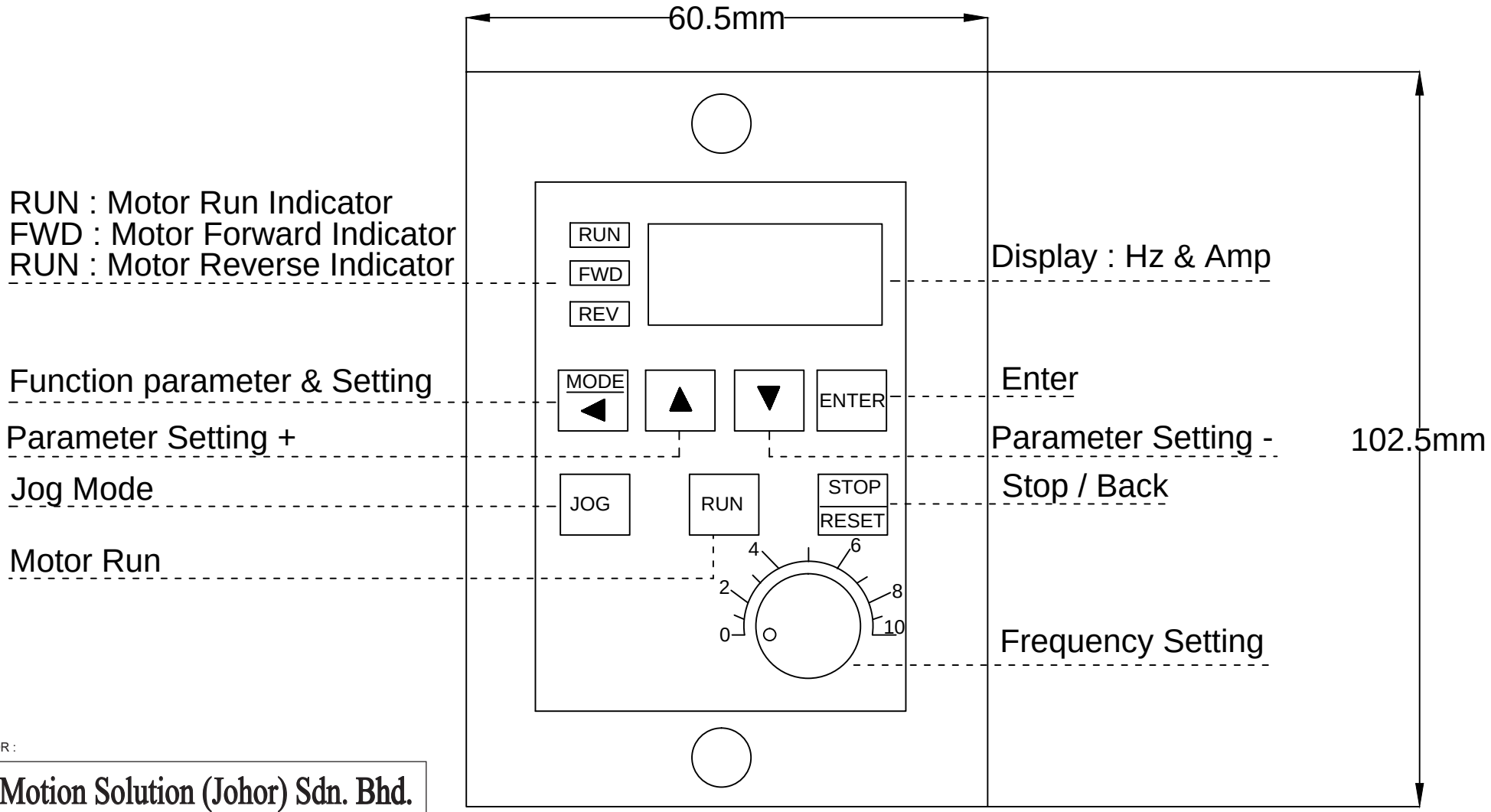
Single Phase frequency Inverter
Model : HC200I-22 / HC750I-22

