JIT Series Products PCH-1/2 MODBUS Protocol Specification ( Revision: 1.0.3 )

1. Data string definition: { uses the 03 instruction to read 64 words, that is, 56 bytes of data }

40001:Device properties

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 40001 low | control logic | DIP switch | illustrate | instruction | operate | type of data |
| 62H | Float and probe with overflow alarm and drainage | 000 | Switch | 05 | R | UNSIGN8 |
| 61H | Knapsack float type | 010 | Switch | 05 | R | UNSIGN8 |
| 64H | Two-wire pressure switch (normally closed type) | 111 | Switch | 05 | R | UNSIGN8 |
| 63H | Probe and float supply water to upper and lower water tanks | 101 | Switch | 05 | R | UNSIGN8 |
| 83H | Submersible level sensor drain | 011 | Analog quantity | 05 | R | UNSIGN8 |
| 81H | pressure sensor water supply | 001 | Analog quantity | 05 | R | UNSIGN8 |
| 85H | Submersible liquid level sensor water tank supply | 100 | Analog quantity | 05 | R | UNSIGN8 |
|  |  |  |  |  |  |  |
| 40001 high | model |  |  |  |  |  |
| F1H | PCH-11/31 PLUS |  |  | 05 | R | UNSIGN8 |
| F2H | PCH-12/32 PLUS |  |  | 05 | R | UNSIGN8 |

1. Data definition:

( F2/4 H Model ): Device status corresponding to “ bit ” table

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Bit meaning |  | Function Description | | Remark | | instruction | operate | type of data |
|  |  |  | |  | |  |  |  |
| 40002 low | 0 | Manual | |  | | 05 | R | BIT |
|  | 1 | automatic | |  | | 05 | R | BIT |
|  | 2 | Undervoltage | |  | | 05 | R | BIT |
|  | 3 | overvoltage | |  | | 05 | R | BIT |
|  | 4 | Wrong phase | |  | | 05 | R | BIT |
|  | 5 | Fluctuation (frequent starts) | |  | | 05 | R | BIT |
|  | 6 | A run | |  | | 05 | R | BIT |
|  | 7 | B run | |  | | 05 | R | BIT |
|  |  | Switch | DIP=001 sensor pressure water supply | DIP=011 sensor drainage | DIP=100 sensor water tank water supply | 05 | R | BIT |
| 40002 high | 8 | lack of liquid | There is no water in the sink | There is no water in the sink | There is no water in the sink | 05 | R | BIT |
|  | 9 | Full of liquid |  |  |  | 05 | R | BIT |
|  | 10 | Full of pressure | Sensor is not connected or damaged | Sensor is not connected or damaged | Sensor is not connected or damaged | 05 | R | BIT |
|  | 11 | overflow | Extremely high pressure | pool overflow | Water tank overflows | 05 | R | BIT |
|  | 12 | XX | -- | -- | -- | 05 | R | BIT |
|  | 13 | XS | -- | -- | -- | 05 | R | BIT |
|  | 14 | SX |  |  |  | 05 | R | BIT |
|  | 15 | SS |  |  |  | 05 | R | BIT |
|  |  | 61/62/63/64H | 81H | 83H | 85H |  |  |  |
| 40003 low | 0 | B lack of phase | | PCH -1 ignore | | 05 | R | BIT |
|  | 1 | B overload | | PCH -1 ignore | | 05 | R | BIT |
|  | 2 | B Stall (locked rotor) | | PCH -1 ignore | | 05 | R | BIT |
|  | 3 | B dry transfer | | PCH -1 ignore | | 05 | R | BIT |
|  | 4 | B no load | | PCH -1 ignore | | 05 | R | BIT |
|  | 5 | B three-phase unbalanced | | PCH -1 ignore | | 05 | R | BIT |
|  | 6 | B leak | | PCH -1 ignore | | 05 | R | BIT |
|  | 7 | B super temperature | | PCH -1 ignore | | 05 | R | BIT |
|  |  |  | |  | |  |  |  |
| 40003 high | 8 | A lack of phase | |  | | 05 | R | BIT |
|  | 9 | A overload | |  | | 05 | R | BIT |
|  | 10 | A Stall (locked rotor) | |  | | 05 | R | BIT |
|  | 11 | A dry rotation | |  | | 05 | R | BIT |
|  | 12 | A no load | |  | | 05 | R | BIT |
|  | 13 | A three-phase unbalance | |  | | 05 | R | BIT |
|  | 14 | A leak | |  | | 05 | R | BIT |
|  | 15 | A over temperature | |  | | 05 | R | BIT |
|  |  |  | |  | |  |  |  |
| 40016 low | 0 | A pump setting status | |  | | 05 | R | BIT |
|  | 1 | B pump setting status | | PCH -1 ignore | | 05 | R | BIT |
|  |  |  | |  | |  |  |  |
|  |  |  | |  | |  |  |  |

