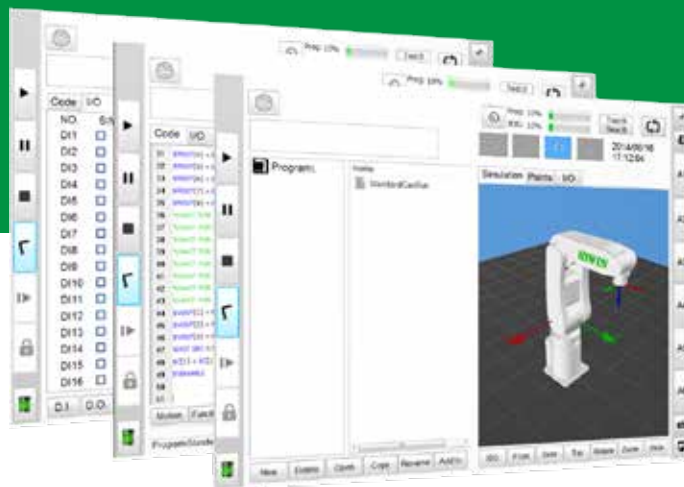


XEG Controller Firmware Update

User Manual

Original Instruction





Semiconductor Subsystem

- Semiconductor/LED/Panel
- EFEM (Equipment Front End Module)
 - Wafer Robot
 - Load Port
 - Wafer Aligner



Multi-Axis Robot

- Pick-and-Place / Assembly / Array and Packaging / Semiconductor / Electro-Optical Industry / Automotive Industry / Food Industry
- Articulated Robot
 - SCARA Robot
 - Electric Gripper
 - Integrated Electric Gripper



Single-Axis Robot

- Precision / Semiconductor / Medical / FPD
- KK, SK
 - KS, KA
 - KU, KE, KC



Torque Motor Rotary Table

- Medical / Automotive Industry / Machine Tools / Machinery Industry
- RAB Series
 - RAS Series
 - RCV Series
 - RCH Series



Ball screw

- Precision Ground / Rolled
- Super S Series
 - Super T Series
 - Mini Roller
 - Ecological & Economical Lubrication Module E2
 - Rotating Nut (R1)
 - Energy-Saving & Thermal-Controlling (Cool Type)
 - Heavy Load Series (RD)
 - Ball Spline



Linear Guideway

- Automation / Semiconductor / Medical
- Ball Type--HG, EG, WE, MG, CG
 - Quiet Type--QH, QE, QW, QR
 - Other--RG, E2, PG, SE, RC



Bearing

- Machine Tools / Robot
- Crossed Roller Bearing
 - Ballscrew Bearing
 - Support Unit



DATORKER® Strain Wave Gear

- Robot / Automation Equipment / Semiconductor Equipment / Machine Tools
- DSC Type
 - DSH Type
 - DGC Type
 - DGH Type
 - DLC Type



AC Servo Motor & Drive

- Semiconductor / Packaging Machine / SMT / Food Industry / LCD
- Drives--D1, D2T/D2T-LM, E1
 - Motors--FR, E1



Medical Equipment

- Hospital / Rehabilitation Centers / Nursing Homes
- Robotic Gait Training System
 - Robotic Endoscope Holder



Linear Motor Stage

- Automated Transport / AOI Application / Precision / Semiconductor
- Iron-core Linear Motor
 - Coreless Linear Motor
 - Linear Turbo Motor LMT
 - Planar Servo Motor
 - Air Bearing Platform
 - X-Y Stage • Gantry Systems
 - Single-Axis Linear Motor Stage



Torque Motor & Direct Drive Motor

- Machine Tools
- Torque Motor--TM-2/IM-2, TMRW Series
- Inspection / Testing Equipment / Robot
- Direct Drive Motor--DMS, DMY, DMN, DMT Series

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1. Foreword

When it comes to the firmware updating issue in the past, this work can only be done by sending back to the manufacturer. In this case, manpower and material resources were wasted during this process. Therefore, for the XEG controller user, the online update service solution is now released, by using USB programming update solution satisfied all the requirement from XEG controller firmware updating issue. XEG controller is divided into two types, XEG-C1 and XEG-C2. For more details about XEG controller firmware updating, please refer to the content in user manual. In addition, except for XEG-C2, the firmware updating function can only be supported by firmware version V2.0.16 or later for XEG-C1.

2. Safety and Notice

This manual guides the user how to correctly update and to use product subsidiary software. For preventing the accidently hurt people and equipment, please read this instruction before operating the machine. For safety issue, all relevant norms and procedures shall all be strictly compliance.

