

3600 Series/Low Thermal EMF Reed Relays

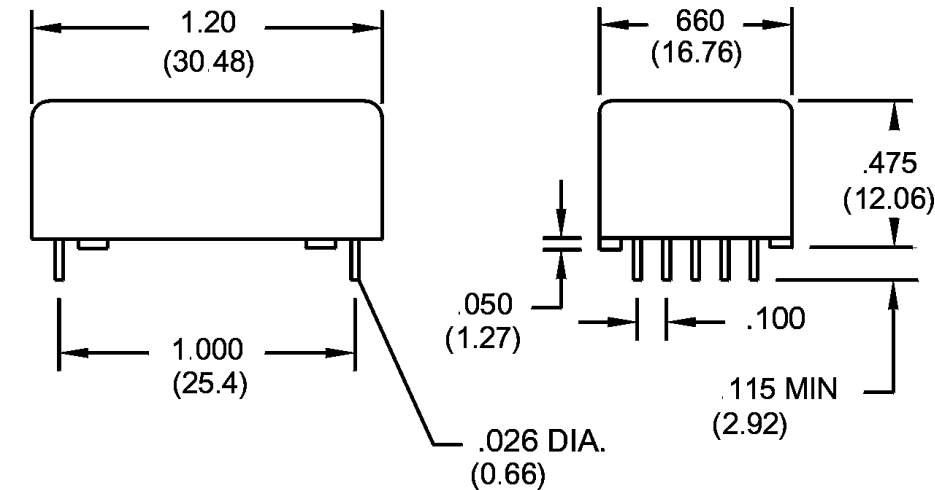


LOW THERMAL EMF REED RELAYS

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



Bottom View

Dimensions in Inches (Millimeters)

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

THERMAL EMF OPTIONS

COIL SPECS.

Nom. Coil Voltage
Coil Resistance
Operate Voltage
Release Voltage

CONTACT RATINGS

Switching Voltage
Switching Current
Carry Current
Contact Rating
Life Expectancy-Typical¹
Static Contact Resistance (max. init.)
Dynamic Contact Resistance (max. init.)

RELAY SPECIFICATIONS

Insulation Resistance (minimum)
Capacitance - Typical Across Open Contacts
Contact to Shield
Dielectric Strength (minimum)
Operate Time - including bounce - Typical
Release Time - Typical

Test Conditions
Measured after 5 minutes at nominal coil voltage
Refer to Reed Relay Technical Section for Details

Units
μV
VDC
Ω
VDC - Max.
VDC - Min.
Volts
Amps
Amps
Watts
x 10⁶ Ops.
Ω
Ω

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
50mV, 10mA
0.5V, 50mA at 100 Hz, 1.5 msec

Between all Isolated Pins at 100V, 25°C, 40% RH
Shield Floating
Shield Guarding
Contacts Open
Shield & Coil Tied Common
Between Contacts
Contacts to Shield
Contacts/Shield to Coil

At Nominal Coil Voltage, 30 Hz Square Wave
Zener-Diode Suppression³

3602
2 Form A
3650⁴
3 Form A
3660²
3 Form A

Differential
<5μV
<3μV
<1μV
<0.5μV
Differential
<5μV
<3μV
<1μV
<0.5μV
Differential
<5μV
<3μV
<1μV
<0.5μV

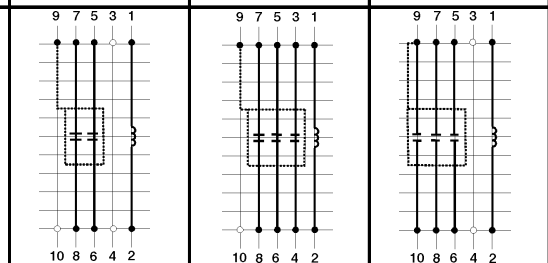
5 12
350 2000
3.8 9.0
0.4 1.0
5 12
350 2000
3.8 9.0
0.4 1.0
5 12
350 2000
3.8 9.0
0.4 1.0

150
0.25
1.5
5
500
0.100
0.200
150
0.25
1.5
5
500
0.100
0.200
150
0.25
1.5
5
500
0.100
0.200

10¹²
1.2
0.2
2.5
2.5
250
1000
1500
10¹²
1.2
0.2
2.5
2.5
250
1000
1500
10¹²
1.2
0.2
2.5
2.5
250
1000
1500

0.75
0.1
0.75
0.1
0.75
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 #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