

Engineered for Precision & Efficiency

Servo Motor Solution Catalogue



CONTENT

Model Definition	1
Products	2
Features	3

Servo Drive

Specifications	4
Connection with Peripheral Equipment	5
Dimensions	9
Selection Table	9

Servo Motor

Selection Table	10
Regenerative Resistor Selection Table	10
Dimensions	11
Key Dimensions	12

MODEL DEFINITION

Servo Drive

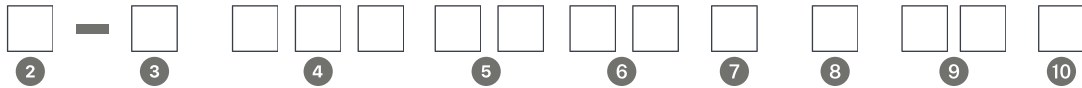
JSD



1	2	3	4	5	6	7	8
Product	Series	Capacity	Communication	Input Voltage	Model Code	Standard	Design Code
JSD Janatics Servo Drive	B Basic S Standard	040 400 W 075 750 W 100 1 k W	M Modbus E EtherCAT	2 AC 220V	u Standard	CE	General Advanced Pulse

Servo Motor

JSM



1	2	3	4	5	6
Product	Series	Inertia	Capacity	Rated Rotation	Encoder
JSM Janatics Servo Motor	S	L Low M Medium	040 400 W 075 750 W 100 1 kW	20 2000 rpm 30 3000 rpm	S Optical Incremental T Magnetic Incremental M Optical Absolute N Magnetic Absolute

7	8	9	10
Brake & Oil Seal	Key & Cable	Input Voltage	Standard
C Without Brake, With Oil Seal D With Brake & Oil Seal	B With Key, Load Side Lead D Without Key, Opposite Side Lead	AC 220V	U UL/CE

Note:

- The code here is just to let the user understand the model definition better but don't mean that every combination is available. Please contact our sales team for available models.
- If a magnetic absolute or optical absolute type motor is purchased, an extra absolute type encoder battery set is needed.
- This catalog just lists out the details of standard servo motor. Some specific motors such as hollow shaft motor, motor with special diameter of shaft, etc., aren't listed in this catalog. Please feel free to contact us for more information.

PRODUCTS

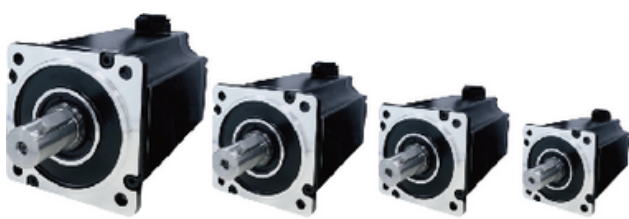
JSDB Series Drive



Pulse Type	JSDB - M
EtherCAT Type	JSDB - E
Speed Response	2 kHz
Rated Capacity	400 W ~ 1 kW
Input Voltage	1 ø 220 V

JSMS Series Motor

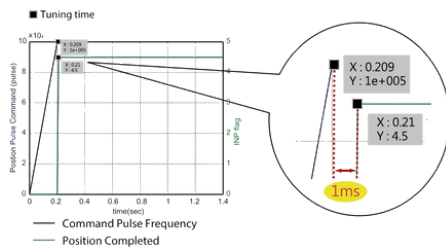
Low Inertia	Light Load, High Speed Positoning
Capacity	400 W ~ 750 W (220V)
Medium Inertia	Normal Load, Stability Application
Capacity	1 kW (220V)



FEATURES

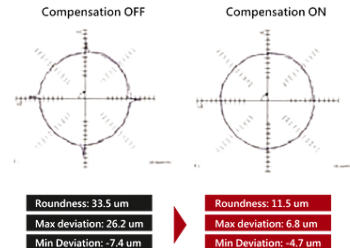
■ Outstanding Speed Response Performance

Accurate and fast automatic load inertia measurement greatly shortens the tuning time.



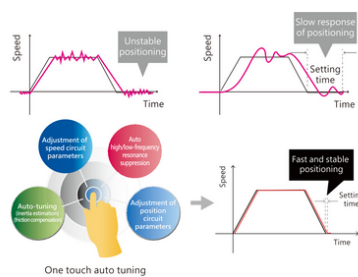
■ Disturbance Compensation & Backlash Compensation

Improve the error due to non-linear disturbance effectively and increase the circularity.

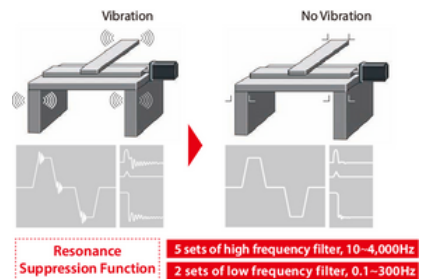


■ One Touch Tuning JSDB/JSDS Series

Effectively reduces tuning time and maximizes drive performance



■ Reduce Resonance & Vibration



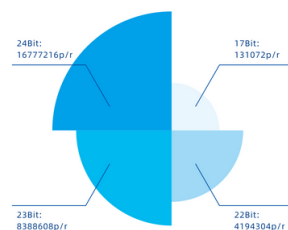
■ Flexible Configuration to meet customer needs

Low-inertia servomotor, medium-inertia servomotor and high-inertia servomotor are optional.
All series included key slot, oil seal and optional motor with brake.



■ Encoder Resolution

17-bit magnetic encoder and 22/23/24 optical encoder.
Optical encoder offers excellent performance in high-precision position control and high stability in low-speed running.
Magnetic encoder has excellent oil resistance and vibration resistance.



■ ETG Certification JSDS Series

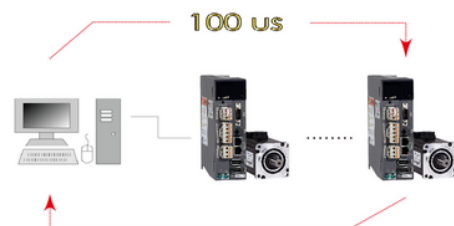
Passed international certification. Both efficiency and functionality are proven.

