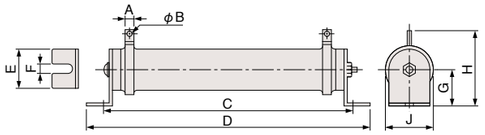
■Options

Damping Resistor



※If the resistor is very often started, contact us to increase resistor capacity.

●Dimensional table

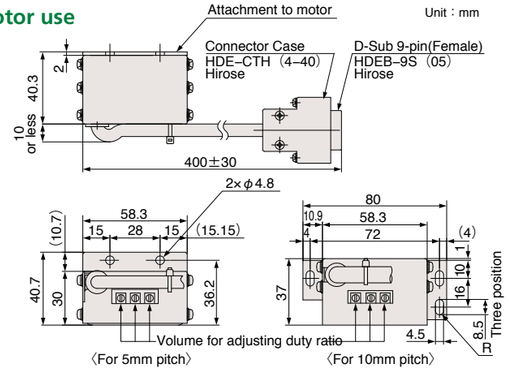
Type	Driver	Resistance (Ω)	Capacity (W)	Length (mm)								
				A	B	C	D	E	F	G	H	J
BR-15003	SDD-N-20A200W-□-□	150	30	6	3.2	101	110	18	4.5	16	35	19
BR-06008	SDD-N-20A750W-□-□	60	80	8	3.2	148	167	26	6	22	54	28
BR-03015	SDD-N-20A1K50-□-□	30	150	8	3.2	228	247	26	6	22	54	28
BR-01530	SDD-N-20A4K00-□-□	15	300	10	5.5	309	335	40	9.5	40	78	42
BR-01040	SDD-N-20A7K50-□-□	10	400	10	5.5	385	411	40	9.5	40	78	42

Pole Sensor

HD Linear Motor use

- ●HLRV series
- ●HLRA series
- ●HLRW series

Unit：mm



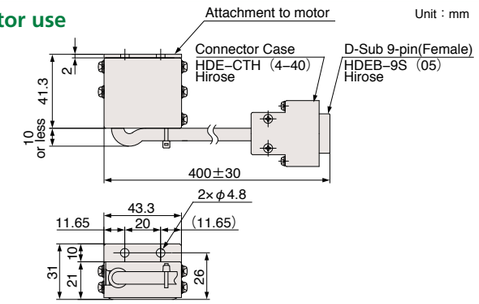
●Specification

Items	Specification
Power Supply Voltage (DC) V	5.0±5%
Electricity Consumption W	1 or less
Operating Temperature °C	0～+50
Strage Temperature °C	−15～+60
Humidity (Operation-Storage)	90%RH or less(no condensation)
Gap mm	0.3±0.1
Mass kg	0.25

PM Linear Motor use

- ●LSM-S series
- ●LSM-R series

Unit：mm



●Specification

Items	仕様
Power Supply Voltage (DC) V	5.0±5%
Electricity Consumption W	0.25 or less
Operating Temperature °C	0～+50
Strage Temperature °C	−15～+60
Humidity (Operation-Storage)	90%RH or less(no condensation)
Gap mm	1.5±0.1
Mass kg	0.15

For safe and reliable operation,it is essential to read the user's manual carefully before using this equipment.

SINFONIA TECHNOLOGY CO., LTD. continually upgrades and improves its products.
Actual features and specifications may therefore differ slightly from those described in this catalog.

SINFONIA TECHNOLOGY CO., LTD.

Motion-Control Products Sales Dept.
Shiba NBF Tower, 1-30, Shibadaimon 1-chome, Minato-ku, Tokyo, 105-8564, Japan
TEL +81-3-5473-1826 FAX +81-3-5473-1845

SINFONIA TECHNOLOGY (SINGAPORE) PTE. LTD.
101 Cecil Street #13-12 Tong Eng Building Singapore 069533
TEL +65-6223-6122 FAX +65-6225-2729

PT. SINFONIA TECHNOLOGY INDONESIA
Graha Paramita 8th Floor Suite E Jl. Denpasar Raya Block D2 KAV. 8 Kuningan, Jakarta 12940, Indonesia
TEL: 021-252-3606 (hunting) FAX: 021-252-3608

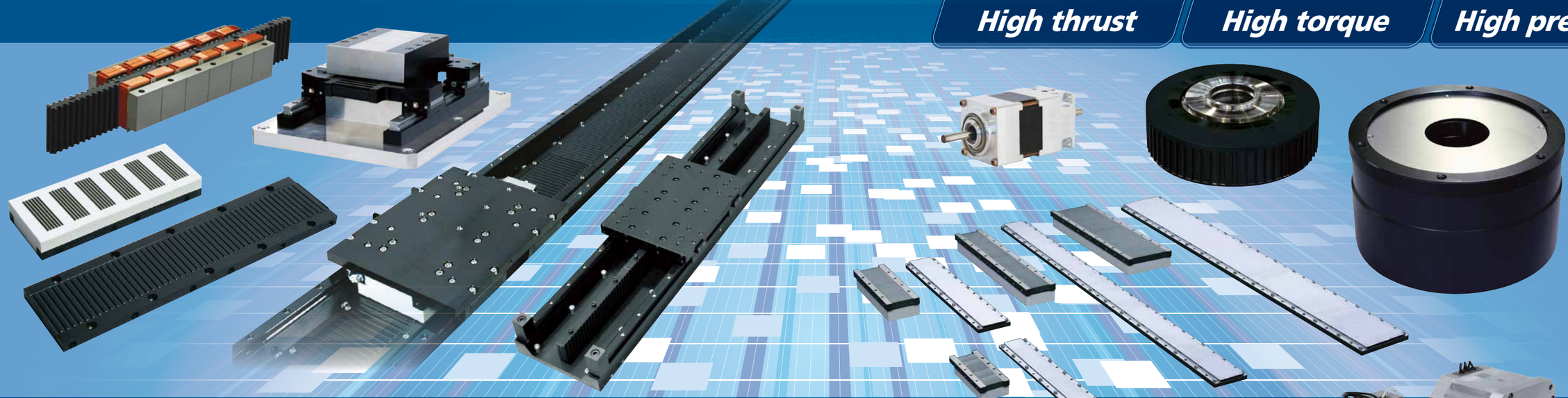
SINFONIA TECHNOLOGY (THAILAND) CO., LTD.
Bangkok Sales Office
12th Floor Room 1205, 319 Chamchuri Square Building, Phayathai Road, Pathumwan Bangkok Bangkok 10330, Thailand
TEL +66-2160-5068 FAX +66-2160-5069

Code
E76-400
1309AⅢ◎

Servo Actuators

Catalogue

SINFONIA
SINFONIA TECHNOLOGY CO., LTD.



High thrust | High torque | High precision

Easily realizes highly precise index drive

Servo Actuators

A variety of types of precision motion devices such as FA equipment and industrial robots are vital components of manufacturing plants.
At the heart of these devices are servo actuators.
We provide a broad product lineup, mainly HD motors and HD linear motors that achieve high torque and high thrust.
Our optimized servo drives satisfy the diverse needs of flat panel display manufacturing processes.

Contents

Please refer at the back side page for options.

Features of SINFONIA TECHNOLOGY's HD method.

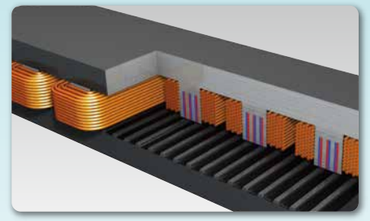
Operation

HD Linear Motor

Movable Unit
Slit form permanent magnets are placed in the space where the laminated core forms, and it equips the winding.

Stator
Blocks of laminated core are lined up, and the grooves are molded with plastics.

Permanent Magnet
Not Exposed

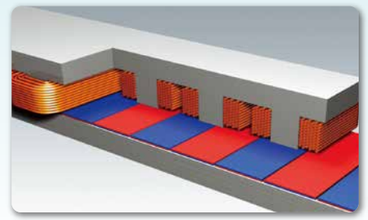


PM Linear motor

Movable Unit
Laminated core is equipped with the winding.

Stator
On the plate, the plate form permanent magnet is arranged by the number of strokes.

Permanent Magnet
Exposed



Capable of heavy load high-precision transportation with strong thrust motor.

HD Linear Motor

Unit model / Built in model HDL-S series / HLRV・HLRA series

Features

Notable Thrust
Standard lineup generates thrust up to 1700N.

Low Heat Generation
Continuous high thrust output enables low heat generation. High frequency operation maintained without anxiety.

Compact in size
Compact size comes from the high thrust per unit area.

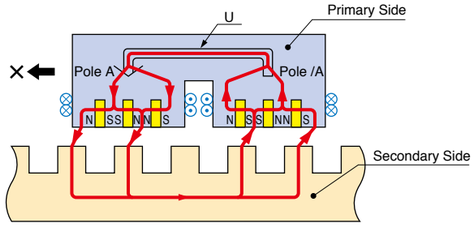
High Precision
Optical encoder utilizes high precision positioning.

