HLP-C100 quick guide

133R0094

1. Basic information

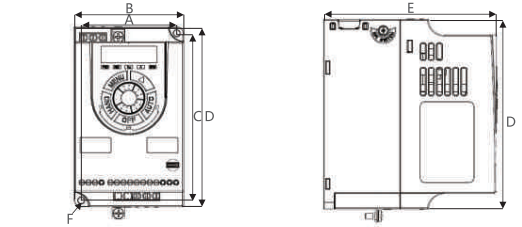
This document will guide the customer to complete the basic installation, wiring and functional debugging. If you need more information, please refer to the HLP-C100 manual, download: www.holip.com. The inverter has been tested and packaged strictly before sold. If there is anything abnormal please notify the dealer or the relevant people of our company. For any product questions, please call holip hotline :400-8095-335.

⚠ Danger

Before installing or operating the HLP-C100 inverter, read and understand this manual. The installation, commissioning , repair and maintenance of the inverter must be performed by qualified professional personnel.

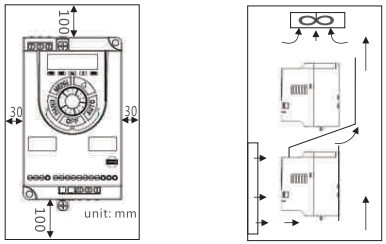
- Be sure to turn off the power supply before wiring.
- Even in the case of the main power has been cut off, the internal of the drive may still have residual energy. Before touching input and output terminals, please wait at least 4 minutes.
- Do not plug any connectors of the inverter during the power up to avoid the damage of the inverter or human death. The ground terminal must be grounded correctly.
- R, S, T terminals are power input terminals, never mixed with U.V.W terminals. Be sure that the wiring of the main
- circuit is correct. Otherwise it will cause damages of the inverter when the power is applied to it.
- If not follow the instructions, it may cause serious injury or death.

2.Dimensions of the inverter

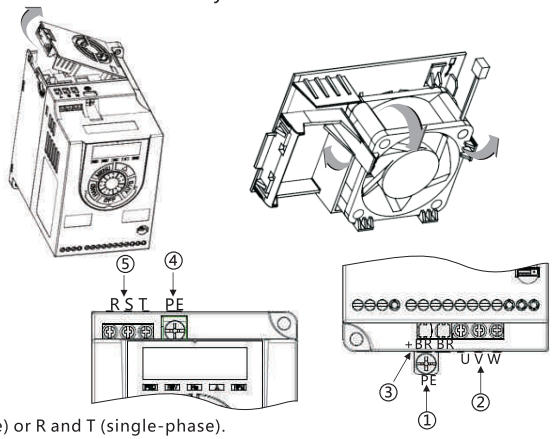


Power(kW)			A	B	C	D	E	F
1200-240V	3200-240V	3380-480V	mm	mm	mm	mm	mm	mm
0.37-1.5	0.37-1.5	0.75-2.2	74	85	130	140	127	Φ5

3.Installation of the inverter



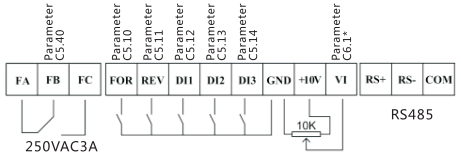
4.Fan disassembly



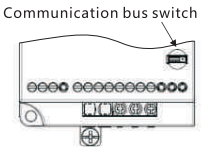
5.Main circuit terminals connection

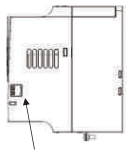
① Connect motor earth wire to earth terminal.
② Connect motor to terminals U, V and W.
③ To connect a braking resistor, set the braking resistor connected to the terminal + BR -BR
④ Connect mains supply earth wire to earth terminal.
⑤ Connect mains supply to terminals R, S and T (3-phase) or R and T (single-phase).

6.I/O control terminals connection



Note: only the inverter with RS485 has RS+ RS- and COM terminals.





7.LCP Operation

Using LCP to control the inverter [HAND]

Power on the inverter, then press HAND key on LCP, turn the incremental potentiometer to adjust the frequency. Press OFFkey on LCP to stop the inverter.

