aikon

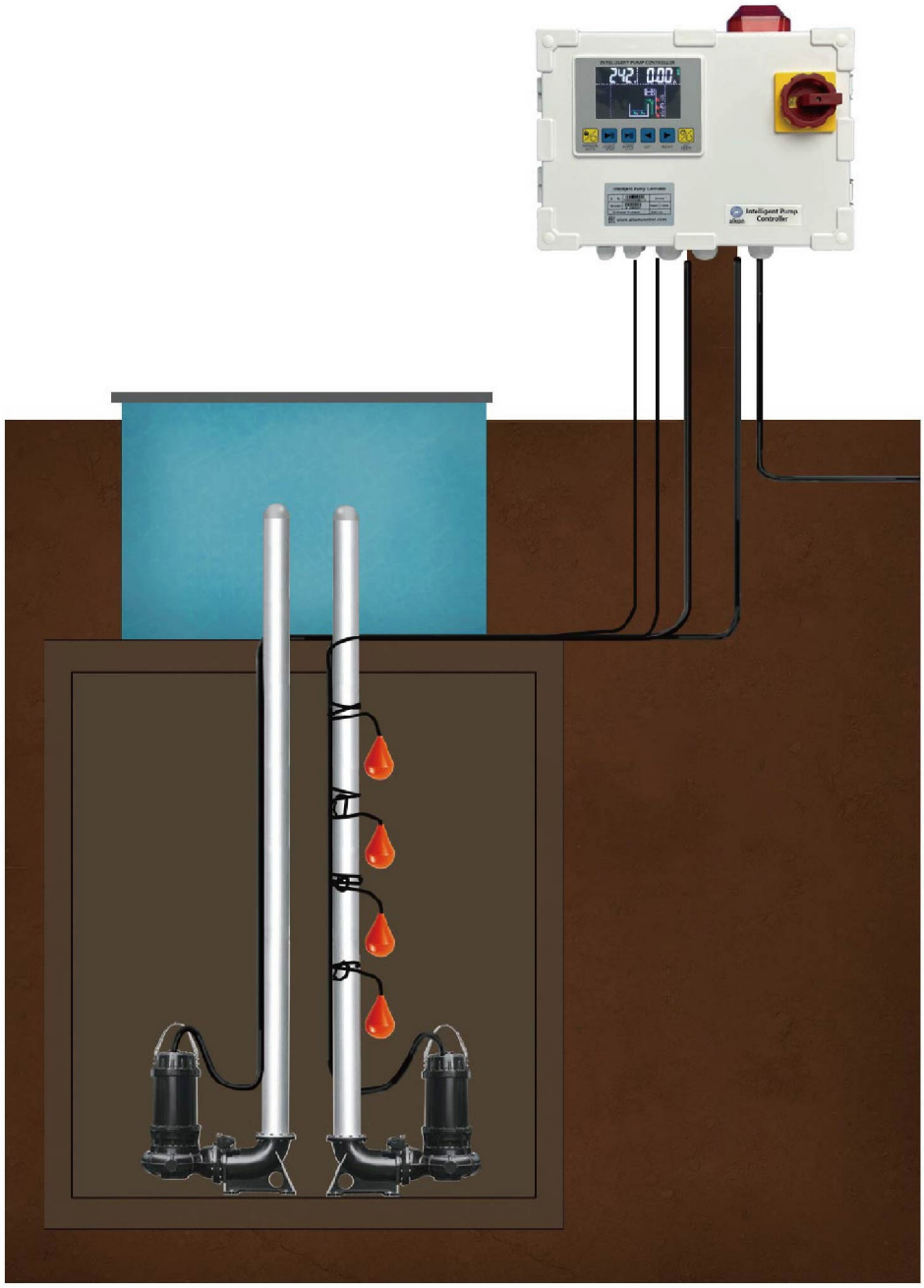
AUTOMATIC INTELLIGENT WATER PUMP CONTROLLER

INSTALLATION INSTRUCTIONS

Shanghai Pumping Tech International Co.,Ltd

AUTOMATIC INTELLIGENT WATER PUMP CONTROLLER

INSTALLATION SCHEMATIC

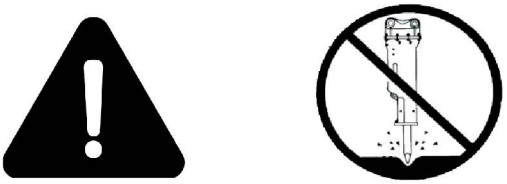


PD X-Series

Automatic Intelligent Water Pump Controller

Installation instructions

<Double pump>



Caution No Punching

◆ Before installing and using the product, please read the instruction manual and keep it properly.

◆ The controller must be installed by professionals who are familiar with low-voltage electrical technology.

◆ Power must be disconnected during installation, wiring, disassembly and maintenance.

◆ It is strictly forbidden to touch live components directly with your hands in the state of power.

◆ The controller must be reliably grounded before power on.

◆ If the generator is used as the power source of the controller, the power source of the generator is stable, and the controller can be energized!

◆ If you do not install and debug according to the instruction manual or punch holes in the shell without permission, the consequences shall be borne by yourself.

Please read this manual carefully before using the automatic intelligent water pump controller.

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1 Basic Information

1.1 Product Profile

Scope of application: protection and control of deep well pump/sinking pump/sewage pump/ pipelinebooster pump/muti-stage pump/centrifugal pump...and underground blowdown, the level of the water supply in buildings, pressure and the control of float ball.

1.2 Main Features

（1） Manual/Auto.
（2） Dual pump alternating function.
（3） Dynamic display of liquid level.
（4） 24-hour inspection (anti-rust) function.
（5） One-key setting function in manual mode.
（6） Automatic identification current setting function.
（7） Water shortage protection stop pump function when manual start (prevent air from entering the pump) , activate this fuction as needed, follow the instructions (page 7) .

1.3 Basic Function

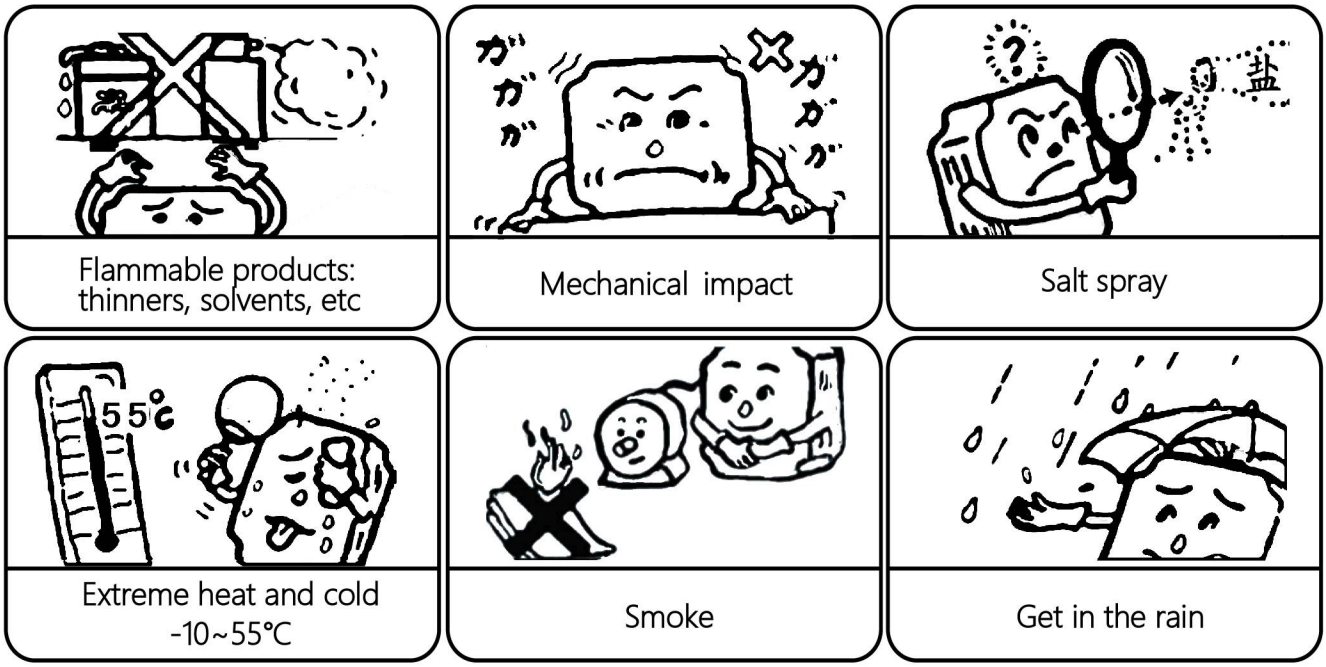
Protection of blocked rotation, over current, dry rotation, over pressure and under pressure.It can realize automatic control of liquid level (pressure, liquid level float, probe). Remote monitoring can be realized by connecting with its supporting remote synchronous display controller. Real-time voltage, current and other conditions can be displayed on the remote synchronous display controller, and all control functions <optional function> can be realized.