Magnet-less Stator
Unique magnetic circuit removes permanent magnets from the stator side.
(See P.2 Structure Comparison)

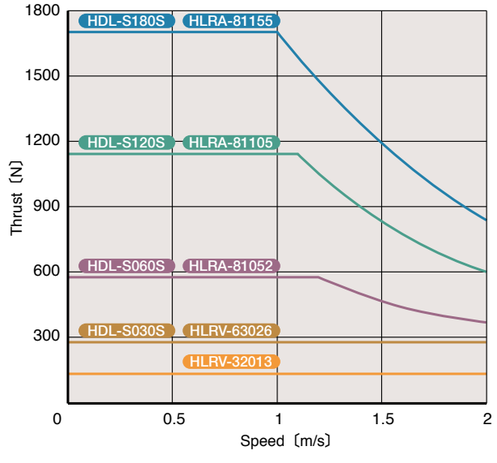
Operation

●Magnet Circuit of the HD Motor Linear Type

Unique magnetic circuit with embedded high performance permanent magnet offers strong magnetic flux and creates higher thrust than other linear motors.



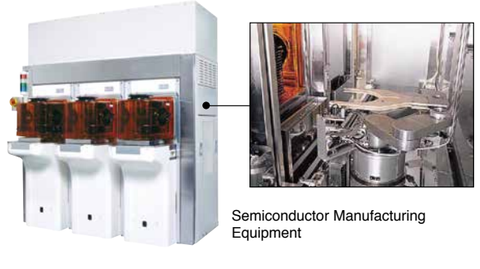
Characteristics



Applications

Placement of large and heavy loads
▶ **FPD manufacturing equipment**
High precision positioning
▶ **Semiconductor manufacturing equipment**
High frequency operation
▶ **Chip mount, bonder, etc.**

Use example



Semiconductor Manufacturing Equipment

Standard specification

●Unit model

Items \ Type		HDL-S030S※	HDL-S060S	HDL-S120S	HDL-S180S
Maximum Thrust	N	280	580	1150	1700
Continuous Thrust	N	173	350	700	1030
Maximum winding current	Arms	10.5	17	34	38
Maximum Speed	m/s	0.2 / 1 / 2			
Sensor Resolution	μm	0.1 / 0.5 / 1			
Movable Part Weight	kg	4.2	9.5	17	37
Stator Weight	kg/m	37	52		

※Magnet-pole-sensor-less type

●Built in model

Items \ Type		HLRV-32013	HLRV-63026	HLRA-81052	HLRA-81105	HLRA-81155
Maximum Thrust	N	140	280	580	1150	1700
Continuous Thrust	N	86	173	350	700	1030
Maximum winding current	Arms	4.7	10.5	17	34	38
Maximum Speed	m/s	2				
Movable Part Weight	kg	1.5	2.1	4.5	8	16
Stator Weight	kg/m	Please refer at outer dimention in P. 7～8				

●Environment (Common in all types)

Ambient temperature	Operation : 0～40°C / Storage : –15～70°C
Humidity	80%RH or less (no condensation)
Environment	Free from corrosive gas or dust (in house use)
Vibration/Impact	9.8m/S^2 or less
Altitude	1,000 m or less

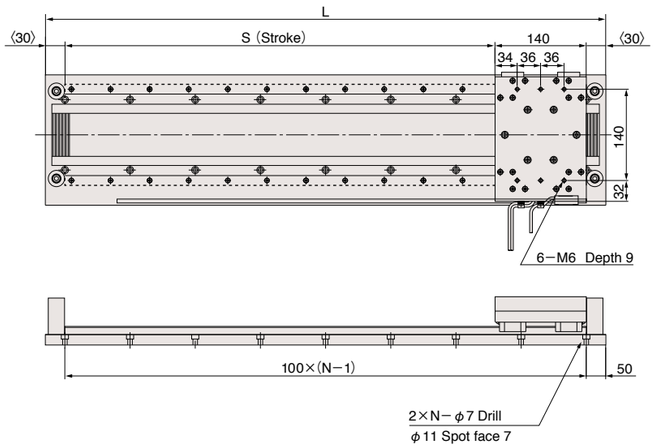
HD Linear Motor

Unit model HDL-S series

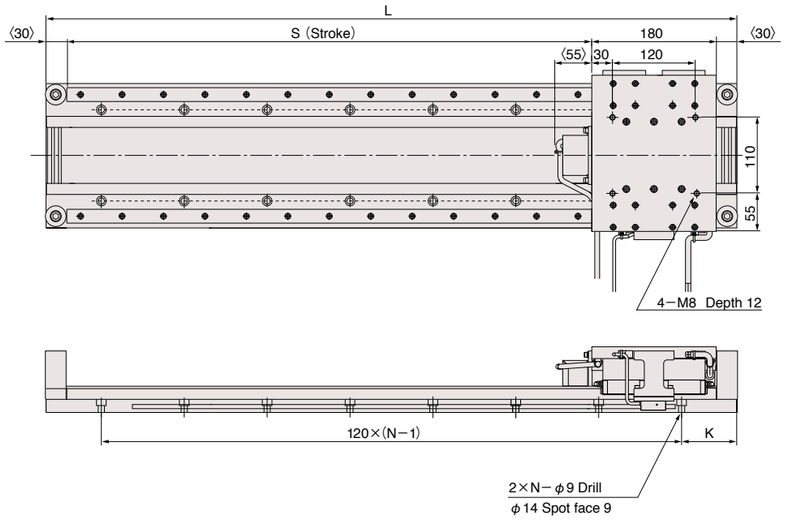
Dimensional outline

HDL-S030S

Unit：mm



HDL-S060S



〈 〉 Outline dimensions

●Dimensional table

Type	HDL-S030S	
Length L (mm)	Stroke S (mm)	Spot face number N (place)
500	300	5
900	700	9
1300	1100	13
1700	1500	17

Type	HDL-S060S		
Length L (mm)	Stroke S (mm)	K (mm)	Spot face number N (place)
500	260	70	4
1000	760	80	8
1500	1260	30	13
2000	1760	40	17
2500	2260	50	21

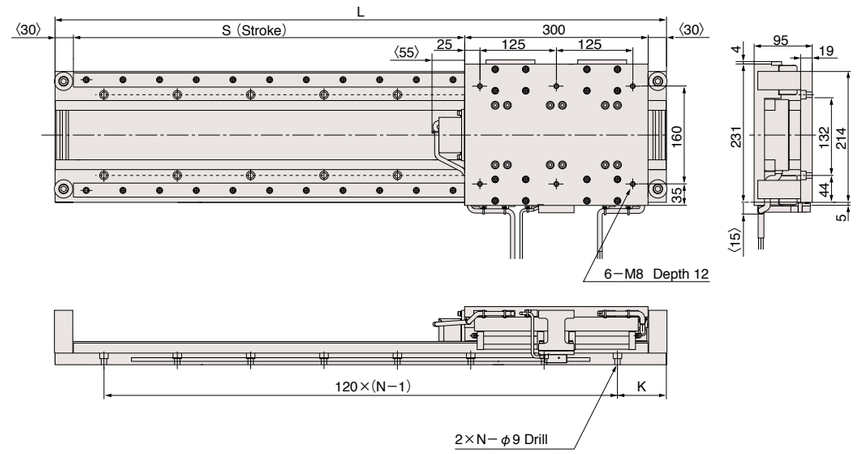
◆Length of the lead wire

Lead wire of the motor: 200±50mm from the edge of the table
Lead wire of the magnet-pole sensor: 200±50mm from the edge of the table
Lead wire of the encoder: 1500mm from the outlet of the encoder body

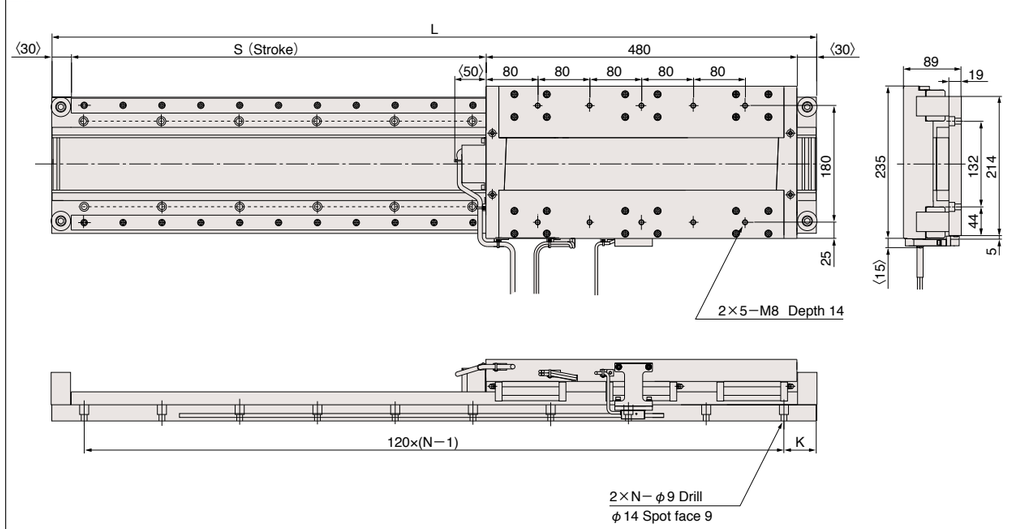
Dimensional outline

HDL-S120S

Unit：mm



HDL-S180S



〈 〉 Outline dimensions

●Dimensional table

Type	HDL-S120S			HDL-S180S		
Length L (mm)	Stroke S (mm)	K (mm)	Spot face number N (place)	Stroke S (mm)	K (mm)	Spot face number N (place)
500	140	70	4	—	70	4
1000	640	80	8	460	80	8
1500	1140	30	13	960	30	13
2000	1640	40	17	1460	40	17
2500	2140	50	21	1960	50	21

◆Length of the lead wire

Lead wire of the motor: 200±50mm from the edge of the table
Lead wire of the magnet-pole sensor: 200±50mm from the edge of the table
Lead wire of the encoder: 1500mm from the outlet of the encoder body

