

```
...
selection at the end add back the deselected mirror modifier object
mirror_ob.select= 1
modifier_ob.select= 1
bpy.context.scene.objects.active = modifier_ob
print("Selected" + str(modifier_ob)) # modifier ob is the active ob
mirror_ob.select = 0
one = bpy.context.selected_objects[0]
bpy.data.objects[one.name].select = 1
print("please select exactly two objects, the last one gets the modifier unless its not a mirror")

... OPERATOR CLASSES ...

(bpy.types.Operator):
    Adds an X mirror to the selected object""
    name = "object.mirror_mirror_x"
    bl_label = "Mirror X"

...
def execute(self, context):
    context.window_manager.message_box

...

```



WD200 Series General-Purpose AC Drive (0.75-710 kW)



WOLONG ELECTRIC GROUP CO.,LTD.

Add : No.1801 West Renmin Road,Shangyu District,Shaoxing,Zhejiang,China
Web : www.wolong-electric.com

www.wolong-electric.com





CATALOGUE

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COMPANY PROFILE

Wolong, founded in 1984 and headquartered in Shaoxing, Zhejiang Province, is a global leading industrial enterprise committed to providing safe, efficient, intelligitized and green power drive system solutions with life-long supporting services to global users.

By utilizing cutting edge permanent magnet, nanotechnology and silicon carbide technologies, Wolong has built the China's first motor material demonstration platform, that satisfy the highest standards for power density and energy efficiency of motors and generators. With more than 30 years of development, the company has grown into one of the World's top three motor and drive manufacturers and sales enterprises. Wolong insists on technological innovation to lead the industrial reform, actively supports business digital transformation, continuously develops efficient drive system solutions and creates smart industry brain for the motor and drive life cycle management.

All factories pass
ISO9001
ISO14001
ISO45001 Quality & EHS system certification

3 Manufacturing bases
42 Factories

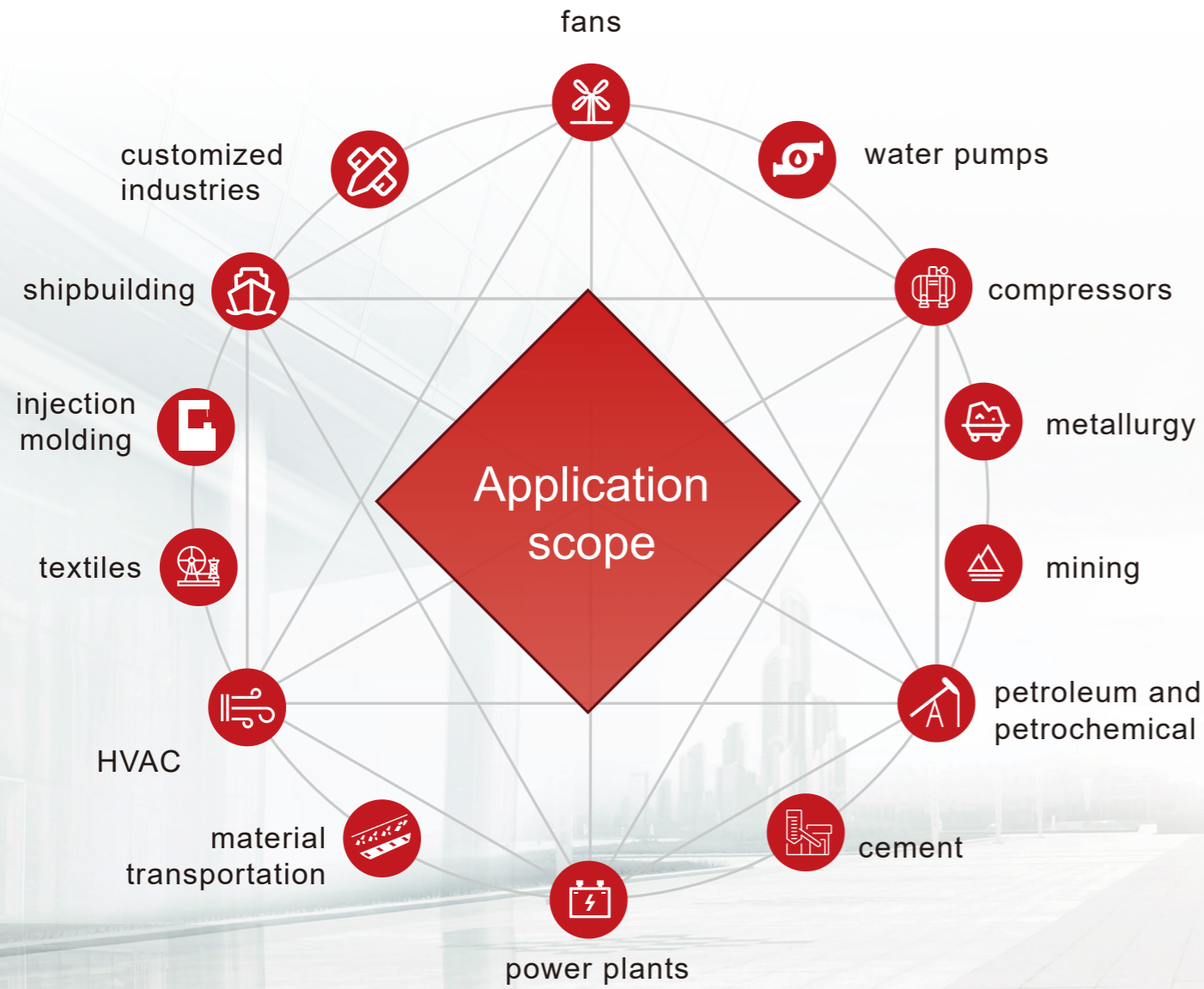
- ▶ Asia (China, Vietnam)
- ▶ America (Mexico)
- ▶ Europe (UK, Germany, Italy, Poland, Serbia)



