

# Ranger Pro Gateway

## Datasheet

Bently Nevada Machinery Condition Monitoring

157M6445 Rev. -



### Description

Bently Nevada's Ranger Pro Gateway is a wireless network access device that is engineered for quick installation and setup to communicate with Ranger Pro ISA100 sensors.

The Ranger Pro Gateway complies with the ISA100 international, industrial standard.

The Ranger Pro Gateway is an integrated RF access point and gateway that manages all aspects of ISA 100 network and provides the conversion between wireless and Ethernet networks. It hosts the relevant routing, system management, security management and gateway functions in a compact rugged enclosure suitable for outdoors and harsh environments with effortless deployment.

### System Features

A typical wireless network uses one or more Ranger Pro Gateway devices to connect to wireless field devices.

Features include:

- Seamless Integration with System 1 Condition Monitoring Software
- Features include RF access and network gateway.
- Power-over-Ethernet to reduce cabling
- Rugged IP 66 rated housing for outdoor mounting.
- Web configuration Interface
- Modbus interface to monitor systems
- Various accessories are available to aid with the installation and maintenance of Ranger Pro Gateway devices.



## Compliance and Certifications

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

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

EMC conformity standards*	ETSI EN 301 489-1, EN 55032, CISPR32 ETSI EN 301 489-17 EN 61326-1, EN 55011, CISPR11
Radio Spectrum*	EN 300 328 FCC Part 15.247 Subparts b and c
Safety*	IEC 61010-1 IEC 62311
Conformity*	Compliant with all CE and FCC/IC requirements
RoHS	Compliant
Valid for RangerPro Gateway P/N	154M7484-01-01

## Hazardous Area Approvals

### WARNING

**HAZARDOUS ENVIRONMENT**

**Risk of explosive atmosphere.**

Before mounting Ranger Pro devices in a potentially hazardous environment, verify that hazardous materials, atmospheres, and conditions have been removed or that relevant risk mitigation measures have been implemented.

North America (US and Canada)*	Class I, Zone 2, AEx ec IIC T4, Ex ec IIC T4 Class II, Zone 22, AEx tc IIIC T135°C, Ex tc IIIC T135°C Class I, Div. 2, Grp A, B, C, D T4 Class II, Div. 2, Grp G, F T135°C T <sub>Amb</sub> = -40°C to +70°C
IECEx*	Ex ec IIC T4 Gc Ex tc IIIC T135°C Dc
ATEX*	II 3G Ex e IIC T4 Gc II 3D Ex t IIIC T135°C Dc

\* Pending

## Specifications

### Wireless

Network standards	ISA100.11a
Radio standard	IEEE 802.15.4
Radio frequency	2.45 GHz ISM band
Encryption/Security	128-bit AES encrypted packets
Output power (peak)	< 10 dBm
Max RF output power	4 mW/MHz
Antenna connector	N-Type, Female, 50 $\Omega$
Ranger Pro Device Capacity	50 ISA 100 Ranger Pro Devices (Includes up to 15 I/O Router Devices)

### Ethernet

Physical	Ethernet 10BASE-T and 100BASE-TX Auto-MDIX
Connector type	RJ45
Protocols	ISA100.11a GCMODBUS TCP
Cable type	CAT5 or better

### Power Supply\*

External supply	20-57 Vdc
External supply connector	M12 4-pin A-coded female connector
PoE supply	IEEE 802.3af/at Type 1 Mode B (Midspan) compliant PSE
PoE supply connector	RJ45 socket connector
Maximum Power consumption	4 W

\* The user can elect to use both the PoE and External power supply options concurrently.

### RTC Backup Battery

Type	CR2032X 220mAH Manganese Dioxide Lithium Coin Battery
------	---

### Operating Conditions

Operating temperature	-40°C to 85°C (-40°F to 185°F) (Operating at extreme temperatures or beyond may damage the device)
Humidity	5 to 95 % (noncondensing)
Altitude	Maximum 3,000 m (9,842 ft.) outdoors

### Physical

Weight	1.65 kg (3.64 lb)
Dimensions	202 x 165 x 66 mm (7.95 x 6.50 x 2.60 in)
Case material	Powder coated, anodised aluminum
Mounting	Pole or surface mount using supplied accessories
IP Rating	IP66†

† Pending



County/region specific approvals are not listed. Contact your local Bently Nevada sales representative for details.

