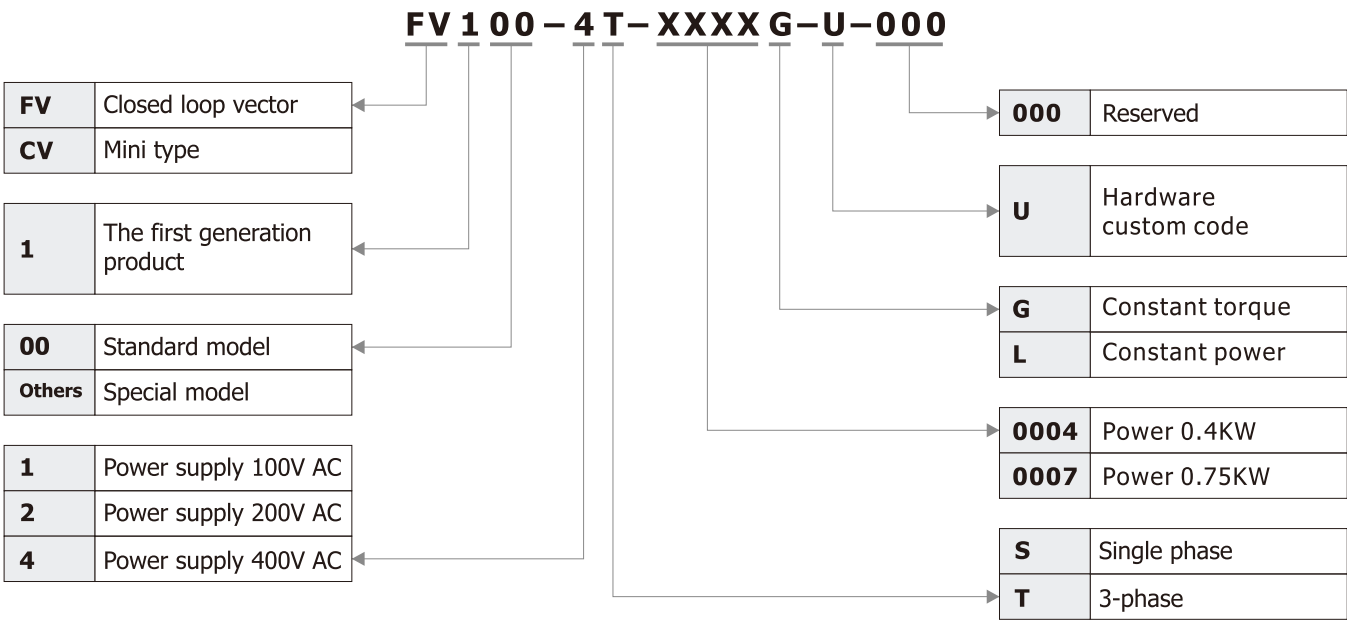


FV100 Series



Selection Guide



General Product Series

FV100-4T-□□□□G 3-phase 380V AC constant torque VFD

Model		0007	0015	0022	0037	0055	0075	0110	0150	0185	0220	0300	0370	0450	
FV100-4T-□□□□G															
The power of suitable motor(kW)		0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	
Output	Voltage(V)	3-phase 0-rated input voltage													
	Rated current(A)	2.3	3.7	5.5	8.8	13	17	25	32	37	45	60	75	90	
Input	Overload capacity	150% 1 Minute, 180% 10 Seconds													
	Rated voltage/frequency	3-phase 380V~440V AC; 50Hz/60Hz													
	Allowable voltage range	320V~460V AC; Voltage unbalancedness: ≤3%; Allowable frequency fluctuation: ± 5%													
	Rated current(A)	3.4	5.0	5.8	10.5	14.5	20.5	26	35	38.5	46.5	62	76	92	
Brake unit		Built-in									Built-in(optional)			External brake unit	
Protection class		IP20													
Cooling method		Air cooling	Cooling by fan												

