

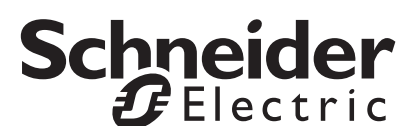
PowerNet Management Information Base (MIB) Reference Guide

Network Management Card 4 (NMC 4)

**Galaxy VS & Galaxy PX Firmware Version 6.x /
Galaxy VL Firmware Version 7.x**

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About This Guide

This introduction provides the following information to help you use this guide.

- **Guide Purpose**
- **Guide Structure**
- **Related Documents**

Guide Purpose

This guide describes how to use the PowerNet Management Information Base (MIB), version 4.3.7, to manage the Galaxy VS / PX / VL three-phase UPS devices via Simple Network Management Protocol (SNMP).

NOTE: This guide does not describe all of the OIDs in the MIB, only the OIDs supported by Galaxy VS / PX / VL devices.

Guide Structure

This guide's chapters describe how to use the PowerNet MIB:

- **Chapter 1: PowerNet MIB Structure** Provides an overview of the PowerNet MIB and its Object Identifications (OIDs).
- Chapter 2 through Chapter 4 describe how to use PowerNet MIB OIDs to manage specific products:
 - **Chapter 2: How to Manage Agents and Management Cards**
 - **Chapter 3: How to Monitor a UPS**
 - **Chapter 4: How to Monitor a Universal Input/Output Module**
- **Chapter 5: PowerNet MIB Traps** describes the PowerNet MIB traps.
- **Chapter 6: Additional OIDs** describes additional OIDs supported by Galaxy VS / PX / VL devices.

Related Documents

This guide describes how to use the PowerNet MIB only. For information about Galaxy VS / PX / VL devices, see the User Guide for that product. See your network management system (NMS) documentation for information about your NMS.

Chapter 1: PowerNet MIB Structure

This chapter categorizes the PowerNet MIB into its major OID and trap components as follows:

- **PowerNet MIB Traps**
- **PowerNet MIB OIDs**

PowerNet MIB Traps

The AP9644 Network Management Card 4 can send traps to an NMS when specific events occur. The NMS does not need the PowerNet MIB to receive the trap, but it does need the MIB to interpret the trap's meaning. Also, the trap receiver definitions that the device uses determine which NMSs can receive traps. For more information on traps, see **Chapter 5: PowerNet MIB Traps**.

PowerNet MIB OIDs

The PowerNet MIB OIDs allow an NMS to use its SNMP browser to monitor the AP9644 Network Management Card 4. The following sections further explain how to use OIDs:

- **SNMP Access Controls**
- **SNMP Browser Structure**
- **PowerNet MIB OIDs Structure**
- **Tabled OIDs**

SNMP Access Controls

The AP9644 Network Management Card 4 has a console program that you can use to define specific SNMP access values for up to four SNMP channels.

Action	Result
Disable SNMP access completely	Prevent SNMP access by any NMS.
Use an NMS IP Address as an SNMP channel value	Limit channel access to only the defined NMS.
Define a non-default password for an SNMP channel	Limit channel access to an NMS that knows the password.
Select the type of access used by an SNMP channel	Allow an NMS to have write access, read access, or no access.

For more information on SNMP access controls, see the Network Management Card User Interface (UI).

SNMP Browser Structure

The PowerNet MIB fits into a hierarchical structure within the SNMP browser's categories. For example, PowerNet MIB OIDs fit into the browser's structure, as follows:

- [iso] (for International Standards Organization) at the top
- [org] (for organization) under [iso]
- [dod] (for Department of Defense) under [org]
- [internet] under [dod]
- [private] under [internet]
- [enterprises] under [private]
- [apc] (for American Power Conversion) under [enterprises]

PowerNet MIB OIDs Structure

The PowerNet MIB OIDs also are categorized into a hierarchical structure, with [apc] at the top and individual OIDs under specific OID categories or within specific OID tables (See **Tabled OIDs**). For example, under [apc], the [products] category provides OIDs that you use to monitor specific products.

The [hardware] category under [products] provides OIDs that you use to monitor specific products.

[hardware]
This category contains sub-categories for each type of hardware product that you can monitor using PowerNet MIB OIDs. The following chapter describe how to use the OIDs in those sub-categories: <ul style="list-style-type: none">• For [ups], see Chapter 3: How to Monitor a UPS.

The [system] category provides read-only OIDs that identify models of UPS devices by unique numbers that other OIDs can reference. For example, the MIB-II system OIDs (listed under [internet], [mgmt], [mib-2], and [system]) use a PowerNet MIB [system] OID number for the MIB-II's [sysObjectID] value.

Tabled OIDs

For any PowerNet MIB OID category listed in the SNMP browser, you can access a list of the current values for all OIDs in that category and in all sub-categories below it in the hierarchy. For example, you can select [apc] to list the current values for all PowerNet MIB OIDs, or [ups] to list the current values for all PowerNet MIB UPS OIDs. (An OID table appears enclosed in braces { }.)

Chapter 2: How to Manage Agents and Management Cards

This chapter describes how to use PowerNet MIB OIDs to monitor the AP9644 Network Management Card 4, or to view software data for a PowerNet Agent. The network connection allows an NMS to use an SNMP browser and PowerNet MIB OIDs to monitor the UPS.

In addition to using SNMP to monitor a device connected to the network by a Management Card or PowerNet Agent, the NMS can also use PowerNet MIB OIDs to monitor software values for the PowerNet Agent.

OIDs	Tasks
[apcmgmt] OIDs	Monitor the internal SNMP Agent as a hardware device (See How to Manage the SNMP Agent as a Hardware Device).

How to Manage the SNMP Agent as a Hardware Device

When you select [apcmgmt] under [apc], the SNMP browser lists the [mconfig] category.

[mconfig]

The following table describes the [mconfig] OIDs, which set the date/time on the Network Management Card (AP9644).

[mconfigClock]

OID Name	OID Number	Information Reported
mconfigClockDate	1.3.6.1.4.1.3 18.2.1.6.1	The current date in the mm/dd/yyyy format. Example: 01/01/2000.
mconfigClockTime	1.3.6.1.4.1.3 18.2.1.6.2	The current time in the hh:mm:ss am/pm format. Example: 12:00:00 am.

Chapter 3: How to Monitor a UPS

This chapter describes how to use PowerNet MIB OIDs to monitor a Galaxy VS / PX / VL three-phase UPS through its AP9644 Network Management Card 4.

NOTE: The OID numbers provided in this topic are not the full OIDs as listed in the MIB. To get the full OID number for each OID listed, prepend the base OID (1.3.6.1.4.1.318) to the beginning of the OID. For example, the OID number provided for [upsBasicBatteryStatus] is 1.1.1.2.1.1 and its full OID number is 1.3.6.1.4.1.318.1.1.1.2.1.1

ThePowerNet MIB OIDs that you can use to monitor a UPS are in categories under the heading [ups]. To list the categories, perform the following steps:

1. Select [products] under [apc].
2. Select [hardware].
3. Select [ups].

OID Categories	Tasks
[upsIdent] [upsBattery] [upsInput] [upsOutput] [upsDiagnostics] [upsParallelSystem] [upsStatistics]	View information about the UPS and its overall operation (See How to Monitor a UPS).
[upsConfig]	View parameters that affect the overall operation of the UPS (See How to Check a UPS Configuration).
[upsTest]	View information on how the scheduling of UPS tests is configured (See How to Check a UPS Test Configuration).
[upsPhase]	View input and output phase information for 3-phase UPS devices (See How to Use OIDs for 3-Phase UPS Models).

How to Monitor a UPS

You use `GETs` (SNMP read commands) to read the OIDs to view information about the UPS.

Most PowerNet MIB categories have OIDs that you can use to view information about the operation of the UPS. These OIDs respond to `GETs`, but not to `SETs`: You can view (`GET`) information about UPS operation, but you cannot affect (`SET`) that operation.

OID Categories	Information Reported
[upsIdent]	The UPS identification parameters. See [upsIdent] UPS Identification OIDs .
[upsBattery]	The UPS battery status. See [upsBattery] UPS Battery OIDs .
[upsInput]	The voltage input to the UPS. See [upsInput] UPS Input OIDs .
[upsOutput]	The voltage output by the UPS. See [upsOutput] UPS Output OIDs .
[upsDiagnostics]	The UPS device's diagnostics. See [upsDiagnostics] UPS Diagnostics OIDs .
[upsParallelSystem]	The UPS parallel system. See [upsParallelSystem] UPS Parallel System OIDs .
[upsStatistics]	The UPS statistics. See [upsStatistics] UPS Statistics OIDs .

[upsIdent] UPS Identification OIDs

The [upsIdent] category has OIDs in two sub-categories, **[upsBasicIdent]** and **[upsAdvIdent]** that report UPS identification parameter values.

[upsBasicIdent]

OID Name	OID Number	Information Reported
upsBasicIdentModel	1.1.1.1.1.1	The UPS model name.
upsBasicIdentName	1.1.1.1.1.2	The 32-character name for the UPS.
upsBasicIdentFamilyName	1.1.1.1.1.3	The UPS model family name for the product.

[upsAdvIdent]

OID Name	OID Number	Information Reported
upsAdvIdentFirmwareRevision	1.1.1.1.2.1	The firmware revision of the UPS system's microprocessor.
upsAdvIdentDateOfManufacture	1.1.1.1.2.2	The date when the UPS was manufactured in mm/dd/yy (or yyyy) format.
upsAdvIdentSerialNumber	1.1.1.1.2.3	An 8-character string identifying the serial number of the UPS internal microprocessor. This number is set at the factory. NOTE: This number does NOT correspond to the serial number on the rear of the UPS.
upsAdvIdentSkuNumber	1.1.1.1.2.5	The SKU number of a UPS system.

