ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

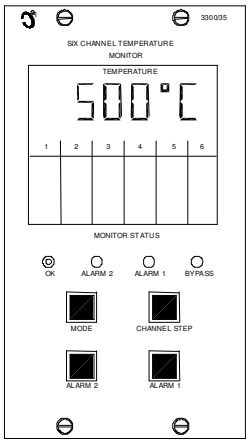
Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Find the *GE / Bently Nevada 76683-02 35mm* at our website: *Click HERE*

3300/30, 3300/35 Six-Channel Temperature Monitors

Bently Nevada™ Asset Condition Monitoring



Description

The 3300/30 and 3300/35 Six-Channel Temperature Monitors provide six independent channels of on-line temperature monitoring. Each monitor is suitable for virtually all types of temperature measurements. The monitors accept inputs from up to six thermocouples (3300/30 TC Monitor) or resistance temperature detectors (3300/35 RTD Monitor), which are supplied separately.

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Specifications

Inputs

Transducer

3300/30 TC Monitor:

Accepts up to six grounded or non-grounded tip thermocouple signals; the following thermocouple types and their associated ranges are user-programmable per monitor:

Type J (500°C, 1000°F)

Type K (500°C, 1000°F)

Type T (250°C, 500°F)

Type E (250°C, 500°F)

3300/35 RTD Monitor:

Accepts up to six RTD signals. Any of the following RTD sensors and their associated ranges are user-programmable per monitor:

3-wire 100 Ω platinum (a = 0.00385) (500°C /1000°F).

3-wire 100 Ω platinum (a = 0.00392) (500°C /1000°F).

3-wire 120 Ω nickel (150°C/300°F).

3-wire 10 Ω copper (100°C/200°F).

4-wire 100 Ω platinum (a = 0.00385) (500°C/1000°F).

4-wire 100 Ω platinum (a = 0.00392) (500°C/1000°F).

4-wire 120 Ω nickel (150°C/300°F).

4-wire 10 Ω copper (100°C/200°F).

Changing from a platinum or nickel RTD to a copper RTD requires monitor recalibration. Changing is performed by plug-in jumpers.

Note: 3- or 4-wire input is an option which can be easily changed in the field. 2-wire detectors can be connected to either 3- or 4-wire input modules, using proper wiring techniques.

Power:

Nominal consumption 4 watts.

Signal Conditioning

Monitor Range:

Monitor full-scale operating range is selected by user upon ordering. The monitor is factory calibrated when ordered in a system. When spare monitors or power supplies are installed, the monitor should be checked and recalibrated as needed. Ranges allowing recorder output and computer interface signals to be proportional to the input signal, can be subsequently (re)programmed by user in the field.

Display Accuracy:

Within ±1°C (1.8°F) maximum when tenths digit is displayed. ±1.5°C (2.7°F) when tenths digit is not displayed. Specified at ambient temperature of +25°C (+77°F).

Outputs

Recorder:

User-programmable for +4 to +20 mA, 0 to -10 Vdc or +1 to +5 Vdc. Voltage or current outputs are proportional to programmed monitor full-scale. Individual recorder outputs are provided for each channel. Monitor operation is unaffected by short circuits on recorder outputs.

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Recorder accuracy (in addition to signal conditioning accuracy):

All specified at +25°C (+77° F).

+4 to +20 mA: ±1.8% of signal, ±0.09 mA offset.

+1 to +5 Vdc: ± 2.2% of signal, ±10 mV offset.

0 to -10 Vdc: ± 2.2% of signal, ±15 mV offset.

Output Impedance (voltage outputs):

100 Ω. Minimum load resistance is 10 k Ω.

Voltage Compliance (current outputs):

0 to +12 Vdc range across load. Load resistance is 0 to 600 Ω when using +4 to +20 mA option.

Alarms

Alarm Setpoints:

All alarms (Alarm 1 and Alarm 2, per channel) are digitally adjustable from 0 to +500°C (0 to +1000°F) and can be set with 1 digit resolution to desired level. Once set, alarms are repeatable within ±1°C (1.8°F). Alarm 1 is over-alarm, Alarm 2 can be user-programmed for either over- or under-alarm.

Relay Modules

Location:

One alarm relay module can be installed behind each monitor. At least one relay module must be ordered with each 3300 System.

