RS Stock Nos: 118-7035, 229-3709

Reed Switch - Standard & Miniature Switches

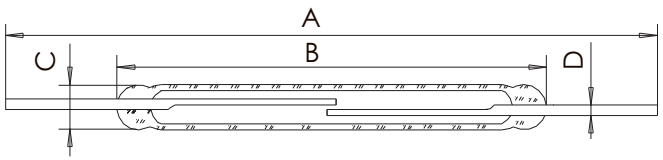
A family of form 'A' reed switches produced with Rhodium contact material, designed to range from moderate currents and voltages through to high voltage, high current switching.

			Standard size Normally Open						Miniature
			Standard	High Power			High Voltage		
		RS Stock No:	118-7035	-	229-3709	-	-	-	
Parameters		**Type**	DRA200G	DRA282G	DRA283	DRA500H	DTA500H	DTA810H	MRA560G
Contact form			A	A	A	A	A	A	A
Contact material			Rh	Rh	Rh	Rh	T	T	Rh
Switching capacity	max.	W/VA	80	120	250	25	50	50	100
Switching voltage	max.	V AC/DC	250	250	250	500	1000	7500	1000
Switching current	max.	A	1.3	*3.0	*5.0	1.5	2.5	3.0	1.0
Carrying current	max.	A	2.0	5.0	5.0	-	-	-	2.5
Dielectric strength	min.	VDC	800	800	575	2500	2500	10000	1500
Initial Contact resistance	max.	mOhms	80	80	100	100	100	100	100
Insulation resistance	min.	Ohms	10^{11}	10^{11}	10^{10}	10^{8}	10^{8}	10^{10}	10^{10}
Operate sensitivity	range	AT	75 ... 95	75 ... 95	60 ... 120	60 ... 100	60 ... 100	100 ... 150	20...40
Release sensitivity	min.	AT	25	33.5	-	16	25	46	5
Operate time including bounce	max.	ms	4.0	3.5	5.0	3.0	3.0	3.0	1.1
Bounce time	max.	ms	0.5	0.5	1.0	0.5	0.5	1.0	0.5
Release time	max.	ms	0.20	0.20	0.2	1.5	1.5	1.0	0.05
Resonant frequency	typ.	Hz	900	900	900	-	-	-	2500
Operating frequency	max.	Hz	100	100	-	-	-	-	500
Vibration	35 g	Hz	500	500	-	-	-	-	2000
Shock	11ms	g	50	50	-	-	-	-	30
Capacitance	typ.	pF	0.8	0.8	0.6	0.8	1.5	1.0	0.5
Operating temperature range		°C			-40...+150		-40/+125		-40...+150
Dimensions									
Overall length	A max.	mm	79	79	84	82	82	82	56
Glass length	B max.	mm	52	52	51	51	51	54	21
Glass diameter	C max.	mm	5.4	5.4	5.4	5.5	5.5	†5.5	2.8
Wire diameter	D nom.	mm	2.5x0.5	2.5x0.5	2.5x0.5	2.5x0.5	2.5x0.5	2.5x0.5	0.60

- Controlled switching environment.
- Low contact resistance variants.
- High power applications.
- High voltage.

* Reduced life at high current.

† Plus Glass Pip 5.9 max.



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RS Stock Nos: 118-7120, 229-3658, 229-3664, 229-3670, 229-3692

Reed Switch -Sub Miniature & Tiny Switches

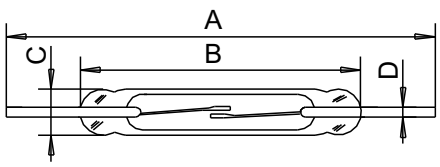
cynergy3 components

Form A

These tiny reed switches are designed for low power and high speed switching with maximum sensitivity. Their extremely small size make them ideal for Dual In Line packages, or magnet operation.

