Hardware Monitor UI

Quick Guide

for ECX-1000 Series

Vecow

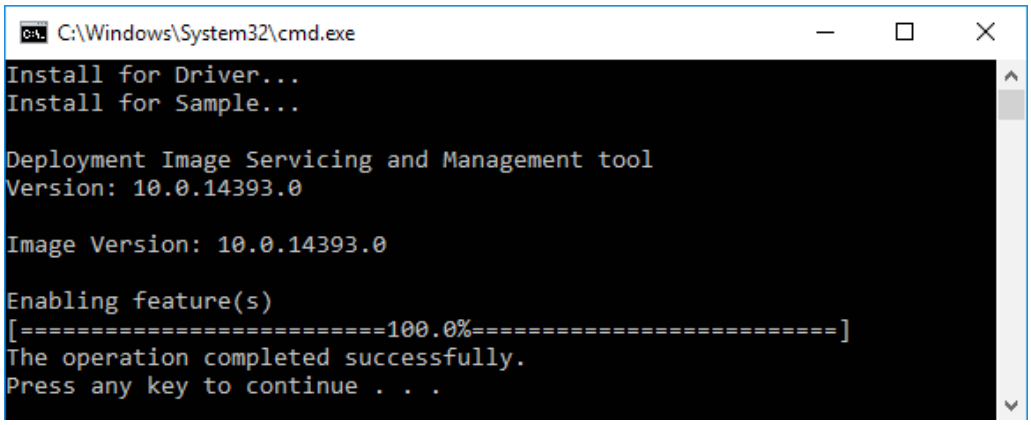
1.0.0 Edition 20190705

A

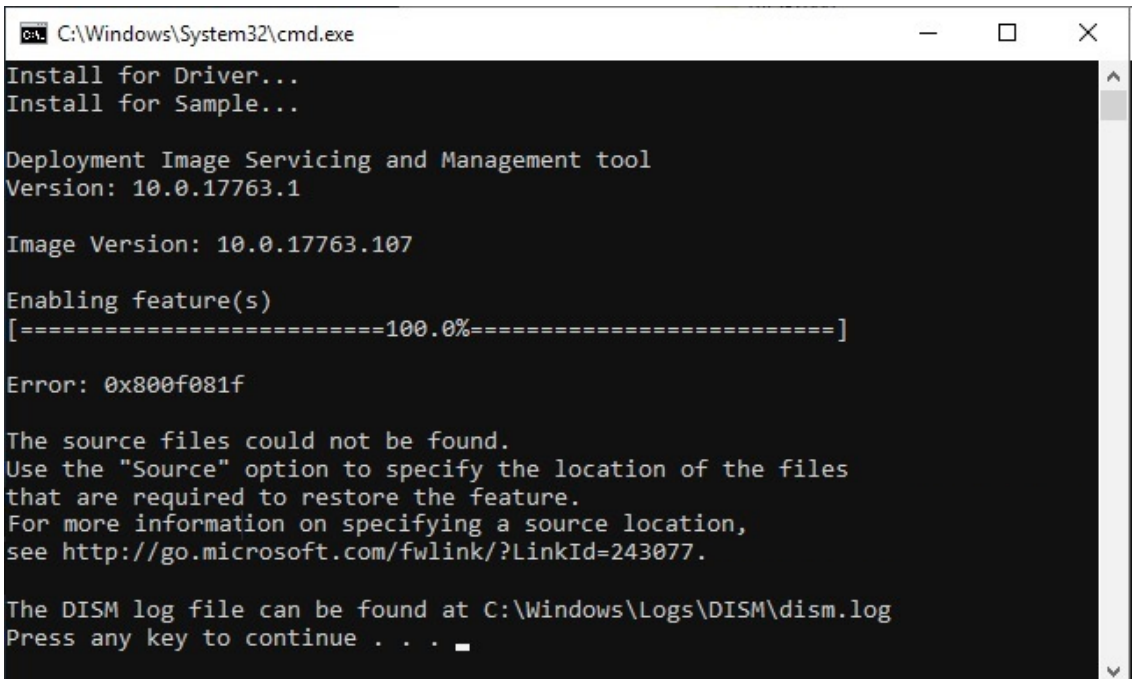
Software Package

A.1 Installation

Specific drivers are required to be installed before initiating Vecow HW monitor UI. Please follow below instructions for driver installation.
Step: Run batch file “Win10_64.bat” as Administrator to install Vecow driver and Framework 3.5.

