 16A - with wire 1 mm<sup>2</sup>: I<sub>e</sub> = 10A  
 Insulated terminal type B2.8x0.8 with wire 1 mm<sup>2</sup>: I<sub>e</sub> = 8A to DIN 46247  
 Faston terminal 1 x 6.3 on request, replace the letter **F** by **H** in the catalogue number

### Auxiliary contactors interface

	Contacts acc. to EN 50011		Control circuit: direct current 24V / 1.2W <sup>(3)</sup>			Control circuit: direct current 24V / 2W <sup>(4)</sup>							
	•3	•1	Operating limits from 19 to 30V (0.8-1.25xUs)			Operating limits from 17 to 30V (0.7-1.25xUs)							
	•4	•2	Cat. no.	Ref. no.	Pack	Cat. no.	Ref. no.	Pack					
	<b>Screw terminal</b>												
	40E	4 0	MCRI040ATD	100530	10	MCRK040ATD	100533	10					
	31E	3 1	MCRI031ATD	100531	10	MCRK031ATD	100534	10					
	22E	2 2	MCRI022ATD	100532	10	MCRK022ATD	100535	10					
	<b>Spare coil</b>		MB0ID			100470	10		MB0KD		100471	10	

- (3) No possibility of adding instantaneous auxiliary blocks.  
 (4) Facility to mount instantaneous auxiliary contact block of two contacts (MARN2..) or two instantaneous auxiliary contact blocks of one contact (MARL1..).

For reference numbers, see chapter X, pg. X.6



Order codes

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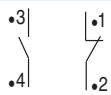
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### Instantaneous auxiliary contacts blocks

Number of contacts	Combination with MCRA040AT♦ (40E) according to EN 50011	Contacts acc. to EN 50005		Cat. no.	Ref. no.	Pack
		Designation (block marking)				
<b>Front mounting</b>						
<b>Screw terminal</b>						
2	60E	20	2 0	MARN220AT	100994	10
2	51E	11	1 1	MARN211AT	100993	10
2	42E	02	0 2	MARN202AT	100992	10
<b>Ring terminal</b>						
2	60E	20	2 0	MARN220AR	103349	10
2	51E	11	1 1	MARN211AR	103350	10
2	42E	02	0 2	MARN202AR	103351	10
<b>Screw terminal</b>						
4	80E	40	4 0	MARN440AT	100991	10
4	71E	31	3 1	MARN431AT	100990	10
4	62E	22	2 2	MARN422AT	100989	10
4	53E	13	1 3	MARN413AT	100988	10
4	44E	04	0 4	MARN404AT	100987	10
<b>Terminal : Ring terminal</b>						
4	80E	40	4 0	MARN440AR	103352	10
4	71E	31	3 1	MARN431AR	103353	10
4	62E	22	2 2	MARN422AR	103354	10
4	53E	13	1 3	MARN413AR	103355	10
4	44E	04	0 4	MARN404AR	103300	10



Front mounting

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Instantaneous auxiliary contacts blocks

Lateral mounting



Number of contacts	Combination with MCRA040AT♦ (40E) according to EN 50011	Contacts acc. to EN 50005			Cat. no.	Ref. no.	Pack
		Designation (Block marking)	•3	•1			
<ul style="list-style-type: none"> <li>One or two blocks to cover combinations of 5 or 6 contacts without increasing the height of the basic unit.</li> </ul>							
<b>Screw terminal</b>							
1	50E	10	1	0	MARL110AT	100513	10
1	-	01	0	1	MARL101AT	100514	10
<b>Ring terminal</b>							
1	50E	10	1	0	MARL110AR	103556	10
1	-	01	0	1	MARL101AR	103557	10
<b>Terminal : Faston 2x2,8 insulated (1)</b>							
1	50E	10	1	0	MARL110AF	100515	10
1	-	01	0	1	MARL101AF	100516	10
<b>Terminal : Printed circuit</b>							
1	50E	10	1	0	MARL110AI	100517	10
1	-	01	0	1	MARL101AI	100518	10
<ul style="list-style-type: none"> <li>One or two additional blocks, when 9 or 10 contacts are required (combination possible with the front mounting block)</li> <li>One or two additional blocks on both sides, to cover up to 8 contacts (combination only possible with lateral blocks)</li> </ul>							
<b>Screw terminal</b>							
1	50E	10	1	0	MARL110ATS	100519	10
1	-	01	0	1	MARL101ATS	100520	10
<b>Ring terminal</b>							
1	50E	10	1	0	MARL110ARS	103299	10
1	-	01	0	1	MARL101ARS	103298	10
<b>Terminal : Faston 2x2,8 insulated (1)</b>							
1	50E	10	1	0	MARL110AFS	100521	10
1	-	01	0	1	MARL101AFS	100522	10
<b>Terminal : Printed circuit</b>							
1	50E	10	1	0	MARL110AIS	100523	10
1	-	01	0	1	MARL101AIS	100524	10

(1) Terminal with wire 1 mm<sup>2</sup>: Ie = 10A  
Insulated terminal type B2.8x0.8 with wire 1 mm<sup>2</sup>: Ie = 8A

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### Accessories

	For use with:	Time	Function	Ue	Cat. no.	Ref. no.	Pack
 <p><b>Electronic timer block</b></p>	Lateral or front fixing on the contactor						
	MCR..MC ...	0.5 - 60 sec.	Delay ON	24 to 250V AC/DC	<b>MREBC10AC2</b>	100541	10
	MCR..MC ...	0.2 - 24 sec.	Delay ON	24 to 250V AC/DC	<b>MREBC20AC2</b>	100542	10
 <p><b>Timer fitment</b></p>	For fixing onto 35mm DIN-rail (EN 5022)						
	MREBC...				<b>MVB0R</b>	100543	10
 <p><b>Voltage suppressor block</b></p>	Connection and (plug-in) fixing onto front of the contactor						
	MCRA,MC ...	RC	AC	12 to 60V 50/60Hz	<b>MP0AAE1</b>	100544	10
	MCRA,MC ...	RC	AC	72 to 250V 50/60Hz	<b>MP0AAE2</b>	100545	10
	MCRC,MC ...	Diode	DC	6 to 250V DC	<b>MP0CAE3</b>	100546	10
	MCRC,MC ...	Varistor	AC/DC	24-48V	<b>MP0DAE4</b>	100536	10
 <p><b>Mechanical interlock</b></p>	Kit comprising mechanical interlock and contactor jointing parts						
	MCR, MC ...				<b>MMH0</b>	100547	10
<p><b>Identification</b></p>	For use with:						
	MCR, MC ...	Sheets of labels (10 sheets of 260 labels each)			<b>EAT 260</b>	100548	1
	MCR, MC ...	Labelling plate base. Plug-in labelling plate bases (50 pieces in one pack)			<b>SPR</b>	100549	1

Notes

Grid area for notes.

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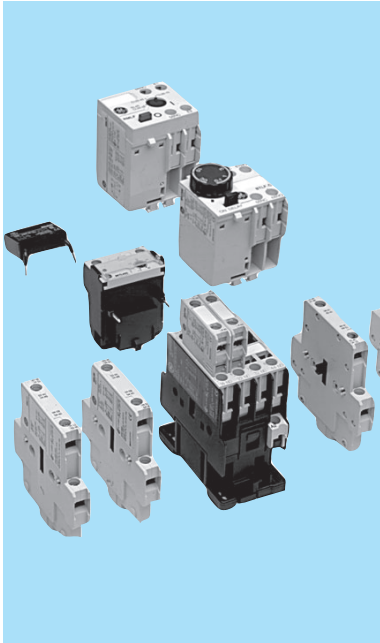
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## Auxiliary contactors I<sub>th</sub> = 20A

- 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 50022-35)
- Terminals protected against accidental contact in accordance with VDE 0106 T.100, VBG4
- Ring terminal versions
- 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 (EN 60529)

### Standards

IEC/EN 60947-5-1	BS 4794
IEC/EN 60947-1	CENELEC HD410
EN 90947	CENELEC HD420
EN 60947	NFC 63-110
EN 50005	NFC 63-140
EN 50011	CSA C22.2/14
UL 508	VDE 0660/102
NEMA ICS 1	

### Approvals



Lloyd's Register

Bureau Veritas

RINA

### General data

<b>Maximum number of contacts (RL...)</b>	4
<b>Rated thermal current (I<sub>th</sub>) θ ≤ 55°</b>	(A) 20
<b>Rated operational voltage (U<sub>e</sub>)</b>	(V) 690
<b>Insulation voltage (U<sub>i</sub>)</b>	(V) 1000

#### Utilisation category:

AC-15	V	120	230/220	400/380	440/415	500	690/660
A	10	10	6	5	4	2	
DC-13	V	24	48	110	220	440	
A	6	4	2	0.7	0.35		

### Standard voltages

To complete the catalogue number, replace the symbol ♦ by the code corresponding to the voltage and frequency of the control circuit.

#### Alternating current (V). Dual-frequency coil

♦	1	2	9	3	4	5	6	7	13	8	15
AC	24	42	48	110	120	220	230	240	400	440	480
50/60Hz			115								

#### Alternating current (V)

♦	A	B	E	K	L	N	T	U	W	Y	Z
AC			32	127		220		380	415	500	660
50Hz						230		400		690	
AC	6	12				208	277	380	480	460	600
60Hz											

#### Direct current (V)

♦	B	D	E	F	G	H	I	J	K	N	P	R	T
DC	12	24	36	42	48	60	72	110	120	220	230	240	250

#### Direct current (V) - Wide voltage range

♦	WB	WD	WE	WF	WG	WH	WI	WJ	WK	WN	WP	WR	WT
DC	12	24	33	42	48	60	72	110	125	220	230	240	250

Order codes ● pg. B.15  
Accessories ● pg. B.16  
Technical data ● pg. B.36  
Dimensions ● pg. B.42



### Auxiliary contactors



Contacts					Control circuit: Alternating current up to 690V		Control circuit: Direct current up to 440V	
					Cat. no. <sup>(1)</sup>	Pack	Cat. no. <sup>(1)</sup>	Pack
					Ref. no. see bottom		Ref. no. see bottom	
Screw terminal								
4	0	0	0	0	RL4RA040T	5	RL4RD040T	10
3	1	0	0	0	RL4RA031T	5	RL4RD031T	10
2	2	0	0	0	RL4RA022T	5	RL4RD022T	10
0	4	0	0	0	RL4RA004T	5	RL4RD004T	10
1	1	1	1	1	RL4RA022G	5	RL4RD022G	10
Ring terminal								
4	0	0	0	0	RL4RA040R	5	RL4RD040R	10
3	1	0	0	0	RL4RA031R	5	RL4RD031R	10
2	2	0	0	0	RL4RA022R	5	RL4RD022R	10
0	4	0	0	0	RL4RA004R	5	RL4RD004R	10
Spare coil								
Screw terminal					LB1A	5	LB1D	5
Ring terminal					LR1A	5	LR1D	5

(1) To complete the catalogue number, replace the symbol ♦ by the code corresponding to the voltage and frequency of the control circuit. (see pg. B.14).

