

# **Negative contactors**

**for switching off load**

**List 624E**

**Edition 01 / 2008**

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## Application

Air-break contactors with negative main contact elements (break contacts) are used to brake and short-circuit motors, generators and choke circuits. Thanks to their special contact facings, they can switch on and carry the permissible load current until it has decayed to zero. Disconnection (breaking of contacts) may however only be carried out at zero current. (Negative contactors with spark chambers see list 549).

## Design

The stationary main contact elements and the magnet core with its solenoid are mounted on a horizontal bar. The rotatable preshaft carries the mobile main contact elements and the hinged armature. Depending on the type of contactor, one- or multi-pin designs are available. The auxiliary switches are arranged below the solenoid system. The negative contacts may only open at zero current.

## Drive

The solenoid-operated mechanism is fed with alternating current. Larger and multi-pole contactors require a direct current solenoid, which can be fed from the alternating current power system if a HOMA-Si-rectifier is interposed. If desired, it is also possible to supply all the contactors with a d.c. solenoid with economy contact and economy resistor for connection to a direct current control voltage.

## Solenoids

According to VDE 0660, HOMA air-break contactors operate in the range between 0.85 and 1.1 times the nominal operating voltage. Non-standard installation conditions must be queried with us first.

## Insulation

Creepage distances and air-gaps are dimensioned according to VDE 0110 group C for a nominal insulation voltage of  $U_i = 1500\text{ V}$ . (Nominal insulation voltage  $U_i = 3000\text{ V}$  can be supplied on enquiry).

## Main contacts

The contactor facings are manufactured from a silver compound alloy, and are suitable for permanent connection and also for frequent switching.

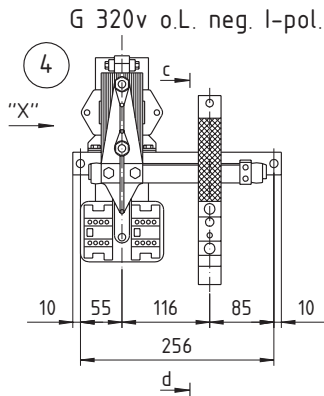
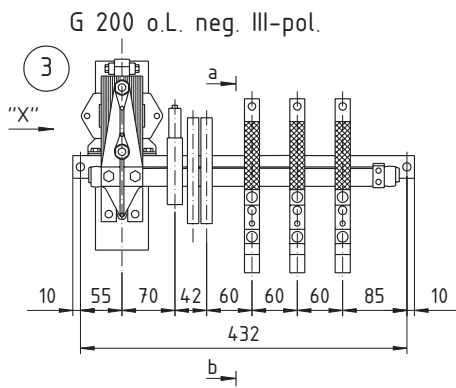
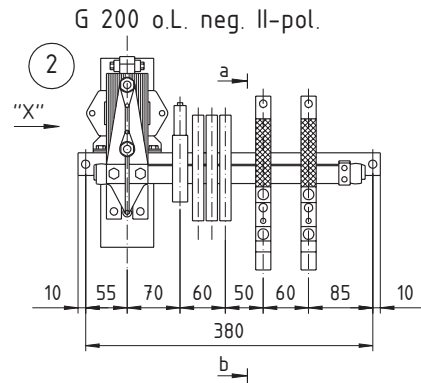
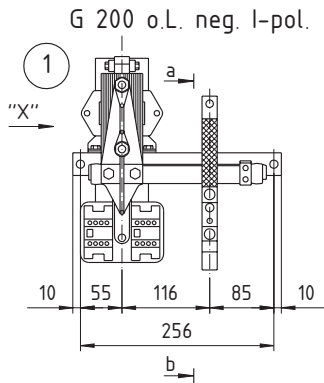
## Remark

Air-break contactors are available **with** or **without** mechanical locking device, mechanical coupling, higher operating frequencies, increased ambient temperatures and higher installation heights, weatherproofing, on-board operation, foreign regulations, parallel connection of poles, mechanical service life, auxiliary switch design, special designs in the design as described in lists 350/1 and 549.

