

Linux Ethernet DLL User Manual



1. Usage environment

❖ Test environment

- Ubuntu - 22.04.3
- Raspberry Pi OS - Bullseye (23.05.03 Release)
- Raspberry Pi OS - Bookworm (23.12.05 Release)

2. How to Download

1) Visit the FASTECH website.

<https://fastech-motions.com>

The screenshot shows the FASTECH website with a yellow header. The header includes the FASTECH logo with the tagline "Fast Accurate Smooth Motion", navigation links for PRODUCTS, COMPANY, DOWNLOADS, ONLINE EXHIBITION, WEBINARS, DEMOS, and SUPPORT, and social media icons for KOR, Facebook, and YouTube. A search bar is located below the header. The main content area features a "NEW PRODUCT" badge, images of the Ezi-SPEED motor speed control system components, and the title "RS-485 Modbus-RTU Based Motor Speed Control System". A list of features is provided, including AC Input (220V) BLDC Motor Speed Control System, Modbus-RTU Based on RS-485 Communication, Compact and Light Weight High Power High Efficiency Brushless Motor, Wide Speed Control Range (50~4000 r/min), Stable Speed Control by Vector Control (Speed Regulation within 0.2%), Torque Limit and Load Holding Functions Supported, and Various Product Line-Up (30, 60, 120, 200, 400W). A "Learn More" button is present. At the bottom, there are icons for Product, Motor Guide, Download, FAQ, and Q & A.

FASTECH
Fast Accurate Smooth Motion

Global Partners Become a Distributor KOR f YouTube

PRODUCTS COMPANY DOWNLOADS ONLINE EXHIBITION WEBINARS DEMOS SUPPORT

Type keywords to search

Ezi-SPEED **Modbus RTU**
BLDC Motor Speed Control System

NEW PRODUCT

RS-485 Modbus-RTU Based Motor Speed Control System

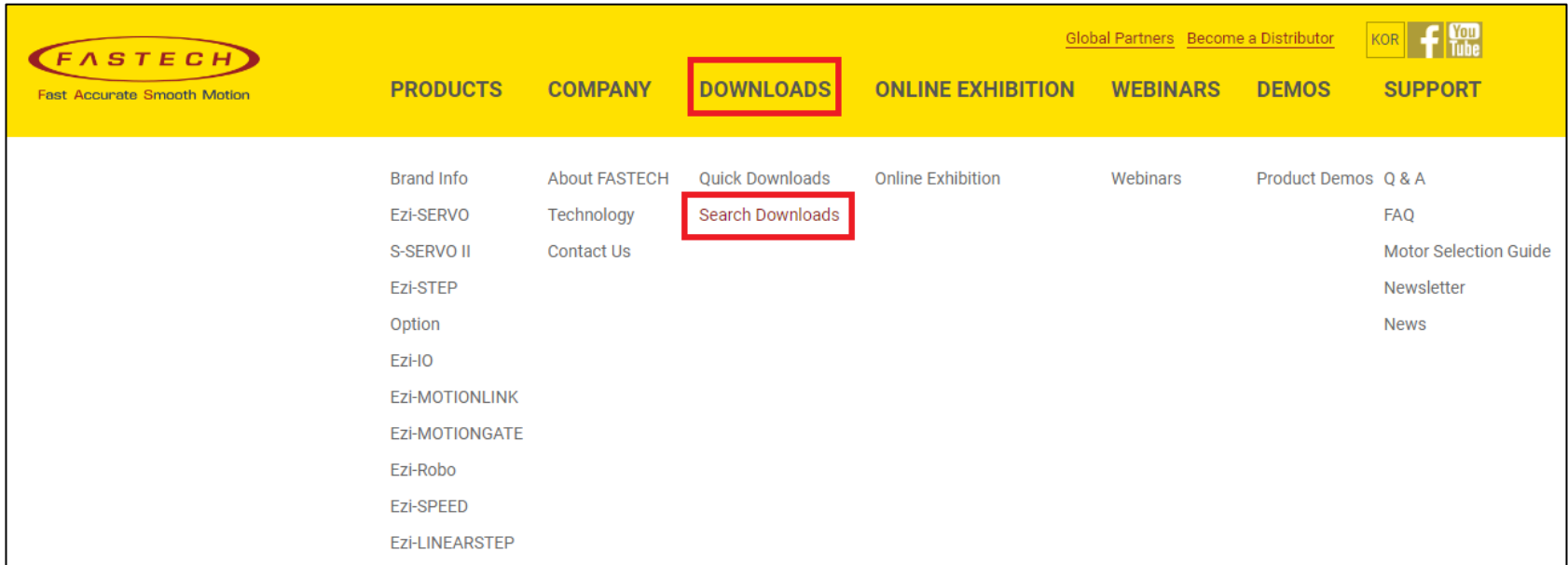
- AC Input (220V) BLDC Motor Speed Control System
- Modbus-RTU Based on RS-485 Communication
- Compact · Light Weight · High Power · High Efficiency Brushless Motor
- Wide Speed Control Range (50~4000 r/min)
- Stable Speed Control by Vector Control (Speed Regulation within 0.2%)
- 'Torque Limit' and 'Load Holding' Functions Supported
- Various Product Line-Up (30, 60, 120, 200, 400W)

