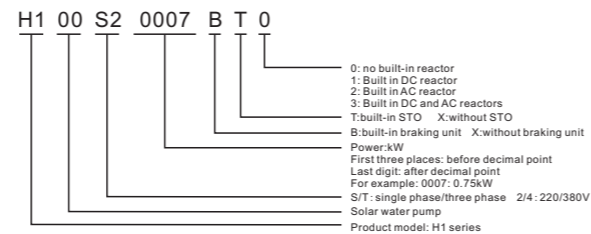




H1 Series Inverter USER MANUAL

1.2 H1 nameplate



1.3 H1 series specifications and models

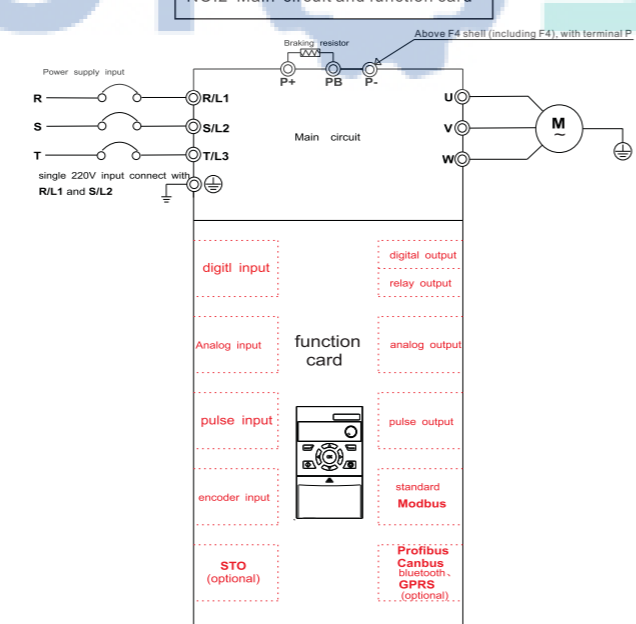
| Base No | Models | Input voltage | input current (A) | Power (kW) | output current (A) | Adaptive motor(kW) |
|---------|---------------|---------------|-------------------|------------|--------------------|--------------------|
| F1 | H100S20007BX0 | 1 phase 220V | 8.2 | 0.75 | 5.0 | 0.75 |
| | H100S20015BX0 | 1 phase 220V | 14.0 | 1.5 | 7.0 | 1.5 |
| F2 | H100T20022BX0 | 1 phase 220V | 23.0 | 2.2 | 12.5 | 2.2 |
| | H100T20037BX0 | 3 phase 220V | 13.5 | | | |
| F3 | H100T20055BX0 | 1 phase 220V | 38.6 | 3.7 | 15.2 | 3.7 |
| | H100T20075BX0 | 3 phase 220V | 16.5 | | | |
| F4 | H100T20075BX0 | 3 phase 220V | 37 | 7.5 | 31 | 7.5 |
| | H100T20110BX0 | 3 phase 220V | 52 | 11 | 45 | 11 |
| F1 | H100T40007BX0 | 3 phase 380V | 4.0 | 0.75 | 3.0 | 0.75 |
| | H100T40015BX0 | 3 phase 380V | 5.8 | 1.5 | 4.5 | 1.5 |
| F2 | H100T40022BX0 | 3 phase 380V | 6.5 | 2.2 | 5.6 | 2.2 |
| | H100T40040BX0 | 3 phase 380V | 12.6 | 4.0 | 10.5 | 4.0 |
| F3 | H100T40055BX0 | 3 phase 380V | 16 | 5.5 | 14 | 5.5 |
| | H100T40075BX0 | 3 phase 380V | 21 | 7.5 | 19 | 7.5 |
| F4 | H100T40110BX0 | 3 phase 380V | 28 | 11 | 26 | 11 |
| | H100T40150BX0 | 3 phase 380V | 36 | 15 | 33 | 15 |
| F5 | H100T40185BX0 | 3 phase 380V | 42 | 18.5 | 40 | 18.5 |
| | H100T40220BX0 | 3 phase 380V | 48 | 22 | 46 | 22 |
| F6 | H100T40300BX0 | 3 phase 380V | 62 | 30 | 58 | 30 |
| | H100T40370BX0 | 3 phase 380V | 76 | 37 | 75 | 37 |
| F7 | H100T40450XX0 | 3 phase 380V | 92 | 45 | 90 | 45 |
| | H100T40550XX0 | 3 phase 380V | 113 | 55 | 110 | 55 |
| F8 | H100T40750XX0 | 3 phase 380V | 157 | 75 | 150 | 75 |
| | H100T40900XX0 | 3 phase 380V | 180 | 90 | 170 | 90 |
| F9 | H100T41100XX0 | 3 phase 380V | 214 | 110 | 210 | 110 |
| | H100T41320XX0 | 3 phase 380V | 256 | 132 | 250 | 132 |
| | H100T41600XX0 | 3 phase 380V | 307 | 160 | 300 | 160 |

