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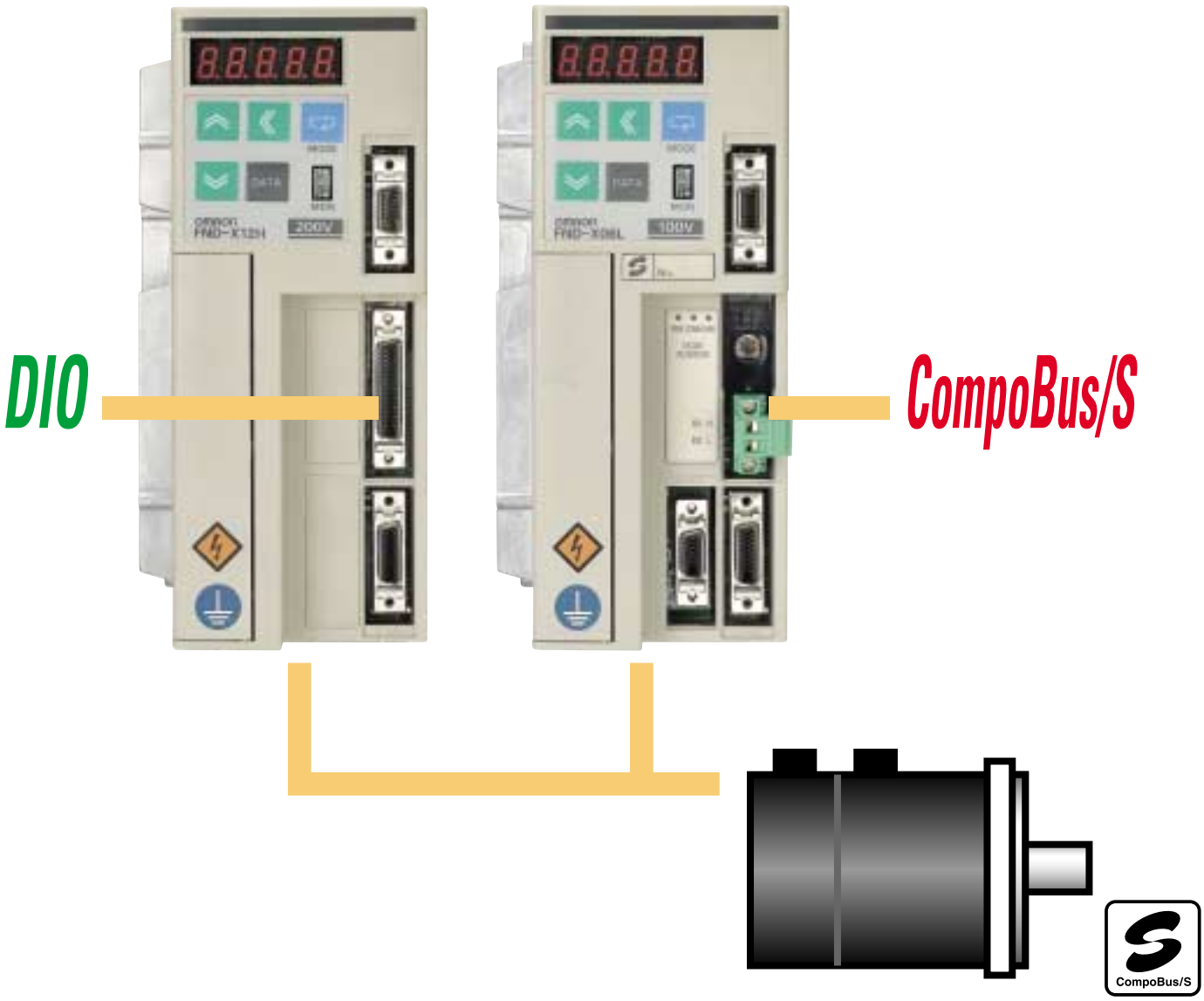
OMRON

OMRON Mechatronic Systems Components

# OMNUC FND-X Series Position Drivers

## User-friendly Position Drivers Equipped with Servodriver and Positioner Functions that Construct Positioning Systems with Ease

**Satisfies EC Directive Requirements and Meets UL/cUL Standards**
**Medium-capacity OMNUC U/M-series Models Have Become Connectable.**




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# OMRON's Easy-to-use Position Drivers with Remarkable Advances in Positioning Functions

**The FND-X Series is now available in addition to OMRON's conventional Position Drivers that are well known for their compactness, light weight, and ease of use. The FND-X Position Drivers are equipped with servodriver and positioner functions that attach importance to ease of use.**

