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# EnVision™ Elite Controller SNMP Integrator Guide

**User Guide ID:** 0350190-J0
**Effective:** 11/2025



**Read this document carefully.**
Learn how to protect your equipment from damage and fully understand its functions.

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# 1. Safety

**Save these instructions:** This document contains important safety instructions that must be followed during the installation, servicing, and maintenance of the product. Keep it in a safe place. If there are any questions regarding the safe installation or operation of this product, contact Alpha Technologies Ltd. or the nearest Alpha® power system representative.

## Safety wording and symbols

To reduce the risk of injury or death, and to ensure the continued safe operation of this product, the following symbols have been placed throughout this document. Where these symbols appear, use extra care and attention.

**Attention:** *The use of attention indicates specific regulatory or code requirements that may affect the placement of equipment or installation procedures. Follow the prescribed procedures to avoid equipment damage or service interruption.*

**Notice:** *A notice provides additional information to help complete a specific task or procedure or general information about the product.*

**CAUTION:** *Cautions indicate the potential for injury to personnel.*

**Warning:** *Risk of serious injury or death. Equipment in operation poses a potential electrical hazard which could result in serious injury or death to personnel. This hazard may continue even when power is disconnected.*

**CAUTION:** *Risk of burns. A device in operation can reach temperature levels which could cause burns.*

## General warnings and cautions

**Warning:** *You must read and understand the following warnings before installing the system and its components. Failure to do so could result in personal injury or death.*

**Warning:** *This system is designed to be installed in a restricted access location that is inaccessible to the general public.*

*Ce système est conçu pour être installé dans un endroit à accès restreint inaccessible au grand public.*

⚠️ ***Warning:*** *This equipment is not suitable for use in locations where children are likely to be present.*

*Cet équipement ne convient pas pour une utilisation dans des lieux ou des enfants sont susceptibles d'être présents.*

- Read and follow all instructions included in this document.

- Only trained personnel are qualified to install or replace this equipment and its components.

- Use proper lifting techniques whenever handling equipment, parts, or batteries.

## Electrical safety

⚠️ ***Warning:*** *Hazardous voltages are present at the input of power systems. The DC output from some UPS devices and batteries can have high voltage and high short-circuit current capacity that may cause severe burns and electrical arcing.*

⚠️ ***Warning:*** *Lethal voltages are present within the system. Always assume that an electrical connection or conductor is energized. Check the circuit with a voltmeter with respect to the grounded portion of the enclosure (both AC and DC) before performing any installation or removal procedure.*

Before working with any live battery or power system, follow these precautions:

- Remove all metallic jewelry, such as watches, rings, metal rimmed glasses, or necklaces.

- Wear safety glasses with side shields at all times during the installation.

- Use approved insulated hand tools. Do not rest tools on top of batteries.

- Do not work alone under hazardous conditions.

- A licensed electrician is required to install permanently wired equipment. Input voltages can range up to 240 VAC. Ensure that the utility power is disconnected and locked out before performing any installation or removal procedure.

- Ensure that no liquids or wet clothes come into contact with internal components.

- Hazardous electrically live parts inside this unit are energized from the batteries even when the AC input power is disconnected.

- Always assume electrical connections or conductors are live. Turn off all circuit breakers and double-check with a voltmeter before performing installation or maintenance.

- Place a warning label on the utility panel to warn emergency personnel that a reserve battery source is present which will power the loads in a power outage condition or if the AC disconnect breaker is turned off.

- At high ambient temperature conditions, the internal temperature can be hot so use caution when touching the equipment.

## Battery safety

⚠️ **Warning:** *Follow battery manufacturer's safety recommendations when working around battery systems. Do not smoke or introduce an open flame when batteries (especially vented batteries) are charging. When charging, batteries vent hydrogen gas, which can explode.*

📢 **Notice:** *Read the safety data sheet (SDS) for any batteries used in the system before installation. The SDS provides important information including hazard identification, first aid measures, handling and storage, and personal protective equipment (PPE).*

- Never transport an enclosure with batteries installed. Batteries must only be installed after the enclosure has been securely set in place at its permanent installation location. Transporting the unit with batteries installed may cause a short circuit, fire, explosion, or damage to the battery pack, enclosure and installed equipment.

- Servicing and connection of batteries must be performed by, or under the direct supervision of, personnel knowledgeable of batteries and the required safety precautions.

- Batteries contain or emit chemicals known to cause cancer and birth defects or other reproductive harm. Battery post terminals and related accessories contain lead and lead compounds. Wash your hands after handling batteries.

- Batteries are hazardous to the environment and should be disposed at a recycling facility. Consult the battery manufacturer for recommended local authorized recyclers.

# 2. Software release history

The release history for recent software versions are found in the following sections.

## 2.1. Software release 9.10

**Released:** October 2025

Contains the following significant changes:

- Added new SNMP fields for EnVision™ energy router

- Added new SNMP fields for PowerSafe® iON lithium battery system including those for load shifting, peak shaving, AC power metrics, and minimum and maximum cell voltage

- Added new section for SNMP commands for starting a battery test and turning on and off EnVision™ energy router smart switch modules.

## 2.2. Software release 9.00

**Released:** January 2025

Initial commercial release.

# 3. Introduction

The purpose of this document is to provide simple and complete information on how to use EnVision™ Elite controller and software, along with Simple Network Management Protocol (SNMP). This guide contains information on setup, configuration, and operation of SNMP using the controller.

## 3.1. Purpose and audience

The audience for this document are engineers, technicians, IT professionals, and network operation personnel who are tasked with remote monitoring of the power system using SNMP. Users should be well versed in SNMP as well as the network management, fleet management, remote monitoring, or network operations center software and tools that will be used to monitor the controller.

## 3.2. Knowledge and permissions

Users should have a good working knowledge of, and access to, the following:

• SNMP monitoring software and tools.

• Network and port monitoring tools such as Wireshark.

• Ethernet cables and TCP/IP settings needed to connect your computer to the controller.

• Current version of Google Chrome, Mozilla Firefox, Microsoft Edge, or Apple Safari.

• Power system or 3GPP interface that the controller currently controls.

• Controller administrator credentials and the appropriate level of permissions.

# 4. Using SNMP with the controller

## 4.1. Setting up the SNMP agent

SNMP consists of three key components:

- Managed devices

- Agents

- Network management system (NMS)

A managed device is a node that has an SNMP agent. An agent is a software component that provides device information using the SNMP protocol. An NMS collects data from SNMP agents, and then uses that data to monitor and manage the associated devices.

To set up the SNMP agent on the controller, you need to know how the NMS accessing the controller is set up.

There are three main things you need to know:

- What version of SNMP does the NMS use: SNMPv1, SNMPv2 or SNMPv3?

- Does the NMS use notifications or informs?

- What security settings the NMS is using?

## 4.2. Configuring the SNMP agent

**To configure the SNMP agent:**

1. From the main dashboard go to **Controller > Communication > SNMP**.
2. From the **Configuration** table, ensure the **SNMP Agent** is **Enabled**.

   The device must be reset to complete the enable and disable **SNMP Agent** configuration.

   If **SNMP Agent** is **Discovery Only**, the controller will be available to be discovered, but nothing else. Object identifiers (OIDs) under controllerInfo (OID 1.3.6.1.4.1.7309.5.1) and MIB-2 system (OID 1.3.6.1.4.1.7309.5.1) can be queried, as these are commonly used to discover and identify devices.

3. If the SNMP client is allowed to set the configuration objects in the **Configuration** table (OID 1.3.6.1.4.1.7309.5.2.5.2), set **SNMP Get and Set** to **Get And Set Allowed.**

4. Enter the Read or Write Communities SNMP clients will be querying with in the **Read Communities** and **Write Communities** tables. Read and Write Communities are used when using SNMPv2.

   If a query is made with a read community that does not match any of the configured **Read Communities**, that query will not get a response.

5. From the **SNMPv3 Configuration** table,

   ◦ For SNMPv1, set **SNMPv3 Security** to **Disabled**

   ◦ For SNMPv2, set **SNMPv3 Security** to **Disabled**

   ◦ For SNMPv3, set **SNMPv3 Security** to **Enabled**

6. Optional: If **SNMPv3 Security** is **Enabled**, and the **Security Name** is set to **admin**, the password of the administrator account is the encryption key to secure the data transfer. In order to use a different password from the administrator account, a new **Security Name** must be used. To customize the encryption passwords, set the **Security Name** and select the buttons to **Set Authentication Password** and **Set Privacy Password**. Also ensure the encryption protocols match what the NMS is using. **SNMPv3** supports message-digest 5 (MD5) or secure hash algorithm (SHA) for authentication encryption protocol and data encryption standard (DES) or advanced encryption standard 128 (AES-128) for privacy encryption protocol.

The webpage should look similar to the following figure.

**Figure 4-1**  SNMP agent configured for an SNMPv3 NMS
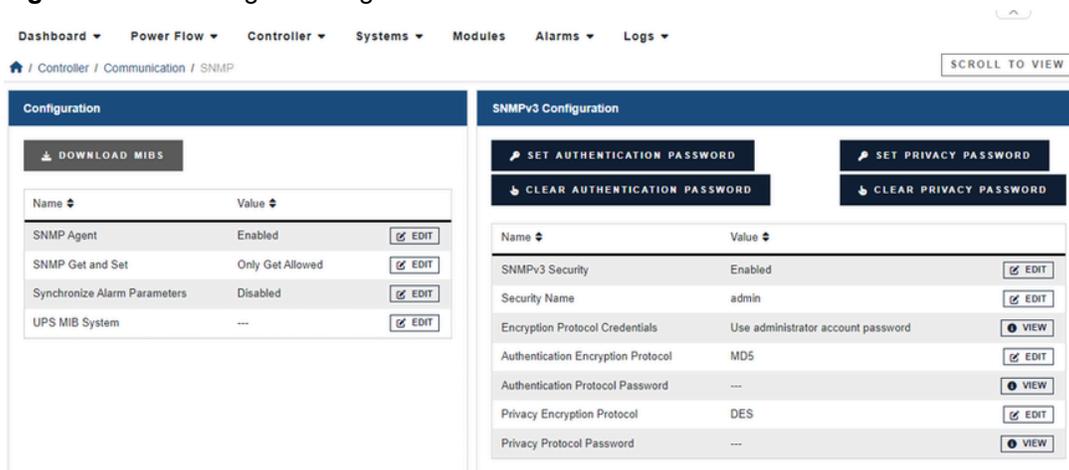


## 4.3. Configuring an SNMP destination

**To configure an SNMP destination:**

1. From the main dashboard go to **Controller > Communication > SNMP > SNMP Destinations** table.

2. On the **Notification Destination** line, select the **Go To** button.

3. From the **Notification Destination** table, ensure the following:

   ◦ The **Destination** is **Enabled**

   ◦ The **IP Address** is set to an appropriate machine name, IPv4 or IPv6 address.

- ◦ The **Community** string is set to the value used by the NMS for SNMPv2.

- ◦ The **Port** is set to the port used by the NMS to receive notifications.

4. Ensure that the **Notification Timeout** is set to:

- ◦ For Traps and Notifications, set the **Notification Timeout** to 0 seconds.

- ◦ For SNMPv2 and SNMPv3 Informs, set the **Notification Timeout** to 5 or more seconds.

> 📢 **Notice:** *With SNMP Acknowledged Notifications, the SNMP agent waits for an acknowledgment (ACK) from the NMS for every notification it sends. If the agent does not get an acknowledgment within the timeout period, the SNMP agent will retransmit the notification.*

5. Ensure that the **Notification Retries** is set to a reasonable number (for example, between three to five). Retries only apply to inform notifications that have a **Notification Timeout** value. The number of retries should be small as they are only meant to make the delivery of notifications more reliable.

6. Configure the **Notification Resend Period** if desired. This configuration forces traps to be resent periodically until the alarm clears. This is non-standard TRAP behavior so use with caution - some monitoring programs may not be compatible. **Notification Timeout** should be set to 0 in order for the periodical resending of traps to work.

Once complete the **Notification Destination** table should look similar to the following figure.

**Figure 4-2** Notification destination table

| SNMP Destination/3 | | |
|---|---|---|
| Name ⬍ | Value ⬍ | |
| Name | --- | ✐ EDIT |
| Description | --- | ✐ EDIT |
| Destination | Enabled | ✐ EDIT |
| IP Address | --- | ✐ EDIT |
| Community | public | ✐ EDIT |
| Port | 162 | ✐ EDIT |
| Notification Timeout | 0 s | ✐ EDIT |
| Notification Retries | 3 | ✐ EDIT |
| Notification Type | Unacknowledged | ❶ VIEW |
| Notification Resend Period | 0m | ✐ EDIT |

## 4.4. Configure an SNMP component reference

Each component in the controller has a specific component reference number (SNMP ID) assigned the first time it is created. Each controller may have a complex structure including, multiple inventory of the same type or have multiple inventory of different types such as inverter systems, converter systems, or DC systems.

For more complex controllers containing multiple inventories of the same type, it may be helpful to change the component reference number so that other controllers with the same cloned configuration will have the same SNMP component list structure. This helps especially when advanced scripting is used on the NMS.

It is possible to change SNMP IDs for systems, ADIO modules, and custom data. It is important to ensure any modified IDs do not conflict with each other. To configure these, go to **Controller > Communication > SNMP**. The component reference numbers for each component are listed in the respective **SNMP Component Reference** table. Before changing any of these IDs, ensure that the SNMP agent is enabled. After changing an ID, it may take several minutes for the change to take effect as the controller rebuilds the internal SNMP database.

### 4.4.1. Renumber component references by name

The **Renumber Component References by Name** button (in each **SNMP Component Reference** table) can be used as a quick solution to ensure controllers with the same cloned configuration have matching reference numbers for a given component. For each component of the same type in the table, SNMP IDs will be assigned consecutively according to the component name.

For example, consider a situation with two AC source systems (component type 56) named My first source and My second source, and one DC system (component type 2) named My DC system. In this case, after pressing the **Renumber Component References by Name** button in the **System SNMP Component Reference** table, the AC source systems will have IDs 1 and 2 consecutively assigned because they are the same component type, while the DC system will have ID 1 assigned, as there are no other DC systems.

**Table 4-1** SNMP IDs after selecting the Renumber Component References by Name button

| Component name | Component type | Assigned SNMP ID |
|---|---|---|
| My DC system | 2, DC system | 1 |
| My first source | 56, AC source system | 1 |
| My second source | 56, AC source system | 2 |

## 4.5. Viewing the state of SNMP

The state of operation of SNMP on the controller can be viewed at **Controller > Communication > SNMP** in the **Configuration** table. The information presented in the table can be used to determine appropriate polling rates when reading data from the controller over SNMP. **Last Response Number of Values** can help determine if too small of requests are being made. The controller can only respond to a certain number of requests due to performance reasons, therefore making less frequent, larger requests (via GET-BULK) can result in less throttling.

## 4.6. Discovery

SNMP discovery occurs by scanning IP address ranges for SNMP enabled devices, and then searching the product identification fields for specific values. It is recommended that you use the SNMPv2-MIB sysDescr field, to identify the controller. This field's purpose is described in RFC 1213.

The sysDescr field identifies a controller as a *Power Controller*. The following data is an example value for the sysDescr field:

```
Controller, SW: v9.0 Dev 209, OS: v9.0, HW: S1.I1.P1, SN: 5799854652
```

**Figure 4-3** Example of discovery using the MG-SOFT V10 SNMP tool

📢 *Notice:* *If you can ping the controller, but are having trouble with SNMP discovery, check to ensure that the controller's SNMP agent is enabled.*

📢 *Notice:* *If sysDescr starts with* **Discovery Only**, *this indicates that the controller is only available for discovery, and not all information is able to be queried. For full functionality, ensure that the controller's SNMP agent is enabled.*

📢 *Notice:* *If SNMPv3 security is enabled, then the discovery tool must use the corresponding authentication, encryption protocols, and settings.*

## 4.7. Notifications

The controller supports two notification types:

- Active alarm notification
- Cleared alarm notification.

Both notifications share the same format, as defined in RFC 3877 - ALARM-MIB.

**Figure 4-4** Sample data for a controller SNMP notification

〰 alphaAlarmActiveState
    Message reception date: 2023-12-01
    Message reception time: 5:08:42.257 PM
🕐 Time stamp: 0 days 01h:01m:18s.79th (367879)
〰 Message type: Notification (Trap)
    Protocol version: SNMPv2c
    Transport: IP/UDP
🖥 Agent
    Address: 10.0.0.197
    Port: 161
🖥 Manager
    Address: 127.0.0.1
    Port: 162
🗁 Community: public
🗀 Bindings (12)
    🟢 Binding #1: sysUpTime.0 *** (TimeTicks) 0 days 01h:01m:18s.79th (367879)
    🟢 Binding #2: snmpTrapOID.0 *** (OBJECT IDENTIFIER) alphaAlarmActiveState
    🟢 Binding #3: alarmActiveModelPointer *** (RowPointer) alarmModelEntry.20004.3
    🟢 Binding #4: alarmActiveResourceId *** (ResourceId) componentListStaticName.1
    🟣 Binding #5: alarmModelState.20004.3 *** (Unsigned32) 2
    🟣 Binding #6: alarmModelDescription.20004.3 *** (SnmpAdminString) DC System 48V : Output Voltage High : Minor
    🟣 Binding #7: componentListStaticName.2.1 *** (OCTET STRING) DC System 48V/679
    🟣 Binding #8: componentListReference.2.1 *** (Unsigned32) 1
    🟢 Binding #9: alarmSeverity *** (Integer32) 0
    🟢 Binding #10: controllerInfoName *** (OCTET STRING) Test Site 3
    🟢 Binding #11: alarmCustomDescription *** (OCTET STRING) ---
    🟢 Binding #12: alarmAdditionalInformation *** (OCTET STRING) ::

The VarBind list includes the following:

- **sysUpTime:** Time ticks in tenth of a second since startup.
- **snmpTrapOID:** Object identifier of the notification.
- **alarmActiveModelPointer:** Reference to the conceptual row in the **AlarmModel** table defining the alarm.
- **alarmActiveResourceId:** Reference to the conceptual row indicating the source of the alarm.
- **alarmModelState:** A numeric value representing the state of the alarm. The following values are possible:
  - **0:** Alarm Clear
  - **1:** Alarm Active (Warning)
  - **2:** Alarm Active (Minor)
  - **3:** Alarm Active (Major)
  - **4:** Alarm Active (Critical)
- **alarmModelDescription:** Verbose description of the alarm.
- **componentListStaticName:** Text name of the source of the alarm.
- **componentListReference:** Numeric ID assigned to the source of the alarm.
- **alarmSeverity:** Numeric ID that is user defined to support custom filtering and sorting.

> *Notice: alarmSeverity is mapped to **Parameter 1** in the controller alarm definitions. This type of generic name is used for alarm data that is needed for remote communication, but not used for local alarm processing.*

- **controllerInfoName:** Text name of the controller.
- **alarmCustomDescription:** User configurable text name of the alarm.

> *Notice: alarmCustomDescription is mapped to **Parameter 2** in the controller alarm definitions. This type of generic name is used for alarm data that is needed for remote communication, but not used for local alarm processing.*

- **alarmAdditionalInformation:** Generated content that provides additional information about some alarms. The information is provided as a text value, with each piece of information separated by two colons (::). The following information is provided:
  - The physical location of a module, in the format bay-shelf-slot-channel. This is currently only provided for line power modules.
  - Details about what caused the alarm. This is currently only provided for line power modules.
- A **Test Notification** button is available to test connectivity to the configured destinations. The test notification has a reduced set of data points (VarBinds) populated with a unique set of information to avoid confusion with a real notification. This item is not defined in any MIB as it is not intended to be interpreted by a monitoring system.

## 4.8. Performing a MIB WALK

To see information that is available once the Management Information Base (MIB) files are compiled into the NMS, you can perform a MIB WALK. A MIB WALK through the ALPHA-RESOURCE-MIB (ARM) provides a large amount of data, that may not be very meaningful.

A more effective way to get useful data would be to use the simplified MIBs such as the ALPHA-RECTIFIER-MIB and ALPHA-CONVERTER-MIB because the information is laid out in an accessible, linear form.

Also, modern SNMP software can WALK a subset of data, based on the starting point required. If a MIB WALK is executed on a subtree, the MIB WALK stops once the end of that tree is reached.

**Figure 4-5**  Example of a subtree MIB WALK on the MIB-2 system node



🔊 *Notice: If using SNMPv1: a difference you may see in an SNMPv1 NMS is in the way it performs a MIB WALK. SNMPv2 or SNMPv3 NMS perform a GETBULK command to WALK an MIB. An SNMPv1 NMS performs a sequence of GETNEXT commands to WALK an MIB. The SNMPv1 WALK will expose the fact that the controller MIBs are sparsely populated in some areas. The SNMPv1 WALK makes it look like the controller MIBs have more data values than expected, and most of those values are empty. When doing a SNMPv1 WALK, it is necessary to filter out those empty values.*

## 4.9. Downloading controller MIB files

The controller can provide access to all MIBs needed to support SNMP functionality. Visiting the SNMP page will show a button which initiates a download of all MIB files.

**Figure 4-6** SNMP configuration page



As an alternative, visit the Alpha® website to download the latest version of the MIB files for the controller are available (http://www.alpha.ca/web2/software-firmware-downloads). Some registration information is required to access the page.

There are eight MIB files in the package to support various SNMP functionality to access data from the controller.

- **ALARM-MIB** file defines a list of outstanding alarms and log of alarms that have occurred and have been cleared.

- **ALPHA-CONVERTER-SYS-MIB** file defines the data objects of a converter system.

- **ALPHA-NOTIFICATION-MIB** file defines the notification objects available in the controller.

- **ALPHA-RECTIFIER-SYS-MIB** file defines the data objects of a DC system.

- **ALPHA-RESOURCE_MIB** file defines all read and control objects available in the controller.

- **SNMP-TARGET-MIB** file defines MIB objects which provide mechanisms to remotely configure the parameters used by an entity for the generation of SNMP messages.

- **SNMPv2-MIB** file defines managed objects that describes the properties and behavior of a SNMPv2 entity.

- **UPS-MIB** file defines the objects for an uninterruptible power supply (UPS) such as the Alpha$^{®}$ FXM HP UPS module.

# 5. SNMP reference for the controller

## 5.1. Alarms reference

The following figure shows controller SNMP notifications.

**Figure 5-1** Example controller SNMP notification
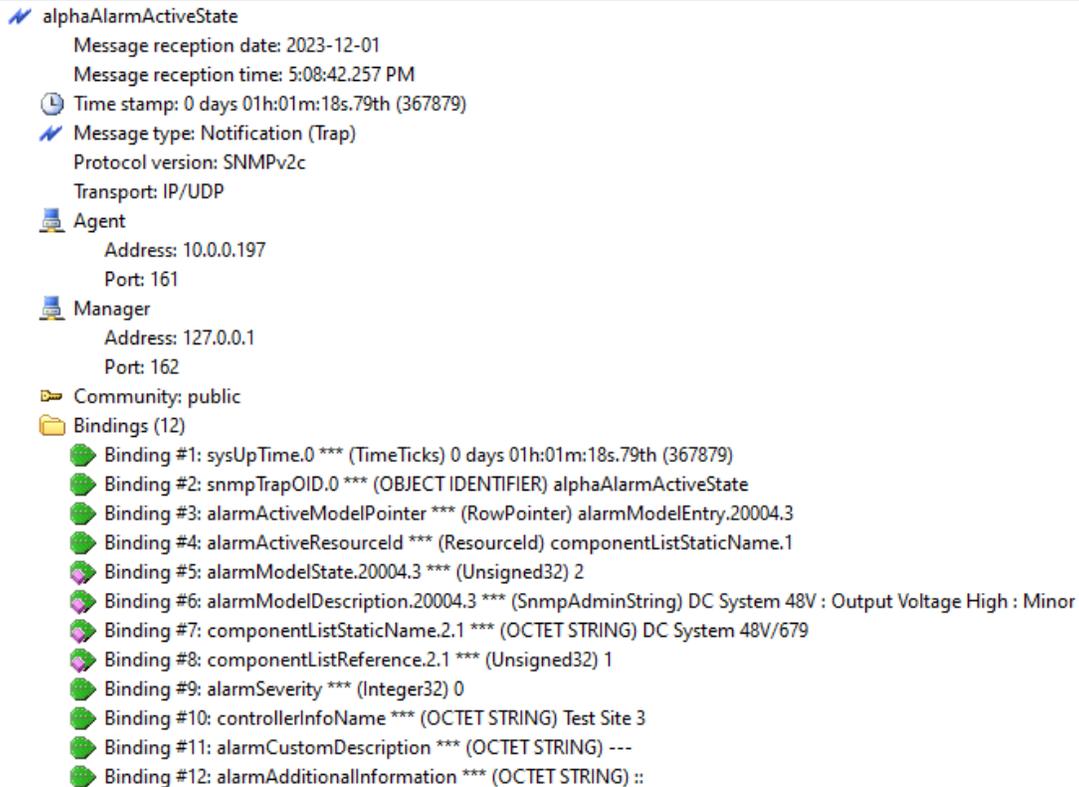


Although there are a number of VarBinds available for simple alarm mapping and matching, the Alarm Model Pointer and the Alarm Resource ID provide access to a rich set of data. The Alarm Model Pointer provides a pointer into the **Alarm** table where more details about the alarm are available. The Alarm Resource ID provides a pointer to the resource or inventory item that the notification is about.

For example, if you had a **Battery Disconnect** and a **Load Disconnect** open at the same time, both notifications would share the same Alarm Model Pointer of Disconnect Open, but one Alarm Resource ID would point to the **Battery Disconnect** and the other Alarm Resource ID would point to the **Load Disconnect**.

The following is a list of all possible alarms that exist in the controller. Due to the dynamic nature and variable setup of a power system, the alarm list is potentially different when monitoring different setups.

For example, if you have two controllers, one controlling a rectifier system and another controlling a converter system, the alarm lists for each one will not be identical. But even with the variable sets of alarms available, a consolidated list of all alarms can provide a reference point to get information of any

and all possible notifications coming out of the controller. This is because all alarms are defined with unique identifying features that will not change or be duplicated.

Alarm severity is indicated by the last number in the assigned OID. The following table does not list all possible alarm states. Reviewing the Alarm Model table using a SNMP tool will provide all instances of possible alarms and their states.

- • 1: Clear
- • 2: Message
- • 3: Minor
- • 4: Major
- • 5: Critical

As per the defined standards, all OID references to alarm models not only point to the entry of the model in the table, but also to the corresponding state of that alarm.

