

## The Marway Sensor MIB

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### Abstract

This memo defines a portion of the Management Information Base (MIB) for use with network management protocols in The Internet community.

In particular, it defines managed objects exposing management information about the configuration and status of Marway sensor entities.

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## 1. Introduction

This memo defines managed objects exposing management information about the configuration and status of Marway sensor entities.

## 2. The Internet-Standard SNMP Management Framework

For a detailed overview of the documents that describe the current Internet-Standard Management Framework, please refer to section 7 of RFC 3410 [RFC3410].

Managed objects are accessed via a virtual information store, termed the Management Information Base or MIB. MIB objects are generally accessed through the Simple Network Management Protocol (SNMP).

Objects in the MIB are defined using the mechanisms defined in the Structure of Management Information (SMI). This memo specifies a MIB module that is compliant to the SMIV2, which is described in STD 58, RFC 2578 [RFC2578], STD 58, RFC 2579 [RFC2579] and STD 58, RFC 2580 [RFC2580].

## 3. Conventions

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

## 4. Overview

This section provides an overview of this MIB module.

Section 4.1 discusses the relationship of this MIB module to other MIB modules.

Section 4.2 presents the organization of this MIB module.

### 4.1 Relationship to Other MIB Modules

This section discusses the relationship of this MIB module to MIB modules published by the Internet Engineering Task Force (IETF) and to other Marway Enterprise MIB modules.

#### 4.1.1 ENTITY-MIB

The ENTITY-MIB is designed to expose management information about the inventory of components associated with a managed system. These components include Marway sensor entities.

This MIB module defines extensions to the ENTITY-MIB, exposing additional management information about sensor entities within Marway products.

For each `mSensorIdentityEntry`, there exists an `entPhysicalEntry` where the value of `entPhysicalClass` is 'sensor(8)'.

An `mSensorIdentityEntry` and `entPhysicalEntry` that share the same `entPhysicalIndex` value correspond to each other and expose management information about the same Marway sensor entity.

#### 4.2 Organization of This MIB Module

This MIB module defines two textual conventions that are described in the following section.

This MIB module organizes its OBJECT-TYPE definitions into three conceptual tables. These tables are described in a subsequent section.

There are also two NOTIFICATION-TYPE definitions contained in this MIB module. These notifications are described in a subsequent section.

##### 4.2.1 Textual Conventions

This section describes the two textual conventions defined in this MIB module.

###### 4.2.1.1 MInterlockStatus

The `MInterlockStatus` textual convention enumerates the set of possible states for a Marway interlock sensor.

The Marway interlock status values are interpreted as follow:

- `other(1)' - the current status is a value other than one of the following
- `normal(2)' - the current status is 'normal'
- `alarmed(3)' - the current status is 'alarmed'
- `disabled(4)' - the current status is 'disabled'

#### 4.2.1.2 MInterlockTriggerMode

The MInterlockTriggerMode textual convention enumerates the set of possible trigger modes for a Marway interlock sensor.

The Marway interlock sensor trigger mode values are interpreted as follow:

- `onOpen(1)' - trigger an event when the interlock sensor is opened
- `onClose(2)' - trigger an event when the interlock sensor is closed
- `disabled(3)' - do not trigger any events

#### 4.2.2 Tables

This section describes the three tables defined in this MIB module.

##### 4.2.2.1 mSensorIdentityTable

The mSensorIdentityTable extends the entPhysicalTable and complements the entPhySensorTable with configuration information about Marway environmental sensors.

Each Marway environmental sensor is represented in this table. A Marway environmental sensor measures something outside the Marway RCM product, and is primarily related to the installed environment.

The management information contained in this table is useful when interacting with the Marway console or web server. In particular, sensors are assigned numerical IDs useful for command line operations, and user-defined labels useful for describing the purpose of a sensor, its location, or other meaning.

Examples of Marway environmental sensors include:

- ambient temperature
- ambient humidity
- enclosing cabinet door open/closed status
- air flow

Note that environmental sensor availability varies across Marway PDU models.

#### 4.2.2.2 mSensorSetpointTable

The mSensorSetpointTable extends the entPhysicalTable and complements the entPhySensorTable with management information about the configuration and status of Marway sensor setpoint sets.

