

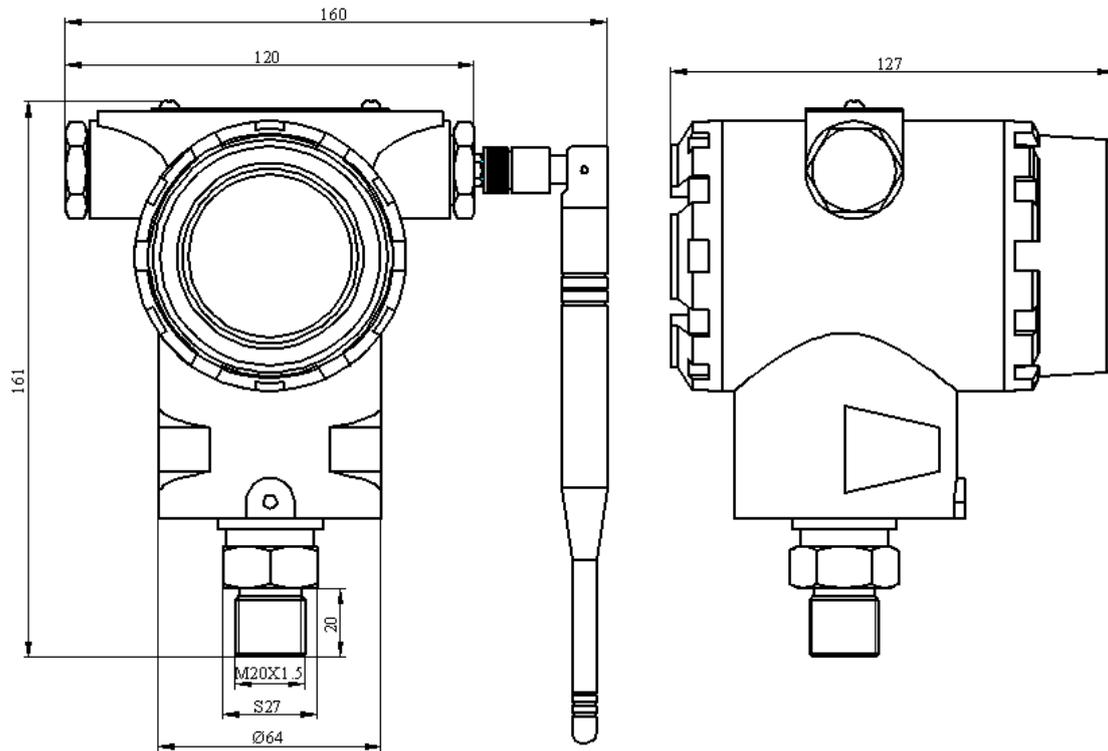
CS-iPT608-C Wireless Pressure Transmitter Instruction

1 Overview

The main field of application of Wireless pressure measurement system is for the field occasions where is inconvenient for power supply situation. Such as monitoring the pressure when transport the oil, steam, heating and other energy pipelines and other places to achieve the wireless remote signal. With the use of wireless communication receiver module can be collected through the host computer to monitor the data.

The CS-iPT608-C wireless pressure transmitter is the terminal of the measuring system. It is a high-precision intelligent pressure measuring instruments with battery-powered, wireless communications, liquid crystal display, more quality sensor core, ASIC and accessories using for transducer, The production lines and processes is always produce military products to produce the high-precision, high-quality, small size, easy to installation, simple and cost-effective pressure type transmission , and embedded Zigbee wireless communication module, adopting the 2.4GHz radio frequency transceiver conforming to the Zigbee protocol standard and the CSMA/CA anti-collision mechanism effectively avoid channel blockage and data loss due to simultaneous data transmission.

2 Dimensions



3 The technical indicators

Power supply: 3.6V lithium battery

Measuring range: 0 ~ 40Mpa(can be customized)

System accuracy: 0.5% FSR

Communication frequency band: 2.405GHz~2.480GHz

Communication speed: 9600bps

Pressure interface: M20X1.5

The rate of data is sent every 1 minute (can be customized)

The Battery-powered time is more than six months (the rate of data update is 5 minutes)

4 The LCD and keyboard plate

CS-iPT608C wireless pressure transmitter with LCD display, keypad, easy to observe and set in the field.

When using, open the back cover and switch K1 to the ON position, that is, the wireless pressure transmitter is powered on.

5 Operation instructions

5.1 Instrument key description

Instrument panel with three buttons, from left to right are: "SET (SET)", "adjusting zero

(◁)", "switch (△)".

- 1) "set" key can be operated two method, "long press" and "short press";
- 2) "adjusting Zero" can be operated two method "long press" and "short press"
- 3) The following operations, all are "short press", except for the description of "long press";
- 4) There are four functions in the menu: "AS", "CL", "CB" , "SL" and "HL";
- 5) In the menu function "AS" position, long pressing the "adjusting zero" key will exit the menu operation state.
- 6) The system defaults that the battery power is sampled every 5 days (24 hours), and the LCD displays "full" or "empty" according to the sampling result.

