



D1-N Servo Drive

Functional Safety Certificated

Excellent Performance

The D1-N drive attains high positioning performance to compliment the motion control technology of the semiconductor industry. The D1-N drive achieves very good following characteristics and effectively shortens the positioning time.

Simple Operation

Human-machine interface provides very simple settings. All standard types of motors and encoders are built inside.

Setup can be completed with just one-click.

Easy Integration

HIWIN provides positioning modules, motors, and the best servo drive solution. According to customer's requirements we can integrate all that are required for user's easiness of application.



Complete Tool Set

There are commissioning interfaces for speed and acceleration protection settings, gain settings, and an I/O test. Plus the D1-N drive has a complete filter, frequency analysis, Bode plot, Lissajous figures and other functions which provide a complete drive control program.

Safety Function: Safe Torque Off

IEC 61508-1, IEC61508-2, ISO 13849-1 and ISO13849-2 Functional Safety Certificated. STO(Safe Torque Off) function is compliant with the international standards.

Services

Through HIWIN's complete global presence, we can provide immediate technical services at any time.

EtherCAT

The D1-N series delivers the high performance amplifier with EtherCAT interface.

EtherCAT Conformance Test certified by an official EtherCAT Test Center.



Order Codes

Code →	1	2	3	4	5	6	7	8	9	0	11	12	13	14	15	16	17
Example	D	1	-	N	-	1	8	-	S	2	-	2	-	0	-	0	0

Product

D1-N =D1-N

Peak current

9A =09
 18A =18
 36A =36
 90A =90

Interface

Standard / without communication interface =S
 EtherCAT (CoE) =E
 EtherCAT (mega-ulink) =F
 Modbus =M

Encoder Type

EnDat 2.1/2.2 (Digital/Analog) = 0
 Standard (Digital/Analog) = 2
 Resolver = 4
 BiSS = 5
 Nikon = 7

Voltage range

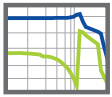
1/3 phase 230VAC = 2
 3 phase 230VAC/380VAC = 6

Heatsink type

Without external heat sink = 0
 With external heat sink = 1

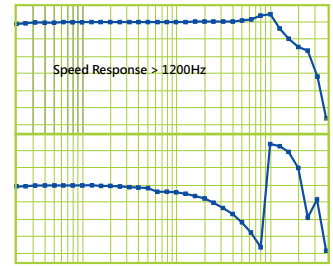
Reserve

Excellent Performance



Excellently high speed response

With help of semiconductor high-end motion control algorithm and advanced common gain concept, the high speed response is achieved, therefore satisfying all of the motion control needs.



D1N-SNN01B



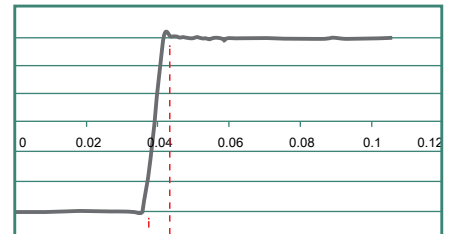
Electronic gear ratio and Encoder Emulator

The D1-N driver offers the electronic gear function which helps the user to adjust the resolution of the host controller's command pulse. The D1-N drive can also set the resolution of the emulated encoder which is the output to the host controller. These functions solve the compatibility problems between the encoder's and the host controller's resolution.



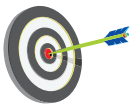
High acceleration responses

Using advanced WizAlg controller design tools, plus space vector current control technology, servo performance has been achieved to the highest level. To change AC servo motor speed from -3000 to +3000 rpm, it takes as low as 0.006 second.



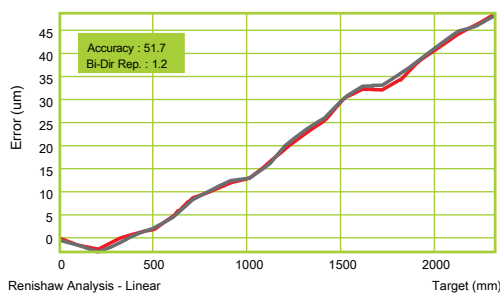
0.006 sec

D1N-SNN02B

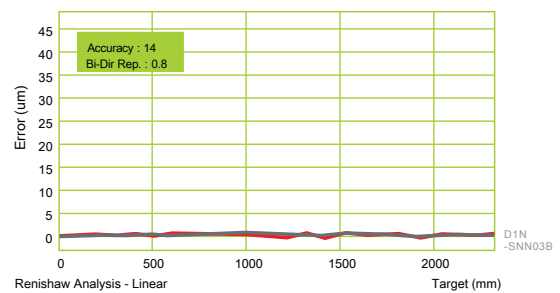


Built-in accuracy improvement features

D1-N drive includes features to improve total positioning accuracy of the mechanical system. The table size can be up to 16000 points. It is implemented in all control modes to optimize system behavior.



