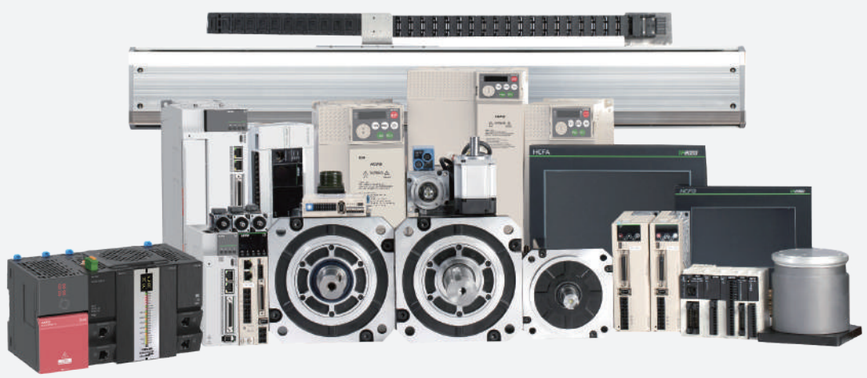
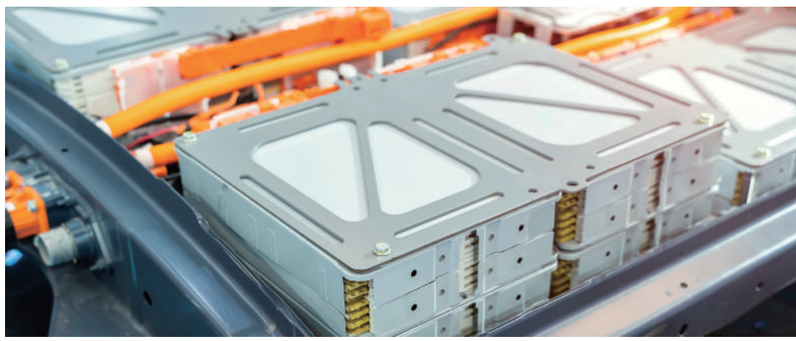
To be the most valuable industrial automation core components and solutions provider



HCFA



R&D Centers

4

Set up nationally

Sales Offices

40+

Sales elites gathering

Global Distributors

400+

Products sold worldwide

The products are widely used in OEM fields such as photovoltaic, 3C, lithium batteries, robots, packaging, textiles, logistics, lasers, machine tool, etc.

X3E Series General-purpose Servo Drive

Naming Rule

SV-X3E B – 075 – A – A 2 – 00 000

1 2 3 4 5 6 7 8

Product type	
A	Standard type
B	EtherCAT bus- type
N	CANOpen bus-type

Power specifications	
005	50W
010	100W
020	200W
040	400W
075	750W
100	1KW
150	1.5KW
200	2KW
250	2.5KW

Voltage specifications	
A	AC220V

4 Control power	
A	AC power

5 Product iteration serial number	
2	N/A

6 Hardware type	
00	N/A
AO	Analog output
PG	PG extension

7 Software customized mark	
000	N/A

8 Non-standard models (hardware identification + software identification)	
PG000	Full-closed loop
PG005	Gantry synchronization

Single-phase AC 220v: 50 W → 750 W

Three-phase AC 220v: 1 KW → 2.5 KW

LCD display | Compact design

Compact design | Rich bus-type | EtherCAT Technology Group

General Specifications

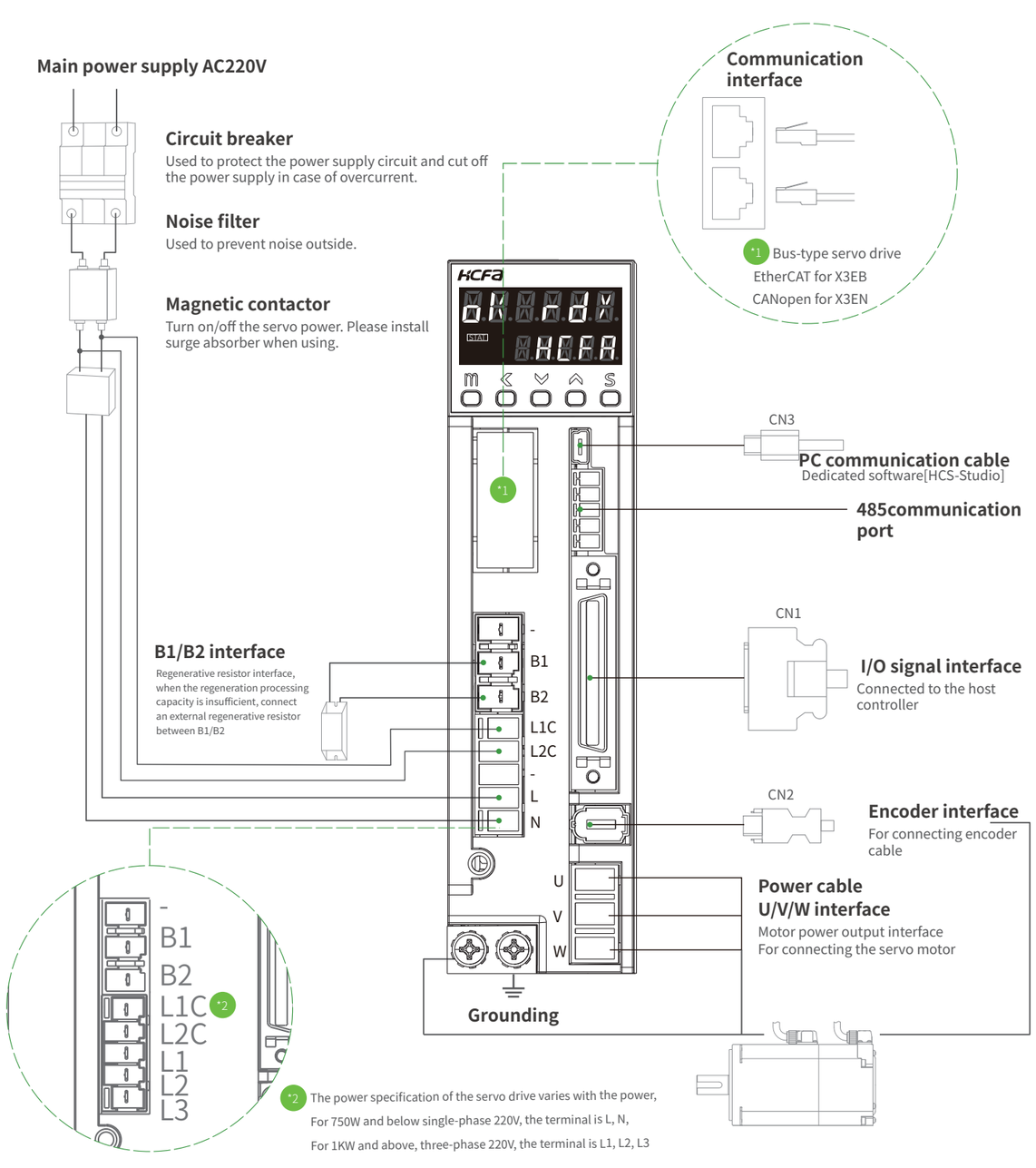
Items	Specifications								
Models	005	010	020	040	075	100	150	200	250
Power (W)	50	100	200	400	750	1000	1500	2000	2500
Rated current (Arms)	0.9	1.2	2	3	4.5	6	10	12.5	15.6
Continuous running current (Arms)	0.9	1.2	2	3	4.5	6	10	12.5	15.6
Max. output current (Arms)	2.7	3.6	6	9	13.5	18	30	37.5	37.5
power specifications	Single-phase220V 50~60Hz					Three-phase220V 50~60Hz			
Control power	Single-phase220V								
Applicable encoder	17bit/23bit								
Control mode	Six control mode: Position control, speed control, torque control, position/speed control, position/torque control, speed/torque control								