### Auxiliary contacts

Instantaneous	Number of contacts	Contacts				Function	Time	Cat. no.	Ref. no.	Pack
		•3  •4	•1  •2	•7  •8	•5  •6					
Frontal mounting	Screw terminal									
	1	1	0	0	0			BCLF10	104700	10
	1	0	1	0	0			BCLF01	104701	10
	1	0	0	1	0			BCLF10G	104702	10
	1	0	0	0	1			BCLF01G	104703	10
	Ring terminal									
Side mounting	Screw terminal									
	2	2	0	0	0			BRL120	104704	10
	2	1	1	0	0			BRL111	104705	10
	2	0	2	0	0			BRL102	106622	10
	Ring terminal									
	1	1	0	0	0			BCRF10	108901	10
	1	0	1	0	0			BCRF01	108902	10
Pneumatic timer blocks										
Frontal mounting	Screw terminal									
	2	0	0	1	1	Delayed ON	0.1 - 30 sec.	BTLF30C	104709	10
	2	0	0	1	1	Delayed ON	1 - 60 sec.	BTLF60C	104710	10
	2	0	0	1	1	Delayed OFF	0.1 - 30 sec.	BTLF30D	104711	10
	2	0	0	1	1	Delayed OFF	1 - 60 sec.	BTLF60D	104712	10
	Ring terminal									
	2	0	0	1	1	Delayed ON	0.1 - 30 sec.	BTRF30C	108903	10
	2	0	0	1	1	Delayed ON	1 - 60 sec.	BTRF60C	108904	10
	2	0	0	1	1	Delayed OFF	0.1 - 30 sec.	BTRF30D	108905	10
	2	0	0	1	1	Delayed OFF	1 - 60 sec.	BTRF60D	108906	10
	Sealing cover protection for pneumatic timer							BTLFX	113001	5

For reference numbers, see chapter X, pg. X.7



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## Accessories

	Number of contacts	Contacts				Cat. no.	Ref. no.	Pack
		•3 •4	•1 •2	•7 •8	•5 •6			
 Mechanical interlock	Mechanical	-	-	-	-	<b>BELA</b>	104723	5
	Mechanical / electrical	2	0	2	-	<b>BELA02</b>	104724	5
 Mechanical latch blocks	Frontal mounted to the contactor							
					RL4RA..., RL4RD...	<b>RMLF</b> ♦ <sup>(1)</sup>	see bottom	20

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

	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
60HZ	24, 32	48, 60		110, 115, 120, 127	208, 220, 240, 277	380, 400, 415, 440, 480	600
DC	24, 32, 36	42, 48	60, 72	110, 120, 125	220, 230, 240, 250	440	

	For use with:	Type	Control circ.	Ue	Cat. no.	Ref. no.	Pack
 Transient voltage suppressor block	Directly connected parallel to the coil terminals, allows simultaneous use with auxiliary contact blocks.						
	RL4RA...	R/C	AC	12V ... 48V	<b>BSLR2G</b>	104713	10
	RL4RA...	R/C	AC	50V ... 127V	<b>BSLR2K</b>	104714	10
	RL4RA...	R/C	AC	130V ... 250V	<b>BSLR2R</b>	104715	10
	RL4RD...	Diode	DC	12V ... 600V	<b>BSLDZ</b>	104719	10
	RL4RA..., RL4RD...	Varistor	AC / DC	24V ... 48V	<b>BSLV3G</b>	104720	10
	RL4RA..., RL4RD...	Varistor	AC / DC	50V ... 127V	<b>BSLV3K</b>	104721	10
RL4RA..., RL4RD...	Varistor	AC / DC	130V ... 250V	<b>BSLV3R</b>	104722	10	
RL4RA..., RL4RD...	Varistor	AC / DC	277V ... 500V	<b>BSLV3U</b>	110836	10	
 Identification	For use with:				Cat. no.	Ref. no.	Pack
	RL4RA..., RL4RD...	Sheets of labels (10 sheets of 260 labels each)			<b>EAT 260</b>	100548	1
RL4RA..., RL4RD...	Labelling plate base. Plug-in labelling plate bases (50 pieces in one pack)			<b>SPR</b>	100549	1	
 Electronic timer module	For use with:	Control circuit	Function	Time	Cat. no.	Ref. no.	Pack
	RL4...	24-250V AC/DC	Delayed ON	0,1 - 2 sec.	<b>BETL02C</b>	113602	5
	RL4...	24-250V AC/DC	Delayed ON	1,5 - 45 sec.	<b>BETL45C</b>	113603	5
	RL4...	24-250V AC/DC	Delayed OFF	0,1 - 2 sec.	<b>BETL02D</b>	113604	5
	RL4...	24-250V AC/DC	Delayed OFF	1,5 - 45 sec.	<b>BETL45D</b>	113605	5

For reference numbers, see chapter X, pg. X.7

## Technical data

### General

Maximum number of contacts (MCR...)	4
Rated thermal current (I <sub>th</sub> ) θ ≤ 60°	16A
Rated operational voltage (U <sub>e</sub> ) acc. IEC 60947.1	690V
Insulation voltage (U <sub>i</sub> ) acc. IEC 60947.1	750V

### Conformity to standards

IEC / EN 60947-5-1	IEC / EN 60947-1	BS 4794
EN 50002	EN 50005	EN 50011
NFC 63-110	NFC 63-140	CENELEC HD 420
CSA C22.2/14	VDE 0660	UL 508

### Approvals

cULus	DEMKO	NEMKO
SEMKO	SETI	RINA
Lloyd's Register	Bureau Veritas	CE

### Ambient conditions

Storage temperature	-55°C to +80°C	
Operation temperature	-40°C to +60°C	
Altitude	up to 3000m	
	from 3000 to 4000m	90%Ie 80%Ue
	from 4000 to 5000m	80%Ie 75%Ue

### Climatic resistance (IEC 68-2)

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

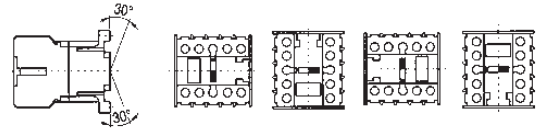
### Shock resistance (IEC 68-2-27)

Continuously closed (at 0,8Us)		
Admissible acceleration		25 g
Impulse duration		11 ms
Continuously opened (no voltage)		
Admissible acceleration		20 g
Impulse duration		11 ms

### Vibration resistance (IEC 68-2-6)

Continuously closed (at 0,8Us)		
Admissible acceleration		15 g
Sweep between		10 - 200 Hz
Continuously opened (no voltage)		
Admissible acceleration		5 g AC - 3.5 g DC
Sweep between		10 - 200 Hz

## Mounting positions



With the same pick-up and drop-out voltage  
With the same rated power



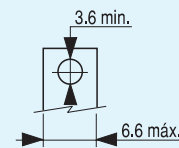
-7% of connection voltage  
+4% of disconnection voltage  
With the same rated power



-7% of connection voltage  
+4% of disconnection voltage  
With the same rated power

## Terminal capacity

Terminal with screw M3.5 Tightening torque		
(with pozidrive head and safety flange)		
Solid wire	mm <sup>2</sup>	0.8 Nm - 7 Lb-in
Flexible wire without terminal	mm <sup>2</sup>	0.75 to 2.5x2 w.
Flexible wire with terminal with cap	mm <sup>2</sup>	0.75 to 2.5x1 w
	mm <sup>2</sup>	0.75 to 1x2 w
Ring terminal cap		0.8 Nm - 7 Lb/in

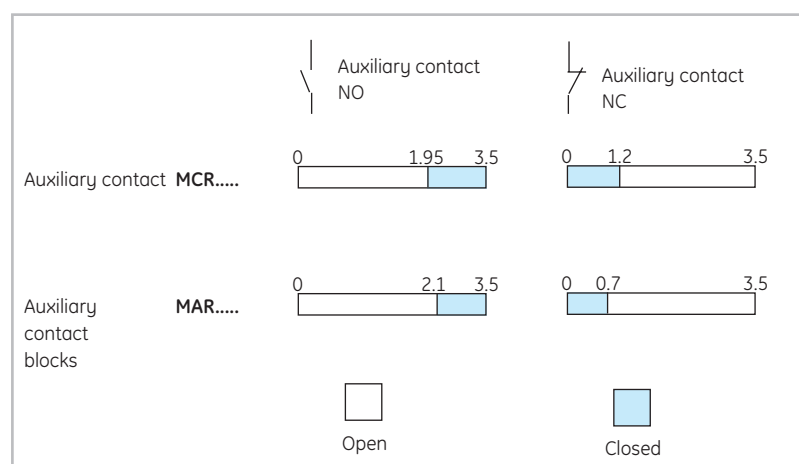


Fast-on 2.8 - 2 insulated terminals	mm <sup>2</sup>	1 x 2 w.
Terminal for printed circuit (Ø of PCB hole)		1.8mm
Ring terminal cap		7.8mm
Fork terminal cap		6.5mm