HD Linear Motor

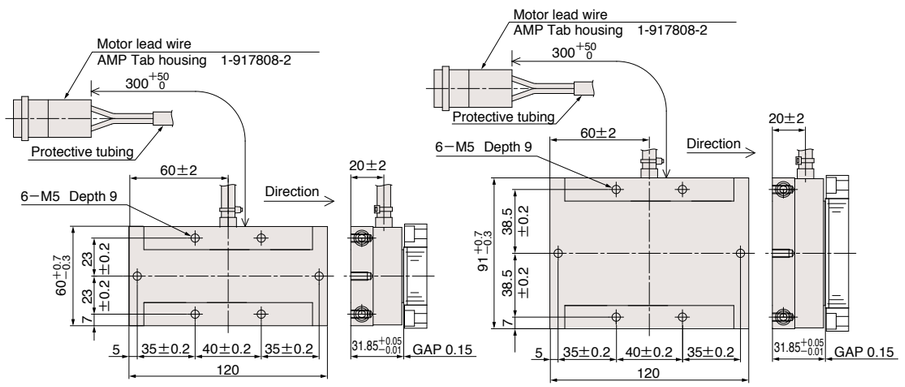
Built in model HLRV·HLRA series

Dimensional outline

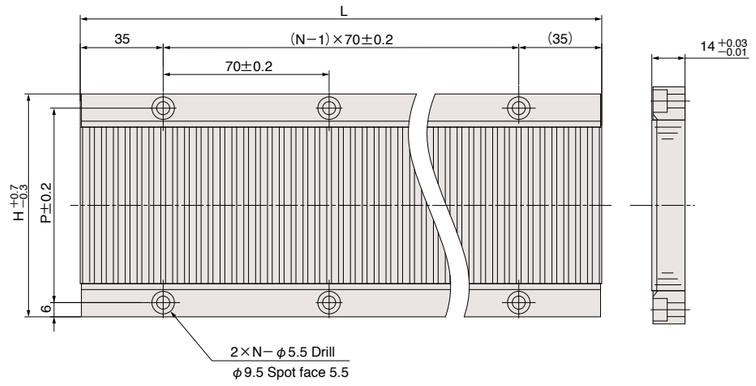
HLRV-32013/63026

Unit：mm

movable unit



stator



●Dimensional table

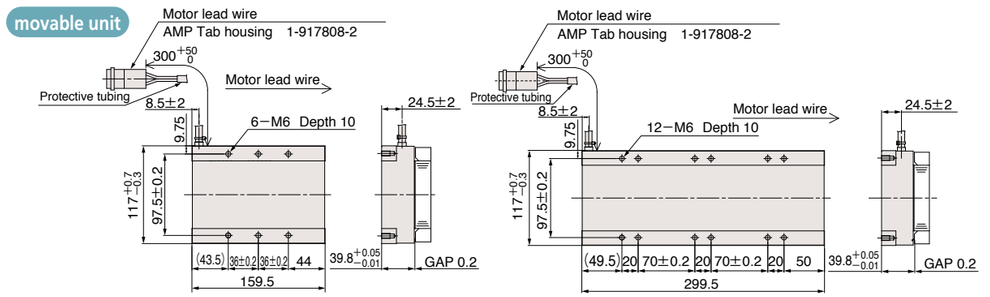
Type	Suitable movement core	Length L (mm)	N	H (mm)	P (mm)	Mass (kg)
HLSV-3542L	HLRV-32013	420	6	63	51	2.8
HLSV-3528L		280	4			1.9
HLSV-3514L		140	2			0.95
HLSV-6642L	HLRV-63026	420	6	94	82	4.1
HLSV-6628L		280	4			2.8
HLSV-6614L		140	2			1.4

Dimensional outline

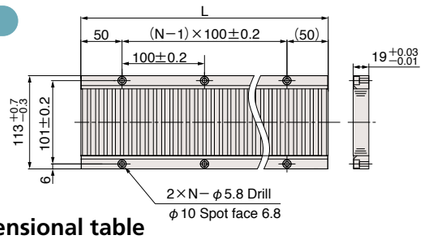
HLRA-81052/81105

Unit：mm

movable unit



stator

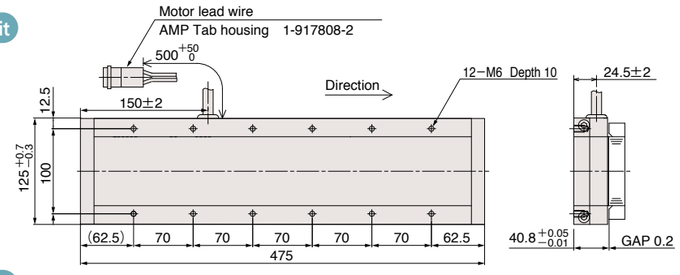


●Dimensional table

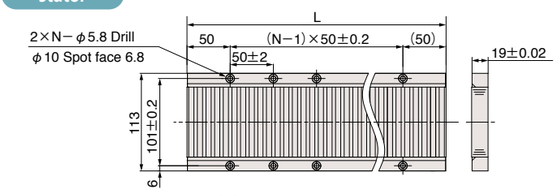
Type	Suitable movement core	Length L (mm)	N	Weight (kg)
HLSA-8150L	HLRA-81052 HLRA-81105	500	5	7.8
HLSA-8140L		400	4	6.1
HLSA-8130L		300	3	4.6

HLRA-81155

movable unit



stator



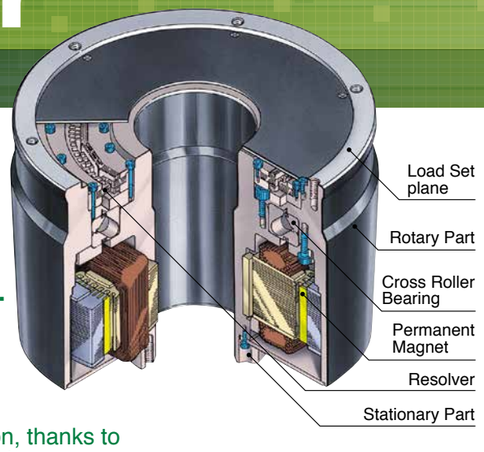
●Dimensional table

Type	Suitable movement core	Length L (mm)	N	Mass (kg)
HLSA-8150LS	HLRA-81155	500	9	7.8
HLSA-8140LS		400	7	6.1
HLSA-8130LS		300	5	4.6

High torque of up to 2400Nm meets every needs.

HD Motor

HDM series



Features

High Torque
New magnetic circuit that doubles the efficiency factor of the core, generates **high torque up to 2400Nm.**

Compact in size
Compact size due to high torque per unit area.

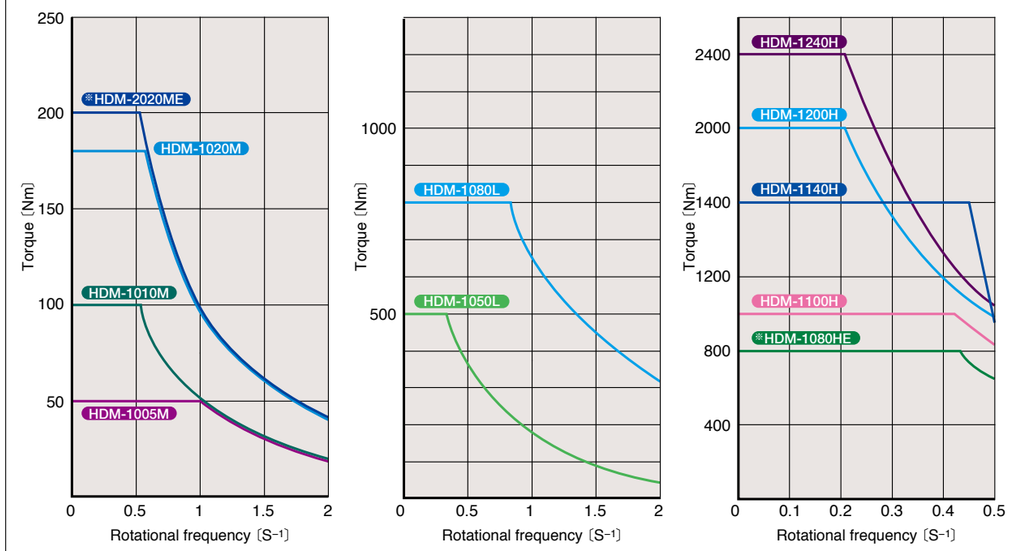
High Frequency Operation
Enables high frequency operation, thanks to the continuous high torque output.

High Precision
The optical, high-resolution encoder is a lineup type. Greater precision positioning is possible.

High Rigidity
Cross roller bearing makes motor more rigid and stable.

Hollow Structure
Less installation space is required with storing wiring and piping in the hollow space of the motor.

