

ORBIT 60 SERIES

System Interface Module

Datasheet

Bently Nevada Machinery Condition Monitoring

142M9054 Rev. -

Description

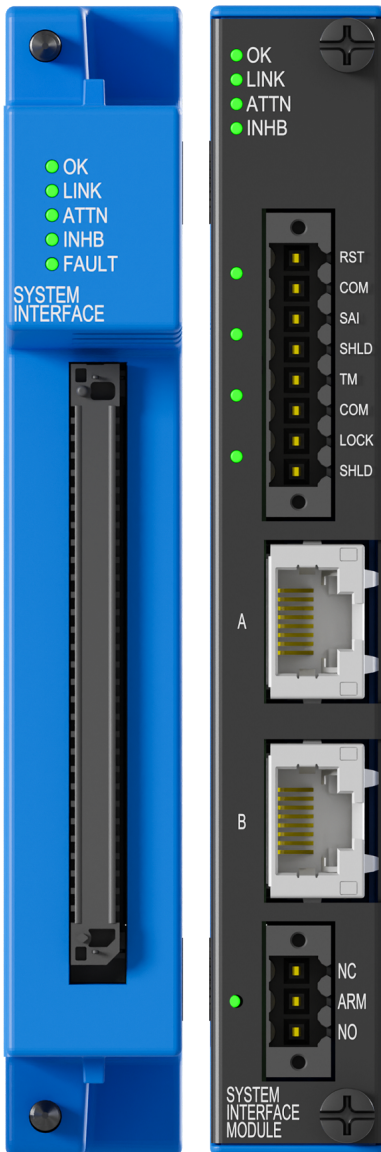
Each Orbit 60 system requires a single System Interface Module (SIM). The SIM provides the user access to manage protection configuration, local display, system-level diagnostics, system LEDs, system contacts, and the system protection fault relay. The SIM occupies one slot and must be adjacent to the Power Input Module (PIM) in the chassis.

The SIM is the access point for configuring and maintaining the system. The module communicates to the Orbit Studio configuration software and transmits the configuration to other modules in the system. The SIM provides a physical access security feature through a key-lock switch on the public side and a contact on the utility side of the SIM. Either of these controls can be used to secure the system configuration, preventing unauthorized changes.

The SIM has 3 independently configurable ethernet ports, each port can be used for system configuration, system time synchronization, temporary troubleshooting, or an external display.

System level functions include:

- Alarm List
- System Event List
- System Level Diagnostics
- Firmware Updates
- System Level Controls
 - RUN/PROG Mode
 - Trip Multiply
 - System Alarm Inhibit
 - System Reset
 - Fault Protection Relay



System Interface Module

System Interface Module (SIM)	
System Contacts	
4 contacts on utility or rear side	Trip Multiply
	Alarm Inhibit
	System Reset
	Configuration Lock
Voltage In	24V max
Current rating	<1 mA to 125 mA
Trigger Threshold Input High	1.7 V
Trigger Threshold Input Low	0.8 V
Low Limit Open Resistance	10.5 to 15.7 kΩ
Upper Limit Closed Resistance	3.7 to 6 kΩ
Protection Fault Relay (steady state)	
Voltage:	5 Vdc to 125 Vdc
Current	0.01 to 125mA
Isolation	250 Volts
Maximum cycling rate	1 Hz
Limited to non-inductive loads	
Communications	
1 ethernet port – public side	Independent Ethernet ports 1000/100/10 Base-T Auto-negotiation

System Interface Module (SIM)	
2 ethernet ports – utility side	
Connector	RJ-45
Supported Connections	NTP time sources SF Protocol – System configuration SF Protocol – Local system display
Cable Length	100 meters (328 feet) max
Cyber Security	
<ul style="list-style-type: none"> Aligned to the IEC 62443 standard. Encrypted communications using latest TLS standards. PKI implemented signed firmware images to facilitate secure boot and trusted firmware updates. Device identity management uses certificates for trusted connections. Configure user, roles and rights account management. Uses physical Run/Program control 	
System Interface Module (SIM)	
Controls and Contacts	
RST – Reset Contact or Button	Used to clear all latched alarms and NOT OK statuses across the system. LED indicates reset contact closed. ¹
SAI – System Alarm Inhibit Contact	Used to inhibit all alarms within the system. LED indicates the state of the alarming functions within the system.
TM – Trip Multiply Contact	Used to place the system in Trip Multiply. LED indicates that the system is in Trip Multiply

System Interface Module (SIM)	
	mode.
LOCK – Configuration Lock Contact or Key	<p>PRG – Allows configuration changes to be made to the system. Amber LED indicates the system is in Run mode.</p> <p>RUN – Locks the system, blocking configuration changes. Green LED indicates the system is in Run mode. ²</p>
ARM – Protection Fault Relay	Indicates that all the protection functions within the system are operational.

¹ Performed by either closing the contact on the module or pressing the button on the front panel.

² Performed by either closing the contact on the module or setting the key on the front to the RUN setting on the front panel.

SIM LED Indications	
OK	OK LED – indicates the operational status of the module. Located on Public and Utility
LINK	Internal Communication LED – successful communication on the internal network.
ATTN	Attention LED – compromised protection path or unacknowledged system events.
INHIB	Inhibit LED – one or more configured alarming functions have been inhibited.

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



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 [Bentley.com](https://www.bentley.com).

System Interface Module

Ordering Option	Description
60R/SIM01-AAA-BB • System Interface Module	
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

For information on external display options, see document 154M8401.

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