**Table 5-1** Alarm reference table

| Component list type | Alarm name | OID |
|---|---|---|
| 1 | Controller: Clock Error | 10001 |
| 1 | Controller: CAN Devices in Bootloader | 10002 |
| 1 | Controller: ADIO Comms. Lost | 10003 |
| 1 | Controller: Unassigned Modules | 10004 |
| 1 | Controller: Temporary License Expired | 10005 |
| 1 | Controller: Required Feature License Missing | 10006 |
| 1 | Controller:Temporary License in Use | 10007 |
| 1 | Controller: Duplicate SNMP ID | 10008 |
| 1 | Controller: Restart Required | 10009 |
| 1 | Controller: Unassigned Bluetooth Modules | 10010 |
| 1 | Controller: Disk Almost Full | 10011 |
| 1 | Controller: CAN Module Communication Lost Count High | 10013 |
| 1 | Controller: CAN Module Communication Lost Count Very High | 10014 |
| 1 | Controller: Remote Configuration Lockout Overridden | 10015 |
| 1 | Controller: System OS Upgrade in Progress | 10016 |
| 1 | Controller: Reserve Controller Failed | 10017 |
| 1 | Controller: Main Controller Failed | 10018 |

**Table 5-1** Alarm reference table (continued)

| Component list type | Alarm name | OID |
|---|---|---|
| 1 | Controller: Main Controller Ethernet Failure | 10019 |
| 1 | Controller: Controller Redundancy CAN Failure | 10020 |
| 1 | Controller: ADIO Redundancy Lost | 10021 |
| 1 | Controller: Maintenance Mode Active | 10022 |
| 1 | Controller: Bluetooth Connection Error | 10023 |
| 1 | Controller: Event Log Count High | 10105 |
| 1 | Controller: Device Log Count High | 10106 |
| 2 | DC System: AC Mains Voltage High | 20001 |
| 2 | DC System: AC Mains Voltage Low | 20002 |
| 2 | DC System: Urgent AC Mains Fail | 20003 |
| 2 | DC System: Output Voltage High | 20004 |
| 2 | DC System: Output Voltage Very High | 20005 |
| 2 | DC System: Output Voltage Low | 20006 |
| 2 | DC System: Output Voltage Very Low | 20007 |
| 2 | DC System: Invalid System Voltage Reading | 20008 |
| 2 | DC System: Battery on Discharge<br><br>(Deprecated. Always return Inactive (0). Use Battery System: Battery on Discharge alarm). | 20009 |
| 2 | DC System: Rectifier Fail | 20010 |
| 2 | DC System: Rectifier Fail Count Very High | 20011 |
| 2 | DC System: Rectifier Fail Count High | 20012 |
| 2 | DC System: Rectifier Minor | 20013 |
| 2 | DC System: Rectifier Comms. Lost | 20014 |
| 2 | DC System: AC Mains Fail | 20015 |
| 2 | DC System: Fan Fail | 20016 |
| 2 | DC System: Battery Test<br><br>(Deprecated. Always return Inactive (0). Use Battery System: Battery Test alarm). | 20017 |

**Table 5-1** Alarm reference table (continued)

| Component list type | Alarm name | OID |
|---|---|---|
| 2 | DC System: Temp. Comp. Measurement Fail<br><br>(Deprecated. Always return Inactive (0). Use Battery System: Temp. Comp. Measurement Fail alarm). | 20018 |
| 2 | DC System: Temp. Comp. Voltage Warning<br><br>(Deprecated. Always return Inactive (0). Use Battery System: Temp. Comp. Voltage Warning alarm). | 20019 |
| 2 | DC System: Battery Runtime Low | 20020 |
| 2 | DC System: Battery Health Low<br><br>(Deprecated. Always return Inactive (0). Use Battery System: Battery Health Low alarm). | 20021 |
| 2 | DC System: Rectifier Configuration Error | 20022 |
| 2 | DC System: Insufficient Capacity Remaining (Current) | 20023 |
| 2 | DC System: Insufficient Capacity Remaining (Power) | 20024 |
| 2 | DC System: Missing Rectifier | 20025 |
| 2 | DC System: Rectifier AC Fail Count High | 20026 |
| 2 | DC System: Rectifier AC Fail Count Very High | 20027 |
| 2 | DC System: Total Load Current High Alarm | 20028 |
| 2 | DC System: Total Load Current Very High Alarm | 20029 |
| 2 | DC System: Regulation Suspended Alarm | 20030 |
| 3 | ADIO: Ground Fault Resistance Low | 30001 |
| 3 | ADIO: Ground Fault Current High | 30002 |
| 3 | Fan Tray: Fan Fail Alarm | 30003 |
| 3 | ADIO: Ground Fault Earth Current High | 30004 |
| 3 | ADIO: Temperature Sensor #1 Failure | 30101 |
| 3 | ADIO: Temperature Sensor #2 Failure | 30102 |
| 3 | ADIO: Temperature Sensor #3 Failure | 30103 |
| 3 | ADIO: Temperature Sensor #4 Failure | 30104 |
| 3 | ADIO: Temperature Sensor #5 Failure | 30105 |

**Table 5-1** Alarm reference table (continued)

| Component list type | Alarm name | OID |
|---|---|---|
| 10 | Battery System: Battery Charge Current High | 100001 |
| 10 | Battery System: Battery Temperature High | 100002 |
| 10 | Battery System: Battery Temperature Low | 100003 |
| 10 | Battery System: Battery Breaker/Fuse Open | 100004 |
| 10 | Battery System: Midpoint #1 Unbalanced<br><br>(Deprecated. Always returns Inactive (0). Use Battery String: Midpoint Unbalanced alarm). | 100005 |
| 10 | Battery System: Midpoint #2 Unbalanced<br><br>(Deprecated. Always returns Inactive (0). Use Battery String: Midpoint Unbalanced alarm). | 100006 |
| 10 | Battery System: Battery Temperature Anomaly | 100007 |
| 10 | Battery System: Battery Test | 100008 |
| 10 | Battery System: Battery on Discharge | 100009 |
| 10 | Battery System: Temp. Comp. Measurement Fail | 100010 |
| 10 | Battery System: Temp. Comp. Voltage Warning | 100011 |
| 10 | Battery System: Battery Runtime Low | 100012 |
| 10 | Battery System: Battery Health Low | 100013 |
| 11 | Disconnect: Disconnect Inhibit | 110001 |
| 11 | Disconnect: Disconnect Pending | 110002 |
| 11 | Disconnect: Disconnect Active | 110003 |
| 11 | Disconnect: Disconnect Open | 110004 |
| 11 | Disconnect: Manually Closed | 110005 |
| 11 | Disconnect: Manually Opened | 110006 |
| 12 | Load: Load Voltage High | 120001 |
| 12 | Load: Load Current High | 120002 |
| 12 | Load: Load Breaker/Fuse Open | 120003 |
| 12 | Load: Load Voltage Low | 120004 |
| 12 | Load: Load Current Very High | 120005 |

**Table 5-1** Alarm reference table (continued)

| Component list type | Alarm name | OID |
|---|---|---|
| 15 | CAN Bus: Bus State Alarm | 150001 |
| 15 | CAN Bus: Max. CAN Devices Exceeded | 150002 |
| 16 | Converter System: Output Voltage Low | 160001 |
| 16 | Converter System: Output Voltage High | 160002 |
| 16 | Converter System: Converter Fail | 160003 |
| 16 | Converter System: Converter Major Fail Count | 160004 |
| 16 | Converter System: Converter Minor Fail Count | 160005 |
| 16 | Converter System: Converter Minor | 160006 |
| 16 | Converter System: Converter Comms. Lost | 160007 |
| 16 | Converter System: Input Voltage Fail | 160008 |
| 16 | Converter System: Converter Configuration Error | 160009 |
| 16 | Converter System: Converter Fan Fail | 160010 |
| 16 | Converter System: Output Voltage Very Low | 160011 |
| 16 | Converter System: Output Voltage Very High | 160012 |
| 16 | Converter System: Missing Converter | 160013 |
| 16 | Converter System: Total Load Current High | 160014 |
| 16 | Converter System: Total Load Current Very High | 160015 |
| 17 | Digital User Alarm: User-Defined | 170001 |
| 18 | Threshold User Alarm: User-Defined | 180001 |
| 19 | Inverter System: T2S Comms. Lost | 190001 |
| 19 | Inverter System: Inverter Comms. Lost | 190002 |
| 19 | Inverter System: Inverter Fan Failure | 190003 |
| 19 | Inverter System: Inverter Internal Error | 190004 |
| 19 | Inverter System: Inverter Restarts | 190005 |
| 19 | Inverter System: Inverter Overload | 190006 |
| 19 | Inverter System: Inverter Configuration Error | 190007 |
| 19 | Inverter System: Inverter Output Voltage Change in Progress | 190009 |
| 19 | Inverter System: Inverter Not Ready | 190010 |

**Table 5-1** Alarm reference table (continued)

| Component list type | Alarm name | OID |
|---|---|---|
| 19 | Inverter System: Inverter Temperature Derating | 190011 |
| 19 | Inverter System: Inverter Low Input Voltage Brownout | 190012 |
| 19 | Inverter System: Inverter Fan Life Elapsed | 190013 |
| 19 | Inverter System: Inverter Off | 190014 |
| 19 | Inverter System: Inverter AC Input Voltage Low | 190015 |
| 19 | Inverter System: Inverter AC Input Voltage High | 190016 |
| 19 | Inverter System: Inverter AC Input Error | 190017 |
| 19 | Inverter System: Inverter Frequency Out of Range | 190018 |
| 19 | Inverter System: Inverter DC Input Voltage Low | 190019 |
| 19 | Inverter System: Inverter DC Input Voltage High | 190020 |
| 19 | Inverter System: T2S Digital Input 1 | 190021 |
| 19 | Inverter System: T2S Digital Input 2 | 190022 |
| 19 | Inverter System: Redundancy Lost | 190023 |
| 19 | Inverter System: All Redundancy Lost | 190024 |
| 19 | Inverter System: System Overload | 190025 |
| 19 | Inverter System: Main Source Lost | 190026 |
| 19 | Inverter System: Secondary Source Lost | 190027 |
| 19 | Inverter System: T2S Fail | 190028 |
| 19 | Inverter System: T2S Log Nearly Full | 190029 |
| 19 | Inverter System: System Error | 190030 |
| 19 | Inverter System: Inverter Imminent Shutdown | 190031 |
| 19 | Inverter System: TUS Synchronization Error | 190032 |
| 19 | Inverter System: TUS Internal Error | 190034 |
| 19 | Inverter System: TUS Configuration Error | 190035 |
| 19 | Inverter System: T2S Refusing Commands | 190037 |
| 19 | Inverter System: Missing T2S | 190038 |
| 19 | Inverter System: Phase Output Real Power Overload | 190039 |
| 19 | Inverter System: Phase Output Apparent Power Overload | 190040 |

**Table 5-1** Alarm reference table (continued)

| Component list type | Alarm name | OID |
|---|---|---|
| 20 | Bypass Switch: Bypass Active | 200001 |
| 27 | Breaker or Fuse: Breaker/Fuse Open | 270001 |
| 31 | Line Power System: Input Voltage High Shutdown | 310001 |
| 31 | Line Power System: High Temperature Shutdown | 310003 |
| 31 | Line Power System: Temperature Warning | 310004 |
| 31 | Line Power System: Module Connection Error | 310005 |
| 31 | Line Power System: Channel Overvoltage Shutdown | 310006 |
| 31 | Line Power System: Channel Ground Fault Shutdown | 310007 |
| 31 | Line Power System: Channel Output Voltage Low Shutdown | 310008 |
| 31 | Line Power System: Channel Overcurrent Shutdown | 310009 |
| 31 | Line Power System: Channel Disabled | 310010 |
| 31 | Line Power System: Channel Current Sensor Shutdown | 310011 |
| 31 | Line Power System: Input Voltage Low Shutdown | 310015 |
| 31 | Line Power System: LP Module Comms. Lost | 310016 |
| 31 | Line Power System: Output Current Low | 310017 |
| 31 | Line Power System: Output Current High | 310018 |
| 31 | Line Power System: Output Power Low | 310019 |
| 31 | Line Power System: Output Power High | 310020 |
| 31 | Line Power System: Input Current (Est.) Low | 310021 |
| 31 | Line Power System: Input Current (Est.) High | 310022 |
| 31 | Line Power System: Input Power (Est.) Low | 310023 |
| 31 | Line Power System: Input Power (Est.) High | 310024 |
| 31 | Line Power System: Channel Fuse Shutdown | 310025 |
| 31 | Line Power System: Average Input Voltage Low | 310026 |
| 31 | Line Power System: Duplicate Shelf ID Detected | 310027 |
| 31 | Line Power System: Invalid Shelf ID Detected | 310028 |
| 31 | Line Power System: LP Module Configuration Error | 310029 |
| 31 | Line Power System: Missing LPS Module | 310030 |

**Table 5-1** Alarm reference table (continued)

| Component list type | Alarm name | OID |
|---|---|---|
| 32 | LP Module: Channel 1 Shutdown | 320001 |
| 32 | LP Module: Channel 2 Shutdown | 320002 |
| 32 | LP Module: Channel 3 Shutdown | 320003 |
| 32 | LP Module: Channel 4 Shutdown | 320004 |
| 32 | LP Module: Module Failure | 320100 |
| 33 | LP Load: Load Current Low | 330001 |
| 33 | LP Load: Load Current High | 330002 |
| 33 | LP Load: Load Power Low | 330003 |
| 33 | LP Load: Load Power High | 330004 |
| 33 | LP Load: Channel in Alert | 330005 |
| 35 | Panel: Breaker Trip | 350001 |
| 35 | Panel: Loss of Feed | 350010 |
| 35 | Panel: Overcurrent | 350011 |
| 37 | Referenced Load: Load Breaker/Fuse Open | 370003 |
| 41 | FXM HP System: Missing FXM HP | 410001 |
| 41 | FXM HP System: Low Battery 1 | 410002 |
| 41 | FXM HP System: Low Battery 2 | 410003 |
| 41 | FXM HP System: Low Battery + No Line 1 | 410004 |
| 41 | FXM HP System: On Battery | 410005 |
| 41 | FXM HP System: Fan Failure | 410006 |
| 41 | FXM HP System: AC Input Frequency Low | 410007 |
| 41 | FXM HP System: AC Input Frequency High | 410008 |
| 41 | FXM HP System: Battery Breaker Open | 410009 |
| 41 | FXM HP System: AC Input Breaker Open | 410010 |
| 41 | FXM HP System: AC Output Overloaded | 410011 |
| 41 | FXM HP System: AC Output Short Circuit | 410012 |
| 41 | FXM HP System: Power Outage | 410013 |
| 41 | FXM HP System: Battery Temperature Probe Unplugged | 410014 |

**Table 5-1** Alarm reference table (continued)

| Component list type | Alarm name | OID |
|---|---|---|
| 41 | FXM HP System: Internal Temperature Fault | 410015 |
| 41 | FXM HP System: AC Output Voltage High | 410016 |
| 41 | FXM HP System: AC Output Voltage Low | 410017 |
| 41 | FXM HP System: Battery Overvoltage | 410020 |
| 41 | FXM HP System: Battery Undervoltage | 410021 |
| 41 | FXM HP System: Battery Fail Fault | 410022 |
| 41 | FXM HP System: AC Input Backfeed Failure | 410023 |
| 41 | FXM HP System: Frequency Unknown | 410024 |
| 41 | FXM HP System: Inverter Cutoff Imminent | 410025 |
| 41 | FXM HP System: Bypass Mode On | 410027 |
| 41 | FXM HP System: Keep Alive Failure | 410028 |
| 41 | FXM HP System: Low Battery + No Line 2 | 410029 |
| 41 | FXM HP System: Aux. Shutdown Imminent | 410030 |
| 42 | Disconnect With Exclusion: Disconnect Pending | 420001 |
| 42 | Disconnect With Exclusion: Disconnect Active | 420003 |
| 48 | General Purpose Transducer: XDCR Fail Input High | 480001 |
| 48 | General Purpose Transducer: XDCR Fail Input Low | 480002 |
| 49 | Change Field To Variable: Value Out of Range | 490001 |
| 50 | Battery System Battery String: Battery Temperature High | 500001 |
| 50 | Battery System Battery String: Battery Temperature Low | 500002 |
| 50 | Battery System Battery String: Battery Breaker/Fuse Open | 500003 |
| 50 | Battery System Battery String: Midpoint Unbalanced | 500004 |
| 50 | Battery System Battery String: Battery Temperature Anomaly | 500005 |
| 50 | Battery System Battery String: Battery Lifespan Exceeded | 500006 |
| 50 | Battery System Battery String: Battery Lifespan Close to Exceeded | 500007 |
| 53 | DC Source: Generator Status Mismatch | 530001 |
| 53 | DC Source: Generator Running Too Long | 530002 |
| 54 | Data Subscriptions: Communication Error | 540001 |

**Table 5-1** Alarm reference table (continued)

| Component list type | Alarm name | OID |
|---|---|---|
| 55 | Generic Disconnect: Disconnect Inhibit | 550001 |
| 55 | Generic Disconnect: Disconnect Pending | 550002 |
| 55 | Generic Disconnect: Disconnect Active | 550003 |
| 55 | Generic Disconnect: Disconnect Open | 550004 |
| 55 | Generic Disconnect: Disconnect Manually Closed | 550005 |
| 55 | Generic Disconnect: Disconnect Manually Open | 550006 |
| 57 | AC Source: AC Fail | 570001 |
| 57 | AC Source: Urgent AC Fail | 570002 |
| 57 | AC Source: Generator Status Mismatch | 570003 |
| 57 | AC Source: Generator Running Too Long | 570004 |
| 57 | AC Generator: AC Fail | 570001 |
| 57 | AC Generator: Urgent AC Fail | 570002 |
| 57 | AC Generator: Generator Status Mismatch | 570003 |
| 57 | AC Generator: Generator Running Too Long | 570004 |
| 62 | XMBS Bypass Switch: Bypass Active | 620001 |
| 62 | XMBS Bypass Switch: Utility-Inverter Sync. Request Fault | 620002 |
| 62 | XMBS Bypass Switch: Bypass Hardware Fault | 620003 |
| 67 | Thermal System: Thermal Controller Comms. Lost | 670001 |
| 67 | Thermal System: Internal Temperature High | 670002 |
| 67 | Thermal System: Internal Temperature Low | 670003 |
| 67 | Thermal System: Cabinet Door Left Open | 670004 |
| 67 | Thermal System: Filter Replacement Required | 670005 |
| 67 | Thermal System: Fan Fail | 670006 |
| 68 | Battery Disconnect with Latching Contactor: Disconnect Inhibit | 680001 |
| 68 | Battery Disconnect with Latching Contactor: Disconnect Pending | 680002 |
| 68 | Battery Disconnect with Latching Contactor: Disconnect Active | 680003 |
| 68 | Battery Disconnect with Latching Contactor: Disconnect Open | 680004 |
| 68 | Battery Disconnect with Latching Contactor: Contactor State Error | 680007 |

**Table 5-1** Alarm reference table (continued)

| Component list type | Alarm name | OID |
|---|---|---|
| 70 | Hyperboost System: Battery Bus Voltage Low | 700001 |
| 70 | Hyperboost System: Battery Bus Voltage High | 700002 |
| 70 | Hyperboost System: Battery Bus Voltage Very Low | 700003 |
| 70 | Hyperboost System: Battery Bus Voltage Very High | 700004 |
| 70 | Hyperboost System: Load Bus Voltage Low | 700005 |
| 70 | Hyperboost System: Load Bus Voltage High | 700006 |
| 70 | Hyperboost System: Load Bus Voltage Very Low | 700007 |
| 70 | Hyperboost System: Load Bus Voltage Very High | 700008 |
| 70 | Hyperboost System: Missing Converter | 700009 |
| 70 | Hyperboost System: Battery Bus Input Voltage Fail | 700010 |
| 70 | Hyperboost System: Load Bus Input Voltage Fail | 700011 |
| 70 | Hyperboost System: Converter Comms. Lost | 700012 |
| 70 | Hyperboost System: Converter Fan Fail | 700013 |
| 70 | Hyperboost System: Converter Minor | 700014 |
| 70 | Hyperboost System: Converter Fail | 700015 |
| 70 | Hyperboost System: Converter Fail Count Very High | 700016 |
| 70 | Hyperboost System: Converter Fail Count High | 700017 |
| 74 | AC Generator: AC Fail | 740001 |
| 74 | AC Generator: Urgent AC Fail | 740002 |
| 74 | AC Generator: Generator Running Too Long | 740003 |
| 74 | AC Generator: Generator Startup Frequency High | 740004 |
| 74 | AC Generator: Generator Status Mismatch | 740005 |
| 75 | DC Generator: Generator Running Too Long | 750003 |
| 75 | DC Generator: Generator Startup Frequency High | 750004 |
| 75 | DC Generator: Generator Status Mismatch | 750005 |
| 97 | Matrix: Bus A Breaker on but not in Inventory | 970001 |
| 97 | Matrix: Bus A Breaker Overloaded | 970002 |
| 97 | Matrix: Bus A Breaker Trip | 970003 |

**Table 5-1** Alarm reference table (continued)

| Component list type | Alarm name | OID |
|---|---|---|
| 97 | Matrix: Bus A Overloaded | 970004 |
| 97 | Matrix: Bus A Overvoltage | 970005 |
| 97 | Matrix: Bus A Undervoltage | 970006 |
| 97 | Matrix: Bus B Breaker on but not in Inventory | 970007 |
| 97 | Matrix: Bus B Breaker Overloaded | 970008 |
| 97 | Matrix: Bus B Breaker Trip | 970009 |
| 97 | Matrix: Bus B Overloaded | 970010 |
| 97 | Matrix: Bus B Overvoltage | 970011 |
| 97 | Matrix: Bus B Undervoltage | 970012 |
| 99 | Environment Manager System: 24V Overvoltage | 990001 |
| 99 | Environment Manager System: 24V Undervoltage | 990002 |
| 99 | Environment Manager System: Shelter Door Open | 990003 |
| 99 | Environment Manager System: Cooling System Smoke Shutdown | 990004 |
| 99 | Environment Manager System: Economy Cooling Fail | 990005 |
| 99 | Environment Manager System: High Temperature | 990006 |
| 99 | Environment Manager System: Main Fail | 990007 |
| 99 | Environment Manager System: Test Mode | 990008 |
| 100 | Generic Fan: Fan Fault | 1000001 |
| 101 | Generic Air Conditioner: Air Conditioner Fail | 1010001 |
| 102 | Module Lockout | 1020001 |
| 102 | Charge Blocked | 1020002 |
| 102 | Discharge Blocked | 1020003 |
| 103 | Battery Temperature High | 1030001 |
| 103 | Battery Temperature Low | 1030002 |
| 103 | Missing Li-ion Battery Module | 1030003 |
| 103 | Battery on Discharge | 1030004 |
| 103 | Battery Health Low | 1030009 |
| 103 | Battery State of Charge Low | 1030010 |

**Table 5-1** Alarm reference table (continued)

| Component list type | Alarm name | OID |
|---|---|---|
| 103 | Battery Communication Lost | 1030011 |
| 103 | Battery Recharge Delay | 1030013 |
| 103 | Battery Lockout Count High | 1030018 |
| 103 | Battery Charge Blocked Count High | 1030019 |
| 103 | Battery Discharged Blocked Count High | 1030020 |
| 103 | Invalid Battery Current | 1030021 |
| 105 | Energy Router: Shelf Overtemperature Alert | 1050007 |
| 105 | Energy Router: Shelf Hardware Fault Alert | 1050008 |
| 105 | Energy Router: SSM Tripped Alert | 1050009 |
| 105 | Energy Router: SSM Hardware Fault Alert | 1050010 |
| 105 | Energy Router: SSM1 Tripped Alarm | 1050131 |
| 105 | Energy Router: SSM1 Hardware Fault Alarm | 1050132 |
| 105 | Energy Router: SSM1 Short Circuit Alarm | 1050133 |
| 105 | Energy Router: SSM1 Overtemperature Alarm | 1050134 |
| 105 | Energy Router: SSM1 High Current Alarm | 1050135 |
| 105 | Energy Router: SSM1 Turned Off Alarm | 1050136 |
| 105 | Energy Router: SSM1 Locked Out Alarm | 1050137 |
| 105 | Energy Router: SSM1 Invalid Config. Alarm | 1050138 |
| This pattern repeats for EnVision™ Smart Switch Modules (SSM) 2 to 12 by adding 10 to these IDs for each smart switch module. | | |
| 106 | Energy Router Distribution Subsystem: Shelf Overtemperature | 1060001 |
| 106 | Energy Router Distribution Subsystem: Shelf Hardware Fault | 1060002 |
| 106 | Energy Router Distribution Subsystem: Average Input Voltage High | 1060003 |
| 106 | Energy Router Distribution Subsystem: Average Input Voltage Low | 1060004 |
| 106 | Energy Router Distribution Subsystem: Feeder Current Threshold Alarm | 1060005 |
| 108 | Third-party Li-ion Battery Module: Fully Charged | 1080001 |
| 108 | Third-party Li-ion Battery Module: Charged Blocked | 1080002 |
| 108 | Third-party Li-ion Battery Module: Failed | 1080003 |
| 109 | Third-party Li-ion Battery System: Battery Breaker/Fuse Open | 1090001 |

**Table 5-1** Alarm reference table (continued)

| Component list type | Alarm name | OID |
|---|---|---|
| 109 | Third-party Li-ion Battery System: Battery on Discharge | 1090002 |
| 109 | Third-party Li-ion Battery System: Battery Module State of Charge Low | 1090003 |
| 109 | Third-party Li-ion Battery System: Battery Recharge Delay | 1090004 |
| 109 | Third-party Li-ion Battery System: Fully Charged | 1090005 |
| 109 | Third-party Li-ion Battery System: Charged Blocked | 1090006 |
| 109 | Third-party Li-ion Battery System: Failed | 1090007 |
| 110 | ACE BattByte BLE: Voltage Imbalance | 1100001 |
| 110 | ACE BattByte BLE: Communication Lost | 1100002 |
| 110 | ACE BattByte BLE: Temperature High | 1100003 |
| 110 | ACE BattByte BLE: Temperature Low | 1100004 |
| 110 | ACE BattByte BLE: Estimated Life Span Exceeded | 1100005 |
| 110 | ACE BattByte BLE: Estimated Life Span Close to Exceeded | 1100006 |

## 5.2. Alarm mapping example

Here are two examples of a notification on the same alarm: one active and one clear. These show how matching can be done.

**Binding #2**: Shows the type of notification: active or clear.

**Binding #3**: Is a row pointer to the alarm model of the alarm being reported. This pointer will always point to the original alarm and its priority. It is recommended that this value is used for active and clear notification matching.

All other bindings are added to provide the details needed to identify and process the alarm being reported.

**Figure 5-2**  Notification: Alarm active

⚡ alphaAlarmActiveState
      Message reception date: 2023-12-01
      Message reception time: 5:08:42.257 PM
   🕑 Time stamp: 0 days 01h:01m:18s.79th (367879)
   ⚡ Message type: Notification (Trap)
      Protocol version: SNMPv2c
      Transport: IP/UDP
   🖥 Agent
      Address: 10.0.0.197
      Port: 161
   🖥 Manager
      Address: 127.0.0.1
      Port: 162
   🔑 Community: public
   📁 Bindings (12)
      🟢 Binding #1: sysUpTime.0 *** (TimeTicks) 0 days 01h:01m:18s.79th (367879)
      🟢 Binding #2: snmpTrapOID.0 *** (OBJECT IDENTIFIER) alphaAlarmActiveState
      🟢 Binding #3: alarmActiveModelPointer *** (RowPointer) alarmModelEntry.20004.3
      🟢 Binding #4: alarmActiveResourceId *** (ResourceId) componentListStaticName.1
      🟢 Binding #5: alarmModelState.20004.3 *** (Unsigned32) 2
      🟢 Binding #6: alarmModelDescription.20004.3 *** (SnmpAdminString) DC System 48V : Output Voltage High : Minor
      🟢 Binding #7: componentListStaticName.2.1 *** (OCTET STRING) DC System 48V/679
      🟢 Binding #8: componentListReference.2.1 *** (Unsigned32) 1
      🟢 Binding #9: alarmSeverity *** (Integer32) 0
      🟢 Binding #10: controllerInfoName *** (OCTET STRING) Test Site 3
      🟢 Binding #11: alarmCustomDescription *** (OCTET STRING) ---
      🟢 Binding #12: alarmAdditionalInformation *** (OCTET STRING) ::

**Figure 5-3** Notification: Alarm clear



```
alphaAlarmClearState
    Message reception date: 11/29/2018
    Message reception time: 4:45:46.697 PM
    Time stamp: 2 days 01h:43m:50s.97th (17903097)
    Message type: Notification (Trap)
    Protocol version: SNMPv2c
    Transport: IP/UDP
    Agent
        Address: 10.1.8.34
        Port: 161
    Manager
        Address: 10.1.24.120
        Port: 162
    Community: public
    Bindings (12)
        Binding #1: sysUpTime.0 *** (TimeTicks) 2 days 01h:43m:50s.97th (17903097)
        Binding #2: snmpTrapOID.0 *** (OBJECT IDENTIFIER) alphaAlarmClearState
        Binding #3: alarmActiveModelPointer *** (RowPointer) 1.3.6.1.2.1.118.1.1.2.1.150001
        Binding #4: alarmActiveResourceId *** (ResourceId) 1.3.6.1.4.1.7309.5.2.1.2.1.15.1
        Binding #5: alarmModelState.150001.1 *** (Unsigned32) 1
        Binding #6: alarmModelDescription.150001.1 *** (SnmpAdminString) CAN Bus : Bus State Alarm : Message [43.41.
        Binding #7: componentListStaticName.15.1 *** (OCTET STRING) CAN1
        Binding #8: componentListReference.15.1 *** (Unsigned32) 1
        Binding #9: alarmSeverity *** (Integer32) 1
        Binding #10: controllerInfoName *** (OCTET STRING) Test Site 3
        Binding #11: alarmCustomDescription *** (OCTET STRING) 42.75.73.20.52.43.20.3A.20.41.6C.61.72.6D.65.20.64.27.E5
        Binding #12: alarmAdditionalInformation *** (OCTET STRING) ::
```

## 5.3. Alarm history and alarm auditing

Two tables defined by the ALARM-MIB are active alarms and cleared alarms. The active alarm table lists the currently active alarms and allows an NMS to audit the alarms list to ensure that the NMS and the controller have the same list of active alarms. The cleared alarm table lists the occurrence of an alarm being cleared, including the time of the event. This cleared alarm list provides a historical log of events. If an alarm toggles between active and cleared, each cleared event is logged.