3. Controller Description

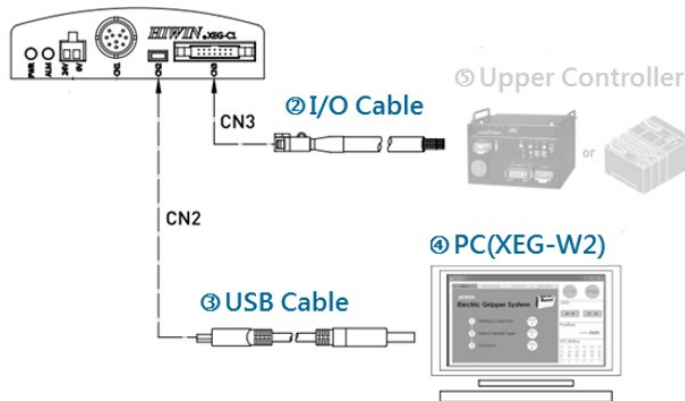
3.1. Overview of Hardware Component

- The main components are listed as followed:

Mark	No.	Item	Description
✓	1	Electric Gripper Controller	Classified as XEG-C1 and XEG-C2.
✓	2	I/O Cable	Can be used to trigger bootloader mode.
✓	3	USB Cable	Connect to the Electrical Gripper controller and computer USB port.
✓	4	PC	Open XEG-W2 or other software UI.
	5	Upper Controller	PLC, HRSS, or etc.

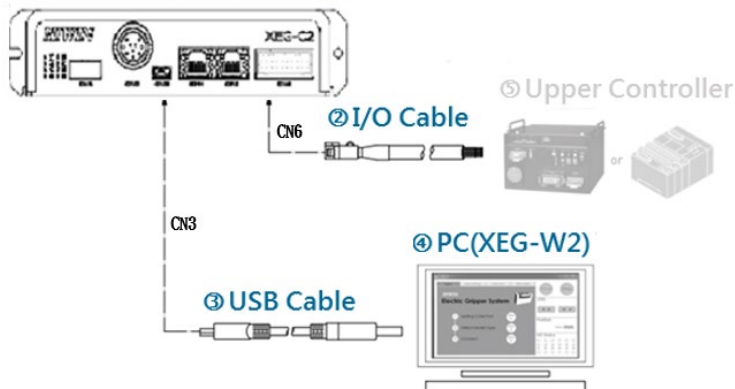
The ticked components are used for this update procedure.

① Electric Gripper Controller



XEG-C1 Hardware Structure

① Electric Gripper Controller



XEG-C2 Hardware Structure

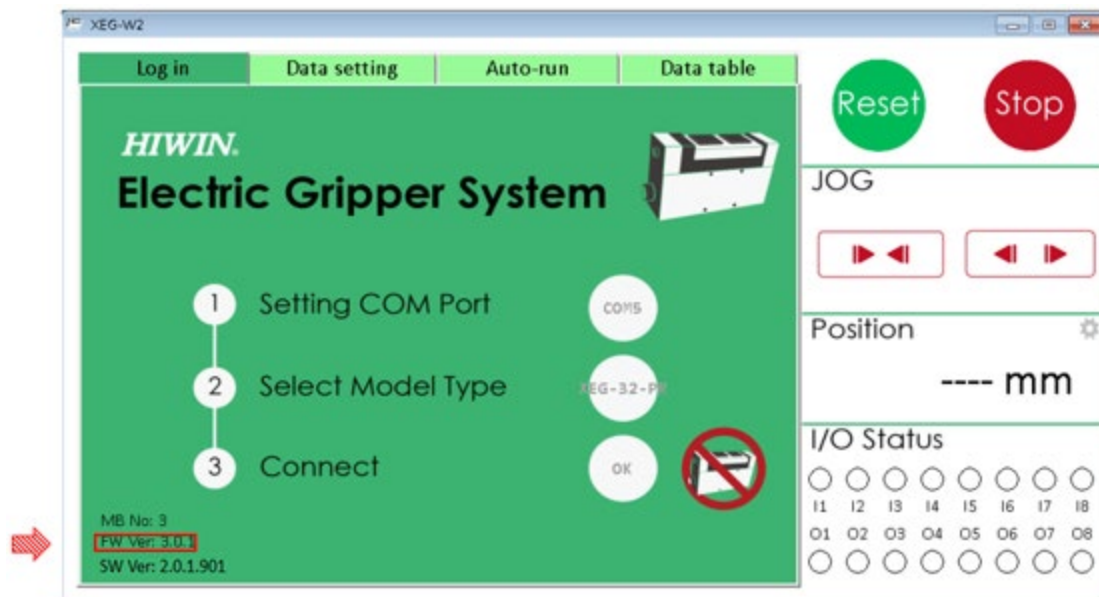
4. Operating process

When it comes to updating the XEG controller firmware by the users, this chapter tells the installation of firmware updating program, the instruction of the PC Loader software interface, and the firmware version confirmation. The detail instructions described as followed.

4.1. Downloading the Firmware Update Program and XEG-W2

The firmware updating zip file and the XEG-W2 execution file can be download on HIWIN official website as following process. Click [Support] > [End Effector], then select [XEG Electric Gripper] to find the path of XEG-C1 and XEG-C2 firmware update program and XEG-W2 software interface program.

Executing the XEG-W2 software interface program, and then setup the COM Port, Model Type, and connect. The firmware version of XEG-C2 is shown below on the left hand side.