A Marway sensor setpoint set has six configurable parameters:

- Low Critical
- Low Warning
- High Warning
- High Critical
- Hysteresis Control
- Debounce Control

A Marway interlock sensor may indicate:

- a door is shut
- a cover is in place
- a fan is providing air flow
- other two-state conditions

A Marway interlock sensor is a simple circuit that is considered to be either closed or open.

When closed, an electrical signal placed onto the circuit input is received at the circuit output.

When open, an electrical signal placed onto the circuit input, is not

received at the circuit output.

#### 4.2.2.3 mSensorInterlockTable

The mSensorInterlockTable extends the entPhysicalTable and complements the entPhySensorTable with interlock alarm configuration and status data.

Each Marway interlock sensor is represented in this table.

#### 4.2.3 Event Notifications

This section describes the two event notifications defined in this MIB module.

##### 4.2.3.1 mSensorEnvEventSetpointStatusChange

The mSensorEnvEventSetpointStatusChange event notification provides an indication that a Marway sensor setpoint status has changed.

The management information provided with this event notification include:

mChassisTime	- the date and time this event was observed
mChassisAckId	- the Acknowledgment Identifier (ACK ID) string associated with this event
entPhySensorType	- the type of data units associated with the sensor value
mSensorIdentityLabel	- the identity label of the environmental sensor associated with this event
mSensorSetpointStatus	- the status of the environmental sensor setpoint associated with this event
mSensorSetpointTriggerValue	- the trigger value of the environmental sensor associated with this event

Note that the entPhysicalIndex value associated with a Marway sensor appears in the instance portion of the varbind name of most of the objects listed above.

A management application can use the entPhysicalIndex value to identify rows in other tables that contain additional management information about the Marway sensor associated with this event.

#### 4.2.3.2 mSensorEnvEventInterlockStatusChange

The mSensorEnvEventInterlockStatusChange event notification provides an indication that a Marway interlock sensor status has changed.

The management information provided with this event notification include:

- mChassisTime - the date and time of the observed event
- mChassisAckId - the ACK ID associated with this event
- mSensorIdentityLabel - the identity label of the interlock sensor associated with this event
- mSensorInterlockStatus - the status of the interlock sensor associated with this event
- mSensorInterlockTriggerMode - the trigger mode of the interlock sensor associated with this event

Note that the entPhysicalIndex value associated with a Marway interlock sensor appears in the instance portion of the varbind name of most of the objects listed above.

A management application can use the entPhysicalIndex value to identify rows in other tables that contain additional management information about the Marway interlock sensor associated with this event.



## 5. Definitions

```

MARWAY-SENSOR-MIB DEFINITIONS ::= BEGIN

IMPORTS
    MODULE-IDENTITY, OBJECT-IDENTITY,
    OBJECT-TYPE, NOTIFICATION-TYPE,
    Integer32, Unsigned32, TimeTicks
        FROM SNMPv2-SMI                -- [RFC2578]
    TEXTUAL-CONVENTION
        FROM SNMPv2-TC                -- [RFC2579]
    MODULE-COMPLIANCE, OBJECT-GROUP,
    NOTIFICATION-GROUP
        FROM SNMPv2-CONF              -- [RFC2580]
    entPhySensorType
        FROM ENTITY-SENSOR-MIB        -- [RFC3433]
    entPhysicalIndex
        FROM ENTITY-MIB                -- [RFC6933]
    marwayMibs
        FROM MARWAY-SMI-MIB           -- [MAR-SMI]
    MObjectLabel, MSetpointStatus
        FROM MARWAY-POWER-MIB         -- [MAR-PWR]
    mChassisTime, mChassisAckId
        FROM MARWAY-CHASSIS-MIB;     -- [MAR-CHA]

marwaySensorMib MODULE-IDENTITY
    LAST-UPDATED "201704100000Z"      -- 10 April 2017, midnight
    ORGANIZATION "Marway Power Solutions"
    CONTACT-INFO
        "Marway Power Solutions
        1721 S. Grand Avenue
        Santa Ana, California 92705
        USA

        Telephone:  +1 714 917 6200
        EMail:       support@marway.com
        URL:         http://www.marway.com

        Send comments to <support@marway.com>
        "
    DESCRIPTION
        "This MIB module defines managed objects exposing
        management information about the configuration and
        status of Marway sensor entities.

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        rights reserved. Use is subject to license terms.

        The MARWAY-SENSOR-MIB module is part of Marway
        publication, 'The Marway Sensor MIB', December
        2017.

