■Encoder cable and power cable combination list

τDISC				Encoder cable		Power cable	
				Absolute (For movable motor)	Incremental (For movable motor)	Not shielded (For movable motor)	Shielded (For movable motor)
Series	Motor type		Motor model *2	**Description No.** Model	**Description No.** Model	**Description No.** Model	**Description No.** Model
ND-s *1	ND110-	65-FS(P)	NMR-SAE□A1A-101A(P)	**E-1** NCR-XBGGA-	**E-3** NCR-XBCNA-	**P-1** *3 NCR-XBBBA-	**P-7** *3 NCR-XBBCA-
			NMR-SAE□A2A-131A(P)				
		85-FS(P)	NMR-SAU□A1A-181A(P)				
			NMR-SAU□A2A-221A(P)				
	ND140-	65-FS(P)	NMR-SCE□A2A-301A(P)				
		70-LS(P)	NMR-SRE□A2A-301A(P)				
		95-LS(P)	NMR-SRF□A2A-471A(P)				
	ND180-	55-FS(P)	NMR-SDM□A2A-531A(P)				
		70-LS(P)	NMR-SSM□A2A-531A(P)				
		95-LS(P)	NMR-SSE□A2A-941A(P)			**P-2** *3 NCR-XBBEA-	**P-8** *3 NCR-XBBFA-
	ND250-	55-FS(P)	NMR-SEM□A2A-791A(P)			**P-1** *3 NCR-XBBBA-	**P-7** *3 NCR-XBBCA-
		70-LS(P)	NMR-STE□A2A-791A(P)				
		95-LS(P)	NMR-STF□A2A-152A(P)			**P-2** *3 NCR-XBBEA-	**P-8** *3 NCR-XBBFA-
	ND400-	65-FS(P)	NMR-SFE□A2A-182A(P)				
		70-LS(P)	NMR-SUE□A2A-182A(P)				
		95-LS(P)	NMR-SUF□A2A-322A(P)			**P-3** *3 NCR-XBBHA-	**P-9** *3 NCR-XBBIA-
		160-LS(P)	NMR-SUH□A2A-622A(P)			**P-4** NCR-XBEMA-	**P-10** *3 NCR-XBENA-
ND-s HS	ND110-	85-FS(P)-HS	NMR-SAUIA2A-551A(P)	–	**E-3** NCR-XBCNA-	**P-1** *3 NCR-XBBBA-	**P-7** *3 NCR-XBBCA-
	ND140-	70-LS(P)-HS	NMR-SREIA2A-661A(P)				
		95-LS(P)-HS	NMR-SRFIA2A-102A(P)			**P-2** *3 NCR-XBBEA-	**P-8** *3 NCR-XBBFA-
	ND180-	95-LS(P)-HS	NMR-SSEIA2A-162A(P)				
DD-s *1	DD160-	96-LS(P5/P3)	DD16-251L04□NN(-P/-P3)	**E-1** NCR-XBGGA-	**E-3** NCR-XBCNA-	**P-1** *3 NCR-XBBBA-	**P-7** *3 NCR-XBBCA-
		105-FS(P5/P3)	DD16-251F04CNN(-P/-P3)		–		
		146-LS(P5/P3)	DD16-681L04□NN(-P/-P3)		**E-3** NCR-XBCNA-		
	DD250-	90-LS(P5/P3)	DD25-521L02□NN(-P/-P3)			**P-2** *3 NCR-XBBEA-	**P-8** *3 NCR-XBBFA-
		138-LS(P5/P3)	DD25-102L02□NN(-P/-P3)				
		163-LS(P5/P3)	DD25-152L02□NN(-P/-P3)				
	DD400-	150-LS(P5/P3)	DD40-322L02CNN(-P/-P3)		–	**P-4** NCR-XBEMA-	**P-10** *3 NCR-XBENA-
		200-LS(P5/P3)	DD40-622L02CNN(-P/-P3)				
		250-LS(P5/P3) (1.5rps spec)	DD40-702L01CNN(-P/-P3) * Paired servo driver model: NCR-H□2702□-A-□□□			**P-5** NCR-XBBTA-	**P-12** NCR-XBBVA- (for fixed motor)
			DD40-702L01CNN(-P/-P3) * Paired servo driver model: NCR-H□2153□-A-□□□			**P-6** NCR-XBEZA-	**P-13** NCR-XBL1A- (for fixed motor)
		250-LS(P5/P3) (1rps spec)	DD40-472L01CNN(-P/-P3)			**P-4** NCR-XBEMA-	**P-10** *3 NCR-XBENA-
		250-LS(P5/P3) (2rps spec)	DD40-942L02CNN(-P/-P3)	**E-2** NCR-XBGFB-		–	**P-13** NCR-XBL1A- (for fixed motor)
	DD630-	175-LS(P10/P5)	DD63-842L01HNN(-P/-P5)			**P-5** NCR-XBBTA-	**P-11** *3 NCR-XBETA-
		225-LS(P10/P5)	DD63-123L01HNN(-P/-P5)			–	**P-13** NCR-XBL1A- (for fixed motor)
HD-s	HD140-	160-LS(P)	NMR-FRHIA2A-102A(P)	–	**E-3** NCR-XBCNA-	**P-1** *3 NCR-XBBBA-	**P-7** *3 NCR-XBBCA-
		185-LS(P)	NMR-FRIIA2A-122A(P)			**P-2** *3 NCR-XBBEA-	**P-8** *3 NCR-XBBFA-
	HD180-	200-LS(P)	NMR-FSJIA2A-252A(P)				

*1 The incremental encoder type of the ND-s Series and DD-s Series is available on request.

*2 One of the following letters appears in □ of the model name.

ND-s Series: J for the absolute encoder or I for the incremental encoder

DD-s Series: C for the absolute encoder or A for the incremental encoder

*3 The motor movement speeds of 0.5 m/s and higher are supported.