EtherCAT®
Conformance tested

■ The fastest communication cycle time in the industry

JSDS Series

Support maximum cycle time of 100us to achieve high-speed and high-precision motion control.



SPECIFICATIONS

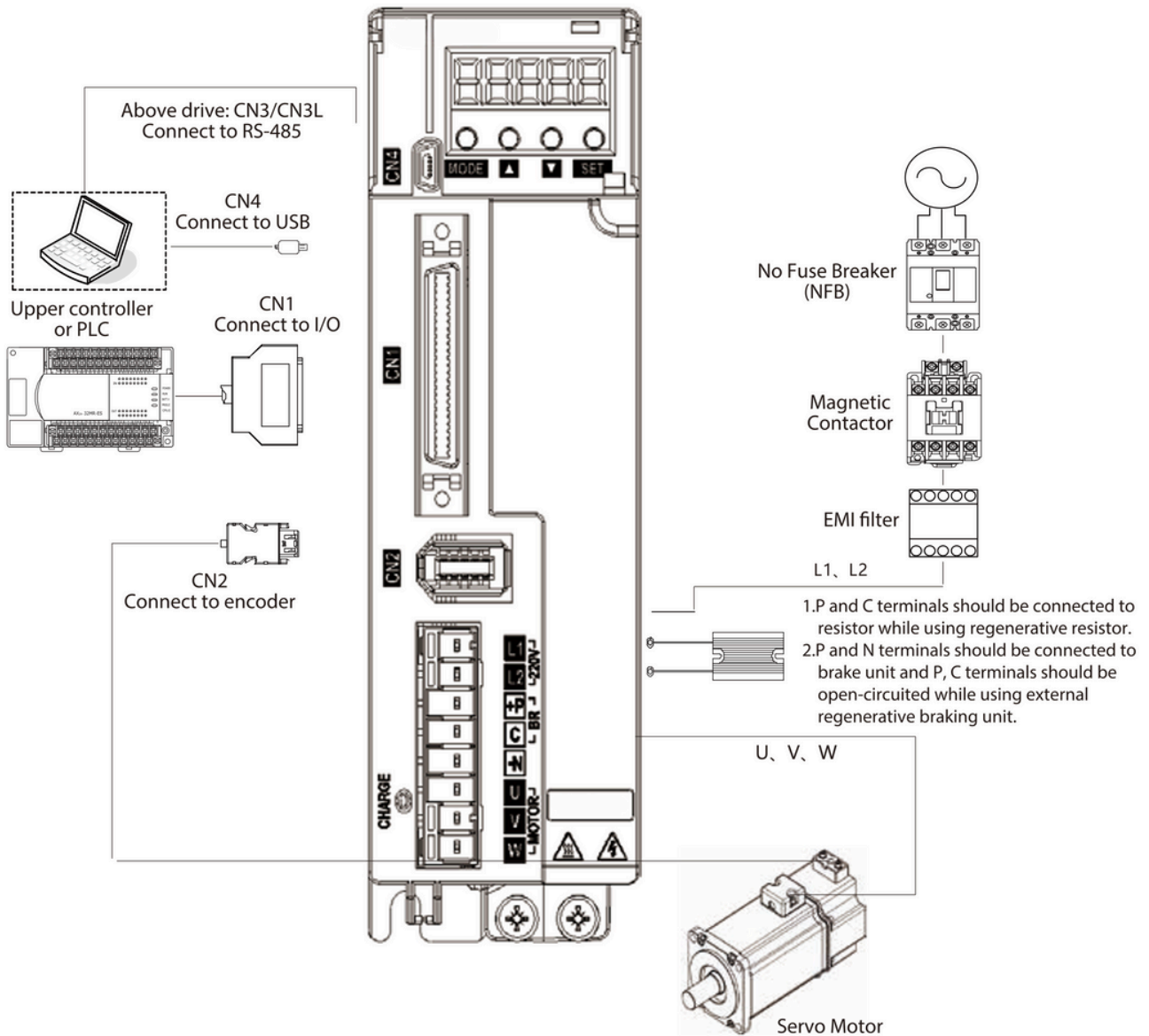
JSDB - M/JSDB - E

Dimensions & Weight	Model	040	075	100
	Capacity	400W	750W	1 kW
	Length (mm)	162	162	162
	Width (mm)	51	51	51
	Height (mm)	164	164	164
	Weight (kg)	1.4	1.7	1.7
Main Circuit Power	Input Voltage 50/60Hz	1ø AC200-240V		
	Input Permissible Voltage Variation 50/60Hz	1ø AC170-264V		
	Input Permissible Frequency Variation	±5%		
	Output Voltage	0-240VAC		
	Output Current	3.2A	5.8A	6.4A
	Output Frequency	0-250Hz		
Control Circuit	Voltage 50/60Hz	N/A		
	Permissible Voltage Variation 50/60Hz	N/A		
	Permissible Frequency Variation	N/A		
	Power Consumption (W)	N/A		
	Control Method	IGBT-PWM control (SVPWM drives)		
	Encoder Resolution	Magnetic encoder 17bit (131072 Pulse), Optical encoder 22bit (4194304 Pulse)		
	Communication Interface	USB, RS485, EtherCAT		
	Brake Unit	All series built-in		
	Regenerative Resistor	Built-in		
	Control Signal Input DI	JSDB-M:9/JSDB-M(A):6		
	Control Signal Output DO	JSDB-M:5/JSDB-M(A):3		
	Analog Signal Input	JSDB-M:N/A / JSDB-M(A):2		
	Analog Signal Output	JSDB-M:N/A / JSDB-M(A):1		
		Protective Function	Overcurrent protection, under voltage protection, overvoltage protection, overheat protection, overload protection (electronic heat accumulation), abnormal pulse command protection, encoder error protection, regenerative error protection, overspeed protection, excessive error protection, serial-communication error, serial communication time out, motor matching error, motor impact error, short circuit protection of terminal U,V,W, control circuit error.	
Environment	Temperature	0°C-55°C (If operating temperature is above 45°C, force cooling will be required), storage temperature: -20-65°C(Non-freezing)		
	Humidity	Maximum 90% RH(Non-condensing), Storage: Below 90% RH (Non-condensing)		
	Installation Site	Indoors (avoid direct sunlight), no corrosive gas, avoid flammable gas, oil mist or dust		
	Altitude	Below 1000m		
	Vibration	Maximum 5.9m / S		
	Cooling method	Natural cooling, open	Fan cooling, open(IP20)	
Position Control Mode	Input Pulse Frequency	Transmitted by differential: 500 Kpps (low speed)/4 Mpps (high-speed), Transmitted by open-collector: 200 Kpps		
	Command Pulse Type	CCW pulse + CW pulse, Pulse + direction, A phase + B phase pulse		