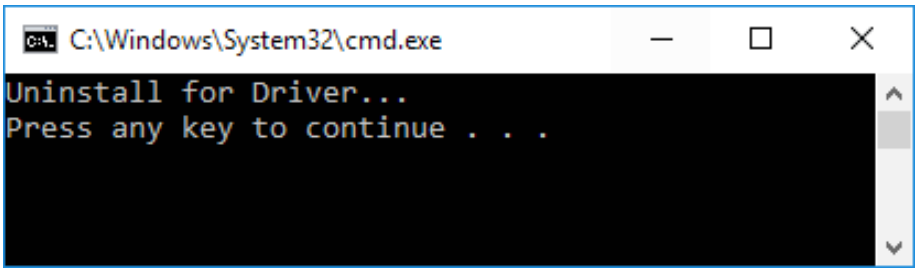


If error 0x800f081f occurs, please install Framework 3.5 before running Win10_64.bat. Please find below URL for framework 3.5 installation.
https://www.microsoft.com/en-US/download/details.aspx?id=25150



A.2 Uninstall

Step: Run batch file “Uninstall_64.bat” as administrator to uninstall Vecow driver.

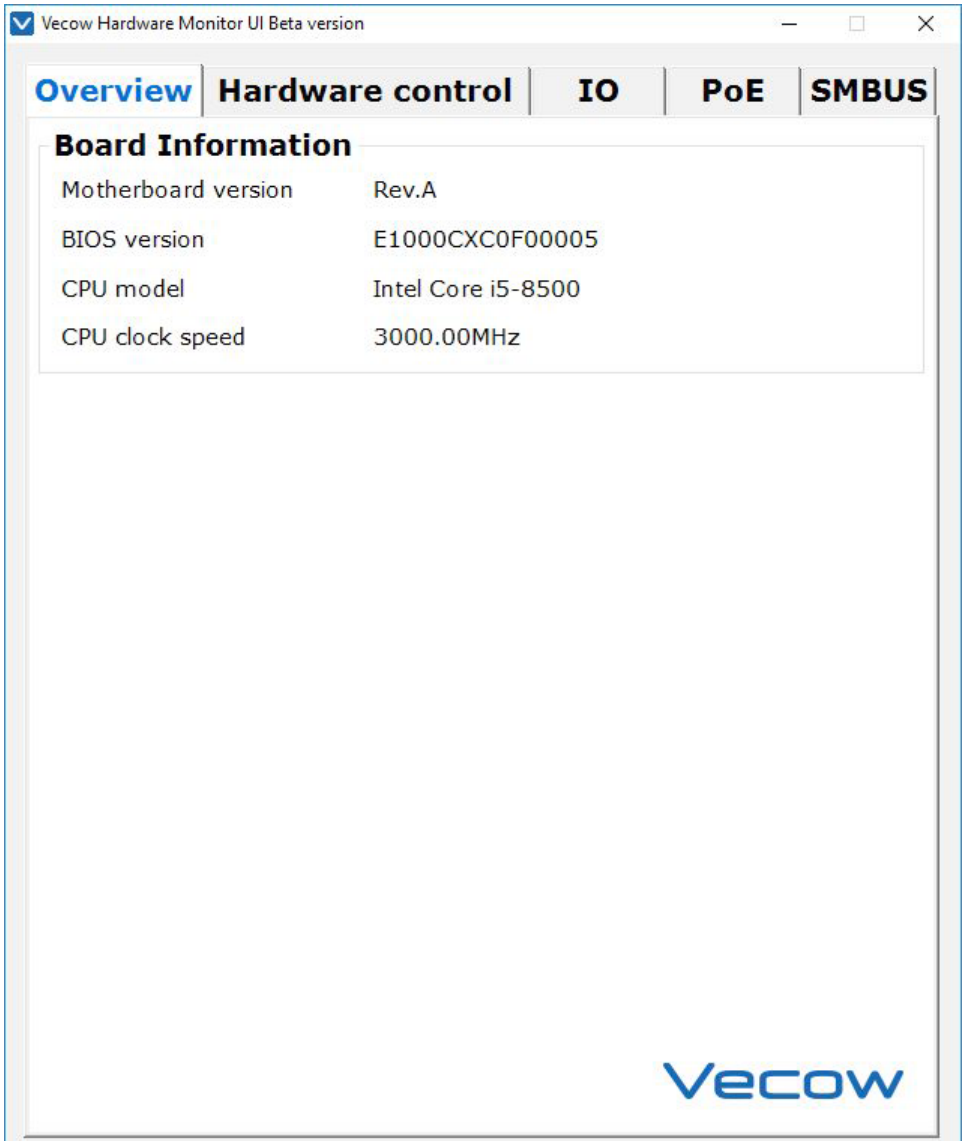


B

Function Table

B.1 Overview

Overview Table provides board information.