Encoder cable list

Description No.	Model	Length (L)	Encoder cable dimensions	Encoder connector kit *1		Signal chart
				P1 driver-side connector	J1 motor-side connector	
E-1	NCR-XBGGA -030	3m	Twisted pair shield cable 0.5SQ×1P+0.2SQ×4P P1 J1 L	◎NCR-XBDVA		P1(Driver side) / J1(Encoder side)
	-050	5m				
	-070	7m				
	-100	10m				
	-150	15m				
	-200	20m				
	NCR-XBGGA -250-Z	25m	Twisted pair shield cable 0.5SQ×1P+0.2SQ×4P P1 J1 Mark tube P2 1000±30 L * If the cable is longer than 25 m, an external 5 VDC power supply is required separately. The external power supply unit NCR-XAD1A is available as an option.			P1(Driver side) / J1(Encoder side) P2 signal chart
	-300-Z	30m				
E-2	NCR-XBGFB -030	3m	Twisted pair shield cable 0.5SQ×1P+0.2SQ×4P P1 J1 L	◎NCR-XBDWA		P1(Driver side) / J1(Encoder side)
	-050	5m				
	-070	7m				
	-100	10m				
	-150	15m				
	-200	20m				
	NCR-XBGFB -250-Z	25m	Twisted pair shield cable 0.5SQ×1P+0.2SQ×4P P1 J1 Mark tube P2 1000±30 L * If the cable is longer than 25 m, an external 5 VDC power supply is required separately. The external power supply unit NCR-XAD1A is available as an option.			P1(Driver side) / J1(Encoder side) P2 signal chart
	-300-Z	30m				
E-3	NCR-XBCNA -030	3m	L=15 m or less→ Twisted pair shield cable 0.5SQ×1P+0.2SQ×6P L=16 m or more→ Twisted pair shield cable 1.25SQ×1P+0.2SQ×5P P1 J1 L	◎NCR-XBC8A		P1(Driver side) / J1(Encoder side) * NCR-XBCNA-160 to NCR-XBCNA-200 are not connected.
	-050	5m				
	-070	7m				
	-100	10m				
	-150	15m				
	-200	20m				

P1(Driver side) / J1(Encoder side)

Signal name	Pin name	Signal name	Pin name
GND	1	+5V	A1
GND	2	+5V	A2
+5V	3	SD	A3
+5V	4		A4
SD	5		A5
SD*	6		A6
	7		A7
	8	FG(Ground)	A8
	9	GND	B1
	10	GND	B2
	11	SD*	B3
	12		B4
	13		B5
	14		B6
	15		B7
	16	FG(Ground)	B8
	17		
	18		
	19		
	20		
FG(Ground)	Metal		

P2 signal chart

Signal name	Cable color
+5V	Red
GND	Black

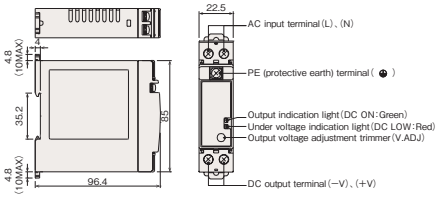
* Optionally, the encoder cable can also be purchased in units of 1 meter.

*1 When you create a cable using the connector kit, you need to take into account voltage drops due to the cable length during cabling. Contact our sales staff.

External power supply unit

This unit is used for **E-1** NCR-XBGGA-250/300-Z and **E-2** NCR-XBGFB-250/300-Z.

Product model
NCR-XAD1A

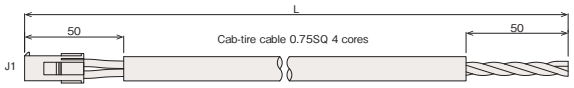


■Unshielded power cable list

Description No.	Model	Length (L)	Power cable dimensions	Signal chart

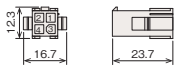
P-1

Model	Length (L)
NCR-XBBBA -030	3m
-050	5m
-070	7m
-100	10m
-150	15m
-200	20m
-250	25m
-300	30m



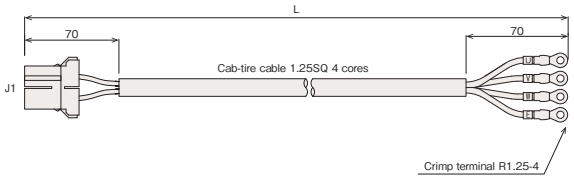
Signal name	J1 pin name	Cable color
U	1	Red
V	2	White
W	3	Black
E	4	Green

Power cable connector kit
CSZ-MOT



P-2

Model	Length (L)
NCR-XBBEA -030	3m
-050	5m
-070	7m
-100	10m
-150	15m
-200	20m
-250	25m
-300	30m

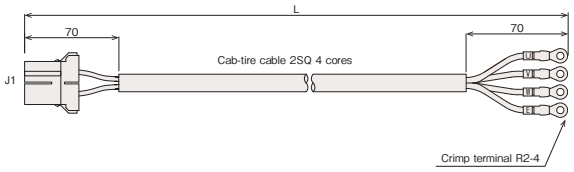


Signal name	J1 pin name	Cable color
U	B1	Red
V	B2	White
W	A1	Black
E	A2	Green

Power cable connector kit
NCR-XBB4A

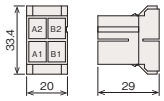
P-3

Model	Length (L)
NCR-XBBHA -030	3m
-050	5m
-070	7m
-100	10m
-150	15m
-200	20m
-250	25m
-300	30m



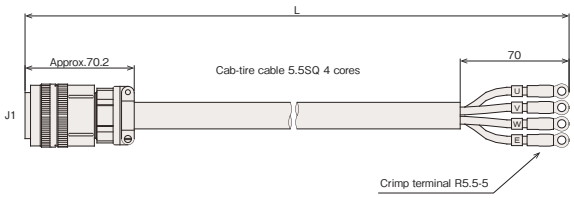
Signal name	J1 pin name	Cable color
U	B1	Red
V	B2	White
W	A1	Black
E	A2	Green

Power cable connector kit
NCR-XBB4A



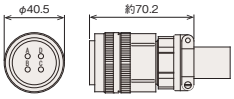
P-4

Model	Length (L)
NCR-XBEMA -030	3m
-050	5m
-070	7m
-100	10m
-150	15m
-200	20m
-250	25m
-300	30m



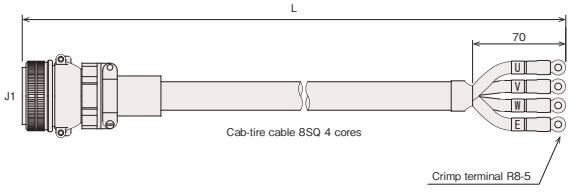
Signal name	J1 pin name	Cable color
U	A	Red
V	B	White
W	C	Black
E	D	Green

Power cable connector kit
CSZ5-MOT-B



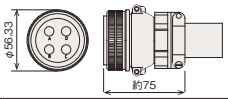
P-5

Model	Length (L)
NCR-XBBTA -030	3m
-050	5m
-070	7m
-100	10m
-150	15m
-200	20m
-250	25m
-300	30m



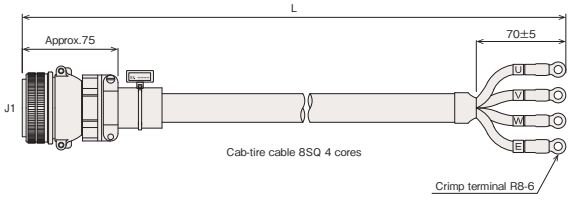
Signal name	J1 pin name	Cable color
U	A	Red
V	B	White
W	C	Black
E	D	Green