	Command Type	External pulse control / Set by parameters		
	Command Smoothing Strategy	Low-pass filter / Linear smoothing / S-curve smoothing		
	E-gear Ratio	Electronic gear A/B multiple A:1-4194304 B:1-4194304 (1/50 < A/B < 64000)		
	Error Excessive	±3 rotations		
	Torque limit	Set by parameters		
	Feedforward Compensation	Set by parameters (0-200%)		
Speed Control Mode	Speed Control Range	Internal speed command 1:5000		
	Command Type	Set by parameters		
	Command Smoothing Strategy	Low-pass filter / Linear smoothing / S-curve smoothing		
	Analog Speed Command input	N/A		
	Speed Fluctuation Rate	Maximum ±0.01% at 0 to 100% load fluctuation, Maximum 0.01% at ±10% power fluctuation		
	Torque Limit	Set by parameters		
	Bandwidth	Maximum 2.0 kHz		
Torque Control Mode	Command Type	Set by parameters		
	Command Smoothing Strategy	Low-pass filter		
	Analog Torque Command Input	N/A		
	Speed Limit	Set by parameters		
Input & Output Signal	Digital Input	Servo on, forward/reverse rotation limit prohibition, pulse error clear, torque direction selection, speed command selection, position command selection, forward/reverse rotation direction startup, proportion control switching, torque limit switch, fault reset, emergency stop, control mode switching, electronic gear ratio selection, gain switch, position command trigger, motor stop, pulse input prohibition, events trigger command, origin point searching, homing		
	Digital Output	Torque limit reached, speed limit reached, reserved signal, zero speed reached, target position reached, target speed reached, servo alarm, servo warning, homing completed, overload level reached, internal position reached, position command overflow, software positive direction limit reached, software negative direction limit reached		
	Analog Input	N/A		
	Analog Output	N/A		

CONNECTION WITH PERIPHERAL EQUIPMENT

JSDB Series

Wiring Diagram of Main Circuit Power and Peripherals



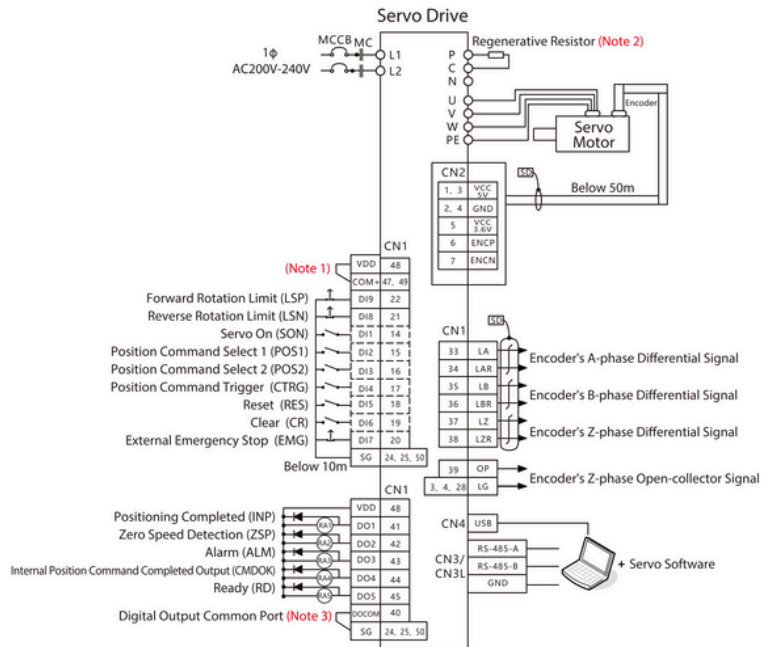
Note:

1. While installing regenerative resistor, please remove the original P and C contact wires. Connect the external resistor to P and C contacts. Please refer to the user manual for each capacity resistance value and power.
2. While using a motor with brake, please use the specific power cable and DC24V should be connected. DO NOT use the VDD contact inside the drive. Please refer to user manual for more details.
3. While using absolute position, **JSDH-BAT-SET** battery should be applied.

