Department and the points of sales:

Malaysia	Kuala Lumpur	Philippines	Manila
Thailand	Bangkok	Lebanon	Beirut
Israel	Tel Aviv	Turkey	Istanbul
Vietnam	Ho Chi Minh City	Egypt	Cairo
India	Bombay	Chile	Santiago
Russia	Moscow	Iran	Teheran
Brazil	St. Paul	South Africa	

Manufacture • sales

TECORP TECHNOLOGY

Sales & Service Address:

TECORP-GROUP

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TEL: +886-2-2999-1466
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Vectorque™

AC Motor Drive

Universal Series:

V9 series AC motor drive of high performance with vector control / with torque control
V8 series AC motor drive of high performance with Sensorless vector control
V7 series AC motor drive of common performance

ECMG CE

TECORP-GROUP

Universal Series

Introduction

Tecorp Electronics Co., Ltd. is a high-technology Corporation, which possesses world-advanced vector control technology and torque control technology, and makes effort in research, manufacture, sale and service of low voltage AC drive product. The corporation has passed IS9001 Quality Management System Certificate, CE certificate.

With most experiential R&T team in China, constant technical innovation and wide international communication, the corporation has controlled different core technology. The corporation, which has met international criteria and aims the demands in different conditions and industries in China, further enhances the design of product's reliability and environmental adaptability to meet different level's requirement.

V&T Frequency Converter provides an overall product platform in improvement of clients' equipments performance, decrease of cost and realization of clients' requirements.

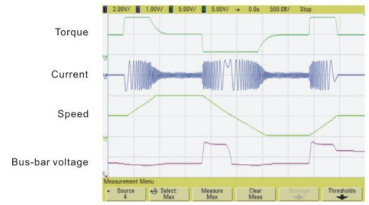
Advanced Technology | **Prominent Quality** | **Sincere Service** | **Meeting Demand of Clients**

Product Type Description

HC2 V9 – G – 4 011 A

- Type
- V9: Vector Control / Torque Control; V8: High Performance Control; V7: Purpose Vector Control
- G: Series special for machine tool; B: Series special for weaving machine; I: Series special for moulding machine; J: Series special for saving power control tool; T: Series special for wire-drawing machine; P: Series special for windmill/water pump machine
- 011: 11: 11kW
- 4: 2: 200V; 4: 400V
- A: Software Version