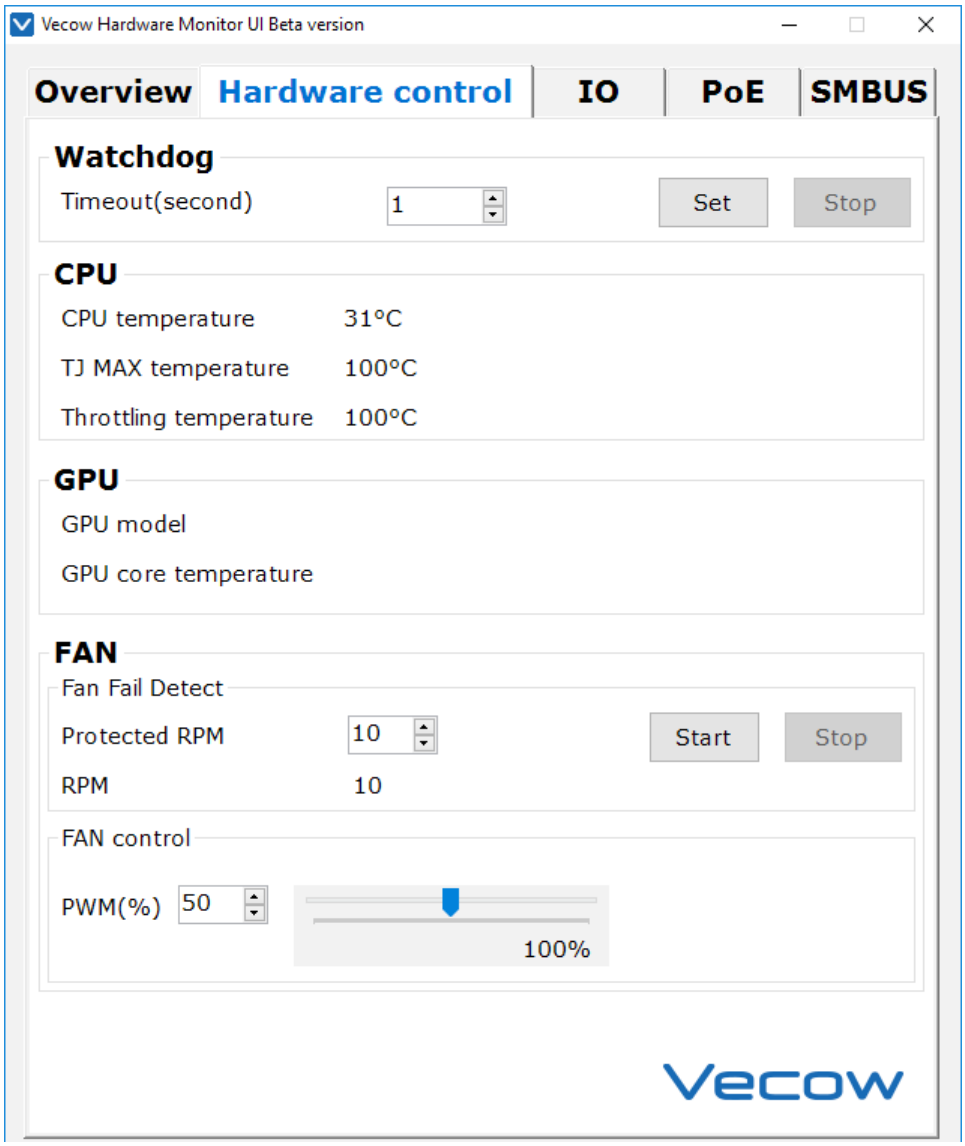


B.1.1 Board Information

Board Information table provides the board / BIOS version and pre-installed CPU report.

B.2 Hardware control

Hardware control table provides CPU / GPU information report and watch dog / RPM function set up.



B.2.1 Watchdog

Watchdog timer provides ability to detect and recover from computer malfunctions. The scope of time rage can be set up from 1 to 3932100 seconds.

Set button

Set up the timeout value and click the bottom to start the countdown.

Stop button

Reset Watchdog value.

B.2.2 CPU

CPU temperature
Current CPU DTS value.

TjMAX temperature
