

DESCRIPTION AND WORKING

The mechanical latch enables the contactor to remain in the closed position with supply to the control circuit removed. It is particularly useful in cases when the accidental opening may cause serious damages to the system and where applications require the minimum of dissipated energy caused by long periods with a closing coil energized. When the control coil is energized the contactor closes and it is automatically kept in such position with de-energized coil. The contactor opens by the action of the tripping device controlled by a second electromagnet. The latch function is mechanical; electrical supply is only required during closing. The tripping function is carried out by a second electromagnet which operates the contactor opening device. The tripping electromagnet has the following characteristics.

mechanical latch type	tripping VA (a.c.)	tripping W (d.c.)
AM5	950	500
AM6	1600	800

The tripping device works at voltages between 0,5 (about) and 1,1 times the rated voltage. Lower values can cause burning of tripping coil. Tripping coil has to be fed with one sharp impulse according to one of hereunder listed diagrams. Under these conditions max 30 operations/hour are allowed.

It is necessary to avoid repeated and frequent operations for example when the control contact of tripping coil does not work correctly : i.e. contact "chatters". Faulty working can also occur when the device is used on "stand-by" units, if the return or the lack of operating voltage acting on tripping coil is not sharp and sure. Proper protection must be used (1) because in such cases contactors can get damaged at contacts and coils.

Customer mounting the device must strictly follow instructions given with this equipment. It is necessary to test the device (also at minimum voltage) before installing the contactor.

Electromagnet coil must be connected in series to a NO auxiliary contact of contactor in order to avoid overheating, should it remain fed for too long.

(1) A proper protection in order to avoid the tripping coil burning is obtained by fitting a thermal overload relay in series to the coil as shown in fig. 3. Rated currents of such relays are shown beside.

It is suggested to use relays sensitive to the lack of phase and with just one phase connected.

To feed the tripping electromagnet in DC use a protecting relay or a similar device having a proper breaking power.

(2) For voltages higher than 160VDC it is necessary to connect 2NO contacts in series.

Tripping coil voltage	Thermal relay current (A)	
	AM5	AM6
44-48V 50-60Hz	4	5
110-120V 50-60Hz	1,6	2
220-240V 50-60Hz	0,8	1
380-415V 50-60Hz	0,5	0,6
440-480V 50-60Hz	0,4	0,5

DIAGRAMS

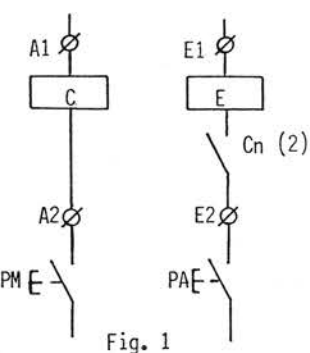


Fig. 1

Pulse contact control

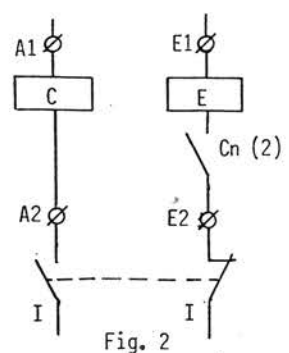


Fig. 2

Permanent contact control

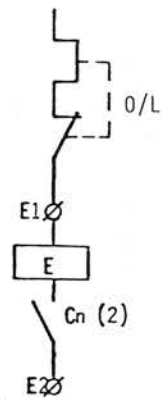
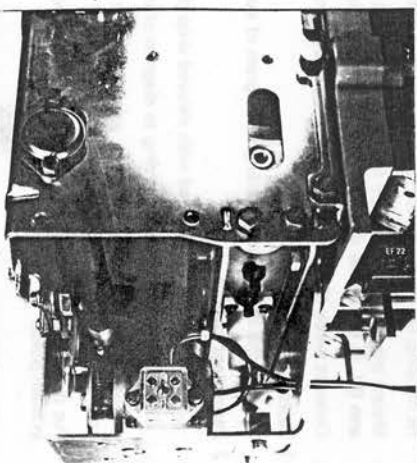
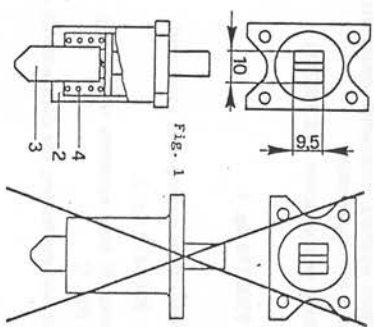


Fig. 3

- A1-A2=Contactor control circuit feeding
- C= Contactor coil
- E1-E2=Tripping coil feeding
- E = Tripping coil
- Cn=Contactor NO auxiliary contact
- O/L=Optional protection relay
- PM= Closing contact (latch)
- PA= Opening contact (trip)
- I= Clos/open selector switch