Alarm transitions are recognized as a change of state between active and clear. However, alarms on the controller can also go into an unknown state. This is particularly relevant at configuration time when alarms are being added, removed, enabled, and disabled (for example, when a **User Alarm** is deleted). When an active alarm is disabled or removed, the SNMP agent will treat the alarm as if it has cleared. The SNMP agent will remove the alarm from the active table, and then add an entry to the cleared alarm table.

When the controller is reset, the active and cleared alarm tables will be empty.

## 5.4. Alarms configuration

The Alpha® resource MIB provides access to the writable configuration fields for all controller and components alarms. Using these configuration fields, the alarms properties such as alarm enable and

priority can be changed remotely. Each alarm comes with a set of configuration fields that is accessible through SNMP. To determine the base SNMP ID of an alarm, multiply the alarm OID by 100. For example:

The OID for controller: Clock Error Alarm is 10001; therefore, the base SNMP ID for Clock Error Alarm configuration fields is 1000100.

There are two types of alarms: **Digital** and **Threshold** alarms.

**Digital alarms**

**Table 5-2**  Digital alarm configuration fields

| Name | SNMP ID | Description |
|------|---------|-------------|
| Alarm Processing | Base SNMP ID | Enable or disable alarm monitoring. |
| Alarm Priority | Base SNMP ID + 1 | Priority at which alarm should be reported. The value can be **Warning**, **Minor**, **Major**, or **Critical**. |
| Parameter 1 | Base SNMP ID + 2 | A customizable user value to be used for filtering or other monitoring activities for alarm notifications. This correlates to the SNMP Severity VarBind in the Alpha Notification VarBind list. |
| Custom Name (Parameter 2) | Base SNMP ID + 3 | A user definable alarm name that replaces the default alarm name on the user interface. It also appears in the SNMP Custom Description VarBind in the Alpha Notification VarBind list. |

**Figure 5-4**  Table view of configuration list table for digital alarm

| Instance | configurationListReference(IDX) | configurationListName | configurationListType | configurationListUnit |
|----------|---------------------------------|------------------------|------------------------|------------------------|
| 1.100 | 1.100 | Controller : Configuration Restore Points | 5 | (zero-length) |
| 1.1000100 | 1.1000100 | Controller : Clock Error Alarm Processing | 5 | (zero-length) |
| 1.1000101 | 1.1000101 | Controller : Clock Error Priority | 5 | (zero-length) |
| 1.1000102 | 1.1000102 | Controller : Clock Error Parameter 1 | 1 | (zero-length) |
| 1.1000103 | 1.1000103 | Controller : Clock Error Custom Name (Parameter 2) | 4 | (zero-length) |
| 1.1000200 | 1.1000200 | Controller : CAN Devices In Bootloader Alarm Processing | 5 | (zero-length) |
| 1.1000201 | 1.1000201 | Controller : CAN Devices In Bootloader Priority | 5 | (zero-length) |

**Threshold alarms**

**Table 5-3**  Threshold alarm configuration fields

| Name | SNMP ID | Description |
|------|---------|-------------|
| Alarm Processing | Base SNMP ID | Enable or disable alarm monitoring. |
| Alarm Priority | Base SNMP ID + 1 | Priority at which alarm should be reported. The value can be **Warning**, **Minor**, **Major**, or **Critical**. |
| Parameter 1 | Base SNMP ID + 2 | A customizable user value to be used for filtering or other monitoring activities for alarm notifications. This |

**Table 5-3**  Threshold alarm configuration fields (continued)

| Name | SNMP ID | Description |
|---|---|---|
| | | correlates to the SNMP Severity VarBind in the Alpha Notification VarBind list. |
| Custom Name (Parameter 2) | Base SNMP ID + 3 | A user definable alarm name that replaces the default alarm name on the user interface. It also appears in the SNMP Custom Description VarBind in the Alpha® Notification VarBind list. |
| Limit | Base SNMP ID + 4 | The alarm will be active when the input is either above or below this limit depending on if it is a high or low threshold alarm. |
| Hysteresis | Base SNMP ID + 5 | Size of dead zone between activation and deactivation. |

**Figure 5-5**  Table view of configuration list table for threshold alarm

| Instance | configurationListReference(IDX) | configurationListName | configurationListType | configurationListUnit |
|---|---|---|---|---|
| 2.2000100 | 2.2000100 | DC System 48V : AC Input Voltage High Alarm Processing | 5 | (zero-length) |
| 2.2000101 | 2.2000101 | DC System 48V : AC Input Voltage High Priority | 5 | (zero-length) |
| 2.2000102 | 2.2000102 | DC System 48V : AC Input Voltage High Parameter 1 | 1 | (zero-length) |
| 2.2000103 | 2.2000103 | DC System 48V : AC Input Voltage High Custom Name (Parameter 2) | 4 | (zero-length) |
| 2.2000104 | 2.2000104 | DC System 48V : AC Input Voltage High Limit | 1 | V |
| 2.2000105 | 2.2000105 | DC System 48V : AC Input Voltage High Hysteresis | 1 | V |
| 2.2000200 | 2.2000200 | DC System 48V : AC Input Voltage Low Alarm Processing | 5 | (zero-length) |
| 2.2000201 | 2.2000201 | DC System 48V : AC Input Voltage Low Priority | 5 | (zero-length) |
| 2.2000202 | 2.2000202 | DC System 48V : AC Input Voltage Low Parameter 1 | 1 | (zero-length) |
| 2.2000203 | 2.2000203 | DC System 48V : AC Input Voltage Low Custom Name (Parameter 2) | 4 | (zero-length) |

For additional information on how to set the values of configuration fields, refer to *Configuration Field Type List*.

## 5.5. Controller MIB files

The MIB files used to monitor the controller are a combination of standard MIB files and vendor specific MIB files. The vendor specific MIB files are tagged with the ALPHA- prefix.

- **SNMPv2-MIB** extracted from RFC 3418
- **ALARM-MIB** extracted from RFC 3877
- **SNMP-TARGET-MIB** extracted from RFC 3413
- **ALPHA-NOTIFICATION-MIB**
- **ALPHA-RESOURCE-MIB**
- **ALPHA-RECTIFIER-SYS-MIB**
- **ALPHA-CONVERTER-SYS-MIB**
- **UPS-MIB** extracted from RFC 1628

## SNMPv2-MIB

This MIB provides controller information allowing it to be easily identified as a network device. The SNMP discovery feature in most NMS systems uses the data published through the SNMPv2-MIB for discovering network devices. Refer to RFC 3418, or the MIB file, for a more detailed explanation.

## ALARM-MIB

The controller takes advantage of the ALARM-MIB to define the structure and basic behavior of an Alarm Notification. The following tables from the ALARM-MIB are used:

- Alarm model
- Alarm active
- Alarm clear.

This MIB defines the alarm modeling and auditing. The model table provides a list of alarms available on the controller. The list follows the dynamic nature of the monitored systems and devices, and will add or remove conceptual rows as alarms come in or out of availability. Refer to RFC 3877, or the MIB file, for a more detailed explanation on alarm modeling.

Auditing for alarms can be done by looking at the **Active Alarms** and **Cleared Alarms** tables. Refer to RFC 3877, or the MIB file, for a more detailed explanation on these tables.

*Notice: The generic notification definition provided in the ALARM-MIB is not used by the controller. The ALPHA-NOTIFICATION-MIB provides a more detailed VarBind list applicable to power system monitoring.*

*Notice: For controllers using UPS-MIB such as Alpha® FXM HP UPS module, any changes to the alarm status would send two notifications to the NMS. One notification is defined by ALPHA-NOTIFICATION-MIB, and the second notification is defined by UPS-MIB. For a more detailed description on the UPS-MIB notification, refer to RFC 1628.*

## SNMP-TARGET-MIB

The controller provides 10 SNMP destinations for the NMS to configure notifications reporting, or notification subscriptions. Providing IP addresses of the NMS sets the controller to send alarm notifications to these destinations. Refer to RFC 3413, or the MIB file, for a more detailed explanation.

The current implementation takes advantage of the following set of data for each destination:

- IP address
- Time out (for acknowledged notifications)
- Retry count (for acknowledged notifications).

Configuring an IP address will activate notifications for that target. Entering a timeout period greater then zero will send notifications that require acknowledgment from the NMS to the controller (INFORM).

## ALPHA-NOTIFICATION-MIB

This MIB provides two custom-defined notifications for alarm reporting:

- Active alarm
- Cleared alarm

The payload of the notification (VarBind list) provides all the details of the alarm and can be used for filtering or monitoring specific alarms.

> **Notice:** *Both definitions of the notification objects (active and cleared) carry the same VarBind list. The two notifications were defined to allow easier filtering and matching of active and clear notifications on the NMS.*

## ALPHA-RESOURCE-MIB
The Alpha® resource MIB is designed with forward compatibility in mind. Using database type table design and data referencing, the MIB structure will allow dynamic additions of new components and data to the controller without any changes to the MIB. See the section on SNMP reference for an SNMP table indexing overview.

This MIB provides access to the information base of the controller. The major structures defined in the MIB are:

- **ControllerInfo:** Controller level information.
- **Components:** Objects that contain informational fields for data access. Objects such as systems and devices as well as information groupings. For example, in the case where you have a DC system with 10 rectifier modules, the table would include a row for the DC system and a row for each individual rectifier module.
- **DataFieldType: Data field types** available from a specific component source. Data fields describe a set of read-only data access. For example, with a DC system and 10 rectifier modules, the table would present a list of available field types of a DC system and a rectifier module.
- **DataFields: Data fields** available from all component sources. Combine the unique index of the **DataFieldType** row, along with the assigned ID of the component, to access this information.
- **ConfigurationList: Configuration fields** available from a specific component source. Configuration fields describe a set of read-write data access. For example, with a DC system and 10 rectifier modules, the table would present a list of available configuration types of a DC system and a rectifier module.
- **ConfigurationFields: Configuration fields** available from all component sources. Combine the unique index of the **ConfigurationFieldType**: Row, along with the assigned ID of the component, to access this information.

- **CommandFieldType:** *(Currently not supported. Reserved for future development.)* **command field types** available from a specific component source. Command fields describe a set of write-only data access. For example, with a DC system and 10 rectifier modules, the table would present a list of available command types of a DC system and a rectifier module.
- **CommandFields:** *(Currently not supported. Reserved for future development.)* **command fields** available from all component sources. Combine the unique index of the **CommandFieldType** row, along with the assigned ID of the component to access this information.
- **ConfigurationChoiceList: Configuration choices** provide lists of string values for the **State** data type configuration fields.

## ALPHA-RECTIFIER-SYS-MIB

For small systems with a single DC system monitored by the controller, the ALPHA-RECTIFIER-SYS-MIB provides a flat list of the most common data points used. Refer to the MIB for details of data points available.

📢 *Notice: This MIB does not provide any information in the case there are multiple DC systems monitored by the controller. The ALPHA-RESOURCE-MIB is the source of data for multiple systems monitoring.*

## ALPHA-CONVERTER-SYS-MIB

For small systems with a single converter system monitored by the controller, the ALPHA-CONVERTER-SYS-MIB provides a flat list of the most common data points used. Refer to the MIB for details of data points available.

📢 *Notice: This MIB does not provide any information in the case there are multiple converter systems monitored by the controller. The ALPHA-RESOURCE-MIB is the source of data for multiple systems monitoring.*

## UPS-MIB

The controller takes advantage of the UPS-MIB to define the structure and basic behavior of a UPS system. The following tables from the UPS-MIB are supported:

- Device Identification
- Battery
- Input
- Output
- Alarm
- Well Known Alarm
- Traps Notification.

The tables provide a list of UPS specific objects available on the controller. Refer to RFC 1628, or the UPS-MIB file, for a more detailed explanation and specification of the supported objects.

📢 *Notice: For controllers using UPS-MIB such as Alpha® FXM HP UPS, any changes to the alarm status would send two notifications to the NMS. One notification is defined by ALPHA-NOTIFICATION-MIB, and the second notification is defined by UPS-MIB. For a more detailed description on the UPS-MIB notification, refer to RFC 1628.*

## 5.6. SNMP MIB reference

Along with basic presentation of data in flat tables, the controller takes advantage of some of the more sophisticated features of the SNMP protocol. For example, augmented tables and table indexing methods. There is extensive use of augmented tables and external table indexes in both the predefined standard MIBs and the Alpha® MIBs. This section provides details of these features to help you use SNMP.

### Flat tables

Flat tables are the simplest and most commonly used technique of presenting a set of related data. The word table is not the most accurate way to describe this structure. It is closer to a folder containing a set of non-iterative data fields.

Data retrieval is a simple GET of the OID of interest. The following image shows a list of fields presented in the system folder as described by the SNMPv2-MIB. The highlighted field is accessed by using OID: 1.3.6.1.2.1.1.1

**Figure 5-6** Field list for SNMPv2-MIB
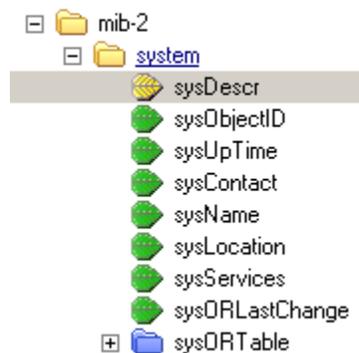


### Tables

In the following figure, the highlighted folder at the bottom of the image is a representation of a standard table with a set of columns and dynamic range of conceptual rows. Just like a flat table, each column has an OID to get access to the represented data. The additional variable are the possibility of multiple instances of rows that the table can have.

The highlighted folder, called the TableEntry, represents a conceptual row or instance of the row with the fields within the folder as columns of the table.

Data access of the column within a particular row will need to contain the combination of the Entry OID, column index and row index. For example, to access the name of the data held in the third row of the table, the OID combination is:

(Entry OID) 1.3.6.1.4.1.7309.5.1.100.1 + (Column Index) 2 + (Row Index) 3

**Figure 5-7**  Table from Alpha® Resource MIB
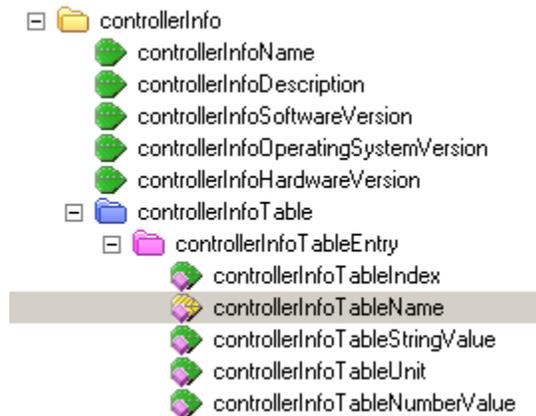


## Augmented tables

Augmented tables describe the relationship between two or more tables whose conceptual rows have a one to one relationship with each other. A row in one table directly extends a row in another table and uses the same row index.

## Tables with external indexes

Data access from tables that have multiple indexes or multiple external indexes, use the same index manipulation as described above. The MIB file would define the table with details of indexes used to access the data. The only difference in accessing this type of table is the additional process of putting the required indexes together.

> **Notice:** *The order of the indexes must match the order described in the defining MIB. The use of multiple external, or internal indexes, follows the general pattern of database tables using private and foreign keys.*

The following figure shows three tables from the Alpha® resource MIB that have index dependencies. The **dataTable** has dependencies from the **componentListTable** and from the **dataListTable** as described in its properties, which is shown in the following figure.

**Figure 5-8**  Tables from Alpha® resource MIB
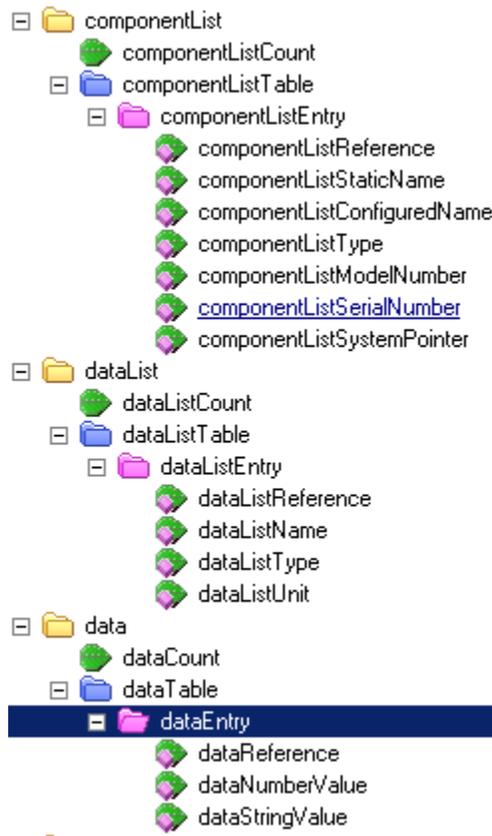


**Figure 5-9**  Tables from Alpha® resource MIB



Access of information available in the **dataTable** would use the following index calculation:

(dataEntry OID) 1.3.6.1.4.1.7309.5.2.3.2.1 + (dataListReference) + (componentListReference)

## 5.6.1. Controller information

The **Controller Information** table provides access to basic controller information, along with providing future development support without the requirement of a new MIB. The table base designed allows for additional data points to be added to the list without the need for additions to the MIB file.

The following table presents the list of common data available from the **controllerInfo** "flat" table.

**Table 5-4** Controller information flat table

| OID | Name | Description |
|---|---|---|
| 1.3.6.1.4.1.7309.5.1.1.0 | controllerInfoName | User configurable text name of the controller. |
| 1.3.6.1.4.1.7309.5.1.2.0 | controllerInfoDescription | User configurable description of the controller. |
| 1.3.6.1.4.1.7309.5.1.3.0 | controllerInfoSoftwareVersion | Software version of the controller application. |
| 1.3.6.1.4.1.7309.5.1.4.0 | controllerInfoOperatingSystemVersion | Operating system version number. |
| 1.3.6.1.4.1.7309.5.1.5.0 | controllerInfoHardwareVersion | Hardware version number. |
| 1.3.6.1.4.1.7309.5.1.100.1 | controllerExtInfoTable | Table for additional controller information. |

**Controller information table**

Table Base OID is: 1.3.6.1.4.1.7309.5.1.100.1

The **controllerExtInfoTable** full table provides additional controller information that are not part of the flat table. The following list shows the base line OID for the row of the table along with description of the data presented in that row.

Table columns:

- 1. controllerInfoTableIndex
- 2. controllerInfoTableName
- 3. controllerInfoTableStringValue
- 4. controllerInfoTableUnit
- 5. controllerInfoTableNumberValue

**Table 5-5** Controller information full table

| Row ID | Name | Description |
|---|---|---|
| 1 | Controller Name | User configurable name of the controller. |
| 2 | Controller Description | User configurable description of the controller. |
| 3 | Software Version | Software version currently installed on the controller. |
| 4 | Site Number | User configurable number of the site. |

**Table 5-5** Controller information full table (continued)

| Row ID | Name | Description |
|---|---|---|
| 5 | Technical Support Contact Number | Phone number to call for technical support. |
| 6 | Contact Name | User configurable data. |
| 7 | Contact Number | User configurable data. |
| 8 | Configuration File Identifier | User configurable data. |
| 9 | Street | User configurable data. |
| 10 | City | User configurable data. |
| 11 | Zip Code/Postal Code | User configurable data. |
| 12 | Region/State/Province | User configurable data. |
| 13 | Country | User configurable data. |
| 14 | Latitude | User configurable data. |
| 15 | Longitude | User configurable data. |
| 16 | Altitude | User configurable data. |
| 17 | Serial Number | Serial number of the controller. |
| 18 | Part Number | Part number of the controller. |
| 19 | Remote Configuration Lockout Status | Current state of the remote configuration lockout. |
| 20 | Lockout Override Time Remaining | Time remaining in remote configuration lockout override. |
| 21 | Controller Redundancy: Reserve Controller Status | The status of the reserve controller. |
| 22 | Controller Redundancy: Reserve Controller Communication Status | The communication status of the reserve controller. |
| 23 | Controller Redundancy: Main Controller Status | The status of the main controller. |
| 24 | Controller Redundancy: Main Controller Communication Status | The communication status of the main controller. |
| 25 | Controller Redundancy: Time of Last Configuration Sync. | Last time the configuration synchronized between the main and reserve controllers. |
| 26 | Current Time and Date | Current time and date on the controller. |
| 27 | Operating System Version | The operating system version the controller is running. |
| 28 | Hardware Version | Version of internal hardware modules. |

**Table 5-5** Controller information full table (continued)

| Row ID | Name | Description |
| --- | --- | --- |
| 30 | Web Server: Web Server Port | The controller web server port. |
| 31 | Web Server: Secure Web Port | The controller secure web server port. |
| 34 | Web Server: Web Connection Protocol | The controller web connection protocol. |
| 35 | Web Server: Certificate Status | Status of SSL certificate. |
| 36 | Web Server: Certificate Issued To | Name of the entity that the uploaded SSL certificate is issued to. |
| 37 | Web Server: Certificate Issued By | Name of the entity that the uploaded SSL certificate is issued by. |
| 38 | Web Server: Certificate Effective Date | The effective date of the uploaded SSL certificate. |
| 39 | Web Server: Certificate Expiry Date | The expiry date of the uploaded SSL certificate. |
| 40 | Remote Authentication Type | The currently active remote authentication protocol. |
| 41 | RADIUS Authentication Server Address | Address of the RADIUS authentication server. |
| 42 | RADIUS Authentication Server Port | Port of the RADIUS server. |
| 43 | RADIUS Timeout | Timeout setting for the RADIUS server. |
| 44 | RADIUS Encryption Protocol | Encryption method used to communicate with the RADIUS server. |
| 45 | RADIUS: Group Attribute ID | The RADIUS server attribute ID for specifying user groups. |
| 46 | RADIUS: Group Attribute Value for Admin User Role | The RADIUS group attribute value for the admin user role. |
| 47 | RADIUS: Group Attribute Value for Accounts User Role | The RADIUS group attribute value for the accounts user role. |
| 48 | RADIUS: Group Attribute Value for Operator User Role | The RADIUS group attribute value for the operator user role. |
| 49 | RADIUS: Group Attribute Value for Restricted Operator User Role | The RADIUS group attribute value for the restricted operator role. |
| 50 | RADIUS: Group Attribute Value for Guest User Role | The RADIUS group attribute value for the guest user role. |
| 51 | TACACS+ Authentication Server Address | Address of the TACACS+ authentication server. |
| 52 | TACACS+ Authentication Server Port | Port of the TACACS+ server. |
| 53 | TACACS+ Timeout | Timeout setting for the TACACS+ server. |

**Table 5-5** Controller information full table (continued)

| Row ID | Name | Description |
|--------|------|-------------|
| 54 | TACACS+ Encryption Protocol | Encryption protocol used to communicate with the TACACS+ server. |
| 55 | TACACS+: Attribute Name | The TACACS+ server attribute ID for specifying user groups. |
| 56 | TACACS+: Group Attribute Value for Admin User Role | The TACACS+ group attribute value for the admin user role. |
| 57 | TACACS+: Group Attribute Value for Accounts User Role | The TACACS+ group attribute value for the accounts user role. |
| 58 | TACACS+: Group Attribute Value for Operator User Role | The TACACS+ group attribute value for the operator user role. |
| 59 | TACACS+: Group Attribute Value for Restricted Operator User Role | The TACACS+ group attribute value for the restricted operator user role. |
| 60 | TACACS+: Group Attribute Value for Guest User Role | The TACACS+ group attribute value for the guest user role. |
| 70 | SNMP Agent | The SNMP agent enable setting. |
| 71 | SNMP Get and Set | The SNMP get and set setting. |
| 73 | UPS MIB System | The UPS MIB capable system setting. |
| 74 | SNMPv3 Security | The SNMPv3 security enable setting. |
| 75 | SNMPv3: Security Name | The SNMPv3 sign in security name. |
| 78 | Read Community 1 | The community number name that is used to validate read requests. |
| 79 | Write Community 1 | The community number name that is used to validate write requests. |
| 80 | Read Community 2 | The community number name that is used to validate read requests. |
| 81 | Write Community 2 | The community number name that is used to validate write requests. |
| 82 | Read Community 3 | The community number name that is used to validate read requests. |
| 83 | Write Community 3 | The community number name that is used to validate write requests. |
| 84 | Read Community 4 | The community number name that is used to validate read requests. |

**Table 5-5** Controller information full table (continued)

| Row ID | Name | Description |
|---|---|---|
| 85 | Write Community 4 | The community number name that is used to validate write requests. |
| 86 | Read Community 5 | The community number name that is used to validate read requests. |
| 87 | Write Community 5 | The community number name that is used to validate write requests. |
| 88 | Read Community 6 | The community number name that is used to validate read requests. |
| 89 | Write Community 6 | The community number name that is used to validate write requests. |
| 90 | Read Community 7 | The community number name that is used to validate read requests. |
| 91 | Write Community 7 | The community number name that is used to validate write requests. |
| 92 | Read Community 8 | The community number name that is used to validate read requests. |
| 93 | Write Community 8 | The community number name that is used to validate write requests. |
| 94 | Read Community 9 | The community number name that is used to validate read requests. |
| 95 | Write Community 9 | The community number name that is used to validate write requests. |
| 96 | Read Community 10 | The community number name that is used to validate read requests. |
| 97 | Write Community 10 | The community number name that is used to validate write requests. |
| 10101 | User Sessions: Username 1 | The username of the person who is signed in for this session number. |
| 10102 | User Sessions: User Role 1 | The user role of the person who is signed in for this session number. |
| 10103 | User Sessions: User Client 1 | The client type used by the person who is signed in for this session number. |
| 10104 | User Sessions: User Address 1 | The IP address of the person who is signed in for this session number. |

**Table 5-5** Controller information full table (continued)

| Row ID | Name | Description |
|---|---|---|
| 10201 | User Sessions: Username 2 | The username of the person who is signed in for this session number. |
| 10202 | User Sessions: User Role 2 | The user role of the person who is signed in for this session number. |
| 10203 | User Sessions: User Client 2 | The client type used by the person who is signed in for this session number. |
| 10204 | User Sessions: User Address 2 | The IP address of the person who is signed in for this session number. |
| 10301 | User Sessions: Username 3 | The username of the person who is signed in for this session number. |
| 10302 | User Sessions: User Role 3 | The user role of the person who is signed in for this session number. |
| 10303 | User Sessions: User Client 3 | The client type used by the person who is signed in for this session number. |
| 10304 | User Sessions: User Address 3 | The IP address of the person who is signed in for this session number. |
| 10401 | User Sessions: Username 4 | The username of the person who is signed in for this session number. |
| 10402 | User Sessions: User Role 4 | The user role of the person who is signed in for this session number. |
| 10403 | User Sessions: User Client 4 | The client type used by the person who is signed in for this session number. |
| 10404 | User Sessions: User Address 4 | The IP address of the person who is signed in for this session number. |
| 10501 | User Sessions: Username 5 | The username of the person who is signed in for this session number. |
| 10502 | User Sessions: User Role 5 | The user role of the person who is signed in for this session number. |
| 10503 | User Sessions: User Client 5 | The client type used by the person who is signed in for this session number. |
| 10504 | User Sessions: User Address 5 | The IP address of the person who is signed in for this session number. |
| 10601 | User Sessions: Username 6 | The username of the person who is signed in for this session number. |

**Table 5-5** Controller information full table (continued)

| Row ID | Name | Description |
|--------|------|-------------|
| 10602 | User Sessions: User Role 6 | The user role of the person who is signed in for this session number. |
| 10603 | User Sessions: User Client 6 | The client type used by the person who is signed in for this session number. |
| 10604 | User Sessions: User Address 6 | The IP address of the person who is signed in for this session number. |
| 10701 | User Sessions: Username 7 | The username of the person who is signed in for this session number. |
| 10702 | User Sessions: User Role 7 | The user role of the person who is signed in for this session number. |
| 10703 | User Sessions: User Client 7 | The client type used by the person who is signed in for this session number. |
| 10704 | User Sessions: User Address 7 | The IP address of the person who is signed in for this session number. |
| 10801 | User Sessions: Username 8 | The username of the person who is signed in for this session number. |
| 10802 | User Sessions: User Role 8 | The user role of the person who is signed in for this session number. |
| 10803 | User Sessions: User Client 8 | The client type used by the person who is signed in for this session number. |
| 10804 | User Sessions: User Address 8 | The IP address of the person who is signed in for this session number. |
| 10901 | User Sessions: Username 9 | The username of the person who is signed in for this session number. |
| 10902 | User Sessions: User Role 9 | The user role of the person who is signed in for this session number. |
| 10903 | User Sessions: User Client 9 | The client type used by the person who is signed in for this session number. |
| 10904 | User Sessions: User Address 9 | The IP address of the person who is signed in for this session number. |

To access the desired data, add the column ID and the row index to the end of the base OID of the table:

Base OID (1.3.6.1.4.1.7309.5.1.100.1) + Column ID (2) + Row ID (4)

1.3.6.1.4.1.7309.5.1.100.1.2.4 = "Controller: Site Number"

## 5.6.2. Using the Alpha® resource MIB

The Alpha® resource MIB is designed to provide access to all available data from the controller. It has been designed to support future development without needing a new MIB. This MIB is intended for extensive integration with custom monitoring systems, and the data available is equal to what can be seen on the web interface. Because of the dynamic nature of the systems monitored by the controller, the Alpha® resource MIB tables provide details about accessible data.