Power cable connector kit
NCR-XBD9A



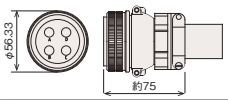
P-6

Model	Length (L)
NCR-XBEZA -030	3m
-050	5m
-070	7m
-100	10m
-150	15m
-200	20m
-250	25m
-300	30m



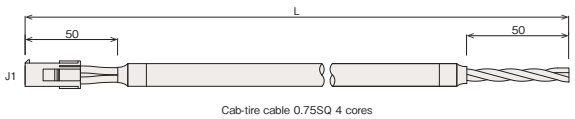
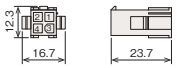
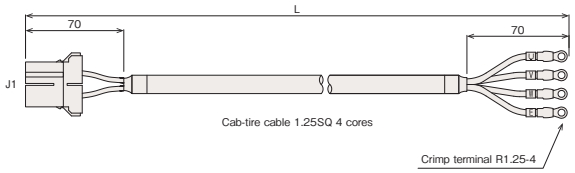
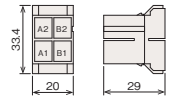
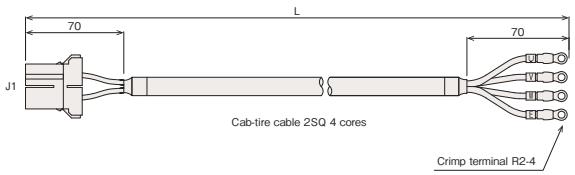
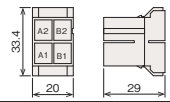
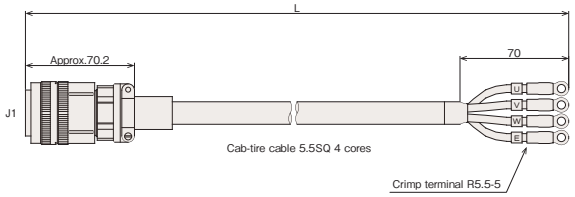
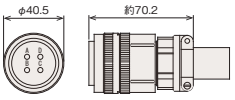
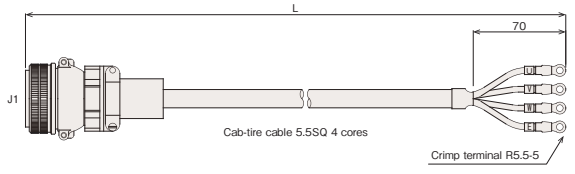
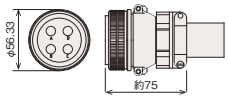
Signal name	J1 pin name	Cable color
U	A	Red
V	B	White
W	C	Black
E	D	Green

Power cable connector kit
NCR-XBD9A



* Optionally, the power cable can also be purchased in units of 1 meter.

■Shielded power cable list(for movable motor)

Description No.	Model	Length (L)	Power cable dimensions	Signal chart
P-7	NCR-XBBCA -030	3m		Signal name / J1 pin name / Cable color U / 1 / Red V / 2 / White W / 3 / Black E / 4 / Green/Yellow Power cable connector kit CSZ-MOT 
	-050	5m		
	-070	7m		
	-100	10m		
	-150	15m		
	-200	20m		
	-250	25m		
	-300	30m		
P-8	NCR-XBBFA -030	3m		Signal name / J1 pin name / Cable color U / B1 / Red V / B2 / White W / A1 / Black E / A2 / Green/Yellow Power cable connector kit NCR-XBB4A 
	-050	5m		
	-070	7m		
	-100	10m		
	-150	15m		
	-200	20m		
	-250	25m		
	-300	30m		
P-9	NCR-XBBIA -030	3m		Signal name / J1 pin name / Cable color U / B1 / Red V / B2 / White W / A1 / Black E / A2 / Green/Yellow Power cable connector kit NCR-XBB4A 
	-050	5m		
	-070	7m		
	-100	10m		
	-150	15m		
	-200	20m		
	-250	25m		
	-300	30m		
P-10	NCR-XBENA -030	3m		Signal name / J1 pin name / Cable color U / A / Red V / B / White W / C / Black E / D / Green/Yellow Power cable connector kit CSZ5-MOT-B 
	-050	5m		
	-070	7m		
	-100	10m		
	-150	15m		
	-200	20m		
	-250	25m		
	-300	30m		
P-11	NCR-XBETA -030	3m		Signal name / J1 pin name / Cable color U / A / Red V / B / White W / C / Black E / D / Green/Yellow Power cable connector kit NCR-XBD9A 
	-050	5m		
	-070	7m		
	-100	10m		
	-150	15m		
	-200	20m		
	-250	25m		
	-300	30m		

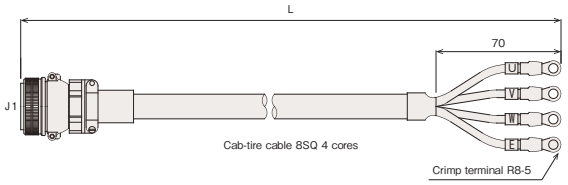
* Optionally, the power cable can also be purchased in units of 1 meter.

■Shielded power cable list(for fixed motor)

Description No.	Model	Length (L)	Power cable dimensions	Signal chart

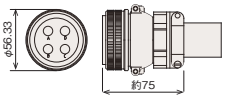
P-12

Model	Length (L)
NCR-XBBVA -030	3m
-050	5m
-070	7m
-100	10m
-150	15m
-200	20m
-250	25m
-300	30m



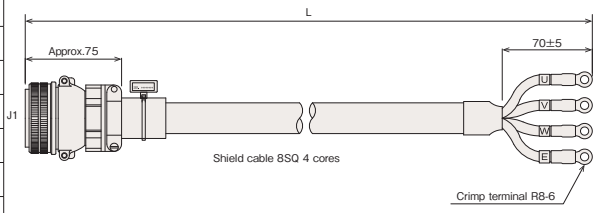
Signal name	J1 pin name	Cable color
U	A	Black(1)
V	B	Black(2)
W	C	Black(3)
E	D	Green/Yellow

Power cable connector kit
NCR-XBD9A



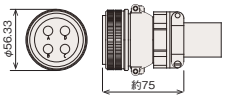
P-13

Model	Length (L)
NCR-XBL1A -030	3m
-050	5m
-070	7m
-100	10m
-150	15m
-200	20m
-250	25m
-300	30m



Signal name	J1 pin name	Cable color
U	A	Black(1)
V	B	Black(2)
W	C	Black(3)
E	D	Green/Yellow

Power cable connector kit
NCR-XBD9A



* Optionally, the power cable can also be purchased in units of 1 meter.

