

Reed Switch Operation Methods

Operation Using a Coil

Figures 3, 4 and 5 illustrate the various methods of operating the switch using a coil.

With the method given in Fig. 5, the dry-reed switch and/or permanent magnet can be placed either within or outside the coil.

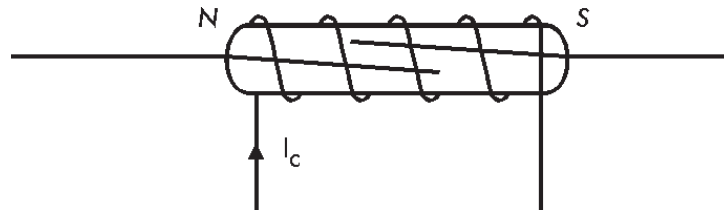


Fig.3: A dry-reed switch mounted within a coil

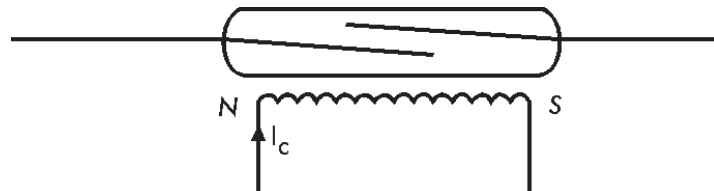


Fig. 4: A dry-reed switch mounted outside a coil

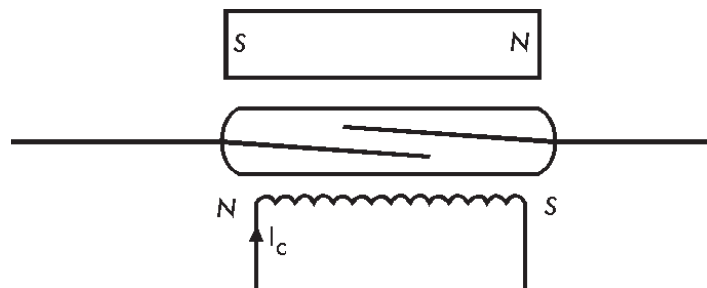


Fig.5: A dry-reed switch biased by a permanent magnet and operated by a coil

Reed Switch Operation Methods

Operation Using a Permanent Magnet

Permanent magnets are also often used to operate dry-reed switches. Figures 6, 7, 8 and 9 illustrate the various methods available.

