

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 homepage. At the top, there is a yellow navigation bar with the FASTECH logo (Fast Accurate Smooth Motion) and a menu with links for PRODUCTS, COMPANY, DOWNLOADS, ONLINE EXHIBITION, WEBINARS, DEMOS, and SUPPORT. Social media icons for KOR, Facebook, and YouTube are also present. Below the navigation bar is a search bar with the placeholder text "Type keywords to search". The main content area features a "NEW PRODUCT" badge, an image of the Ezi-SPEED motor speed control system components, and the product title "Ezi-SPEED 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 located below the features list. At the bottom of the main content area, there are five icons representing 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

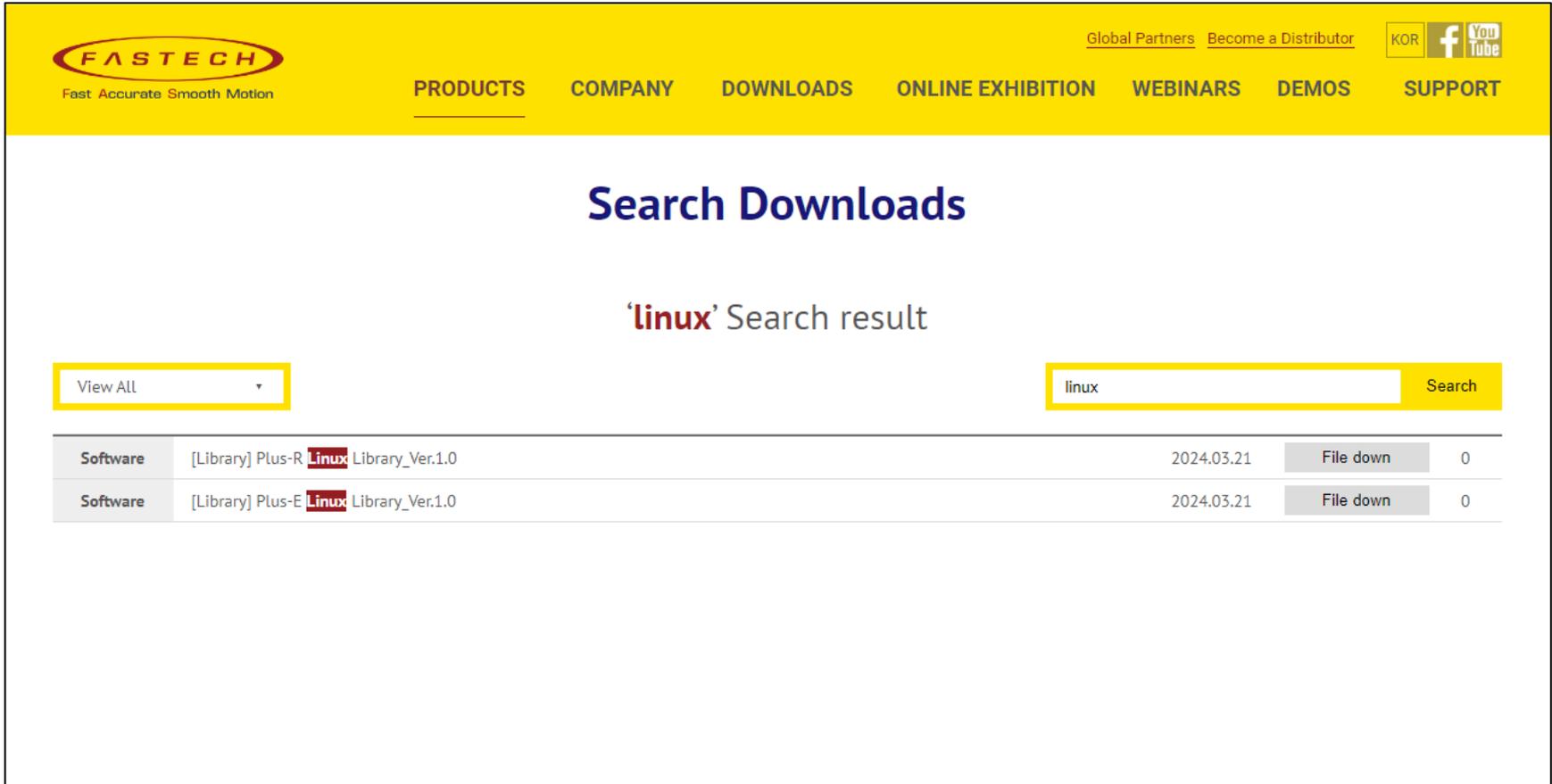
2) Click 'DOWNLOADS – Search Downloads'

The screenshot shows the FASTECH website navigation menu. The 'DOWNLOADS' menu item is highlighted with a red box. Underneath it, the 'Search Downloads' sub-item is also highlighted with a red box. The website header includes the FASTECH logo, navigation links for PRODUCTS, COMPANY, DOWNLOADS, ONLINE EXHIBITION, WEBINARS, DEMOS, and SUPPORT, and social media icons for KOR, Facebook, and YouTube.

