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--The following MIB has been developed for use by FDOT. This MIB
--contains new objects specifically developed to fulfill FDOT-specific
--functional requirements.

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--Version: v02
--Compiled using the NTCIP Exerciser 3.3b

--Filename:    FDOT-specific DMS MIB v02.MIB
--Discription: This MIB describes the FDOT Specific DMS Objects

--*********************************************************************
--05/01/02  This MIB was Modified by the FDOT-TERL as follows:
--          Changed filename from FDOT-specific DMS MIB v01c.MIB
--          to FDOT-specific DMS MIB v02.MIB
--          Changed status of fdotCriticalMaxTemperature.0 object
--          from mandatory to optional.
--          Changed description of fdotCriticalMaxTemperature.0 object.
--          Changed description of fdotLog90Full.0 object to reflect
--          that this object is to reflect whether or not any configured
--          event class is 90% full.
--          Changed status of dmsNoActivityTime.0 from mandatory to
--          optional.
--*********************************************************************

FDOT-DMS-MIB DEFINITIONS ::= BEGIN
IMPORTS
  OBJECT-TYPE
       FROM RFC-1212
  nemaPrivate
       FROM NEMA_SMI
   devices, protocols, profiles, DisplayString
        FROM TMIB-II
   Opaque, Counter, Gauge
        FROM RFC1155-SMI
   MessageIDCode
        FROM DMS-MIB;


   farradyne OBJECT IDENTIFIER ::= {nemaPrivate 6}


fdot-dms       OBJECT IDENTIFIER ::= {farradyne 11}
-- This node is an identifier used to group all objects specifically developed for
-- Florida DOT's deployment of 'NTCIP-compliant' DMS signs.  The functionalities of
-- these objects have not been addressed in any NTCIP or NTCIP-referenced standards
-- or draft standards.

--the following objects indicate whether any of the power supplies have failed.
--Additionally, a table includes objects to query the various power supply voltages.
fdotPowerSupplyFailures OBJECT-TYPE
SYNTAX  OCTET STRING (SIZE (0..4))
ACCESS  read-only
STATUS  optional
DESCRIPTION "Indicates whether each power supply within a DMS is operational, expressed as a
bitmap.  If a power supply failed, its associated bit is set to a value greater than zero (>0).
Each power supply is associated with a bit (bit-power supply correlation order specified by
manufacturer) allowing for up to 32 power supply to report failure status."
::= {fdot-dms 1}

fdotPowerSupplyTableRows OBJECT-TYPE
SYNTAX  INTEGER (0..255)
ACCESS  read-only
STATUS  optional
DESCRIPTION "Indicates the maximum number of rows in the fdotPowerSupplyTable. Each row represents
a particular power supply."
::={fdot-dms 2}

fdotPowerSupplyTable OBJECT-TYPE
SYNTAX  SEQUENCE OF FdotPowerSupplyEntry
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ACCESS  not-accessible
STATUS  optional
DESCRIPTION  "A table containing the detected power supply voltages, power supply status, and
descriptions for each power supply associated with this device.  The number of rows is given by the
value of fdotPowerSupplyTableRows-object."
::= { fdot-dms 3}

fdotPowerSupplyEntry OBJECT-TYPE
SYNTAX  FdotPowerSupplyEntry
ACCESS  not-accessible
STATUS  optional
DESCRIPTION "Parameters of the FDOT-specific Power Supply Status Table."
INDEX {fdotPowerSupplyNumber}
::={ fdotPowerSupplyTable 1}