OID Name	OID Number	Information Reported
upsAdvIdentHardwareRevision	1.1.1.1.2.6	The hardware revision of a UPS system.
upsAdvIdentUpsPhaseConfigType	1.1.1.1.2.7	The type definition, based on phase configuration: <ul style="list-style-type: none"> unknown (1): Unknown threePhaseInOut (2): 3 phase in/out onePhaseInOut (3): 1 phase in/out threePhaseInOneOut (4): 3 phase in/1 phase out
upsAdvEnergyStorageType	1.1.1.1.2.8	The energy storage type connected to the UPS. It states battery type and battery chemistry: <ul style="list-style-type: none"> unknown (1): Unknown vrlaOrWetCells (2): VRLA or wet cells niCdBatteries (3): NiCd batteries liIonBatteries (4): Lithium-ion batteries noEnergyStorage (5): No energy storage flywheel (6): Flywheel ultracaps (7): Ultracaps

[upsBattery] UPS Battery OIDs

The [upsBattery] category has OIDs in two sub-categories, [upsBasicBattery] and [upsAdvBattery] that provide UPS battery status information.

[upsBasicBattery]

OID Name	OID Number	Information Reported
upsBasicBatteryStatus	1.1.1.2.1.1	The status of the UPS batteries: <ul style="list-style-type: none"> unknown (1): The Management Card or PowerNet Agent cannot report the status. batteryNormal (2): Within normal operating parameters. batteryLow (3): Insufficient battery capacity to support the UPS equipment load. batteryInFaultCondition (4): The battery has an internal error condition.
upsBasicBatteryTimeOnBattery	1.1.1.2.1.2	The elapsed time since the UPS has switched to battery power.
upsBasicBatteryLastReplaceDate	1.1.1.2.1.3	The date when the UPS system's batteries were last replaced in mm/dd/yy or mm/dd/yyyy format.

[upsAdvBattery]

OID Name	OID Number	Information Reported
upsAdvBatteryCapacity	1.1.1.2.2.1	The remaining battery capacity expressed in percent of full capacity.
upsAdvBatteryTemperature	1.1.1.2.2.2	The current internal UPS temperature expressed in Celsius. Temperatures below zero read as 0.
upsAdvBatteryRunTimeRemaining	1.1.1.2.2.3	The UPS battery run time remaining before battery exhaustion.

OID Name	OID Number	Information Reported
upsAdvBatteryNominalVoltage	1.1.1.2.2.7	The nominal battery voltage in Volts.
upsAdvBatteryActualVoltage	1.1.1.2.2.8	The actual battery bus voltage in Volts.
upsAdvBatteryCurrent	1.1.1.2.2.9	The battery current in Amps.
upsAdvBatteryEstimatedChargeTime	1.1.1.2.2.15	The estimated remaining time required to charge the UPS to a full state of charge.
upsAdvBatteryPower	1.1.1.2.2.16	The measured battery power in kW.
upsAdvBatteryChargerStatus	1.1.1.2.2.17	The status of the battery charger. If the UPS is unable to find the state of charger, this variable is set to unknown(1). <ul style="list-style-type: none"> • unknown (1) • ok (2) • inFaultCondition (3) • floatCharging (4) • boostCharging (5) • resting (6) • notCharging (7) • equalizationCharging (8) • testInProgress (9) • cyclicFloatCharging (10)
upsAdvBatteryTotalCapacity	1.1.1.2.2.25	The actual available battery capacity of the system expressed in ampere hours (Ah). The value is updated continuously, for example when battery breakers are opened or closed, or when battery strings/battery blocks are added or removed.
upsAdvBatteryFuseStatus	1.1.1.2.2.26	If battery system has one common fuse for the battery system, the status is given by this value: <ul style="list-style-type: none"> • fuseOpen (1) • fuseOk (2) • notPresent (3)
upsAdvBatteryBreakerStatus	1.1.1.2.2.27	The value indicates the aggregated status of the battery breakers in the system. <ul style="list-style-type: none"> • disconnected(1): None of the battery breakers are closed, and the battery system is disconnected. • closed(2): At least one of the battery breakers in the system is closed • notPresent(3): Not present
upsAdvBatteryWiringConfiguration	1.1.1.2.2.28	The value indicates the wiring configuration, whether the battery is 2-wire or 3-wire. If it's a 3-wire battery system, the system can have 2 voltages and currents per cabinet. <ul style="list-style-type: none"> • twoWire (1): 2-wire (a non-split battery) • threeWire (2): 3-wire (a split battery)

[upsBatteryNumberOfCabinets] (1.1.1.2.4)

The value indicates the number of battery cabinets in total, internal and external. If the UPS only has internal batteries, that number should be 1. If the UPS has external and internal, the number is 1 + number of external cabinets.

[upsBatteryCabinetTable]

Table of battery cabinets.

OID Name	OID Number	Information Reported
{upsBatteryCabinetEntry}	1.1.1.2.5.1	An entry containing information applicable to a particular battery cabinet.
upsBatteryCabinetIndex	1.1.1.2.5.1.1	The Battery Cabinet identifier. Battery Cabinet Table Index.
upsBatteryCabinetLocalIndex	1.1.1.2.5.1.2	The identification number for the actual battery cabinet in the system. <ul style="list-style-type: none">• 0 corresponds to the internal batteries.• 1 and higher corresponds to external battery cabinets.
upsBatteryCabinetWiringConfiguration	1.1.1.2.5.1.3	The value indicates the wiring configuration, whether the battery is 2-wire or 3-wire. If it's a 3-wire battery system, the system can have two voltages and currents per cabinet. <ul style="list-style-type: none">• twoWire (1): 2-wire (a non-split battery)• threeWire (2): 3-wire (a split battery)
upsBatteryCabinetVoltagePolarity1	1.1.1.2.5.1.4	The battery voltage. For a non-split battery, it is the full voltage. For a split battery, the value is the voltage for one side/half of the battery.
upsBatteryCabinetVoltagePolarity2	1.1.1.2.5.1.5	The voltage for the second side/half of the battery in a split battery system. If it is not a split battery, this reports -1.
upsBatteryCabinetCurrentPolarity1	1.1.1.2.5.1.6	The battery current. For a non-split battery, it is the full current. For a split battery, the value is the current for one side/half of the battery.
upsBatteryCabinetCurrentPolarity2	1.1.1.2.5.1.7	The current for the second side/half of the battery in a split battery system. If it is not a split battery, this reports -1.
upsBatteryCabinetTemperature	1.1.1.2.5.1.8	The measured temperature of the battery cabinet in tenths of degrees Celsius.
upsBatteryCabinetMaxTemperature	1.1.1.2.5.1.9	The highest temperature measured for the battery in the battery cabinet in tenths of degrees Celsius. If there are multiple sensors in the battery cabinet, it is the selected highest actual value of measured temperatures. If there is battery string information, it is the highest actual battery string temperature value.
upsBatteryCabinetMinTemperature	1.1.1.2.5.1.10	The lowest temperature measured for the battery in the battery cabinet in tenths of degrees Celsius. If there are multiple sensors in the battery cabinet, it is the selected lowest actual value of measured temperatures. If there is string information, it is the lowest actual battery string temperature value.

OID Name	OID Number	Information Reported
upsBatteryCabinetAverageTemperature	1.1.1.2.5.1.11	The average temperature for all the battery sensors in the battery cabinet and for the battery strings, if battery strings are present. Measured in tenths of degrees Celsius.
upsBatteryCabinetFuse	1.1.1.2.5.1.12	If the battery cabinet has a common fuse, the status is given by this value: <ul style="list-style-type: none"> •fuseOpen (1) •fuseOk (2) •notPresent (3)
upsBatteryCabinetBreaker	1.1.1.2.5.1.13	The value indicates the battery cabinet breaker status. Reports 1 if no breaker is present. <ul style="list-style-type: none"> •noBreaker (1) •unknown (2) •breakerOpen (3) •breakerClosed (4)
upsBatteryCabinetNumberOfStrings	1.1.1.2.5.1.14	The number of battery strings in the battery cabinet. The value can be 0, meaning that no additional information on the battery string is available. 1 and higher means data in the table is provided.
upsBatteryCabinetNumberOfVerticalPositions	1.1.1.2.5.1.15	The number of vertical levels or shelves for battery blocks/modules. The levels are indexed from the bottom up.
upsBatteryCabinetNumberOfHorizontalPositions	1.1.1.2.5.1.16	The number of horizontal positions for battery blocks/modules. The levels are indexed from left to right

[upsBatteryCabStringTable]

Table of battery strings in the complete battery solution.

OID Name	OID Number	Information Reported
{upsBatteryCabStringEntry}	1.1.1.2.6.1	An entry containing information applicable to a particular battery string in the battery cabinet.
upsBatteryCabStringIndex	1.1.1.2.6.1.1	The battery cabinet string identifier. Battery cabinet string or halfstring table index.
upsBatteryCabStringCabReference	1.1.1.2.6.1.2	Reference to the global battery cabinet index where the battery string is placed.
upsBatteryCabStringLocalIndex	1.1.1.2.6.1.3	Local battery string identification index in the actual battery cabinet. For example: String 2 in cabinet.
upsBatteryCabStringCurrent	1.1.1.2.6.1.4	The current in a battery string or battery halfstring, in tenths of Amps.
upsBatteryCabStringAverageTemperature	1.1.1.2.6.1.5	Temperature of the battery string or the average of the aggregated temperature of each battery block/module (in tenths of degrees Celsius).
upsBatteryCabStringMaxTemperature	1.1.1.2.6.1.6	The actual highest battery temperature measurement for the battery blocks/modules (in tenths of degrees Celsius).

OID Name	OID Number	Information Reported
upsBatteryCabStringMinTemperature	1.1.1.2.6.1.7	The actual lowest battery temperature measurement for the battery blocks/modules (in tenths of degrees Celsius).
upsBatteryCabStringFuseStatus	1.1.1.2.6.1.8	If the battery string has a common fuse, the status is given by this value: <ul style="list-style-type: none"> •fuseOpen (1) •fuseOk (2) •notPresent (3)
upsBatteryCabStringNumberOfBlocks	1.1.1.2.6.1.9	The number of battery blocks/modules in a battery string. Can be 0, if no data is available in the table of individual battery blocks/cartridges.

[upsBatteryCabBlockTable]

Table of battery blocks/modules in the complete battery solution.

