ECG-B

Controller

CONTENTS

Controller

ECG-B Series

All sizes of GCKW can be operated with the same controller

How to order

ECG-BNNN30 - NP A 02

Ⓐ Ⓑ Ⓒ

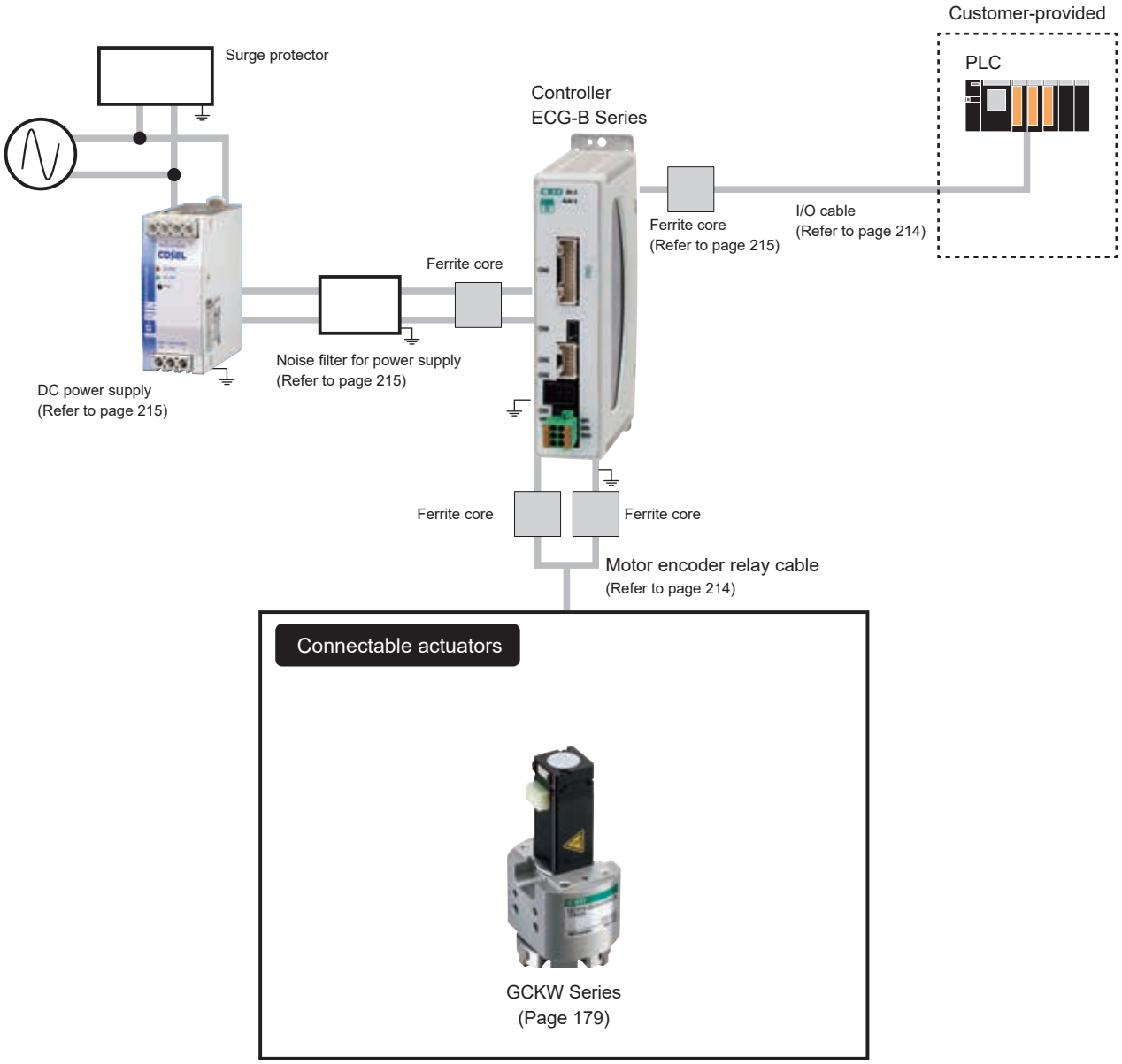
Ⓐ Interface specification	
NP	Parallel I/O (NPN and PNP common)
LK	IO-Link
CL	CC-Link
EC	EtherCAT
EN	EtherNet/IP

Ⓑ Mounting method	
A	Standard mount
D	DIN rail mount

Ⓒ IO Cable length *1	
00	None
02	2 m
03	3 m
05	5 m
10	10 m

*1 Select "None" unless "parallel I/O" is selected for interface specifications.

System configuration



* Refer to the Instruction Manual for details about installing and wiring the noise filter, surge protector, and ferrite core.

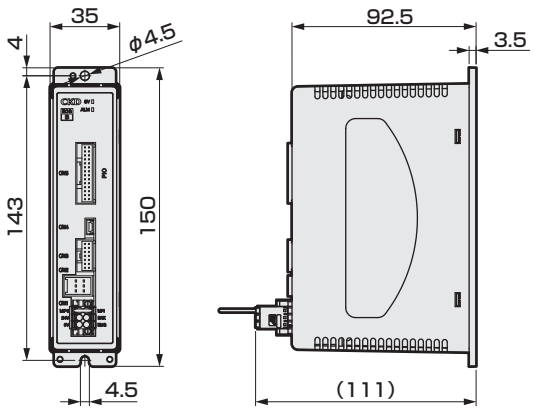
General specifications

Item		Description			
Applicable actuators		GCKW			
Applicable motor sizes		□20	□25	□25L	□35
Settings tool		PC setting software (S-Tools) Connection cable: USB cable (mini-B)			
External interface	Parallel I/O specification	24 VDC ±10%, input/output max. 13 points, cable length max. 10 m			
	Field network specification	IO-Link, CC-Link, EtherCAT, EtherNet/IP			
Indicator lamp		SV lamp, alarm lamp Communication status lamp (according to each interface specification)			
Power supply voltage	Control power	24 VDC±10%			
	Motion power supply	24 VDC±10%			
Current consumption	Control power	0.4 A or less			
	Motion power supply	1.1 A or less	2.1 A or less	3.2 A or less	3.0 A or less
Motor section max. instantaneous current		1.5 A or less	3.0 A or less	4.5 A or less	4.2 A or less
Insulation resistance		10 MΩ and over at 500 VDC			
Withstand voltage		500 VAC for 1 minute			
Operating ambient temperature		0 to 40°C (no freezing)			
Operating ambient humidity		35 to 80% RH (no condensation)			
Storage ambient temperature		-10 to 50°C (no freezing)			
Storage ambient humidity		35 to 80% RH (no condensation)			
Working atmosphere		No corrosive gas, explosive gas, or dust			
Degree of protection		IP20			
Weight		Approx. 310 g (standard mount) Approx. 340 g (DIN rail mount)			

