

Harmony Modular Tower Light USB Base User Guide

PKR9521100

09/2025

This technical guide provides comprehensive instructions for configuring, commissioning, and operating the XVB7C51 and XV6C51W USB base units. It outlines the necessary steps to ensure proper setup and integration of the products within various environments. The guide includes detailed procedures for using the USB base with Human-Machine Interfaces (HMIs) and industrial PCs (iPCs). Additionally, it features a dedicated section explaining how the USB base integrates seamlessly with Schneider Electric's HMI solutions.



XVB7C51



XV6C51W

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Safety Information

Important Information

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

	The addition of this symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.
	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

DANGER

DANGER indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

About The Document

Document Scope

This documentation is a reference for the Harmony XVB7C51 and XV6C51 USB Base

The purpose of this document is to explain how to configure the Harmony XVB7C51 and XV6C51 USB Base

NOTE: Before installing, operating, or maintaining

Validity Note

The characteristics of the products described in this document are intended to match the characteristics that are available on www.se.com. As part of our corporate strategy for constant improvement, we may revise the content over time to enhance clarity and accuracy. If you see a difference between the characteristics in this document and the characteristics on www.se.com, consider www.se.com to contain the latest information.

Product Related Information

DANGER

HAZARD OF ELECTRIC SHOCK, ARC FLASH OR EXPLOSION

- Disconnect all power before servicing equipment.
- Install properly rated fuses as recommended in this document.
- Ensure product is supplied with correct power supply before power ON.
- Connect the protective earth (PE) to the XVZ100T and XVZ250T L-bracket ground before power on
- Ensure all wires and/or cables are securely connected to the push-in connector.
- To maintain product waterproofness,
 - No crack/damage is allowed on product after dropped.
 - Screws must be tightened to the require torque level.
 - Ensure gasket is correctly positioned.
 - “Pole” must be fully inserted into the Base/Fixing plate.
 - XV6C9V, XV6C9VW, XVZ100T and XVZ250T should always be positioned in upright orientation.
- Apply lowest IP rating to completed products setup/assembly.
- Connect protective earth (PE) to electrical equipment before turning on power

Failure to follow these instructions will result in death or serious injury.

CAUTION

BRIGHT LIGHT, LOUD ALARM SOUND AND SHARP EDGES OPERATING HAZARDS

- Wear protective gloves when commissioning/servicing the products.
- High intensity LED light. Do not expose eyes to light source for long duration.
- Do not expose to loud alarm sounds for prolonged periods.

Failure to follow these instructions can result in injury.

NOTICE

LOSS OF LIGHT INTENSITY

- Do not operate the product in ambient temperature above 50°C.

Failure to follow this instruction can result in equipment damage.

Hardware Description

XVB7C51 / XV6C51W



Note:

Do not use with Voice Alarm and Flashing Lens. Only to be used for blinking and rotating lens.

1. Third Party HMI with CDC driver available & IPC

1A. Specifications

Commercial Reference	XVB7C51 and XV6C51
Connector	USB 2.0 Type C
Operating voltage	5V
Maximum Input current	500mA
Number of layer	Support up to 5 layers
Maximum Output current	90mA
Operating systems	CDC driver use, see OS compatibility on the website
USB mode	CDC USB standard class
Communication protocol	Modbus Serial
Vendor ID	0x16DE
Product ID	0x0400
Slave ID	0x01
Types of mode for towerlights after connection	On/ Blinking / Flashing / Off

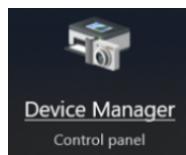
1B. Configuration

Connection Structure



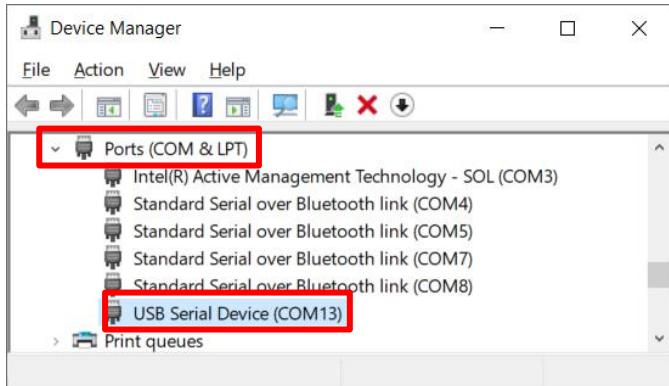
To set up the USB base:

1. Connect the USB base to PC.
2. Open “Device Manager”



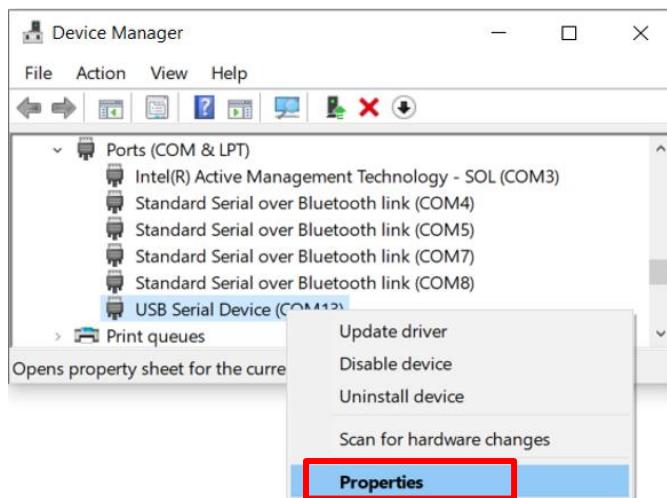
3. Check “Port (COM & LPT)” for “USB Serial Device (COMxx)”

COM number is auto assigned by your operating system.