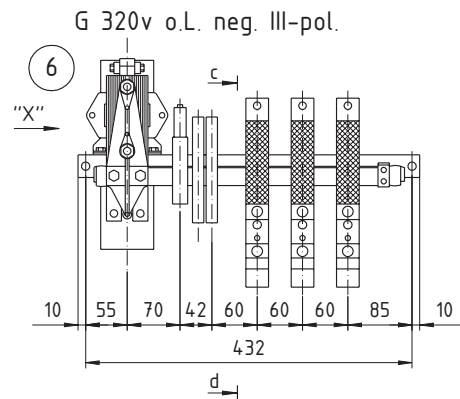
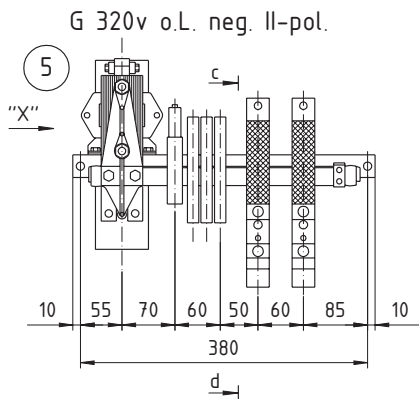
**Selection table for negative contactor to switching off load**

Contactor type	Number of poles	Rated current [A]	Figure	Dimension A [mm]	Rated voltage [V]	Swiching acc. figure	Netweight [kg]
G 200 o.L. neg	I	200	1	256	1500	1	7
	II		2	380		2	9
	III		3	432		2	11
G 320v o.L. neg	I	400	4	256	1500	1	5
	II		5	380		2	5
	III		6	432		2	12
G 500v o.L. neg	I	700	7	345	1500	1	18
	II		8	445		3	22
	III		9	541		3	26
G 5002v o.L. neg.	I	1250	10	445	1500	3	22
	II		11	635		4	30
	III		12	885		5	52

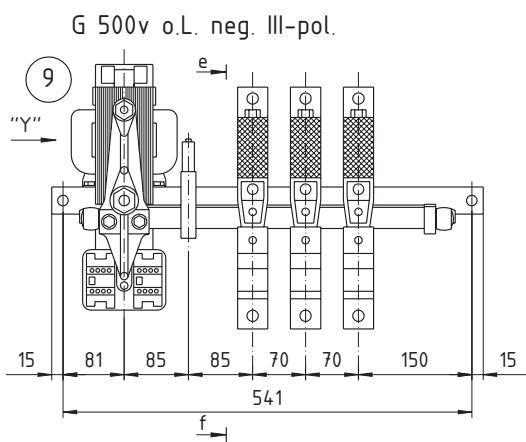
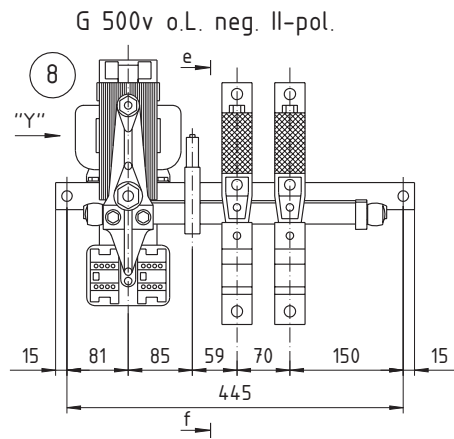
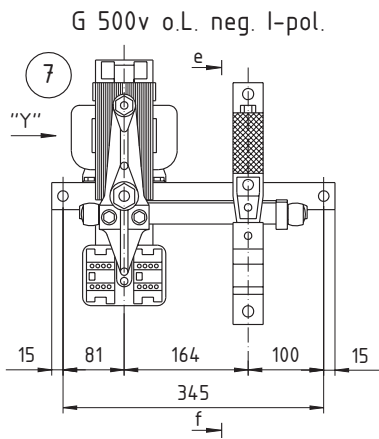
Dimension diagram for G 200 o.L. neg. and G 320v o.L. neg.  $U_i = 1500V$