NO.1 Product introduction

1.1 Technical Features

| Items | Description |
|--|---|
| input | Rated voltage/frequency: 3ph: 380V~440V, 50Hz/60Hz; 1ph: 200V~240V, 50Hz/60Hz |
| Allowed voltage | 3ph: 320V~460V; 1ph: 180V~260V; voltage imbalance rate: <3%; frequency: ±5% |
| output | Voltage: 0~rated input voltage |
| Frequency | 0Hz~1000Hz |
| Overload capacity | 150% rated current 60s, 180% rated current 2s |
| control performance | Control mode: V/F, SVC |
| Modulation Mode | SVPWM |
| Motor type | asynchronous motor, synchronous motor, single phase motor (consult factory before using) |
| Start torque | 1Hz/150% |
| Speed range | 1:100(SVC) |
| Frequency accuracy | digital setting: maximum frequency±0.01%; analog setting: maximum frequency±1% |
| Frequency resolution | digital setting: 0.1Hz; analog setting: maximum frequency±1% |
| Acceleration/ deceleration curve | line/ S-curve |
| Rapid current limit | limit current rapidly within the current protection value, to ensure the safety of the equipment |
| None-slip when instantaneous power off | none-stop when instantaneous power off, automatic frequency drop |
| Operation function | Command source: keypad, terminal, communication |
| Set value source | digital, analog, multi-speed, communication |
| PID | support main setting+PID |
| Operation panel | LED display: Can display: output frequency, output voltage, output current, Bus voltage, display value 1, display value 2, error, alarm |
| External keypad | YES |
| Protection function | over-current protection, over-voltage protection, under-voltage protection, overheating protection, over-load protection, phase loss protection, earth leakage, etc |
| Environment | Store environment: indoor, away from direct sunlight, no dust, no corrosive gas, no inflammable gas, no oil mist, no vapour, no drip and no salinity, etc |
| Altitude | derating use above 1000M, derating 10% per 1000M |
| Environment temperature | -10℃~+40℃(environment temperature around 40℃~50℃please derating use) |
| Humidity | 5%~95%RH, no condensation |
| Store temperature | -40℃~+70℃ |
| Vibration | <5.9M/S (0.6g) |

NO.2 Main circuit and function card



Notice: different function card corresponding to different terminals. Except standard function card, can customize any type of card. Reset parameters when using different function cards. An AC drive only can use one function card.

Warning: Do not use function card when power is on!

2.1 Main circuit terminal description

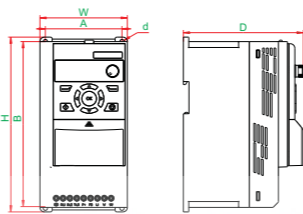
| Terminal identification | Name | Function description |
|-------------------------|-----------------------------------|---|
| ⊕ | Grounding terminal | Safety grounding |
| R/L1, S/L2, T/L3 | Main circuit power input terminal | Connect three phase power supply, single phase power supply connect to R/L1, S/L2 |
| P+, PB | Braking terminal | Connect to external braking resistor |
| P+, P- | DC bus terminal | Two sets or more inverters use a common DC bus (Above F4 shell (including F4), with terminal P) |
| U, V, W | output terminl | Connect to three phase motor |