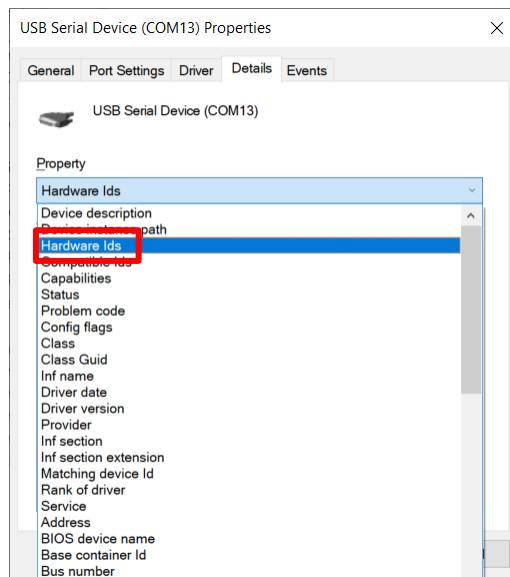


4. To check the Vendor ID and Product ID

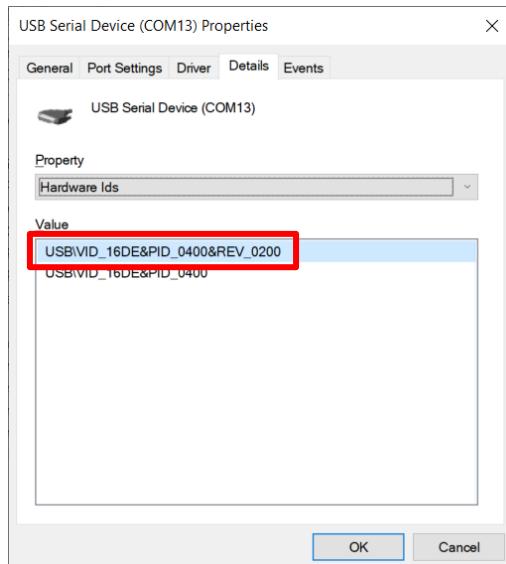
- Click "Properties":



- In "Details" tab, select "Hardware Ids" in the drop-down list

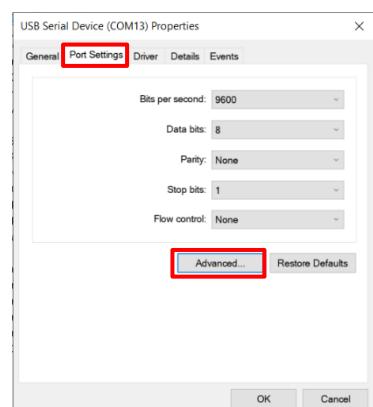


- USB Base is with Vendor ID is 16DE and Product ID is 0400

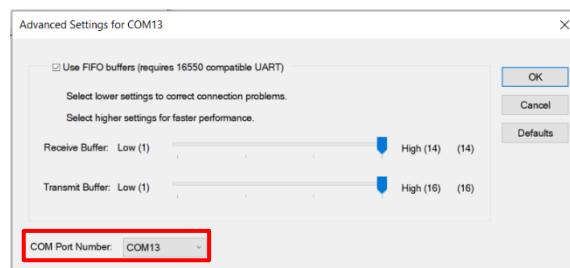


5. To change COM port number

- Click “Advance...” button under “Port Settings”



- Select COM Port Number in the drop-down menu

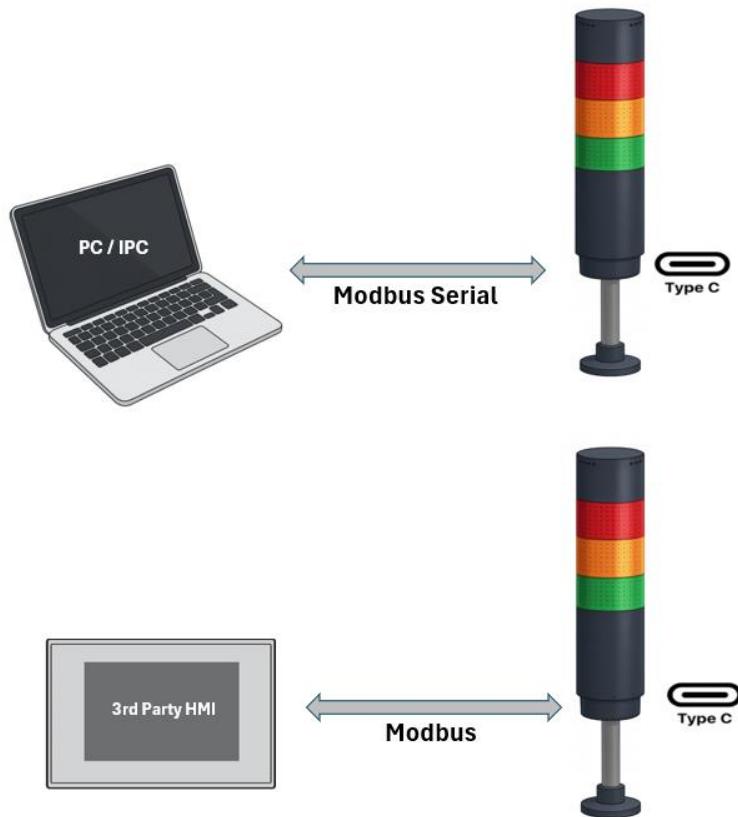


6. Now the USB base is recognized as a virtual COM port.
 7. Set the communication parameters as below table:

Baud-Rate	115200, 57600, 38400, 19200, 14400, 9600
Data Bits	5,6,7,8
Stop Bits	1,1.5,2
Parity	None, Even, Odd, Mark, Space
Flow Control	None, XON/XOFF, RTS/CTS, DSR/DTR
Slave Address	0x01

8. You can start communicating the USB base with Modbus RTU protocol.

Connection Between HMI/IPC and Tower Light



1C. Operations

Light Pattern

The light pattern codes are defined in the following table. These values must be written to the process registers described in this document to activate a module mounted on the XV USB Base.

