

V3S / VS Comparison

Classification	APD-V3S	APD-VS
<p>Performance</p> <p>Function</p>		
Frequency	1kHz	400Hz
CPU	VC33 (120MHz)	C32 (40MHz)
A/D,D/A Converter	14/12 bit	12/8 bit
Encoder	Serial 17bit / 24bit (131,072p/rev) Incremental 10,000p/rev	ABS 11 / 13bit (2,048p/rev) Incremental 10,000p/rev
Communication Channel	RS-232, RS-485 DeviceNET, CAN-OPEN EtherCAT (Will be applied)	RS-232 RS-485
PC Loader	0	0
Embed Mount loader	0	0
Control speed	2times quicker than current VS type	-
Position command input frequency	500 [kbps]	500 [kbps]
Auto tuning	0	0
Resonance restraint	0	0
Position control correction speed control function	0	-
Auto gain change	0	-
Offset auto control	0	-

Motor Characteristics

Motor Model (APM-)		Rated 3000 r/min										
		SB01A	SB02A	SB04A	SC04A	SC06A	SC08A	SC10A	SE09A	SE15A	SC03D	SC05D
Drive Model (APD-)		V3S01	V3S02	V3S04	V3S04	V3S04	V3S07	V3S10	V3S10	V3S15	V3S04	V3S04
Rated power (kW)		0.1	0.2	0.4	0.4	0.6	0.8	1.0	0.9	1.5	0.3	0.45
Torque [N·m]	Rated	0.318	0.637	1.273	1.273	1.91	2.546	3.183	2.865	4.775	1.432	2.149
	Max	0.955	1.910	3.820	3.82	5.730	7.639	9.549	8.594	14.324	4.297	6.446
Inertia [kg·m ² × 10 ⁻⁴]		0.114	0.182	0.321	0.674	1.092	1.509	1.927	6.659	11.999	0.674	1.092
Allowed load inertia		20times of inertia			15times of inertia			10times of inertia			15times of	
Speed [r/min]	Rated	3000										
	Max	5000										
Encoder		[Standard] Incremental, Absolute 17bit Serial(131,072p/r)						[Option] Incremental Encoder : 2,000~10,000p/r				
Operating condition		Vibration : Under 24m/s; Using temperature : 0~50[°C], Stock temperature : -20~80[°C]										

Drive Characteristics

Item	Model	V3SR5	V3S01	V3S02	V3S04	V3S07	V3S10	V3S15
Input power		3 Phase AC 200~230[V]+10[%]-15[%], 50/60[Hz]						
Applicable Motor	Power supply	3 Phase sinecurve PWM operating AC servo Motor						
	Rated current	1.2	1.65	1.65	3.2	4.3	6.4	11
	Max current	3.6	4.95	4.95	9.6	12.9	19.2	33
Detector type		[Standard] Incremental 17bit Serial(131,072p/r) [Option] Incremental Encoder : 2,000~10,000p/r, Serial encoder : 17bit~24bit						
Speed control mode	Speed control range	Max 1:10000						
	Frequency reply	Max 1[KHz]						
	Speed command	DC -10[V]~+10[V] (-Voltage : Reverse rotation), Digital command 7speeds						
	Acceleration/Deceleration time	Linear, S-type Acceleration/Deceleration(0~100,000[ms], 1[ms] Available unit setting						
Speed variation rate		±0.01[%] or less (Load variation 0~100%), ±0.1[%] or less (Temperature 25±10°C)						
Position control mode	Input frequency	500[kpps] / 200[kpps] (Line Driver / Open Collector)						
	Pulse	A+B Phase, Forwarder+Reverse Pulse, Direction+Pulse(Line driver, Open collector)						
	Electronic gear ratio	Digital 4 speeds, Available miniature adjust						
Torque control mode	Torque command	DC -10[V]~+10[V] (-Voltage : Reverse torque)						
	Torque straight	Under 2[%]						
	Speed limit	DC 0[V]~+10[V], Digital command 3speeds						
Embedded function	Power generated braking	Standard embeded(Operating on servo alarm or servo OFF)						
	Regenerated braking	Option			Standard embeded			
	Indication	7 Segment(6digit) embeded, CHARGE & ALARM LAMP						
	Monitor print	DC -5[V]~+5[V], 2 channels(speed, torque, position etc)						
Protection		Over current, over load, over voltage, less voltage, over speed, wrong wiring, encoder problem, position following problem.						
Operating condition	Temperature	0~50[°C]						
	Humidity	Under 90[%] (Avoid condensation)						
	Condition	Indoor, corrosiveness, no-inflammable gas, no liquid, no conductive dust.						