**PCH-1 :**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| meaning | Input switch value | sensor pressure water supply | Sensor drain | Sensor water tank water supply | instruction | operate | type of data |
|  | 61/62/63/64H | 81H | 83H | 85H | 05 | R | UNSIGN16 |
| 40004 | Voltage | Voltage | Voltage | Voltage | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40005 | current | current | current | current | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40006 |  |  |  |  | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40007 |  |  |  |  | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40008 |  | Pressure display value | Pool liquid level display value | Water tank level display value | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40009 |  | Stop pump pressure setting | Stop pump liquid level setting value | Stop pump liquid level setting value | 05 | R/W | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40010 |  | Pump start pressure setting | Start pump liquid level setting value | Start pump liquid level setting value | 05 | R/W | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40011 |  | Overpressure alarm setting value | Overflow level setting value | Overflow level setting value | 05 | R/W | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40012 |  |  |  |  | 05 | R/W | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40013 | reserved |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 40014 | reserved |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 40015 | reserved |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 40016 | Water pump setting status |  |  |  | 05 | R | BIT |
|  |  |  |  |  |  |  |  |
| 40017 | A cumulative running time |  |  |  | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 40018 | reserved |  |  |  | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40019 | Pump final failure 1 |  |  |  | 05 | R | UNSIGN8 |
|  |  |  |  |  |  |  |  |
| 40020 | Pump final failure 2 |  |  |  | 05 | R | UNSIGN8 |
|  |  |  |  |  |  |  |  |
| 40021 | Pump final failure 3 |  |  |  | 05 | R | UNSIGN8 |
|  |  |  |  |  |  |  |  |
| 40022 | Pump final failure 4 |  |  |  | 05 | R | UNSIGN8 |
|  |  |  |  |  |  |  |  |
| 40023 | Pump final failure 5 |  |  |  | 05 | R | UNSIGN8 |
|  |  |  |  |  |  |  |  |
| 40024 | Device model |  |  |  | 05 | R | ASCII |
|  |  |  |  |  |  |  |  |
| 40025 | Device model |  |  |  | 05 | R | ASCII |
|  |  |  |  |  |  |  |  |
| 40026 | Device model |  |  |  | 05 | R | ASCII |
|  |  |  |  |  |  |  |  |
| 40027 | Device model |  |  |  | 05 | R | ASCII |
|  |  |  |  |  |  |  |  |
| 40028 | Device version number |  |  |  | 05 | R | ASCII |
|  |  |  |  |  |  |  |  |
| 40029 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Internal menu remote setting 05 command to read, 16 command to write | | | | | | | |
|  |  | |  |  | instruction | operate | type of data |
| 40030 | Start filtering time | | 1-60 | S | 05/16 | R/W | UNSIGN16 |
| 40031 | Frequently started protection times | | 0-50 | times (per minute) | 05/16 | R/W | UNSIGN16 |
| 40032 | Over-temperature protection function | | 0-1 |  | 05/16 | R/W | UNSIGN16 |
| 40033 | Phase error protection function | | 0-1 |  | 05/16 | R/W | UNSIGN16 |
| 40034 | Phase loss protection function | | 0-1 |  | 05/16 | R/W | UNSIGN16 |
| 40035 | Anti-rust and spotting | | 0-254 | H | 05/16 | R/W | UNSIGN16 |
| 40036 | Logic start delay | | 0-120 | Second | 05/16 | R/W | UNSIGN16 |
| 40037 | Logical shutdown delay | | 0-120 | Second | 05/16 | R/W | UNSIGN16 |
| 40038 | Pressure gear timeout operation shutdown | | 0-120 | Min | 05/16 | R/W | UNSIGN16 |
| 40039 | Non-recoverable fault alarm automatic switching time | | 0-24 | H | 05/16 | R/W | UNSIGN16 |
| 40040 | Automatic key lock | | 0-1 |  | 05/16 | R/W | UNSIGN16 |
| 40041 | RS485ID | | 0-127 |  | 05/16 | R/W | UNSIGN16 |
| 40042 | RS485 baud rate | | 0-4 |  | 05/16 | R/W | UNSIGN16 |
| 40043 | RS485 parity | | 0-2 |  | 05/16 | R/W | UNSIGN16 |
| 40044 | Pump rated current | | 1-250 OR 500 | A (displayed except 10) | 05/16 | R/W | UNSIGN16 |
| 40045 | Dry rotation decoupling ratio | | 0-200 | % | 05/16 | R/W | UNSIGN16 |
| 40046 | Overload tripping ratio | | 0-200 | % | 05/16 | R/W | UNSIGN16 |
| 40047 | Blocked rotor decoupling ratio | | 0-200 | % | 05/16 | R/W | UNSIGN16 |
| 40048 | Three-phase unbalance ratio | | 0-500 | % | 05/16 | R/W | UNSIGN16 |
| 40049 | Undervoltage decoupling value | | 0-312 | V | 05/16 | R/W | UNSIGN16 |
| 40050 | Overvoltage decoupling value | | 0-538 | V | 05/16 | R/W | UNSIGN16 |
| 40051 | Dry rotation decoupling time | | 0-60 | Second | 05/16 | R/W | UNSIGN16 |
| 40052 | Dry recovery time | | 0-254 | Min | 05/16 | R/W | UNSIGN16 |
| 40053 | Overcurrent recovery time | | 0-60 | Min | 05/16 | R/W | UNSIGN16 |
| 40054 | Overvoltage/undervoltage/three-phase unbalance recovery time | | 0-60 | Min | 05/16 | R/W | UNSIGN16 |
| 40055 | Backpack float delay alarm time | | 0-254 | Min | 05/16 | R/W | UNSIGN16 |
| 40056 | Sensor range | | 0-999 | CM/Bar | 05/16 | R/W | UNSIGN16 |
| 40057 | Stop pump setting | | 0-999 | CM/Bar | 05/16 | R/W | UNSIGN16 |
| 40058 | Start pump settings | | 0-999 | CM/Bar | 05/16 | R/W | UNSIGN16 |
| 40059 | Overflow alarm settings | | 0-999 | CM/Bar | 05/16 | R/W | UNSIGN16 |