Learn More

Product Motor Guide Download FAQ Q & A

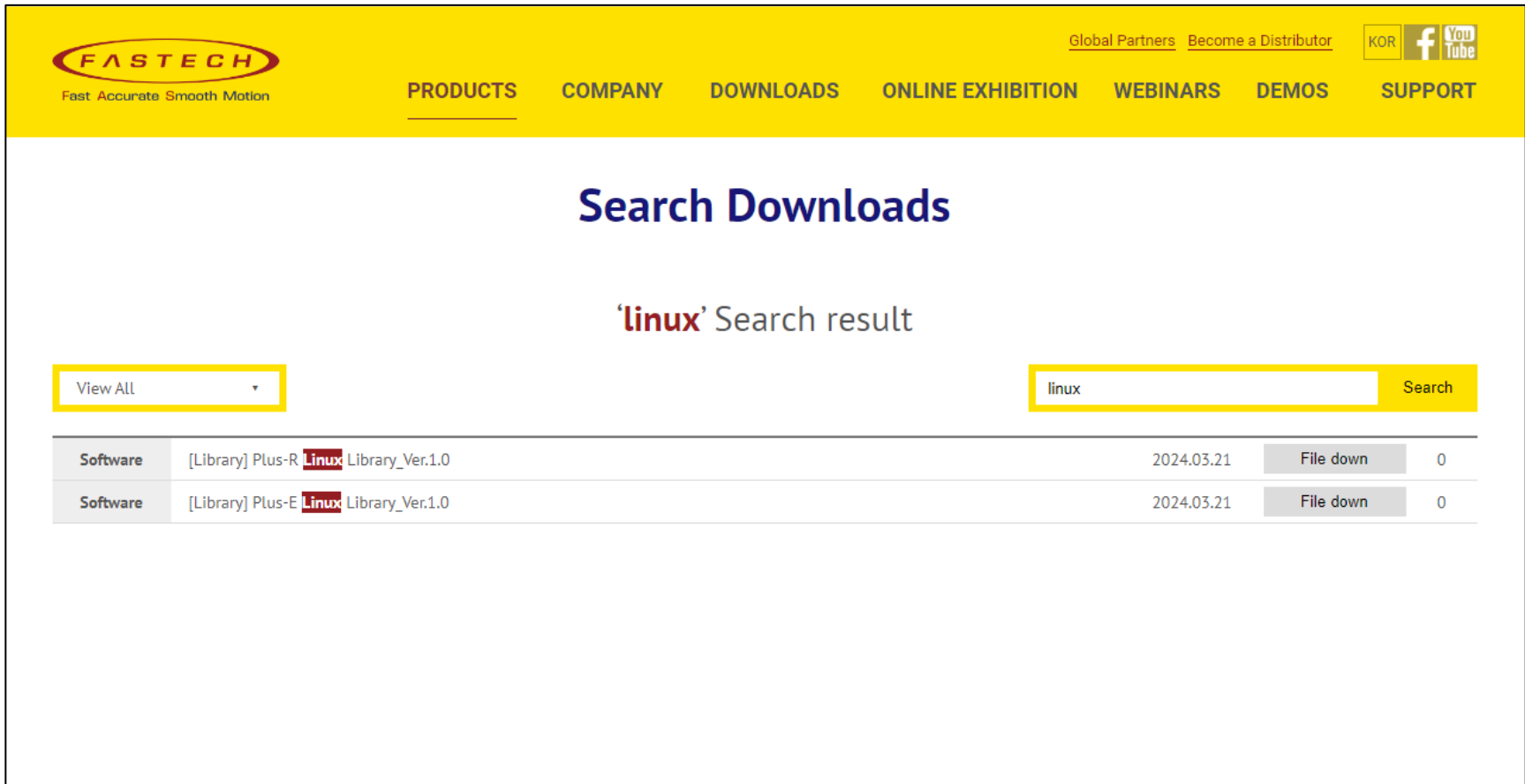
2. How to Download

2) Click 'DOWNLOADS – Search Downloads'



2. How to Download

3) Search "linux" and download Ethernet Linux Library



The screenshot shows the FASTECH website's search results page. The header is yellow with the FASTECH logo and navigation links. The main content area is white and displays the search results for 'linux'.

FASTECH
Fast Accurate Smooth Motion

Global Partners Become a Distributor KOR f YouTube

PRODUCTS COMPANY DOWNLOADS ONLINE EXHIBITION WEBINARS DEMOS SUPPORT

Search Downloads

'linux' Search result

View All ▾

linux Search

Software	[Library] Plus-R Linux Library_Ver.1.0	2024.03.21	File down	0
Software	[Library] Plus-E Linux Library_Ver.1.0	2024.03.21	File down	0

3. Linux System Setting – Static IP

You need to set a static IP address for the Ethernet Port that shares the gateway with FASTECH products.