Firmware version confirmation

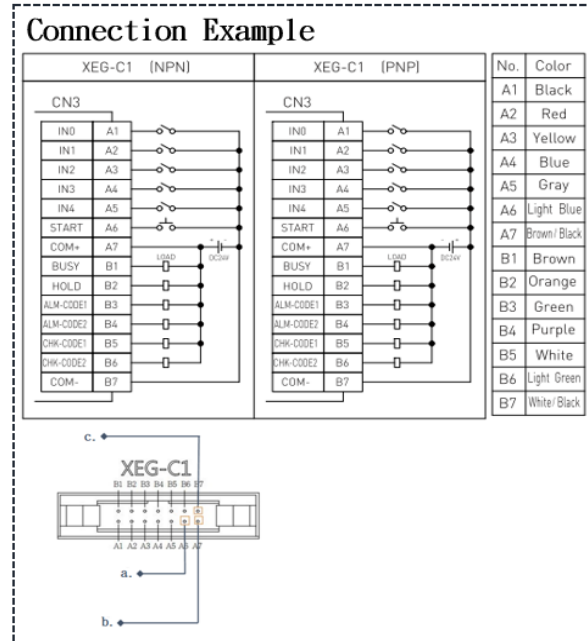
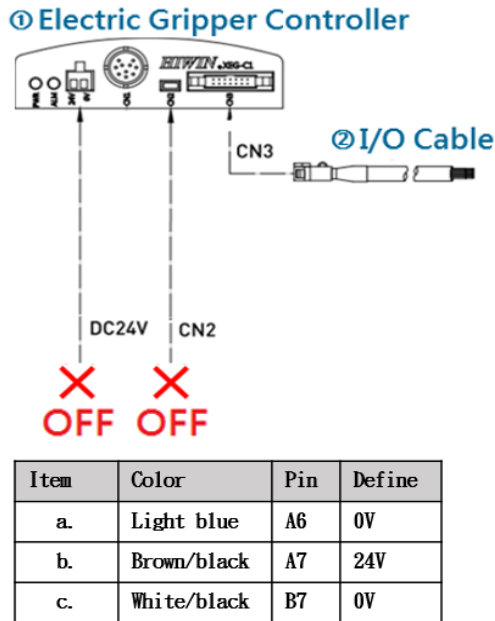
Operating instructions:

- Please refer to 5.2 “Connection and Initialization” in XEG-W2 user's manual on HIWIN official website for further operating process and connection setting.
- The firmware update work can be done only on XEG-C1 V2.0.16 or later version.

4.2. Trigger bootloader mode

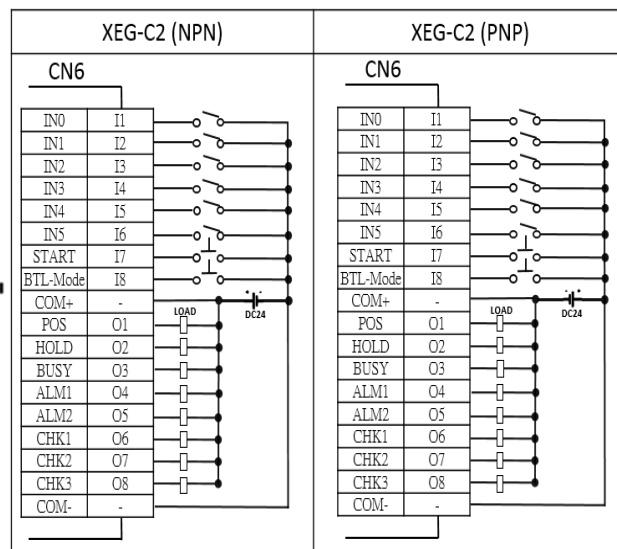
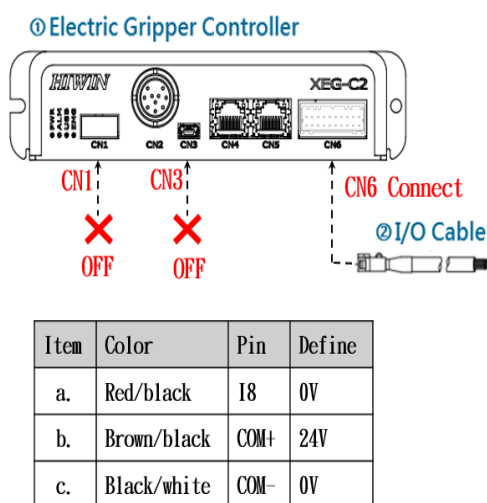
Step 1: Based on variety of XEG controller version, the methods to trigger BTL will be different as follows,

- For XEG-C1: Unplug the USB and DC 24V power cable from the controller and the a(A6)·b(A7)·c(B7) pins on the CN3 shall connected with 0V·24V·0V in sequence.