The tables with read-only data access are:

- Component List Table
- Data List Table
- Data Table
- Configuration List Table
- Alarm List Table
- Alarm Table
- Alert Table
- Configuration Choice List Table

The table with read-write data access is Configuration Table.

The tables only update during idle periods. After the last component change, an idle period of one minute must occur before an update starts. Adding or removing any component resets the one minute idle timer.

The most effective way to view the data is in table format. The use of table format is dependent on the software being used.

### Component list table

The Component List table displays objects that contain informational fields for data access. It describes objects such as systems, devices, and information groupings. For example, for a DC system with 10 rectifier modules, the table includes a row for the DC system, and a row for each individual rectifier module.

One use of the Component List table would be an inventory listing of available components. Table format is the most effective way to view the information.

The items of the Component List table are numbers for the componentListSnmpId, and the componentListType. These two numbers are also used in other tables as part of the unique index that identifies a specific table entry.

**componentListType**: Used as part of the DataFieldType table.

**componentListSnmpId**: Used as part of the DataList table.

The column numbers for the Component List table are:

**Table 5-6** Component list

| Column number | Name | Description |
|---|---|---|
| 1 | componentListReference | ID value assigned to the component at startup. Configurable for systems only. |
| 2 | componentListStaticName | Static name of the component represented by the entry. This text value is not translated for localization. |
| 3 | componentListConfiguredName | User configurable name of the component. |
| 4 | componentListType | The ComponentListType number is used as part of the data table reference index. Type of component: |
| | | 1. Controller |
| | | 2. DC system |
| | | 3. ADIO module |
| | | 4. Rectifier module |
| | | 5. Converter module |
| | | 6. Inverter module |
| | | 7. Reserved |
| | | 8. Alpha® T2S inverter controller module |
| | | 9. Reserved |
| | | 10. Battery system |
| | | 11. Disconnect |
| | | 12. Load |
| | | 13. Shunt |
| | | 14. SNMP destination |
| | | 15. CAN bus |
| | | 16. Converter system |
| | | 17. User digital alarm |
| | | 18. User threshold alarm |
| | | 19. Inverter system |
| | | 20. Bypass switch |
| | | 21. Delay timer |
| | | 22. Interval timer |

**Table 5-6** Component list (continued)

| Column number | Name | Description |
|---|---|---|
| | | 23. Up counter |
| | | 24. Down counter |
| | | 25. Custom data |
| | | 26. Current transducer module |
| | | 27. Breaker/fuse |
| | | 28. Reserved |
| | | 29. Email destination |
| | | 30. Auxiliary system |
| | | 31. Line power system |
| | | 32. Line power module |
| | | 33. Line power load |
| | | 34. Distribution system |
| | | 35. Distribution panel |
| | | 36. Distribution subsystem |
| | | 37. Referenced load |
| | | 38. Reserved |
| | | 39. Reserved |
| | | 40. Scheduled action |
| | | 41. Alpha$^®$ FXM HP UPS |
| | | 42. Disconnect with exclusion |
| | | 43. Change relay |
| | | 44. Change field |
| | | 45. Reserved |
| | | 46. Reserved |
| | | 47. Reserved |
| | | 48. General purpose transducer module |
| | | 49. Change field to variable |
| | | 50. Battery string |

**Table 5-6** Component list (continued)

| Column number | Name | Description |
|---|---|---|
| | | 51. Timing relay |
| | | 52. DC source system |
| | | 53. DC source |
| | | 54. Data subscriptions |
| | | 55. Generic disconnect |
| | | 56. AC source system |
| | | 57. AC source |
| | | 58. Reserved |
| | | 59. Reserved |
| | | 60. Reserved |
| | | 61. Scheduled time span |
| | | 62. Alpha® external maintenance bypass switch (XMBS) |
| | | 63. Alpha® FXM HP UPS ADIO module |
| | | 64. Reserved |
| | | 65. Reserved |
| | | 66. Reserved |
| | | 67. Thermal system |
| | | 68. Battery disconnect with latching contactor |
| | | 69. Cordex® HP 3kW hyperboost converter module |
| | | 70. Cordex® CXPS-HSS hyperboost system |
| | | 71. Reserved |
| | | 72. Reserved |
| | | 73. Reserved |
| | | 74. AC generator system |
| | | 75. DC generator system |
| | | 76. Generator system start equation |
| | | 77. Generator system stop equation |
| | | 78. Generator system start/stop condition |

**Table 5-6** Component list (continued)

| Column number | Name | Description |
|---|---|---|
| | | 79. User |
| | | 81. Hyperboost system |
| | | 97. Matrix™ distribution breaker panel |
| | | 98. Syslog destination |
| | | 99. Environment manager system |
| | | 100. Fan |
| | | 101. Air conditioner |
| | | 102. Reserved |
| | | 103. Reserved |
| | | 104. Website proxy |
| | | 105. EnVision™ energy router distribution panel |
| | | 106. EnVision™ energy router distribution subsystem |
| | | 107. Cordex® HP protocol bridge peripheral |
| | | 108. Generic lithium-ion battery module |
| | | 109. Generic lithium-ion battery subsystem |
| | | 110. Bluetooth device |
| 5 | componentListModelNumber | The model number of the component if available. |
| 6 | componentListSerialNumber | The serial number of the component if available. |
| 7 | componentListSystemPointer | A reference OID within the component table to the encapsulating component to this one. For example, a rectifier module component would have a reference OID to the system that it belongs to if it has already been assigned. Using this reference OID with a **GetNext** operation will return the static name value of the component. |

## Data field type list

The Data Field Type list displays the data field types available from their specific component source. Following the previous example of a DC system with 10 rectifier modules, the table would present a list of available data field types of a DC system and of a rectifier module.

This table can provide a list of data field types accessible through SNMP. That information allows for the creation of table indexes to use with the Data Field Type list to get existing live data. Table format is the most effective way to view the information.

The column numbers for the Data Field Type list are:

**Table 5-7**  Data field type

| Column number | Name | Description |
|---|---|---|
| 1 | dataListReference (IDX) | Static ID value assigned to the field type and is unique within the component that the field belongs to.<br><br>Indexing of this table is a combination of componentListType joined by the internal indexing of the field. Example: Index number 2.1 constitute the type ID (2) followed by the internal index (1).<br><br>Type ID 2 is the ID for a DC system component. The index then refer to a DC system field that has an internal ID of 1. |
| 2 | dataListName | Static name of the data field represented by the entry. This text value is not translated for localization |
| 3 | dataListType | Data type of the field represented in the entry:<br><br>• 0. Unknown<br>• 1. Numeric<br>• 2. Boolean<br>• 3. Time<br>• 4. String: Human readable text data.<br>• 5. State: Represents a string value describing the condition the reference object is in.<br>For example, a relay may have the value: *StateNotEnergizedNormal*. |
| 4 | dataListUnit | Unit of the value presented by this field. |

## Data list

The Data List table displays all available live data that the controller can report. The data points and referencing are presented in logical groupings.

For example, to get the live data of the **Total Output Current** of a DC system. Use the dataFieldType index and the componentList index to specifically call for an entry in the dataList table.

In the dataFieldType table:

- The **Output Current** of a DC system is indexed as 2.1.

- The instance number of that DC system is 1.

Combine the dataFieldType index (2.1), and the DC system instance number (1), and you can get the index of 2.1.1 which is the reference for the **Output Current** from DC system 1.

The unique key of the data is column 1:

1.3.6.1.4.1.7309.5.2.3.2.1.(1).2.1.1 - the index of the row displaying 2.1.1 for convenient referencing.

The number value is column 2:

1.3.6.1.4.1.7309.5.2.3.2.1.(2).2.1.1 - the number value of the Output Current from DC system 1.

In the table the string value is column 3:

1.3.6.1.4.1.7309.5.2.3.2.1.(3).2.1.1 - would result with a zero-length string since the row entry is representing a number.

The column numbers for the Data List table are:

**Table 5-8** Data list

| Column number | Name | Description |
|---|---|---|
| 1 | dataReference | Index combination from the dataTypeList and Component tables to form the unique identifier of the data row. |
| 2 | dataNumberValue | Number values will be presented here. Zero-length value will be default in the event no number value is available. |
| 3 | dataStringValue | String values will be presented here. Zero-length value will be default in the event no string value is available. *"unknown"* will be default value until an appropriate data is available. |

### Example: Getting the system voltage

The following example, a simple GET REQUEST for **System Voltage**, and shows the use of the base OID as well as external indexes. The second row of the Component table will show a list of components for the **Rectifier System**.

**Figure 5-10**  Table view for the ComponentTable

| componentListReference... | componentListStaticName | componentListConfiguredName | compo... | componentLi... | componentL... | componentListSystemPointer |
|---|---|---|---|---|---|---|
| 1 | DC System 48V | unknown | 2 | (zero-length) | (zero-length) | 0.0 |
| 1 | CXRC 48V 650W | unknown | 4 | 12345 | 9578 | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 2 | CXRC 48V 650W | unknown | 4 | 12345 | 5627 | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 3 | CXRC 48V 650W | unknown | 4 | 12345 | 1314 | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 4 | CXRC 48V 650W | unknown | 4 | 12345 | 6014 | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | CXDF 48V-24V | unknown | 5 | 12349 | 2080 | 1.3.6.1.4.1.7309.5.2.1.2.1.16.1 |
| 2 | CXDF 48V-24V | unknown | 5 | 12349 | 3774 | 1.3.6.1.4.1.7309.5.2.1.2.1.16.1 |
| 3 | CXDF 48V-24V | unknown | 5 | 12349 | 3744 | 1.3.6.1.4.1.7309.5.2.1.2.1.16.1 |
| 4 | CXDF 48V-24V | unknown | 5 | 12349 | 5573 | 1.3.6.1.4.1.7309.5.2.1.2.1.16.1 |
| 1 | Battery String | unknown | 10 | (zero-length) | (zero-length) | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | Disconnect | unknown | 11 | (zero-length) | (zero-length) | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | Load | unknown | 12 | (zero-length) | (zero-length) | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | Shunt | unknown | 13 | (zero-length) | (zero-length) | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | CAN Bus | unknown | 15 | (zero-length) | (zero-length) | 0.0 |
| 2 | CAN Bus | unknown | 15 | (zero-length) | (zero-length) | 0.0 |
| 1 | Converter System 48V-2... | unknown | 16 | (zero-length) | (zero-length) | 0.0 |

The following figure shows the list of data field types available from the controller and indicates the **System Voltage** as row 2.10.

**Figure 5-11**  Table view for the DataListTable

| dataListReference(IDX) | dataListName | dataListType | dataListUnit |
|---|---|---|---|
| 2.1 | DC System 48V/7090: Total Output Current | 1 | A |
| 2.2 | DC System 48V/7090: Total Output Power | 1 | W |
| 2.3 | DC System 48V/7090: Total Capacity Installed - Current | 1 | A |
| 2.4 | DC System 48V/7090: Total Capacity Installed - Power | 1 | W |
| 2.5 | DC System 48V/7090: Average Rectifier Output Voltage | 1 | V |
| 2.6 | DC System 48V/7090: Average Rectifier AC Input Voltage | 1 | V |
| 2.7 | DC System 48V/7090: Average AC Phase 1 Voltage | 1 | V |
| 2.8 | DC System 48V/7090: Average AC Phase 2 Voltage | 1 | V |
| 2.9 | DC System 48V/7090: Average AC Phase 3 Voltage | 1 | V |
| 2.10 | DC System 48V/7090: System Voltage | 1 | V |
| 2.11 | DC System 48V/7090: Total Load Current | 1 | A |
| 2.12 | DC System 48V/7090: Battery Voltage | 1 | V |
| 2.13 | DC System 48V/7090: Battery Current | 1 | A |
| 2.14 | DC System 48V/7090: Battery Temperature | 1 | B0.43 (hex) |
| 2.15 | DC System 48V/7090: System Number | 1 | (zero-length) |
| 4.1 | 9578: Bay ID | 1 | (zero-length) |
| 4.2 | 9578: Shelf ID | 1 | (zero-length) |
| 4.3 | 9578: Slot ID | 1 | (zero-length) |
| 4.4 | 9578: AC Input Voltage | 1 | V |
| 4.5 | 9578: Output Current | 1 | A |
| 4.6 | 9578: Ambient Temperature | 1 | B0.43 (hex) |
| 4.7 | 9578: Operating Time | 1 | h |
| 5.1 | 2080: Output Current | 1 | A |
| 5.2 | 2080: Input Current | 1 | A |
| 5.3 | 2080: IntakeTemperature | 1 | B0.43 (hex) |
| 5.4 | 2080: Operating Hours | 1 | h |
| 15.1 | CAN1: Number of Devices | 1 | (zero-length) |
| 15.2 | CAN1: Node IDs In Use | 1 | (zero-length) |
| 16.1 | Converter System 48V-24V/3075: Total Output Current | 1 | A |
| 16.2 | Converter System 48V-24V/3075: Total Output Power | 1 | W |
| 16.3 | Converter System 48V-24V/3075: Total Capacity Installed - Cu... | 1 | A |
| 16.4 | Converter System 48V-24V/3075: Total Capacity Installed - Po... | 1 | W |
| 16.5 | Converter System 48V-24V/3075: Average Converter Output ... | 1 | V |
| 16.6 | Converter System 48V-24V/3075: Average Converter Input Vo... | 1 | V |
| 16.7 | Converter System 48V-24V/3075: System Voltage | 1 | V |
| 16.8 | Converter System 48V-24V/3075: Total Load Current | 1 | A |
| 16.9 | Converter System 48V-24V/3075: System Number | 1 | (zero-length) |

Access to the actual **System Voltage** combines the base OID of the DataEntry (row) of the DataTable, the column index of the table, and the instance index value. The instance index is a combination of the dataListReference value (2.10) and the componentListReference (1).

1.3.6.1.4.1.7309.5.2.3.2.1 (dataEntry OID) + 2 (dataNumberValue) + 2.10 (dataListReference) + 1 (componentListReference)

**Figure 5-12** Table view for the DataTable



The DataTable output shows a list of live data available on the controller. The row with reference 2.10.1, as high lighted in the following figure, shows the **System Voltage** value.

**Figure 5-13** Sample query of system voltage
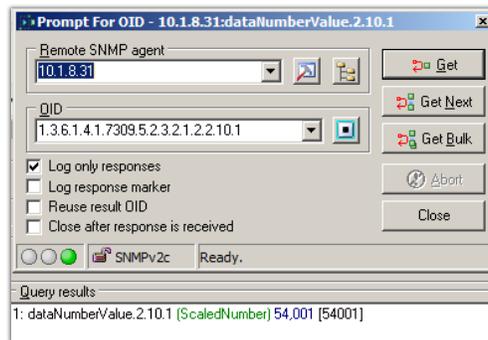


This figure shows a simple query of the full OID value, specific to the **System Voltage** of a rectifier system.

If reading specific live data is desired, all OID values for every live data value is available in the inventory export file. To download this file on the web interface, go to **Systems > Add or Remove Systems** and select the **Export Inventory to CSV** button in the **Add or Remove Systems** table.

## Configuration field type list

The Configuration Field Type list displays the writable data field types available from their specific component source. Following the previous example of a DC system with 10 rectifiers, the table would present a list of available data field types of a DC system and of a rectifier module.

This table can provide a list of data field types accessible through SNMP. That information allows for the creation of table indexes to use with the Configuration Field Type list to get existing live data and set new data value. Table format is the most effective way to view the information.

The column numbers for the Configuration Field Type list are:

**Table 5-9** Configuration field type

| Column number | Name | Description |
|---|---|---|
| 1 | configurationListReference (IDX) | Static ID value assigned to the field type and is unique within the component that the field belongs to. Indexing of this table is a combination of componentListType joined by the internal indexing of the field. Example: Index number 2.1 constitute the type ID (2) followed by the internal index (1). Type ID 2 is the ID for a DC system component. The index then refer to a DC system field that has an internal ID of 1. |
| 2 | configurationListName | Static name of the configuration field represented by the entry. This text value is not translated for localization. |
| 3 | configurationListType | Data type of the field represented in the entry:<br><br>• 0. Unknown<br>• 1. Numeric<br>• 2. Boolean<br>• 3. Time<br>• 4. String: Human readable text data.<br>• 5. State: State represents a string value describing the condition the reference object is in. For example, a DC system's Voltage Regulation field may have the value: Disabled. A list of state values for each configuration field of data type 5 is available in the **Configuration Choice List Table**. |
| 4 | configurationListUnit | Unit of the value presented by this field if applicable. |

## Example: Setting the float voltage

The following example, a simple Set REQUEST for **Float Voltage**, and shows the use of the base OID as well as external indexes. The second row of the component table will show a list of components for the **Rectifier System**.

**Figure 5-14**  Table view for the ComponentTable

| componentListReference... | componentListStaticName | componentListConfiguredName | compo... | componentLi... | componentL... | componentListSystemPointer |
|---|---|---|---|---|---|---|
| 1 | DC System 48V | unknown | 2 | (zero-length) | (zero-length) | 0.0 |
| 1 | CXRC 48V 650W | unknown | 4 | 12345 | 9578 | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 2 | CXRC 48V 650W | unknown | 4 | 12345 | 5627 | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 3 | CXRC 48V 650W | unknown | 4 | 12345 | 1314 | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 4 | CXRC 48V 650W | unknown | 4 | 12345 | 6014 | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | CXDF 48V-24V | unknown | 5 | 12349 | 2080 | 1.3.6.1.4.1.7309.5.2.1.2.1.16.1 |
| 2 | CXDF 48V-24V | unknown | 5 | 12349 | 3774 | 1.3.6.1.4.1.7309.5.2.1.2.1.16.1 |
| 3 | CXDF 48V-24V | unknown | 5 | 12349 | 3744 | 1.3.6.1.4.1.7309.5.2.1.2.1.16.1 |
| 4 | CXDF 48V-24V | unknown | 5 | 12349 | 5573 | 1.3.6.1.4.1.7309.5.2.1.2.1.16.1 |
| 1 | Battery String | unknown | 10 | (zero-length) | (zero-length) | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | Disconnect | unknown | 11 | (zero-length) | (zero-length) | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | Load | unknown | 12 | (zero-length) | (zero-length) | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | Shunt | unknown | 13 | (zero-length) | (zero-length) | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | CAN Bus | unknown | 15 | (zero-length) | (zero-length) | 0.0 |
| 2 | CAN Bus | unknown | 15 | (zero-length) | (zero-length) | 0.0 |
| 1 | Converter System 48V-2... | unknown | 16 | (zero-length) | (zero-length) | 0.0 |

The following table shows the list of configuration field types available from the controller and indicates the **Float Voltage** as row 2.12.

**Figure 5-15**  Table view for the ConfigurationListTable

| configurationListReference(IDX) | configurationListName | configurationListType | configurationListUnit |
|---|---|---|---|
| 2.2 | DC System 48V : Description | 4 | (zero-length) |
| 2.3 | DC System 48V : System Number | 1 | (zero-length) |
| 2.4 | DC System 48V : System Serial Number | 4 | (zero-length) |
| 2.5 | DC System 48V : Device ID | 1 | (zero-length) |
| 2.10 | DC System 48V : Rectifier Assignment Rule | 5 | (zero-length) |
| 2.11 | DC System 48V : Nominal Input Voltage | 5 | (zero-length) |
| 2.12 | DC System 48V : Float Voltage | 1 | V |
| 2.13 | DC System 48V : Extended Ranges (Advanced) | 5 | (zero-length) |
| 2.14 | DC System 48V : Minimum Test Voltage | 1 | V |
| 2.15 | DC System 48V : Safe Mode Voltage | 1 | V |
| 2.16 | DC System 48V : Over-Voltage Protection Threshold | 1 | V |
| 2.17 | DC System 48V : System Start Delay | 1 | s |
| 2.18 | DC System 48V : Module Start Delay | 1 | s |
| 2.19 | DC System 48V : Current Limit | 1 | % |
| 2.20 | DC System 48V : Power Limit | 1 | % |
| 2.21 | DC System 48V : CL/PL Alert | 5 | (zero-length) |
| 2.22 | DC System 48V : Ramp Test | 5 | (zero-length) |
| 2.23 | DC System 48V : Voltage Regulation | 5 | (zero-length) |
| 2.24 | DC System 48V : Loadsharing | 5 | (zero-length) |
| 2.25 | DC System 48V : Power Save | 5 | (zero-length) |
| 2.26 | DC System 48V : Module Power for Maximum Efficiency | 1 | % |
| 2.27 | DC System 48V : Rotate One Module Every | 1 | d |
| 2.28 | DC System 48V : Fast Soft-Start | 5 | (zero-length) |

Access to the actual **Float Voltage** combines the base OID of the DataEntry (row) of the ConfigurationTable, the column index of the table, and the instance index value. The instance index is a combination of the configurationListReference value (2.12) and the componentListReference (1).

1.3.6.1.4.1.7309.5.2.5.2.1 (configurationEntry OID) + 2 (configurationNumberValue) + 2.12 (configurationListReference) + 1 (componentListReference). The complete OID for **Float Voltage** is 1.3.6.1.4.1.7309.5.2.5.2.1.2.2.12.1

**Figure 5-16** Table view for the configuration table

| Instance | configurationReference | configurationNumberValue | configurationStringValue |
|---|---|---|---|
| 2.1.1 | 2.1.1 | (zero-length) | unknown |
| 2.2.1 | 2.2.1 | (zero-length) | unknown |
| 2.3.1 | 2.3.1 | 0.000 | (zero-length) |
| 2.4.1 | 2.4.1 | (zero-length) | unknown |
| 2.5.1 | 2.5.1 | 1.000 | (zero-length) |
| 2.10.1 | 2.10.1 | (zero-length) | RectifierAssignmentAut... |
| 2.11.1 | 2.11.1 | (zero-length) | InputVoltage208V |
| 2.12.1 | 2.12.1 | 54.000 | (zero-length) |
| 2.13.1 | 2.13.1 | (zero-length) | ExtendedVoltagesNormal |
| 2.14.1 | 2.14.1 | 44.000 | (zero-length) |
| 2.15.1 | 2.15.1 | 51.400 | (zero-length) |
| 2.16.1 | 2.16.1 | 58.000 | (zero-length) |
| 2.17.1 | 2.17.1 | 0.000 | (zero-length) |
| 2.18.1 | 2.18.1 | 1.000 | (zero-length) |
| 2.19.1 | 2.19.1 | 100.000 | (zero-length) |
| 2.20.1 | 2.20.1 | 100.000 | (zero-length) |

The ConfigurationTable output shows a list of data available for set request on the controller. The row with reference 2.12.1, as highlighted in this figure shows the **Float Voltage** value.

**Figure 5-17** Sample set of float voltage
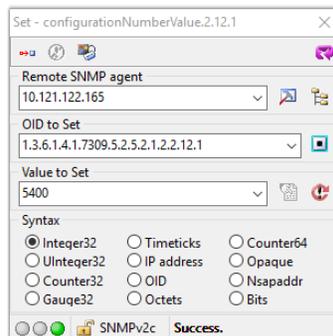


This figure shows a simple set query of the full OID value, specific to the **Float Voltage** of a rectifier system. The value to set is scaled by a 100. 5400 represents 54.00 volts.

## Example: Setting rectifier assignment rule

The following example, a simple Set REQUEST for **Rectifier Assignment Rule** of a DC system, and shows the use of the base OID as well as external indexes. The second row of the ComponentListTable shows a list of components. The DC system 48V has a componentListType value of 2.

**Figure 5-18** Table view for the ComponentListTable

| componentListReference... | componentListStaticName | componentListConfiguredName | compo... | componentLi... | componentL... | componentListSystemPointer |
|---|---|---|---|---|---|---|
| 1 | DC System 48V | unknown | 2 | (zero-length) | (zero-length) | 0.0 |
| 1 | CXRC 48V 650W | unknown | 4 | 12345 | 9578 | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 2 | CXRC 48V 650W | unknown | 4 | 12345 | 5627 | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 3 | CXRC 48V 650W | unknown | 4 | 12345 | 1314 | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 4 | CXRC 48V 650W | unknown | 4 | 12345 | 6014 | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | CXDF 48V-24V | unknown | 5 | 12349 | 2080 | 1.3.6.1.4.1.7309.5.2.1.2.1.16.1 |
| 2 | CXDF 48V-24V | unknown | 5 | 12349 | 3774 | 1.3.6.1.4.1.7309.5.2.1.2.1.16.1 |
| 3 | CXDF 48V-24V | unknown | 5 | 12349 | 3744 | 1.3.6.1.4.1.7309.5.2.1.2.1.16.1 |
| 4 | CXDF 48V-24V | unknown | 5 | 12349 | 5573 | 1.3.6.1.4.1.7309.5.2.1.2.1.16.1 |
| 1 | Battery String | unknown | 10 | (zero-length) | (zero-length) | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | Disconnect | unknown | 11 | (zero-length) | (zero-length) | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | Load | unknown | 12 | (zero-length) | (zero-length) | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | Shunt | unknown | 13 | (zero-length) | (zero-length) | 1.3.6.1.4.1.7309.5.2.1.2.1.2.1 |
| 1 | CAN Bus | unknown | 15 | (zero-length) | (zero-length) | 0.0 |
| 2 | CAN Bus | unknown | 15 | (zero-length) | (zero-length) | 0.0 |
| 1 | Converter System 48V-2... | unknown | 16 | (zero-length) | (zero-length) | 0.0 |

The following table shows the list of Configuration field types available from the controller for a DC system. Note that the configurationListReference for all configuration fields of a DC system has a prefix of 2. The **Rectifier Assignment Rule** is row 2.10.

**Figure 5-19** Table view for the ConfigurationListTable

| configurationListReference(IDX) | configurationListName | configurationListType | configurationListUnit |
|---|---|---|---|
| 2.2 | DC System 48V : Description | 4 | (zero-length) |
| 2.3 | DC System 48V : System Number | 1 | (zero-length) |
| 2.4 | DC System 48V : System Serial Number | 4 | (zero-length) |
| 2.5 | DC System 48V : Device ID | 1 | (zero-length) |
| 2.10 | DC System 48V : Rectifier Assignment Rule | 5 | (zero-length) |
| 2.11 | DC System 48V : Nominal Input Voltage | 5 | (zero-length) |
| 2.12 | DC System 48V : Float Voltage | 1 | V |
| 2.13 | DC System 48V : Extended Ranges (Advanced) | 5 | (zero-length) |
| 2.14 | DC System 48V : Minimum Test Voltage | 1 | V |
| 2.15 | DC System 48V : Safe Mode Voltage | 1 | V |
| 2.16 | DC System 48V : Over-Voltage Protection Threshold | 1 | V |
| 2.17 | DC System 48V : System Start Delay | 1 | s |
| 2.18 | DC System 48V : Module Start Delay | 1 | s |
| 2.19 | DC System 48V : Current Limit | 1 | % |
| 2.20 | DC System 48V : Power Limit | 1 | % |
| 2.21 | DC System 48V : CL/PL Alert | 5 | (zero-length) |
| 2.22 | DC System 48V : Ramp Test | 5 | (zero-length) |
| 2.23 | DC System 48V : Voltage Regulation | 5 | (zero-length) |
| 2.24 | DC System 48V : Loadsharing | 5 | (zero-length) |
| 2.25 | DC System 48V : Power Save | 5 | (zero-length) |
| 2.26 | DC System 48V : Module Power for Maximum Efficiency | 1 | % |
| 2.27 | DC System 48V : Rotate One Module Every | 1 | d |
| 2.28 | DC System 48V : Fast Soft-Start | 5 | (zero-length) |

Access to the actual **Rectifier Assignment Rule** field combines the base OID of the ConfigurationEntry (row) of the ConfigurationTable, the column index of the table, and the instance index value. The instance

index is a combination of the configurationListReference value (2.12) and the componentListReference (1).