```

```
    See the publication itself for full legal notices.
"
```

```
-- Revision log
REVISION      "201704100000Z"  -- 10 April 2017, midnight
DESCRIPTION
    "Initial version, as part of Marway publication `The
    Marway Sensor MIB', April 2017.
    "
 ::= { marwayMibs 5 }
```

```
mSensorObjects OBJECT-IDENTITY
STATUS          current
DESCRIPTION
    "This subtree contains OBJECT-TYPE definitions
    exposing management information about Marway sensor
    entities.
    "
 ::= { marwaySensorMib 1 }
```

```
mSensorEvents OBJECT-IDENTITY
STATUS          current
DESCRIPTION
    "This subtree contains OBJECT-TYPE and
    NOTIFICATION-TYPE definitions exposing events
    associated with Marway sensor entities.
    "
 ::= { marwaySensorMib 2 }
```

```
mSensorEventNotify OBJECT-IDENTITY
STATUS          current
DESCRIPTION
    "The required SNMP notification prefix.
    "
 ::= { mSensorEvents 0 }
```

```
mSensorConformance OBJECT-IDENTITY
STATUS          current
DESCRIPTION
    "This subtree contains conformance statements for
    this MIB module.
    "
 ::= { marwaySensorMib 3 }
```

```
--
-- assignments under mSensorConformance
--

mSensorCompliances OBJECT-IDENTITY
    STATUS      current
    DESCRIPTION
        "This subtree contains compliance statements for
        this MIB module.
        "
    ::= { mSensorConformance 1 }

mSensorGroups OBJECT-IDENTITY
    STATUS      current
    DESCRIPTION
        "This subtree contains OBJECT-GROUP and
        NOTIFICATION-GROUP definitions for this MIB module.
        "
    ::= { mSensorConformance 2 }

--
-- Textual Conventions
--

MInterlockStatus ::= TEXTUAL-CONVENTION
    STATUS current
    DESCRIPTION
        "The current status of of a Marway interlock sensor.

        This value is interpreted as follows:

        `other(1)' - the current status is a value
                    other than one of the following

        `normal(2)' - the current status is 'normal'

        `alarmed(3)' - the current status is 'alarmed'

        `disabled(4)' - the current status is 'disabled'

        Event notifications are sent only if the configured
        trigger mode for a Marway interlock sensor allows.
        See the MInterlockTriggerMode TC for additional
        information.
        "
    SYNTAX INTEGER {
        other(1),
        normal(2),
```

```

        alarmed(3),
        disabled(4)
    }

MInterlockTriggerMode ::= TEXTUAL-CONVENTION
    STATUS current
    DESCRIPTION
        "The configured trigger mode for an interlock
        sensor.

        This value is interpreted as follows:

            `onOpen(1)' - trigger an event when the
                        interlock sensor is opened

            `onClose(2)' - trigger an event when the
                        interlock sensor is closed

            `disabled(3)' - do not trigger any events
        "
    SYNTAX INTEGER {
        onOpen(1),
        onClose(2),
        disabled(3)
    }

--
-- Marway Sensor Objects
--

--
-- mSensorIdentityTable
--

mSensorIdentityTable OBJECT-TYPE
    SYNTAX SEQUENCE OF MSensorIdentityEntry
    MAX-ACCESS not-accessible
    STATUS current
    DESCRIPTION
        "This table extends the entPhysicalTable and
        complements the entPhySensorTable with configuration
        information about Marway environmental sensors.

        Each Marway environmental sensor is represented in
        this table. A Marway environmental sensor measures
        something outside the Marway RCM product, and is
        primarily related to the installed environment.

        The management information contained in this table

```

is useful when interacting with the Marway console or web server. In particular, sensors are assigned numerical IDs useful for command line operations, and user-defined labels useful for describing the purpose of a sensor, its location, or other meaning.

```
 ::= { mSensorObjects 1 }
```

mSensorIdentityEntry OBJECT-TYPE

SYNTAX MSensorIdentityEntry

MAX-ACCESS not-accessible

STATUS current

DESCRIPTION

"Configuration information about a Marway environmental sensor.