Environment Specifications

Items		Specifications
Temperature	Ambient temperature for use	0～55°C
	Ambient temperature for storage	-20～65°C
Humidity	Ambient humidity for use	20～85%RH or less(Without condensation)
	Ambient humidity for storage	20～85%RH or less(Without condensation)
Atmosphere for use& storage		Indoors(Not subject to direct sunlight); free from corrosive gas, flammable gas, oil mist, or dust
Altitude		1000m or less above sea level
Vibration		5.8m/s^2(0.6G) or less, 10～60Hz(No continuous operation allowed at frequency of resonance)
Dielectric strength		1 minute at 1500 VAC across the primary and FG

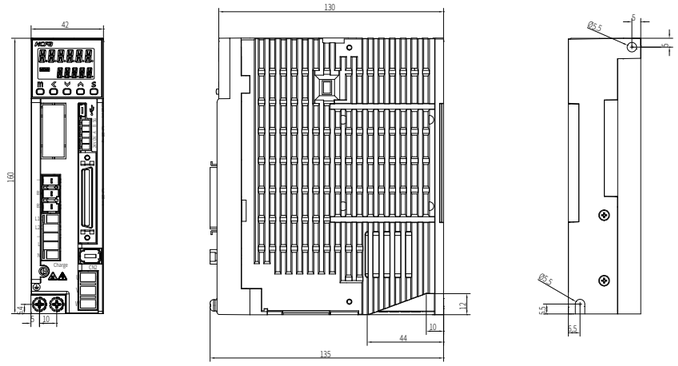
Technical Specifications

Items			Specifications		
Position control	Pulse input	Max input pulse frequency	Open-collector pulse input: Up to 200KHz, pulse width larger than 2.5us		
			General input: Up to 500KHz, pulse width larger than 1 us		
			High-speed input: Up to 4MHz, pulse width larger than 125ns		
		Input pulse form	Pulse+ direction, A-Phase + B-Phase, CW+CCW		
		Electronic gear setting	Electronic gear : A/B (Encoder resolution/10000000 < A/B <Encoder resolution/2.5)		
		Smoothing	Smoothing filter, FIR filter		
	Pulse output	Output pulse	Encoder position or pulse synchronization output		
		Division ratio	Arbitrary frequency division		
		Output pulse form	Differential output: A/B/ Z, Open collector output: Z-phase		
	Internal position mode		Segment 1-16 internal position planning		
Speed control	Control method		External analog command control/0~16 segments speed selection can be realized by DI terminal combination./Communication setting		
	Analog input voltage range		DC±10V(Maximum speed at 10V)		
	Torque limit function		Internal parameter setting or analog input		
Torque control	Control method		External analog instruction control/internal parameter/DI terminal switch(analog/internal parameter) /communication setting		
	Analog input voltage range		DC±10V(Rated torque at 10V)		
	Speed limit		Internal parameter setting or analog input		
Common functions	Control signal	I/O	9IN/9OUT		
	Analog signal	I/O	2IN (±10v)		
	Speed monitoring		Provided		
	Vibration control		Provided		
	Adaptive notch filter		Provided		
	Auto-tuning		Provided		
	Encoder output division and multiplication		Provided		
	Dynamic brake		Can be connected externally		
	Regeneration function		A larger power braking resistor can be connected		
	Protective functions		Overvoltage, power supply error, overcurrent, overheat, overload, encoder error, over speed, position deviation too large, parameter error		
	Communication	USB	For PC communication (「Servostudio」connection)		
		Type	RS485	B:EtherCAT	N:CANOPEN