Prominent Performance of Product



0Hz→ Forward 50Hz→ 0Hz→ Reverse 50Hz→

0Hz of Short acceleration and deceleration speed in four of Quadrant Running

Technical Specifications

	Control mode	Vector control with PG*	Vector control without PG	V/F Control
Control features	Startup torque	0.00Hz 180%*	0.25Hz 180%	0.50Hz 180%
	Speed adjusting range	1:1000*	1:200	1:100
	Speed stabilization	± 0.02%*	± 0.2%	± 0.5%
	Torque control*	YES *	YES*	No
	Torque precision*	±5%*	±5%*	—
	Torque response time*	<10ms*	<20ms*	—
Product functions	Key functions	Torque and speed control switch*, Multi-functional input/output terminal, Under voltage adjustment, three-grounding switch, Speed trace, Torque limitation, Multi-speed operation (up to 23 speeds), Auto-tuning, S curve acceleration/deceleration, Slip compensation, PID adjustment, Drooping control, Current limiting control, Manual/auto torque boost, Current limitation		
	Frequency setting mode	Operation panel setting, UP/DN setting, Communication setting, Analog setting, Pulse DI setting		
	Frequency range	0.00~300.00Hz Note: Upon V/F control 0.0~3000.0Hz can be customized		
	Startup frequency	0.00~60.00Hz		
	Acceleration/Deceleration	0.1~36000s		
	Power brake capacity	Brake unit action voltage: 650~750V		
	DC brake capacity	DC brake initial frequency: 0.00~300.00Hz DC brake current: constant torque 0.0~120.0%; variable torque 0. 0~90.0% DC brake time : 0.0~30.0s; no waiting time for DC brake to quickly realize		
	Magnetic flux brake	Increase the Magnetic flux for rapid deceleration of the motor		
Functional features	Multi functional M key	The unique multifunctional key is frequently used for setting these useful operations: Jog, emergency shutdown, running command reference mode witch, menu switch.		
	Multiple menu mode	Basic menu mode, fast menu mode. Menu mode of non-factory setting function codes, Menu mode of last changed 10 function codes*		
	Parameter copy function	The standard operation panel can realize the parameter upload, download and display the copy progress. The user can select the uploaded forbidden function to avoid parameters covered		
	Display/hidden function	Display function codes or hide the function codes can be selected by users		
	Duel 485 com. Ports	Dual 485 communication ports support Modbus protocol (RTU). The standard operation panel can realize remote control box function with a maximum distance of 500m		
	Operation panel	Option of button or shuttle type operation panel. Protection class: IP20 as standard operation, IP54 asoption		
	Common DC bus	The full series can realize common DC bus supplying for several inverters		
	Independent duct	The full series adopts independent duct design and supports the installation of heat sink outside the cabinet		
	Universal expansion interface	Universal expansion board is equipped with CPU supporting secondary development of customers: physical interface SPI bus, software protocol Modbus		
	Expansion card	User's secondary development card. Molding machine interface card, Pg feedback card, Air compressor control card. Communication adapter card. Power monitoring card, Phase sequence detection card, External power rectifying card etc.		
	Auto detection	Realize the power-up auto-detection of internal and peripheral circuits, included motor grounding, abnormal +10V power supply output, abnormal analog input, and disconnection		
Protection function	Under voltage, Over current, Over voltage, Interference, Auto tuning failure, Module, Heat sink over temperature, Inverter overload, Motor overload, Peripheral, Abnormal current detection, Output to ground short circuit, Abnormal power failure during operation, abnormal input power, Abnormal output phase, Abnormal EEPROM, Abnormal relay contact, Temperature sampling disconnection, Encoder disconnection, Abnormal +10V power supply output, Abnormal analog input, Motor over temperature (PTC), Abnormal communication, Abnormal version compatibility, Abnormal copy, Abnormal expansion card connection, Terminal mutual exclusion detection failure, Hardware overload.			
Environment	Operation site	The product shall be mounted vertically in the electric control cabinet with good ventilation. Horizontal or other installation modes are not allowed. The cooling media is the air. The product shall be installed in the environment free from direct sunlight, dust, corrosive gas, combustible gas, oil mist, steam and drip.		
	Ambient temperature	-10~+40℃, used by degrade during 40~50℃, the rated output current shall be decreased by 1 % for every temperature rise of 1℃		
	Humidity	5~95%, no condensing		
	Altitude	0~2000 meter, used by degrade above 1000m, the rated output current shall be decreased by 1% for every rise of 100m		
	Vibration	3.5mm, 2~9Hz; 10 m/s2, 9~200Hz; 15 m/s2, 200~500Hz		
	Storage temperature	-40~+70℃		

Note: * indicate the functions only for V9 series

Universal Series

V8−G/P−40□□ V9−G/P−40□□G Three-phase 400V Constant torque/heavy-duty

Type V□−G/P−40□□		0P7	1P5	2P2	3P7	5P5	7P5	11	15	18	22	30	37	45	55	75
Motor power（KW）		0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75
Output	Voltage（V）	Three-phase 0 to rated input voltage														
	Rated current（A）	2.5	3.8	5.5	9	13	17	24	30	39	45	60	75	91	112	
	Overload capacity	150% 1 minute · 180% 10 seconds · 200% 0.5 second														
Input	Rated voltage/ frequency	3 phase 380V~480V：50Hz/60Hz														
	Allowable voltage range	323V~528V：Voltage unbalance：≦3：allowable frequency fluctuation：±5%														
	Rated current（A）	3.5	6.2	9.2	14.9	21.5	27.9	39	50.3	60	69.3	86	104	124	150	
Brake unit		Built-in as standard								Built-in as option						
Protection class		IP20														
Cooling mode		Self-cooling			Forced air convection cooling											

Type V□−G−40□□		90	110	132	160	200	220	280	315	355	400
Motor power（KW）		90	110	132	160	200	220	280	315	355	400
Output	Voltage（V）	Three-phase 0 to rated input voltage									
	Rated current（A）	176	210	253	304	380	426	520	600	650	730
	Overload capacity	150% 1 minute · 180% 10 seconds · 200% 0.5 second									
Input	Rated voltage/ frequency	3 phase 380V~480V：50Hz/60Hz									
	Allowable voltage range	323V~528V：Voltage unbalance：≦3：allowable frequency fluctuation：±5%									
	Rated current（A）	160*	196*	232*	282*	352*	385*	491*	552*	624*	704*
Brake unit		External brake unit needed									
Protection class		IP20									
Cooling mode		Forced air convection cooling									