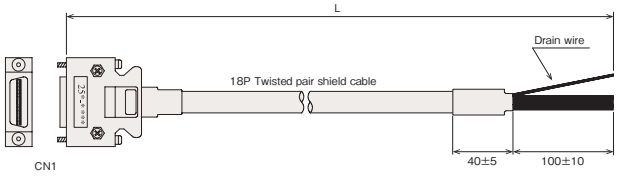
■I/O-related options

Applicable servo drivers	VPH Series: VPH-HA Type(I/O specification)

◎I/O cable VCIC Series

This cable is connected with the control input/output connector (CN1) of the VPH-HA Type to input and output signals.

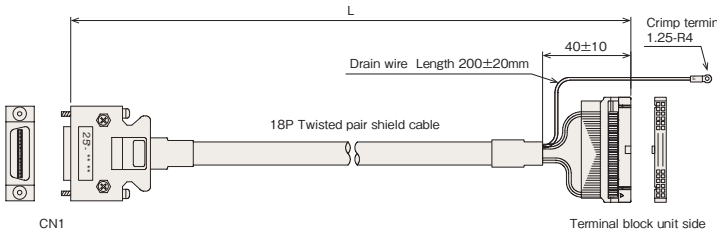
Product model	Cable length L(mm)
NCR-XBA1A-010	1000±30
NCR-XBA1A-020	2000±30
NCR-XBA1A-030	3000±30



◎I/O terminal block cable VCTC Series

This cable is used to connect the control input/output connector (CN1) of the VPH-HA Type and the I/O terminal block unit(40 pins).

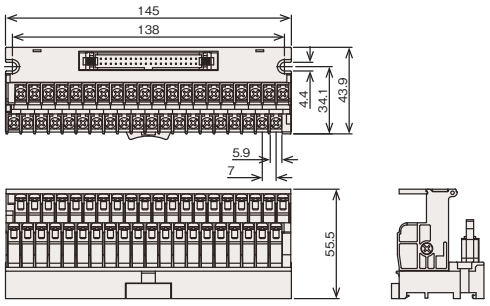
Product model	Cable length L(mm)
NCR-XBA2A-010	1000±30
NCR-XBA2A-020	2000±30
NCR-XBA2A-030	3000±30



◎I/O terminal block unit(screw type)

This unit is used to convert an input connector into a terminal block. Screws are used for connection. To connect the servo driver requires the I/O terminal block cable(VCTC Series).

Product model	Number of pins
ZTB-401	40 pins



◎I/O terminal block unit(cage clamp type)

This unit is used to convert an input connector into a terminal block. Cage clamps are used for connection. To connect the servo driver requires the I/O terminal block cable(VCTC Series).

Product model	Number of pins
NCR-XABND3A	40 pins

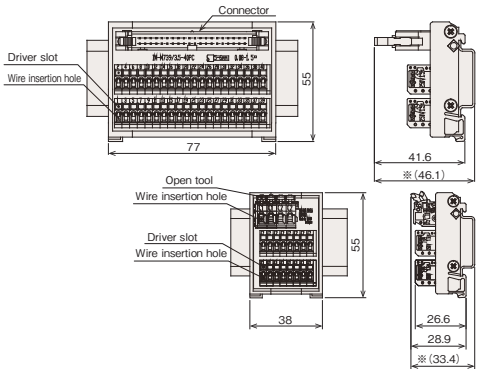
■Cage clamp type common terminal block

Use this block to connect two or more cables to a terminal.

Product model	Number of pins
NCR-XABQD3A	8×2

■Tool to use Connector key

Product model
NCR-XABRD0A

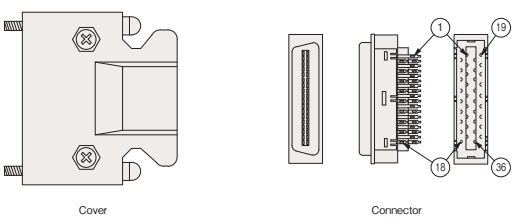


* The dimensions are those applicable when a 35 mm DIN rail is mounted.

◎I/O signal connector kit

This is a connector kit used to connect the control input/output connector (CN1) of the VPH-HA Type.

Product model
CSZ-INF



■I/O-related options

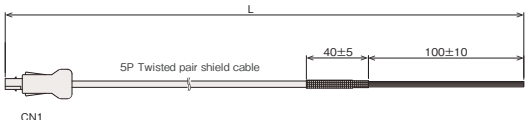
Applicable servo drivers

VPH Series: VPH-HB/HD/HE Type (SSCNETⅢ/H, EtherCAT, and MECHATROLINK-Ⅲ specifications)

◎I/O cable

This cable is connected with the control input/output connector (CN1) of the VPH-HB/HD/HE Type to input and output signals.

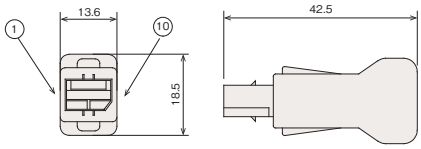
Product model	Cable length L (mm)
NCR-XBANA-010	1000±30
NCR-XBANA-020	2000±30
NCR-XBANA-030	3000±30



◎I/O connector kit

This is an I/O cable connector kit used to connect the control input/output connector (CN1) of the VPH-HB/HD/HE Type.

Product model
NCR-XBDYA



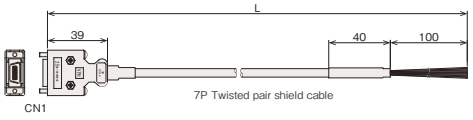
Applicable servo drivers

VPH Series: VPH-HC Type (CC-Link specification)

◎I/O cable

This cable is connected with the control input/output connector (CN1) of the VPH-HC Type to input and output signals.

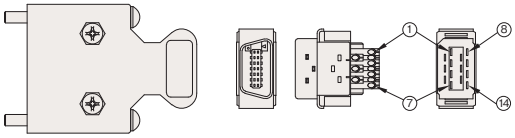
Product model	Cable length L (mm)
NCR-XBARA-010	1000±30
NCR-XBARA-020	2000±30
NCR-XBARA-030	3000±30



◎I/O connector kit

This is a cable connector kit that is connected with the control input/output connector (CN1) of the VPH-HC Type to input and output signals.

Product model
ZCK-COM



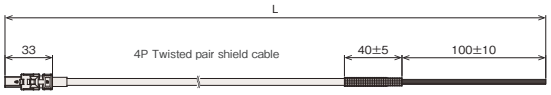
Applicable servo drivers

VPH Series: All types

◎STO cable

This cable is connected with the VPH Series servo driver to input and output STO signals.

