

LYNKED

G3-PLC Gateway



CG-200
Technical Manual

CONTENTS

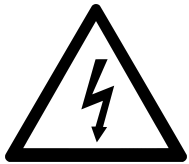
Safety Information	02
Regulatory Information	02
Product Overview	03
Installation	04
Wiring Overview	07
Power & LED Indicators	08
Technical Specifications	10

1

SAFETY INFORMATION



DANGER



Keep all devices and connected wiring away from moisture, liquids, and wet environments.

This unit operates at high voltage. Contact with energized components can cause electrocution, severe burns, or death.

This unit must be installed, adjusted, and serviced exclusively by qualified electrical maintenance personnel familiar with the construction and operation of the hazards involved.



CAUTION

Use only the accessories and attachments included with the unit.

Do not use third-party or uncertified adapters.

Unauthorized repair, modification, alteration, or operation outside the described steps are strictly prohibited and will void any applicable warranties and service agreements.

2

REGULATORY INFORMATION



Compliance

EMC: CAN ICES-003(B) / NMB-003(B)

FCC 47 CFR §15.107 and §15.109

Safety: CSA C22.2 No. 62368-1

UL 62368-1



Certifications

Contains IC: 20953-RPI4B

Contains FCC ID: 2ABCB-RPI4B

MET Listed:



Federal Communications Commission (FCC) Notice: Changes or modifications not expressly approved by LYNKED Inc. could void the user's authority to operate this equipment.

3

PRODUCT OVERVIEW

3.1 Front-Access Cover

Open the front-access cover to expose the I/O connections.

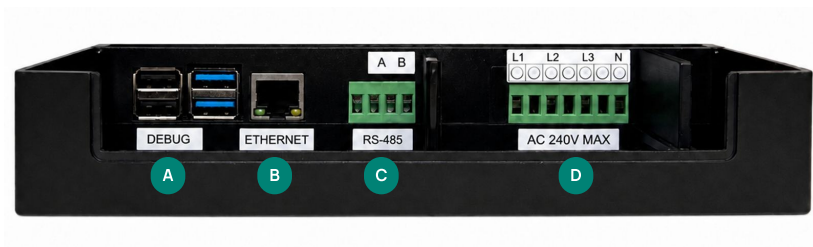


Figure 1. CG-200 I/O Connections

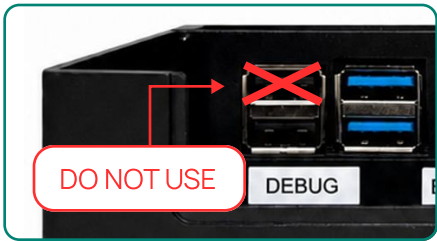


Figure 2. Port Not Intended For Use

Connector & Port Descriptions

Refer to **Figure 1** to locate and identify the ports described below.

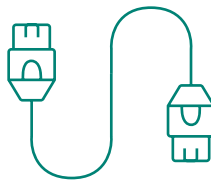
This USB connector is used for debug communication and add-on devices.

A	Debug	 Do not use the USB port shown in Figure 2 unless directed by LYNKED Support.
B	Ethernet	LAN interface for network communication
C	RS-485	The 4-pin connector supports both half-duplex and full-duplex communication. For half-duplex communication, use the two rightmost pins, labeled A (D+) and B (D-) . For full-duplex communication, the pins are assigned from left to right as RX+, RX-, TX+, and TX-
D	AC 240V MAX (G3-PLC)	This 7-pin connector powers the gateway and enables G3-PLC communication over power lines (max 240 VAC line-to-neutral). L1 (line 1) and N are required, while L2 (line 2) and L3 (line 3) are optional. All three lines support G3-PLC communication.

3.2 What's in the Box



1 x LYNKED
G3-PLC Gateway (CG-200)



1 x Ethernet Cable

4

INSTALLATION

1

Check Package Contents

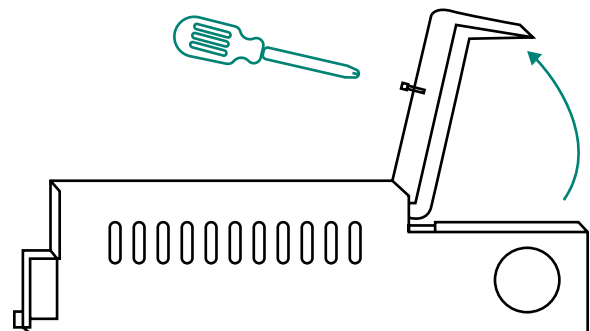
Open the box and verify that all items listed in **Section 3.2** are present. If any items are missing or damaged, contact LYNKED Support immediately.



2

Open Front-Access Cover

In preparation for installation and wiring, loosen the screw on the CG-200 front-access cover, then tilt the cover back to expose the I/O connections.



3 Select Installation Location

Choose a location that can withstand the specified operating temperature (see **Section 7**). Allow adequate clearance for ventilation and cable routing. Install the CG-200 in a safe location, such as a locked electrical, mechanical, or communications room or closet. Avoid unsecured areas such as hallways, stairwells, or shared amenity spaces.

