3500 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: $< 5 \mu V$ through $< 0.5 \mu V$ with 50 nV stability

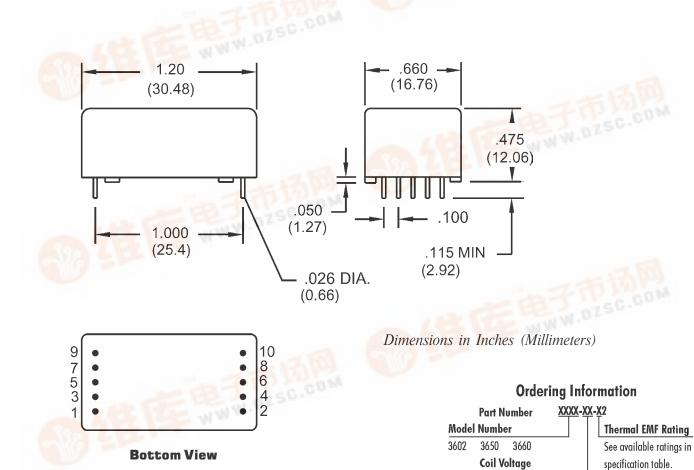
05=5 volts

12 = 12 volts

 $9 = <5 \mu V$ $8 = <3 \mu V$

 $7 = <1\mu V$ $5 = <0.5\mu V$

- ♦ Patented Low Thermal Design. U.S. Patent #4,084,142
- ◆ Low power coils to ensure low thermal EMF
- \bullet High Insulation Resistance 10¹² 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



3600 Series/Low Thermal EMF Reed Relays

Model Number			3602	3650 ⁴	3660 ²
Parameters	Test Conditions	Units	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 $<5\mu V$ $<3\mu V$ $<1\mu V$ $<0.5\mu V$	Differential $<5\mu V$ $<3\mu V$ $<1\mu V$ $<0.5\mu V$	Differential <5μV <3μV <1μV <0.5μV
COIL SPECS.					
Nom. Coil Voltage Coil Resistance Operate Voltage Release Voltage	+/- 10%, 25° C Must Operate by Must Release by	VDC Ω VDC - Max. VDC - Min.	5 12 350 2000 3.8 9.0 0.4 1.0	5 12 350 2000 3.8 9.0 0.4 1.0	5 12 350 2000 3.8 9.0 0.4 1.0
CONTACT RATINGS					
Switching Voltage Switching Current Carry Current Contact Rating Life Expectancy-Typical Static Contact Resistance	Max DC/Peak AC Resist. Max DC/Peak AC Resist. Max DC/Peak AC Resist. Max DC/Peak AC Resist. Signal Level 1.0V, 1mA	Volts Amps Amps Watts x 10 ⁶ Ops.	150 0.25 1.5 5	150 0.25 1.5 5	150 0.25 1.5 5 500
(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) Capacitance - Typical Across Open Contacts Contact to Shield	Between all Isolated Pins at 100V, 25°C, 40% RH Shield Floating Shield Guarding Contacts Open	Ω pF pF pF	10 ¹² 1.2 0.2 2.5	10 ¹² 1.2 0.2 2.5	10 ¹² 1.2 0.2 2.5
Dielectric Strength	Shield & Coil Tied Common Between Contacts	pF VDC/reels AC	2.5	2.5	2.5
(minimum)	Contacts to Shield Contacts/Shield to Coil	VDC/peak AC VDC/peak AC VDC/peak AC	250 1000 1500	250 1000 1500	250 1000 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
Dot stamped on	top of relay refers to pin Grid = .1"x.1" (2.54m)		9 7 5 3 1	9 7 5 3 1	9 7 5 3 1

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 56V Zener diode and 1N4148 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