1.3.6.1.4.1.7309.5.2.5.2.1 (configurationEntry OID) + 2 (configurationNumberValue) + 2.10 (configurationListReference) + 1 (componentListReference). The complete OID for **Rectifier Assignment Rule** is 1.3.6.1.4.1.7309.5.2.5.2.1.2.2.10.1

**Figure 5-20**  Table view for the configuration table

| Instance | configurationReference | configurationNumberValue | configurationStringValue |
|----------|------------------------|--------------------------|--------------------------|
| 2.1.1 | 2.1.1 | (zero-length) | 48V DC System |
| 2.2.1 | 2.2.1 | (zero-length) | 48V DC System for Test Site 10 |
| 2.3.1 | 2.3.1 | 5.000 | (zero-length) |
| 2.4.1 | 2.4.1 | (zero-length) | unknown |
| 2.5.1 | 2.5.1 | 1.000 | (zero-length) |
| 2.10.1 | 2.10.1 | (zero-length) | RectifierAssignmentAutomatic |
| 2.11.1 | 2.11.1 | (zero-length) | InputVoltage208V |
| 2.12.1 | 2.12.1 | 54.000 | (zero-length) |
| 2.13.1 | 2.13.1 | (zero-length) | ExtendedVoltagesNormal |
| 2.14.1 | 2.14.1 | 44.000 | (zero-length) |
| 2.15.1 | 2.15.1 | 51.400 | (zero-length) |
| 2.16.1 | 2.16.1 | 58.000 | (zero-length) |
| 2.17.1 | 2.17.1 | 0.000 | (zero-length) |
| 2.18.1 | 2.18.1 | 1.000 | (zero-length) |

The Configuration Table output shows a list of data available for set request on the controller. The row with reference 2.10.1, as highlighted in the above figure shows the **Rectifier Assignment Rule** value.

**Figure 5-21**  Sample set of rectifier module assignment rule
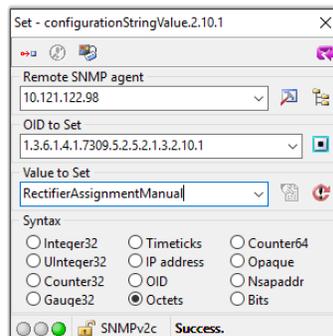


The previous figure shows a simple set query of the full OID value, specific to the **Rectifier Assignment Rule** of a DC system. The Value to Set is changed to RectifierAssignmentManual.

The valid values of *Value to Set* for **Rectifier Assignment Rule** of a DC system are *RectifierAssignmentManual* and *RectifierAssignmentAutomatic*. These two values are defined in the configurationChoiceListTable.

**Figure 5-22**  Table view for the ConfigurationChoiceList table



The column numbers for the Configuration Choice List table are:

**Table 5-10**  Configuration choice list

| Column number | Name | Description |
|---|---|---|
| 1 | configurationChoiceListReference (IDX) | Static ID value corresponds to the configurationListReference of configuration field. |
| 2 | configurationChoiceListIndex | Static number of the configuration choice. For setting Configuration fields with configurationListType = 5, configurationChoiceListName must be used. |
| 3 | configurationChoiceListName | Static name for the choice to be used for setting configuration fields with configurationListType = 5. This text value is not translated for localization. |

If reading/setting specific configuration is desired, all OID values for every configuration value is available in the inventory export file. To download this file on the web interface, go to **Systems > Add or Remove Systems** and select the **Export Inventory to CSV** button in the **Add or Remove Systems** table.

## Alarm type list table

The Alarm tables in the Alpha® resource MIB can be used to poll, to find, and to troubleshoot active alarms.

The Alarm Type List table provides the list of available alarms based on the configuration of the monitored systems. Information provided allows for the creation of table indexes to use with the Alarm table to get existing live alarm information. Table format is the most effective way to view the information.

The column numbers for the **Alarm Type List** table are:

**Table 5-11** Alarm type list

| Column number | Name | Description |
|---|---|---|
| 1 | alarmTypeReference | A static and uniquely assigned ID for the alarm type. |
| 2 | alarmTypeName | Name of the alarm formatted together with the source of the alarm. |

**Figure 5-23** Example: Available alarm type list



| alarmTypeReference(IDX) | alarmTypeName |
|---|---|
| 10001 | Controller : Clock Error |
| 10003 | Controller : ADIO Comms Lost |
| 10004 | Controller : Unassigned Modules |
| 20001 | DC System 48V : AC Mains Voltage High |
| 20002 | DC System 48V : AC Mains Voltage Low |
| 20003 | DC System 48V : Urgent AC Mains Fail |
| 20004 | DC System 48V : Output Voltage High |
| 20005 | DC System 48V : Output Voltage Very High |
| 20006 | DC System 48V : Output Voltage Low |
| 20007 | DC System 48V : Output Voltage Very Low |
| 20008 | DC System 48V : Invalid System Voltage Reading |
| 20009 | DC System 48V : Battery On Discharge |
| 20010 | DC System 48V : Rectifier Fail |
| 20011 | DC System 48V : Rectifier Major Fail Count |
| 20012 | DC System 48V : Rectifier Minor Fail Count |
| 20013 | DC System 48V : Rectifier Minor |
| 20014 | DC System 48V : Rectifier Comms Lost |
| 20015 | DC System 48V : AC Mains Fail |
| 20016 | DC System 48V : Fan Fail |
| 20017 | DC System 48V : Battery Test |
| 20018 | DC System 48V : Temp Comp Measurement Fail |
| 20019 | DC System 48V : Temp Comp Voltage Warning |
| 20020 | DC System 48V : Battery Runtime Low |
| 20021 | DC System 48V : Battery Health Low |
| 20022 | DC System 48V : Rectifier Configuration Error |
| 35101 | L-ADIO : Temperature Sensor #1 Failure |
| 35201 | L-ADIO : Temperature Sensor #2 Failure |

## Alarm list table

The Alarm table, working together with the Alarm Type List table, and the Component table, allow for active polling of all available alarms in the controller. The value returned provides the state of the alarm, as well as the priority of the alarm.

**Figure 5-24** Example: Available alarm list



| Instance | alarmState |
|---|---|
| 1.10001.1 | 0 |
| 1.10003.1 | 4000 |
| 1.10004.1 | 0 |
| 2.20001.1 | 0 |
| 2.20002.1 | 0 |
| 2.20003.1 | 0 |
| 2.20004.1 | 0 |
| 2.20005.1 | 0 |
| 2.20006.1 | 0 |
| 2.20007.1 | 0 |
| 2.20008.1 | 0 |
| 2.20009.1 | 0 |
| 2.20010.1 | 0 |
| 2.20011.1 | 0 |
| 2.20012.1 | 0 |
| 2.20013.1 | 0 |
| 2.20014.1 | 0 |
| 2.20015.1 | 0 |
| 2.20016.1 | 0 |

The example provided shows a table that is simplified in data presentation to allow for efficient polling of alarms. Using the base entry OID of the alarmState, together with the instance index, you can actively poll an individual alarm. In this example, an active alarm is polled and then interpreted in the following manner:

1.3.6.1.4.1.7309.5.2.9.2.1.1 (alarm table entry OID) + 1.10003 (alarm type) + 1 (instance Index) = 1.3.6.1.4.1.7309.5.2.9.2.1.1.1.10003.1 (OID for ADIO: Comms Lost alarm).

The value returned from a GET REQUEST is an integer value reflective of the priority level as shown in the following list:

- **0** = Normal/Inactive
- **1000** = Warning
- **2000** = Minor
- **3000** = Major
- **4000** = Critical

In most cases, the instance index will be a value of 1 unless there are multiple instances of that alarm. The instance is a reference to the instance of the component alarm source.

## Module alert list table

The Module Alert table shows all active module alerts. The alertTypeName shows the serial number of the module and the name of the active alert. The Instance identifies the component ID, alert ID, and component list reference in the format: componentID.alertID.componentListReference. If the table is empty, it means that there are no active module alerts, or the internal SNMP database is not yet finished building.

**Figure 5-25**  Example: Active alert list



| Instance | alertTypeName |
| --- | --- |
| 4.40033.1 | T000341/1113: DC Output Ramp Test Fail / No Output Power |
| 4.40033.2 | T000340/1113: DC Output Ramp Test Fail / No Output Power |
| 4.40033.3 | T000338/1113: DC Output Ramp Test Fail / No Output Power |
| 4.40033.4 | T000242/0913: DC Output Ramp Test Fail / No Output Power |

## Configuration choice list table

The Configuration Choice table shows valid state choices for the configuration data fields in Configuration List table with configurationListType set to 5 (State). These choice names can be used to set the field value in the Configuration List table.

This table provides a list of data choice values for the field in Configuration List table. That information allows for the creation of table indexes to use with the Configuration Choice List table to get a list of valid choices (states) to set new data value. Table format is the most effective way to view the information.

The column numbers for the Configuration Choice List table are as follows:

**Table 5-12** Configuration choice list

| Column number | Name | Description |
|---|---|---|
| 1 | configurationChoiceListReference (IDX) | Static ID value assigned to the field type and is unique within the component that the field belongs to. Indexing of this table is a combination of componentListType joined by the internal indexing of the field. Example: Index number 2.10 constitute the type ID (2) followed by the internal index (10). Type ID 2 is the ID for a DC system component. The index then refer to a DC system configuration field that has an internal ID of 10. Index number 2.10 represents DC system's Assignment Rule configuration field. |
| 2 | configurationChoiceListIndex | Static numeric values of the configuration choice represented by the configurationChoiceListReference. There an entry of each possible choices. |
| 3 | configurationChoiceListName | Static string values of the configuration choice represented by the configurationChoiceListReference. There an entry of each possible choices. This string value is to be used to set. |

### 5.6.3. Published SNMP fields

The fields listed here provide read-only access. See the **Published SNMP Get/Set fields** chapter for available read and write fields.

The tables provided here define the **Component** items, and the **Data Field Type** indexing values, when using the **ALPHA-RESOURCE-MIB**. Refer to the section, **Using The Resource MIB** for detailed explanation of the index dependencies of tables within the MIB. Refer to the **SNMP Reference** section for a short explanation of the **Index Calculation** technique.

Specific OIDs are not available for the defined data fields. The dynamic nature of the controller modules do not allow for a static definition of a component reference number. The component reference number is currently not configurable.

The **Data Field** reference IDs are statically assigned and are unique to the **Component**. These numbers, combined with the other dependencies of the Alpha® Resource MIB tables, provide currently published data and future data without the need to change MIB files.

📢 *Notice: Some of the field names may repeat due to field items that are in repeated groups. Their indexes would remain unique to identify the individual fields. For example, AC input phase fields would have repeating items.*

**Table 5-13** EnVision™ Elite controller SNMP IDs (component type 1)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Software Version | 3 |
| Site Number | 4 |
| Technical Support Contact Number | 5 |
| Contact Name | 6 |
| Contact Number | 7 |
| Configuration File Identifier | 8 |
| Street | 9 |
| City | 10 |
| Zip Code/Postal Code | 11 |
| Region/State/Province | 12 |
| Country | 13 |
| Latitude | 14 |
| Longitude | 15 |
| Altitude | 16 |
| Serial Number | 17 |
| Part Number | 18 |
| Remote Configuration Lockout Status | 19 |
| Lockout Override Time Remaining | 20 |
| Reserved Controller Status | 21 |
| Reserved Controller Communication Status | 22 |
| Main Controller Status | 23 |

**Table 5-13** EnVision™ Elite controller SNMP IDs (component type 1) (continued)

| Field | SNMP ID |
|---|---|
| Main Controller Communication Status | 24 |
| Time of Last Communication Sync. | 25 |
| Current Time and Date | 26 |
| Operating System Version | 27 |
| Hardware Version | 28 |
| Web Server Port | 30 |
| Secure Web Port | 31 |
| Web Connection Protocol | 34 |
| Certificate Status | 35 |
| Certificate Issued To | 36 |
| Certificate Issued By | 37 |
| Certificate Effective Date | 38 |
| Certificate Expiry Date | 39 |
| Remote Authentication Type | 40 |
| RADIUS Server Address | 41 |
| RADIUS Server Port | 42 |
| RADIUS Server Timeout | 43 |
| RADIUS Encryption Protocol | 44 |
| RADIUS Group Attribute ID | 45 |
| RADIUS Attribute Value for Admin. Role | 46 |
| RADIUS Attribute Value for Accounts Role | 47 |
| RADIUS Attribute Value for Operator Role | 48 |
| RADIUS Attribute Value for Restricted Operator Role | 49 |
| RADIUS Attribute Value for Admin. Guest Role | 50 |
| TACACS+ Server Address | 51 |
| TACACS+ Server Port | 52 |
| TACACS+ Server Timeout | 53 |
| TACACS+ Encryption Protocol | 54 |
| TACACS+ Attribute Name | 55 |

**Table 5-13** EnVision™ Elite controller SNMP IDs (component type 1) (continued)

| Field | SNMP ID |
|---|---|
| TACACS+ Attribute Value for Admin. Role | 56 |
| TACACS+ Attribute Value for Accounts Role | 57 |
| TACACS+ Attribute Value for Operator Role | 58 |
| TACACS+ Attribute Value for Restricted Operator Role | 59 |
| TACACS+ Attribute Value for Admin. Guest Role | 60 |
| RADIUS Additional Authentication Attribute Name | 61 |
| RADIUS Additional Authentication Attribute Value | 62 |
| SNMP Agent | 70 |
| SNMP Get and Set | 71 |
| UPS MIB System | 73 |
| SNMPv3 Security | 74 |
| SNMPv3 Account Name | 75 |
| SNMP Build State | 76 |
| Read Community Name 1 | 78 |
| Write Community Name 1 | 79 |
| Read Community Name 2 | 80 |
| Write Community Name 2 | 81 |
| Read Community Name 3 | 82 |
| Write Community Name 3 | 83 |
| Read Community Name 4 | 84 |
| Write Community Name 4 | 85 |
| Read Community Name 5 | 86 |
| Write Community Name 5 | 87 |
| Read Community Name 6 | 88 |
| Write Community Name 6 | 89 |
| Read Community Name 7 | 90 |
| Write Community Name 7 | 91 |
| Read Community Name 8 | 92 |
| Write Community Name 8 | 93 |

**Table 5-13** EnVision™ Elite controller SNMP IDs (component type 1) (continued)

| Field | SNMP ID |
|---|---|
| Read Community Name 9 | 94 |
| Write Community Name 9 | 95 |
| Read Community Name 10 | 96 |
| Write Community Name 10 | 97 |
| System Serial Number | 100 |
| Additional System Serial Number | 105 |
| Manufacturer | 106 |
| System Model | 107 |
| Number of Unassigned Modules with Alerts | 108 |
| Number of Unassigned Modules in Comms. Lost | 109 |
| Bluetooth Status | 120 |
| # Acquired Bluetooth Devices | 121 |
| # Communicating Bluetooth Devices | 122 |
| # Non-Communicating Bluetooth Devices | 123 |
| # Undiscovered Bluetooth Devices | 124 |
| # Authentication Required Bluetooth Devices | 125 |
| # Authentication Failed Bluetooth Devices | 126 |
| LDAP Server Address | 128 |
| LDAP Org. DN | 129 |
| LDAP Server Port | 130 |
| LDAP Server Timeout | 131 |
| LDAP Authentication Type | 132 |
| LDAP Attribute Value for Admin. Role | 134 |
| LDAP Attribute Value for Accounts Role | 135 |
| LDAP Attribute Value for Operator Role | 136 |
| LDAP Attribute Value for Restricted Operator Role | 137 |
| LDAP Attribute Value for Admin. Guest Role | 138 |
| Wi-Fi Status | 150 |
| CMP Certificate Status | 160 |

**Table 5-13** EnVision™ Elite controller SNMP IDs (component type 1) (continued)

| Field | SNMP ID |
|---|---|
| CMP Transaction Status | 161 |
| CMP Error Status | 162 |
| CMP Certificate Serial Number | 163 |
| CMP Last Update | 164 |
| CMP Last Logged Error | 165 |
| Active Session 1 Username | 10101 |
| Active Session 1 User Role | 10102 |
| Active Session 1 Client | 10103 |
| Active Session 1 IP Address | 10104 |
| Active Session 2 Username | 10201 |
| Active Session 2 User Role | 10202 |
| Active Session 2 Client | 10203 |
| Active Session 2 IP Address | 10204 |
| Active Session 3 Username | 10301 |
| Active Session 3 User Role | 10302 |
| Active Session 3 Client | 10303 |
| Active Session 3 IP Address | 10304 |
| Active Session 4 Username | 10401 |
| Active Session 4 User Role | 10402 |
| Active Session 4 Client | 10403 |
| Active Session 4 IP Address | 10404 |
| Active Session 5 Username | 10501 |
| Active Session 5 User Role | 10502 |
| Active Session 5 Client | 10503 |
| Active Session 5 IP Address | 10504 |
| Active Session 6 Username | 10601 |
| Active Session 6 User Role | 10602 |
| Active Session 6 Client | 10603 |
| Active Session 6 IP Address | 10604 |

**Table 5-13** EnVision™ Elite controller SNMP IDs (component type 1) (continued)

| Field | SNMP ID |
|---|---|
| Active Session 7 Username | 10701 |
| Active Session 7 User Role | 10702 |
| Active Session 7 Client | 10703 |
| Active Session 7 IP Address | 10704 |
| Active Session 8 Username | 10801 |
| Active Session 8 User Role | 10802 |
| Active Session 8 Client | 10803 |
| Active Session 8 IP Address | 10804 |
| Active Session 9 Username | 10901 |
| Active Session 9 User Role | 10902 |
| Active Session 9 Client | 10903 |
| Active Session 9 IP Address | 10904 |
| Wi-Fi MAC Address 1 | 20101 |
| Wi-Fi IP Address 1 | 20102 |
| Wi-Fi Username 1 | 20103 |
| Wi-Fi User Role 1 | 20104 |
| This pattern repeats for Wi-Fi users 2 to 9 by adding 100 to these IDs for each user. | |

**Table 5-14** DC system peripheral SNMP IDs (component type 2)

| Field | SNMP ID |
|---|---|
| Total Output Current | 1 |
| Total Output Power | 2 |
| Total Capacity Installed - Current | 3 |
| Total Capacity Installed - Power | 4 |
| Average DC Bus Output Voltage | 5 |
| Average Rectifier AC Input Voltage | 6 |
| Estimated AC Phase 1 Voltage | 7 |
| Estimated AC Phase 2 Voltage | 8 |
| Estimated AC Phase 3 Voltage | 9 |

**Table 5-14** DC system peripheral SNMP IDs (component type 2) (continued)

| Field | SNMP ID |
|---|---|
| System Voltage | 10 |
| Total Load Current | 11 |
| Battery Voltage | 12 |
| Battery Current | 13 |
| Battery Temperature | 14 |
| System Number | 15 |
| Estimated Required Capacity in Watts | 16 |
| Estimated Required Capacity in Amps | 17 |
| Estimated Available Capacity in Watts | 18 |
| Estimated Available Capacity in Amps | 19 |
| Estimated Redundant Capacity in Watts | 20 |
| Estimated Redundant Capacity in Amps | 21 |
| Estimated Standby Capacity in Watts | 22 |
| Estimated Standby Capacity in Amps | 23 |
| Average Power | 24 |
| Modules Supplying Power | 25 |
| Modules in Standby | 26 |
| Estimated Capacity Remaining in Amps | 28 |
| Estimated Capacity Remaining in Watts | 29 |
| Estimated State of Charge Percent | 30 |
| Estimated Battery Runtime | 31 |
| Estimated Battery Health Percent | 32 |
| Number of Acquired Rectifiers | 33 |
| Number of Sourcing Rectifiers | 34 |
| Number of Failed Rectifiers | 35 |
| Number of Rectifiers with Minor Alerts | 36 |
| Number of Rectifiers in Comms. Lost | 37 |
| Number of Rectifiers in Comms. Normal | 38 |
| Number of AC Failed Rectifiers | 39 |

**Table 5-14** DC system peripheral SNMP IDs (component type 2) (continued)

| Field | SNMP ID |
|---|---|
| Number of Rectifiers with Configuration Error | 40 |
| Number of Rectifiers in Power Limit | 41 |
| Number of Rectifiers in Current Limit | 42 |
| Number of Rectifiers with Fan Fail | 43 |
| Number of Rectifiers in Bootloader | 44 |
| Maximum Rectifier Ambient Temperature | 45 |
| Most Numerous Rectifier Model | 46 |
| Most Numerous Rectifier Model Count | 47 |
| Second Most Numerous Rectifier Model | 48 |
| Second Most Numerous Rectifier Model Count | 49 |
| Third Most Numerous Rectifier Model | 50 |
| Third Most Numerous Rectifier Model Count | 51 |
| Most Numerous Rectifier Nominal Power | 52 |
| Second Most Numerous Rectifier Nominal Power | 53 |
| Third Most Numerous Rectifier Nominal Power | 54 |
| System ID | 55 |
| Power Save | 56 |
| Module Rotates In | 57 |
| Estimated AC Power Usage | 58 |
| Estimated Time To Rotate All Modules | 69 |
| Output Voltage Type | 80 |

**Table 5-15** Cordex$^{®}$ 8R/8D ADIO peripheral SNMP IDs (component type 3)

| Field | SNMP ID |
|---|---|
| Firmware Version | 9 |
| D1 | 40101 |
| D2 | 40201 |
| D3 | 40301 |
| D4 | 40401 |

**Table 5-15**  Cordex® 8R/8D ADIO peripheral SNMP IDs (component type 3) (continued)

| Field | SNMP ID |
|-------|---------|
| D5 | 40501 |
| D6 | 40601 |
| D7 | 40701 |
| D8 | 40801 |
| K1 | 50101 |
| K2 | 50201 |
| K3 | 50301 |
| K4 | 50401 |
| K5 | 50501 |
| K6 | 50601 |
| K7 | 50701 |
| K8 | 50801 |

**Table 5-16**  Cordex® HP L-ADIO peripheral SNMP IDs (component type 3)

| Field | SNMP ID |
|-------|---------|
| Firmware Version | 9 |
| V1 | 10101 |
| V2 | 10201 |
| V3 | 10301 |
| V4 | 10401 |
| I1 | 20101 |
| I2 | 20201 |
| I3 | 20301 |
| I4 | 20401 |
| T1 | 30101 |
| T2 | 30201 |
| T3 | 30301 |
| T4 | 30401 |
| D1 | 40101 |

**Table 5-16** Cordex® HP L-ADIO peripheral SNMP IDs (component type 3) (continued)

| Field | SNMP ID |
|---|---|
| D2 | 40201 |
| D3 | 40301 |
| D4 | 40401 |
| D5 | 40501 |
| D6 | 40601 |
| D7 | 40701 |
| D8 | 40801 |
| K1 | 50101 |
| K2 | 50201 |
| K3 | 50301 |
| K4 | 50401 |
| K5 | 50501 |
| K6 | 50601 |
| K7 | 50701 |
| K8 | 50801 |
| K9 | 50901 |
| K10 | 51001 |
| K11 | 51101 |
| K12 | 51201 |

**Table 5-17** Cordex® CXCi HP/M1 ADIO peripheral SNMP IDs (component type 3)

| Field | SNMP ID |
|---|---|
| Firmware Version | 9 |
| V1 | 10101 |
| V2 | 10201 |
| I1 | 20101 |
| T1 | 30101 |
| T2 | 30201 |
| D1 | 40101 |

**Table 5-17** Cordex® CXCi HP/M1 ADIO peripheral SNMP IDs (component type 3) (continued)

| Field | SNMP ID |
|---|---|
| D2 | 40201 |
| K1 | 50101 |
| K2 | 50201 |
| K3 | 50301 |
| K4 | 50401 |

**Table 5-18** Cordex® M1+ ADIO peripheral SNMP IDs (component type 3)

| Field | SNMP ID |
|---|---|
| Firmware Version | 9 |
| V1 | 10101 |
| V2 | 10201 |
| I1 | 20101 |
| T1 | 30101 |
| T2 | 30201 |
| D1 | 40101 |
| D2 | 40201 |
| D3 | 40301 |
| D4 | 40401 |
| D5 | 40501 |
| D6 | 40601 |
| K1 | 50101 |
| K2 | 50201 |
| K3 | 50301 |
| K4 | 50401 |
| K5 | 50501 |
| K6 | 50601 |
| K7 | 50701 |

**Table 5-19**  Cordex® PSU module SNMP IDs (component type 3)

| Field | SNMP ID |
|---|---|
| Firmware Version | 9 |
| V1 | 10101 |
| V2 | 10201 |
| I1 | 20101 |
| T1 | 30101 |
| T2 | 30201 |
| D1 | 40101 |
| D2 | 40201 |
| K1 | 50101 |
| K2 | 50201 |
| K3 | 50301 |
| K4 | 50401 |
| K5 | 50501 |

**Table 5-20**  Cordex® HP HV-ADIO peripheral SNMP IDs (component type 3)

| Field | SNMP ID |
|---|---|
| Absolute Ground Fault Current | 1 |
| Firmware Version | 9 |
| V1 | 10101 |
| V2 | 10201 |
| I1 | 20101 |
| T1 | 30101 |
| T2 | 30201 |
| D1 | 40101 |
| D2 | 40201 |
| D3 | 40301 |
| D4 | 40401 |
| K1 | 50101 |
| K2 | 50201 |

**Table 5-20** Cordex® HP HV-ADIO peripheral SNMP IDs (component type 3) (continued)

| Field | SNMP ID |
|---|---|
| K3 | 50301 |
| K4 | 50401 |
| K5 | 50501 |
| K6 | 50601 |
| DCCT1 | 60101 |
| DCCT2 | 60201 |

**Table 5-21** Alpha® smart BDFB distribution system SNMP IDs (component type 3)

| Field | SNMP ID |
|---|---|
| Firmware Version | 9 |
| V1 | 10101 |
| V2 | 10201 |
| V3 | 10301 |
| V4 | 10401 |
| V5 | 10501 |
| V6 | 10601 |
| V7 | 10701 |
| V8 | 10801 |
| I1 | 20101 |
| I2 | 20201 |
| I3 | 20301 |
| I4 | 20401 |
| I5 | 20501 |
| I6 | 20601 |
| I7 | 20701 |
| I8 | 20801 |
| T1 | 30101 |
| T2 | 30201 |
| D1 | 40101 |

**Table 5-21** Alpha<sup>®</sup> smart BDFB distribution system SNMP IDs (component type 3) (continued)

| Field | SNMP ID |
| --- | --- |
| D2 | 40201 |
| D3 | 40301 |
| D4 | 40401 |
| D5 | 40501 |
| D6 | 40601 |
| D7 | 40701 |
| D8 | 40801 |
| I1 in Amps | 60101 |
| I2 in Amps | 60201 |
| I3 in Amps | 60301 |
| I4 in Amps | 60401 |
| I5 in Amps | 60501 |
| I6 in Amps | 60601 |
| I7 in Amps | 60701 |
| I8 in Amps | 60801 |

**Table 5-22** Alpha<sup>®</sup> smart E2 distribution panel SNMP IDs (component type 3)

| Field | SNMP ID |
| --- | --- |
| Firmware Version | 9 |
| V1 | 10101 |
| V2 | 10201 |
| I1 | 20101 |
| I2 | 20201 |
| T1 | 30101 |
| T2 | 30201 |
| D1 | 40101 |
| D2 | 40201 |
| D3 | 40301 |
| D4 | 40401 |

**Table 5-22** Alpha® smart E2 distribution panel SNMP IDs (component type 3) (continued)

| Field | SNMP ID |
|---|---|
| D5 | 40501 |
| D6 | 40601 |
| D7 | 40701 |
| D8 | 40801 |
| D9 | 40901 |
| D10 | 41001 |
| D11 | 41101 |
| D12 | 41201 |
| D13 | 41301 |
| D14 | 41401 |
| D15 | 41501 |
| D16 | 41601 |
| D17 | 41701 |
| D18 | 41801 |
| D19 | 41901 |
| D20 | 42001 |
| D21 | 42101 |
| D22 | 42201 |
| I1 in Amps | 60101 |
| I2 in Amps | 60201 |

**Table 5-23** Fan tray SNMP IDs (component type 3)

| Field | SNMP ID |
|---|---|
| Firmware Version | 9 |
| D1 | 40101 |

**Table 5-24** Cordex® shunt multiplexer module SNMP IDs (component type 3)

| Field | SNMP ID |
|---|---|
| Firmware Version | 9 |

**Table 5-24** Cordex® shunt multiplexer module SNMP IDs (component type 3) (continued)

| Field | SNMP ID |
|---|---|
| I1 | 20101 |
| I2 | 20201 |
| I3 | 20301 |
| I4 | 20401 |
| I5 | 20501 |
| I6 | 20601 |
| I7 | 20701 |
| I8 | 20801 |
| I9 | 20901 |
| I10 | 21001 |
| I11 | 21101 |
| I12 | 21201 |
| I13 | 21301 |
| I14 | 21401 |
| I15 | 21501 |
| I16 | 21601 |

