

FDV – DOKUMENTASJON		Nr.: 116
		Rev.:
		Dato: 22.02.2017
Produktspesifikasjon	Modulære releer og kontakter 2, 3 og 4 pol	
Produktnavn	Serie CONTAX R og CONTAX	
Anvisning for drift	Ingen	
Vedlikehold	Produktet er vedlikeholdsfritt	
Henvisninger Vedlegg	Produktkatalog, dokumentasjon, brukerveiledning og tekniske data	
Produsent	General Electric	
Importør	EFA Elektro AS, Postboks 593, 1411 Kolbotn, Norway Tlf. 66812400 e-mail: post@efa.no - www.efa.no	

EFA Elektro AS



Rune Hovland
 Produktsjef



Function

Contactors are electromechanically controlled switches used to control single or multi-phase (high) power loads while the control itself can be (very) low power.

Dimensions ● pg D.55

Contactors

Contax

Applications



Switching of lighting, heating-equipment, motors for pumps and fans, ... Day and night contactors are used mainly in combination with dual-tariff applications to allow high-energy-loads (i.e. electrical water heaters, accumulation heaters) only to consume energy during the low-tariff period. A forced-on, forced-off, auto-switch allows to overrule the normal operation of the DN-contactor at all times.

Features

Except for the 20A version, all contactors have DC coils, resulting in an absolutely noise-free, real silent operation: 50 or 60Hz noise generation by the contactor is impossible. As all DC coil contactors have an internal diode rectifier bridge, they all can be operated by both DC and AC power supplies. The built-in varistor protects the coil against an overvoltage of up to 5kV. The switch position of the contactor is visualised through an indicator flag. The loss-proof safety terminals are equipped with Pozidriv screws and have IP20 protection degree. Add-on auxiliary contacts as well as spacers and sealing pieces are available.

Standards

IEC 60947-4-1, BS EN 60947-4-1, IEC 61095, BS EN 61095. Approval VDE.

Performance

Rated switching capacity	20A	24A	40A	63A
Contacts				
Switching capacity for different loads				
Rated insulation voltage	400V	500V	500V	500V
Rated operational voltage	250V	440V	440V	440V
Switching-on capacity				
cos φ = 0.65 at 380-400V 3phase	-	90A	220A	300A
cos φ = 0.95 at 220-230V 1phase	100A	-	-	-
Switching-off capacity				
cos φ = 0.65 at 380-400V 3phase	-	72A	176A	240A
cos φ = 0.95 at 220-230V 1phase	80A	-	-	-
Fuse type GL for short-circuit protection	20A	35A	63A	80A
Ohmic loss per contact at In	1.0W	1.5W	3.0W	6.0W
Maximum switching frequency AC1 / AC7a	300/h	300/h	300/h	300/h
Maximum switching frequency AC3 / AC7b	600/h	600/h	600/h	600/h
Mechanical service life	10 ⁶	10 ⁶	10 ⁶	10 ⁶
Electrical service life AC1 / AC7a	150000	150000	150000	150000
Electrical service life AC3 / AC7b	150000	500000	170000	240000
Screws				
	Pozidriv 1	Pozidriv 1	Pozidriv 2	Pozidriv 2
Terminal capacity: min				
	1x1 mm ²	1x1 mm ²	1x1.5 mm ²	1x1.5 mm ²
max				
	1x10mm ² or 2x4 mm ²	1x10mm ² or 2x4 mm ²	1x25mm ² or 2x10 mm ²	1x25mm ² or 2x10 mm ²
Magnetic control system				
Control voltage range	85 ... 110%×Un	85 ... 110%×Un	85 ... 110%×Un	85 ... 110%×Un
Rated operating frequency	50 or 60Hz	DC, 40 ... 450Hz	DC, 40 ... 450Hz	DC, 40 ... 450Hz
Operating temperature range	-25 ... +55°C ^[1]	-25 ... +55°C ^[1]	-25 ... +55°C ^[1]	-25 ... +55°C ^[1]
Maximum pull-in coil power loss	8.0VA / 5.0W	4VA / 4W	5VA / 5W	6.5VA / 6.5W
Maximum holding coil power loss	3.2VA / 1.2W	4VA / 4W	5VA / 5W	4.2VA / 4.2W
Switching-on delay	9 ... 12 ms	< 40 ms	< 40 ms	< 40 ms
Switching-off delay	10 ... 12 ms	< 40 ms	< 40 ms	< 40 ms
Screws				
	Pozidriv 1	Pozidriv 1	Pozidriv 1	Pozidriv 1
Terminal capacity: min				
	1x1 mm ²	1x1 mm ²	1x1 mm ²	1x1 mm ²
max				
	1x4mm ² or 2x2.5 mm ²	1x4mm ² or 2x2.5 mm ²	1x4mm ² or 2x2.5 mm ²	1x4mm ² or 2x2.5 mm ²