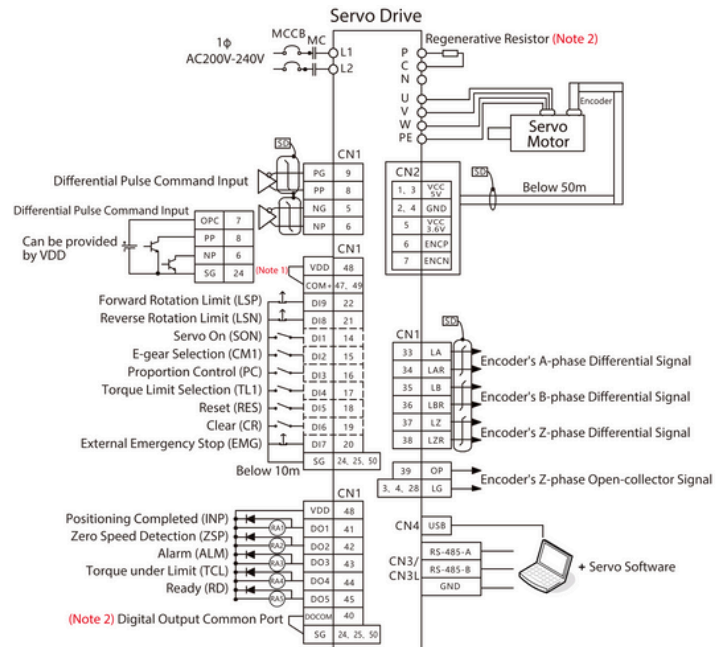
CONNECTION WITH PERIPHERAL EQUIPMENT

Wiring Diagram Control Mode

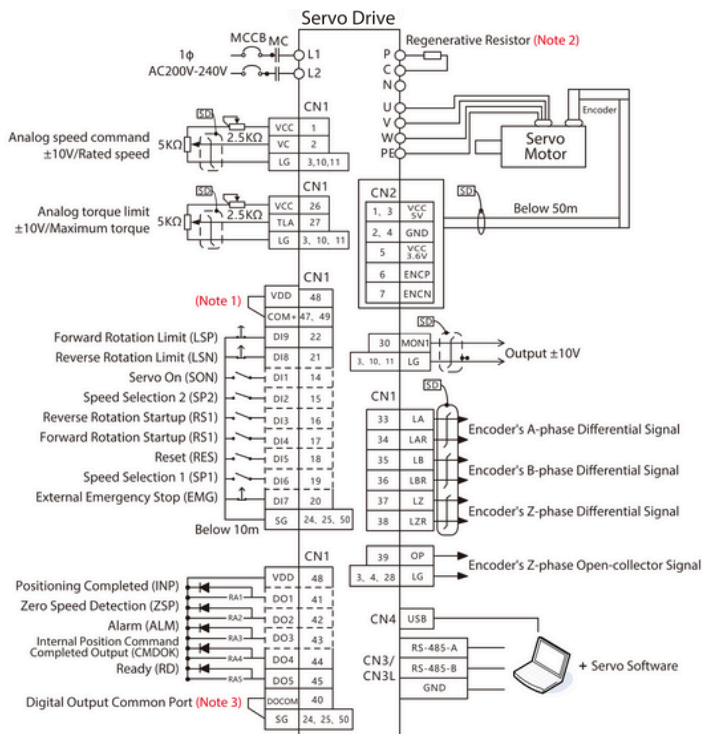
■ Pr Mode: Wiring Diagram of Procedure Control Mode



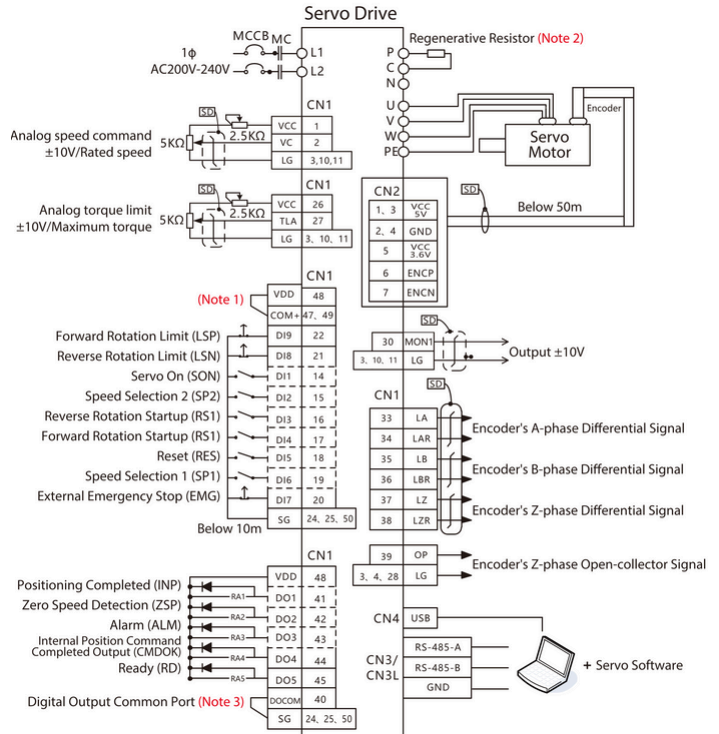
■ Pt Mode: Wiring Diagram of Position Control Mode



