

NET-SNMP to get the hardware status

The related OID located in **proprietaryMIB** → **Dlink-common-mgmt** → **Equipment.mib**
Following is the related for power, fan and temperature for DGS-3120,DGS-3420,DGS3620

1.swEquipment

```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1
```

The screenshot shows a MIB browser interface. On the left, a tree view displays the hierarchy: iso > swEquipmentMIB > swEquipment. The swEquipment node is selected and highlighted with a red box. Below it, several sub-nodes are listed, including swEquipmentCapacity, swFanTrapState, swPowerTrapState, swPowerTable, swFanTable, and swTemperatureTable. On the right, a properties panel for the selected swEquipment node shows the following details:

Object name	swEquipment
Object ID	1.3.6.1.4.1.171.12.11.1
Module	EQUIPMENT-MIB
Base syntax	Object Identifier
Access	Not_Accessible
Status	Mandatory
Parent node	swEquipmentMIB
First child	swEquipmentCapacity

Walk_Form Node : swPowerTable

Name	OID	Syntax	Access	V...
swPowerUnitIndex.2.1	1.3.6.1.4.1.171.12.11.1.6.1.1.2.1	Integer	Read-Only	2
swPowerUnitIndex.2.2	1.3.6.1.4.1.171.12.11.1.6.1.1.2.2	Integer	Read-Only	2
swPowerID.2.1	1.3.6.1.4.1.171.12.11.1.6.1.2.2.1	Integer	Read-Only	1
swPowerID.2.2	1.3.6.1.4.1.171.12.11.1.6.1.2.2.2	Integer	Read-Only	2
swPowerStatus.2.1	1.3.6.1.4.1.171.12.11.1.6.1.3.2.1	Integer	Read-Only	3
swPowerStatus.2.2	1.3.6.1.4.1.171.12.11.1.6.1.3.2.2	Integer	Read-Only	4

CMD: show environment

```
DGS-3120-48PC:admin#sh env
Command: show environment

Temperature Trap State      : Enabled
Temperature Log State      : Enabled
Fan Trap State              : Enabled
Power Trap State           : Enabled

High warning Temperature Threshold(Celsius) : 79
Low warning Temperature Threshold(Celsius)  : 11

unit 2
Internal Power              : Active
External Power              : Fail
Right Fan 1                 : Speed Low (3000 RPM)
Right Fan 2                 : Speed Low (3000 RPM)
Right Fan 3                 : Speed Low (3000 RPM)
Right Fan 4                 : Speed Low (3000 RPM)
Current Temperature(Celsius) : 30
Fan High Temperature Threshold(Celsius)     : 40
Fan Low Temperature Threshold(Celsius)      : 35
```

swPower

```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.6.1.
```

```

Object name      swPowerEntry
Object ID       1.3.6.1.4.1.171.12.11.1.6.1
Module          EQUIPMENT-MIB

Base syntax     Sequence
Access         Not_Accessible
Status         Current
Index          1.swPowerUnitIndex
              2.swPowerID

Parent node     swPowerTable
First child    swPowerUnitIndex
Description    An entry of power information values.

```

snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.6.1.1

```

Object name      swPowerUnitIndex
Object ID       1.3.6.1.4.1.171.12.11.1.6.1.1
Module          EQUIPMENT-MIB

Base syntax     Integer
Composed syntax INTEGER
Access         Read-Only
Status         Current
Value list     1 : 0..65535

Parent node     swPowerEntry
First child    None
Description    Indicates the unit ID in the System.

```

```

C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.6.1.1
SNMPv2-SMI::enterprises.171.12.11.1.6.1.1.2.1 = INTEGER: 2
SNMPv2-SMI::enterprises.171.12.11.1.6.1.1.2.2 = INTEGER: 2

```

→The switch unit ID is 2

snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.6.1.2

```

Object name      swPowerID
Object ID       1.3.6.1.4.1.171.12.11.1.6.1.2
Module          EQUIPMENT-MIB

Base syntax     Integer
Composed syntax INTEGER
Access         Read-Only
Status         Current
Value list     1 : 0..65535

Parent node     swPowerEntry
First child    None
Description    Indicates ID of the power
              1 : main power
              2 : redundant power .