Chapter 2 : Installation and Wiring Diagram



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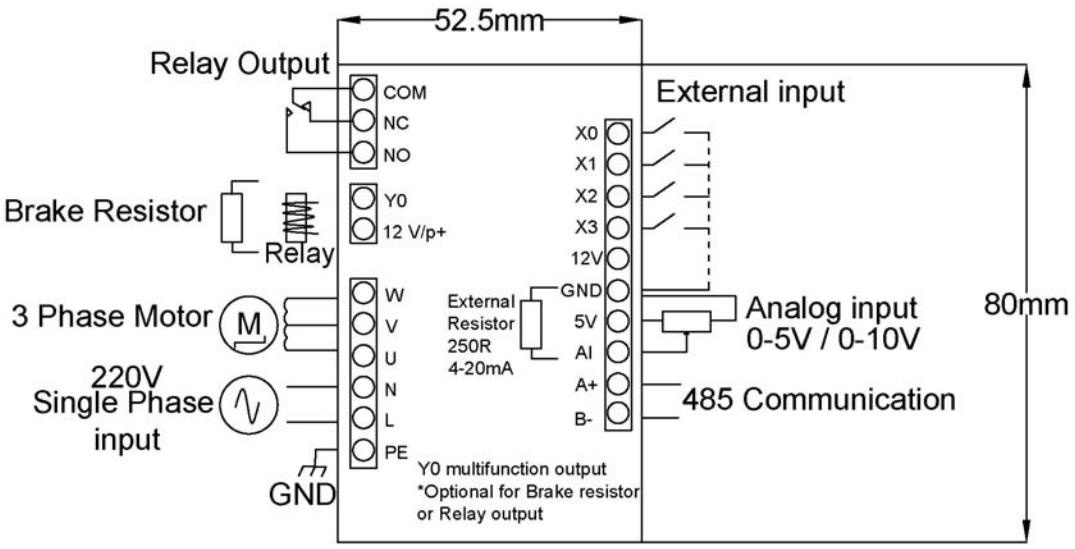
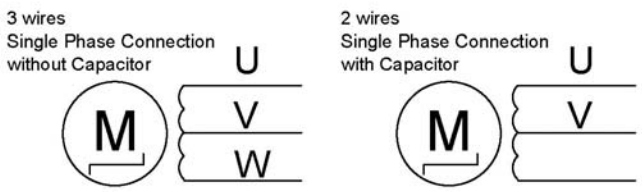
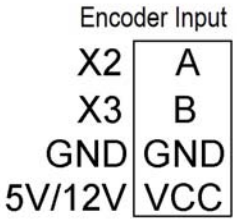
(GST No. 002050170880)

Wiring Connection :

·Dimension : L 52.5mm X H 80mm X W 130mm







S/No.	Terminal	Description	Details
1	+12V	12V Voltage Output	12VDC /0.2A
2	+5V	5V Volatge Output	5V / 50mA
3	COM	Common Terminal for General Input	
4	X0 - X3	Multi Function control input Terminal	External Control function
5	CM	Common Terminal for Relay Output	
6	NC/NO	Relay Output NC / NO	Alarm Output terminal
7	Y0 (BRK), 12V	External brake resistor	
8	VI	External Speed Control	0-5V / 10V Anolog input
9	A+. B-	Communication terminal for RS485 Modbus-RTU	

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(GST No. 002050170880)

Parameter Setting (HC200/700)

