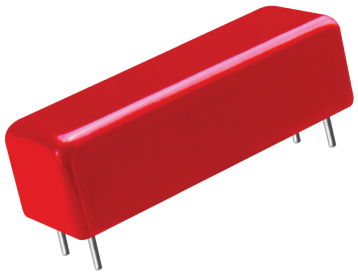
1 Description

The 7000 Series is ideally suited to the needs of Instrumentation, Data Acquisition, Process Control, Telecommunications and General Purpose requirements. The specification tables allow you to select the appropriate relay for your particular application. These models are specifically designed for high quality and reliability with versatile switching capabilities and contact forms. If your requirements differ, please consult your local representative or Coto's Factory to discuss a custom reed relay.

Device Packages



2 Features

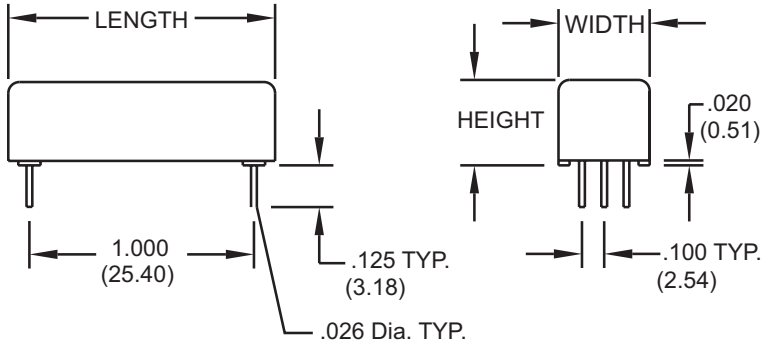
- Multi-Pole Relay - Form A, B, and C contacts available
- High Voltage version available
- Potting technology to minimize internal component stress
- Magnetically Shielding Steel Shell
- High reliability, hermetically sealed contacts for long life
- High speed switching compared to electromechanical relays
- Optional Electrostatic Shield for reducing capacity coupling
- Optional coil suppression diode to protect coil drives
- RoHS Compliant

3 Applications

- Automated Test Equipment
- Instrumentation
- Telecommunications
- Data Acquisition

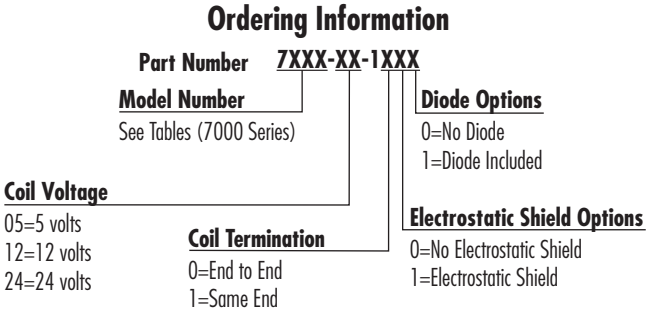
4 Dimensions

In Inches (Millimeters)



DIMENSIONS	A	B	C
Width	0.410 (10.41)	0.500 (12.7)	0.660 (16.8)
Length	1.19 (30.2)	1.20 (30.5)	1.20 (30.5)
Height	0.375 (9.5)	0.435 (10.7)	0.435 (10.7)

5 Ordering Information



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Parameters - Model Number 7000

Parameters	Test Conditions	Units	710X[2,4], 712X[2,3,4] Form A, B	714X[2,4] Form C	730X[2,4] High Voltage Form A
Contact Ratings					
Switching Voltage	Max DC/Peak AC Resist.	Volts	200	150	500
Switching Current	Max DC/Peak AC Resist.	Amps	0.5	0.25	0.5
Carry Current	Max DC/Peak AC Resist.	Amps	2.0	0.5	2.0
Contact Rating	Max DC/Peak AC Resist.	Watts	10	3	10
Life Expectancy - Typical[1]	Signal Level 1.0V, 10mA	x 10^6 Ops.	1000	100	100
Static Contact Resistance	50mV, 10mA	Ω	0.100	0.150	0.100
Dynamic Contact Resistance (Max. Init.)	0.5V, 50mA at 100Hz, 1.5msec.	Ω	0.150	0.200	0.150
Relay Specifications					
Insulation Resistance (Min.)	Between all Isolated Pins at 100V, 25°C, 40%RH	Ω	10^{12}	10^{10}	10^{12}
Capacitance - Typical Across Open Contacts	No Shield Shield Guarding	pF	1.0 0.2	2.0 1.0	1.0 0.2
Dielectric Strength (Min.)	Across Open Contacts Contacts to Shield Contacts/Shield to Coil	VDC/peak AC	250 1000 1500	200 1000 1500	1200 1000 1500
Operate Time - Including Bounce - Max.	At Nominal Coil Voltage, 30Hz, Square Wave	msec.	0.5	2.0	1.0
Release Time - Max.		msec.	0.1	2.5	0.1

General Notes:

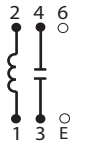
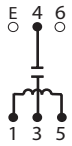
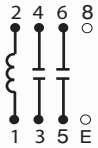
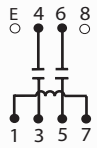
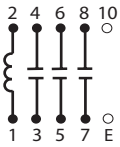
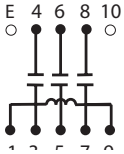
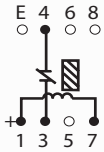
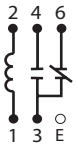
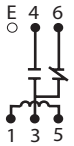
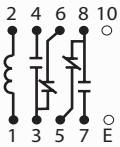
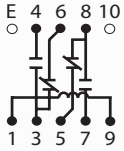
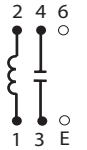
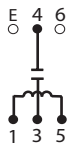
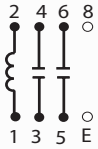
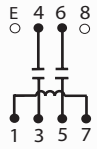
1. Consult factory for life expectancy at other switch loads.
2. Optional coil suppression diode is available on all models where pin #1 is the cathode.
3. These relays contain bias magnets. Correct coil polarity must be observed.
4. Dot stamped on top of relay refers to pin #1 location. E-pin indicates electrostatic shield pin. Unused pins omitted. Pin numbers for reference only.

Environmental Ratings:

Storage Temp: -35°C to +100°C; Operating Temp: -20°C to +85°C
Vibration: 20 G's to 2000 Hz; Shock: 50 G's
All electrical parameters measured at 25°C unless otherwise specified.

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7 Coil Parameters & Schematics

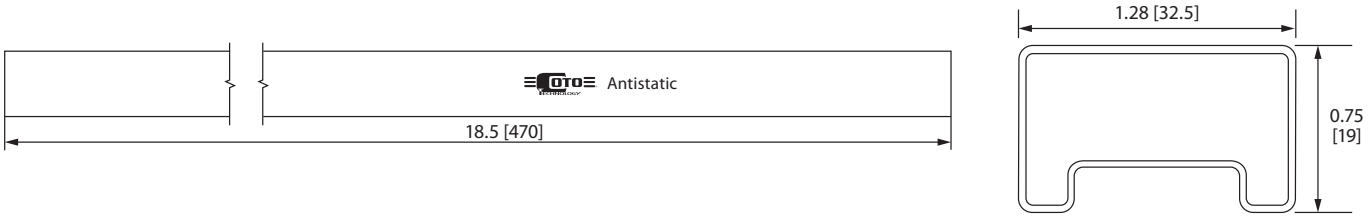
Contact Form	Model Number	Nominal Coil Voltage VDC	Must Operate Voltage VDC max.	Must Release Voltage VDC min.	Coil Resistance ±10% @25°C	Dimensions (See Section #4)	Schematic Top View[2,4] End to End Coil	Schematic Top View[2,4] Same End Coil
1A	7101	5 12 24	3.75 9.0 18.0	0.4 1.0 2.0	300 1600 4200	A		
2A	7102	5 12 24	3.75 9.0 18.0	0.4 1.0 2.0	150 1000 3500	B		
3A	7103	5 12 24	3.75 9.0 18.0	0.4 1.0 2.0	100 800 2400	C		
1B[3]	7121	24	18.0	2.0	3500	B	N/A	
1C	7141	5 12 24	3.75 9.0 18.0	0.4 1.0 2.0	175 1100 4200	A		
2C	7142	5 12	3.75 9.0	0.4 1.0	65 490	C		
1A High Voltage	7301	5 12	3.75 9.0	0.4 1.0	175 1100	A		
2A High Voltage	7302	5 12 24	3.75 9.0 18.0	0.4 1.0 2.0	100 640 2450	B		

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8 Package Information

Plastic Tube Dimensions

- Models 7101, 7141, and 7301 are ordered in tubes with 41 pcs.
- Models 7102, 7121, and 7302 are ordered in tubes with 33 pcs.
- Models 7103, 7142, and 7303 are ordered in tubes with 25 pcs.



9 Relay Processing Notes

9.1 Soldering

Relays can be soldered by hand or by wave solder processing. Coto Technology recommends the maximum wave solder temperature (measured at the relay leads) as 270°C for 10 seconds. Temperature and time in excess of the recommended levels may result in damage to the relay. All our through-hole relays are compatible with either SAC alloy or eutectic soldering process.

9.2 Cleaning

The 7000 series is designed and manufactured to provide an adequate seal from external conditions. However, caution must be taken during the cleaning process not to expose the relays to conditions that will allow moisture to permeate into the package. Caution should be taken with dwell time between reflow and cleaning, high pressure spraying, and time in cleaning solvent/aqueous solutions, as these cleaning process parameters can contribute to moisture permeation. Board level bake out may be required after wash to remove moisture that has been introduced during cleaning operations.

9.3 Relay Storage

Relay parametric specifications are specified at 25°C and 40% RH. Reduced relay performance may result if storage or use environments significantly exceed these conditions. If high insulation resistance is required, Coto Technology recommends that relay storage, processing, and use environments are adequate to achieve the desired results. Relays should be stored in similar environmental conditions as other high-reliability active and passive electronic components. Proper storage of relays is also important to maintain solderability over an extended period of time.

9.4 Handling

Relays should be handled with care. Dropping or mishandling relays may result in damage that can contribute to a direct failure or, even worse, a latent field failure. If relays are dropped, Coto Technology recommends that they should be discarded.

Coto Technology does not recommend use of ultrasonic activated equipment with relays. The use of ultrasonic equipment may change the characteristics of the relay and can contribute to failure.

Access our Technical Application Notes Section.

For recommendations and best practices for Form C relays click:

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