[1] Remark: If several contactors are mounted next to each-other and the time of operation exceeds 1 hour and the ambient temperature rises above 40°C, a 1/2-module spacer must be added every second contactor (i.e. contactor contactor spacer contactor contactor spacer contactor contactor etc.)



Contax - Contactors

		Nominal current	Contact combination	Coil voltage	AC/DC	Number of modules	Cat. No.	Ref. No.	Pack.		
	Contactor 1 NO 1 NC	20A	1NO 1NC	24V	AC	1	CTX 20 11 024 A	666127	12		
		20A	1NO 1NC	230V	AC	1	CTX 20 11 230 A	666126	12		
		20A	2NC	24V	AC	1	CTX 20 02 024 A	666129	12		
		20A	2NC	230V	AC	1	CTX 20 02 230 A	666128	12		
		20A	2NO	12V	AC	1	CTX 20 20 012 A	666130	12		
		20A	2NO	24V	AC	1	CTX 20 20 024 A	666133	12		
		20A	2NO	48V	AC	1	CTX 20 20 048 A	666134	12		
		20A	2NO	230V	AC	1	CTX 20 20 230 A	666131	12		
		20A	2NO	240V	AC	1	CTX 20 20 240 A	666132	12		
			2 NO	24A	2NO 2NC	24V	AC/DC	2	CTX 24 22 024 U	666136	5
24A	2NO 2NC			230V	AC/DC	2	CTX 24 22 230 U	666135	5		
24A	3NO			24V	AC/DC	2	CTX 24 30 024 U	666138	5		
24A	3NO			230V	AC/DC	2	CTX 24 30 230 U	666137	5		
24A	4NC			24V	AC/DC	2	CTX 24 04 024 U	666140	5		
24A	4NC			230V	AC/DC	2	CTX 24 04 230 U	666139	5		
24A	4NO			12V	AC/DC	2	CTX 24 40 012 U	666141	5		
24A	4NO			24V	AC/DC	2	CTX 24 40 024 U	666144	5		
24A	4NO			48V	AC/DC	2	CTX 24 40 048 U	666145	5		
24A	4NO			230V	AC/DC	2	CTX 24 40 230 U	666142	5		
	2 NO 2 NC	24A	4NO	240V	AC/DC	2	CTX 24 40 240 U	666143	5		
			3 NO	40A	2NC	230V	AC/DC	3	CTX 40 02 230 U	666170	3
				40A	2NO	230V	AC/DC	3	CTX 40 20 230 U	666146	3
				40A	3NO	24V	AC/DC	3	CTX 40 30 024 U	666149	3
				40A	3NO	230V	AC/DC	3	CTX 40 30 230 U	666148	3
				40A	4NO	12V	AC/DC	3	CTX 40 40 012 U	666150	3
				40A	4NO	24V	AC/DC	3	CTX 40 40 024 U	666153	3
				40A	4NO	48V	AC/DC	3	CTX 40 40 048 U	666154	3
				40A	4NO	230V	AC/DC	3	CTX 40 40 230 U	666151	3
				40A	2NO	24V	AC/DC	3	CTX 40 20 024 U	666147	3
40A	4NO			240V	AC/DC	3	CTX 40 40 240 U	666152	3		
	4 NO	63A	4NO	24V	AC/DC	3	CTX 63 40 024 U	666158	3		
		63A	4NO	230V	AC/DC	3	CTX 63 40 230 U	666156	3		
		63A	2NO	230V	AC/DC	3	CTX 63 20 230 U	666155	3		
		63A	4NO	240V	AC/DC	3	CTX 63 40 240 U	666157	3		
	Contactor Day and Night	20A	2NO	230V	AC	1	CTX DN 20 20 230 A	666164	12		
		24A	3NO	230V	AC/DC	2	CTX DN 24 30 230 U	666165	5		
		24A	4NO	230V	AC/DC	2	CTX DN 24 40 230 U	666166	5		
		40A	2NO	230V	AC/DC	3	CTX DN 40 20 230 U	666167	3		
		40A	3NO	230V	AC/DC	3	CTX DN 40 30 230 U	666168	3		
40A	4NO	230V	AC/DC	3	CTX DN 40 40 230 U	666169	3				