Model		0550	0750	0900	1100	1320	1600	1850	2000	2200	2500	2800	3150	3550	4000
FV100-4T-□□□□G		55	75	90	110	132	160	185	200	220	250	280	315	355	400
Output	The power of suitable motor(kW)														
	Voltage(V)	3-phase 0~rated input voltage													
	Rated current(A)	110	152	176	210	252	304	350	380	426	470	520	600	650	690
Input	Overload capacity	150% 1 Minute, 180% 10 Seconds													
	Rated voltage/frequency	3-phase 380V~440V AC; 50Hz/60Hz													
	Allowable voltage range	320V~460V AC; Voltage unbalancedness:≤3%; Allowable frequency fluctuation:±5%													
	Rated current(A)	113	157	180	220	240	320	326*	352*	385*	437*	491*	580*	624*	670*
Brake unit		External brake unit													
Protection class		IP20													
Cooling method		Cooling by fan													

* 185KW above models standard equip with DC reactor externally.

FV100-4T-□□□□L 3-phase 380V AC constant power VFD

Model		0015	0022	0037	0055	0075	0110	0150	0185	0220	0300	0370	0450	0550	
FV100-4T-□□□□L		1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	
Output	The power of suitable motor(kW)														
	Voltage(V)	3-phase 0~rated input voltage													
	Rated current(A)	3.7	5.5	8.8	13	17	25	32	37	45	60	75	90	110	
Input	Overload capacity	115% 1 Minute, 160% 0.5 Second													
	Rated voltage/frequency	3-phase 380V~440V AC; 50Hz/60Hz													
	Allowable voltage range	320V~460V AC; Voltage unbalancedness:≤3%; Allowable frequency fluctuation:±5%													
	Rated current(A)	5.0	5.8	10.5	14.5	20.5	26	35	38.5	46.5	62	76	92	113	
Brake unit		Built-in													External brake unit
Protection class		IP20													
Cooling method		Air cooling		Cooling by fan											

Model		0750	0900	1100	1320	1600	1850	2000	2200	2500	2800	3150	3550	4000	4500
FV100-4T-□□□□L		75	90	110	132	160	185	200	220	250	280	315	355	400	450
Output	The power of suitable motor(kW)														
	Voltage(V)	3-phase 0~rated input voltage													
	Rated current(A)	152	176	210	252	304	350	380	426	470	520	600	650	690	775
Input	Overload capacity	115% 1 Minute, 160% 0.5 Second													
	Rated voltage/frequency	3-phase 380V~440V AC; 50Hz/60Hz													
	Allowable voltage range	320V~460V AC; Voltage unbalancedness:≤3%; Allowable frequency fluctuation:±5%													
	Rated current(A)	157	180	220	240	320	336	352*	385*	437*	491*	580*	624*	670*	755*
Brake unit		External brake unit													
Protection class		IP20													
Cooling method		Cooling by fan													

* 200KW above models standard equip with DC reactor externally.