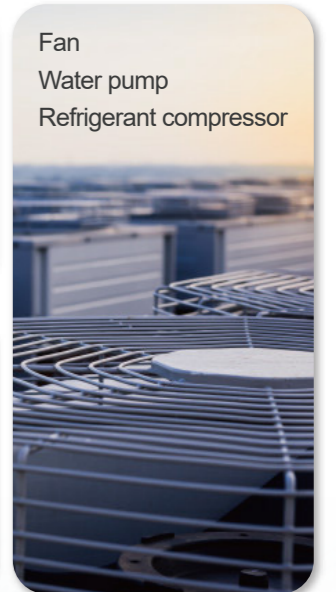
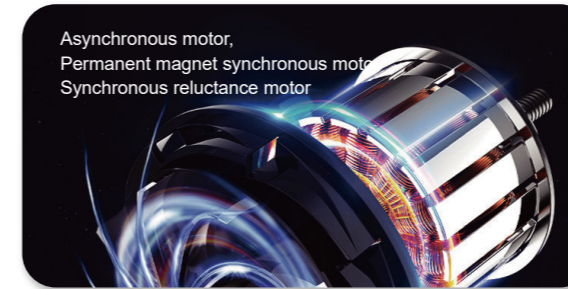
PRODUCT OVERVIEW



The WD200 is a new generation high-performance universal frequency converter from Wolong, which adopts advanced motor control algorithms and efficiently matches Wolong motors. It supports the control of AC asynchronous motors, permanent magnet synchronous motors. It has the characteristics of high reliability, high performance, strong scalability, support for multiple transmissions, and easy cabinet formation.



Typical Applications



PRODUCT FEATURES

▼ The product adopts a narrow body design, making the cabinet assembly more flexible

Save cabinet space and reduce costs; Depending on the model, multiple installation methods are supported:

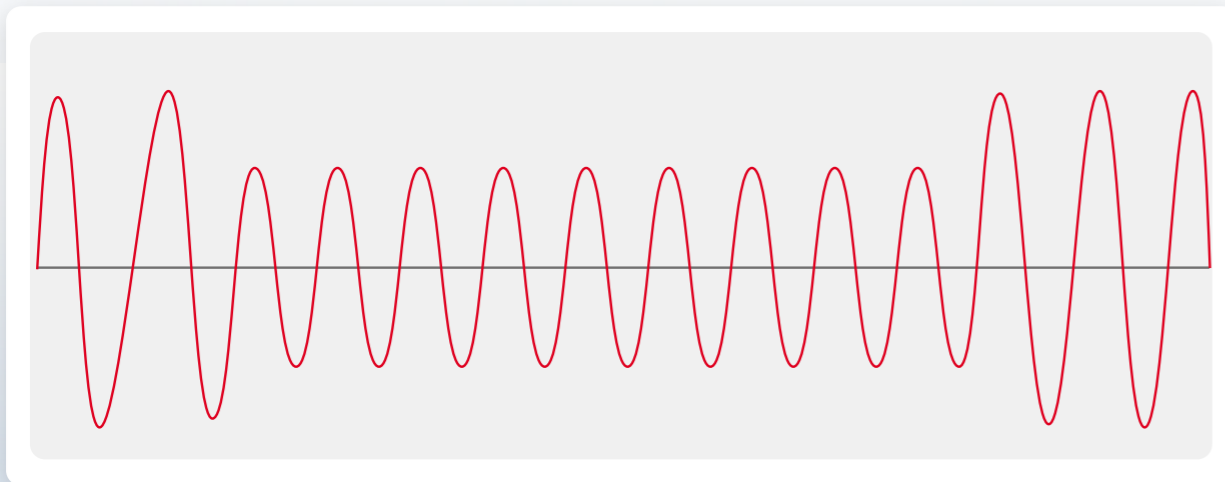
DIN-Rail Mounting
0.75 kW to 5.5 kW

Wall Mounting
0.75 kW to 630 kW

Flange Mounting
75 kW to 160 kW

Self standing
220 kW to 710 kW

▼ Wide Voltage Input



Wide Voltage Design, Suitable for 380-480 V Three-Phase Grid Applications in Different Regions Overseas

▼ A single model is matched with two different power motors

USERS CAN CHOOSE ACCORDING TO THE LOAD CONDITIONS:

Standard load (P-type): Suitable for applications with low overload (up to 120%), The motor power is less than or equal to the standard load power of the frequency converter.

Heavy load (G-type): Suitable for applications with high overload (up to 150%), Motor power less than or equal to the heavy-duty power of the frequency converter.

▼ Comprehensive Control Methods & Functions

Strong Grid Adaptability

Wide voltage design compliant with international standards, suitable for 380–480 V three-phase grids in Europe, North America, India, and more.

Strong Environmental Adaptability

Control boards are 100% conformally coated, significantly extending their service life. Independent air duct design.

Control Modes

Speed Mode: Torque Mode

Book-style design

30% more compact than traditional inverters.

Rich Features

PID closed-loop, master-slave, droop control, simple PLC, multi-speed, etc.

Expandable LCD panel with English display

Comprehensive Protection Functions

Output-to-ground short-circuit protection; Internal buffer relay protection; Fan drive circuit protection; External 24 V DC short-circuit protection; Motor overload protection and various software-based protection features

Braking Unit

0.75–22 kW: built-in braking unit as standard; 30–160 kW: optional built-in braking unit; 185 kW and above: external braking unit.