Add-on auxiliary contact for 24-40-63A contactors

		Nominal current	Contact combination			Number of modules	Cat. No.	Ref. No.	Pack.		
	Left mounting	1 NO 1 NC	6A	1NO 1NC	-	-	0.5	CTX 06 11	666162	5	
			6A	2NO	-	-	0.5	CTX 06 20	666163	5	
			2 NO	33	23						
				34	24						


Accessories

						Number of modules	Cat. No.	Ref. No.	Pack.
	Sealing piece					2	CTX TS 2	666160	3
						3	CTX TS 3	666159	3
	Spacer					0.5	PLS + / CTX + SP	666069	50





Standards / Marking

EN 60947-4-1 

Relays

Contax R

Function

Relays are electromechanically controlled switches used to control low power loads.

Applications



- Switching of lighting, heating, etc.
- Galvanic insulation of i.e. status signalisation lamps from a (high) power (high voltage) circuit.
- Galvanic insulation of PLC-inputs or outputs to avoid destruction through excessive voltage.

Features

- The switch position is visualised by the position of the front handle.
- The safety terminals are equipped with captive Pozidriv screws and have IP20 protection degree.
- Add-on auxiliary contacts available.
- Because of the advanced product design, no spacers are needed.
- Increased safety: sealing caps for both coil and terminal are available.

More technical data  website
 Dimensions  pg D.56

Performance

			Contax R
			CTX + R16
Rated current (according to EN 60947-4-1)			
250VAC (1 and 2 pole) / 400VAC (3 and 4 pole)		A	16
Nominal thermal current (I _{th})		A	16
Number of pole			1 → 4
Contacts	NO		1 → 4
	Changeover ("m" contacts)		1 → 4
	NO + NC		1+1 / 2+2
Width (in 17.8mm DIN modules)	1P and 2P	Mod.	1
	3P and 4P	Mod.	2
Coil specifications			
Supply voltage - DC/AC ratio ⁽¹⁾			0.5 / 1
Supply voltage range (in % of U _n)		%	85-110
Coil pick-up power	1P and 2P	VA	3.4
	3P and 4P	VA	6.7
Coil power loss - AC	1P and 2P	VA	1.8
	3P and 4P	VA	3.4
Coil power loss - DC	1P and 2P	W	2.1
	3P and 4P	W	3.9
Maximum coil holding voltage time			unlimited
Contact bounce time at closing		sec.	<0.010
Operate and release time (bounce time incl.)			
Pick-up time	NO contact	sec.	< 0.040
(from 0 to U _n)	NC contact	sec.	< 0.020
Drop-out time	NO contact	sec.	< 0.050
(from U _n to 0)	NC contact	sec.	< 0.050
Maximum peak current at closing			
Single phase 250VAC cos φ = 0.95		A	45
3-phase 400V~ cos φ = 0.65		A	60
Maximum peak current at opening			
Single phase 250VAC cos φ = 0.95		A	75
3-phase 400V~ cos φ = 0.65		A	60
Lifetime (in number of operations)⁽²⁾			
Electrical (in AC-1 - At full load)			3 × 10 ⁵
Mechanical			2 × 10 ⁶
Load specifications per phase			
Maximum load AC-1	1P and 2P	kW	3.0
	3P and 4P	kW	8.5
Maximum load AC-5b		kW	1.8
Maximum load AC-7b		kW	0.9
Maximum load AC-3	250VAC	kW	1.5
	400VAC	kW	2.2
Minimum load (under 5V)		W	2
Short-circuit fuse protection		A	20
Maximum lamp load (10³ operations/h)			
Incandesc. and halogen (40 to 200 W lamps)		W	1,800
Fluorescence, compensated (cos φ = 0.9)	Serial compensation	VA	1,800
	Parallel compensation	VA	500
Fluorescence, non compensated (cos φ = 0.5)		VA	900
General specifications			
Auxiliary contact add-on (PLS / CTX R)			yes
Need for spacer			no
DIN rail mounting			yes
2-position DIN rail lock			yes
Front handle for manual operation			yes
Permanent ON/OFF			no
Indicator of contact position			yes
Clamping terminals			yes
Unlosable screws			yes
Sealable terminals (coil and load)			yes
Cable cross section (Ø min./max)	Coil	mm ²	1.5 / 10
	Load	mm ²	1.5 / 10
Maximum torque on terminals		Nm	1
Ambient temperature at installation point (min./max.)		°C	-20 / +45