### Control circuit

		MCRA...	MCRC...	MCRC...	MCRI...	MCRK...
Rated insulation voltage (Ui)	(V)	750	750	750	750	750
Standard voltages (Us)						
50Hz	(V)	24..690	-	-	-	-
60Hz	(V)	6..600	-	-	-	-
DC	(V)	-	6..440	12..440	24	24
Voltage <sup>(1)</sup>						
Operating limits	xUs	0.8..1.1	0.8..1.1	0.7..1.3	0.8..1.25	0.7..1.25
Drop-out	xUs	0.35..0.55	0.15..0.3	0.15..0.3	0.15..0.3	0.13..0.35
Consumption						
Pick-up	(VA)	26	-	-	-	-
Seal	(VA)	4	-	-	-	-
DC	(W)	-	3	4	1.2	2
Power factor						
Pick-up	(cos φ)	0.8	-	-	-	-
Seal	(cos φ)	0.35	-	-	-	-
Power dissipation	(W)	1.4	3	4	1.2	2
Opening and closing times						
Values between ± %Us	%	+10...-20	+10...-20	+30...-30	+25...-20	+25...-20
Time at energisation NO	(ms)	6..13	22..36	17..28	30..70	20..50
Time at de-energisation NC	(ms)	8..16	9..12	9..12	9..16	9..16
Time at energisation NC	(ms)	5..11	18..27	12..25	20..45	18..35
Time at de-energisation NO	(ms)	6..13	5..7	5..7	5..9	5..9
Values at Us						
Time at energisation NO	(ms)	7..12	24..27	19..23	25..45	25..40
Time at de-energisation NC	(ms)	8..16	9..11	9..11	9..16	9..16
Time at energisation NC	(ms)	6..10	20..26	15..21	25..35	20..30
Time at de-energisation NO	(ms)	6..13	5..8	5..8	5..9	5..9
Maximum time without voltage (without effecting the closed magnetic circuit)	(ms)	3	3	3	3	3
Mechanical endurance						
Monofrequency	x10 <sup>6</sup> ops.	15	-	-	-	-
Dual-frequency	x10 <sup>6</sup> ops.	10	-	-	-	-
DC	x10 <sup>6</sup> ops.	-	10	10	10	10
Maximum rate (no load)						
Monofrequency	n° ops./h	9000	-	-	-	-
Dual-frequency	n° ops./h	3600	-	-	-	-
DC	n° ops./h	-	9000	9000	9000	9000

### Contact sequence (distance in mm)

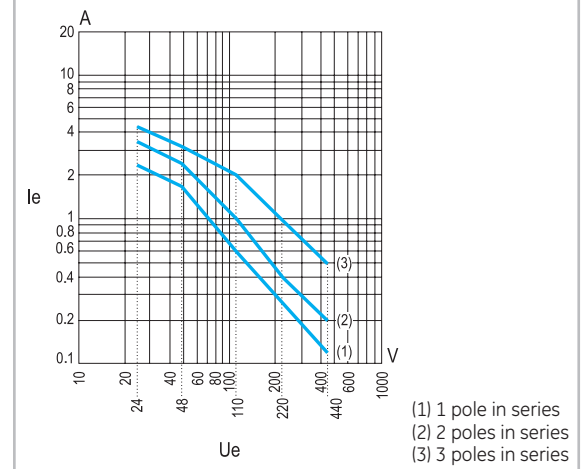


## Internal auxiliary contacts

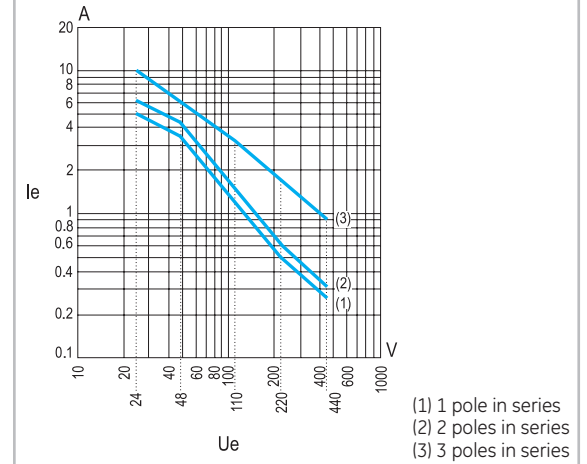
		MCR.....
Rated insulation voltage (Ui) acc. IEC 60947-1		750V
Rated thermal current (Ith) $\theta \leq 60^\circ\text{C}$ <sup>(1)</sup>		16A
Making capacity (r.m.s.) acc. IEC 60947-5		
AC-15	$U_e \leq 440\text{V } 50/60 \text{ Hz}$	160A
DC-13	$U_e \leq 220\text{V DC}$	3A
Breaking capacity (r.m.s.) acc. IEC 60947-5		
AC-15	$U_e \leq 440\text{V } 50/60 \text{ Hz}$	106A
DC-13 (L/R = 100 ms)	$U_e \leq 220\text{V DC}$	1.2A
	$U_e = 110\text{V DC}$	3A
	$U_e = 48\text{V DC}$	10A
Rated voltage and rated current $U_e$ - $I_e$		
AC-15	according to IEC 947	110/120V - 6A 220/240V - 6A 380/400V - 4A 415/440V - 4A 500V - 2.5A 660/690V - 1.5A
	according to UL, CSA	A600
DC-13	according to IEC	24V - 5A 48V - 3.5 A 110V - 1.2A 220V - 0.6A 440V - 0.25A
	according to UL, CSA	P600
Minimum operational power (operational safety)		5 mA, 17V
Short-circuit protection (max.class gI fuse without welding)		10A
Insulation resistance		
	between contacts	> 10 m $\Omega$
	between contacts and earth	> 10 m $\Omega$
	between input and output	> 10 m $\Omega$
Guaranteed no overlap of the contacts		
	Space	1,1 mm
	minimum time	> 2 ms
Impedance		2,3 m $\Omega$
Terminal capacity		Same as main circuit

## Tripping characteristics $I_e/U_e$

DC Inductive circuit. DC-13 L/R  $\leq 100$  ms  
Electrical endurance  $10^6$  ops.

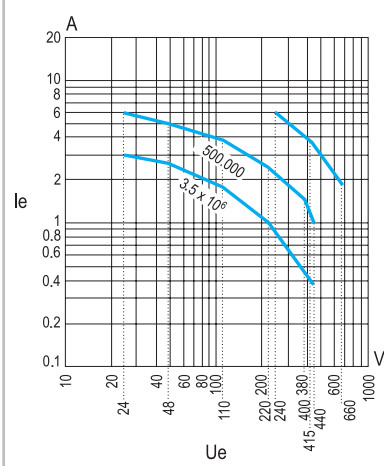


DC Inductive circuit. DC-13 L/R  $\leq 15$  ms  
Electrical endurance  $10^6$  ops.

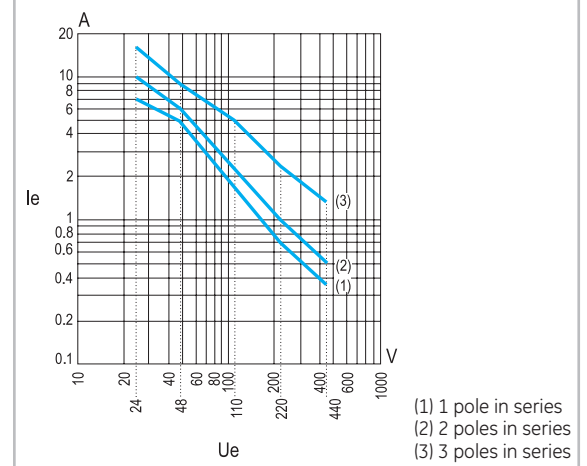


## Tripping characteristics (AC)

AC AC-15  
Electrical endurance



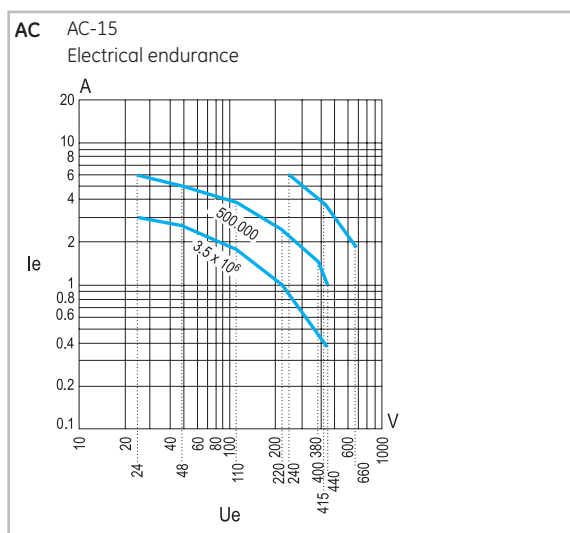
DC Inductive circuit DC-13 L/R  $\leq 1$  ms  
Electrical endurance  $10^6$  ops.



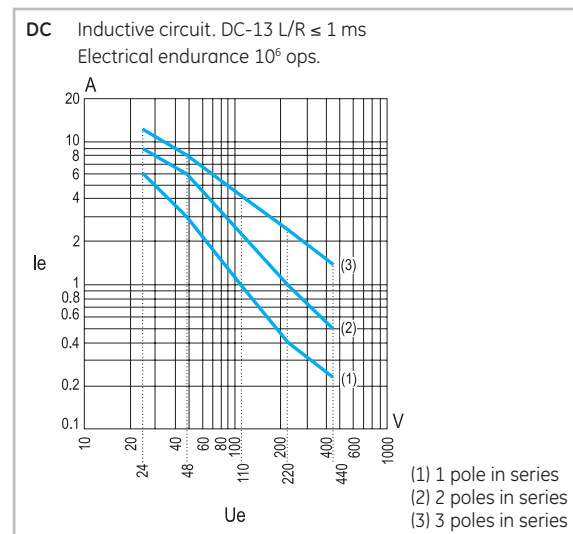
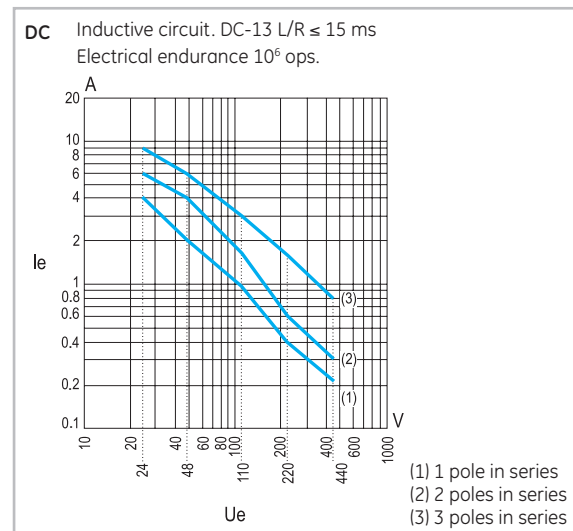
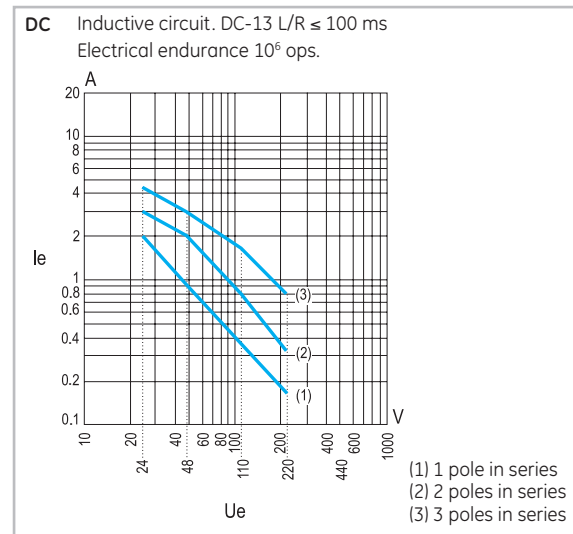
### External auxiliary contact blocks

