

3600 Series/Low Thermal EMF Reed Relays

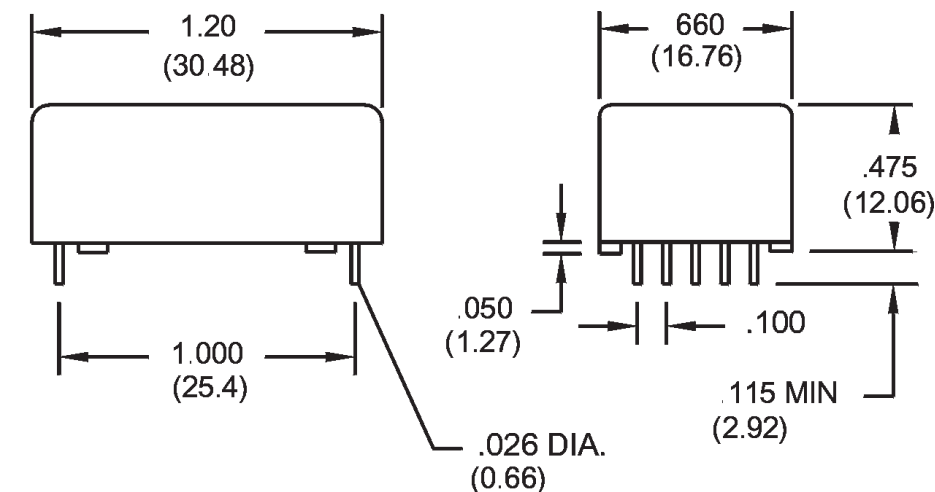


Low Thermal EMF Reed Relays

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.

3600 Series Features

- ◆ Low Thermal EMF: $< 5 \mu\text{V}$ through $< 0.5 \mu\text{V}$ with 50 nV stability
- ◆ Patented Low Thermal Design. U.S. Patent #4,084,142
- ◆ Low power coils to ensure low thermal EMF
- ◆ High Insulation Resistance - $10^{12} \Omega$
- ◆ 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



Dimensions in Inches (Millimeters)



Bottom View

Ordering Information

Part Number	XXXX-XX-X2		Thermal EMF Rating
Model Number	3602	3650 3660	See available ratings in specification table.
Coil Voltage	05=5 volts	12=12 volts	9= $< 5 \mu\text{V}$ 8= $< 3 \mu\text{V}$ 7= $< 1 \mu\text{V}$ 5= $< 0.5 \mu\text{V}$

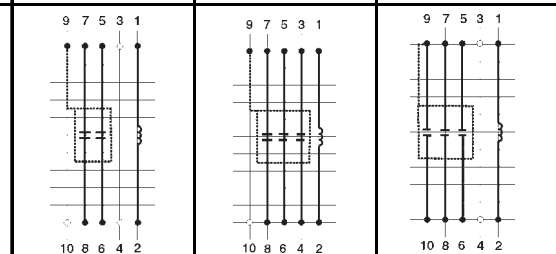
3600 Series/Low Thermal EMF Reed Relays

Model Number

Parameters

Parameters	Test Conditions	Units	3602		3650 ⁴		3660 ²	
			2 Form A		3 Form A		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 Across Open Contacts	Shield Floating	pF	1.2		1.2		1.2	
Contact to Shield	Shield Guarding	pF	0.2		0.2		0.2	
	Contacts Open	pF	2.5		2.5		2.5	
Dielectric Strength (minimum)	Shield & Coil Tied Common	pF	2.5		2.5		2.5	
	Between Contacts	VDC/peak AC	250		250		250	
	Contacts to Shield	VDC/peak AC	1000		1000		1000	
Operate Time - including bounce - Typical	Contacts/Shield to Coil	VDC/peak AC	1500		1500		1500	
	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:

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