Characteristics



※Encoder type（Please refer to P.12）

Standard specification

Items \ Type		HDM-1005M	HDM-1010M	HDM-1020M	HDM-1050L	HDM-1080L	HDM-1100H	HDM-1140H	HDM-1200H	HDM-1240H
Maximum Torque	Nm	50	100	180	500	800	1000	1400	2000	2400
Continuous Torque	Nm	35	66	120	330	560	660	700	1330	1100
Maximum Winding Current	Arms	8.7	8.7	17	28.5	75	70.5	70.5	71	85
Maximum Rotation	s^{-1}	2					0.5			
Sensor Resolution	pulse	204,800 (6.3sec)								
Allowed Axial Load	N	5500	5500	5500	10000	10000	21000	21000	21000	21000
Allowed Moment	Nm	150	150	150	400	400	850	850	850	850
Axial Rigidity	mm/N	1.47×10^{-6}	1.47×10^{-6}	1.47×10^{-6}	1.30×10^{-6}	1.30×10^{-6}	5.90×10^{-7}	5.90×10^{-7}	5.92×10^{-7}	5.92×10^{-7}
Moment Rigidity	rad/Nm	1.6×10^{-7}	1.6×10^{-7}	1.6×10^{-6}	4.0×10^{-7}	4.0×10^{-7}	1.17×10^{-7}	1.17×10^{-7}	1.17×10^{-7}	1.17×10^{-7}
Rotor Inertia	kgm^2	0.11	0.13	0.18	0.59	0.91	2.47	2.90	4.05	4.5
Mass	kg	21.5	27	36	72	117	157	195	282	340

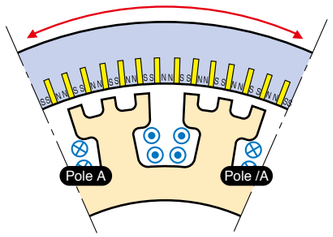
Environment (Common in all types)

Ambient temperature	Operation : 0～40°C / Storage : −15～70°C
Humidity	80%RH or less (no condensation)
Environment	Free from corrosive gas or dust (in house use)
Vibration/Impact	$9.8m/S^2$ or less
Altitude	1,000 m or less

Operation

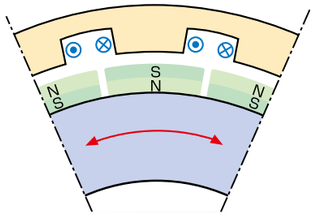
●The Rotary Type Magnetic Circuit of HD Motor

This is a Direct drive motor that magnet is embedded in rotor core. Continuous/maximum torque is more than halved by improving generated torque with function of outer rotor type induction teeth. It can suppress heat from continuous and low speed high torque drive.



●The Magnet Circuit of the Conventional Motor

This AC servo type direct drive motor has permanent magnet applied on surface of the core.
As same as inner rotor type AC servo motor, instant torque is high. Because continuous torque is only 1/3 from maximum, it tend to be heated up in continuous driving.



Applications

Big, heavy load index
▶ **FPD equipment**

High Precision positioning
▶ **Semiconductor manufacturing equipment**

High Frequency Operation
▶ **Electronic components manufacturing equipment, Inspection instrument**

Simple Structures
▶ **Paper manufacturing, Printer etc.**

Use example


AGV


HD Motor Unit for AGV

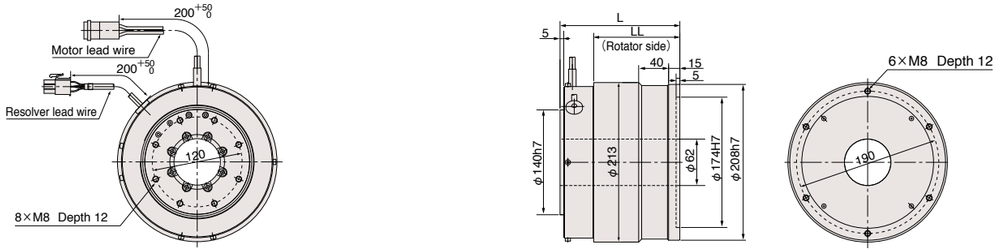

Index tilt table


Positioning of large glass substrate

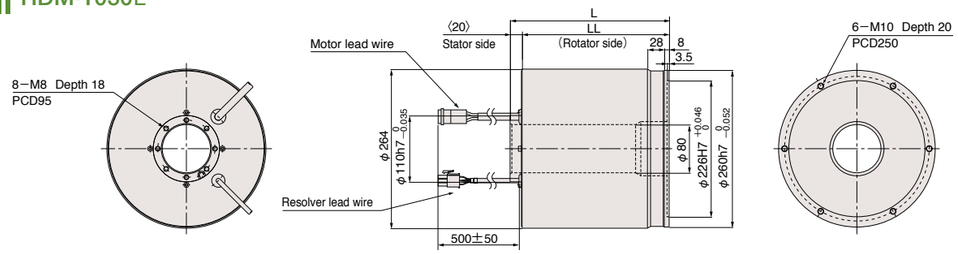
Dimensional outline

Unit：mm

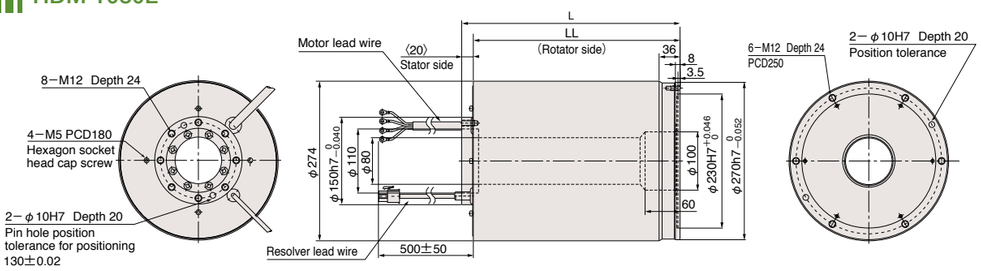
HDM-1005M/1010M/1020M



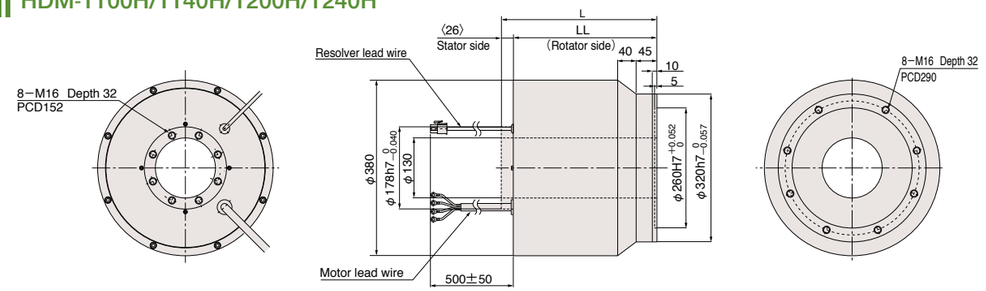
HDM-1050L



HDM-1080L



HDM-1100H/1140H/1200H/1240H



〈 〉Outline dimensions

●Dimensional table

Unit：mm

Items \ Type	HDM-1005M	HDM-1010M	HDM-1020M	HDM-1050L	HDM-1080L	HDM-1100H	HDM-1140H	HDM-1200H	HDM-1240H
Length L	154	173	211	264	375	312	360	488	538
Rotary side length LL	115	135	166	244	355	286	334	462	522

Standard specification

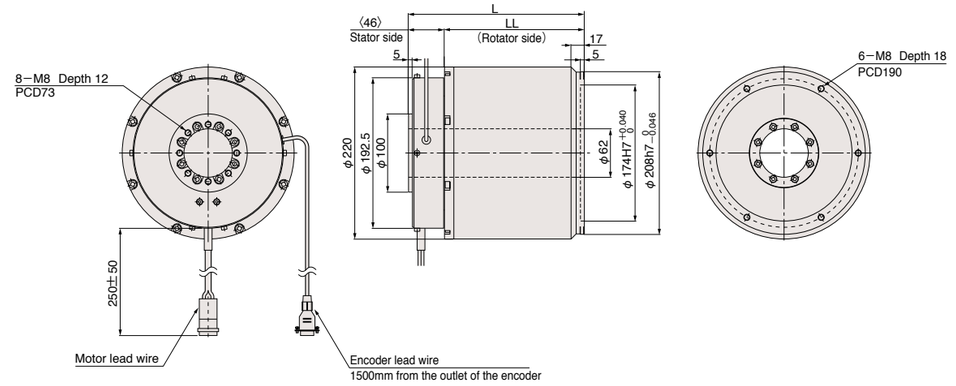
Items \ Type		※HDM-2020ME	HDM-1080HE	HDM-1120HE
Maximum Torque	Nm	200	800	1200
Continuous Torque	Nm	100	400	600
Maximum Winding Current	Arms	16.5	71	71
Maximum Rotation	s^{-1}	2	0.5	0.5
Sensor Resolution	pulse	944000 (1.4sec)	4720000 (0.27sec)	
Allowed Axial Load	N	5200	21000	21000
Allowed Moment	Nm	110	850	850
Axial Rigidity	mm/N	1.9×10^{-6}	5.92×10^{-7}	5.92×10^{-7}
Moment Rigidity	rad/Nm	2.4×10^{-6}	1.17×10^{-7}	1.17×10^{-7}
Rotor Inertia	kgm^2	0.11	2.6	3.2
Mass	kg	30	190	225
Environment		Please refer to P.10		