**Table 5-25** Cordex® HP 6i-ADIO peripheral SNMP IDs (component type 3)

| Field | SNMP ID |
|---|---|
| Firmware Version | 9 |
| I1 | 20101 |
| I2 | 20201 |
| I3 | 20301 |
| I4 | 20401 |
| I5 | 20501 |
| I6 | 20601 |

**Table 5-26** FlexAir$^®$ thermal controller module SNMP IDs (component type 3)

| Field | SNMP ID |
|---|---|
| Firmware Version | 9 |
| Cooling State | 51 |
| Heating State | 52 |
| V1 | 10101 |
| T1 | 30101 |
| T2 | 30201 |
| T3 | 30301 |
| T4 | 30401 |
| T5 | 30501 |
| Relay 1 | 50101 |
| Relay 2 | 50201 |
| Fan 1 RPM | 100101 |
| Fan 2 RPM | 100201 |
| Fan 3 RPM | 100301 |
| Fan 4 RPM | 100401 |
| Fan 5 RPM | 100501 |
| Fan 6 RPM | 100601 |
| Fan 7 RPM | 100701 |
| Fan 8 RPM | 100801 |

**Table 5-27** Smart bypass SNMP IDs (component type 3)

| Field | SNMP ID |
|---|---|
| Firmware Version | 9 |
| Ampacity | 11 |
| Bypass State | 12 |
| Inverter Feed Breaker | 13 |
| Utility-Inverter Sync. Requested | 14 |
| Utility Phase L1 Voltage | 110200 |
| Utility Phase L2 Voltage | 110201 |

**Table 5-27** Smart bypass SNMP IDs (component type 3) (continued)

| Field | SNMP ID |
|---|---|
| Utility Phase L3 Voltage | 110202 |
| Inverter Phase L1 Voltage | 110300 |
| Inverter Phase L2 Voltage | 110301 |
| Inverter Phase L3 Voltage | 110302 |
| AC Load Phase L1 Voltage | 110400 |
| AC Load Phase L2 Voltage | 110401 |
| AC Load Phase L3 Voltage | 110402 |
| Utility Phase L1 Current | 120200 |
| Utility Phase L2 Current | 120201 |
| Utility Phase L3 Current | 120202 |
| Inverter Phase L1 Current | 120300 |
| Inverter Phase L2 Current | 120301 |
| Inverter Phase L3 Current | 120302 |
| AC Load Phase L1 Current | 120400 |
| AC Load Phase L2 Current | 120401 |
| AC Load Phase L3 Current | 120402 |

**Table 5-28** Rectifier module SNMP IDs (component type 4)

| Field | SNMP ID |
|---|---|
| Bay ID | 1 |
| Shelf ID | 2 |
| Slot ID | 3 |
| AC Input Voltage | 4 |
| Output Current | 5 |
| Ambient Temperature | 6 |
| Operating Time | 7 |
| Mode | 8 |
| Firmware Version | 9 |

**Table 5-29**  Converter module SNMP IDs (component type 5)

| Field | SNMP ID |
|---|---|
| Output Current | 1 |
| Input Current | 2 |
| Intake Temperature | 3 |
| Operating Hours | 4 |
| Firmware Version | 9 |

**Table 5-30**  Battery system SNMP IDs (component type 10)
*The componentListStaticName appears as ((BatteryString.XX).YY)*

| Field | SNMP ID |
|---|---|
| Voltage | 1 |
| Current | 2 |
| Power | 3 |
| Active Temperature | 4 |
| Minimum Temperature | 5 |
| Average Temperature | 6 |
| Maximum Temperature | 7 |
| Battery Mode<br><br>• 0 = Unknown<br>• 1 = No battery<br>• 2 = Battery disconnected<br>• 3 = Discharging<br>• 5 = Charging<br>• 6 = Test discharging<br>• 10 = Float<br>• 11 = Equalize<br>• 12 = Boost | 8 |
| Charging | 9 |
| Time Remaining in EQ | 10 |

**Table 5-30**  Battery system SNMP IDs (component type 10)
*The componentListStaticName appears as ((BatteryString.XX).YY)*
(continued)

| Field | SNMP ID |
| --- | --- |
| Time Remaining in Boost | 11 |
| Time Remaining in BT | 12 |
| Battery Temperature | 13 |
| Battery Capacity Rating | 14 |
| Peukert Exponent | 15 |
| Elevated Absorption State | 16 |
| Time Remaining in Elevated Absorption | 17 |
| Estimated State of Charge | 18 |
| Estimated Battery Runtime | 19 |
| Estimated Battery Health | 20 |
| Conditioning Mode | 21 |
| Battery Test Elapsed Time | 22 |
| Derated Maximum Charging Current | 23 |
| Nominal Charging Current Limit | 24 |
| Battery Test State | 25 |
| Last Date of Battery Test | 26 |
| Battery Error Condition | 27 |

**Table 5-31**  Shunt SNMP IDs (component type 13)

| Field | SNMP ID |
| --- | --- |
| Current | 1 |

**Table 5-32**  SNMP destination SNMP IDs (component type 14)

| Field | SNMP ID |
| --- | --- |
| Destination Enable | 1 |
| Destination IP Address | 2 |
| Destination Community | 3 |
| Destination Port | 4 |

**Table 5-32**  SNMP destination SNMP IDs (component type 14) (continued)

| Field | SNMP ID |
|---|---|
| Notification Timeout | 5 |
| Notification Retries | 6 |
| Notification Type | 7 |
| Notification Resend Period | 8 |

**Table 5-33**  CAN bus SNMP IDs (component type 15)

| Field | SNMP ID |
|---|---|
| Number of Devices | 1 |
| Node IDs in Use | 2 |

**Table 5-34**  Converter system SNMP IDs (component type 16)

| Field | SNMP ID |
|---|---|
| Total Output Current | 1 |
| Total Output Power | 2 |
| Total Capacity Installed - Current | 3 |
| Total Capacity Installed - Power | 4 |
| Average Converter Output Voltage | 5 |
| Average Converter Input Voltage | 6 |
| System Voltage | 7 |
| Total Load Current | 8 |
| System Number | 9 |
| Output Voltage Type | 80 |

**Table 5-35**  Inverter system SNMP IDs (component type 19)

| Field | SNMP ID |
|---|---|
| Total Output Power | 1 |
| Average Output Loading | 2 |
| DC Input | 3 |
| System Mode | 4 |

**Table 5-35** Inverter system SNMP IDs (component type 19) (continued)

| Field | SNMP ID |
|---|---|
| Phase 1 Output Power | 5 |
| Phase 2 Output Power | 6 |
| Phase 3 Output Power | 7 |
| Average Output Voltage (Deprecated) | 8 |
| DC Input Current | 11 |
| DC Input Voltage | 12 |
| DC Input Power | 13 |
| System on Bypass | 14 |
| AC Input Power | 15 |
| # Communicating Inverters | 30 |
| # Failed Inverters | 31 |
| # Replace Fan Inverters | 35 |
| # Comms. Lost Inverters | 36 |
| # Comms. Lost T2S | 37 |
| # T2S Not Accepting Commands | 38 |
| # T2S | 39 |
| Number of Phases | 50 |
| Number of DC Input Groups (Feeds) | 51 |
| Supported by All T2S | 56 |
| Supported by All Inverters | 57 |
| Expected DC Input Current in AC Failure | 60 |
| Highest Phase Loading (VA) | 61 |
| AC Output Power (W) | 62 |
| Phase 1 Output Power (W) | 63 |
| Phase 2 Output Power (W) | 64 |
| Phase 3 Output Power (W) | 65 |
| Module Size | 66 |
| Total Acquired Inverters | 67 |
| Number of Redundant Modules | 68 |

**Table 5-35** Inverter system SNMP IDs (component type 19) (continued)

| Field | SNMP ID |
|---|---|
| Maximum Rated Nominal Output Power (kW) | 69 |
| Maximum Rated Nominal Output Power (kVA) | 70 |
| Nominal Input Voltage | 71 |
| Output Voltage Type | 80 |
| **Phase 1** | |
| AC Output Power (VA) | 1101 |
| Output Voltage | 1102 |
| Output Current | 1103 |
| Output Frequency | 1104 |
| Loading of Installed Power (VA) | 1105 |
| Number of Inverters On | 1106 |
| Loading of Installed Power (W) | 1107 |
| Measured DC Input To Output Power Ratio | 1108 |
| AC Input Power (W) | 1109 |
| AC Input Power (VA) | 1110 |
| AC Output Power (W) | 1111 |
| DC Input Power | 1112 |
| Current Number of Redundant Inverters | 1113 |
| Number of Inverters Detected | 1114 |
| Number of Inverters Off | 1115 |
| Number of Inverters Failed | 1116 |
| **Phase 2** | |
| AC Output Power (VA) | 1201 |
| Output Voltage | 1202 |
| Output Current | 1203 |
| Output Frequency | 1204 |
| Loading of Installed Power (VA) | 1205 |
| Number of Inverters On | 1206 |
| Loading of Installed Power (W) | 1207 |

**Table 5-35**  Inverter system SNMP IDs (component type 19) (continued)

| Field | SNMP ID |
|---|---|
| Measured DC Input to Output Power Ratio | 1208 |
| AC Input Power (W) | 1209 |
| AC Input Power (VA) | 1210 |
| AC Output Power (W) | 1211 |
| DC Input Power | 1212 |
| Current Number of Redundant Inverters | 1213 |
| Number of Inverters Detected | 1214 |
| Number of Inverters Off | 1215 |
| Number of Inverters Failed | 1216 |
| **Phase 3** | |
| AC Output Power (VA) | 1301 |
| Output Voltage | 1302 |
| Output Current | 1303 |
| Output Frequency | 1304 |
| Loading of Installed Power (VA) | 1305 |
| Number of Inverters On | 1306 |
| Loading of Installed Power (W) | 1307 |
| Measured DC Input to Output Power Ratio | 1308 |
| AC Input Power (W) | 1309 |
| AC Input Power (VA) | 1310 |
| AC Output Power (W) | 1311 |
| DC Input Power | 1312 |
| Current Number of Redundant Inverters | 1313 |
| Number of Inverters Detected | 1314 |
| Number of Inverters Off | 1315 |
| Number of Inverters Failed | 1316 |
| **AC input group 1** | |
| Input Voltage | 2101 |
| Input Current | 2102 |

**Table 5-35** Inverter system SNMP IDs (component type 19) (continued)

| Field | SNMP ID |
|---|---|
| Input Frequency | 2103 |
| AC Input Power (VA) | 2104 |
| Number of Inverters On | 2105 |
| AC Input Power (W) | 2106 |
| Number of Inverters Detected | 2107 |
| Number of Inverters Off | 2108 |
| Number of Inverters Failed | 2109 |
| **AC input group 2** | |
| Input Voltage | 2201 |
| Input Current | 2202 |
| Input Frequency | 2203 |
| AC Input Power (VA) | 2204 |
| Number of Inverters On | 2205 |
| AC Input Power (W) | 2206 |
| Number of Inverters Detected | 2207 |
| Number of Inverters Off | 2208 |
| Number of Inverters Failed | 2209 |
| **AC input group 3** | |
| Input Voltage | 2301 |
| Input Current | 2302 |
| Input Frequency | 2303 |
| AC Input Power (VA) | 2304 |
| Number of Inverters On | 2305 |
| AC Input Power (W) | 2306 |
| Number of Inverters Detected | 2307 |
| Number of Inverters Off | 2308 |
| Number of Inverters Failed | 2309 |
| **DC input group 1** | |
| Input Voltage | 3101 |

**Table 5-35** Inverter system SNMP IDs (component type 19) (continued)

| Field | SNMP ID |
|---|---|
| Input Current | 3102 |
| DC Input Power | 3103 |
| Number of Inverters On | 3104 |
| Number of Inverters Off | 3105 |
| Number of Inverters Failed | 3106 |
| Number of Inverters Detected | 3107 |
| **DC input group 2** | |
| Input Voltage | 3201 |
| Input Current | 3202 |
| DC Input Power | 3203 |
| Number of Inverters On | 3204 |
| Number of Inverters Off | 3205 |
| Number of Inverters Failed | 3206 |
| Number of Inverters Detected | 3207 |
| **DC input group 3** | |
| Input Voltage | 3301 |
| Input Current | 3302 |
| DC Input Power | 3303 |
| Number of Inverters On | 3304 |
| Number of Inverters Off | 3305 |
| Number of Inverters Failed | 3306 |
| Number of Inverters Detected | 3307 |
| **DC input group 4** | |
| Input Voltage | 3401 |
| Input Current | 3402 |
| DC Input Power | 3403 |
| Number of Inverters On | 3404 |
| Number of Inverters Off | 3405 |
| Number of Inverters Failed | 3406 |

**Table 5-35** Inverter system SNMP IDs (component type 19) (continued)

| Field | SNMP ID |
|---|---|
| Number of Inverters Detected | 3407 |

**Table 5-36** Bypass switch SNMP IDs (component type 20)

| Field | SNMP ID |
|---|---|
| Status | 1 |

**Table 5-37** Delay timer SNMP IDs (component type 21)

| Field | SNMP ID |
|---|---|
| Output | 1 |
| Delay Time Remaining | 2 |
| Trigger | 3 |
| Reset | 5 |

**Table 5-38** Interval timer SNMP IDs (component type 22)

| Field | SNMP ID |
|---|---|
| Output | 1 |
| Start Event | 2 |
| Stop Event | 4 |

**Table 5-39** Up counter SNMP IDs (component type 23)

| Field | SNMP ID |
|---|---|
| Input | 1 |
| Output | 2 |
| Reset Input | 3 |
| Terminal Reached | 4 |

**Table 5-40** Down counter SNMP IDs (component type 24)

| Field | SNMP ID |
|---|---|
| Input | 1 |

**Table 5-40**  Down counter SNMP IDs (component type 24) (continued)

| Field | SNMP ID |
|---|---|
| Output | 2 |
| Initialize Input | 3 |
| Counter at Zero | 4 |

**Table 5-41**  Custom data SNMP IDs (component type 25)

| Field | SNMP ID |
|---|---|
| Equation | 1 |
| Custom Data Status | 2 |
| Error Position | 3 |
| Error Token | 4 |
| Expected Token | 5 |
| Result as Numeric | 6 |
| Result as Boolean | 7 |
| Result as Text | 8 |
| Text 1 Priority | 100 |
| Text 2 Priority | 110 |
| Text 3 Priority | 120 |
| Text 4 Priority | 130 |
| Text 5 Priority | 140 |
| Text 6 Priority | 150 |

**Table 5-42**  Current transducer module SNMP IDs (component type 26)

| Field | SNMP ID |
|---|---|
| Current | 1 |

**Table 5-43**  Breaker or fuse SNMP IDs (component type 27)

| Field | SNMP ID |
|---|---|
| State | 1 |

**Table 5-44**  Line power system SNMP IDs (component type 31)

| Field | SNMP ID |
|---|---|
| Total Output Power | 1 |
| Modules | 2 |
| Average Input Voltage | 3 |
| Total Input Current (Est.) | 4 |
| Total Input Power (Est.) | 5 |
| Maximum Temperature | 6 |
| Loads | 7 |
| Channels | 8 |
| System Number | 9 |
| Total Output Current | 10 |
| Output Voltage Type | 80 |

**Table 5-45**  Line power system module SNMP IDs (component type 32)

| Field | SNMP ID |
|---|---|
| Temperature | 1 |
| Input Voltage | 2 |
| Bay ID | 3 |
| Shelf ID | 4 |
| Slot ID | 5 |
| Firmware Version | 9 |
| C1 Output Voltage | 80101 |
| C1 Output Current | 80102 |
| C2 Output Voltage | 80201 |
| C2 Output Current | 80202 |
| C3 Output Voltage | 80301 |
| C3 Output Current | 80302 |
| C4 Output Voltage | 80401 |
| C4 Output Current | 80402 |

**Table 5-46** Line power load SNMP IDs (component type 33)

| Field | SNMP ID |
|---|---|
| Channels | 1 |
| Channels Enabled | 2 |
| Total Channels in Alert | 3 |
| Total Output Current | 4 |
| Total Output Power | 5 |
| Current Capacity | 6 |
| Power Capacity | 7 |

**Table 5-47** Distribution system SNMP IDs (component type 34)

| Field | SNMP ID |
|---|---|
| Voltage | 1 |
| Current | 2 |
| Breaker Trips | 3 |
| Maximum Temperature | 4 |
| Active Alarms | 5 |
| Average Input Voltage | 6 |
| Total Input Current | 7 |
| Output Voltage Type | 80 |

**Table 5-48** Distribution panel SNMP IDs (component type 35)

| Field | SNMP ID |
|---|---|
| Voltage | 1 |
| Current | 2 |
| Active Alarms | 3 |
| Overall Breaker Trips | 4 |

**Table 5-49** Distribution subsystem SNMP IDs (component type 36)

| Field | SNMP ID |
|---|---|
| Voltage | 1 |

**Table 5-49**  Distribution subsystem SNMP IDs (component type 36) (continued)

| Field | SNMP ID |
|-------|---------|
| Current | 2 |
| Breaker Trips | 3 |
| Maximum Temperature | 4 |
| Active Alarms | 5 |

**Table 5-50**  Scheduled action SNMP IDs (component type 40)

| Field | SNMP ID |
|-------|---------|
| Recurrence | 1 |
| End | 2 |
| Schedule Status | 3 |
| Last Run | 4 |
| Next Scheduled Run | 5 |
| Total Executed Runs | 6 |
| Action | 7 |

**Table 5-51**  Alpha® FXM HP UPS module SNMP IDs (component type 41)

| Field | SNMP ID |
|-------|---------|
| Operating Frequency | 1 |
| Nominal AC Voltage | 2 |
| Rated Output Power | 3 |
| Rated Battery Voltage | 4 |
| AC Output Voltage | 5 |
| AC Output Frequency | 6 |
| AC Output Current | 7 |
| AC Output Apparent Power | 8 |
| Battery Voltage | 9 |
| Battery Current | 10 |
| Battery Temperature | 11 |
| Elapsed Time on Battery | 12 |

**Table 5-51** Alpha® FXM HP UPS module SNMP IDs (component type 41) (continued)

| Field | SNMP ID |
|---|---|
| System Mode | 13 |
| Inverter Minutes Since Cleared | 14 |
| Inverter Count Since Cleared | 15 |
| Boost Minutes Since Cleared | 16 |
| Boost Count Since Cleared | 17 |
| Buck Minutes Since Cleared | 18 |
| Buck Count Since Cleared | 19 |
| Energy Delivered | 20 |
| Output Voltage Type | 80 |

**Table 5-52** Change relay SNMP IDs (component type 43)

| Field | SNMP ID |
|---|---|
| Condition Value | 1 |
| Relay Status | 2 |
| Relay Status When Condition is True | 3 |
| Relay Status When Condition is False or Unknown | 4 |

**Table 5-53** Change field SNMP IDs (component type 44)

| Field | SNMP ID |
|---|---|
| Condition Value | 1 |
| Field Value | 2 |

**Table 5-54** General purpose transducer module SNMP IDs (component type 48)

| Field | SNMP ID |
|---|---|
| Calculated Value | 1 |

**Table 5-55** Change field to variable SNMP IDs (component type 49)

| Field | SNMP ID |
|---|---|
| Last Error Condition | 1 |

**Table 5-55** Change field to variable SNMP IDs (component type 49) (continued)

| Field | SNMP ID |
|---|---|
| Field Value | 2 |
| Field Range | 3 |
| Custom Data Value | 4 |
| Time to Next Possible Change | 5 |

**Table 5-56** Battery string SNMP IDs (component type 50)

*The componentListStaticName appears as ((GenericBatteryString.XX).YY)*

| Field | SNMP ID |
|---|---|
| Voltage | 1 |
| Current | 2 |
| Power | 3 |
| Minimum Temperature | 4 |
| Average Temperature | 5 |
| Maximum Temperature | 6 |
| Active Temperature | 7 |
| Midpoint Voltage | 8 |
| Breaker/Fuse | 9 |
| Battery Age Estimation: Present Age Rate | 10 |
| Battery Age Estimation: Estimated Age | 11 |
| Battery Age Estimation: Estimated Time Remaining | 12 |
| Battery Age Estimation: Temperature Range 1 | 13 |
| Battery Age Estimation: Temperature Range 2 | 14 |
| Battery Age Estimation: Temperature Range 3 | 15 |
| Battery Age Estimation: Temperature Range 4 | 16 |
| Battery Age Estimation: Initial Age | 17 |

**Table 5-57** DC source system SNMP IDs (component type 52)

| Field | SNMP ID |
|---|---|
| Average Voltage | 1 |

**Table 5-57**  DC source system SNMP IDs (component type 52) (continued)

| Field | SNMP ID |
|---|---|
| Total Current | 2 |
| Output Voltage Type | 80 |

**Table 5-58**  Basic DC source SNMP IDs (component type 53)

| Field | SNMP ID |
|---|---|
| Voltage | 1 |
| Current | 2 |
| Breaker/Fuse Status | 3 |

**Table 5-59**  Legacy DC generator system SNMP IDs (component type 53)

| Field | SNMP ID |
|---|---|
| Voltage | 1 |
| Current | 2 |
| Breaker/Fuse Status | 3 |

**Table 5-60**  AC source system SNMP IDs (component type 56)

| Field | SNMP ID |
|---|---|
| Average Phase 1 Voltage | 1 |
| Average Phase 2 Voltage | 2 |
| Average Phase 3 Voltage | 3 |
| Output Voltage Type | 80 |

**Table 5-61**  AC source SNMP IDs (component type 57)

| Field | SNMP ID |
|---|---|
| Number of Phases | 1 |
| Phase 1 Voltage | 2 |
| Phase 2 Voltage | 3 |
| Phase 3 Voltage | 4 |

**Table 5-62** Legacy AC generator system SNMP IDs (component type 57)

| Field | SNMP ID |
|---|---|
| Number of Phases | 1 |
| Phase 1 Voltage | 2 |
| Phase 2 Voltage | 3 |
| Phase 3 Voltage | 4 |

**Table 5-63** Alpha® external maintenance bypass switch (XMBS) SNMP IDs (component type 62)

| Field | SNMP ID |
|---|---|
| Status | 1 |

**Table 5-64** Alpha® FXM HP UPS ADIO peripheral SNMP IDs (component type 63)

| Field | SNMP ID |
|---|---|
| Firmware Version | 9 |
| Input 1 | 20 |
| Input 2 | 21 |
| Input 3 | 22 |
| Relay C1 | 30 |
| Relay C2 | 31 |
| Relay C3 | 32 |
| Relay C4 | 33 |
| Relay C5 | 34 |
| Relay C6 | 35 |
| Temperature | 40 |

**Table 5-65** Thermal system SNMP IDs (component type 67)

| Field | SNMP ID |
|---|---|
| Internal Temperature | 1 |
| External Temperature | 2 |
| System Temperature 1 | 3 |

**Table 5-65**  Thermal system SNMP IDs (component type 67) (continued)

| Field | SNMP ID |
|---|---|
| System Temperature 2 | 4 |
| System Temperature 3 | 5 |

**Table 5-66**  Cordex® HP 3kW hyperboost converter module SNMP IDs (component type 69)

| Field | SNMP ID |
|---|---|
| Bay ID | 1 |
| Shelf ID | 2 |
| Slot ID | 3 |
| Battery/Aux. Voltage | 4 |
| Battery/Aux. Current | 5 |
| Battery/Aux. Power | 6 |
| Battery/Aux. Bus Energy Delivered | 7 |
| Load Bus Voltage | 8 |
| Firmware Version | 9 |
| Load Bus Current | 10 |
| Load Bus Power | 11 |
| Load Bus Current Loading | 12 |
| Load Bus Power Loading | 13 |
| Load Bus Power Energy Delivered | 14 |
| Ambient Temperature | 15 |
| Operating Time | 16 |

**Table 5-67**  Cordex® CXPS-HSS hyperboost system SNMP IDs (component type 70)

| Field | SNMP ID |
|---|---|
| System Number | 1 |
| Battery Bus Voltage | 2 |
| Load Bus Voltage | 3 |
| Total Battery Bus Current | 4 |
| Total Battery Bus Power | 5 |

**Table 5-67** Cordex® CXPS-HSS hyperboost system SNMP IDs (component type 70) (continued)

| Field | SNMP ID |
|---|---|
| Total Load Bus Current | 6 |
| Total Load Bus Power | 7 |
| Average Converter Battery Bus Voltage | 8 |
| Average Converter Load Bus Voltage | 9 |
| Average Ambient Temperature | 10 |
| Total Capacity Installed - Battery Current | 11 |
| Total Capacity Installed - Load Current | 12 |
| Total Capacity Installed - Power | 13 |
| # Acquired Converters | 14 |
| # Charging Converters | 15 |
| # Discharging Converters | 16 |
| # Failed Converters | 17 |
| # Minor Alerts Converters | 18 |
| # Comms. Lost Converters | 19 |
| # Controllable Converters | 20 |
| # Converters in Bootloader | 21 |
| # Fan Fail Converters | 22 |
| # Thermal Shutdown Converters | 23 |
| # Temp. Sensor Fail Converters | 24 |
| # Module Insertion Fail Converters | 25 |
| # Battery Overvoltage Protection Converters | 26 |
| # Battery Bus LVD Active Converters | 27 |
| # Load Bus Overvoltage Protection Converters | 28 |
| # Load Bus LVD Active Converters | 29 |
| # Calibration Data Corrupted Converters | 30 |
| # Configuration Error Converters | 31 |
| # Converters with Internal Fault | 32 |
| # Battery Fail Converters | 33 |
| # Battery Output Current Limit Converters | 34 |

**Table 5-67** Cordex® CXPS-HSS hyperboost system SNMP IDs (component type 70) (continued)

| Field | SNMP ID |
|---|---|
| # Load Bus Power Limit Converters | 35 |
| # Load Bus Current Limit Converters | 36 |
| # Temperature Derating Converters | 37 |
| # Ramp Test Failed Converters | 38 |
| Battery Voltage | 39 |
| Battery Current | 40 |
| Battery Temperature | 41 |
| Estimated State of Charge Percent | 42 |
| Estimated Battery Runtime | 43 |
| Estimated Battery Health Percent | 44 |
| Average Distribution Voltage | 45 |
| Total Distribution Current | 46 |
| Total Distribution Power | 47 |
| Total Distribution Feeder Fuse Rating | 48 |
| Total Distribution Utilization | 49 |
| # Unused Breakers | 50 |
| # Tripped Breakers | 51 |
| # On - Not in Inventory Breakers | 52 |
| # Normal Breakers | 53 |
| # Overloaded Breakers | 54 |
| Active Voltage Regulation State | 55 |
| DC System AC Off Status | 56 |
| External DC System AC Off Status | 57 |
| Output Voltage Type | 80 |

**Table 5-68** AC generator system SNMP IDs (component type 74)

| Field | SNMP ID |
|---|---|
| Number of Phases | 1 |
| Phase 1 Voltage | 2 |

**Table 5-68** AC generator system SNMP IDs (component type 74) (continued)

| Field | SNMP ID |
|---|---|
| Phase 2 Voltage | 3 |
| Phase 3 Voltage | 4 |
| External Status Signal | 10 |
| Startups in Time Period | 20 |
| Total Startups | 21 |
| Total Runtime | 22 |
| Generator State | 40 |
| Generator Runtime | 41 |
| Last Generator Command | 42 |

**Table 5-69** DC generator system SNMP IDs (component type 75)

| Field | SNMP ID |
|---|---|
| Voltage | 1 |
| Current | 2 |
| Breaker/Fuse Status | 3 |
| External Status Signal | 10 |
| Startups in Time Period | 20 |
| Total Startups | 21 |
| Total Runtime | 22 |
| Generator State | 40 |
| Generator Runtime | 41 |
| Last Generator Command | 42 |

**Table 5-70** Generator system start equation SNMP IDs (component type 76)

| Field | SNMP ID |
|---|---|
| Equation | 1 |
| Custom Data Status | 2 |
| Error Position | 3 |
| Error Token | 4 |

**Table 5-70**  Generator system start equation SNMP IDs (component type 76) (continued)

| Field | SNMP ID |
|---|---|
| Expected Token | 5 |
| Result as Numeric | 6 |
| Result as Boolean | 7 |
| Start Equation | 20 |
| Call to Start | 21 |
| Result as Boolean, Stabilized | 22 |