OID Name	OID Number	Information Reported
{upsBatteryCabBlockEntry}	1.1.1.2.7.1	An entry containing information applicable to a particular battery block in the battery cabinet.
upsBatteryCabBlockIndex	1.1.1.2.7.1.1	The battery cabinet block identifier. Global battery cabinet block table index.
upsBatteryCabBlockStringReference	1.1.1.2.7.1.2	Reference to the specific global battery string index.
upsBatteryCabBlockLocalIndex	1.1.1.2.7.1.3	Local battery block/module identification index in the actual battery string. For example: Battery block 3 in the battery string.
upsBatteryCabBlockPresent	1.1.1.2.7.1.4	Value indicates if battery block/module is present in the system. Typically battery modules are removable and battery blocks are static. Reports notAvailable (3) if data is not available. <ul style="list-style-type: none"> •present (1) •notPresent (2) •notAvailable (3)
upsBatteryCabBlockType	1.1.1.2.7.1.5	Text string value, showing the vendor and model of the battery in the battery block/module.
upsBatteryCabBlockTemperature	1.1.1.2.7.1.6	The temperature for the battery block/module in tenths of degrees Celsius. If multiple sensors are available it is the highest temperature in the battery block/module.
upsBatteryCabBlockFuseStatus	1.1.1.2.7.1.7	If the battery module has a fuse, the status is given by this value: <ul style="list-style-type: none"> •fuseOpen (1) •fuseOk (2) •notPresent (3)
upsBatteryCabBlockVoltage	1.1.1.2.7.1.8	The voltage of the battery block/module.
upsBatteryCabBlockNumberOfCells	1.1.1.2.7.1.9	The number of cells in the battery block/module.

OID Name	OID Number	Information Reported
upsBatteryCabBlockVerticalPosition	1.1.1.2.7.1.10	The vertical position of the battery block/module in the actual battery cabinet. For example: 4, if it is the 4th shelf counting from the bottom.
upsBatteryCabBlockHorizontalPosition	1.1.1.2.7.1.11	The horizontal position of the battery block/module in the actual battery cabinet. For example: 3, if it is the 3rd position counting from the left.

[upsInput] UPS Input OIDs

The **[upsInput]** category has read-only OIDs in **[upsAdvInput]** that provide information about the UPS input (utility line) voltage.

[upsAdvInput]

OID Name	OID Number	Information Reported
upsAdvInputFrequency	1.1.1.3.2.4	The current input frequency to the UPS system in Hz.
upsAdvInputTotalApparentPower	1.1.1.3.2.11	The input total apparent power (sum of all three phases) of the UPS system in kVA.
upsAdvInputTotalActivePower	1.1.1.3.2.12	The input total active power (sum of all three phases) of the UPS system in kW.
upsAdvInputBypassTotalApparentPower	1.1.1.3.2.13	The input bypass total apparent power (sum of all three phases) of the UPS system in kVA.
upsAdvInputBypassTotalActivePower	1.1.1.3.2.14	The input bypass total active power (sum of all three phases) of the UPS system in kW.

[upsOutput] UPS Output OIDs

The **[upsOutput]** category has read-only OIDs in two subcategories, **[upsBasicOutput]** and **[upsAdvOutput]**, that provide information about the UPS output voltage.

[upsBasicOutput]

OID Name	UPS Number	Information Reported
upsBasicOutputStatus	1.1.1.4.1.1	<p>The current state of the UPS. If the UPS is unable to determine the state of the UPS, this variable is set to unknown (1).</p> <p>The supported values are:</p> <ul style="list-style-type: none"> • unknown (1): The Management Card cannot determine the state of the UPS. • onLine (2): The UPS is using acceptable input voltage to provide output voltage. • onBattery (3): The UPS is using battery power to provide output voltage. • softwareBypass (6): The UPS was placed into bypass mode using SNMP, PowerChute plus or PowerNet Manager. • off (7): The UPS is turned off. • switchedBypass (9): The UPS was placed into bypass mode using the switch at the UPS. • hardwareFailureBypass (10): The UPS placed itself into bypass mode in response to a hardware problem. • ecoMode (13): The UPS is operating in Eco-mode. • onBatteryTest (15): The UPS is running a self-test. • emergencyStaticBypass (16): The UPS was placed into static bypass mode. • staticBypassStandby (17): The UPS is waiting to be placed into static bypass mode. • eConversion (20): The UPS is operating in EConversion mode. • chargerSpotmode (21): The UPS is running a charger power test (SPoT). • inverterSpotmode (22): The UPS is running an inverter power test (SPoT). • batteryDischargeSpotmode (24): The UPS is running a battery discharge power test (SPoT). • inverterStandby (25): The UPS is operating in standby mode. <p>NOTE: All other values are unsupported.</p>

OID Name	UPS Number	Information Reported
upsBasicSystemStatus	1.1.1.4.1.3	<p>Current state for the whole system (UPS and surrounding breakers). If the UPS is unable to determine the state of the system, this variable is set to unknown (1).</p> <ul style="list-style-type: none"> • unknown (1) • onLine (2) • onBattery (3) • onSmartBoost (4) • timedSleeping (5) • softwareBypass (6) • off (7) • rebooting (8) • switchedBypass (9) • hardwareFailureBypass (10) • sleepingUntilPowerReturn (11) • onSmartTrim (12) • ecoMode (13) • inverter (14) • eConversion (15) • staticBypassStandby (16) • efficiencyBoosterMode (17)

[upsAdvOutput]

OID Name	OID Number	Information Reported
upsAdvOutputFrequency	1.1.1.4.2.2	The current output frequency of the UPS system in Hz.
upsAdvOutputLoad	1.1.1.4.2.3	The current UPS load expressed in percent of rated capacity.
upsAdvOutputKVACapacity	1.1.1.4.2.6	The maximum load that this UPS can support. This value is dynamic for scalable 3-phase UPS devices where power modules can be added for increased capacity. The value indicates the actual available output capacity. For non-scalable 3-phase UPS devices the value is fixed to the UPS rating.
upsAdvOutputActivePower	1.1.1.4.2.8	The total output active power of the UPS system in W. The total active power is the sum of phase 1, phase 2 and phase 3 power.
upsAdvOutputApparentPower	1.1.1.4.2.9	The total output apparent power of all phases of the UPS system in VA.
{upsAdvOutputStatisticsTable}	1.1.1.4.2.10	A list of input table entries. The number of entries is given by the value of upsPhaseNumOutputs.
{upsAdvOutputStatisticsEntry}	1.1.1.4.2.10.1	An entry containing information applicable to a particular output.
upsAdvOutputStatisticsIndex	1.1.1.4.2.10.1.1	The output identifier.
upsAdvOutputPeakCurrent	1.1.1.4.2.10.1.2	The output peak current in Amperes. NOTE: This OID is not supported and returns -1.

OID Name	OID Number	Information Reported
upsAdvOutputCurrentTHD	1.1.1.4.2.10.1.3	The output current Total Harmonic Distortion in percent.
upsAdvOutputCrestFactor	1.1.1.4.2.10.1.4	The output current crest factor expressed in tenths.
upsAdvOutputNeutralCurrent	1.1.1.4.2.11	The neutral current in amperes.

[upsState] UPS State OIDs

The [upsState] category has OIDs in two sub-categories, [upsBasicState] and [upsAdvState] that report information about the UPS device's state.

[upsBasicState]

OID Name	OID Number	Information Reported
upsBasicStateAlarmStatus	1.1.1.11.1.2	<p>The alarm status of the Power Module:</p> <ul style="list-style-type: none"> • noAlarms (1): The device has no alarms present. • infoAlarm (2): The device has alarms and the highest severity of the alarms present is informational. • warningAlarm (3): The device has alarms and the highest severity of the alarms present is warning. • criticalAlarm (4): The device has alarms and the highest severity of the alarms present is critical.

[upsAdvState]

OID Name	OID Number	Information Reported
upsAdvStateAbnormalConditions	1.1.1.11.2.1	<p>An ASCII string containing the 32 flags representing the current active UPS faults. If the Network Card is unable to determine the values of the flags, this variable is set to 'UNKNOWN'.</p> <p>The flags are numbered from 1 to 32, and read from left to right. The flags are defined as follows:</p> <ul style="list-style-type: none"> • Flag 1: Power Module Failure • Flag 2: Main Intelligence Module Failure • Flag 3: Redundant Intelligence Module Failure • Flag 4: Battery Failure • Flag 5: Load(kVA) Alarm Threshold Violation • Flag 6: Redundancy Lost • Flag 7: Redundancy Below Alarm Threshold • Flag 8: Bypass not in Range; Either Frequency or Voltage • Flag 9: Bypass Contactor Stuck in Bypass Condition • Flag 10: Bypass Contactor Stuck in On-Line Condition • Flag 11: In Bypass due to an Internal Fault • Flag 12: In Bypass due to an Overload • Flag 13: In Maintenance Bypass • Flag 14: Input Circuit Breaker Tripped Open • Flag 15: System Level Fan Failure • Flag 16: Redundant Intelligent Module in Control • Flag 17: IIC Inter-Module Communication Failure • Flag 18: No Working Power Modules • Flag 19: Load Shutdown From Bypass; Input Frequency • Flag 20: Runtime Below Alarm Threshold • Flag 21: Extended Run Frame Fault • Flag 22: Output Voltage out of Range • Flag 23: UPS Not Synchronized • Flag 24: No Batteries Installed • Flag 25: Battery Voltage High • Flag 26: UPS Specific Fault Detected • Flag 27: Site Wiring Fault • Flag 28: Backfeed Protection Relay Opened • Flag 29: <Not Used> • Flag 30: <Not Used> • Flag 31: <Not Used> • Flag 32: <Not Used>

OID Name	OID Number	Information Reported
upsAdvStateLifeCycleManagement	1.1.1.11.2.14	<p>An ASCII string containing the 16 flags representing the life cycle management alerts for the device. If the Network Card is unable to determine the values of the flags, this variable is set to 'UNKNOWN'.</p> <p>The flags are numbered from 1 to 16, and read from left to right. The bits are defined as follows:</p> <ul style="list-style-type: none"> • Flag 1: End of Warranty Soon • Flag 2: Battery Check Recommended • Flag 3: Service Period On Wearing Parts Expired • Flag 4: Secure Start-up Recommended • Flag 5: Fan Life Expired • Flag 6: DC Capacitor Life Expired • Flag 7: AC Capacitor Life Expired • Flag 8: Supply Service Life Expired • Flag 9: UPS Out Of Limits Warning • Flag 10: Air Filter Life Expired • Flag 11: <Not Used> • Flag 12: <Not Used> • Flag 13: <Not Used> • Flag 14: <Not Used> • Flag 15: <Not Used> • Flag 16: <Not Used>