			NORMALLY OPEN						
			Sub-Miniature Normally Open			Tiny Size Normally Open			Very Tiny
		RS Stock No:	229-3658	-	-	229-3664	229-3670	229-3692	118-7120
Parameters		**Type**	**SRA200G**	**SRA258**	**SRA260G**	**TRA211G**	**TRA291G**	**TRA294G**	**VDA200H**
Contact form			A	A	A	A	*A	A	A
Contact material			Rh	Rh	Rh	Rh	Rh	Rh	Durel
Switching capacity	max.	W/VA	12	12	40	1	10	10	.25
Switching voltage	max.	VAC/DC	230	230	230	24	100	150	30
Switching current	max.	A	1.0	1.0	2.0	0.1	0.3	.5	0.01
Carrying current	max.	A	2.0	2.0	3.0	0.3	1.0	1.0	-
Dielectric strength	min.	VDC	400	400	400	150	200	250	150
Initial Contact resistance	max.	mohms	100	100	80	150	150	150	500
Insulation resistance	min.	ohms	10^{11}	10^{14}	10^{11}	10^{9}	10^{9}	10^{10}	10^{9}
Operate sensitivity	range	AT	20...50	20...50	30...50	10..30	10..40	15...35	5...20
Release sensitivity	min.	AT	5	5	15	5	5	5	3
Operate time including bounce	max.	ms	2.5	2.5	2.5	0.6	0.8	2.0	0.2
Bounce time	max.	ms	0.5	0.5	0.5	0.3	0.5	0.2	0.08
Release time	max.	ms	0.10	0.10	0.10	0.05	0.05	0.05	0.05
Resonant frequency	typ.	Hz	2,900	2,900	4,200	7,500	2750	5,000	-
Operating frequency	max.	Hz	200	200	300	500	500	200	-
Vibration	35 g	Hz	2,000	2,000	2,000	2,000	-	2,000	-
Shock	11ms	g	50	50	50	30	30	50	-
Capacitance	typ.	pF	0.5	0.5	0.5	0.2	0.3	0.7	0.2
Operating temperature range		°C	-40...+150				-40...+125	-40...+150	-40...+125
Dimensions									
Total length	A max.	mm	55.0	55.0	55.0	36.0	44.5	55.0	26.7
Glass length	B max.	mm	19.0	19.0	19.0	10.0	13.0	14.1	5.4
Glass diameter	C max.	mm	2.6	2.6	2.6	2.0	2.3	2.3	1.4
Wire diameter	D nom.	mm	0.55	0.55	0.70	0.40	0.35x0.6	0.50	0.25

* Offset Contact Configuration



Form A

- Small physical size.
- Centre or offset contact configurations.
- High speed switching.

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RS Stock Nos: 394-428

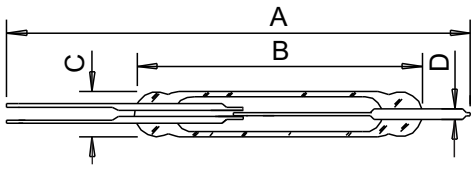
Reed Switch - Changeover Switches

A family of form 'C' reed switches offers moderate to medium voltage breakdown.

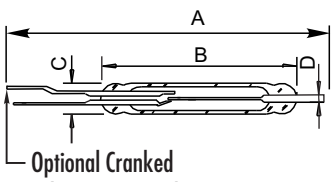
			Compact Change Over			Tiny Change Over	
			Standard	High Power			
		RS Stock No:	-	-	-	-	394-428
Parameters		**Type**	**CRC200H**	**CRC500H**	**CTC500H**	**TRC200B**	**TRC200S**
Contact form			C	C	C	C	C
Contact material			Rh	Rh	T	Rh	Rh
Switching capacity	max.	W/VA	25	25	100#	5	5
Switching voltage	max.	V AC/DC	150	250	500	175	175
Switching current	max.	A	1.0	1.0	3.0	0.25	0.25
Carrying current	max.	A	-	-	-	0.5	0.5
Dielectric strength	min.	VDC	250	1000	1000	200	200
Initial contact resistance	max.	mohms	100	100	500	100	100
Insulation resistance	min.	ohms	10^{10}	10^{8}	10^{8}	10^{9}	10^{9}
Operate sensitivity	range	AT	40 ... 80	50 ... 90	60 ... 100	15 ... 30	15 ... 30
Release sensitivity	min.	AT	10	30	32	-	-
Operate time without bounce	max.	ms	3.0	3.0	3.5	0.7	0.7
Bounce time	max.	ms	1.0	1.0	1.5	-	-
Release time	max.	ms	2.0	1.0	1.0	1.0	1.0
Resonant frequency	typ.	Hz	-	-	-	11000	11000
Operating frequency	max.	Hz	-	-	-	-	-
Vibration	35 g	Hz	-	-	-	30g@50-2k Hz	30g@50-2k Hz
Shock	11 ms	g	-	-	-	50	50
Capacitance	typ.	pF	2.0	2.0	-	-	-
Operating temperature range		°C	-40...+150	-40/+125		-40/+125	
Dimensions							
Overall length	A max.	mm	87	87	87	53	53
Glass length	B max.	mm	35	35	35	14.8	14.8
Glass diameter	C max.	mm	5.4	5.4	5.4	2.7	2.7
Wire diameter	D max.	mm	1.0	1.0	1.0	0.51	0.51