1. Open the OS network configuration file in Terminal.

> 'sudo nano /etc/dhcpd.conf' or 'sudo nano /etc/network/interfaces' (It may vary depending on your system.)

2. After the last line of the network configuration file, type the following statement. (It may vary depending on your system.)

(Please modify the blue text to match your PC settings.)

```
interface eth0 (Address for Ethernet communication with Fastech products)
static ip_address=192.168.0.100 (Static IP address that doesn't cause conflicts)
static routers=192.168.0.1
```

3. After saving and exiting the file, reboot the system.

3. Linux System Setting – Library Setting

The structure of the 'Include' directory containing the FASTECH library is as follows.

```
rw-r--r-- 1 fastech fastech 14511 23 12:08 FAS_EziMOTIONPlusE.h
rw-r--r-- 1 fastech fastech 21975 23 12:08 MOTION_DEFINE.h
rw-r--r-- 1 fastech fastech 12804 23 12:08 MOTION_EziMotionLink2_DEFINE.h
rw-r--r-- 1 fastech fastech 12625 23 12:08 MOTION_EziMotionLink_DEFINE.h
rw-r--r-- 1 fastech fastech 12508 23 12:08 MOTION_EziSERVO2_86_DEFINE.h
rw-r--r-- 1 fastech fastech 12001 23 12:08 MOTION_EziSERVO2_DEFINE.h
rw-r--r-- 1 fastech fastech 13015 23 12:08 MOTION_EziSERVO2_TO_DEFINE.h
rw-r--r-- 1 fastech fastech 12854 23 12:08 MOTION_EziSERVO_ADC_DEFINE.h
rw-r--r-- 1 fastech fastech 9224 23 12:08 MOTION_EziSERVO_ALL_28_DEFINE.h
rw-r--r-- 1 fastech fastech 9342 23 12:08 MOTION_EziSERVO_ALL_28_V2_DEFINE.h
rw-r--r-- 1 fastech fastech 13025 23 12:08 MOTION_EziSERVO_ALL_ABS_DEFINE.h
rw-r--r-- 1 fastech fastech 12441 23 12:08 MOTION_EziSERVO_ALL_DEFINE.h
rw-r--r-- 1 fastech fastech 11851 23 12:08 MOTION_EziSERVO_DEFINE.h
rw-r--r-- 1 fastech fastech 12592 23 12:08 MOTION_EziSERVO_mini_DEFINE.h
rw-r--r-- 1 fastech fastech 11740 23 12:08 MOTION_EziSTEP2_DEFINE.h
rw-r--r-- 1 fastech fastech 12240 23 12:08 MOTION_EziSTEP_ALL_DEFINE.h
rw-r--r-- 1 fastech fastech 11655 23 12:08 MOTION_EziSTEP_DEFINE.h
rw-r--r-- 1 fastech fastech 12384 23 12:08 MOTION_EziSTEP_mini_DEFINE.h
rw-r--r-- 1 fastech fastech 11971 23 12:08 MOTION_SSERVO_DEFINE.h
rw-r--r-- 1 fastech fastech 8045 23 12:08 PROTOCOL_FRAME_DEFINE.h
rw-r--r-- 1 fastech fastech 954 23 12:08 PROTOCOL_V8_FRAME_DEFINE.h
rw-r--r-- 1 fastech fastech 808 23 12:08 ReturnCodes_Define.h
lrwxrwxrwx 1 fastech fastech 24 23 12:08 libEziMOTIONPlusE.so -> libEziMOTIONPlusE.so.1.0
lrwxrwxrwx 1 fastech fastech 24 23 12:08 libEziMOTIONPlusE.so.1 -> libEziMOTIONPlusE.so.1.0
rw-r--r-- 1 fastech fastech 1264140 23 12:08 libEziMOTIONPlusE.so.1.0
```

1) Copy the 'Include' directory to your project path.

2) Copy FASTECH shared library files and symbolic links to the Linux shared library directory.

```
sudo cp -df ./libEziMOTIONPlusE.so* /usr/local/lib
```

```
sudo ldconfig
```

4. How to Use Ethernet Library

1. To use the FASTECH API, you need to include EziMOTIONPlusE.h first.

```
#include <stdlib.h>
#include <iostream>

#include "../Include/FAS_EziMOTIONPlusE.h"

using namespace PE;

int main(void)
{
    int nRtn;

    nRtn = FAS_Connect(192, 168, 0, 2, 0);
    if( TRUE != nRtn )
    {
        printf("Connect Failed\n");
    }

    nRtn = FAS_ServoEnable(0, 1);
    if( FMM_OK != nRtn )
    {
        printf("Servon Enable Failed\n");
    }

    FAS_Close(0);

    return 0;
}
```

2) When building a program, you need to import the FASTECH library first.

```
fastech@fastech:~/Desktop/Linux_lib_Test $ g++ -o test test.cpp -IEziMOTIONPlusE
```




We are **pioneers** changing the history of stepping motors!!