

CMOS Drive SIL Reed Relays Direct drive from 74HC or HCT

**New
3 Volt
Version**

FEATURES

- **SoftCenter™** construction (see opposite)
- Highest quality instrumentation grade switches
- Board space may be saved by eliminating the need for drivers
- Direct drive from 74HC logic
- Encapsulated in a plastic package with internal mu-metal magnetic screen
- Wide range of switch configurations - 1 Form A, 1 Form B, 2 Form A, 1 Form C
- Two pole relay requires the same board area as the single pole type
- Dry and mercury wetted switches are available with the same pin configuration and footprint
- Insulation resistance greater than 10^{12} ohms for dry Form A devices
- 3, 5, 12 and 24 volt coils are standard, with or without internal diode
- 100% tested for dynamic contact resistance

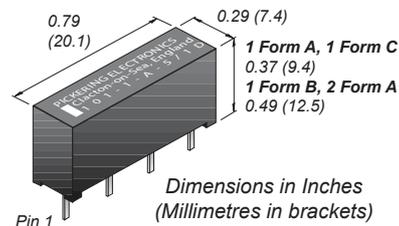
The Series 101 have very high coil resistances. 5 Volt dry versions may be driven directly from 74HC or 74HCT logic without the need for additional drivers.

74HC logic will drive up to 4mA at 5 Volts, therefore a coil resistance of 1600 ohms is desirable to avoid running the IC at its maximum rating; 1600 ohms is the coil resistance of the single pole dry Series 101. They may be stacked on 0.3 inches pitch (7.6mm) and as they have an internal mu-metal magnetic screen, there is no risk of magnetic interaction problems.

Both dry and mercury wetted switches are available in a range of configurations and coil voltages. The switches in the 2 Form A version are vertically stacked so the relay requires the same board area as the 1 Form A type.

A special 1 Form A, 5 Volt version is available with an even higher coil resistance of 3000 ohms. This is particularly suited to applications such as battery powered portable equipment as it requires a coil current of only 1.7 mA. This part, the 101-1-A-5/17 or 17D has the advantage of a lower level of thermal EMF of 3 microvolts or less.

Other special parts are also available that may be operated from 3 Volt logic.



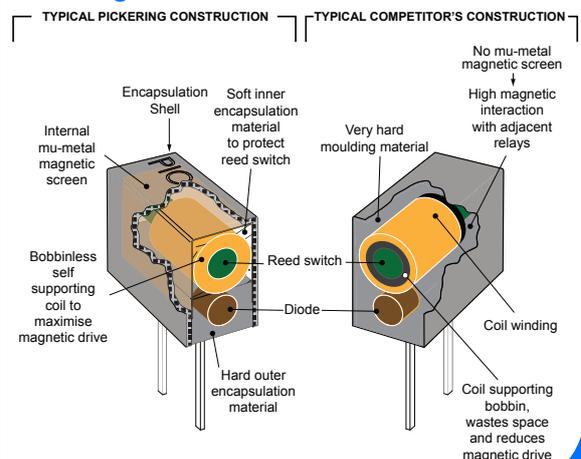
Switch Ratings - Dry switches

- 1 Form A (energize to make), 10 watts at 200V
- 1 Form A (energize to make), 10 watts at 500V
- 1 Form B (energize to break), 10 watts at 200V
- 1 Form C (change-over), 3 watts at 200V
- 2 Form A (energize to make), 10 watts at 200V

Switch Ratings - Mercury Wetted Switches

- 1 Form A (energize to make), 50 watts at 500V
- 1 Form A (Position insensitive), 30 watts at 350V
- 2 Form A (energize to make), 50 watts at 500V

Pickering SoftCenter™ Construction



www.pickeringrelay.com

Series 101 switch ratings

The contact ratings for each switch type are shown below:

Sw. No	Switch form	Power rating	Max. switch current	Max. carry current	Max. switching volts	Special features
1	A or B	10 Watts	0.5 Amp.	1.2 Amp.	200	General purpose
2	A	10 Watts	0.5 Amp.	1.2 Amp.	200	Low level
3	C	3 Watts	0.25 Amp.	1.2 Amp.	200	Change over
4	A	10 Watts	0.5 Amp.	1.2 Amp.	300	500V stand-off

Switch no.2 is particularly good for switching low currents and/or voltages. It is the ideal switch for A.T.E. systems where cold switching techniques are often used. Where higher power levels are involved, switch no.1 is a more suitable choice.