**These positioning functions enable the FND-X Position Drivers to operate in feeder control or PTP control mode for positioning based on internal or external data. The positioning functions include a pulse rate setting function that sets position data according to the moving distance of the machine and a position compensation function that ensures high-precision positioning.**

**Furthermore, the FND-X Position Drivers connect to OMRON's conventional OMNUC U, H, and M-series AC Servomotor models and U-series UE models.**

**The FND-X Position Drivers construct ideal single-axis positioning systems with ease.**

**Use one of the following FND-X model types according to the Programmable Controller in use.**

**FND-X☐ DIO models**

**FND-X☐-SRT CompoBus/S models**

## ■ Easy Designing

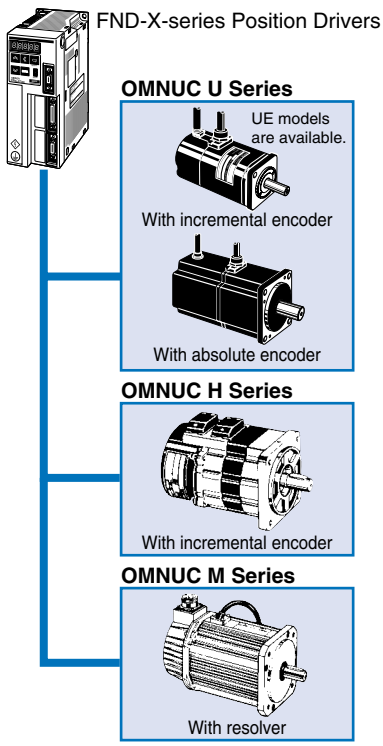
- The Position Drivers incorporate servodriver and positioner functions that contribute to the downsizing of control panels and machines.
- Connectable Motors can be selected from a wide variety of models, i.e., conventional OMNUC U, H, and M-series AC Servomotor models and U-series UE models, according to the application. U-series models incorporating an absolute encoder are available as well.

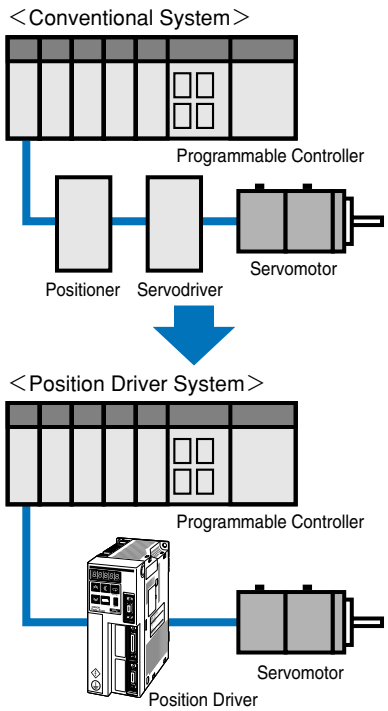
## ■ Easy Wiring

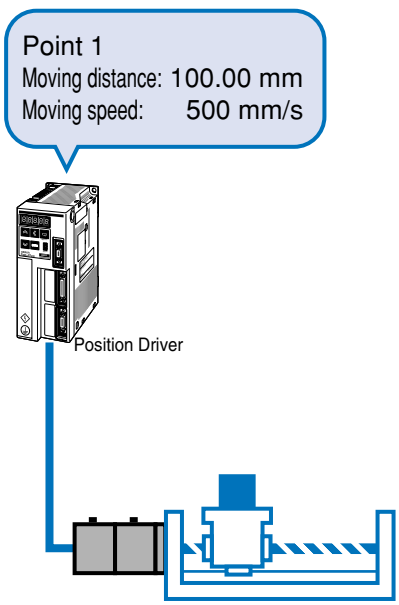
- The Position Drivers incorporate servodriver and positioner functions that save effort when wiring the servodriver and positioner, and eliminate noise interference that sometimes resulted due to the wires in conventional systems.
- A wide variety of dedicated cables ensure easy wiring between devices.
- The FND-X CompoBus/S models greatly saves on wiring effort by connecting to a host controller, such as a Programmable Controller or Master Control Unit, over a two-wire cable.

## ■ Easy Setting

- The pulse rate function allows fractional settings, thus making it possible to set position data and speed data according to the moving distance and speed of the machine.
- The teaching function makes it possible to set position data with ease.
- Servodriver and positioner parameters are set at a single point, which ensures ease of initial settings. Furthermore, all parameters are classified into blocks according to the purpose.






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**Note:** This catalog provides necessary information for the selection of models but does not provide information on operation precautions. For necessary information on the operation of the Position Driver and operation precautions, be sure to read the User's Manual.