1.4 Technical parameter

◆Underpressure operation time: <2s
◆Overpressure operation time: <2s
◆Overload operation time: <5s
◆Dry rotation time: <5s
◆Blocking rotation time: <1s
◆Short-circuit operation time: <0.1s
◆Liquid level transmission distance: ≤1000m
◆RS485 transmission distance: Within 1200 meters (using twisted-pair shielded cable STP-120Ω, 20 AWG) .
「Percentage points (%) can be set for dry rotation protection/overload protection/blocked rotation protection. Refer to the video tutorial of QR code on page 9. 」
◆Undervoltage operating voltage: Nominal voltage 80%
◆Overvoltage operating voltage: Nominal voltage 120%
◆Overload fault recovery time: 5 minutes (modifiable, refer to video on page 9)
◆Dry rotation recovery time: 30 minutes (modifiable, refer to video on page 9)
◆Blocked rotation recovery time: 30 minutes (modifiable, refer to video on page 9)
◆Out-of-phase action time: <2s
◆Protection class: IP54

1.5 Notes

The product is suitable for conventional working environment, avoid installation in the following environment :



2 Operation Keys

Protection current setting (current setting memory)

The machine must be set when it is used for the first time. There are three ways to set the current:

① Current setting under manual condition.

② Manually input the rated current in the setting mode

③ Automatically identify the work after starting and stopping the pump 5 times in the automatic state

Rate (current) and setting (in order to avoid errors in automatic setting current under abnormal conditions of the system (such as dry rotation, overload, overvoltage, undervoltage, etc.), it is recommended to set under manual condition)

Note: If the water pump is replaced, it must be adjusted manually again.

Double pump key instructions

Icon	Function key description
 Manual/Auto	Manual/Auto key: 1. Manual/Auto toggle key 2. Save and Quit button
 A Start/stop	A Start/Stop button: 1. Start and stop button of pump A under manual condition 2. Minus (-) numeric key function 3. A pump setting function key
 B Start/stop	B Start/Stop button: 1. Start and stop button of B pump under manual condition 2. plus (+) numeric key function 3. B pump setting function key

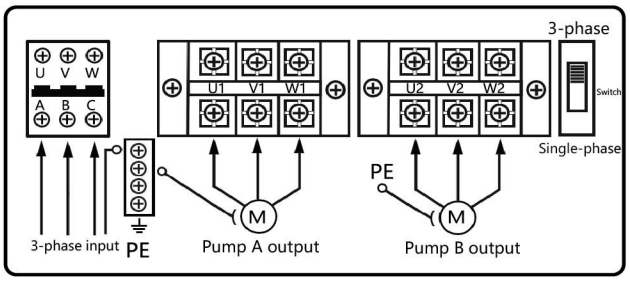
Icon	Function key description
 Left	Left key: 1. The key of moving left 2. Number of pump and float failures
 Right	Right key: 1. The key of moving right 2. Control box and pump running time
 Setup/Reset	Set/reset button: 1. Buttons for setting functions 2. Confirm the button 3. Reset the button when a fault occurs

Initial debugging instruction

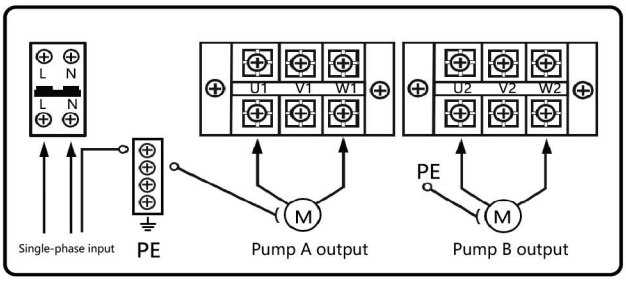
Content	LCD Display content	First Debugging details
Calibration	"Pump A" "No Calibration"	①Long press the "⚙" button to count down 2s to switch to manual state. Under load state (the liquid level float switch on the display screen is floating state), manually observe the normal water output of the pump and pipe network by pressing "A Start/Stop ⏯" for 5 seconds to automatically identify the current and set. When the setting is over, the words "Calibration" or "No Calibration" will no longer flash and disappear.②Manual input power (current) enters the setting mode for setting (detailed description on page 7).③In order to facilitate the use of customers, the power (current) is automatically identified and set after starting and stopping the pump for 5 times under the automatic state. Warning: 1.After the installation is complete, you are advised to manually set the current to avoid errors in automatic setting under abnormal system conditions (such as dry rotation, overload, overvoltage, and undervoltage). 2.The water pump must be reset after maintenance or replacement. You do not need to clear the reset memory. You can repeat operations ① or ② above.
	"Pump A" "No Calibration"	The setting of pump B is the same as the above step, only "B start/stop ⏯" is changed to countdown for 5 seconds.
	Clear setting memory initialization	In the automatic state, long press A Start/Stop ⏯ or B Start/Stop ⏯ to countdown for 5 seconds, and the power of pump A/B will clear the setting memory, and the word "No Calibration" will be displayed. Tip: Must be set in the "No Calibration" state.
Test level	Display 	When the liquid level float switch is lifted , the floating state is displayed on the display screen, and the automatic operation or normal operation of the liquid level switch can be determined. If the liquid level float switch on the display screen shows the down state ' and determines that the liquid level switch does not work properly, check the wiring of the liquid level float switch or the quality of the liquid level switch.
Manual water shortage protection	Activation function is available	To activate this function, refer to the instructions on page 7 or to the QR code video tutorial on page 9.
	Forced-start pump method	Under manual condition, when the water is loaded to start the pump, the low level float switch drops down to stop the pump ' to prevent air from entering the pump. When it is necessary to start the drainage strongly, the "Manual/Auto ⚙" button plus (+) "A or B start-stop press ⏯ and long press the mandatory drainage at the same time, and stop the pump when let go.

3 Pump Wiring

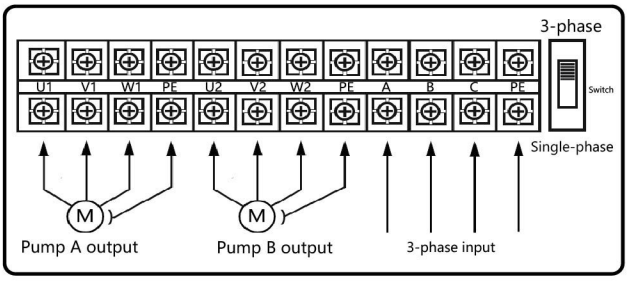
1.Three phase double pump line method: PD X-D02/PD X-DQ2/PD X-DM2



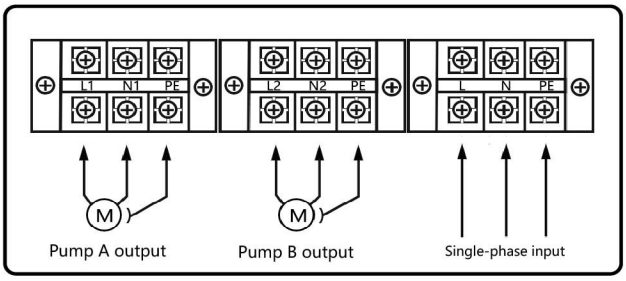
Single phase double pump line method: PD X-D06/PD X-DQ6/PD X-DM6