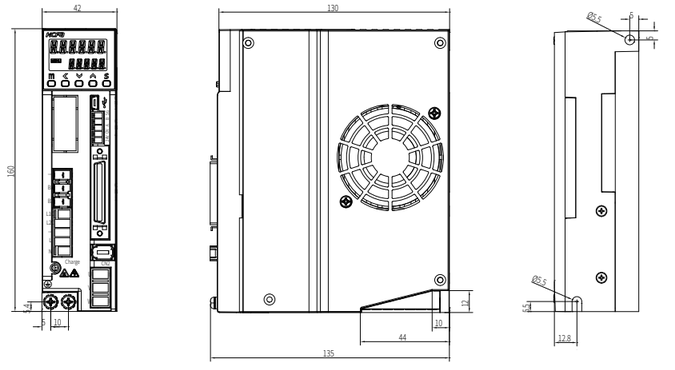
For models of 200W or less Unit:mm

Weight(KG)
0.82



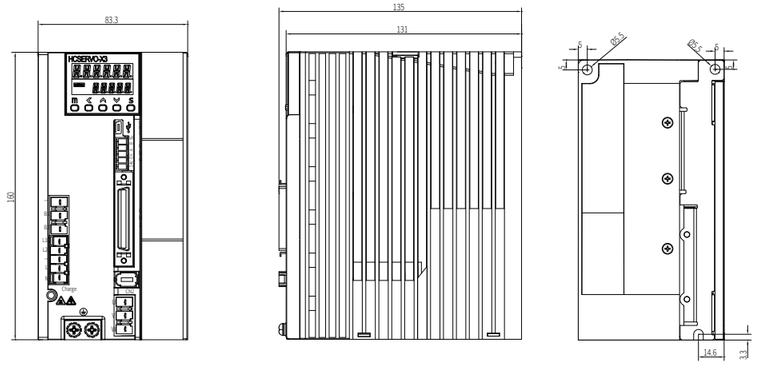
For models of400W/750W Unit:mm

Weight(KG)
0.86

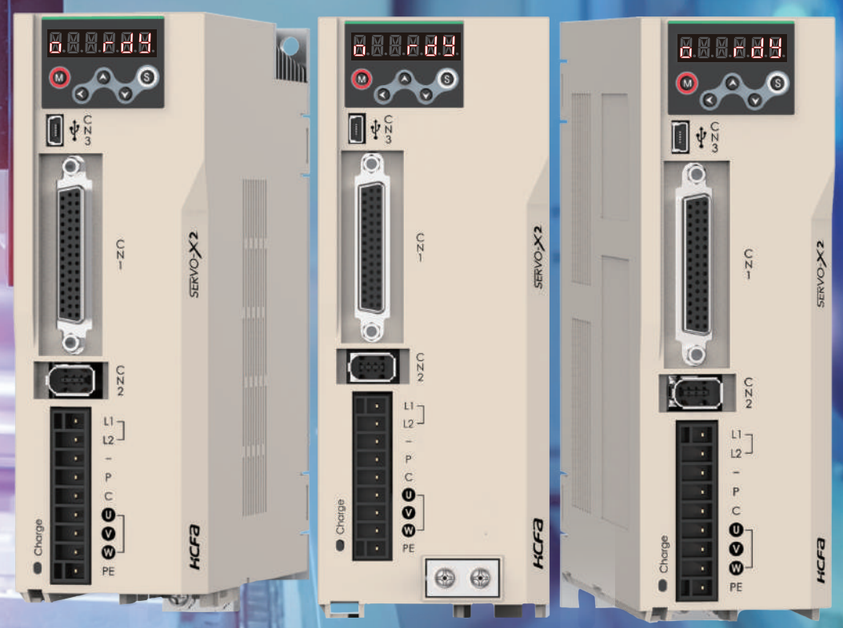


For models of 1KW/1.5KW/2KW/2.5KW Unit:mm

Weight(KG)
1.34



X2E Series Simple-type Servo Drive



Naming Rule

SV-X2E A – 075 – A – A 0 – 00 000

1 2 3 4 5 6 7

1	Product type
A	Standard pulse type
N	CANopen bus-type

2	Power specifications
005	50W
010	100W
020	200W
040	400W
075	750W
100	1KW
150	1.5KW
200	2KW
250	2.5KW

3	Voltage specifications
A	AC220V

4	Control power
A	AC power

5	Product iteration serial number
0	N/A

6	Hardware type
00	N/A

7	Software customized mark
000	N/A

Compact size | Space optimized

General Specifications

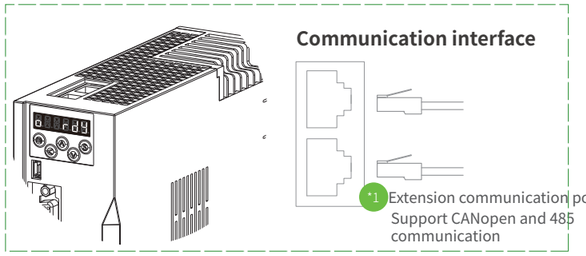
Items	Specifications								
Models	005	010	020	040	075	100	150	200	250
Power (W)	50	100	200	400	750	1000	1500	2000	2500
Rated curren (Arms)	0.9	1.2	2	3	4.5	6	10	12.5	15.6
Continuous running current (Arms)	0.9	1.2	2	3	4.5	6	10	12.5	15.6
Max. output current (Arms)	2.7	3.6	6	9	13.5	18	30	37.5	37.5
power specifications	Single-phase220V 50~60Hz						three-phase220v 50~60Hz		
Control mode	Six control mode: Position control, speed control, torque control, position/speed control, position/torque control, speed/torque control								
Applicable encoder	17bit								

Environment Specifications

Items		Specifications
Temperature	Ambient temperature for use	0～55°C
	Ambient temperature for storage	-20～65°C
Humidity	Ambient humidity for use	20～85%RH or less(Without condensation)
	Ambient humidity for storage	20～85%RH or less(Without condensation)
Atmosphere for use& storage		Indoors(Not subject to direct sunlight); free from corrosive gas, flammable gas, oil mist, or dust
Altitude		1000m or less above sea level
Vibration		5.8m/s^2(0.6G) or less, 10～60Hz(No continuous operation allowed at frequency of resonance)
Dielectric strength		1 minute at 1500 VAC across the primary and FG

Technical Specifications

Items					Specifications
Position control	Pulse input	Max input pulse frequency			Open-collector pulse input: Up to 200KHz, pulse width larger than 2.5us
					General input: Up to 500KHz, pulse width larger than 1 us
					High-speed input: Up to 4MHz, pulse width larger than 125ns
		Input pulse form			Pulse+ direction, A-Phase + B-Phase, CW+CCW
		Electronic gear setting			Electronic gear : A/B (Encoder resolution/10000000 < A/B <Encoder resolution/2.5)
		Smoothing			Smoothing filter, FIR filter
	Pulse output	Output pulse			Encoder position or pulse synchronization output
		Division ratio			Arbitrary frequency division
		Output pulse form			Differential output: A/B/ Z，Open collector output: Z-phase
	Internal position mode				Segment 1-16 internal position planning
Speed control	Control method				Internal parameter P03.03 /0~16 segments speed selection can be realized by DI terminal combination
	Torque limit function				Internal parameter setting
Torque control	Control method				Set the speed instruction value by P03.25
	Speed limit				Set the positive and negative internal speed limit by P03.27, P03.28
Common functions	Control signal	I/O			8IN/5OUT
	Analog signal	I/O			N/A
	Speed monitoring				Provided
	Vibration control				Provided
	Adaptive notch filter				Provided
	Auto-tuning				Provided
	Encoder output division and multiplication				Provided
	Dynamic brake				Provided
	Regeneration function				A larger power braking resistor can be connected
	Protective functions				Overvoltage, power supply error, overcurrent, overheat, overload, encoder error, over speed, position deviation too large, parameter error
	Communication	USB			For PC communication (「Servostudio」connection)
		Models	RS485	N:CANOPEN	



Communication interface

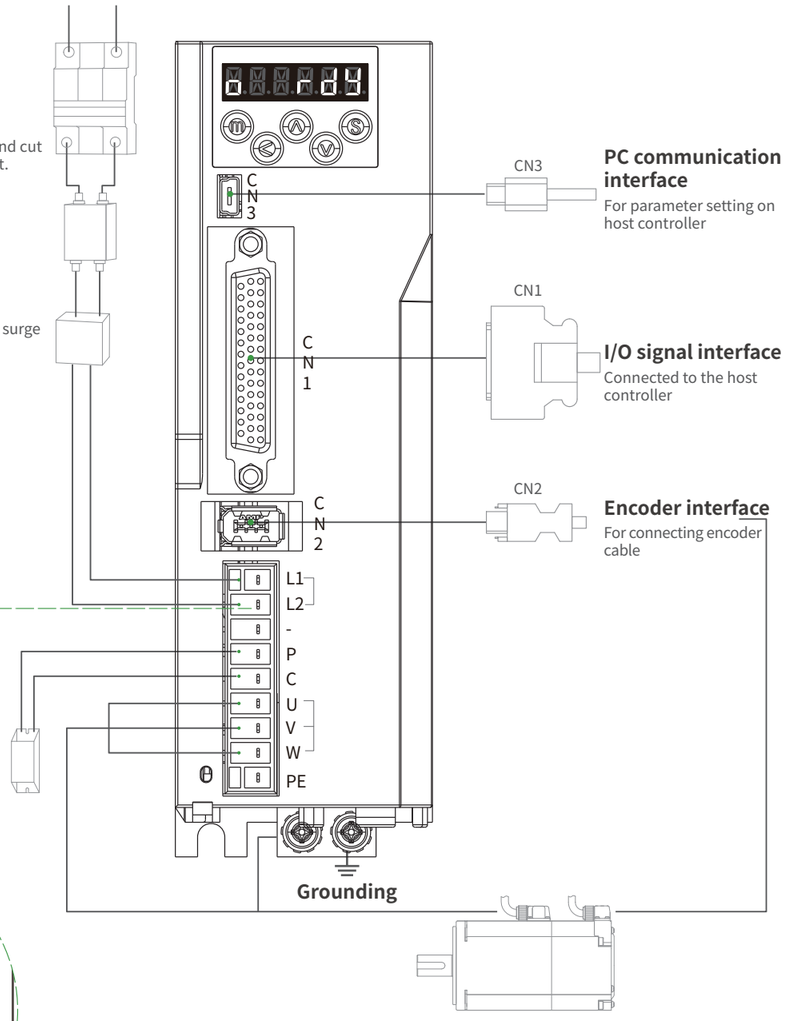
*1 Extension communication port
Support CANopen and 485 communication