FV100 Series

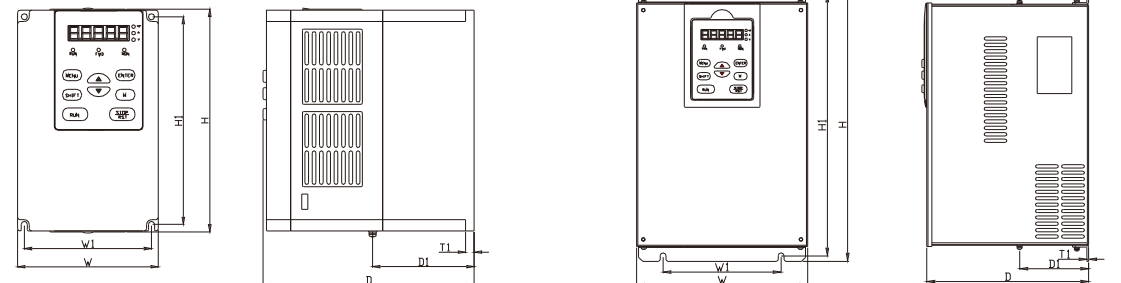
FV100 Series

Technical Specification

Item	Description
Input	
Rated Voltage/frequency	4T: 3-phase, 380V~440V AC, 50Hz/60Hz; 2T: 3-phase, 200V~240V, 50Hz/60Hz; 2S: Single-phase, 200V~240V, 50Hz/60Hz
Applicable voltage range	4T: 320V~460V AC; 2T/2S:180V~260V; Voltage unbalancedness: <3%. Frequency tolerance:±5%.
Output	
Rated voltage	0~Rated input voltage
Frequency	0Hz~300Hz (Customized 0Hz~3000Hz)
Overload capacity	G Type:150% 1 minute, 180% 10 seconds; L type :110% 1 minute, 150% 1 second
Control characteristics	
Control method	Vector control without PG.Vector control with PG, V/F control
Modulation system	Space vector PWM modulation
Starting Torque	0.5Hz: 150% of rated torque(Vector control without PG), 0.5Hz: 200% of rated torque(Vector control with PG)
Frequency accuracy	Digital setting: Max. frequency×±0.01% Analog setting: Max. frequency×±0.2%
Frequency resolution	Digital setting: 0.01Hz. Analog setting: Max. frequency×0.05%
Torque boost	Manual torque boost: 0%~30.0%
V/F pattern	4 patterns:1 pattern is V/F curve setting by users. 3 patterns are drop torque characters curve (2.0 power,1.7 power,1.2 power)
Acceleration/Deceleration curve	Linear acceleration/deceleration. Four kinds of acceleration/deceleration time are optional
DC braking	Braking starting frequency: 0.00~60.00Hz Braking time: 0.0~10.0s Braking current: 0.0~100.0%
Auto current limit	Auto limit the current during operation to prevent frequent overcurrent trip.
Customized function	
Jogging	Jogging frequency range: 0.00Hz~50.00Hz. Jogging acceleration/deceleration time: 0.1~60.0s.
Multiple speed operation	Implement multiple speed operation by digital inputs.
Operation function	
Operation command	Keypad setting, Terminal setting, Communication setting
Frequency command	Keypad setting, Analog input, Pulse input, Communication setting
Auxiliary frequency setting	Implement flexible auxiliary frequency trim and frequency synthesis.
Pulse output	0~100KHz pulse output.
Analog output	2 channels analog output(0/4~20mA or 0/2~10V).
Operation panel	
LED Display	Display setting frequency, output frequency, output voltage, output current and so on, about 20 parameters.
Parameters copy	Copy parameters by operation panel.
Keys lock and function selection	Lock part of keys or all the keys. Define the function of part of keys.
Protection function	
Open phase protection(optional), overcurrent protection, overvoltage protection, undervoltage protection, overheat protection, overload protection and so on.	
Environment	
Operating site	Indoor, installed in the environment free from direct sunlight, dust, corrosive gas, combustible gas, oil mist, steam and drip.
Altitude	Derated above 1000m, the rated output current shall be decreased by 10% for every rise of 1000m
Ambient temperature	-10℃~40℃, derated at 40℃~ 50℃.
Humidity	5%~95%RH, non-condensing.
Vibration	Less than 5.9m/s ² (0.6g)
Storage temperature	-40℃~70℃
Structure	
Protection class	IP20
Cooling method	Air cooling, with fan control.
Installation method	Wall-mounted
Effeciency	45kW or below:≥93%; 55kW or above:≥95%