Dimensions

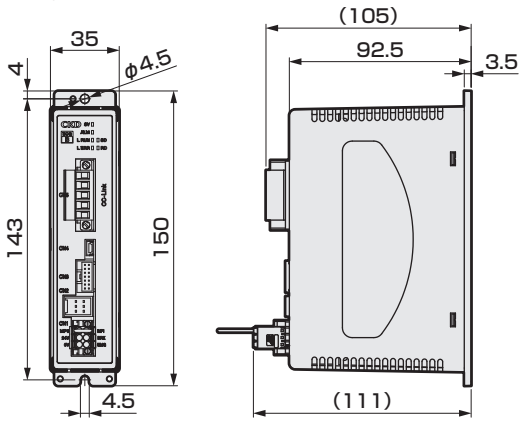
● Standard mount

ECG-BNNN30-NPA□□ (parallel I/O specification)



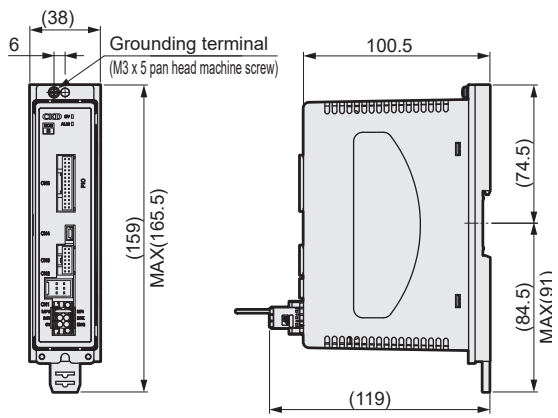
ECG-BNNN30-□□A□□ (Other)

* This figure shows the dimensions diagrams for CC-Link specifications. The dimensions diagrams are the same for other interface specifications, except the connector part.



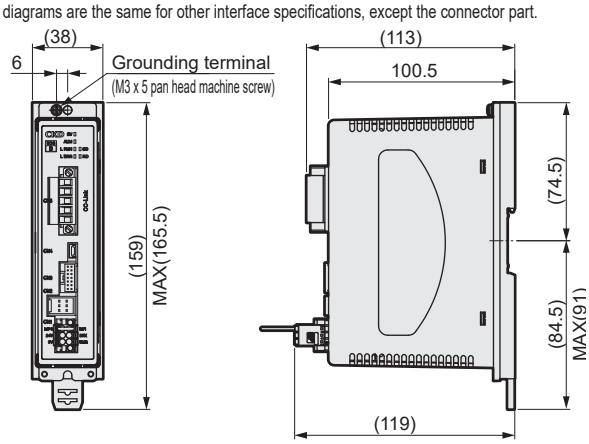
● DIN rail mount

ECG-BNNN30-NPD□□ (parallel I/O specification)



ECG-BNNN30-□□D□□ (Other)

* This figure shows the dimensions diagrams for CC-Link specifications. The dimensions diagrams are the same for other interface specifications, except the connector part.

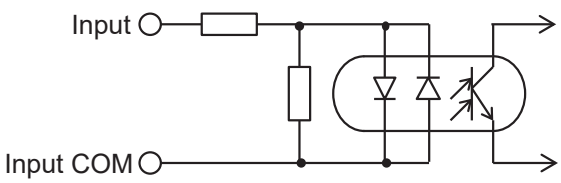


Parallel I/O (PIO) input/output circuit

Input specification

Item	ECG-ANNN30-NP□□
No. of inputs	13 points
Input voltage	24 VDC±10%
Input current	4 mA / point
Input voltage when ON	19 V or higher
Input current when OFF	0.2 mA or less

Input circuit

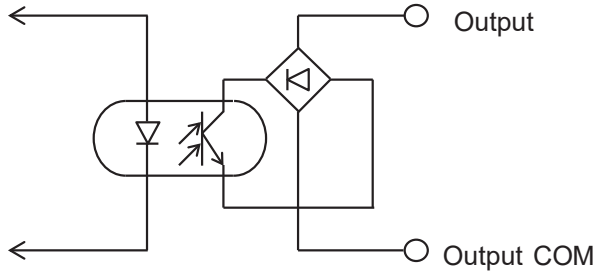


The input is not polarized.
(The input COM can be used with either + or -)

Output specifications

Item	ECG-ANNN30-NP□□
No. of output points	13 points
Load voltage	24 VDC±10%
Load current	20 mA or less / point
Internal voltage drop when ON	3 V or less
Leakage current when OFF	0.1 mA or less
Output short-circuit protection circuit	Yes
Connecting load	PLC, etc.

Output circuit



The output is not polarized.
(The output COM can be used with either + or -)

Parallel I/O (PIO) operation mode

Controllers offer five operation modes.

Use the PC setting software to set the appropriate operation mode. The initial setting is 64-point mode.

Operation mode	Positioning numbers	Overview
64-point mode	64 points	· JOG travel start input · Selectable output: 2 points (point zone, zone 1, zone 2, travel, warning, soft limit over (-), soft limit over (+))
Simple 7-point mode	7 points	· JOG travel start input · Selectable output: 2 points (point zone, zone 1, zone 2, travel, warning, soft limit over (-), soft limit over (+))
Solenoid valve mode double 2-position	2 points	· SW output: 2 points · Selectable output: 2 points (point zone, zone 1, zone 2, travel, warning, soft limit over (-), soft limit over (+))
Solenoid valve mode double 3-position	2 points	· SW output: 2 points · Selectable output: 2 points (point zone, zone 1, zone 2, travel, warning, soft limit over (-), soft limit over (+))
Solenoid valve mode single	2 points	· SW output: 2 points · Selectable output: 2 points (point zone, zone 1, zone 2, travel, warning, soft limit over (-), soft limit over (+))

Parallel I/O (PIO) signal name list

Input signal

Abbreviation	Name	Abbreviation	Name
PST	Point travel start	JOGM	JOG (-) travel start
PSB*	Point number selection bit *	JOGP	JOG (+) travel start
OST	Origin return start	P*ST	Point number * travel start
SVON	Servo ON	V1ST	Solenoid valve travel instruction 1
ALMRST	Alarm reset	V2ST	Solenoid valve travel instruction 2
STOP	Stop	VST	Solenoid valve travel instruction

Output signal

Abbreviation	Name	Abbreviation	Name
PEND	Point travel complete	SONS	Servo ON state
PCB*	Point number confirmation bit *	ALM	Alarm
ACB*	Alarm confirmation bit *	WARN	Warning
PZONE	Point zone	READY	Operation preparation complete
MOVE	Moving	P*END	Point number * travel complete
ZONE1	Zone 1	SW1	Switch 1
ZONE2	Zone 2	SW2	Switch 2
OEND	Origin return complete	SLMT	Soft limit exceeded
SLMTM	Soft limit over (-)	SLMTP	Soft limit exceeded (+)