Without compensation



With compensation

D1N-SNN03B

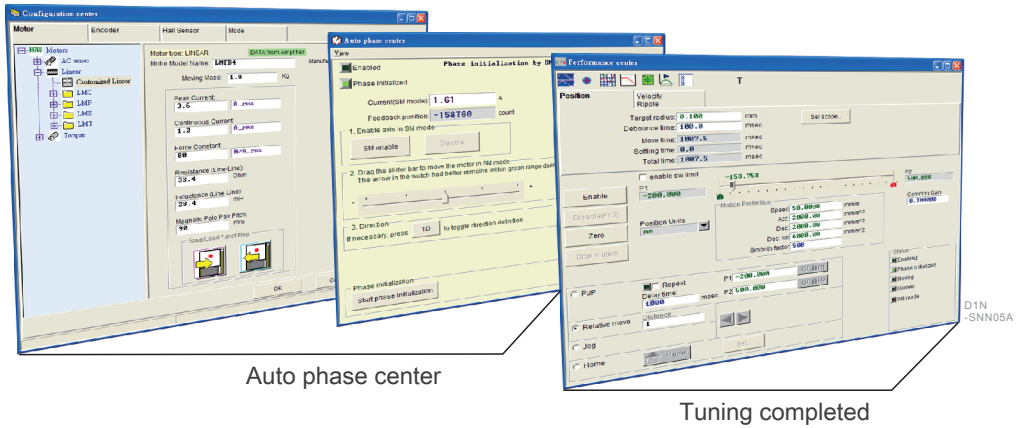


Vibration Suppression Feature

D1-N drive can remove the vibration frequency that occurs during movement. It reduces vibrations caused by system's structure and improve the machine's production efficiency.

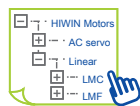
Simple Operation

1 2 3 Simple setup Three Steps



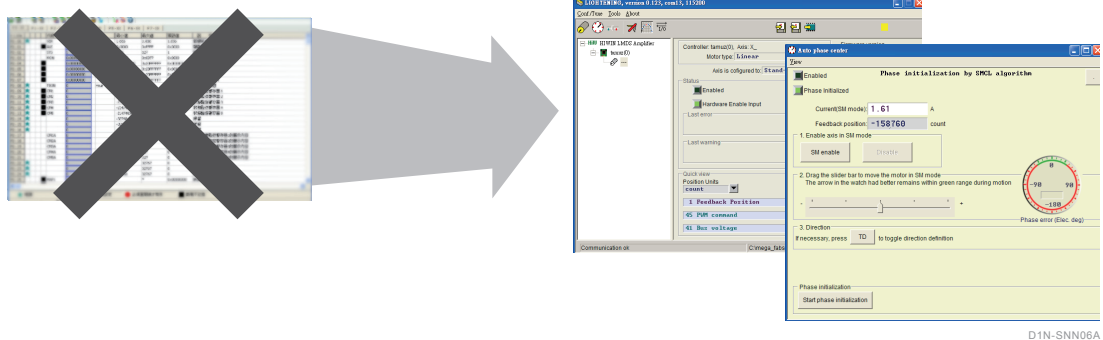
Auto phase center

Tuning completed



Easy operation

Parameters are categorized according to features, only necessary ones are shown at the right time. No confusing parameter list.