Examples of Marway environmental sensors include:

- ambient temperature
- ambient humidity
- enclosing cabinet door open/closed status
- air flow

"

INDEX { entPhysicalIndex }

```
 ::= { mSensorIdentityTable 1 }
```

```
MSensorIdentityEntry ::= SEQUENCE {
    mSensorIdentityId Unsigned32,
    mSensorIdentityLabel MObjectLabel
}
```

mSensorIdentityId OBJECT-TYPE

SYNTAX Unsigned32

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The numeric identifier for this Marway environmental sensor. This value is preassigned and remains constant.

The numeric identifier (ID) of a Marway environmental sensor is useful when using console commands that target a specific environmental sensor.

For example: 'getTemperature 1' where 1 is the Marway environmental sensor ID. Note that numeric identifiers for each Marway environmental sensor type restart at 1. Thus, there may be a 'temperature

```

        sensor 1', 'temperature sensor 2', 'humidity sensor
        1', 'humidity sensor 2', etc.
        "
 ::= { mSensorIdentityEntry 1 }

mSensorIdentityLabel OBJECT-TYPE
    SYNTAX      MObjectLabel
    MAX-ACCESS  read-write
    STATUS      current
    DESCRIPTION
        "An administratively assigned label for this sensor.

        This value SHOULD indicate the purpose, location, or
        other semantic aspect of the sensor considered
        useful.

        See the MObjectLabel textual convention for
        additional information.
        "
 ::= { mSensorIdentityEntry 2 }

--
-- mSensorSetpointTable
--

mSensorSetpointTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF MSensorSetpointEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table extends the entPhysicalTable and
        complements the entPhySensorTable with management
        information about the configuration and status of
        Marway sensor setpoint sets.

        A Marway sensor setpoint set has six configurable
        parameters:

            - Low Critical

            - Low Warning

            - High Warning

            - High Critical

            - Hysteresis Control

            - Debounce Control
        "

```

## REFERENCE

"The Marway user documentation for your product.

"

::= { mSensorObjects 2 }

## mSensorSetpointEntry OBJECT-TYPE

SYNTAX MSensorSetpointEntry

MAX-ACCESS not-accessible

STATUS current

## DESCRIPTION

"Configuration and status information about a Marway sensor setpoint set.

"

INDEX { entPhysicalIndex }

::= { mSensorSetpointTable 1 }

## MSensorSetpointEntry ::= SEQUENCE {

mSensorSetpointStatus MSetpointStatus,

mSensorSetpointTriggerValue Integer32,

mSensorSetpointHighCritical Integer32,

mSensorSetpointHighWarning Integer32,

mSensorSetpointLowWarning Integer32,

mSensorSetpointLowCritical Integer32,

mSensorSetpointHysteresis Integer32,

mSensorSetpointDebounce TimeTicks

}

## mSensorSetpointStatus OBJECT-TYPE

SYNTAX MSetpointStatus

MAX-ACCESS read-only

STATUS current

## DESCRIPTION

"The current status for this Marway sensor setpoint set.

This value provides the current status of the Marway sensor setpoint set as a whole, as one of the following:

`other(1)' - the current status is a value other than one of the following

`normal(2)' - the current status is `normal'

`highCritical(3)' - the current status is `high critical'

`highWarning(4)' - the current status is `high warning'

```

`lowWarning(5)' - the current status is `low
warning'

`lowCritical(6)' - the current status is `low
critical'

```

When all setpoints of the Marway sensor setpoint set are disabled, this value is `disabled(7)'.

"

```
 ::= { mSensorSetpointEntry 1 }
```

mSensorSetpointTriggerValue OBJECT-TYPE

SYNTAX Integer32 (0 | 1..2147483647)

UNITS "precision in tenths"

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The most recent value retrieved from the associated Marway sensor triggering a setpoint event.

The corresponding value of entPhySensorType identifies the data units associated with this Marway sensor setpoint value. The precision of this value is tenths of the specified data unit.

This value is zero (0) when the corresponding value of mSensorSetpointStatus is `normal(1)' or `disabled(6)'.