Main power supplyAC220V

Circuit breaker
Used to protect the power supply circuit and cut off the power supply in case of overcurrent.

Noise filter
Used to prevent noise outside.

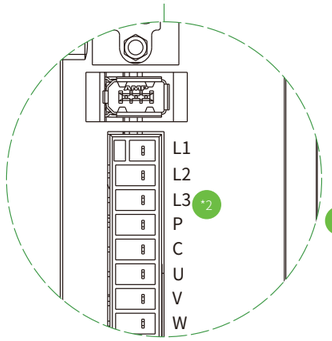
Magnetic contactor
Turn on/off the servo power. Please install surge absorber when using.



PC communication interface
For parameter setting on host controller

I/O signal interface
Connected to the host controller

Encoder interface
For connecting encoder cable

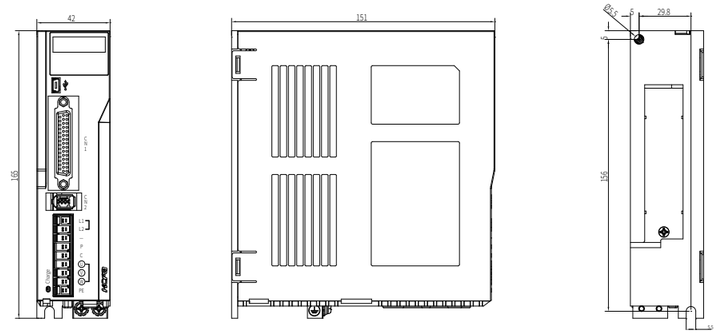


*2: The power specification of the servo drive varies with the power,
For 1KW and below ,single-phase 220V, the terminal is L1,L2
For 1.5KW and above, three-phase 220V, the terminal is L1, L2, L3

For models of 200W or less

Unit:mm

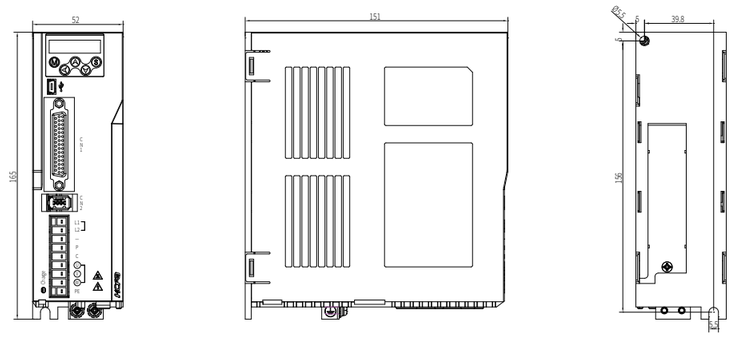
Weight(KG)
0.84



For models of400W/750W/1KW

Unit:mm

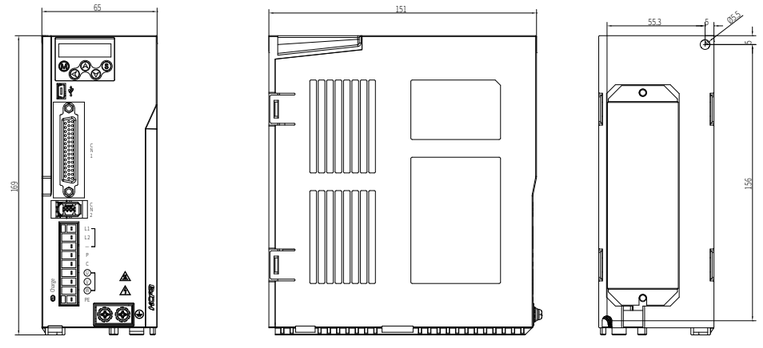
Weight(KG)
0.87



For models of 1.5KW/2KW/2.5KW

Unit:mm

Weight(KG)
1.23



X6 Series Intelligent Servo Drive

Naming Rule

SV-X6 E A – 075 – A – A 0 – 00 000

1 2 3 4 5 6 7 8

1	Functional classification
E	Stanard type
F	Full function type
L	Linear type

2	Product type
A	Standard Common type
B	EtherCAT bus-type
N	CANopen bus-type
R	PROFINET type

3	Product power
005	50W
010	100W
020	200W
040	400W
075	750W
100	1KW
150	1.5KW
200	2KW
250	2.5KW
300	3KW
500	5KW
750	7.5KW

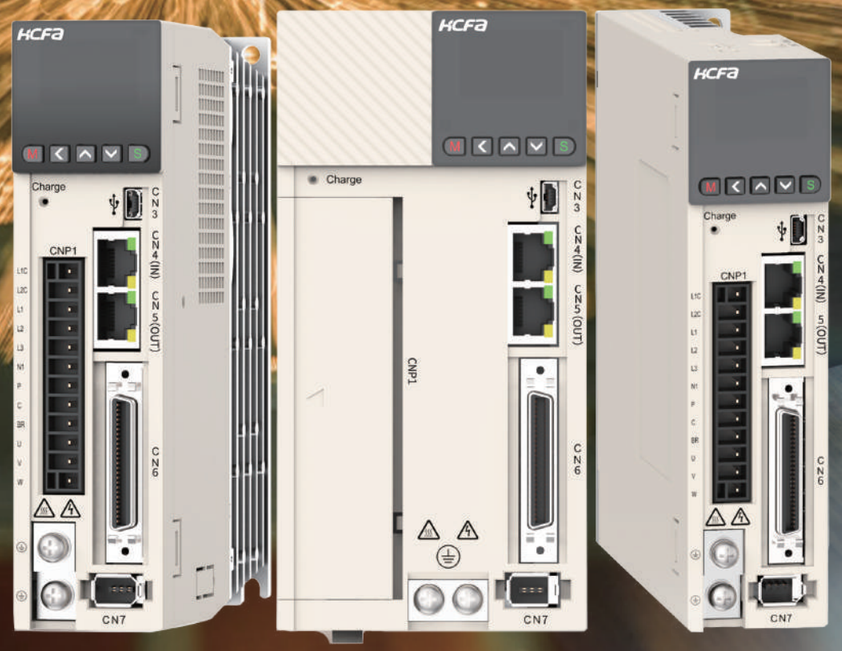
4	Voltage specifications
A	AC220V
T	AC380V