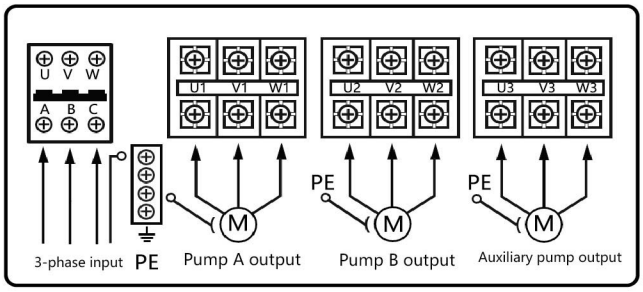
2.European and American three phase double pump line method: PD X-E02



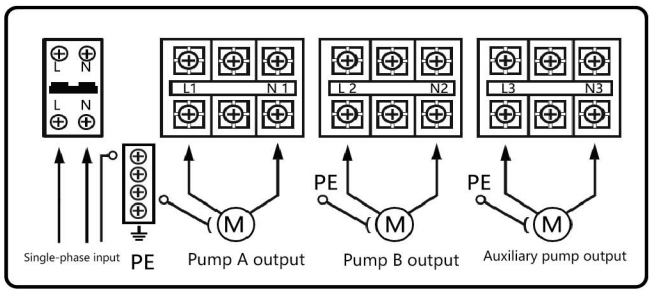
European and American single phase double pump line method: PD X-E06



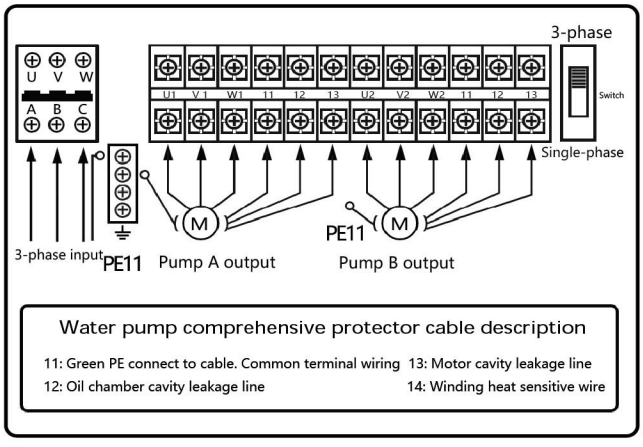
3.Three phase double pump and auxiliary pump wiring method: PD X-D02-N



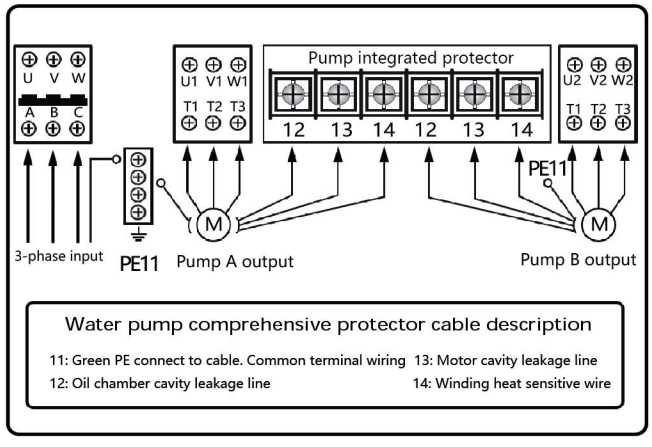
Single phase double pump and auxiliary pump wiring method: PD X-D06-N



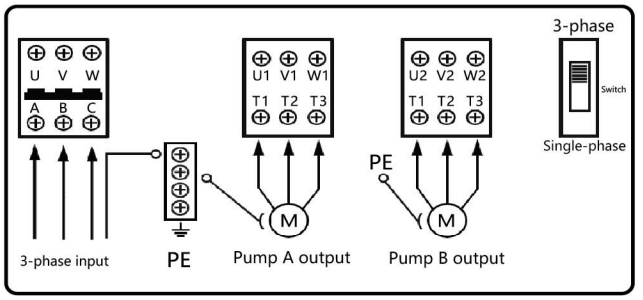
4. Industrial three phase double pump intergrated protection controller wiring method: PD X-D02-P



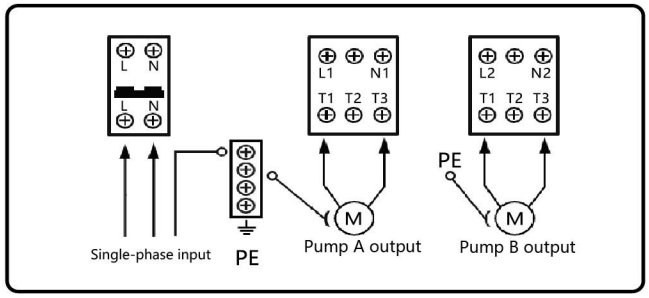
Industrial single phase double pump intergrated protection controller wiring method: PD X-002-P



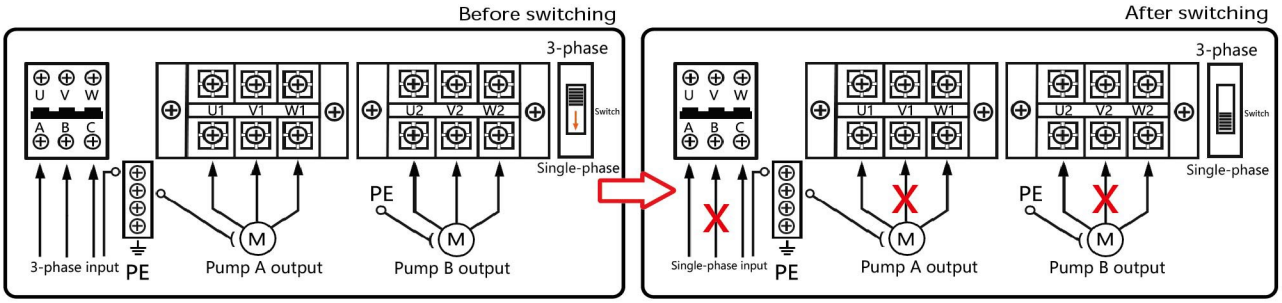
5. Economical three phase double pump line method: PD X-002



Single phase double pump line method: PD X-006



6. Three-phase switching single-phase wiring method



4 Float Wiring

1. Double pump level float switch wiring method

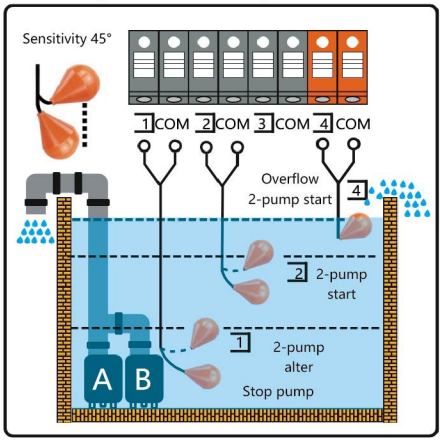
Double pump	Liquid level	Low level 1	Mid level 2	High level 3	Overflow level 4
	Low sensitivity	Double pump alternation	Double pump start	X	Overflow level
	High sensitivity	Stop pump level	Double pump alternation	Double pump start	Overflow level

Electrode probe wiring method

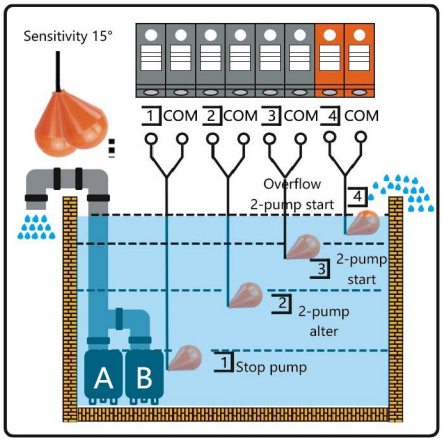
Liquid level	COM	Low level 1	Mid level 2	High level 3	Overflow level 4
Scheme 1	Common terminal	Stop pump level	Double pump alternation	Double pump start	Overflow level
Scheme 2	Common terminal	Stop pump level	Double pump alternation	Double pump start	X

