V&T
蓝海华腾

V9－H Series General Purpose Inverter

Easy Control / Friendly Interface/
Multifunction Operation / Brilliant Succession

Description of the Product Model

V9-H-4 T 11G/15L-AX-XX

V9	Vector and torque control technology platform
H	Universal series
2	200V
4	400V
D	DC input
T	Three phase
S	Single phase
11G	11kW Constant torque/heavy-load
15L	15kW Variable torque/light-load
No	Standard universal, up to 600Hz
H3	High frequency universal, up to 2000Hz
A0～Z9：Software nonstandard version	
No	Standard hardware configuration
00～99：Hardware nonstandard version	

Product Series

■ V9－H－4T□□□G Three-phase 400V constant torque / heavy duty application

Power（kW）		0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	200	220	250	280	315	355	400	450	500	560	630
Motor powe (kW)		0.75	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	200	220	250	280	315	355	400	450	500	560	630
Output	Voltage (V)	3-phase 0 -rated input voltage																														
	Rated current (A)	2.5	3.8	5.5	9	13	17	24	30	39	45	60	75	91	112	150	176	210	253	304	350	380	426	470	520	600	650	690	775	860	950	1100
	Overload capability	150% 1min,180% 10s, 200% 0.5s,10min interval (Inverse-time characteristic)																														
Input	Rated voltage / frequency	3-phase 380V-480V;50Hz/60Hz																														
	Allowable voltage	323V-528V;degree of voltage unbalance:≤3%;allowable frequency fluctuations:±5%																														
	Rated current (A)	2.8	4.2	6.1	10	15	19	26	33	43	50	66	83	100	123	165	194	231	232	282	326	352	385	437	491	580	624	670	755	840	920	1050
Brake unit		Standard built-in								Built-in brake unit is optional								External braking unit needed													
Protection level		IP20																														
Cooling method		Self cooling			Forced cooling																											

Note:

* 0.75kW～15kW：no built-in DC reactor
18.5kW～110kW：optional DC reactor
132kW～160kW：standard built-in DC reactor
185kW～500kW：standard external DC reactor
560kW～630kW：standard built-in AC input reactor
The inverters with higher power level can be customized
220V, 690V, 1140V and other voltage level inverters can be customized

■ V9－H－4T□□□L Three－phase 400V Variable torque/light－duty application

Power（kW）		1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	200	220	250	280	315	355	400	450	500	560	630	710
Motor powe (kW)		1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160	185	200	220	250	280	315	355	400	450	500	560	630	710
Output	Voltage (V)	3-phase 0 -rated input voltage																														
	Rated current (A)	3.3	5.0	7.5	11	17	22	29	35	45	57	70	91	110	144	180	216	242	325	365	405	440	495	547	610	695	770	866	950	1100	1200	1300
	Overload capability	120% 1min,160% 0.5s,10min interval (Inverse-time characteristic)																														
Input	Rated voltage / frequency	3-phase 380V-480V;50Hz/60Hz																														
	Allowable voltage	323V-528V;degree of voltage unbalance:≤3%;allowable frequency fluctuations:±5%																														
	Rated current (A)	3.6	5.5	8.3	12	19	25	32	39	50	61	77	100	121	158	198	238	266	282	326	352	385	437	491	580	670	755	840	920	1050	1150	1250
Brake unit		Standard built-in								Built-in brake unit is optional								External braking unit needed													
Protection level		IP20																														
Cooling method		Self cooling			Forced cooling																											

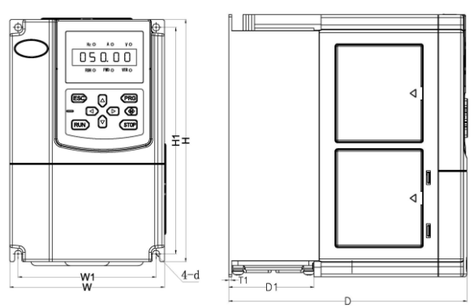
Note:

* 1.5kW - 18.5kW: no built-in DC reactor
22kW～132kW: optional DC reactor
160kW～185kW: standard built-in DC reactor
200kW～560kW: standard external DC reactor
630kW～710kW: standard built-in AC input reactor
The inverters with higher power level can be customized
220V, 690V, 1140V and other voltage level inverters can be customized