5	Control power
A	AC power control

6	Product iteration serial no.
2	N/A

7	Hardware type
00	N/A

8	Software customized mark
000	N/A



3-phase AC 220v: 50 W → 2.5 KW

3-phase AC 380v: 2 KW → 7.5 KW

- LCD display
- High ease of use Position control
- Compact Design
- Automatic rigidity adjustment
- Rich bus-type

EtherCAT Technology Group

General Specifications

Item	Specifications												
SV-X6 Series	005	010	020	040	075	100	150	200	250	200	300	500	750
Drive Power (W)	50	100	200	400	750	1000	1500	2000	2500	2000	3000	5000	7500
Rated Current (Arms)	0.9	1.2	2	3	4.5	6	10	12.5	15.6	6	9	13.5	21
Continuous running current (Arms)	0.9	1.2	2	3	4.5	6	10	12.5	15.6	6	9	13.5	21
Max Output Current (Arms)	2.7	3.6	6	9	13.5	18	30	37.5	37.5	18	27	40.5	52.5
Mian Circuit Power	single-phase220 50~60 Hz					3-phase 220 50~60Hz				3-phase 380 50~60Hz			
Control Power	Single-phase220V									Single-phase 380V			
Applicable encoder	17bit/23bit												
Control mode	7 control modes: position control, speed control, torque control, position/speed control, position/torque control, speed/torque control, entire closed-loop control (support X6FA/X6FB)												

Environment Specifications

Item		Specifications
Temperature	Ambient temperature for use	0～55°C
	Ambient temperature for storage	-20～65°C
Humidity	Ambient temperature for use	20～85%RH or less(Without condensation)
	Ambient temperature for storage	20～85%RH or less(Without condensation)
Atmosphere for use& storage		Indoors(Not subject to direct sunlight); free from corrosive gas, flammable gas, oil mist, or dust
Altitude		1000m or less
Vibration		5.8m/s2(0.6G) or less, 10～60Hz(No continuous operation allowed at frequency of resonance)
Insulation and dielectric strength		1 minute at 1500 VAC across the primary and FG

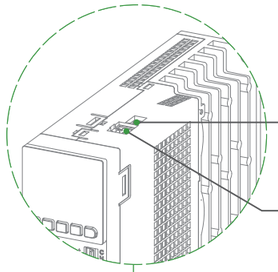
Config. Specifications

Function	Pluses Standard	Pluses full-fuctions	EtherCAT standard	EtherCAT full-fuctions	CANOpen standard	CANOpen full-fuctions	Profinet standard	Profinet full-fuctions
Analog Input		2x		2x		2x		2x
Analog Output		2x		2x		2x		2x
Pluses Input	✓	✓						
Pulse divider output	✓	✓		✓		✓		✓
STO Function	✓	✓		✓		✓		✓
Secondary Encoder	USB/485	USB/485	USB	USB/485	USB/485	USB/485	USB	USB
Z-phase collector output		✓		✓		✓		✓
Serial communication		✓		✓		✓		✓

Technical Specifications

Item			Specifications
Position control	Pulse input	Max input pulse frequency	Open-collector pulse input: Up to 200KHz, pulse width larger than 2.5us
			General input: Up to 500KHz, pulse width larger than 1 us
			High-speed input: Up to 4MHz, pulse width larger than 125ns
		Input pulse form	Pulse+ direction, A-Phase + B-Phase, CW+CCW
		Electronic gear setting	Electronic gear : A/B (Encoder resolution/10000000 < A/B <Encoder resolution/2.5)
		Smoothing	Smoothing filter, FIR filter
	Pulse output	Output pulse	Encoder position or pulse synchronization output
		Division ratio	Arbitrary frequency division
		Output pulse form	Differential output: A/B/ Z，Open collector output: Z-phase
	Internal position mode		Segment 1-16 internal position planning
Speed control	Control method		External analog command control/0~16 segments speed selection can be realized by DI terminal combination./Communication setting
	Analog input voltage range		DC±10V(Maximum speed at 10V)
	Torque limit function		Internal parameter setting or analog input
Torque control	Control method		External analog instruction control/internal parameter/DI terminal switch(analog/internal parameter) /communication setting
	Analog input voltage range		DC±10V(Rated torque at 10V)
	Speed limit		Internal parameter setting or analog input
Common functions	Control signal	I/O	9IN/9OUT
	Analog signal	I/O	2IN (±10v)
	Speed monitoring		Provided
	Vibration control		Provided
	Adaptive notch filter		Provided
	Auto-tuning		Provided
	Encoder output division and multiplication		Provided
	Dynamic brake		Can be connected externally
	Regeneration function		A larger power braking resistor can be connected
	Protective functions		Overvoltage, power supply error, overcurrent, overheat, overload, encoder error, over speed, position deviation too large, parameter error
	Communication	USB	For PC communication (「Servostudio」connection)
		Type	RS485 / B:EtherCAT / N:CANOPEN

Main Power AC220V



Circuit breakers
Used to protect the power supply circuit and cut off the power supply in case of overcurrent.

Noise filter
Used to prevent noise outside.

Electromagnetic contactor
Turn on/off the servo power. Please install surge absorber when using.