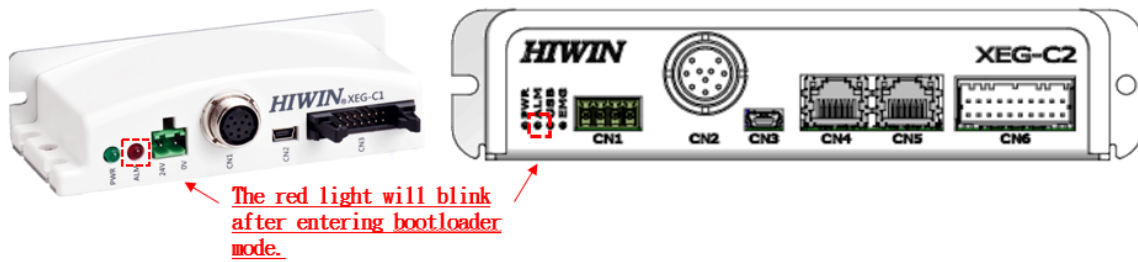
XEG-C1 Pin Connection

- For XEG-C2: Unplug the USB and DC 24V power cable from the controller and the a(A6)·b(A7)·c(B7) pins on the CN6 shall connected with 0V·24V·0V in sequence.



XEG-C2 Pin Connection

Step 2: Connecting USB cable and the ALM red light will start flashing. In this case, the electric gripper controller is on bootloader mode, and start updating.



ALM red light

4.3. Open software interface

After downloading the firmware update program, click PC Loader execute file and start programming, please make sure the install location is in C:\.

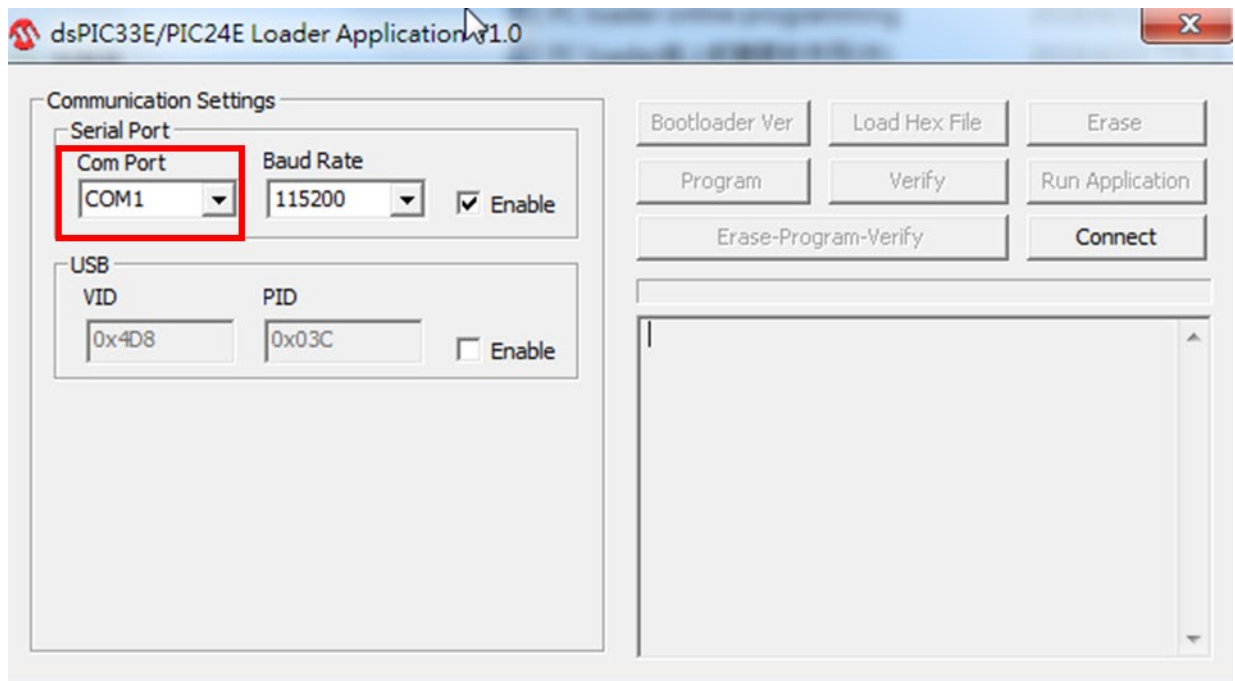
名稱	日期	類型
 PC_loader.exe	2011/9/28 下午 07:45	應用程式

PC loader execute file

Warning:

- Before programming in Chap 4.3, make sure to download the data on XEG-C1 or XEG-C2 in case. Load back the data after programming is done.

Step 1: Select Com Port.