5.2 Instrument key operation instructions

When the instrument is working normally, the LCD displays the current pressure value in psi. If customer need to set the parameters of the instrument in the field, you can set as follows:

- 1) Press and hold the "SET" key, the instrument will display "AS" to enter the function selection setting interface.
- 2) Press the "ON / OFF" key to switch between the four menu function options.
- 3) Press "SET" to enter the menu function.
- 4) "AS" menu function: used to set the device address, range "1 ~ 255", the default address is "1". After entering this function, Press "SET" to save and return to the menu function selection interface. Press "SET" key to enter the function, press "ON" key to add "1", press "ZERO" key to decrease the address.
- 5) "SL" menu function: Used to set the sampling rate of the device (ie, the time for uploading the pressure value in time) in seconds. The range is from 30 seconds to 60,000 seconds. The default address is 60 seconds. Press this key to save the sampling rate and press the "SET" key to save and return to the menu function selection interface.
- 6) "CL" menu function: used to calibrate the pressure transmitter, not open to users.
- 7) "CB" menu function: used to calibrate the battery power, not open to users
- 8) "HL" menu function: Enter the password "1234", press the "switch" key and add the number "1". Press "Zero" to switch the current password. After the password is entered, press the "Set" button to enter this menu function selection sub-item. The menu function sub-items are divided into "H" (exit low-power mode) and "L"

(enter low-power mode), press "switch" key to switch "H" and "L", after selection is completed, press "set" The key saves the selection and returns to the "HL" menu function interface.

5.3 Serial communication command description

5.3.1 Serial timing upload command description

Used for uploading the current pressure value regularly. Frame data is represented in hexadecimal format and is 9 bytes in length.

Start bit		Downlink window flag	Device address	High 8 bits of data	Low 8-bit	CRC check high 8bits of data	CRC check low 8bits of data	End bits	
0x55	0x55	0x00/0xFF	0x01~0xFF	Pressure value	Pressure value			0xCC	0xCC

Note: All bytes except the start and end bits are CRC checked before transmission.

Downlink open flag: when the flag change to 0xff, it means the downlink window is opened. When it change to 0x00, it means the downlink window is closed.

After converting the pressure value in hexadecimal format to decimal, the current pressure value = the converted value / 1000.

Message example: 55 55 01 03 E8 BE 20 CC CC

01 is device address, 03E8(1000psi) is current pressure

For example, "0" represents 0psi, "5" represents 5psi, "10" represents 10psi, "100" represents 100psi, "12345" represents 12345psi and "25000" represents 25000psi.

5.3.2 Serial port common command description

The instructions listed in this communication protocol are the command formats used by the CS-iPT608C wireless pressure transmitters for communication with the upper and lower computers.

The master sends the ASCII code containing the slave address to the specified slave. The slave then acts upon the instruction addressed to it. The serial communication format is: No parity, 8-bit data, 1 stop bit. The instrument default communication baud rate is 9600.

Command frame format	Response frame format	Instructions
M001#!	001M#	Uses: Used to set the working mode. "#" means "0" or "1" : Set to "0" to indicate that the current mode is non-low-power mode. The wireless communication module always has power, you can use the serial port for calibration and other settings; set to "1" to indicate that the current is In low power mode, the serial port function is not available during low power consumption.

		<p>Response format: The response parameter is the same as the setting parameter, indicating that the setting is successful.</p> <p>Initialization default value: 0, indicating that the system is operating in a non-low power mode.</p> <p>Set to the common address "000" for batch setting.</p>
S001#####!	001S#####	<p>Purpose: It is used to set the sampling rate of the device, that is, the timing of uploading the pressure value.</p> <p>"#####" represents a 5-digit sampling rate, ranging from 00030 to 60000, in seconds.</p> <p>Response format: The response parameter is the same as the setting parameter, indicating that the setting is successful.</p> <p>Initialization default: 60, which means 60 seconds.</p> <p>Set to the common address "000" for batch setting.</p>
\$001####!	\$####!	<p>Purpose: Used to modify the device address.</p> <p>"###" represents 3 new addresses, ranging from 001 to 255.</p> <p>Response format: "###" represents 3 new addresses.</p> <p>Initialization default value increase from 001.</p>
@001!	{#####}	<p>Purpose: To read the current pressure value.</p> <p>Response format: "#####" represents the 5-bit pressure value, ranging from 0 to 40000.</p> <p>For example, the current pressure is 10000PSI, respond to {10000}</p>
W001#####!	001W#####	<p>Purpose: Change the time to open the downlink window</p> <p>Response format: "#####" represents the 4-bit uplink times.</p> <p>For example, the uplink times is 5, then open the downlink configuration window every 5 uplink times.</p>
J001#####!	001J#####	<p>Purpose: Modify the downlink configuration window time</p> <p>Response format: "#####" represents the 4-bit time value, range 0~1000.</p> <p>For example, the current downlink window time is 20, then open the downlink window 20 seconds every 5 uplink times.</p>

Example:

Set update value:S00100120!

Reply:001S00120

Set address value:\$001002!

Reply:\$002!

Set the update time to 120s

Set successfully

Set address value from 001 to 002.

Set successfully

6 Battery

1) Battery Model: Lithium Battery ER26500M (Futex Battery). (Battery parameters: No. 2 lithium battery, 3.6V, 9Ah).

2) Battery Installation

The battery is installed at the rear of the transmitter. Unscrew the back cover to see the battery

clip. Turn off the battery switch when handling the battery.

3) Battery switch

The battery switch is behind the battery clip. The battery switch is turned on and the transmitter starts to work. The battery switch is off and the transmitter stops working.

4) Battery level

The lower left LCD display shows the battery level. When the battery level shows “blank”, replace the battery.

7 Malfunction and eliminate

When the receiver does not communicate with the pressure transmitter:

- 1) Please Check whether the distance between the receiver and the pressure transmitter is too far or there is an obstacle;
- 2) Check the battery power, if the battery is low, replace the battery;
- 3) Check if the antenna is loose.

If have any questions, please contact the supplier.