		MARN..., MARL...
Rated insulation voltage (Ui) acc. IEC 60947-1		750V
Rated thermal current (Ith) $\theta \leq 60^\circ\text{C}$ <sup>(1)</sup>		10A
Making capacity (r.m.s.) acc. IEC 60947-5		
AC-15	Ue $\leq$ 220V 50/60 Hz	73A
	Ue = 380V 50/60 Hz	38A
	Ue = 690V 50/60 Hz	22A
DC-13 L/R = 100 ms	Ue $\leq$ 100V DC	2.6A
	Ue = 220V DC	1A
	Ue = 440V DC	0.6A
Breaking capacity (r.m.s.) acc. IEC 60947-5		
AC-15	Ue $\leq$ 220V 50/60 Hz	73A
	Ue = 380V 50/60 Hz	38A
	Ue = 690V 50/60 Hz	22A
DC-13 L/R = 100 ms	Ue $\leq$ 100V DC	2A
	Ue = 220V DC	0.8A
	Ue = 440V DC	0.4A
Rated voltage and rated current Ue-Ie		
AC-15	according to IEC 60947	110/120V - 6A
		220/240V - 6A
		380/400V - 3A
		415/440V - 3A
		500V - 1A
		660/680V - 1A
	according to UL, CSA	A600
DC-13	according to IEC 60947	24V - 4A
		48V - 2A
		110V - 0.7A
		220V - 0.3A
		440V - 0.1A
	according to UL, CSA	Q600
Minimum operational power (operational safety)		
		5 mA, 17V
Short-circuit protection (max.class gI fuse without welding)		
		10A
Insulation resistance		
	between contacts	> 10 m $\Omega$
	between contacts and earth	> 10 m $\Omega$
	between input and output	> 10 m $\Omega$
Guaranteed no overlap of the contacts		
	Space	0.5 mm
	minimum time	> 2 ms
Impedance		
		2.4 m $\Omega$
Terminal capacity		
		Same as main circuit

### Tripping characteristics (AC)



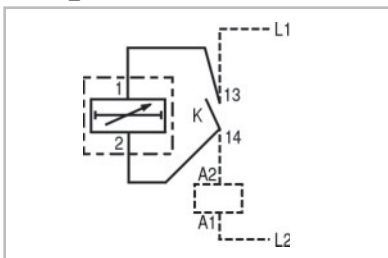
### Tripping characteristics Ie/ue



## Electronic timer block

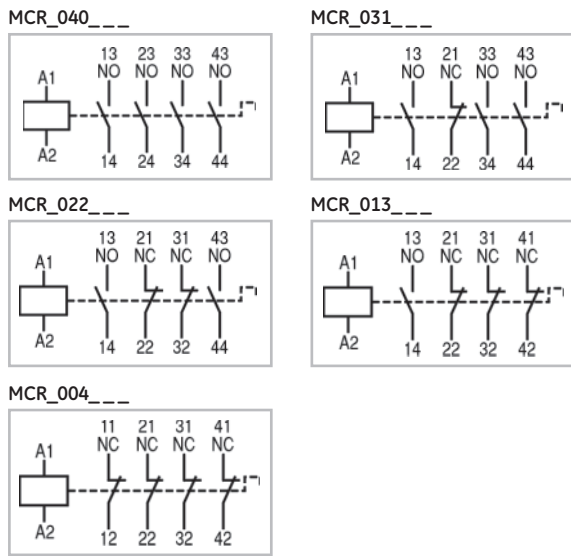
		MREBC...
Rated insulation voltage (Ui)		750V
Rated thermal current (Ith) $\theta \leq 60^{\circ}\text{C}$ <sup>(1)</sup>		0.55V
Standard voltages (AC y DC)		24 to 250V
Operation limits		0.80 to 1.1 Us (0.85 to 1.1 Us at 12V)
Voltage drop		< 3V
Maximum load current at		
	20°C	0.9A
	40°C	0.72A
	60°C	0.55A
Minimum load for safe operation		> 10 mA
Maximum current (peak)		10A for 40 ms
Leakage current at 220V		< 5 mA
Operational current		
	AC-15	0.7A
	DC-13	0.9A
Timing range (delay ON)		0.5 to 60 s ( $\pm 6$ s)
Rearrangement time		< 100 ms
Repeatability (accuracy)		$\pm 1$ %
Ambient temperature		
	Storage	from $-55$ up to $+80^{\circ}\text{C}$
	Operation	from $-5$ up to $+60^{\circ}\text{C}$
Degree of protection		IP20
Mounting position		any
Terminals : 2 free cables		1 mm <sup>2</sup> (AWG 17) 250 mm

MREBC\_0AC2



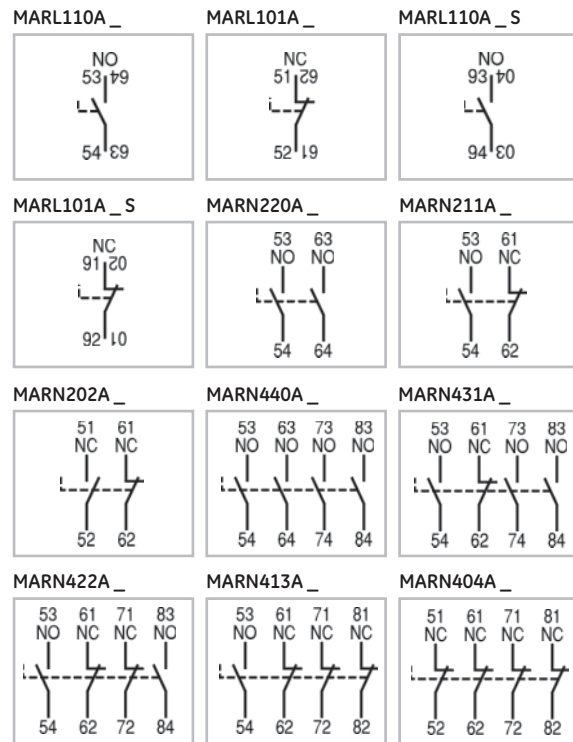
Terminal numbering

Auxiliary contactors. According to EN 50011

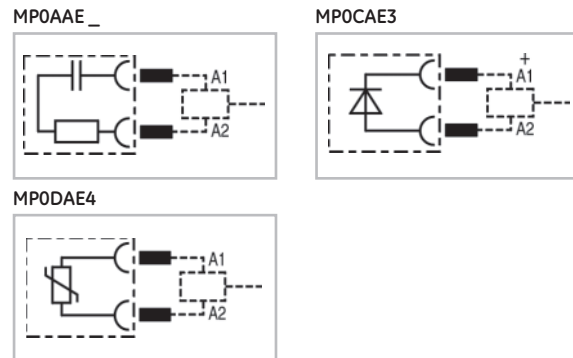


Auxiliary contact blocks

According to EN 50005 & EN 50011



Transient voltage suppressor block



## Terminal numbering in accordance with EN 50011

By combining other basic auxiliary contactors with auxiliary contact blocks MAR..., it is possible to obtain other combinations, and positions of contacts which are not covered by the table. But in all cases the maximum number of auxiliary contacts should be ten.

### Type E

Standard contact combination in which the interchangeability of the devices does not affect the cabling or the diagram. Specifies a particular contact numbering and positioning.

	Final structure of the combination	Auxiliary contacts		Auxiliary contactor + Auxiliary contact blocks to be added
		Combination Description	NO NC	
Type E		40E	4 0	MCRA040A..
		31E	3 1	MCRA031A..
		22E	2 2	MCRA022A..
		13E	1 3	MCRA013A..
		04E	0 4	MCRA004A..
		60E	6 0	MCRA040A.. + MARN220A..
		51E	5 1	MCRA040A.. + MARN211A..
		42E	4 2	MCRA040A.. + MARN202A..
		80E	8 0	MCRA040A.. + MARN440A..
		71E	7 1	MCRA040A.. + MARN431A..
		62E	6 2	MCRA040A.. + MARN422A..
		53E	5 3	MCRA040A.. + MARN413A..
		44E	4 4	MCRA040A.. + MARN404A..
		50E	5 0	MCRA040A.. + MARL110A..
		41E	4 1	MCRA031A.. + MARL110A..
		32E	3 2	MCRA022A.. + MARL110A..
		23E	2 3	MCRA013A.. + MARL110A..
		14E	1 4	MCRA013A.. + MARL101A..
		05E	0 5	MCRA004A.. + MARL101A..





**Terminal numbering in accordance with EN 50011 (continued)**

By combining other basic auxiliary contactors with auxiliary contact blocks MAR..., it is possible to obtain other combinations, and positions of contacts which are not covered by the table. But in all cases the maximum number of auxiliary contacts should be ten.

**Type Z**  
Contact combination the same as Type E. Interchangeability of the devices may affect the cabling and the diagram. Neither contact numbering nor positioning are retained.

**Type X**  
Contact combination the same as Type E. Interchangeability of the devices may affect the cabling but not the diagram. The contact numbering is maintained but not their position.

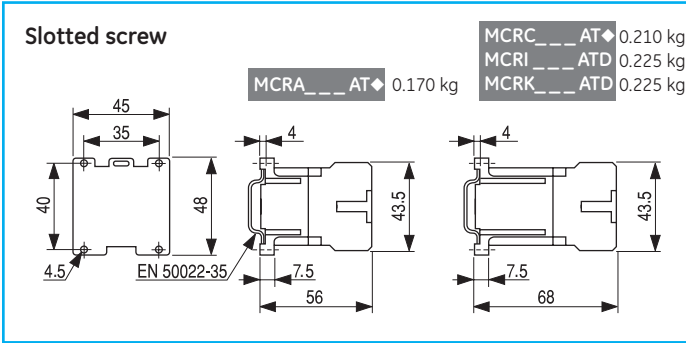
**Type Y**  
Contact combination which differs from Type E, although it is obtained by a combination of devices provided for this Type E.