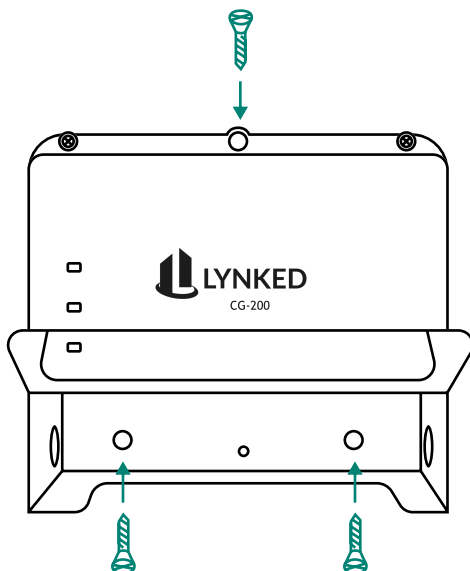
For Outdoor Installations:



Outdoor installation of the CG-200 is not recommended for general use. However, it may be performed in specific cases where the gateway is appropriately protected. If installed outdoors, use a NEMA-rated enclosure suitable for the local climate and environmental conditions. See **Section 7** for operating environment requirements. For information on NEMA enclosure ratings, refer to the [NEMA Rating Guide](#).

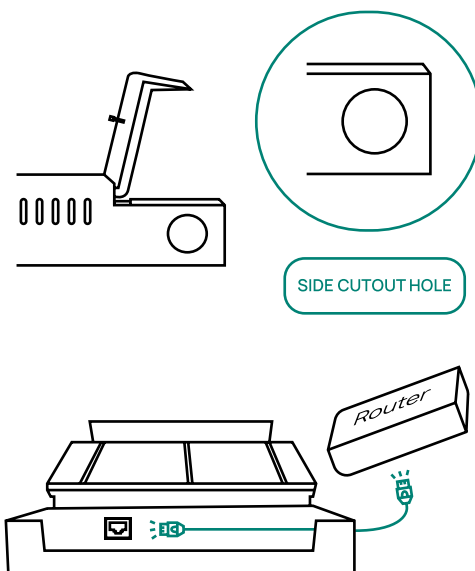
4 Optional Mount the CG-200

If mounting the CG-200 is required for your installation, secure it to a suitable mounting surface using three appropriate screws depending on the surface material.



5 Connect the Ethernet Cable

Connect an Ethernet cable to the router. Route the other end through the side cutout hole and connect it to the Ethernet port on the CG-200.



6

Connect the G3-PLC Wiring

Ensure power is off and verify that all devices are de-energized before finalizing connections. Route all G3-PLC wiring through the CG-200 side cutout hole. Connect **L1** and **N** to the G3-PLC connector (required to power the CG-200), then connect L2 and L3 only if needed for devices on those lines. See **Section 3.1** for connector pin-out information and **Section 5** for the wiring overview. Installations with multiple end devices connected to the same power line form a mesh network (see **Figure 3**).

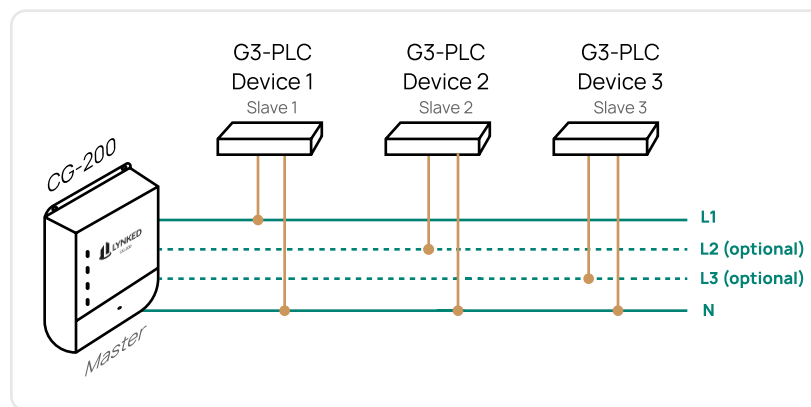


Figure 3. Mesh Topology

For RS-485 Non-Approved Devices:



Do not connect non-approved devices to the RS-485 port without contacting LYNKED Inc. to verify compatibility and obtain any required licensing.



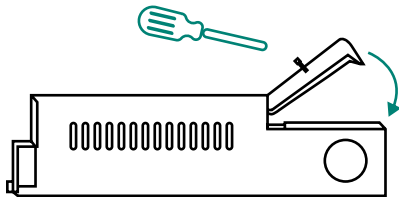
NEED HELP? For technical support, contact support@lynked.io or visit www.lynked.io



7

Close the Front-Access Cover

Ensure all wiring is securely connected before closing the cover to avoid having to unscrew and reopen it. Close the cover and tighten the top screw.



8

Turn on Power

Once all connections are verified, safely energize the power lines using the appropriate method (e.g., circuit breaker, fuse, or switch). The CG-200 powers on when **L1** and **N** are connected to power (see **Section 3.1**). It will take ~2 minutes to complete boot-up.

