

MALFUNCTION MANAGEMENT UNITS

The malfunction management units (MMU) shall comply with Section 4 of the NEMA TS 2 standard. The MMU shall be capable of operating as either a Type 16 with 16 channels (8 vehicle, 4 pedestrian, 4 overlap) or a Type 12 with 12 channels (8 vehicle, 4 overlap). The MMU's supplied shall be configured to operate as Type 16 units.

The MMU's in either the Type 16 or Type 12 configuration shall be capable of operating in a NEMA TS 2 Type 2 cabinet, a NEMA TS 2 Type 1 cabinet, or a NEMA TS 1 cabinet without loss of functionality. The MMU shall be connected directly to the controller unit to support enhanced MMU monitoring of controller operations.

VEHICLE DETECTOR AMPLIFIERS

The loop detector amplifiers shall be supplied as two-channel rack mounted units with programmable delay and extension timing, however, all delay and extension programming shall be completed internally in the controller unit.

A chart shall be permanently affixed to the controller cabinet door, which labels each amplifier channel. The chart shall indicate the detector number, street name, approach direction, lane assignment, corresponding phase and terminal number for each amplifier channel.

The detector lead-in cables shall also be similarly labeled, both in the controller cabinet and in the pull box containing the detector lead-in splice. This labeling and attachment shall be of durable materials such as brass or plastic, attached by wire or plastic ties. Adhesive attachment of the label shall not be acceptable.

All control cabinets shall be supplied with a minimum of four, two-channel rack-mounted loop amplifiers unless otherwise noted in the major items list on the plan sheets. Additional rack mounted loop amplifiers shall be supplied if so required by the major items list on the plans.

VEHICLE LOOP DETECTORS

Wire loop detectors shall be installed in the roadway for vehicle detection. In advance of the loop detector installation, the Contractor shall mark, on site, the loop detectors with any changes required by field conditions such as manholes. The loop detector layout shall be inspected and approved by the City of New Bedford or its authorized representative before the loop detectors are installed.

Loop wire shall be encased in a protected plastic tubing of PVC or polyethylene plastic, IMSA 51-5, 0.25 inch outside diameter, and the wire may have cross-linked polyethylene insulation or it may have THHN/THWN insulation.

Splicing insulator shall be an approved re-enterable rigid body splices kit with a non-hardening sealing compound compatible with the wire insulation.

Splice and Connection: Splicing and connection shall be made in the pull box nearest the roadway loop sensor but not exceeding four loops per pull box. All loops included in a detector group as