Com Port Selecting

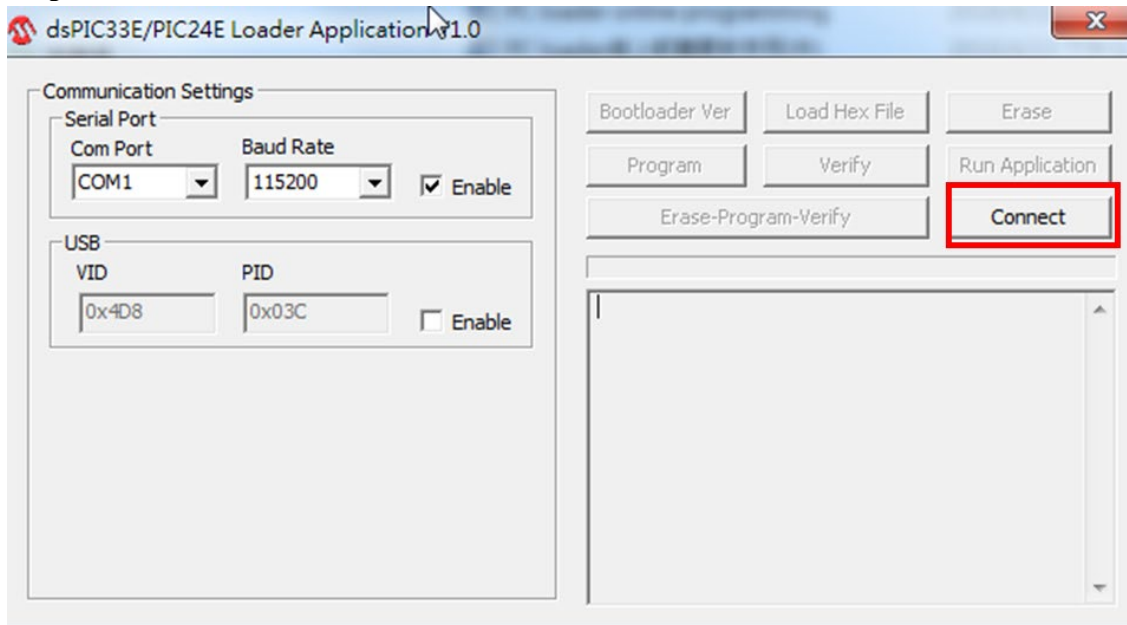


COM Port number confirmation place

Operating instructions:

- Open the Administrator to for confirming the comport between COM1 and COM9 are set. If it's the COM Port number is out of the range, you might fix the port number through the following path :
Start > Computer > Right Key Management > Device Administrator > COM and LPT > USB Serial Port > Right Key Content > COM Port Setting.
- Select the chosen COM Port on the PC Loader.

Step 2: Select Connect

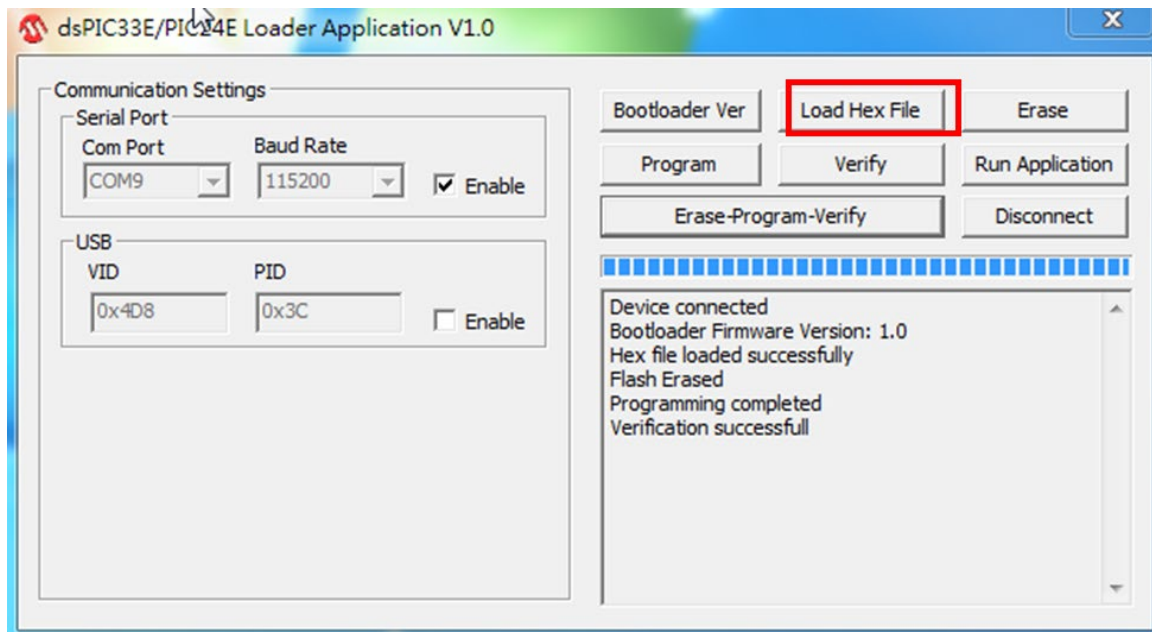


“Connect”