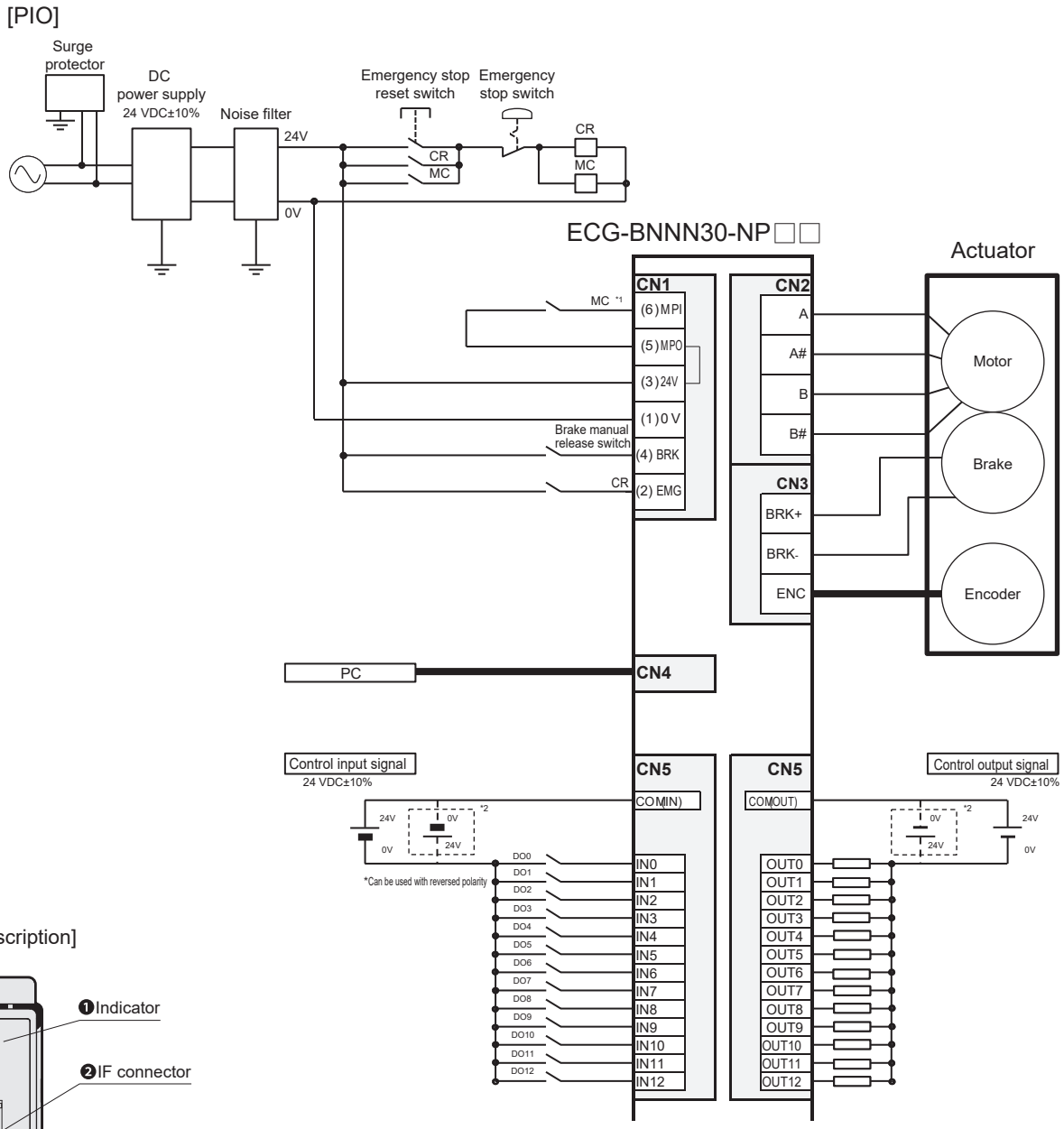
Parallel I/O (PIO) operation mode and signal assignment

The following figure shows signal assignments in each operation mode.

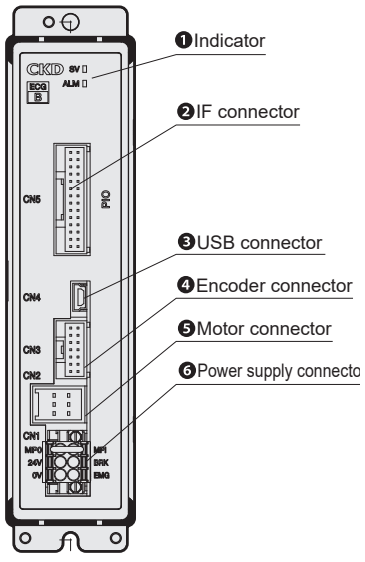
Operation mode		64-point mode	Simple 7-point mode	Solenoid mode Double 2-position	Solenoid mode Double 3-position	Solenoid mode Single type
Positioning numbers		64	7	2	2	2
Input	IN0	PSB0	P1ST	V1ST	V1ST	-
	IN1	PSB1	P2ST	V2ST	V2ST	VST
	IN2	PSB2	P3ST	-	-	-
	IN3	PSB3	P4ST	-	-	-
	IN4	PSB4	P5ST	-	-	-
	IN5	PSB5	P6ST	-	-	-
	IN6	PST	P7ST	-	-	-
	IN7	JOGM	JOGM	-	-	-
	IN8	JOGP	JOGP	-	-	-
	IN9	OST	OST	OST	OST	OST
	IN10	SVON	SVON	SVON	SVON	SVON
	IN11	ALMRST	ALMRST	ALMRST	ALMRST	ALMRST
	IN12	STOP#	STOP#	-	-	-
Output	OUT0	PCB0/ ACB0	P1END	P1END	P1END	P1END
	OUT1	PCB1/ ACB1	P2END	P2END	P2END	P2END
	OUT2	PCB2/ ACB2	P3END	-	-	-
	OUT3	PCB3/ ACB3	P4END	-	-	-
	OUT4	PCB4	P5END	SW1	SW1	SW1
	OUT5	PCB5	P6END	SW2	SW2	SW2
	OUT6	PEND	P7END	-	-	-
	OUT7	PZONE/ ZONE1/ ZONE2/ MOVE/ WARN# SLMT/ SLMTM/ SLMTP	PZONE/ ZONE1/ ZONE2/ MOVE/ WARN# SLMT/ SLMTM/ SLMTP	PZONE/ ZONE1/ ZONE2/ MOVE/ WARN# SLMT/ SLMTM/ SLMTP	PZONE/ ZONE1/ ZONE2/ MOVE/ WARN# SLMT/ SLMTM/ SLMTP	PZONE/ ZONE1/ ZONE2/ MOVE/ WARN# SLMT/ SLMTM/ SLMTP
	OUT8	PZONE/ ZONE1/ ZONE2/ MOVE/ WARN# SLMT/ SLMTM/ SLMTP	PZONE/ ZONE1/ ZONE2/ MOVE/ WARN# SLMT/ SLMTM/ SLMTP	PZONE/ ZONE1/ ZONE2/ MOVE/ WARN# SLMT/ SLMTM/ SLMTP	PZONE/ ZONE1/ ZONE2/ MOVE/ WARN# SLMT/ SLMTM/ SLMTP	PZONE/ ZONE1/ ZONE2/ MOVE/ WARN# SLMT/ SLMTM/ SLMTP
	OUT9	OEND	OEND	OEND	OEND	OEND
	OUT10	SONS	SONS	SONS	SONS	SONS
	OUT11	ALM#	ALM#	ALM#	ALM#	ALM#
	OUT12	READY	READY	READY	READY	READY

* The pound sign (#) indicates a negative logic signal.

