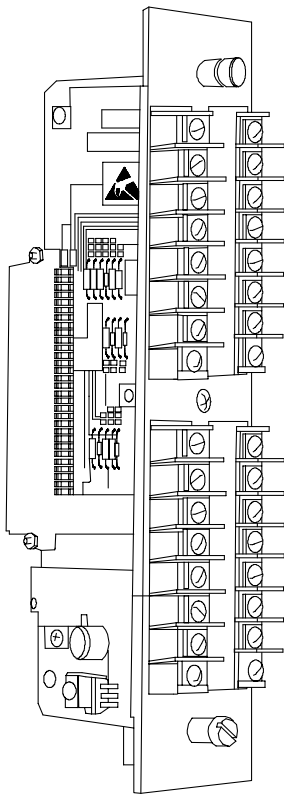
3300 Relay Modules

Bently Nevada™ Asset Condition Monitoring



Description

Relays are important to the integrity of monitoring systems. They provide external alarm annunciation or input to an automatic shutdown device. You can order 3300 monitors with quality, built-in relays. Installation requires no external wiring between relays and rack, and no extra housing to mount the relays. This facilitates installation and minimizes the chance of errors associated with field wiring.

The 3300 system offers 2 relay module types:

- Dual, with 2 relays per module
- Quad, with 4 relays per module.

For system installations on the machine deck, in hazardous areas, or in areas with harsh environments, the dual relay module is available with hermetically-sealed relays. For non-hazardous areas and clean environments such as control rooms or instrument panels, modules with epoxy-sealed relays are available.

All relay modules include arc suppressors as a standard feature to increase the life of the contacts by reducing arcing at the switching point.

Specifications

Inputs

Location

One relay module can be installed behind each monitor.

Number of Relays

Dual Relay Module

One Alert and one Danger relay.

Quad Relay Module

Two Alert and two Danger relays.

Relay Type

Dual Relay Module

Double-pole, double-throw (DPDT).

Quad Relay Module

Single-pole, double-throw (SPDT).

Environmental Sealing

Dual Relay Module

Optional epoxy- or hermetically-sealed.

Quad Relay Module

Epoxy-sealed.

Arc Suppressors

Installed as standard.

Contact Ratings (Resistive Load)

Epoxy-sealed

5A at 28 Vdc;

5A at 120/220 Vac, 50/60 Hz.
Minimum Load: 10 mA at 5 Vdc.

Hermetically-sealed

5A at 28 Vdc;

5A at 120 Vac, 50/60 Hz;

3A at 220 Vac, 50/60 Hz.

Minimum Load: 500 mA at 12 Vac or dc.

Quad Relay Module

Epoxy-sealed: 2A at 30 Vdc;

0.6A at 110 Vdc;

0.6A at 120 Vac, 50/60 Hz.

Minimum Load: 10 µA at 10 mVdc.

Contact Ratings for Systems Requiring

ATEX Approval (resistive load)

Epoxy-sealed

5A at 28 Vdc ;

5A at 30 Vac, 50/60 Hz.

Hermetically-sealed

5A at 28 Vdc;

5A at 30 Vac, 50/60Hz.

Quad Relay

2A at 30 Vdc;

2A at 30 Vac, 50/60 Hz.

Contact Ratings for Systems Requiring

CSA Approval (resistive load)

Epoxy-sealed

5A at 28 Vdc;

5A at 120 Vac, 50/60 Hz.

Hermetically-sealed

5A at 28 Vdc;

5A at 120 Vac, 50/60 Hz.

Quad Relay

0.5A at 28 Vdc;

0.5A at 120 Vac, 50/60 Hz.

Contact Life

10,000 cycles minimum at rated load.

Operation

Jumper-programmable per relay, normally energized or normally de-energized.

