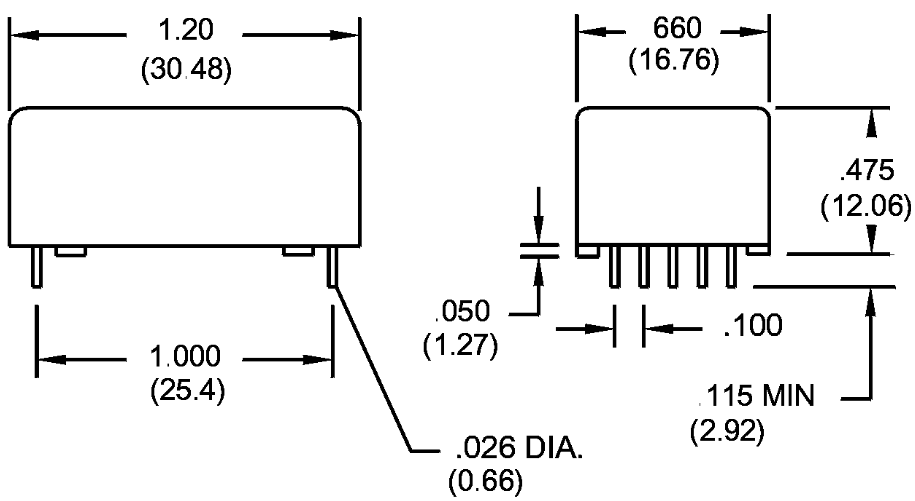
3600 Series / Low Thermal EMF Reed Relays

Low Thermal EMF Reed Relays

The 3600 Series is ideally suited to the needs of Instrumentation, Data Acquisition, and Process Control. The specification tables allow you to select the appropriate relay for your particular application. Recommended for use in Scanners, Multiplexers and Digital or Analog Multipoint Recorders. If your requirements differ from the selection options, please consult Coto's Factory to discuss a custom reed relay. Refer to page 41 for Thermal EMF test methods.

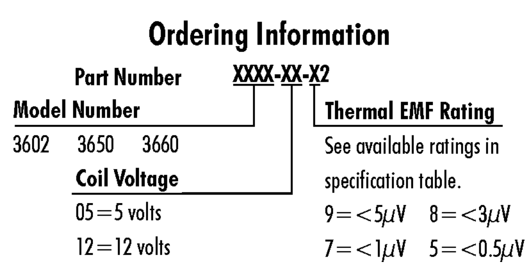
3600 Series Features

- Low Thermal EMF: < 5 µV through < 0.5 µV with 50 nV stability.
- Patented Low Thermal Design. Patent #4,084,142.
- Low power coils to ensure low thermal EMF.
- High Insulation Resistance - 10^{12} Ω
- Control/Signal isolation of 1500 VDC
- High speed switching compared to electromechanical relays.
- High reliability, hermetically sealed contacts.
- Various Form A contacts. High Dielectric Strength.
- Epoxy coated steel shell provides magnetic shielding.
- Electrostatic shield for reducing capacitive coupling.



Bottom View

Dimensions in Inches (Millimeters)



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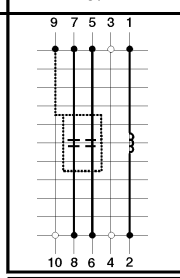
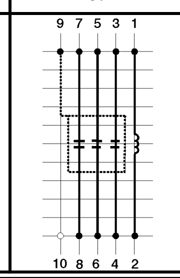
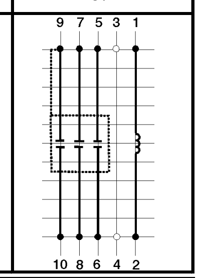
Model Number Parameters	Test Conditions	Units	3602 2 Form A	3650[4] 3 Form A	3660[2] 3 Form A
THERMAL EMF OPTIONS	Measured after 5 minutes at nominal coil voltage Refer to Reed Relay Technical Section for Details	µV	Differential <5µV <3µV <1µV <0.5µV	Differential <5µV <3µV <1µV <0.5µV	Differential <5µV <3µV <1µV <0.5µV
COIL SPECS.					
Nom. Coil Voltage		VDC	5 12	5 12	5 12
Coil Resistance	+/- 10%, 25° C	Ω	350 2000	350 2000	350 2000
Operate Voltage	Must Operate by	VDC - Max.	3.8 9.0	3.8 9.0	3.8 9.0
Release Voltage	Must Release by	VDC - Min.	0.4 1.0	0.4 1.0	0.4 1.0
CONTACT RATINGS					
Switching Voltage	Max DC/Peak AC Resist.	Volts	150	150	150
Switching Current	Max DC/Peak AC Resist.	Amps	0.25	0.25	0.25
Carry Current	Max DC/Peak AC Resist.	Amps	1.5	1.5	1.5
Contact Rating	Max DC/Peak AC Resist.	Watts	5	5	5
Life Expectancy-Typical [1]	Signal Level 1.0V, 1mA	x 10^6 Ops.	500	500	500
Static Contact Resistance (max. init.)	50mV, 10mA	Ω	0.100	0.100	0.100
Dynamic Contact Resistance (max. init.)	0.5V, 50mA at 100 Hz, 1.5 msec	Ω	0.200	0.200	0.200
RELAY SPECIFICATIONS					
Insulation Resistance (minimum)	Between all Isolated Pins at 100V, 25°C, 40% RH	Ω	10^{12}	10^{12}	10^{12}
Capacitance - Typical	Shield Floating	pF	1.2	1.2	1.2
Across Open Contacts	Shield Guarding	pF	0.2	0.2	0.2
Contact to Shield	Contacts Open	pF	2.5	2.5	2.5
	Shield & Coil Tied Common	pF	2.5	2.5	2.5
Dielectric Strength (minimum)	Between Contacts	VDC/peak AC	250	250	250
	Contacts to Shield	VDC/peak AC	1000	1000	1000
	Contacts/Shield to Coil	VDC/peak AC	1500	1500	1500
Operate Time - including bounce - Typical	At Nominal Coil Voltage, 30 Hz Square Wave	msec.	0.75	0.75	0.75
Release Time - Typical	Zener-Diode Suppression[3]	msec.	0.1	0.1	0.1

Top View:
Dot stamped on top of relay refers to pin #1 location
Grid = .1"x.1" (2.54mm x 2.54mm)







Notes:

[1]Consult factory for life expectancy at other switching loads.
[2]Model 3660: Reed switch between pins #9 & #10 is not low thermal and is tied in common with the electrostatic shield.
[3]Consists of 20V Zener-diode and 1N4002 diode in series, connected in parallel with coil.
[4]Model 3650: Reed switch between pins #7 & #8 is not low thermal and is not tied in common with the electrostatic shield.
Pin numbers for reference only.

Environmental Ratings

Storage Temp: -35°C to +100°C;
Operating Temp: -20°C to +85°C
Solder Temp: 270°C max; 10 sec. max
The operate and release voltage and the coil resistance are specified at 25°C.
These values vary by approximately 0.4%/°C as the ambient temperature varies.
Vibration: 20 G's to 2000 Hz; Shock: 50 G's