Excellent performance

High starting torque

0.5 Hz output 150% rated torque (SVC)
0 Hz output 200% rated torque (FVC)

Up to 98% work efficiency

High speed control accuracy

deviation $\leq 0.1\%$ rated speed (SVC)
deviation $\leq 0.05\%$ rated speed (FVC)

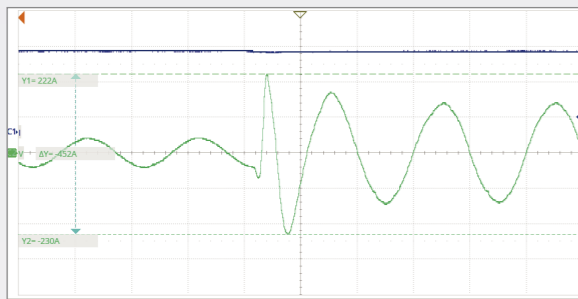


Good low-frequency characteristics

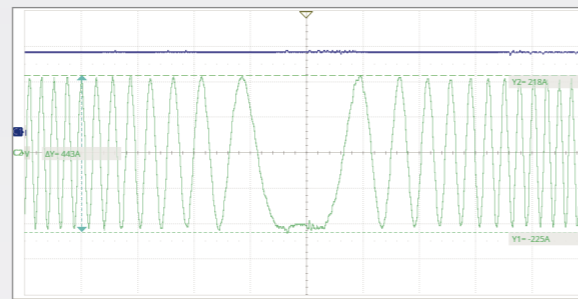
1 Hz rated load stable operation (SVC)
0 Hz rated load stable operation (FVC)

Excellent current suppression function: Suppress the surge current generated by sudden load changes, Reduce equipment downtime due to malfunctions

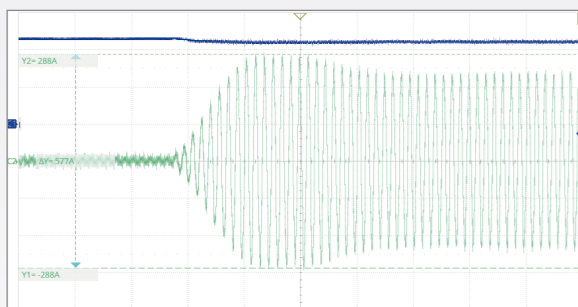
Data source: WOLONG Laboratory



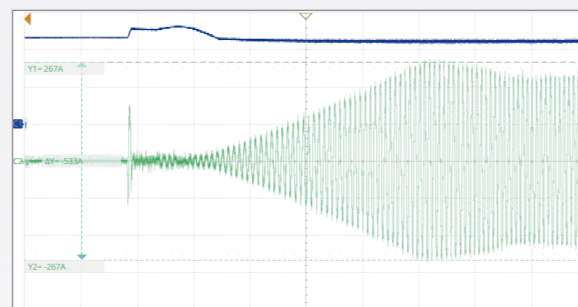
1 Hz sudden increase in rated load waveform



Forward and reverse switching test under rated load



Rated frequency sudden increase rated load waveform



Speed tracking start test

Hardware design

The medium and high-power models adopt thyristor rectification, without internal pre charging contactors or mechanical contacts, stable and reliable

Supporting adaptive protection function for bus short circuit can greatly reduce power device damage caused by bus short circuit

Enhanced circuit board coating protection design to meet usage requirements in harsh environments

Under 80% to 100% load conditions, THDI $\leq 48\%$ can maintain good power factors



OPTIONAL MODEL

Product	Type	Note
Optional communication protocols	WD-PN01A	Profinet
	WD-CAN01A	CANopen
	WD-DP01A	PROFIBUS-DP
Speed feedback encoder	WD-PG01A	Incremental encoder(A/B/Z)
	WD-PG02A	Resolver
I/O Expansion	WD-IO01A	I/O expansion card
Keypad	WD-OP01A	Dual line LED Keypad
	WD-OP02A	LCD Keypad

More options are coming soon!



Terminal interface

7 digital inputs
2 relay outputs

1 digital output
1 high-speed pulse output

2 analog inputs
2 analog outputs

Standard Modbus RTU
terminal interface

Scalable functionality

The dual expansion card slot design can meet multiple application requirements simultaneously

Fieldbus
adapter
module

Speed
feedback
encoder
module

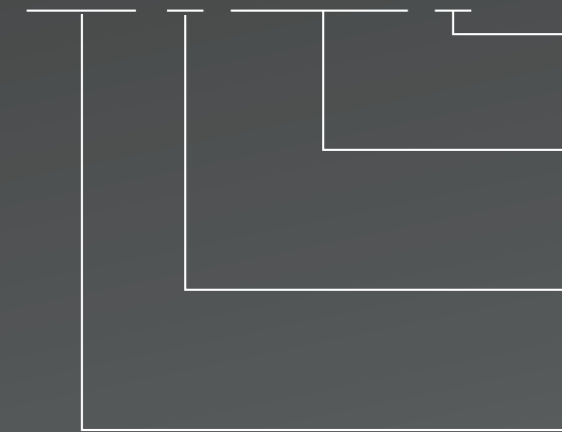
I/O
expansion
module

PERFORMANCE PARAMETER

Project	Description
Voltage and Power range	380-480 V 0.75-710 kW
Power supply frequency	50 / 60 Hz ±5%
Motor type	Three phase asynchronous Motor (IM) / Permanent magnet synchronous motor (PMSM)
Control model	VF / sensor-less vector (SVC) / feedback vector (FVC) / Voltage frequency separation control
Speed range	1:200 (SVC) 1:1000 (FVC)
Speed regulation accuracy	IM: ±0.5% / PMSM: ±0.1% (SVC) ±0.02% (FVC)
Torque control accuracy	IM: ±10% / PMSM: ±5% (SVC) IM: ±5% / PMSM: ±2.5% (FVC)
Starting torque	0.5 Hz 150% (SVC) 0.0 Hz 200% (FVC)
Overload	G-Heavy load:150% rated current 60s P-Standard load:120% rated current 60s
Output frequency range	0-599 Hz
Analog input	AI1 (0-10 V / 0-20 mA / 4-20 mA), AI2 (0-10 V / 0-20 mA / 4-20 mA)
Analog output	AO1 (0-10 V / 0-20 mA / 4-20 mA), AO2 (0-10 V / 0-20 mA / 4-20 mA) (Frame size 5 and below have only one AO)
Digital input	7 channel programmable digital inputs, maximum input frequency of 1 kHz, internal impedance of 4.4 kΩ (Frame size 5 and below have 5 digital inputs)
Digital output	One channel of open collector programmable logic output, the maximum current of internal power supply is 1.2 mA, and the maximum current of external power supply is 200 mA 1 channel of high-speed pulse output, with a maximum frequency of 100 kHz
Relay output	2 programmable relay outputs: TA1 / NO1 Normally open contact, TB1 / NC1 Normally closed contact, TC1 / CM1 Common terminal TB2 / NO2 Normally open contact, TC2 / CM2 common terminal (Frame size 5 and below have only one Relay)
Standard communication protocol	Modbus RTU: A+ / B- / 485G
Expansion	2 Extension interfaces: EX-A, EX-B Scalable: I/O expansion module, speed feedback encoder module, communication module, etc
Optional parts	LCD keypad
Optional communication protocols	PROFIBUS-DP, PROFINET, CANopen etc.
I/O expansion	4 digital inputs (including 1 high-speed input), 1 digital output, 1 analog output, 1 relay output, 1 temperature input (PT100 / PT1000 / PTC)
Speed feedback	Incremental encoder (A / B / Z), resolver
LCD keypad	All series optional
Brake Unit	0.75-22 kW Standard built-in brake unit 30 kW and above optional external brake unit
DC Reactor	30 kW and above optional
Major function	Asynchronous or permanent magnet synchronous motor control, V/F or vector control, open/closed loop control, speed control, torque control, PID control, multi-speed function, simple PLC function, swing frequency control, counting and timing function, flying start, automatic restart after power loss, etc.
Installation	DIN-Rail mounting, Wall mounting, Flange mounting, Self standing
Cooling method	Forced air cooling
Protection grade	IP20
Operation temperature	-10 °C ~ +50 °C, need to derate > 40 °C
Storage temperature	-30 °C ~+60 °C
Compliance with standards	IEC 61800-5-1, GB12668
EMC performance	In accordance with IEC 61800-3