OID Name	OID Number	Information Reported
upsAdvStateGalaxyVseriesSpecificFault	1.1.1.11.2.15	<p>An ASCII string containing 32 flags representing current active faults on a Galaxy V series UPS. The upsAdvStateAbnormalConditions OID shall be used to report active faults as per its description. Additional fault information shall be provided through the upsAdvStateGalaxyVseriesSpecificFault OID. If the Network Card is unable to determine the values of the flags, this variable is set to "UNKNOWN".</p> <p>The flags are numbered from 1 to 32, and read from left to right. The flags are defined as follows:</p> <ul style="list-style-type: none"> • Flag 1: Input voltage is out of tolerance • Flag 2: Input frequency is out of tolerance • Flag 3: External sync frequency is out of tolerance • Flag 4: Output frequency is out of tolerance • Flag 5: The static bypass switch needs a technical check but is still fully operational • Flag 6: Static bypass switch is inoperable. UPS is prevented from going into static bypass operation • Flag 7: PBUS cable 1 may be damaged • Flag 8: PBUS cable 2 may be damaged • Flag 9: The parallel system is not configured correctly or is not working correctly • Flag 10: The UC in the controller box is not working correctly • Flag 11: Power module surveillance detected a fault • Flag 12: The SLC in the controller box is not working correctly • Flag 13: No SBS present • Flag 14: No power module(s) present • Flag 15: Controller box disabled • Flag 16: Display communication lost - disconnected • Flag 17: The energy storage surveillance has detected a battery temperature above shutdown limit • Flag 18: Modular battery cabinet fuse blown • Flag 19: Battery module temperature sensor not working correctly • Flag 20: The energy storage surveillance has detected a battery discharge current above shutdown limit • Flag 21: Ground fault detected • Flag 22: External energy storage monitoring: Minor alarm • Flag 23: External energy storage monitoring: Major alarm • Flag 24: Temperature of input and/or output transformer is too high

OID Name	OID Number	Information Reported
		<ul style="list-style-type: none"> • Flag 25: Parallel breaker status inconsistency detected • Flag 26: UC communication lost - disconnected • Flag 27: PMC communication lost - disconnected • Flag 28: NMC communication lost - disconnected • Flag 29: BMC communication lost - disconnected • Flag 30: <Reserved> • Flag 31: <Reserved> • Flag 32: <Reserved>

[upsDiagnostics] UPS Diagnostics OIDs

The [upsDiagnostics] category has OIDs in six sub-categories, [upsDiagnosticPowerModules], [upsDiagnosticSubsystem], [upsDiagnosticExternalDevices], [upsDiagnosticDisplay], [upsDiagnosticUnitController], and [upsDiagnosticSLC] that report information about the UPS device's diagnostics.

[upsDiagnosticPowerModules]

OID Name	OID Number	Information Reported
upsDiagPMTableSize	1.1.1.13.2.1	The maximum number of Power Modules supported by the UPS.
{upsDiagPMTable}	1.1.1.13.2.2	Allows for diagnostics of Individual Power modules. The number of entries is contained in the upsDiagPMTableSize OID.
{upsDiagPMEntry}	1.1.1.13.2.2.1	The diagnostics of a Power Module.
upsDiagPMIndex	1.1.1.13.2.2.1.1	The index to the Power Module entry.
upsDiagPMStatus	1.1.1.13.2.2.1.2	<p>The status of the Power Module:</p> <ul style="list-style-type: none"> • unknown (1): The device status is unknown. • notInstalled (2): The device is not installed. • offOk (3): The device status is off and OK. • onOk (4): The device status is on and OK. • offFail (5): The device status is off and failed. • onFail (6): The device status is on and failed. • lostComm (7): The device has lost communication.
upsDiagPMFirmwareRev	1.1.1.13.2.2.1.3	The firmware revision of the Power Module.
upsDiagPMHardwareRev	1.1.1.13.2.2.1.4	The hardware revision of the Power Module.
upsDiagPMSerialNum	1.1.1.13.2.2.1.5	The serial number of the Power Module.
upsDiagPMModelNum	1.1.1.13.2.2.1.7	The model number of the Power Module.

OID Name	OID Number	Information Reported
upsDiagPMTableSize	1.1.1.13.2.1	The maximum number of Power Modules supported by the UPS.
{upsDiagPMLifetimeInfoTable}	1.1.1.13.2.3	Allows for diagnostics of individual power module's lifetime information. The number of entries is contained in the upsDiagPMTableSize OID.
{upsDiagPMLifetimeInfoEntry}	1.1.1.13.2.3.1	The diagnostics of a Power Module lifetime information.
upsDiagPMLifetimeInfoIndex	1.1.1.13.2.3.1.1	The index to the Power Module lifetime information entry.
upsDiagPMLifetimeStatus	1.1.1.13.2.3.1.2	The status of the Power Module lifetime information: <ul style="list-style-type: none"> • ok(1): The device lifetime status is OK. • nearEnd(2): The device lifetime status is near end. • exceeded(3): The device lifetime status is exceeded. • unknown(4): The device lifetime status is unknown. <p>NOTE: This OID is unsupported and returns unknown.</p>
upsDiagPMFanLifetimeStatus	1.1.1.13.2.3.1.5	The status of the Power Module Fan lifetime information: <ul style="list-style-type: none"> • ok(1): The device lifetime status is OK. • nearEnd(2): The device lifetime status is near end. • exceeded(3): The device lifetime status is exceeded. • unknown(4): The device lifetime status is unknown.
upsDiagPMFanEstmtdLifetimeRmng	1.1.1.13.2.3.1.6	Displays the time remaining, measured in months, before the module's fan should be replaced. It is reset by the field service engineer when a new fan is installed.
upsDiagPMFanEstmtdLifetimeRmngPct	1.1.1.13.2.3.1.7	Displays the percentage of the total lifetime remaining before the module's fan should be replaced.

[upsDiagnosticSubsystem]

OID Name	OID Number	Information Reported
upsDiagSubSysIntBypSwitchTableSize	1.1.1.13.4.3	The number of Internal Bypass switches attached to the UPS.
{upsDiagSubSysIntBypSwitchTable}	1.1.1.13.4.4	Allows for diagnostics of the Internal Bypass Switch. The number of entries is contained in the upsDiagSubSysFrameTableSize OID.
{upsDiagSubSysIntBypSwitchEntry}	1.1.1.13.4.4.1	The diagnostics of the Internal Bypass Switch.

OID Name	OID Number	Information Reported
upsDiagSubSysIntBypSwitchFrameIndex	1.1.1.13.4.4.1.1	The frame index entry.
upsDiagSubSysIntBypSwitchStatus	1.1.1.13.4.4.1.3	The Internal Bypass Switch status: <ul style="list-style-type: none"> unknown(1): The device status is unknown. notInstalled(2): The device is not installed. offOk(3): The device status is off and OK. onOk(4): The device status is on and OK. offFail(5): The device status is off and failed. onFail(6): The device status is on and failed. lostComm(7): The device has lost communication.
upsDiagSubSysIntBypSwitchFirmwareRev	1.1.1.13.4.4.1.4	The firmware revision of the Internal Bypass Switch.
upsDiagSubSysIntBypSwitchHardwareRev	1.1.1.13.4.4.1.5	The hardware revision of the Internal Bypass Switch.
upsDiagSubSysIntBypSwitchSerialNum	1.1.1.13.4.4.1.6	The serial number of the Internal Bypass Switch.
upsDiagSubSysIntBypSwitchModelNum	1.1.1.13.4.4.1.8	The model number of the Internal Bypass Switch.
upsDiagSubSysDCCircuitBreakerTableSize	1.1.1.13.4.11	The number of DC Circuit Breakers attached to the UPS.
{upsDiagSubSysDCCircuitBreakerTable}	1.1.1.13.4.12	Allows for diagnostics of individual DC Circuit Breakers. The number of entries is contained in the upsDiagSubSysDCCircuitBreakerTableSize OID.
{upsDiagSubSysDCCircuitBreakerEntry}	1.1.1.13.4.12.1	The diagnostics of a DC Circuit Breaker.
upsDiagSubSysDCCircuitBreakerFrameIndex	1.1.1.13.4.12.1.1	The frame index entry.
upsDiagSubSysDCCircuitBreakerIndex	1.1.1.13.4.12.1.2	The index of the DC Circuit Breaker.
upsDiagSubSysDCCircuitBreakerStatus	1.1.1.13.4.12.1.3	The status of the DC Circuit Breaker. <ul style="list-style-type: none"> unknown(1): The circuit breaker status is unknown. notInstalled(2): The circuit breaker is not installed. opened(3): The circuit breaker is opened. closed(4): The circuit breaker is closed.
upsDiagSubSysUsrSuppBattBreakerStatus	1.1.1.13.4.29	The status of the user supplied Battery Breaker: <ul style="list-style-type: none"> unknown(1): The circuit breaker status is unknown. notInstalled(2): The circuit breaker is not installed. opened(3): The circuit breaker is opened. closed(4): The circuit breaker is closed.

OID Name	OID Number	Information Reported
upsDiagSubSysIntBypSwitchFanLifetimeInfoTableSize	1.1.1.13.4.37	The number of entries in the bypass switch fan lifetime table
{upsDiagSubSysIntBypSwitchFanLifetimeInfoTable}	1.1.1.13.4.38	Allows for diagnostics of the Internal Bypass Switch lifetime information. The number of entries is contained in the upsDiagSubSysIntBypSwitchFanLifetimeInfoTableSize OID.
{upsDiagSubSysIntBypSwitchFanLifetimeInfoEntry}	1.1.1.13.4.38.1	The diagnostics of the Internal Bypass Switch.
upsDiagSubSysIntBypSwitchFanLifetimeInfoIndex	1.1.1.13.4.38.1.1	The index to the Internal Bypass Switch Fan lifetime information entry.
upsDiagSubSysIntBypSwitchFanLifetimeStatus	1.1.1.13.4.38.1.2	The status of the Internal Bypass Switch Fan lifetime information: <ul style="list-style-type: none"> • ok (1): The device lifetime status is okay. • nearEnd (2): The device lifetime status is near end. • exceeded (3): The device lifetime status is exceeded. • unknown (4): The device lifetime status is unknown.
upsDiagSubSysIntBypSwitchFanEstmtdLifetimeRmng	1.1.1.13.4.38.1.3	Displays the time remaining for the module before it should be replaced. Measured in months. This value is set when you originally install the module.
upsDiagSubSysIntBypSwitchFanEstmtdLifetimeRmngPct	1.1.1.13.4.38.1.4	Displays the percentage of the total lifetime remaining for the module before it should be replaced.