Key-press	LCP display	Action Description
⊛	F 29.2	turn ⊛ to adjust the flashing number
◀	F 29.2	press ◀ to shift the flashing number

Using digital input terminals to control the inverter [AUTO]

Power on the inverter, then press AUTO key on LCP. Preset C03.10 or select frequency source by C03.15、C03.16. Connect digital input terminal FOR and GND to start the inverter; Disconnect digital input terminal FOR and GND to stop the inverter;

Set parameters

Example: Set C03.10 [0] =20.5:

Key-press	LCP display	Action Description
MENU	C00.03	Press MENU key to display the first basic C00.03
⊛	C03.03	Turn ⊛ clockwise to select parameter group C03
◀	C03.03	Press ◀ key to shift to fractional part
⊛	C03.10	Turn ⊛ clockwise to select parameter C03.10
⊛	[0]	Press ⊛ to show the first option of C03.10
⊛	000.0	Press ⊛ to show the value of the first option of parameter C03.10
⊛	000.5	Turn ⊛ clockwise to change the fractional part to 5
◀	000.5	Press ◀ key to shift to integral part
⊛	020.5	Turn ⊛ clockwise to change the integral part to 20
⊛	END	Press ⊛ to accept the change and save it as 20.5

Data Read-outs

Press ◀ key to change the display items (reference and currents) on control panel. Set C00.33 can display more items, please refer to HLP-C100 manual.

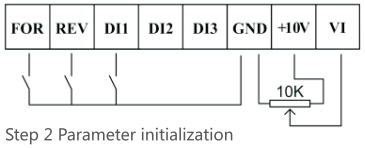
8.Application cases

Parameter initialization

Step 1 Set C14.22 = 2
Step 2 Cut off the main power and Re-power on, LCP displays E.80
Step 3 Press OFF key on LCP.

Forward, Reverse and Jog

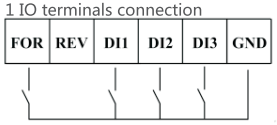
Step 1 IO terminals connection



Step 2 Parameter initialization
Step 3 Set parameter
C03.11=10Hz
C03.15=1, C03.16=0
C03.41=0.5, C03.42=0.5, C03.80=0.5, C04.10=2
C05.11=11, C05.13=14
C06.10=0, C06.11=10, C06.14=0, C06.15=50
Step 4 Press AUTO key on LCP

Multi-speed

step 1 IO terminals connection



Step 2 Parameter initialization
Step 3 Set parameter
C05.10=8, C05.12=15 (Bit0) , C05.13=16 (Bit1) , C05.13=17 (Bit2)
C03.10[0]=10 (Speed1=5Hz) , C03.10[1]=20 (Speed2=10Hz) ,
C03.10[2]=30 (Speed3=15Hz) , C03.10[3]=40 (Speed4=20Hz) ,
C03.10[4]=50 (Speed5=25Hz) , C03.10[5]=60 (Speed6=30Hz) ,
C03.10[6]=70 (Speed7=35Hz) , C03.10[7]=80 (Speed8=40Hz) ,
Step 4 Press AUTO key on LCP

PARAMETER GROUP 00: OPERATION/Display

C00.04 Operating State at Power-up
[0]Resume ;
*[1]Forced stop reference=old ;
[2]Forced stop reference=0 ;
C00.33 LCP Display Option
0-31 *0
C00.40 HAND key on LCP
[0]Disabled ;
* [1]Enabled ;
C00.41 OFF key on LCP
[0]Disable All ;
*[1]Enable All ;
[2]Enable Reset Only ;
C00.42 AUTO key on LCP
[0]Disabled ;
*[1]Enabled ;
C00.60 Menu Password
[0]Disabled;
*[1]Enabled;