(1) DC supply voltage = AC supply voltage × DC/AC ratio, except for 8VAC and 115VAC (48VDC)

(2) 1 cycle = 2 operations per pole (closing + opening)

Contax R

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Impulse switches and relays: maximum lamp loads

Comfort functions

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Lamps type	Lamp Watts	Pulsar S	Pulsar S	Contax R
	Power consumption	PLS + 16	PLS + 32	CTX + R16
Incandescent lamps				
Max. load 230VAC		3000 W	4000 W	1800 W
Max. number of lamps	15 W	200	266	120
	25 W	120	160	72
	40 W	75	102	45
	60 W	50	65	30
	75 W	40	52	24
	100 W	30	40	18
	150 W	20	26	12
	200 W	15	20	9
	300 W	9	12	6
	500 W	5	8	3
Fluo lamp PF uncorrected				
Max. load 230VAC		1800 W	2200 W	900 W
Max. number of lamps	18 W	81	110	50
	36 W	44	58	25
	40 W	38	53	23
	58 W	29	35	16
	65 W	26	34	13
Fluo twin lamps				
Max. load 230VAC		3000 W	4000 W	1800 W
Max. number of lamps	2 x 18 W	78	110	50
	2 x 36 W	38	55	25
	2 x 40 W	35	50	23
	2 x 58 W	23	34	16
	2 x 65 W	22	30	13
Fluo lamp parallel compensation				
Max. load 230VAC		2500 W	3200 W	500 W
Max. number of lamps	18 W	103	132	17
	36 W	55	72	13
	40 W	50	65	12
	58 W	34	45	8
	65 W	30	40	7
Halogen 230V				
Max. load 230VAC		3000 W	4000 W	1800 W
Max. number of lamps	150 W	20	26	12
	250 W	12	16	7
	300 W	10	13	6
	400 W	7	10	4
	500 W	6	8	3
	1000 W	3	4	2
HP sodium vapour				
Max. load 230VAC		1200 W	1600 W	800 W
Max. number of lamps	70 W	15	18	10
	150 W	8	10	5
	250 W	4	6	3
	400 W	3	4	2
	1000 W	1	1	-
LP sodium vapour				
Max. load 230VAC		1400 W	2000 W	400 W
Max. number of lamps	55 W	27	36	6
	90 W	16	22	4
	135 W	11	14	3
	180 W	8	11	2
	185 W	8	10	2
HP mercury vapour				
Max. load 230VAC		1200 W	1600 W	800 W
Max. number of lamps	50 W	19	25	16
	80 W	15	20	10
	125 W	9	12	7
	250 W	4	6	3
	400 W	3	4	2
	1000 W	1	2	-
VLV halogen				
Max. load 230VAC		2300 W	3200 W	1500 W
Max. number of lamps	20 W	116	160	72
	50 W	46	64	29
	75 W	31	42	20
	100 W	24	32	15
	150 W	15	21	10
	200 W	12	16	7
	300 W	7	10	5
Electronic reactor				
Max. load 230VAC		1600 W	2200 W	1000 W
Max. number of lamps	1 x 18 W	83	112	38
	1 x 36 W	46	61	30
	1 x 58 W	31	38	17
	2 x 18 W	40	56	19
	2 x 36 W	23	30	15
	2 x 58 W	14	19	8



