# PROFINET Servo Drive Introduction V1.0

# Summa ED3L New generation

**New Generation**

**High Performance**

**Simple Easy use**

# Summa ED3L Serial Servo Drive
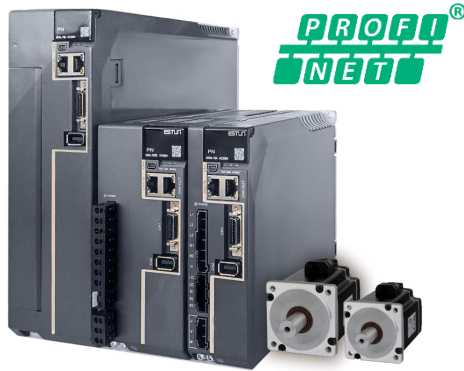
**PROFINET Servo**   50W~7.5kW

**Servo with STO function(EC)**   50W~7.5kW

STO Port

**ED3L single axis servo （EC/PTO)**
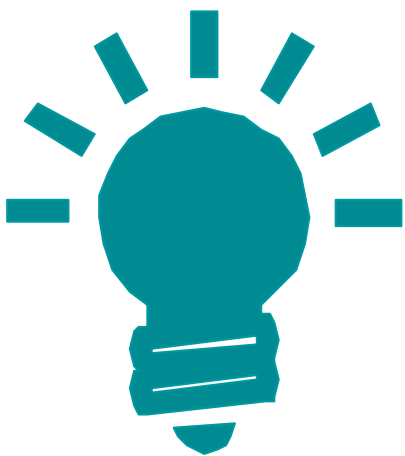
50W~7.5kW

**Dual axis servo （EC/PTO)**   400W 1kW

**Linear Motor servo(EC)**   400W 1kW

EC: EtherCAT
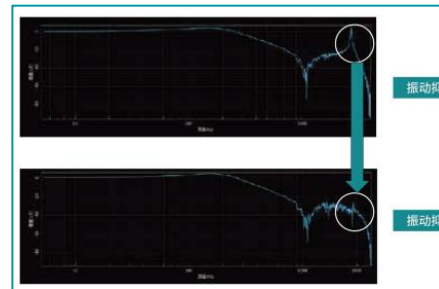PTO: Pulse/direction
STO: Safety torque off
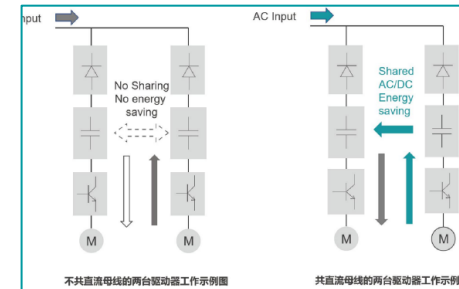
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**Comprehensive Protection**
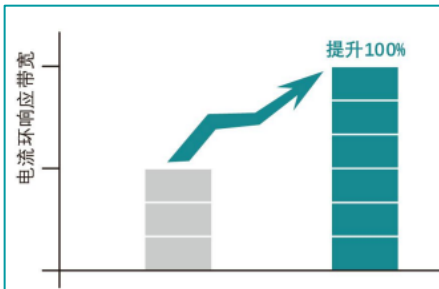


**High Response**



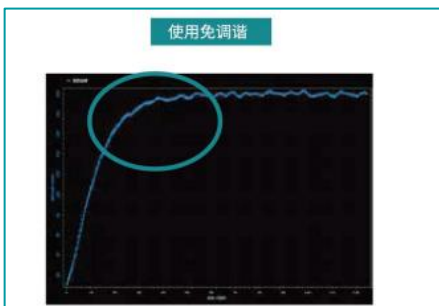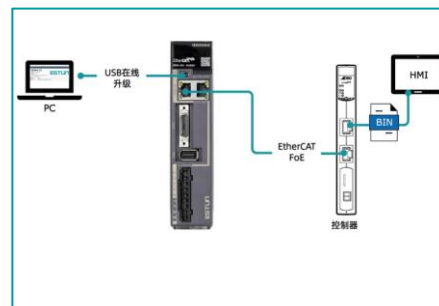**Vibration Suppression**