NAMING SPECIFICATION

WD200 - T3 - 011G/015P - B



Integrated Accessories

B - Brake Unit
L - DC Reactor

Power

011G - 11 kW G: Heavy load
015P - 15 kW P: Standard load

Voltage

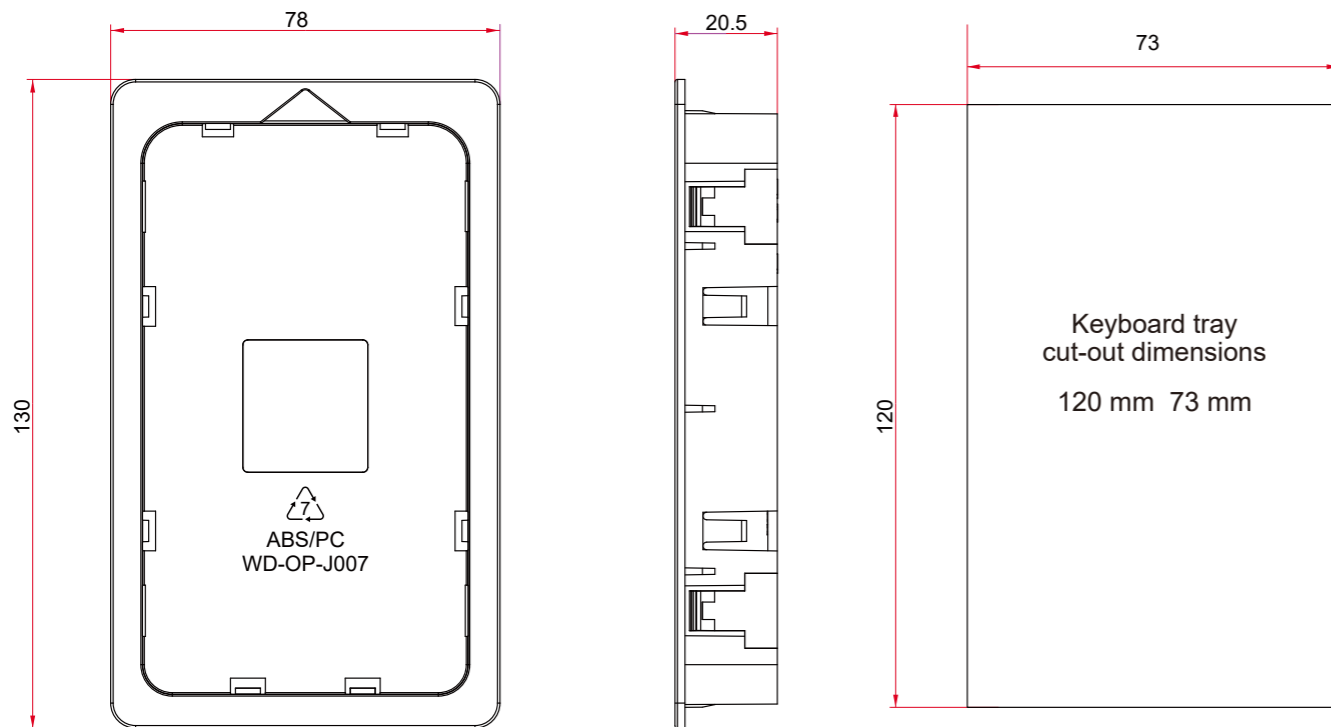
T - three phase
3 - 380 V ~ 480 V

Product Series

WD200



KEYBOARD BASE OPENING SIZE



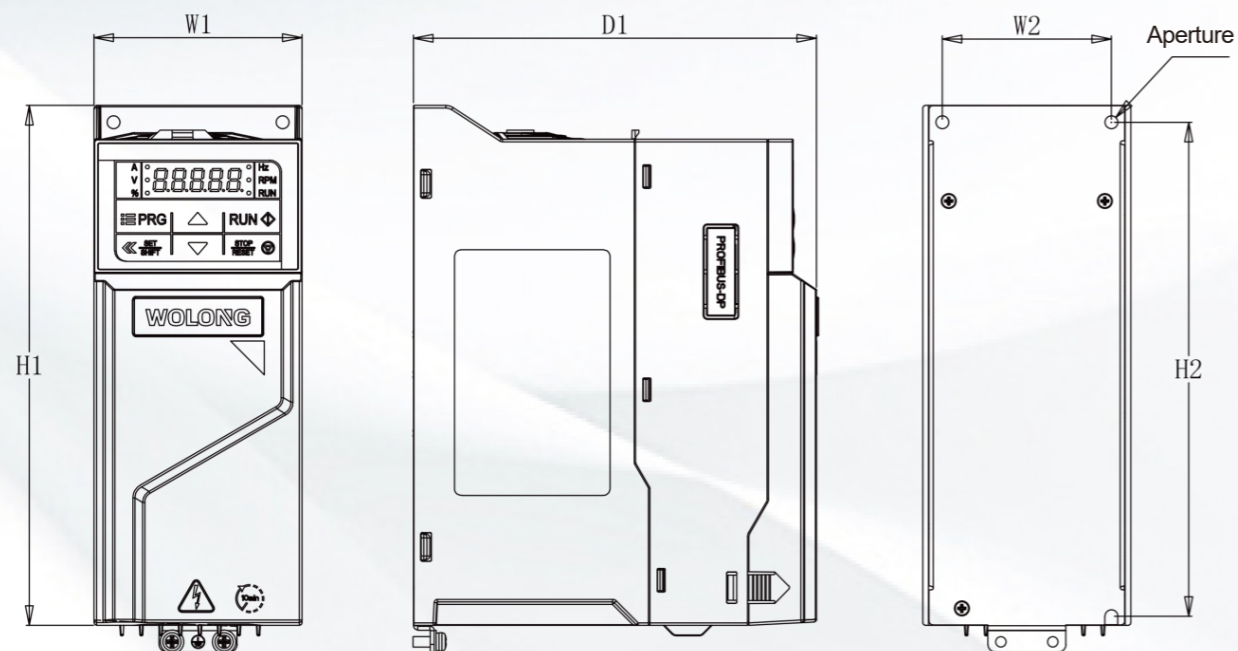
Supply voltage: three-phase: 380 V~480 V; 50 / 60 Hz

G: heavy load P: standard load	motor		power supply (input)	Frequency converter (output)			model	Overall dimensions			Installation dimensions		
	Rated power		line current	Maximum continuous output electric current In	Maximum instantaneous current 1.5 In (heavy load) 60 s	Maximum instantaneous current 1.2 In (standard load) 60 s		W1	D1	H1	W2	H2	aperture
	kW	HP	A	A	A	A		mm	mm	mm	mm	mm	mm
G	0.75	1	3.5	3	4.5	-	WD200-T3-R75G-B	80	155	200	65	190	3-Ø5
P	1.5	2	5	4	-	4.8							
G	1.5	2	5	4	6	-	WD200-T3-1R5G-B	80	155	200	65	190	3-Ø5
P	2.2	3	5.8	6	-	7.2							
G	2.2	3	5.8	6	9	-	WD200-T3-2R2G-B	80	155	200	65	190	3-Ø5
P	-	-	-	-	-	-							
G	4	5	11	10	15	-	WD200-T3-004G/5R5P-B	100	155	242	84	232	4-Ø5
P	5.5	7.5	15	13	-	15.6							
G	5.5	7.5	15	13	19.5	-	WD200-T3-5R5G/7R5P-B	100	155	242	84	232	4-Ø5
P	7.5	10	20	17	-	20.4							
G	7.5	10	20	17	25.5	-	WD200-T3-7R5G/011P-B	116	175	320	98	308	4-Ø6
P	11	15	26	25	-	30							
G	11	15	26	25	37.5	-	WD200-T3-011G/015P-B	116	175	320	98	308	4-Ø6
P	15	20	35	32	-	38.4							
G	15	20	35	32	48	-	WD200-T3-015G/018P-B	142	225	383	120	372	4-Ø6
P	18.5	25	39	38	-	45.6							
G	18.5	25	39	38	57	-	WD200-T3-018G/022P-B	142	225	383	120	372	4-Ø6
P	22	30	46	45	-	54							
G	22	30	46	45	67.5	-	WD200-T3-022G/030P-B	142	225	383	120	372	4-Ø6
P	30	40	62	60	-	72							
G	30	40	62	60	90	-	WD200-T3-030G/037P	170	225	430	150	416	4-Ø6.5
P	37	50	76	75	-	90							
G	37	50	76	75	112.5	-	WD200-T3-037G/045P	170	225	430	150	416	4-Ø6.5
P	45	60	90	90	-	108							
G	45	60	90	90	135	-	WD200-T3-045G/055P	240	310	560	176	545	4-Ø7