FdotPowerSupplyEntry ::= SEQUENCE {
fdotPowerSupplyNumber  INTEGER,
fdotPowerSupplyType           INTEGER,
fdotPowerSupplyDescription    OCTET STRING,
fdotPowerSupplyVoltage INTEGER,
fdotPowerSupplyStatus  INTEGER}

fdotPowerSupplyNumber   OBJECT-TYPE
SYNTAX  INTEGER (1..32)
ACCESS  read-only
STATUS  optional
DESCRIPTION  "The number assigned by the device vendor to a power supply.  This value is the first
and only index into this table.  It shall be mandatory that the vendor assign the power supply
numbers sequentially."
::= { fdotPowerSupplyEntry 1}

fdotPowerSupplyType   OBJECT-TYPE
SYNTAX  INTEGER {
               other (1),
               displayModule (2),
cabinetPower (3),
upsPower (4),
signHousingPower (5)
}
ACCESS  read-only
STATUS  optional
DESCRIPTION  "indicates the type of power supply associated with this row in the table.  The values
are:
other (1) - an type other than the ones explained below.  Refer to device manual.
displayModule (2) - the power supplies associated with the various display modules which assemble
one or more characters.
cabinetPower (3) - the power supplies associated with powering the sign controller cabinet
including the sign controller, communications equipment and other cabinet electronics.
upsPower (4) - the un-interrupted power supplies within the sign housing and/or the sign controller
cabinet.
signHousingPower (5) - the power supplies associated with powering the sign housing and other non-
display associated electronics.  This type may be covered as part of the displayModule power
supplies."
::= { fdotPowerSupplyEntry 2}

fdotPowerSupplyDescription   OBJECT-TYPE
SYNTAX  OCTET STRING (SIZE (0..40))  --Assumed that 40 characters of description
  --is sufficient.
ACCESS  read-only
STATUS  optional       --this object may not be needed, since this information
--can be maintained at central.
DESCRIPTION  "indicates the description assigned by the vendor to this particular power supply."
::= { fdotPowerSupplyEntry 3}

fdotPowerSupplyVoltage   OBJECT-TYPE
SYNTAX  INTEGER (0..65535)
ACCESS  read-only
STATUS  optional
DESCRIPTION  "Indicates the detected voltage, in hundredth (1/100) of a volt, of this power supply.
The maximum value (0xFFFF) corresponds to a voltage of 655.35 volts."
::= { fdotPowerSupplyEntry 4}
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fdotPowerSupplyStatus   OBJECT-TYPE
SYNTAX  INTEGER (0..1)
ACCESS  read-only
STATUS  optional
DESCRIPTION  "Indicates whether this power supply is operational.  A value of zero (0) indicates
that the power supply is operational, while a value of greater than zero (>0) indicates a non-
operational power supply."
::= { fdotPowerSupplyEntry 5}


--the following object is used to set the critical threshold for the maximum
--sign housing temperature.
fdotCriticalMaxTemperature OBJECT-TYPE
SYNTAX  INTEGER (-128..127)
ACCESS  read-write
STATUS  optional
DESCRIPTION "Indicates the maximum user-defined temperature, in degrees Celcius, within the sign
housing.  If this threshold is reached or exceeded, the sign shall be blanked and the error
reflected by the fdotMsgSourceModeExtension object."
::={fdot-dms 4}

--the following 2 objects are used to disable the alarm and error generation when the
--sign controller was not polled for a user-defined time.
fdotDmsMaxPollTime OBJECT-TYPE
SYNTAX  INTEGER (0..65535)
ACCESS  read-write
STATUS  mandatory
DESCRIPTION "Indicates the maximum time, in minutes, between communications between the central
computer and the sign.  This threshold is being used to determine whether to disable the generation
of errors and failures that are to be logged (to avoid logging overrun).  The value of 65535
indicates an infinite duration."
::= {fdot-dms 5}

fdotDmsErrorGenerationToggle OBJECT-TYPE
SYNTAX  INTEGER (0..1)
ACCESS  read-write
STATUS  mandatory
DESCRIPTION "Indicates whether to stop the generation of new errors and failures, which are to be
logged (to avoid logging overruns).  A value of zero (0) indicates that all errors and failures are
being generated even after the threshold (see fdotDmsMaxPollTime) has been exceeded.  A value of
greater than zero (>0) indicates that the generation of additional errors and failures is to be
terminated after the threshold indicated by the fdotDmsMaxPollTime has been exceeded."
DEFVAL {0}
::= {fdot-dms 6}