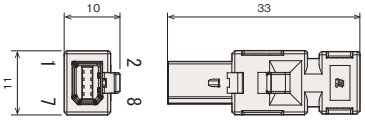
Product model	Cable length L (mm)
NCR-XBASA-010	1000±30
NCR-XBASA-020	2000±30
NCR-XBASA-030	3000±30



◎STO connector kit

This is an STO cable connector kit used to connect the VPH Series servo driver.

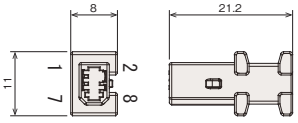
Product model
NCR-XBJ5A



◎STO short-circuit plug

This plug is used to release the blocked power supply to the motor connected to the VPH Series. It is an accessory provided when the STO option is used. (The VPH Series servo driver is shipped with this plug connected to its safety input connector (CN5).)

Product model
NCR-XBJ6A



■Serial communication-related options

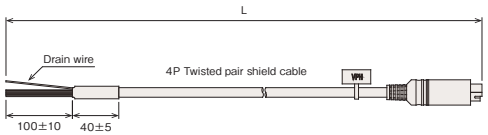
Applicable servo drivers	VPH Series: VPH-HA Type(I/O specification)

◎RS-422 communication cable

This cable is used to input and output servo driver data using a PLC computer link module(RS-422 I/F), etc.

* A communication cable is also available that allows two to four servo drivers to be connected to a single personal computer.

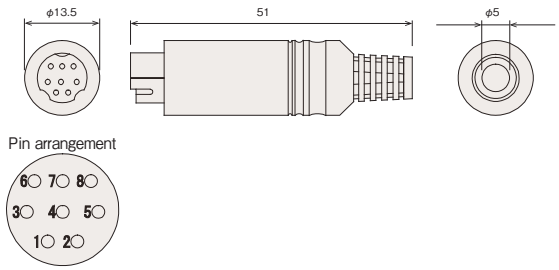
Product model	Cable length L(mm)
NCR-XBFJA-010	1000±30
NCR-XBFJA-030	3000±50
NCR-XBFJA-050	5000±100
NCR-XBFJA-100	10000±100



◎Serial communication connector kit

This connector kit is used to connect the RS-422 serial communication connector of the servo driver.

Product model
NCR-XBDPA

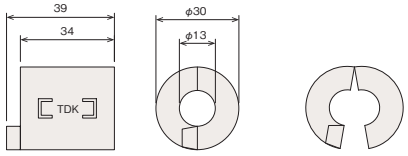


Applicable servo drivers	VPH Series: All types

◎Noise protection ferrite core

This option is used to prevent malfunctions due to noise(monitor display interruption, forced shutdown of the editing software, etc.).

Product model
NCR-XAA9A



■Noise protection

Applicable servo drivers	VPH Series: All types

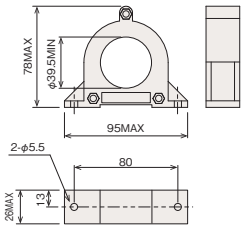
◎Zero phase reactor (for common mode)

This reactor absorbs the noise generated by the servo driver to reduce the effect of noise on the driver main unit and the peripheral equipment.

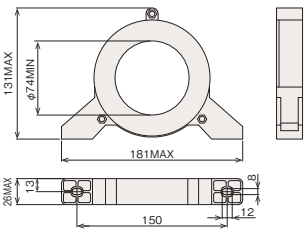
* The effectiveness of this option greatly depends on how the cables are routed and how the device is connected to ground.

Product model
NCR-XAB4A
NCR-XAB5A

■NCR-XAB4A

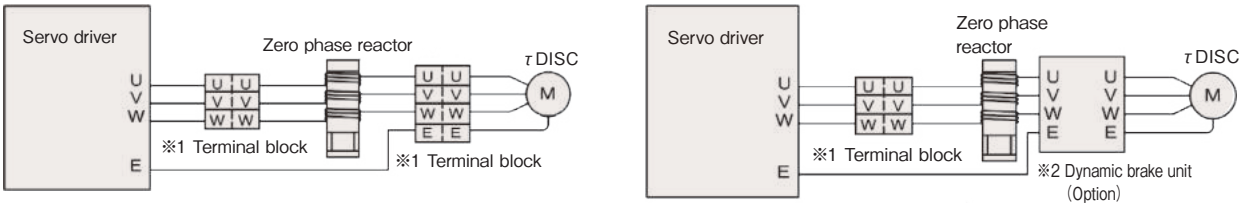


■NCR-XAB5A

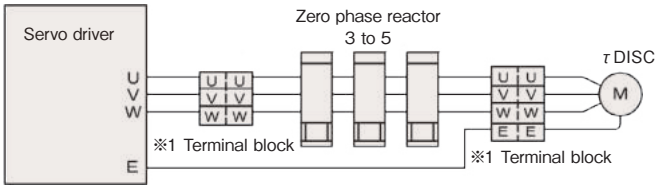


■Installation examples

●Winding



●Penetration (If it is not possible to wind the electric wire)



*1 The customer is requested to supply the terminal block. Supply the terminal block between servo driver and zero-phase reactor, if necessary.

*2 If a dynamic brake unit is present, install the zero-phase reactor between servo driver and dynamic brake unit so that it is as close to the servo driver as possible.

■Zero phase reactor to use and the number of reactors

●Relationship between AWG cable size (mm^2) and zero phase reactor

Zero phase reactor	Inner diameter	AWG cable size (mm^2)			
		18 to 10 (0.75 to 5.5)	8 to 6 (8 to 14)	4 to 2 (22 to 30)	1/0 to (50 to)
NCR-XAB4A	39.5mm	1 reactor; winding three to five times		3 to 5 reactors penetrated	
NCR-XAB5A	74.0mm		1 reactor; winding three to five times		3 to 5 reactors penetrated

The values in this table are calculated from the AWG size (mm^2) of the MLFC cable (600 V, 110°C) and the inner diameter of the zero phase reactor.

This table is for reference purposes because the diameter and stiffness vary depending on the cable used. It is assumed that the cable is wound 3 to 5 times.

* During operation, the zero-phase reactor generates heat. The electric wire to wind around the zero-phase reactor must have a service temperature of 110°C or more.
* If the noise suppression effect cannot be obtained or the heat generated from the zero-phase reactor is high, increase the number of reactors used.
* For details about usage, refer to the VPH Option Instruction Manual.