VFD that power under FV100-2T/4T-0037G

FV100-4T-0055G~FV100-4T-4000G
FV100-2T-0055G~FV100-2T-0220G



Models of Inverter (G: Constant torque load L: Draught fan and water pump load)	External dimension(mm)								Weight (kg)
	W	H	D	W1	H1	D1	T1	Installation hole "d"	
FV100-2□-0004G	115	185	171	106	176	65	7	5	2
FV100-2□-0007G									
FV100-2□-0015G									
FV100-2□-0022G									
FV100-2□-0037G									
FV100-4T-0007G/0015L									
FV100-4T-0015G/0022L									
FV100-4T-0022G/0037L									
FV100-4T-0037G/0055L									
FV100-2□-0055G	165	274	193	110	264	—	2	6	6
FV100-2□-0075G									
FV100-4T-0055G/0075L									
FV100-4T-0075G/0110L									
FV100-2□-0110G	194	324	197	120	312	—	2	6	8
FV100-4T-0110G/0150L									
FV100-4T-0150G/0185L									
FV100-4T-0185G/0220L									
FV100-2□-0150G	297	451	224	200	433	—	3	7	18
FV100-2□-0185G									
FV100-2□-0220G									
FV100-4T-0220G/0300L									
FV100-4T-0300G/0370L	320	535	224	220	512	88.5	3	10	31
FV100-4T-0370G/0450L									
FV100-4T-0450G/0550L									
FV100-4T-0550G/0750L									
FV100-4T-0750G/0900L	373	649	262	240	628	102.5	3	10	42
FV100-4T-0900G/1100L	440	758	285	340	737	102	2.5	11	73
FV100-4T-1100G/1320L	430	780	330	280	755	168	3	11	76
FV100-4T-1320G/1600L									
FV100-4T-1600G/1850L	530	940	380	340	910	206	4	14	114
FV100-4T-1850G/2000L									
FV100-4T-2000G/2200L									
FV100-4T-2200G/2500L	690	1006	380	500	974	207	4	14	156
FV100-4T-2500G/2800L									
FV100-4T-2800G/3150L									
FV100-4T-3150G/3550L	810	1228	400	520	1196	209	4	14	225
FV100-4T-3550G/4000L									
FV100-4T-4000G/4500L									

FV100 Series

FV100 Series

Model Specifications

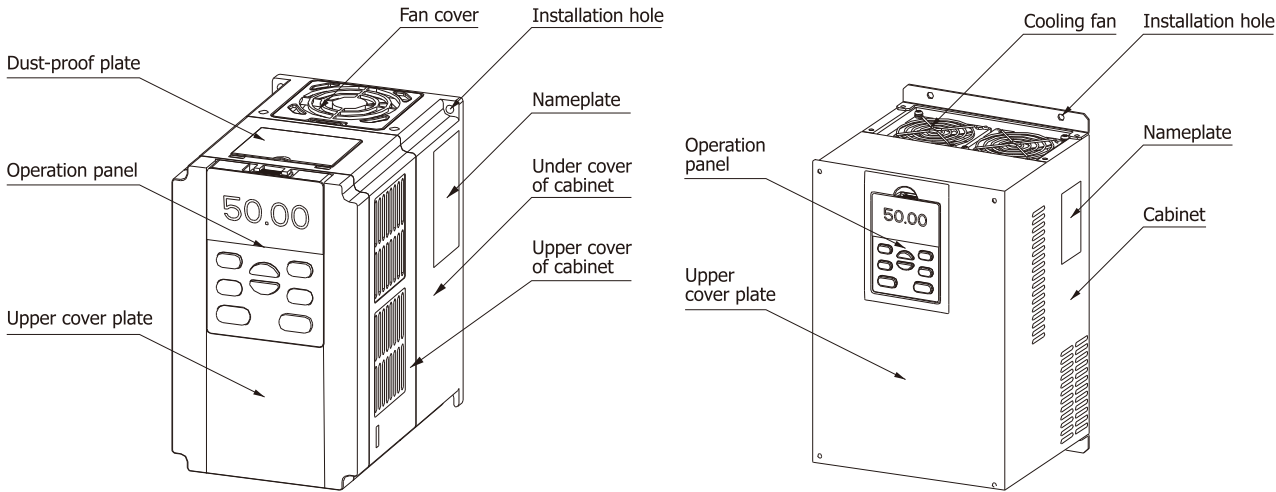
FV100-2S-□□□□G Single phase 220V AC constant torque VFD

