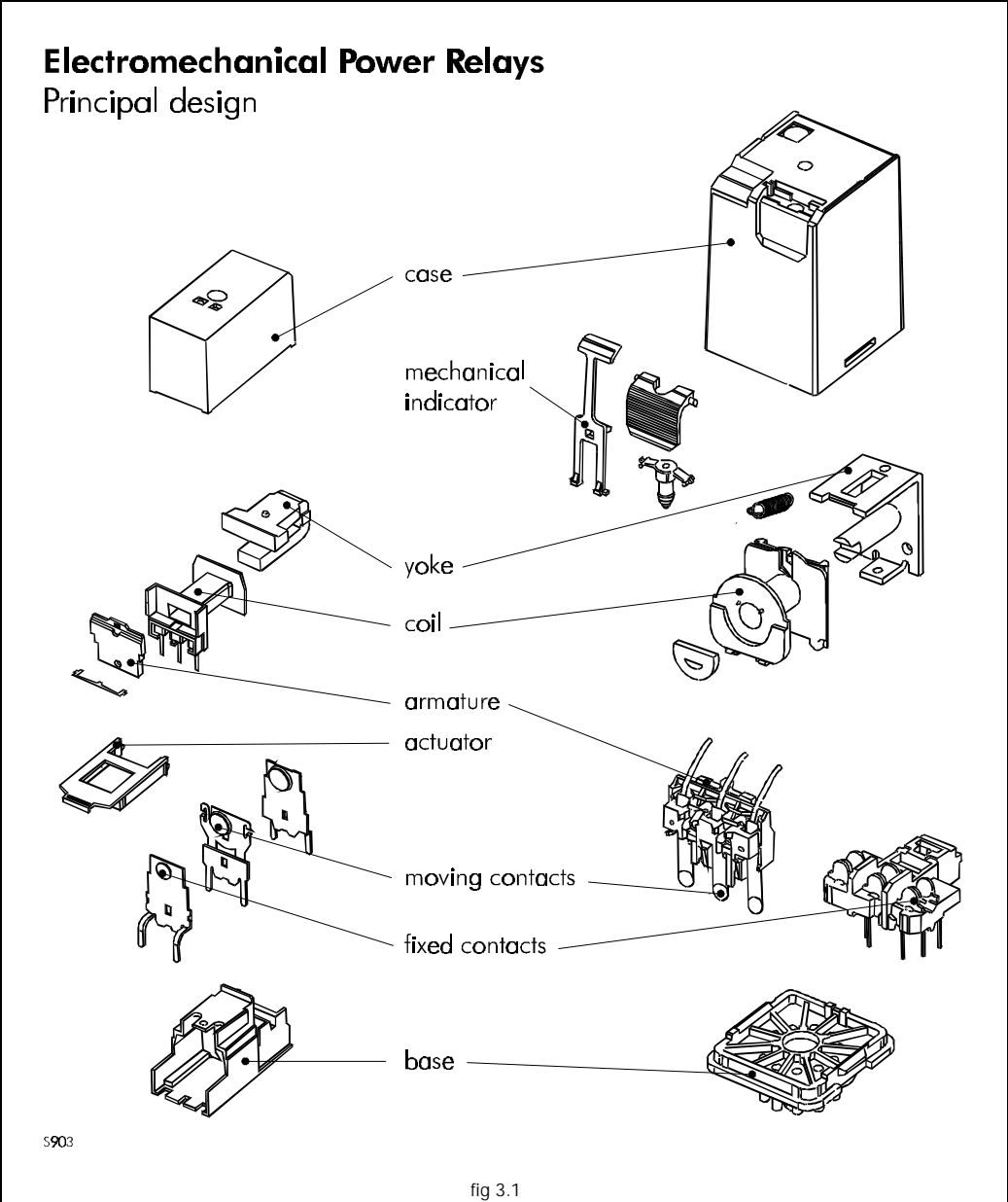


3 ELECTROMECHANICAL RELAYS



POWER RELAYS

3.1 Design

The basic design of electromechanical power relays is the same regardless of whether it is a miniature PCB relay or an industrial power relay. The most important components are:

Contact system or secondary side

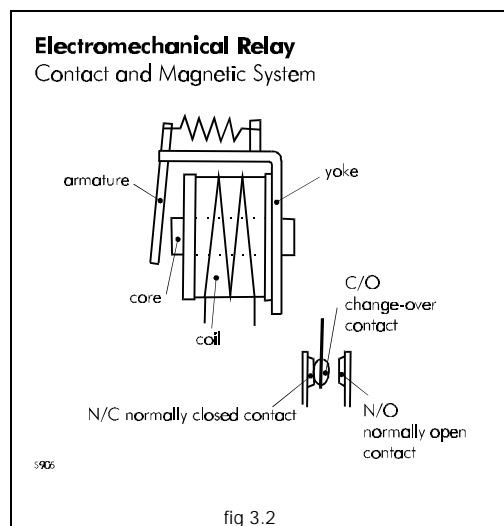
- fixed contacts
- moving contacts (contacts being moved by the magnetic system (motor) to switch the load circuit)
- contact springs (holding the contacts but sufficiently flexible to allow the contacts to move)

Magnetic system

- coil (to generate the necessary magnetic field to actuate the armature and the contacts)
- core
- yoke (to establish the magnetic circuit)
- armature (the moving part of the magnetic system which closes and opens the magnetic circuit and acts via a comb or actuator on the moving relay contacts)
- return spring (to establish a defined position of the magnetic and contact system in case the coil is not energized)

Mechanical components

- case
- base (to protect the relay against external influences and for protection against electric shock)
- insulation (within the relay to separate the primary circuit from the secondary side and to provide the required insulation)
- actuator (used in some relay designs to translate the motion of the magnetic system to the contact system (moving contacts). Must have insulation properties to isolate the primary circuit (coil, magnetic circuit) from the secondary side (contact system))
- pins or terminals (to connect between the contact system and the load)
- mounting devices



3.2 Subsystems