■ Pr Mode: Wiring Diagram of Speed Control Mode



■ Pr Mode: Wiring Diagram of Torque Control Mode



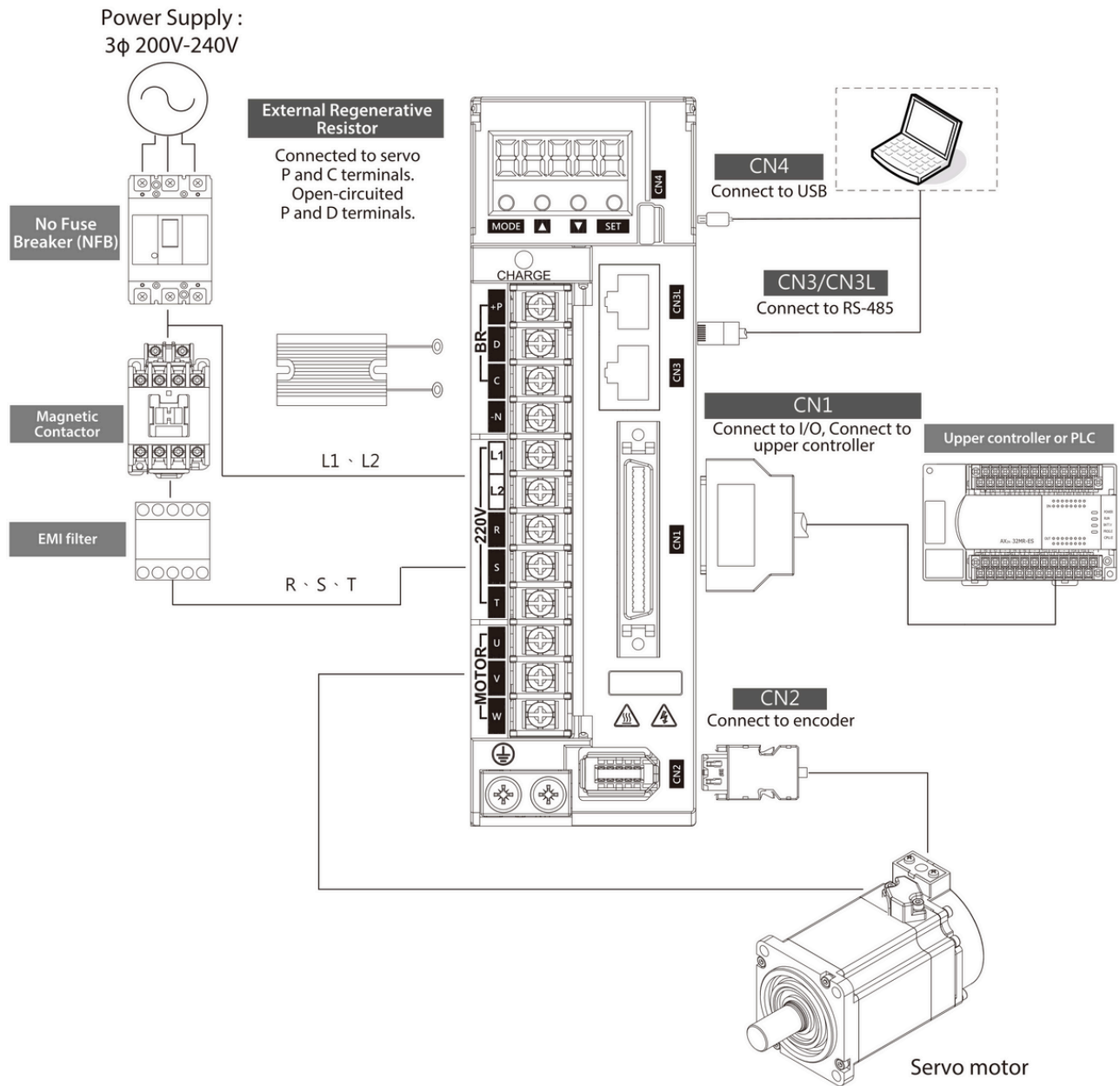
Note:

1. While using external power supply, VDD and COM+ could not be connected.
2. Please refer to user manual for more details about regenerative resistor and brake unit.
3. Please refer to user manual for more details about digital DO output Sink Type or Source Type.
4. The dotted-line frame in the diagram above is for JSDB-M(A) model. DI and DO can be self-defined.

CONNECTION WITH PERIPHERAL EQUIPMENT

JSDS - P

Wiring Diagram of Main Circuit Power and Peripherals



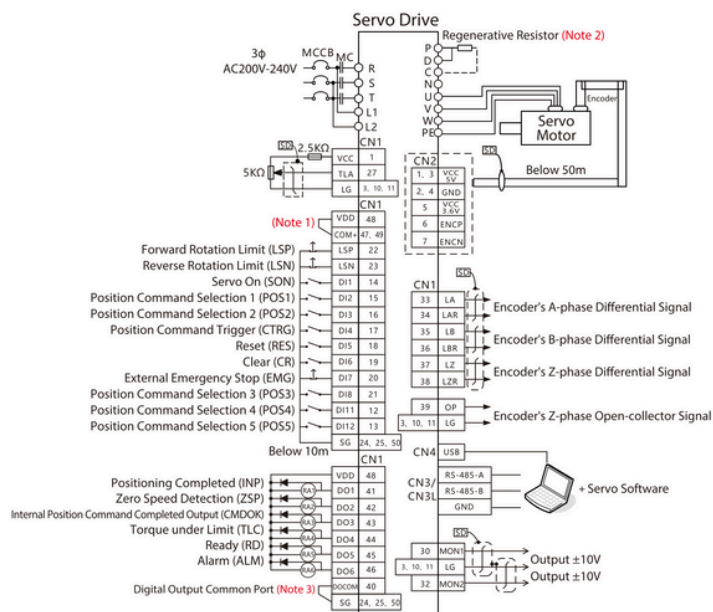
Note:

1. While installing regenerative resistor, please remove the original P and D's short-circuit plate. Connect the external resistor to P and C contacts. Please refer to the user manual for each capacity resistance value and power.
2. While using a motor with brake, please use the specific power cable and DC24V should be connected. DO NOT use the VDD contact inside the drive. Please refer to user manual for more details.
3. While using absolute position, **JSDH-BAT-SET** battery should be applied.