LCD display

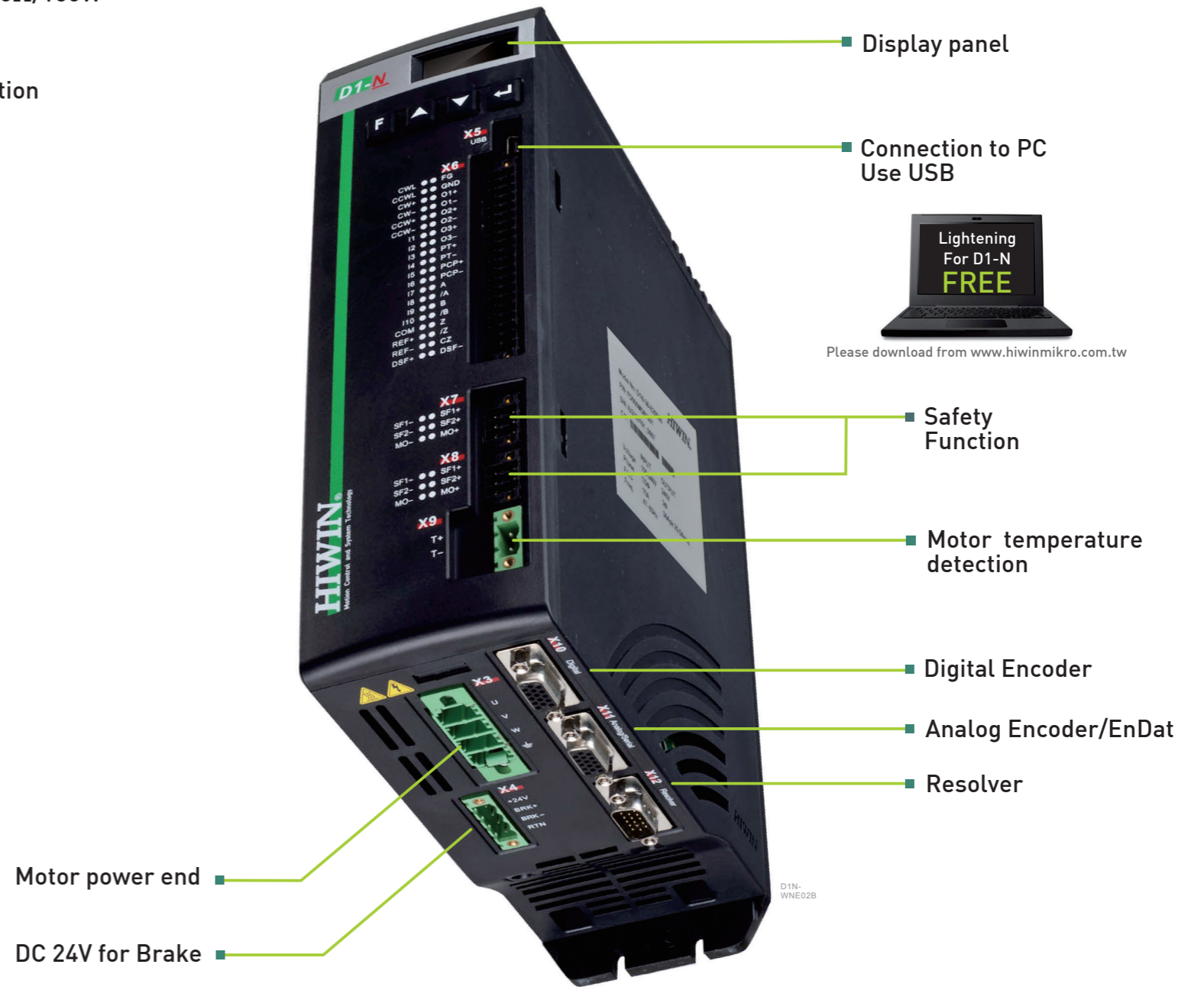
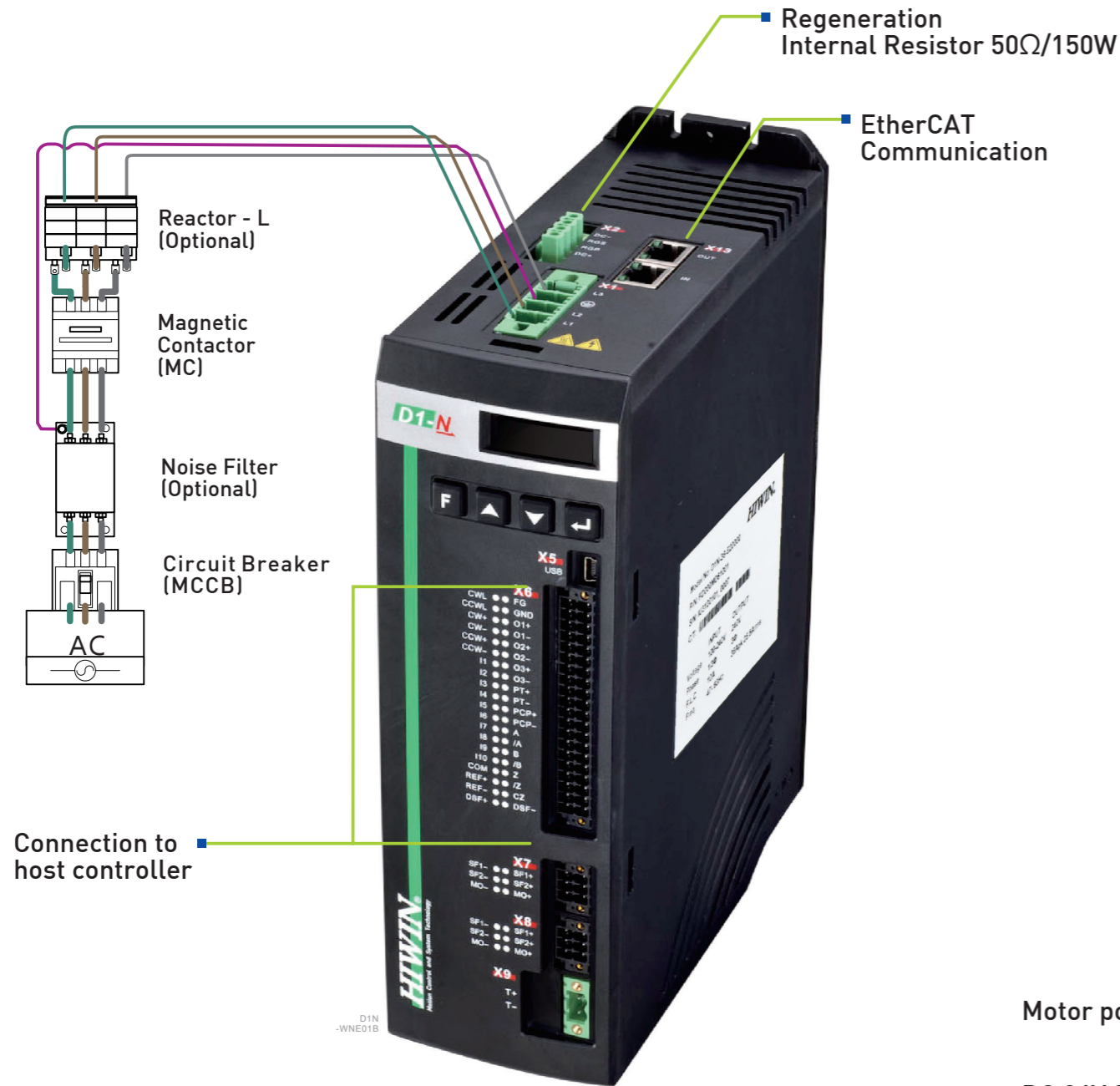
Without PC and user's interface, it is possible to complete basic settings. The LCD display shows the necessary error or warning information and statuses.

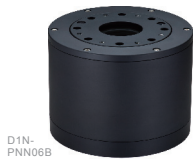


D1N-SNN07C

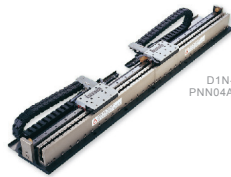
Wiring Example

9A / 18A / 36A





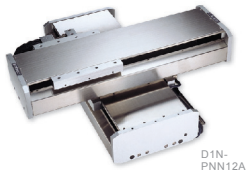
**Torque Motor
Direct Drive Motor**



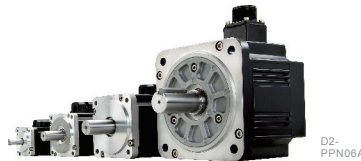
Linear Motor



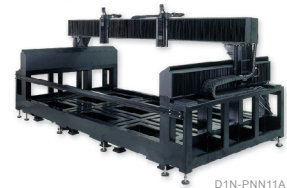
Positioning Measurement System



Linear Motor X-Y Robot



AC Servo Motor



Linear Motor Gantry

The specifications in this catalog are subject to change without notification.



Motion Control and System Technology

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