M-SIM

M-Series Sensor Simulator

INSTALLATION AND MAINTENANCE MANUAL (IMM)

PLC Buildings
Lighting Control Systems

A Division of PLCMultipoint

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FIGURES

1 INTRODUCTON

1.1 GENERAL

1. Please read these instructions carefully to prevent any possible of injury or equipment damage.
2. Installer must be a qualified and experienced service technician.
3. Verify the product ratings to confirm that this product will satisfy your requirements and application.

1.2 OVERVIEW

The M-Simulator is used to calibrate and set-up the LC8 controller to function in the range of the target sensor.

2 INSTALLATION

2.1 M-Series Simulator Connections

The M-Series simulator connections are the same as the M-Series Sensor; remove the M-Series Sensor and attach the wires of the simulator, Yellow wire to TB1-1 at the bottom of the controller board, the Black wire should be connected to TB1-2, and the Red wire should be connected to TB1-3. See Figure 1 below.

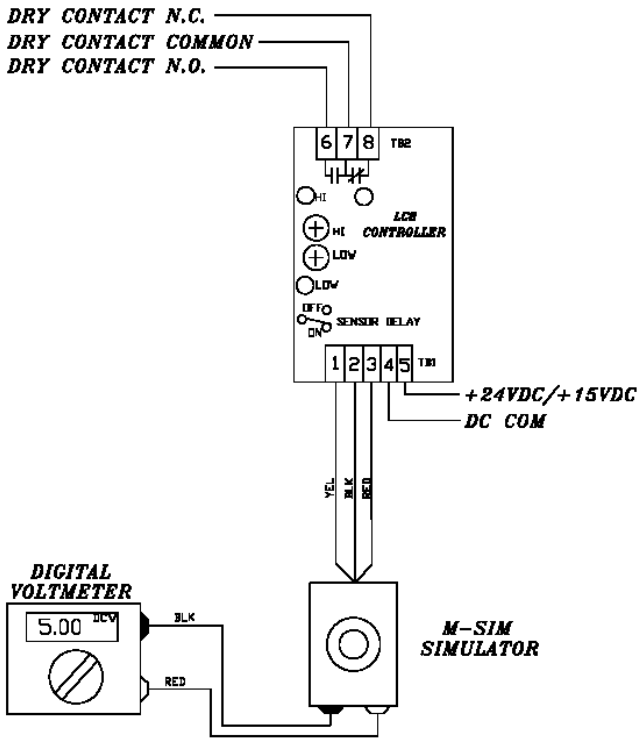

Figure 1: M-Simulator Set-up

3 OPERATION

3.1 Normal Operation of the M-Simulator

The M-Series Sensor comes in four styles (Indoor, Outdoor, Atrium, and Skylight) and has four variations in output analog signals (0-5V, 0-10V, 1-5V, and 1-10V). The LC8 Controllers, however, utilize only the M-Series Sensor 0-10V version of the sensor to provide the analog input signal.

M-Series Sensors have a very linear output with Vdc representing 0 Fc, and 10Vdc representing the "Factory Standard" calibration for its type. The factory Standard calibration for the M-Series Indoor Sensor is 10V=100Fc, Outdoor Sensor is 10V=250Fc, Atrium Sensor is 10V=1000Fc, and Skylight is 10V=2000Fc.

If we take, for example, a M-Series Outdoor Sensor, each volt equals 25 Fc. So, if we wanted to calibrate the LC8 Controller to switch the lights ON at 25 Fc and OFF at 50 Fc, we would attach the M-Simulator as outlined by section two, first ensuring the simulator is switched OFF by rotating the control knob all the way counter-clockwise in to the switch position, and checking to verify the wiring is connected properly. With the DVM leads connected to the M-Simulator, we would first would apply power to the LC8 Controller, the switch ON the simulator by turning the Adjusting Knob clockwise until ON (the simulator first switches ON and will increases as the Adjustment Knob continues to be turned clockwise). Continue to turn the Adjustment Knob clockwise until the DVM displays a value of 1Vdc. Then, we would re-adjust the bottom trimpot on the LC8 Controller to that value. Then, we would adjust the Adjusting Knob until the DVM displayed a value of 2Vdc and adjust the top trimpot on the LC8 Controller to that value. For more specifics on the LC8 Controller calibration procedure, consult the LC8 IMM.

4 MAINTENANCE

4.1 Maintenance of the M-Simulator

Occasionally inspect the simulator for broken or frayed wires and ensure the knob can rotate freely.