Displays

Meter:

One common, 7 segment numerical, 4 digit with decimal point, non-multiplexing Liquid Crystal Display (LCD). LCD annunciates HIGH READ and OVER or UNDER Alarm. LCD also displays error codes and status (OK, Alarm 1, Alarm 2, Bypass, First Out) per channel.

Resolution:

0.1 or 1, user-programmable.

LED Indicators

OK:

One constant ON green LED per monitor indicates OK condition of all six transducers. Constant OFF green LED indicates one (or more) channel(s) in a NOT OK condition. OK LED flashing at 5 Hz indicates error code(s) stored in memory.

Alarm:

Two LEDs indicate alarm status (individually for Alarm 1 and Alarm 2). Flashing alarm LED indicates rack First Out (independent for Alarm 1 and Alarm 2).

Bypass:

Red LED indicates status of Alarm 2 Bypass and Rack/Channel Bypass functions.

Controls

Front Panel:

Four switches (Alarm 1, Alarm 2, Mode, Step) control display. LCD indicates value measured, dependent on MODE selected (SCAN or HIGH READ). Switch actuation allows LCD to indicate Alarm 1 setpoint level or Alarm 2 setpoint level. Switch actuation does not interrupt other monitoring functions. Flashing LCD indicates channel in ADJUST mode or presence of stored error

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

codes. Transducer NOT OK for viewed channel flashes four dashes.

Internal:

Switches behind monitor front panel control Alarm 2 Bypass, Channels 1 to 6 Bypass and Channels 1 to 6 Alarm setpoint adjust. Two terminal pins provided behind front panel to execute user-invoked self-test. Adjustments are made from front of monitor without powering down monitor or rack.

Environmental Limits

Operating Temperature:

0°C to +65°C (+32°F to +150°F).

Storage Temperature:

-40°C to +85°C (-40°F to +185°F).

Relative Humidity:

To 95%, non-condensing.

CE Mark Directives

EMC Directive

Certificate of Conformity: 158710

Low Voltage Directive

Certificate of Conformity: 135300

Hazardous Area Approvals

CSA/NRTL/C

Class I, Div 2

Groups A, B, C, D

T4 @ Ta = +65 °C

Certification Number

150368 – 1002151 (LR 26744)

ATEX

 II 3 G

EEx nC[L] IIC

T4 @ Ta = -20°C to +60°C

When installed per document number 132577-01.

Certification Number

BN26744C-55A

Physical

Space Requirements:

Two rack positions (any positions except 1 and 2, which are reserved for the Power Supply and System Monitor, respectively).

Weight:

2.8 kg (6.2 lbs.).

Ordering Information

For spares, order the complete catalog number as described below. This includes a front panel assembly, monitor PWAs with sheet metal, and appropriate relay module. This unit is optioned, tested and ready to install in your system. Spare relay modules can be ordered separately.

Six-Channel Temperature TC Input Monitor

3300/30 -AXX-BXX-CXX-DXX-EXX

Note: Full-scale Range and Transducer Input Options must be compatible. Refer to Specification \ Inputs section for ranges of transducer types

A: Full-scale Range Option

0 1	0-200°F
0 2	0-300°F
0 3	0-400°F
0 4	0-500°F
0 5	0-1000°F
1 1	0-100°C
1 2	0-150°C
1 3	0-200°C
1 4	0-250°C
1 5	0-500°C

B: Transducer Input Option

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

01 Type J
02 Type K
03 Type T
04 Type E

C: Alarm Relay Option

00 No Relays
01 Epoxy-sealed
02 Hermetically-sealed
04 Spare Monitor-No SIM/SIRM

Notes:
1. At least one relay module must be ordered with each 3300 System. If one common relay module per system has been ordered, all monitors of this type must be jumper programmed at the factory to activate a relay bus by ordering a Special Configuration Kit (SCK). Contact your nearest Bently Nevada office for information.
2. Agency approval places limitations on the relay module. Refer to the Relay Module data sheet for information.

D: Agency Approval Option

00 Not required
01 CSA/NRTL/C
02 ATEX self certification

Note: ATEX approval requires the monitor rack be installed in a weatherproof housing.

