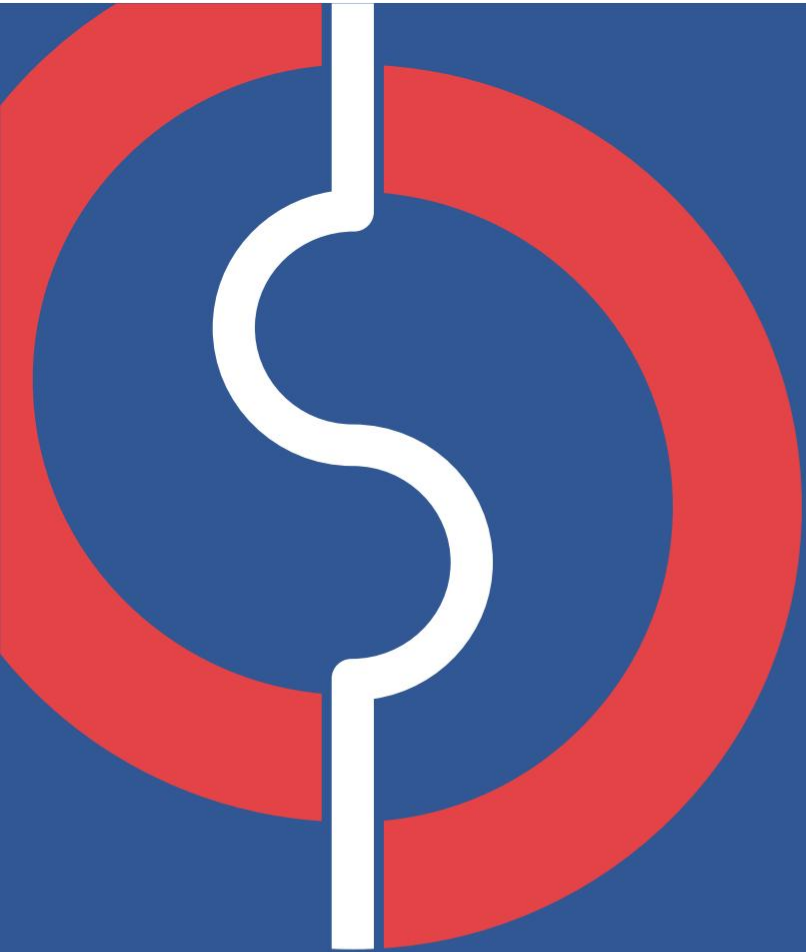




Revision date: 20231128

GUANGZHOU BEDFORD ELECTRIC EQUIPMENT CO.,LTD

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Mobile website



public number

Make Pump Inverter Easy



General Purpose Vector Frequency Inverter

RoHS CE



 **BEDFORD**®

Enterprise Introduction



Enterprise

Guangzhou Bedford Electric Equipment Co., Ltd. was founded in 2007, a high-tech enterprise integrating R&D, production, sales and service, and is a world-renowned manufacturer of special controllers for pumps and also a provider of intelligent water solutions. Our business covers more than 70 countries and regions.

BEDFORD not only has a strong technical, experienced, efficient and capable R&D team, but also has a complete and scientific quality management system, which has passed ISO9001, ISO14001, ISO45001, CE, RoHS certification, health license, certification of intellectual property implementation management system, and has obtained a number of invention patents, utility model patents, design patents, computer software copyright and SGS certification.

In the process of steady development, BEDFORD never forget to fulfill its social responsibilities, emphasize credibility and business ethics, and benefit mankind. BEDFORD always practice the brand spirit of "Perseverance, Morality, and Full of Happiness".

Vision: Become the World's Leading Manufacturer on Pump Inverters.
Mission: Make Pump Inverter Easy.
Values: Create Value for Customers.

Honors

High-tech Enterprise



Tax Credit Grade A



High-tech Products



After-sales Service Certification



Invention Patent



Utility Model Patent



CE



RoHS



ISO



New



Protection Function

Over current, over voltage, low voltage,
over heat, phase failure, over load etc.