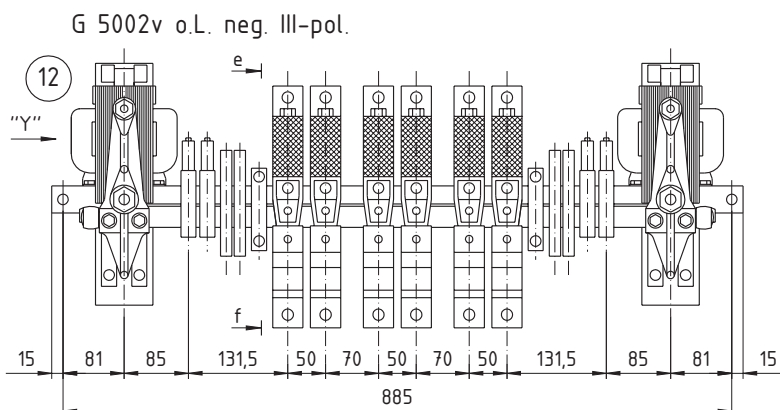
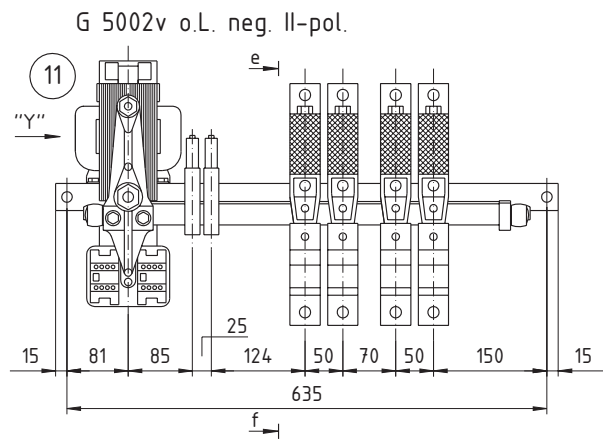
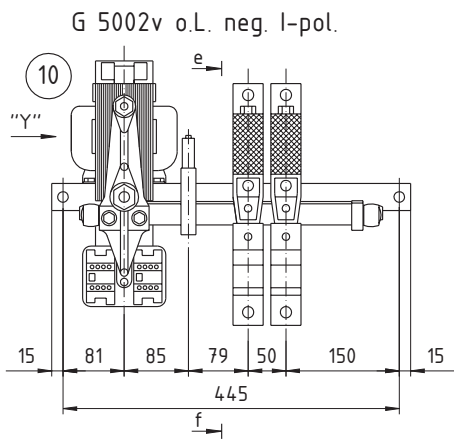
view X,  
section a-b and c-d  
see page 5



Dimension diagram for G 500v o.L. neg. and G 5002v o.L. neg.  $U_i = 1500V$

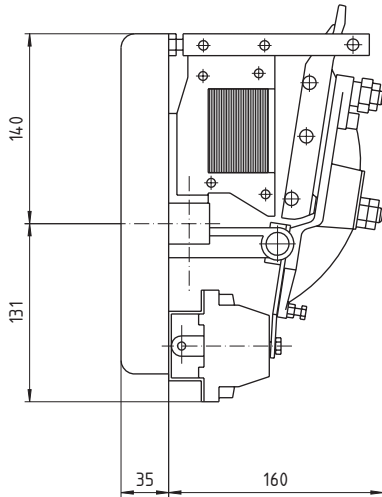


view Y und  
section e-f  
see Page 5

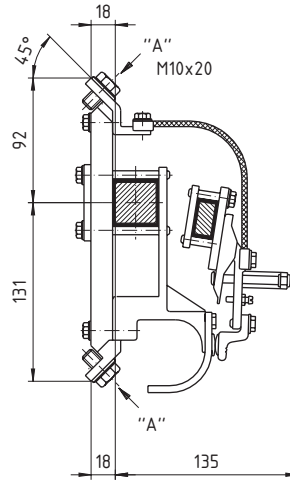
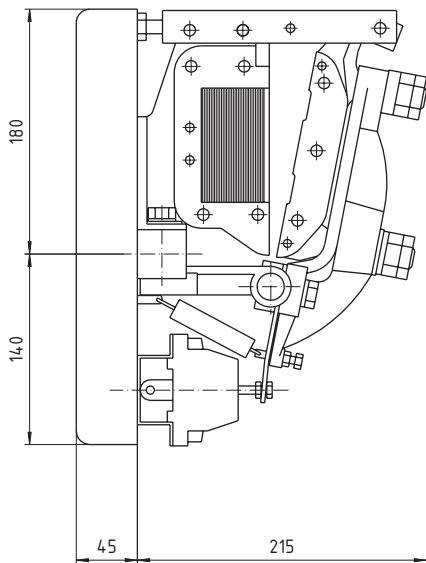


Cross sections and side views

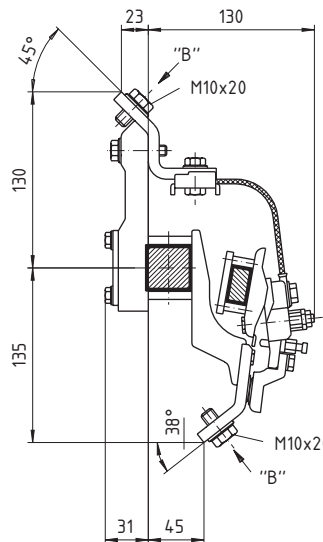
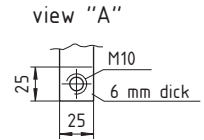
view "X"  
(Magnetic system G 320)