Light pattern	Modbus value
OFF	0b0000 0000 (0x00)
ON	0b0000 0001 (0x01)
BLINK ON	0b0000 0011 (0x03)
FLASH ON	0b0000 0101 (0x05)

The effect of four light and/or patterns would depend on the type of lens used ranging from Steady Lens, Beacon Steady Lens and/or Buzzer Continuous Tone.

When using Blinking Lens, Rotating Lens, Multi-function Clear Lens, Multi-color Clear Lens MUST select 'ON' pattern to achieve the effect of the Lens. Otherwise, the effect desired cannot be seen (E.g Turning on Blinking Lens with the flashing pattern is wrong).

Process Registers

The process register addresses of the modules are detailed in the table provided below. These values are readable and writeable.

Example

To initiate Tier 1, you must input **0x01** into *process register 10* for the static light, **0x03** for blink mode, and **0x05** for flash mode. To deactivate the module, use **0x00**.

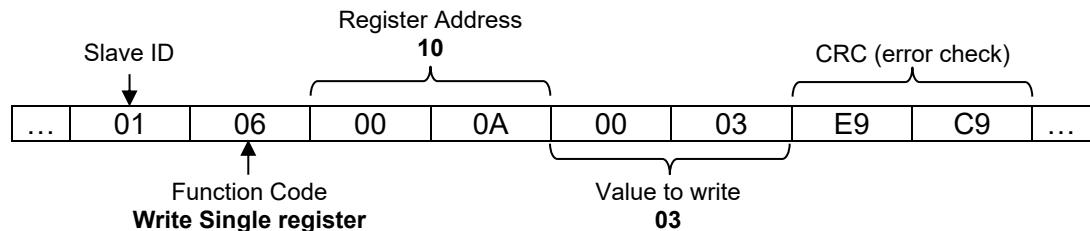
Process	Assigned Module	Modbus Value	Read/Write
Register 10	Tier 1 – Activation Mode	0x00, 0x01, 0x03, 0x05	Write
Register 20	Tier 2 – Activation Mode	0x00, 0x01, 0x03, 0x05	Write
Register 30	Tier 3 – Activation Mode	0x00, 0x01, 0x03, 0x05	Write
Register 40	Tier 4 – Activation Mode	0x00, 0x01, 0x03, 0x05	Write
Register 50	Tier 5 – Activation Mode	0x00, 0x01, 0x03, 0x05	Write

Use the function code below to WRITE your operation:

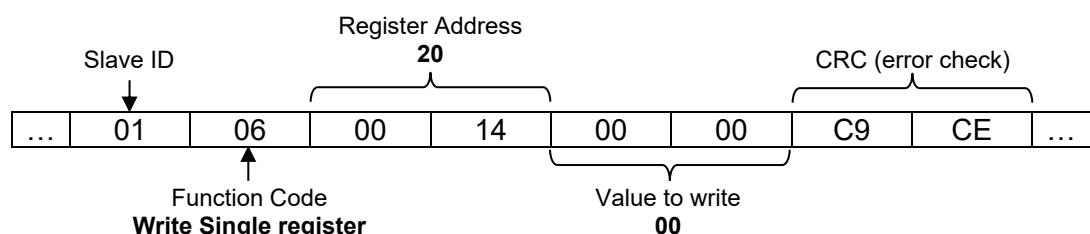
- (0x06) Write Single Register
- (0x10) Write Multiple Registers

Example 1: Turn **ON** Tier 1 with BLINK ON only, Tier 2-5 remain **OFF** with Write Single Register (0x06)