Fault real-time
recording



Auto-start when
power is restored



Built-in
PID



Automatic Voltage
Regulation (AVR)
Function



Simple operation



Manual
automatic

Selection Guide (IP20)

Model No.	Rated Input Voltage (V)	Rated Output Power(kW)	Rated Input Current(A)	Rated Output Current(A)	Motor Power (kW)
W505-2001	1AC: 220V-15%~+15%	0.75	7.1	4.5	0.75
W505-2002		1.5	11.1	7.0	1.5
W505-2003		2.2	15.8	10.0	2.2
W505-2001	3AC: 220V-15%~+15%	0.75	7.1	4.5	0.75
W505-2002		1.5	11.1	7.0	1.5
W505-2003		2.2	15.8	10.0	2.2
W505-2005		3.7	23.0	17.0	3.7
W505-2007		5.5	32.0	25.0	5.5
W505-2010		7.5	40.0	32.0	7.5
W505-2015		11.0	56.0	45.0	11.0
W505-2020		15.0	70.0	60.0	15.0
W505-2025		18.5	80.0	75.0	18.5
W505-2030		22.0	97.0	91.0	22.0
W505-2040		30.0	125.0	112.0	30.0
W505-2050		37.0	155.0	150.0	37.0
W505-2060		45.0	178.0	176.0	45.0
W505-2075		55.0	210.0	210.0	55.0
W505-4001	3AC: 380V-15%~+15%	0.75	3.4	2.1	0.75
W505-4002		1.5	5.0	3.8	1.5
W505-4003		2.2	5.8	5.1	2.2
W505-4005G/4007P		4.0/5.5	13.5/19.5	9.5/14.0	4.0/5.5
W505-4007G/4010P		5.5/7.5	19.5/25.0	14.0/18.5	5.5/7.5
W505-4010G/4015P		7.5/11.0	25.0/32.0	18.5/25.0	7.5/11.0
W505-4015G/4020P		11.0/15.0	32.0/40.0	25.0/32.0	11.0/15.0
W505-4020G/4025P		15.0/18.5	40.0/47.0	32.0/38.0	15.0/18.5
W505-4025G/4030P		18.5/22.0	47.0/51.0	38.0/45.0	18.5/22.0
W505-4030G/4040P		22.0/30.0	51.0/70.0	45.0/60.0	22.0/30.0
W505-4040G/4050P		30.0/37.0	70.0/80.0	60.0/75.0	30.0/37.0
W505-4050G/4060P		37.0/45.0	80.0/98.0	75.0/92.0	37.0/45.0
W505-4060G/4075P		45.0/55.0	98.0/128.0	92.0/115.0	45.0/55.0
W505-4075G/4100P		55.0/75.0	128.0/139.0	115.0/152.0	55.0/75.0
W505-4100G/4120P		75.0/90.0	139.0/168.0	152.0/180.0	75.0/90.0
W505-4120G/4150P		90.0/110.0	168.0/201.0	180.0/215.0	90.0/110.0
W505-4150G/4180P		110.0/132.0	201.0/265.0	215.0/260.0	110.0/132.0
W505-4180G/4215P		132.0/160.0	265.0/310.0	260.0/305.0	132.0/160.0
W505-4215G/4250P		160.0/185.0	310.0/345.0	305.0/340.0	160.0/185.0
W505-4250G/4270P		185.0/200.0	345.0/385.0	340.0/380.0	185.0/200.0
W505-4270G/4300P		200.0/220.0	385.0/430.0	380.0/426.0	200.0/220.0

Input & Output Voltage and Power Range:

1	Input: AC 1PH 220V 50/60Hz Output: AC 3PH 0~220V 0.75~2.2kW
2	Input: AC 3PH 220V 50/60Hz Output: AC 3PH 0~220V 0.75~55kW
3	Input: AC 3PH 380V 50/60Hz Output: AC 3PH 0~380V 0.75~220kW

