

**Operating Conditions**

Before installing the failsafe brake KEB COMBISTOP observe the following:

1. Provide a suitable 2nd friction surface. Plane friction surfaces made out of suitable cast iron or steel. The surface roughness  $R_z$  should not exceed 25  $\mu\text{m}$ . Avoid sharp-edged interruptions in the friction surface. If such a surface is not available a friction disc or flange can be used optionally.
2. The excentricity of the mounting hole circle to the shaft end shall not exceed following values: Size 02: 0,2mm; Size 03...06: 0.4mm; Size 07...10: 0.5mm.
3. The angular deviation of the mounting surface to the shaft shall not exceed following values: Size 02...03: 0.04 mm; Size 04...05: 0.05 mm; Size 06...07: 0.06 mm; Size 08...10: 0.08 mm (in reference to the bolt diameter).
4. The friction surfaces must be free from grease and oil.
5. Humidity, aggressive fumes and similar things can cause the rusting in of the friction lining. In such cases rustproof friction discs are optionally available.
6. The movement of the armature shall not be obstructed by objects substances that penetrate into the nominal air gap. If necessary, the protective rings (optionally) are to be used or other protective measures are to be taken.

**Installation**

1. Mount the hub on the shaft and secure it axially. Absolutely avoid any damage to the hub and make certain that the hub cannot run against the 2nd friction surface. Considering the axial play of the shaft we recommend a distance of 0.5...1 mm (B3).
2. Slide the friction lining on the hub. Be careful not to damage the friction lining through misaligned or tilted attachment. (The lining must slide easy on the hub.)
3. Attach the magnetic system (completely assembled) with head cap screws in doing so adjust the nominal air gap "X" (T1; B2) with a feeler gauge or by means of the adjusting spacers. At that the brake must be in the power off mode. We recommend screws of the strength class 8.8, which should be tightened with the torque recommend by the manufacturers.

**Electric Connection**



The magnet coil must be connected to the d.c. voltage. For the connection to the a.c. power supply different rectifiers from the series COMBITRON are available.

**Readjustment of Clearance**

Size	Version "N" [Nm]	Nominal air gap X [mm]	max. permissible wear (B3) V [mm]	Readjustment necessary at $X_n$ [mm]	min. perm. lining thickness		
					$g_{min}$ [mm]	R [mm]	m [mm]
02	5	0.2	2.0	0.4	5.5	0.5	0.8
03	10	0.2	1.5	0.5	6.5	1.5	1.0
04	20	0.2	2.5	0.6	8.0	1.5	1.4
05	36	0.2	2.0	0.6	10.0	2.0	1.5
06	70	0.3	2.0	1.0	10.0	2.0	1.8
07	100	0.3	4.0	1.0	10.0	-	2.0
08	150	0.4	5.0	1.2	11.0	-	2.0
09	250	0.4	6.0	1.2	12.0	-	2.3
10	500	0.5	8.0	1.5	14.0	-	2.7

T1

Size	Version "H" [Nm]	Nominal air gap X [mm]	max. permissible wear (B3) V [mm]	Readjustment necessary at $X_n$ [mm]	min. perm. lining thickness		
					$g_{min}$ [mm]	R [mm]	m [mm]
02	7.5	0.2	2.0	0.25	5.5	0.5	0.8
03	15	0.2	1.5	0.3	6.5	1.5	1.0
04	30	0.2	2.5	0.5	8.0	1.5	1.4
05	50	0.2	2.0	0.5	10.0	2.0	1.5
06	90	0.3	2.0	0.6	10.0	2.0	1.8
07	150	0.3	4.0	0.7	10.0	-	2.0
08	225	0.4	5.0	0.7	11.0	-	2.0
09	375	0.4	6.0	0.8	12.0	-	2.3
10	750	0.5	8.0	1.3	14.0	-	2.7

T2

**Subsequent Attachment / factory made of hand release**

Push the screws with disks and springs through the provided bores into magnet and armature disk. Attach the hand release bracket and tighten it with self-locking nuts. For more details refer to the mounting instructions 00.08.002-0831. The alignment dimension "m" (T1; B4) must be adjusted with attracted armature. The dimension "m" applies to rated torque and operation with rated voltage. Please contact us in case of different operating conditions.