Industrial wiring method

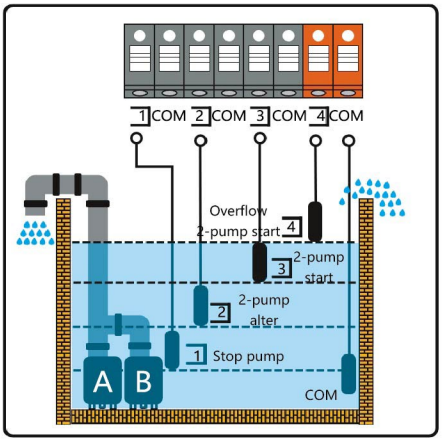
Low sensitivity level switch wiring method: PD X-LL30



High sensitivity level switch wiring method: PD X-LH30

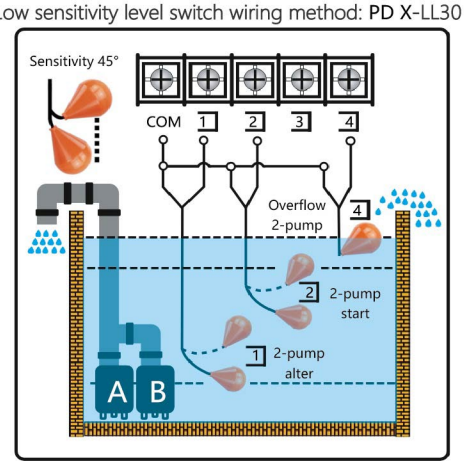


Electrode probe wiring method

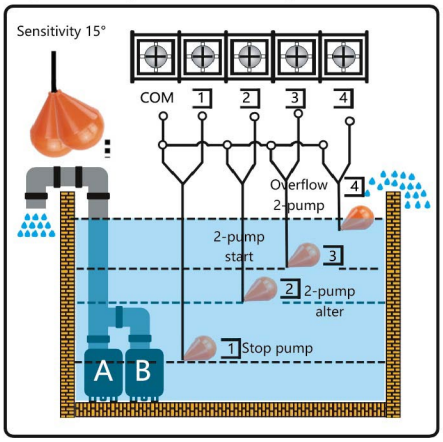


Economical wiring method

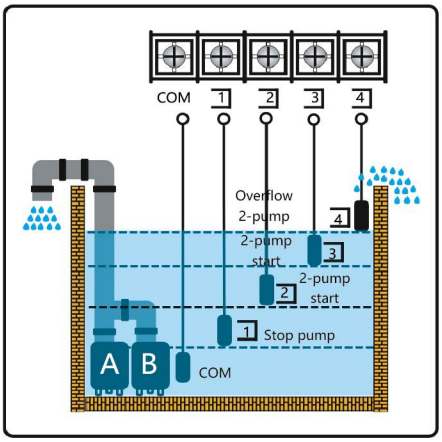
Low sensitivity level switch wiring method: PD X-LL30



High sensitivity level switch wiring method: PD X-LH30



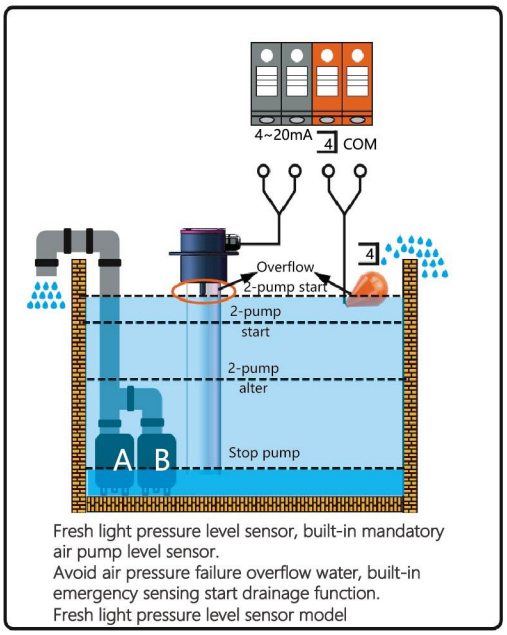
Electrode probe wiring method



2. Barometric level/pressure sensor wiring method (4~20mA)

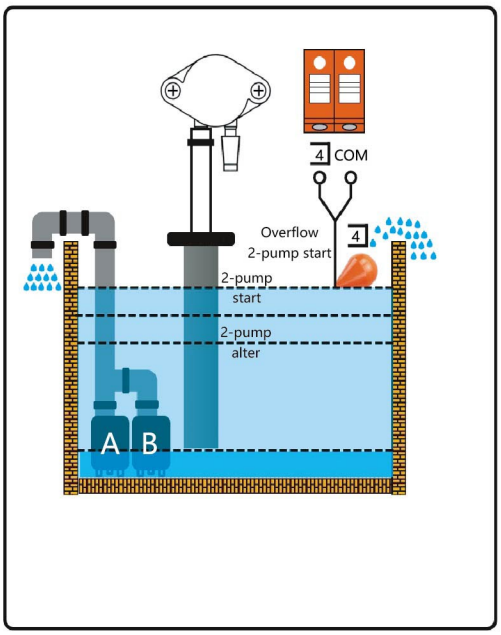
Double pump	Pressure [1]	Tank height [2]	Accumulated water height [3]	Low level [4]	mid level [5]	High level [6]	Overflow level [4]
	Height setting	Tank height setup	Accumulated water height setup	Stop pump	2-pump alter	2-pump start	Double overflow pump start

Pressure sensor wiring and using method (4~20mA)

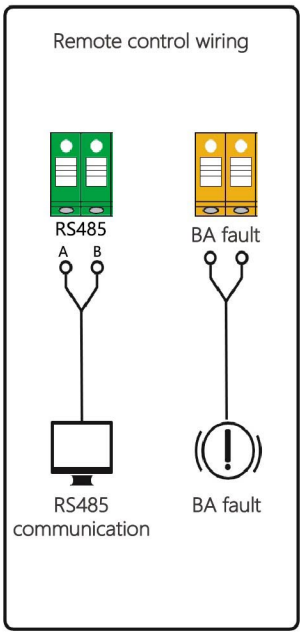


Fresh light pressure level sensor, built-in mandatory air pump level sensor.
Avoid air pressure failure overflow water, built-in emergency sensing start drainage function.
Fresh light pressure level sensor model

Air pressure level sensor piping and using method



Remote monitoring method

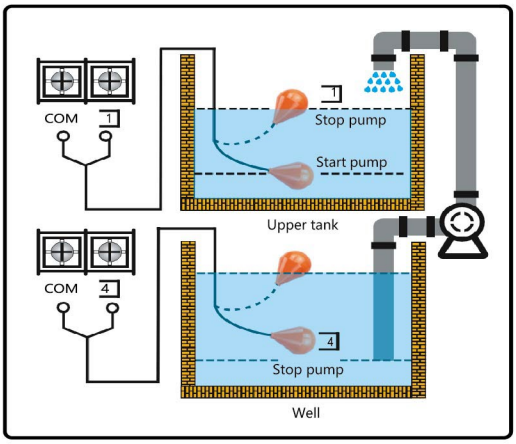


3. Water well pumping to the top tank line method

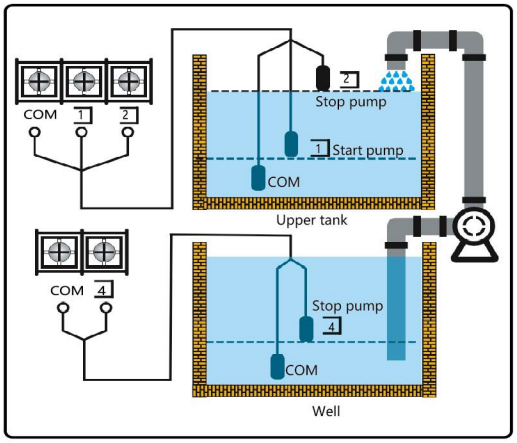
Float	Upper water level [1]	Lower water level [4]
	Start/stop pump	Stop pump

Electrode	COM	Low level [1]	High level [2]	Lower water level [4]
	Common terminal	Start pump	Stop pump	Stop pump

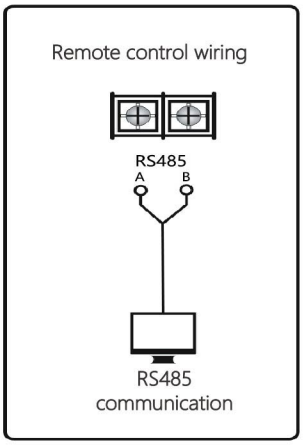
Method of double liquid level floating ball water supply line in well



Method of double electrode probe for water discharge in well



Remote monitoring method



5 Function Settings

5.1 Setting the liquid level float switch function

(Liquid level float switch and electrode probe control box has this function)

Code display	Function setting name	Detailed description of function setting (detailed description of operation)
FLS	Add or subtract level switch Settings	Enter the password to enter the setting mode and press the left and right keys to select "", "" float "will be displayed. Press the" Confirm "button to add (+) value" B " and to reduce (-) value "A" when "float" flashes from time to time to increase or decrease the high liquid level float. Press the confirm button again to complete the setting of float. If it is increased, it will be displayed on the right side of the display.

