

**STATE OF NEW JERSEY
DEPARTMENT OF TRANSPORTATION
TRENTON, NEW JERSEY 08625**

**SPECIFICATIONS FOR TEST CONTROLLER UNIT FOR TWO TO EIGHT PHASE
SOLID STATE NEMA TYPE TRAFFIC SIGNAL CONTROLLERS**

N.J. Specification No. EB-TSC-CTU

Effective Date: July 1, 2001

New Jersey Department of Transportation Specifications for a Test Controller Unit for Two to Eight Phase Solid State NEMA Type Traffic Signal Controllers.

The purpose of these specifications is to describe minimum acceptable design and operation requirements for a Test Controller Unit for Two to Eight Phase Solid State NEMA Type Traffic Signal Controllers.

GENERAL - I

- 1-1 The test unit to be furnished under this specification shall be mounted in a portable hard shell case equipped with fasteners and carrying handle, and designed to test all functions of two to eight phase solid state NEMA controllers. All references to NEMA shall be to NEMA TS1-1989. It shall be supplied complete with connectors and cables, and designed such that no other external equipment is required to test any NEMA controller unit.
- 1-2 Color coded individual LED indicators shall be provided for all outputs. Indications for the following outputs shall be provided for all eight phases (red, yellow, green, walk, don't walk, ped. clear, check, phase on, phase next). Red, yellow and green indications for 4 overlaps (A, B, C, D) and indications for coded status bits (A, B, C) for Ring 1 and Ring 2 shall also be provided. There shall also be indications for flashing logic and voltage monitor. These indications shall be driven by a separate internal power supply mounted in the unit.
- 1-3 Switches shall be provided to test all NEMA controller functions. All switches shall be mounted on the face of the test unit.
- 1-4 All pins in the three NEMA connectors shall be fully wired. Cable associated with pins not specifically assigned for use at the present time shall terminate either on a switch or in the test unit readily available for future connection as new functions are reserved. The test unit shall be of adequate size to allow expansion for test capability of all future NEMA requirements as new pin assignments are developed.
- 1-5 Each indicator shall be appropriately identified according to phase and output functions. Each switch shall be clearly identified as to the test function it performs. All labeling shall be permanently painted on the face of the test unit.

INSTRUCTIONS AND GUARANTEES - II

- 2-1 Upon request, one wiring diagram and installation manual shall be provided with each unit.
- 2-2 No changes or substitutions in these requirements will be accepted unless authorized in writing. Inquiries regarding this specification shall be addressed to the Manager, Office of Traffic Signal and Safety Engineering, New Jersey Department of Transportation, 1035 Parkway Avenue, P.O. Box 613, Trenton, NJ 08625.
- 2-3 Each unit shall be provided with a two-year warranty from date of delivery against any imperfections in workmanship or materials.
- 2-4 The company agrees upon the request of the Manager, Office of Traffic Signal and Safety Engineering to deliver to the Office, a sample of the unit to be supplied in compliance with these specifications for inspection and test before acceptance. After completion of the test, the sample shall be returned.
- 2-5 Any repairs made by a manufacturer or representative shall be documented and returned with units when warranty repaired. This documentation shall include an explanation of the exact repairs made and identification of parts replaced by part number and circuit number. All warranty repairs must be made within thirty days upon receiving equipment.