[upsDiagnosticExternalDevices]

[upsDiagSwitchGear]

OID Name	OID Number	Information Reported
upsDiagSwitchGearBreakerTableSize	1.1.1.13.5.1.6	The number of switchgear breakers attached to the UPS.
{upsDiagSwitchGearBreakerTable}	1.1.1.13.5.1.7	Switchgear breaker table. The number of entries is contained in the upsDiagSwitchGearBreakerTableSize OID.
{upsDiagSwitchGearBreakerEntry}	1.1.1.13.5.1.7.1	A list of switchgear breakers.
switchgearBreakerIndex	1.1.1.13.5.1.7.1.1	The index of the switchgear breaker.
switchgearBreakerPresent	1.1.1.13.5.1.7.1.2	Indicates if the switchgear breaker is present: <ul style="list-style-type: none"> • notPresent (1): The breaker is not present. • present (2): The breaker is present.

OID Name	OID Number	Information Reported
switchgearBreakerName	1.1.1.13.5. 1.7.1.3	The name of the switchgear breaker.
switchgearBreakerType	1.1.1.13.5. 1.7.1.4	Indicates the switchgear breaker types available in the UPS system. If the UPS is unable to find any attached breakers, this variable is set to unknown (1). If the system has multiple breakers of the same type (e.g. multiple battery breakers) the status shown in OID switchgearBreakerStatus will be the aggregated status. <ul style="list-style-type: none"> • unknown (1) • unitInputBreaker (2) • staticSwitchInputBreaker (3) • maintenanceBypassBreaker (4) • unitOutputBreaker (5) • systemIsolationBreaker (6) • batteryBreaker (7) • bypassBackFeedBreaker (8) • internalMaintenanceBypassBreaker (9) • redundantInternalMaintenanceBypassBreaker (10)
switchgearBreakerStatus	1.1.1.13.5. 1.7.1.5	The status of switchgear breaker: <ul style="list-style-type: none"> • unknown (1): The breaker status is unknown. • opened (2): The breaker is open. • closed (3): The breaker is closed. <p>NOTE: If there are more than one breaker of the same type, the status reflects the aggregated value. For battery breakers as example, closed would mean that at least one breaker is closed.</p>

[upsDiagnosticDisplay]

OID Name	OID Number	Information Reported
upsDiagnosticDisplayHardwareRev	1.1.1.13.8.1	The hardware revision of the Display.
upsDiagnosticDisplaySerialNum	1.1.1.13.8.2	The serial number of the Display.
upsDiagnosticDisplayFirmwareRev	1.1.1.13.8.3	The firmware revision of the Display.
upsDiagnosticDisplayModelNum	1.1.1.13.8.4	The model number of the Display.

OID Name	OID Number	Information Reported
upsDiagnosticDisplayStatus	1.1.1.13.8.5	The System Level Controller status: <ul style="list-style-type: none"> • unknown (1): The device status is unknown. • notInstalled (2): The device is not installed. • offOk (3): The device status is off and OK. • onOk (4): The device status is on and OK. • offFail (5): The device status is off and failed. • onFail (6): The device status is on and failed. • lostComm (7): The device has lost communication.

[upsDiagnosticUnitController]

OID Name	OID Number	Information Reported
upsDiagUnitControllerTableSize	1.1.1.13.9.1	The number of Unit Controllers in or attached to the UPS.
{upsDiagUnitControllerTable}	1.1.1.13.9.2	Allows for diagnostics of individual Intelligence Modules. The number of entries is contained in the upsDiagUnitControllerTableSize OID.
{upsDiagUnitControllerEntry}	1.1.1.13.9.2.1	The diagnostics and information of an Intelligence Module.
upsDiagUnitControllerStatus	1.1.1.13.9.2.1.2	The status of the Unit Controller: <ul style="list-style-type: none"> • unknown (1): The device status is unknown. • notInstalled (2): The device is not installed. • offOk (3): The device status is off and OK. • onOk (4): The device status is on and OK. • offFail (5): The device status is off and failed. • onFail (6): The device status is on and failed. • lostComm (7): The device has lost communication.
upsDiagUnitControllerFirmwareRev	1.1.1.13.9.2.1.3	The firmware revision of the Unit Controller.
upsDiagUnitControllerHardwareRev	1.1.1.13.9.2.1.4	The hardware revision of the Unit Controller.
upsDiagUnitControllerSerialNum	1.1.1.13.9.2.1.5	The serial number of the Unit Controller.
upsDiagUnitControllerModelNum	1.1.1.13.9.2.1.6	The model number of the Unit Controller.

[upsDiagnosticSLC]

OID Name	OID Number	Information Reported
upsDiagnosticSLCHardwareRev	1.1.1.13.10.1	The hardware revision of the System Level Controller.
upsDiagnosticSLCSerialNum	1.1.1.13.10.2	The serial number of the System Level Controller.

OID Name	OID Number	Information Reported
upsDiagnosticSLCFirmwareRev	1.1.1.13.10.3	The firmware revision of the System Level Controller.
upsDiagnosticSLCModelNumber	1.1.1.13.10.4	The model number of the System Level Controller.
upsDiagSLCStatus	1.1.1.13.10.5	The System Level Controller Status. This returns onOK (4).

[upsDiagnosticTemperature]

OID Name	OID Number	Information Reported
upsDiagnosticTemperatureAmbientTemperature	1.1.1.13.11.1	The ambient temperature in tenths of degrees Celsius. If not available, this variable is set to (-1999).

[upsParallelSystem] UPS Parallel System OIDs

The [upsParallelSystem] category has read-only OIDs that provide information about a parallel UPS system.

OID Name	OID Number	Information Reported
upsParallelSysLocalAddress	1.1.1.14.1	Defines the UPS ID number in the parallel system.
upsParallelSysRemoteAddress	1.1.1.14.2	Defines the total number of UPS devices in parallel.
upsParallelSysRedundancy	1.1.1.14.3	The redundancy warning level for paralleled UPS: <ul style="list-style-type: none"> • nplus0 (1): There are no redundant units. • nplus1 (2): There is one redundant unit. • nplus2 (3): There are two redundant units. • nplus3 (4): There are three redundant units. • nplus4 (5): There are four redundant unit. • nplus5 (6): There are five redundant units.
upsParallelTotalOutputPower	1.1.1.14.5	The Total Output power of UPS in kW when UPS are configured in parallel.
upsParallelTotalOutputApparentPower	1.1.1.14.6	The Total Output Apparent power of UPS in kVA when UPS are configured in parallel.
{upsParallelOutputPhaseTable}	1.1.1.14.8	A list of output table entries. The number of entries is given by the sum of the upsPhaseNumOutputPhases.
{upsParallelOutputPhaseEntry}	1.1.1.14.8.1	An entry containing information applicable to a particular output phase.
upsParallelOutputPhaseTableIndex	1.1.1.14.8.1.1	The output identifier.
upsParallelOutputPhaseIndex	1.1.1.14.8.1.2	The output phase identifier.

OID Name	OID Number	Information Reported
upsParallelOutputCurrent	1.1.1.14.8.1.3	The output current in amperes drawn by the load on the UPS. NOTE: This OID is unsupported and returns -1.
upsParallelOutputLoad	1.1.1.14.8.1.4	The output load in VA. NOTE: This OID is not supported and returns -1.
upsParallelOutputPercentLoad	1.1.1.14.8.1.5	The percentage of the UPS load capacity in VA at present redundancy being used on this output phase. NOTE: This OID is not supported and returns -1.
upsParallelOutputPower	1.1.1.14.8.1.6	The output power in Watts. NOTE: This OID is not supported and returns -1.
upsParallelOutputTotalPercentLoad	1.1.1.14.11	The percentage of the UPS total load in parallel system.
upsParallelSysRedundancyStatus	1.1.1.14.14	Displays the number of backup or redundant UPS devices set up on the parallel system: <ul style="list-style-type: none"> nplus0 (1): No redundant units. nplus1 (2): One redundant unit. nplus2 (3): Two redundant units. nplus3 (4): Three redundant units. nplus4 (5): Four redundant units. nplus5 (6): Five redundant units.
upsParallelSysUpsTableSize	1.1.1.14.16	The number of UPS devices in parallel.
{upsParallelSysUpsTable}	1.1.1.14.17	A list of UPS table entries. The number of entries is given by the value of upsParallelSysUpsTableSize.
{upsParallelSysUpsEntry}	1.1.1.14.17.1	An entry containing information applicable to a particular UPS in parallel.
upsParallelSysUpsIndex	1.1.1.14.17.1.1	The index to the Parallel System UPS table entry.
upsParallelSysUpsName	1.1.1.14.17.1.2	The UPS ID as assigned by the system. NOTE: This OID is unsupported and returns an empty string.
upsParallelSysUpsAlarmStatus	1.1.1.14.17.1.3	The alarm status of the UPS: <ul style="list-style-type: none"> unknown (1): The UPS status is unknown. normal (2): The UPS is functioning normally. informational (3): There is an informational alarm present in the UPS. warning (4): There is a warning alarm present in the UPS. critical (5): There is a critical alarm present in the UPS.

OID Name	OID Number	Information Reported
upsParallelSysUpsMode	1.1.1.14.17 .1.4	The current operating mode of the UPS. If the UPS is unable to determine the state of the UPS, this variable is set to unknown (1). <ul style="list-style-type: none"> • unknown (1) • onLine (2) • onBattery (3) • onBatteryTest (4) • requestedStaticBypass (5) • forcedBypass (6) • maintenanceBypass (7) • off (8) • ecoMode (9) • hotStandby (10) • inquiring (11) • econversionMode (12) • spotMode (13)
upsParallelSysUpsSerialNumber	1.1.1.14.17 .1.5	The Serial number of the UPS in parallel. Equivalent to upsAdvIdentSerialNumber.
upsParallelMinNumOfRequiredUps	1.1.1.14.19	Minimal number of UPS required to guarantee the availability of power.