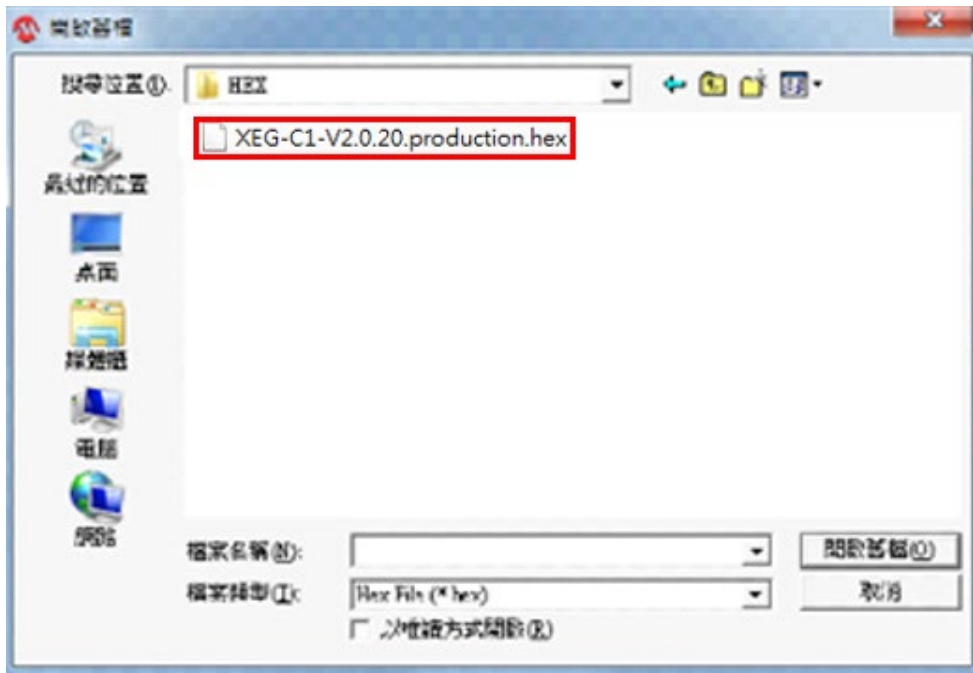
Operating instructions:

- Click the “Connect” for connecting.

Step 3: Click Load Hex File and Select Load Hex File

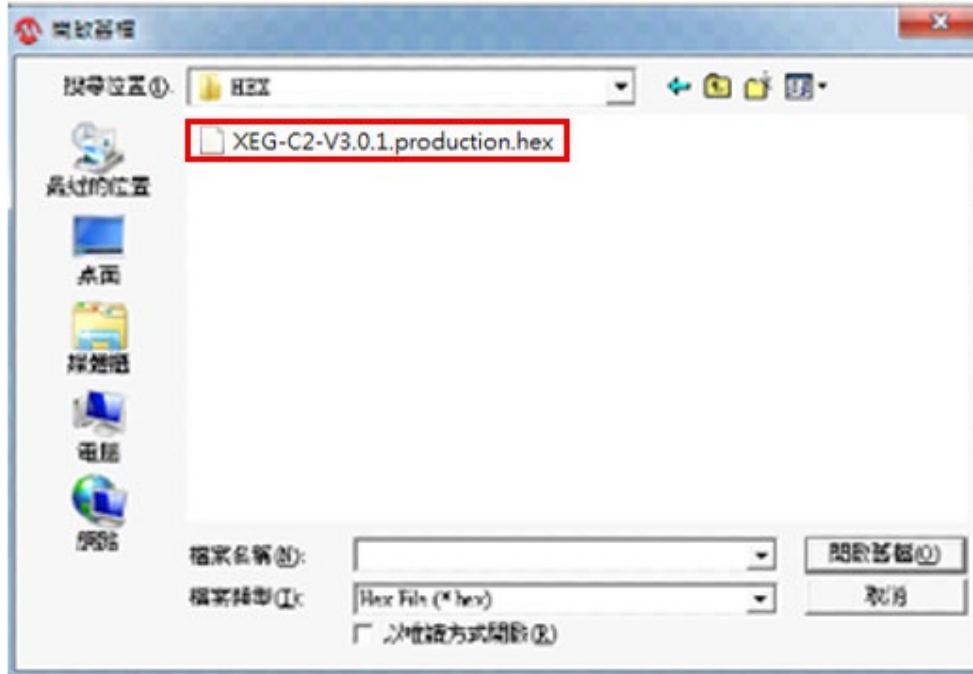


Loading XEG-C1-V2.X.X version for XEG-C1 controller.



hex file loading XEG-C1-V2.X.X

Loading XEG-C2-V3.X.X version for XEG-C2 controller.