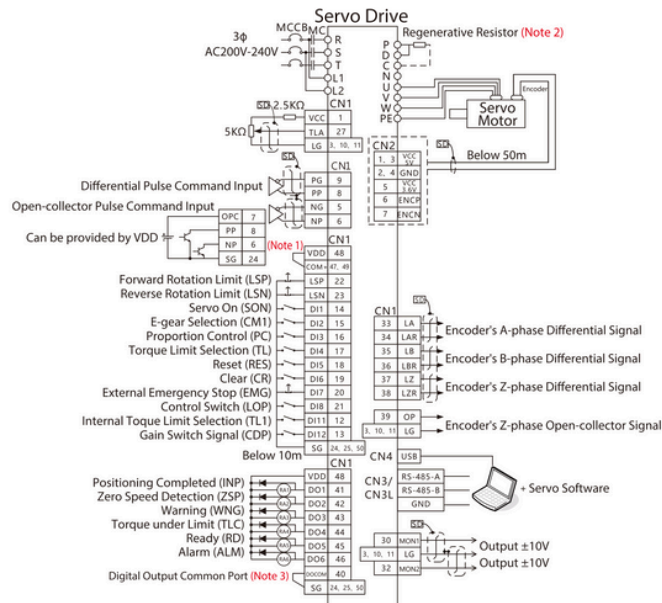
CONNECTION WITH PERIPHERAL EQUIPMENT

Wiring Diagram Control Mode

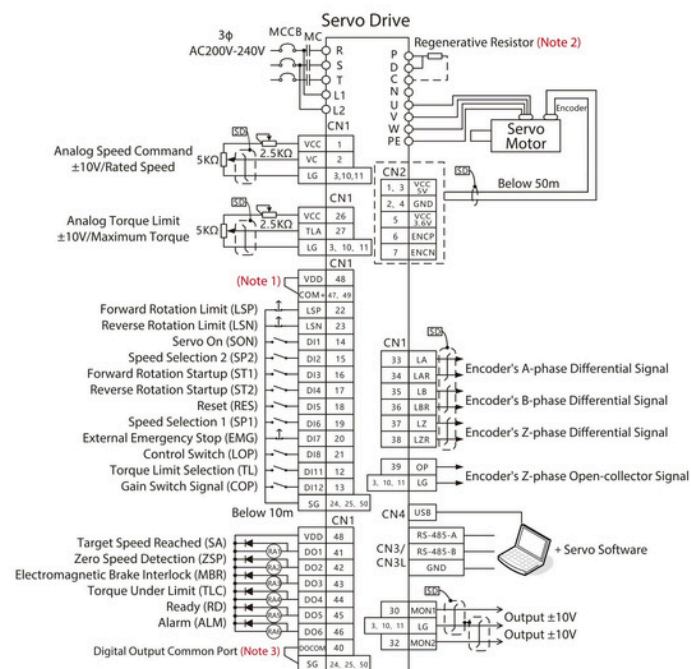
■ Pr Mode: Wiring Diagram of Procedure Control Mode



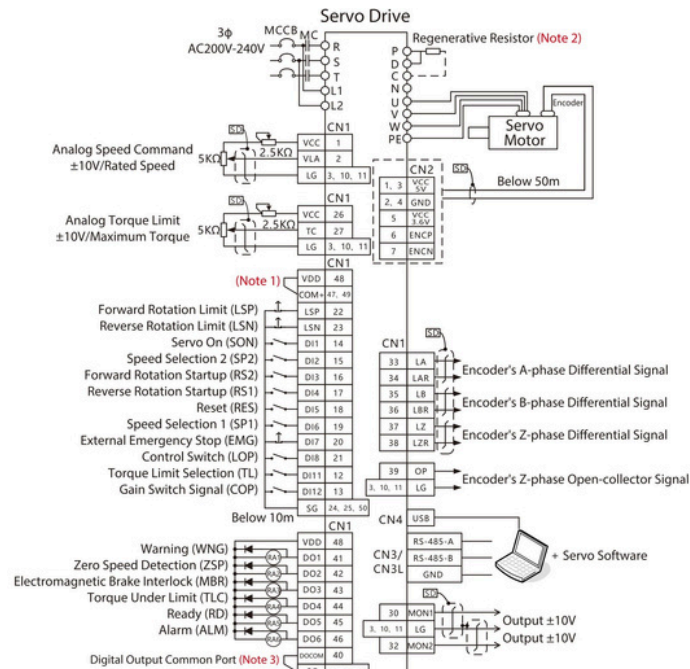
■ Pt Mode: Wiring Diagram of Position Control Mode



■ Pr Mode: Wiring Diagram of Speed Control Mode



■ Pr Mode: Wiring Diagram of Torque Control Mode



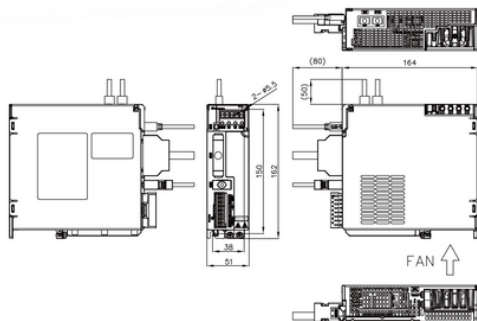
Note:

1. While using external power supply, VDD and COM+ could not be connected.
2. Please refer to user manual for more details about regenerative resistor and brake unit.
3. Please refer to user manual for more details about digital DO output Sink Type or Source Type.

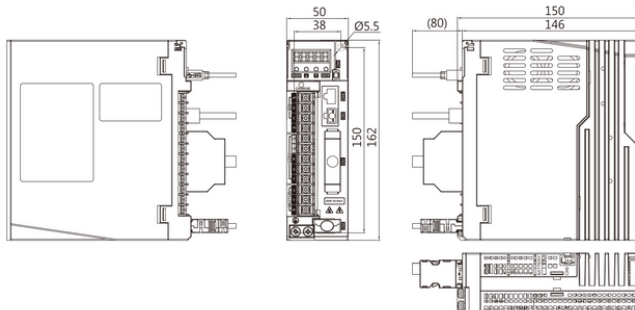
DRIVE DIMENSIONS

Servo Drive Dimensions

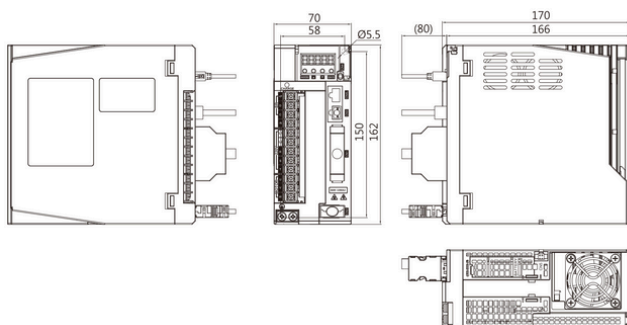
■ JSDB-040M22 -JSDB-100M22



■ JSDB-040M22



■ JSDB-100M22



Servo Drive Selection Table

Series	Control Method	Model	Power	Power Supply	Responsive Bandwidth kHz	EtherCAT Bus	RS 485 Communication	Total I/Os	Pulse Input Type					Z phase OP Output	Analog Output	Analog Input	Pr Mode (Internal Position)	Support Encoder Resolution
									Pulse Signal Mode			Wiring Type						
									Pulse + Direction	AB Phase	CW / CCW	Differential Transmission 5V	Open-collector					
JSDB	P (Pulse Type)	JSDB-040M22	0.4	1ø AC 200-240V	2	x	√	9/5	√	√	√	√	√	√	x	x	√	17bit/22bit
		JSDB-075M22	0.75						√	√	√	√	√	√	x	x	√	
		JSDB-100M22	1						√	√	√	√	√	√	x	x	√	
	E (EtherCAT Type)	JSDB-040E22	0.4		2	√	x	5/3	x	x	x	x	x	x	x	x	√	22bit
		JSDB-075E22	0.75						x	x	x	x	x	x	x	√		
		JSDB-100E22	1						x	x	x	x	x	x	x	√		
JSDS	P (Advanced Pulse Type)	JSDS-040M22	0.4	1ø AC 200-240V	2	x	√	12/6	√	√	√	√	√	√	2	2	√	22bit
		JSDS-075M22	0.75						√	√	√	√	√	√	2	2	√	
		JSDS-100M22	1						√	√	√	√	√	√	2	2	√	