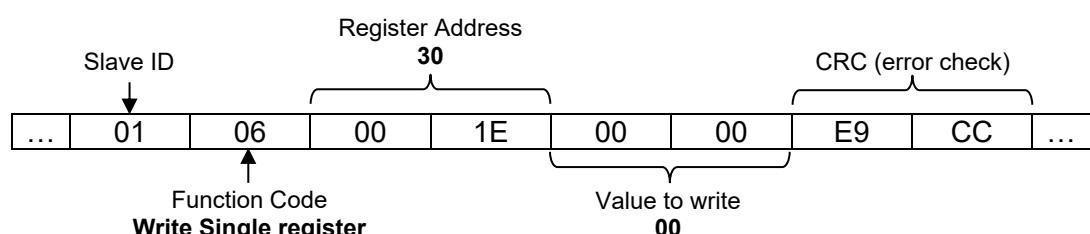
1. Write value 0x03 to register 10



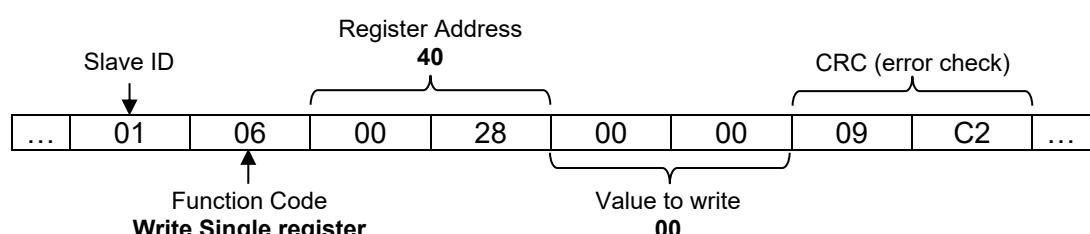
2. Write value 0x00 to register 20



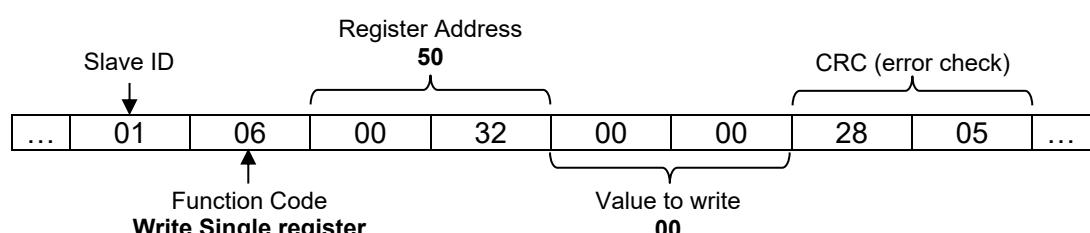
3. Write value 0x00 to register 30



4. Write value 0x00 to register 40



5. Write value 0x00 to register 50



Diagnostic Registers

The diagnostic registers are outlined in the following table. These values are read only.

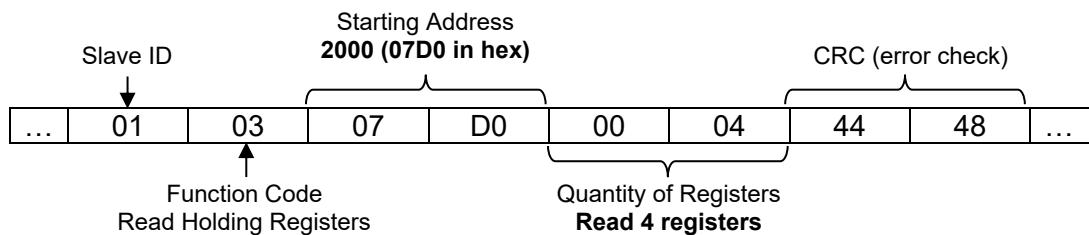
Diagnostic	Description	Value	Read/Write
Register 2000	Product Range	“Harmony”	Read
Register 2016	Product Reference	“XV USB Base”	Read
Register 2032	Version	“VXX.YY”	Read
Register 2048	Modbus Network type	“SL”	Read
Register 2064	Error code	“0”	Read

The table outlines specific 16-Bit Register Values, each divided into two 8-Bit values. The first character is stored in the upper 8-Bits, while the second character is stored in the lower 8-Bits

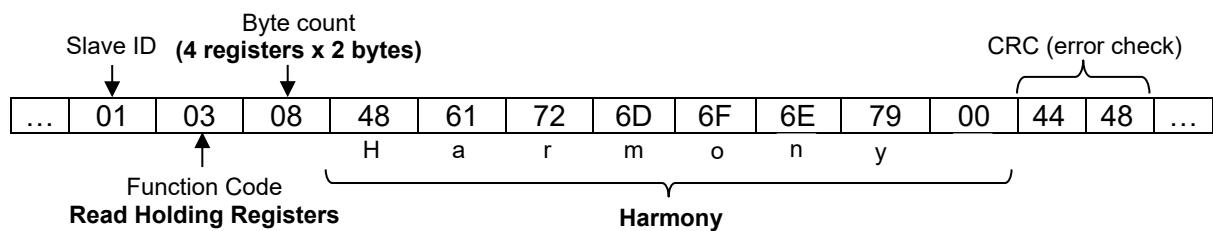
Register	Value	Upper 8-Bit	Lower 8-Bit
2000	“Ha”	“H”	“a”
2001	“rm”	“r”	“m”
2002	“on”	“o”	“n”
2003	“y”	“y”	

Use below function code to perform read operation
(0x03) Read Holding Registers

Example: Read “Harmony”
You need to read from register 2000 to 2003



Expected response:



Modbus Device Identification

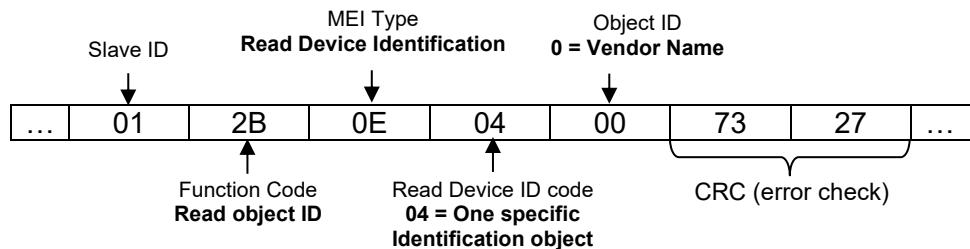
The Modbus device identification is presented in the table below. These values are read only.

Object ID	Object Name	Notes	Read/Write
0x00	Vendor name	Schneider Electric	Read
0x01	Product codes	EAN-CODES	Read
0x02	Major Minor revision	VXX.YY	Read
0x03	Vendor url	www.se.com	Read

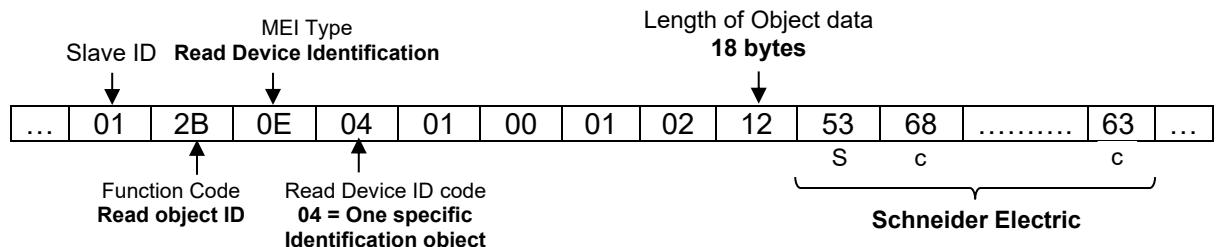
0x04	Product name	Harmony	Read
0x05	Model name	"XV USB Base"	Read
0x80	PCBA Man. Date Code		Read