Basic Parameter

CODE	Function	Setting range	Default
P00	Frequency Control Setting	00: Digital Panel Control (Main Panel)	0
		01: Preset Input , Lower than P35 setting min 0Hz	
		02: Preset Input , Lower than P35 setting min output equal to value P45	
		03: External Analog Input , Lower than P35 setting min 0Hz	
		04: External Analog Input , Lower than P35 setting min output equal to value P45	
		05: 485 Communication	
		06: PID Control (PID External Analog input)	
		07: Encoder Input (X2 & X3) (** External control function not valid)	
P01	Operation Control	00: Panel Control, 01: External Control, 02: 485 Communication	0
P02	Motor Stop Control Method	00: deceleration Control, 01: Free stop, 02: External Brake Resistor	0
P03	Max Frequency	1.00-400.0Hz	50
P04	Max Output Voltage	230V: 0.1-255.0V	220
		460V: 0.1-510.0V	380
P05	Middle Frequency Range	0.10-400/0Hz	1.5
P06	Middle Voltage Range	230V: 0.1-255.0V	220
		460V: 0.1-510.0V	380
P07	Lowest Frequency Range	0.10-20.00Hz	1.5
P08	Lowest Voltage Range	230V: 0.1-255.0V	10
		460V: 0.1-510.0V	20
P09	1st step acceleration time	0.01-600.0s	10
P10	1st step deceleration time	0.01-600.0s	10
P11	2nd step deceleration time	0.01-600.0s	10
P12	2nd step deceleration time	0.01-600.0s	10
P13	1st step frequency setting	0.00-400.0Hz	0
P14	2nd step frequency setting	0.00-400.0Hz	0
P15	3rd step frequency setting	0.00-400.0Hz	0
P16	4th step frequency setting	0.00-400.0Hz	0
P17	5th step frequency setting	0.00-400.0Hz	0
P18	6th step frequency setting	0.00-400.0Hz	0
P19	7th step frequency setting	0.00-400.0Hz	0
P20	CW direction restriction	00: CW Only 01: CW & CCW	0
P21	Load frequency setting	01-15 ; fc=1KHz-15KHz	15
P22	DC brake current setting	00-80%	0
P23	Start up DC braking time	0.00-5.0s	0
P24	Stop DC braking time	0.00-25.0s	0
P25	Stop DC braking frequency	0.00-1500Hz	0
P26	Max output frequency	0.10-400.0Hz	400
P27	Min output frequency	0.00-400.0Hz	0
P28	Multi step input selection (X0 & X1)	0: X0= CW (Run /Stop) , X1= CCW (Run/Stop)	0
		1: X0=Run/Stop, X1=CCW/CW	
		2: X0= CW (Run /Stop) , X1= CCW (Run/Stop), X2=Jog CW, X3=Jog CCW	
		3:X0= NO CW, X1=NO CCW, X2=NC Deceleration Stop, X3=NO Deceleration Stop	
		X4=Jog CW, X5=Jog CCW	
P29	Multi step input selection (X2)	0: NIL	4
P30	Multi step input selection (X3)	1: Motor stop base on deceleration time	5
P31	Multi step input selection (X4)	2: Free stop	6
P32	Multi step input selection (X5)	3: RESET command 4: Multi step 1st command 5: Multi step 2nd command 6: Multi step 3rd command 4: Multi step 3rd command	0
P33	Target frequency setting	0.00-400.0Hz	0
P34	Torque compensation Gain	00-10	0
P35	Min AVI setting	0.0V-P36	1
P36	Max AVI setting	P35-10.0V	5
P37	No. of Auto reset after abnormal	00-10	0
P38	Time of Auto reset after abnormal	0.0-20s	0
P39	Analog input gain	0-200%	100
P40	Power start operation lock	00: run, 01: not run	1

CODE	Function	Setting range	Default
P41	Multi function Relay output	00: Running indication	3
		01: Set frequency indication	
		02: Target frequency indication	
		03: Error indication	
		04: Timing 1 output	
		05: Timing 2 output	
		06: Counting 1 output	
		07: Counting 2 output	
		08: Constant water pump switch	
Normal Parameter			
P42	Parameter lock / Factory reset	00: All parameter editable	0
		01: All parameter read only	
P43	Frequency Setting	0.00-400Hz	50
P44	Start up DC braking frequency	0.00-1500Hz	0.5
P45	Lowest Analog frequency	0.00-400Hz	0
P46	Error reset	0	0
P47	Error record 1	*	*
P48	Error record 2	*	*
P49	Error record 3	*	*
P50	Error record 4	*	*
P51	latest error record	47-50	47
P52	Motor rated current	0-65000	15
P53	Motor excitation current	0-65000	10
P54	Motor slip compensation gain	0-1000	0
P55	Motor overload protection method	0: Heat protection, 1: Time protection	0
P56	Motor overload detection level	0-300%	150%
P57	Motion overload detection time	0-600s	60s
P58	Over voltage stall	0-999.9V	370V
P59	Stall prevention current level during acceleration	0-300%	150%
P60	Stall prevention current level in constant speed	0-300%	150%
P61	Stall prevention current level during deceleration	0-300%	150%
P62	Constant speed over current deceleration time	0.600s	0
P63	Start method selection	0: Restart frequency acceleration start	0
		1: Frequency tracking start	
P64	Fault restart mode selection	0: Restart frequency acceleration start	0
		1: Frequency tracking start	
P65	Addition & subtraction frequency	0-400Hz	0.1Hz
P66	DAC Output selection	0: Set frequency	0
		1: Output frequency	
		2: Output current	
		3: Main voltage	
		4: Inverter temperature	
P67	Factory reset parameter	8: Factory default	0
P68	Frequency tracking current level	0-300%	1505
P69	Frequency tracking time	0.900s	3s
P70	Frequency tracking current raise time	0.900s	3s
P71	Jog frequency	0-400Hz	0
P72	Multi step acce/dece time selection	0-255 Binary setting , Bit 1-Bit7 refer to P13 to P19	0
		0: Acceleration time 1, 1: Acceleration time 2	