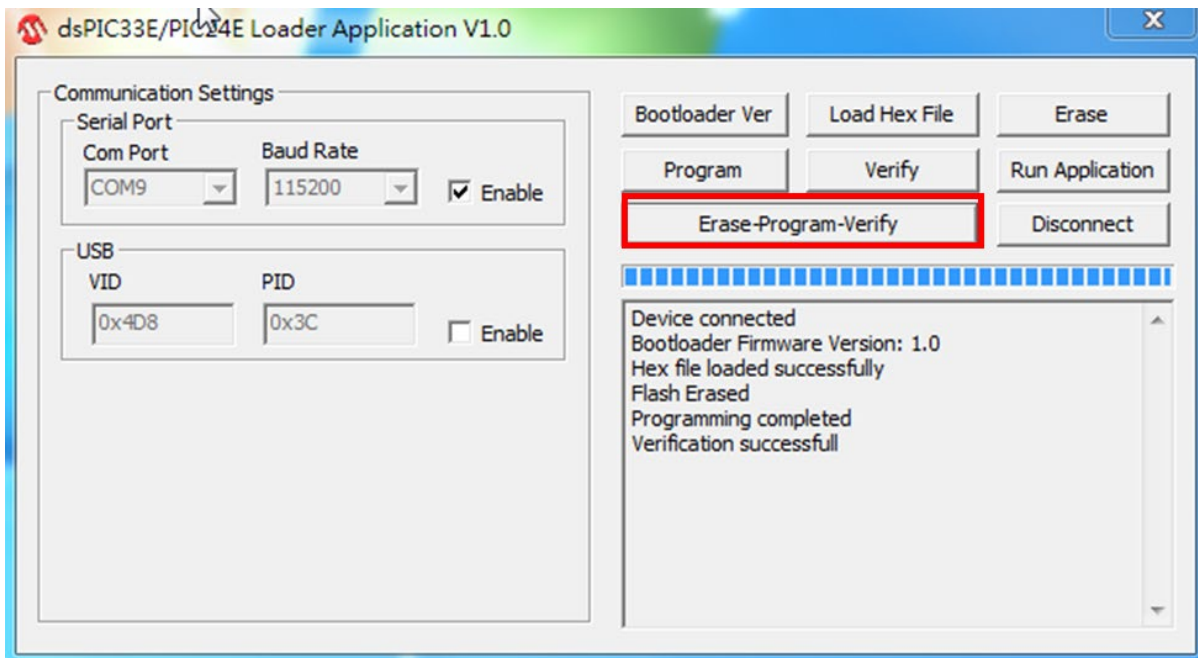


hex file loading XEG-C2-V3.X.X

Operating instructions:

- Select the latest hex file, and then repeat **Step 4** after clicking “Open files”.

Step 4: Click Erase-Program-Verify

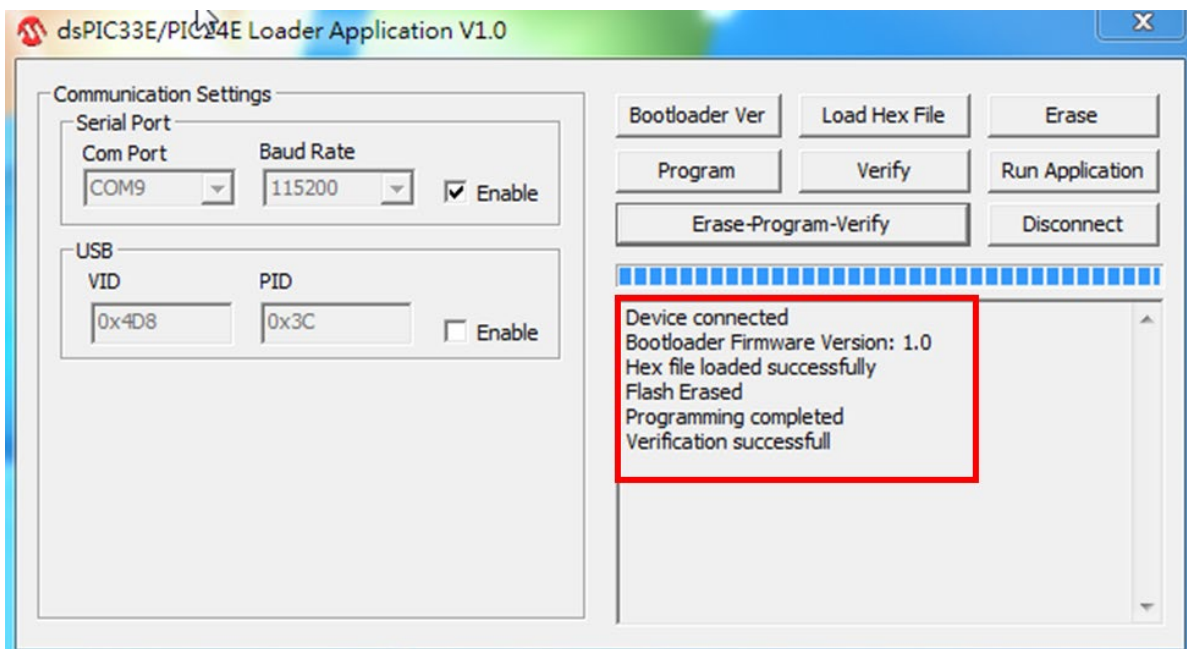


Click “Erase-Program-Verify”

Operating instructions:

- Clicking Erase-Program-Verify, and then wait for programming process completed.