System function setting

Code display	Function setting name	Detailed description of function setting (detailed description of operation)
PAS	Enter the method for setting mode	Press the setup drawing countdown for 3 seconds to display the "P 5 code" and the initial password 0000. Press the button 3 times with the right tone button and then press the figure confirmation key to start setting the following menu (any of the following menu function settings must be set before you enter the password into setup mode). Note: if you use the customer to change the initial password, please refer to the following " modify password settings", such as forgetting the password reference "forget password reset".
P1	A pump current manual setting	After entering the password into setup mode, selecting "PI code" with the left and right key will display the word "A pump power". Press the four confirmation keys, the word "A pump"- flash-flash with the value "B start and stop back" button and subtract Note: if you do not make other settings, press the manual / autograph countdown for 3 seconds to exit setup mode, or if you do not press any key system in setup mode, you will automatically exit setup mode after 1 minute. The following are the same
P2	B pump current manual setting	After entering the password into setup mode, select "P code" with the left and right key to display the word "B pump power". Press. The "B pump" button is used to add (+) the value "B start and stop" button and the minus (-) value "A start and stop back" button to select the current index to be set, and press the following figure to confirm that the B pump current can be set manually.
	B pump shielding or activation settings	Enter password into setting mode with left and right key selection "P2 code" will display the words "A pump power", long press diagram confirmation key countdown 2 seconds, B pump shield complete, such as activation B pump, left and right key selection "P2 code" will display the words "A pump power", long press confirmation key countdown for 2 seconds, activate B pump complete.
485	RS485 communication settings	Enter the password into the setting mode with the left and right key selection "485 code" will display the word "485 communication", press the graph confirmation key, the word "485 communication" flash-flash with the addition (+) value "B start and stop back" button and subtract (-) the value "A start and stop back" button can select the desired 485IP address, press the graph confirmation key to complete the 485IP address setting terminal.
td1	Delay start setting	After entering the setting mode, selecting the "d code" with the left and right key will display the word " delay". Press the confirmation key, the word "0" will be used to add (+) the value "A start / stop" button and the minus (-) value "B start / stop back" button to select the delay time of pump start after floating float (the delay time setting range is 0-10 seconds). Press the "Confirm" button again to complete the pump delay stop time setting.
td2	Delay stop setting	After entering the setting mode, selecting the "d code" with the left and right key will display the word " delay". Press the confirmation key, the word "0" will be used to add (+) the value "A start / stop" button and the minus (-) value "B start / stop back" button to select the delay time of pump start after floating float (the delay time setting range is 0-10 seconds). Press the "Confirm" button again to complete the pump delay stop time setting.
ALA	Alarm overflow level setting	Input password into the setting mode with the left and right key selection "R code" will display the word " alarm", press the confirmation key, LCD display No. 4 09 overflow liquid level float switch, such as canceling the overflow liquid level float switch setting, the same steps described on the upper surface. When wiring, wiring row mark No. 4 terminal + COM is overflow alarm terminal
PAS	Modify password settings	Enter password enter setting mode with left and right key to select "9 code", garden confirm key length press countdown 2 seconds to enter modified mode, with add (+) value "B start and stop back" button, subtract (-) value "A start stop back" key and right key input user need new password, such as 8888 ", press chart confirm key, enter new password again, such as" 8888 "press confirm key password setting again.
	Forget to reset the password	When you enter the setting, when the "S code" input password 0000 is displayed, the A start and stop button and the B start and stop button can press the countdown for 5 seconds at the same time, and you can enter password reset mode.
777	Water shortage protection settings in manual state	Water shortage protection function: in manual state, when the load water starts the pump, the low liquid level float ball switch stops the pump every day to prevent the air protection function in the pump.
		Enter the password into setup mode with the left and right key to select 77 code ", press the following figure to confirm the key display;" OFF code "off status, press-under the" B start and stop "button to display" 01 code "water shortage protection activation, when closed, press the " A start and stop "button to display the" OFF code "off status.
LCd	Display screen inspection	After entering the setting mode, select "code" with the left and right key, press the graph confirmation key, LCD can display the pattern and words flicker, this function is needed for the production of the control box, the user can ignore.
999	Initialization setting	Enter the password into setup mode with the left and right key to select "999 code" will display the word "initialization", long press the figure to confirm the key countdown to 5 seconds, the system will return to the factory settings.

Note: The above functions can be set and used on all models

5.3 Pressure level and pressure level function Settings

(The control box for pressure and air level has this function)

Code display	Function setting name	Detailed description of function setting (detailed description of operation)
1	Pressure sensor range setting	Enter the password and enter the setting mode. Press the left and right key to select "Gansu code" and the words "pressure sensor" will be displayed. Press the confirm key below to display the words "code" and "pressure sensor". Use the right key to move the next setting. Note: The input unit of height is 0.01 =1CM.
2	Tank height setting	Same as above, just select "2 code" and enter the tank height.
3	Setting of air pipe and box bottom height	Same as above, only select "on: code" and input the height of the gas pipe and the bottom of the box (height of water storage).
4	Low liquid level setting	Same as above, only select "4 code "and enter the height of the low liquid level.
5	Mid liquid level setting	Same as above, only select "5 code" and enter the height of the liquid level.
6	High liquid level setting	Same as above, only select "6: code "and enter the height of the high liquid level.

6 Troubleshooting guide

Display content	Reason	Solution
The word "Not set" blinks all the time while running	Indicates unset or cleared set	Reset the current
Water pump and power supply are normal, but overcurrent or dry rotation protection occurs immediately after startup	Incorrect setting or motor power exceeding controller rated power	Perform the correct setting operation in manual mode. Check whether the motor power exceeds the standard
Power-on non-reaction	The power supply is out of phase or the water pump lead is in bad contact	Check the power supply or the water pump leads
Fault + Pump A/pump B + dry rotation + Fan blinking	The water pump stops when the liquid level is lower than the water pump impeller	The controller automatically switches to another pump, press the reset button, automatic reset. When overload failure occurs again, check whether the water pump is abnormal/repair the water pump
Fault + Pump A/pump B + dry rotation + Fan blinking	Pump overcurrent protection caused by impeller stuck, foreign matter, etc	The controller automatically switches to another pump or waits 5 minutes for automatic recovery. Press the reset button to reset automatically. When overload failure occurs again, it is necessary to check around the pump to see if it is abnormal or to repair the pump
Fault + Pump A/pump B + blocked + Fan blinking	The pump is severely overflowed or blocked	The controller stops the pump, and manually shut down the power supply to repair the pump
Fault +A pump /B pump + overvoltage + Fan blinking	High voltage causes protection	The controller automatically recovers after 2 minutes
Fault + Pump A/pump B + undervoltage + Fan blinking	Low voltage causes protection	The controller automatically recovers after 2 minutes
Fault + pressure + pressure light column blinking	The pressure/barometric level gauge is faulty or incorrectly wired	If the pressure light column+100%liquid level frame blinks and the short-circuit pressure light column+90%liquid level frame blinks, check if the wiring is correct
Fault + float + liquid level float pattern blinking	The liquid level float is faulty	If the liquid level float switch is faulty, check whether the liquid level float switch works properly after swinging it in manual mode for several times
The pump is leaking The oil chamber is leaking Show leak "code" Pump A/Pump B + fan blinks	The oil chamber is leaking	Please repair the pump or oil chamber water clean or drain
Water pump leakage Water pump cavity leakage Show leak "code" Pump A/Pump B + fan blinks	The pump cavity is leaking	Repair the water pump or pump cavity clean or drain
The over-temperature winding of the water pump is thermal sensitive Display overtemperature "code" Pump A/Pump B + Temperature + fan blinking	The water pump overtemperature is faulty	Check whether the cables are properly connected. For example, when the cables are intact, the water pump overtemperature fault occurs. If the fault occurs again when the water pump is restarted at room temperature, contact the water pump supplier for replacement or maintenance as soon as possible