2.2 Founction card configuration table

| Function card | H0100 | H0101 | H0102 | H0103 | H0104 | H0110 | H0120 | H0130 | H0131 | H0200 | H0201 | H0300 | H0310 | H0320 | H0350 |
|------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|--------------|--------------|--------------|
| Digital input | 2 | 4 | 1 | 4 | 2 | 5 | 10 | 5 | 1 | 10 | 10 | | 4 | 5 | 3 |
| Digital output | | | | | | 1 | | | | | | | | | |
| Relay output | 1 | 1 | | 3 | 1 | 2 | 2 | 2 | 1 | 3 | 3 | | 1 | 1 | 1 |
| Analog input | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | | 2 | 2 | | 2 | 1 | |
| Analog output | | | | | | 2 | 1 | 2 | | 2 | 2 | | 2 | 2 | |
| Pulse input | | | | | | | | | | | | | | | |
| Pulse output | | | | | | | | | | | | | | | |
| Encoder input | | | | | | | | | | | | | | | |
| Modbus | 1 | 1 | 1 | 1 | 1 | 1 | optional | 1 | 1 | 1 | 1 | | 1 | 1 | 1 |
| STO | | | | | | | | | | | | | | | |
| Display | Digital tube | Digital tube | Digital tube | Digital tube | Digital tube | Digital tube | Digital tube | Digital tube | Digital tube | Digital tube | Digital tube | | Digital tube | Digital tube | Digital tube |
| Potentiometer | Analog | Analog | | Analog | Analog | Analog | Analog | Analog | | | | | Analog | Analog | |
| Toggle switch | | | | | | | | | | | | | 1 | 2 | 2 |
| 12V power supply | 1 | | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | | 1 | | |
| 10V power supply | | | | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | | 1 | | |

Note:
1. the built-in function card with STO function must be equipped with AC drive of STO circuit, for example: H0200 built-in function card is equipped with AC drive with model H100T40040BTO (the second T represents built-in STO circuit).
2. If need other types and numbers of terminals, contact the company for bulk customization

NO.3 Product Dimension



| Framework | H1 series Dimensions (mm) | | | | | |
|-----------|---------------------------|-----------|----------|------|-----|----|
| | W(Width) | H(Height) | D(Depth) | A | B | d |
| F1 | 85 | 170 | 124 | 67.3 | 158 | 5 |
| F2 | 97 | 194 | 133 | 85 | 184 | 5 |
| F3 | 126 | 237 | 147 | 112 | 223 | 6 |
| F4 | 168 | 298 | 160 | 154 | 283 | 6 |
| F5 | 198 | 355 | 177 | 183 | 338 | 6 |
| F6 | 250 | 400 | 208 | 230 | 380 | 7 |
| F7 | 280 | 545 | 292 | 200 | 526 | 9 |
| F8 | 380 | 648 | 299 | 300 | 626 | 11 |
| F9 | 450 | 798 | 318 | 340 | 773 | 11 |

NO.4 Keypad description

| Item | Structure | Function description |
|------|---|----------------------|
| 1 | Display | Display |
| 2 | Program/exit | Program/exit |
| 3 | Status display interface work as status switch key, other interface work as left shift key | |
| 4 | Reserved key | |
| 5 | RUN | RUN |
| 6 | Potentiometer: refer to parameter P01.63 | |
| 7 | In the mode of program, work as value change key; otherwise, UP/DOWN key, refer to parameter P01.63, P02.03, P02.04 | |
| 9 | Enter | Enter |
| 10 | STOP/RESET | STOP/RESET |
| 11 | Customization key | |

4.2 Indicator light description

| Indicator light | Status | Function description |
|-----------------|----------------------|--|
| RUN | light on/ flickering | operating /decelerating |
| REV | light on | reverse operation |
| REM | light on | remote start stop |
| ALM | light on | fault indication |
| M | light on | customization indication, default alarm indication |

4.3 Display item description

| Display code | Item description |
|--------------|-------------------------|
| F | output frequency |
| C | output current |
| U | output voltage |
| d | DC bus voltage |
| H | display value 1(P10 98) |
| t | display value 2(P10 99) |
| R | current alarm |
| E | current fault |