V7−P−40□□ Three-phase 400V Variable torque / light-duty

Type V□−G−40□□		1P5	2P2	3P7	5P5	7P5	11	15	18	22	30	37	45	55	75	90
Motor power（KW）		1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90
Output	Voltage（V）	Three-phase 0 to rated input voltage														
	Rated current（A）	3.3	5.0	7.5	11	17	22	30	37	44	56	72	91	110	142	
	Overload capacity	151% 1 minute · 160% · 0.5 second														
Input	Rated voltage/ frequency	3 phase 380V~480V：50Hz/60Hz														
	Allowable voltage range	323V~528V：Voltage unbalance：≦3：allowable frequency fluctuation：±5%														
	Rated current（A）	5.6	8.1	13.5	19.5	26	39	50.3	60	69.3	86	104	124	150	190	
Brake unit		Built-in as standard								Built-in as option						
Protection class		IP20														
Cooling mode		Self-cooling			Forced air convection cooling											

Type V□−G−40□□		110	132	160	200	220	280	315	355	400	450
Motor power（KW）		110	132	160	200	220	280	315	355	400	450
Output	Voltage（V）	Three-phase 0 to rated input voltage									
	Rated current（A）	210	253	304	380	426	520	600	650	730	830
	Overload capacity	151% 1 minute · 160% · 0.5 second									
Input	Rated voltage/ frequency	3 phase 380V~480V：50Hz/60Hz									
	Allowable voltage range	323V~528V：Voltage unbalance：≦3：allowable frequency fluctuation：±5%									
	Rated current（A）	196*	232*	282*	352*	385*	491*	552*	624*	704*	792*
Brake unit		External brake unit needed									
Protection class		IP20									
Cooling mode		Forced air convection cooling									

Note: * V□-G-4090/P4110、V7-P-4110 and above products are equipped with external DC reactor as standard

Universal Series

V8−G−20□□、V9−G−20□□ Single/Three-phase 200V Constant torque/heavy-duty

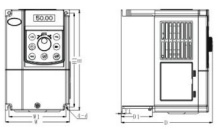
Type V□−G−20□□		0P4	0P7	1P5	2P2
Motor power（KW）		0.4	0.75	1.5	2.2
Output	Voltage（V）	Three-phase 0 to rated input voltage			
	Rated current（A）	2.6	4.5	7.5	10
	Overload capacity	150% 1 minute · 180% 10 seconds · 200% 0.5 second · Interval:10minutes(inverse)			
Input	Rated voltage/ frequency	3 phase 380V~480V：50Hz/60Hz			
	Allowable voltage range	323V~528V：Voltage unbalance：≦3%：allowable frequency fluctuation：±5%			
	Rated current（A）	5.5	9.2	14.5	23
Brake unit		Built-in as standard			
Protection class		IP20			
Cooling mode		Self-cooling		Forced air convection cooling	

Note: * V□-G-23P7A and above power class products are three phrase 200V, which can be customized.

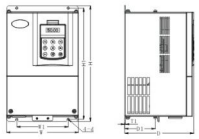
Optional Accessories

Item		Product code	Function
Built-in brake unit		Put"06"after the code	Three phase 18.5kW~75kW option of built-in brake unit
Monitor software		CD-RM01	V1.00
PG01 feedback card		EX-PG01	A/B/Z open electrode input (12V)
PG02 feedback card		EX-PG02	A/B/Z difference input (5V)
PG03 feedback card		EX-PG03	A/B/Z open electrode input with frequency division output (12V)
PG04 feedback card		EX-PG04	A/B/Z difference input with frequency division output (5V)
Molding machine interface card 1		EX-PM01	Duel way input 0-1A/0-2A/0-24V
Molding machine interface card 2		EX-PM02	Duel way separation input 0-1A/0-2A
Digital terminal expansion card		EX-DT01	4 multifunctional input terminals, 3 fault relay input terminals
Power supply monitoring card		EX-PA01	Open phase/ monitor of instant power-down
Phase sequence test card		EX-PA02	Three phase input sequence test
External power supply rectifying card		EX-RF01	Control power provided by external power supply
Plug-in capacitor box		EX-CB01	Provide expanding capacitance of main circuit
Control pane	Shuttle	V9-DP01	Standard equips with 7.5KW or below
	Button	V9-DP02	Standard equips with 11KW or above
	Blank panel	V9-DP03	Option
	Pallet	V9-DP05	Accessory of control panel
Text displayer		EX-MT01	HMI text displayer
Touch screen		EX-MT02	HMI touch screen
Communication adapter		EX-CA01	PROFIBUS communication adapter
		EX-CA02	RS232 to RS485 communication adapter
		EX-CA03	USB to RS485 communication adapter
External cable of Keyboard		CB1-150	1.5m cable
		CB1-300	3.0m cable
Communication cable		CB2-RS232	Standard RS232 cable
		CB3-USB	1.0m USB to RS232 cable
Brake resistance		RXHG/ RXLG series	Accessory of brake unit
DC reactor		DCL series	Accessory of DC reactor
AC input reactor		ACL series	Accessory of AC input reactor
AC output reactor		OCL series	Accessory of AC output reactor
Input noise filter		EBK5/40 series	Accessory with CE specification
Output noise filter		EBL series	Accessory with CE specification