**Table 5-71**  Generator system stop equation SNMP IDs (component type 77)

| Field | SNMP ID |
|---|---|
| Equation | 1 |
| Custom Data Status | 2 |
| Error Position | 3 |
| Error Token | 4 |
| Expected Token | 5 |
| Result as Numeric | 6 |
| Result as Boolean | 7 |
| Stop Equation | 20 |
| Call to Stop | 21 |
| Result as Boolean, Stabilized | 22 |

**Table 5-72**  Generator system start condition; Generator system stop condition SNMP IDs (component type 78)

| Field | SNMP ID |
|---|---|
| Value to Test | 1 |
| Test Time Remaining | 2 |
| Value | 3 |

**Table 5-73** User SNMP IDs (component type 79)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Alias | 3 |
| User Role | 4 |

**Table 5-74** Matrix™ distribution breaker panel SNMP IDs (component type 97)

| Field | SNMP ID |
|---|---|
| Overcurrent Warning Threshold | 1 |
| Overcurrent Alert threshold | 2 |
| Firmware Version | 9 |
| Bus A Voltage | 100 |
| Bus A Current | 101 |
| Bus A Feeder Fuse Rating | 102 |
| Bus B Voltage | 200 |
| Bus B Current | 201 |
| Bus B Feeder Fuse Rating | 202 |
| Breaker A1 State | 10101 |
| Breaker A1 Current | 10102 |
| Breaker A1 Rating | 10103 |
| Breaker A2 State | 10201 |
| Breaker A2 Current | 10202 |
| Breaker A2 Rating | 10203 |
| Breaker A3 State | 10301 |
| Breaker A3 Current | 10302 |
| Breaker A3 Rating | 10303 |
| Breaker A4 State | 10401 |
| Breaker A4 Current | 10402 |
| Breaker A4 Rating | 10403 |
| Breaker A5 State | 10501 |

**Table 5-74** Matrix™ distribution breaker panel SNMP IDs (component type 97) (continued)

| Field | SNMP ID |
|---|---|
| Breaker A5 Current | 10502 |
| Breaker A5 Rating | 10503 |
| Breaker A6 State | 10601 |
| Breaker A6 Current | 10602 |
| Breaker A6 Rating | 10603 |
| Breaker A7 State | 10701 |
| Breaker A7 Current | 10702 |
| Breaker A7 Rating | 10703 |
| Breaker A8 State | 10801 |
| Breaker A8 Current | 10802 |
| Breaker A8 Rating | 10803 |
| Breaker B1 State | 20101 |
| Breaker B1 Current | 20102 |
| Breaker B1 Rating | 20103 |
| Breaker B2 State | 20201 |
| Breaker B2 Current | 20202 |
| Breaker B2 Rating | 20203 |
| Breaker B3 State | 20301 |
| Breaker B3 Current | 20302 |
| Breaker B3 Rating | 20303 |
| Breaker B4 State | 20401 |
| Breaker B4 Current | 20402 |
| Breaker B4 Rating | 20403 |
| Breaker B5 State | 20501 |
| Breaker B5 Current | 20502 |
| Breaker B5 Rating | 20503 |
| Breaker B6 State | 20601 |
| Breaker B6 Current | 20602 |
| Breaker B6 Rating | 20603 |

**Table 5-74** Matrix™ distribution breaker panel SNMP IDs (component type 97) (continued)

| Field | SNMP ID |
|-------|---------|
| Breaker B7 State | 20701 |
| Breaker B7 Current | 20702 |
| Breaker B7 Rating | 20703 |
| Breaker B8 State | 20801 |
| Breaker B8 Current | 20802 |
| Breaker B8 Rating | 20803 |

**Table 5-75** Environment manager system SNMP IDs (component type 99)

| Field | SNMP ID |
|-------|---------|
| Cooling Mode | 1 |
| Internal Temperature | 2 |
| External Temperature | 3 |
| Reference External Temperature | 4 |
| Fan Count | 5 |
| Air Conditioner Count | 6 |
| Staff Comfort Mode Time Remaining | 7 |
| Purge Mode Status | 8 |

**Table 5-76** Generic fan SNMP IDs (component type 100)

| Field | SNMP ID |
|-------|---------|
| Fan Number | 1 |
| Fan State | 2 |
| Digital Feedback Signal | 3 |
| Fan Speed | 4 |
| Energy Consumption Voltage | 5 |
| Pulse Count | 6 |
| Energy Consumption | 7 |
| Runtime Last 15 Minutes | 8 |
| Daily Usage Percent | 9 |

**Table 5-76**  Generic fan SNMP IDs (component type 100) (continued)

| Field | SNMP ID |
|---|---|
| Total Runtime Minutes | 10 |
| Total Usage Percent | 11 |
| Total Activation Count | 12 |

**Table 5-77**  Generic air conditioner unit SNMP IDs (component type 101)

| Field | SNMP ID |
|---|---|
| Fan Number | 1 |
| Fan State | 2 |
| Digital Feedback Signal | 3 |
| Fan Speed | 4 |
| Energy Consumption Voltage | 5 |
| Pulse Count | 6 |
| Energy Consumption | 7 |
| Runtime Last 15 Minutes | 8 |
| Daily Usage Percent | 9 |
| Total Runtime Minutes | 10 |
| Total Usage Percent | 11 |
| Turn on Temp. in Air Conditioning | 12 |
| Turn off Temp. in Air Conditioning | 13 |

**Table 5-78**  Lithium-ion battery modules SNMP IDs (component type 102)

| Field | SNMP ID |
|---|---|
| Operating State | 1 |
| State of Charge | 2 |
| State of Health | 3 |
| DC Output Current | 4 |
| Battery Pack Voltage | 5 |
| Maximum Cell Voltage | 6 |
| Minimum Cell Voltage | 7 |

**Table 5-78** Lithium-ion battery modules SNMP IDs (component type 102) (continued)

| Field | SNMP ID |
|---|---|
| Maximum Module Temp. | 8 |
| Minimum Module Temp. | 10 |
| Maximum Charging Current | 11 |
| Nominal DC Output Voltage | 12 |
| Nominal DC Output Power | 13 |
| Derated DC Output Current Limit at Present | 14 |
| Derated DC Output Power Limit at Present | 15 |
| DC Energy Delivered | 16 |
| Full Charged Capacity | 18 |
| 80% SoC Charge Voltage | 19 |
| 100% SoC Charge Voltage | 20 |
| Disconnect Voltage | 21 |
| Number of Minor Alerts | 22 |
| Number of Charge Blocking Alerts | 23 |
| Number of Discharge Blocking Alerts | 24 |
| Number of Lockout Alerts | 25 |
| Assigned Bay ID | 26 |
| Assigned Shelf ID | 27 |
| Assigned Slot ID | 28 |
| Estimated Battery Runtime | 29 |

**Table 5-79** Lithium-ion Battery system SNMP IDs (component type 103)

| Field | SNMP ID |
|---|---|
| Voltage | 1 |
| Current | 2 |
| Power | 3 |
| Battery Mode | 4 |
| Battery Capacity Rating | 5 |
| Active Temperature | 6 |

**Table 5-79** Lithium-ion Battery system SNMP IDs (component type 103) (continued)

| Field | SNMP ID |
|---|---|
| Minimum Temperature | 7 |
| Maximum Temperature | 8 |
| Charging Stage | 9 |
| Average State of Charge | 10 |
| Average State of Health | 11 |
| System Battery Temperature | 13 |
| Number of Acquired Battery Modules | 14 |
| Number of Charging Battery Modules | 15 |
| Number of Discharging Battery Modules | 16 |
| Number of Failed Battery Modules | 17 |
| Number of Battery Modules With Alerts | 22 |
| Number of Non-Communicating Battery Modules | 23 |
| Number of Controllable Battery Modules | 24 |
| Number of Battery Modules in Bootloader | 25 |
| Battery Discharge Time Remaining | 26 |
| Number of Lockout Battery Modules | 27 |
| Number of Charge Blocked Battery Modules | 28 |
| Number of Discharge Blocked Battery Modules | 29 |
| Number of Battery Modules with Minor Alerts | 30 |
| Minimum Cell Voltage | 31 |
| Maximum Cell Voltage | 32 |
| Load Shifting Status | 33 |
| AC Power (Est.) | 34 |
| Load Shifted (24 Hours) | 35 |
| Load Shifted (Monthly) | 36 |
| Total Load Shifted (Aggregate) | 37 |
| Peak Shaving Status | 38 |
| Peak Shaving DC Power | 39 |
| Peak Shaving AC Power (Est.) | 40 |

**Table 5-79** Lithium-ion Battery system SNMP IDs (component type 103) (continued)

| Field | SNMP ID |
|---|---|
| Peak AC Power (Daily) | 41 |
| Estimated Battery Runtime | 42 |

**Table 5-80** EnVision™ energy router SNMP IDs (component type 105)

| Field | SNMP ID |
|---|---|
| Bay ID | 1 |
| Shelf ID | 2 |
| Slot ID | 3 |
| Number of Slots | 4 |
| System Bus Voltage | 5 |
| System Bus Current | 6 |
| System Current Max. Rating | 7 |
| Firmware Version | 9 |
| Ambient Temperature | 11 |
| S1 Status | 101 |
| S1 Serial Number | 103 |
| S1 Device ID | 104 |
| S1 Firmware Version | 105 |
| S1 Model | 106 |
| S1 CAN Parent | 107 |
| S1 Comm. Status | 108 |
| S1 Load Voltage | 110 |
| S1 Load Current | 111 |
| S1 Load Power | 112 |
| S1 Current Rating | 113 |
| S1 Utilization | 116 |
| S1 Slots Occupied | 117 |
| This pattern repeats for EnVision™ smart switch modules (SSM) S2 to S12 by adding 30 to these IDs for each smart switch module. | |

**Table 5-81** EnVision™ energy router distribution subsystem SNMP IDs (component type 106)

| Field | SNMP ID |
|---|---|
| Average Bus Voltage | 1 |
| Sum of Bus Currents | 2 |
| System Voltage Bus A | 3 |
| System Current Bus A | 4 |
| System Voltage Bus B (only applicable in dual-bus system) | 5 |
| System Current Bus B (only applicable in dual-bus system) | 6 |
| Ambient Temperature | 7 |
| Average SSM Voltage | 8 |
| Sum of SSM Currents | 9 |
| Shelf Current Rating | 10 |
| Bus A Current Rating | 11 |
| Bus B Current Rating (only applicable in dual-bus system) | 12 |
| Max. Installed Capacity | 13 |
| Max. Functional Capacity | 14 |
| Average Utilization | 15 |
| Number of Installed SSMs | 16 |
| Number of Functional SSMs | 17 |
| Number of Empty Slots | 18 |
| Number of Tripped SSMs | 19 |
| Active Alarms | 20 |
| Number of Schedules Enabled | 21 |
| Total Energy Saved | 22 |
| Total Energy Saved 7 Days | 23 |
| Total Energy Saved 30 Days | 24 |

**Table 5-82** Cordex® HP protocol bridge peripheral SNMP IDs (component type 107)

| Field | SNMP ID |
|---|---|
| Battery List Change | 2 |

**Table 5-82** Cordex® HP protocol bridge peripheral SNMP IDs (component type 107) (continued)

| Field | SNMP ID |
|---|---|
| Number of Battery Modules | 3 |
| Number of Charge Blocked Battery Modules | 4 |
| Number of Fully Charged Battery Modules | 5 |
| Number of Failed Battery Modules | 6 |
| Maximum State of Charge | 7 |
| Average State of Charge | 8 |
| Firmware Version | 9 |
| Minimum State of Charge | 10 |
| Maximum State of Health | 11 |
| Average State of Health | 12 |
| Minimum State of Health | 13 |
| Total Battery Current | 14 |
| Maximum Battery Current | 15 |
| Average Battery Current | 16 |
| Minimum Battery Current | 17 |
| Maximum Temperature | 18 |
| Average Temperature | 19 |
| Minimum Temperature | 20 |
| Maximum Cycle Count | 21 |
| Average Cycle Count | 22 |
| Minimum Cycle Count | 23 |

**Table 5-83** Third-party lithium-ion battery module SNMP IDs (component type 108)

| Field | SNMP ID |
|---|---|
| Battery Current | 1 |
| Battery Communication Status | 2 |
| State of Charge | 3 |
| State of Health | 4 |
| Cycle Count | 5 |

**Table 5-83**  Third-party lithium-ion battery module SNMP IDs (component type 108) (continued)

| Field | SNMP ID |
|---|---|
| Device Address | 6 |
| Active Temperature | 7 |
| Breaker/Fuse | 8 |

**Table 5-84**  Third-party lithium-ion battery module SNMP IDs (component type 108)

| Field | SNMP ID |
|---|---|
| Voltage | 1 |
| Current | 2 |
| Power | 3 |
| Battery Mode<br><br>• 0 = Unknown<br><br>• 1 = No battery<br><br>• 3 = Discharging<br><br>• 5 = Charging<br><br>• 10 = Float | 4 |
| Battery Capacity Rating | 5 |
| Active Temperature | 6 |
| Minimum Temperature | 7 |
| Maximum Temperature | 8 |
| Breaker/Fuse | 9 |
| Average State of Charge | 10 |
| Battery Discharge Time Remaining | 11 |

**Table 5-85**  Bluetooth device SNMP IDs (component type 110)

| Field | SNMP ID |
|---|---|
| MAC Address | 1 |
| Signal Strength | 2 |
| Firmware Version | 3 |
| Comm. Status | 4 |

**Table 5-85** Bluetooth device SNMP IDs (component type 110) (continued)

| Field | SNMP ID |
|---|---|
| Battery Block Voltage | 5 |
| Battery Block Temperature | 6 |
| Battery Block SoC (State of Charge) | 15 |

## 5.6.4. Published SNMP Get/Set fields

The fields listed here provide read and write access. See the **Published SNMP fields** chapter for available read-only fields.

The tables provided here define the **Component** items, and the **Data Field Type** indexing values, when using the **ALPHA-RESOURCE-MIB**. Refer to the section, *Using the Alpha$^®$ resource MIB* for detailed explanation of the index dependencies of tables within the MIB. Refer to the **SNMP Reference** section for a short explanation of the **Index Calculation** technique.

Specific OIDs are not available for the defined data fields. The dynamic nature of controllers do not allow for a static definition of a component reference number. The component reference number is currently not configurable.

The **Data Field** reference IDs are statically assigned and are unique to the **Component**. These numbers, combined with the other dependencies of the Alpha$^®$ resource MIB tables, provide currently published data and future data without the need to change MIB files.

> *Notice: Some of the field names may repeat due to field items that are in repeated groups. Their indexes would remain unique to identify the individual fields. For example, AC input phase fields would have repeating items.*

**Table 5-86** EnVision™ Elite controller SNMP IDs (component type 1)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Site Number | 10 |
| Technical Support Number | 11 |
| Contact Name | 12 |
| Contact Number | 13 |
| Street | 14 |
| City | 15 |

**Table 5-86** EnVision™ Elite controller SNMP IDs (component type 1) (continued)

| Field | SNMP ID |
|---|---|
| ZIP Code/Postal Code | 16 |
| Region/State/Province | 17 |
| Country | 18 |
| Latitude | 19 |
| Longitude | 20 |
| Altitude | 21 |
| Time Zone | 22 |
| Daylight Saving Method | 23 |
| Remote Configuration Lockout Enable | 24 |
| Lockout Override Time | 25 |
| On Alarm Cutoff Button Press | 26 |
| Alarm Cutoff Period | 27 |
| Alarm Activation Delay at Startup | 28 |
| Speaker Enable | 29 |
| Time Server IP Address | 30 |
| Default Login Language | 31 |
| Shelf Layout Order | 32 |
| Name Customization | 33 |
| Power Flow Configuration Suggestions | 34 |
| Visibility of User Strings | 35 |
| LCD Dashboard Option | 36 |
| LCD Timeout | 37 |
| Require Login for Sensitive Information | 38 |
| Screen Rotation Angle | 39 |
| USB Maintenance Actions | 40 |
| Append a Date String to Filenames | 41 |
| Add the Controller Name to Filenames | 42 |
| System Summary Option | 43 |
| LCD Dashboard Text Size | 50 |

**Table 5-86** EnVision™ Elite controller SNMP IDs (component type 1) (continued)

| Field | SNMP ID |
|---|---|
| LCD Dashboard Text Alignment | 51 |
| Configuration File Identifier | 52 |
| Web Server Custom Port | 53 |
| Secure Web Server Custom Port | 54 |
| Web Connection Protocol | 55 |
| USB Port | 56 |
| Syslog Agent | 57 |
| Facility Value | 58 |
| Inhibit Alarm Summary Relays During Maintenance | 60 |
| Include Uppercase Letter | 61 |
| Include Lowercase Letter | 62 |
| Include Number | 63 |
| Include Special Character | 64 |
| Reject Common Passwords | 65 |
| Bluetooth Enable | 66 |
| Bluetooth Polling | 67 |
| Bluetooth Polling Interval | 68 |
| SNMP Synchronize Alarm Parameters | 70 |
| SNMPv3 Authentication Protocol | 71 |
| SNMPv3 Privacy Protocol | 72 |
| SNMPv3 Security Name | 73 |
| Modbus Agent | 80 |
| Modbus Byte Order | 81 |
| Modbus Limited Data Set Device ID | 82 |
| Modbus Internet Protocol | 83 |
| Email Client Enable | 90 |
| SMTP Server Address | 91 |
| SMTP Server Port | 92 |
| SNMP Client Domain Name | 93 |

**Table 5-86** EnVision™ Elite controller SNMP IDs (component type 1) (continued)

| Field | SNMP ID |
|---|---|
| SMTP Server User Name | 94 |
| Configuration Restore Points Enable | 100 |
| System Model | 105 |
| System Part Number | 106 |
| Additional System Model | 110 |
| Additional Part Number | 111 |
| System User Notification Enable | 112 |
| Notification Title | 113 |
| Notification Content 1 | 114 |
| Notification Content 2 | 115 |
| Notification Content 3 | 116 |
| Notification Content 4 | 117 |
| Notification Content 5 | 118 |
| Notification Content 6 | 119 |
| Notification Content 7 | 120 |
| Notification Content 8 | 121 |
| Notification Content 9 | 122 |
| Notification Content 10 | 123 |
| Web Session Inactivity Timeout | 125 |
| Wi-Fi Allowed | 150 |
| Wi-Fi IP Address | 151 |
| Wi-Fi Idle Timeout | 152 |
| CMP Enable | 160 |
| CMP Initialization Protection Method | 161 |
| CMP Shared Secret | 162 |
| CMP Public Key Infrastructure (PKI) URL | 163 |
| CMP Common Name | 164 |
| CMP Certificate Authority Name | 165 |
| CMP Automatic Key Renewal Threshold | 166 |

**Table 5-86**  EnVision™ Elite controller SNMP IDs (component type 1) (continued)

| Field | SNMP ID |
|---|---|
| CMP Key Algorithm | 167 |
| CMP Certificate DNS Name | 168 |
| CMP Include IP Addresses | 169 |

**Table 5-87**  DC system SNMP IDs (component type 2)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| System Number | 3 |
| System Serial Number | 4 |
| System Modbus Device ID | 5 |
| Rectifier Assignment Rule | 10 |
| Nominal Input Voltage | 11 |
| System Float Voltage | 12 |
| Extended Ranges (advanced) | 13 |
| Rectifier Minimum Test Voltage | 14 |
| Rectifier Safe Mode Voltage | 15 |
| Rectifier Overvoltage Protection Threshold | 16 |
| Rectifier System Start Delay | 17 |
| Rectifier Module Start Delay | 18 |
| Rectifier Current Limit | 19 |
| Rectifier Power Limit | 20 |
| Rectifier Overload Alert | 21 |
| Rectifier Ramp Test | 22 |
| Voltage Regulation Enable | 23 |
| Loadsharing Enable | 24 |
| Power Save Enable | 25 |
| Module Power for Maximum Efficiency | 26 |
| Rotate One Module Period | 27 |

**Table 5-87**  DC system SNMP IDs (component type 2) (continued)

| Field | SNMP ID |
|---|---|
| Rectifier Fast Soft-Start | 28 |
| Rectifier High Voltage Alert Threshold (deprecated) | 29 |
| Alert Masking Policy | 30 |
| Power Conversion Efficiency | 32 |

**Table 5-88**  ADIO module SNMP peripheral IDs (component type 3)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| V1 Name | 101 |
| V2 Name | 102 |
| V3 Name | 103 |
| V4 Name | 104 |
| V5 Name | 105 |
| V6 Name | 106 |
| V7 Name | 107 |
| V8 Name | 108 |
| I1 Name | 201 |
| I2 Name | 202 |
| I3 Name | 203 |
| I4 Name | 204 |
| I5 Name | 205 |
| I6 Name | 206 |
| I7 Name | 207 |
| I8 Name | 208 |
| T1 Name | 301 |
| T2 Name | 302 |
| T3 Name | 303 |
| T4 Name | 304 |

**Table 5-88**  ADIO module SNMP peripheral IDs (component type 3) (continued)

| Field | SNMP ID |
|---|---|
| T5 Name | 305 |
| D1 Name | 401 |
| D2 Name | 402 |
| D3 Name | 403 |
| D4 Name | 404 |
| D5 Name | 405 |
| D6 Name | 406 |
| D7 Name | 407 |
| D8 Name | 408 |
| D9 Name | 409 |
| D10 Name | 410 |
| D11 Name | 411 |
| D12 Name | 412 |
| D13 Name | 413 |
| D14 Name | 414 |
| D15 Name | 415 |
| D16 Name | 416 |
| D17 Name | 417 |
| D18 Name | 418 |
| D19 Name | 419 |
| D20 Name | 420 |
| D21 Name | 421 |
| D22 Name | 422 |
| T1 (Celsius) Name | 501 |
| T2 (Celsius) Name | 502 |
| K1 Name | 601 |
| K2 Name | 602 |
| K3 Name | 603 |
| K4 Name | 604 |

**Table 5-88**  ADIO module SNMP peripheral IDs (component type 3) (continued)

| Field | SNMP ID |
|---|---|
| K5 Name | 605 |
| K6 Name | 606 |
| K7 Name | 607 |
| K8 Name | 608 |
| K9 Name | 609 |
| K10 Name | 610 |
| K11 Name | 611 |
| K12 Name | 612 |
| Temperature Sensor #1 Failure Processing | 3010100 |
| Temperature Sensor #1 Failure Priority | 3010101 |
| Temperature Sensor #1 Failure Parameter 1 | 3010102 |
| Temperature Sensor #1 Failure Custom Name Parameter 2 | 3010103 |
| Temperature Sensor #2 Failure Processing | 3010200 |
| Temperature Sensor #2 Failure Priority | 3010201 |
| Temperature Sensor #2 Failure Parameter 1 | 3010202 |
| Temperature Sensor #2 Failure Custom Name Parameter 2 | 3010203 |
| Temperature Sensor #3 Failure Processing | 3010300 |
| Temperature Sensor #3 Failure Priority | 3010301 |
| Temperature Sensor #3 Failure Parameter 1 | 3010302 |
| Temperature Sensor #3 Failure Custom Name Parameter 2 | 3010303 |
| Temperature Sensor #4 Failure Processing | 3010400 |
| Temperature Sensor #4 Failure Priority | 3010401 |
| Temperature Sensor #4 Failure Parameter 1 | 3010402 |
| Temperature Sensor #4 Failure Custom Name Parameter 2 | 3010403 |

*Notice: The number of inputs might be different for each type of ADIO module.*

**Table 5-89** FlexAir® thermal controller SNMP IDs (component type 3)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Fan 1 Replacement Date | 10 |
| Fan 2 Replacement Date | 11 |
| Fan 3 Replacement Date | 12 |
| Fan 4 Replacement Date | 13 |
| Fan 5 Replacement Date | 14 |
| Fan 6 Replacement Date | 15 |
| Fan 7 Replacement Date | 16 |
| Fan 8 Replacement Date | 17 |

**Table 5-90** Rectifier module SNMP IDs (component type 4)

| Field | SNMP ID |
|---|---|
| Rectifier Phase | 10 |

**Table 5-91** Alpha® T2S inverter controller module SNMP IDs (component type 8)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-92** Battery system SNMP IDs (component type 10)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Modbus Device ID | 3 |
| Number of Cells per String | 10 |
| Charging Threshold Override | 11 |
| Discharging Threshold Override | 12 |
| Hysteresis Override | 13 |

**Table 5-92**  Battery system SNMP IDs (component type 10) (continued)

| Field | SNMP ID |
|---|---|
| Equalize Duration | 14 |
| Equalize Voltage | 15 |
| Boost Duration | 16 |
| Boost Voltage | 17 |
| Battery Test Termination Voltage | 18 |
| Battery Test Timeout | 19 |
| Battery Test Termination on State of Charge Enable | 20 |
| Battery Test Termination State of Charge | 21 |
| Auto Battery Test Interval Between Tests | 22 |
| Auto Battery Test Start Hour | 23 |
| Auto Battery Test Days to Retry Failed Test | 24 |
| Remote Battery Test Enable | 25 |
| Temperature Compensation in Float Enable | 26 |
| Temperature Compensation in Equalize Enable | 27 |
| Temperature Compensation in Absorption Enable | 28 |
| Temperature Compensation Slope | 29 |
| Minimum Voltage Breakpoint | 30 |
| Maximum Voltage Breakpoint | 31 |
| Charge Current Control Enable | 32 |
| Charge Current Limit (C/X) | 33 |
| Battery Estimation Enable | 34 |
| Load Model | 35 |
| Elevated Absorption Charging Enable | 36 |
| Elevated Absorption Arming Threshold | 37 |
| Elevated Absorption Voltage | 38 |
| Elevated Absorption Termination Threshold | 39 |
| Elevated Absorption Timeout | 40 |

**Table 5-93**  Disconnect SNMP IDs (component type 11)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Disconnect Enable | 10 |
| Disconnect Threshold | 11 |
| Connect Threshold | 12 |
| Disconnect On Time after AC Fail | 13 |
| Time after AC Fail Disconnect Threshold | 14 |
| Disconnect on Battery State of Charge | 15 |
| State of Charge Disconnect Threshold | 16 |

**Table 5-94**  Load SNMP IDs (component type 12)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-95**  Shunt SNMP IDs (component type 13)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Range in Amps | 10 |
| Range in Millivolts | 11 |
| Offset | 12 |

**Table 5-96**  SNMP destination SNMP IDs (component type 14)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Destination Enable | 10 |
| IP Address | 11 |

**Table 5-96** SNMP destination SNMP IDs (component type 14) (continued)

| Field | SNMP ID |
|---|---|
| Community | 12 |
| Port | 13 |
| Notification Timeout | 14 |
| Notification Retries | 15 |
| Notification Resend Period | 16 |

**Table 5-97** CAN bus SNMP IDs (component type 15)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Bus Enable | 10 |

**Table 5-98** Converter system SNMP IDs (component type 16)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| System Number | 3 |
| System Serial Number | 4 |
| Assignment Rule | 10 |
| Converter Output Voltage | 11 |
| Converter Input Voltage Shutdown | 12 |
| Converter Input Voltage Restart | 13 |
| Converter Overvoltage Protection | 14 |
| Converter System Start Delay | 15 |
| Converter Current Limit Alert | 16 |

**Table 5-99** Digital user alarm SNMP IDs (component type 17)

| Field | SNMP ID |
|---|---|
| Name | 1 |

**Table 5-99**  Digital user alarm SNMP IDs (component type 17) (continued)

| Field | SNMP ID |
|---|---|
| Description | 2 |

**Table 5-100**  Threshold user alarm SNMP IDs (component type 18)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Alarm When Value | 10 |

**Table 5-101**  Inverter system SNMP IDs (component type 19)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| System Number | 3 |
| System Serial Number | 4 |
| System Modbus Device ID | 5 |
| Assignment Rule | 10 |
| Commissioning Method | 11 |
| Number of Shelves per Phase | 12 |
| Manual DC Mode Enable | 13 |
| Desired DC Input | 14 |
| AC Input Power Limit Enable | 15 |
| AC Input Power Limit | 16 |
| DC Input Voltage Low Limit | 17 |
| DC Input Voltage Restart Limit | 18 |
| Number of Slots per Shelf | 19 |

**Table 5-102**  Bypass switch SNMP IDs (component type 20)

| Field | SNMP ID |
|---|---|
| Name | 1 |

**Table 5-102**  Bypass switch SNMP IDs (component type 20) (continued)

| Field | SNMP ID |
|---|---|
| Description | 2 |

**Table 5-103**  Delay timer SNMP IDs (component type 21)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Delay | 10 |
| Auto Reset | 11 |
| Output True When | 12 |
| Retriggerable | 13 |

**Table 5-104**  Interval timer SNMP IDs (component type 22)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-105**  Up counter SNMP IDs (component type 23)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Terminal Value | 3 |
| Persist Counter Value Through Restart | 4 |