■Noise protection

Applicable servo drivers	VPH Series: All types with an output capacity of 800 W or less

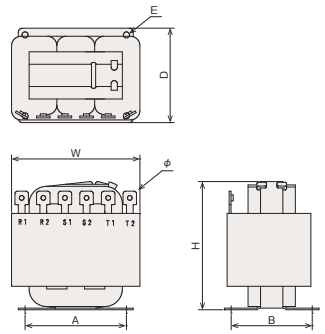
◎AC reactor

This reactor makes the waveform of the input current approximate to that of a sine wave to suppress harmonics.Even when the power supply capacity is 500 KVA, install the reactor to protect the main circuit.

Servo driver	Paired AC reactor
Model	Model
NCR-H□1101A-A-□□□	NCR-XABT2A-801
NCR-H□2101A/2201A/2401A/2801A-A-□□□	
NCR-H□2801A-A-□□□	NCR-XABT2A-152 *1

*1 AC Reactor to use with a single-phase AC power supply if the load capacity of the applicable motor exceeds 500 W.

NCR-XABT2A-801/152



(Unit:mm)

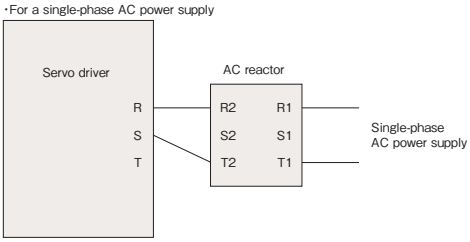
Product model	W	D	H	A	B	E(Applicable screw)	ϕ
NCR-XABT2A-801	(85)	60	(75)	70	49	4.5(M4)	M4 tap
NCR-XABT2A-152	(95)	70	(95)	75	60	4.5(M4)	M4 tap

■AC reactor installation and specification

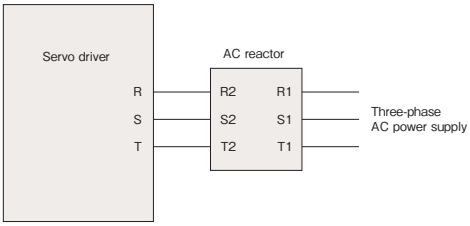
For details about AC reactor installation, wiring, and specification, refer to the VPH Option Instruction Manual.

●AC reactor wiring diagram

・For a single-phase AC power supply



・For a three-phase AC power supply



■Noise protection

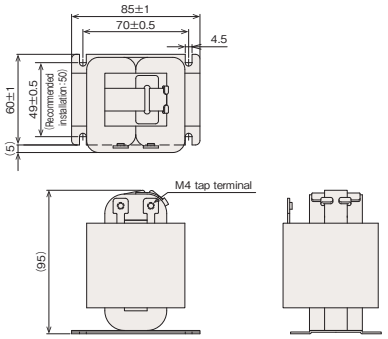
Applicable servo drivers	VPH Series: All types with an output capacity of 1.5 kW or more

◎DC reactor

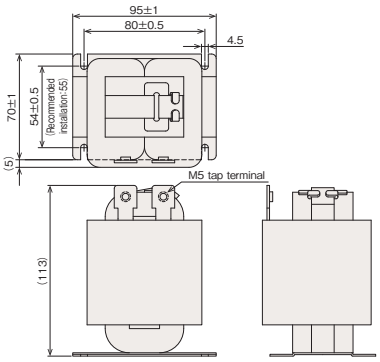
This reactor makes the waveform of the input current approximate to that of a sine wave to suppress harmonics.
Even when the power supply capacity is 500 KVA, install the reactor to protect the main circuit.

サーボドライバ	Paired DC reactor	
Model	Model	AWG diameter of the cable used(SQ)
NCR-H□2152A/2222A-A-□□□	NCR-XABU2A-222	14(2)
NCR-H□2332A-A-□□□	NCR-XABU2A-332	12(3.5)
NCR-H□2702A-A-□□□	NCR-XABU2A-752	8(8)
NCR-H□2153A-A-□□□	NCR-XABU2A-153	4(22)

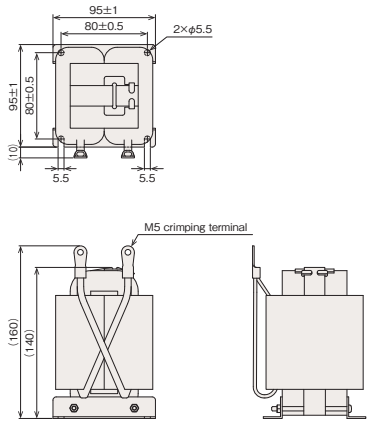
NCR-XABU2A-222



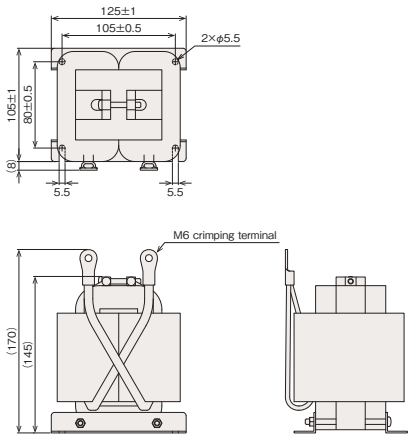
NCR-XABU2A-332



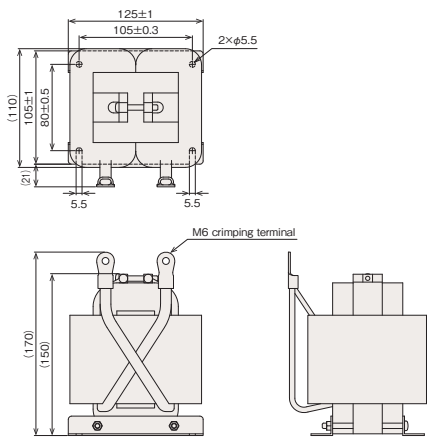
NCR-XABU2A-752



NCR-XABU2A-113



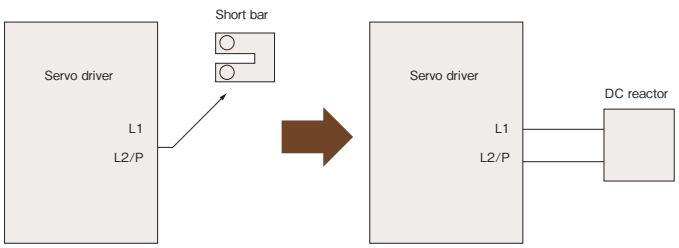
NCR-XABU2A-153



■DC reactor installation, wiring, and specification

The wiring of the DC reactor is as shown below. Remove the short bar that short-circuits L1 and L2/P, and connect the DC reactor. For details about DC reactor installation, wiring, and specification, refer to the VPH Option Instruction Manual. The DC reactor does not have polarity.