- Changeover or normally closed application.
- Inert gas atmosphere.

Compact Change Over



Tiny Change Over



Optional Cranked Leadout on N.O. Side (TRC200B)

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RS Stock Nos: 118-7108, 229-3715

Permanent Magnets for Reed Switch Operation

A range of magnets is available for operating our range of reed switches. The selection of the correct combination of magnets and reeds switches, for a particular application, will normally be made on an empirical basis as intricate calculations are not necessary.

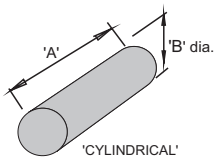
The following table of magnet types and accompanying graphs act as a guide to the relationship between switch sensitivity and magnet type. These figures can only be taken as a rough indication, due to the fact that magnets are manufactured to commercial tolerances.

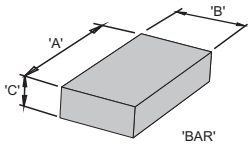
Details of Reed Switches are listed on separate sheets, available on request.

Magnet Types

Part No	RS Code	length 'A'		width 'B'		depth 'C'		Total Flux
	RS No.	mm	inches	mm	inches	mm	inches	μWb
RSH01	118-7108	12.7	0.5	3.2	0.125	1.6	0.063	4.0
RSH02		31.7	1.25	6.4	0.25	6.4	0.25	28
RSH32		27.9	1.10	4.8	0.187	4.8	0.187	22
RSH33	229-3715	19.1	0.75	3.2	0.125	3.2	0.125	9
RSH34		25.4	1.00	6.4	0.25	6.4	0.25	30
RSH73		12.7	0.5		0.125	-	-	5.5
RSH74		52.9	2.08		0.40	-	-	71

All of these magnets are polarised along their length.

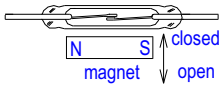




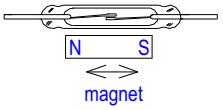
Actuation of Reed Switches with a Permanent Magnet

Direct Actuation:

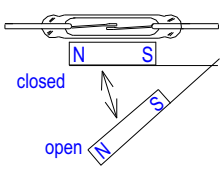
A magnet moved perpendicularly towards and away from a Reed Switch turns it on and off once.



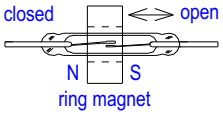
A magnet moved parallel to a Reed Switch operates it from one to three times.



A magnet swung towards and away from a Reed Switch operates it once.

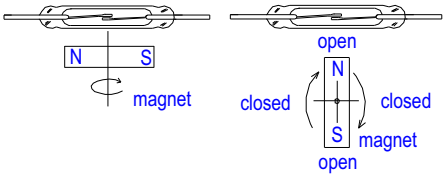


A ring magnet moved parallel to the Reed Switch axis operates it from one to three times.



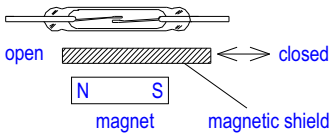
Rotation:

Examples of switching through rotational movement:



Indirect Actuation: Shielding

With the stationary arrangement of a Reed Switch and magnet, the reed contacts are closed. Should the magnetic field be diverted away from the Reed Switch by a shield of ferro-magnetic material placed between the switch and the magnet, the contacts will open. When the shield is removed, the reed contacts become magnetically actuated and close.



Specifications subject to change without prior notice.