[upsStatistics] UPS Statistics OIDs

The [upsStatistics] category has OIDs in three sub-categories, **[upsBatteryStats]**, **[upsOperationalStats]** and **[upsEnergyEfficiencyStats]** that report information about the UPS device's battery, operational, and energy efficiency statistics.

[upsBatteryStats]

OID Name	OID Number	Information Reported
upsBatteryStatsReset	1.1.1.22.1.1	Getting this OID will return notSupported(1): Reset feature is not supported.
upsBatteryStatsTimeSinceReset	1.1.1.22.1.2	Time since battery timer reset (in minutes).
upsBatteryStatsTimeOnBattery	1.1.1.22.1.3	Total time for UPS in battery operation (in minutes).

[upsOperationalStats]

OID Name	OID Number	Information Reported
upsOpStatsReset	1.1.1.22.2.1	Getting this OID will return notSupported(1): Reset feature is not supported.
upsOpStatsTimeSinceReset	1.1.1.22.2.2	Time since timer reset (in minutes).
upsOpStatsTimeInNormalOperation	1.1.1.22.2.3	Total time for UPS in normal operation since timer reset via upsOpStatsReset (in minutes).
upsOpStatsTimeInBypassOperation	1.1.1.22.2.4	Total time for UPS in bypass operation since timer reset via upsOpStatsReset (in minutes).

OID Name	OID Number	Information Reported
upsOpStatsTimeInECOmodeOperation	1.1.1.22.2.5	Total time for UPS in ECO mode since timer reset via upsOpStatsReset (in minutes). NOTE: This OID is unsupported and returns -1.
upsOpStatsTimeInECONversionOperation	1.1.1.22.2.6	Total time for UPS in EConversion since timer reset via upsOpStatsReset (in minutes).

[upsEnergyEfficiencyStats]

OID Name	OID Number	Information Reported
upsEnergyEfficiencyStatsReset	1.1.1.22.3.1	Getting this OID will return notSupported(1): Reset feature is not supported.
upsEnergyEfficiencyStatsOutputEnergyTimeSinceReset	1.1.1.22.3.2	Time (in minutes) since last timer reset of the OID upsEnergyEfficiencyStatsOutputEnergyUsage.
upsEnergyEfficiencyStatsTimeInECOmode	1.1.1.22.3.3	Total time (in minutes) for UPS in ECO mode since last timer reset via upsEnergyEfficiencyStatsReset. NOTE: This OID is unsupported and returns -1.
upsEnergyEfficiencyStatsTimeInECONversion	1.1.1.22.3.4	Total time (in minutes) for UPS in EConversion since last timer reset via upsEnergyEfficiencyStatsReset. NOTE: This OID is unsupported and returns -1.
upsEnergyEfficiencyStatsInputEnergyUsage	1.1.1.22.3.5	The input energy usage of the UPS in kWh since timer reset.
upsEnergyEfficiencyStatsOutputEnergyUsage	1.1.1.22.3.6	The output energy usage of the UPS in kWh since timer reset.
upsEnergyEfficiencyStatsInputEnergyTimeSinceReset	1.1.1.22.3.7	Time (in minutes) since last timer reset of the OID upsEnergyEfficiencyStatsInputEnergyUsage.
upsEnergyEfficiencyStatsECOmodeTimeSinceReset	1.1.1.22.3.8	Time (in minutes) since last timer reset of the OID upsEnergyEfficiencyStatsTimeInECOmode. NOTE: This OID is unsupported and returns -1.
upsEnergyEfficiencyStatsECONversionTimeSinceReset	1.1.1.22.3.9	Time (in minutes) since last timer reset of the OID upsEnergyEfficiencyStatsTimeInECONversion. NOTE: This OID is unsupported and returns -1.

How to Check a UPS Configuration

You can use the OIDS in the [upsConfig] category to check how the UPS responds to specific operating conditions.

[upsConfig]

The [upsConfig] category has one subcategory, [upsAdvConfig] which displays the monitoring options for the UPS.

[upsAdvConfig]

OID Name	OID Number	Information Reported
upsAdvConfigRatedOutputVoltage	1.1.1.5.2.1	The nominal output voltage from the UPS in VAC.
upsAdvConfigLowBatteryRunTime	1.1.1.5.2.8	The desired run time of the UPS, in seconds, once the low battery condition is reached. During this time the UPS may produce a constant warning tone, which cannot be disabled, depending on the UPS model.

OID Name	OID Number	Information Reported
upsAdvConfigOutputFreqRange	1.1.1.5.2.19	<p>Configure the output frequency tolerance range.</p> <ul style="list-style-type: none"> • unknown (1) : The output frequency is unknown. • freqRangeAUTO (2) : Configure the output frequency range for automatic. • freqRange60Var1 (3) : Configure the output frequency range for 60 +/- 0.1 Hz • freqRange60Var3 (4) : Configure the output frequency range for 60 +/- 3.0 Hz • freqRange50Var1 (5) : Configure the output frequency range for 50 +/- 0.1 Hz • freqRange50Var3 (6) : Configure the output frequency range for 50 +/- 3.0 Hz • freqRange60Var10 (7) : Configure the output frequency range for 60 +/- 10 Hz • freqRange50Var10 (8) : Configure the output frequency range for 50 +/- 10 Hz • freqRange60Var1dot0 (9) : Configure the output frequency range for 60 +/- 1.0 Hz • freqRange50Var1dot0 (10) : Configure the output frequency range for 50 +/- 1.0 Hz • freqRange50Pct0dot5 (11) : Configure the output frequency range for 50 Hz +/- 0.5 % • freqRange50Pct1 (12) : Configure the output frequency range for 50 Hz +/- 1.0 % • freqRange50Pct2 (13) : Configure the output frequency range for 50 Hz +/- 2.0 % • freqRange50Pct4 (14) : Configure the output frequency range for 50 Hz +/- 4.0 % • freqRange50Pct6 (15) : Configure the output frequency range for 50 Hz +/- 6.0 % • freqRange50Pct8 (16) : Configure the output frequency range for 50 Hz +/- 8.0 % • freqRange60Pct0dot5 (17) : Configure the output frequency range for 60 Hz +/- 0.5 % • freqRange60Pct1 (18) : Configure the output frequency range for 60 Hz +/- 1.0 % • freqRange60Pct2 (19) : Configure the output frequency range for 60 Hz +/- 2.0 % • freqRange60Pct4 (20) : Configure the output frequency range for 60 Hz +/- 4.0 % • freqRange60Pct6 (21) : Configure the output frequency range for 60 Hz +/- 6.0 % • freqRange60Pct8 (22) : Configure the output frequency range for 60 Hz +/- 8.0 %
upsAdvConfigOutputFreqSlewRate	1.1.1.5.2.32	<p>The rate (in Hz/s) at which the UPS will change its output frequency in response to utility frequency changes.</p> <ul style="list-style-type: none"> • unknown (1) • slewRateQuarterHzPerSec (2) • slewRateHalfHzPerSec (3) • slewRate1HzPerSec (4) • slewRate2HzPerSec (5) • slewRate4HzPerSec (6) • slewRate6HzPerSec (7)

OID Name	OID Number	Information Reported
upsAdvConfigMainsSetting	1.1.1.5.2.35	Configure the type of mains supply system. <ul style="list-style-type: none"> • singleInput (1): A single supply system. • dualInput (2): A dual supply system.
upsAdvConfigACWiringSetting	1.1.1.5.2.36	Configure the AC wiring of the system. <ul style="list-style-type: none"> • threeWire (1): A 3-wire system (3Ph+G no bonding) • fourWire (2): A 4-wire system (3Ph+N+G or 3Ph+G with midpoint bonded to ground) • fourWireHRG (3): A 4-wire High resistive Grounding system (3Ph+G with midpoint bonded to ground through a HRG device)
upsAdvConfigUpperOutputVoltageTolerance	1.1.1.5.2.37	Upper tolerance of the output RMS voltage before transferring to bypass. Expressed as percent of nominal voltage.
upsAdvConfigLowerOutputVoltageTolerance	1.1.1.5.2.38	Lower tolerance of the output RMS voltage before transferring to bypass. Expressed as percent of nominal voltage.
upsAdvConfigOutOfSyncBypassTransferDelay	1.1.1.5.2.41	Configure the time (in milliseconds), indicating the gap in output voltage if an asynchronous transfer to bypass needs to occur.
upsAdvConfigDeepDischargeProtection	1.1.1.5.2.56	Indicates whether protection against deep discharge is enabled or disabled: <ul style="list-style-type: none"> • enabled (1) • disabled (2)

How to Check a UPS Test Configuration

This section contains information on using OIDs to display the UPS device's testing capabilities and testing configurations. **NOTE:** These OIDs do not initiate or perform any tests.

[upsTest]

The [upsTest] category contains the [upsAdvTest] sub-category for viewing test settings for the UPS.

[upsAdvTest]

OID Name	OID Number	Information Reported
upsAdvTestDiagnosticTime	1.1.1.7.2.8	The time of the day to perform automatic battery test. Expressed in 24 hour notation - hh:mm.
upsAdvTestDiagnosticDay	1.1.1.7.2.9	The day of the week to perform automatic battery test: <ul style="list-style-type: none"> • monday (1) • tuesday (2) • wednesday (3) • thursday (4) • friday (5) • saturday (6) • sunday (7)
upsAdvTestBatteryInterval	1.1.1.7.2.10	The UPS system's automatic battery test period.

How to Use OIDs for 3-Phase UPS Models

The [upsPhase] category has OIDs in two subcategories

- **[upsPhaseInput] (1.1.1.9.2)**: Set of OIDs you use to obtain information about the input and bypass phases.
- **[upsPhaseOutput] (1.1.1.9.3)**: Set of OIDs you use to obtain information about the output phases.

To access the values of OIDs in a table, select the OID table in the SNMP browser. (An OID table appears enclosed in braces { }.) For example, to access the OIDs that provide information on all input phases for a device, select {upsPhaseInputPhaseTable} in the SNMP browser, and then select [upsPhaseInputEntry] to see each OID in the table.