```

```

C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.6.1.2
SNMPv2-SMI::enterprises.171.12.11.1.6.1.2.2.1 = INTEGER: 1
SNMPv2-SMI::enterprises.171.12.11.1.6.1.2.2.2 = INTEGER: 2

```

So now you know 1.1 is for main power (internal), and 1.2 is for redundant power (external)

```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.6.1.3
```

Object name	swPowerStatus
Object ID	1.3.6.1.4.1.171.12.11.1.6.1.3
Module	EQUIPMENT-MIB
Base syntax	Integer
Composed syntax	INTEGER
Access	Read-Only
Status	Current
Value list	1 : other(0) 2 : lowVoltage(1) 3 : overCurrent(2) 4 : working(3) 5 : fail(4) 6 : connect(5) 7 : disconnect(6)
Parent node	swPowerEntry
First child	None
Description	Indicates the current power status. lowVoltage : The voltage of the power unit is too low. overCurrent: The current of the power unit is too high. working : The power unit is working normally. fail : The power unit has failed. connect : The power unit is connected but not powered on. disconnect : The power unit is not connected.

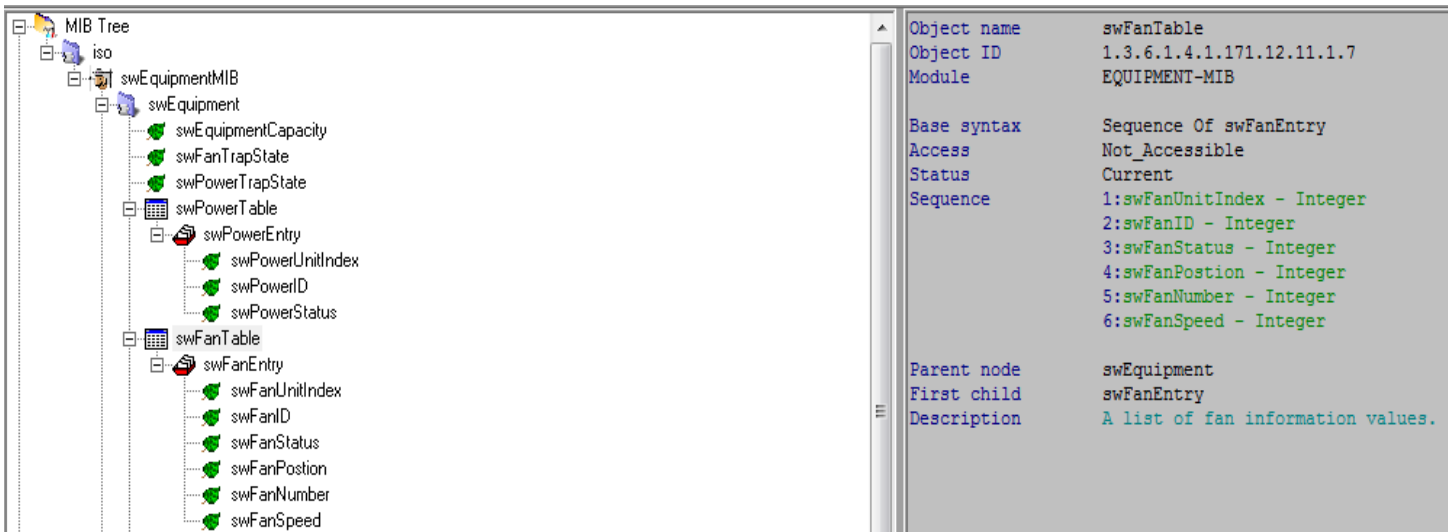
```
C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.6.1.3  
SNMPv2-SMI::enterprises.171.12.11.1.6.1.3.2.1 = INTEGER: 3  
SNMPv2-SMI::enterprises.171.12.11.1.6.1.3.2.2 = INTEGER: 4
```