Peripheral Interface Characteristics

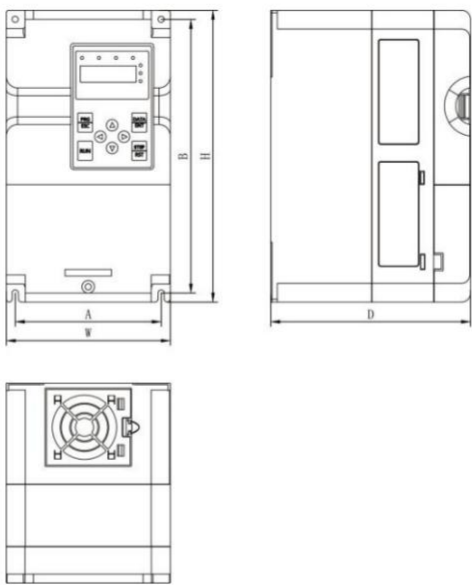
- Programmable Digital Input: Provide 6 digital input terminals.
- Programmable Analog Input: AI1, AI2: 0V~10V voltage input or 0/4mA~20mA current input.
- Relay Output: Provide 2 output terminal
- Analog Output: Provide 2 analog output terminal, AO1 supports 0mA~20mA current output or 0V~10V voltage output, AO2 supports 0mA~20mA current output

Functional Features

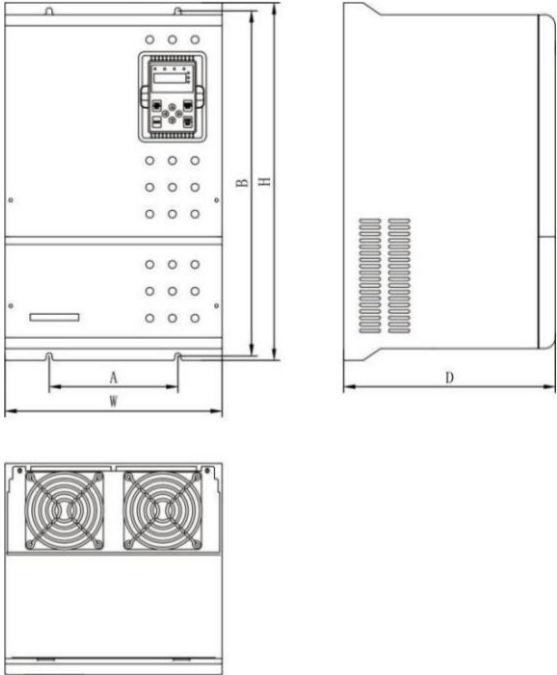
- Reference Frequency Source: Digital setting, analog setting, serial communication setting, multi-speed setting, simple PLC setting, PID setting, etc., can realize the combination of setting and mode switching.
- Built-in PID Control Function
- Simple PLC Multi-step Speed Control Function: Can realize up to 16 section speed control
- Traverse Control Function
- Non-Stop when power is instantaneously cut off
- Speed trace Function: Start the running motor smoothly
- ⏸ Key: User defined shortcut key can be realized.
- Automatic Voltage Regulation (AVR) Function: Automatically keep the output voltage stable when input voltage fluctuating
- Various Fault Protection Function: Over current, over voltage, under voltage, over heat, phase failure, over load etc.