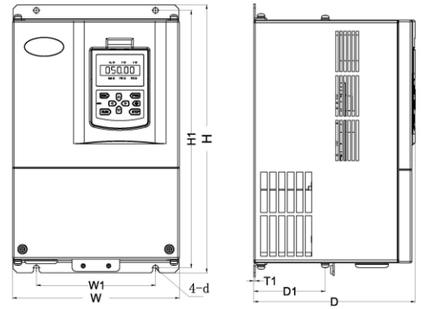
Product Specifications

Control characteristics	Control method	Synchronous motor open loop control / asynchronous motor open loop control	Synchronous motorclosedloop-control / asynchronous motorclosed-loop control
	Starting torque	Asynchronous: 0.25Hz 200% rated torque Synchronous: 1.5% rated speed 150% rated torque	0Hz 200% rated torque
	Adjustable speed range	1:200	1:5000
	Steady speed precision	± 0.5%	± 0.02%
	Highest frequency	2000Hz	2000Hz
	Torque control	Y	Y
	Positioning control	N	Y
Product function	Key function	Torque limit, speed control, positioning control, motor self learning, deep field weakening, current limiting control, overvoltage control, undervoltage control, rotate speed tracking, droop control, oscillation suppression, random carrier frequency, inertia identification, etc.	
	Speed setting method	Modbus communication given, keyboard given, terminal given, analog given, multi - segment speed given, simple PLC given, PID given.	
	Energy consumption braking capability	400V voltage level inverter: brake unit operating voltage:650～750V。 The built-in brake unit is standard on V9－H－4T15G/18.5L and lower The V9-H-4T18.5G/22L to V9－H－4T110G/132L power class brake unit is optional.	
	communication port	The 485 communication interface supports the Modbus protocol (RTU), and the standard operation panel enables remote control box functions up to 500 meters.	
	Operation panel	LED display keyboard and LCD display keyboard.	
	Common DC bus	The sharing of DC bus power supply for multiple inverters can be realized in a full range of products.	
	Independent air flue	The entire series uses an independent flue design, support installation method outside of the radiator cabinet.	
Protection function	Power supply undervoltage, overcurrent protection, overvoltage protection, comparison reference abnormality, self-learning fault, module protection, radiator overheat protection, drive overload protection, motor overload protection, peripheral protection, current detection abnormality, output grounding short circuit abnormality, abnormal power failure during operation, input power supply abnormality, EEPROM abnormality, buffer relay pull-in abnormality, temperature sampling disconnection, encoder disconnection, analog input abnormality, motor overheat (PTC), communication abnormality, hardware overload protection.		
Efficiency	At rated power, 7.5kW and lower: power level≥93%; 11kW-45kW: power level≥95%; 55kW and bigger: power level≥98%.		
Environment	Site of use	Install vertically in a well-ventilated electrical cabinet. Horizontal or other installation methods are not allowed. The cooling medium is air. Installed in an environment free from direct sunlight, dust, corrosive gases, flammable gases. No oilmist, no steam, no dripping.	
	Ambient temperature	−10～+40℃.Derating use when the temperature between 40 to 50℃ .The rated output current is reduced by 1% for every 1 °C increasing.	
	Humidity	5~ 95%, no condensation is allowed.	
	Altitude	0 to 2000 meters. Derating use when the altitude over 1000 meters. The rated output current is reduced by 1% for every 100 meter rising.	
	Vibration	3.5 m/s², 2～9Hz；10 m/s², 9～200Hz；15 m/s², 200～500Hz	
	Storage temperature	−40～+70℃.	

