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# Ethernet I/O System

## SNMP manual



**V1.0**

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## **1. SNMP**

Simple Network Management Protocol (SNMP) is a protocol used for exchanging management information between network devices. SNMP is a member of the TCP/IP protocol suite. Leader-5000 series acts as SNMP node, SNMP browser can discover and read/write channels' information.

An SNMP managed network consists of two main components: agents and manager. An agent is a management software module that resides in a managed switch. An agent translates the local management information from the managed device into a SNMP compatible format. The manager is the console through the network.

Leader-5000 series supports Public MIB: MIB II-System. This is for SNMP browser discovering. Private MIB includes channels' information. Please refer to the appendix A.

SNMP Trap allows the Leader-5000 to send the active alarm to trap servers. The SNMP Trap supports Device Cold Start, LAN interface Link Up trap (Common), Low and High Voltage/Current/Temperature (501x) and Logic Rules' traps (506x). You can configure this through Modbus/TCP registers or I/O Configuration utility.

## 2. Command Sets

An SNMP to I/O MIB file that can help you monitor I/O status with SNMP software.

You can get the MIB file from: [www.Wachendorff.de](http://www.Wachendorff.de)

### 2.1 Public-Ethernet Block I/O MIB

Object ID (OID)	Description	Community, R/W Access
<i>sysDescr</i>	The <i>sysDescr</i> directive is used to define the system description of the host on which the SNMP agent (server) is running. This description is used for the <i>sysDescr</i> object instance of the MIB-II. SYNTAX: <i>DisplayString</i> (SIZE (0..31))	Public, Read Only
<i>sysObjectID</i>	The vendor's authoritative identification of the network management subsystem contained in the entity. This value is allocated within the SMI enterprises subtree. SYNTAX: <i>DisplayString</i> (SIZE (0..31))	Public, Read Only
<i>sysUpTime</i>	The <i>sysUpTime</i> directive is used to measures the time, in hundredths of a second, since the last system restart. SYNTAX: <i>DisplayString</i> (SIZE (0..31))	Public, Read Only
<i>sysContact</i>	The <i>sysContact</i> directive is used to define the system contact address used for the <i>sysContact</i> object instance of the MIB-II. SYNTAX: <i>DisplayString</i> (SIZE (0..31))	Public, Read Only
<i>sysName</i>	The <i>sysName</i> directive is a string containing an administratively-assigned name for the system running the SNMP agent. By convention, this should be its fully-qualified domain name. SYNTAX: <i>DisplayString</i> (SIZE (0..31))	Public, Read Only
<i>sysLocation</i>	The <i>sysLocation</i> directive is used to define the location of the host on which the SNMP agent (server) is running. This directive is used for the <i>sysLocation</i> object instance of the MIB-II. SYNTAX: <i>DisplayString</i> (SIZE (0..31))	Public, Read Only

## 2.2 Private-Ethernet Block I/O ETHIO22D MIB

(File Name: Hurco-LD5068SNMP-MIB-1\_6.mib)