Common Relays

You can program the Dual Relay Module to operate from Alert or Danger bus number 1 or 2 (allows 1 or 2 relay modules to be common to a group of monitors in the same rack). You can accomplish common relay groupings by ordering applicable Special Configuration Kits (SCKs) on the monitors. The Quad Relay Module cannot be part of a common relay scheme.

Location

You can install 1 relay module behind each monitor.

EMC, Low Voltage and ATEX

Declaration of Conformity: 158710

Hazardous Area Approvals

CSA/NRTL/C

Class 1 Division 2 Groups A,B,C,D

T4 @ -20°C ≤ Ta ≤ +65°C

ATEX  II 3G

EEx nC[L] IIC

T4 @ -20°C ≤ Ta ≤ +60°C for AC power

T3 @ -20°C ≤ Ta ≤ +60°C for DC power

System Relay Configuration

The 3300 Monitoring System offers maximum flexibility which allows you to design your relay configuration to meet your needs. Unless otherwise specified upon ordering, we ship our systems with a default relay configuration.

There are 3 basic groupings of monitors for common relays., referred to as Type A, Type B, and Type C. The recommended relay configuration is based upon these groupings:

Type A

3300/15 XY without Gap

3300/16 XY/GAP

3300/20 Dual Thrust Position

3300/25 Dual Acceleration

3300/26 Dual RMS Acceleration

3300/40 Eccentricity

3300/45 Differential Expansion

3300/46 Ramp Differential Expansion

3300/47 Complementary Input Differential Expansion

3300/48 Case Expansion

3300/54 Dual REBAM® Monitor

3300/55 Dual Velocity

3300/61 Dual Vector

3300/65 Dual Probe

3300/81 6-channel Rod Drop

Type B

3300/30 6-channel Thermocouple (TC)

3300/35 6-channel Resistance Temperature Detector (RTD)

3300/36 Dual-channel Temperature

3300/39 Dual-channel Process Variable

3300/50 Tachometer

3300/52 Reverse Rotation

3300/75 32-Ch Valve Temperature

Type C

3300/04 Transducer Output Panel

3300/17 Aero Vibration

3300/70 Valve Position Indicator

3300/95 Filter Module/ Aero Vibration

3300/XX With Quad Relay Option

If all monitors in a rack have individual relays, you should not connect any of the relays to the common relay busses. If Type C units that are installed in the rack have relays, you should not connect them to the common relay busses.

If you order **ANY** Type A monitors without relays, you should connect all of the Type A monitors to Common Relay Bus #1.

If you order **ANY** Type B monitors without relays, you should connect all of the Type B monitors to Common Relay Bus #2.

These connections should be made regardless of any Type C monitors in the rack. Common relay bus options may be ordered as part of the monitor configuration by selecting applicable SCKs.

Field wiring diagrams

1. Normal Relay Condition

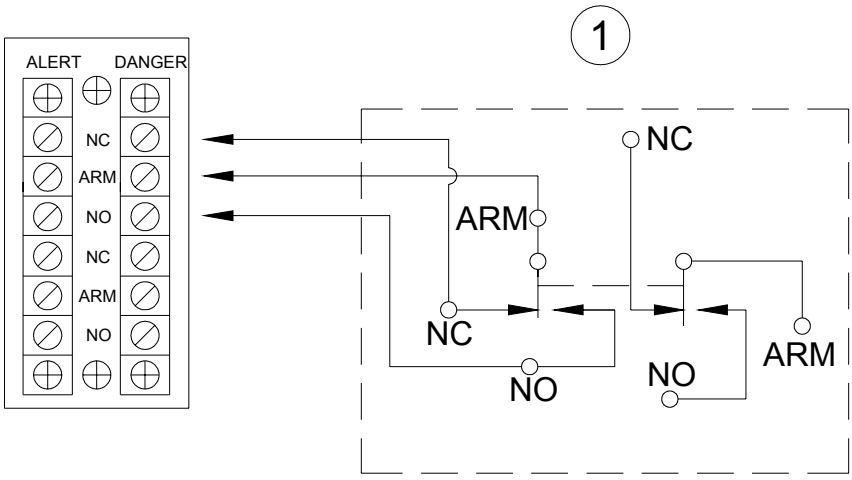


Figure 1 Normally De-energized

Typical Double-Pole, Double-Throw (DPDT Danger Relay Contact with coil normally De-energized, monitor(s) in non-alarm condition and rack power on.