※Magnet-pole-sensor-less type

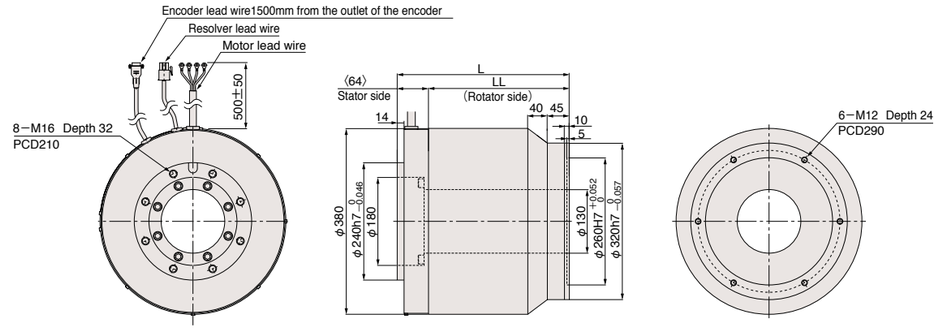
Dimensional outline

Unit：mm

HDM-2020ME



HDM-1080HE/1120HE



〈 〉Outline dimensions

●Dimensional table

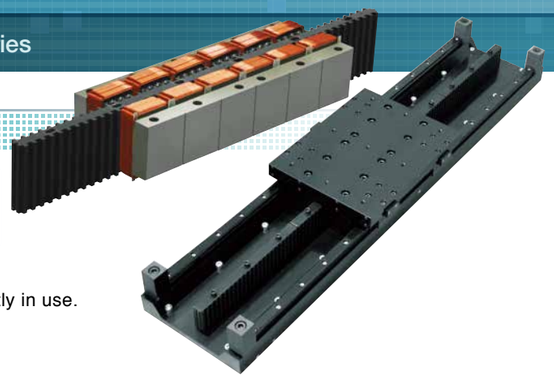
Unit：mm

Items \ Type	HDM-2020ME	HDM-1080HE	HDM-1120HE
Length L	225	352	400
Rotary side length LL	179	288	336

Lighter slider leads amazing acceleration.

HD Linear Motor

Built in model "I" Style HLRW series



Features

Improved Magnetic Circuit

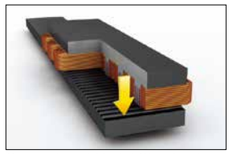
New Construction of "I" Style

▶ Max thrust 1.5 times up
The thrust per a unit of velocity have 1.5 times on those currently in use.

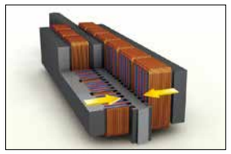
▶ Unique construction
"I" style construction put stator between sliders.

▶ Lightest stator and high stiffness construction
When compared with HD previous stator, the weight has been reduced 70% and vertical stator makes mechanical stiffness.

▶ Reduction of mechanical loss
Negation magnetic attraction thrust helps to extend the lift of linear guides and the mechanical loss decrease.



Conventional Model Structural

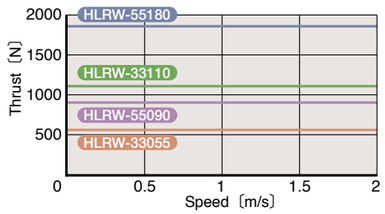


New Model Structural

Standard specification

Items \ Type	HLRW-33055	HLRW-33110	HLRW-55090	HLRW-55180
Maximum Thrust N	550	1100	900	1800
Continuous Thrust N	220	440	380	750
Maximum winding current Arms	18	36	28.5	57
Maximum Speed m/s	2			
Movable Part Weight kg	3.4	6.7	5.1	10.1
Stator Weight	Please refer to P.4			
Environment	Please refer to P.4			

Characteristics

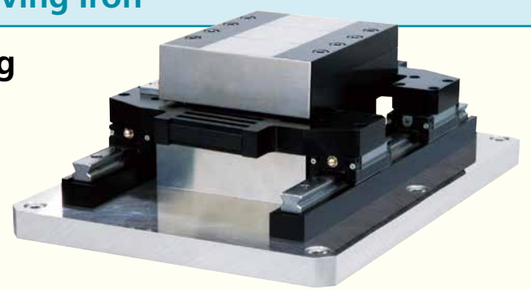


"I" Style Applications Moving Iron

Lighter slider leads amazing acceleration.

Max Acceleration **33G** ※

※Theoretical Value (Max Thrust/Slider Mass)

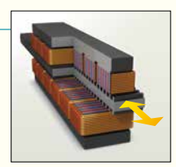


● Features

Slider is iron core only, uniquely-designed "Moving iron system" greatly improved reliability compared to existing moving coil systems.

What's the "I"style construction?

The negation of a magnetic attractive thrust by sandwiching a slider between stators help to extend the lift of linear guides.Applied "I"style construction this time, made only the iron core part movable, "Moving iron system".



● Specification

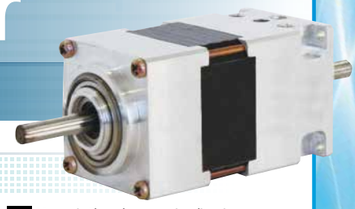
Maximum Thrust	N	1000
Continuous Thrust	N	420
Slider Mass	kg	2.87
Max Acceleration※1	G	33
Stroke	mm	±40

※1 Unloaded

The only moving part is the iron core and the mechanical strength is high, which provides high reliability even under harsh operations. And, free from the accidents caused by electrical wires cutting, no as power supply is necessary for movable parts.

HD Linear Motor

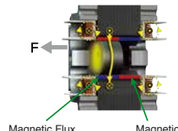
SS Type



Operation Principles

Without energization, the movement core is stationary in the middle position of the motor due to magnetic force generated by the permanent magnet. Depending on the direction of electric current to be applied to the coil, the magnetic force generated by the permanent magnet and the magnetic force generated by the coil reinforce each other in the same direction and weaken each other in the reverse direction. This provides a magnetic flux bias to generate driving force.(Fig. a)
The direction of the driving force depends on the direction of electric current to be applied, and the strength of the driving force is proportional to the amount of electric current. (Fig. b)

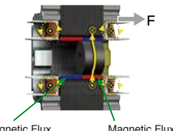
Fig.a Magnetic Flux when positivedirection current is applied.



Magnetic Flux (φm+φc) Coil magnetomotive force and magnet magnetomotive force are in the same direction.

Magnetic Flux (φm−φc) Coil magnetomotive force and magnet magnetomotive force are in the reverse direction.

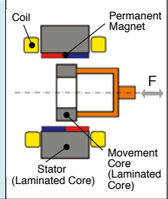
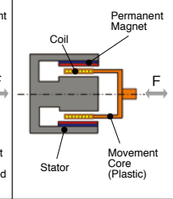
Fig.b Magnetic Flux when negative direction current is applied.



Magnetic Flux (φm−φc) Coil magnetomotive force and magnet magnetomotive force are in the opposite direction.

Magnetic Flux (φm+φc) Coil magnetomotive force and magnet magnetomotive force are in the same direction.

Comparting Structure

Motor Type	HD Linear Motor SS Type	Voice Coil Motor
Structure		
Power Supply to Movable Contact	Not Required	Required
Mechanical Strength of Movable Parts	◎	×
Direction of Driving Force	◎	◎
Driving Force Linearity	Both Directions	Both Directions
Servo Control	◎	◎

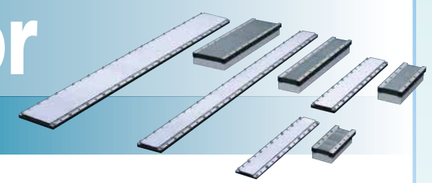
Specifications and Performance

Items \ Type	RM088-042	RM066-042	RM040-021
Stroke mm	8 (±4)	6 (±3)	4 (±2)
Rated Driving Force N	75	40	6
Rated Current A	2.1	1.1	0.6
Driving Force Rate N/A	35.7	36.4	10.0
Winding Resistance Ω	5.2	11.5	13.3
Motor Rate N/√W	15.7	10.8	2.8
Insulation Class —	B Type		
Stator Mass kg	2.3	1.5	0.21
Movement core Mass kg	0.25	0.16	0.04

Corresponding to diverse industries needs with variety of product line up.

PM Linear Motor

Built in model

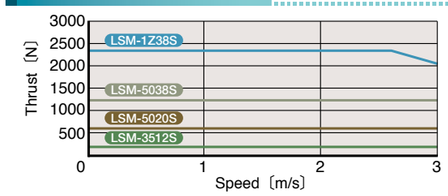


Applications

High speed transportation and positioning	▶ FPD equipment
High Precision positioning	▶ Semiconductor manufacturing equipment
Substitute for single axis robot and air cylinder	

Simple **Low heat generation** **Flat torque characteristic to high speed area**

Characteristics



Standard specification

Items \ Type	LSM-3512S	LSM-5020S	LSM-5038S	LSM-1Z38S
Maximum Thrust N	190	560	1100	2400
Continuous Thrust N	80	200	400	800
Maximum winding current Arms	4.6	11	20.5	34.6
Maximum Speed m/s	3			
Movable Part Weight kg	1.5	4.1	7.6	13.5
Stator Weight	Please refer to P.4			
Environment	Please refer to P.4			

Maintenance-Free & Long Life

DD Motor Input DC48V

For Automatic Transferring Machine

For AGV
(Automatic Guided Vehicle)

INPUT VOLTAGE OF DRIVER-DC 48V | MAINTENANCE FREE | HIGH TORQUE (14.3~48Nm) | THIS ONE DRIVER CAN DRIVE TWO MOTORS

Applications

Automated Storage	Transport System	Electric Cart	Amusement Machine	Medical and Assistive Products

