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H.I.M.C

(High Inertia Magnetic Couplers)

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- CONCEPT / IDEA -

Many applications call for high inertia magnetic relays, for the transfer of higher currents. Unfortunately these high current relays can be expensive and beyond the reach of the mass production of military components or even for the consumer engineer to manufacture.

Understanding why most relays are un-reliable can help us determine how to solve the problems of these cheaper alternatives.

The current transfer plate of the relay in cheap devices are usually quite heavy resulting in high mass that is difficult to move (momentum). Because of the momentum, when applying a large g-force results in the current transfer plate to be pulled away leaving an undesired open circuit.

- SOLUTION -

To combat high g-force and still maintain a solid connection for current transfer, we must make the contact plate lighter, reducing the inertia on the component. Using this method will allow for a fast switch to be made for applications such as low frequency high current signal lines.

- See fig1.

When frequency oscillation for signal commands/processing is not necessary we can overcome temporary inertia by placing the plate in a almost airtight chamber to slow the passage of current transfer plate. as shown in fig1.

Fig.1 - High Inertia Relay, Using Air Pressure

