Martin® N2® Gateway

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Operator's Manual
M4185

Important

MARTIN ENGINEERING HEREBY DISCLAIMS ANY LIABILITY FOR: DAMAGE DUE TO CONTAMINATION OF THE MATERIAL; USER'S FAILURE TO INSPECT, MAINTAIN AND TAKE REASONABLE CARE OF THE EQUIPMENT; INJURIES OR DAMAGE RESULTING FROM USE OR APPLICATION OF THIS PRODUCT CONTRARY TO INSTRUCTIONS AND SPECIFICATIONS CONTAINED HEREIN. MARTIN ENGINEERING'S LIABILITY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF EQUIPMENT SHOWN TO BE DEFECTIVE.

Observe all safety rules given herein along with owner and Government standards and regulations. Know and understand lockout/tagout procedures as defined by American National Standards Institute (ANSI) ANSI/ ASSP z244.1-2016 (R2020), The Control of Hazardous Energy Lockout, Tagout And Alternative Methods and Occupational Safety and Health Administration (OSHA) Federal Register, Part IV, 29 CFR Part 1910, *Control of Hazardous Energy Source (Lockout/Tagout);* Final Rule.

The following symbols may be used in this manual:

⚠ DANGER

Danger: Immediate hazards that will result in severe personal injury or death.

⚠ WARNING

Warning: Hazards or unsafe practices that could result in personal injury.

⚠ CAUTION

Caution: Hazards or unsafe practices that could result in product or property damages.

IMPORTANT

Important: Instructions that must be followed to ensure proper installation/operation of equipment.

NOTE

Note: General statements to assist the reader.

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Introduction

General

The N2® Gateway receives information from N2® sensors and transmits information to the cloud for monitoring via the Martin® OnSite mobile application and the Martin® OnSite dashboard.

Table I. N2® Gateway Specifications

Power Supply	Power Consumption	Service Temperature Range
50/60 Hz 100-240 VAC	.2 Amps	-30 to 60°C (-22 to 140°F)

References

The following documents are referenced in this manual:

- American National Standards Institute ANSI/ASSP z244.1-2016 (R2020), *The Control Of Hazardous Energy Lockout, Tagout And Alternative Methods*, American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.
- Federal Register, Volume 54, Number 169, Part IV, 29 CFR Part 1910, *Control of Hazardous Energy Source (Lockout/Tagout); Final Rule*, Department of Labor, Occupational Safety and Health Administration (OSHA), 32nd Floor, Room 3244, 230 South Dearborn Street, Chicago, IL 60604.

Data Policy

The N2® Gateway ("Product") automatically collects and transmits to Martin Engineering ("We," "Us," and "Our") information related to the product and its operation, including data on consumable components, process parameters such as product settings and configurations, and environment such as temperature and operating times and durations (the "Information").

Martin Engineering uses the information to:

- provide services to you, including identifying and providing preventative maintenance such as the replacement of consumable components;
- send communications we believe may be of interest to you;
- research and improve our products and services, including by aggregating and combining the information with comparable information obtained from other product owners;
- provide information regarding the product (such as average replacement time for consumable components) to potential product purchasers, provided that such information shall be provided only in aggregated, de-identified form; and
- share with select third parties in connection with any of the purposes above

Martin Engineering may also disclose any information if: (1) the disclosure is necessary or useful to our provision of services; (2) we believe in good faith that disclosure is necessary to protect our rights, interests, or property; (3) we are acting in good faith to protect the safety of the product owner or operator or the safety of others, to investigate fraud, or to respond to a government request; (4) we believe in good faith the disclosure is required by law, such as to comply with a subpoena, search warrant, court order, or similar legal or administrative process; and (5) a third party purchases or otherwise acquires our company, in which case the information will likely be among the assets transferred.