Motor Specification

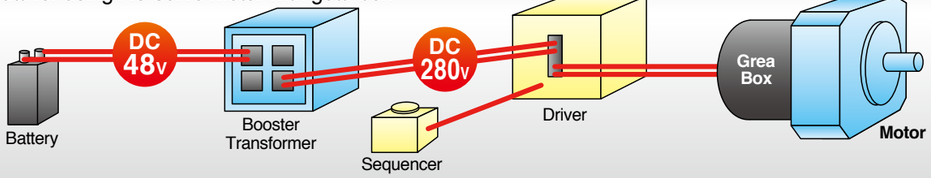
Model	ZM-08A5-001	ZM-0501B-001
Max Torque	48Nm	14.3Nm
Continuous Torque	13.5Nm	4Nm
Max Current	78Arms	49.5Arms
Continuous Current	26Arms	16.5Arms
Max Rotation	500r/min	1000r/min
Sensor Resolution	2048ppr	2048ppr

Driver Specification

Model		EVC-10-1
Input Voltage		DC48V
Operating Voltage	Power Supply	DC-25V ~ DC-65V
	Start Voltage	More Than DC40V
	Control Power Supply	DC24V±10%
Control Form for Motor		FET Inverter PWM Control
Can Communication		1 Channel CAN2.0B
Analog Input		2 Channel

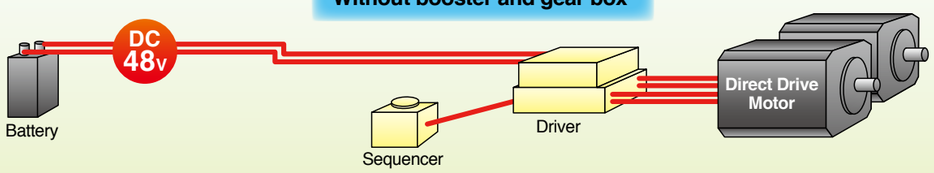
System Configuration

As usual for using AC servo motor with gear box



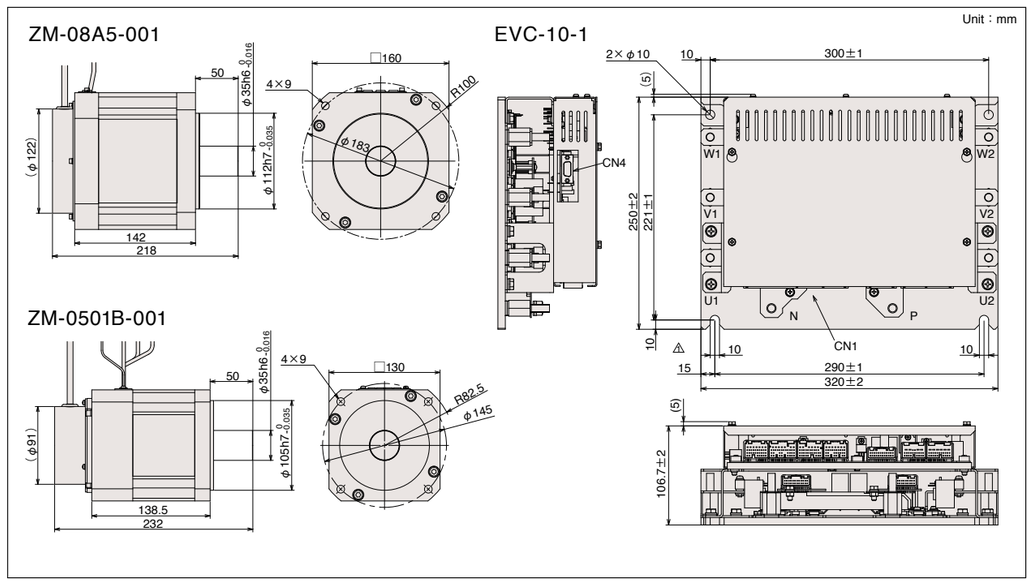
SINFONIA TECHNOLOGY

Without booster and gear box



Dimensional outline

Unit : mm



DD Motor for AGV

Unit of Driving Motor and Steering Motor

- MAINTENANCE FREE
- LONG LIFE
- CLEAN
- LOW NOISE
- COMPACT

	Driving Motor	Steering Motor
Model	WMR-152-440	SMR-197-440
Max Torque	44Nm	44Nm
Max Rotation	160r/min	40r/min
Input Voltage	DC160V	DC140V
Max Current	17A	5.6A
Sensor Resolution	102,400ppr	204,800ppr
Steering Angle	—	±120deg
Holding Brake	Within	Option
Weight	13kg	14kg

※For other specifications, please contact us.

※Biaxal driving drivers are available. Please contact us for more details.

Suitable not only for simplification of devices, but also enhancing precision of operation.

Flat type DD Motor

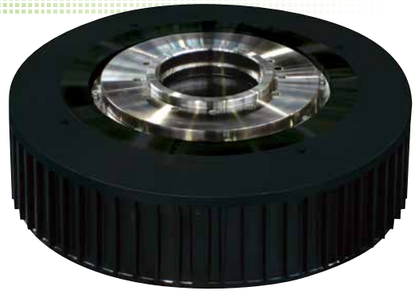
SDM series

Features

Thin, but large torque — **Maximum torque 1000Nm** with 190mm height.

Indexing large work pieces — Most suitable for indexing of as if large glass substrate.

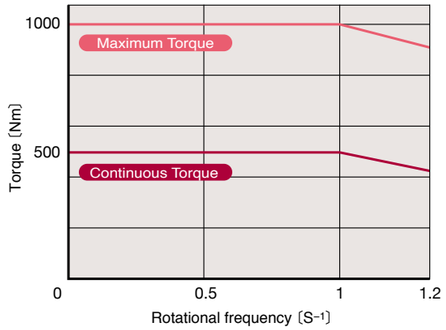
Hollow Structure — Less installation space is required with storing wiring and piping in the hollow space of the motor.



Standard specification

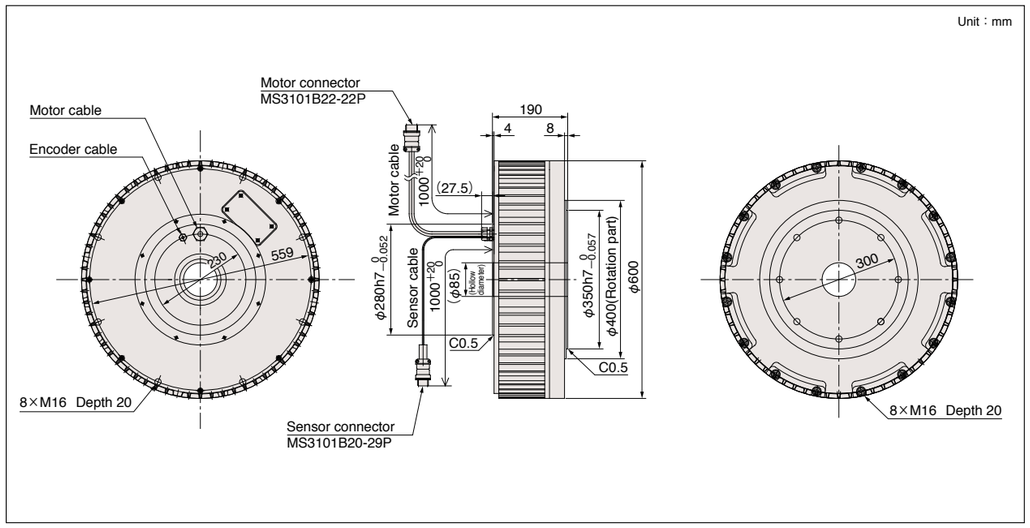
Items	Type	SDM-1006
Maximum Torque	Nm	1000
Continuous Torque	Nm	500
Maximum Winding Current	Arms	45
Maximum Rotation	s^{-1}	1(Flat area)
Sensor Resolution	pulse	393,216
Rotor Inertia	kgm^2	1.37
Mass	kg	180
Environment		Please refer to P.10

Characteristics



Dimensional outline

Unit：mm

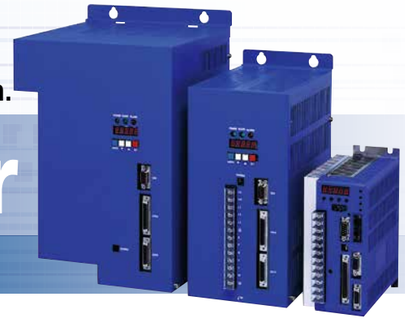


※We can offer high torque-high precision Direct Drive Motor upon request

Control motors as you like with sinplified operation.

Servo Driver

N Type



Features

Various functions allows for advance control

Includes various functions such as pulse positioning, speed control, current control, PTP positioning control etc.

High Frequency Pulse is available

Maximum allowable input pulse of pulse positioning control is 2MHz and the maximum feedback pulse is 10MHz.

Easy adjustment with PC

Easy-to-use PC Loader Software is prepared. Various settings and easy monitoring can be performed by connecting PC and driver with RS232C cable.

Easy Frequency analysis of the mechanical system

Analyzing wide range frequency is simple, owing to PC Loader Software with FFT analyzer.

Equipped with vibration inhibitor filter

It has various filters, which inhibit vibration of the machine. You can set up the filter with frequency analysis via the PC Loader Software, which operates with more precision.

