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Standex Electronics

An Engineered Solution Provider and
Manufacturer of Custom Components & Assemblies

Product Solutions

Reed switch selection guide

Standex Electronics produces a broad range of magnetic reed switches. From dry circuit switching to 70VA, from switching microvolt levels to switching 1,000 VDC, our broad range of switches will handle most applications. Using a unique, patented and highly automated production process results in a very cost-effective switch with outstanding physical and electrical characteristics. Standex reed switches are capable of tens of millions of trouble-free switching cycles.

We offer high-speed, fully-automated custom lead cropping and forming service at a minimal cost – details on request. SMT and overmolded versions are also available. Standex reed switches are RoHS compliant and most are UL recognized. They are ideal for a wide range of applications including proximity sensors, fluid level sensors, reed relays, and use within medical, consumer, commercial and industrial equipment.

Standex Electronics is a manufacturer of electronic components and subassemblies including inductors, chokes, transformers, antenna coils, connectors, progressive die stampings, insert-moulded plastic components, reed / capacitive / conductivity and pressure sensors, reed relays and custom products combining many of the above components. Standex Electronics has manufacturing operations in the USA, Canada, Mexico, UK and China operating to TS16949, AS9100 and ISO 9001 standards.

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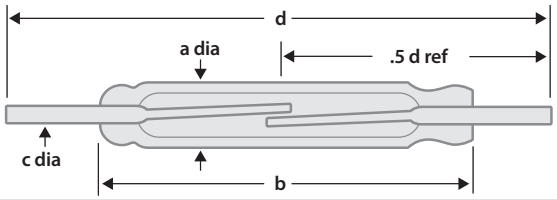
Reed Switch Quick Selection Guide



Professional grade reed switches

Switch type	GR150*	GR200*	GR / GP501	GR / GP560	GR / GP100	NL126	PR560	PR126	VR126*	VR1000 Provisional
Description	World's smallest reed switch, ultra miniature	Ultra miniature reed	Sub-min reed	Miniature reed	Mid power reed	High power lamp load reed	AC line voltage miniature reed	AC line voltage high power reed	High voltage & power reed	Very high voltage (up to 15kV) & power reed
			GP series ideal for high stability contact resistance applications, i.e. counting							
Physical characteristics										
Glass dia max - a	0.8 x 1.2mm	1.5mm	2.3mm	2.3mm	2.5mm	2.5mm	2.3mm	2.5mm	2.5mm	5.0mm
Glass length max - b	3.7mm	4.7mm	12.7mm	14.2mm	20.3mm	20.3mm	14.2mm	20.3mm	20.3mm	50.0mm
Lead dia nominal - c	0.25mm	0.25mm	0.45mm	0.6mm	0.6mm	0.7mm	0.6mm	0.7mm	0.7mm	1.3mm
Overall length - d	36.0mm	36.0mm	54.0mm	54.0mm	54.0mm	54.0mm	54.0mm	54.0mm	54.0mm	82.0mm
Electrical characteristics										
Contact material	Pd alloy	Pd alloy	Rh / Pd alloy	Rh / Pd alloy	Rh / Pd alloy	Rhodium	Rhodium	Rhodium	Rhodium	Rhodium/Tungsten
Max power rating	1VA	3VA	10 VA	10 VA	10 VA	50 VA	10 VA	70 VA	50 VA	50 VA
Max switching current	0.05 Amp DC	0.05 Amp DC	0.5 Amp DC and AC	1.0 Amp DC and AC	1.0 Amp DC and AC	1.5 Amp DC and AC	1.0 Amp DC and AC	1.5 Amp DC and AC	1.5 Amp DC and AC	3.0 Amp DC & AC
Max switching voltage	30 VDC	30 VDC	100 VDC / 125 VAC	100 VDC / 125 VAC	100 VDC / 150 VAC	200 VDC / 150 VAC	250 VAC / 100 VDC	300 VAC / 200 VDC	1,000 VDC / 300 VAC	Up to 15k VDC
Min breakdown voltage @ 20AT	100 VDC	100 VDC	200 VDC	200 VDC	250 VDC	250 VDC	600 VDC	750 VDC	1,750 VDC	Up to 20k VDC
Contact resistance	500 mΩ	500 mΩ	150 mΩ	100 mΩ	100 mΩ	100 mΩ	100 mΩ	100 mΩ	100 mΩ	100 mΩ
Min insulation resistance	10^{11} mΩ	10^{11} mΩ	10^{12} mΩ	10^{12} mΩ	10^{12} mΩ	10^{12} mΩ	10^{12} mΩ	10^{12} mΩ	10^{12} mΩ	10^{12} mΩ
Max contact capacitance	0.3 pF	0.3 pF	0.3 pF	0.2 pF	0.2 pF	0.3 pF	0.2 pF	0.3 pF	0.3 pF	0.4 pF
Operating characteristics										
Sensitivity, pull in range	2-15 AT	3-15 AT	7-30 AT	10-50 AT	10-60 AT	20-60 AT	20-40 AT	20-50 AT	20-50 AT	60-200 AT
Operate time, inc. bounce	0.2 msecs	0.2 msecs	1.0 msecs	0.6 msecs	0.8 msecs	0.6 msecs	0.6 msecs	0.8 msecs	0.8 msecs	2.0 msecs
Release time	0.1 msecs	0.1 msecs	0.1 msecs	0.1 msecs	0.1 msecs	0.1 msecs	0.1 msecs	0.1 msecs	0.1 msecs	0.5 msecs
Max vibration 10 - 2,000Hz	-	-	50 G	50 G	40 G	30 G	50 G	30 G	30 G	-
Max shock, 11-ms.½ sine wave	-	-	100 G	100 G	100 G	100 G	100 G	100 G	100 G	-
Operating temperature	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C
Storage temperature	-50°C to +155°C	-50°C to +155°C	-50°C to +155°C	-50°C to +155°C	-50°C to +155°C	-50°C to +155°C	-50°C to +155°C	-50°C to +155°C	-50°C to +155°C	-50°C to +155°C