By purchasing or using the product, you consent to the collection and use of the information by Martin Engineering. From time to time, we may use the information for new, unanticipated uses not previously disclosed in this data policy. If our information practices change materially at some time in the future, we will post the policy changes to our website so you always have information regarding what information we collect, how we use it, and under what circumstances we disclose it. By continuing to use the product after such changes, you consent to the changes in the data policy.

Safety

All applicable safety rules defined including those defined in the above documents and all owner / employer safety rules must be strictly followed when working on the N2® product.

⚠ DANGER

Do not touch or go near the conveyor belt or conveyor accessories when the belt is running. Your body or clothing can get caught and you can be pulled into the conveyor, resulting in severe injury or death.

⚠ DANGER

Before installing, servicing, or adjusting the conveyor equipment, turn off and lock out / tag out / blockout / testout all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

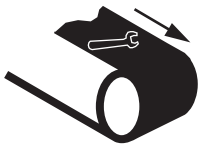
⚠ DANGER

If this equipment will be installed in an enclosed area, test the gas level or dust content before using a cutting torch or welding. Using a torch or welding in an area with gas or dust may cause an explosion resulting in serious injury or death. Follow local confined space procedure.

⚠ WARNING

Before using a cutting torch or welding the chute wall, cover the conveyor belt with a fire retardant cover. Failure to do so can allow the belt to catch fire. Follow local fire watch procedures.

⚠ WARNING



Remove all tools from the installation area and conveyor belt before turning on the conveyor. Failure to do so can cause serious injury to personnel or damage to the belt and conveyor.

Before Installing N2® Gateway

IMPORTANT

The delivery service is responsible for damage incurred during transportation. Martin Engineering CANNOT enter claims. Contact your transportation agent for information.

1. Inspect shipping container for damage. Report damage to delivery service immediately and fill out delivery service's claim form. Keep any damaged goods subject to examination.
2. Remove N2® Gateway from shipping container.
3. If anything is missing contact Martin Engineering or a representative.

The gateway should only be applied and utilized for its intended use and purpose. The gateway should not be opened for any reason. For maintenance and repair issues contact your Martin Engineering representative.

4. Scan QR code and complete form to request new user access.

New User Request

5. Scan the QR code below to download and then install the Martin® Onsite app. Recommended to complete a minimum of 72 hours in advance of the planned N2® system install in order to request and confirm access.

App Download Request

6. Recommended to select "While using the app" as system utilizes GPS coordinates of phone to set location during installation. (Figure 1)

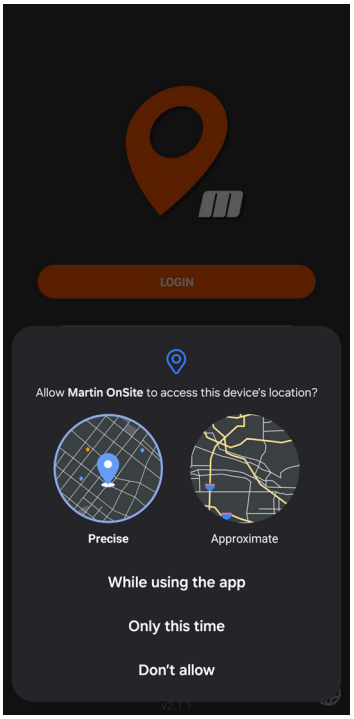


Figure I. N2® Gateway Permission Requisition

7. Determine location for N2® Gateway. For best results the N2® Gateway should be mounted outside in an elevated location nearest the center of all planned N2® sensor installation locations. Ensure location has good cellular service for best results.
8. Turn off and lockout / tagout / blockout / testout energy source according to ANSI standards (see "References").

⚠ DANGER

Before installing, servicing, or adjusting conveyor equipment, turn off and lockout / tagout / block-out / test-out all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

9. If using a cutting torch or welding, test the atmosphere for gas level or dust content. Cover conveyor belt with fire retardant cover.

⚠ DANGER

If this equipment will be installed in an enclosed area, test the gas level or dust content before using a cutting torch or welding. Using a torch or welding in an area with gas or dust may cause an explosion resulting in serious injury or death.