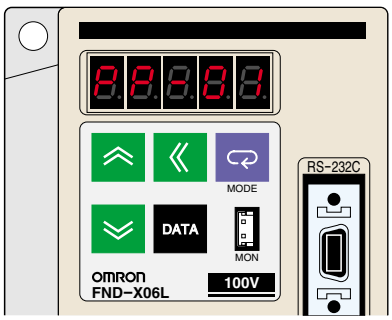


# Contents

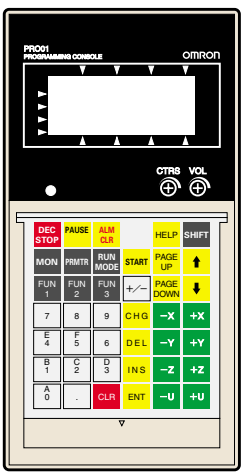

Features 2
System Configuration 4
Application Examples 4
Functions 5
Operation 6
Parameters 8
Monitoring 14
Teaching Box 16
Position Driver 18
Specifications
Servomotor Specifications 26
Dimensions 33
Peripheral Device 47
Connection Examples
Cable Specifications 49
Model Selection 53
Applicable Manuals 53
Standard Models 54


## ■ Easy Operation

- Parameter data can be set, changed, or monitored through the Position Driver's front panel operation keys, Personal Computer Monitor Software, or Teaching Box.
  An optimum HMI (human-machine interface) is selectable according to the application.




Front Panel Operation Keys of Position Driver




Teaching Box

## ■ Easy Adjustment

- The auto-tuning function performs the control gain adjustment automatically.
- The teaching function sets the operational axis origin automatically.
- The Position Driver in system check mode checks the connections between the Position Driver and Motor in test operation and conducts signal tests with the host controller.

## ■ Easy Positioning

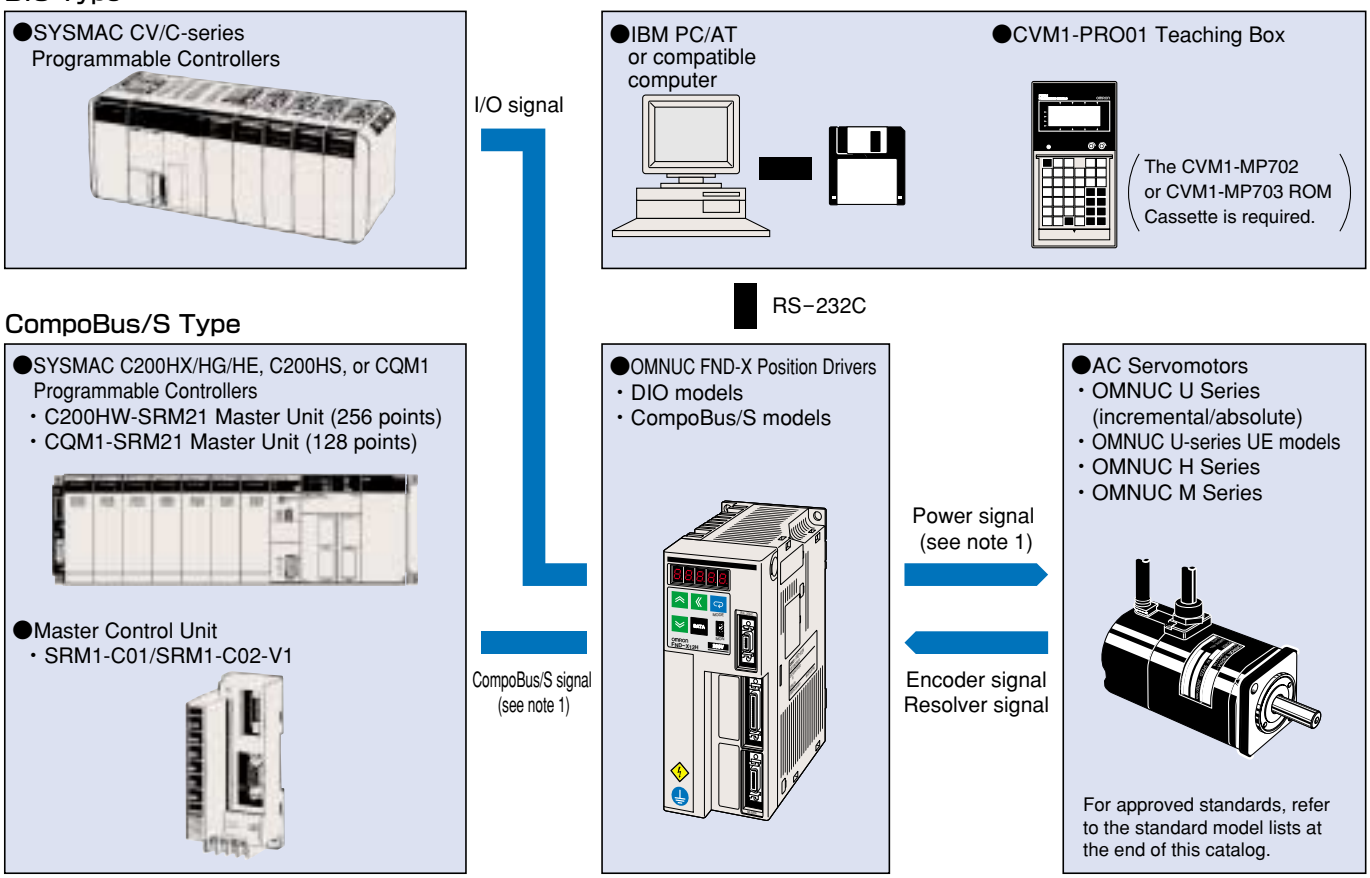
- Positioning is possible with a specified point number and start signal input. Positioning with data input from a Programmable Controller or thumbwheel switch is possible as well.
- Two control modes (i.e., feeder control and PTP control modes) and three operation modes (i.e., independent, automatic incremental, and continuous operation modes) ensure ideal positioning according to the application.
- A variety of versatile functions used for positioning is available, such as S-shaped acceleration/deceleration, backlash compensation, slip compensation, acceleration stop, brake output, and current limit functions.
- Both the DIO and CompoBus/S models drive the motor for approximately 4 ms after the start signal is input, which is ideal for applications that require high-speed response.