Outline and Mounting Dimension



V7−P−4011A and less class
V□−G−22P2A and less class
V□−G−47P5A/P4011A and less class

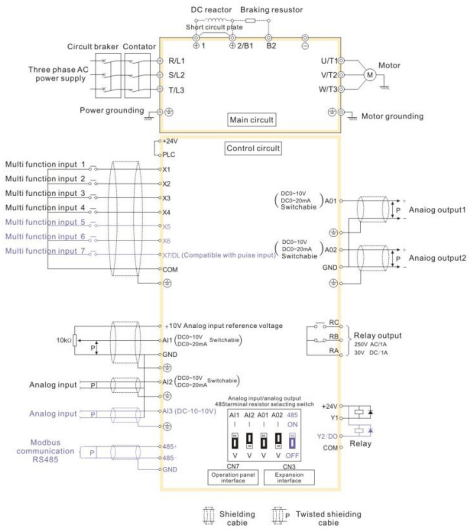


V7−P−4015A and less class
V□−G−4011A/P4015A and less class

Voltage	Product code	Outline and mounting dimension(mm) W	H	D	W1	H1	D1	T1	d	Rough weight (kg)
200V	V□−G−20P4A	118	190	155	105	173	40.8	3	5.5	1.5
	V□−G−20P7A			175			60.5	4		2.2
	V□−G−21P5A			155			40.8	3		1.5
	V□−G−22P2A			175			60.5	4		2.2
400V	V□−G−40P7A /P41P5A V7−P−41P5A	118	190	155	105	173	40.8	3	5.5	1.5
	V□−G−41P5A /P42P2A V7−P−42P2A	118	190	175	105	173	60.5	4	5.5	2.6
	V□−G−42P2A /P43P7A V7−P−43P7A									
	V□−G−43P7A /P45P5A V7−P−45P5A									
	V□−G−45P5A /P47P5A V7−P−47P5A	155	249	185	136	232	69	8	5.5	4.5
	V□−G−47P5A /P4011A V7−P−4011A									
	V□−G−4011A /P4015A V7−P−4015A	210	337	200	150	324	88	2	7	8.5
	V□−G−4015A /P4018A V7−P−4018A									
	V□−G−4018A /P4022A V7−P−4022A									
	V□−G−4022A /P4030A V7−P−4030A	289	440	215	200	425	88	2.5	7	17
	V□−G−4030A /P4037A V7−P−4037A									
	V□−G−4037A /P4045A V7−P−4045A	319	575	212	220	553	90.5	2.5	10	25
	V□−G−4045A /P4055A V7−P−4055A									
	V□−G−4055A /P4075A V7−P−4075A	404	615	250	270	590	86.5	3.0	10	35
	V□−G−4075A /P4090A V7−P−4090A									
	V□−G−4090A /P4110A V7−P−4110A	465	745	320	343	715	151.5	3.0	12	45
	V□−G−4110A /P4132A V7−P−4132A									
	V□−G−4132A /P4160A V7−P−4160A	540	890	385	370	855	205.5	4.0	14	88
	V□−G−4160A /P4200A V7−P−4200A									
	V□−G−4200A /P4220A V7−P−4220A									
	V□−G−4220A /P4280A V7−P−4280A	700	1010	385	520	975	215	4.0	14	150
	V□−G−4280A /P4315A V7−P−4315A									
	V□−G−4315A /P4355A V7−P−4355A	810	1300	421.5	520	1358	196	4.0	14	200
	V□−G−4355A /P4400A V7−P−4400A									
	V□−G−4400A /P4450A V7−P−4450A									

Note: V□ indicates V8 or V9 series

Terminal Wiring



Take V9-G-45P5 type for example

Main Circuit Teminal Function

V□-G-40 P7A / P41P5A ～V□-G-4015A / P4018A 、V□-G-20□□、V7-P-41P5A ～V7-P-4018A

R/L1	S/L2	T/L3	⊕1	⊕2/B1	B2	⊖	U/T1	V/T2	W/T3
POWER			OPTION				MOTOR		

⏚ ⏚

V□-G-4018A / P4022A ～V□-G-4075A / P4090A、V7-P-4022A～V7-P-4090A

R/L1	S/L2	T/L3	⊕1	⊕2	⊖	U/T1	V/T2	W/T3
POWER			OPTION			MOTOR		

⏚ ⏚

V□-G-4018A / P4022A ～V□-G-4075A/P4090A (With built-in brake unit)