L1C/L2C
AC control power input

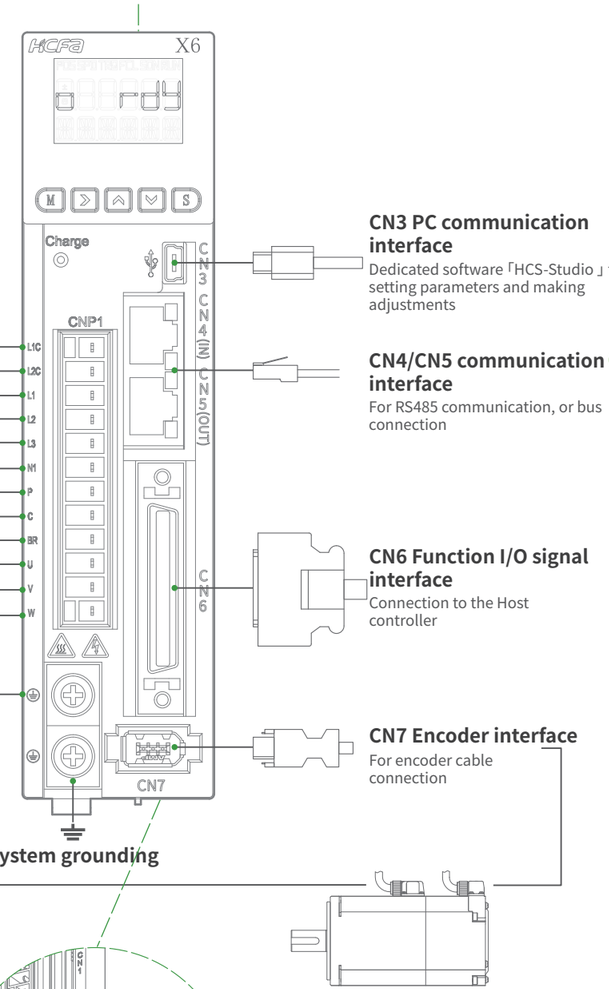
L1/L2/L3
AC main power input

N1 Main circuit busbar -

P Main circuit busbar +

*3 **P/C/BR** Regenerative resistor connections

U/V/W
Motor power output



CN1 *1
RS485 communication and analogue output (AO) port

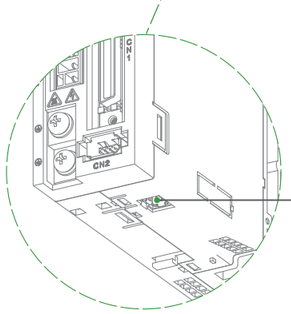
CN2 *1
STO functional safety socket

CN3 PC communication interface
Dedicated software「HCS-Studio」for setting parameters and making adjustments

CN4/CN5 communication interface *2
For RS485 communication, or bus connection

CN6 Function I/O signal interface
Connection to the Host controller

CN7 Encoder interface
For encoder cable connection



CN8 Second encoder interface
Connection to external displacement sensor
*1

*1 Only for full-functional models

*2 Pulse type for RS485 communication
CANopen EtherCAT Pro finet models are used in bus communication interfaces

*3 P/C shorting required when using the driver's built-in regenerative resistor
When an external regenerative resistor is used, P/BR is inserted and the P/C stub is removed

Main Power AC380V

Circuit breakers
Used to protect the power supply circuit and cut off the power supply in case of overcurrent.

Noise filter
Used to prevent noise outside

Electromagnetic contactor
Turn on/off the servo power. Please install surge absorber when using.

L1C/L2C
AC control power input

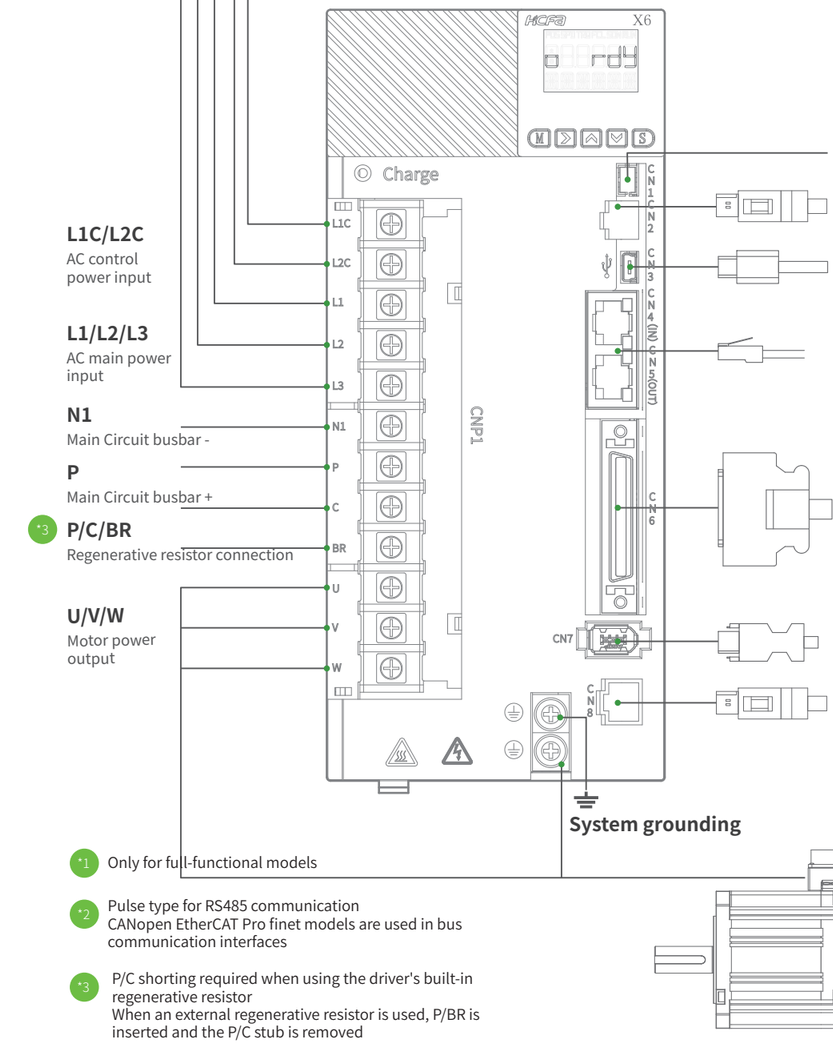
L1/L2/L3
AC main power input

N1
Main Circuit busbar -

P
Main Circuit busbar +

*3 **P/C/BR**
Regenerative resistor connection

U/V/W
Motor power output



CN1 *1
RS485 communication and analogue output (AO) port

CN2 *1
STO functional safety socket

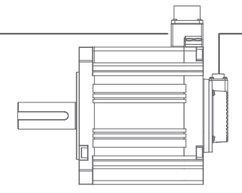
CN3 PC communication interface
software「HCS-Studio」for setting parameters and making adjustments

CN4/CN5 communication interface *2
For RS485 communication, or bus connection

CN6 Function I/O signal interface
Connection to the Host controller

CN7 Encoder interface
For encoder cable connection

CN8 Second encoder interface *1
Connection to external displacement sensor



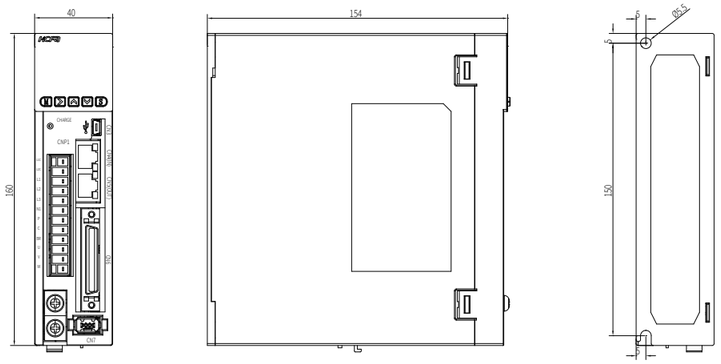
*1 Only for full-functional models

*2 Pulse type for RS485 communication
CANopen EtherCAT Pro finet models are used in bus communication interfaces