## Ordering Information



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

### Ranger Pro Gateway ISA100

#### 70M320 – AA-BB-CC-DD-EE-FF

Description: Ranger Pro ISA 100 Gateway

#### A: Power Supply Option

00	None
01	Industrial POE
02	24 Vdc
03	24 Vdc & Industrial POE

#### B: Antenna Option

01	2 dBi
02	6 dBi

#### C: Power and Reset Cable Option

00	None
05	5 m (16 ft)
10	10 m (32 ft)
20	20 m (65 ft)

#### D: RF Extension Cable Option\*

00	None
02	2 m (6 ft)
04	4 m (13 ft)
10	10 m (32 ft)

#### E: Accessory Options

00	None
01	Lightning Arrester†

02	Field-Installable Connector (for Power-Reset Cable only)
03	Lightning Arrester & Field-Installable Connector†

#### F: Agency Approvals

01	North America CII Div2
02	ATEX/IECEX Zone 22

\* RF antenna extension cables will attenuate signals. Use the shortest length for the application. Additionally, the extension cable application is dependent on the installation area and local regulations. Please consult with Bently Nevada prior to ordering.

† Application is dependent on installation topology and local regulations. Please consult with Bently Nevada prior to ordering.


## Accessories

Use the following part numbers to order spare parts and accessibility for the Ranger Pro Gateway.

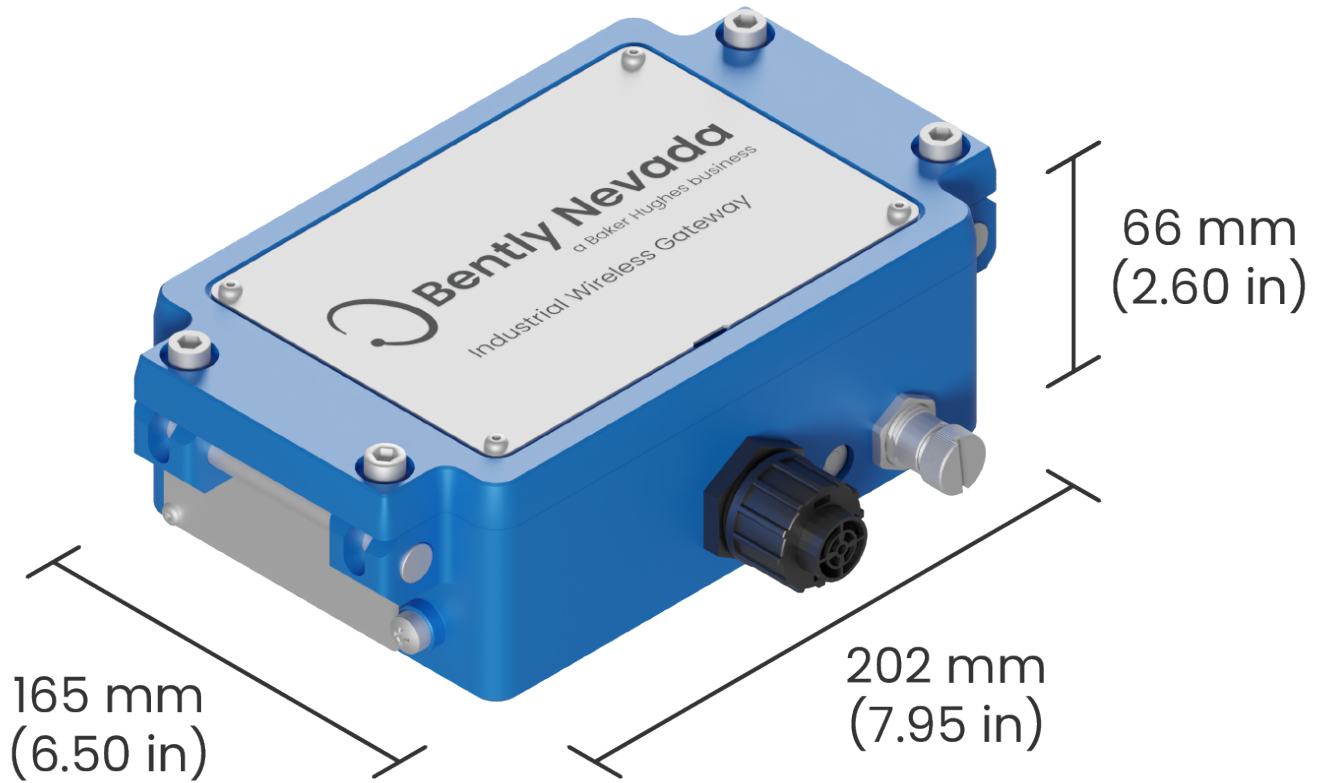
Product or Document	Item
147M0794	2 dBi Omnidirectional Antenna
147M0795	6 dBi Omnidirectional Antenna
147M0796*	Lightning Arrester
147M0800	Cable - Power + Reset (5 m)
147M0801	Cable - Power + Reset (10 m)
147M0802	Cable - Power + Reset (20 m)
151M0471	Field installable A-Coded Connector for Power and Reset Cable
154M1343	RJ45 Connector Gland
151M1117	PoE Injector (industrial use)
151M0474†	RF Extension Cable (2 m)
151M0473†	RF Extension Cable (4 m)
151M0475†	RF Extension Cable (10 m)