Model												
FV100-2S-□□□□G		0004	0007	0015	0022	0037	0055	0075	0110	0150	0185	0220
The power of suitable motor(kW)		0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22
Output	Voltage(V)	3-phase, 0~rated input voltage										
	Rated current(A)	2.5	4.0	7.5	10	16	24.5	30	46	60	75	85
	Overload capcity	150% 1 Minute; 180% 10 Seconds; 200% 0.5 Second; 10 minutes interval (inverse time limit speciality)										
Input	Rated voltage/frequency	Single phase 200~240V AC; 50/60Hz										
	Allowable voltage range	180~260V AC; Voltage unbalancedness:≤3%; Allowable frequency fluctuation:±5%										
	Rated current(A)	5.3	8.2	14.0	23	32	40	45	70	90	110	125
Brake unit		Built-in							Built-in optional			
Protection class		IP20										
Cooling method		Air Cooling	Cooling by fan									

FV100-2T-□□□□G 3-phase 220V AC constant torque VFD

Model													
FV100-2T-□□□□G		0004	0007	0015	0022	0037	0055	0075	0110	0150	0185	0220	
The power of suitable motor(kW)		0.4	0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	
Output	Voltage(V)	3-phase, 0~rated input voltage											
	Rated current(A)	2.5	4.0	7.5	10	16	24.5	30	46	60	75	85	
	Overload capcity	150% 1 Minute; 180% 10 Seconds; 200% 0.5 Second; 10 minutes interval (inverse time limit speciality)											
Input	Rated voltage/frequency	Single phase 200~240V AC; 50/60Hz											
	Allowable voltage range	180~260V AC; Voltage unbalancedness:≤3%; Allowable frequency fluctuation:±5%											
	Rated current(A)	3.2	6.3	9	15	22	30	35	50	63	80	87	
Brake unit		Built-in								Built-in optional			
Protection class		IP20											
Cooling method		Air Cooling	Cooling by fan										