P	55	75	105	110	-	132							
G	55	75	105	110	165	-	WD200-T3-055G/075P	240	310	560	176	545	4-Ø7
P	75	100	140	150	-	180							
G	75	100	140	150	225	-	WD200-T3-075G/090P	240	310	560	176	545	4-Ø7
P	90	125	160	180	-	216							
G	90	125	160	180	270	-	WD200-T3-090G/110P	270	350	638	195	615	4-Ø10
P	110	150	210	210	-	252							
G	110	150	210	210	315	-	WD200-T3-110G/132P	270	350	638	195	615	4-Ø10
P	132	200	240	250	-	300							
G	132	200	240	250	375	-	WD200-T3-132G/160P	350	390	735	220	715	4-Ø10
P	160	250	290	310	-	372							
G	160	250	290	310	465	-	WD200-T3-160G/185P	350	390	735	220	715	4-Ø10
P	185	-	330	340	-	408							
G	185	-	330	340	510	-	WD200-T3-185G/200P	360	485	942	200	890	4-Ø12
P	200	275	370	380	-	456							
G	200	275	370	380	570	-	WD200-T3-200G/220P	360	485	942	200	890	4-Ø12
P	220	300	410	415	-	498							
G	220	300	410	415	622.5	-	WD200-T3-220G/250P	360	485	942	200	890	4-Ø12
P	250	340	460	470	-	564							
G	250	340	460	470	705	-	WD200-T3-250G/280P	370	545	1127	200	1075	4-Ø20
P	280	380	500	510	-	612							
G	280	380	500	510	765	-	WD200-T3-280G/315P	370	545	1127	200	1075	4-Ø20
P	315	430	580	600	-	720							
G	315	430	580	600	900	-	WD200-T3-315G/355P	400	545	1212	240	1147	4-Ø20
P	355	485	620	670	-	804							
G	355	485	620	670	1005	-	WD200-T3-355G/400P	400	545	1212	240	1147	4-Ø20
P	400	545	670	750	-	900							
G	400	545	670	750	1125	-	WD200-T3-400G/450P	400	545	1212	240	1147	4-Ø20
P	450	600	780	800	-	960							
G	450	600	780	800	1200	-	WD200-T3-450G/500P	460	545	1400	300	1340	4-Ø20
P	500	675	835	860	-	1032							
G	500	675	835	860	1290	-	WD200-T3-500G/560P	460	545	1400	300	1340	4-Ø20
P	560	750	920	990	-	1188							
G	560	750	920	990	1485	-	WD200-T3-560G/630P	460	545	1400	300	1340	4-Ø20
P	630	850	1050	1100	-	1320							
G	630	850	1050	1200	1800	-	WD200-T3-630G/710P	825	635	1920	600	560	4-Ø14
P	710	950	1301	1340	-	1608							
G	710	950	1301	1340	2010	-	WD200-T3-710G/800P	825	635	1920	600	560	4-Ø14
P	800	1080	1466	1500	-	1800							