Object ID (OID)	Description	Community, R/W Access
<i>diStatus</i>	This object shows you the status of the Digital Input channels. Use Binary display mode to read the value. The binary number 0 represent the DI OFF, 1 represent DI ON mode. The last bit represents the first channel (Ch0). For example: Ch0-3 is DI OFF, Ch4-13 is DI ON, Ch14-15 remains 00, the value you can get is 00111111 1110000(3FF0 in 16xHex)	RO
<i>diMode</i>	This object shows you the mode of the Digital Input channels. Use Binary display mode to read the value. The binary number 0 represent the DI mode, 1 represent Event Counter mode. The last bit represents the first channel (Ch0). For example: Ch0-3 is DI, Ch4-13 is Event Counter mode, Ch14-15 remains 00, the value you can get/set is 00111111 11110000(3FF0 in 16xHex, 16368 in 10xHex). Type 16368 to set the value.	RW
<i>diCounterStatus</i>	This object shows you the status of the Event Counter channel. Use Binary display mode to read the value. The binary number 0 represent the Event Counter OFF/Stop, 1 represent Event Counter ON/Start. The last bit represents the first channel (Ch0). For example: Ch0-3 is OFF, Ch4-5 is Start, Ch6-13 is Stop, Ch14-15 remains 00, the value you can get/set is 00000000 00110000(0030 in 16xHex, 48 in 10xHex) Type 48 to set the value.	RW
<i>diCounterOverflowStatus</i>	This object shows you the status of the Event Counter overflow. The binary number 0 represents not overflow, 1 represents overflow. The last bit represents the first channel (Ch0). The first 2 bits(Ch14-15) remain 00	RO
<i>diCounterTriggerMode</i>	This object shows you the status of the Event Counter Trigger mode. The binary number 0 represent the Low to High mode, 1 represent the High to Low mode. The last bit represents the first channel (Ch0). The first 2 bits(Ch14-15) remain 00	RW
<i>diClrCounterValue</i>	This object shows you the Event Counter Reset mode. Use Binary display mode to read the value. The binary number 0 represents not reset mode, 1 represents reset mode. The last bit represents the first channel (Ch0). The first 2 bits (Ch14-15) remain 00.	RW
<i>doStatus</i>	This object shows you the status of the Digital Output channels. Use Binary display mode to read the value. The binary number 0 represent the DO OFF, 1 represent the DO ON. The last bit represents the first channel (Ch0). The first 2 bits(Ch14-15) remain 00	RW
<i>doPulseOperateStatus</i>	This object shows you the status of the Pulse Output channels. Use Binary display mode to read the value. The binary number 0 represent the Pulse Output OFF, 1 represent the Pulse Output ON. The last bit represents the first channel (Ch0). The first 2 bits(Ch14-15) remain 00	RW

<i>do00PulseLowWidth</i>	Low value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>do00PulseHiWidth</i>	High value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>do01PulseLowWidth</i>	Low value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>do01PulseHiWidth</i>	High value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>do02PulseLowWidth</i>	Low value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>do02PulseHiWidth</i>	High value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>do03PulseLowWidth</i>	High value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>do03PulseHiWidth</i>	High value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>do04PulseLowWidth</i>	Low value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>do04PulseHiWidth</i>	High value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>do05PulseLowWidth</i>	Low value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>do05PulseHiWidth</i>	High value of the Pulse mode parameter. The unit of the value is millisecond	RW
<i>do06PulseLowWidth</i>	Low value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>do06PulseHiWidth</i>	High value of the Pulse mode parameter. The unit of the value is millisecond	RW
<i>do07PulseLowWidth</i>	Low value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>do07PulseHiWidth</i>	High value of the Pulse mode parameter. The unit of the value is millisecond.	RW
<i>doMode</i>	This object shows you the mode of the Digital Output channels. Use Binary display mode to read the value. The binary number 0 represent the DO mode, 1 represent the Pulse Output mode. The last bit represents the first channel (Ch0). For example: Ch0-3 is DO, Ch4-13 are Pulse Output mode, Ch14-15 remain 00, the value you can get/set is 00111111 11110000(3FF0 in 16xHex)	RW
<i>ruleEnable</i>	This object shows you which rule is triggered.	RO

**2.3 Private-Ethernet Block I/O ETHIO4PI MIB***(File Name: Hurco-LD5014SNMP-MIB-1\_6.mib)*

Object ID (OID)	Description	Community, R/W Access
<i>eioAin00Value</i>	Analog input signal (Channel 0) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read Only
<i>eioAin01Value</i>	Analog input signal (Channel 1) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read Only
<i>eioAin02Value</i>	Analog input signal (Channel 2) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read Only
<i>eioAin03Value</i>	Analog input signal (Channel 3) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read Only

## 2.4 Private-Ethernet Block I/O ETHIO8AI MIB

(File Name: Hurco-LD5017SNMP-MIB-1\_6.mib)

