



Servo Catalog

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VD1 Series Servo Drive

Naming rules

VD1-075 S E1 G

Series	Rated power	Voltage	Encoder type	Function
VD1	010:100W	S:220V	E1:2500ppr Incremental encoder	P:basic pulse control
	020:200W	T:380V	E2:2500ppr (A,B,Z phase) Incremental encoder	G:universal (analog control, full closed loop control)
	040:400W		A1:17bit absolute encoder	
	075:750W		A2:23bit absolute encoder	
	100:1.0KW			
	150:1.5KW			
	180:1.8KW			
	200:2.0KW			
	230:2.3KW			

【Power range】

220V 0.2KW--2.3KW

Features and advantages

Ease of use:

- Supports automatic load inertia measurement, motor rotation direction and movement stroke could be specified according to the mechanical structure;
- Two notch filters are provided to suppress the mechanical vibration;
- Supports VDI(virtual digital input), reducing physical wiring;
- Supports automatic rigidity measurement and parameter adjustment;
- Supports Modbus communication. User could set, view parameters and monitor drive status through communication;
- Real-time measurement of load vibration frequency and amplitude;
- Supports batch import and export function to set parameters;
- View position, speed, torque and other curves on PC in real time.

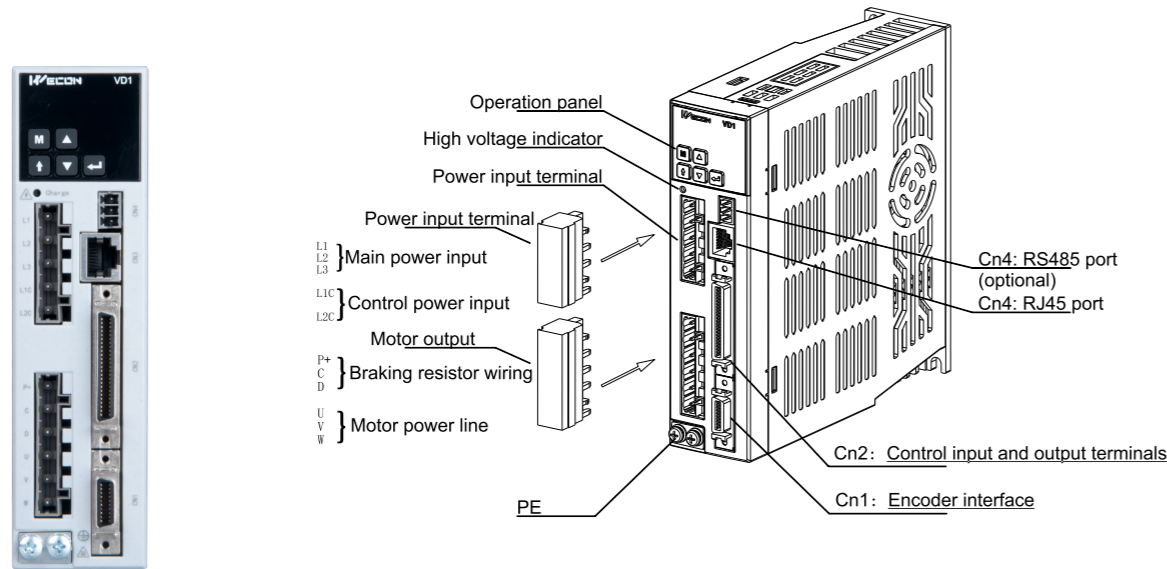
Protective function :

- Settable maximum speed limit, maximum torque limit;
- Position pulse filter function, user could set pulse frequency and anti-interference level;
- Over-voltage, under-voltage, over-current, over-speed, overload, over-temperature protection; excessive position deviation fault detection;
- Encoder disconnection detection, encoder failure detection; power supply disconnection detection;
- Supports emergency braking and overtravel protection.

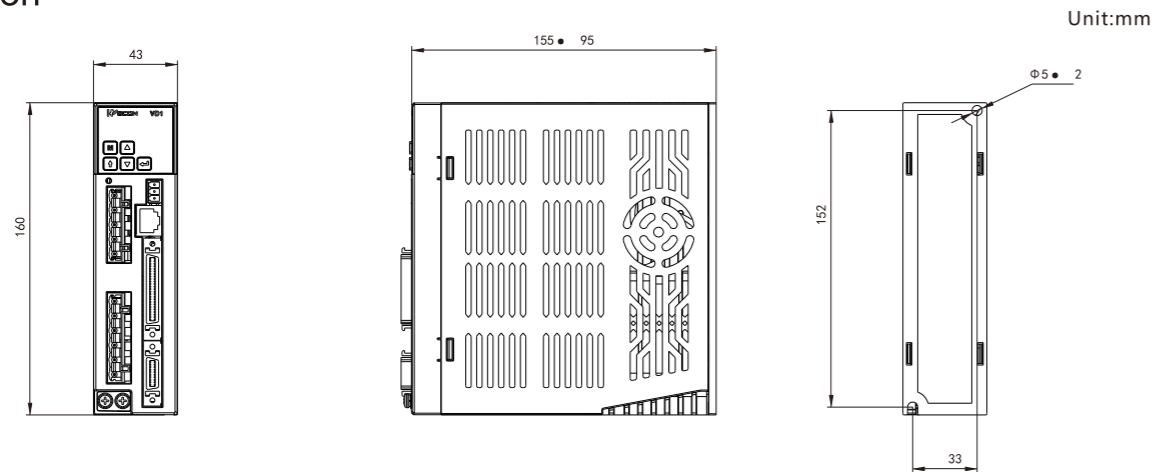
Parameter Table

Item		Content	
Basic specifications	Control method	IGBT PWM controlled sine wave current drive	
	encoder	2500ppr incremental encoder	
	Input signal	8*DI. Select input function according to function code configuration	
	Output signal	4*DO. Select input function according to function code configuration	
	Analog signal input	2 channel AI input, range(-10v~10v)	
	Pulse signal input	Open collector or differential input	
	Pulse feedback output	A,B,Z differential output	
	Communication	Modbus comm	channel 1
		PC	RS422 port, Parameter setting, monitoring status, waveform viewing, parameter auto-tuning, via computer
	Braking resistor	Built-in braking resistor, supporting external braking resistor	
General function	Automatic parameter tuning	It can cooperate with the host computer for automatic load inertia identification and automatic rigidity level, and the parameters self-tuning.	
	Waveform viewing	View position, speed, torque and other curves on PC in real time	
	Vibration suppression	Suppress mechanical vibration by setting vibration suppression parameters	
	Protective function	Overvoltage, undervoltage, overcurrent, overspeed, overload, overheating, encoder failure, excessive position deviation, torque limit, speed limit, etc.	
	Universal control DI	Servo enable (SON), fault and warning clear (A-CLR), forward drive prohibition (POT), reverse drive prohibition (NOT), command reverse (C-SIGN), emergency stop (E-STOP), Gain switching (GAIN-SEL)	
	Universal control DO	Servo ready (RDY), fault signal (ALM), warning signal (WARN), rotation detection (TGON), zero speed signal (ZSP), torque limit (T-LIMIT), speed limit (V-LIMIT),servo on state output (SRV-ST)	
	Input control	(C-SIGN) Deviation counter clear (CL), electronic gear switching 1 (GEAR-SEL), pulse input inhibit (INH), command inversion (C-SIGN)	
Function setting	Output control	Positioning complete (P-COIN) , positioning approach (P-NEAR)	
	Position mode	Pulse frequency	Max. 500khz
		Pulse type	Pulse + Direction, CCW/CW pulse, Orthogonal coding
		Electronic gear ratio	Range: 0.01 ~ 100
		Pulse filtering	Low-pass filter or smooth filter
	Pulse output	Differential orthogonal coding A, B, Z output, PPR is settable	
	Torque limit	Forward /reverse operation torque limit is settable	
	Speed limit	Forward /reverse operation speed limit is settable	
	Speed mode	Control input	Zero clamp (ZCLAMP) ,command inversion (C-SIGN) ,Speed limit analog input
		Control output	Speed consistent (V-COIN) ,Speed approach (V-NEAR)
		Command input	Analog input -10V~+10V analog input
		Internal command	Set the speed via internal function code
		Soft start	Acc. and Dec.time are settable
Zero clamp	Motor speed can be clamped to zero via the setting of zero clamp function		
Torque limit	Setthe torque limit		
Torque mode	Command output	Command inversion (C-SIGN) , Speed limit analog input	
	Control output	Torque reached (T-COIN) , Speed limit (V-LIMIT)	
	Command input	Analog input -10V~+10V analog input	
	Internal command	Set torque through internal parameter	
	Speed limit	Maximum speed in torque mode	

Servo Drive Interface



Dimension



Product Line-up

Servo		Motor			Power line	Encoder cable	Note
Servo model	Type	Moto model	Moto power (kw)	Rated speed (rpm)	Model	Model	
VD1-020SE1G	A	WD60M-02030S-E1B	0.20	3000	PLR-03	EMR-03	default cable length is 3 meters, optional lengths: 5 meters, 10 meters
VD1-040SE1G	A	WD60M-04030S-E1B	0.40	3000			
		WD80M-04030S-E1B	0.40	3000			
VD1-075SE1G	A	WD80M-07530S-E1B	0.75	3000			

Servo Motor



Naming Rules

WD 80 M - 075 30 S - E1 B

WECON Name	Flange size	Motor inertia	Rated power	Rated speed	Insulation class	Encoder type	Motor structure
WD	40	L:low inertia	010 : 100W	15:1500rpm	S: 220V	E1: 2500ppr Incremental encoder	A: null
	60	M:medium inertia	020: 200W	20:2000rpm	T: 380V	E2: 2500ppr (A,B,Z phase) Incremental encoder	B: Oil seal
	80	H:high inertia	040: 400W	25: 2500rpm		A1: 17bit absolute encoder	C: brake
	90		075: 750W	30 :3000rpm		A2: 23bit absolute encoder	D: Oil seal + brake
	100		100: 1KW				
	110		150: 1.5KW				
	130		180 : 1.8KW				
			200: 2.0KW				
			230 : 2.3KW				

Dimension

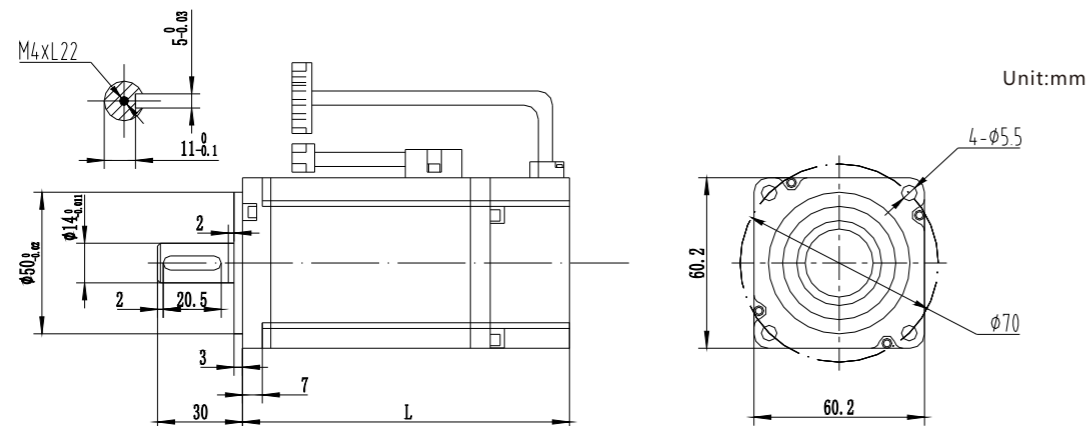
Model	WD60M-02030S-E1B	WD60M-04030S-E1B	WD80M-04030S-E1B	WD80M-07530S-E1B
L without brake holding (mm)	109	133	124	151

Definition of wiring

Motor socket	Motor phase		U		V		W		PE						
	Signal	Number	1	2	3	4	5	6	7	8					
Incremental encoder wiring	5V	GND	A+	Z-	U+	Z+	U-	B+	V+	W+	V-	B-	A-	W-	PE
	Number	2	3	4	5	6	7	8	9	10	11	12	13	14	15

60 Series Motor Specifications

Moto model	WD60M-02030S-E1B	WD60M-04030S-E1B
Rated power (kW)	0.2	0.4
Rated current (A)	1.8	2.6
Rated torque (N·m)	0.64	1.27
Max. torque (N·m)	1.91	3.81
Rated speed (r/min)	3000	3000
Rotor Inertia (Kg·m ²)	0.264×10 ⁻⁴	0.407×10 ⁻⁴
Torque constant-KT (N.m/A)	0.49	0.48
Voltage constant-KE (V/1000r/min)	26	31
Armature resistance (Ω)	7.1	3.8
Armature inductance (mh)	36.5	19.2
Electric constant (Ms)	4.7	5.05
Weight (kg)	1.2	1.6
Drive input voltage (V)	AC220	
Encoder (P/R)	Incremental encoder 2500ppr	
Number of pole pairs	4	
Insulation class	F	
Environment	Ambient temperature: -20 °C ~ + 40 °C Ambient humidity: relative humidity ≤90%	
IP rating	IP65	



80 Series Motor Specifications

Moto model	WD80M-04030S-E1B	WD80M-07530S-E1B
Rated power (kW)	0.4	0.75
Rated current (A)	2	3
Rated torque (N·m)	1.27	2.39
Max. torque (N·m)	3.8	7.1
Rated speed (r/min)	3000	3000
Rotor Inertia (Kg·m ²)	1.05×10 ⁻⁴	1.82×10 ⁻⁴
Torque constant-KT (N.m/A)	0.64	0.8
Voltage constant-KE (V/1000r/min)	40	50
Armature resistance (Ω)	4.6	2.9
Armature inductance (mh)	8.1	5.9
Electric constant (Ms)	1.76	2
Weight (kg)	1.9	2.9
Drive input voltage (V)	AC220	
Encoder (P/R)	Incremental encoder 2500ppr	
Number of pole pairs	4	
Insulation class	F	
Environment	Ambient temperature: -20 °C ~ + 40 °C Ambient humidity: relative humidity ≤90%	
IP rating	IP65	