"

```
 ::= { mSensorSetpointEntry 2 }
```

mSensorSetpointHighCritical OBJECT-TYPE

SYNTAX Integer32 (-1 | 1..2147483647)

UNITS "precision in tenths"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The High Critical value for this Marway sensor setpoint set.

The corresponding value of entPhySensorType identifies the data units associated with this Marway sensor setpoint value. The precision of this value is tenths of the specified data unit.

This value SHOULD indicate an excessively high sensor reading that likely requires immediate corrective action.

Depending upon what this sensor measures, the imminent risk may be:



- a safety concern
- an equipment limitation
- a performance issue
- some other concern

Setting this value to minus one (-1) disables the High Critical setpoint.

This value MUST be greater than following values in this Marway sensor setpoint set:

- mSensorSetpointHighWarning
- mSensorSetpointLowWarning
- mSensorSetpointLowCritical

An attempt to set this value to a number not in conformance with the above constraints will receive an error response of `inconsistentValue(12)'.  
"

```
DEFVAL { -1 }
::= { mSensorSetpointEntry 3 }
```

mSensorSetpointHighWarning OBJECT-TYPE

SYNTAX Integer32 (-1 | 1..2147483647)

UNITS "precision in tenths"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The High Warning value for this Marway sensor setpoint set.

The corresponding value of entPhySensorType identifies the data units associated with this Marway sensor setpoint value. The precision of this value is tenths of the specified data unit.

This value SHOULD indicate an uncommonly high sensor reading that likely correlates with the onset of an unusual or unstable circumstance. Further investigation is warranted.

Depending upon what this sensor measures, the developing risk may be:

- a safety concern
- an equipment limitation

- a performance issue
- some other concern

Setting this value to minus one (-1) disables the High Critical setpoint.

This value MUST be less than following value in this Marway sensor setpoint set:

- mSensorSetpointHighCritical

This value MUST be greater than following values in this Marway sensor setpoint set:

- mSensorSetpointLowWarning
- mSensorSetpointLowCritical

An attempt to set this value to a number not in conformance with the above constraints will receive an error response of `inconsistentValue(12)'.

"

```
DEFVAL { -1 }
::= { mSensorSetpointEntry 4 }
```

mSensorSetpointLowWarning OBJECT-TYPE

SYNTAX Integer32 (-1 | 1..2147483647)

UNITS "precision in tenths"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The Low Warning value for this Marway sensor setpoint set.

The corresponding value of entPhySensorType identifies the data units associated with this Marway sensor setpoint value. The precision of this value is tenths of the specified data unit.

This value SHOULD indicate an uncommonly low sensor reading that likely correlates with the onset of an unusual or unstable circumstance. Further investigation is warranted.

Depending upon what this sensor measures, the developing risk may be:

- a safety concern

- an equipment limitation
- a performance issue
- some other concern

Setting this value to minus one (-1) disables the Low Warning setpoint.

This value MUST be less than following values in the Marway sensor setpoint set:

- mSensorSetpointHighCritical
- mSensorSetpointHighWarning

This value MUST be greater than following value in the Marway sensor setpoint set:

- mSensorSetpointLowCritical

An attempt to set this value to a number not in conformance with the above constraints will receive an error response of `inconsistentValue(12)'.

"

```
DEFVAL { -1 }
::= { mSensorSetpointEntry 5 }
```

mSensorSetpointLowCritical OBJECT-TYPE

SYNTAX Integer32 (-1 | 1..2147483647)

UNITS "precision in tenths"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The Low Critical value for this Marway sensor setpoint set.

The corresponding value of entPhySensorType identifies the data units associated with this Marway sensor setpoint value. The precision of this value is tenths of the specified data unit.

This value SHOULD indicate an excessively low sensor reading that likely requires immediate corrective action.

Depending upon what this sensor measures, the imminent risk may be:

- a safety concern

- an equipment limitation
- a performance issue
- some other concern

Setting this value to minus one (-1) disables the Low Critical setpoint.