Product Outline, Mounting Dimension, and Weight



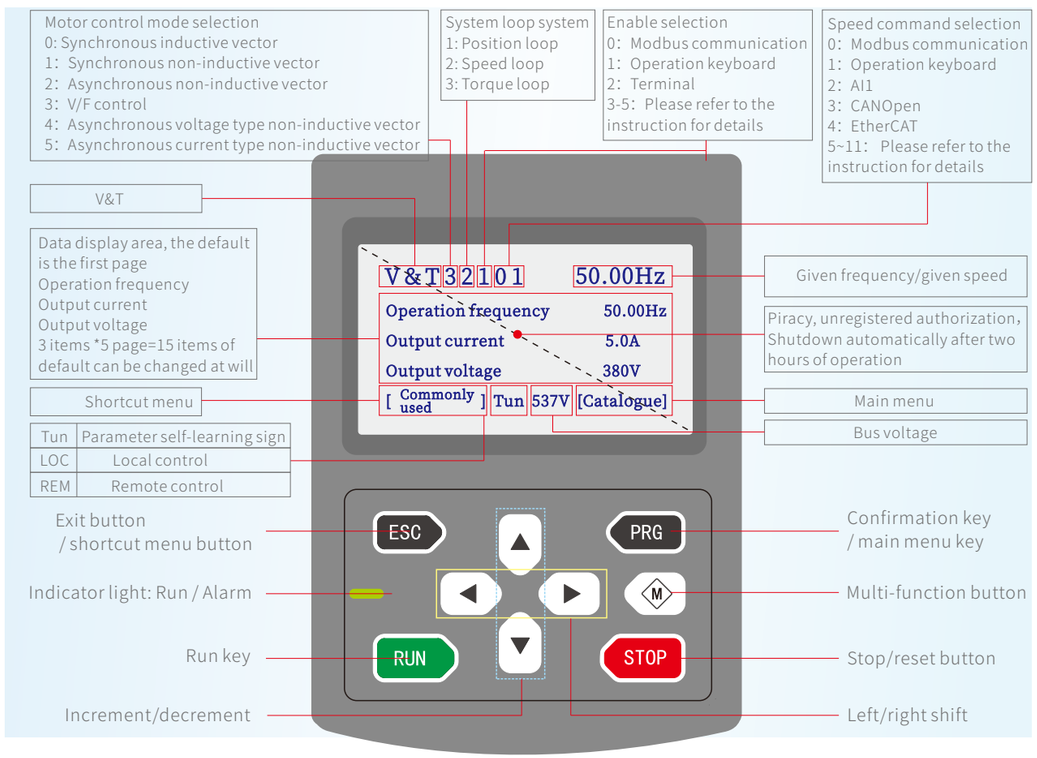
V9－H－4T7.5G/11Land below power class



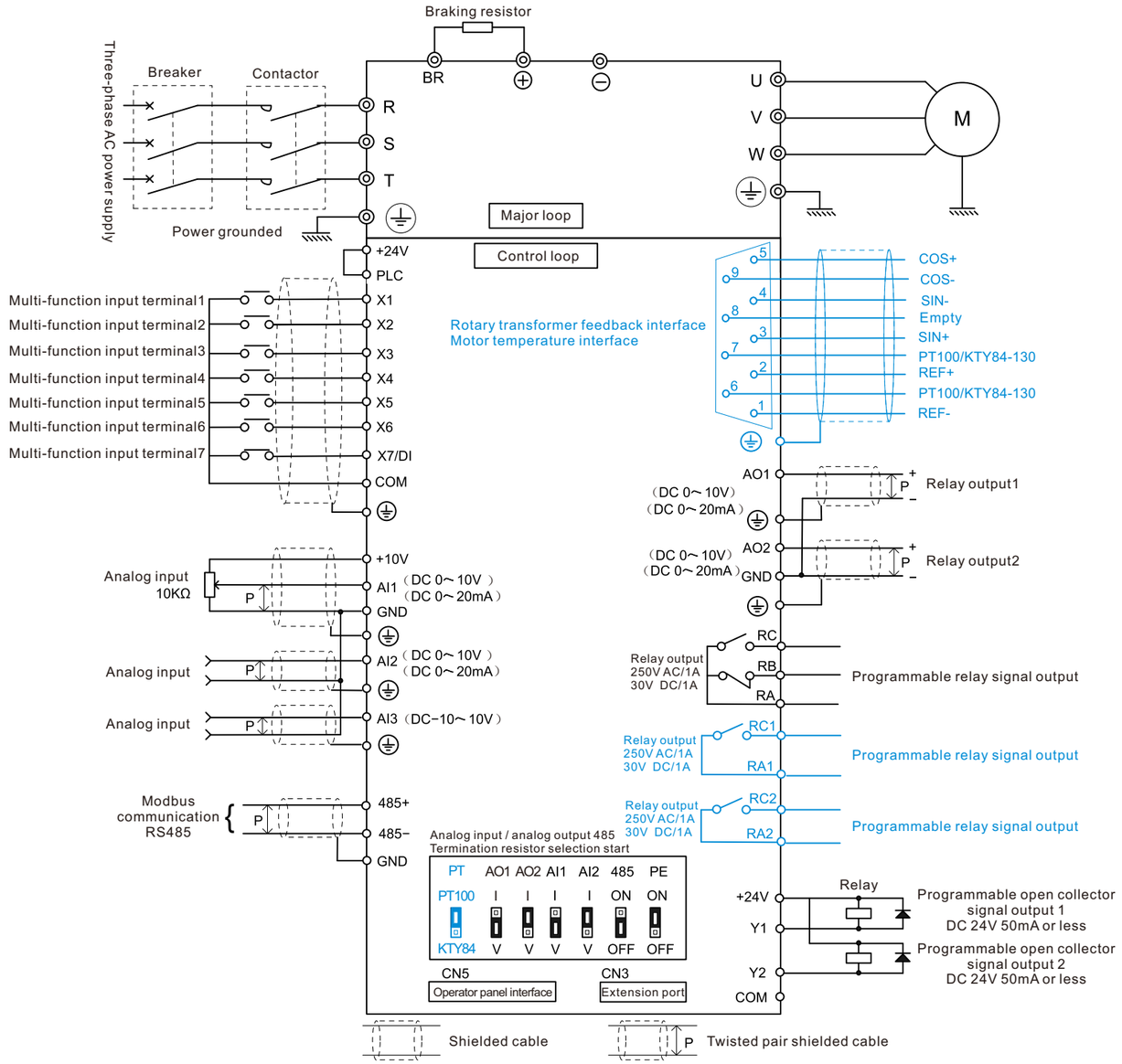
V9－H－4T11G/15L and above power class

Voltage	Inverter model	Outline and mounting dimension (mm)							Approximate weight (kg)
		W	H	D	W1	H1	T1	Mounting hole d	
400V	V9—H—4T0.75G/1.5L	118	190	155	105	173	3	5.5	1.5
	V9—H—4T1.5G/2.2L	118	190	175	105	173	4	5.5	2.6
	V9—H—4T2.2G/3.7L								
	V9—H—4T3.7G/5.5L								
	V9—H—4T5.5G/7.5L	155	249	185	136	232	8	5.5	3
	V9—H—4T7.5G/11L								
	V9—H—4T11G/15L	198	299	190	160	283	1.2	6	8
	V9—H—4T15G/18.5L								
	V9—H—4T18.5G/22L	223	348	208	195	335	1.5	6	10
	V9—H—4T22G/30L								
	V9—H—4T30G/37L	264	430	235	230	418	1.5	7	18
	V9—H—4T37G/45L								
	V9—H—4T45G/55L	305	545	270	245	523	1.5	10	35
	V9—H—4T55G/75L								
	V9—H—4T75G/90L	338	580	310	270	560	1.5	10	52
	V9—H—4T90G/110L								
	V9—H—4T110G/132L								
	V9—H—4T132G/160L	400	917	323	320	890	3.0	12	75
	V9—H—4T160G/85L								
	V9—H—4T185G/200L	540	890	385	370	855	4.0	14	85
	V9—H—4T200G/220L								
	V9—H—4T220G/250L	540	890	416	370	855	4.0	14	90
	V9—H—4T250G/280L	700	1010	385	520	977	4.0	14	125
	V9—H—4T280G/315L								
	V9—H—4T315G/355L	700	1010	418.5	520	977	4.0	14	135
	V9—H—4T355G/400L	810	1358	425	520	1300	4.0	14	215
	V9—H—4T400G/450L	810	1358	425	520	1300	4.0	14	215
	V9—H—4T450G/500L								
	V9—H—4T500G/560L								

Description of LCD Operation Panel Display Function



Terminal Wiring



The black part is a standard function of V9—H—4T7.5G/11L and below, and comes standard with LED keyboard

The blue part is the V9—H—4T11G/15L and above power level increase function, standard LCD keyboard

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