PARAMETER GROUP01：LOAD/MOTOR

C01.00 Configuration Mode
*[0]Speed open loop ;
[3]Process closed loop;
***C01.20 Motor Power [kW][HP]**
Dep.on motor date
***C01.22 Motor Voltage(Um.n)**
50~1000V
***C01.23 Motor Frequency (fm.n)**
20~400Hz
***C01.24 Motor Current(Im.n)**
Dep.on motor date
***C01.25 Motor Nominal Speed (nm.n)**
100~9999rpm
***C01.42 Motor Cable Length**
0~150m
C01.55 U/F Characteristic-U
0~999V
C01.56 U/F Characteristic-F
0~400Hz
C01.71 Start Delay
0.0~10.0s * 0.0s
C01.72 Start Function
[0]DC hold/delay time ;
*[2]Coast/Delay time ;
***C01.73 Flying start**
*[0]Disabled ;
[1]Enabled ;
C01.80 Function at Stop
* [0]Coast;
[1]DC Hold;
C01.82 Min Speed for Function at Stop [Hz]
0.0~400.0Hz * 0.0Hz

PARAMETER GROUP 02:

C02.00 DC Hold Current
0~150% * 50%
C02.01 DC Brake Current
0~150% * 50%
C02.02 DC Braking Time
0.0~60.0s * 10s
C02.04 DC Brake Cut In Frequency
0.0~400.0Hz * 0.0Hz
C02.10 Brake Function
*[0]Off ;
[1]Resistor brake ;
[2]AC brake ;
C02.11 Brake Resistor (ohm)
Dep.on motor date
C02.17 Over-voltage Control
*[0]Disabled ;
[2]Enabled ;

BRAKE FUNCTION

PARAMETER GROUP 03: REFERENCE/RAMPS

C03.03 Maximum Reference
0.000~4999.000 * 50.000
C03.07 Actual Reference Calculation Method
*[0]Preset reference + Reference1、2
[1]Preset reference priority
C03.10 Preset Reference
-100.00~100.00% * 0.00%
C03.11 Jog Speed [Hz]
0.0~400.0Hz * 5Hz
C03.12 Catch up/slow Down Value
0.00~100.00% * 0.0%
C03.15 Reference Resource1
[0] No function * [1] VI
[11] Local bus [21] LCP Pot
C03.16 Reference Resource2
Please refer to C03.15
*[0] No function
C03.18 Relative Scaling Reference Resource
Please refer to C03.15
*[0] No function
C03.40 Ramp 1 Type
*[0]Linear ;
[2]Sine ramp ;
C03.41 Ramp 1 Ramp up Time
0.10~300.00s * 3.00s
C03.42 Ramp 1 Ramp Down Time
0.10~300.00 * 3.00s
C03.50 Ramp 2 Type
*[0]Linear ;
[2]Sine ramp ;
C03.51 Ramp 2 Ramp up Time
0.10~300.00s * 3.00s
C03.52 Ramp 2 Ramp Down Time
0.10~300.00 * 3.00s
C03.60 Ramp 3 Type
*[0]Linear ; [2]Sine ramp ;
C03.61 Ramp 3 Ramp up Time
0.10~300.00s * 3.00s
C03.62 Ramp 3 Ramp Down Time
0.10~300.00 * 3.00s
C03.70 Ramp 4 Type
*[0]Linear ;
[2]Sine ramp ;
C03.71 Ramp 4 Ramp up Time
0.10~300.00s * 3.00s
C03.72 Ramp 4 Ramp Down Time
0.10~300.00 * 3.00s
C03.80 Jog Ramp Time
0.10~300.00 * 3.00s
C03.84 Ramp 5 Type
*[0]Linear ; [2]Sine ramp ;
C03.85 Ramp 5 Ramp up Time
0.10~300.00s * 3.00s
C03.86 Ramp 5 Ramp Down Time
0.10~300.00 * 3.00s
C03.87 Ramp 6 Type
*[0]Linear ; [2]Sine ramp ;
C03.88 Ramp 6 Ramp up Time
0.10~300.00s * 3.00s
C03.89 Ramp 6 Ramp Down Time
0.10~300.00 * 3.00s
C03.90 Ramp 7 Type
*[0]Linear ; [2]Sine ramp ;
C03.91 Ramp 7 Ramp up Time
0.10~300.00s * 3.00s
C03.92 Ramp 6 Ramp Down Time
0.10~300.00 * 3.00s
C03.93 Ramp 8 Type
*[0]Linear ;
[2]Sine ramp ;
C03.94 Ramp 8 Ramp up Time
0.10~300.00s * 3.00s
C03.95 Ramp 8 Ramp Down Time
0.10~300.00 * 3.00s
C03.96 Link preset reference and ramp time
*[0]No link ;
[1] Link ;