E: Safety Barrier Option

00 None
01 External
02 Internal

Spare Relay Module Assemblies
(Order the option in parenthesis for ATEX approved spares)

82364-01(02)

No Relays

82365-01(02)

Dual Epoxy Relays

82366-01(02)

Dual Hermetic Relays

82367-01(02)

TC Input Module

102566-01(03)

TC Input Module, Internal Barriers

Notes:
1. Grounded tip Thermocouples cannot be used with Intrinsic Safety Barriers.
2. External Safety Barriers must be ordered separately.

Six-Channel Temperature RTD Input Monitor

3300/35 -AXX-BXX-CXX-DXX-EXX

Note: Full-scale Range and Transducer Input Options must be compatible. Refer to Specification/ Inputs section for ranges of transducer types.

A: Full-scale Range Option

01 0-200°F
02 0-300°F
03 0-400°F
04 0-500°F
05 0-1000°F
11 0-100°C
12 0-150°C
13 0-200°C
14 0-250°C
15 0-500°C

B: Transducer Input Option

01 100 Ω platinum (0.00392) (3-wire)
02 100 Ω platinum (0.00385) (3-wire)
03 120 Ω nickel (3-wire)
04 10 Ω copper (3-wire)
05 100 Ω platinum (0.00392) (4-wire)
06 100 Ω platinum (0.00385) (4-wire)
07 120 Ω nickel (4-wire)
08 10 Ω copper (4-wire)

Note: Platinum RTD's with 0.00385 alphas are the worldwide industrial standard and are recommended for all applications.

C: Alarm Relay Option

00 No Relays
01 Epoxy-sealed
02 Hermetically-sealed
04 Spare Monitor-No SIM/SIRM

Notes:
1. At least one relay module must be ordered with each 3300 System. If one common relay module per system has been ordered, all monitors of this type must be jumper programmed at the factory to activate a relay bus by ordering a Special Configuration Kit (SCK). Contact your nearest Bently Nevada office for information.
2. Agency approval places limitations on the relay module. Refer to the Relay Module data sheet for information.

D: Agency Approval Option

00 Not required
01 CSA/NRTL/C
02 ATEX self certification

Note: ATEX approval requires the monitor rack be installed in a weatherproof housing.

E: Safety Barriers

00 None
01 External
02 Internal

Spare Relay Module Assemblie
(Order the option in parenthesis for ATEX approved spares)s

82364-01(02)

No Relays

82365-01(02)

Dual Epoxy Relays

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

82366-01(02)

Dual Hermetic Relays

82368-01(02)

3-Wire Input Module

82369-01(02)

4-Wire Input Module

102566-02(04)

3 or 4 Wire Input Module, Int Bar

Notes:
1. External Safety Barriers must be ordered separately.
2. Internal safety barriers are not available for use with 4-wire RTD's (a 4-wire system can be changed to 3-wire by using the jumpers).

Field-programmable Options

These options are field-programmable via plug-in jumpers. **Bold text** indicates options as shipped from the factory.

Rack First Out Option

Disabled
Enabled

Monitor First Out Option

Enabled

Disabled

Alarm Time Delay Option

1 second

3 seconds

6 seconds

Alarm 1 Reset Option

Latching

Nonlatching

Alarm 2 Reset Option

Latching

Nonlatching

Recorder Outputs Option

+4 to +20 mA

+1 to + 5 Vdc

0 to -10 Vdc

Alarm 2 Relay Voting Option

OR voting for relay drive[1]

AND voting for relay drive[2]

Note:
1. OR voting allows Channels 1-6 to drive the Alarm 2 Relay.
2. Bently Nevada recommends the use of redundant transducers with AND Alarm 2 voting logic in those installations where the Alarm 2 relay is connected to a machine shutdown device.

K Mode Option

Nonlatching

Latching

Recorder drive on NOT OK Option

Downscale

Upscale

Note: NOT OK signal drives the recorder and the computer interface output up or downscale; monitor indicates NOT OK and Bypass in this condition.

