DATA SHEET

# SIL Series
# Reed Relays




## Key Features and Benefits:

- Compact SIL package for high-density PCB layouts
- Instrumentation-grade reed switching for reliable signal control
- Flexible options with multiple contact forms, coil voltages, diode, and magnetic shielding
- IEC 61810 tested and UL listed, ensuring consistent performance in demanding environments

## Key Markets and Applications:

- Test & Measurement, Industrial Control, Security & Safety Systems
- Functional test equipment, PCB signal switching, Alarm and sensor circuits

## Contact and Switching Characteristics :

| Contact Data | Switch Model | | | Unit |
|---|---|---|---|---|
| | 1A72 | 1C90 | 1B90 | |
| **Contact Material** | Rh | Rh | Rh | |
| **Rated Power (max.)** Any DC combo of V&A not to exceed max. rated power | 10 | 10 | 10 | W |
| **Switching Voltage (max.)** DC or peak AC (Limited by FLRY-B Cable) | 200 | 175 | 100 | V |
| **Switching Current (max.)** DC or peak AC | 0.5 | 0.5 | 0.2 | A |
| **Carry Current (max.)** DC or peak AC | 1.25 | 1.0 | 0.5 | A |
| **Contact Resistance (max.)** @ 0.5V & 10mA, Measured with 40% Pull-In Overdrive | 150 | 150 | 150 | mOhm |
| **Breakdown Voltage (min.)** According to EN60255-27 | 0.25 | 0.2 | 0.15 | kVDC |
| **Operating Time (max.)** Incl. Bounce; Measured with w/ 40% Pull-In Overdrive | 0.7 | 0.7 | 2.0 | ms |
| **Release Time (max.)** Measured without Coil Suppression | 0.05 | 1.5 | 2.0 | ms |
| **Insulation Resistance (typ.)** Rh<45%, 100V Test Voltage | $10^{10}$ | $10^{9}$ | $10^{9}$ | Ohm |
| **Capacitance (typ.)** @ 10kHz across open Switch | 0.3 | 1.5 | 1.5 | pF |

## Part Number Configuration:

### Ordering Code Structure:

**SIL** 00 – 0X 00 – 00 X

SERIES 1 2 3 4 5

**CONFIGURATION OPTIONS:**

1 NOMINAL VOLTAGE **[03, 05, 12, 24]**
2 CONTACT FORM **[1A, 1B, 1C]**
3 SWITCH MODEL **[72, 90]**
4 PINOUT **[71, 51]**
5 VERSION **[L, M, D, Q and HR]**

**OPTIONS GLOSSARY:**

| | |
|---|---|
| **L** | Standard - Internal Magnetic Shield Only |
| **D** | Diode + Internal Magnetic Shield |
| **M** | External Magnetic Shield |
| **Q** | Diode with External Magnetic Shield |
| **HR** | High Resistance Coil |

## Contact Form Glossary :

**Form A**
NO = Normally Open Contacts
SPST = Single Pole Single Throw

**Form B**
NC = Normally Closed Contacts
SPST = Single Pole Single Throw

**Form C**
Changeover
SPDT = Single Pole Double Throw



Downloaded from Arrow.com.

# SIL Series
# Reed Relays

**DATA SHEET**

## General Relay Characteristics:

(@ 20°C)

| Relay Data | Condition | Value | Unit |
|---|---|---|---|
| **Dielectric Strength Coil/Contact (min.)** | According to EN60255-27 | 1.5 | kVDC |
| **Insulation Resistance Coil/Contact (min./typ.)** | Rh<45%, 200V Test Voltage | $10^{11}$ | Ohm |
| **Capacitance Coil/Contact (typ.)** | @10 kHz | 1.2 | pF |
| **Shock Resistance (max.)** | 1/2 sine wave, 6md, 3-axis | 50 | g |
| **Vibration Resistance (max.)** | 10 – 2,000 Hz | 20 | g |
| **Operating Temperature (max.)** | Surrounding of the relay's housing | -20 to 85 | °C |
| **Storage Temperature (max.)** | Surrounding of the relay's housing | -35 to 90 | °C |
| **Soldering Temperature (max.)** | 5 sec. max. | 260 | °C |
| **Washability Aqueous rinse suitable** | Proper drying necessary | Fully Sealed | |
| **UL listed component** | | NRNT2.E156887 / NRNT8.E156887 | |
| **RoHS / REACH** | | Yes | |
| **Weight** | | 2.4 | g |
| **Packaging** | | Tube per 25 pcs. | |