Commercial grade reed switches

Switch type	TS501	TR501	TS560	TR560	TS100	TR100
Description	General purpose wide differential sub miniature reed	General purpose wide differential sub miniature reed	General purpose wide differential miniature reed	General purpose wide differential miniature reed	General purpose wide differential reed	General purpose wide differential reed
Physical characteristics						
Glass dia (max) - a	2.3mm	2.3mm	2.3mm	2.3mm	2.5mm	2.5mm
Glass length max - b	12.7mm	12.7mm	14.2mm	14.2mm	21.0mm	21.0mm
Lead dia nominal - c	0.45mm	0.45mm	0.6mm	0.6mm	0.7mm	0.7mm
Overall length - d	54.0mm	54.0mm	54.0mm	54.0mm	54.0mm	54.0mm
Electrical characteristics						
Contact material	Palladium alloy	Palladium alloy	Palladium alloy	Palladium alloy	Palladium alloy	Palladium alloy
Max power rating	7 VA	10 VA	8 VA	10 VA	8 VA	10 VA
Max switching current	0.3 Amp DC and AC	0.5 Amp DC and AC	0.5 Amp DC and AC	1.0 Amp DC and AC	0.5 Amp DC and AC	1.0 Amp DC and AC
Max switching voltage	50 VDC / 75 VAC	100 VDC / 125 VAC	75 VDC / 100 VAC	100 VDC / 125 VAC	100 VAC / 125 VDC	100 VAC / 150 VDC
Min breakdown voltage @ 20AT	150 Volts DC	200 Volts DC	150 Volts DC	200 Volts DC	200 Volts DC	250 Volts DC
Contact resistance	250 mΩ	200 mΩ	250 mΩ	200 mΩ	250 mΩ	200 mΩ
Min insulation resistance	10^{9} mΩ	10^{12} mΩ	10^{9} mΩ	10^{12} mΩ	10^{9} mΩ	10^{12} mΩ
Max contact capacitance	0.3 pF	0.3 pF	0.2 pF	0.2 pF	0.2 pF	0.2 pF
Operating characteristics						
Sensitivity, pull in range	10 to 30 AT	7 to 30 AT	10 to 35 AT	10 to 50 AT	10 to 35 AT	10 to 35 AT
Operate time, inc. bounce	1.5 msecs	1.0 msecs	1.0 msecs	0.6 msecs	1.0 msecs	0.8 msecs
Release time	0.1 msecs	0.1 msecs	0.1 msecs	0.1 msecs	0.1 msecs	0.1 msecs
Max vibration 10 - 2,000Hz	30 G	50 G	30 G	50 G	30 G	40 G
Max shock, 11-ms.½ sine wave	100 G	100 G	100 G	100 G	100 G	100 G
Operating temperature	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C	-40°C to +125°C
Storage temperature	-50°C to +155°C	-50°C to +155°C	-50°C to +155°C	-50°C to +155°C	-50°C to +155°C	-50°C to +155°C

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