*3 P/C shorting required when using the driver's built-in regenerative resistor
When an external regenerative resistor is used, P/BR is inserted and the P/C stub is removed

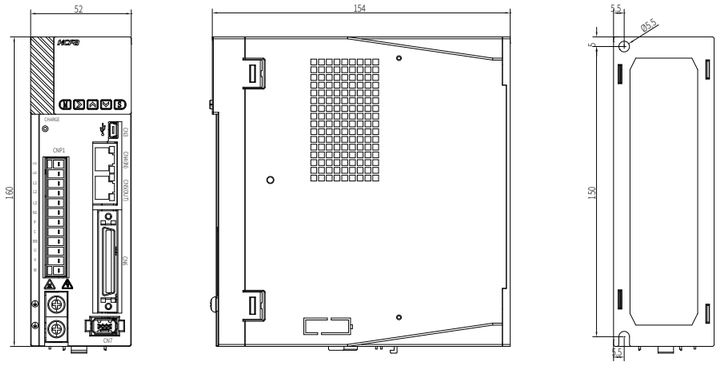
External dimensions for 50W/100W/200W/400W Unit:mm

Weight (KG)
0.8



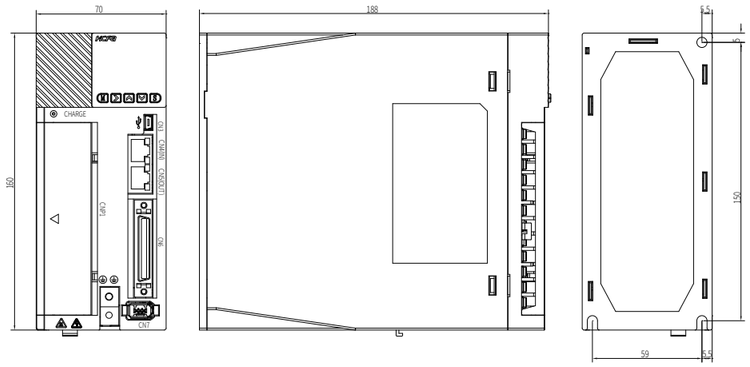
External dimensions for 750W/1KW Unit:mm

Weight (KG)
1



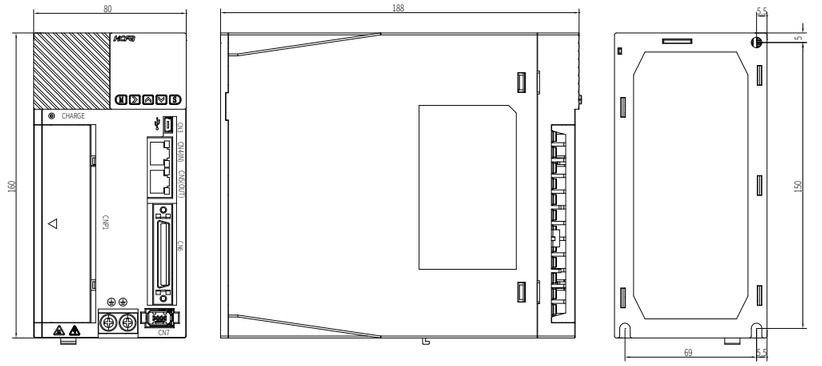
External dimensions for 1.5KW/2KW Unit:mm

Weight (KG)
1.5



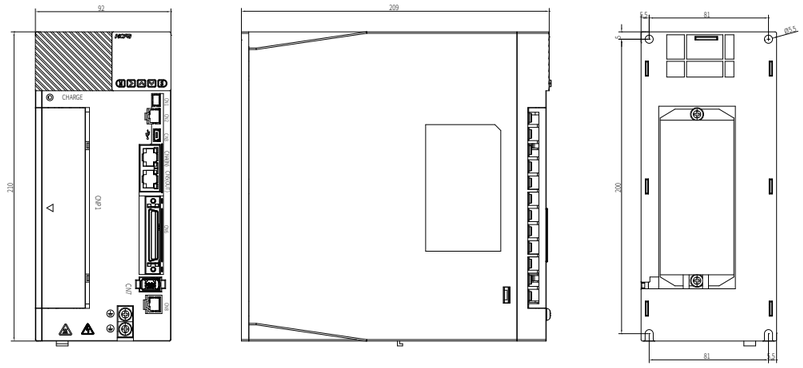
External dimensions for 2.5KW/3KW Unit:mm

