



Why High Burden Trip Relays?

Substation DC protection and control systems often have long lengths of control wiring.

This control wiring is susceptible to external influences including:

- Capacitance discharge due to wiring earth faults
- Voltage transients due to circuit breaker trip coil back EMF
- AC induction

These external influences may cause unwanted operation of DC relays with low minimum operating current and high operating speeds.

High burden relays are used specifically to mitigate against the above external influences.

Technical Specification 48-4 produced by the Energy Networks Association (UK), attributes a 10 μF capacitance as representative of worst case wiring capacitance.

The specification establishes the operating requirements for high speed trip relays that may be subjected to capacitance discharge currents, namely:

High burden	100 - 150 watts
Minimum operating current	50 mA (110 VDC systems)

High burden, high speed trip relays conforming to the above requirements offer a high degree of stability against unwanted operation.



RMS Mors Smitt high burden trip relays