You can use below function code to perform write operation
(0x2B / 0x0E) Read Device Identification

Example: Read object ID "0" = vendor name -> "Schneider Electric"



Expected response:



2. Schneider HMI embedded software

2A. Specifications

Commercial Reference	XVB7C51 and XV6C51
Connector	USB 2.0 Type C
Operating voltage	5V
Maximum Input current	500mA
Number of layer	Support up to 5 layers
Maximum Output current	90mA
Operating systems	CDC driver use, see OS compatibility on the website
USB mode	CDC USB standard class
Communication protocol	Modbus Serial
Vendor ID	0x16DE
Product ID	0x0400
Slave ID	0x01
Types of mode for towerlights after connection	On/ Blinking / Flashing / Off

2B. Configuration

Supported Schneider Electric HMI with Industrial PC

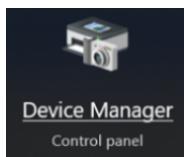
	Schneider Electric			Pro-Face		
	Software	Version	Hardware	Software	Version	Hardware
Basic	EOTE	4.4	HMIST6 series HMISTM6 series	BLUE/ GP-ProEX	4.4 / 5.01	ST6000 series STM6000 series
Advanced	EOTE	4.4	HMIGT6 series	BLUE/ GP-ProEX	4.4 / 5.01	GP6000 Series
iPC	EOTE	4.4	Harmony P6 Series	BLUE/ GP-ProEX	4.4 / 5.01	PS6000 Series

Connection Structure

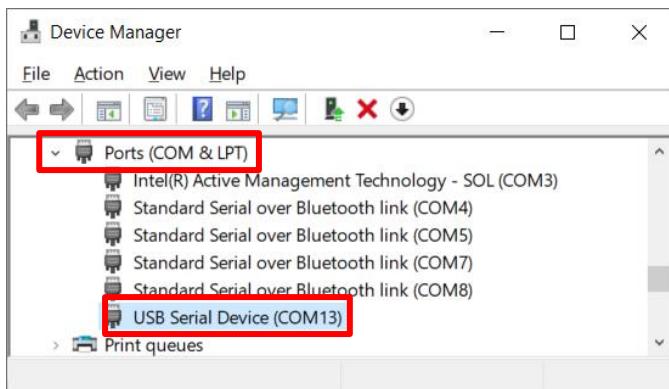


To set up the USB base:

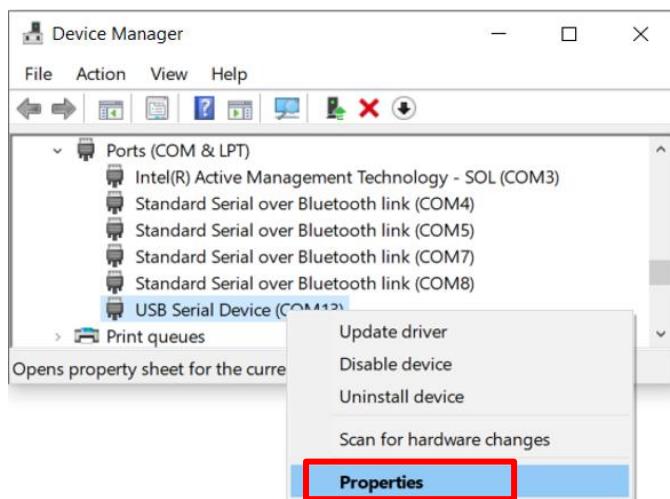
1. Connect the USB base to PC.
2. Open “Device Manager”



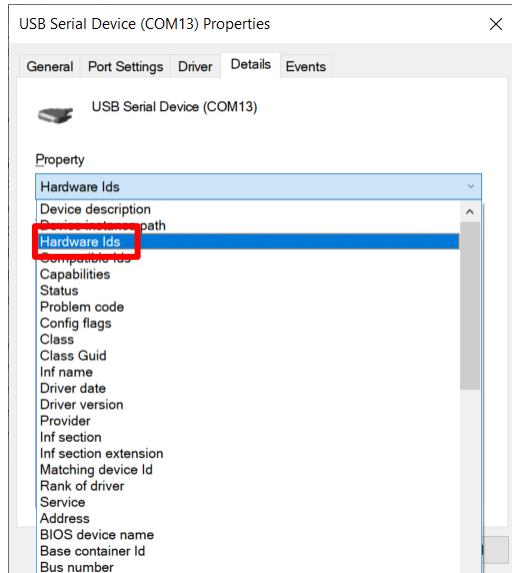
3. Check “Port (COM & LPT)” for “USB Serial Device (COMxx)”
COM number is auto assigned by your operating system.