Parallel I/O connection diagram (ECG-BNNN30-NP * *)



[Panel description]



* 1 If the motor drive source must be shut off for safety category support, etc., connect the contact of an electromagnetic switch or other device to the MPI and MPO terminals. (Connected with jumper wires at shipment.)
*2 A surge protector is required to comply with the CE marking.
*3 This can be used even if the polarity is reversed.

- Attachments

Part name	Manufacturer model	Manufacturer
Power supply connector	DFMC1,5/3-STF-3,5	PHOENIX CONTACT

Description of field network operation modes

Operation mode	Overview
PIO mode (PIO)	Point operation can be used and signal assignment of inputs and outputs can be changed in the operation mode (PIO) in the same way as the parallel I/O specification. However, you cannot select a direct value operation that sets the operating conditions for operation directly from the PLC. Reading and writing of parameters do work, but the monitoring function cannot be used. Refer to the table below for details.
Half simple direct value mode (HSDP)	This mode is selectable only with the CC-Link specification controller. Switching the direct travel selection signal enables a target position to be arbitrarily be set by the PLC or 64-point operation. The selected direct travel operation method can then be used. The monitoring function can be used with restrictions. Reading and writing of parameters does not work. Refer to the table below for details.
Simple direct value mode (SDP)	Switching the direct travel selection signal enables a target position to be arbitrarily be set by the PLC or 64-point operation. The selected direct travel operation method can then be used. Reading and writing of parameters do work and the monitoring function can be used. Refer to the table below for details.
Half direct value mode (HDP)	This mode is selectable only with the CC-Link specification controller. Switching the direct travel selection signal enables operating conditions to be arbitrarily be set by a PLC (with restrictions) or 64 point operation. The selected direct travel operation method can then be used. The monitoring function can be used. Reading and writing of parameters does not work. Refer to the table below for details.
Full direct value mode (FDP)	Switching the direct travel selection signal enables operating conditions to be arbitrarily be set by the PLC or 64 point operation. The selected direct travel operation method can then be used. Reading and writing of parameters do work and the monitoring function can be used. Refer to the table below for details.

Operation mode		PIO	HSDP	SDP	HDP	FDP
Parameter read / write		Available	Not available	Available	Not available	Available
Direct value travel selection *1		Selection not possible	1	1	1	1
Positioning numbers		64	No limit	No limit	No limit	No limit
Direct value travel Item *2	Target position	-	-	-	-	-
	Positioning width	-	-	-	-	-
	Speed	-	-	-	-	-
	Acceleration	-	-	-	-	-
	Deceleration	-	-	-	-	-
	Pressing rate	-	-	-	-	-
	Pressing distance	-	-	-	-	-
	Pressing speed	-	-	-	-	-
	Position designation method	-	-	-	-	-
	Operation	-	-	-	-	-
	Stop method	-	-	-	-	-
	Acceleration / Deceleration method	-	-	-	-	-
	Rotation direction	-	-	-	-	-
Monitor Item *3	Position	-	-	-	-	-
	Speed	-	-	-	-	-
	Current	-	-	-	-	-
	Alarm	-	-	-	-	-

*1 When the direct value travel selection is 0, the values set in the point data are used. This enables up to 64 positioning points.
*2 ○Indicates the item operated with the value set by the PLC. "-" indicates operation with the values set by the point data.
●Indicates items operated with the value set by the PLC, but only the same values can be set.
*3 ○Shows the items that can be monitored. "-" indicates Items that cannot be monitored. ▲Only one Item selected from among can be monitored. ▲Indicates the Item that can be monitored when selected as a monitor value. (CC-Link and IO-Link can monitor one value, and the others can monitor three values at the same time.)

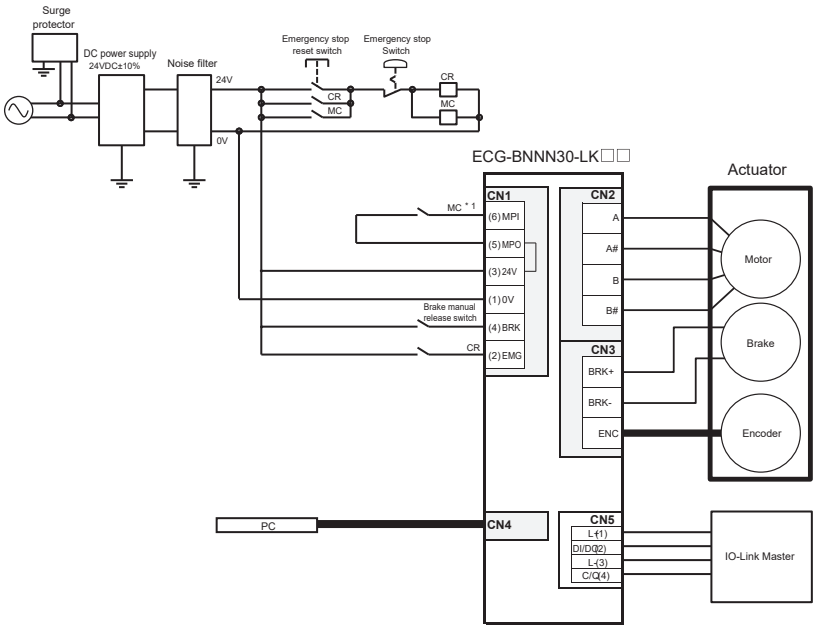
IO-Link specifications and connection diagram (ECG-BNNN30-LK * *)

[Communication specifications]

Item	Specifications
Communication protocol version	V1.1
Transmission bit rate	COM3 (230.4kbps)
Port	Class A
Process data length (Input) PD (in) data length	PIO mode: 2 bytes
	Simple direct value mode: 9 bytes
	Full direct value mode: 12 bytes
Process data length (Output) PD (out) data length	PIO mode: 2 bytes
	Simple direct value mode: 7 bytes
	Full direct value mode: 22 bytes
Minimum cycle time	PIO mode: 1 ms
	Simple direct value mode: 1.5 ms
	Full direct value mode: 2.5 ms
Monitor function	Position, speed, current, alarm

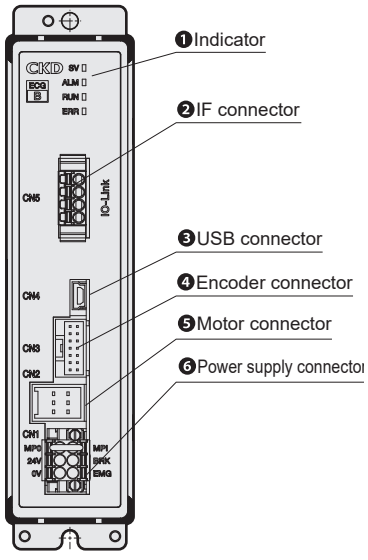
* The Item that can be monitored varies depending on the operation mode. Refer to page 209 for details.