The maximum allowable temperature the cores can reach.

Throttling temperature
The criteria temperature that the processor will downside the performance for cooling.

B.2.3 GPU

GPU model
GPU information.

GPU core temperature
Current GPU DTS value.

B.2.4 FAN

Fan Fail Detect
The system will initiate the shutdown process in one second after the value of RPM is under protected RPM for more than one minute.

Protected RPM
The criteria that prevent the Fan speed from overloaded.

RPM
Current Fan speed (The value is updated in every 6 seconds).

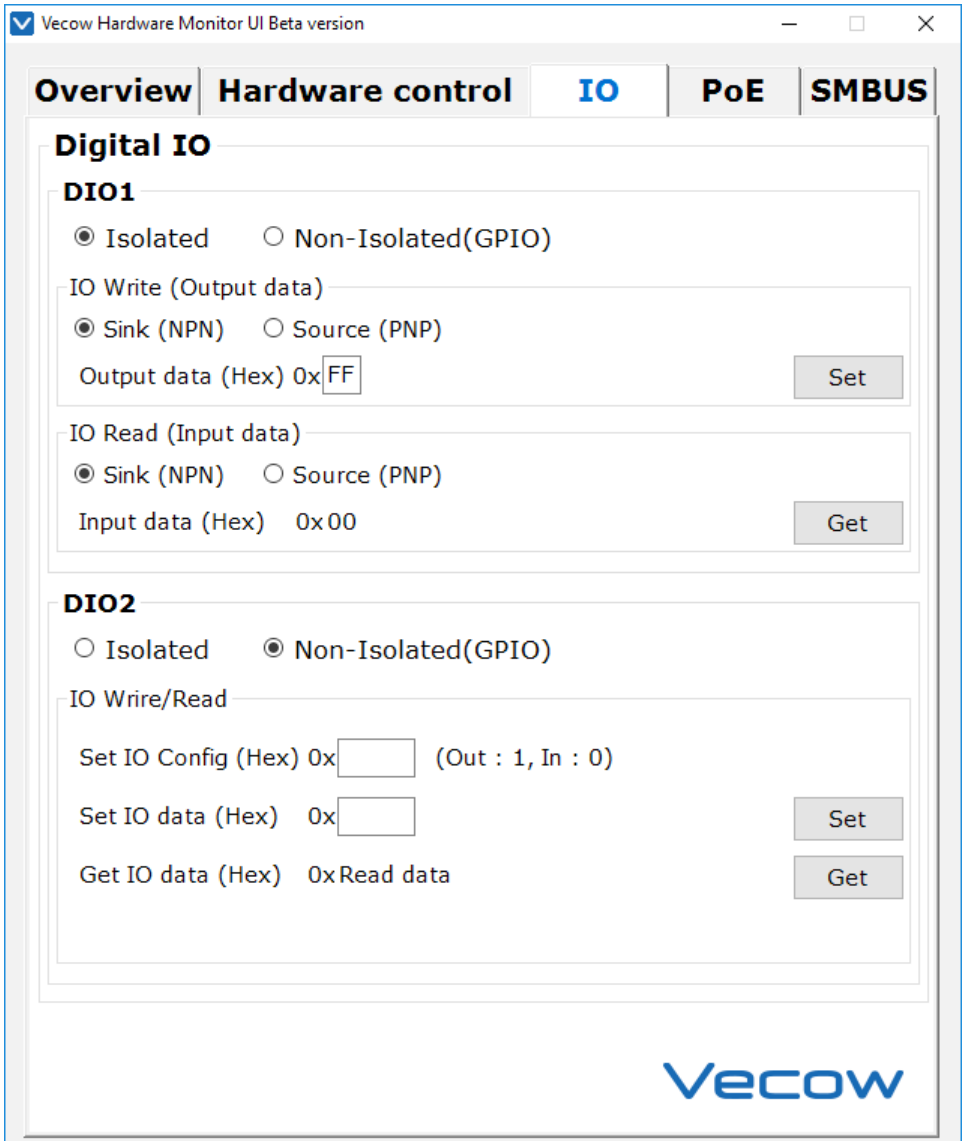
Start button
Initiate Fan speed detection.