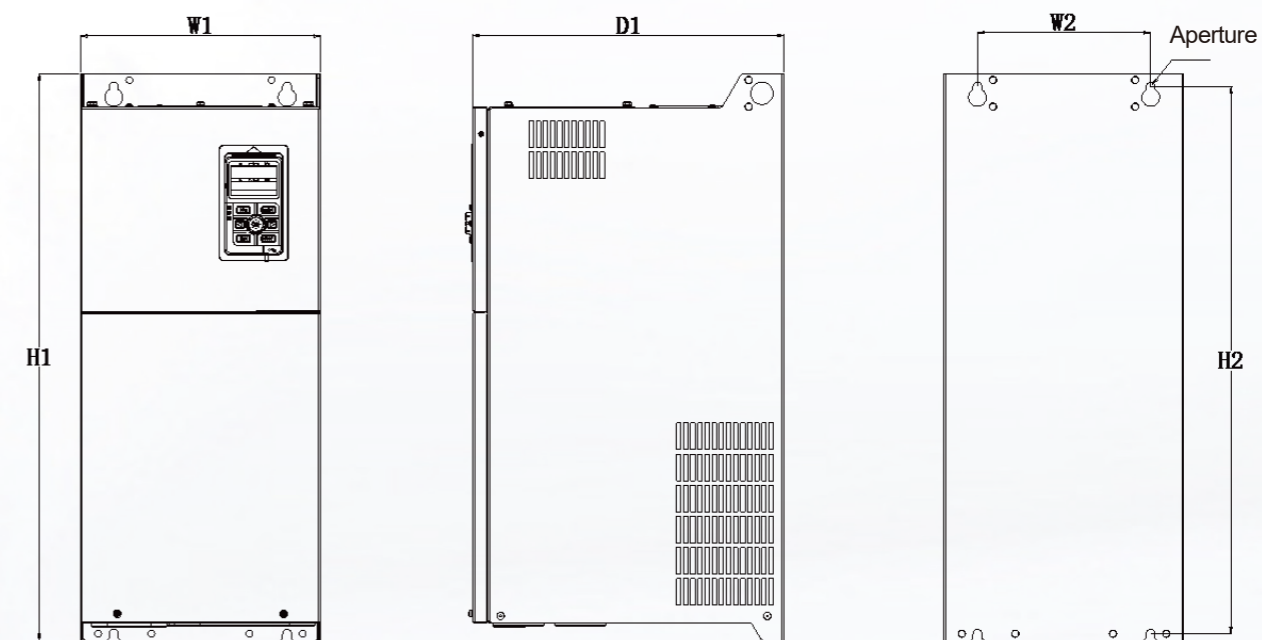
The WD200-T3-630G/710P and above models are cabinet frequency converters, and the installation dimensions are the opening dimensions of the cabinet base