Note:

1, voltage, liquid level height, and accumulated time are 16 bits 16 and the decimal number is converted to decimal for direct display.

2, current needs to be displayed in addition to 10, the unit is A

3, pressure needs to be displayed in addition to 10, the unit is Bar

4, The last failure of the pump is A pump takes the high 8 bits, B pumps the low bit of each word 8 bits

5, The device model is ASCII code, a total of 8 characters

6, The device version number is a three-digit decimal number, such as: 101, the version number is Rev :1.01

**PCH-2 :**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| meaning | Input switch value | sensor pressure water supply | Sensor drain | Sensor water tank water supply | instruction | operate | type of data |
|  | 61/62/63/64H | 81H | 83H | 85H | 05 | R | UNSIGN16 |
| 40004 | Voltage | Voltage | Voltage | Voltage | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40005 | total current | total current | total current | total current | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40006 | A pump current | A pump current | A pump current | A pump current | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40007 | B pump current | B pump current | B pump current | B pump current | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40008 |  | Pressure display value | Pool liquid level display value | Water tank level display value | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40009 |  | Stop pump pressure setting | Stop pump liquid level setting value | Stop pump liquid level setting value | 05 | R/W | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40010 |  | Start single pump pressure setting | Start single pump liquid level setting value | Start single pump liquid level setting value | 05 | R/W | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40011 |  | Start dual pump pressure setting | Start dual pump liquid level setting value | Start dual pump liquid level setting value | 05 | R/W | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40012 |  | Overpressure alarm setting value | Overflow level setting value | Overflow level setting value | 05 | R/W | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40013 | reserved |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 40014 | reserved |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 40015 | reserved |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 40016 | Water pump setting status |  |  |  | 05 | R | BIT |
|  |  |  |  |  |  |  |  |
| 40017 | A cumulative running time |  |  |  | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| 40018 | B cumulative running time |  |  |  | 05 | R | UNSIGN16 |
|  |  |  |  |  |  |  |  |
| 40019 | Pump final failure 1 |  |  |  | 05 | R | UNSIGN8 |
|  |  |  |  |  |  |  |  |
| 40020 | Pump final failure 2 |  |  |  | 05 | R | UNSIGN8 |
|  |  |  |  |  |  |  |  |
| 40021 | Pump final failure 3 |  |  |  | 05 | R | UNSIGN8 |
|  |  |  |  |  |  |  |  |
| 40022 | Pump final failure 4 |  |  |  | 05 | R | UNSIGN8 |
|  |  |  |  |  |  |  |  |
| 40023 | Pump final failure 5 |  |  |  | 05 | R | UNSIGN8 |
|  |  |  |  |  |  |  |  |
| 40024 | Device model |  |  |  | 05 | R | ASCII |
|  |  |  |  |  |  |  |  |
| 40025 | Device model |  |  |  | 05 | R | ASCII |
|  |  |  |  |  |  |  |  |