External Dimension

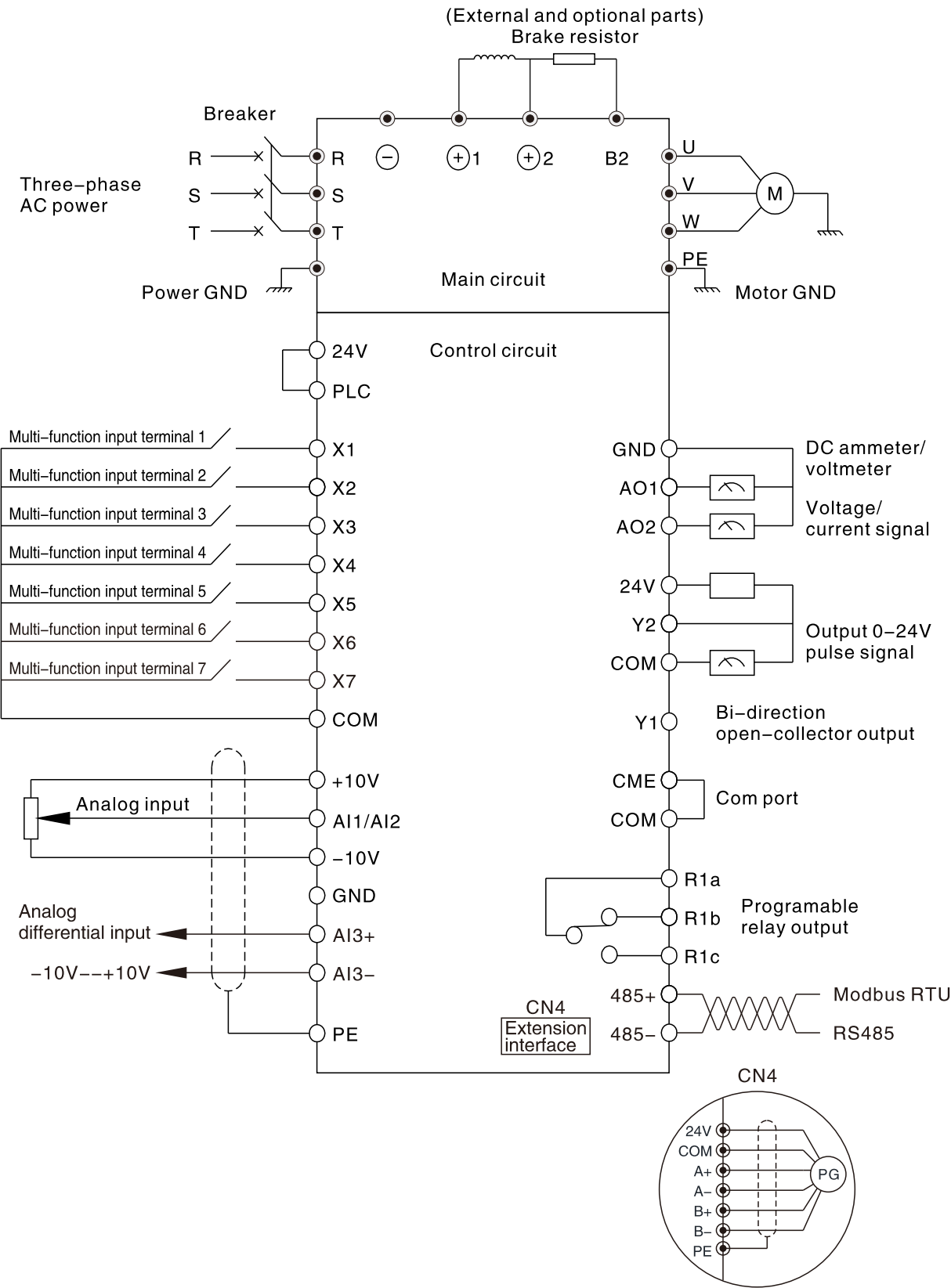


CNA Function Table of Connector Terminal

Category	Terminal silk screen	Name	Description of terminal function	Specification
Shield	⊕	Earth shield	GND for the shield layer of terminal. Shield layer of the analog signal cable , 485 communication cable , motor power cable can be connected here	Connect the PE terminal of internal main circuit
Power supply	+10	Power	Provide +10V reference power	Provide 5mA current at most
	GND	Power GND	GND for analog signal and +10 power supply	Internal isolation from COM and CME
Analog input	AI1	Analog single-ended input AI1	Receive the analog voltage or current single-ended input, they are selected by jumper AI1 (Reference ground:GND)	Input voltage range: -10V~+10V (Input resistor: 45kΩ) Resolution: 1/4000 Input current range: 0mA~20mA, Resolution: 1/2047Jumper to select)
	AI2	Analog single-ended input AI2	Receive the analog voltage or current single-ended input, they are selected by jumper AI2 (Reference ground:GND)	
	AI3+	Analog voltage differential input AI3+ or analog voltage single-ended input.	When connected to the analog voltage differential input,AI3+ is the same-phase input and AI3- is the inverted input; when connected to the analog voltage single-ended input, AI3+ is signal input, AI3- is GND (Reference ground: GND)	Input voltage range: -10V~+10V (Input resistor: 15kΩ) Resolution: 1/4000
	AI3-	Analog voltage differential input AI3- or analog voltage single-ended input.		
Analog output	AO1	Analog output 1	Providing analog voltage or current output, they are selected by the jumper AO1 (The default setting is output voltage)	Voltage output range: 0V~10V Current output range: 0/4~20mA
	AO2	Analog output 2	Providing analog voltage or current output, they are selected by the jumper AO2 (The default setting is output voltage)	Voltage output range: 0V~10V Current output range: 0/4~20mA
Communication	RS485+ RS485-	RS485 communication connector	RS485 difference signal positive RS485 difference signal negative	Standard RS485 communication connector (Use twisted-pair or shield cable please)
Multi-function input terminal	X1~X6	Multi-function input terminal 1	Can be defined as multi-function digital input terminal	Optocoupler isolation input Input resistor: R=3.3kΩ Maximum input frequency of X1~X6: 200Hz Maximum input frequency of X7: 100kHz Input voltage range: 2~30v
	X7	Multi-function input terminal or pulse input		
Multi-function output terminal	Y1	Bi-direction open-collector output	Can be defined as multi-function digital output terminal (Com port: CME)	Optocoupler isolation output Maximum working voltage: 30v Maximum output current: 50mA
	Y2	Open collector pulse output terminal	Can be defined as multi-function pulse signal output terminal (Com port: COM)	Maximum output frequency: 100kHz
Power supply	24V	+24v power supply	Providing +24V power	Maximum output current: 200mA
Common port	PLC	Multi-function input common port	Common port of Multi-function input (Short cut with 24V in default)	Common port of X1~X7, PLC is isolated from 24V internally
	COM	Common port of 24V power supply	Three common ports in all, cooperate with other terminals	COM is isolated from CME and GND internally
	CME	Y1 output common port	Common port of multi-function output terminal Y1	
Relay output terminal 1	R1a	Relay output	Can be defined as multi-function relay output terminal	R1a~R1b: Normally closed, R1a~R1c: normally open Contact capacity : AC250V/2A (COSΦ = 1) AC250V/1A (COSΦ = 0.4) DC30V/1A Input voltage of relay output terminal 's overvoltage class is overvoltage class II
	R1b			
	R1c			