Stop button
Interrupt Fan speed detection.

Fan Control
SmartGuardian Automatic Mode provides 256 steps of PWM control.

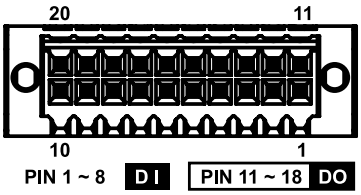
B.3 IO

IO table provides Digital IO function.



DIO definition

16-bit DIO (Isolated / Non-Isolated) 20-pin terminal block connector. Isolated DIO pins are fixed by Hardware design that cannot change in / out direction in runtime process.

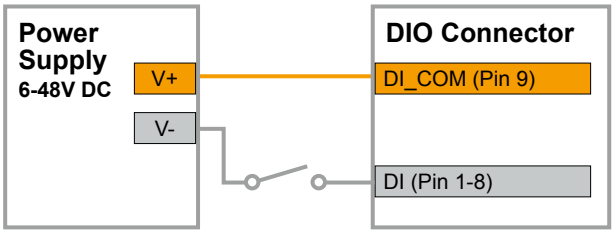


Pin No.	Isolated DIO Definition	GPIO Definition	Pin No.	Isolated DIO Definition	GPIO Definition
1	DI 0	GPIO 0	11	DO 0	GPIO 8
2	DI 1	GPIO 1	12	DO 1	GPIO 9
3	DI 2	GPIO 2	13	DO 2	GPIO 10
4	DI 3	GPIO 3	14	DO 3	GPIO 11
5	DI 4	GPIO 4	15	DO 4	GPIO 12
6	DI 5	GPIO 5	16	DO 5	GPIO 13
7	DI 6	GPIO 6	17	DO 6	GPIO 14
8	DI 7	GPIO 7	18	DO 7	GPIO 15
9	DI_COM	NC	19	DIO_GND	GPIO_GND
10	DIO_GND	GPIO_GND	20	External VDC	NC

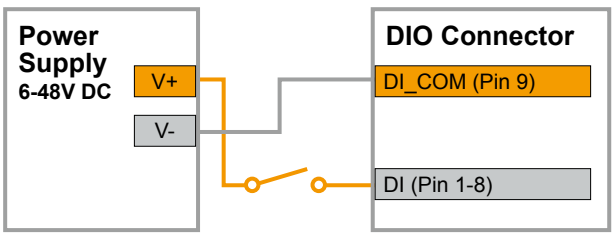
Isolated DIO Signal Circuit

DI reference circuit :

Sink Mode (NPN)

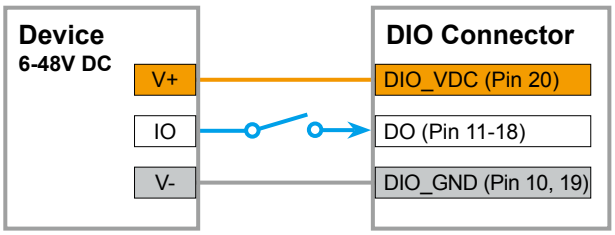


Source Mode (PNP)