External Dimension

Size of 220V:0.75kW~22kW
380V:0.75kW~37kW

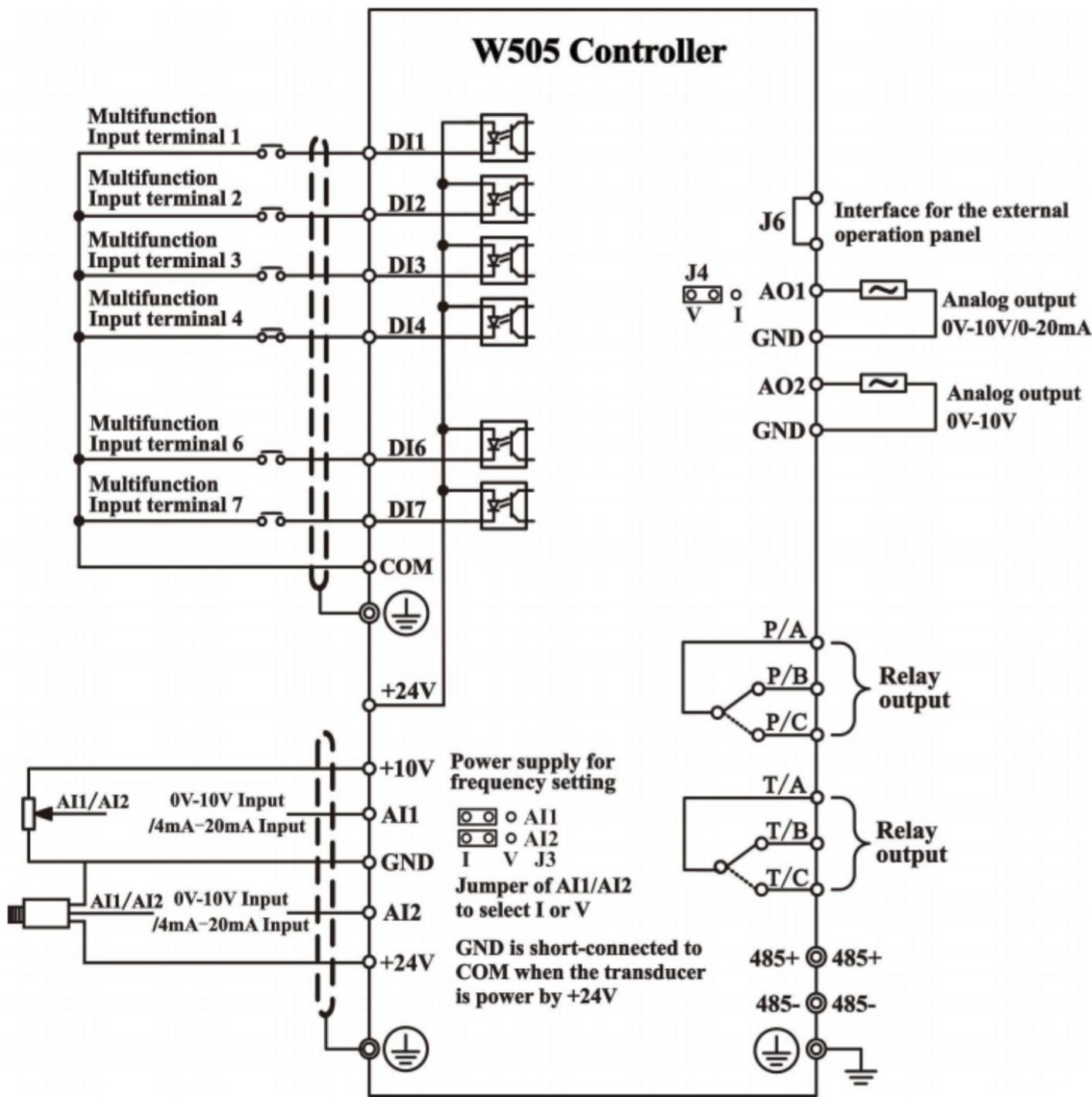


Size of 220V:30kW~55kW
380V:45kW~200kW



Power(kW)	Installation Dimension		External Dimension			Installation Hole (mm)
	A(mm)	B(mm)	H(mm)	W(mm)	D(mm)	
220V: 0.75~2.2	114	174	186	126	163.8	5
380V: 0.75~2.2						
220V: 3.7	114	174	186	126	185	5
380V: 4.0~5.5						
220V: 5.5	129	242	258	145	176.5	5.5
380V: 7.5						
220V: 7.5	146	301	313	161	210	6
380V: 11.0~15.0						
220V: 11.0~15.0	185	330	342	200	200.5	6
380V: 18.5~22.0						
220V: 18.5~22.0	233	381	400	251	213	6
380V: 30.0~37.0						
220V: 30.0~55.0	199	534	554	336	327.5	9
380V: 45.0~110.0						
380V: 132.0~200.0	360	848	870	503	362	11

Wiring Diagram



Environmental Requirement



Environment temperature range:
-10℃~+40℃ · Controller will be derated
if ambient temperature exceeds 40℃.