→3=working,4=fail

```
DGS-3120-48PC:admin#show device_status  
Command: show device_status  
  
Internal Power: Active  
External Power: Fail  
Right Fan : OK
```

2.swFan

```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7
```



Object name	swFanTable
Object ID	1.3.6.1.4.1.171.12.11.1.7
Module	EQUIPMENT-MIB
Base syntax	Sequence Of swFanEntry
Access	Not_Accessible
Status	Current
Sequence	1:swFanUnitIndex - Integer 2:swFanID - Integer 3:swFanStatus - Integer 4:swFanPostion - Integer 5:swFanNumber - Integer 6:swFanSpeed - Integer
Parent node	swEquipment
First child	swFanEntry
Description	A list of fan information values.

```

C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7
SNMPv2-SMI::enterprises.171.12.11.1.7.1.1.2.7 = INTEGER: 2
SNMPv2-SMI::enterprises.171.12.11.1.7.1.1.2.8 = INTEGER: 2
SNMPv2-SMI::enterprises.171.12.11.1.7.1.1.2.9 = INTEGER: 2
SNMPv2-SMI::enterprises.171.12.11.1.7.1.1.2.10 = INTEGER: 2
SNMPv2-SMI::enterprises.171.12.11.1.7.1.2.2.7 = INTEGER: 7
SNMPv2-SMI::enterprises.171.12.11.1.7.1.2.2.8 = INTEGER: 8
SNMPv2-SMI::enterprises.171.12.11.1.7.1.2.2.9 = INTEGER: 9
SNMPv2-SMI::enterprises.171.12.11.1.7.1.2.2.10 = INTEGER: 10
SNMPv2-SMI::enterprises.171.12.11.1.7.1.3.2.7 = INTEGER: 4
SNMPv2-SMI::enterprises.171.12.11.1.7.1.3.2.8 = INTEGER: 4
SNMPv2-SMI::enterprises.171.12.11.1.7.1.3.2.9 = INTEGER: 4
SNMPv2-SMI::enterprises.171.12.11.1.7.1.3.2.10 = INTEGER: 4
SNMPv2-SMI::enterprises.171.12.11.1.7.1.4.2.7 = INTEGER: 3
SNMPv2-SMI::enterprises.171.12.11.1.7.1.4.2.8 = INTEGER: 3
SNMPv2-SMI::enterprises.171.12.11.1.7.1.4.2.9 = INTEGER: 3
SNMPv2-SMI::enterprises.171.12.11.1.7.1.4.2.10 = INTEGER: 3
SNMPv2-SMI::enterprises.171.12.11.1.7.1.5.2.7 = INTEGER: 1
SNMPv2-SMI::enterprises.171.12.11.1.7.1.5.2.8 = INTEGER: 2
SNMPv2-SMI::enterprises.171.12.11.1.7.1.5.2.9 = INTEGER: 3
SNMPv2-SMI::enterprises.171.12.11.1.7.1.5.2.10 = INTEGER: 4
SNMPv2-SMI::enterprises.171.12.11.1.7.1.6.2.7 = INTEGER: 3000
SNMPv2-SMI::enterprises.171.12.11.1.7.1.6.2.8 = INTEGER: 3000
SNMPv2-SMI::enterprises.171.12.11.1.7.1.6.2.9 = INTEGER: 3000
SNMPv2-SMI::enterprises.171.12.11.1.7.1.6.2.10 = INTEGER: 3000

```

```

Object name      swFanEntry
Object ID       1.3.6.1.4.1.171.12.11.1.7.1
Module          EQUIPMENT-MIB

Base syntax     Sequence
Access         Not_Accessible
Status         Current
Index          1.swFanUnitIndex
              2.swFanID

Parent node     swFanTable
First child    swFanUnitIndex
Description    An entry of fan information values.

```

```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7.1.1
```

```

Object name      swFanUnitIndex
Object ID       1.3.6.1.4.1.171.12.11.1.7.1.1
Module          EQUIPMENT-MIB

Base syntax     Integer
Composed syntax INTEGER
Access         Read-Only
Status         Current
Value list     1 : 0..65535

Parent node     swFanEntry
First child    None
Description    Indicates the unit ID in the System.