	Final structure of the combination	Auxiliary contacts		Auxiliary contactor + Auxiliary contact blocks to be added		
		Combination	NO NC			
		Description				
Type Z			60Z	6 0	MCRA040A.. + MARL110A.. + MARL110A..	
			51Z	5 1	MCRA040A.. + MARL110A.. + MARL101A..	
			42Z	4 2	MCRA040A.. + MARL101A.. + MARL101A..	
			100Z	10 0	MCRA040A.. + MARN440A.. + MARL110A..S + MARL110A..S	
			55Z	5 5	MCRA040A.. + MARN413A.. + MARL101A..S + MARL101A..S	
	Type X			80X	8 0	MCRA040A.. + MARL110A.. + MARL110A.. + MARL110A..S + MARL110A..S
			71X	7 1	MCRA040A.. + MARL110A.. + MARL101A.. + MARL110A..S + MARL110A..S	
			62X	6 2	MCRA040A.. + MARL110A.. + MARL101A.. + MARL101A..S + MARL110A..S	
			53X	5 3	MCRA040A.. + MARL110A.. + MARL101A.. + MARL101A..S + MARL101A..S	
			44X	4 4	MCRA040A.. + MARL101A.. + MARL101A.. + MARL101A..S + MARL101A..S	
			91X	9 1	MCRA040A.. + MARN431A.. + MARL110A..S + MARL110A..S	
			82X	8 2	MCRA040A.. + MARN431A.. + MARL101A..S + MARL110A..S	
			73X	7 3	MCRA040A.. + MARN422A.. + MARL101A..S + MARL110A..S	
			64X	6 4	MCRA040A.. + MARN422A.. + MARL101A..S + MARL101A..S	
Type Y				42Y	4 2	MCRA031A.. + MARL110A.. + MARL101A..
				33Y	3 3	MCRA022A.. + MARL110A.. + MARL101A..
				42Y	4 2	MCRA031A.. + MARN211A..
			33Y	3 3	MCRA022A.. + MARN211A..	
			53Y	5 3	MCRA031A.. + MARN422A..	
			44Y	4 4	MCRA022A.. + MARN422A..	

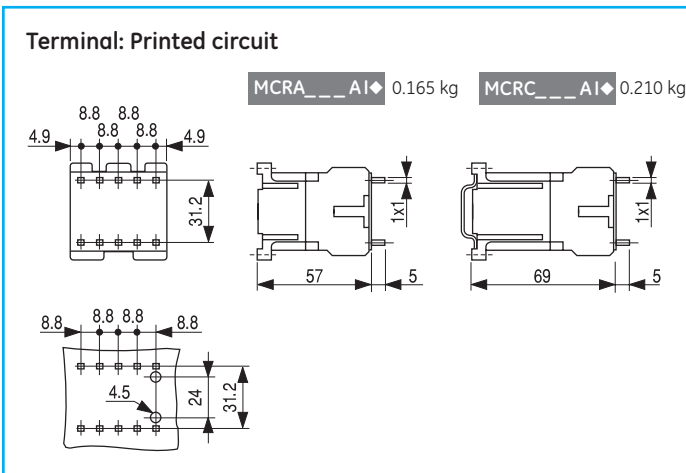
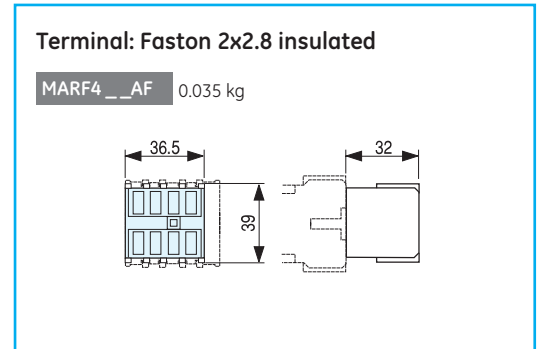
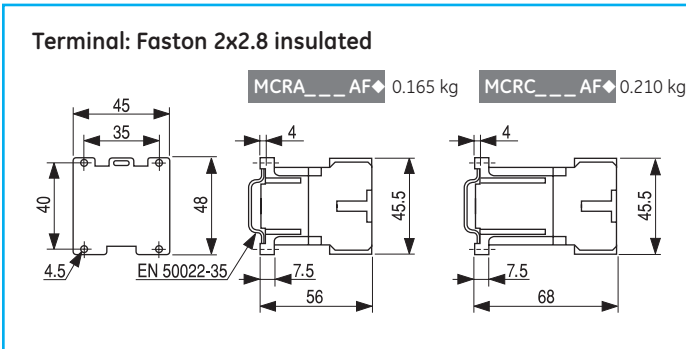
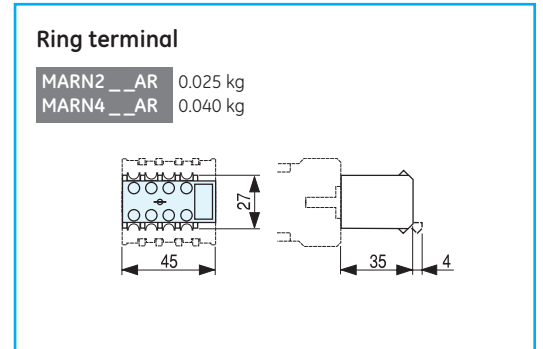
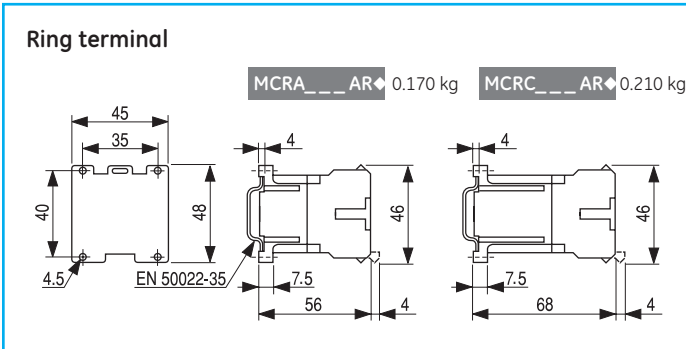
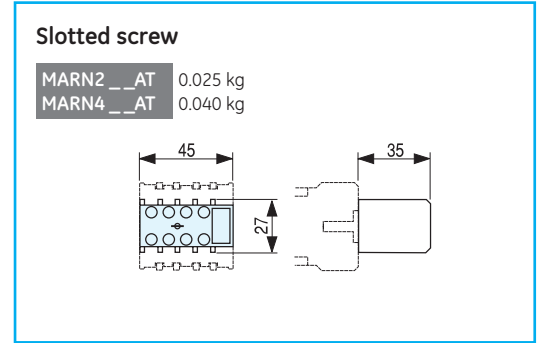


Dimensional drawings

Auxiliary minicontactors



Auxiliary contact blocks. Front mounting



Intro

A

B

C

D

E

F

G

H

I

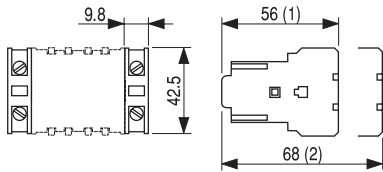
J/X



**Auxiliary contact blocks. Lateral mounting**

**Slotted screw**

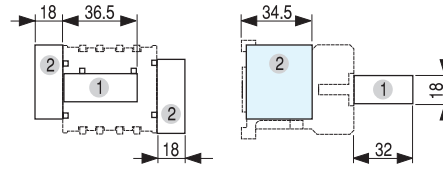
MARL\_\_AT, ATS 0.013 kg



(1) AC-control.  
(2) DC-control

**Electronic timer block**

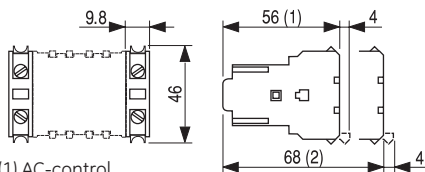
MREBC\_0AC2 0.040 kg



(1) Frontal mounting  
(2) Lateral mounting

**Ring terminal**

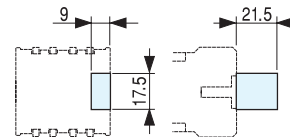
MARL\_\_AR, ARS 0.013 kg



(1) AC-control.  
(2) DC-control

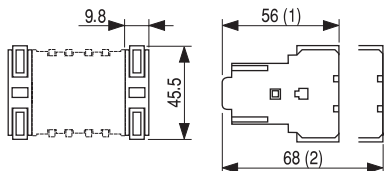
**Voltage suppressor block**

MPOA\_AE\_ 0.010 kg  
MPOC\_AE3 0.010 kg



**Terminal: Faston 2x2.8 insulated**

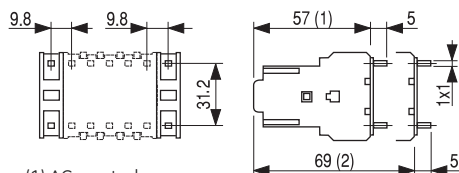
MARL\_\_AF, AFS 0.009 kg



(1) AC-control.  
(2) DC-control

**Terminal: Printed circuit**

MARL\_\_AI, AIS 0.009 kg



(1) AC-control  
(2) DC-control

## General

Maximum number of contacts	4
Rated thermal current (I <sub>th</sub> ) θ < 55°C	20A
Rated operational voltage (U <sub>e</sub> )	690V
Insulation voltage (U <sub>i</sub> )	1000V

## Conformity to standards

IEC / EN 60947-1	IEC / EN 60947-5-1	ASE 1025
EN 50005	EN 50011	VDE 0660 / 102
NFC 63-110	NFC 63-140	
CENELEC HD 410	CENELEC HD 420	
NEMA ICS 1	CSA C22.2/14	
UL 508	BS 4794	