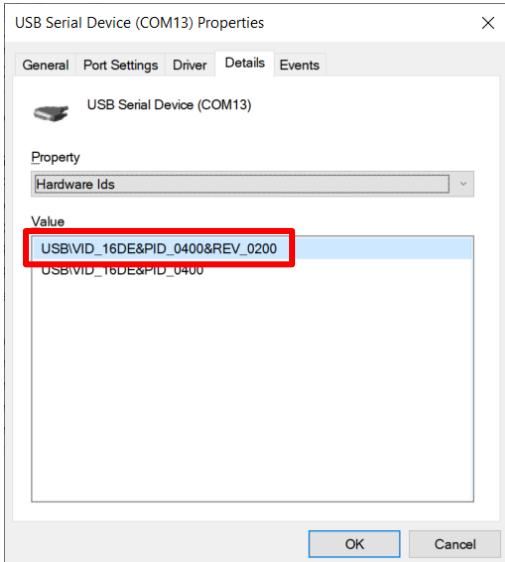
4. To check the Vendor ID and Product ID
 - a. Click “Properties”:



- In “Details” tab, select “Hardware Ids” in the drop-down list

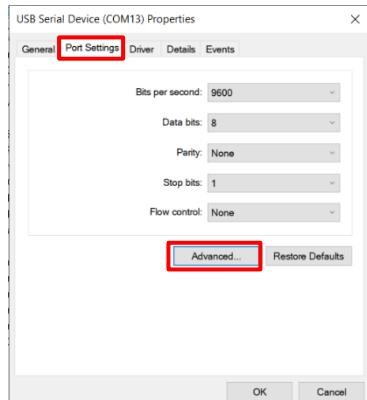


- USB Base is with Vendor ID is 16DE and Product ID is 0400

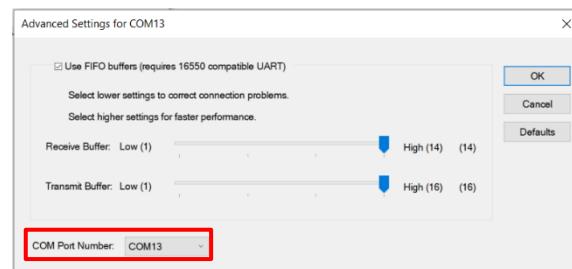


5. To change COM port number

- Click “Advance...” button under “Port Settings”



- Select COM Port Number in the drop-down menu



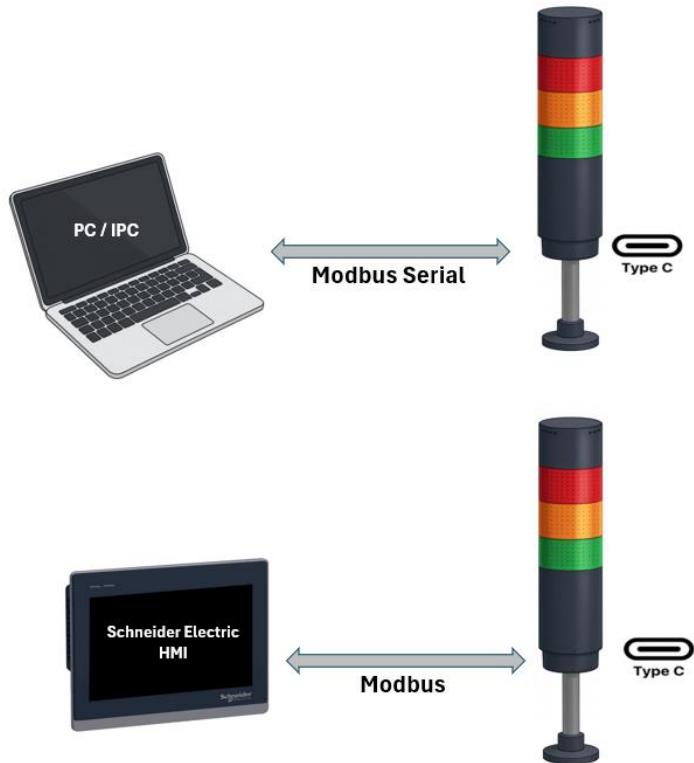
6. Now the USB base is recognized as a virtual COM port.

7. Set the communication parameters as below table:

Baud-Rate	115200, 57600, 38400, 19200, 14400, 9600
Data Bits	5,6,7,8
Stop Bits	1,1.5,2
Parity	None, Even, Odd, Mark, Space
Flow Control	None, XON/XOFF, RTS/CTS, DSR/DTR
Slave Address	0x01

8. You can start communicating the USB base with Modbus RTU protocol.

Connection Between HMI/IPC and Tower Light



2C. Operations

Light Pattern

The light pattern codes are defined in the following table. These values must be written to the process registers described in this document to activate a module mounted on the XV USB Base.

Light pattern	Modbus value
OFF	0b0000 0000 (0x00)
ON	0b0000 0001 (0x01)
BLINK ON	0b0000 0011 (0x03)
FLASH ON	0b0000 0101 (0x05)

The effect of four light and/or patterns would depend on the type of lens used ranging from Steady Lens, Beacon Steady Lens and/or Buzzer Continuous Tone.

When using Blinking Lens, Rotating Lens, Multi-function Clear Lens, Multi-color Clear Lens MUST select 'ON' pattern to achieve the effect of the Lens. Otherwise, the effect desired cannot be seen (E.g Turning on Blinking Lens with the flashing pattern is wrong).

Process Registers

The process register addresses of the modules are detailed in the table provided below. These values are readable and writeable.

Example

To initiate Tier 1, you must input **0x01** into process register 10 for the static light, **0x03** for blink mode, and **0x05** for flash mode. To deactivate the module, use **0x00**.