**Common DC Bus**
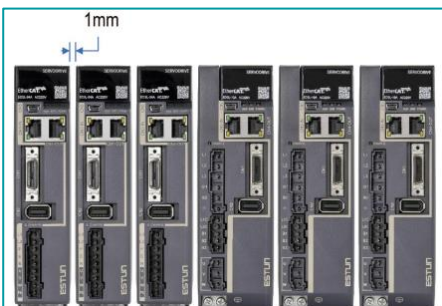


**Zero Stacking**



**Intelligent Tuning**



**Online Upgrade**



**Multi Protocol**

# ED3L PROFINET Servo Drive

# ED3L PN Servo Model Description

**ED3L** - **04** **A** **P** **A**

ED3L Servo Drive    Rated Power    Voltage    Option    Encoder Type

| Rated Power | |
|----|---------|
| 01 | 0.1kW |
| 02 | 0.2kW |
| 04 | 0.4kW |
| 08 | 0.75kW |
| 10 | 1kW |
| 15 | 1.5kW |
| 20 | 2kW |
| 30 | 3kW |
| 50 | 5kW |
| 75 | 7.5kW |

| Voltage | |
|---|---------|
| A | 200VAC |
| D | 400VAC |

| Option | |
|---|----------|
| P | Profinet |

| Encoder Type | |
|---|----------------|
| A | Serial Encoder |

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# ED3L PN Servo Drive

Based on ED3L servo platform, support Profinet technology products

Support a variety of application Classes

➢ AC1: Open Loop Speed control（Message 1）

➢ AC3: Semi-closed loop position control(Message 111）

➢ AC4: Close loop speed control (Message 3/102/105+750)

Variety of messages are developed based on the above application classes:

➢ Standard telegram 1

➢ Standard telegram 3

➢ Siemens telegram 102

➢ Siemens telegram 105

➢ Siemens telegram 111

➢ Siemens auxiliary telegram 750

PN Identification

50W~7.5kW
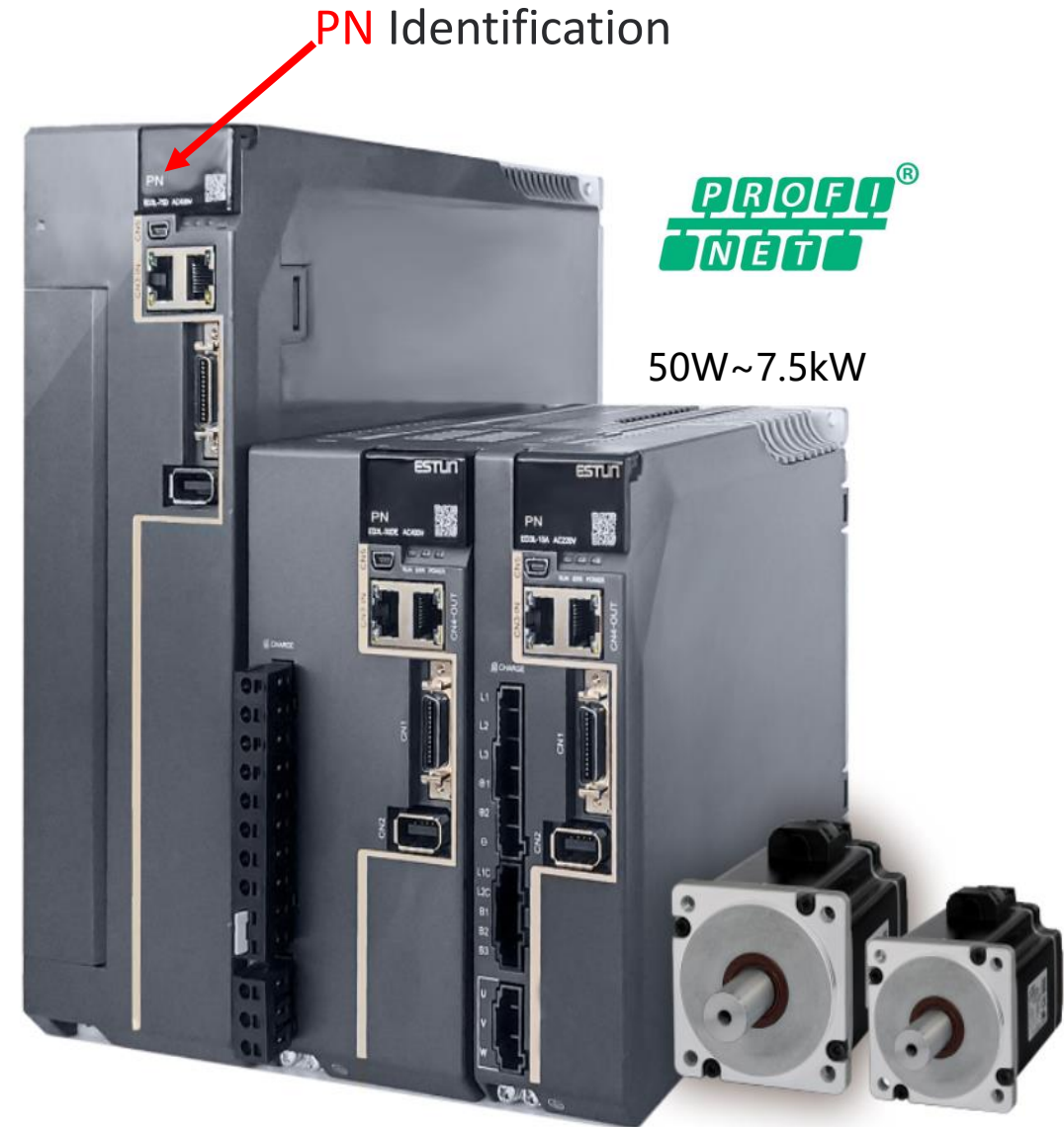
# ED3L PN Servo Drive- Message 111

PLC through message 111 and TIA PortalV15.1 driver library Drivelib_TIA15.1_V522_sha512
SINA_POS (FB284) realizes basic positioning control, and its functions are as follows:

➢ Soft limit function

➢ Homing function

➢ Torque limit and R/W function

➢ Rel/Abs Position function

➢ Stop function

➢ Speed JOG function

➢ Continuous position given function

Operation mode supported:

1 = Relative positioning (support)

2 = Absolute positioning (support)

3 = Positioning according to Settings (not support)

4 = Return to reference point  (support)

5 = Set back to reference point position (support)

6 = Run program segment 0-15/63 (G120/S120) (not support)

7 = JOG(support)

8 = Increment JOG (not support)