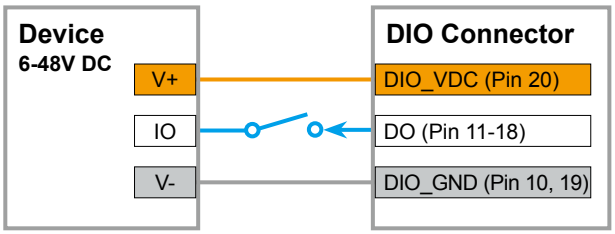


DO reference circuit :

Sink Mode
(NPN, Default)



Source Mode
(PNP)



B.3.1 Isolated DIO

Sink (NPN) / Source (PNP) radio button
Select Sink (NPN) / Source (PNP) MODE.

Set button
DIO configuration must be defined before DO output condition.

Get button
Define DIO configuration to get DI input condition.

Output data (Hex)
DO output condition is defined by a hexadecimal bitmask - on / off.
Range: 0x00~0xFF, 1: High; 0: Low.

Input data (Hex)
DI input condition is defined by a hexadecimal bitmask - on / off.
Range: 0x00~0xFF, 1: High; 0: Low.

Example
Define Output data 0x00 LED all bright on sink(NPN) mode.
Define Output data 0xFF LED all bright on source(PNP) mode.
Loopback test (connect pin.1-11 ~ pin.10-20):
Define sink(NPN) mode output and Get source(PNP) mode input.

B.3.2 Non-Isolated Digital IO (GPIO)

Set button
Define GPIO configuration to get GPIO output condition.

Get button
Define GPIO configuration to get GPIO input condition.

IO Configuration (Hex)
GPIO In / Out, the pin is defined by a hexadecimal bitmask.
Range: 0x0000~0xFFFF, 1: Out; 0: In.

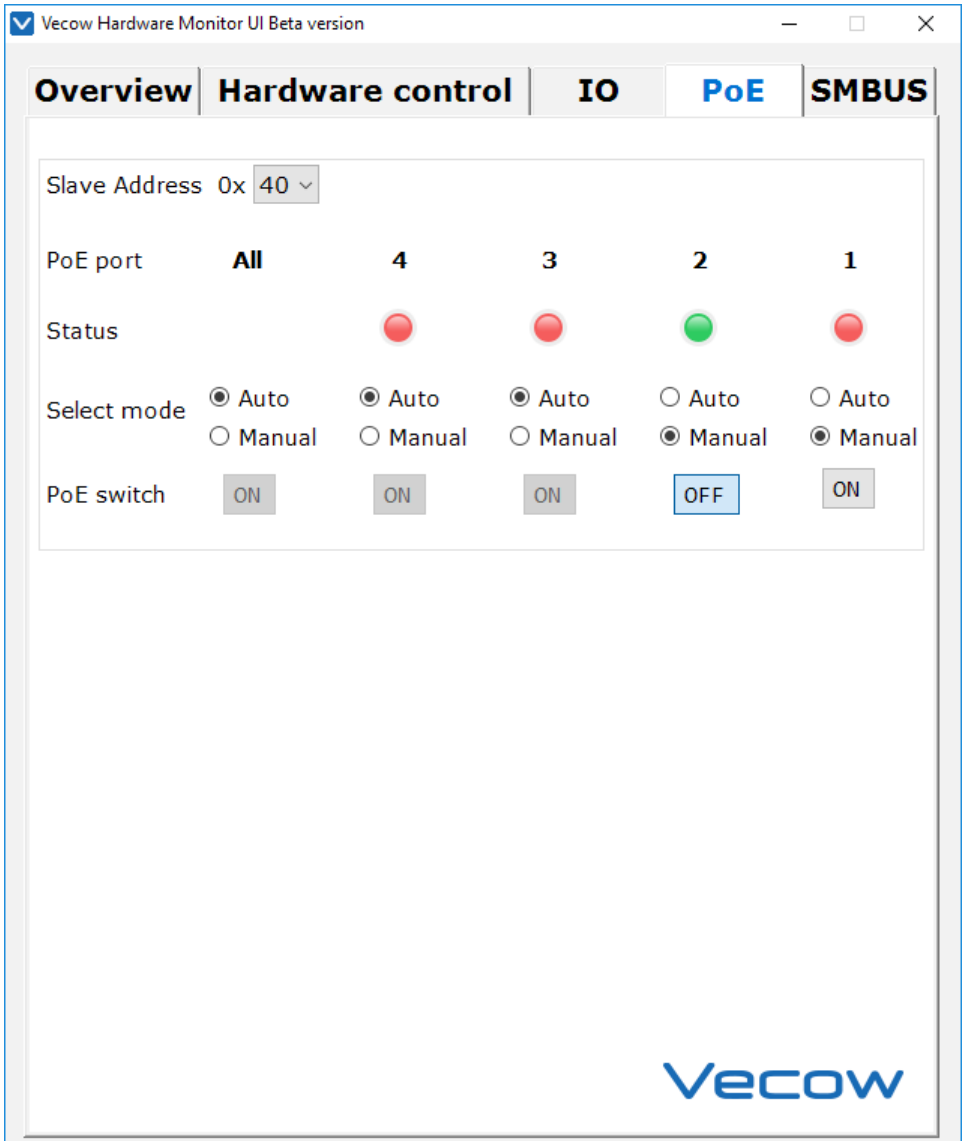
Set IO data (Hex)
GPIO output condition is defined by a hexadecimal bitmask - on / off.
Range: 0x0000~0xFFFF, 1: High; 0: Low.