## Approvals

cULus	DEMKO	NEMKO
SEMKO	FI	CE
Lloyd's Register	Bureau Veritas	

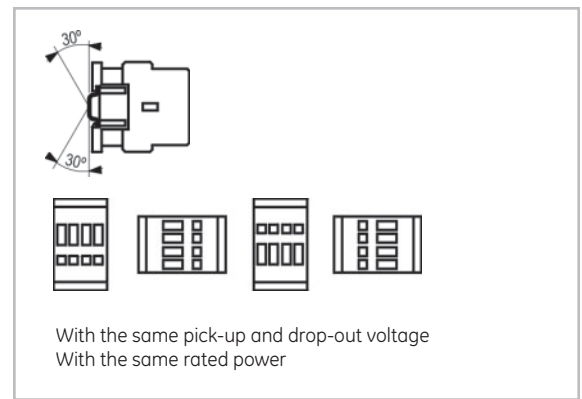
## Ambient conditions

Storage temperature	-55°C to +80°C	
Operation temperature	-40°C to +60°C	
Altitude	up to 3000m	Nominal values
	from 3000 to 4000m	90%Ie 80%Ue
	from 4000 to 5000m	80%Ie 75%Ue

## Climatic resistance (IEC 68-2)

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

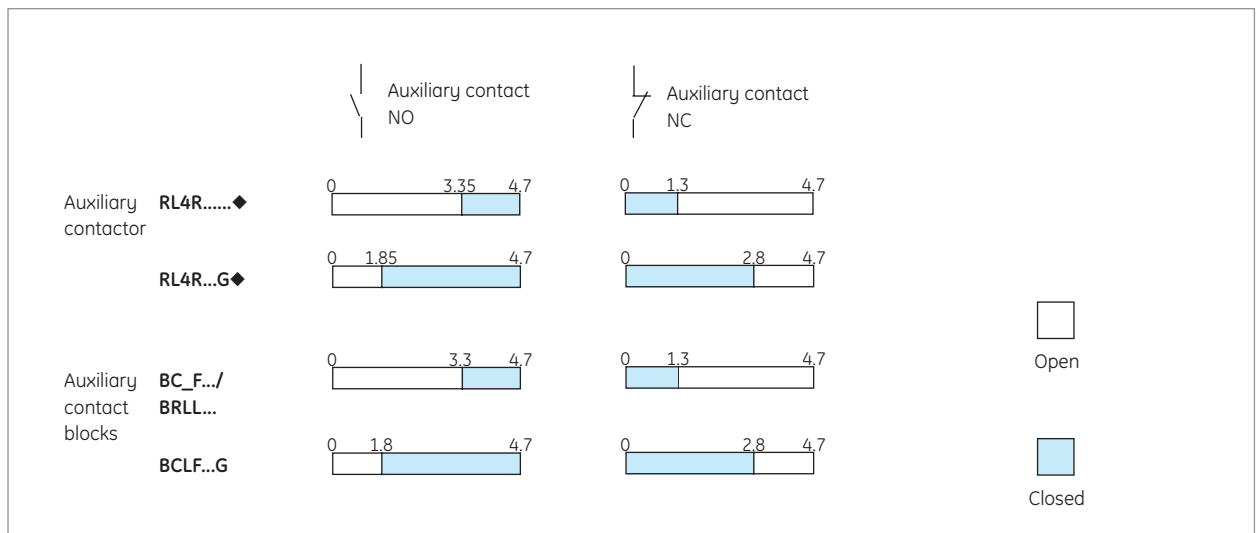
## Mounting positions



## Control circuit

		RL4RA...	RL4RD...	RL4RD...W
Rated insulation voltage U <sub>i</sub>	(V)	1000	1000	1000
Standard voltages U <sub>s</sub>				
50Hz (V)		24 ... 690	-	-
60Hz (V)		24 ... 600	-	-
DC	(V)	-	12 ... 440	12 ... 440
Voltage <sup>(1)</sup>				
Operating limits	xU <sub>s</sub>	0.8 ... 1.1	0.8 ... 1.1	0.7 ... 1.3
Pick-up	xU <sub>s</sub>	0.65 ... 0.75	0.45 ... 0.65	0.45 ... 0.55
Seal	xU <sub>s</sub>	0.4 ... 0.55	0.15 ... 0.3	0.15 ... 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	6.5
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 U <sub>s</sub>				
Closing time NO	(ms)	6 ... 25	35 ... 65	25 ... 65
Opening time NO	(ms)	6 ... 13	6 ... 13	6 ... 13
at U <sub>s</sub>				
Closing time NO	(ms)	8 ... 20	35 ... 45	25 ... 55
Opening time NO	(ms)	6 ... 13	7 ... 12	6 ... 13
Mechanical endurance	10 <sup>6</sup> ops	15	15	15
Maximum rate no load	ops./h	9000	3600	3600

## Contact sequence (distance in mm)

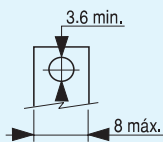


### Internal auxiliary contacts

	RL4.....
Rated insulation voltage (Ui) acc. IEC 60947-5	1000V
Rated thermal current (Ith) < 55°C	20A
Making capacity (r.m.s.) acc. IEC 60947-5	
AC-15 Ue ≤ 400V, 50/60 Hz	250A
DC-13 Ue ≤ 220V DC	250A
Breaking capacity (r.m.s.) acc. IEC 60947-5	
AC-15 Ue ≤ 400V, 50/60 Hz	250A
DC-13 Ue ≤ 220V DC	2A (4A with 2 contacts in series)
Ue ≤ 110V DC	7A (12A with 2 contacts in series)
Ue ≤ 48V DC	10A (18A with 2 contacts in series)
Rated voltage and rated current Ue-Ie	
AC-15 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
DC-13 according to IEC	24V - 6A 48V - 4 A 110V - 2A 220V - 0,7A 440V - 0,35A
according to UL, CSA	P600
Electrical endurance	1 × 10 <sup>6</sup> ops.
Minimum operational voltage (operational safety)	17V
Minimum operational current	5mA
Short-circuit protection	
max. fus. class gL fuse	20A
without welding	10A
Insulation resistance	
between contacts	> 10 mΩ
between contacts and earth	> 10 mΩ
between input and output	> 10 mΩ
Guaranteed no overlap between NO and NC contacts	
space	1.3 mm
minimum time	1.5 ms
Impedance	1.28 mΩ

### Terminal capacity

Solid, stranded and finely stranded without end sleeve	mm <sup>2</sup>	2 × 0.5 to 6
Finely stranded with end sleeve	mm <sup>2</sup>	2 × 1 to 6
AWG wires, solid and stranded	mm <sup>2</sup>	2 × 20 to 12
Tightening torque		1.1 Nm / 10 Lb.in
Ring terminals		1.6 Nm / 15 Lb.in

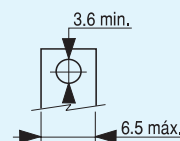


### Instantaneous auxiliary contact blocks

	BCLF./BCRF./BRLL..
Rated insulation voltage (Ui) acc. IEC 60947-5	1000V
Rated thermal current (Ith) θ < 55°C	10A
Making capacity (r.m.s.) acc. IEC 60947-5	
AC-15 Ue ≤ 440V, 50/60 Hz	90A
DC-13 Ue ≤ 220V DC	90A
Breaking capacity (r.m.s.) acc. IEC 60947-5	
AC-15 Ue ≤ 400V, 50/60 Hz	60A
DC-13 Ue ≤ 220V DC	0,95A
Rated voltage and rated current Ue-Ie	
AC-15 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
DC-13	24V - 4A 48V - 2A 110V - 0.7A 220V - 0.3A 415/440V - 0.15A
according to UL, CSA	Q600
Electrical endurance	1 × 10 <sup>6</sup> ops.
Minimum operational voltage (operational safety)	17V
Minimum operational current	5mA
Short-circuit protection (without welding) gL	10A
Insulation resistance	
between contacts	> 10 mΩ
between contacts and earth	> 10 mΩ
between input and output	> 10 mΩ
Guaranteed no overlap between NO and NC contacts	
Space	1.3 mm
minimum time	1.5 ms
Impedance of the contacts	1.28 mΩ

### Terminal capacity

Solid, stranded and finely stranded without end sleeve	mm <sup>2</sup>	2 × 0.5 to 2.5
Finely stranded with end sleeve	mm <sup>2</sup>	2 × 2.5 to 4
AWG wires, solid and stranded	mm <sup>2</sup>	2 × 0.5 to 2.5
Tightening torque		0.8 Nm / 7 Lb.in
Ring terminals		0.8 Nm / 7 Lb.in

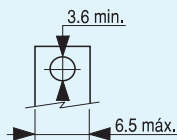


### Timed auxiliary contact blocks

		BTLF... / BTRF...
Rated insulation voltage (Ui) acc. IEC 60947-5		1000V
Rated thermal current (Ith) $\theta < 55^{\circ}\text{C}$		10A
Making capacity (r.m.s.) acc. IEC 60947-5		
AC-15	$U_e \leq 440\text{V}, 50/60\text{ Hz}$	90A
DC-13	$U_e \leq 220\text{V DC}$	90A
Breaking capacity (r.m.s.) acc. IEC 60947-5		
AC-15	$U_e \leq 400\text{V}, 50/60\text{ Hz}$	60A
DC-13	$U_e \leq 220\text{V DC}$	0.95A
Rated voltage and rated current $U_e$ - $I_e$		
AC-15	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
DC-13	according to IEC	24V - 4A 48V - 2A 110V - 0.7A 220V - 0.3A 415/440V - 0.15A
	according to UL, CSA	Q600
Electrical endurance		$1 \times 10^6$ ops.
Minimum operational voltage (operational safety)		17V
Minimum operational current		5mA
Short-circuit protection (without welding) $I_{sc}$		10A
Insulation resistance		
between contacts		$> 10\text{ M}\Omega$
between contacts and earth		$> 10\text{ M}\Omega$
between input and output		$> 10\text{ M}\Omega$
Guaranteed no overlap between NO and NC contacts		
space		1.3 mm
minimum time		1.5 ms
Timing (Ambient temperature between $-25$ and $+55^{\circ}\text{C}$ )		
Accuracy		$\pm 5\%$
Loss of accuracy after $0.5 \times 10^6$ 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		$1.28\text{ m}\Omega$
Mechanical endurance		$5 \times 10^6$ ops.
Peak current		
during 1 s.		50A
during 0.1 s.		100A

### Terminal capacity

Solid, stranded and finely stranded without end sleeve	(mm <sup>2</sup> )	$2 \times 0.5$ to $2.5$ $2 \times 2.5$ to $4$
Finely stranded with end sleeve	(mm <sup>2</sup> )	$2 \times 0.5$ to $2.5$ $2 \times 2.5$ to $4$
AWG wires, solid and stranded	(mm <sup>2</sup> )	$2 \times 20$ to $10$
Tightening torque		$0.8\text{ Nm}$ / $7\text{ Lb.in}$
Ring terminals		$0.8\text{ Nm}$ / $7\text{ Lb.in}$



