

HIWIN[®]



E1 series servo drive with absolute DM

Operation procedure

Revision History

Release Date	Version	Applicable Product	Revision Contents
Mar. 17 th , 2020	1.0	E1 series servo drive with absolute DM	First edition.

1. Purpose

When E1 series servo drive is used with HIWIN absolute DM (DM□□□-A or DM□□□-B), users have to follow the steps below to perform equipment confirmation and setting procedure.

Note: Motor models not listed in this document are not applicable to the operation procedure.

2. Equipment confirmation

- Applicable motor models, servo drive models and cables are shown as follows.

Table 2.1

Motor model	Resolution / single turn	Servo drive model	Motor power cable	Encoder extension cable
DMN21-A	19 bit	ED1□-04□□-00 (400 W)	HVPS04AB□□MB	HVE23IAB□□MB
DMN42-A				
DMY44-B	20 bit			
DMY48-B				
DMN71-B				
DMN93-B				
DMY63-B				
DMY65-B				
DMY68-B				
DMYA3-B				
DMYA5-B				
DMYAA-B		ED1□-10□□-00 (1 KW)		

- Software version: Thunder 01.003.14
- Firmware version: Ver. 2.3.12

3. Setting procedure

Step 1. Version confirmation

Open Thunder with PC. After ensuring the version (01.003.14), connect to the servo drive.

Note: Refer to “E1 Series Servo Drive Thunder Software Operation Manual” for the information of Thunder installation.

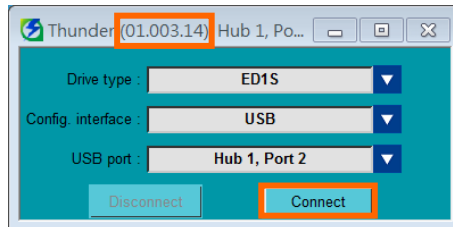


Figure 3.1

After it is successfully connected, ensure firmware version (2.3.12) in the left-side column of Thunder main window.

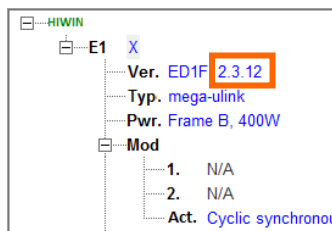


Figure 3.2

Step 2. Motor setup

Open **Configuration Wizard** in the toolbar of Thunder main window to select motor model and encoder type.

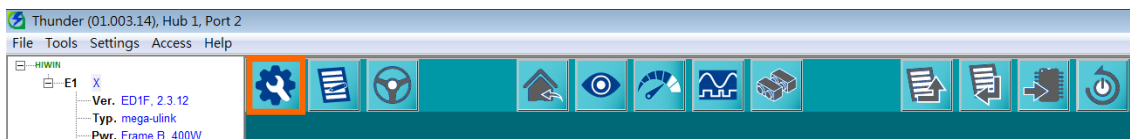


Figure 3.3

In **Motor Setup** tab, select **Torque / direct drive motor**, and select the correct “Series” and “Model name”.

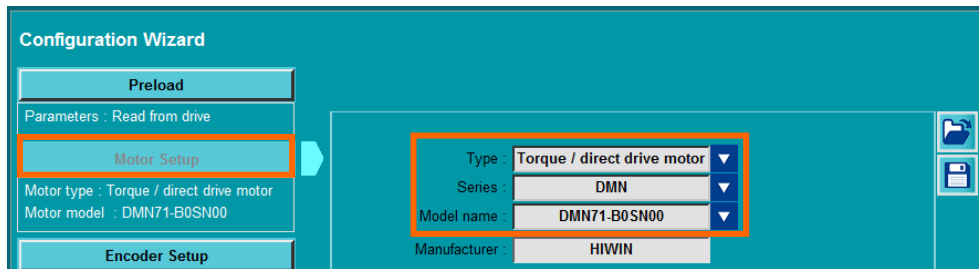


Figure 3.4

In **Encoder Setup** tab, select **Serial** for “Encoder type” and **TAMAGAWA 2.5MHz** for “Series”. Enter the value of single turn resolution (refer to table 2.1) and uncheck **Activate smart cube**. After completing Control Mode Setup, Command Input Setup, Encoder Output Setup and I/O Setup in sequence, send the parameters to the servo drive.



