

NTCIP 1202:1996 Amendment 1

National Transportation Communications for ITS Protocol (NTCIP)

Object Definitions For Actuated Traffic Signal Controller Units

Amendment 1 Draft version 01.06 October 19, 1999

NTCIP 1202 was formerly numbered NEMA TS 3.5

This is a draft document, which is distributed for review and comment purposes only. You may reproduce and distribute this document within your organization, but only for the purposes of and only to the extent necessary to facilitate review and comment to the **NTCIP Coordinator**. Please ensure that all copies reproduced or distributed bear this legend. This document contains information that is subject to change.

Published by

American Association of State Highway and Transportation Officials (AASHTO)

444 North Capitol St., N.W., Suite 249
Washington, D.C. 20001

Institute of Transportation Engineers (ITE)

525 School St., S.W., Suite 410
Washington, D.C. 20024-2797

National Electrical Manufacturers Association (NEMA)

1300 N. 17th Street, Suite 1847
Rosslyn, Virginia 22209-3801

000417 1202a1v01.06b

MIB DISCLAIMER

- Add the following paragraphs after the title page of the document:

Joint AASHTO, ITE, NEMA Copyright
and
NTCIP Management Information Base
DISTRIBUTION NOTICE

© Copyright 1999 by the National Electrical Manufacturers Association (NEMA). All intellectual property rights, including, but not limited to, the rights of reproduction, translation and display are reserved under the laws of the United States of America, the Universal Copyright Convention, the Berne Convention, and the International and Pan American Copyright Conventions. Except as provided, you may not copy these materials without written permission from either AASHTO, ITE or NEMA. Use of these materials does not give you any rights of ownership or claim of copyright in or to these materials.

To the extent and in the limited event these materials are distributed by AASHTO/ITE/NEMA in the form of a Management Information Base ("MIB"), NEMA extends the following permissions:

- (i) you may make and/or distribute unlimited copies (including derivative works) of the MIB, including copies for commercial distribution, provided that (a) each copy you make and/or distribute contains this Notice and (b) each derivative work of the MIB uses the same module name followed by "-", followed by your Internet Assigned Number Authority (IANA)-assigned enterprise number;
- (ii) use of the MIB is restricted in that the syntax field may be modified only to reflect a more restrictive subrange or enumerated values;
- (iii) the description field may be modified but only to the extent that: (a) only those bit values or enumerated values that are supported are listed; and (b) the more restrictive subrange is expressed.

These materials are delivered "AS IS" without any warranties as to their use or performance.

AASHTO/ITE/NEMA AND THEIR SUPPLIERS DO NOT WARRANT THE PERFORMANCE OR RESULTS YOU MAY OBTAIN BY USING THESE MATERIALS. AASHTO/ITE/NEMA AND THEIR SUPPLIERS MAKE NO WARRANTIES, EXPRESS OR IMPLIED, AS TO NONINFRINGEMENT OF THIRD PARTY RIGHTS, MERCHANTABILITY, OR FITNESS FOR ANY PARTICULAR PURPOSE. IN NO EVENT WILL AASHTO, ITE OR NEMA OR THEIR SUPPLIERS BE LIABLE TO YOU OR ANY THIRD PARTY FOR ANY CLAIM OR FOR ANY CONSEQUENTIAL, INCIDENTAL OR SPECIAL DAMAGES, INCLUDING ANY LOST PROFITS OR LOST SAVINGS, ARISING FROM YOUR REPRODUCTION OR USE OF THESE MATERIALS, EVEN IF AN AASHTO, ITE, OR NEMA REPRESENTATIVE HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Some states or jurisdictions do not allow the exclusion or limitation of incidental, consequential or special damages, or the exclusion of implied warranties, so the above limitations may not apply to you.

Use of these materials does not constitute an endorsement or affiliation by or between AASHTO, ITE, or NEMA and you, your company, or your products and services.

If you are unwilling to accept the foregoing restrictions, you should immediately return these materials.

NTCIP is a trademark of AASHTO/ITE/NEMA.

1.2 REFERENCES

- Add the following paragraphs to the top of this clause:

For approved revisions, contact:

NTCIP Coordinator
National Electrical Manufacturers Association
1300 North 17th Street, Suite 1847
Rosslyn, VA 22209-3801

For draft revisions, which are under discussion by the relevant NTCIP Working Group, and recommended revisions of the NTCIP Joint Committee, visit the World Wide Web at <http://www.ntcip.org>.

1.2.1 NORMATIVE REFERENCES

Modify the first paragraph to read:

"Information on proposed errata or other ASC objects, which are under discussion by the relevant NTCIP Working Group, is available on the World Wide Web at <http://www.ntcip.org>."