10. It is recommended you take the following tools for install:
    - Wrench SAE 1/2" (13mm)
    - Wrench SAE 7/16" (11mm)

Installing N2® Gateway

⚠WARNING

Before making any connections, lockout / tagout / block-out / test-out electrical supply according to ANSI standards and following all company policies and procedures (see "References").

All electrical work must be done to National Electrical Code (NEC) standards.

⚠CAUTION

Do not mount N2® Gateway in area subject to shock, vibration, temperatures exceeding 60°C (140°F), or explosion. Damage to control panel circuitry could result.

1. Mount N2® Gateway in an elevated location outside, near the geographical center of all N2® sensors, utilizing the supplied mounting bracket and hardware.

NOTE

Brackets are provided to enable the gateway to be mounted on a handrail. Ensure gateway assembly does not impede walkways; control boxes; and duties relating to the immediate area such as inspection, maintenance, lockout / tagout / blockout / testout.

Figure 2. N2® Cellular Antenna

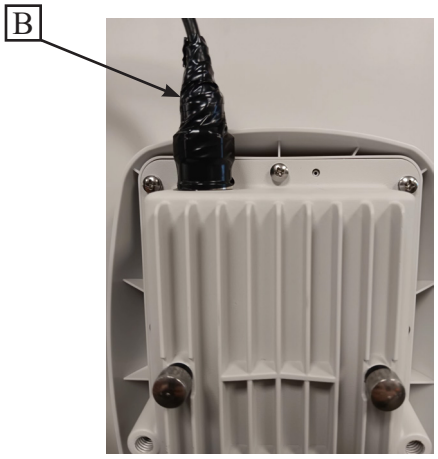


Figure 3. N2® Self - Amalgamating Tape

2. Install cellular antenna (A).
   i) Remove cap from top of gateway.
   ii) Attach antenna cable to gateway.
   iii) To avoid environmental aggression (moisture, pollution, etc.), apply the self-amalgamating tape (B) to the cable as shown above.
   iv) Bolt antenna to mounting bracket.
   v) Attach antenna cable to antenna.