## Available Configurations and Key Electrical Parameters:

(@ 20°C)

| Series | Ordering Code | Contact Form | Switch Model | Pinout Option | Available Versions | Breakdown Voltage | Nominal Coil Voltage | Coil Resistance | Coil Power | Pull-In Voltage | Drop-Out Voltage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | (X) | [VDC min.] | [VDC typ.] | [Ω nom.] | [mW nom.] | [VDC max.] | [VDC min.] |
| **SIL** | SIL03-1A72-71(X) | 1A | 72 | 71 | L, D, M, Q | 250 | 03 | 500 | 18 | 2.1 | 0.45 |
| | SIL05-1A72-71(X) | | | | | | 05 | 500 | 50 | 3.5 | 0.75 |
| | SIL12-1A72-71(X) | | | | | | 12 | 1000 | 144 | 8.4 | 1.8 |
| | SIL24-1A72-71(X) | | | | | | 24 | 2000 | 288 | 16.8 | 3.6 |
| | SIL05-1A72-71(X)HR | 1A HR | 72 | 71 | L, D, M, Q | 250 | 05 | 1000 | 25 | 3.5 | 0.75 |
| | SIL12-1A72-71(X)HR | | | | | | 12 | 2000 | 72 | 8.4 | 1.8 |
| | SIL05-1A72-74(X) | 1A | 72 | 74 | L, D, M, Q | 200 | 05 | 500 | 50 | 3.5 | 0.75 |
| | SIL12-1A72-74(X) | | | | | | 12 | 1000 | 144 | 8.4 | 1.8 |
| | SIL05-1B90-71(X) | 1B | 90 | 71 | L, D, M, Q | 150 | 05 | 200 | 125 | 3.5 | 0.75 |
| | SIL05-1C90-51(X) | 1C | | 51 | L, D, M, Q | 200 | 05 | 200 | 125 | 3.5 | 0.75 |
| **SIM** | SIM05-1A-71(X) | 1A | High Voltage | 71 | L, D, M, Q | 1500 | 05 | 200 | 125 | 3.5 | 0.75 |
| | SIM12-1A-71(X) | | | | | 2000 | 12 | 1000 | 144 | 8.4 | 1.8 |
| | SIM24-1A-71(X) | | | | | 2000 | 24 | 2000 | 288 | 16.8 | 3.6 |
| | Check the separated datasheet for the High Voltage SIM Series: https://standexdetect.com/products/relays/reed-relays/sim | | | | | | | | | | |

Pull-in Voltage, Drop-out Voltage, and Coil Resistance change by approximately 0.4% per °C relative to their values at 20 °C.
Nominal Coil Resistance tolerance at 20 °C is ±10%
HR = High Resistance Coil
Maximum coil voltage: 7.5 VDC for 5 V coils, 16 VDC for 12 V coils, 30 VDC for 24 V coils.

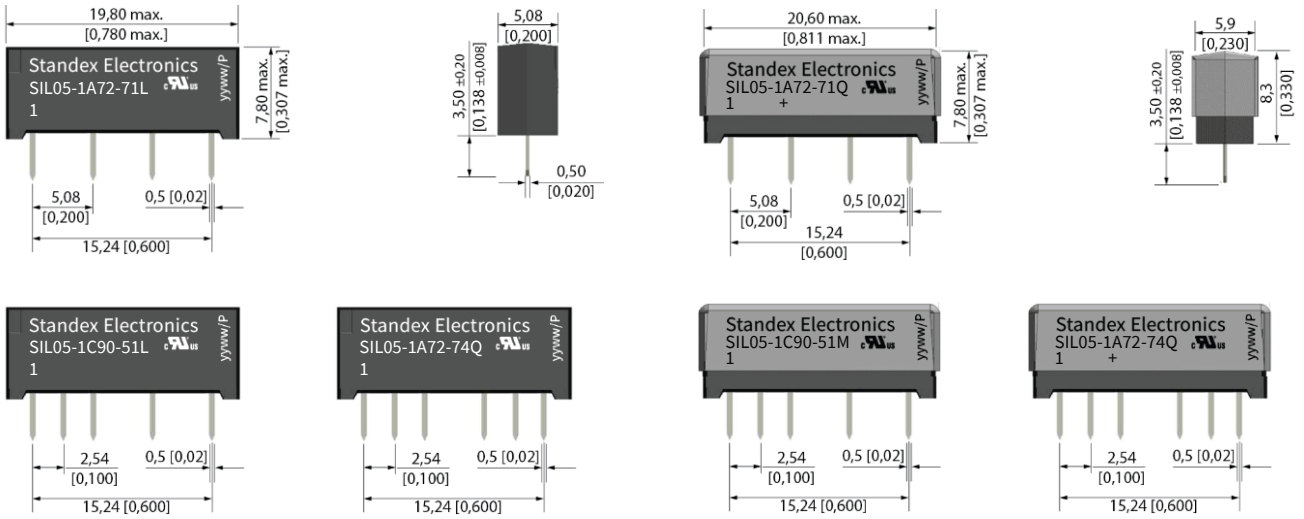

Downloaded from Arrow.com.