This value MUST be less than following values in the Marway sensor setpoint set:

- mSensorSetpointHighCritical
- mSensorSetpointHighWarning
- mSensorSetpointLowWarning

An attempt to set this value to a number not in conformance with the above constraints will receive an error response of `inconsistentValue(12)'.  
"

```
DEFVAL { -1 }
::= { mSensorSetpointEntry 6 }
```

mSensorSetpointHysteresis OBJECT-TYPE

SYNTAX Integer32 (0..2147483647)

UNITS "precision in tenths"

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The Hysteresis Factor for this Marway sensor setpoint set.

The corresponding value of entPhySensorType identifies the data units associated with the Hysteresis Factor. The precision of the Hysteresis Factor is tenths of the specified data unit.

This Hysteresis Factor serves to reduce setpoint sensitivity and applies to the following Marway sensor setpoints:

- mSensorSetpointHighCritical
- mSensorSetpointHighWarning
- mSensorSetpointLowWarning
- mSensorSetpointLowCritical

The data value retrieved from a Marway sensor may

oscillate between slightly higher than, and slightly lower than, a setpoint value. Such oscillation can cause spurious setpoint triggers and setpoint clears.

The Hysteresis Factor, in conjunction with a setpoint value, defines a threshold on the normal side of the setpoint value. Once a Marway sensor setpoint triggers, this threshold value must be crossed in order for the Marway sensor setpoint to clear.

A Hysteresis Factor depends upon the normal variation of sensor data and how frequently the sensor data changes. Establishing a good Hysteresis Factor may require some initial trial and error.

```
DEFVAL { 0 }
 ::= { mSensorSetpointEntry 7 }
```

mSensorSetpointDebounce OBJECT-TYPE

```
SYNTAX      TimeTicks
UNITS       "hundredths of a second"
MAX-ACCESS  read-write
STATUS      current
```

DESCRIPTION

"The Debounce Duration for this Marway sensor setpoint set.

The Debounce Duration reduces setpoint sensitivity to short duration spikes (or troughs) of the data value provided by a Marway sensor.

The Debounce Duration establishes a minimum duration of time prior to triggering (or clearing) a Marway sensor setpoint.

An effective Debounce Duration enables the Marway agent logic to ignore brief spikes and troughs of the underlying sensor data value, and to smooth clusters of trigger and clear events into a single pair of events.

Setting this value to zero(0) disables the Debounce Duration for this Marway sensor setpoint set.

A Debounce Duration depends upon the normal variation of sensor data and how frequently the sensor data changes. Establishing a good Debounce Duration may require some initial trial and error.

```
 ::= { mSensorSetpointEntry 8 }
```

```

--
-- mSensorInterlockTable
--

mSensorInterlockTable OBJECT-TYPE
    SYNTAX      SEQUENCE OF MSensorInterlockEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "This table extends the entPhysicalTable and
        complements the entPhySensorTable with interlock
        alarm configuration and status data.

        Each Marway interlock sensor is represented in this
        table.
        "
    REFERENCE
        "The Marway user documentation for your product.
        "
    ::= { mSensorObjects 3 }

mSensorInterlockEntry OBJECT-TYPE
    SYNTAX      MSensorInterlockEntry
    MAX-ACCESS  not-accessible
    STATUS      current
    DESCRIPTION
        "Configuration and status information about a Marway
        interlock sensor.

        A Marway interlock sensor is used to determine if:

            - a door is shut

            - a cover is in place

            - a fan is providing air flow

            - other two-state conditions

        A Marway interlock sensor is a simple circuit that
        is considered to be either closed or open.

        When closed, an electrical signal placed onto the
        circuit input is received at the circuit output.

        When open, an electrical signal placed onto the
        circuit input, is not received at the circuit
        output.
        "
    INDEX      { entPhysicalIndex }
    ::= { mSensorInterlockTable 1 }

```

```
MSensorInterlockEntry ::= SEQUENCE {
    mSensorInterlockStatus      MInterlockStatus,
    mSensorInterlockTriggerMode MInterlockTriggerMode
}
```

mSensorInterlockStatus OBJECT-TYPE

SYNTAX MInterlockStatus

MAX-ACCESS read-only

STATUS current

DESCRIPTION

"The current status of this Marway interlock sensor.