[IO-Link]



*1 If the motor drive source must be shut off for safety category support, etc., connect the contact of an electromagnetic switch or other device to the MPI and MPO terminals. (Connected with jumper wires at shipment.)
*2 A surge protector is required to comply with the CE marking.

[Panel description]



Cyclic data from master

PD (out)	bit	Full direct value mode Signal name
0	7	Pause#
	6	Stop#
	5	Alarm reset
	4	Servo ON
	3	Origin return start
	2	Point travel start
	1	JOG/INCH (+) travel start
	0	JOG/INCH (-) travel start
1	7	INCH selection
	6	-
	5 to 0	Point number selection bit 5 to 0
2	7 to 4	-
	3 to 1	Rotation direction (direct value travel)
	0	Direct value travel selection
3 to 6	7 to 0	Position (direct value travel)
7 to 8	7 to 0	Positioning width (direct value travel)
9 to 10	7 to 0	Speed (direct value travel)
11	7 to 0	Acceleration (direct value travel)
12	7 to 0	Deceleration (direct value travel)
13	7 to 0	Pressing rate (direct value travel)
14	7 to 0	Pressing speed (direct value travel)
15 to 18	7 to 0	Pressing distance (direct value travel)
19 to 20	7 to 0	Gain magnification (direct value travel)
21	7	Position specification method (direct value travel)
	6 to 5	Operation method (direct value travel)
	4 to 3	Acceleration/deceleration method (direct value travel)
	2 to 0	Stop method (direct value travel)

Cyclic data from controller

PD (in)	bit	Full direct value mode Signal name
0	7	Operation preparation complete
	6	Warning#
	5	Alarm#
	4	Servo ON state
	3	Origin return complete
	2	Point travel complete
	1 to 0	-
1	7 to 6	-
	5 to 0	Point number confirmation bit 5 to 0
2	7	Soft limit exceeded (+)
	6	Soft limit over (-)
	5	Soft limit exceeded
	4	Zone 2
	3	Zone 1
	2	Moving
	1	Point zone
	0	Direct travel status
3 to 6	7 to 0	Position (monitor value)
7 to 8	7 to 0	Speed (monitor value)
9	7 to 0	Current (monitor value)
10 to 11	7 to 0	Alarm (monitor value)

* Refer to the Instruction Manual for details of other operation modes.
* # indicates a negative logic signal.

Attachments

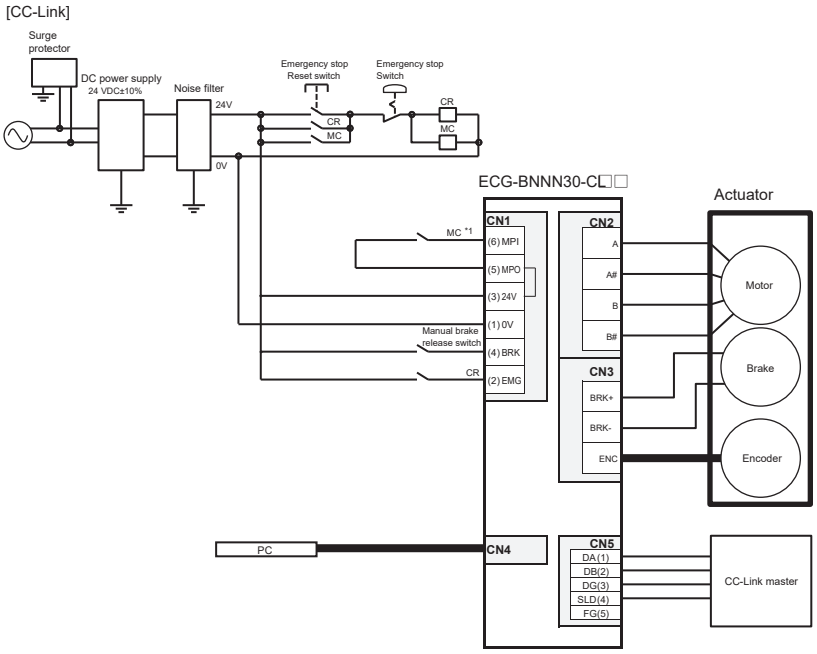
Part name	Manufacturer model	Manufacturer
Power supply connector	DFMC1,5/3-STF-3,5	PHOENIX CONTACT
IO-Link connector	FMCI,5/4-ST-3,5-RF	PHOENIX CONTACT

CC-Link specifications and connection diagram (ECG-BNNN30-CL * *)

[Communication specifications]

Item	Specifications
CC-Link Version	Ver. 1.10
Station	Remote device station
Remote station No.	1 to 64 (set by parameter setting)
Operation mode and number of occupied stations	PIO mode (1 station occupied)
	Half simple direct value mode (1 station occupied)
	Simple direct value mode (2 stations occupied)
	Half direct value mode (2 stations occupied)
	Full direct value mode (4 stations occupied)
Remote input/ output points	32 points × occupied stations
Remote Register input/output	4-word × number of occupied stations
Communication speed	10M / 5M / 2.5M / 625k / 156kbps (Selected by parameter setting)
Connection cable	CC-Link Ver. 1.10 compliant cable (3-conductor twisted pair cable with shield)
Number of connected units	42 max. when only remote device stations are connected
Monitor function	Position, speed, current, alarm

* The Item that can be monitored varies depending on the operation mode. Refer to page 209 for details.



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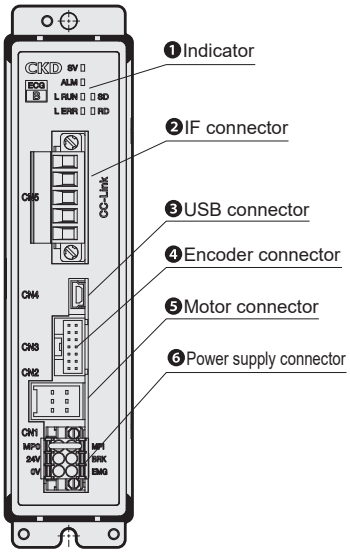
*2 A surge protector is required to comply with the CE marking.