[upsPhaseInput] (1.1.1.9.2)

OID Name	OID Number	Information Reported
upsPhaseNumInputs	1.1.1.9.2.1	The number of input feeds to this device. This variable indicates the number of rows in the input table. The value is 2 for a 3-phase UPS. Voltages and currents are always reported for both input and bypass, even for single mains systems.
{upsPhaseInputTable}	1.1.1.9.2.2	A list of input table entries. The number of entries is given by the value of upsPhaseNumInputs.
{upsPhaseInputEntry}	1.1.1.9.2.2.1	An entry containing information applicable to a particular input.
upsPhaseNumInputPhases	1.1.1.9.2.2.1.2	The number of input phases utilized in this device. The sum of all the upsPhaseNumInputPhases variable indicates the number of rows in the input phase table.
upsPhaseInputVoltageOrientation	1.1.1.9.2.2.1.3	The input voltage orientation: <ul style="list-style-type: none"> • unknown (1): Unknown for this UPS. • singlePhase (2): Phase 1 voltage is between Phase 1 and Neutral. • splitPhase (3): Phase 1 voltage is between Phase 1 and Neutral; phase 2 voltage is between Phase 2 and Neutral; phase 3 voltage is between Phase 1 and Phase 2. • threePhasePhaseToNeutral (4): Phase 1 voltage is between Phase 1 and Neutral; phase 2 voltage is between Phase 2 and Neutral; phase 3 voltage is between Phase 3 and Neutral. • threePhasePhaseToPhase (5): Phase 1 voltage is between Phase 1 and Phase 2; phase 2 voltage is between Phase 2 and Phase 3; phase 3 voltage is between Phase 3 and Phase 1.
upsPhaseInputFrequency	1.1.1.9.2.2.1.4	The input frequency in 0.1 Hertz. NOTE: This OID is unsupported and returns -1.
upsPhaseInputType	1.1.1.9.2.2.1.5	The input type: <ul style="list-style-type: none"> • unknown (1) • main (2) • bypass (3)

OID Name	OID Number	Information Reported
{upsPhaseInputPhaseTable}	1.1.1.9.2.3	A list of input table entries. The number of entries is given by the sum of the upsPhaseNumInputPhases.
{upsPhaseInputPhaseEntry}	1.1.1.9.2.3.1	An entry containing information applicable to a particular input phase.
upsPhaseInputPhaseIndex	1.1.1.9.2.3.1.2	The input phase identifier.
upsPhaseInputVoltage	1.1.1.9.2.3.1.3	The input voltage in VAC.
upsPhaseInputMaxVoltage	1.1.1.9.2.3.1.4	The maximum input voltage in VAC measured since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseInputMinVoltage	1.1.1.9.2.3.1.5	The minimum input voltage in VAC measured since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseInputCurrent	1.1.1.9.2.3.1.6	The input current in 0.1 amperes.
upsPhaseInputMaxCurrent	1.1.1.9.2.3.1.7	The maximum input current in 0.1 amperes measured since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseInputMinCurrent	1.1.1.9.2.3.1.8	The minimum input current in 0.1 amperes measured since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseInputPower	1.1.1.9.2.3.1.9	The input power in Watts.
upsPhaseInputMaxPower	1.1.1.9.2.3.1.10	The maximum input power in Watts measured since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseInputMinPower	1.1.1.9.2.3.1.11	The minimum input power in Watts measured since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseInputApparentPower	1.1.1.9.2.3.1.12	The input apparent power of the UPS in kVA.
upsPhaseInputPowerFactor	1.1.1.9.2.3.1.13	The input power factor measured in hundredth.
upsPhaseInputVoltagePN	1.1.1.9.2.3.1.14	The input voltage measured across Phase to Neutral in VAC.

[upsPhaseOutput] (1.1.1.9.3)

OID Name	OID Number	Information Reported
upsPhaseNumOutputs	1.1.1.9.3.1	The number of output feeds to this device. This variable indicates the number of rows in the output table.
{upsPhaseOutputTable}	1.1.1.9.3.2	A list of output table entries. The number of entries is given by the value of upsOutputNumPhases.
{upsPhaseOutputEntry}	1.1.1.9.3.2.1	An entry containing information applicable to a particular output.
upsPhaseNumOutputPhases	1.1.1.9.3.2.1.2	The number of output phases utilized in this device. The sum of all the upsPhaseNumOutputPhases variable indicates the number of rows in the output phase table.
upsPhaseOutputVoltageOrientation	1.1.1.9.3.2.1.3	The output voltage orientation: <ul style="list-style-type: none"> unknown (1): Unknown for this UPS. singlePhase (2): Phase 1 voltage is between Phase 1 and Neutral. splitPhase (3): Phase 1 voltage is between Phase 1 and Neutral; phase 2 voltage is between Phase 2 and Neutral; phase 3 voltage is between Phase 1 and Phase 2. threePhasePhaseToNeutral (4): Phase 1 voltage is between Phase 1 and Neutral; phase 2 voltage is between Phase 2 and Neutral; phase 3 voltage is between Phase 3 and Neutral. threePhasePhaseToPhase (5): Phase 1 voltage is between Phase 1 and Phase 2; phase 2 voltage is between Phase 2 and Phase 3; phase 3 voltage is between Phase 3 and Phase 1.
upsPhaseOutputFrequency	1.1.1.9.3.2.1.4	The output frequency in 0.1 Hertz.
{upsPhaseOutputPhaseTable}	1.1.1.9.3.3	A list of output table entries. The number of entries is given by the sum of the upsPhaseNumOutputPhases.
{upsPhaseOutputPhaseEntry}	1.1.1.9.3.3.1	An entry containing information applicable to a particular output phase.
upsPhaseOutputPhaseIndex	1.1.1.9.3.3.1.2	The output phase identifier.
upsPhaseOutputVoltage	1.1.1.9.3.3.1.3	The output voltage in VAC.
upsPhaseOutputCurrent	1.1.1.9.3.3.1.4	The output current in 0.1 amperes.
upsPhaseOutputMaxCurrent	1.1.1.9.3.3.1.5	The maximum output current in 0.1 amperes measured since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.

OID Name	OID Number	Information Reported
upsPhaseOutputMinCurrent	1.1.1.9.3.3.1.6	The minimum output current in 0.1 amperes measured since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseOutputLoad	1.1.1.9.3.3.1.7	The output load in VA, or -1 if it's unsupported by this UPS. NOTE: This OID is unsupported and returns -1.
upsPhaseOutputMaxLoad	1.1.1.9.3.3.1.8	The maximum output load in VA measured since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseOutputMinLoad	1.1.1.9.3.3.1.9	The minimum output load in VA measured since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseOutputPercentLoad	1.1.1.9.3.3.1.10	The percentage of the UPS load capacity in VA at redundancy @ (n + x) presently being used on this output phase. NOTE: This OID is unsupported and returns -1.
upsPhaseOutputMaxPercentLoad	1.1.1.9.3.3.1.11	The maximum percentage of the UPS load capacity in VA measured at redundancy @ (n + x) presently being used on this output phase since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseOutputMinPercentLoad	1.1.1.9.3.3.1.12	The minimum percentage of the UPS load capacity in VA measured at redundancy @ (n + x) presently being used on this output phase since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseOutputPower	1.1.1.9.3.3.1.13	The output power in Watts.
upsPhaseOutputMaxPower	1.1.1.9.3.3.1.14	The maximum output power in Watts measured since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseOutputMinPower	1.1.1.9.3.3.1.15	The minimum output power in Watts measured since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseOutputPercentPower	1.1.1.9.3.3.1.16	The percentage of the UPS power capacity in Watts at redundancy @ (n + x) presently being used on this output phase. NOTE: This OID is unsupported and returns -1.
upsPhaseOutputMaxPercentPower	1.1.1.9.3.3.1.17	The maximum percentage of the UPS power capacity in Watts measured at redundancy @ (n + x) presently being used on this output phase since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.

OID Name	OID Number	Information Reported
upsPhaseOutputMinPercentagePower	1.1.1.9.3.3 .1.18	The minimum percentage of the UPS power capacity in Watts measured at redundancy @ (n + x) presently being used on this output phase since the last reset (upsPhaseResetMaxMinValues). NOTE: This OID is unsupported and returns -1.
upsPhaseOutputPowerFactor	1.1.1.9.3.3 .1.19	The output power factor of the UPS in hundredth.
upsPhaseOutputApparentPower	1.1.1.9.3.3 .1.20	Apparent power in kVA.
upsPhaseOutputInverterVoltage	1.1.1.9.3.3 .1.21	Output voltage in VAC measured at the output of inverter. NOTE: This OID is unsupported and returns -1.
upsPhaseOutputVoltagePN	1.1.1.9.3.3 .1.22	The output voltage measured across Phase to Neutral in VAC.

Chapter 4: How to Monitor a Universal Input/Output Module

This chapter describes how to use the following PowerNet MIB OIDs to monitor a universal input/output (UIO) module inserted into a Network Management Card 4 (AP9644).

NOTE: The OID numbers provided in this topic are not the full OIDs as listed in the MIB. To get the full OID number for each OID listed, add 1.3.6.1.4.1.318 to the beginning. For example, the OID number provided for [uioSensorStatusSensorName] is 1.1.25.1.2.1.3 and its full OID number is 1.3.6.1.4.1.318.1.1.25.1.2.1.3

[universalInputOutput] Universal Input/Output OIDs

The [universalInputOutput] category has OIDs in one sub-category, [uioSensor] that reports universal input/output module values.

[uioSensor]

OID Name	OID Number	Information Reported
uioSensorStatusTableSize	1.1.25.1.1	The number of entries in the uioSensorStatusTable.
{uioSensorStatusTable}	1.1.25.1.2	Allows for getting sensor status information.
{uioSensorStatusEntry}	1.1.25.1.2.1	The unit from which to get data.
uioSensorStatusPortID	1.1.25.1.2.1.1	The ID of the port to which the sensor is attached.
uioSensorStatusSensorID	1.1.25.1.2.1.2	The ID of the sensor.
uioSensorStatusSensorName	1.1.25.1.2.1.3	The sensor name.
uioSensorStatusSensorLocation	1.1.25.1.2.1.4	The location of the sensor.
uioSensorStatusTemperatureDegF	1.1.25.1.2.1.5	The sensor's current temperature reading in degrees Fahrenheit. -1 indicates an invalid reading due to lost communications.
uioSensorStatusTemperatureDegC	1.1.25.1.2.1.6	The sensor's current temperature reading in degrees Celsius. -1 indicates an invalid reading due to lost communications.
uioSensorStatusHumidity	1.1.25.1.2.1.7	The sensor's current humidity reading in percent relative humidity. -1 indicates an invalid reading due to either a sensor that doesn't read humidity or lost communications.