7 Run time and fault query

Query item	Run time query	Query details (operation details)
Number of failures query	Query the running time of control box and water pump	Under the automatic state, long press the "right adjustment" button to enter the operation query mode for 2 seconds, display "code" and display the controller running time on the upper right of the LCD. Press the "Right adjustment" button to display "Code", "Pump A" and the running time of the pump; press the "right adjustment" button again to display "Code", "pump B" and the running time of the pump. After 8 seconds, the system automatically restores to the automatic state.
Query content	Number of float and pump failures (liquid level float model)	In the automatic state, long press the left adjustment button for 2 seconds to enter the fault query mode. The words " Code", "Liquid level float" and the number of failures of the low liquid level switch are displayed. Press the "Right Adjustment" button to display the words "Code", "liquid level float" and the number of medium liquid level failures. Press the "Right Adjustment" button to display the number of pump failures of "Code" A. Press the "Right Adjustment" button to display the number of pump failures of "Code" B. Note: If the user has not set the high wave level and overflow level in the setting mode (which will be displayed when querying), it can also be queried.
	Pressure level and pump failure times (Pressure sensor model)	In the automatic state, long press the "Left Adjustment" button for 2 seconds to enter the fault query mode, and the words "code", "pressure" and the number of failures of the pressure sensor are displayed. Press the "Right Adjustment" button to display "Pump A or code" The number of failures of pump A. Press the "Right Adjustment" button to display the "B pump or code" number of failures of B pump. Note: If the user has set the alarm water level float in the setting mode (it will be displayed when inquiring), it can also be queried.