**Table 5-106**  Down counter SNMP IDs (component type 24)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Initial Value | 3 |
| Persist Counter Value Through Restart | 4 |

**Table 5-107** Custom data SNMP IDs (component type 25)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Equation | 10 |
| Text 1 Name | 100 |
| Text 1 Logic | 101 |
| Text 1 Limit | 102 |
| Text 2 Name | 110 |
| Text 2 Logic | 111 |
| Text 2 Limit | 112 |
| Text 3 Name | 120 |
| Text 3 Logic | 121 |
| Text 3 Limit | 122 |
| Text 4 Name | 130 |
| Text 4 Logic | 131 |
| Text 4 Limit | 132 |
| Text 5 Name | 140 |
| Text 5 Logic | 141 |
| Text 5 Limit | 142 |
| Text 6 Name | 150 |
| Text 6 Logic | 151 |
| Text 6 Limit | 152 |

**Table 5-108** Current transducer module SNMP IDs (component type 26)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Range in Amps | 10 |
| Range in Volts | 11 |
| Offset | 12 |

**Table 5-109**  Breaker or fuse SNMP IDs (component type 27)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Usage | 10 |
| Size | 11 |
| Wire Gauge | 12 |
| Destination | 13 |

**Table 5-110**  Email destination SNMP IDs (component type 29)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| From Address | 10 |
| To Address | 11 |
| Send Interval | 12 |

**Table 5-111**  Auxiliary system SNMP IDs (component type 30)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-112**  Line power system SNMP IDs (component type 31)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| System Number | 3 |
| System Serial Number | 4 |
| Assignment Rule | 10 |
| Input Voltage Low Shutdown | 11 |
| Input Voltage Low Restart | 12 |

**Table 5-112**  Line power system SNMP IDs (component type 31) (continued)

| Field | SNMP ID |
|---|---|
| Primary Output Display | 13 |
| Channel Shutdown Alarm Group Enable | 14 |
| Channel Shutdown Alarm Group Priority | 15 |
| Channel Shutdown Alarm Group Parameter 1 | 16 |
| Channel Shutdown Alarm Group Parameter 2 | 17 |
| Module Failure Alarm Group Enable | 18 |
| Module Failure Alarm Group Priority | 19 |
| Module Failure Alarm Group Parameter 1 | 20 |
| Module Failure Alarm Group Parameter 2 | 21 |

**Table 5-113**  Line power load SNMP IDs (component type 33)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Downstream Loads | 11 |

**Table 5-114**  Distribution system SNMP IDs (component type 34)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| System Number | 3 |
| System Serial Number | 4 |

**Table 5-115**  Distribution panel SNMP IDs (component type 35)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Fuse Number | 10 |
| Fuse Size | 11 |

**Table 5-115**   Distribution panel SNMP IDs (component type 35) (continued)

| Field | SNMP ID |
|---|---|
| Fuse Max. Amperage | 12 |

**Table 5-116**   Distribution subsystem SNMP IDs (component type 36)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Serial Number | 4 |

**Table 5-117**   Reference load SNMP IDs (component type 37)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-118**   Scheduled action SNMP IDs (component type 40)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-119**   Alpha$^{®}$ FXM HP UPS module SNMP IDs (component type 41)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| System Number | 3 |
| System Serial Number | 4 |
| Low Battery Threshold | 10 |
| Power Outage Alarm Delay | 11 |
| AC Input Qualification (Re-transfer) Time | 12 |
| AC Input Sense | 13 |
| Automatic Voltage Regulation | 14 |

**Table 5-119** Alpha® FXM HP UPS module SNMP IDs (component type 41) (continued)

| Field | SNMP ID |
| --- | --- |
| AVR Disabled AC Input High Limit | 15 |
| AVR Disabled AC Input Low Limit | 16 |
| System Float Voltage | 17 |
| Green (OK) LED | 18 |
| AC Output Shutdown Operation | 19 |
| AC Output Shutdown Auto On Delay | 20 |
| External Fan On Temperature | 21 |
| External Fan Off Hysteresis | 22 |
| AC Output Upper Disconnect Voltage | 23 |
| AC Output Lower Disconnect Voltage | 24 |
| Maximum Time On Inverter Enable | 25 |
| Maximum Time On Inverter | 26 |
| Inverter Shutdown Voltage | 27 |
| Inverter Manual Start Up Voltage | 28 |
| Keep Alive Enable | 29 |
| Keep Alive Startup Delay | 30 |
| Keep Alive Destination IP Address | 31 |
| Keep Alive Protocol Timeout | 32 |
| Keep Alive Protocol Interval | 33 |
| Keep Alive Maximum Protocol Retries | 34 |
| Keep Alive Action Duration | 35 |
| Keep Alive Maximum Action Retries | 36 |
| Keep Alive Failure Restart Delay | 37 |
| Keep Alive Protocol | 38 |
| Keep Alive Protocol TCP Port | 39 |
| Keep Alive Fail Action | 40 |
| Start Up Option after Triggered Shutdown | 41 |
| Auto Start Up Delay after Triggered Shutdown | 42 |

**Table 5-120**  Disconnect with time of day SNMP IDs (component type 42)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Disconnect Enable | 10 |
| Delay | 11 |

**Table 5-121**  Change relay SNMP IDs (component type 43)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-122**  Change field SNMP IDs (component type 44)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Field Value When Condition True | 10 |
| Field Value When Condition False | 11 |

**Table 5-123**  General purpose transducer module SNMP IDs (component type 48)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Minimum Input Voltage | 10 |
| Maximum Input Voltage | 11 |
| Minimum Output Voltage | 12 |
| Maximum Output Voltage | 13 |
| Output Offset | 14 |

**Table 5-124** Change field to variable SNMP IDs (component type 49)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Field Value Change Interval | 10 |

**Table 5-125** Battery string SNMP IDs (component type 50)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Capacity Rating | 10 |
| Open Circuit Voltage | 11 |
| Peukert Exponent | 12 |

**Table 5-126** Timing relay SNMP IDs (component type 51)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Relay Enable | 10 |
| Relay Activation Delay | 11 |

**Table 5-127** DC source system SNMP IDs (component type 52)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-128** Basic DC source SNMP IDs (component type 53)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-129** Legacy DC generator system SNMP IDs (component type 53)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Generator Control Enable | 10 |
| Start Voltage Threshold | 11 |
| Stop Voltage Threshold | 12 |
| Minimum Runtime | 13 |
| Maximum Runtime | 14 |
| Start Condition 1 Name | 20 |
| Start Condition 1 Enable | 21 |
| Start Condition 1 Logic | 22 |
| Start Condition 1 Limit | 23 |
| Stop Condition 1 Name | 30 |
| Stop Condition 1 Enable | 31 |
| Stop Condition 1 Logic | 32 |
| Stop Condition 1 Limit | 33 |
| Start Condition 2 Name | 40 |
| Start Condition 2 Enable | 41 |
| Start Condition 2 Logic | 42 |
| Start Condition 2 Limit | 43 |
| Stop Condition 2 Name | 50 |
| Stop Condition 2 Enable | 51 |
| Stop Condition 2 Logic | 52 |
| Stop Condition 2 Limit | 53 |
| Start Condition 3 Name | 60 |
| Start Condition 3 Enable | 61 |
| Start Condition 3 Logic | 62 |
| Start Condition 3 Limit | 63 |
| Stop Condition 3 Name | 70 |
| Stop Condition 3 Enable | 71 |

**Table 5-129**  Legacy DC generator system SNMP IDs (component type 53) (continued)

| Field | SNMP ID |
|---|---|
| Stop Condition 3 Logic | 72 |
| Stop Condition 3 Limit | 73 |

**Table 5-130**  Data subscription SNMP IDs (component type 54)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| IP Address | 10 |

**Table 5-131**  Generic disconnect SNMP IDs (component type 55)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Disconnect Enable | 10 |
| Voltage Disconnect Threshold | 11 |
| Voltage Connect Threshold | 12 |
| Allow Disconnect During Battery Test | 13 |
| Require AC Input for Reconnect | 14 |
| Required Time to Stay Disconnected | 15 |
| Disconnect Condition 1 Name | 20 |
| Disconnect Condition 1 Enable | 21 |
| Disconnect Condition 1 Logic | 22 |
| Disconnect Condition 1 Limit | 23 |
| Reconnect Condition 1 Name | 30 |
| Reconnect Condition 1 Enable | 31 |
| Reconnect Condition 1 Logic | 32 |
| Reconnect Condition 1 Limit | 33 |
| Disconnect Condition 2 Name | 40 |
| Disconnect Condition 2 Enable | 41 |

**Table 5-131** Generic disconnect SNMP IDs (component type 55) (continued)

| Field | SNMP ID |
|---|---|
| Disconnect Condition 2 Logic | 42 |
| Disconnect Condition 2 Limit | 43 |
| Reconnect Condition 2 Name | 50 |
| Reconnect Condition 2 Enable | 51 |
| Reconnect Condition 2 Logic | 52 |
| Reconnect Condition 2 Limit | 53 |
| Disconnect Condition 3 Name | 60 |
| Disconnect Condition 3 Enable | 61 |
| Disconnect Condition 3 Logic | 62 |
| Disconnect Condition 3 Limit | 63 |
| Reconnect Condition 3 Name | 70 |
| Reconnect Condition 3 Enable | 71 |
| Reconnect Condition 3 Logic | 72 |
| Reconnect Condition 3 Limit | 73 |

**Table 5-132** AC source system SNMP IDs (component type 56)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-133** AC source SNMP IDs (component type 57)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-134** Legacy AC generator system SNMP IDs (component type 57)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-134** Legacy AC generator system SNMP IDs (component type 57) (continued)

| Field | SNMP ID |
|---|---|
| Generator Control Enable | 10 |
| Start Voltage Threshold | 11 |
| Stop Voltage Threshold | 12 |
| Minimum Runtime | 13 |
| Maximum Runtime | 14 |
| Start Condition 1 Name | 20 |
| Start Condition 1 Enable | 21 |
| Start Condition 1 Logic | 22 |
| Start Condition 1 Limit | 23 |
| Stop Condition 1 Name | 30 |
| Stop Condition 1 Enable | 31 |
| Stop Condition 1 Logic | 32 |
| Stop Condition 1 Limit | 33 |
| Start Condition 2 Name | 40 |
| Start Condition 2 Enable | 41 |
| Start Condition 2 Logic | 42 |
| Start Condition 2 Limit | 43 |
| Stop Condition 2 Name | 50 |
| Stop Condition 2 Enable | 51 |
| Stop Condition 2 Logic | 52 |
| Stop Condition 2 Limit | 53 |
| Start Condition 3 Name | 60 |
| Start Condition 3 Enable | 61 |
| Start Condition 3 Logic | 62 |
| Start Condition 3 Limit | 63 |
| Stop Condition 3 Name | 70 |
| Stop Condition 3 Enable | 71 |
| Stop Condition 3 Logic | 72 |
| Stop Condition 3 Limit | 73 |

**Table 5-135** Scheduled time span SNMP IDs (component type 61)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Days to Run | 10 |
| Start Time | 11 |
| End Time | 12 |

**Table 5-136** Alpha$^{®}$ external maintenance bypass switch (XMBS) SNMP IDs (component type 62)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-137** Thermal system SNMP IDs (component type 67)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Thermal Controller Assignment Rule | 10 |
| Filter Replacement Date | 11 |
| Internal Temperature Name | 100 |
| External Temperature Name | 101 |
| System Temperature 1 Name | 102 |
| System Temperature 2 Name | 103 |
| System Temperature 3 Name | 104 |

**Table 5-138** Battery disconnect with latching contactor SNMP IDs (component type 68)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Disconnect Enable | 10 |

**Table 5-138**  Battery disconnect with latching contactor SNMP IDs (component type 68) (continued)

| Field | SNMP ID |
|---|---|
| Voltage Disconnect Threshold | 11 |
| Voltage Connect Threshold | 12 |

**Table 5-139**  Cordex® CXPS-HSS hyperboost system SNMP IDs (component type 70)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| System Number | 3 |
| System Serial Number | 4 |
| Converter Assignment Rule | 10 |
| Primary Output Display | 11 |
| Battery Overvoltage Protection Limit | 12 |
| Battery Safe Voltage | 13 |
| Battery Low Disconnect Voltage | 14 |
| Battery Fail Voltage | 15 |
| Battery Safe Charging Current | 16 |
| Load Bus Overvoltage Protection Limit | 17 |
| Load Bus Output Voltage | 18 |
| Load Bus Safety Startup Voltage | 19 |
| Load Bus Ramp Test | 20 |
| Battery Bus Float Voltage | 21 |
| Battery Bus Maximum Output Current | 22 |
| Battery Bus Reconnect Voltage | 23 |
| Load Bus Input Reconnect Voltage | 24 |
| Active Voltage Regulation Enable | 25 |
| Active Voltage Regulation Setpoint | 26 |

**Table 5-140** AC generator system SNMP IDs (component type 74)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Generator Control Enable | 10 |
| Minimum Runtime | 11 |
| Equation Stability Delay | 20 |
| Statistics Time Period | 30 |

**Table 5-141** DC generator system SNMP IDs (component type 75)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Generator Control | 10 |
| Minimum Runtime | 11 |
| Equation Stability Delay | 20 |
| Statistics Time Period | 30 |

**Table 5-142** Generator system start equation SNMP IDs (component type 76)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Equation | 10 |
| Start Logic | 20 |

**Table 5-143** Generator system stop equation SNMP IDs (component type 77)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Equation | 10 |
| Stop Logic | 20 |

**Table 5-144**  Generator system start/stop condition SNMP IDs (component type 78)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Enable | 10 |
| True If | 11 |
| Limit | 12 |

**Table 5-145**  Matrix™ distribution breaker panel SNMP IDs (component type 97)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Breaker A1 Name | 3 |
| Breaker A2 Name | 4 |
| Breaker A3 Name | 5 |
| Breaker A4 Name | 6 |
| Breaker A5 Name | 7 |
| Breaker A6 Name | 8 |
| Breaker A7 Name | 9 |
| Breaker A8 Name | 10 |
| Breaker B1 Name | 11 |
| Breaker B2 Name | 12 |
| Breaker B3 Name | 13 |
| Breaker B4 Name | 14 |
| Breaker B5 Name | 15 |
| Breaker B6 Name | 16 |
| Breaker B7 Name | 17 |
| Breaker B8 Name | 18 |

**Table 5-146**  Syslog destination SNMP IDs (component type 98)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Destination Enable | 10 |
| Server IP Address | 11 |
| Server Port | 12 |
| Server Transport Protocol | 13 |
| Server RFC Version | 14 |

**Table 5-147**  Environment manager system SNMP IDs (component type 99)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Modbus Device ID | 5 |
| Cooling Device Start Delay | 10 |
| Cooling Device Stability Delay | 11 |
| Fan Startup Min. Duration | 12 |
| Fan Startup Max. Duration | 13 |
| Air Conditioner Startup Min. Duration | 14 |
| Air Conditioner Startup Max. Duration | 15 |
| Air Conditioner Decompression Duration | 16 |
| Economy Temperature Threshold | 17 |
| Air Conditioner Temperature Threshold | 18 |
| Emergency Temperature Threshold | 19 |
| Emergency Temperature Min. Threshold | 20 |
| Staff Comfort Mode Duration | 21 |
| Staff Comfort Temperature Off Threshold | 22 |
| Staff Comfort Temperature On Threshold | 23 |
| Temperature Deviation Value | 24 |
| Purge Mode Voltage Trigger Threshold | 25 |

**Table 5-147** Environment manager system SNMP IDs (component type 99) (continued)

| Field | SNMP ID |
|---|---|
| Economy Cooling Fail Temperature Deviation | 26 |
| Main Fail Shutdown Duration | 27 |

**Table 5-148** Generic fan SNMP IDs (component type 100)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Turn on Temperature in Economy Cooling | 10 |
| Turn off Temperature in Economy Cooling | 11 |
| RPM Calculation Slope | 12 |
| RPM Calculation Offset | 13 |
| Fan Min. Running Speed | 14 |
| Fan Max. Display Speed | 15 |
| Energy per Pulse | 16 |
| Energy Consumption Voltage Threshold | 17 |
| Fan Minimum Display Speed | 18 |

**Table 5-149** Generic air conditioner unit SNMP IDs (component type 101)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Energy per Pulse | 16 |
| Voltage Threshold | 17 |

**Table 5-150** PowerSafe® iON lithium battery SNMP IDs (component type 102)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-151** PowerSafe® iON lithium battery system SNMP IDs (component type 103)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| System Modbus Device ID | 5 |
| Charging Threshold Override | 11 |
| Discharging Threshold Override | 12 |
| Hysteresis Override | 13 |
| Battery Discharge Timeout | 14 |
| Battery Discharge Termination Voltage | 15 |
| Battery Discharge Termination on State of Charge Enable | 16 |
| Battery Discharge Termination State of Charge | 17 |
| Battery Recharge Delay Timeout | 18 |
| Maximum Charging Current | 20 |
| Module Lockout Alarm Enable | 21 |
| Module Lockout Alarm Priority | 22 |
| Module Lockout Alarm Parameter 1 | 23 |
| Module Lockout Alarm Parameter 2 | 24 |
| Charge Blocked Alarm Enable | 25 |
| Charge Blocked Alarm Priority | 26 |
| Charge Blocked Alarm Parameter 1 | 27 |
| Charge Blocked Alarm Parameter 2 | 28 |
| Discharge Blocked Alarm Enable | 29 |
| Discharge Blocked Alarm Priority | 30 |
| Discharge Blocked Alarm Parameter 1 | 31 |
| Discharge Blocked Alarm Parameter 2 | 32 |
| Activate Load Shifting | 33 |
| Start State Of Charge | 34 |
| Minimum Backup State of Charge | 35 |
| Activate Shaving | 36 |
| DC Power Limit | 37 |

**Table 5-151** PowerSafe® iON lithium battery system SNMP IDs (component type 103) (continued)

| Field | SNMP ID |
|---|---|
| DC Power Hysteresis | 38 |
| Start State Of Charge | 39 |
| Minimum Backup State of Charge | 40 |

**Table 5-152** Website proxy SNMP IDs (component type 104)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Address | 3 |
| Username | 4 |

**Table 5-153** EnVision™ energy router SNMP IDs (component type 105)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| S1 Name | 100 |
| S1 Description | 114 |
| S1 Trip Current | 115 |
| S1 Wire Gauge | 118 |
| S1 Load Priority | 119 |
| S1 Scheduling Enabled | 120 |
| This pattern repeats for EnVision™ smart switch modules (SSM) S2 to S12 by adding 30 to these IDs for each smart switch module. | |

**Table 5-154** EnVision™ energy router distribution subsystem SNMP IDs (component type 106)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Serial Number | 3 |

**Table 5-154** EnVision™ energy router distribution subsystem SNMP IDs (component type 106) (continued)

| Field | SNMP ID |
|---|---|
| Input Feeder Fuse Rating | 4 |
| Smart Switch Module Tripped Alarm Processing | 10 |
| Smart Switch Module Tripped Priority | 11 |
| Smart Switch Module Tripped Parameter 1 | 12 |
| Smart Switch Module Tripped Custom Name Parameter 2 | 13 |
| Smart Switch Module Hardware Fault Alarm Processing Enable | 14 |
| Smart Switch Module Hardware Fault Alarm Processing Priority | 15 |
| Smart Switch Module Hardware Fault Alarm Processing Parameter 1 | 16 |
| Smart Switch Module Hardware Fault Alarm Processing Parameter 2 | 17 |
| Smart Switch Module Short Circuit Alarm Processing Enable | 18 |
| Smart Switch Module Short Circuit Alarm Processing Priority | 19 |
| Smart Switch Module Short Circuit Alarm Processing Parameter 1 | 20 |
| Smart Switch Module Short Circuit Alarm Processing Parameter 2 | 21 |
| Smart Switch Module Overtemperature Alarm Processing Enable | 22 |
| Smart Switch Module Over Temperature Alarm Processing Priority | 23 |
| Smart Switch Module Overtemperature Alarm Processing Parameter 1 | 24 |
| Smart Switch Module Overtemperature Alarm Processing Parameter 2 | 25 |
| Smart Switch Module High Utilization Alarm Processing Enable | 26 |
| Smart Switch Module High Utilization Alarm Processing Priority | 27 |
| Smart Switch Module High Utilization Alarm Processing Parameter 1 | 28 |
| Smart Switch Module High Utilization Alarm Processing Parameter 2 | 29 |
| Smart Switch Module Turned off Alarm Processing Enable | 30 |
| Smart Switch Module Turned off Alarm Processing Priority | 31 |
| Smart Switch Module Turned off Alarm Processing Parameter 1 | 32 |
| Smart Switch Module Turned off Alarm Processing Parameter 2 | 33 |
| Smart Switch Module Locked out Alarm Processing Enable | 34 |
| Smart Switch Module Locked out Alarm Processing Priority | 35 |
| Smart Switch Module Locked out Alarm Processing Parameter 1 | 36 |

**Table 5-154** EnVision™ energy router distribution subsystem SNMP IDs (component type 106) (continued)

| Field | SNMP ID |
|---|---|
| Smart Switch Module Locked out Alarm Processing Parameter 2 | 37 |
| Smart Switch Module Invalid Config. Alarm Processing Enable | 38 |
| Smart Switch Module Invalid Config. Alarm Processing Priority | 39 |
| Smart Switch Module Invalid Config. Alarm Processing Parameter 1 | 40 |
| Smart Switch Module Invalid Config. Group Parameter 2 | 41 |

**Table 5-155** Cordex® HP protocol bridge peripheral SNMP IDs (component type 107)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Modbus Function Code | 3 |
| Duplex Mode Selection | 4 |
| Baud Rate | 5 |
| Stop Bits | 6 |
| Parity | 7 |
| Battery Address Range 1 Low | 8 |
| Battery Address Range 1 High | 9 |
| Battery Address Range 2 Low | 10 |
| Battery Address Range 2 High | 11 |
| State of Charge Register Address | 12 |
| State of Charge Value Type | 13 |
| State of Charge Byte Swap | 14 |
| State of Charge Offset | 15 |
| State of Charge Scale Factor | 16 |
| State of Health Register Address | 17 |
| State of Health Value Type | 18 |
| State of Health Byte Swap | 19 |
| State of Health Offset | 20 |

**Table 5-155**  Cordex® HP protocol bridge peripheral SNMP IDs (component type 107) (continued)

| Field | SNMP ID |
|---|---|
| State of Health Scale Factor | 21 |
| Battery Current Register Address | 22 |
| Battery Current Value Type | 23 |
| Battery Current Byte Swap | 24 |
| Battery Current Offset | 25 |
| Battery Current Scale Factor | 26 |
| Temperature Register Address | 27 |
| Temperature Value Type | 28 |
| Temperature Byte Swap | 29 |
| Temperature Offset | 30 |
| Temperature Scale Factor | 31 |
| Cycle Count Register Address | 32 |
| Cycle Count Value Type | 33 |
| Cycle Count Byte Swap | 34 |
| Fully Charged Alerts Register 1 Address | 35 |
| Fully Charged Alerts Register 1 Mask | 36 |
| Charged Blocked Alerts Register 1 Address | 37 |
| Charged Blocked Alerts Register 1 Mask | 38 |
| Charged Blocked Alerts Register 2 Address | 39 |
| Charged Blocked Alerts Register 2 Mask | 40 |
| Failure Alerts Register 1 Address | 41 |
| Failure Alerts Register 1 Mask | 42 |
| Failure Alerts Register 2 Address | 43 |
| Failure Alerts Register 2 Mask | 44 |

**Table 5-156**  Third-party lithium-ion battery module SNMP IDs (component type 108)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |

**Table 5-157**  Third-party lithium-ion battery system SNMP IDs (component type 109)

| Field | SNMP ID |
|---|---|
| Name | 1 |
| Description | 2 |
| Modbus Device ID | 5 |
| Charging Threshold Override | 11 |
| Discharging Threshold Override | 12 |
| Hysteresis Override | 13 |
| Battery Discharge Timeout | 14 |
| Battery Discharge Termination Voltage | 15 |
| Battery Discharge Termination on SoC | 16 |
| Battery Discharge Termination SoC | 17 |
| Battery Recharge Delay Timeout | 18 |
| Total Battery Capacity | 19 |

**Table 5-158**  Bluetooth device SNMP IDs (component type 110)

| Field | SNMP ID |
|---|---|
| Battery Serial Number | 1 |
| Bay ID | 2 |
| Shelf ID | 3 |
| Slot ID | 4 |

## 5.6.5. Published SNMP Command fields

The fields listed here are write only and invoke an associated command when written a non zero value.

The tables provided here define the available commands per component.

**Table 5-159**  EnVision™ Elite controller SNMP commands (energy router)

| Field | SNMP ID |
|---|---|
| SSM 1 On | 0 |
| SSM 1 Off | 1 |
| SSM 2 On | 2 |

**Table 5-159** EnVision™ Elite controller SNMP commands (energy router) (continued)

| Field | SNMP ID |
|---|---|
| SSM 2 Off | 3 |
| This pattern repeats for EnVision™ smart switch modules (SSM) SSM 3 to SSM 12. | |

**Table 5-160** EnVision™ Elite controller SNMP commands (battery test)

| Field | SNMP ID |
|---|---|
| Battery Test Start | 1 |
| Battery Test Stop | 2 |

# 5.7. Differences between SNMP versions

### SNMPv1

SNMPv1 was the first development of the SNMP protocol supporting five core protocol data units (PDUs): GET request, SET request, GETNEXT request, RESPONSE, and TRAP. With limited security, SNMPv1 provides the basic form of communication over SNMP.

SNMPv1 use TRAPs as its form of notification to report activities occurring in the SNMP agent to any defined NMS. The SNMPv1 TRAPs are unsecured and limited in use, usually restricted to TRAPs like device start up, device shutdown, linkup, and linkdown.

A description can be found in Request for Comments 1157 (RFC 1157) document.

### SNMPv2

In addition to the protocol data units (PDUs) supported by SNMPv1, SNMPv2 supports two additional PDUs: GETBULK request and INFORM request.

A description can be found in RFC 1901.

Four variations of SNMPv2 were defined to handle different security:

- Original SNMPv2 (SNMPv2p)

- Community-based SNMPv2 (SNMPv2c)

- User-based SNMPv2 (SNMPv2u)

- SNMPv2 star (SNMPv2*)

The controller supports the community-based variation (SNMPv2c).

The word TRAP refers to SNMPv1 TRAPs, an unsolicited reporting protocol to report events occurring in the agent.

SMPV2 does not define the same set of TRAPs, like start up, and uses a new data format for reporting events. This new format is referred to as a NOTIFICATION.

INFORM type NOTIFICATIONs are supported in SNMPv2. INFORMS are acknowledged form of TRAPs providing a higher level of integrity to the reporting of an event.

The controller supports SNMPv2c NOTIFICATIONs and GET requests, which are compatible SNMPv1 GET requests as well as limited compatibility with SNMPv1 TRAPs.

RFC 1908 covers compatibility between SNMPv1 and SNMPv2.

The following table summarizes the difference between an SNMPv1 TRAP and an SNMPv2 NOTIFICATION.

**Table 5-161**  SNMPv1 traps versus SNMPv2 notification

| SNMPv1 trap | SNMPv2 notification |
|---|---|
| Contains the agent address. | Does not contain the agent address. |
| Has information about the specific TRAP and generic TRAP information. | Has the TRAP OID in the second VarBind. |
| Does not have an error index and status. | Has an error index and status. |
| Does not support acknowledged TRAPs. | Supports acknowledged NOTIFICATIONs. |

Another difference in an SNMPv1 NMS, is the way it performs a MIB WALK. When doing a WALK with an SNMPv1 NMS tool, it is necessary to filter out empty values that show up in a sparsely populated area of a MIB.

## SNMPv3

SNMPv3 was developed to significantly improve security. SNMPv3 includes a requirement to sign in or authenticate. The password of the user account admin or a security name is used as authentication key or encryption key to secure the SNMPv3 connection. In addition, authentication encryption protocol (MD5 or SHA) and privacy encryption protocol (DES or AES-128) are used to secure the authentication and data transfer. A description can be found in:

- RFC 3410 Introduction and Applicability Statements for Internet Standard Management Framework
- RFC 3411 An Architecture for Describing SNMP Management Frameworks
- RFC 3412 Message Processing and Dispatching
- RFC 3413 SNMP Applications
- RFC 3414 User-based Security Model
- RFC 3415 View-based Access Control Model

- RFC 3416 Version 2 of SNMP Protocol Operations
- RFC 3417 Transport Mappings.