Process	Assigned Module	Modbus Value	Read/Write
Register 10	Tier 1 – Activation Mode	0x00, 0x01, 0x03, 0x05	Write
Register 20	Tier 2 – Activation Mode	0x00, 0x01, 0x03, 0x05	Write
Register 30	Tier 3 – Activation Mode	0x00, 0x01, 0x03, 0x05	Write
Register 40	Tier 4 – Activation Mode	0x00, 0x01, 0x03, 0x05	Write
Register 50	Tier 5 – Activation Mode	0x00, 0x01, 0x03, 0x05	Write

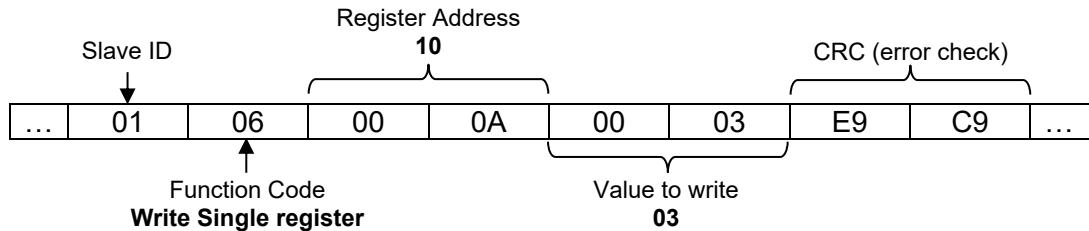
Use the function code below to WRITE your operation:

(0x06) Write Single Register

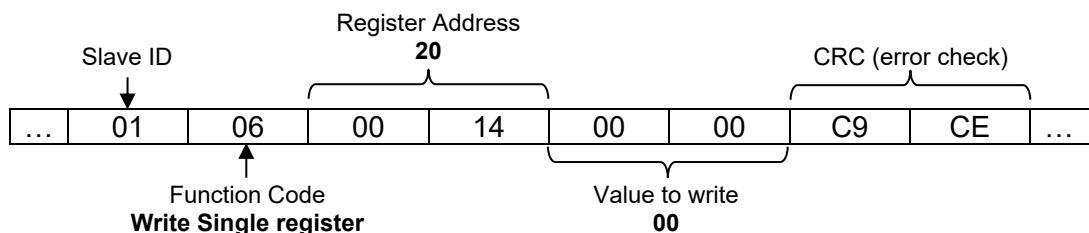
(0x10) Write Multiple Registers

Example 1: Turn **ON** Tier 1 with BLINK ON only, Tier 2-5 remain **OFF** with Write Single Register (0x06)

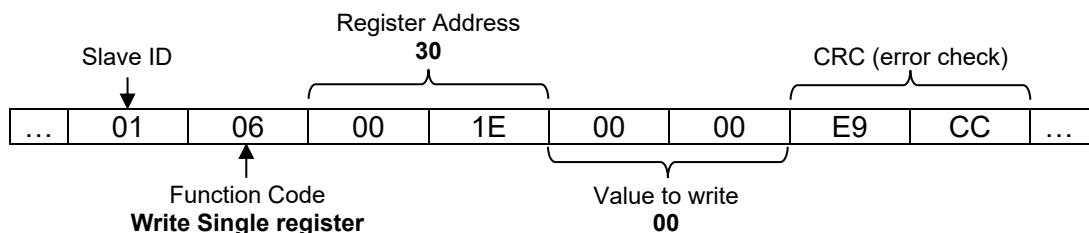
1. Write value 0x03 to register 10



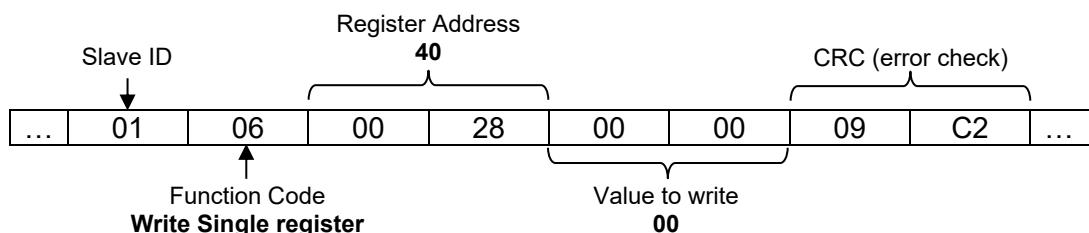
2. Write value 0x00 to register 20



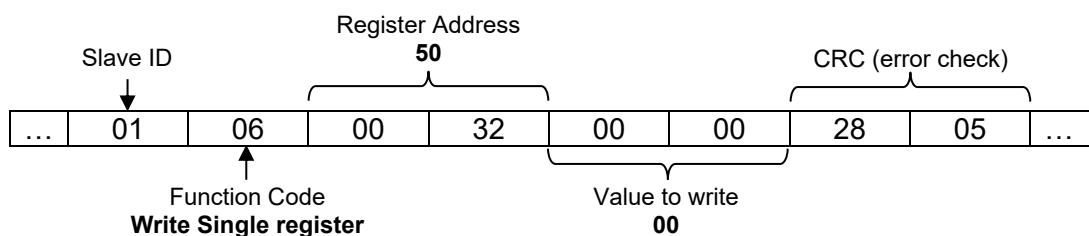
3. Write value 0x00 to register 30



4. Write value 0x00 to register 40



5. Write value 0x00 to register 50



Diagnostic Registers

The diagnostic registers are outlined in the following table. These values are read only.

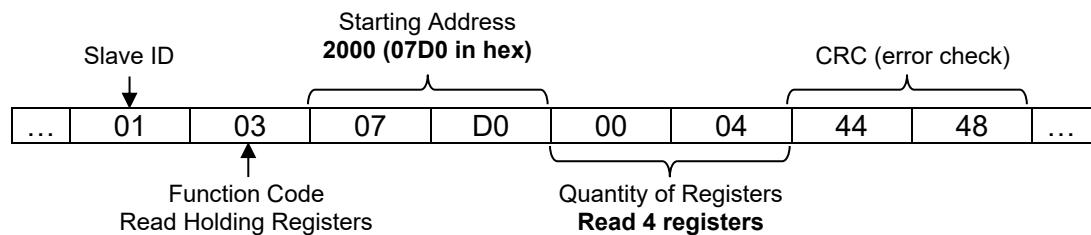
Diagnostic	Description	Value	Read/Write
Register 2000	Product Range	“Harmony”	Read
Register 2016	Product Reference	“XV USB Base”	Read
Register 2032	Version	“VXX.YY”	Read
Register 2048	Modbus Network type	“SL”	Read
Register 2064	Error code		Read