Contax R - Relays

	Nominal current	Contact combination	Coil voltage AC	Coil voltage DC	Number of Modules	Cat. No.	Ref. No.	Pack.	
	2	16A	1 NO	8	-	1	CTX + R 16 10 008 A	686007	12
		16A	1 NO	12	6	1	CTX + R 16 10 012 A	686008	12
		16A	1 NO	24	12	1	CTX + R 16 10 024 A	686009	12
		16A	1 NO	48	24	1	CTX + R 16 10 048 A	686010	12
		16A	1 NO	115	48	1	CTX + R 16 10 115 A	686011	12
		16A	1 NO	230	115	1	CTX + R 16 10 230 A	686013	12
		16A	1 NO	230/60Hz	-	1	CTX + R 16 10 23060	686012	12
		16A	1 NO	240	120	1	CTX + R 16 10 240 A	686014	12
	14 12	16A	1 CO	8	-	1	CTX + R 16 1 008 A	686000	12
		16A	1 CO	12	6	1	CTX + R 16 1 012 A	686001	12
		16A	1 CO	24	12	1	CTX + R 16 1 024 A	686002	12
		16A	1 CO	48	24	1	CTX + R 16 1 048 A	686003	12
		16A	1 CO	115	48	1	CTX + R 16 1 115 A	686004	12
		16A	1 CO	230	115	1	CTX + R 16 1 230 A	686005	12
		16A	1 CO	240	120	1	CTX + R 16 1 240 A	686006	12
	4 2	16A	2 NO	8	-	1	CTX + R 16 20 008 A	686036	12
		16A	2 NO	12	6	1	CTX + R 16 20 012 A	686037	12
		16A	2 NO	24	12	1	CTX + R 16 20 024 A	686038	12
		16A	2 NO	48	24	1	CTX + R 16 20 048 A	686039	12
		16A	2 NO	115	48	1	CTX + R 16 20 115 A	686040	12
		16A	2 NO	230	115	1	CTX + R 16 20 230 A	686042	12
		16A	2 NO	230/60Hz	-	1	CTX + R 16 20 23060	686041	12
		16A	2 NO	240	120	1	CTX + R 16 20 240 A	686043	12
			4 2	16A	1 NO 1 NC	8	-	1	CTX + R 16 11 008 A
16A	1 NO 1 NC			12	6	1	CTX + R 16 11 012 A	686016	12
16A	1 NO 1 NC			24	12	1	CTX + R 16 11 024 A	686017	12
16A	1 NO 1 NC			48	24	1	CTX + R 16 11 048 A	686018	12
16A	1 NO 1 NC			115	48	1	CTX + R 16 11 115 A	686019	12
16A	1 NO 1 NC			230	115	1	CTX + R 16 11 230 A	686021	12
16A	1 NO 1 NC			230/60Hz	-	1	CTX + R 16 11 23060	686020	12
16A	1 NO 1 NC			240	120	1	CTX + R 16 11 240 A	686022	12
	24 22 14 12			16A	2 CO	8	-	1	CTX + R 16 2 008 A
		16A	2 CO	12	6	1	CTX + R 16 2 012 A	686024	12
		16A	2 CO	24	12	1	CTX + R 16 2 024 A	686026	12
		16A	2 CO	48	24	1	CTX + R 16 2 048 A	686028	12
		16A	2 CO	115	48	1	CTX + R 16 2 115 A	686030	12
		16A	2 CO	230	115	1	CTX + R 16 2 230 A	686032	12
		16A	2 CO	240	120	1	CTX + R 16 2 240 A	686034	12
			6 4 2	16A	3 NO	12	6	2	CTX + R 16 30 012 A
16A	3 NO			24	12	2	CTX + R 16 30 024 A	686051	6
16A	3 NO			48	24	2	CTX + R 16 30 048 A	686052	6
16A	3 NO			230	115	2	CTX + R 16 30 230 A	686053	6
	8 6 4 2			16A	4 NO	8	-	2	CTX + R 16 40 008 A
		16A	4 NO	12	6	2	CTX + R 16 40 012 A	686060	6
		16A	4 NO	24	12	2	CTX + R 16 40 024 A	686061	6
		16A	4 NO	48	24	2	CTX + R 16 40 048 A	686062	6
		16A	4 NO	230	115	2	CTX + R 16 40 230 A	686064	6
		16A	4 NO	230/60Hz	-	2	CTX + R 16 40 23060	686063	6
		16A	4 NO	240	120	2	CTX + R 16 40 240 A	686065	6
	44 42 34 32 24 22 14 12	16A	4 CO	12	6	2	CTX + R 16 4 012 A	686054	6
		16A	4 CO	24	12	2	CTX + R 16 4 024 A	686055	6
		16A	4 CO	48	24	2	CTX + R 16 4 048 A	686056	6
		16A	4 CO	115	48	2	CTX + R 16 4 115 A	686057	6
		16A	4 CO	230	115	2	CTX + R 16 4 230 A	686058	6
		16A	4 CO	240	120	2	CTX + R 16 4 240 A	686059	6
	8 6 4 2	16A	2 NO 2 NC	8	-	2	CTX + R 16 22 008 A	686027	6
		16A	2 NO 2 NC	12	6	2	CTX + R 16 22 012 A	686044	6
		16A	2 NO 2 NC	24	12	2	CTX + R 16 22 024 A	686045	6
		16A	2 NO 2 NC	48	24	2	CTX + R 16 22 048 A	686046	6
		16A	2 NO 2 NC	230	115	2	CTX + R 16 22 230 A	686048	6
		16A	2 NO 2 NC	230/60Hz	-	2	CTX + R 16 22 23060	686047	6
		16A	2 NO 2 NC	240	120	2	CTX + R 16 22 240 A	686049	6