R/L1	S/L2	T/L3	B1	B2	⊖	U/T1	V/T2	W/T3
POWER			OPTION			MOTOR		

⏚ ⏚

V□-G-4090A / P4110A 、V7-P-4110A and above class adopts the wiring mode of the top in and bottom out

POWER		
R/L1	S/L2	T/L3

⏚

⊕1	⊕2	⊖
OPTION		

⏚

U/T1	V/T2	W/T3
MOTOR		

Terminal symbol	Terminal name and function description
R/L1、S/L2、T/L3	Three-phase AC input terminal
⊖1、⊖2/B1 or ⊕1、⊕2	DC reactor connecting terminal V -G-4090 and less class is with copper bus of short circuit
⊖2/B1、B2 or B1、B2	Connect terminal of brake resistor
⊖2/B1、⊖or⊕2、⊖	DC power input terminal ; DC input terminal of external brake unit
U/T1、V/T2、W/T3	Three-phase AC output terminal
⏚	Grounding terminal PE

Note: V□ indicates V8 or V9 series

Control Circuit Terminal

V8 series and V9 series control circuit terminal

+10V	AI1	AI2	AI3	GND	AO1	AO2	GND	485+	485-
+24V	PLC	COM	X1	X2	X3	X4	X5	X6	X7/DI

RA	RB	RC
Y1	Y2/DO	COM

V7 series control circuit terminal

+10V	AI1	AI2		GND	AO1	AO2
+24V	PLC	COM	X1	X2	X3	X4

RA	RB	RC
Y1		COM

Control Circuit Terminal Function

Type	Terminal symbol	Description	Technical specification
Terminal 485	485+	485 positive terminal	Rate: 4800/9600/19200/38400/57600bpsUp to 32 sets of equipment can be paralleled. If the number exceeds 32 relay shall be used. Maximum distance: 5000m (adopt standard twisted shielding cable)
	485	485 negative terminal	
	GND	485 grounding	Internal isolated with COM
Panel 485	CN7	485 port of operation panel	Connection of communication with host computer, it is the same as terminal 485
			The maximum distance is 15m for the connection of the operation panel (adopts standard twisted non-shielding network cable)
Digital input	+24V	+24V	24V±10% : Maximum load: 200mA with overload and short circuit protection
	PLC	Common terminal of multi-functional input terminal	Short circuit with +24V upon the factory setting
	X1～X6	Multi-functional input terminals	Input specification: 24VDC, 5mA Frequency range: 0～200Hz Voltage range: 24V±20%
	X7/DI	Multi-functional input or pulse input	Multi-functional input: the same as X1～X6 Pulse input : 0.1Hz～50kHz ; Voltage range: 24V±20%
	COM	+24V GND	Internal isolation with COM
Digital output	Y1	Open collector output	Voltage range: 24V±20%, maximum input current: 50mA
	Y2/DO	Open collector or pulse output	Open collector: the same as Y1 Pulse output: 0～50kHz ; Voltage range: 24V±20%
	COM	Common terminal of open collector output	Internal isolation with COM
Analog input	+10V	Analog input reference voltage	10V ±3% of internal isolation with COM Maximum output current: 10mA, with short circuit and overload protection
	AI1	Analog input channel 1	0～20mA: Input impedance 500Ω, maximum input current: 30mA 0～10V : Input impedance 20kΩ, maximum input voltage: 15V Resolution: 12bit（0.025%）
	AI2	Analog input channel 1	
	AI3	Analog input channel 3	-10V～10V: Input impedance 20kΩ Resolution: 12bit（0.025%）, maximum input voltage: ±15V
	GND	Analog GND	Internal isolation with COM
Analog output	AO1	Analog output channel 1	0～20mA: Input impedance 200～500Ω 0～10V : allowable output impedance ≥ 10kΩ Output precision: 2%, re solution: 10bit（0.1%）, with short circuit protection function
	AO2	Analog output channel 2	
	GND	Analog GND	Internal isolation with COM
Relay output	RA/RB/RC	Relay output	RA～RB : Normal close RA～RC : Normal open, contact capacity: 250VAC/1A · 30VDC/1A