Coil data and type numbers

Device type	Type Number	Coil (V)	Coil resistance	Max. contact resistance (initial)
1 Form A (energize to make) General Purpose Switch No. 1	101-1-A-5/1D	5	1600	0.15 Ohms
	101-1-A-12/1D	12	6000	0.15 Ohms
	101-1-A-24/1D	24	6000	0.15 Ohms
1 Form A (energize to make) Low Level Switch No. 2	101-1-A-3/2D	3	1600	0.12 Ohms
	101-1-A-5/2D	5	1600	0.12 Ohms
	101-1-A-12/2D	12	6000	0.12 Ohms
1 Form A (energize to make) High Voltage Switch No. 4	101-1-A-5/4D	5	1600	0.15 Ohms
	101-1-A-12/4D	12	6000	0.15 Ohms
	101-1-A-24/4D	24	6000	0.15 Ohms
1 Form C (change-over) Switch No. 3	101-1-C-5/3D	5	1600	0.20 Ohms
	101-1-C-12/3D	12	6000	0.20 Ohms
	101-1-C-24/3D	24	6000	0.20 Ohms
1 Form B (energize to break) General Purpose Switch No. 1	101-1-B-5/1D	5	3000	0.15 Ohms
	101-1-B-12/1D	12	6000	0.15 Ohms
	101-1-B-24/1D	24	6000	0.15 Ohms
2 Form A (energize to make) General Purpose Switch No. 1	101-2-A-5/1D	5	1000	0.17 Ohms
	101-2-A-12/1D	12	3000	0.17 Ohms
	101-2-A-24/1D	24	6000	0.17 Ohms
2 Form A (energize to make) Low Level Switch No. 2	101-2-A-5/2D	5	1000	0.15 Ohms
	101-2-A-12/2D	12	3000	0.15 Ohms
	101-2-A-24/2D	24	6000	0.15 Ohms
1 Form A (energize to make) Special Extra Sensitive Version Low Level Switch No. 2	101-1-A-5/17D	5	3000	0.12 Ohms

When an internal diode is required, the suffix D is added to the part number as shown in the table. If a diode is not required, the D suffix should be omitted.

Mercury Reed - Series 101 switch ratings

The contact ratings for each switch type are shown below:

Sw. No	Switch form	Power rating	Max. switch current	Max. carry current	Max. switching volts	Special Features
6	A	50 Watts	2 Amp.	3 Amp.	500	Standard Mercury
8	A	30 Watts	0.75 Amp.	2 Amp.	350	Position Insensitive

Mercury Relay - Coil data and type numbers

Device type	Type Number	Coil voltage	Coil resistance	Max. contact resistance (initial)
1 Form A (energize to make) Switch No. 6	101-1-A-5/6D	5	375	0.075 Ohms
	101-1-A-12/6D	12	1000	0.075 Ohms
	101-1-A-24/6D	24	3000	0.075 Ohms
1 Form A (energize to make) Position Insensitive Switch No. 8	101-1-A-5/8D	5	375	0.100 Ohms
	101-1-A-12/8D	12	1000	0.100 Ohms
	101-1-A-24/8D	24	3000	0.100 Ohms
2 Form A (energize to make) Switch No. 6	101-2-A-5/6D	5	150	0.100 Ohms
	101-2-A-12/6D	12	650	0.100 Ohms
	101-2-A-24/6D	24	2000	0.100 Ohms

When an internal diode is required, the suffix D is added to the part number as shown in the table. If a diode is not required, the D suffix should be omitted.

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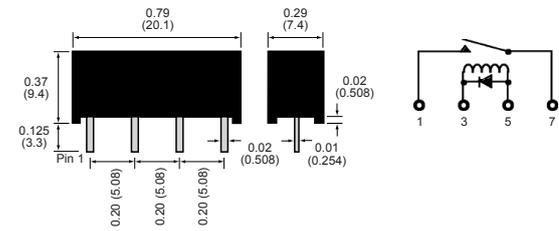


ISO9001
Manufacture of Reed Relays
FM 29036

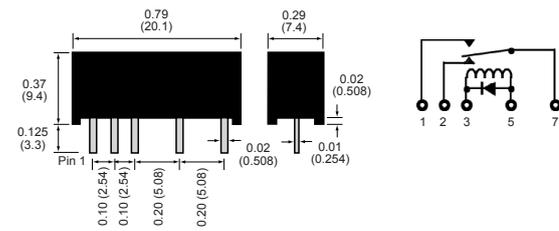
Pin configuration and dimensional data

Dimensions in Inches (Millimetres in brackets).

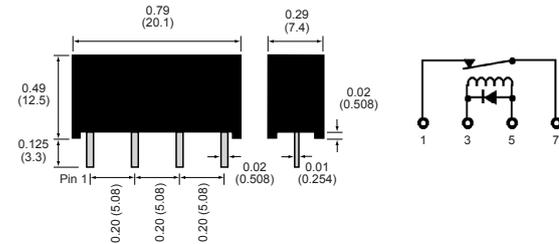
1 Form A (Energize to make)



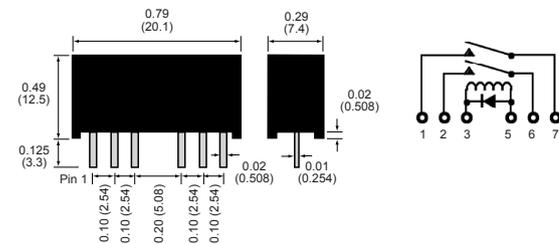
1 Form C (Changeover)



1 Form B (Energize to break)



2 Form A (Energize to make)



Mercury Relays

With the exception of the position insensitive type, mercury relays should be mounted vertically with pin 1 uppermost.

Order Code

The following example indicates data required to process your order promptly:

101 - 1 - A - 5 / 2 D

Series _____
 Number of reeds _____
 Switch form _____
 Coil voltage _____
 Switch number (See table adjacent) _____
 Diode if fitted (Omit if not required) _____

Help !!!

If you need any technical advice or help in any way, please telephone our Technical Sales Department. There is a limit to how much data we can put on a sales leaflet and we will always be pleased to discuss Pickering reed relays with you.

Please ask us for a FREE evaluation sample