

# PANAMA METRO LINE 2

PANAMA CITY, PANAMA

TRANSPORTATION

## OVERVIEW

The Panama Metro rapid transit system links the north and east sides of the Panama City metropolitan area to the city center and is part of a master plan to improve transportation in the region. Service began on Line 1 of the metro in 2014. Construction of the second phase commenced 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 MACH-System to control Reliable Controls and third-party BACnet building automation system 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 MACH-System devices and a third-party air-conditioning unit. The MACH-ProWebCom combines a BACnet Building Controller, a BACnet Operator Workstation, and a powerful web server in a single device that provides operators with the ability to access the entire building automation system on the web. In administrative areas, a BACnet gateway allows MACH-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 track the status of fire curtains and alarms from ancillary equipment.

One of the major challenges of the project was the SCADA integration. To achieve this functionality, COPANAC installed a custom Modbus TCP/IP integration that allows network communication between all MACH-System 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 proud to have contributed to this important project.

To learn more about projects using Reliable Controls, visit  
[www.reliablecontrols.com/projects/overview](http://www.reliablecontrols.com/projects/overview)



### PROJECT TYPE

**New construction**

### TOTAL AREA

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

### INSTALLATION TYPE

**HVAC, smoke, ventilation**

### EQUIPMENT INSTALLED

**5 MACH-Pro1™ controllers**  
**1 MACH-Pro2™ controller**  
**2 MACH-ProPoint™ expansion modules**  
**16 MACH-ProWebCom™ controllers**  
**30 MACH-ProZone™ controllers**

### NETWORK

**EIA-485, Ethernet, fiber optic, WAN**

### PROTOCOL

**BACnet**

### BACNET

**Liebert DataMate, LG ACP gateway**

### POINTS

**600 hard points, 4,750 soft points**

### RELIABLE CONTROLS AUTHORIZED

**DEALER**

**COPANAC**