Step 5: Confirm Programming Completed



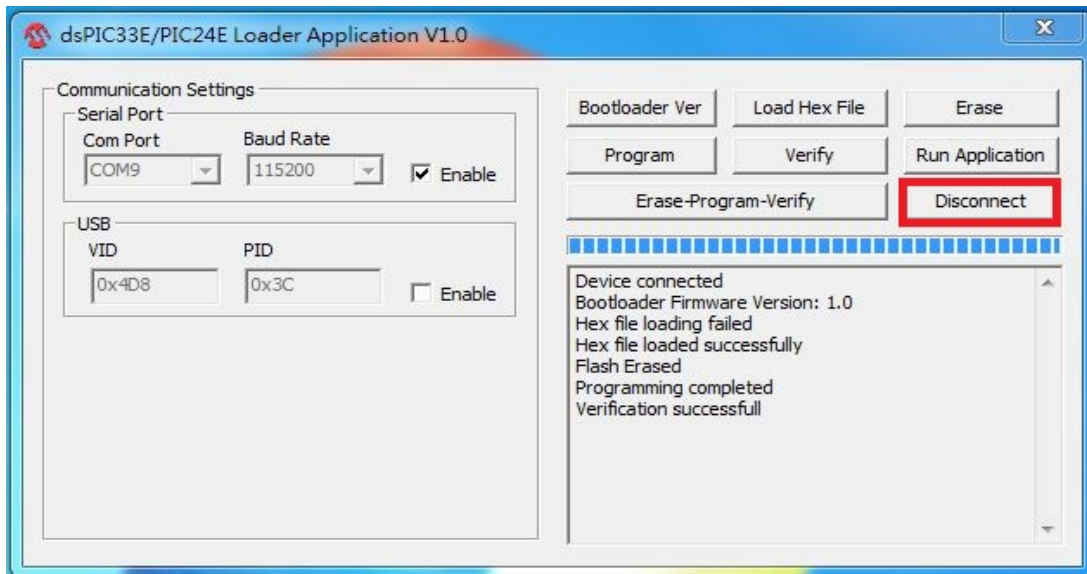
Programming completed confirmation place

Operating instructions:

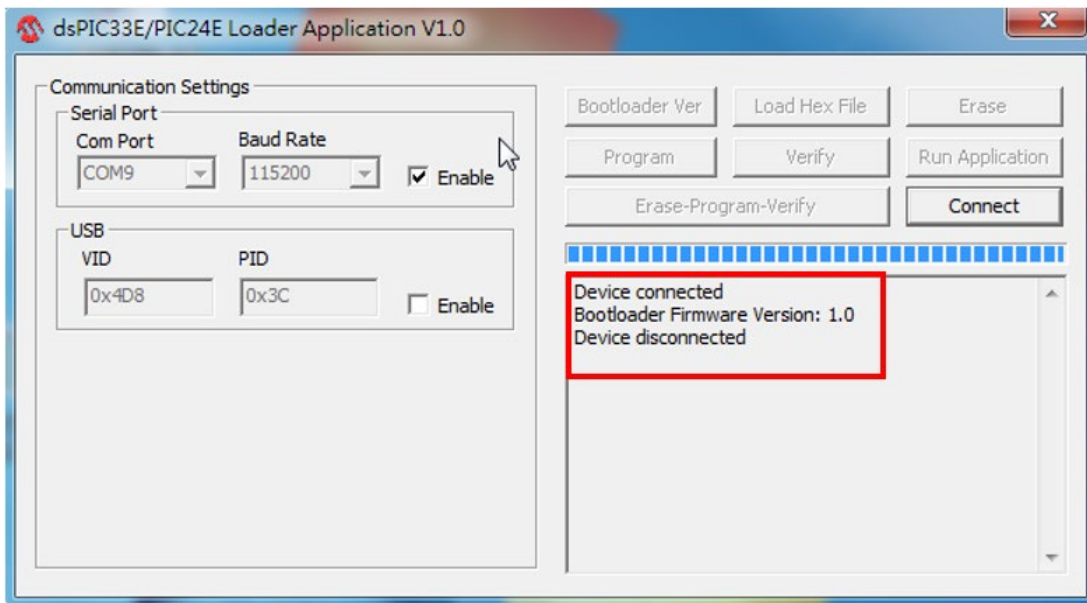
- When the interface shows “**Programming completed**” and “**Verification successful**”, the firmware updating work is done.

4.4. Reconfirming Firmware Version

When it comes to firmware program version double checking, clicking “**Disconnect**” and checking on the “**Device disconnected**” is shown. Meanwhile, remove the USB cable and wait the flashing red light is off.



Click “Disconnect”



“Device disconnected” shown

Operating instructions:

- Once the software interface shows “Device disconnected” and red light is not flashing, open the XEG-W2 software interface and repeat step 4.1 for confirming whether the firmware version has been successfully updated.
- For detailed operating instruction and connecting process, please check on the XEG-W2 software instruction manual chapter 5.1 to 5.3 for setting up.

XEG Controller Firmware Update (Original Instruction) **User Manual**

Publication Date : April 2020

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