Tenth (0.1) Digit Option

Disabled

Enabled

Alarm 1 Relay Mode Option

Normally de-energized

Normally energized

Alarm 2 Relay Mode Option

Normally de-energized

Normally energized

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Accessories

02245003

External Barrier, RTD

02200406

Surge Protector, TC

02200408

Surge Protector, 3 & 4 wire RTD

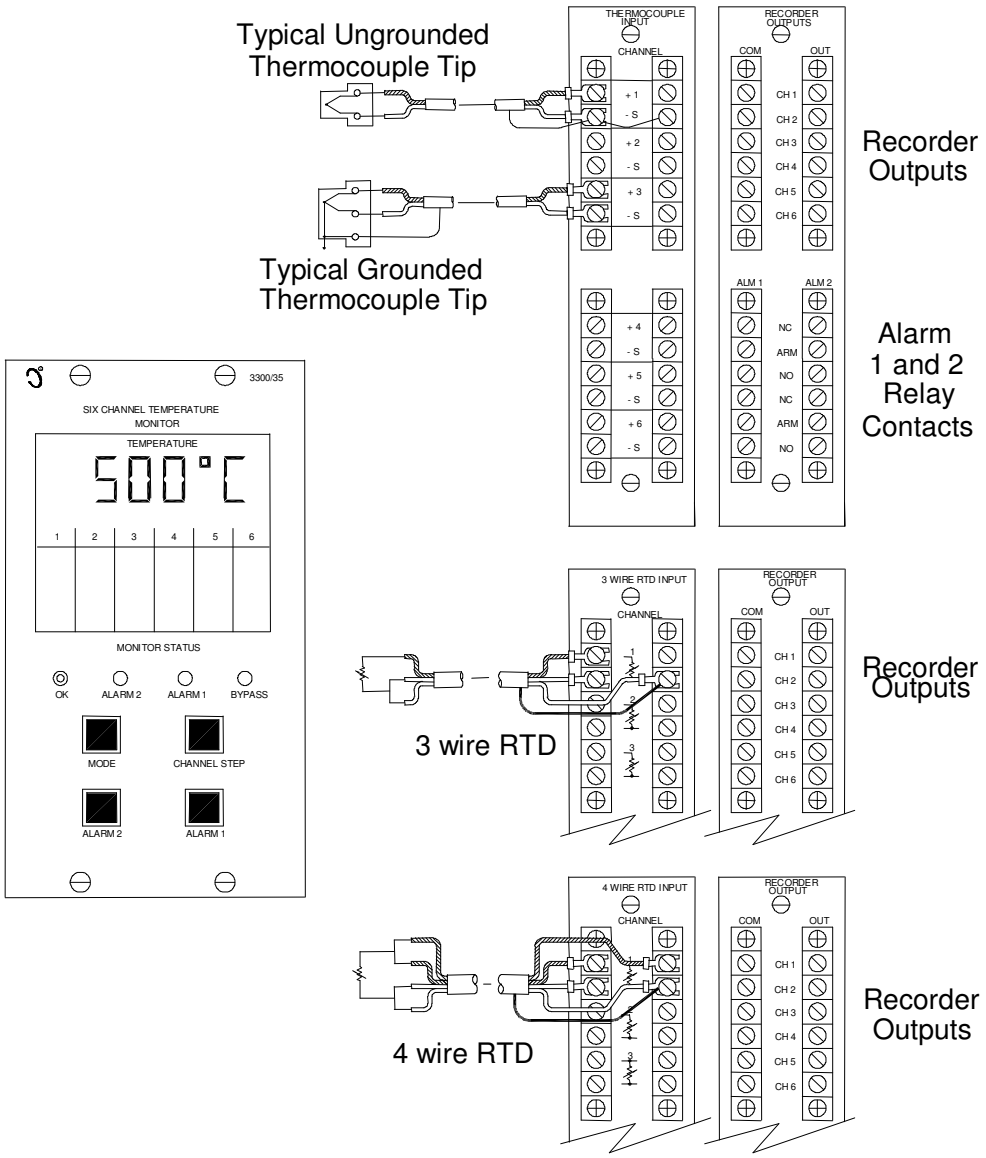
02245005

External Barrier, TC

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Field wiring diagrams

3300/30, 3300/35 Six-Channel Temperature Monitors



Field wiring diagram for the 3300/30 Six-Channel Temperature TC Monitor (top) and 3300/35 Six-Channel Temperature RTD Monitor (bottom).

Bently Nevada is a trademark of General Electric Company.

Copyright 1999 Bently Nevada LLC.

1631 Bently Parkway South, Minden, Nevada USA 89423
Phone: 775.782.3611 Fax: 775.215.2873
www.ge-energy.com/bently

All rights reserved.

Artisan Scientific - Quality Instrumentation ... Guaranteed | (888) 88-SOURCE | www.artisan-scientific.com

Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP