

Direct drive motor

τ DISC dedicated servo driver

VPV Servo Driver



NEW

Software evolution provides added value beyond the VPH driver.

Enables high-accuracy operation simulation on software.

- ▶ The system support tool dedicated for VPV drivers: [VPV Data Editing Software] is released.
- ▶ Drive simulation mode **enables operation simulation on software without connecting a motor.**
- ▶ Motor selection data can be input into the software, enabling validation of the selected motor.

Enables smooth data acquisition and updates via cloud integration.

- ▶ Acquisition of absolute position correction data and updates of the system support tool can be performed via the cloud.

Enhanced predictive and preventive maintenance functions

- ▶ Equipped with a consumable replacement notification function, collision stop function, and logging function in case of abnormalities. ^{*1}
- ▶ **Alarm history** has been expanded from 5 entries (conventional VPH model) **to 25 entries.** In addition, alarm occurrence times are displayed, **enabling confirmation of chronological abnormality history** that was previously not visible.

^{*1} Prior configuration using the system support tool is required to enable these functions.



Enables automatic servo gain adjustment even under difficult operating conditions.

- ▶ Performance of the servo gain auto adjustment function [NiEAT] has been improved compared to VPH.

NiEAT

Replaceable from conventional VPH drivers

- ▶ In addition to servo performance equivalent to VPH, wiring and mounting are compatible.
- ▶ Parameters of VPH driver specifications can be easily converted to VPV specifications using a dedicated tool.

Lineup

VPV-VA Type (I/O spec)

Speed command operation, torque command operation, pulse train command operation, and built-in command operation

VPV-VD Type (EtherCAT spec)

Supports EtherCAT communication (compliant with iA402 drive profile). **EtherCAT**
Speed command operation, torque command operation, and position control operation

- 100 VAC single-phase 100W/200W
- 200 VAC three-phase 200W/400W/800W/1.5kW/2.2kW/3.3kW

Individual specifications

Model *1	NCR-V●	1101A-A-◆0◇	1201A-A-◆0◇	2201A-A-◆0◇	2401A-A-◆0◇
Output capacity	W	100	200	200	400
Main circuit input power supply	Rated voltage	V AC100 to 120 (1 φ)		V AC200 to 240 (1 φ/3 φ)	
	Frequency	Hz 50/60		Hz 50/60	
	Permissible voltage fluctuation	V AC85 to 132		V AC200 to 240 (1 φ) AC170 to 264 (3 φ)	
	Input rated current	Arms 3.0	Arms 6.0	Arms 3.0 (1 φ) 1.7 (3 φ)	Arms 5.5 (1 φ) 3.2 (3 φ)
	Rated capacity	kVA 0.3	kVA 0.6	kVA 0.6	kVA 1.1
Control circuit input power supply	Inrush current	A 23 [12ms]*2	A 23 [12ms]*2	A 45 [5ms]*3	A 45 [5ms]*3
	Rated voltage	V AC100 to 120 (1 φ)		V AC200 to 240 (1 φ)	
	Frequency	Hz 50/60		Hz 50/60	
	Permissible voltage fluctuation	V AC85–132		V AC170–264	
	Input rated current	Arms 0.24	Arms 0.24	Arms 0.12	Arms 0.12
Continuous output current	Power consumption	W 15	W 15	W 15	W 15
	Inrush current	A 17 [5ms]*2	A 17 [5ms]*2	A 17 [3ms]*3	A 17 [3ms]*3
Instant output current	Arms	6.0	9.9	6.0	9.9
Structure (IP code)		Natural cooling (IP20)			
Weight	kg	About 1.0	About 1.0	About 1.0	About 1.0

Model *1	NCR-V●	2801A-A-◆0◇	2152A-A-◆0◇	2222A-A-◆0◇	2332A-A-◆0◇
Output capacity	W	800	1.5k	2.2k	3.3k
Main circuit input power supply	Rated voltage	V AC200 to 240 (1 φ/3 φ)		V AC200 to 240 (3 φ)	
	Frequency	Hz 50/60		Hz 50/60	
	Permissible voltage fluctuation	V AC200 to 240 (1 φ) AC170 to 264 (3 φ)		V AC170 to 264 (3 φ)	
	Input rated current	Arms 9.0 (1 φ) 5.2 (3 φ)	Arms 9.6	Arms 13.5	Arms 17.0
	Rated capacity	kVA 1.8	kVA 3.0	kVA 4.2	kVA 5.9
Control circuit input power supply	Inrush current	A 45 [9ms]*3	A 33 [18ms]*3	A 33 [18ms]*3	A 85 [10ms]*3
	Rated voltage	V AC200 to 240 (1 φ)			
	Frequency	Hz 50/60			
	Permissible voltage fluctuation	V AC170 to 264			
	Input rated current	Arms 0.12	Arms 0.15	Arms 0.15	Arms 0.18
Continuous output current	Power consumption	W 15	W 18	W 18	W 20
	Inrush current	A 17 [3ms]*3	A 17 [3ms]*3	A 17 [3ms]*3	A 34 [2ms]*3
Instant output current	Arms	6.8	10.0	16.0	24.0 (25.0)*4
Structure (IP code)		Natural cooling (IP20)		Forced cooling (IP20)	
Weight	kg	About 1.5	About 2.3	About 2.3	About 3.7

*1 Each symbol in a model represents the following:

- Function type ... A (I/O specification), D (EtherCAT specification)
- ◆ Analog option (supported only by I/O specifications) ... 0 (none), 1 (provided)
- ◇ STO option ... 0 (none), 1 (provided)

*2 Value for the rated voltage of 120 VAC. The value in brackets [] indicates the time constant of inrush current.

For the time after which inrush current is eliminated, use 3 times the value in brackets [] as a rough guide.

*3 Value for the rated voltage of 240 VAC. The value in brackets [] indicates the time constant of inrush current.

For the time after which inrush current is eliminated, use 3 times the value in brackets [] as a rough guide.

*4 Shown in parentheses is the value applicable when UL standard compliance is not required.

Common specifications

Ambient condition	Temperature		During use: 0 to 55° C (no freezing allowed)	
	Humidity		During use/ storage: 90%RH or less, no condensation allowed	
	Installation location		Avoid any harmful atmosphere including corrosive gas, grinding oil, metal dust, and oil Install in an indoor place not exposed to direct sunlight	
	Sea level		1000 m or less	
Vibration resistance			Acceleration: 5.9 m/s2 (10 to 55 Hz), no resonance allowed	
Drive method			3-phase sine wave PWM	
Brake method			Regenerative brake: External regenerative resistor*1	
Mounting type			Panel mounting	
Performance *2	Speed control	Speed control range*3		1:5000
		Speed variation	Load characteristics	0% to 100 % load: ± 0.01% or less (at rated speed)
			Voltage characteristics	Rated voltage ±10%: 0% (at rated speed)
			Temperature characteristics	0° C to 40° C: ±0.1% or less (at rated speed)
	Torque control	Resolution		1:1000 (up to rated torque)
		Reproducibility		±1% (up to rated torque)
Standards	EC Directive	EMC Directive		EN61800-3
		Low Voltage Directive		EN61800-5-1
	UL Standards			EN61800-5-1

*1 The regenerative resistor is optional.

*2 The performance values are those of the servo driver itself. Depending on the combination with a motor, the performance values may not be met.

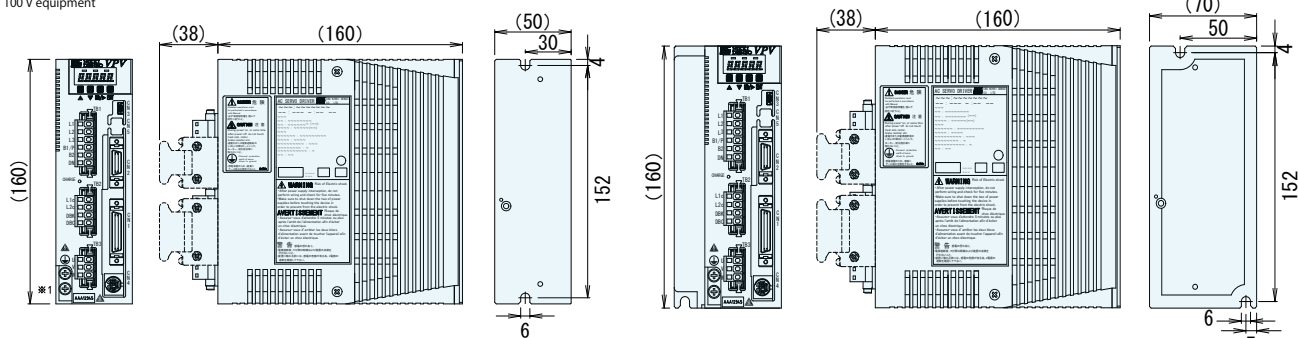
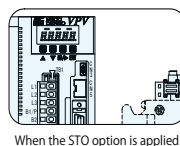
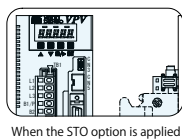
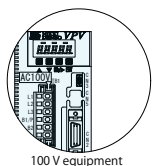
*3 It is assumed that the motor does not stop when the load is 100%.

Dimensions

○ NCR-V□1101A/1201A-A-□□□

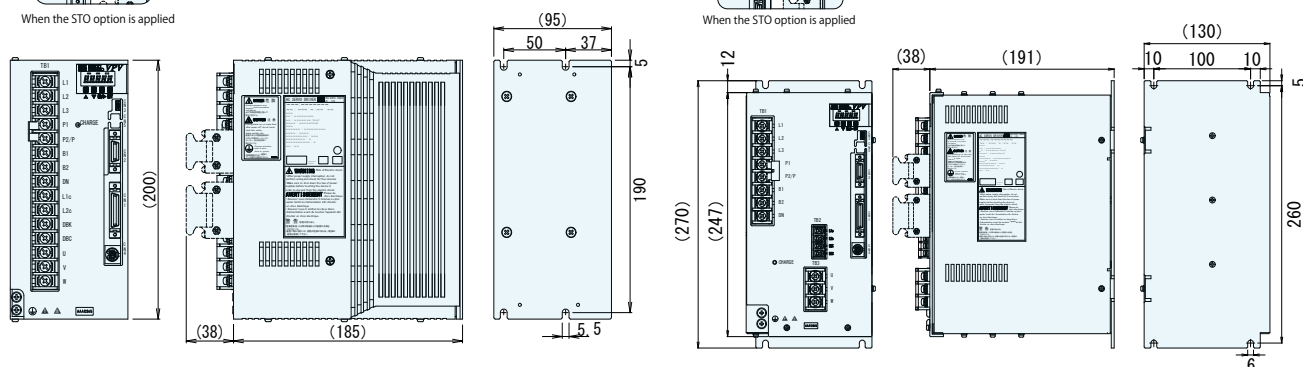
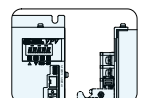
○ NCR-V□2801A-A-□□□

○ NCR-V□2201A/2401A-A-□□□



○ NCR-V□2152A/2222A-A-□□□

○ NCR-V□2332A-A-□□□



* The above dimensions are for the VPV-VA Type. The dimensions are the same for the VPV-VD Type.

■ System support tool [VPV Data Editing Software] Supported OS/Supported languages

- Supported OS [Windows 11] 64bit [Windows 12] 32bit/64bit
- Supported languages Japanese, English, Korean, Chinese (Simplified and Traditional)

■ List of paired direct drive motors [τ DISC]

τ DISC Series name	Motor type*1	Paired VPV Series output capacity
ND-s Series [Standard type]	ND80-65-FS(P)	100W (AC100V), 200W (AC200V)
	ND110-65-FS(P)	100W (AC100V), 200W (AC100V, AC200V)
	ND110-85-FS(P)	200W (AC100V), 400W (AC200V)
	ND140-65-FS(P)	400W (AC200V)
	ND140-70-LS(P)	400W (AC200V)
	ND140-95-LS(P)	800W (AC200V)
	ND180-55-FS(P)	800W (AC200V)
	ND180-70-LS(P)	800W (AC200V)
	ND180-95-LS(P)	800W (AC200V)
	ND250-55-FS(P)	800W (AC200V)
	ND250-70-LS(P)	800W (AC200V)
	ND250-95-LS(P)	1.5kW (AC200V)
	ND400-65-FS(P)	2.2kW (AC200V)
	ND400-70-LS(P)	2.2kW (AC200V)
	ND400-95-LS(P)	3.3kW (AC200V)
ND-s Series UL/CE specifications [Standard type UL/CE specifications]	ND110-65-FS(P)B-UC	100W (AC100V), 200W (AC100V, AC200V)
	ND110-85-FS(P)B-UC	200W (AC100V), 400W (AC200V)
	ND140-65-FS(P)-UC	400W (AC200V)
	ND140-70-LS(P)-UC	400W (AC200V)
	ND140-95-LS(P)-UC	800W (AC200V)
	ND180-55-FS(P)B-UC	800W (AC200V)
	ND180-70-LS(P)B-UC	800W (AC200V)
	ND180-95-LS(P)B-UC	800W (AC200V)
	ND250-55-FS(P)B-UC	800W (AC200V)
	ND250-70-LS(P)B-UC	800W (AC200V)
	ND250-95-LS(P)B-UC	1.5kW (AC200V)
	ND400-65-FS(P)B-UC	2.2kW (AC200V)
	ND400-70-LS(P)B-UC	2.2kW (AC200V)
	ND400-95-LS(P)B-UC	3.3kW (AC200V)
ND-s HS Series [High-speed rotation type]	ND110-85-FS(P)-HS	400W (AC200V), 800W (AC200V)
	ND140-70-LS(P)-HS	800W (AC200V)
	ND140-95-LS(P)-HS	1.5kW (AC200V)
	ND180-95-LS(P)-HS	1.5kW (AC200V)
ND-u Series [Thin type]	ND180-40-FU(P)	400W (AC200V)
	ND250-40-FU(P)	800W (AC200V)
DD-s Series [High-rigidity and high-accuracy type]	DD160-96-LS(P)	400W (AC200V)
	DD160-105-FS(P)	400W (AC200V)
	DD160-146-LS(P)	800W (AC200V)
	DD250-90-LS(P)	800W (AC200V)
	DD250-138-LS(P)	1.5kW (AC200V)
	DD250-163-LS(P)	1.5kW (AC200V)
	DD400-150-LS(P)	3.3kW (AC200V)
HD-s Series [High-response type]	HD140-160-LS(P)	800W (AC200V)
	HD140-185-LS(P)	1.5kW (AC200V)
	HD180-200-LS(P)	2.2kW (AC200V)
HD-4 Series [New high-response type]	HD160-195-L4(P)	2.2kW (AC200V), 3.3kW (AC200V)

*1 Shown in parentheses () is the motor type of the high-accuracy specification.



CKD NIKKI DENSO CO., LTD.

Address: 1-4-2, Osaku, Sakura-shi, Chiba-ken 285-0802 Japan

TEL: +81-43-498-2315 FAX: +81-43-498-4654

<https://www.nikkidenso.co.jp>

- EtherCAT® is a registered trademark of Beckhoff Automation GmbH of Germany and a patented technology licensed by it.
- Part of the ratings, specifications, dimensions, and other information are subject to change without prior notice to improve the product.

Reprint without permission is forbidden



JQA-QMA15765
JQA-EM7671