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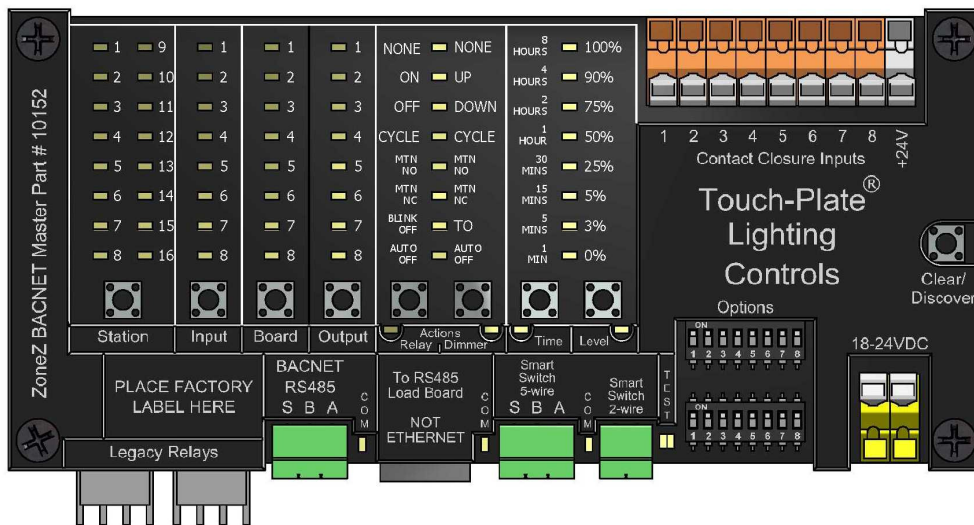


1830 Wayne Trace

Fort Wayne, Indiana 46803

www.touchplate.com

# Optimizing Your BACnet Lighting System



ZMC-128I-64L

## Purpose of Document

This document is intended to help system integrators plan the BACnet lighting system's network architecture in order to optimize network speed and minimize network latency.

If you follow the suggestions in this document, the BACnet ZoneZ Master Controller (ZMC) will allow the fastest response time possible. If the MS/TP network is not optimized for speed, it might result in increased latency and the lights might be delayed in turning on after a command is issued.

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## Planning System Architecture

- For optimal speed, place 10 or fewer panels on each MS/TP network. You can put up to 127 panels on a single MS/TP network, but latency will greatly increase.
- For reduced latency, do not combine lighting with other types of devices (such as HVAC, security, access control, fire and safety) onto the same MS/TP network. If possible, isolate lighting onto its own MS/TP network.
- HVAC can be used in combination with the ZMC if HVAC is controlled using soft patch configuration capability on the ZMC.
- If your system requires multiple ZMCs on one MS/TP network, place the controller on that same MS/TP network for optimal performance.

## Addressing Panels

When assigning MS/TP addresses to the panels, use consecutive numbers starting at one. Assign the first panel address as 1, the second address as 2, and so on.

## Configuring the MS/TP Network From the Operator Work Station

These instructions refer to standard BACnet properties in every BACnet device object. Use your operator work station to access each device on the network and set these parameters. Consult your operator work station software manual, if necessary, for step-by-step instructions.

- Set the property “Max Masters” within each device object to the actual number of devices on that MS/TP network. Do this for each device on the network. (The number of devices is the same as the number of addresses. If you have addressed devices as instructed, starting at 1 and going up in order with no gaps in the numbering, then the number of devices should be the same as the highest device address in the system.)
- Set the property “Max Info Frames” to 1. (Touch-Plate products are set to this number in the factory, but you might need to set this number on other manufacturers’ devices to keep the token passing running as fast as possible.)
- Set the Application Data Unit Size to 244. (Touch-Plate products are set to this number in the factory, but you might need to set this number on other manufacturers’ devices to avoid overrunning the receiver buffers.)
  - NOTE: We do not support segmentation.
- Set up Change Of Value (COV) subscriptions to any buttons on control stations that you want to monitor from the operator work station. When the system uses COV subscriptions instead of polling, the station sends a message about that button state to the operator work station whenever that button is pressed.
- Set the baud rate to the highest baud rate that your devices will support. Supported baud rates are 9600, 19200, 38400, and 76800. Set the corresponding baud rate on the ZMC.