[Panel description]



Cyclic data from master

Device No.	Half simple direct value mode Signal name
RYn0	Point number selection bit 0
RYn1	Point number selection bit 1
RYn2	Point number selection bit 2
RYn3	Point number selection bit 3
RYn4	Point number selection bit 4
RYn5	Point number selection bit 5
RYn6	Direct value travel selection
RYn7	JOG/INCH (-) travel start
RYn8	JOG/INCH (+) travel start
RYn9	INCH selection
RYnA	Point travel start
RYnB	Origin return start
RYnC	Servo ON
RYnD	Alarm reset
RYnE	Stop#
RYnF	Pause#
RY (n+1) 0 to RY (n+1) F	Vacant

Cyclic data from controller

Device No.	Half simple direct value mode Signal name
RXn0	Point number confirmation bit 0
RXn1	Point number confirmation bit 1
RXn2	Point number confirmation bit 2
RXn3	Point number confirmation bit 3
RXn4	Point number confirmation bit 4
RXn5	Point number confirmation bit 5
RXn6	Direct value travel status
RXn7	Selectable output 1
RXn8	Selectable output 2
RXn9	-
RXnA	Point travel complete
RXnB	Origin return complete
RXnC	Servo ON state
RXnD	Alarm#
RXnE	Warning#
RXnF	Operation preparation complete
RX (n+1) 0 to RX (n+1) F	Vacant

Device No.	Half simple direct value mode Signal name
RWw0	Position (direct value travel)
RWw1	
RWw2	-
RWw3	-

Device No.	Half simple direct value mode Signal name
RWr0	Position (monitor value)
RWr1	
RWr2	Speed (monitor value)
RWr3	Current (monitor value)

* Refer to the Instruction Manual for details of other operation modes.
* # indicates a negative logic signal.

● Accessories

Part name	Manufacturer model	Manufacturer
Power supply connector	DFMC1,5/3-STF-3,5	PHOENIX CONTACT
CC-Link connector	MSTB2,5/5-STF-5,08ABGYAU	PHOENIX CONTACT

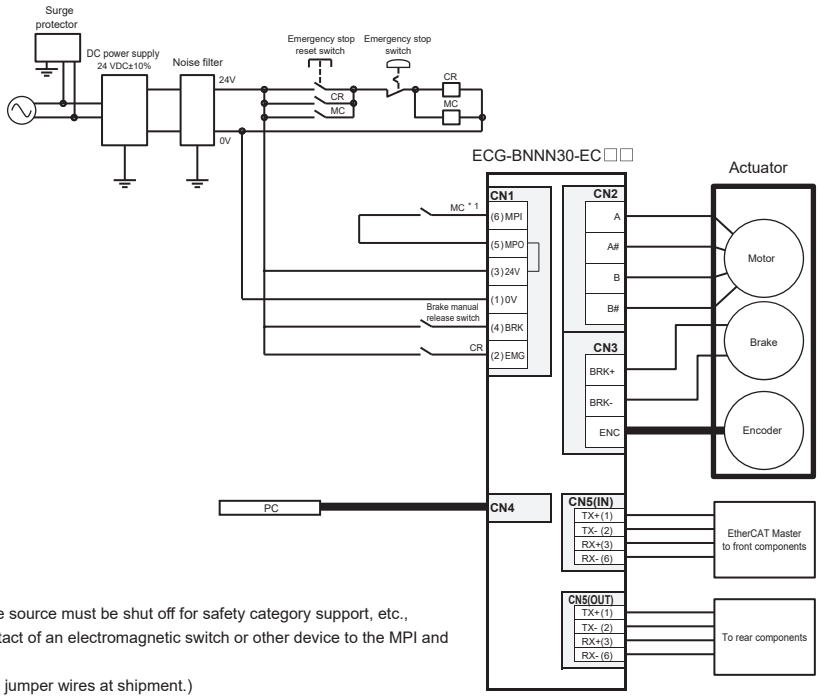
EtherCAT specifications and connection diagram (ECG-BNNN30-EC * *)

[Communication specifications]

Item	Specifications
Communication speed	100 Mbps (fast Ethernet, full duplex)
Process data	Variable PDO mapping
Max. PDO Data length	RxPDO:64 bytes/TxPDO: 64 bytes
Station Alias	0 - 65535 (Set by a parameter)
Connection cable	EtherCAT compliant cable (Twisted pair cable of CAT5e or higher (Double shielding with aluminum tape and braid is recommended)
Node address	Automatic allocation by master
Monitor function	Position, speed, current, alarm

* The Item that can be monitored varies depending on the operation mode. Refer to page 209 for details.

[EtherCAT]



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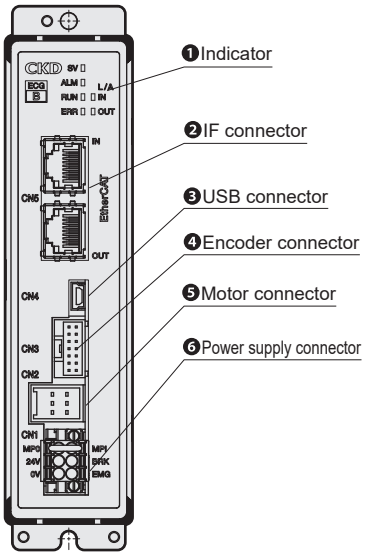
(Connected with jumper wires at shipment.)
*2 A surge protector is required to comply with the CE marking.

[Panel description]



Cyclic data from master

Index	Sub Index	bit	Full direct value mode Signal name
0x2001	0x01	0 to 5	Point number selection bit 0 to 5
		6	-
		7	JOG/INCH (-) travel start
		8	JOG/INCH (+) travel start
		9	INCH selection
		10	Point travel start
		11	Origin return start
		12	Servo ON
		13	Alarm reset
		14	Stop#
		15	Pause#
		16 to 31	-
	0x02	0 to 3	-
		4	Data request
		5	Data R/W selection
		6 to 11	-
		12	Monitor request
		13 to 14	-
		15	Direct value travel selection
		16 to 31	-
0x2003	0x01	0 to 31	Position (direct value travel)
	0x02	0 to 31	Positioning width (direct value travel)
	0x03	0 to 31	Speed (direct value travel)
	0x04	0 to 31	Acceleration (direct value travel)
	0x05	0 to 31	Deceleration (direct value travel)
	0x06	0 to 31	Pressing rate (direct value travel)
	0x07	0 to 31	Pressing speed (direct value travel)
	0x08	0 to 31	Pressing distance (direct value travel)
	0x09	0 to 31	Mode (direct value travel)
	0x0A	0 to 31	Gain magnification (direct value travel)
	0x0B	0 to 31	Writing data
	0x0C	0 to 31	Data number
	0x0D	0 to 31	Monitor number 1
	0x0E	0 to 31	Monitor number 2

