

# PANAMA METRO LINE 2

PANAMA CITY, PANAMA

## INTRODUCTION

The [Panama Metro](#) rapid transit system links the north and east sides of Panama City metropolitan area to the city center and is part of a master plan to improve transportation in the region. Line 1 of the metro opened in 2014. Construction on the second phase began in 2015, and Line 2 opened in April 2019. With a design capacity of 40,000 passengers per direction per hour, Line 2 serves 16 stations over an elevated 21-kilometer route. Each metro station has air-conditioning, video surveillance, passenger information systems, wheelchair accessibility, and fire safety and electronic ticketing systems. The master plan for the Panama Metro includes construction of three further metro lines and a tram by 2035.

## PROJECT DETAILS

Authorized Dealer [COPANAC](#) installed a Reliable Controls building automation system to control both Reliable Controls and third-party BACnet components for Panama Metro Line 2 stations.

In the network and special equipment rooms at each station, a MACH-ProWebCom connects via MS/TP to Reliable Controls devices and a third-party air-conditioning unit. The MACH-ProWebCom combines a BACnet Building Controller, BACnet Operator Workstation, and powerful web server in a single device that provides operators with the ability to access the entire building automation system over the internet. In administrative areas, a BACnet gateway allows Reliable Controls system integration using BACnet/IP.

MACH-ProZone controllers connected via BACnet control mechanical ventilation and exhaust equipment. COPANAC also installed MACH-Pro1 and MACH-Pro2 controllers at select stations to control the speed of ventilation fans based on zone temperature and to monitor associated fire dampers. MACH-ProPoint expansion modules help facility managers track the status of fire curtains and alarms from ancillary equipment.

One of the major challenges of the project was SCADA integration. COPANAC installed a custom Modbus TCP/IP network that allows communication between all Reliable Controls devices and the SCADA system.

The Panama Metro provides a vital service in Panama City, a regional hub of culture, commerce, and tourism. COPANAC and Reliable Controls are pleased to be part of it.

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### MARKET SEGMENT

Transportation

### PROJECT TYPE

New construction

### INSTALLATION TYPE

HVAC

### TOTAL AREA

1,198 m<sup>2</sup> (12,896 ft<sup>2</sup>)

### PROTOCOL

BACnet

### EQUIPMENT INSTALLED

5 MACH-Pro1™ controllers

1 MACH-Pro2™ controller

2 MACH-ProPoint™ expansion modules

16 MACH-ProWebCom™ controllers

30 MACH-ProZone™ controllers

### INTEGRATED EQUIPMENT

Liebert DataMate, LG ACP gateway

### TOTAL SYSTEM OBJECTS

5,350

### RELIABLE CONTROLS AUTHORIZED DEALER

**COPANAC**  
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