Contacteur en position OUVRETE  
Schütz in AUS-Stellung

Contacteur en position  
FERMEE  
Schütz in EIN-Stellung

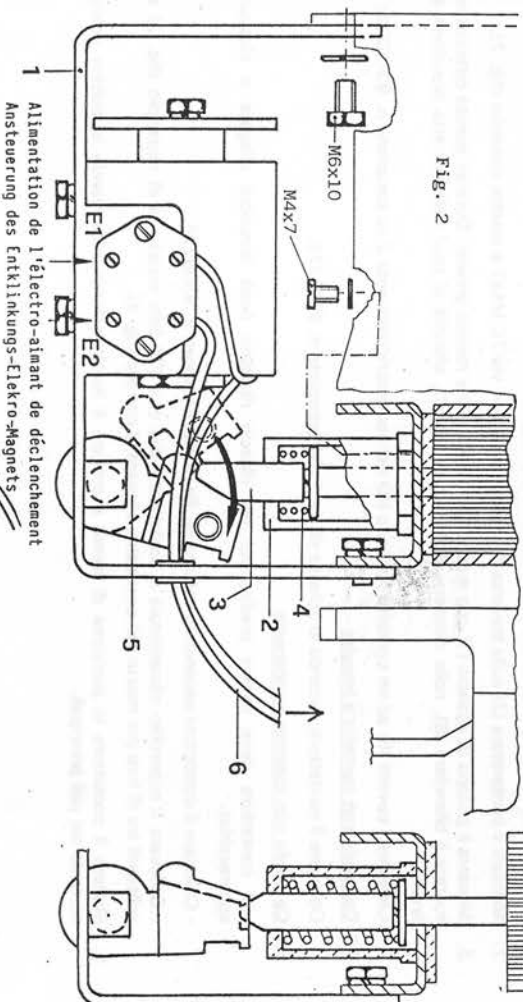


Fig. 2

1 Alimentation de l'électro-aimant de déclenchement  
Ansteuerung des Entklinkungs-Elektro-Magnets

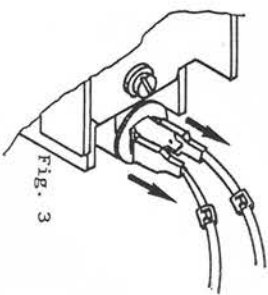


Fig. 3

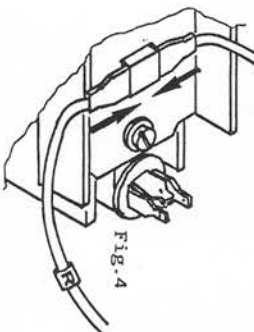


Fig. 4

1. Placer la tige (3) et le ressort (4) dans le boîtier (2) - fig. 1.
  2. Monter le boîtier (2) sur la traverse au bas du contacteur à l'aide de quatre vis M4x7 et des rondelles onduflex (fig. 2).
  3. Monter le dispositif de déclenchement (1) au moyen des quatre vis M6x10 et des rondelles grower tout en faisant pivoter le levier d'accrochage (5) de façon à le mettre dans sa position de travail comme indiqué en fig. 2.
  4. Brancher les fils (6) à un contact auxiliaire à fermeture du contacteur (voir note "2" de la page précédente).
  - 5.1 Commande par impulsion (bouton poussoir à action fugitive)  
Brancher le contacteur selon le schéma de principe fig. 1 de la page précédente.
  - 5.2 Commande permanente (interrupteur à action maintenue)  
- Le contacteur doit être prévu pour fonctionner avec "ouverture retardée" ("delayed drop"). Suivre les instructions jointes à chaque appareil.  
- Brancher le contacteur selon la fig. 2 de la page précédente.  
- Oter le couvercle du module d'alimentation, débrancher les deux fils (R) de la résistance d'économie et les raccorder ensemble à l'aide du connecteur fourni dans le kit (fig. 4).
  6. Mettre le contacteur dans sa position de travail, vérifier son bon fonctionnement sans courant sur les pôles principaux (essai de fonctionnement "à vide").
1. Teil (3) und Feder (4) an Gestell (2) befestigen - Fig. 1.
  2. Gestell (2) am Querbalken des Schützes befestigen mit 4 Schrauben M4x7 und Federringen - Fig. 2.
  3. Verlinkungssystem (1) mit Schrauben M6x10 und Brems scheiben befestigen, dabei den Schwenkarm (5) drehen, um ihn in die korrekte Arbeitsstellung zu bringen, wie in Fig. 2 angegeben.
  4. Kabel (6) mit einem Schließer-Hilfskontakt des Schützes in Reihe schalten (siehe Anmerkung (2) auf Vorschrift Nr. 9305278).
  - 5.1 Impuls-Betätigung  
Das Schütz nach Schaltbild der Vorschrift Nr. 9305278 Fig. 1 verdrahten.
  - 5.2 Dauer-Betätigung  
- Das Schütz muß auf "delayed drop" eingestellt sein (siehe jedem Apparat beigelegten Anweisungen).  
- Das Schütz nach Schaltbild der Vorschrift Nr. 9305278 Fig. 2 verdrahten.  
- Den Deckel der Versorgungseinheit abheben und die zwei Verbindungen (R) vom Sparwiederstand lösen (Fig. 3) und sie mit der mitgelieferten Klemme verbinden (Fig. 4).
  6. Schütz in Gebrauchslage bringen und die korrekte Funktion prüfen (ohne dabei die Hauptkontakte elektrisch zu belasten).