Cyclic data from controller

Index	Sub Index	bit	Full direct value mode Signal name
0x2005	0x01	0 to 5	Point number confirmation bit 0 to 5
		6 to 9	-
		10	Point travel complete
		11	Origin return complete
		12	Servo ON state
		13	Alarm#
		14	Warning#
		15	Operation preparation complete
		16 to 31	-
	0x02	0 to 3	Data response
		4	Data complete
		5	Data write status
		6 to 7	-
		8 to 11	Monitor response
		12	Monitor complete
		13 to 14	-
		15	Direct value travel status
		16	Point zone
		17	Moving
		18	Zone 1
		19	Zone 2
		20	Soft limit exceeded
		21	Soft limit over (-)
		22	Soft limit exceeded (+)
		23 to 31	-
0x2007	0x01	0 to 31	Position (monitor value)
	0x02	0 to 31	Speed (monitor value)
	0x03	0 to 31	Current (monitor value)
	0x04	0 to 31	-
	0x05	0 to 31	Alarm (monitor value)
	0x06 ↔ 0x0A	0 to 31	-
	0x0B	0 to 31	Read data
	0x0C	0 to 31	Data (alarm)
	0x0D	0 to 31	Monitor value 1
	0x0E	0 to 31	Monitor value 2

* Refer to the Instruction Manual for details of other operation modes.
* # indicates a negative logic signal.

● Accessories

Part name	Manufacturer model	Manufacturer
Power supply connector	DFMC1,5/3-STF-3,5	PHOENIX CONTACT

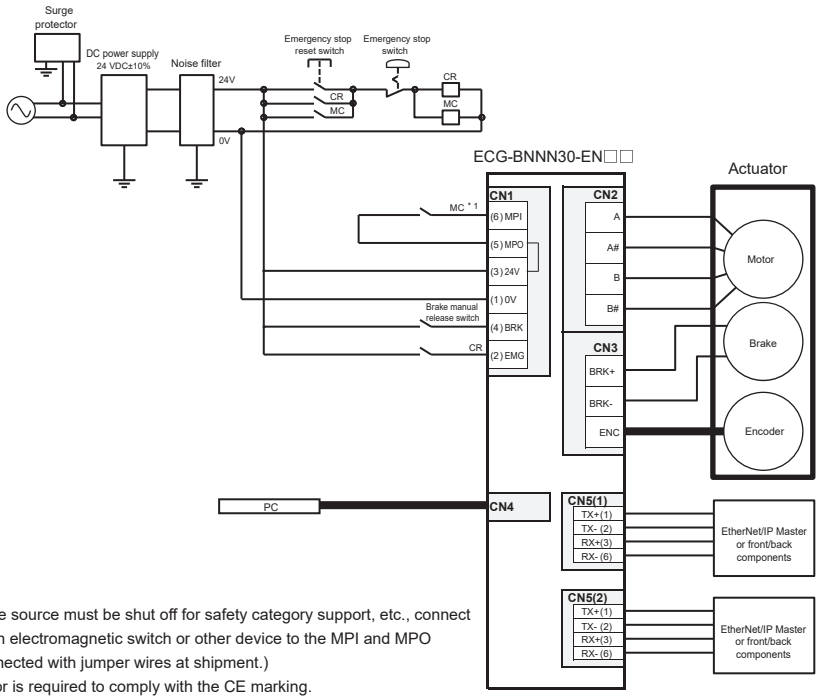
EtherNet/IP specifications and connection diagram (ECG-BNNN30-EN * *)

[Communication specifications]

Item	Specifications
Communication protocol	EtherNet/IP
Communication speed	Automatic setting (100Mbps/10Mbps, Full duplex / Half duplex)
Occupied bytes	Input: 64 bytes/Output: 64 bytes
IP address	Setting by parameter (0.0.0.0 to 255.255.255.255) Via DHCP server (arbitrary address)
RPI (Packet interval)	4 ms to 10000 ms
Connection cable	EtherNet/IP compliant cable (Twisted pair cable of CAT5e or higher (Double shielding with aluminum tape and braid is recommended)
Monitor function	Position, speed, current, alarm

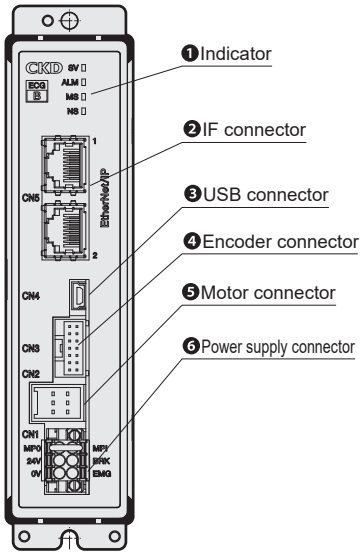
* The Item that can be monitored varies depending on the operation mode. Refer to page 209 for details.

[EtherNet/IP]



*1 If the motor drive source must be shut off for safety category support, etc., connect the contact of an electromagnetic switch or other device to the MPI and MPO terminals. (Connected with jumper wires at shipment.)
*2 A surge protector is required to comply with the CE marking.

[Panel description]



Cyclic data from master

Byte	bit	Full direct value mode Signal name
0	0 to 5	Point number selection bit 0 to 5
	6	-
	7	JOG/INCH (-) travel start
1	0	JOG/INCH (+) travel start
	1	INCH selection
	2	Point travel start
	3	Origin return start
	4	Servo ON
	5	Alarm reset
	6	Stop#
	7	Pause#
2 to 3	0 to 7	-
4	0 to 3	-
	4	Data request
	5	Data R/W selection
	6 to 7	-
5	0 to 3	
	4	Monitor request
	5 to 6	-
	7	Direct value travel selection
6 to 7	0 to 7	-
8 to 11	0 to 7	Position (direct value travel)
12 to 15	0 to 7	Positioning width (direct value travel)
16 to 19	0 to 7	Speed (direct value travel)
20 to 23	0 to 7	Acceleration (direct value travel)
24 to 27	0 to 7	Deceleration (direct value travel)
28 to 31	0 to 7	Pressing ratio (direct value travel)
32 to 35	0 to 7	Pressing speed (direct value travel)
36 to 39	0 to 7	Pressing distance (direct value travel)
40 to 43	0 to 7	Mode (direct value travel)
44 to 47	0 to 7	Gain magnification (direct value travel)
48 to 51	0 to 7	Writing data
52 to 55	0 to 7	Data number
56 to 59	0 to 7	Monitor number 1
60 to 63	0 to 7	Monitor number 2

Cyclic data from controller

Byte	bit	Full direct value mode Signal name
0	0 to 5	Point number confirmation bit 0 to 5
	6 to 7	-
1	0 to 1	-
	2	Point travel complete
	3	Origin return complete
	4	Servo ON state
	5	Alarm#
	6	Warning#
	7	Operation preparation complete
2 to 3	0 to 7	-
4	0 to 3	Data response
	4	Data complete
	5	Data write status
	6 to 7	-
5	0 to 3	Monitor response
	4	Monitor complete
	5 to 6	-
	7	Direct value travel status
6	0	Point zone
	1	Moving
	2	Zone 1
	3	Zone 2
	4	Soft limit exceeded
	5	Soft limit over (-)
	6	Soft limit exceeded (+)
	7	-
7	0 to 7	-
8 to 11	0 to 7	Position (monitor value)
12 to 15	0 to 7	Speed (monitor value)
16 to 19	0 to 7	Current (monitor value)
20 to 23	0 to 7	-
24 to 27	0 to 7	Alarm (monitor value)
28 to 47	0 to 7	-
48 to 51	0 to 7	Read data
52 to 55	0 to 7	Data (alarm)
56 to 59	0 to 7	Monitor value 1
60 to 63	0 to 7	Monitor value 2

* Refer to the Instruction Manual for details of other operation modes.
* # indicates a negative logic signal.