PRODUCTS	COMPANY	DOWNLOADS	ONLINE EXHIBITION	WEBINARS	DEMOS	SUPPORT
Brand Info	About FASTECH	Quick Downloads	Online Exhibition	Webinars	Product Demos	Q & A
Ezi-SERVO	Technology	Search Downloads				FAQ
S-SERVO II	Contact Us					Motor Selection Guide
Ezi-STEP						Newsletter
Option						News
Ezi-IO						
Ezi-MOTIONLINK						
Ezi-MOTIONGATE						
Ezi-Robo						
Ezi-SPEED						
Ezi-LINEARSTEP						

2. How to Download

3) Search "linux" and download Ethernet Linux Library



The screenshot shows the FASTECH website's search results page. The header includes the FASTECH logo with the tagline "Fast Accurate Smooth Motion" and navigation links for PRODUCTS, COMPANY, DOWNLOADS, ONLINE EXHIBITION, WEBINARS, DEMOS, and SUPPORT. There are also links for Global Partners, Become a Distributor, and social media icons for KOR, Facebook, and YouTube.

The main content area is titled "Search Downloads" and displays the search results for the query "linux". A dropdown menu is set to "View All" and a search button is visible.

Software	Product Name	Date	File down	Count
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-rw-r-- 1 fastech fastech 14511 2023 12:08 FAS_EziMOTIONPlusE.h
rw-rw-r-- 1 fastech fastech 21975 2023 12:08 MOTION_DEFINE.h
rw-rw-r-- 1 fastech fastech 12804 2023 12:08 MOTION_EziMotionLink2_DEFINE.h
rw-rw-r-- 1 fastech fastech 12625 2023 12:08 MOTION_EziMotionLink_DEFINE.h
rw-rw-r-- 1 fastech fastech 12508 2023 12:08 MOTION_EziSERVO2_86_DEFINE.h
rw-rw-r-- 1 fastech fastech 12001 2023 12:08 MOTION_EziSERVO2_DEFINE.h
rw-rw-r-- 1 fastech fastech 13015 2023 12:08 MOTION_EziSERVO2_TO_DEFINE.h
rw-rw-r-- 1 fastech fastech 12854 2023 12:08 MOTION_EziSERVO_ADC_DEFINE.h
rw-rw-r-- 1 fastech fastech 9224 2023 12:08 MOTION_EziSERVO_ALL_28_DEFINE.h
rw-rw-r-- 1 fastech fastech 9342 2023 12:08 MOTION_EziSERVO_ALL_28_V2_DEFINE.h
rw-rw-r-- 1 fastech fastech 13025 2023 12:08 MOTION_EziSERVO_ALL_ABS_DEFINE.h
rw-rw-r-- 1 fastech fastech 12441 2023 12:08 MOTION_EziSERVO_ALL_DEFINE.h
rw-rw-r-- 1 fastech fastech 11851 2023 12:08 MOTION_EziSERVO_DEFINE.h
rw-rw-r-- 1 fastech fastech 12592 2023 12:08 MOTION_EziSERVO_mini_DEFINE.h
rw-rw-r-- 1 fastech fastech 11740 2023 12:08 MOTION_EziSTEP2_DEFINE.h
rw-rw-r-- 1 fastech fastech 12240 2023 12:08 MOTION_EziSTEP_ALL_DEFINE.h
rw-rw-r-- 1 fastech fastech 11655 2023 12:08 MOTION_EziSTEP_DEFINE.h
rw-rw-r-- 1 fastech fastech 12384 2023 12:08 MOTION_EziSTEP_mini_DEFINE.h
rw-rw-r-- 1 fastech fastech 11971 2023 12:08 MOTION_SSERVO_DEFINE.h
rw-rw-r-- 1 fastech fastech 8045 2023 12:08 PROTOCOL_FRAME_DEFINE.h
rw-rw-r-- 1 fastech fastech 954 2023 12:08 PROTOCOL_V8_FRAME_DEFINE.h
rw-rw-r-- 1 fastech fastech 808 2023 12:08 ReturnCodes_Define.h
lrwxrwxrwx 1 fastech fastech 24 2023 12:08 libEziMOTIONPlusE.so -> libEziMOTIONPlusE.so.1.0
lrwxrwxrwx 1 fastech fastech 24 2023 12:08 libEziMOTIONPlusE.so.1 -> libEziMOTIONPlusE.so.1.0
rw-rw-r-- 1 fastech fastech 1264140 2023 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
```



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