●DC reactor wiring diagram



Optional products

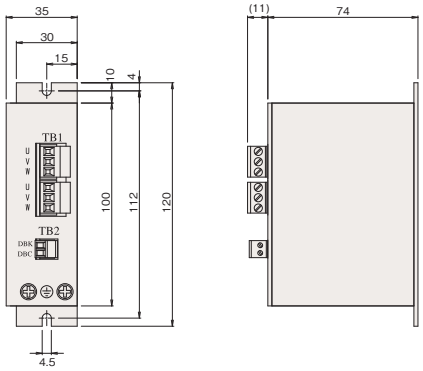
Dynamic brake unit

Applicable servo drivers	VPH Series: All types

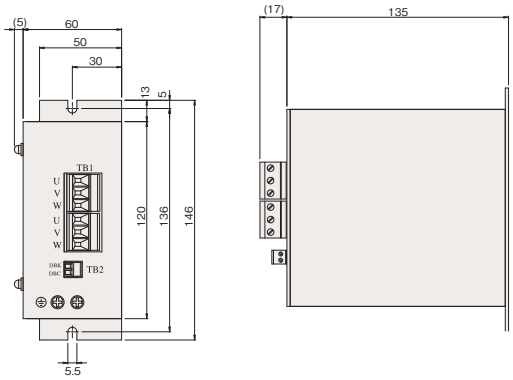
This is an auxiliary brake unit that helps decelerate the motor. It prevents the connected motor from free-running due to an error in the servo driver, power failure, etc.

Servo driver	Paired dynamic brake unit
Model	Model
NCR-H□1101A/1201A-A-□□□	NCR-XABCA2B-801-UL
NCR-H□2101A/2201A/2401A/2801A-A-□□□	
NCR-H□2152A/2222A-A-□□□	NCR-XABCA2B-222-UL
NCR-H□2332A-A-□□□	NCR-XABCA2B-402-UL
NCR-H□2702A-A-□□□	NCR-XABCA2B-752-UL
NCR-H□2153A-A-□□□	NCR-XABCA2C-153

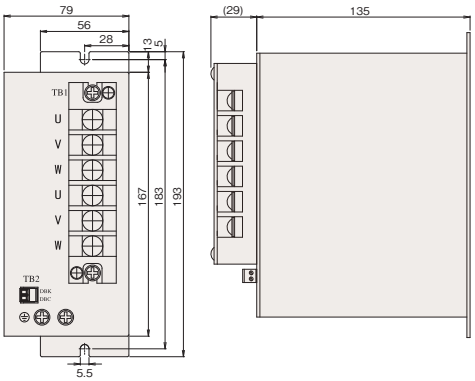
NCR-XABCA2B-801-UL



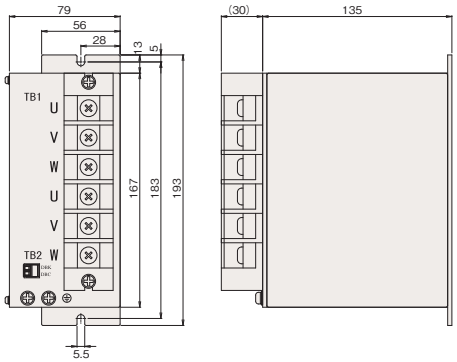
NCR-XABCA2B-222-UL



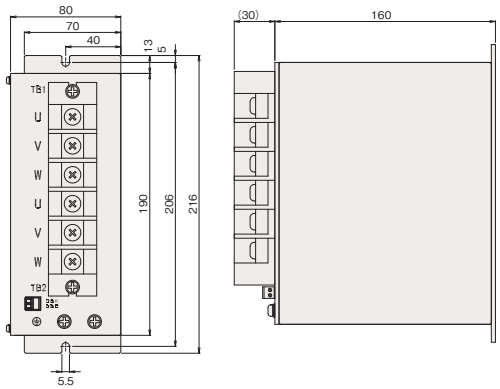
NCR-XABCA2B-402-UL



NCR-XABCA2B-752-UL
NCR-XABCA2B-113-UL



NCR-XABCA2C-153



■Regenerative resistors

Applicable servo drivers	VPH Series: All types

Two series of the regenerative resistors(NCR-XAE Series and NCR-XAF Series) are offered. The specifications of the supplied thermostat differ between these series. For details, see below and refer to the VPH Option Instruction Manual.

Servo driver	Paired regenerative resistors					
Model	Regenerative resistor description	Dimensions	NCR-XAE Series model		NCR-XAF Series model	
NCR-H□1101A/1201A-A-□□□ NCR-H□2101A/2201A-A-□□□ NCR-H□2401A/2801A-A-□□□	Cement resistor CAN60UT 82 Ω J 60 W 82 Ω × 1, set of thermostats *1	A-①	NCR-XAE1A2A	*3	NCR-XAF1A2A	*5
NCR-H□2152A/2222A-A-□□□	Cement resistor CAN200UT 24 Ω J 200 W 24 Ω × 1, set of thermostats *1	A-①	NCR-XAE2A2A		NCR-XAF2A2A	
NCR-H□2332A-A-□□□	Cement resistor CAN400UR 20 Ω J 400 W 20 Ω × 1, set of thermostats *1	A-②	NCR-XAE3A2A		NCR-XAF3A2A	
NCR-H□2702A-A-□□□	Vitreous enamel resistor RGH300G(0S)30 ΩJ 300 W 30 Ω × 3(connected in parallel with a total of 900 W and 10 Ω) Set of thermostats *2	B-①	NCR-XAE4A2A	*4	NCR-XAF4A2A	
NCR-H□2153A-A-□□□	Vitreous enamel resistor RGH500G(0S)22 ΩJ 500 W 22 Ω × 4(connected in parallel with a total of 2 kW and 5.5 Ω) Set of thermostats *2	B-①	NCR-XAE9A2A		NCR-XAF9A2A	

* To determine whether the optional regenerative resistor is required, download the motor selection tool from our website and make a check.
(If you have selected the HD-s Series, contact our sales staff.)

*1 A set of thermostats for the cement resistor consists of 1 thermostat and 1 thermostat mounting plate.

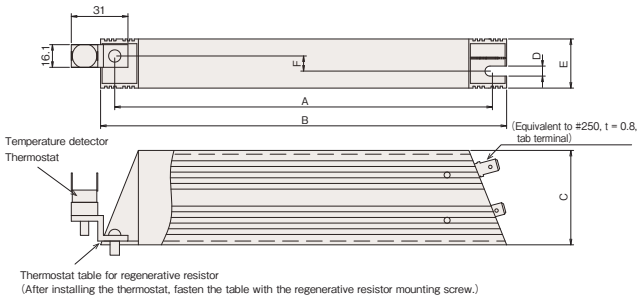
*2 A set of thermostats for the vitreous enamel resistor consists of 1 thermostat, 1 thermostat mounting band, 2 M4 nuts, and 1 M4 screw.