Terminal identification, see page D.53

Contax R

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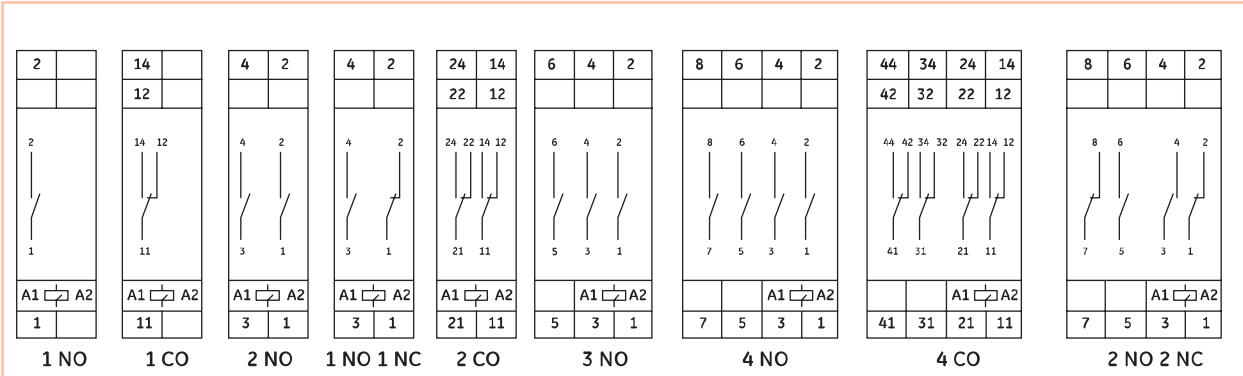
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Relays - Contax R



Pulsar

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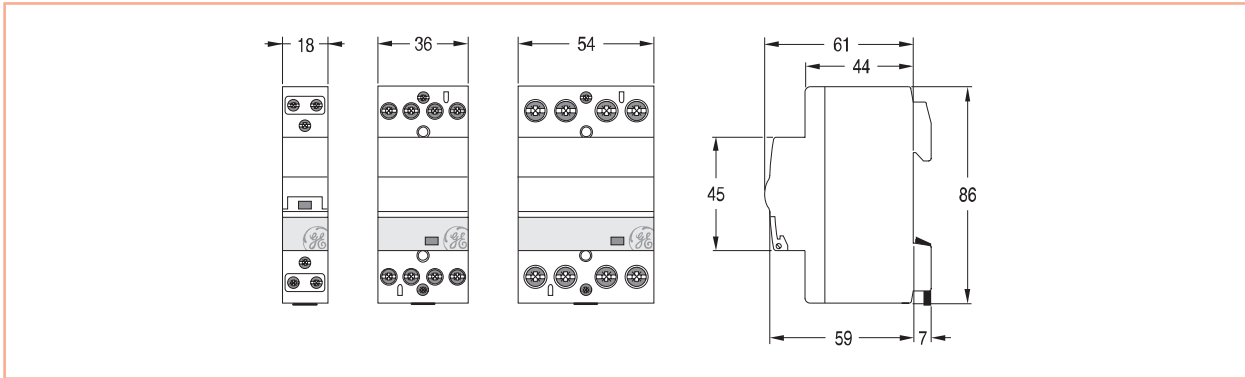
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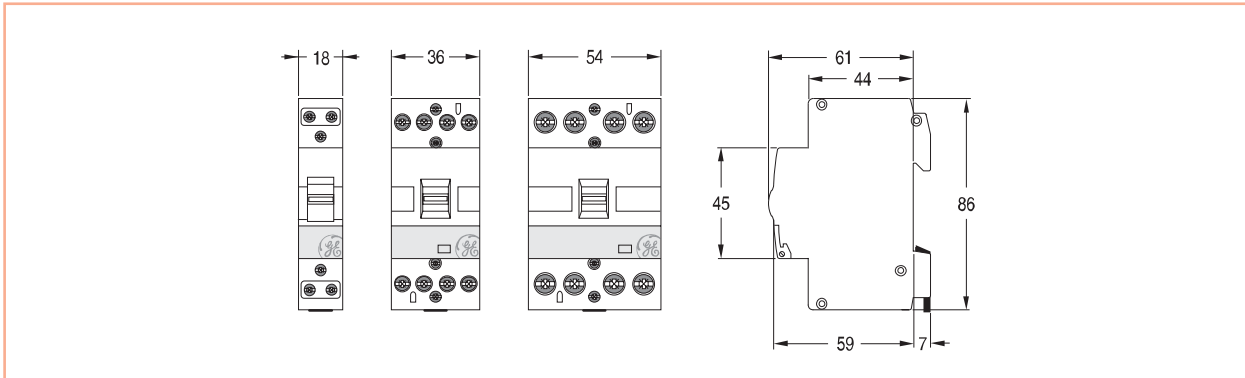
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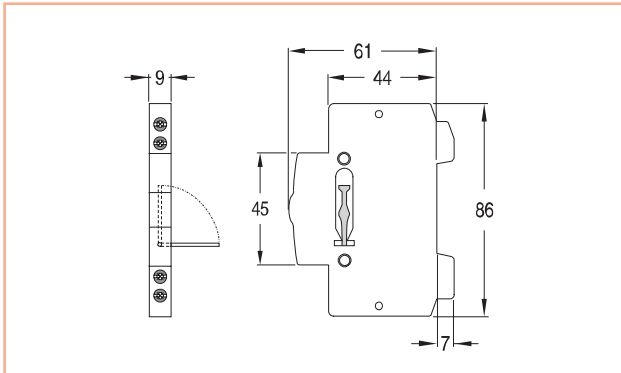
Contactors - Contax