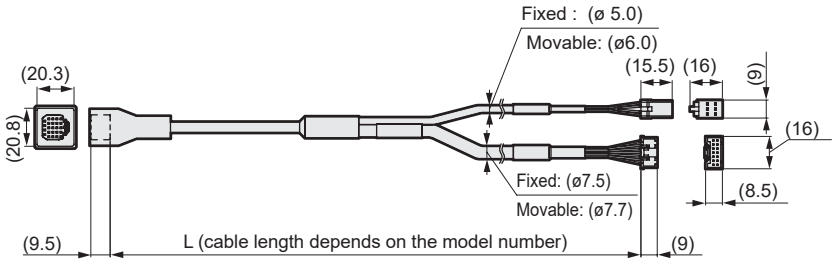
● Accessories

Part name	Manufacturer model	Manufacturer
Power supply connector	DFMC1,5/3-STF-3,5	PHOENIX CONTACT

Relay cable

● Motor encoder relay cable (fixed/movable)

* Selectable with actuator



EA-CBLME4 - S 01
Ⓐ Ⓑ

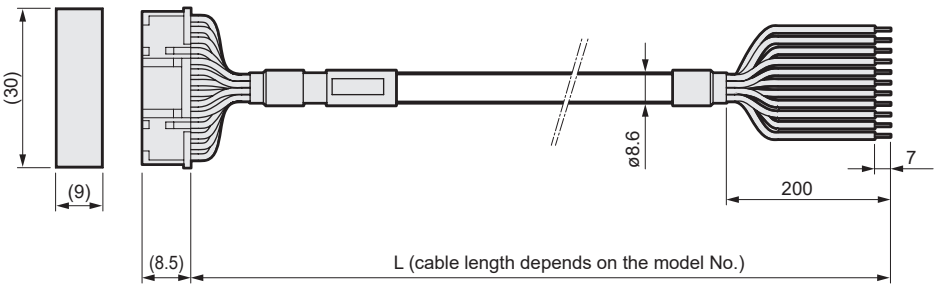
Ⓐ Cable type	
S	Fixed cable
R	Movable cable

Ⓑ Cable length	
01	1 m
03	3 m
05	5 m
10	10 m

I/O cable

● I/O cable

* Selectable even with parallel I/O specification controller type



EA-CBLNP2 - 02
Ⓐ

Ⓐ Cable length	
02	2 m
03	3 m
05	5 m
10	10 m

How to order related parts

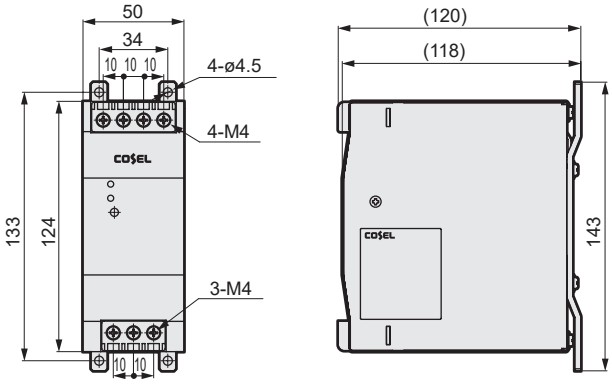
●DC power supply

Item \ Model No.			EA-PWR-KHNA240F-24-N2 (screw mounted) EA-PWR-KHNA240F-24 (DIN rail mount)
Manufacturer			COSEL Co., Ltd.
Manufacturer model No.	Mounting screw		KHNA240F-24-N2
	DIN rail mount		KHNA240F-24
Input voltage			85 to 264 VAC 1ø or 88 to 370 VDC
Output	Power		240 W
	Voltage / Current		24 V10 A
	Variable voltage range		22.5 to 28.5 V
Included functions	Overcurrent protection		Operating at 101% min of peak current
	Overvoltage protection		30.0 to 36.0 V
	Remote control		Possible
	Remote sensing		-
	Other		DC_OK display, ALARM display
Operating temperature / humidity			-25 to + 70°C, 20 to 90%RH (no condensation), -40°C Bootable *
Applicable standards	Safety standards	AC input	AC input: Certified UL60950-1, C-UL (CSA60950-1), EN62368-1
			UL508, ANSI / ISA12.12.01, ATEX acquired, CKD compliant *
		DC input	UL60950-1, C-UL (CSA60950-1), EN62368-1
	Noise terminal voltage		Compliant with FCC-B, VCCI-B, CISPR22-B, EN55011-B, EN55022-B
	Harmonic current		Compliant with IEC61000-3-2 (class A)*
Structure	Dimensions (W x H x D)		50×124×117 mm
	Weight		900 g max
	Cooling method		Natural air cooling

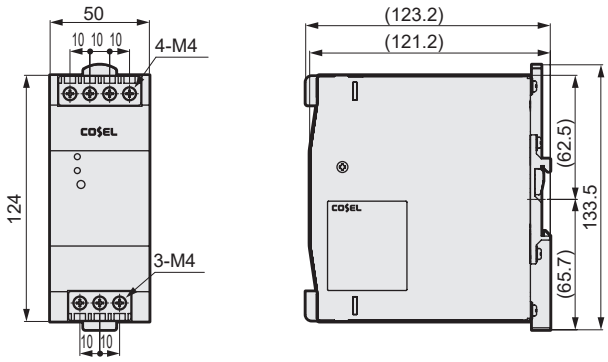
* Refer to the manufacturer's HP for details.
* CE marking and ROHS are obtained with the manufacturer model No.

Part names and dimensions

●EA-PWR-KHNA240F-24-N2 (24 V screw mounted)



●EA-PWR-KHNA240F-24 (24 V DIN rail mounted)



● Other components

Part name	Model No.
Noise filter for power supply (single phase, 15 A)	AX-NSF-NF2015A-OD

* Refer to the instruction manual for the ferrite core to be used.