# ED3L PN Servo Debugging Steps

1. Copy the GSD file and the corresponding image to the local folder. The GSD
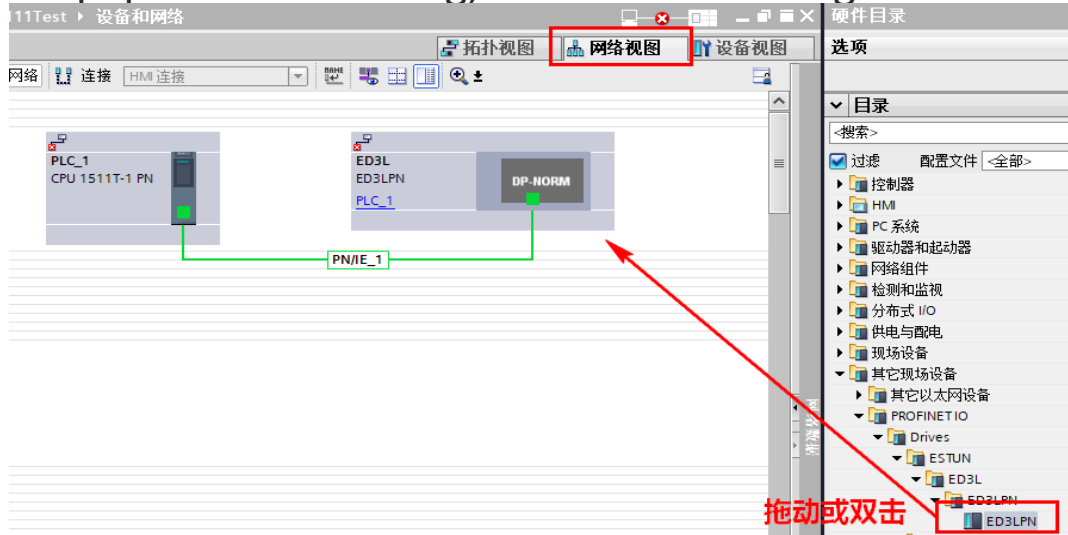file is shown in the following figure:
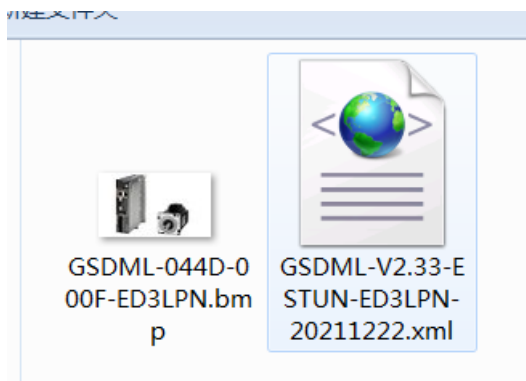