To prevent rain drops of rain
or avoid damp environment, oil mist,
salt erosion and corrosive gas, etc.



To avoid direct sunlight, away
from the radioactive material
and combustible materials.



Avoid violent vibration
or sudden impact.



Installation height is less than 1000 meters
above sea level, height more than 1000 meters
above sea level must derating use.

Applications



Textile machinery, foodstuff processing
machinery, light industry, pharmacy
machinery, etc

Applications



Application examples of Hoist



Application examples of Industrial Washing Machine



Application examples of Crane



Application examples of air compressor



Application examples of Fabric Machine



Application examples of Homogenizer



Protection Function

Over current, over voltage, low voltage, over heat, phase failure, over load etc.



Fault real-time recording



Auto-start when power is restored



Built-in PID



Automatic Voltage Regulation (AVR) Function



Traverse Control Function



Non-Stop when power is instantaneously cut off



Simple operation



Manual automatic

Selection Guide (IP20)

Model No.	Rated Input Voltage (V)	Rated Output Power(kW)	Rated Input Current(A)	Rated Output Current(A)	Motor Power (kW)
B503PRO-2001	1AC: 220V-15%~+15%	0.75	7.1	4.5	0.75
B503PRO-2002		1.5	11.1	7.0	1.5
B503PRO-2003		2.2	15.8	10.0	2.2
B503PRO-2001	3AC: 220V-15%~+15%	0.75	7.1	4.5	0.75
B503PRO-2002		1.5	11.1	7.0	1.5
B503PRO-2003		2.2	15.8	10.0	2.2
B503PRO-2005		3.7	23.0	17.0	3.7
B503PRO-2007		5.5	32.0	25.0	5.5
B503PRO-2010		7.5	40.0	32.0	7.5
B503PRO-2015		11.0	56.0	45.0	11.0
B503PRO-2020		15.0	70.0	60.0	15.0
B503PRO-2025		18.5	80.0	75.0	18.5
B503PRO-2030		22.0	97.0	91.0	22.0
B503PRO-2040		30.0	125.0	112.0	30.0
B503PRO-2050		37.0	155.0	150.0	37.0
B503PRO-2060		45.0	178.0	176.0	45.0
B503PRO-2075		55.0	210.0	210.0	55.0
B503PRO-4001		0.75	3.4	2.1	0.75
B503PRO-4002		1.5	5.0	3.8	1.5
B503PRO-4003		2.2	5.8	5.1	2.2
B503PRO-4005G/4007P	3AC: 380V-15%~+15%	4.0/5.5	13.5/19.5	9.5/14.0	4.0/5.5
B503PRO-4007G/4010P		5.5/7.5	19.5/25.0	14.0/18.5	5.5/7.5
B503PRO-4010G/4015P		7.5/11.0	25.0/32.0	18.5/25.0	7.5/11.0
B503PRO-4015G/4020P		11.0/15.0	32.0/40.0	25.0/32.0	11.0/15.0
B503PRO-4020G/4025P		15.0/18.5	40.0/47.0	32.0/38.0	15.0/18.5
B503PRO-4025G/4030P		18.5/22.0	47.0/51.0	38.0/45.0	18.5/22.0
B503PRO-4030G/4040P		22.0/30.0	51.0/70.0	45.0/60.0	22.0/30.0
B503PRO-4040G/4050P		30.0/37.0	70.0/80.0	60.0/75.0	30.0/37.0
B503PRO-4050G/4060P		37.0/45.0	80.0/98.0	75.0/92.0	37.0/45.0
B503PRO-4060G/4075P		45.0/55.0	98.0/128.0	92.0/115.0	45.0/55.0
B503PRO-4075G/4100P		55.0/75.0	128.0/139.0	115.0/152.0	55.0/75.0
B503PRO-4100G/4120P		75.0/90.0	139.0/168.0	152.0/180.0	75.0/90.0
B503PRO-4120G/4150P		90.0/110.0	168.0/201.0	180.0/215.0	90.0/110.0
B503PRO-4150G/4180P		110.0/132.0	201.0/265.0	215.0/260.0	110.0/132.0
B503PRO-4180G/4215P		132.0/160.0	265.0/310.0	260.0/305.0	132.0/160.0
B503PRO-4215G/4250P		160.0/185.0	310.0/345.0	305.0/340.0	160.0/185.0
B503PRO-4250G/4270P		185.0/200.0	345.0/385.0	340.0/380.0	185.0/200.0
B503PRO-4270G/4300P		200.0/220.0	385.0/430.0	380.0/426.0	200.0/220.0

