

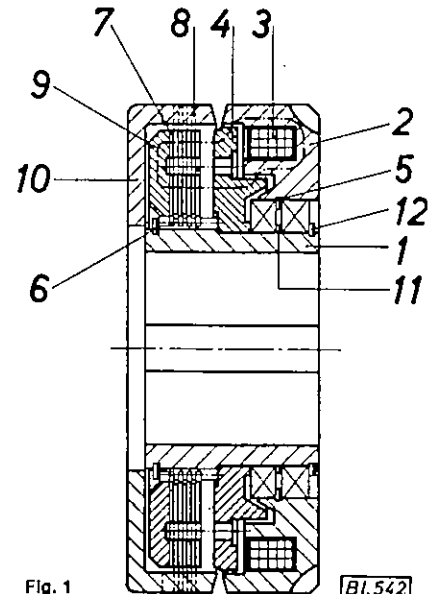
1. Description

The slotted housing (10) engages with lugs on the hardened and ground outer plates (8). The SINUS inner plates (7) and the armature plate (9) have inner splines connecting with the clutch hub (1), to which the support plate (4) is permanently secured. Inner and outer plates move freely in axial direction. The stationary coil body (2) is carried on bearings and located by two circlips (5 and 12) and a spacer (11). For the electrical supply a terminal (AMP) is mounted on the coil body. For easy access the terminal can be turned $\pm 90^\circ$ by slackening the fixing screw. Care should be taken not to squeeze the leads. The supply cables are connected with flat push-on connectors (AMP).

The coil body must be secured against rotation without imposing any radial or axial force. (See Fig. 5)

When the coil is energized, the armature plate (9) is attracted by the resulting magnetic field. The outer and inner plates are pressed together and consequently torque is transmitted by friction from the driving to the driven clutch member.

When the supply is interrupted, the magnetic field collapses and the armature plate is pushed back by the spring action of the SINUS inner plates. The SINUS-feature (i. g. corrugation) ensures rapid disengagement and reduces idling drag. The clutches are supplied as assembled units and airgap and plate clearance is independent of installation accuracy.



2. Rectifiers

Rectifier units are normally supplied for primary 220 V 50 — 60 Hz and secondary 24 V DC. To allow for variations of $\pm 10\%$ in the mains voltage, additional terminals 2 and 4 are provided as illustrated. Increased output voltage can be obtained by using terminals 6 or 7.

The unit should be wired to supply 24 V + 10% at the clutch terminal when the coil is energized. A fuse is provided in the DC circuit.

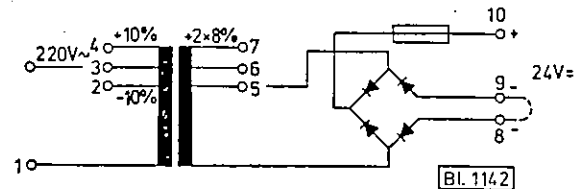


Fig. 2

2.1. Rectifier faults

1. Rectifier delivers no output.
 - a) No mains supply voltage.
 - b) Interruption in the primary or secondary wiring.
 - c) Burnt DC fuse.
2. Rectifier provides too high or too low output voltage. Internal wiring does not correspond with actual mains voltage and should be rewired acc. to paragraph 2.

3. Spare parts

When ordering spare parts, please state the factory number, stamped on the coil body. To avoid mistakes, please place all orders in writing or by telex.

Clutch size can be established from following table.

Outer dia. of coil body (2) mm	80	95	114	134	147	165	165	195	210	240	295	310
corresponds with clutch 0-010-size	07	11	15	23	27	31*	32*	43	47	51	55	59

*) Width of the coil body size 31 = 37,5 mm, size 32 = 49 mm

4. Clutch lubrication

Clutches of Range 0—010 should not be used for dry running.

With speeds equivalent to 5 — 12 m/s of outer clutch dia. a mineral oil with a viscosity of approx. 24 cSt 50 (3,3 E 50) is recommended, e. g. Shell Tellus Oil 27.

In the case of very slow or very high speed a thin oil with viscosity of approx. 9 cSt 50 (1,7 E 50) is more suitable, e. g. Shell Tellus Oil 15.

The oil should be resistant to ageing and non-aggressive to steel and copper even at high temperatures. Oils with large contents of film strengthening additives should be avoided.

Splash or mist lubrication is normally sufficient. If the clutch is partly submerged, the oil level should not be higher than approx. 1/10 of the clutch diameter.

Particular attention must be given to the lubrication of the ball bearings. Depending on the type of application the use of a spray pipe or an oil catching arrangement is recommended.

If inner oiling to the plates is provided, the bearings should be lubricated by the same system.

5. Clutch malfunction

5.1 Clutch slips under load

Check that the 24 V supply voltage is correct.
Too much oil, or an oil which is too thick, may cause the clutch to slip.

5.2 Excessive idling drag

Check for residual voltage on clutch due to faulty control components of insulation. Too much oil, or an oil which is too thick, may cause excessive drag.

5.3 Overheating of clutch

If the normal working temperature of up to 80° C is exceeded, check if the overheating occurs in idling or when the clutch is engaged. Overheating of the driving hub may be caused by damaged bearings or incorrect lubrication of the bearings.

5.4 Clutch fails to engage

Check the electrical supply circuit.

- Correct voltage at the clutch connection terminal should be 24 V + 10%.
- The amperage through the coil should correspond, approximately, to the following value:

Size	07	11	15	23	27	31	32	43	47	51	55	59	
at 20° C	1,08	1,55	1,73	2,62	2,2	3,54	4,05	3,6	4,62	4,85	7,4	8,75	Amp.
at 80° C	0,88	1,26	1,4	2,12	1,8	2,87	3,28	2,92	3,75	3,93	6,0	7,08	Amp.

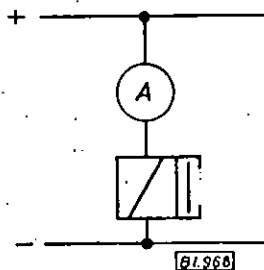


Fig. 3

Current measurement

81.968

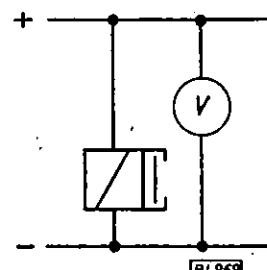
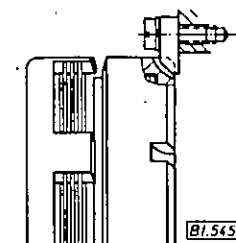


Fig. 4

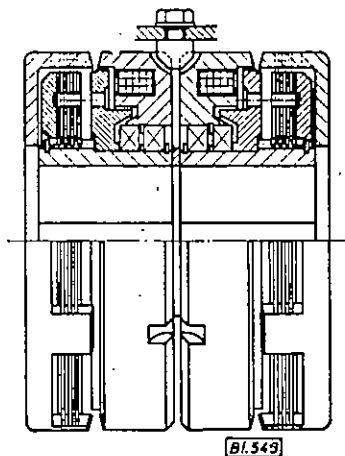
Voltage measurement

81.969

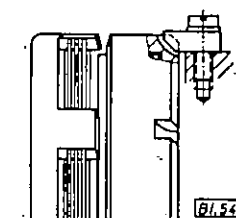
Securing the coil body against rotation



81.543



81.549



81.544

Fig. 5

Care must be taken to secure the coil body in such a way that no radial or axial force is imposed on the bearings.

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