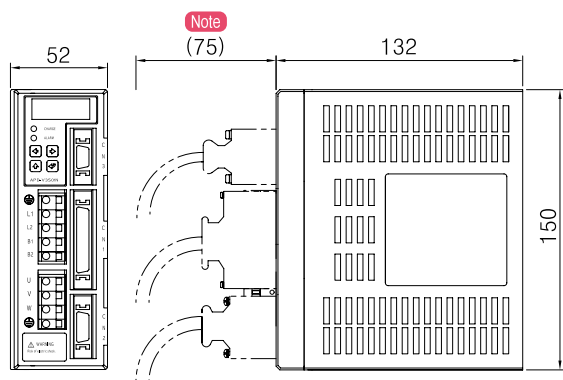


Rated 2000 r/min					Rated 1500 r/min			Rated 1000 r/min					
SC06D	SC07D	SE06D	SE11D	SE16D	SE05G	SE09G	SE13G	SE03M	SE06M	SE09M	SE12M	SF12M	SG12M
V3S07	V3S07	V3S07	V3S10	V3S15	V3S07	V3S10	V3S15	V3S04	V3S07	V3S10	V3S15	V3S15	V3S15
0.55	0.65	0.6	1.1	1.6	0.45	0.85	1.3	0.3	0.6	0.9	1.2	1.2	1.2
2.626	3.104	2.865	5.252	7.639	2.865	5.411	8.276	2.865	5.790	8.594	11.459	11.459	11.459
7.878	9.311	8.594	15.756	22.918	8.594	16.234	24.828	8.594	17.189	25.783	34.377	34.377	34.377
1.509	1.927	6.569	11.999	17.339	6.659	11.999	17.339	6.659	11.999	17.339	22.679	30.74	51.42
inertia					10times of inertia							5times of inertia	
2000					1500			1000					
3000					3000			2000					

[Standard] Incremental, Absolute 17bit Serial(131,072p/r) [Option] Incremental Encoder : 2,000~10,000p/r

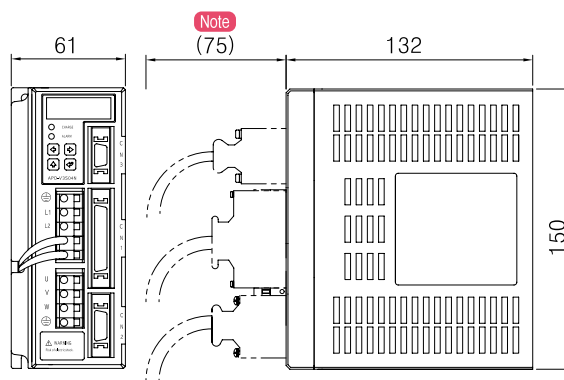
Vibration : Under 24m/s², Using temperature : 0~50[°C], Stock temperature : -20~80[°C]

Drive External Drawing



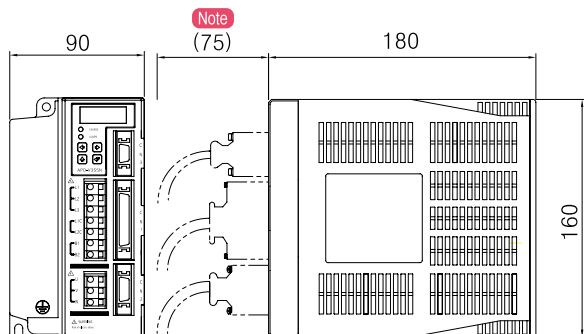
Note) Dimension on connector contact.

Under 200W



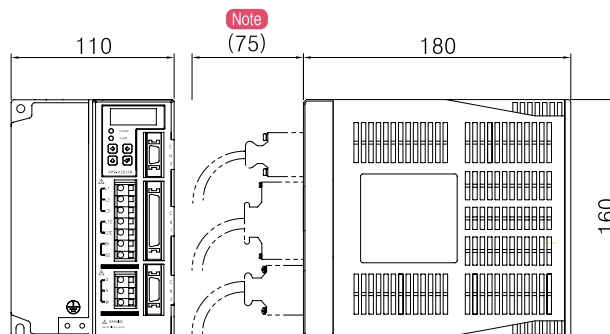
Note) Dimension on connector contact.

400W



Note) Dimension on connector contact.

700W ~ 1kW



Note) Dimension on connector contact.

1.5kW