Factory Parameter

CODE	Function	Setting range	Default
P73	Inverter rated voltage	0-500V	220
P74	Inverter rated current	0-6500A	20
P75	Inverter overload protection level	0-300%	150%
P76	Inverter overload detection time	0-600s	60s
P77	Over voltage protection	0-999.9V	400V
P78	Under voltage protection	0-999.9V	200V
P79	Current detection level	0-65535	1000
P80	Voltage detection level	0-65535	2750
P81	Output current & voltage level	0-65535	1000
P82	IO input filter level	0-65535	1000
P83	Fan operation temp	0-80	50
P84	Motor type	0: 3 phase output	
		1: 2 wires single phase output with capacitor (U,V connecting to motor)	0
		2: 3 wires single phase output without capacitor (U=Common, V=CW, W=CCW)	
		3: 3 wires single phase output without capacitor (U=Common, V=CW, W=CCW)	
P85	Frequency type	0: General use, 1: Constant Water Pump	0
P86	Dead time	0-250	30
P87	Gate Voltage	0: Active in low drive, 1: Active in high drive	0
P88	Firmware version	*	
P89	Reserved	*	
P90	Password 1	*	3737
P92	Control mode	0: VF control, 1: Voltage Vector, 2: Senseless Current vector	0
P93	VF curve	0: Linear VF curve line, 1: 1.2 time VF curve line	0
P94	Main voltage filter time	10-1000ms	0.02s
P95	Output sampling current filter time	10-10000ms	1s
P96	Max encoder pulse/sec	0-65536	10000
P97	Encoder sampling time	1-9999	0.01s
P98	Panel display lock function	0-7 (0= No lock function, ENTER+DOWN key to m active lock function)	0
P99	Over-current protection detection sensitivity	0-9 (0 protection no function)	5

Communication & PID Control Parameter

CODE	Function	Setting range	Default
P100	485 Communication address	1-255	8
P101	Communication format	0=1200, 1=2400, 2=4800, 3=9600, 4=19200, 5=38400, 6=57600, 7=115200	3
	(Modbus RTU 8 digit， Invalid check,	Read P00 series (Station number 03 9C40 0001 CRCL CRCH)	
	1 bit stop bit)	Write P00=1， eg.Station number 10 9C40 0001 02 0001 CRCL CRCH)	
	40000 represenating start addresss = P00	Please rrestart after baud rate changed	
P102	485 frequency value	0-400.00	50
P103	485 operation setting	Every digit represent each function	’0000
		Bit 0, 0=Stop , 1=Run	
		Bit 1, 0=Forward, 1=Reverse	
		Bit 2, 0=Jog stop, 1=Force Jog run	
		Bit 3, 0=deceleration stop, 1=Stop anytime, 2=Brake stop	
P104	Reserved		
P105	Reserved		
P106	PID Configuration	Single digit : 0=Single direction, 1=Two direction	000
		2 Digit : 0=Negative action, 1=Postive action	
		3 Digit : 0=No alarm for PID error, 1=Deceleration stop, 2= Free stop	
P107	PID Ouput Limit	0-100	100%
P108	PID Signal selection	0: Keypad button	0
		1:Keypad Potential knob (VR knob)	
		2:AI1 External analog input	
		3:AI2 External analog input	
P109	PID feedback Signal Selection	0: Keypad button	2
		1:Keypad Potential knob (VR knob)	
		2:AI1 External analog input	
		3:AI2 External analog input	
P110	PID Integration Time	0.001-9.999	0.250S
P111	PID Differential Time	0.000-9.9999	
P112	PID Proportional gain	000.0-999.9	100%
P113	PID Sampling Period	0.001-9.999	0.010s
P114	PID Deviation Limit	0.0-20.0	5.00%
P115	PID Faulty Detection Time	0.0-9.9	5s
P116	PID Faulty Detection Value	0.0-100	10%
P117	PID Display Range	0.00-1.99	1
P118	PID Given Value	0.0-9.9	0.25
P119	Reserved		
P120	Reserved		
P121	Reserved		