# SIL Series
# Reed Relays

**DATA SHEET**

## Dimensions (mm):

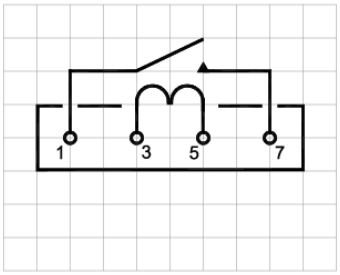
**Tolerances acc. to DIN ISO 2768-m**



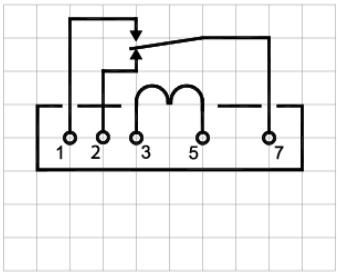

## Pinout Options:

***View from top of component 2.54mm [0.10”] pitch grid**

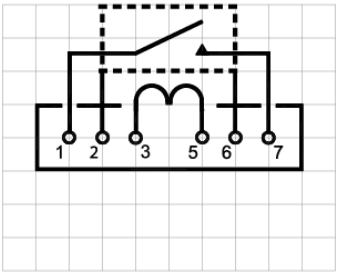
71L/71M Form 1A



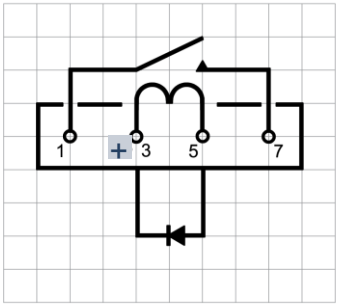

51L/51M Form 1C



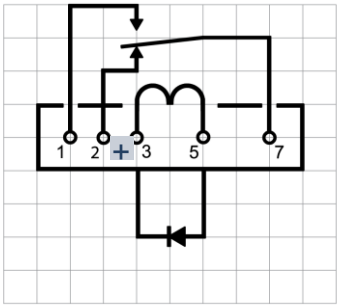

74L/74M Form 1A



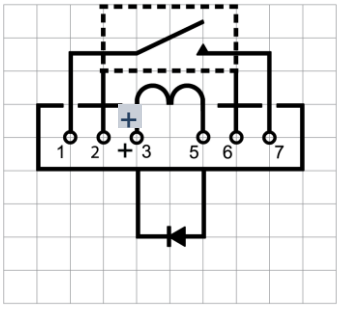

71D/71Q Form 1A




51D/51Q Form 1C




74D/74Q Form 1A

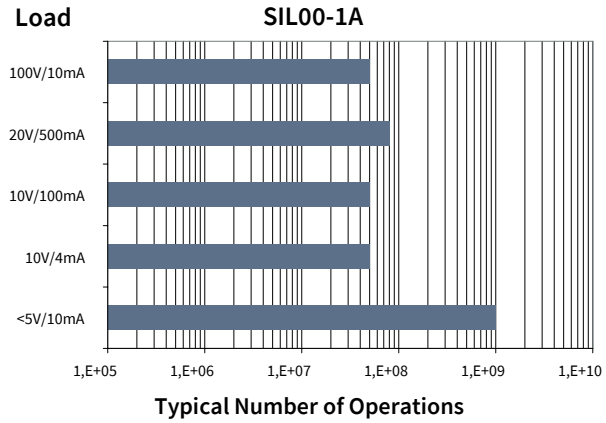


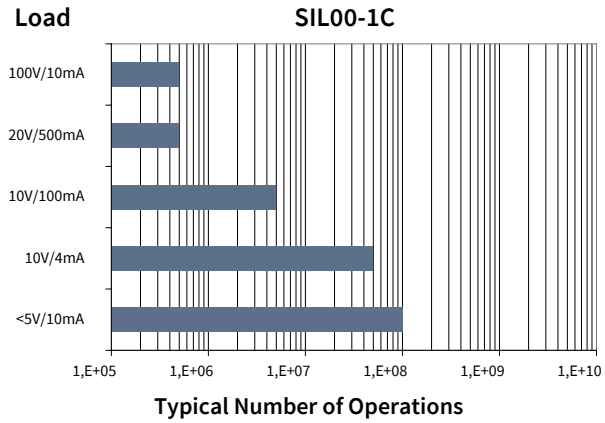

+ Diode option


Downloaded from Arrow.com.

# SIL Series
# Reed Relays

## Lifecycles:




## Handling and Assembly Instructions:

- Switching inductive and/or capacitive loads create voltage and/or current peaks, which may damage the relay. Protective circuits need to be used - see our website.
- External magnetic fields and magnetic effects, due to adjacent relays in high density matrices that may influence the relays' electrical characteristics, must be taken into consideration.
- Mechanical shock impacts, ex. dropping the relays, may cause immediate or post-installation failure.
- Suppressing coil diode can have a negative influence on total number of switching cycles, especially by switching high voltage.
- Wave soldering: maximum 260°C / 5 seconds.
- Reflow soldering: This relay is not suitable for reflow soldering.

Disclaimer:
Specifications refer to the standard product range and are provided for general guidance only. Product details may change without notice as part of ongoing technical development.
While every effort is made to ensure accuracy, this document may contain typographical or technical errors.
For complete, current, and application-specific information, refer to the product datasheet or contact your local sales representative.


Downloaded from Arrow.com.