2. Install the GSD file in TIA software, as shown below:
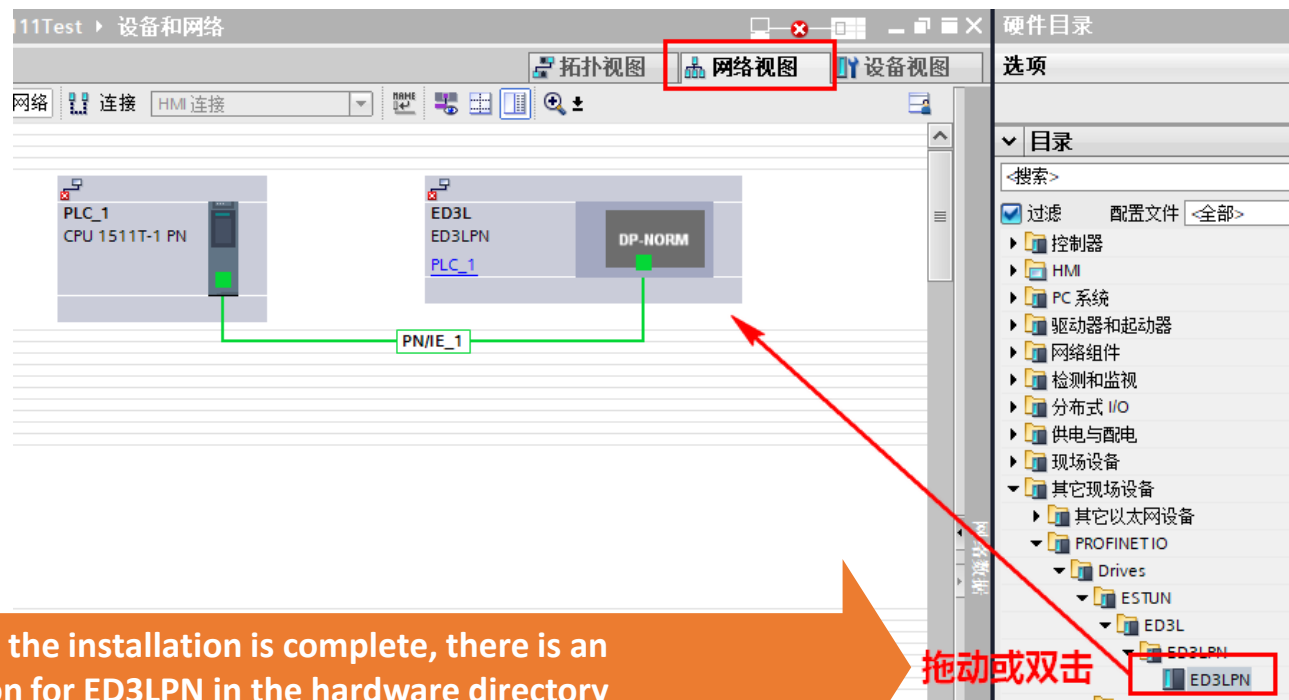


Once the installation is complete, there is an
option for ED3LPN in the hardware directory

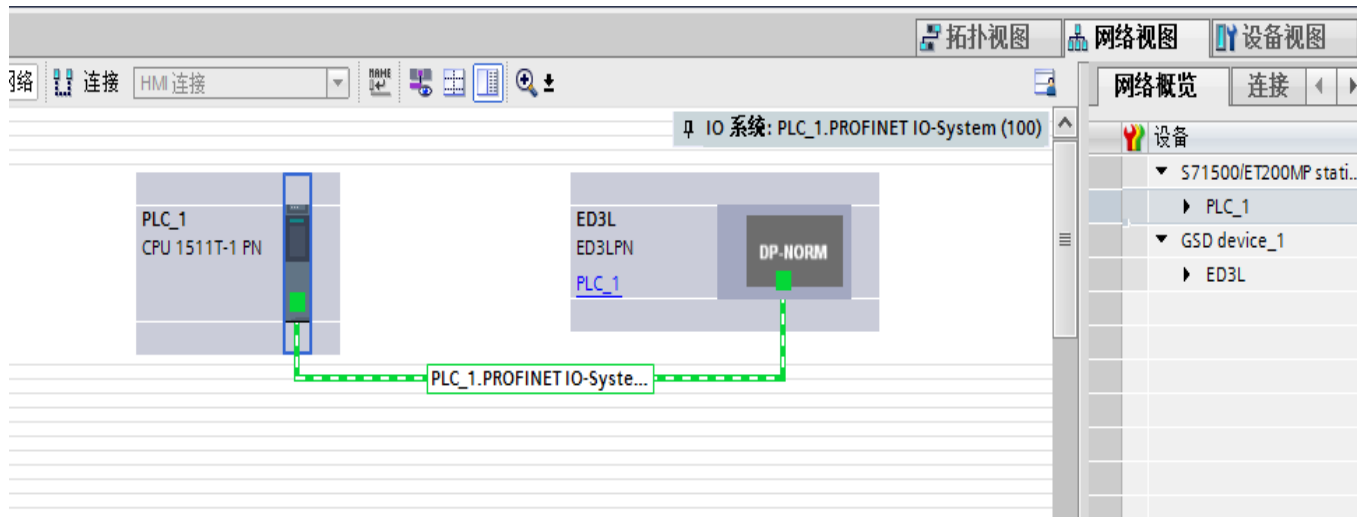# ED3L PN Servo Debugging Steps

Configuration: Siemens PLC and ED3LPN servo are configured according to the equipment and wiring, as shown in the figure below:



Configuration: add message 111, as shown in the following figure
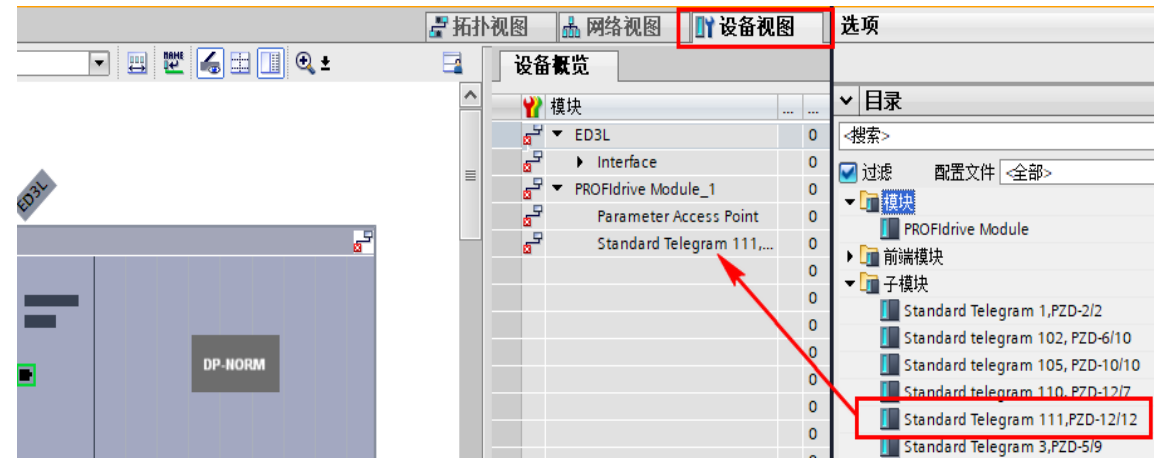


Configuration: Switch to network view and connect PLC with ED3LPN servo, as shown below



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# PN Servo Drive Configuration Steps

**1** ED3L GSD file import to TIA

**2** In network view, Siemens PLC and ED3L PN servo are connected
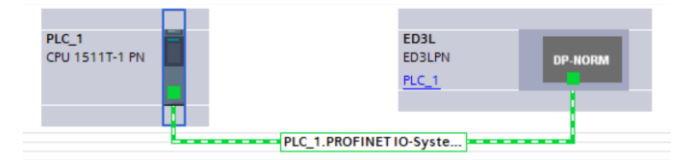


**3** In the device view, add packets to each ED3L PN servo

**4** Switch back to the network view and check whether the connection between Siemens PLC and ED3L PN is switched to a dashed line: PLC_1.PROFINET Io-SYS....



**5** Add axis process object, configure servo parameters, configure mechanical parameters

# PN Servo Drive Configuration Steps

**6** Assign a device name and select online access to the PG/PC interface

**7** Set the isochronous synchronization mode

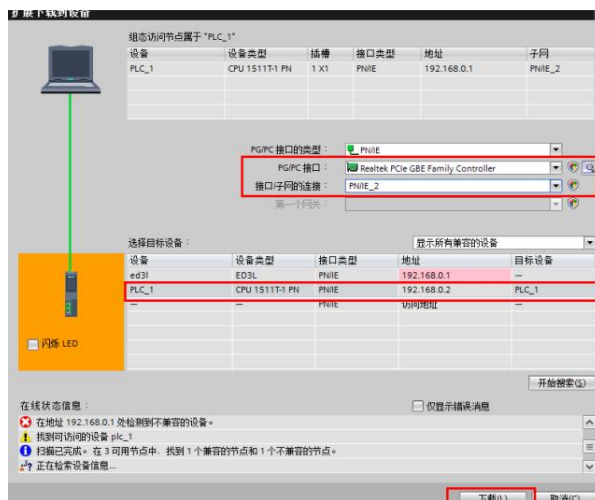**8** Programming, add a motion control module, the axis process logic control

**9** Project download: Compile download

**10** Test run: Axis debugging



编程：在工程中添加运动控制模块，可进行轴工艺逻辑控制，如下图所示





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# ED3L PN Servo Functions

**ED3L-PN Servo has the following outstanding features:**

200VAC Power supply, Power range from 50W to 2KW

400VAC Power supply, Power range from 1KW to 7.5KW

PROFINET communication, support standard AC1/AC3/AC4/102/105/750/111message

Isochronous synchronizing cycle minimum is 500μs

Support 32 kinds of homing mode

Suitable for EM3A series, EM3G series, EM3J series servo motor. Motor assembly 17-bit incremental encoder

(magnetic), 17-bit absolute encoder (photoelectric), 20-bit incremental / 23-bit absolute encoder (photoelectric)

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