Accessory	Model	Function
PG card	PG-LZA-12	A/B/Z Open collector input(12V),with CANopen communication port
Water supply card	PFC01_A00	Support up to 8 pumps
I/O extension card	PG-IO	Support extending 4*AI/4*DI/2*DO/1*relay output

Wiring Diagram of Product Terminal



Terminal Type of Main Loop 's Input and Output

Terminal type

Suitable model : FV100-2S-0004G ~ FV100-2S-0037G

Machine Bottom L N ⊖ ⊕/B1 B2 U V W PE

Suitable model : FV100-2S-0055G ~ FV100-2S-0110G

Machine Bottom L N ⊖ ⊕1 ⊕2/B1 B2 U V W PE

Suitable model : FV100-2S-0150G ~ FV100-2S-0220G

Machine Bottom B2 L N ⊖ ⊕ U V W PE

Suitable model : FV100-2T-0007G ~ FV100-2T-0037G, FV100-4T-0007G ~ FV100-4T-0037G

Machine Bottom R S T ⊖ ⊕/B1 B2 U V W PE

Suitable model : FV100-4T-0055G ~ FV100-4T-0185G, FV100-2T-0055G ~ FV100-2T-0110G

Machine Bottom R S T ⊖ ⊕1 ⊕2/B1 B2 U V W PE

Suitable model : FV100-4T-0185G ~ FV100-4T-0370G, FV100-2T-0150G ~ FV100-2T-0220G

Machine Bottom B2 R S T ⊖ ⊕ ⊕2/B1 U V W PE

Suitable model : FV100-4T-0450G ~ FV100-4T-0750G

Machine Top R S T

Machine Bottom ⊕1 ⊕2 ⊖ U V W PE

Suitable model : FV100-4T-0900G ~ FV100-4T-1320G

Machine Top R S T ⊖

Machine Bottom ⊕1 ⊕2 U V W ⊕

Suitable model : FV100-4T-1600G ~ FV100-4T-4000G

Machine Top R S T ⊖

Machine Bottom ⊕1 ⊕2 ⊖ U V W

Descriptions of the main loop terminals

Terminal name	Function description
L、N	Single phase 220v AC input terminal
R、S、T	3-phase 380v AC input terminal
⊖	DC negative bus output terminal
⊕1、⊕2	Reserved terminal for external DC reactor
⊕2、⊖	Terminal for external brake unit
B1、B2	Access terminal of brake resistor
U、V、W	3-phase AC output terminal
PE⊕	Earth terminal

Control loop terminals arrange as followings:

AO1	AO2	AI3+	+10V	24V	PLC	X4	X5	X6	X7		R1a	R1b	R1c		
⊕	AI1	AI2	AI3-	GND	X1	X2	X3	COM	485+	485-		CME	Y1	Y2	⊕

Arrangement diagram of control terminals.