Input & Output Voltage and Power Range:

1	Input: AC 1PH 220V 50/60Hz Output: AC 3PH 0~220V 0.75~2.2kW
2	Input: AC 3PH 220V 50/60Hz Output: AC 3PH 0~220V 0.75~55kW
3	Input: AC 3PH 380V 50/60Hz Output: AC 3PH 0~380V 0.75~200kW

Peripheral Interface Characteristics

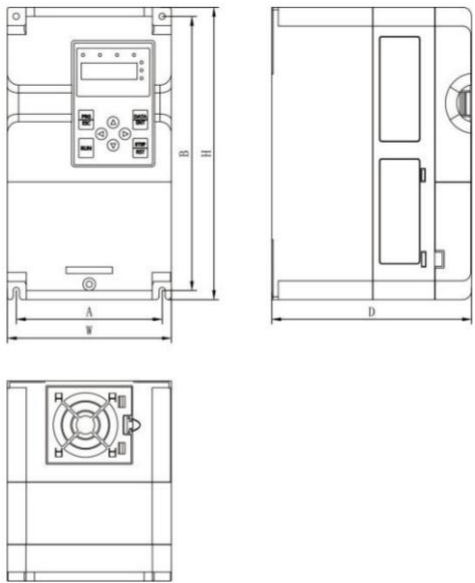
- Programmable Digital Input: Provide 7 digital input terminals, one of which supports up to 100kHz high-speed pulse input5 (DI5)
- Programmable Analog Input: AI1, AI2: 0V~10V voltage input or 4mA~20mA current input.
- Programmable Open Collector Output: Provide 1 output terminal (FM)
- Relay Output: Provide 2 output terminal
- Analog Output: Provide 2 analog output terminal, AO1 supports 0mA~20mA current output or 0V~10V voltage output, AO2 supports 0mA~20mA voltage output

Features

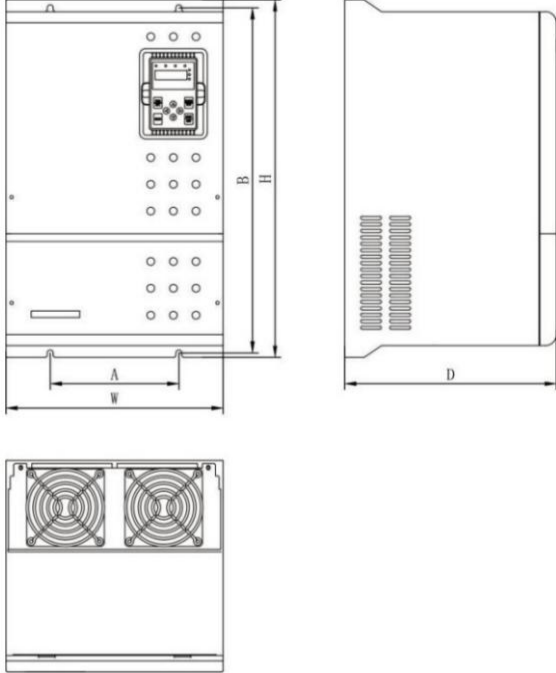
- Frequency Setting :Digital ,Analog ,Impulse ,Serial Communication ,Multistage Speed,Simple PLC,PID etc.,can realize switch-over among combinations.
- Inbuilt PID control function
- Simple PLC,Multi-step Speed Control:control terminals can realize 16 maximum stage-speed
- Traverse Control Function
- Nonstop fuction at instant power-off
- Speed trace Function: Start the running motor smoothly.
-  key:User- defined shortcut key can be realized.
- Automatic Voltage Regulation (AVR) Function:Automatically keep the output voltage stable when input voltage fluctuating.
- Quick Current-limiting Function
- Felxible peripheral interface, can meet most of application field

