

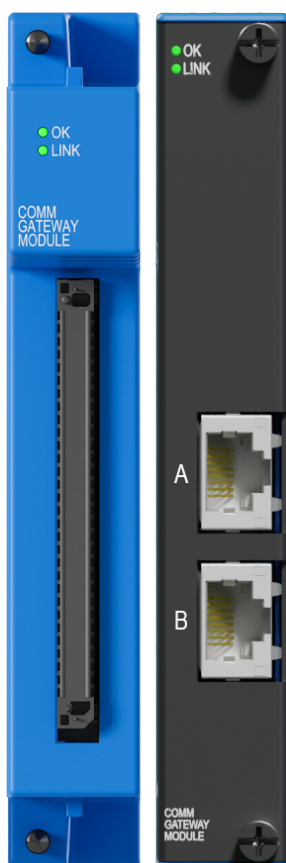
ORBIT 60 SERIES

Communication Gateway Module

Datasheet

Cordant™

137M0700 Rev. E



Description

The Bently Nevada™ Orbit 60 Communication Gateway Module (CGW) provides information to external hosts including measurements, alarms, statuses, and system controls using standard industrial protocols. The CGW is designed for integration with process control and other automation systems.

The Communication Gateway module occupies a single slot and has two RJ-45 Ethernet ports supporting Modbus and EGD protocols. PROFINET protocol is supported on the CGW's Port A Ethernet port.

The module OK LEDs indicate when the module is functioning properly, and the LINK LED indicates when the module is communicating to the rest of the system.

The Comm Gateway Module includes two Ethernet ports which provide TCP/IP communications capabilities. The supported industrial protocols are:

- **Modbus TCP/IP:** Modbus over Ethernet is available for connection to HMI's, unit control systems, or other plant automation equipment. The module can only be configured as a server and supports configurable Modbus addresses within the 40000 address range.
- **Ethernet Global Data (EGD):** EGD is a GE protocol used on Mark VI and Mark Vie controllers and by GE Programmable Automation Controllers and certain 3rd party automation equipment. Version 3.04 and backward compatibility with previous versions is supported.



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- **PROFINET (Process Field Network):** is an open Industrial Ethernet communication protocol used for real-time data exchange between controllers and devices in industrial automation. The CGW operates as a PROFINET device, protocol specification V2.45 (including backwards compatibility), Conformance Class B, Real Time Class 1. The CGW PROFINET implementation supports a point-to-point (direct) network connection from the CGW to the PLC.

Communications Gateway

Communications Gateway (CGW)	
Power Consumption	
Maximum	10.2 Watts
Typical	6.8 Watts
Data Communications	
2 Ethernet ports - utility or rear side	Independent Ethernet ports 1000/100/10 Base-T Auto-negotiation
Connector	RJ-45
Cable Length	100 meters (328 feet) max
Updated Rate	
Modbus	50 ms
EDG	20 ms
PROFINET	100 ms
LEDs	
Module OK LED	Indicates when the module is functioning properly
System Communication LED	Indicates when the module is communicating to the rest of the system

Communications Gateway (CGW)	
Physical Characteristics	
Required Rack Space	1 Slot
PROFINET Protocol	
Maximum Data Output to PLC	1408 bytes
Output data types	Float (4 bytes), Integer (2 bytes), or single bytes (used for statuses)
Data Input from PLC	Not currently supported
DCP (Discovery & Configuration Protocol) PLC support	Setting IP address; Setting Name of Station; Flash LED command
Environmental Limits	
Chassis Operating Temperature Range (indoor use only)	3U Chassis: -30°C to +70°C (-22°F to 158°F) 6U Chassis: -30°C to +65°C (-22°F to 149°F)    Temperatures over 50°C (122°F) require forced air convection with a minimum airspeed of 0.5 m/s.

Environmental Limits	
Module Temperature Rating Certification	-30°C to +70°C (-22°F to 158°F)  When using a Bridge module in a 3U chassis, temperatures over 55°C (131°F) require forced air convection with a minimum airspeed of 0.5 m/s.  You must still meet the Chassis Operating Temperature Range defined above.
Storage Temperature Range	-40°C to +85°C (-40°F to 185°F)
Relative Humidity	0% to 95% rH non-condensing operating and storage
Vibration	Without Isolators: 0 g to 0.35 g @ 57-500 Hz With Isolators: 0 g to 5 g @ 57-500 Hz
Shock	2" Incline Drop
Altitude	< 2000 m (6,562 ft)  Higher altitudes are possible but are site specific applications. Contact Bently Nevada support if you require higher altitudes.

Environmental Limits	
Pollution Degree	Pollution Degree 2
Installation Category	Category II



Verify that temperature ratings on the wiring cables match the operating temperature range.



CAUTION



LOCATION TEMPERATURE AND HUMIDITY

While the system has been tested and capable of achieving the design life when operating in environments up to 70°C, whenever operating any electronics system in elevated humidity or temperatures exceeding 40°C, adding environmental controls maximizes the operational life of the system.

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;

†India – Battery EPR Marking

GE Oil & Gas India Private Limited

EPR Certificate No.: 1.1595372902047E+20

†Applies to 60R/BRG01, 60R/CGW01
60R/SIM01, 60R/PPM01, and
60R/CMM01

RoHS

European Community Directive:

RoHS Directive 2011/65/EU

Cyber Security

Designed to meet IEC 62443-4-2

*Maritime

ABS Rules for Condition of Classification,
Part 1

- Steel Vessels Rules
- Offshore Units and Structures

*Recorder Output module, Bridge
module, and 6U systems
approvals pending

Functional Safety

This component is non-interfering with
the safety system. The system SIL 2
certification does not require this
component be SIL certified.

**PROFINET Field Device Certification Standards

PROFINET V2.4MU3

** Certification pending

Hazardous Area Approvals



For the detailed listing of country and product-specific approvals, refer to the [Approvals Quick Reference Guide \(108M1756\)](#).

For additional technical documentation, please log in to bntechsupport.com and access the Bently Nevada Media Library.

cNRTLus

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 +70°C (-22°F to +158°F)

ATEX/IECEx



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

T4 @ Ta= -30°C to +70°C (-22°F to +158°F)

Ordering Information



For the detailed listing of country and product-specific approvals, refer to the [Approvals Quick Reference Guide \(108M1756\)](#).

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Communications Gateway Module

Ordering Option	Description
60R/CGW01-AAA-B • RJ-45 Ethernet Comm Gateway	
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
B – SIL Level	
0	No SIL

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