Weight (KG)
1.7



External dimensions for 5KW/7.5KW Unit:mm

Weight (KG)
3.1



X5E Series Advanced Servo Drive

Naming Rule

SV-X5E B – 075 – A – A 0 – 00 000

1 2 3 4 5 6 7

1	Product Type
A	Standard type
B	EtherCAT bus-type
N	CANopen bus-type

2	Product Power
010	100W
040	400W
075	750W
100	1KW
150	1.5KW
200	2KW
250	2.5KW

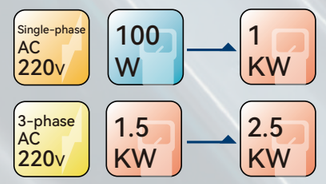
3	Voltage Specification
A	AC220V

4	Control Power
A	AC Power control

5	Product Iteration Serial No.
0	N/A

6	Hardware Type
00	N/A
01	STO

7	Software Customised Mark
000	N/A



Compact size | Powerful Performance | Prominent Features

General Specifications

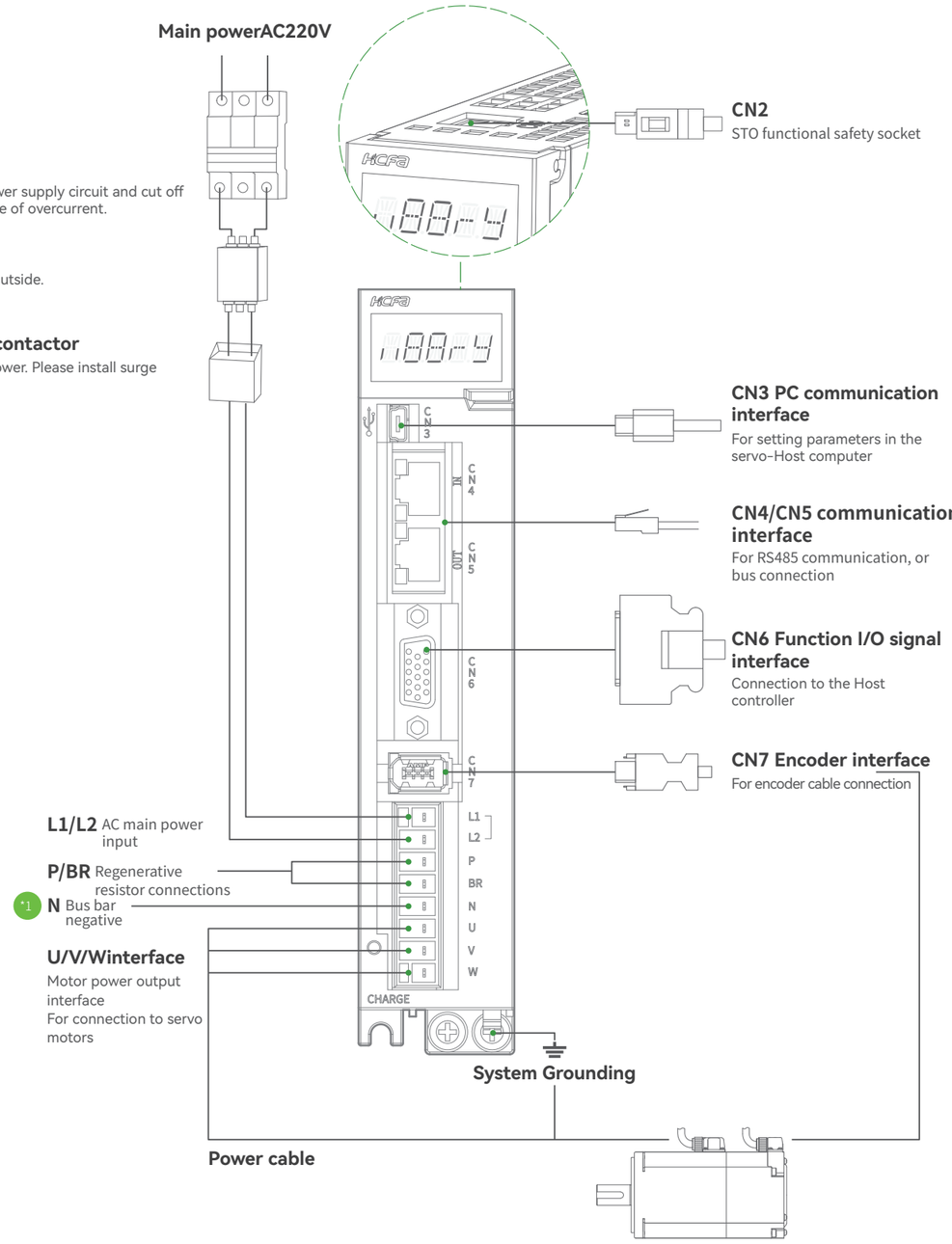
Item	Specifications						
Driver Type	010	040	075	100	150	200	250
Power (W)	100	400	750	1000	1500	2000	2500
Rated Current (Arms)	1.2	3	4.5	6	10	12.5	15.6
Continuous running current (Arms)	1.2	3	4.5	6	10	12.5	15.6
Max Output Current (Arms)	3.6	9	13.5	18	30	37.5	37.5
Power Specification	Single-phase220V 50~60Hz				3-phase220V 50~60Hz		
Control Mode	control modes: position control, speed control, torque control, position/speed control, position/torque control, speed/torque control.						
Applicable encoder	17bit/23bit						

Environment Specifications

Item		Specifications
Temperature	Ambient temperature for use	0～55°C
	Ambient temperature for storage	-20～65°C
Humidity	Ambient temperature for use	20～85%RH or less(Without condensation)
	Ambient temperature for storage	20～85%RH or less(Without condensation)
Atmosphere for use& storage		Indoors(Not subject to direct sunlight); free from corrosive gas, flammable gas, oil mist, or dust
Altitude		1000m or less above sea level
Vibration		5.8m/s2(0.6G) or less, 10～60Hz(No continuous operation allowed at frequency of resonance)
Insulation and dielectric strength		1 minute at 1500 VAC across the primary and FG

Technical Specifications

Item			Specifications		
Position Control	Pluse Input	Max Pluse frequency	Open-collector pulse input: Up to 200KHz, pulse width larger than 2.5us		
			General input: Up to 500KHz, pulse width larger than 1 us		
			High-speed input: Up to 4MHz, pulse width larger than 125ns		
		Input pulse form	Pulse + Directions, Phase A + Phase B, CW + CCW		
		Electronic gear setting	Electronic gear : A/B (Encoder resolution/10000000 < A/B <Encoder resolution/2.5)		
		Smoothing	Smoothing filters, FIR filters		
	Pluses Output	Output pulse function	Encoder position or pulse synchronisation output		
		Division ratio	Arbitrary frequency division		
		Output pulse form	Differential output: A/B/ Z, Open collector output: Z-phase		
	Internal position mode		Segment 1-16 internal position planning		
Speed Control	Control Method		Internal parameter P03.03 /1~16 segments speed selection can be realized by DI terminal combination		
	Torque Limiting Function		Internal parameter		
Torque Control	Control Method		Set the speed instruction value by P03.25		
	Speed Limiting Function		Set the positive and negative internal speed limit by P03.27, P03.28		
Common functions	Control signal input/output		9IN/8OUT (busbar type 5IN/3OUT)		
	Speed monitoring function		Provided		
	Vibration control function		Provided		
	adaptive notch filter		Provided		
	Auto-tuning		Provided		
	Encoder output division and multiplication		Provided		
	dynamic brake		built-in		
	Regeneration function		A larger power braking resistor can be connected		
	protective function		Overvoltage, power supply error, overcurrent, overheat, overload, encoder error, over speed, position deviation too large, parameter error		
	communication function	USB	For PC communication (for "Servostudio" connection)		
		Type	RS485	B:EtherCAT	N:CANOPEN

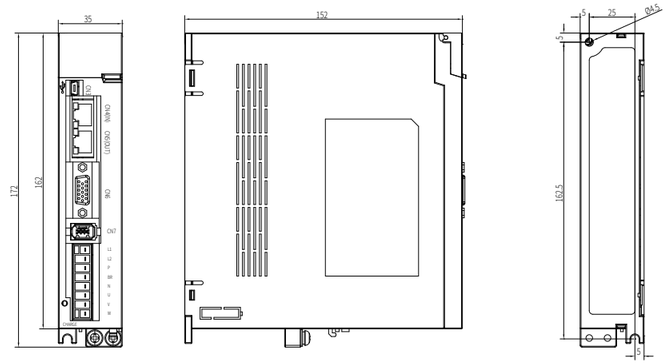


For using DC bus, do not connect the neutral line

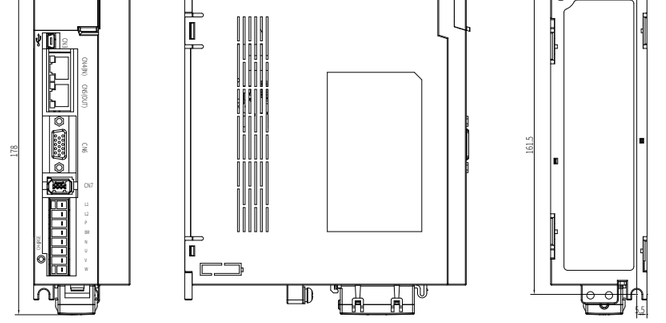
External dimensions for 400W

Unit: mm

Weight (KG)
0.75



External dimensions for 750W/1KW

Unit: mm

Weight (KG)
1.1