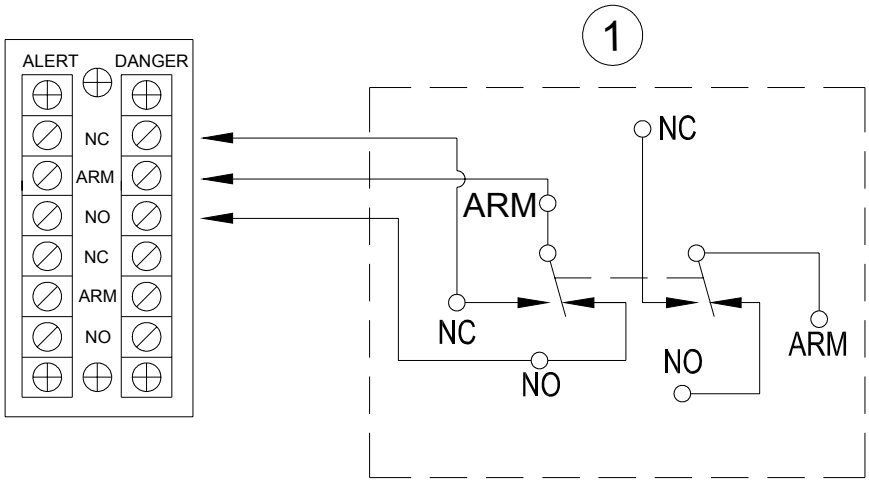
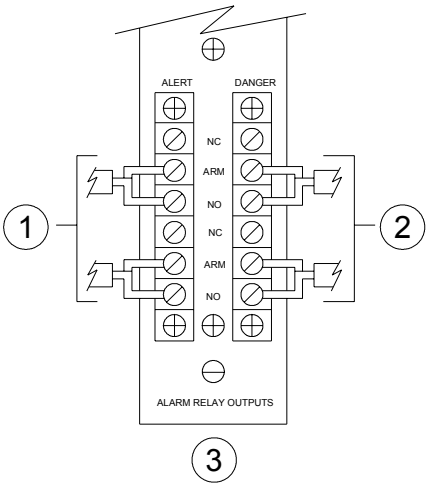


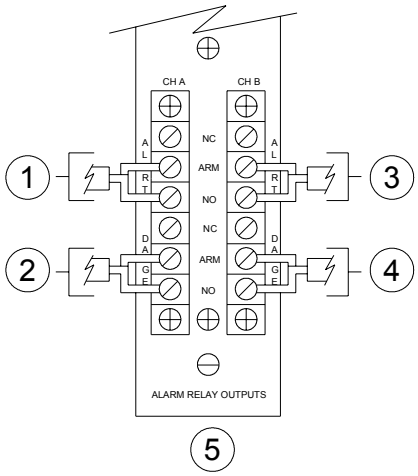
Figure 2 Normally Energized

Typical Double-Pole, Double-Throw (DPDT Danger Relay Contact with coil normally Energized, monitor(s) in non-alarm condition and rack power on.

Figure 3: Field wiring diagram for standard Dual and Quad Relays



1. Alert Relay Contacts
2. Danger Relay Contacts
3. Signal Input Relay Module Dual Relay



1. Channel A Alert Relay Contacts
2. Channel A Danger Relay Contacts
3. Channel B Alert Relay Contacts
4. Channel B Danger Relay Contacts
5. Signal Input Relay Module Quad Relay

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