*3 Contact rating of the supplied thermostat 120 VAC:0.1 to 17A、240 VAC:0.1 to 17A

*4 Contact rating of the supplied thermostat 120 VAC:0.1 to 15A、240 VAC:0.1 to 10A

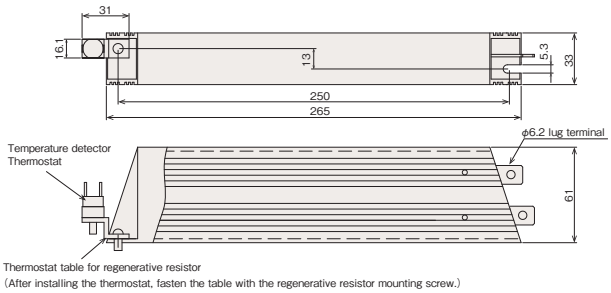
*5 Contact rating of the supplied thermostat 6 to 42 VDC:1 to 200mA、6 to 250 VAC:1 to 200mA

A-①: Cement resistor
CAN60UT 82Ω J/CAN200UT 24Ω J

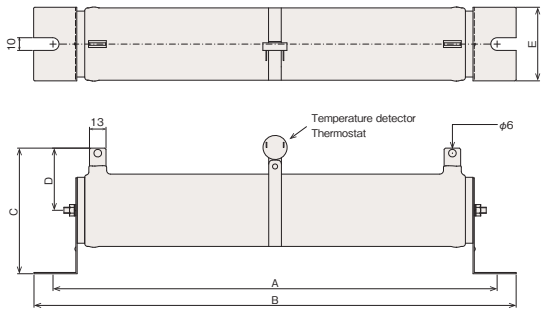


Model	A	B	C	D	E	F
CAN60UT 82Ω J	100	115	40	4.3	21	5
CAN200UT 24Ω J	200	215	50	5.3	26	8

A-②: Cement resistor
CAN400UR 20Ω J



B-①: Vitreous enamel resistor
RGH300G(0S)30ΩJ/RGH500G(0S)22ΩJ



Model	A	B	C	D	E
RGH300G(0S)30ΩJ	304	334	84	44	40
RGH500G(0S)22ΩJ	350	380	99	49	58

Compliance with overseas standards

τ DISC	Names of the motor types compliant with overseas standards	Compliance with overseas standards		Names of the standard specification motor types mentioned in this catalog (Not compliant with overseas standards)
		UL/cUL standard (File No:E254021)	CE marking	
ND-s	ND110-65/85-FS(P)B-UC(100V)	○	○	ND110-65/85-FS(P)（100V）
	ND110-65/85-FS(P)B-UC(200V)	○	○	ND110-65/85-FS(P)（200V）
	ND140-65-FS(P)-UC	○	○	ND140-65-FS(P)
	ND140-70/95-LS(P)-UC	○	○	ND140-70/95-LS(P)
	ND180-55-FS(P)B-UC	○	○	ND180-55-FS(P)
	ND180-70/95-LS(P)B-UC	○	○	ND180-70/95-LS(P)
	ND250-55-FS(P)B-UC	○	○	ND250-55-FS(P)
	ND250-70/95-LS(P)B-UC	○	○	ND250-70/95-LS(P)
	ND400-65-FS(P)B-UC	○	○	ND400-65-FS(P)
	ND400-70/95/160-LS(P)B-UC	○	○	ND400-70/95/160-LS(P)
ND-s HS/DD-s/HD-s	–	–	–	All types

* The motor types listed above that are compliant with overseas standards are different from the standard specification motor types mentioned in this catalog. For details of the motor types compliant with overseas standards, refer to the "τ DISC ND-s Series UL/CE specification" catalog.
* The dimensions and shapes of the motor main units are the same as the standard specification. All encoders are the absolute encoder type.
* The rated torque and maximum torque of some motor types may differ from the standard specification.
* The positions and shapes of the power cable and cable gland of some motor types may differ from the standard specification. For details, contact our sales staff.

Servo driver	Input power supply	Servo driver model(output capacity)	Servo driver type(specification)	Compliance with overseas standards		
				UL/cUL standard (File No:E251116)	CE marking	KC mark
VPH	100 VAC system	NCR-H□1101A-A-□□□(100W) NCR-H□1201A-A-□□□(200W)	VPH-HA(I/O)	○	–	–
			VPH-HB(SSCNETⅢ/H)			
			VPH-HC(CC-Link)			
			VPH-HD(EtherCAT)			
			VPH-HE(MECHATROLINK-Ⅲ)			
	200 VAC system	NCR-H□2101A-A-□□□(100W) NCR-H□2201A-A-□□□(200W) NCR-H□2401A-A-□□□(400W) NCR-H□2152A-A-□□□(1.5kW)	VPH-HA(I/O)	○	○	○ *1
			VPH-HB(SSCNETⅢ/H)			–
			VPH-HC(CC-Link)			○ *1
			VPH-HD(EtherCAT)			–
			VPH-HE(MECHATROLINK-Ⅲ)			
		NCR-H□2801A-A-□□□(800W)	VPH-HA(I/O)	○	○	○ *1
			VPH-HB(SSCNETⅢ/H)			–
			VPH-HC(CC-Link)			○ *1
			VPH-HD(EtherCAT)			
			VPH-HE(MECHATROLINK-Ⅲ)			
		NCR-H□2222A-A-□□□(2.2kW) NCR-H□2332A-A-□□□(3.3kW)	VPH-HA(I/O)	○	○	○ *1
			VPH-HB(SSCNETⅢ/H)			
			VPH-HC(CC-Link)			
			VPH-HD(EtherCAT)			
			VPH-HE(MECHATROLINK-Ⅲ)			
		NCR-H□2702A-A-□□□(7kW)	VPH-HA(I/O)	○	○	○ *1
			VPH-HB(SSCNETⅢ/H)			
			VPH-HC(CC-Link)			
			VPH-HD(EtherCAT)			
			VPH-HE(MECHATROLINK-Ⅲ)			–
		NCR-H□2153A-A-□□□(15kW)	VPH-HA(I/O)	–	–	–
			VPH-HB(SSCNETⅢ/H)			
			VPH-HC(CC-Link)			
			VPH-HD(EtherCAT)			
			VPH-HE(MECHATROLINK-Ⅲ)			

*1 KC marking of VPH-HB, HC, HD, and HE Type with STO option is not supported.

Compliance with regulations

・Compliance with EU RoHS Directive and Chinese RoHS Directive