### Mechanical latch blocks

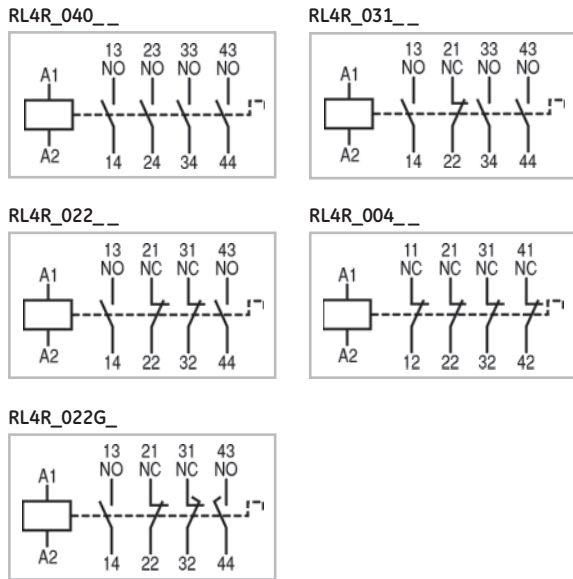
		RMLF.....
Rated insulation voltage (Ui)		1000V
Standard voltages (Us); 50-60Hz and direct current		24 ... 690V
Operating limits		0.75 to 1.1 xUs
Consumption for unlatching (auto cut-out)		210W /VA (24-72V) 130W /VA (110-440V)
Unlatching control <sup>(1)</sup>		
Electrical	Min.impuls	10 ms Maintained auto cut-out by integral contact 55-56 (only AC slots)
Manual		By local (0) push-button
Contactor control		
Electrical	Min.impuls	40 ms
Manual		By local (I) push-button
Mechanical endurance		CL00 ... CL45 CL05 ... CL10
		$3 \times 10^6$ (1200ops./h) $0.1 \times 10^6$ (300 ops./h)

### Terminal capacity

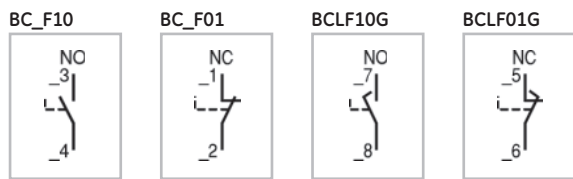
Solid, stranded and finely stranded without end sleeve	mm <sup>2</sup>	$2 \times 0.5$ to $2.5$ $2 \times 2.5$ to $4$
Finely stranded with end sleeve	mm <sup>2</sup>	$2 \times 0.5$ to $2.5$ $2 \times 2.5$ to $4$
AWG wires, solid and stranded	mm <sup>2</sup>	$2 \times 20$ to $10$
Tightening torque		$0.8\text{ Nm}$ / $7\text{ Lb.in}$

**Terminal numbering**

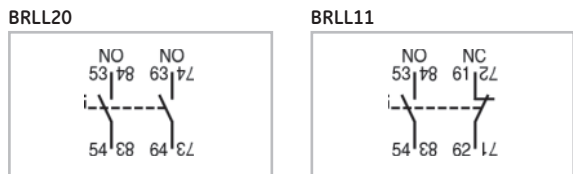
*Auxiliary contactors*



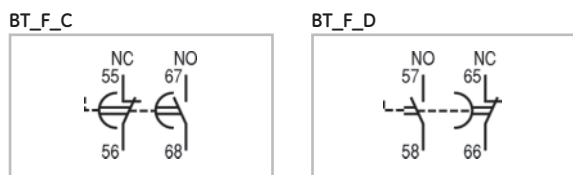
*Auxiliary contact blocks. Front mounting*



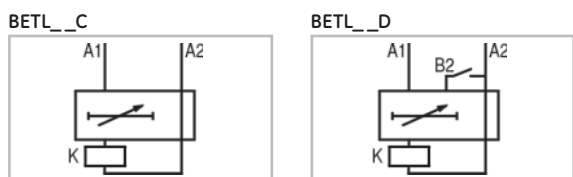
*Auxiliary contact blocks. Lateral mounting*



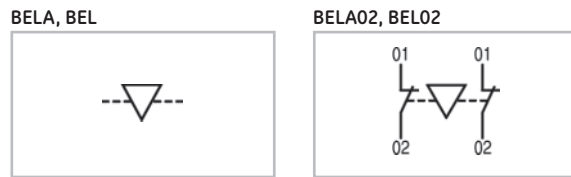
*Pneumatic timer blocks*



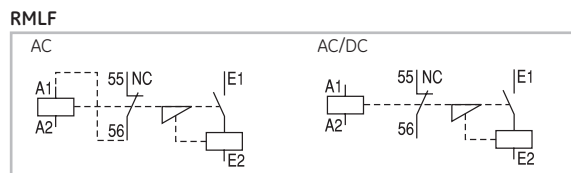
*Electronic timer blocks*



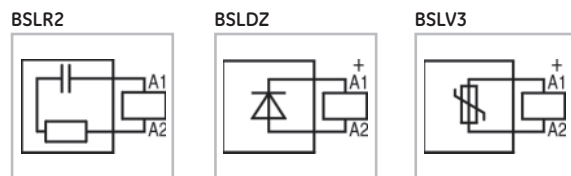
*Mechanical (-/electrical) interlock*



*Mechanical latch block*



*Voltage suppressor blocks*







## Terminal numbering in accordance with EN 50011

By combining other basic auxiliary contactors with auxiliary contact blocks BLC..., it is possible to obtain other combinations, and positions of contacts which are not covered by the table. But in all cases the maximum number of additional auxiliary contacts should be four.

### Type E

Standard contact combination in which the interchangeability of the devices does not affect the cabling or the diagram. Specifies a particular contact numbering and positioning.

	Final structure of the combination	Auxiliary contacts		Auxiliary contactor +Auxiliary contact blocks to be added
		Combination Description	NO NC	
Type E		40E	4 0	RL4RA040...
		31E	3 1	RL4RA031...
		22E	2 2	RL4RA022...
		04E	0 4	RL4RA004...
		50E	5 0	RL4RA040... + BC_F10
		41E	4 1	RL4RA031... + BC_F10
		32E	3 2	RL4RA022... + BC_F10
		23E	2 3	RL4RA022... + BC_F01
		14E	1 4	RL4RA004... + BC_F10
		05E	0 5	RL4RA004... + BC_F01
		60E	6 0	RL4RA040... + BC_F10 + BC_F10
		51E	5 1	RL4RA040... + BC_F10 + BC_F01
		42E	4 2	RL4RA040... + BC_F01 + BC_F01
		80E	8 0	RL4RA040... + BC_F10 + BC_F10 + BC_F10 + BC_F10
		71E	7 1	RL4RA040... + BC_F10 + BC_F01 + BC_F10 + BC_F10
		62E	6 2	RL4RA040... + BC_F10 + BC_F01 + BC_F01 + BC_F10
		53E	5 3	RL4RA040... + BC_F10 + BC_F01 + BC_F01 + BC_F01
		44E	4 4	RL4RA040... + BC_F01 + BC_F01 + BC_F01 + BC_F01



**Terminal numbering in accordance with EN 50011 (continued)**

By combining other basic auxiliary contactors with auxiliary contact blocks BLC..., it is possible to obtain other combinations, and positions of contacts which are not covered by the table. But in all cases the maximum number of additional auxiliary contacts should be four.


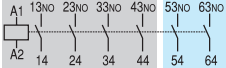
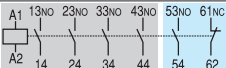

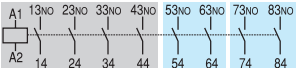
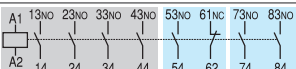
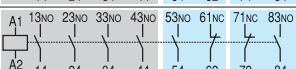

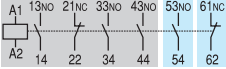
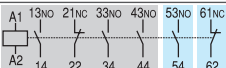

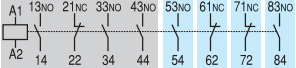
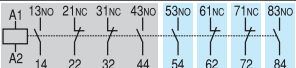

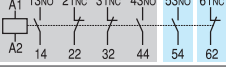
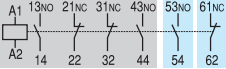

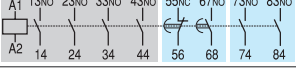
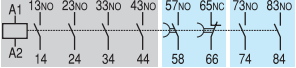
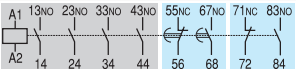
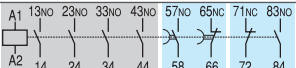
**Type Z**

Contact combination the same as Type E.

Interchangeability of the devices may affect the cabling and the diagram. Neither contact numbering nor positioning are retained.

**Type Y**

Contact combination which differs from Type E, although it is obtained by a combination of devices provided for this Type E.