OUTLINE DIAGRAM

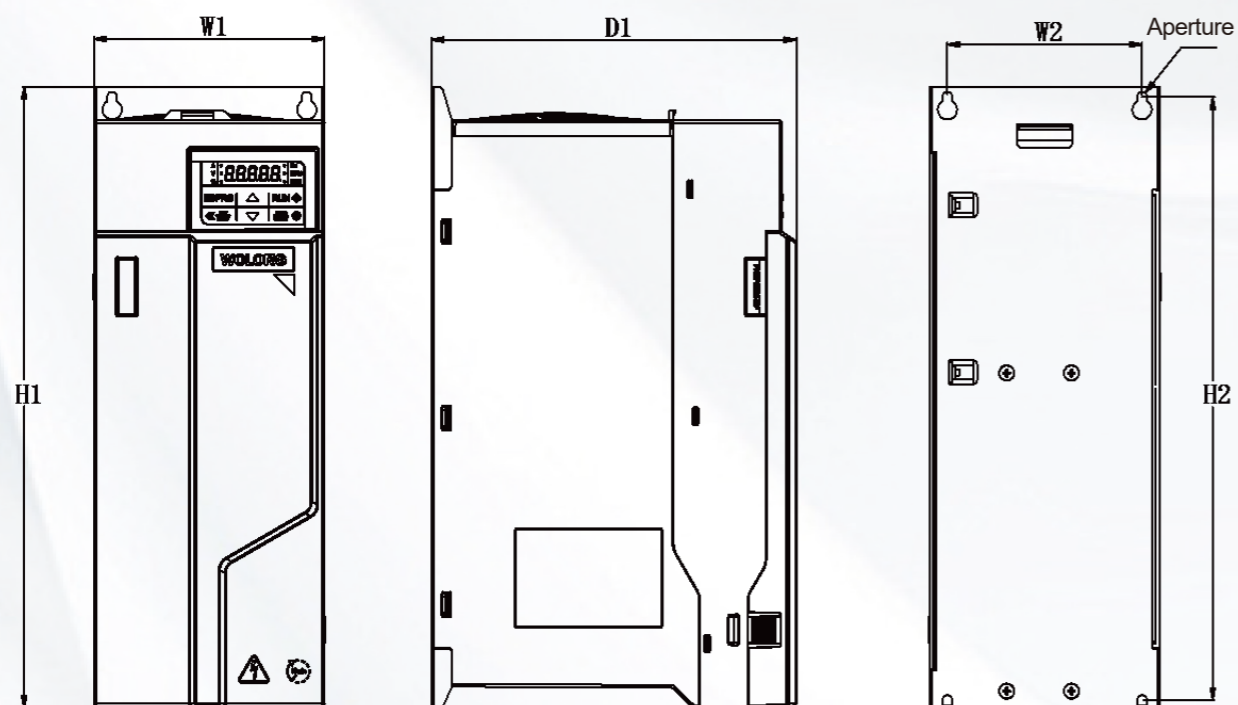
▼ WD200 FRAME SIZE 1



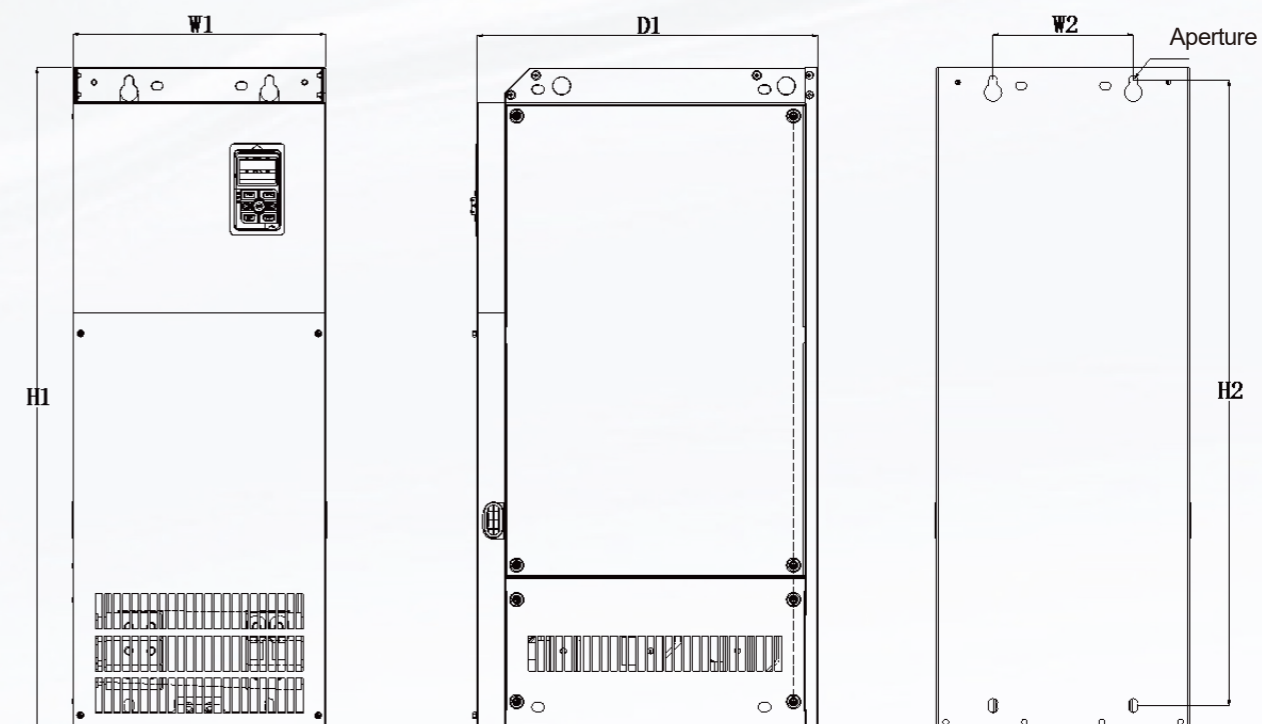
▼ WD200 FRAME SIZE 6-8



▼ WD200 FRAME SIZE 2-5

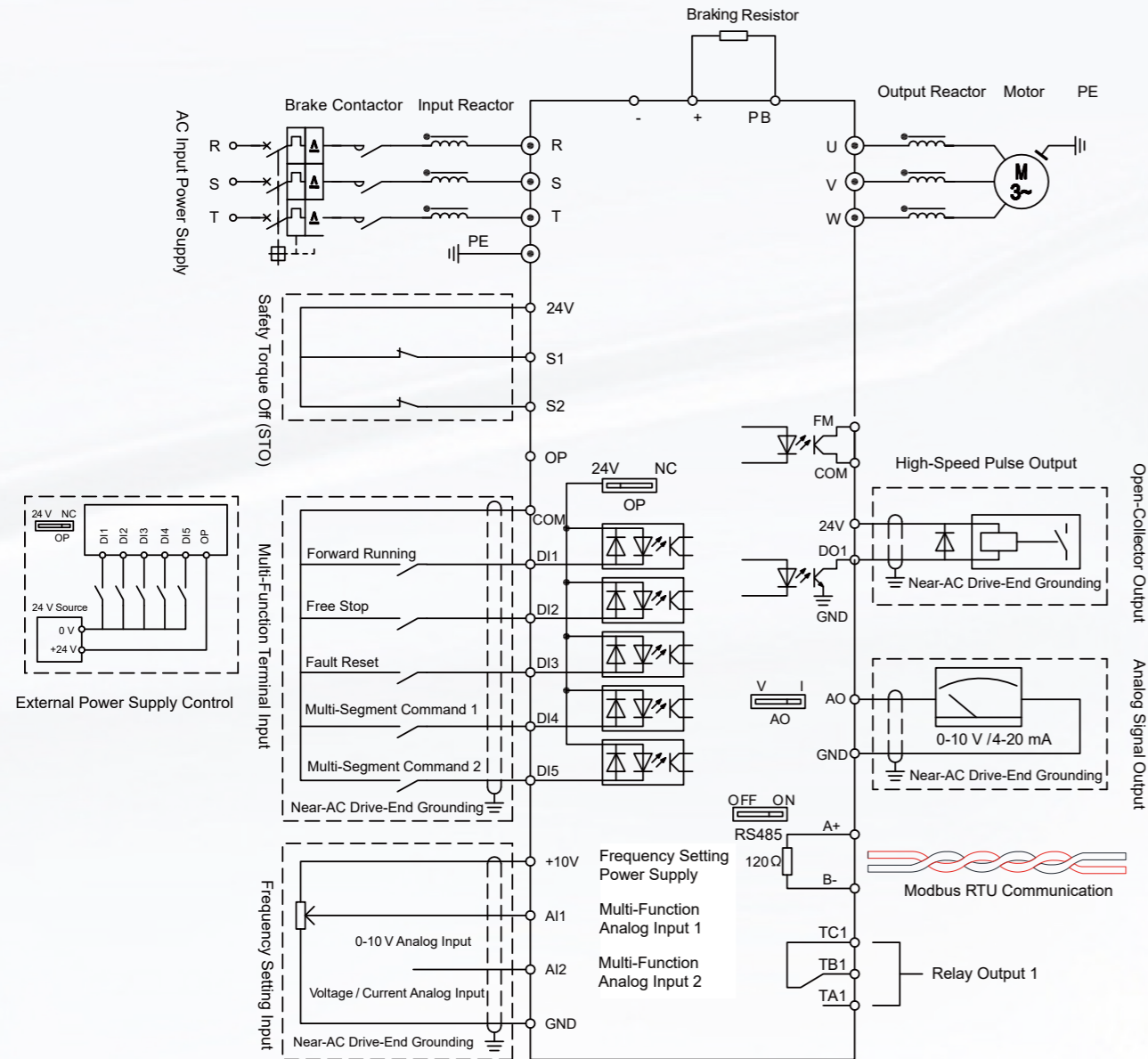


▼ WD200 FRAME SIZE 9-12