| 40026 | Device model |  |  |  | 05 | R | ASCII |
|  |  |  |  |  |  |  |  |
| 40027 | Device model |  |  |  | 05 | R | ASCII |
|  |  |  |  |  |  |  |  |
| 40028 | Device version number |  |  |  | 05 | R | ASCII |
|  |  |  |  |  |  |  |  |
| 40029 |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Internal menu remote setting 05 command to read, 16 command to write | | | | | | | |
|  |  | |  |  | instruction | operate | type of data |
| 40030 | Start filtering time | | 1-60 | S | 05/16 | R/W | UNSIGN16 |
| 40031 | Frequently started protection times | | 0-50 | times (per minute) | 05/16 | R/W | UNSIGN16 |
| 40032 | Over-temperature protection function | | 0-1 |  | 05/16 | R/W | UNSIGN16 |
| 40033 | Phase error protection function | | 0-1 |  | 05/16 | R/W | UNSIGN16 |
| 40034 | Phase loss protection function | | 0-1 |  | 05/16 | R/W | UNSIGN16 |
| 40035 | Water pump enable function | | 0-2 |  | 05/16 | R/W | UNSIGN16 |
| 40036 | Manual automatic blending mode | | 0-2 |  | 05/16 | R/W | UNSIGN16 |
| 40037 | Timeout rotation mode (cyclic timing, one master and one backup) | | 0-254 | Min | 05/16 | R/W | UNSIGN16 |
| 40038 | Anti-rust and spotting | | 0-254 | H | 05/16 | R/W | UNSIGN16 |
| 40039 | Logic start delay | | 0-120 | Second | 05/16 | R/W | UNSIGN16 |
| 40040 | Logical shutdown delay | | 0-120 | Second | 05/16 | R/W | UNSIGN16 |
| 40041 | Pressure gear timeout operation shutdown | | 0-120 | Min | 05/16 | R/W | UNSIGN16 |
| 40042 | Non-recoverable fault alarm automatic switching time | | 0-24 | H | 05/16 | R/W | UNSIGN16 |
| 40043 | Automatic key lock | | 0-1 |  | 05/16 | R/W | UNSIGN16 |
| 40044 | RS485ID | | 0-127 |  | 05/16 | R/W | UNSIGN16 |
| 40045 | RS485 baud rate | | 0-4 |  | 05/16 | R/W | UNSIGN16 |
| 40046 | RS485 parity | | 0-2 |  | 05/16 | R/W | UNSIGN16 |
| 40047 | A pump rated current | | 1-250 OR 500 | A (displayed except 10) | 05/16 | R/W | UNSIGN16 |
| 40048 | B pump rated current | | 1-250 OR 500 | A (displayed except 10) | 05/16 | R/W | UNSIGN16 |
| 40049 | Dry rotation decoupling ratio | | 0-200 | % | 05/16 | R/W | UNSIGN16 |
| 40050 | Overload tripping ratio | | 0-200 | % | 05/16 | R/W | UNSIGN16 |
| 40051 | Blocked rotor decoupling ratio | | 0-200 | % | 05/16 | R/W | UNSIGN16 |
| 40052 | Three-phase unbalance ratio | | 0-500 | % | 05/16 | R/W | UNSIGN16 |
| 40053 | Undervoltage decoupling value | | 0-312 | V | 05/16 | R/W | UNSIGN16 |
| 40054 | Overvoltage decoupling value | | 0-538 | V | 05/16 | R/W | UNSIGN16 |
| 40055 | Dry rotation decoupling time | | 0-60 | Second | 05/16 | R/W | UNSIGN16 |
| 40056 | Dry recovery time | | 0-254 | Min | 05/16 | R/W | UNSIGN16 |
| 40057 | Overcurrent recovery time | | 0-60 | Min | 05/16 | R/W | UNSIGN16 |
| 40058 | Overvoltage/undervoltage/three-phase unbalance recovery time | | 0-60 | Min | 05/16 | R/W | UNSIGN16 |
| 40059 | Backpack float delay alarm time | | 0-254 | Min | 05/16 | R/W | UNSIGN16 |
| 40060 | Sensor range | | 0-999 | CM/Bar | 05/16 | R/W | UNSIGN16 |
| 40061 | Stop pump setting | | 0-999 | CM/Bar | 05/16 | R/W | UNSIGN16 |
| 40062 | Start single pump settings | | 0-999 | CM/Bar | 05/16 | R/W | UNSIGN16 |
| 40063 | Start Dual Pump Setup | | 0-999 | CM/Bar | 05/16 | R/W | UNSIGN16 |
| 40064 | Overflow alarm settings | | 0-999 | CM/Bar | 05/16 | R/W | UNSIGN16 |
|  |  | |  |  |  |  |  |