--the following object is used to SET the threshold at which the number of failed
--pixels will lead to the 'blanking' of the sign display.
fdotMaxNumPixelFailure OBJECT-TYPE
SYNTAX  INTEGER (0..4294967295)
ACCESS  read-write
STATUS  mandatory
DESCRIPTION "Indicates the total number of failed pixels that cannot be exceed before the sign must
be blanked.  A pixel failure is considered to be either stuck-on or stuck-off, i.e., cannot change
its state.
Whether the sign display was blank based on exceeding this threshold is indicated by a value of (1)
within the fdotMsgSourceModeExtension object."
::= {fdot-dms 7}

--the following 2 objects are used for Hybrid Fiber/Flip signs.  The first object
--allows to SET the threshold at which the duration of a power loss shall lead
--to the 'blanking' of the sign display.  The second object allows to SET the
--message (blank) that is to be displayed if the threshold is being exceeded.
fdotLongPowerLossTime OBJECT-TYPE
SYNTAX  INTEGER (0..65535)
ACCESS  read-write
STATUS  optional
DESCRIPTION "the time (inclusive), in seconds, that must elapse before a long power loss is
assumed.  If this object is set to zero (0), no differentiation between long power loss and short
power loss shall be made."
DEFVAL {600}  -- suggested value for FDOT (10 minutes)
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::= {fdot-dms 8}

dmsLongPowerLossMessage   OBJECT-TYPE
SYNTAX  MessageIDCode
ACCESS  read-write
STATUS  optional
DESCRIPTION "Indicates the message that is displayed after the value indicated in the
fdotLongPowerLossTime object has elapsed."
--DEFVAL {0x07 0x01 0x00 0x00}  - required value for FDOT (blank the sign)
::= { fdot-dms 9}

--the following object indicates whether the log is 90% full.
fdotLog90Full OBJECT-TYPE
SYNTAX  INTEGER (0..1)
ACCESS  read-only
STATUS  mandatory
DESCRIPTION "Indicates whether any of the configured event classes within the log are 90% full.  A
value of zero (0) indicates that none of the configured event classes within the log have exceeded
90% of capacity."
::= {fdot-dms 10}

--the following object is used to SET the threshold at which the user is being logged
--off from the sign controller, if not communication activity occurs.
dmsNoActivityTime   OBJECT-TYPE
SYNTAX  INTEGER (0..65535)
ACCESS  read-write
STATUS  optional
DESCRIPTION "the time (inclusive), in seconds, that must elapse before a user is being logged off
due to no communication activity.  If this object is set to 65535, a user shall never be logged
off."
DEFVAL {600}  -- suggested value for FDOT (10 minutes)
::= { fdot-dms 11}

--the following object is an extension to the dmsMsgSourceMode and indicates
--additional reasons/conditions that led to the display of the current
--message, typically a blank message.
fdotMsgSourceModeExtension   OBJECT-TYPE
SYNTAX  INTEGER {
blankPixelFailure (1),
reserved (2),
excessLedTemperature (3),
longPowerLoss (4) }
ACCESS  read-only
STATUS  mandatory
DESCRIPTION "Indicates additional sources/reasons that initiated the currently displayed message.
The object values are based on agency-specific requirements and will typically lead to a blanked
message.  Their meaning is:
BlankPixelFailure (1) = if threshold of all failed pixels is exceeded
reserved (2) = value cannot be used in FDOT implementations.
excessLedTemperature (3) = if temperature exceeds 'rated operating temperature of LEDs'
longPowerLoss (4) = if the duration of a power loss exceeds the value indicated in the
fdotLongPowerLossTime object has been elapsed.
"
::= {fdot-dms 12}

END
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