External Dimension

Size of 220V:0.75kW~22kW
380V:0.75kW~37kW

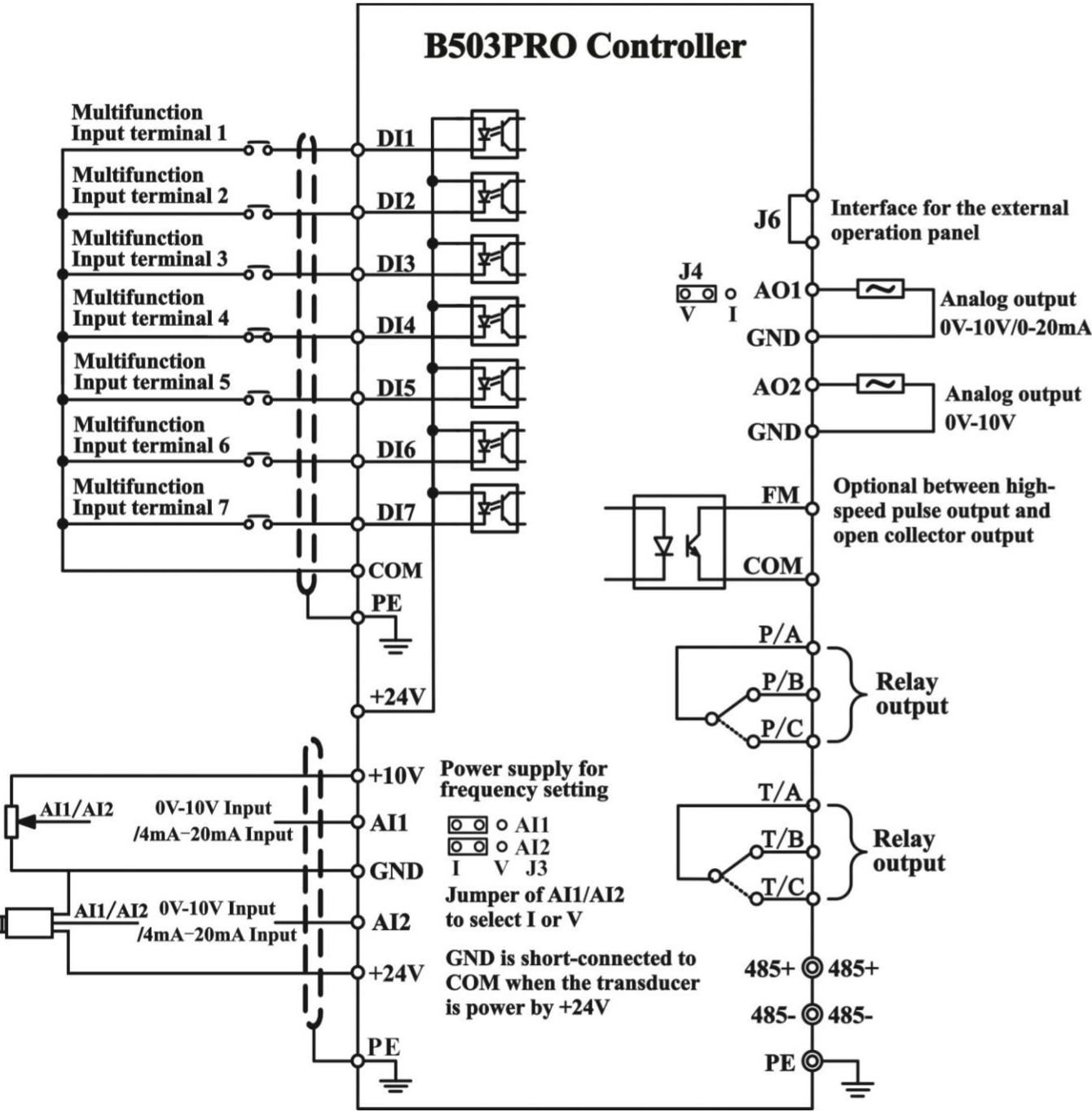


Size of 220V:30kW~55kW
380V:45kW~200kW

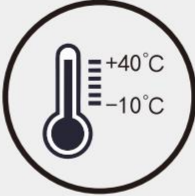


Power(kW)	Installation Dimension		External Dimension			Installation Hole (mm)
	A(mm)	B(mm)	H(mm)	W(mm)	D(mm)	
220V: 0.75~2.2	114	174	186	126	163.8	5
380V: 0.75~2.2						
220V: 3.7	114	174	186	126	185	5
380V: 4.0~5.5						
220V: 5.5	129	242	258	145	176.5	5.5
380V: 7.5						
220V: 7.5	146	301	313	161	210	6
380V: 11.0~15.0						
220V: 11.0~15.0	185	330	342	200	200.5	6
380V: 18.5~22.0						
220V: 18.5~22.0	233	381	400	251	213	6
380V: 30.0~37.0						
220V: 30.0~55.0	199	534	554	336	327.5	9
380V: 45.0~110.0						
380V: 132.0~200.0	360	848	870	503	362	11

Wiring Diagram



Environmental Requirement



Environment temperature range:
-10℃~+40℃ , Controller will be derated
if ambient temperature exceeds 40℃.



To prevent rain drops of rain
or avoid damp environment, oil mist,
salt erosion and corrosive gas, etc.



To avoid direct sunlight, away
from the radioactive material
and combustible materials.

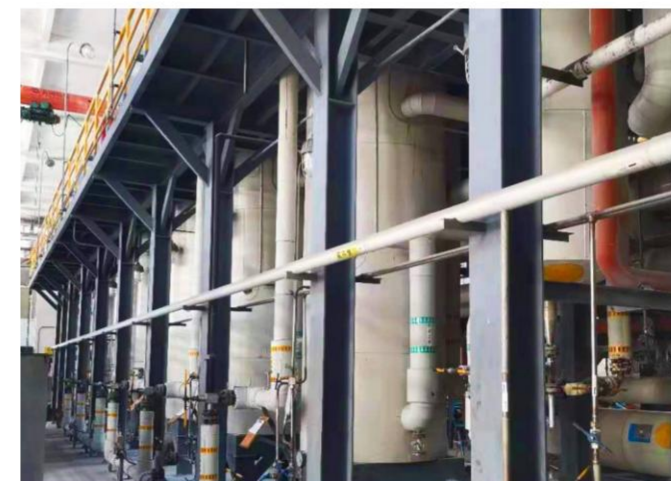
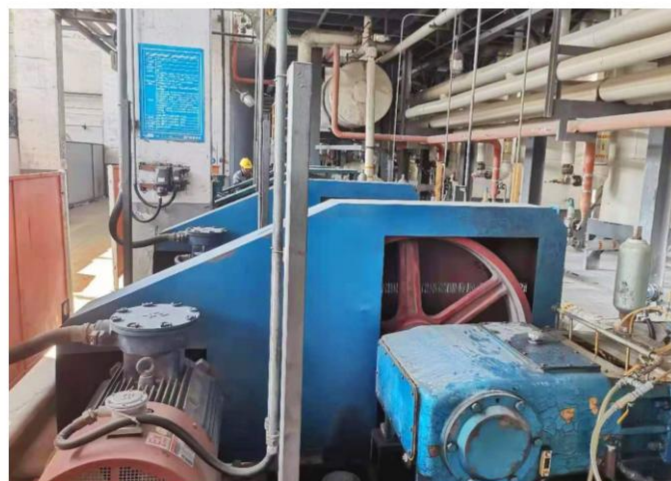


Avoid violent vibration
or sudden impact.



Installation height is less than 1000 meters
above sea level, height more than 1000 meters
above sea level must derating use.

Applications



B503PRO is widely used in wind turbines, conveyor belts, and other light and heavy-duty equipment, providing a safe and stable source of power for them.

Applications



B503PRO for plastic balers



B503D for refrigeration pumps



B503PRO applied to folding machine