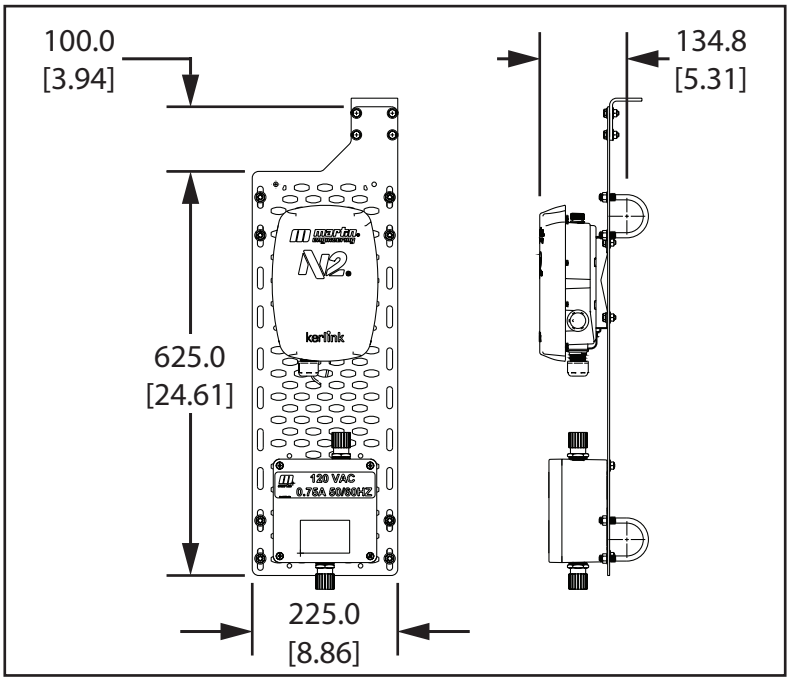


Figure 4. N2® Gateway Dimensions

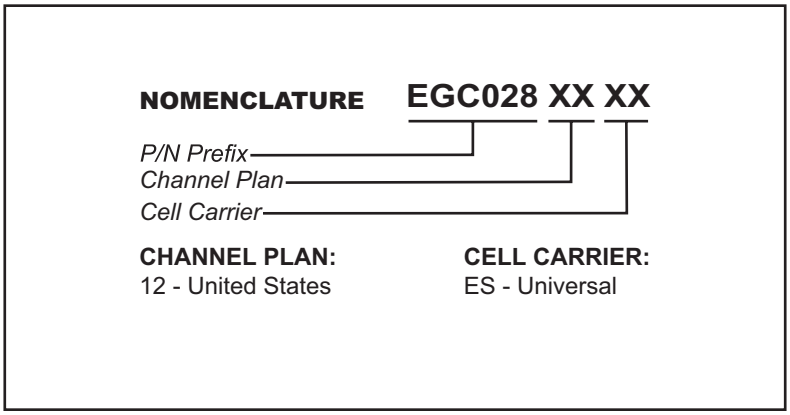
3. Employ a qualified electrician to hardwire the unit directly to a power supply or connect the power supply cord (if provided) from N2® Gateway to 110 - 240 VAC power supply near this location. Ensure all MSHA/OSHA and other regulatory requirements along with all company policies and procedures for testing on all electrical cords such as, continuity, terminal connection, etc., are properly performed prior to and throughout the life of the equipment. Contact Martin Engineering for alternative powering methods.
4. Power light on bottom will illuminate if N2® Gateway is receiving AC power.
5. If power light does not illuminate, ensure there is power being supplied to the gateway, a push-button is available on the bottom of the gateway. Press the button for 1 second to power the gateway.

Part Numbers

This section provides product names and corresponding part numbers for the N2® Gateway and related equipment. Please reference part numbers when ordering parts.

Part Numbers

N2® Gateway: P/N EGC028XXXX.