OID Name	OID Number	Information Reported																																							
uioSensorStatusViolationStatus	1.1.25.1.2.1.8	<p>The violation status of the sensor. This integer should be interpreted as a bit map, with each bit representing the presence or absence of the specific alarm conditions listed below. The bit will be '1' if the condition is present, and '0' if the condition is not present.</p> <table border="1"> <thead> <tr> <th>Bit</th> <th>Hex. Value</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0x0001</td> <td>Maximum temperature exceeded.</td> </tr> <tr> <td>2</td> <td>0x0002</td> <td>High temperature exceeded.</td> </tr> <tr> <td>3</td> <td>0x0004</td> <td>Low temperature exceeded.</td> </tr> <tr> <td>4</td> <td>0x0008</td> <td>Minimum temperature exceeded.</td> </tr> <tr> <td>5</td> <td>0x0010</td> <td><Not used></td> </tr> <tr> <td>6</td> <td>0x0020</td> <td><Not used></td> </tr> <tr> <td>7</td> <td>0x0040</td> <td><Not used></td> </tr> <tr> <td>8</td> <td>0x0080</td> <td><Not used></td> </tr> <tr> <td>9</td> <td>0x0100</td> <td>Maximum humidity exceeded.</td> </tr> <tr> <td>10</td> <td>0x0200</td> <td>High humidity exceeded.</td> </tr> <tr> <td>11</td> <td>0x0400</td> <td>Low humidity exceeded.</td> </tr> <tr> <td>12</td> <td>0x0800</td> <td>Minimum humidity exceeded.</td> </tr> </tbody> </table>	Bit	Hex. Value	Description	1	0x0001	Maximum temperature exceeded.	2	0x0002	High temperature exceeded.	3	0x0004	Low temperature exceeded.	4	0x0008	Minimum temperature exceeded.	5	0x0010	<Not used>	6	0x0020	<Not used>	7	0x0040	<Not used>	8	0x0080	<Not used>	9	0x0100	Maximum humidity exceeded.	10	0x0200	High humidity exceeded.	11	0x0400	Low humidity exceeded.	12	0x0800	Minimum humidity exceeded.
Bit	Hex. Value	Description																																							
1	0x0001	Maximum temperature exceeded.																																							
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11	0x0400	Low humidity exceeded.																																							
12	0x0800	Minimum humidity exceeded.																																							
uioSensorStatusAlarmStatus	1.1.25.1.2.1.9	<p>The alarm status of the sensor:</p> <ul style="list-style-type: none"> • uioNormal (1) • uioWarning (2) • uioCritical (3) • sensorStatusNotApplicable (4) 																																							
uioSensorStatusCommStatus	1.1.25.1.2.1.10	<p>The communications status of the sensor:</p> <ul style="list-style-type: none"> • notInstalled (1) • commsOK (2) • commsLost (3) 																																							
uioSensorConfigTableSize	1.1.25.1.3	The number of entries in the uioSensorConfigTable.																																							
{uioSensorConfigTable}	1.1.25.1.4	Allows for configuring the sensor.																																							
{uioSensorConfigEntry}	1.1.25.1.4.1	The sensor from which to get configuration.																																							
uioSensorConfigPortID	1.1.25.1.4.1.1	The ID of the port to which the sensor is attached.																																							
uioSensorConfigSensorID	1.1.25.1.4.1.2	The ID of the sensor.																																							
uioSensorConfigSensorName	1.1.25.1.4.1.3	The sensor name.																																							

OID Name	OID Number	Information Reported
uioSensorConfigSensorLocation	1.1.25.1.4.1.4	The location of the sensor.
uioSensorConfigMinTemperatureThreshold	1.1.25.1.4.1.5	The minimum (critical) temperature alarm threshold for the probe in degrees C. Must be lower than the low threshold to ensure proper sensor alarm behavior.
uioSensorConfigLowTemperatureThreshold	1.1.25.1.4.1.6	The low (warning) temperature alarm threshold for the probe in degrees C. Must be higher than the minimum threshold and lower than the high threshold to ensure proper sensor alarm behavior.
uioSensorConfigHighTemperatureThreshold	1.1.25.1.4.1.7	The high (warning) temperature alarm threshold for the probe in degrees C. Must be lower than the maximum threshold and higher than the low threshold to ensure proper sensor alarm behavior.
uioSensorConfigMaxTemperatureThreshold	1.1.25.1.4.1.8	The maximum (critical) temperature alarm threshold for the probe in degrees C. Must be higher than the high threshold to ensure proper sensor alarm behavior.
uioSensorConfigTemperatureHysteresis	1.1.25.1.4.1.9	The number of degrees C beyond the temperature thresholds at which an active temperature alarm will be cleared. This value applies to all temperature thresholds.
uioSensorConfigMinTemperatureEnable	1.1.25.1.4.1.10	The minimum temperature alarm enable/disable for the sensor. <ul style="list-style-type: none"> • disabled (1) • enabled (2)
uioSensorConfigLowTemperatureEnable	1.1.25.1.4.1.11	The low temperature alarm enable/disable for the sensor. <ul style="list-style-type: none"> • disabled (1) • enabled (2)
uioSensorConfigHighTemperatureEnable	1.1.25.1.4.1.12	The high temperature alarm enable/disable for the sensor. <ul style="list-style-type: none"> • disabled (1) • enabled (2)
uioSensorConfigMaxTemperatureEnable	1.1.25.1.4.1.13	The maximum temperature alarm enable/disable for the sensor. <ul style="list-style-type: none"> • disabled (1) • enabled (2)
uioSensorConfigMinHumidityThreshold	1.1.25.1.4.1.14	The minimum (critical) humidity alarm threshold for the probe in percent relative humidity. Must be lower than the low threshold to ensure proper sensor alarm behavior. -1 if the sensor doesn't read humidity.
uioSensorConfigLowHumidityThreshold	1.1.25.1.4.1.15	The low (warning) humidity alarm threshold for the probe in percent relative humidity. Must be higher than the minimum threshold and lower than the high threshold to ensure proper sensor alarm behavior. -1 if the sensor doesn't read humidity.

OID Name	OID Number	Information Reported
uioSensorConfigHighHumidityThreshold	1.1.25.1.4.1.16	The high (warning) humidity alarm threshold for the probe in percent relative humidity. Must be lower than the maximum threshold and higher than the low threshold to ensure proper sensor alarm behavior. -1 if the sensor doesn't read humidity.
uioSensorConfigMaxHumidityThreshold	1.1.25.1.4.1.17	The maximum (critical) humidity alarm threshold for the probe in percent relative humidity. Must be higher than the high threshold to ensure proper sensor alarm behavior. -1 if the sensor doesn't read humidity.
uioSensorConfigHumidityHysteresis	1.1.25.1.4.1.18	The number of percent relative humidity beyond the humidity thresholds at which an active humidity alarm will be cleared. This value applies to all humidity thresholds. -1 if the sensor doesn't read humidity.
uioSensorConfigMinHumidityEnable	1.1.25.1.4.1.19	The minimum humidity alarm enable/disable for the sensor. <ul style="list-style-type: none"> • disabled (1) - Always set if the sensor doesn't read humidity • enabled (2)
uioSensorConfigLowHumidityEnable	1.1.25.1.4.1.20	The low humidity alarm enable/disable for the sensor. <ul style="list-style-type: none"> • disabled (1) - Always set if the sensor doesn't read humidity • enabled (2)
uioSensorConfigHighHumidityEnable	1.1.25.1.4.1.21	The high humidity alarm enable/disable for the sensor. <ul style="list-style-type: none"> • disabled (1) - Always set if the sensor doesn't read humidity • enabled (2)
uioSensorConfigMaxHumidityEnable	1.1.25.1.4.1.22	The maximum humidity alarm enable/disable for the sensor. <ul style="list-style-type: none"> • disabled (1) - Always set if the sensor doesn't read humidity • enabled (2)

Chapter 5: PowerNet MIB Traps

For information on how to define traps, consult the NMC documentation.

Trap Severity Levels

Each trap has one of the following severity levels.

Severe	Warning	Informational
Alerts a trap receiver of an event that requires immediate corrective action.	Alerts a trap receiver of an event that can adversely affect a device's operation if the situation worsens.	Alerts a trap receiver of an event that cannot adversely affect a device's operation.

Chapter 6: Additional OIDs

Galaxy VS / PX / VL three-phase UPS devices also support the below OIDs located in the [internet] category. **NOTE:** The OID numbers provided in this topic are the full OID as listed in the MIB.

[system] OIDs

The below PowerNet MIB OIDs are under the heading [system]. To locate these OIDs, perform the following steps:

1. Select [mgmt] under [internet].
2. Select [mib-2].
3. Select [system].

OID Name	OID Number	Information Reported
sysDescr	1.3.6.1.2.1.1.1	A textual description of the entity. This value should include the full name and version identification of the system's hardware type, software operating-system, and networking software.
sysObjectID	1.3.6.1.2.1.1.2	The vendor's authoritative identification of the network management subsystem contained in the entity. This value is allocated within the SMI enterprises subtree (1.3.6.1.4.1) and provides an easy and unambiguous means for determining 'what kind of box' is being managed. For example, if vendor 'Flintstones, Inc.' was assigned the subtree 1.3.6.1.4.1.424242, it could assign the identifier 1.3.6.1.4.1.424242.1.1 to its 'Fred Router'.
sysUpTime	1.3.6.1.2.1.1.3	The time (in hundredths of a second) since the network management portion of the system was last re-initialized.
sysContact	1.3.6.1.2.1.1.4	The textual identification of the contact person for this managed node, together with information on how to contact this person.
sysName	1.3.6.1.2.1.1.5	An administratively-assigned name for this managed node. By convention, this is the node's fully-qualified domain name.
sysLocation	1.3.6.1.2.1.1.6	The physical location of this node (e.g., 'telephone closet, 3rd floor').

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