Figure 3.5

Note: Refer to “E1 Series Servo Drive Thunder Software Operation Manual” for Control Mode Setup, Command Input Setup, Encoder Output Setup and I/O Setup.

Step 3. Necessary gain parameters setup

Open **Parameters Setup** in the toolbar of Thunder main window. Set the following parameters, save them to the servo drive and reset the servo drive.

1. Pt13D = 600
2. Pt170 = □□□0 (Disable tuneless function)
3. Pt308 = 100



Figure 3.6

Step 4. Save error map table to servo drive

Click **Tools** to open **Error map setup**.

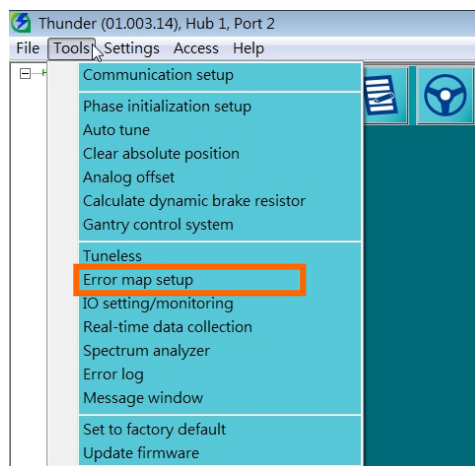


Figure 3.7

After clicking **Read from encoder**, the error map table shown in figure 3.8 will appear. Click **Send to drive** to save the error map table to the servo drive.

Operation procedure for E1 series servo drive with absolute DM

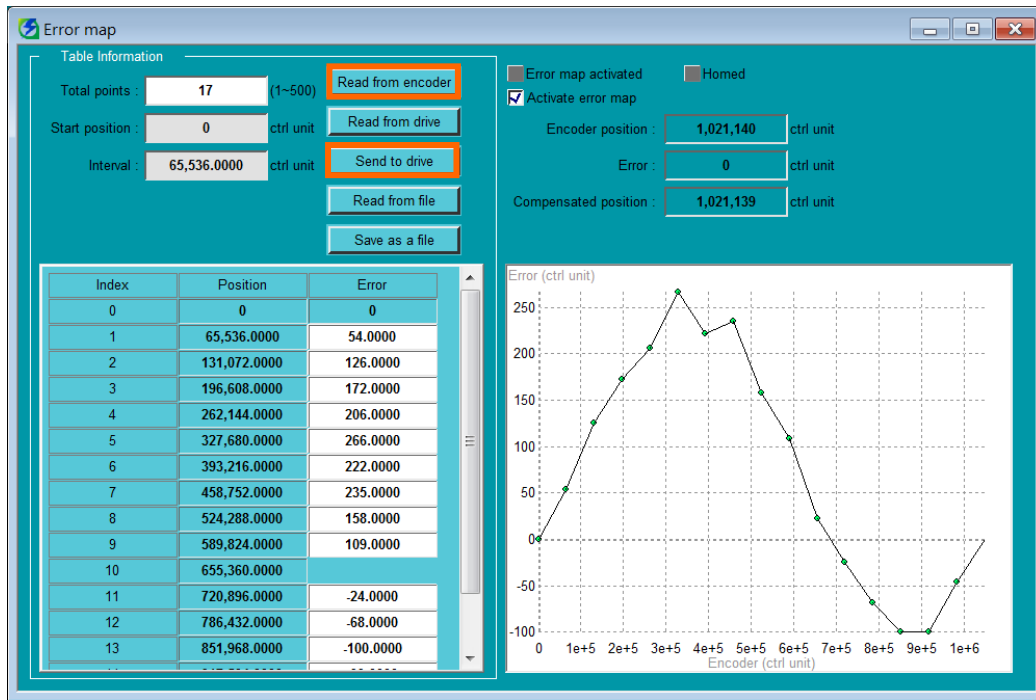


Figure 3.8

Note: To become effective, error map table must be activated after homing procedure is completed. Refer to “E1 Series Servo Drive User Manual” for details.