The table outlines specific 16-Bit Register Values, each divided into two 8-Bit values. The first character is stored in the upper 8-Bits, while the second character is stored in the lower 8-Bits

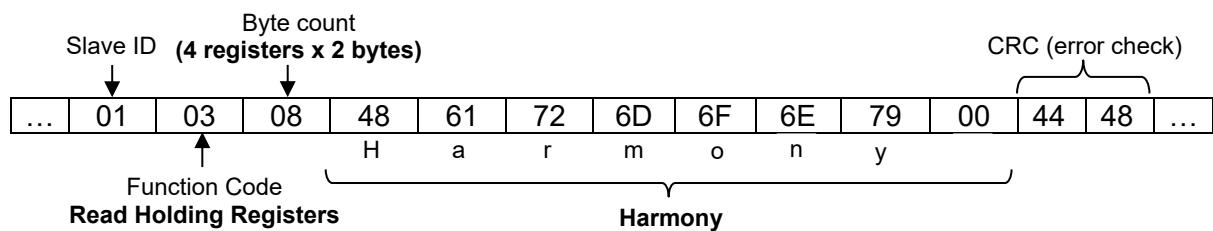
Register	Value	Upper 8-Bit	Lower 8-Bit
2000	“Ha”	“H”	“a”
2001	“rm”	“r”	“m”
2002	“on”	“o”	“n”
2003	“y”	“y”	

You can use below function code to perform read operation
(0x03) Read Holding Registers

Example: Read “Harmony”
You need to read from register 2000 to 2003



Expected response:



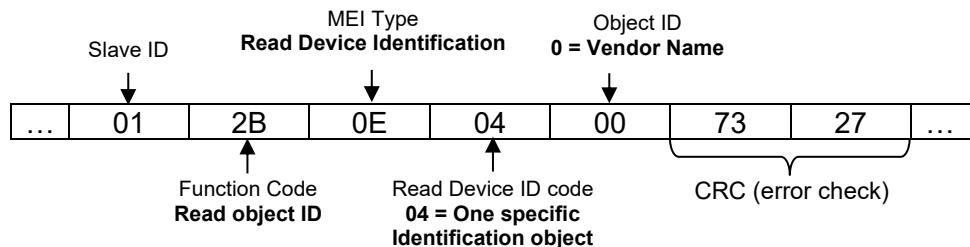
Modbus Device Identification

The Modbus device identification is presented in the table below. These values are read only.

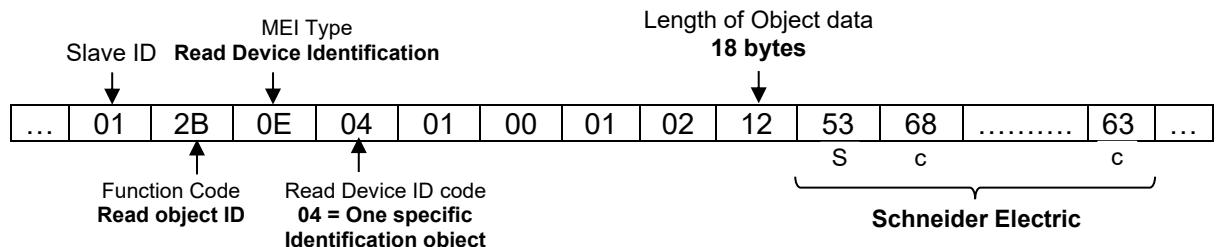
Object ID	Object Name	Notes	Read/Write
0x00	Vendor name	Schneider Electric	Read
0x01	Product codes	EAN-CODES	Read
0x02	Major Minor revision	VXX.YY	Read
0x03	Vendor url	www.se.com	Read
0x04	Product name	Harmony	Read
0x05	Model name	“XV USB Base”	Read
0x80	PCBA Man. Date Code		Read

You can use below function code to perform write operation
(0x2B / 0x0E) Read Device Identification

Example: Read object ID “0” = vendor name -> “Schneider Electric”



Expected response:



3. Comprehensive data description in appendix

3A. Consolidated specifications table

Commercial Reference	XVB7C51 and XV6C51																								
Connector	USB 2.0 Type C																								
Operating voltage	5V																								
Maximum Input current	500mA																								
Number of layer	Support up to 5 layers																								
Maximum Output current	90mA																								
Operating systems	CDC driver use, see OS compatibility on the website																								
USB mode	CDC USB standard class																								
Communication protocol	Modbus Serial <table border="1"> <tr> <td>Baud-Rate</td> <td>115200, 57600, 38400, 19200, 14400, 9600</td> </tr> <tr> <td>Data Bits</td> <td>5,6,7,8</td> </tr> <tr> <td>Stop Bits</td> <td>1,1.5,2</td> </tr> <tr> <td>Parity</td> <td>None, Even, Odd, Mark, Space</td> </tr> <tr> <td>Flow Control</td> <td>None, XON/XOFF, RTS/CTS, DSR/DSR</td> </tr> </table>					Baud-Rate	115200, 57600, 38400, 19200, 14400, 9600	Data Bits	5,6,7,8	Stop Bits	1,1.5,2	Parity	None, Even, Odd, Mark, Space	Flow Control	None, XON/XOFF, RTS/CTS, DSR/DSR										
Baud-Rate	115200, 57600, 38400, 19200, 14400, 9600																								
Data Bits	5,6,7,8																								
Stop Bits	1,1.5,2																								
Parity	None, Even, Odd, Mark, Space																								
Flow Control	None, XON/XOFF, RTS/CTS, DSR/DSR																								
Vendor ID	0x16DE																								
Product ID	0x0400																								
Slave ID	0x01																								
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