See **Section 6** for a full description of LED indicators and basic troubleshooting

5

WIRING OVERVIEW

G3-PLC Power

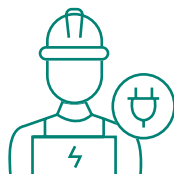
The CG-200 receives power directly from the power lines. These power lines are also used for G3-PLC communication.

Mesh Topology

The CG-200 communicates using a mesh topology (see **Figure 3**). End devices can communicate directly with the gateway or relay data through intermediate nodes on the same power line.

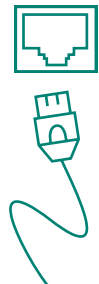
G3-PLC Wiring

G3-PLC wiring must be installed by a certified electrician and sized in accordance with applicable local and regional electrical codes.



Ethernet Connection

Connect the CG-200 to an active router using the provided Ethernet cable. Ensure the router is powered and configured to provide an IP address.



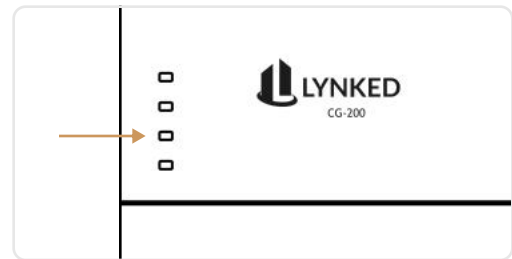
6 POWER & LED INDICATORS

6.1 Power-Up Sequence

Verify all wiring connections are properly installed before applying power to the power lines.

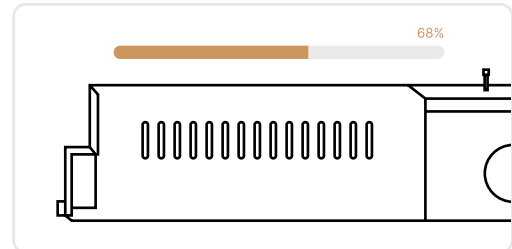
1 Power Indicator

 White Solid LED



2 Boot-Up

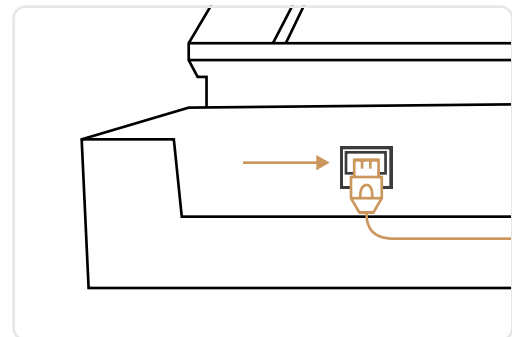
 ~ 2 minutes



3 RJ-45 Indicator

 Amber Solid LED
Physically Connected

 Green Blinking LED
Network Activity



6.2 Basic Troubleshooting

Power LED is OFF

- ✓ Confirm all wires connected to the G3-PLC connector are securely fastened.
- ✓ Verify the CG-200 is receiving power and that the circuit breaker and fuse are functional.
- ✓ Confirm that L1 and N are connected on the G3-PLC connector. These pins are required to supply power to the CG-200.

No Ethernet Activity

- ✓ Check that the Ethernet cable is securely plugged in at both ends.
- ✓ Confirm the router or switch port is active.
- ✓ Check that the router is configured to assign IP addresses using DHCP.
- ✓ Try a different Ethernet cable or port.

No G3-PLC Activity

- ✓ Check that the G3-PLC devices are powered on.
- ✓ Verify the power line is free of electrical noise. Large motors and similar equipment can interfere with G3-PLC communication.
- ✓ Inspect power line connections for corrosion.
- ✓ Ensure no devices that cause electrical isolation (e.g., transformers or UPS) are installed between the CG-200 and the end devices.
- ✓ Ensure surge suppression devices are not present between the CG-200 and the end devices.

7

TECHNICAL SPECIFICATIONS

Connectivity

Interface	Specification
LAN / Ethernet	1000 Mbps, auto-polarity correction
G3-PLC Port	Fully G3-PLC compliant, OFDM-based
RS-485 Port	Supports half/full-duplex communication
Default Protocols	Modbus, G3-PLC, TCP/IP

Mechanical

Parameter	Specification
Dimensions (mm)	195 x 184 x 48.5 mm (L x W x H)
Weight	600 g

Processing & Memory

Parameter	Specification
Processor	Quad core ARM-Cortex-A72 1.5 GHz
Operating System	Linux
RAM	1 GB SRAM
Flash Storage	64 GB
Interval Recording	Hourly (configurable)

Power

Parameter	Specification
Input Voltage	Typical: 120 VAC Maximum: 240 VAC (line-to-neutral)
Input Frequency	50 / 60 Hz
Required Connections	L1 (line 1) N (neutral)

Operating Environment

Parameter	Rating	Notes
Operating Temperature	0 °C to 60 °C	Performance may be affected outside this range
Humidity	0% to 95%	Non-condensing
Altitude	Up to 2000m	Above sea level
Pollution Degree	Degree 2	For environments with non-conductive contamination and occasional condensation