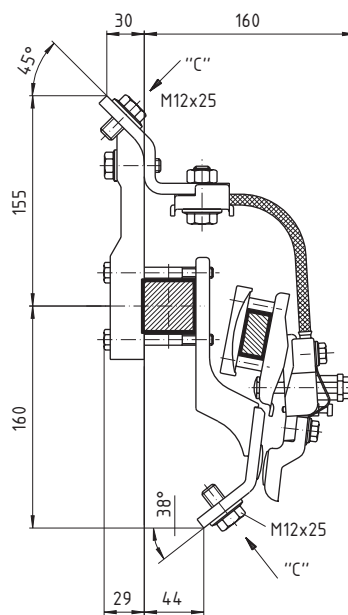
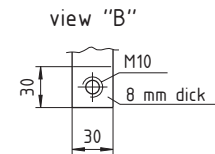
view "Y"  
(Magnetic system G 500)



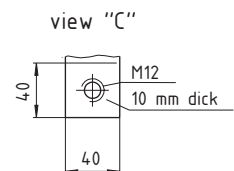
Section a-b



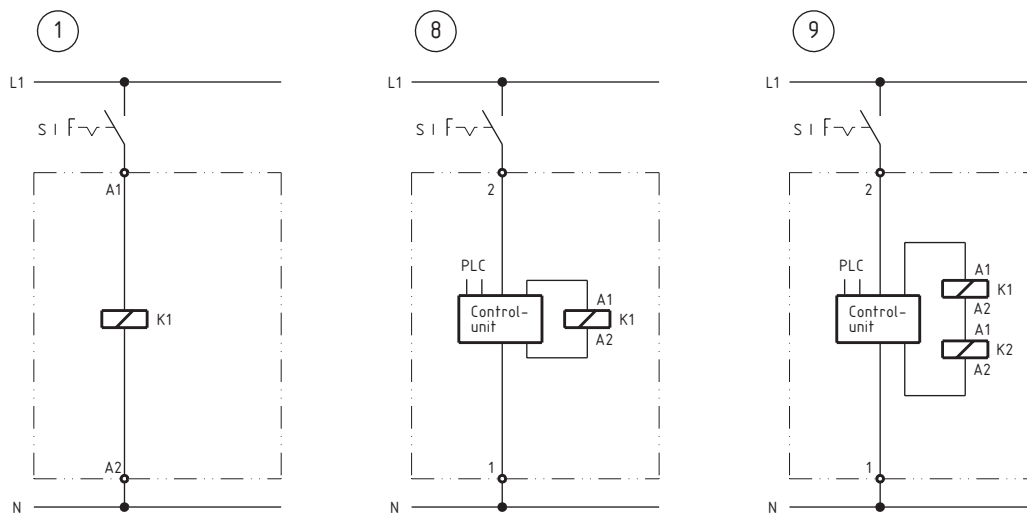
Section c-d



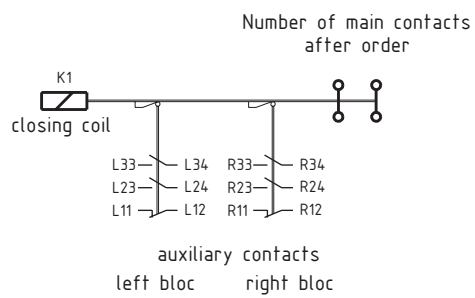
Section e-f



### Coil circuit and arrangement for auxiliary contacts



### Arrangement for auxiliary contacts



## Manufacturing-program

026/1	pole-changing switches, change over switches, circuit breakers
145	NF and MF high-current switches (air-cooled)
280	NF and MF contactors for off-load switching
282	Damping resistors
350/1	DC- and NF-contactors for on-load switching
421	Prism-contacts (air- and water-cooled)
427	NF and MF high-current switches (watercooled)
460	insulator-supports and bus-bar-supports
467	MF-contactors for on-load switching
475/1	Prism-contacts (air-cooled)
502	cable (air- and water-cooled)
506	discharge- and dropping-resistors
507	capacitor-contactor for on-load switching
549	contactors with NC-contacts for on-load switching
559	Prism-contacts for the electrode-position
560	spare parts
600	pole-changing switches, with motor-drive (water-cooled)
615	NF and MF high-current circuit breaker for off-load switching (water-cooled)
617	NF and MF high-current circuit breaker for off-load switching (air-cooled)
<b>624</b>	<b><i>contactors with NC-contacts off-load switching</i></b>
625	DC-contactors with brake-contacts
641	Air-cooled-current-carrying leads