PARAMETER GROUP 04: LIMITS/WARNIN

***C04.10 Motor Speed Direction**
[0]Clockwise ;
[1]Counter clockwise ;
*[2]Both ;
***C04.12 Motor Speed Low Limit [Hz]**
0.0~400.0Hz * 0.0Hz
***C04.14 Motor Speed High Limit [Hz]**
0.0~400.0Hz * 65.0Hz
C04.18 Current Limit
0~300% * 150%
***C04.19 Max. Output Frequency**
0.0~400.0Hz * 65.0Hz
C04.52 Warning Speed Low
0.0~400.0Hz * 0.0Hz
C04.53 Warning Speed High
0.0~400.0Hz * 65.0Hz
***C04.58 Missing Motor Phase Function**
[0]Off ;
* [1]On ;
C04.61 Bypass Speed From [Hz]
0.0~400.0Hz * 0.0Hz
C04.63 Bypass Speed To [HZ]
0.0~400.0Hz * 0.0Hz

PARAMETER GROUP 05: DIGITAL IN/OUT

C05.10 Terminal FOR Digital Input
[0]No operation ;
[1]Reset ;
[2]Coast inverse ;
[5]DC-brake inverse ;
[6]Stop inverse ;
*[8]Start ;
[10]Reversing ;
[11]Start reversing ;
[14]Jog ;
[15]Preset ref bit0 ;
[16]Preset ref bit1 ;
[17]Preset ref bit2 ;
[28]Catch up ;
[29]Slow down ;
[34]Ramp bit0 ;
[35]Ramp bit1 ;
[36]Ramp bit2 ;
C05.11 Terminal REV Digital Input
Refer to C05.10
*[10] Reversing ;
C05.12 Terminal DI1 Dgital Input
Refer to C05.10*[15] Preset ref bit0 ;
C05.13 Terminal DI2 Digital Input
Refer to C05.10
*[16] Preset ref bit1 ;
C05.14 Terminal DI3 Digital Input
Refer to C05.10
*[17] Preset ref bit2 ;
C05.40 Relay Function (FA-FB、FB-FC)
[0]No operation ;
*[5]Drive running ;
[9]Alarm ;
[10]Alarm or Warning ;
[15]Out of frequency rang ;
[16]Below frequency, low ;
[17] Above frequency, high ;
[21]Thermal warning ;
[24]Ready, voltage ok ;
[25]Reverse ;
[26]Bus ok ;
[28]Brake, no brake warning ;
[53]No alarm ;
[55]Running reverse ;

PARAMETER GROUP 06: ANALOG IN/OUT

C06.10 Terminal VI Low Voltage
0.00~9.99V * 0.07V
C06.11 Terminal VI High Voltage
0.10~10.00 V * 10.00V
C06.12 Terminal VI Low Current
0.00~19.99mA * 0.14mA
C06.13 Terminal VI High current
0.01~20.00mA * 20.00mA
C06.14 Terminal VI Low Ref./Feedb.Value
-4999.000~4999.000 * 0.000
C06.15 Terminal VI High Ref./Feedb.Value
-4999.000~4999.000 * 50.000
C06.16 Terminal VI Filter Time Contant
0.01~10.00s * 0.01s
C06.18 Terminal VI Zero dead band
0.00~20.00 * 0.00V/mA
C06.19 Terminal VI Mode
*[0]Voltage mode ;
[1]Current mode ;
C06.81 LCP Pot Low Ref.
-4999.0~4999.0 * 0.0
C06.82 LCP Pot High Ref.
-4999.0~4999.0 * 50.0

PARAMETER GROUP07:

C07.20 Process CL Feedback Resource
*[0]No function ;
[2]Analog input VI ;
[11]Local bus ref ;
C07.31 Process PI Anti Windup
[0]Disabled ;
*[1]Enabled ;
C07.33 Process PI Proportional Gain
0.0~10.00 * 0.01
C07.34 Process PI Integral time
0.10~9999.00s * 999.00s
C07.38 Process PI Feed Forward Factor
0~400% * 0%
C07.39 On Reference Bandwidth
0~200% * 5%
C07.41 Process PI Output Low
-100~100% * 0%
C07.42 Process PI Output High
-100~100% * 100%