This value is interpreted as follows:

```
`other(1)'      - the current status is a value
                  other than one of the following

`normal(2)'     - the current status is 'normal'

`alarmed(3)'    - the current status is 'alarmed'

`disabled(4)'   - the current status is 'disabled'
```

The corresponding value of  
mSensorInterlockTriggerMode determines whether or  
not a closed (or open) condition triggers an alarm.  
"

```
::= { mSensorInterlockEntry 1 }
```

mSensorInterlockTriggerMode OBJECT-TYPE

SYNTAX MInterlockTriggerMode

MAX-ACCESS read-write

STATUS current

DESCRIPTION

"The trigger mode for this Marway interlock sensor.

This value is interpreted as follows:

```
`onOpen(1)'    - trigger an event when the
                  interlock sensor is opened

`onClose(2)'   - trigger an event when the
                  interlock sensor is closed

`disabled(3)'  - do not trigger any events
```

An attempt to set a value not listed above will  
result in an error response of `wrongValue(10)'.  
"

DEFVAL { disabled }

```
::= { mSensorInterlockEntry 2 }
```

```
--
-- Marway sensor notifications
--

mSensorEnvEventSetpointStatusChange NOTIFICATION-TYPE
  OBJECTS {
    mChassisTime,
    mChassisAckId,
    entPhySensorType,
    mSensorIdentityLabel,
    mSensorSetpointStatus,
    mSensorSetpointTriggerValue
  }
  STATUS          current
  DESCRIPTION
    "A Marway sensor setpoint status has changed.

    The management information provided within the
    varbind list include:

        mChassisTime      - the date and time this event
                           was observed

        mChassisAckId - the ACK ID associated with this
                           event

        entPhySensorType - the type of data units
                           associated with the sensor
                           value

        mSensorIdentityLabel - the identity label of
                           the environmental sensor
                           associated with this event

        mSensorSetpointStatus - the status of the
                           environmental sensor setpoint
                           associated with this event
```



mSensorSetpointTriggerValue - the trigger value of the environmental sensor associated with this event

Note that the entPhysicalIndex value associated with a Marway interlock sensor appears in the instance portion of the varbind name of most of the objects listed above.

A management application can use the entPhysicalIndex value to identify rows in other tables that contain additional management information about the Marway interlock sensor associated with this event.

```
 ::= { mSensorEventNotify 1 }
```

mSensorEnvEventInterlockStatusChange NOTIFICATION-TYPE

```
 OBJECTS {
    mChassisTime,
    mChassisAckId,
    mSensorIdentityLabel,
    mSensorInterlockStatus,
    mSensorInterlockTriggerMode
  }
```

```
 STATUS current
```

```
 DESCRIPTION
```

```
 "A Marway interlock status has changed value.
```

The management information provided within the varbind list include:

mChassisTime - the date and time this event was observed

mChassisAckId - the ACK ID associated with this event

mSensorIdentityLabel - the identity label of the interlock sensor associated with this event

mSensorInterlockStatus - the status of the interlock sensor associated with this event

mSensorInterlockTriggerMode - the trigger mode of the interlock sensor associated with this event

Note that the entPhysicalIndex value associated with

a Marway sensor appears in the instance portion of the varbind name of most of the objects listed above.

A management application can use this value to identify rows in other tables that contain additional management information about the Marway sensor associated with this event.  
"

```
::= { mSensorEventNotify 2 }
```

```
--
```

```
-- conformance and compliance statements
```

```
--
```

```
mSensorCompliance1 MODULE-COMPLIANCE
```

```
STATUS current
```

```
DESCRIPTION
```

```
"The compliance statement for Marway systems supporting  
this MIB module.
```

```
"
```

```
MODULE -- this module
```

```
MANDATORY-GROUPS {
```

```
    mSensorObjectGroup,
```

```
    mSensorNotificationGroup
```

```
}
```

```
::= { mSensorCompliances 1 }
```

```
--
```

```
-- units of conformance
```

```
--
```

```
mSensorObjectGroup OBJECT-GROUP
```

```
OBJECTS {
```

```
    mSensorIdentityId,
```

```
    mSensorIdentityLabel,
```

```
    mSensorSetpointStatus,
```

```
    mSensorSetpointTriggerValue,
```

```
    mSensorSetpointHighCritical,
```

```
    mSensorSetpointHighWarning,
```

```
    mSensorSetpointLowWarning,
```

```
    mSensorSetpointLowCritical,
```

```
    mSensorSetpointHysteresis,
```

```
    mSensorSetpointDebounce,
```

```
    mSensorInterlockStatus,
```

```
    mSensorInterlockTriggerMode
```

```
}
```

```
STATUS    current
DESCRIPTION
    "A collection of managed objects exposing configuration
    and status information about Marway environmental and
    interlock sensors.
    "
 ::= { mSensorGroups 1 }

mSensorNotificationGroup NOTIFICATION-GROUP
NOTIFICATIONS {
    mSensorEnvEventSetpointStatusChange,
    mSensorEnvEventInterlockStatusChange
}
STATUS    current
DESCRIPTION
    "A collection of notifications exposing events about
    Marway environmental and interlock sensors.
    "
 ::= { mSensorGroups 2 }

END
```