1.3 ACTUATED CONTROLLER UNIT TERMS

Delete the following sentence from of the first paragraph:

"These terms reflect the consensus of the traffic control equipment industry as represented by NEMA and are intended to be in harmony with terminology in current usage."

SECTION 2 OBJECT DEFINITIONS

In the first paragraph, replace the text "NEMA Standard ASC MIB" with "NTCIP Standard ASC MIB."

2.2.2.21 Phase Options

Modify the DESCRIPTION field for Bit 0 to be:

"Enabled Phase - provide a means to define whether this phase is used in the current configuration. A disabled phase shall not provide any outputs nor respond to any phase inputs (object phaseRing = 0 has the same effect.)."

2.2.2.22 Phase Ring Parameter

Modify the SYNTAX field to be "INTEGER (0..255)."

Modify the DESCRIPTION field to be:

"Phase ring number (1..maxRings) that identified the ring which contains the associated phase. This value must not exceed the maxRings object value. If the ring number is zero, the phase is disabled (phaseOptions Bit 0 = 0 has the same effect)."

2.2.4.1 Phase Status Group Number

Modify the SYNTAX field to be "INTEGER (1..255)."

2.3.2.3 Vehicle Detector Call Phase Parameter

Add the following paragraph just prior to this heading:

Note: {vehicleDetectorEntry 3} is not used.

2.2.5 Phase Control Table

Modify the DESCRIPTION to be:

"A table containing Actuated Controller Unit Phase Control in groups of eight phases. The number of rows in this table is equal to the maxPhaseGroups object.

This table is optional for Actuated Controller Units conforming to this specification. If implemented then all mandatory objects in this table shall be implemented."

2.3.4 VEHICLE DETECTOR STATUS GROUP TABLE

Modify the INDEX for 'vehicleDetectorStatusGroupEntry' to 'vehicleDetectorStatusGroupNumber.'

2.4.3 Backup Time Parameter

Remove the first occurrence of 'unitControl' from the DESCRIPTION text.

2.4.5 Unit Control Status

Remove the following text from the DESCRIPTION field:

"The value of this object is ignored when in BACKUP Mode. A write to this object shall reset the BACKUP timer to ZERO."

2.4.9 Short Alarm Status

Modify the DESCRIPTION field for Bit 2 to be:

"Bit 2 - Local Cycle Zero; When running coordinated and the Coord Cycle Status (coordCycleStatus) has passed through zero."

2.4.11 Maximum Alarm Groups

Modify the STATUS to be "mandatory."

2.4.12 Alarm Group Table

Modify the STATUS to be "mandatory."

2.4.12.1 Alarm Group Number

Modify the SYNTAX field to be "INTEGER (1..255)."

2.4.14 Special Function Output Table

Modify the STATUS to be "mandatory."

2.4.14.1 Special Function Output Number

Modify the SYNTAX field to be "INTEGER (1..255)."

Modify the ACCESS field to be "read-only."

2.5.5 Maximum Patterns Parameter

Modify the DESCRIPTION field to be:

"The maximum number of Patterns this Actuated Controller Unit supports. This object indicates how many rows are in the patternTable object (254 and 255 are defined as non-pattern status for Free and Flash)."

2.5.7.1 PATTERN NUMBER ENTRY

Modify the SYNTAX field to be "INTEGER (1..253)."

2.5.7.2 Pattern Cycle Time

Modify the DESCRIPTION field to be:

"The patternCycleTime object specifies the length of the pattern cycle in seconds (NEMA TS 2 range: 30-255). A pattern cycle time less than adequate to service the minimum requirements of all phases shall result in Free mode. The minimum requirements of a phase with a not-actuated ped include Minimum Green, Walk, Pedestrian Clear, Yellow Clearance, and Red Clearance; the minimum requirements of a phase with an actuated pedestrian include Minimum Green, Yellow Clearance, and Red Clearance. If the pattern cycle time is zero and the associated split table (if any) contains values greater than zero, then the CU shall utilize the split time values as maximum values for each phase."

2.5.9.3 Split Time Parameter

Modify the DESCRIPTION field to be:

"The time in seconds the splitPhase is allowed to receive (i.e. before a Force Off is applied) when constant demands exist on all phases. In floating coordForceMode, this is always the maximum time a non-coordinated phase is allowed to receive. In fixed coordForceMode, the actual allowed time may be longer if a previous phase gapped out. The splitTime includes all phase clearance times for the associated phase. The split time shall be longer than the sum of the phase minimum service requirements for the phase. When the time is NOT adequate to service the minimum service requirements of the phase, Free Mode shall be the result. The minimum requirements of a phase with a not-actuated ped include Minimum Green, Walk, Pedestrian Clear, Yellow Clearance, and Red Clearance; the minimum requirements of a phase with an actuated pedestrian include Minimum Green, Yellow Clearance, and Red Clearance. If the cycleTime entry of the associated patternTable entry is zero (i.e. the device is in Free Mode), then the value of this object shall be applied, if non-zero, as a maximum time for the associated phase. If the critical path through the phase diagram is less than the cycleTime entry of the associated patternTable entry, all extra time is allotted to the coordination phase in each ring. If the critical path through the phase diagram is greater than the cycleTime entry of the associated patternTable entry (and the cycleTime is not zero) the device shall operate in the Free Mode. While the Free Mode condition exists, the Local Override bit of shortAlarm shall be set to one (1)."