Servo Motor Selection Table

Power (kW)	Model (Note 1)	Compatible Drive	Frame (mm)	Shaft diameter (Note 2 (mm)	Inertia type	Rotor Inertia (Note 1) J*10 ⁻⁴ (kg.m2)	Encoder Resolution (bit)	Rated Speed (rpm)	Maximum Speed (rpm)	Rated Torque (Nm)	Maximum Torque (Nm)	Rated Current (A)	Maximum Current (A)	Weight (Note 3) C/U(kg)						
0.4	JSMS-L04030TCDU (JSMS-L04030TDDU)	JSDB-040	60	14	Low	0.277 (0.294)	17	3000	6000	1.3	3.81	2.8	9	1.28 (1.66)						
	JSMS-L04030NCBU (JSMS-L04030NDBU)																			
	JSMS-L04030SCBU (JSMS-L04030SDBU)	JSDB-040 JSDB-040					1.23 (1.59)													
	JSMS-L04030MCBU (JSMS-L04030MDBU)																			
	JSMS-L04030MCBU (JSMS-L04030MDBU)																			
	JSMS-L04030MCBU (JSMS-L04030MDBU)																			
0.75	JSMS-L07530TCDU (JSMS-L07530TDDU)	JSDB-075	80	19	Low	1.07 (1.11)		17	3000	6000	2.4	7.2	5.8	18.5	2.28 (3.02)					
	JSMS-L07530NCBU (JSMS-L07530NDBU)																			
	JSMS-L07530SCBU (JSMS-L07530SDBU)	JSDB-075 JSDB-075					2.24 (2.87)													
	JSMS-L07530MCBU (JSMS-L07530MDBU)																			
	JSMS-L07530MCBU (JSMS-L07530MDBU)																			
	JSMS-L07530MCBU (JSMS-L07530MDBU)																			
1	JSMS-L010030TCDU (JSMS-L010030TDDU)	JSDB-100	80	19	Low	1.89 (1.91)		17	3000	5000	3.2	9.5	5.5	18.2	3.55 (4.36)					
	JSMS-L010030NCBU (JSMS-L010030NDBU)																			
	JSMS-L010020SCBU (JSMS-L010020SDBU)	JSDB-100 JSDB-100				5.2 / 5.6 (7.0 / 7.4)														
	JSMS-L010020MCBU (JSMS-L010020MDBU)																			
	JSMS-M010020SCBU (JSMS-M010020SDBU)				Medium		10.3 (12.2)	22(JSDB-P)							2000	3500	4.8	14.4	5.8	17.4
	JSMS-M010020MCBU (JSMS-M010020MDBU)																			

Regenerative Resistor Selection Table

Regenerative Resistor Selection Table JSDB/JSDBS Series

Drive Model	External Regenerative Resistor (recommended) Specifications		Regenerative resistor parameter setting	
	Minimum allowance resistance (Ω)	Recommended capacity (W)	PA10 setting	PA11 setting
JSD□-040M22□□□	100	300	100	300
JSD□-075M22□□□	100	300	40	500
JSD□-100M22□□□	100	300	40	500

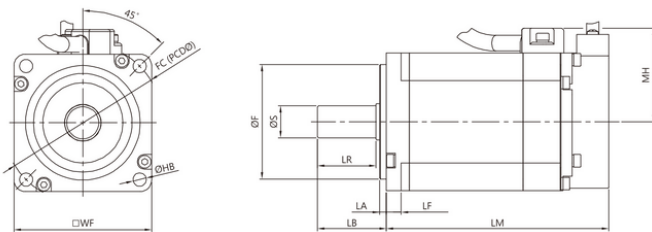
Note:

When the regenerative energy is too large, the built-in regenerative resistor is not powerful enough and require external regenerative resistor. Please select according to the above table.

Motor Dimensions

220V (Optical Encoder) Motor Dimensions

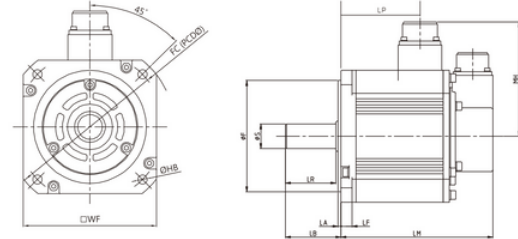
■ Small Capacity Low Inertia JSMS-L □ □ □ 30/



Model	Dimensions (mm)										
	WF	øS	øF	LA	LB	LF	LR	MH	LM*	FC	HB
JSMS-L040(B)	60	ø 14 ^{+0.01} _{-0.01}	ø 50 ^{+0.01} _{-0.01}	3	30	6.5	25	42	77 (112)	70	4-ø 5.8
									97 (132)		
JSMS-L075(B)	80	ø 19 ^{+0.01} _{-0.01}	ø 70 ^{+0.01} _{-0.01}	3	40	7.5	35.5	52	101.2 (140.2)	90	4-ø 6.6
									101.2 (145.5)		

*LM() Stands for the length of the servo motor with brake.