Model designations

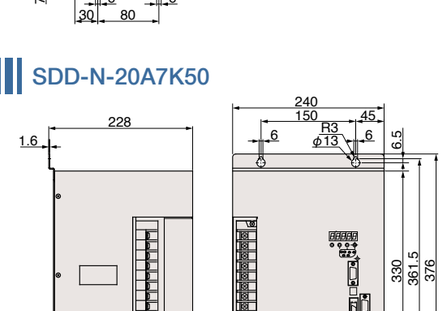
SDD-N-20A 4K00 -□-□

- Serial number
- Driver
- 4K00 — 200W…0.2kW / 750W…0.75kW / 1K50…1.5kW / 4K00…4.0kW / 7K50…7.5kW

Dimensional outline

Unit：mm

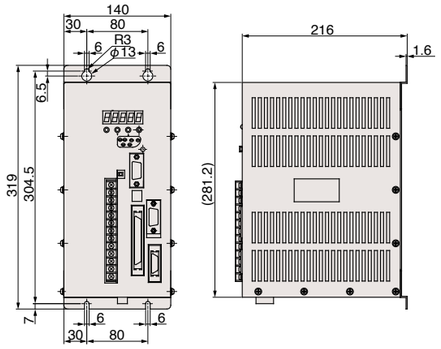
SDD-N-20A200W/20A750W



●Dimensional table

Type	A
SDD-N-20A200W	73
SDD-N-20A750W	89

SDD-N-20A1K50/20A4K00



SDD-N-20A7K50

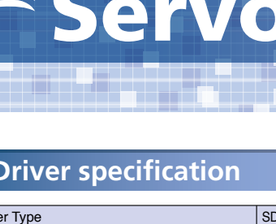
Servo Driver

Driver specification

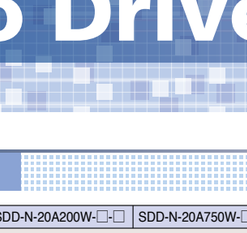
Driver Type			SDD-N-20A200W-□-□	SDD-N-20A750W-□-□	SDD-N-20A1K50-□-□	SDD-N-20A4K00-□-□	SDD-N-20A7K50-□-□
Power Supply	Main		3 Phase AC200 / 230V (−15%～+10%) 50 / 60Hz				
	Control		Single Phase AC200／230V (−15%～+10%) 50 / 60Hz				
Maximum Output Currency		A	1.4	3.5	8.5	19	33
Maximum Motor Currency		A	4.2	10.5	25.5	57	66
Control Method			Sine Wave PWM Method (Carrier Frequency : 5kHz)				
Cooling Method			Air-cooling without blower		Air-cooling with blower		
Mass		kg	2.1	2.5	6.4	6.4	12.7
HD Motor Type		HDL-S	—	HDL-S030S	HDL-S060S	HDL-S120S / S180S	—
		HLRV・HLRA	—	HLRV-32013 / 63026	HLRA-81052	HLRA-81105 / 81155	—
		HLRW	—	—	HLRW-33055	HLRW-33110/55090/55180	—
		LSM-F	—	LSM-F020S / F060S	LSM-F120S	LSM-F240S	—
		LSM-S･LSM-R	—	LSM-3512S / 5020S	LSM-5038S	LSM-1Z38S	—
		HDM	—	HDM-1005M / 1010M	HDM-1020M	HDM-1050L / 2020ME	HDM-1080HE and adove
		SDM	—	—	—	—	SDM-1006
Standard Type	Pulse Position Control	Interface	Line Driver Drive MAX2［MHz］				
		Pulse Pattern	F/R, Sign/Pulse, A/B				
	Velocity Control	Speed Protocol	7 points can be registered on parameter (Setting resolution 1 ［r/min］)				
	Currency Control	Currency Protocol	Plus / minus direction can be registered independently (Setting resolution 1% / maximum current ratio)				
Positional Type	PTP Positioning Control	PTP Positioning	Mechanical zero return, electric zero return, INC move, ABS move, constant speed JOG, constant rate JOG				
		Coordinate System	Linear limited, Rotation limited, Rotation cycle, Equal segregation				
		Optional Function	Pause*, Order cancel*, Emergency stop, S letter acceleration-deceleration, beeline (* is not available in particular coordinate systems.)				

PC Loader Software

Via RS232C serial communications, you can change parameters and monitor the process with your PC.



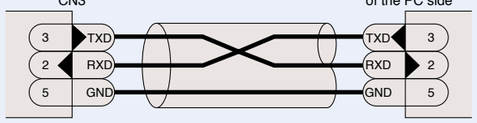
Monitor display



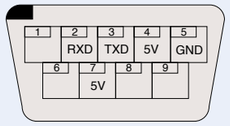
TF specification measurement

Connection cable for PC loader ※ Not supplied

Wiring Diagram



Connector pin layout



①Edit parameters

You can set the parameters and manage the parameter file.

②Monitor Display

Numerical monitor and I/O monitor are displayed.

③Waveform Monitor

Motor operational waveform is displayed.

④Test Running

Without order to CN1, simple motor running can be performed.

⑤Teaching Function

Mechanical zero return, electric zero return, INC move, ABS move, constant velocity JOG, constant rate JOG, Zero teaching, and order teaching can be performed.

⑥Transfer Function measurement

Transfer function specification can be measured including motor and load.

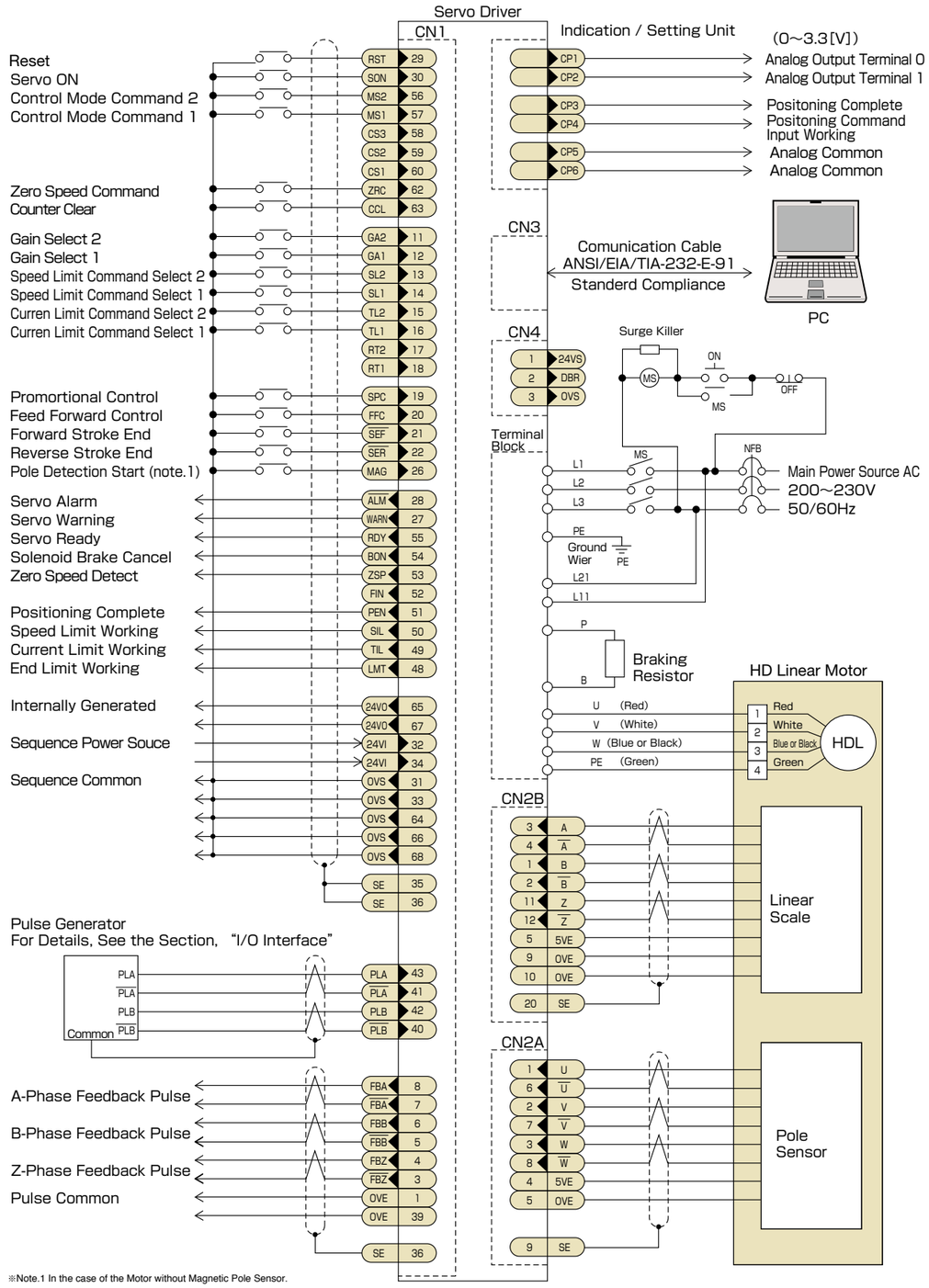
●Hardware Requirements

Communication Method	RS232C
Transfer Rate	9600、19200、38400bps
Compatible PC	Windows 98/NT/Me/2000/XP Hard disk Drive with 6MB available space

※Windows is a registered trademark of the Microsoft Corporation.