```

```

C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7.1.1
SNMPv2-SMI::enterprises.171.12.11.1.7.1.1.2.7 = INTEGER: 2
SNMPv2-SMI::enterprises.171.12.11.1.7.1.1.2.8 = INTEGER: 2
SNMPv2-SMI::enterprises.171.12.11.1.7.1.1.2.9 = INTEGER: 2
SNMPv2-SMI::enterprises.171.12.11.1.7.1.1.2.10 = INTEGER: 2

```

```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7.1.2
```

```
Object name      swFanID
Object ID        1.3.6.1.4.1.171.12.11.1.7.1.2
Module           EQUIPMENT-MIB

Base syntax      Integer
Composed syntax  INTEGER
Access           Read-Only
Status           Current
Value list       1 : 0..65535

Parent node      swFanEntry
First child      None
Description      Indicates the unit ID.
```

```
C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7.1.2
SNMPv2-SMI::enterprises.171.12.11.1.7.1.2.2.7 = INTEGER: 7
SNMPv2-SMI::enterprises.171.12.11.1.7.1.2.2.8 = INTEGER: 8
SNMPv2-SMI::enterprises.171.12.11.1.7.1.2.2.9 = INTEGER: 9
SNMPv2-SMI::enterprises.171.12.11.1.7.1.2.2.10 = INTEGER: 10
```

→the id of the fan

```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7.1.3
```

```
Object name      swFanStatus
Object ID        1.3.6.1.4.1.171.12.11.1.7.1.3
Module           EQUIPMENT-MIB

Base syntax      Integer
Composed syntax  INTEGER
Access           Read-Only
Status           Current
Value list       1 : other(0)
                 2 : working(1)
                 3 : fail(2)
                 4 : speed-0(3)
                 5 : speed-low(4)
                 6 : speed-middle(5)
                 7 : speed-high(6)

Parent node      swFanEntry
First child      None
Description      Indicates the current fan status.
                 speed-0      : If the fan function is normal and the fan does not
                 due to the temperature not reaching the threshold,
                 the status of the fan is speed 0.
                 speed-low    : Fan spin using the lowest speed.
                 speed-middle: Fan spin using the middle speed.
                 speed-high   : Fan spin using the highest speed.
```

```
C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7.1.3
SNMPv2-SMI::enterprises.171.12.11.1.7.1.3.2.7 = INTEGER: 4
SNMPv2-SMI::enterprises.171.12.11.1.7.1.3.2.8 = INTEGER: 4
SNMPv2-SMI::enterprises.171.12.11.1.7.1.3.2.9 = INTEGER: 4
SNMPv2-SMI::enterprises.171.12.11.1.7.1.3.2.10 = INTEGER: 4
```

→Speed-low

```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7.1.4
```

```
Object name      swFanPostion
Object ID       1.3.6.1.4.1.171.12.11.1.7.1.4
Module          EQUIPMENT-MIB

Base syntax     Integer
Composed syntax INTEGER
Access          Read-Only
Status          Current
Value list      1 : other(1)
                2 : left(2)
                3 : right(3)
                4 : back(4)
                5 : cpu(5)

Parent node     swFanEntry
First child     None
Description     Indicates the position of the fan.
```

```
C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7.1.4
SNMPv2-SMI::enterprises.171.12.11.1.7.1.4.2.7 = INTEGER: 3
SNMPv2-SMI::enterprises.171.12.11.1.7.1.4.2.8 = INTEGER: 3
SNMPv2-SMI::enterprises.171.12.11.1.7.1.4.2.9 = INTEGER: 3
SNMPv2-SMI::enterprises.171.12.11.1.7.1.4.2.10 = INTEGER: 3
```