\* Application is dependent on installation topology and local regulations. Please consult with Bently Nevada prior to ordering.

† RF antenna extension cables will attenuate signals. Use the shortest length for the application. Additionally, the extension cable application is dependent on the installation area and local regulations. Please consult with Bently Nevada prior to ordering.

Catalog Order Number (1)	Part Number	Figure
70M320-XX-XX-XX-XX-XX	154M7484-01-01	 <p data-bbox="646 1738 1377 1801"><b>Figure 1: Ranger Pro Gateway 154M7484-01-01 Views Front (Top), Left Side (Middle), Right Side (Bottom)</b></p>

## Drawings and Figures



**Figure 1: Ranger Pro Gateway Catalog Number 70M320**

Copyright 2021 Baker Hughes Company. All rights reserved.



Bently Nevada, System 1, Ranger and Orbit Logo are registered trademarks of Bently Nevada, a Baker Hughes Business, in the United States and other countries. The Baker Hughes logo is a trademark of Baker Hughes Company. All other product and company names are trademarks of their respective holders. Use of the trademarks does not imply any affiliation with or endorsement by the respective holders.

Baker Hughes provides this information on an "as is" basis for general information purposes. Baker Hughes does not make any representation as to the accuracy or completeness of the information and makes no warranties of any kind, specific, implied or oral, to the fullest extent permissible by law, including those of merchantability and fitness for a particular purpose or use. Baker Hughes hereby disclaims any and all liability for any direct, indirect, consequential or special damages, claims for lost profits, or third party claims arising from the use of the information, whether a claim is asserted in contract, tort, or otherwise. Baker Hughes reserves the right to make changes in specifications and features shown herein, or discontinue the product described at any time without notice or obligation. Contact your Baker Hughes representative for the most current information.

The information contained in this document is the property of Baker Hughes and its affiliates; and is subject to change without prior notice. It is being supplied as a service to our customers and may not be altered or its content repackaged without the express written consent of Baker Hughes. This product or associated products may be covered by one or more patents. See [Bentley.com/legal](https://www.bentley.com/legal).

1631 Bently Parkway South, Minden, Nevada USA 89423  
Phone: 1.775.782.3611 (US) or [Bentley.com/support](https://www.bentley.com/support)  
[Bentley.com](https://www.bentley.com)