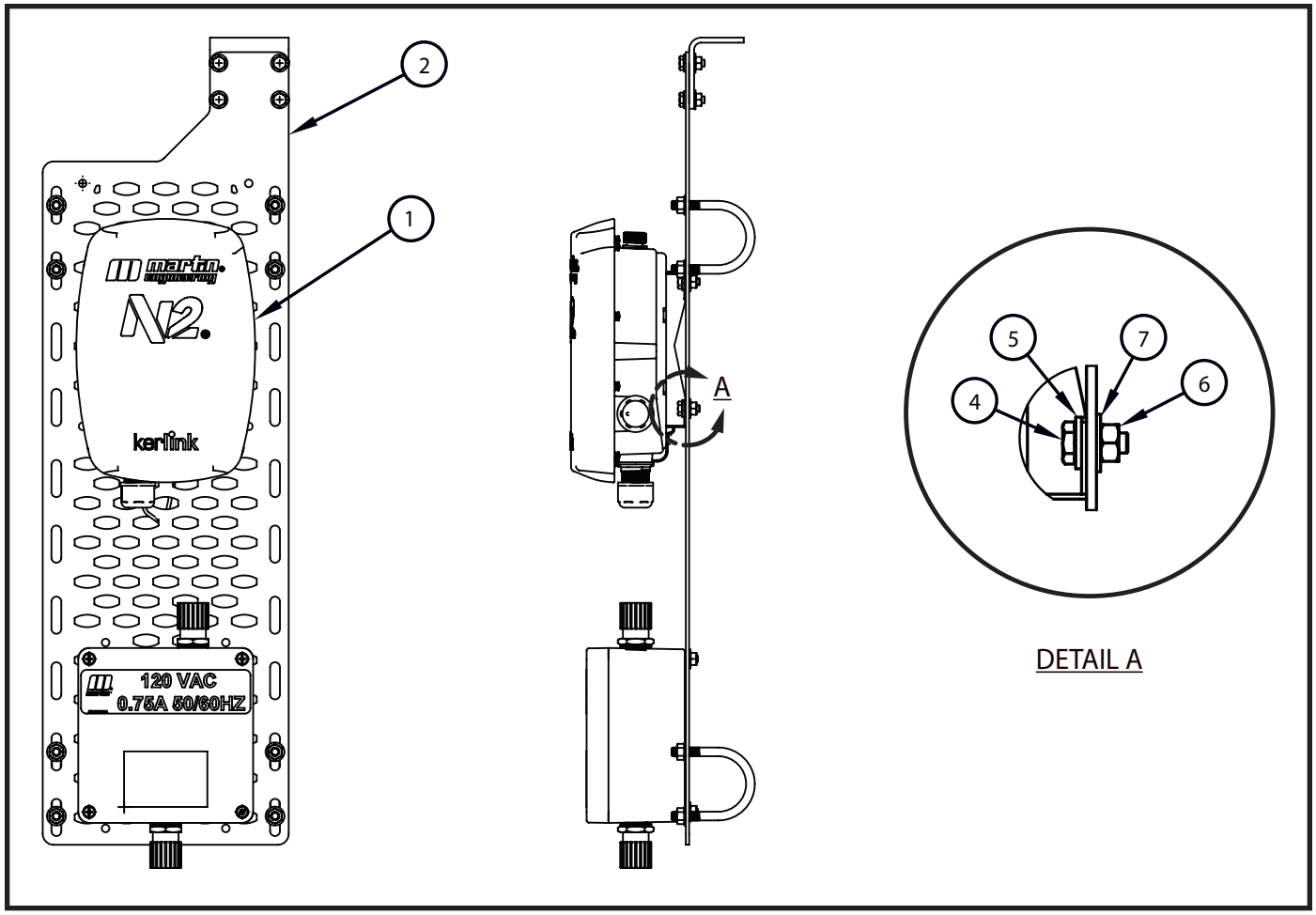


Figure 5. N2® Gateway Assembly, P/N EGC028XXXX

Item	Description	Part Number	Qty
1	Gateway	Table II	1
2	Mount Kit Assembly	Table II	1
(NS) 3	Antenna and Cable Assembly	Table II	1
4	Screw HHC 1/4 - 20NC X 5/8 GR 5 Plain	13070	4
5	Washer Flat 1/4 Narrow ZP	39308	4
6	Nut Hex 1/4 - 20NC GR 2 ZP	11769	4
7	Washer Compression 1/4	11521	4
(NS) 8	Operator Manual QR N2® Gateway	M4185-QR	1

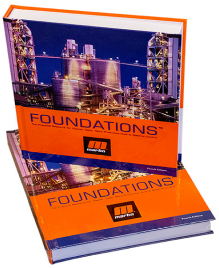
NS = Not Shown

Table II. United States N2® Gateway Hardware Part Numbers*

Part Number	Part Number Item 1	Part Number Item 2	Part Number Item 3	Frequency Plan
EGC02812ES	EGC02912ES	EGC031US	EGC03391506	US915

Only to be used alongside the United States US915 frequency plan.*

Problem Solved™ GUARANTEED!



For nearly 30 years, Martin Engineering's Foundations™ Books have taught industry personnel to operate and maintain clean and safe belt conveyors. The Foundations™ Book, fourth edition, focuses on improving belt conveyors by controlling fugitive material. "The Practical Resource for Total Dust and Material Control," is a 576-page hard cover volume that provides information of value to industries where the efficient handling of bulk materials is a key to productivity and profitability.

Expanding upon the book, our Foundations™ Training Program addresses the design and development of more productive belt conveyors, and is offered in three customizable seminars. Attendees gain a better understanding of conveyor safety and performance, helping to justify upgrade investments and increase profitability.

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