Note:

1, voltage, liquid level height, and accumulated time are 16 bits 16 and the decimal number is converted to decimal for direct display.

2, current needs to be displayed in addition to 10, the unit is A

3, pressure needs to be displayed in addition to 10, the unit is Bar

4, The last failure of the pump is A pump takes the high 8 bits, B pumps the low bit of each word 8 bits

5, The device model is ASCII code, a total of 8 characters

6, The device version number is a three-digit decimal number, such as: 101, the version number is Rev :1.01

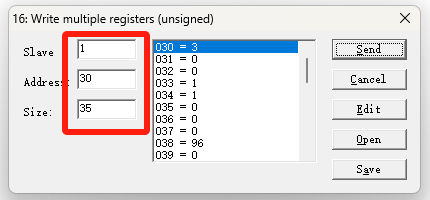
Three , 05 codes

|  |  |  |  |
| --- | --- | --- | --- |
| Data address (decimal) | data input | One control, one function | One control, two functions |
| 40081 | 0000 | Manual | Manual |
| FF00 | automatic | automatic |
| 40082 | 0000 | stop | A pump stops |
| FF00 | start up | A pump starts |
| 40083 | 0000 |  | B Pump Stop PCH -1 Ignore |
| FF00 |  | B pump start PCH -1 ignore |

Four , 16 codes

**PCH12/32 Internal menu remote setting, use the 16 command to write 35 words at one time, the address is 40030, the command is as follows:**





**PCH11/31 Internal menu remote setting, use the 16 command to write 30 words at one time, the address is 40030, the command is as follows:**