8 Video setup tutorial

Enter the administrator's password

One step setting power

Menu of setting current

Liquid level float settings

Pressure level setting

AB pump reset

Water shortage protection setting

Water shortage emergency starting

Delay setting

Dry rotation protection Settings

Overload protection setting

Block turn protection Settings

Set the recovery time of dry turn blocked turn overload

Run time query

Number of failures query

Initialization setting

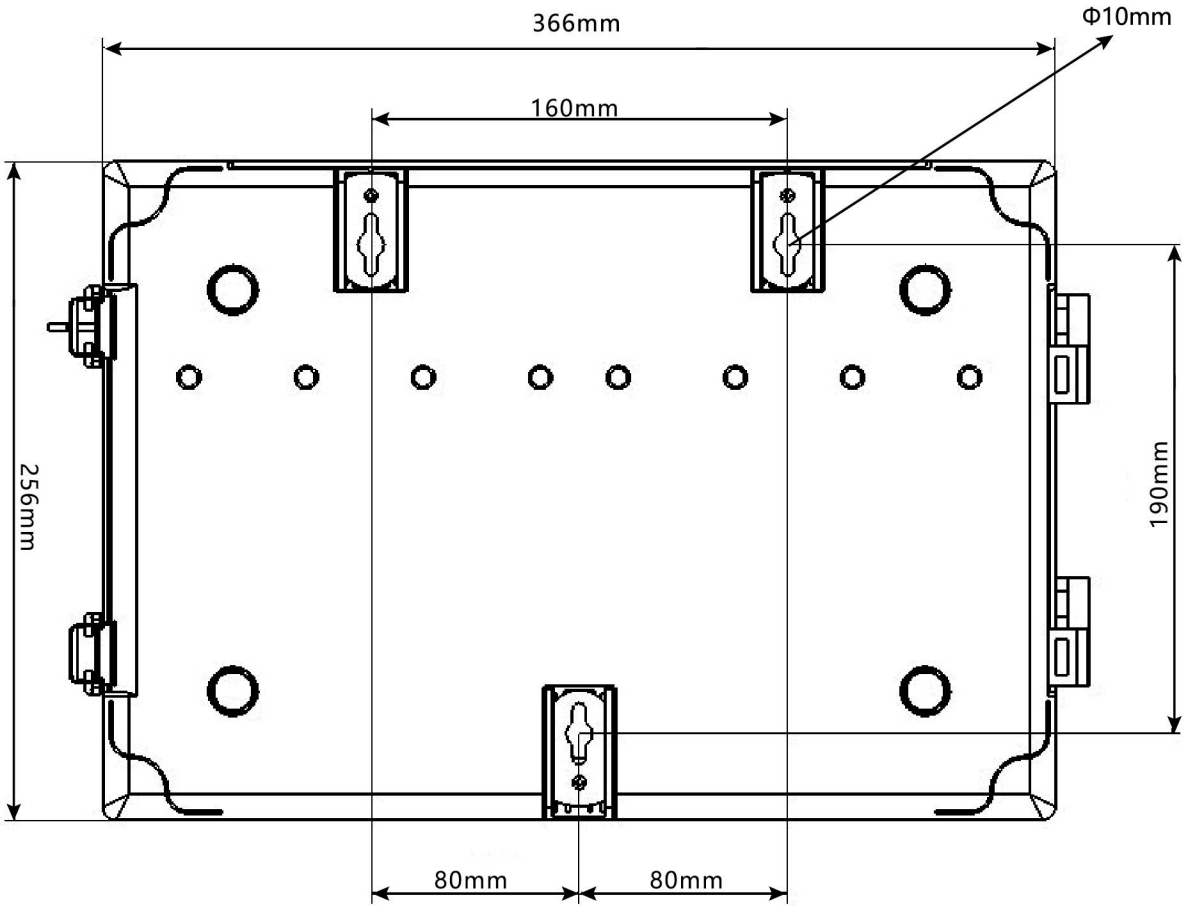
Changing the administrator Password

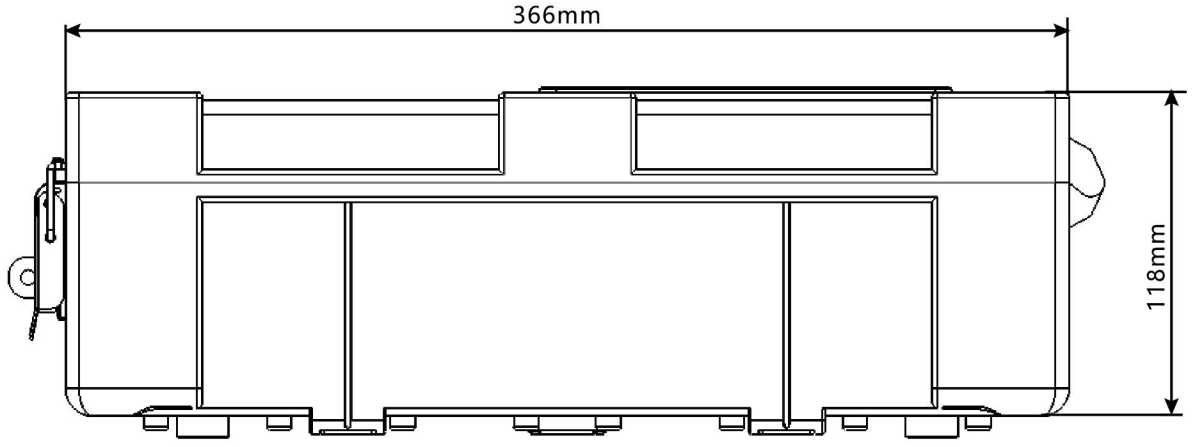
Set the overflow liquid level

Double pump schematic diagram

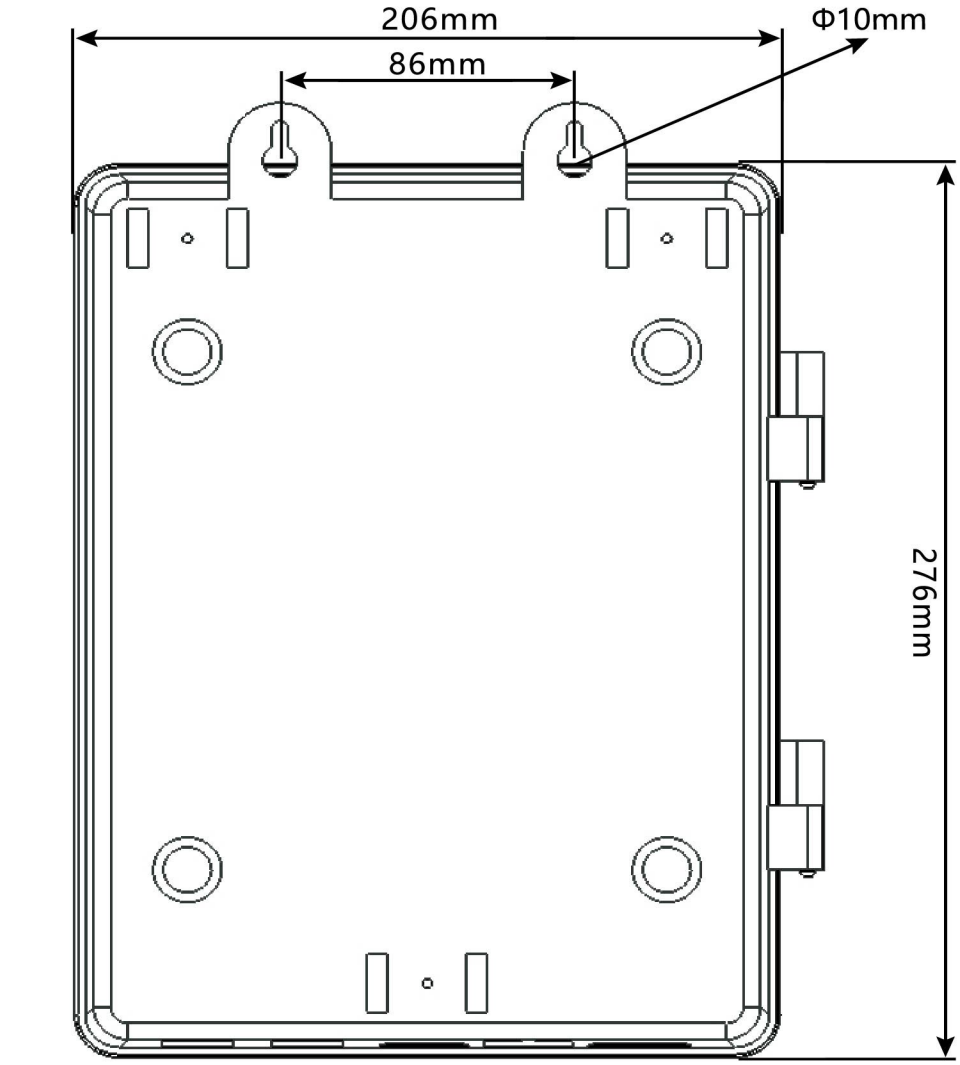
RS485 communication protocol

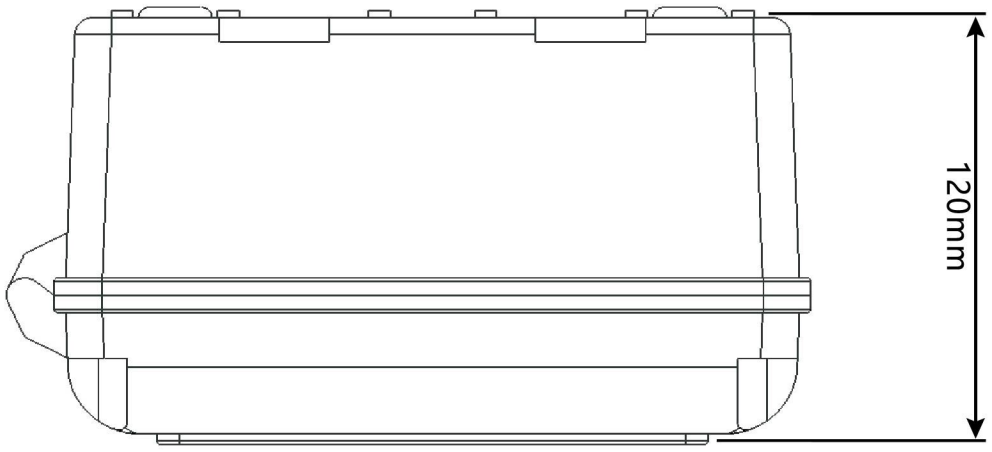
9 PD X-D/E/F/P Series controller installing size





10 PD X-0 Series controller installing size





MODBUS protocol specification
(RS485, RTU, 9600, N, 8, 1)

(Aug 31, 2021)

*****RS485 communication sends hexadecimal digits (0x0000),{using 03 instruction, read 28 words, namely 56 bytes of data}*****

(1) Basic Settings (product name/model/year/month/day)
(2) Liquid level sensor options
(3) Controller status read/write
(4) A pump status read/write
(5) B pump status read/write
(6) Level switch status read/write
(7) Pressure sensor 4~20mA read/write
(8) Air pressure sensor (differential pressure sensor) read/write

			(1) Basic Settings				
Correspondence address (bit meaning)			Function description	Operation 1	Operation 2	Read Write	Remarks
40001	0001		Product name: 40001 ~ 40004 8 digits			Read	
40002	0002		Product Model number: PD X-002				
40003	0003		Fill with 0x20 when the name is less than 8 words				
40004	0004						
40005	0005		**Controller software version - year**			Read	
			0x2019 => Year				
40006	0006		**Controller software version - Month - Day**			Read	
			0x1204 => Dec 04				
40007	0007		**MODBUS MAP version**			Read	
			0xF0004: F004 Version				
40008	0008		**Current Hour**			Read	
			0x0059 => 59 minutes				
40009	0009		**Current minute**			Read	
			0x0059 => 59 minutes				
40010	0010		**Current second**			Read	
			0x0035 => 35 seconds				
40011	0011		**Cumulative controller run time**			Read	
			0x0035 => 35 hours				
40012	0012		**Test the current value**			Read	
			0x0234 => 234V				

(4) A pump status read/write							
40030	0030	**A Pump status read**				Read	b09 to b15: Not in use
		b0	Whether to use	1: Used	0: No		
		b1	Current setting status	1: Settings	0: Not set		
		b2	Run/stop	1: Run	0: Stop		
		b3	No load (dry spin)	1: No load	0: Normal		
		b4	Overload	1: Over-load	0: Normal		
		b5	Blocked turn	1: Blocked	0: Normal		
		b6	Overtemperature	1: Overwar	0: Normal		
		b7	The pump cavity is leaking	1: Leaking	0: Normal		
		b8	The pump oil chamber is leaking	1: Leaking	0: Normal		
40031	0031	**A Pump status written**				Write	b11 to b15: Not used
		b0	A Pump enabled	1: Enabled	0: None		
		b1	A pump shield	1: Shield	0: None		
		b2	Pump start running when manual	1: Run	0: None		
		b3	Pump start and stop when manual	1: Stop	0: None		
		b4	Current reset setting	Current reset 1: Reset	0: None		
		b5	Overtemperature setting	1: Over-warm	0: None		
		b6	Overtemperature setting	1: Normal	0: None		
		b7	The pump cavity is leaking	1: Leaking	0: None		
		b8	The pump cavity is leaking	1: Normal	0: None		
		b9	The pump oil chamber is leaking	1: Leaking	0: None		
		b10	The pump oil chamber is leaking	1: Normal	0: None		
40032	0032	**Current current value**				Read	
			12.34 A				
40033	0033	**Set voltage value**				Read write	
			234V				
40034	0034	**Set the current value**				Read write	
			12.34 A				
40035	0035	**Set KW**				Read write	
			12.34 KW				
40036	0036	**Set force rate**				Read write	
			95% (0 to 100%)				
40037	0037	**Set the temperature**				Read write	
			1234 °				
40038	0038	**No load (dry rotation) current**				Read write	
			* Do not use, instead use xxx RATE				
40039	0039	**Overload current**				Read write	
			* Do not use, instead use xxx RATE				