PIDCONTROL

PARAMETER GROUP 08: FC PORT SETTINGS

C08.01 Control Site
*[0]Digital and ctrl.word ;
[1]Digital only ;
[2]Control Word only ;
C08.02 Control Word Source
[0]None ;
*[1] : FC RS485 ;
C08.03 Control Word Timeout Time
0.1~6500.0s * 1.0s
C08.04 Control Word Timeout Function
*[0]Off;
[1]Freeze output;
[2]Stop;
[3]Jogging ;
[4]Max. speed;
[5]Stop and trip;
C08.06 Reset Control Word Timeout
*[0]No Function ;
[1]Do Reset ;
C08.31 Address
1~247
C08.32 Port Baud Rate
[0]2400 ;
[1]4800 ;
*[2]9600 ;
[3]19200;
[4]38400;
C08.33 FC Port Parity
*[0]Even Parity,1Stop bit ;
[1]Odd Parity,1stop bit;
[2]No Parity,1Stop bit;
[3]No Parity,2 Stop bits;
C08.35 Minimum Response Delay
0.001~0.500s * 0.010s
C08.36 Max. Response Delay
0.010~10.000s * 5.000s
C08.94 Bus Feedback
-32768~32767 * 0

C14.01 Switching Frequency
[2~6]:2kHz~6kHz;
[7]8kHz ;
[8]10 kHz ;
[9]12kHz ;
[10]16kHz ;
*[5]
***C14.03 Over modulation**
[0]Off ;
*[1]On ;
C14.08 Damping Gain Factor
0~200% * 96%
C14.12 Function at Mains Imbalance
*[0]Trip ; [1]Warning ; [2]Disabled ;
C14.20 Reset Mode
*[0]Manual reset ;
[1~10]Automatic reset x 1~10 ;
[11]Automatic reset x 15 ;
[12]Automatic reset x 20 ;
[13]Infinite auto reset ;
C14.21 Automatic Restart Time
0~600s * 10s
C14.22 Operation Mode
*[0]Normal Operation ; [2]Initialisation ;
[3]Backup user settings ;
[4]Recover user settings ;
C14.23 Trip Lock
[0]Disable
*[1]Enable
***C14.51 DC-Link Voltage Compensation**
*[0]Off ; [1]On ;

PARAMETER GROUP 14: SPECIAL FUNCTIONS

PARAMETER GROUP 15: DRIVE INFORMATION

C15.00 Operating Days
C15.02 KWh Counter
C15.03 Power up's
C15.06 Reset KWh Counter
*[0]Off;
[1]On;
C15.30 Fault Log: Error Code
C15.31 Internal Fault Reason
C15.40 FC Type
C15.41 Power Section
C15.42 Voltage
C15.43 Software Version
C15.44 Ordered Type Code
C15.46 Frequency converter ordering NO.
C15.47 Power Card Ordering NO.
C15.48 LCP ID NO.
C15.49 Software ID Control Card
C15.50 Software ID Power Card
C15.51 Frequency Converter Serial Number
C15.53 Power Card Serial number
C15.92 Parameter List

PARAMETER GROUP 16: DATA READOUTS

C16.00 Control Word
C16.01 Reference [Unit]
C16.05 Motor Speed [RPM]
C16.10 Power[KW]
C16.12 Motor Voltage
C16.13 Frequency
C16.14 Motor Current
C16.30 DC Link Voltage
C16.34 Heat sink Temp.
C16.52 Feedback # [Unit]
C16.60 Digital Input
C16.62 Analog Input VI
C16.71 Relay Output [bin]
C16.86 FC Port REF
C16.90 Alarm Word
0~0xFFFFFFFFUL
C16.91 Alarm Word 2
0~0xFFFFFFFFUL
C16.92 Warning Word
0~0x7FFFFFFFUL
C16.93 Warning Word 2
0~0x7FFFFFFFUL

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