**Attention: Wrong adjustment, resetting of the braking torque or operation with overexcitation can lead to the loss of the braking effect!**

**Readjustment of Clearance**

The nominal air gap becomes larger due to wear. To guarantee a trouble-free function the air gap should be readjusted when reaching the air gap " $X_n$ " (T1).



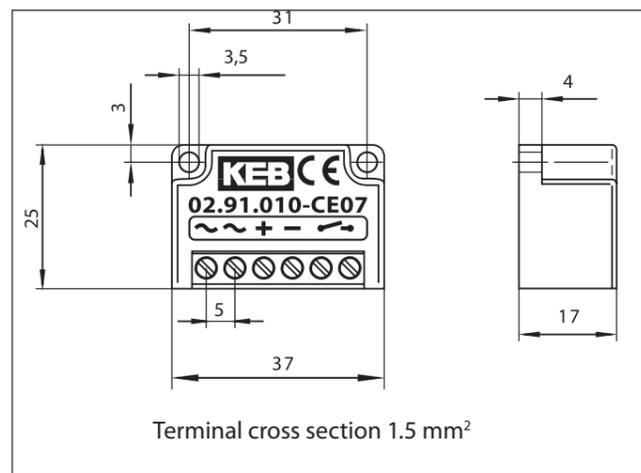
**To do that disconnect the brake from load to avoid an uncontrolled motion of rotation.**

1. Loosen the head cap screws.
2. Adjust the air gap by turning the adjusting spacers. Please note that the adjustment is uniform at all points.
3. Tighten the head cap screws again.
4. Check the air gap again and, if necessary, repeat the procedure.

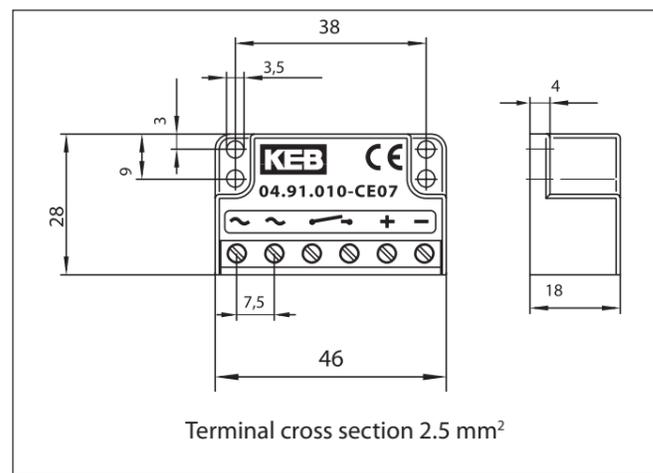
This procedure can be repeated as often as needed until the friction lining has reached the min. permissible thickness  $g_{min}$ . Then friction lining and friction surfaces must be renewed and refinished.

CE conform rectifiers

	<b>275 VAC +0%</b> AC/DC 450 V	<b>500 VAC +0%</b> AC/DC 900 V	<b>600 VAC +0%</b> AC 1000 V	<b>720 VAC +0%</b> AC 1600 V
$U_{in}$ switching $U_{vmax}$				
<b>half wave</b> $U_{out} = 0.45 * U_{in}$ $I_N (45^\circ C) = 1.0A$ $I_N (80^\circ C) = 0.5A$	<b>02.91.010-CE07</b> 	<b>04.91.010-CE07</b> 	<b>05.91.010-CE09</b> 	<b>06.91.010-CE09</b> 
<b>full wave</b> $U_{out} = 0.9 * U_{in}$ $I_N (45^\circ C) = 2.0A$ $I_N (80^\circ C) = 1.0A$	<b>02.91.020-CE07</b> 	<b>04.91.020-CE07</b> 		
<b>half wave with EMC protection</b> $U_{out} = 0.45 * U_{in}$ $I_N (45^\circ C) = 1.0A$ $I_N (80^\circ C) = 0.5A$	<b>02.91.010-CEMV</b> 			
			$U_{in}$ $U_{vmax}$ $U_{out}$ AC DC $I_N (45^\circ C)$	maximum input voltage maximum switch-off voltage DC output voltage AC side switching DC side switching nominal current at stated temperature