## 6. Acknowledgments

The production and maintenance of this memo is a group effort of the Marway Power Solutions development team.

## 7. Security Considerations

There are a number of management objects defined in this MIB module with a MAX-ACCESS clause of read-write and/or read-create. Such objects may be considered sensitive or vulnerable in some network environments. The support for SET operations in a non-secure environment without proper protection can have a negative effect on network operations. These are the tables and objects and their sensitivity/vulnerability:

In the mSensorIdentityTable-

mSensorIdentityLabel

Tampering with a properly configured identity label for a Marway sensor MAY cause unintended consequences when using the tampered value within command line interactions.

In the mSensorSetpointTable-

mSensorSetpointHighCritical  
mSensorSetpointHighWarning  
mSensorSetpointLowWarning  
mSensorSetpointLowCritical  
mSensorSetpointHysteresis  
mSensorSetpointDebounce

Tampering with a properly configured Marway sensor setpoint value MAY result in improper alerts and notifications involving the impacted Marway sensor.

In the mSensorInterlockTable-

mSensorInterlockTriggerMode

Tampering with a properly configured Marway interlock alarm trigger mode MAY result in improper closed (or open) interlock status indications and alarms associated with the impacted Marway interlock sensor.

None of the readable objects in this MIB module (i.e., objects with a MAX-ACCESS other than not-accessible) are considered sensitive or vulnerable within network environments.

SNMP versions prior to SNMPv3 did not include adequate security. Even if the network itself is secure (for example by using IPsec), even then, there is no control as to who on the secure network is allowed to access and GET/SET (read/change/create/delete) the objects in this MIB module.

It is RECOMMENDED that implementers consider the security features as provided by the SNMPv3 framework (see [RFC3410], section 8), including full support for the SNMPv3 cryptographic mechanisms (for authentication and privacy).

Further, deployment of SNMP versions prior to SNMPv3 is NOT RECOMMENDED. Instead, it is RECOMMENDED to deploy SNMPv3 and to enable cryptographic security. It is then a customer/operator responsibility to ensure that the SNMP entity giving access to an instance of this MIB module is properly configured to give access to the objects only to those principals (users) that have legitimate rights to indeed GET or SET (change/create/delete) them.

## 8. References

### 8.1 Normative References

- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.
- [RFC2578] McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M., and S. Waldbusser, "Structure of Management Information Version 2 (SMIV2)", STD 58, RFC 2578, April 1999.
- [RFC2579] McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M., and S. Waldbusser, "Textual Conventions for SMIV2", STD 58, RFC 2579, April 1999.
- [RFC2580] McCloghrie, K., Perkins, D., Schoenwaelder, J., Case, J., Rose, M., and S. Waldbusser, "Conformance Statements for SMIV2", STD 58, RFC 2580, April 1999.
- [RFC6933] Bierman, A., Romascanu, D., Quittek, J., and M. Chandramouli, "Entity MIB (Version 4)", RFC 6933, May 2013

[MAR-SMI] Marway Power Solutions, "The Marway Structure of Management Information (SMI), April 2017.

## 8.2 Informative References

[RFC3410] Case, J., Mundy, R., Partain, D., and B. Stewart, "Introduction and Applicability Statements for Internet-Standard Network Management Framework", RFC 3410, December, 2002.

Change Log

Changes introduced in revision "20170410000Z", 10 April 2017  
- initial version

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