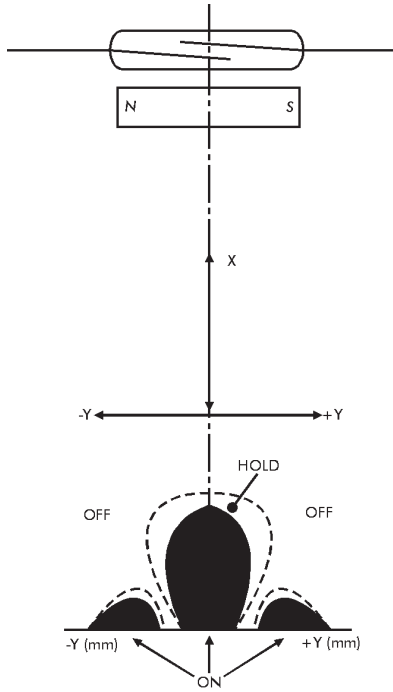


Fig. 6: Movement, with the magnetic field parallel to the dry-reed switch

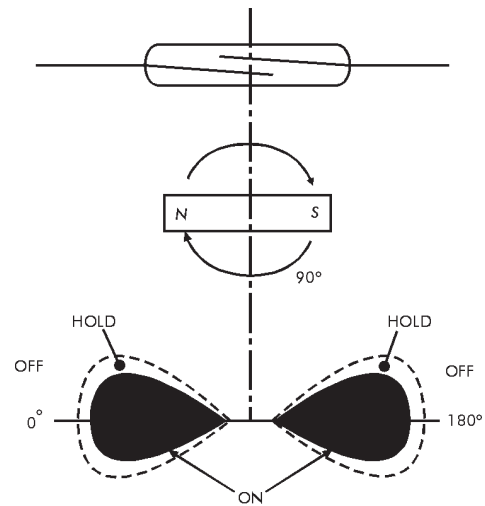


Fig. 8: Rotational movement with a bar shaped permanent magnet

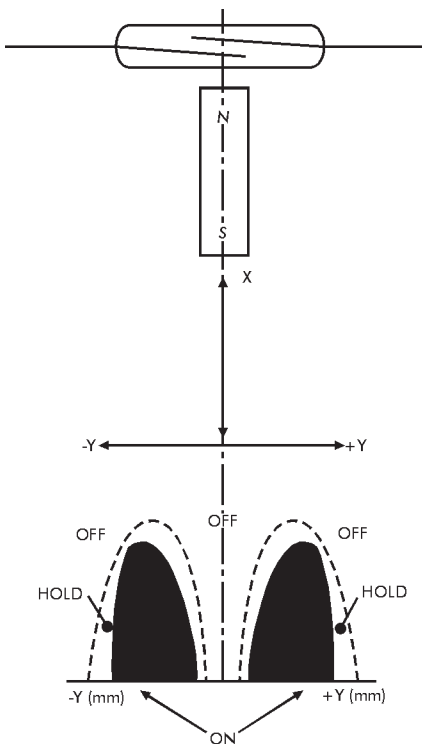


Fig. 7: Movement, with the magnetic field perpendicular to the dry-reed switch

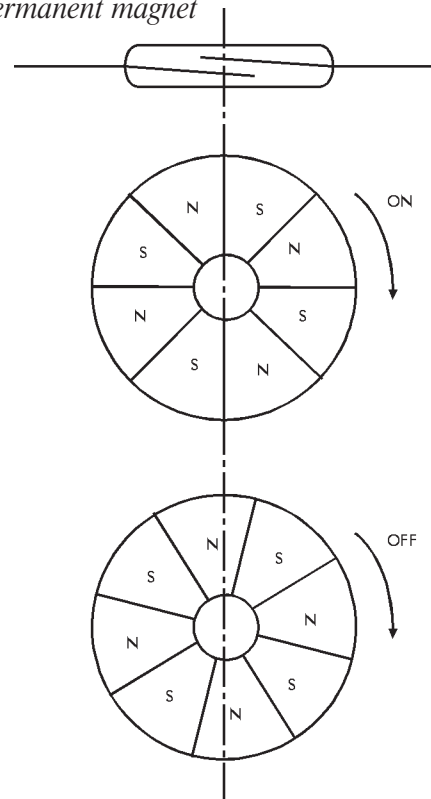


Fig. 9: Rotational movement with two or more pole ring magnets

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Shielding

Ferromagnetic materials which shunt the magnetic fields may be used to shield a dry-reed switch (see Fig. 10).

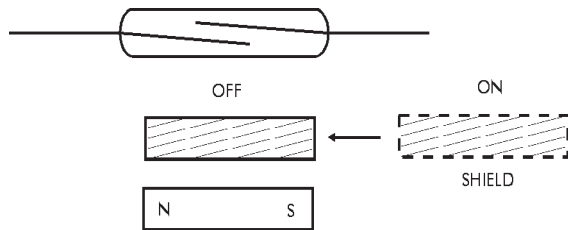


Fig. 10: Shielding a magnetically operated switch

Magnetic Application

There are many applications for dry-reed switches used in combination with a permanent magnet. Figure 11 shows the relationship between the Gauss values of a permanent magnet and the AT values of Coto dry-reed switches in the Philips Standard Coil. It enables the customer to determine which reed switch AT range can be used in combination with a specific permanent magnet.

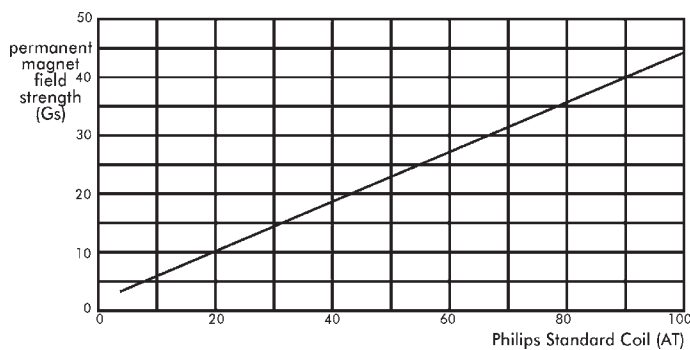


Fig. 11: Relationship between the field strength of a permanent magnet and the ampere-turn values of Coto reed switches in the Philips Standard Coil