Object ID (OID)	Description	Community, R/W Access
<i>eioAin00Value</i>	Analog input signal (Channel 0) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read Only
<i>eioAin01Value</i>	Analog input signal (Channel 1) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read Only
<i>eioAin02Value</i>	Analog input signal (Channel 2) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read Only
<i>eioAin03Value</i>	Analog input signal (Channel 3) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read Only
<i>eioAin04Value</i>	Analog input signal (Channel 4) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read Only
<i>eioAin05Value</i>	Analog input signal (Channel 5) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read Only
<i>eioAin06Value</i>	Analog input signal (Channel 6) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read Only
<i>eioAin07Value</i>	Analog input signal (Channel 7) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read Only

## 2.5 Private-Ethernet Block I/O ETHIO8TI MIB

(File Name: *Hurco-LD5018SNMP-MIB-1\_6.mib*)

Object ID (OID)	Description	Community, R/W Access
<i>eioAin00Value</i>	Analog input signal (Channel 0) SYNTAX: <i>INTEGER ( 0..65535 )</i>	Private, Read Only
<i>eioAin01Value</i>	Analog input signal (Channel 1) SYNTAX: <i>INTEGER ( 0..65535 )</i>	Private, Read Only
<i>eioAin02Value</i>	Analog input signal (Channel 2) SYNTAX: <i>INTEGER ( 0..65535 )</i>	Private, Read Only
<i>eioAin03Value</i>	Analog input signal (Channel 3) SYNTAX: <i>INTEGER ( 0..65535 )</i>	Private, Read Only
<i>eioAin04Value</i>	Analog input signal (Channel 4) SYNTAX: <i>INTEGER ( 0..65535 )</i>	Private, Read Only
<i>eioAin05Value</i>	Analog input signal (Channel 5) SYNTAX: <i>INTEGER ( 0..65535 )</i>	Private, Read Only
<i>eioAin06Value</i>	Analog input signal (Channel 6) SYNTAX: <i>INTEGER ( 0..65535 )</i>	Private, Read Only
<i>eioAin07Value</i>	Analog input signal (Channel 7) SYNTAX: <i>INTEGER ( 0..65535 )</i>	Private, Read Only

**2.6 Private-Ethernet Block I/O ETHIO4AO MIB**(File Name: *Hurco-LD5024SNMP-MIB-1\_6.mib*)

Object ID (OID)	Description	Community, R/W Access
<i>eioAout00Value</i>	Analog Output signal (Channel 0) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read/Write
<i>eioAout01Value</i>	Analog Output signal (Channel 1) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read/Write
<i>eioAout02Value</i>	Analog Output signal (Channel 2) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read/Write
<i>eioAout03Value</i>	Analog Output signal (Channel 3) SYNTAX: <i>INTEGER</i> ( 0..65535 )	Private, Read/Write

### **3. Allgemeine Informationen für den deutschsprachigen Raum**

#### **Technischer Support**

Für einen einfachen und schnellen technischen Support dieses Produkts stehen Ihnen unsere Ansprechpartner gerne zur Verfügung.

Sie finde unsere Mitarbeiter unter:

[www.wachendorff.de/wp/ansprechpartner](http://www.wachendorff.de/wp/ansprechpartner)

#### **Eil-Service für Garantie und Reparatur**

Sollten wieder Erwarten dennoch ein Gerät ausfallen, haben wir eine Lösung für Sie, die Ihnen Schnelligkeit und Sicherheit garantiert. Füllen Sie die Formulare Garantieantrag oder Eil-Reparaturauftrag aus und senden Sie diese per Fax an: +49 (0) 6722 / 9965 – 78. Sie können diese auch im Internet einfach ausfüllen und ausdrucken.

[www.wachendorff.de/wp/reparatur](http://www.wachendorff.de/wp/reparatur)

#### **Zubehör und ähnliche Produkte**

Beschreibung	Bestellnummer
Ethernet I/O mit 14 digitalen Eingängen und 8 digitalen Ausgängen	ETHIO22D
Ethernet I/O mit 8 analogen Eingängen	ETHIO8TI
Ethernet I/O mit 4 analogen Ausgängen	ETHIO4AO
Ethernet I/O mit 4 Pt100 Eingängen	ETHIO4PI
Ethernet I/O mit 8 Thermoelemente Eingängen	ETHIO8TI
Ethernet Switch 6fach	ETHSW600
Ethernet Switch 8fach	ETHSW800