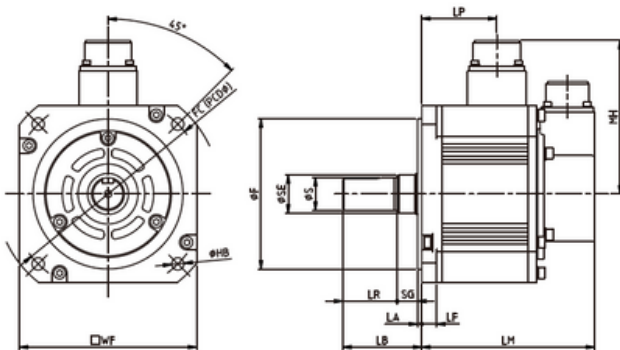
■ Medium Capacity Medium Inertia JSMS-M □ □ □ 20



Model	Dimensions (mm)											
	WF	øS	øF	LA	LB	LF	LR	LP	MH	LM*	FC	HB
JSMS-M100(B)	130	ø 24 ^{+0.01} _{-0.01}	ø 110 ^{+0.01} _{-0.01}	3	55	11	50	55.5	113	127 (161)	145	2-ø 4.5
								70		141.5 (175.5)		
								61.5	139	139 (189)		
								91.5		169 (219)		
	176	ø 14 ^{+0.01} _{-0.01}	ø 50 ^{+0.01} _{-0.01}	3	30	6.5	25	106.4		189 (239)	200	4-ø 13.5
								146.4		229 (239)		

*LM() Stands for the length of the servo motor with brake.

■ Medium Capacity Low Inertia JSMS-L □ □ □ 20



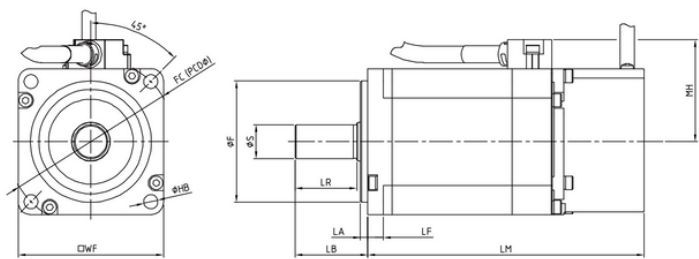
Model	Dimensions (mm)											
	WF	øS	øF	LA	LB	LF	LR	LP	MH	LM*	FC	HB
JSMS-L100(B)	130	ø24 ^{+0.01} _{-0.01}	ø 110 ^{+0.01} _{-0.01}	34	55	11	50	55.5	113	127 (161)	145	4-ø 9.0
								70		141.5 (175.5)		
								84.5		156 (190)		
								113.5		185 (219)		

*LM() Stands for the length of the servo motor with brake.

Motor Dimensions

220V (Magnetic Encoder) Motor Dimensions

■ Small Capacity Low Inertia JSMS-L 30



Model (Magnetic Encoder)	Dimensions (mm)										
	WF	øS	øF	LA	LB	LF	LR	MH	LM*	FC	HB
JSMS-L040(B)	60	ø 14 _{±0.01}	ø 50 _{±0.03}	3	30	6.5	25.5	42	94.2 (129.2) 114.2 (149.2)	70	4-ø 5.8
JSMS-L075(B)	80	ø 19 _{±0.01}	ø 70 _{±0.03}	3	40	7.5	35.3	52	119.2 (158.2)	90	4-ø 6.6
JSMS-L100(B)									159.2 (203.5)		

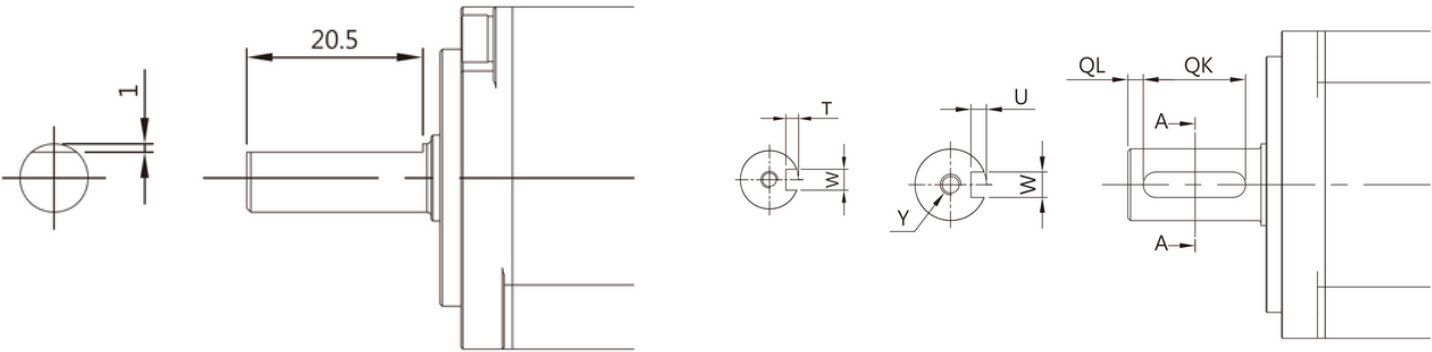
*LMQ Stands for the length of the servo motor with brake.

Motor Shaft and Key Dimensions

Dimensional Drawing of Motor Shaft Key Slot

■ D-cut Shaft: L005/L010

■ General Keyway



Motor	Dimensions					
	QL	QK	W	T	U	Y
L020/L040/H020/H040	3	20	5	5	3	Screw: M4, Depth: 15
L075/H075/L100 ^{Note}	5	25	6	6	3.5	Screw: M5, Depth: 20
L100/L150/L200/L300/M100/M150	5	35	8	7	4	Screw: M8, Depth: 20
M220/M300	5	55	10	8	5	Screw: M8, Depth: 20
H085/H130/H180	-	25	8	7	4	Screw: M5, Depth: 12
H180	-	29	8	-	4	Screw: M5, Depth: 15
H290/H440	-	65	10	-	5	Screw: M12, Depth: 25
H550/H750	-	96	12	-	5	Screw: M16, Depth: 32

Note: The L100(B) here stands for 80 frame motor



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