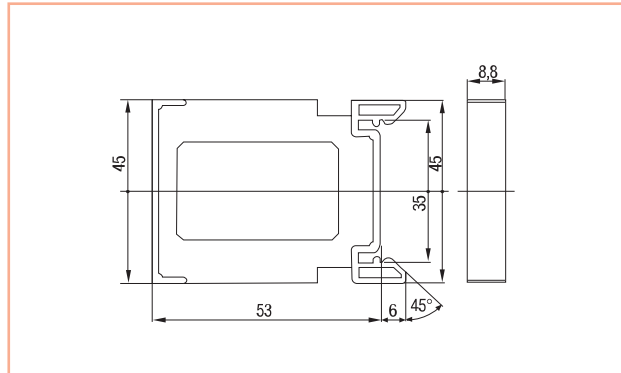
Contactors Day and Night - Contax



Contactors - Auxiliary contact



Contactors - Spacer



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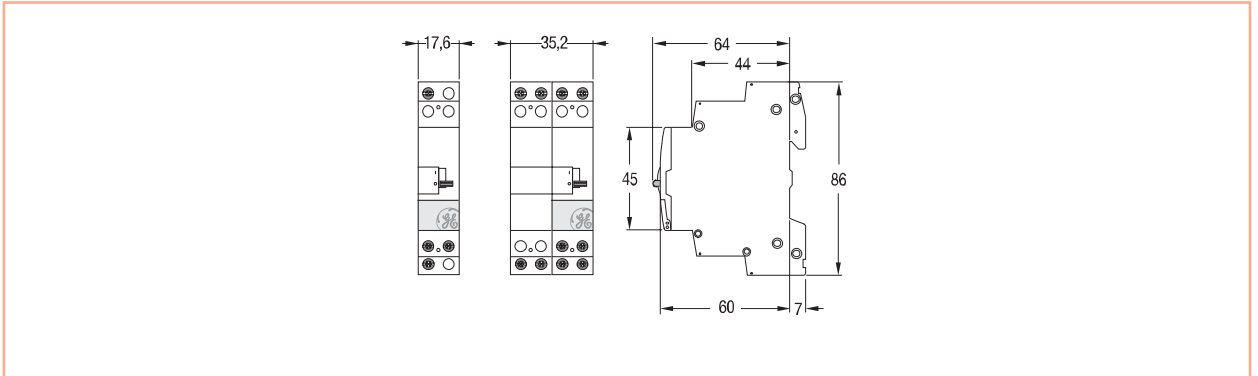
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Dimensional drawings

Relays - Contax R



Comfort functions

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