Reed Switch Selection FAQ

How do two reed switches having different operate ampere turns (OAT) differ?
When two identical magnets approach two reed switches with different operate AT, the one with the lower operate AT, being more sensitive to magnetic fields, will close first. When an application requires a reed switch to only operate within a specific distance, and does not require a release distance, reed switches with an "L" in the ordering code, denoting low release, suit best.

How do two reed switches with different release ampere turns (RAT) differ?
When two identical magnets move away from two closed reed switches with identical operate AT but different release AT, the one with the higher release AT, being less sensitive to magnetic fields, will open first.

What are the pros and cons of using <20 ampere turn (AT) reed switches?

Pros	Cons
Very sensitive to magnetic fields	Lower resistance to shock and vibration
Can be used with inexpensive magnets	Very low contact gap acts like a capacitor
Magnet can actuate from farther away	Lower breakdown voltage
Lower operate time	Higher contact resistance

What are the pros and cons of using >20 ampere turn (AT) reed switches?

Pros	Cons
Bigger magnets can be used	Arriving at the right magnet strength takes time
Higher resistance to shock and vibration	Stronger magnets need to be used
Less receptive to stray magnetic fields	Magnet needs to be closer to actuate
Can switch higher voltage and current	Higher operate time

How is contact rating linked to switching voltage and switching current?
Switching voltage and switching current should not exceed their individual maximum ratings and the product of voltage and current should not exceed the maximum contact rating in watts.

What are the differences between reed switches and Hall Effect devices?

Reed Switches	Hall effect
Are hermetically sealed	Are susceptible to changes in the environment
Can be operated from -50°C to 150°C	Can be operated from 0°C to 70°C only
Immune to electrostatic discharge (ESD)	Requires ESD protection
Insulation resistance >1012Ω minimum	Insulation resistance >106Ω minimum
Typical breakdown voltage >250V	Typical breakdown voltage <10V
Contact resistance ~50mΩ	Contact resistance >200Ω
Does not require power for operation	Requires power for operation
No components needed to generate output signal	Requires many other components to generate output
Configurable hysteresis	Fixed hysteresis
Signal does not require any amplification	Requires amplification circuits
Switches a range of loads directly	Require external devices for switching loads
Does not drain battery in mobile devices	Constant drain of battery in mobile devices

Please contact us for more information

www.rre.in

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