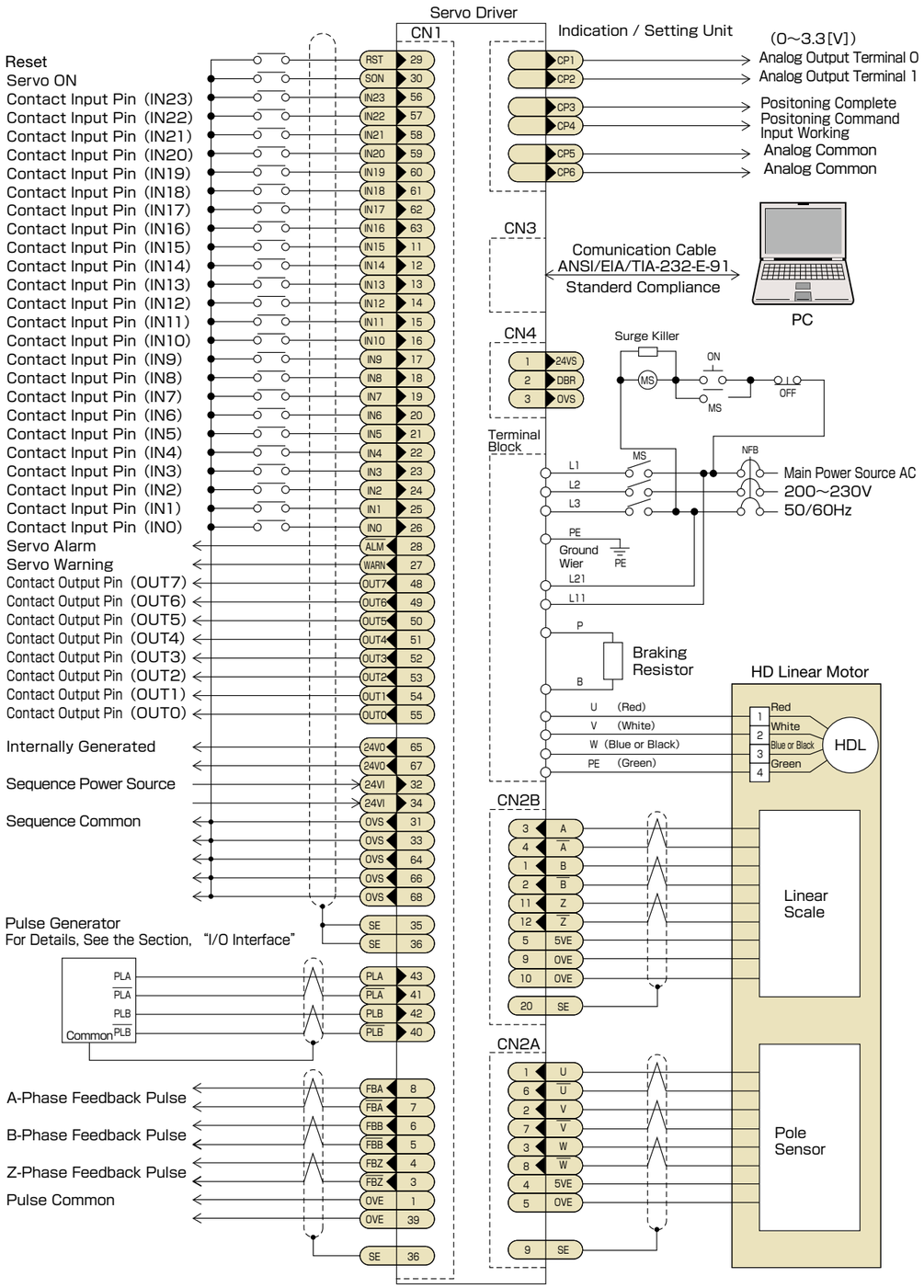
Connection Schematics

Pulse Position Control (linear Motor)



※Note.1 In the case of the Motor without Magnetic Pole Sensor.

Pulse Position Control (Linear Motor)

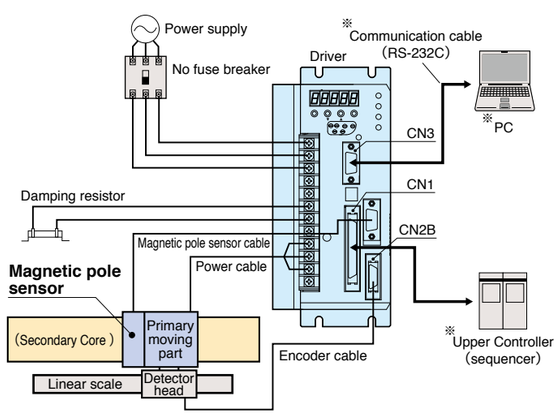


Standard I/O Definition

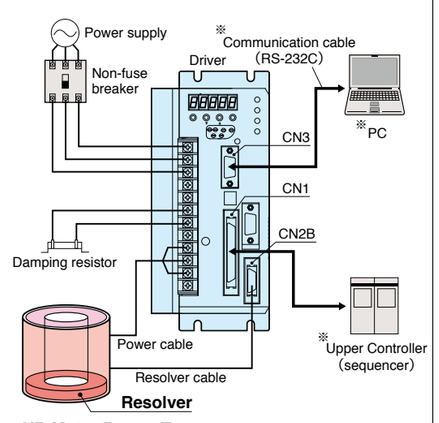
Input/Output	Pin No.	Symbol	I/O select=1 (Standard)		I/O select=2 (Finite Coordinate2)		I/O select=3 (Rotary Periodic Coordinate)		I/O select=4 (Equally-divided Periodic Coordinate)	
Input	56	IN23	Emergency Stop	EMS	Emergency Stop	EMS	Emergency Stop	EMS	Emergency Stop	EMS
	57	IN22	Forward Stroke End	SEF	Forward Stroke End	SEF	Temporary Stop	STP	Travel Time Select 2	TS2
	58	IN21	Reverse Stroke End	SER	Reverse Stroke End	SER	Command Cancel	ASO	Travel Time Select 1	TS1
	59	IN20	Temporary Stop	STP	Temporary Stop	STP	Shorter Route	NTR	Shorter Route	NTR
	60	IN19	Command Cancel	ASO	Command Cancel	ASO	Travel Direction	MDR	Travel Direction	MDR
	61	IN18	Electric Origin Return	EOS	Electric Origin Return	MDR	Electric Origin Return	EOS	Electric Origin Return	EOS
	62	IN17	ABS Travel	AST	ABS Travel	AST	ABS Travel	AST	ABS Travel	AST
	63	IN16	INC Travel	IST	INC Travel	IST	INC Travel	IST	INC Travel	IST
	11	IN15	Forward JOG	MFJ	Forward JOG	MFJ	Forward JOG	MFJ	Forward JOG	MFJ
	12	IN14	Reverse JOG	MRJ	Reverse JOG	MRJ	Reverse JOG	MRJ	Reverse JOG	MRJ
	13	IN13	JOG Command Select	JSL	JOG Command Select	CS1	JOG Command Select	JSL	Warning Cancel	WCL
	14	IN12	Warning Cancel	WCL	Warning Cancel	WCL	Warning Cancel	WCL	Electric Origin Teaching	OTC
	15	IN11	Command Teaching	PTC	Command Teaching	PTC	Command Teaching	PTC	Origin Sensor	OLS
	16	IN10	Electric Origin Teaching	OTC	Electric Origin Teaching	OTC	Electric Origin Teaching	OTC	Mechanical Origin Return	MOS
	17	IN9	Origin Sensor	OLS	Origin Sensor	OLS	Origin Sensor	OLS	Position Command Select 10	PC10
	18	IN8	Mechanical Origin Return	MOS	Mechanical Origin Return	MOS	Mechanical Origin Return	MOS	Position Command Select 9	PC9
	19	IN7	Control Command Select 2	CS2	ABS Position Compensation Select 2	AP2	Control Command Select 2	CS2	Position Command Select 8	PC8
	20	IN6	Control Command Select 1	CS1	ABS Position Compensation Select 1	AP1	Control Command Select 1	CS1	Position Command Select 7	PC7
	21	IN5	Travel Direction	MDR	Position Command Select 6	PC6	Position Command Select 6	PC6	Position Command Select 6	PC6
	22	IN4	Gain Select1	GA1	Position Command Select 5	PC5	Position Command Select 5	PC5	Position Command Select 5	PC5
	23	IN3	Position Command Select 4	PC4	Position Command Select 4	PC4	Position Command Select 4	PC4	Position Command Select 4	PC4
	24	IN2	Position Command Select 3	PC3	Position Command Select 3	PC3	Position Command Select 3	PC3	Position Command Select 3	PC3
	25	IN1	Position Command Select 2	PC2	Position Command Select 2	PC2	Position Command Select 2	PC2	Position Command Select 2	PC2
	26	IN0	Position Command Select 1	PC1	Position Command Select 1	PC1	Position Command Select 1	PC1	Position Command Select 1	PC1
Output	48	OUT7	Zero Speed Detect	ZSP	Zero Speed Detect	ZSP	Zero Speed Detect	ZSP	Zero Speed Detect	ZSP
	49	OUT6	Temporary Stop Working	PAU	Temporary Stop Working	PAU	Temporary Stop Working	PAU	Temporary Stop Working	PAU
	50	OUN5	End Limit Working	LMT	End Limit Working	LMT	End Limit Working	LMT	End Limit Working	LMT
	51	OUT4	Positioning Complete	ORG	Positioning Complete	ORG	Positioning Complete	ORG	Positioning Complete	ORG
	52	OUT3	Command Acceptable	PMS	Command Acceptable	PMS	Command Acceptable	PMS	Command Acceptable	PMS
	53	OUT2	Near Target Position	PIN	Near Target Position	PIN	Near Target Position	PIN	Near Target Position	PIN
	54	OUT1	Positioning Complete	PEN	Positioning Complete	PEN	Positioning Complete	PEN	Positioning Complete	PEN
	55	OUT0	Servo Ready	RDY	Servo Ready	RDY	Servo Ready	RDY	Servo Ready	RDY

System Configuration

Linear Type



Rotary Type



※Not supplied