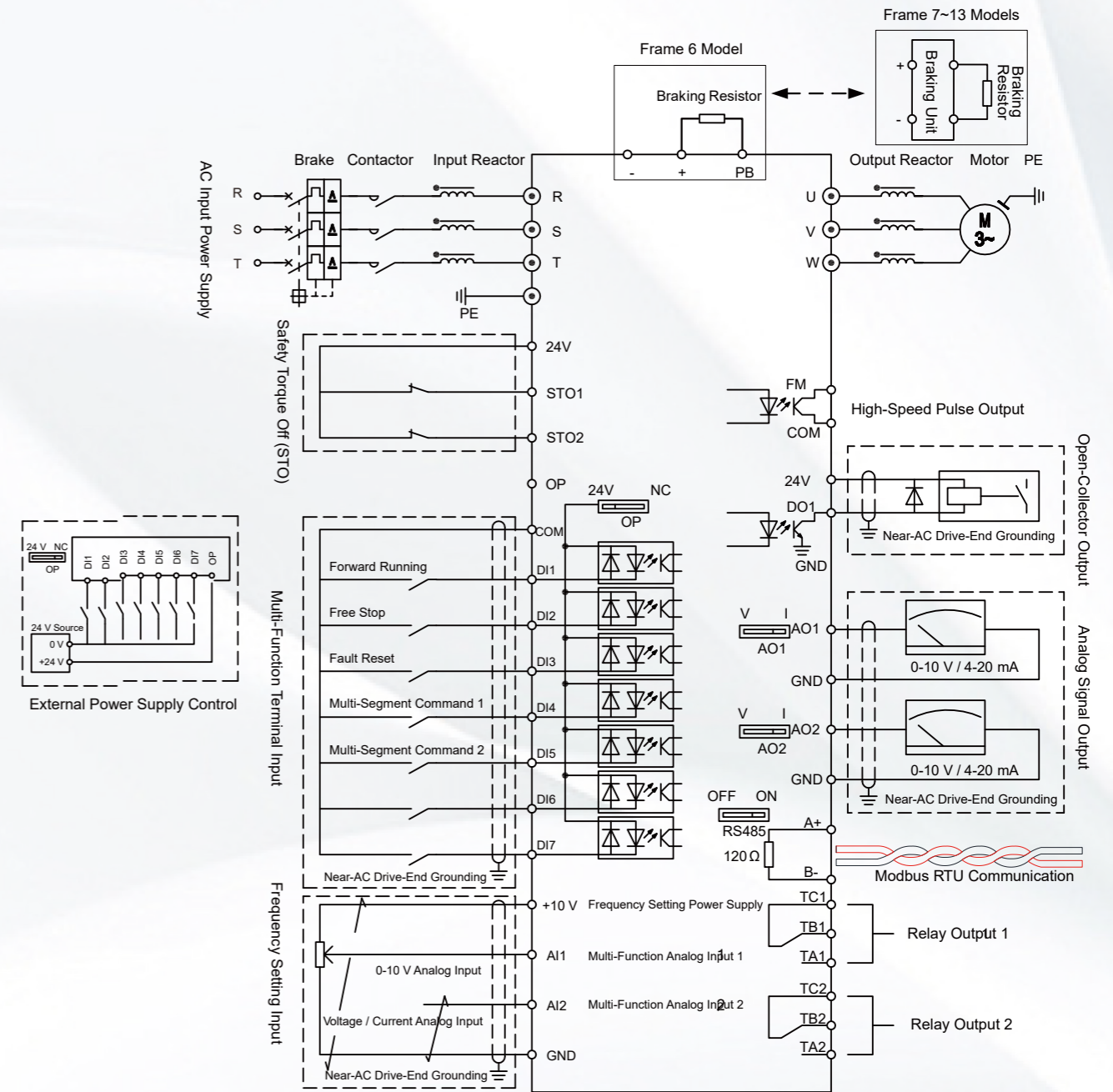


TERMINAL CONNECTION DIAGRAM

▼ TYPICAL WIRING DIAGRAM FOR FRAME SIZES 1 ~ 5



▼ TYPICAL WIRING DIAGRAM FOR FRAME SIZES 6 ~ 14



Note: Frame Sizes 9 ~ 14 are not provided with a "PB" terminal.