2.5.12 Coordination Cycle Status

Modify the DESCRIPTION to be:"

"The Coord Cycle Status represents the current position in the local coord cycle of the running pattern (0 to 510 sec). This value normally counts down from patternCycleTime to Zero. This value may exceed the patternCycleTime during a coord cycle with offset correction (patternCycleTime + correction)."

2.5.13 Coordination Sync Status

Modify the SYNTAX to be: INTEGER (0..65535)

Modify the DESCRIPTION to be:"

"The Coord Sync Status represents the time since the system reference point for the running pattern (0 to 510 sec). This value normally counts up from Zero to the next system reference point (patternCycleTime). This value may exceed the patternCycleTime during a coord cycle in which the system reference point has changed."

2.5.15 System Sync Control

Modify the DESCRIPTION to be:"

"This object is used to establish the system reference point for the Called System Pattern by providing the current position in the system pattern cycle (0-254 seconds). The device shall recognize a write to this object as a command to establish the time until the next system reference point. Thereafter, the system reference point shall be assumed to occur at a frequency equal to the patternCycleTime.

When the value in the object is 255, the system reference point shall be referenced to the local Time Base in accordance with its programming.

This CU must maintain an accuracy of 0.1 seconds based on the receipt of the SET packet.

The value of this object is ignored when in BACKUP Mode.

A write to this object shall reset the BACKUP timer to ZERO."

2.6 TIME BASE PARAMETERS

Change the object name from "timebase" to "timebaseAsc"

2.6.1 Time Base Pattern Sync Parameter

Change the object name from "timebasePatternSync" to "timebaseAscPatternSync" and change "{ timebase 1 }" to "{ timebaseAsc 1 }"

2.6.2 Maximum Time Base Actions

Change "{ timebase 2 }" to "{ timebaseAsc 2 }"

2.6.3 Time Base ASC Action Table

Change "{ timebase 3 }" to "{ timebaseAsc 3 }",
Change "timebaseActionPattern" to "timebaseAscPattern",
Change "timebaseActionAuxillaryFunction" to "timebaseAscAuxillaryFunction", and
Change "timebaseActionSpecialFunction" to "timebaseAscSpecialFunction"

2.6.3.1 Time Base Action Number Entry

Modify the SYNTAX field to be "INTEGER (1..255)."

2.6.3.2 Time Base Action Pattern Parameter

Change "timebaseActionPattern" to "timebaseAscPattern"

2.6.3.3 Time Base Action Auxiliary Function Parameter

Change "timebaseActionAuxillaryFunction" to "timebaseAscAuxillaryFunction"

2.6.3.4 Time Base Action Special Function Parameter

Change "timebaseActionSpecialFunction" to "timebaseAscSpecialFunction"

2.6.4 Time Base ASC Action Status

Change "{ timebase 4 }" to "{ timebaseAsc 4 }"

2.7.2.1 Preempt Number

Modify the SYNTAX field to be "INTEGER (1..255)."

2.7.3.1 Preempt Control Number

Modify the SYNTAX field to be "INTEGER (1..255)."

2.7.3.2 Preempt Control State

Modify the ACCESS field to be "read-write."

2.8.3.1 Sequence Number

Modify the SYNTAX field to be "INTEGER (1..255)."

2.8.3.2 Sequence Ring Number

Modify the ACCESS field to be "read-only."

2.8.5.1 Ring Control Group Number

Modify the SYNTAX field to be "INTEGER (1..255)."

2.9.2.1 Channel Number

Modify the SYNTAX field to be "INTEGER (1..255)."

2.9.2.2 Channel Control Source Parameters

Modify the ACCESS field to be "read-write."

2.9.2.3 Channel Control Type Parameters

Modify the ACCESS field to be "read-write."

2.9.2.4 Channel Flash Parameters

Modify the ACCESS field to be " read-write."

2.9.2.5 Channel Dim Parameters

Modify the ACCESS field to be " read-write."

2.9.4.1 Channel Status Group Number

Modify the SYNTAX field to be "INTEGER (1..255)."