

ORBIT 60 SERIES Temperature Module

Datasheet

Bently Nevada Machinery Condition Monitoring

137M0706 Rev. -



Description

TC/RTD Temperature Module

The primary purpose of temperature modules is to interface to the temperature transducers and convert the signal into a digital representation. These modules condition and digitize the inputs at a rate that completely encompasses the signal content and allows for removal of typical noise sources.

The Orbit 60 Series TC/RTD Temperature Input Modules provide six channels of either Thermocouple (TC) or Resistive Temperature Detector (RTD) temperature input sensors.

Each channel of the Orbit 60 Series TC/RTD input module is individually configurable for sensor type and range using Orbit Studio configuration software.

TC sensors - The thermocouple configured channels provide cold junction compensation for any J, K, E, or T Type Thermocouple.

RTD sensors - The RTD configured channels can be connected to a 3-Wire 100 Ohm Platinum 0.00392 RTD, 3-Wire 100 Ohm Platinum 0.00385 RTD, 3-Wire 10 Ohm Copper RTD, or 3-Wire 120 Ohm Nickel RTD.

The RTD/TC inputs reference the internal system ground, and for this reason, should only connect to transducers isolated at the sensing end.

These modules occupy a single slot. The module OK LEDs indicate proper functioning and the LINK LEDs indicate good system communication. Six Channel Status LEDs on the utility side of the module indicate a connected sensor in OK condition.



TC/RTD Temperature

Temperature	
Thermocouple (TC) Temperature	
Thermocouple	Type J, K, E, T
Channel Supported	6
Nominal Error	±1C
Max Error	±3C
RTD Temperature	
RTD Type	Pt100 (385), Pt100 (392), Ni120, Cu10
Max Error	±1C, except Cu10 ±-3C
Fault Input Tolerance	±24V

Compliance and Certifications

FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

EMC

European Community Directive:
EMC Directive 2014/30/EU

Standards:

EN 61000-6-2; Immunity for Industrial Environments
EN 61000-6-4; Emissions for Industrial Environments

Electrical Safety

European Community Directive:
LV Directive 2014/35/EU

Standards:

EN 61010-1;
EN 61010-2-201;

RoHS

European Community Directive:
RoHS Directive 2011/65/EU

Cyber Security

Designed to meet IEC 62443

Maritime*

ABS Rules for Condition of Classification, Part 1

- Steel Vessels Rules
- Offshore Units and Structures

Functional Safety*

SIL 2

* Approvals pending

Hazardous Area Approvals



For the detailed listing of country and product specific approvals, refer to the *Approvals Quick Reference Guide* (108M1756) available from Bently.com.

CSA/NRTL/C

Class I, Zone 2: AEx/Ex ec nC IIC T4 Gc;
Class I, Zone 2: AEx/Ex nA nC IIC T4 Gc;
Class I, Division 2, Groups A, B, C, D T4;
Class I, Division 2, Groups A, B, C, D T4 (N.I.);

T4 @ Ta= -30°C to +65°C (-22°F to +149°F)

ATEX/IECEx



Ex II 3 G
Ex ec nC IIC T4 Gc
Ex nA nC IIC T4 Gc

T4 @ Ta= -30°C to +65°C (-22°F to +149°F)

Ordering Information



For the detailed listing of country and product specific approvals, refer to the *Approvals Quick Reference Guide* (108M1756) available from Bently.com.

RTD / TC Temperature Module

Ordering Option	Description
60R/INP07	
AAA – Hazardous Area Certifications	
00	No Hazardous Area
01	CSA/NRTL/C (Class I, Div 2)
02	Multi (CSA, ATEX, IECEx)
XXX	Country Specific Approvals
BB – SIL Level	
00	No SIL
02	SIL 2

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