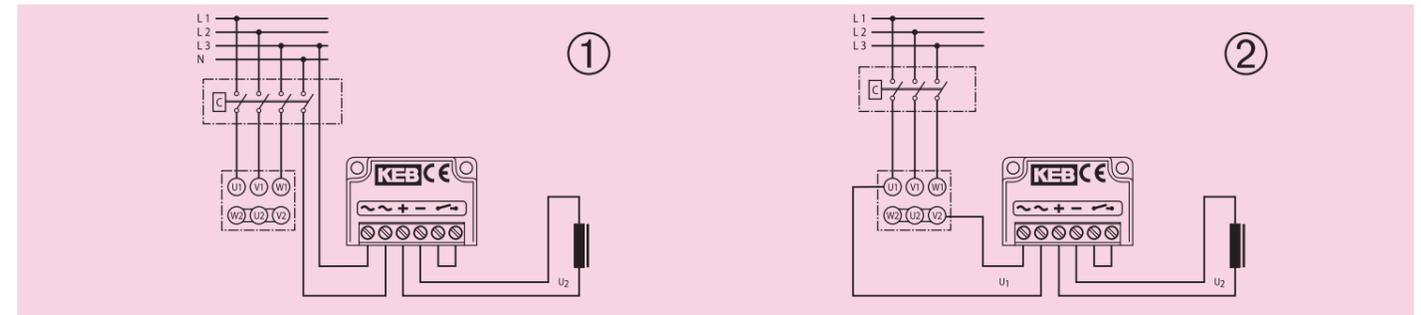


Housing



Housing

AC side Switching



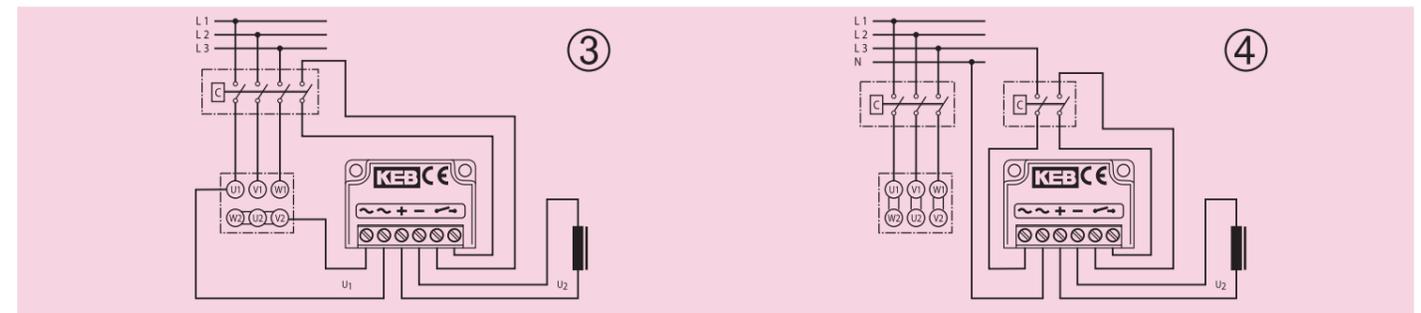
Wire jumper must be fastened before putting into operation.



The wiring ② + ③ is not permitted for frequency inverter operation.

For cable lengths of more than 10 m between rectifier and brake the use of a separate switch ① is required. In this case the supply voltage may not be tapped behind the motor contactor ②.

DC side Switching



The switching is done between rectifier and magnet. The rectifier is protected against voltage peaks that occur during switching.



Depending on the brake size the switching frequency is limited, please refer to the catalogue.

Example ④ shows the simultaneous AC- and DC-side switching. This switching mode guarantees short switching times and reduces the contact erosion.



**It is not allowed to exceed the maximum input voltage.**