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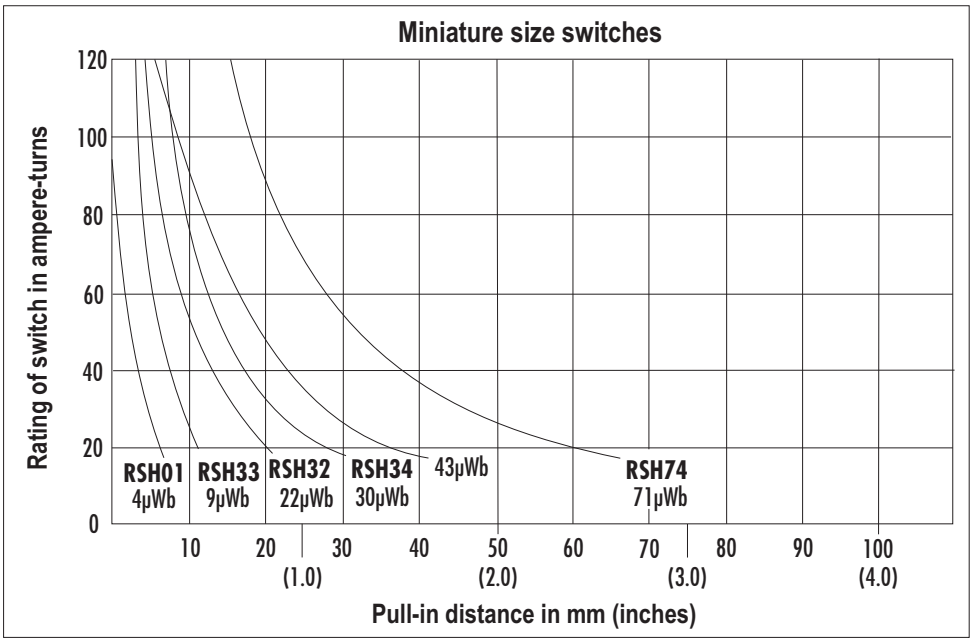
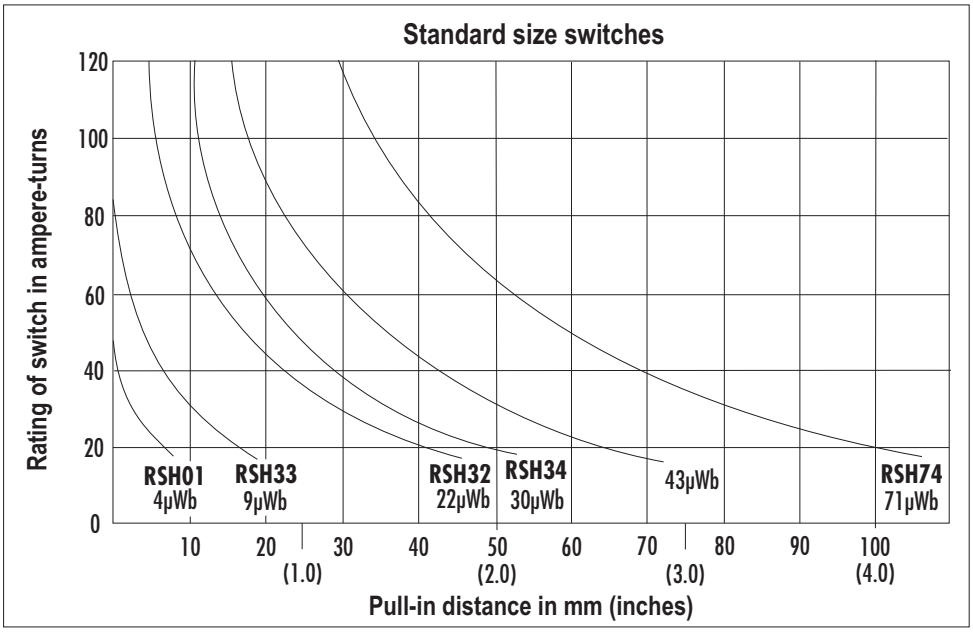
Operating graphs for Direct Actuation

NB Magnet parallel to reed switch and moving in perpendicular direction. Distance is between outside of reed switch and face of magnet.





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