Get IO data (Hex)
GPIO input condition is defined by a hexadecimal bitmask - on / off.
Range: 0x0000~0xFFFF, 1: High; 0: Low.

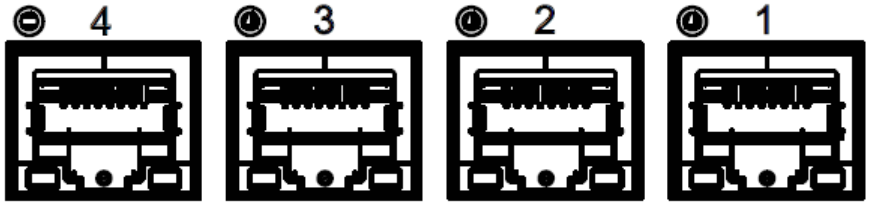
Example
Loopback test (connect pin.1-11 ~ pin.10-20):
Set IO data and Get IO data.

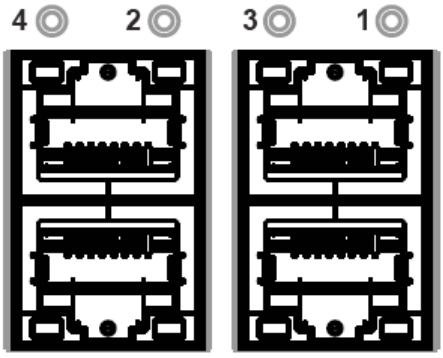
B.4 PoE Control

PoE control table provides PoE on/off switch.



POE definition





Port No.	Definition	Port No.	Definition
1	POE 0	3	POE 2
2	POE 1	4	POE 3

Slave Address
Range: 0x40~0x5E (16 address).
Auto detect all available PoE.