Constant Water Pressure Pum Parameter

CODE	Function	Setting range	Default
P122	Starting Pressure Deviation	0.0-9.9	10
P123	Acceleration time	0.0-32.000	5.0s
P124	Stop frequency	0.0-400	5Hz
P125	Deceleratio Time	0.0-32.000	30.0S
P126	High Pressure Arrival Value	0-100.0	90%
P127	low Pressure Arrival Value	0-100.0	10%
P128	Dual Pump Interval time	0-65535 (if 0 means no such fucntion0	0 min
P129	Solenoid Switching Action Delay Time	0.0-9.999	0.500s
P130	Pump Switching Time	0-9999	5s
P131	Constant pressure water supply configuration	Single Digit: Stop method 0= Decelerationo Stop, 1=Frequency change stop, 2=Free stop	0000
		2nd Digit: Inverter Setting while Failure 0=Remain Current, 1=All stop	
		3rd Digit: Pump Change Method, 0=Common Frequncy , 1=Frequncy change to stop	
		4th Digit: Pump Condition , 0=Maintain Condition, 1= Shut down reset	
P132	Multi Pump Setting	1st Digit:0=No.1 Pump no function, 1=No.1 Pump , 2=No.1 Pump soft start	1111
		2nd Digit:0=No.2 Pump no function, 1=No.2 Pump , 2=No.2 Pump soft start	
		3rd Digit:0=No.3 Pump no function, 1=No.3 Pump , 2=No.3 Pump soft start	
		4th Digit:0=No.4 Pump no function, 1=No.4 Pump, 2=No.4 Pump soft start	
P133	Multi Pump Condition	1st Digit:0=No.1Pump Stop, 1=No.1 Pump run, 2=No.1 Pump Preset Run	0000
		2nd Digit:0=No.2Pump Stop, 1=No.2 Pump run, 2=No.2 Pump preset Run	
		3rd Digit:0=No.3Pump Stop, 1=No.3 Pump run, 2=No.3 Pump preset run	
		4th Digit:0=No.4Pump Stop, 1=No.4 Pump run, 2=No.4 Pump Preset run	
P134	Soft Start Control	1st Digit: 0=No.1 Pump Stop, 1=No.1 pump Soft start	0000
		2nd Digit: 0=No.2 Pump Stop, 1=No.2 pump Soft start	
		3rd Digit: 0=No.3 Pump Stop, 1=No.3 pump Soft start	
		4th Digit: 0=No.4 Pump Stop, 1=No.4 pump Soft start	
P135	Preset Time Pump On	1st Digit: Preset time ON, 0=Preset Off, 1= Preset ON	0000
		2nd Digit: Pressure Preset 0=Keyboard Preset, 1=Communication Preset	
		3rd Digit: Preset Mode , 0=Loop mode, 1=Single model	
		4th Digit: Preset time siwtch	
P136	Sleep Detection Time	0-65535	60.00s
139	Y0 Multi Function Setting	00:Operation Indication	
		01:Preset Frequncy Indication	
		02:Actual Frequncy Indication	
		03:Error Indication	
		04:Preset Time 1 output	
		05:Preset Time 2 output	
		06:Counter 1 Output	
		07:Counter 2 Output	
		08: Brake output	
P140	Preset Time 1 Setting Value	0-9999	1.000s
P141	Preset Time 2 Setting Value	0-9999	1.000s
P142	Counter 1 Setting Value	0-9999	100
P143	Counter 2 Setting Value	0-9999	100

Error Type

Error Code	Description	Remarks
OC	Instantaneous Over Current	Check Motor
OCA	Acceleration Over Current	Adjust acceleration setting or check P99 set to 0
OCD	Decceleration Over Current	Adjust decceleration setting or check P99 set to 0
OCN	Constant Speed Over Current	Check supply voltage is it adnormal or too low
OU	Over Pressure	Adjust acceleration & Decelerationsetting
LU	Low Voltage	Check Power supply or power Swith off
OH	Inverter Overheated	Check ventilation fan & enviroment temperation
EL	External Fault	Check external Input & output devices
ERS	Failure restart error	Restart Inverter
LP	Input Power lost Phase	Check incoming Power supply
OL1	Motor Overload	Check Motor or actual load
OL2	Inverter Overload	Check Motor & compatibility with inverter
OL3	Motor Temporary Overload	Check Motor & compatibility with inverter
OL4	InverterTemporary Overload	Check Motor & compatibility with inverter
485	Communication Error	Check wires & commnication setting
PID	PID Error	Check Anolog input & wires
NO	No Error	

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