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# System Configuration

DIO Type

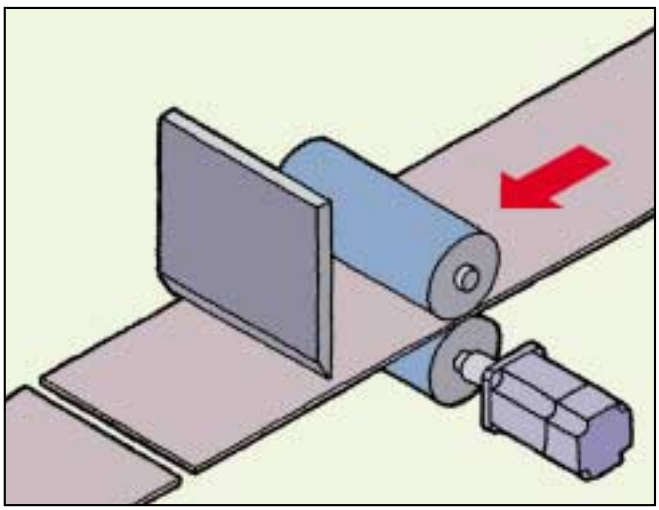



**Note 1:** Use OMRON's dedicated cables for the transmission of CompoBus/S, power, encoder, and resolver signals. Supports only the high-speed communications mode.
**2:** A maximum of eight CompoBus/S-type Position Drivers can be connected to a single Master Unit handling 128 input point and 128 output points.

# Application Examples

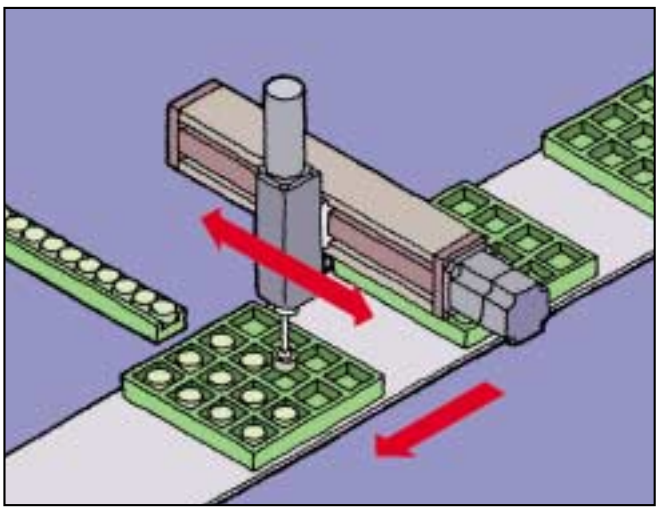
## Feeder (Constant-length Feeding)

●The Position Driver in feeder control mode makes it possible to cut workpieces and sheets to constant lengths and ensures easy printing of labels.
●The slip compensation function ensures high-precision feed control.
●The S-shaped acceleration/deceleration function smoothly starts and stops the application.



## Palletizing

●The palletizing job to align all workpieces at constant intervals is possible by controlling two axes (i.e., the conveyor and angle-axis arm) using a combination of feeder control and PTP control.
●Tact time can be reduced by using motors with high-speed response.





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