	Final structure of the combination	Auxiliary contacts		Auxiliary contactor +Auxiliary contact blocks to be added	
		Combination	NO NC		
		Description			
Type Z			60Z	6 0	RL4RA040... + BRL20
			51Z	5 1	RL4RA040... + BRL11
			80Z	8 0	RL4RA040... + BRL20 + BRL20
			71Z	7 1	RL4RA040... + BRL11 + BRL20
			62Z	6 2	RL4RA040... + BRL11 + BRL11
	Type Y			42Y	4 2
			42Y	4 2	RL4RA031... + BRL11
			53Y	5 3	RL4RA031... + BC_F10 + BC_F01 + BC_F01 + BC_F10
			44Y	4 4	RL4RA022... + BC_F10 + BC_F01 + BC_F01 + BC_F10
			33Y	3 3	RL4RA022... + BC_F10 + BC_F01
			33Y	3 3	RL4RA022... + BRL11
					RL4RA040... + BTLF...C + BRL20
					RL4RA040... + BTLF...D + BRL20
					RL4RA040... + BTLF...C + BRL11
					RL4RA040... + BTLF...D + BRL11

Technical data

Intro

A

B

C

D

E

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G

H

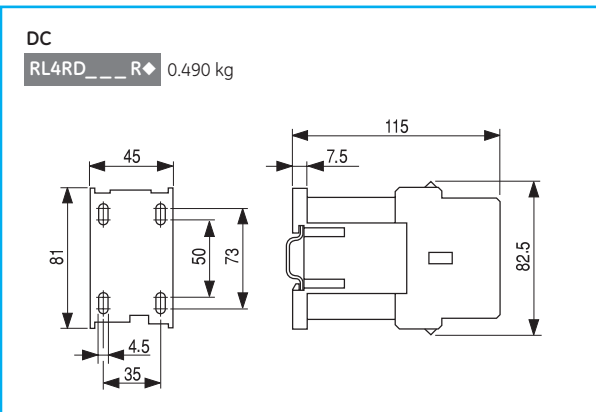
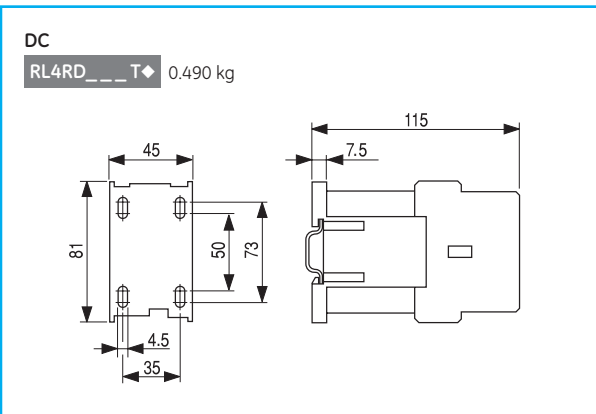
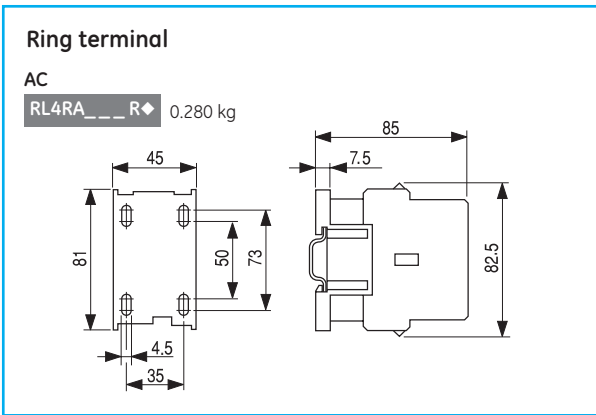
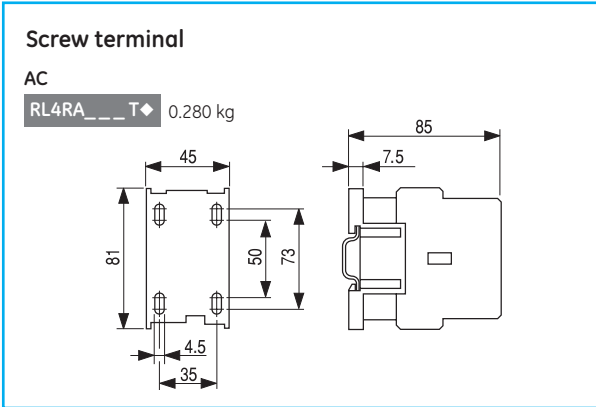
I

J/X

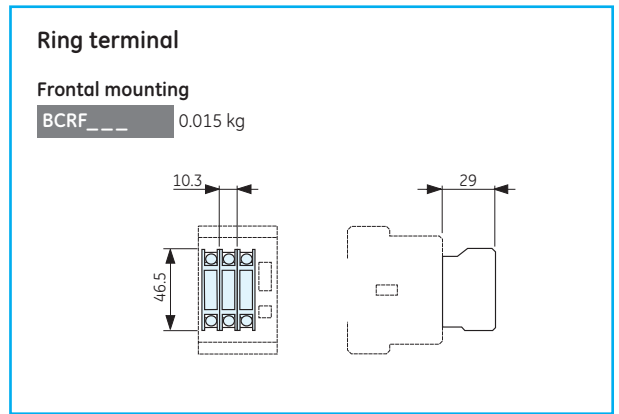
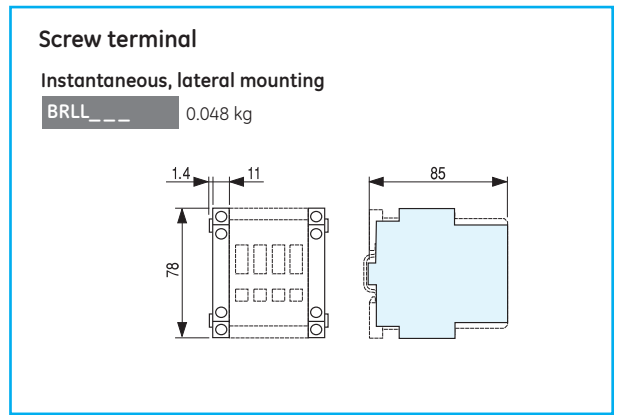
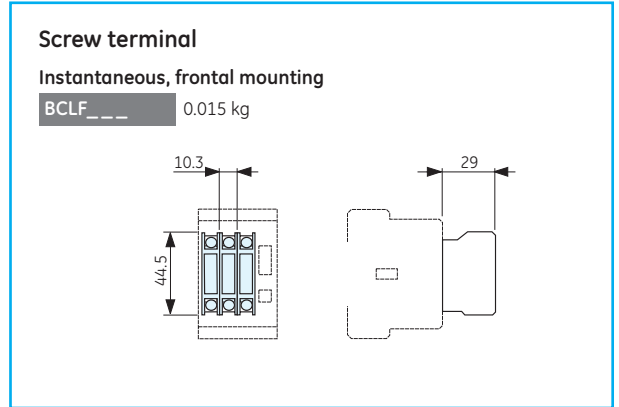


Dimensional drawings

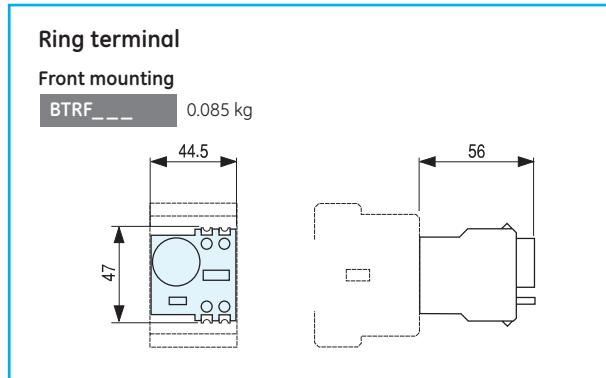
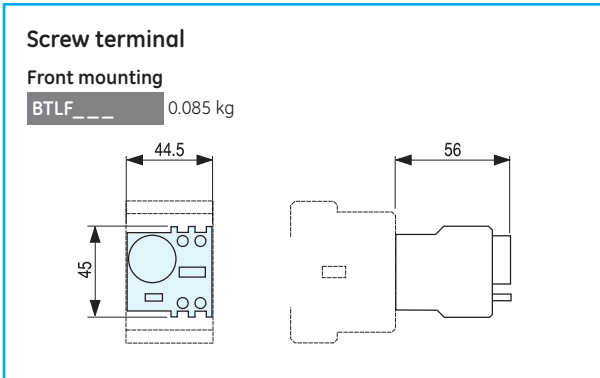
Auxiliary contactors



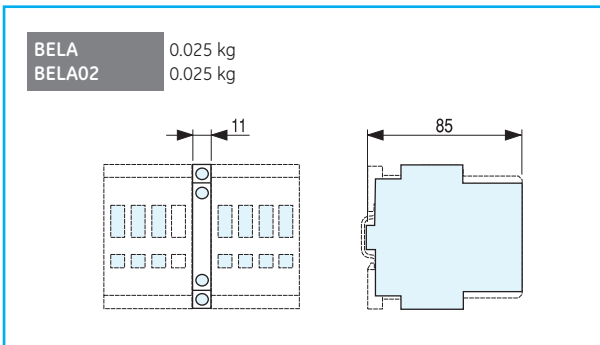
Instantaneous auxiliary contact blocks



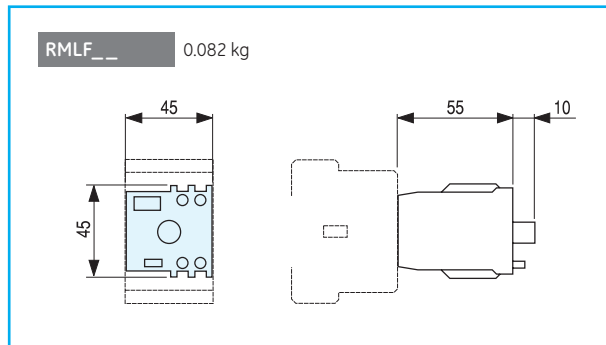
**Timed auxiliary contact blocks**



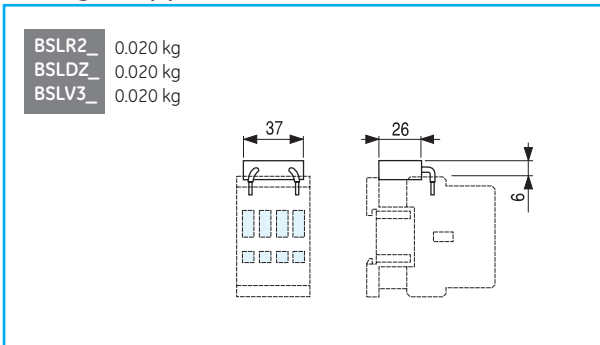
**Mechanical (-/electrical) interlock**



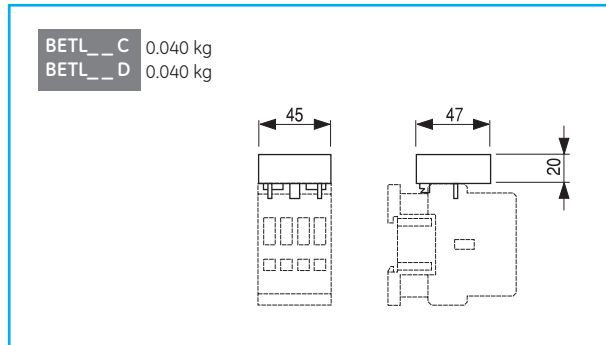
**Mechanical latch block**



**Voltage suppressor blocks**



**Electronic timer block**



**Interface**