NO.5 Function · Parameter Table

| Function | Function | Description (setting range) | Factory default |
|----------|------------------------------------|---|-----------------|
| P00.09 | Parameter operation | 1: parameter initialization, initialize parameters except P00.XX, in normal condition, use mode 1 in initialization; 2: initialize all parameters | 0 |
| P00.10 | Setting(frequency) reference F1 | 0: keypad P01.63 1: multi-speed 2: AI1 3: AI2 5: communication | 0 |
| P00.11 | Setting(frequency) reference F2 | 5: communication | 0 |
| P00.12 | setting relation selection | 0:F1 1:F2 2:F1+F2 3:F1-F2 4:F1*F2/100 5:maximum value(F1,F2) 6:minimum value(F1,F2) 7:average value(F1,F2) 8:PID(F1,F2) * principle interpretation: set 0 choose F1 channel setting value; set 1 choose F2 channel setting value; set 2 choose the sum of F1 and F2 channel setting value; set 3 choose the difference of F1 and F2 channel setting value; set 4 choose the product of F1 and F2 channel setting value divide 100; set 5 choose larger value of F1 and F2; set 6 choose smaller value of F1 and F2; set 7 choose average value of F1 and F2; set 8 choose PID control(F1 is setting, F2 is feedback). | 0 |
| P00.13 | maximum setting value | 0.000~99999.000 * principle interpretation: limit setting value range. The unit of setting source is %, the maximum setting value(P00.13) stands for 100%, take maximum setting value as standard. | 50.000 |
| P00.14 | motor output frequency upper limit | ~1020.000Hz~1020.000Hz interpretation: motor operation frequency upper limit | 55.000Hz |
| P00.15 | multi-speed source | 0~11111111 units: S1 tens: S2 hundreds: digit: S3 thousands: digit: S4 ... * P00.15 multi-speed source, select to corresponding external terminal, multi-speed refer to P00.16-P00.23. * eg: select S2, S3, S4 as valid external terminal to control multi-speed set P00.15=1110, detailed 8 segment corresponding relationship as above table | 0 |
| P00.16 | multi-speed 0 | | 0.000% |
| P00.17 | multi-speed 1 | | 0.000% |
| P00.18 | multi-speed 2 | ~1000.000%~1000.000% | 0.000% |
| P00.19 | multi-speed 3 | function: multi-speed setting, corresponding to P00.13 maximum setting percentage | 0.000% |
| P00.20 | multi-speed 4 | | 0.000% |
| P00.21 | multi-speed 5 | | 0.000% |
| P00.22 | multi-speed 6 | | 0.000% |
| P00.23 | multi-speed 7 | | 0.000% |
| P00.24 | acceleration time | 0.050s~3600.000s * principle interpretation: as figure, acceleration time refer to the time from 0Hz accelerate to P00.74 motor frequency | ** |
| P00.25 | deceleration time | as figure, deceleration time refer to the time from P00.74 motor frequency decelerate to 0Hz | ** |
| P00.26 | Jog frequency | ~1000.000%~1000.000% function: set jog frequency, jog command refer to P00.33 | 10.000% |
| P00.30 | start command source | 0: invalid 1: keypad 2: communication 3: S1 4: S2 5: S3 6: S4 | 1 |
| P00.31 | reverse start command source | ... | 0 |
| P00.32 | reverse command source | function: select command source(select keypad as command source, then reverse start command, reverse command, jog command, free stop command, safe stop command, pause command all from multi-function key of keypad) | 0 |
| P00.33 | Jog command source | | 1 |
| P00.34 | stop command source | * reverse start command: setting value reversed, and give a start command * reverse command: setting value reversed. * jog command: jog command. Priority is higher than start command, lower than stop command. | 0 |
| P00.35 | free stop command source | | 0 |
| P00.36 | reset command source | 16 S14 S13 S12 S11 S10 S9 S8 S7 S6 7 6 5 4 3 2 1 0 S5 S4 S3 S2 S1 communication keypad invalid | 1 |