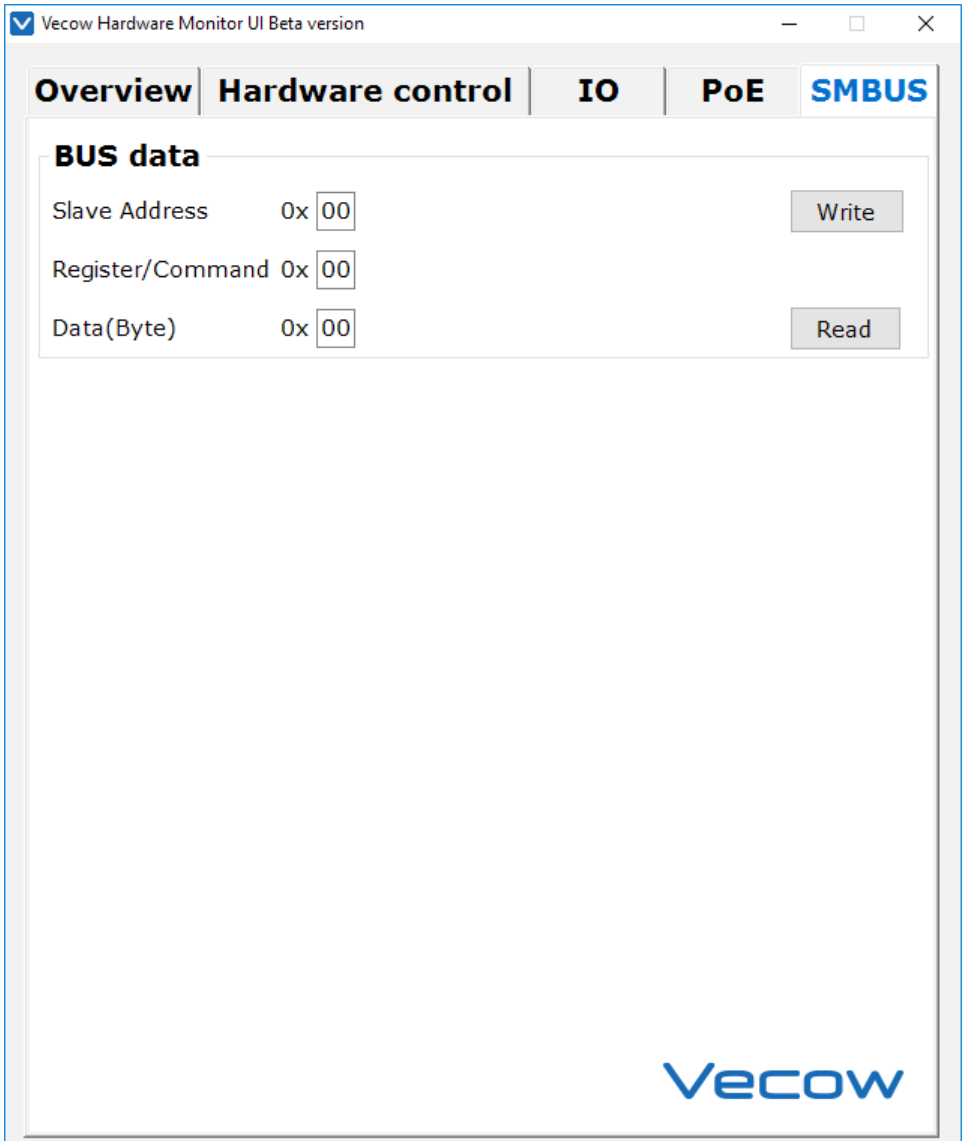
Status
Green: PoE on; Red: PoE off.

Select mode
Auto: Auto detect Power device.
Manual: Turn on/off PoE by user.

PoE switch
ON: Turn on PoE for manual mode.
OFF: Turn off PoE for manual mode.

B.5 SMBUS

SMBUS table provides BUS data accessed on SMBUS.



B.5.1 BUS data

BUS data function supports only byte transmission.

Slave Address
The SMBUS slave device address is expected in 8-bit hex format with the 7-bit address in the upper seven bits and the lowest bit set as read (1) / write (0) bit accordingly.

Register/Command
The SMBUS command enables access to SMBUS devices.

Data
Support transfer type: Read/Write Command Byte.

SMBUS control PoE
PoE slave address
Range: 0x40~0x5E (16 address).
Set 4-port PoE Configuration for auto mode
Register 0x12, Write 0xFF.
Register 0x13, Write 0xF0.
Register 0x14, Write 0xFF.
Set 4-port PoE Configuration for manual mode and trun on/off PoE port:
Register 0x12, Write 0x55.
Register 0x13, Write 0x00.
Register 0x14, Write 0x00.
Register 0x19, Write 0x0F/0xF0.