→the 7,8,9,10 fan are all on the right side.

```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7.1.5
```

```
Object name      swFanNumber
Object ID       1.3.6.1.4.1.171.12.11.1.7.1.5
Module          EQUIPMENT-MIB

Base syntax     Integer
Composed syntax INTEGER
Access          Read-Only
Status          Current
Value list      1 : 0..65535

Parent node     swFanEntry
First child     None
Description     Indicates the fan number.
```

```
C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7.1.5
SNMPv2-SMI::enterprises.171.12.11.1.7.1.5.2.7 = INTEGER: 1
SNMPv2-SMI::enterprises.171.12.11.1.7.1.5.2.8 = INTEGER: 2
SNMPv2-SMI::enterprises.171.12.11.1.7.1.5.2.9 = INTEGER: 3
SNMPv2-SMI::enterprises.171.12.11.1.7.1.5.2.10 = INTEGER: 4
```

```
snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7.1.6
```

```

Object name      swFanSpeed
Object ID       1.3.6.1.4.1.171.12.11.1.7.1.6
Module          EQUIPMENT-MIB

Base syntax     Integer
Composed syntax INTEGER
Access         Read-Only
Status         Current
Value list     1 : 0..65535

Parent node     swFanEntry
First child    None
Description    Indicates the fan work speed(RPM).

```

```

C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7.1.6
SNMPv2-SMI::enterprises.171.12.11.1.7.1.6.2.7 = INTEGER: 3000
SNMPv2-SMI::enterprises.171.12.11.1.7.1.6.2.8 = INTEGER: 3000
SNMPv2-SMI::enterprises.171.12.11.1.7.1.6.2.9 = INTEGER: 3000
SNMPv2-SMI::enterprises.171.12.11.1.7.1.6.2.10 = INTEGER: 3000

```

3.swTemperature

snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.7.1.8.1

The screenshot shows a network management interface. On the left is a 'MIB Tree' with a hierarchical view of objects under 'swEquipmentMIB'. On the right is a detailed view of the 'swTemperatureTable' object.

```

Object name      swTemperatureTable
Object ID       1.3.6.1.4.1.171.12.11.1.8
Module          EQUIPMENT-MIB

Base syntax     Sequence Of swTemperatureEntry
Access         Not_Accessible
Status         Current
Sequence       1:swTemperatureUnitIndex - Integer
              2:swTemperatureCurrent - Integer
              3:swTemperatureHighThresh - Integer
              4:swTemperatureLowThresh - Integer

Parent node     swEquipment
First child    swTemperatureEntry
Description    A list of temperature values.

```

Walk_Form Node : swTemperatureTable

Name	OID	Syntax	Access	V...
swTemperatureUnitIndex.2	1.3.6.1.4.1.171.12.11.1.8.1.1.2	Integer	Read-Only	1
swTemperatureCurrent.2	1.3.6.1.4.1.171.12.11.1.8.1.2.2	Integer	Read-Only	30
swTemperatureHighThresh.2	1.3.6.1.4.1.171.12.11.1.8.1.3.2	Integer	Read-Write	79
swTemperatureLowThresh.2	1.3.6.1.4.1.171.12.11.1.8.1.4.2	Integer	Read-Write	11

```
C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.8.1
SNMPv2-SMI::enterprises.171.12.11.1.8.1.1.2 = INTEGER: 1
SNMPv2-SMI::enterprises.171.12.11.1.8.1.2.2 = INTEGER: 29
SNMPv2-SMI::enterprises.171.12.11.1.8.1.3.2 = INTEGER: 79
SNMPv2-SMI::enterprises.171.12.11.1.8.1.4.2 = INTEGER: 11

C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.8.1.1
SNMPv2-SMI::enterprises.171.12.11.1.8.1.1.2 = INTEGER: 1

C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.8.1.2
SNMPv2-SMI::enterprises.171.12.11.1.8.1.2.2 = INTEGER: 29

C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.8.1.3
SNMPv2-SMI::enterprises.171.12.11.1.8.1.3.2 = INTEGER: 79

C:\Users\Aaron Pan>snmpwalk -v2c -c private 10.90.90.90 1.3.6.1.4.1.171.12.11.1.8.1.4
SNMPv2-SMI::enterprises.171.12.11.1.8.1.4.2 = INTEGER: 11
```