40040	0040	**Stop-turn current**				Read write	
			* Do not use, instead use xxx RATE				
40041	0041	**No-load (dry rotation) current ratio**				Read write	
			85% - Default no-load (dry rotation) above current				
40042	0042	**Overload current ratio**				Read write	
			180% - Default overload above current				
40043	0043	**Stoppage current ratio**				Read write	
			350% - Current above the default locked-turn				
40044	0044	**Run time**				Read write	
			0x1234:1234 hours				
40045	0045	**Number of failures**				Read write	
			0x1234:1234 times				
(5) B pump status read/write							
40050	0050	**B Pump status read**				Read	b09 to b15: Not in use
		b0	Whether to use	1: Used	0: No		
		b1	Current setting status	1: Settings	0: Not set		
		b2	Run/stop	1: Run	0: Stop		
		b3	No load (dry spin)	1: No load	0: Normal		
		b4	Overload	1: Over-load	0: Normal		
		b5	Blocked turn	1: Blocked	0: Normal		
		b6	Overtemperature	1: Overwar	0: Normal		
		b7	The pump cavity is leaking	1: Leaking	0: Normal		
		b8	The pump oil chamber is leaking	1: Leaking	0: Normal		
40051	0051	**B Pump status modified**				Write	b11 to b15: Not used
		b0	B Pump enabled	1: Used	0: None		
		b1	B pump shield	1: No	0: None		
		b2	Pump start running when manual	1: Run	0: None		
		b3	Pump start and stop when manual	1: Stop	0: None		
		b4	Current reset setting	Current reset 1: Reset	0: None		
		b5	Overtemperature setting	1: Over -warm	0: None		
		b6	Overtemperature setting	1: Normal	0: None		
		b7	The pump cavity is leaking	1: Leaking	0: None		
		b8	The pump cavity is leaking	1: Normal	0: None		
		b9	The pump oil chamber is leaking	1: Leaking	0: None		
		b10	The pump oil chamber is leaking	1: Normal	0: None		

40052	0052	**Current current value**				Read	
			12.34 A				
40053	0053	**Set voltage value**				Read write	
			234V				
40054	0054	**Set the current value**				Read write	
			12.34 A				
40055	0055	**Set KW**				Read write	
			12.34 KW				
40056	0056	**Set force rate**				Read write	
			95% (0 to 100%)				
40057	0057	**Set the temperature**				Read write	
			1234 °				
40058	0058	**No load (dry rotation) current**				Read write	
			Do not use, instead use xxx RAT				
40059	0059	**Overload current**				Read write	
			Do not use, instead use xxx RAT				
40060	0060	**Stop-turn current**				Read write	
			Do not use, instead use xxx RAT				
40061	0061	**No-load (dry rotation) current ratio**				Read write	
			85% - Default no-load (dry rotation) above current				
40062	0062	**Overload current ratio**				Read write	
			180% - Default overload above current				
40063	0063	**Stoppage current ratio**				Read write	
			350% - Current above the default locked-turn				
40064	0064	**Run time**				Read write	
			0x1234:1234 hours				
40065	0065	**Number of failures**				Read write	
			0x1234:1234 times				
(6) Level switch status read and write							
40090	0090	**Low level No. 1 status read**				Read	b3 ~ b15: Not used
		b0	Use or not				
		b1	ON/OFF status	1:ON	0:OFF		
		b2	Fault status	1: Fault	0: Normal		
40091	0091	**Low level No. 1 can be set enabled and shielding can be set**				Write	b2 to b15: Not used
		b0	Enable	1: Enabled	0: None		
		b1	Mask	1: Shield	0: None		
40094	0094	**Medium level No. 2 status read**				Read	b3 to b15: Not in use
		b0	Use or not				
		b1	ON/OFF status	1:ON	0:OFF		
		b2	Fault status	1: Fault	0: Normal		

40095	0095	**Medium level No. 2 can be set enable and shielding can be set**				Write	b2 to b15: Not used
		b0	Enable	1: Enabled	0: None		
		b1	Mask	1: Shield	0: None		
40098	0098	**High level No. 3 status read**				Read	b3 to b15: Not in use
		b0	Use or not				
		b1	ON/OFF status	1:ON	0:OFF		
		b2	Fault status	1: Fault	0: Normal		
40099	0099	**High Level 3 can be set enabled and shielding can be set**				Write	b2 to b15: Not used
		b0	Enable	1: Enabled	0: None		
		b1	Mask	1: Shield	0: None		
40102	0102	**Ultra High Level No. 4 status read**				Read	b3 to b15: Not in use
		b0	Use or not				
		b1	ON/OFF status	1:ON	0:OFF		
		b2	Fault status	1: Fault	0: Normal		
40103	0103	**Ultra High Level 4 can be set enabled and shielding can be set**				Write	b2 to b15: Not used
		b0	Enable	1: Enabled	0: None		
		b1	Mask	1: Shield	0: None		
(7) Pressure sensor 4~20mA read/write							
40110	0110	**Pressure sensor 4 to 20mA read**				Read	b1/b2/b7~b15 Not used
		b0	Pressure sensor 4 to 20mA Whether to use	1: Used	0: No		
		b3	Whether the overflow level float switch is used	1: Used	0: No		
		b4	The overflow level float switch is in NO/OFF state	1:NO	0:OFF		
		b5	The pressure sensor connection is disconnected	1: Cable disconnect	0: Normal		
		b6	The pressure sensor connection line is short-circuited	1: Short circuit	0: Normal		
40111	0111	**Pressure sensor 4 to 20mA modified**				Write	b2~b5/b8~b15 not used
		b0	Pressure sensor 4~20mA on	1: On	0: Invalid		
		b1	Pressure sensor 4 to 20mA shielded	1: Shield	0: Invalid		
		b6	Overflow level float switch on	1: On	0: Invalid		
		b7	The overflow level float switch is shielded	1: Shield	0: Invalid		

40112	0112	**Pressure sensor 4 to 20mA read/write**				Read/ write	
			9.87 Range /LCD synchronous display				
40113	0113	**Sensor full scale Settings**				Read/ write	
			10.00 range				
40114	0114	**Tank height setting**				Read/ write	
			10.00 range				
40115	0115	**Set the height from the lower part of the tank to the lower part of the pressure tube**				Read/ write	
			0.12 range (12cm)				
40116	0116	**Water pump stop level set**				Read/ write	
			0.2 Range (20cm)				
40117	0117	**Double pump run or single pump emergency run level setting**				Read/ write	
			0.7 range (70cm)				
40118	0118	**Water pump double pump run or single pump emergency run level set**				Read/ write	
			0.9 range (90cm)				
40119	0119	**Water pump double pump operation or single pump emergency operation overflow level setting**				Read/ write	
			1 Measuring range (100cm)				
(8) Air pressure sensor (differential pressure sensor) read/write							
40150	0150	**Barometric sensor (differential pressure sensor) read**				Read	b1/b2/b7~b15 are not used
		b0	Whether the air pressure sensor is used	1: Used	0: No		
		b3	Whether the overflow level float switch is used	1: Used	0: No		
		b4	The overflow level float switch is in NO/OFF state	1:NO	0:OFF		
		b5	The air pressure sensor cable is disconnected	1: The cable is disconnected	0: Normal		
		b6	The air pressure sensor connection cable shorted	1: Short circuit	0: Normal		

40151	0151	**Air pressure sensor (differential pressure sensor) modification**				Write	b2~b5/b8~b15 not used
		b0	Air pressure sensor on	1: On	0: Invalid		
		b1	Air pressure sensor shield	1: Shield	0: Invalid		
		b6	Overflow level float switch on	1: On	0: Invalid		
		b7	The overflow level float switch is shielded	1: Shield	0: Invalid		
40152	0152	**arometric sensor (differential pressure sensor) read/wri**				Read/ write	
			9.87 Range /LCD synchronous display				
40153	0153	**Sensor full scale Settings**				Read/ write	
			1.00 Range (100cm)				
40154	0154	**Tank height setting**				Read/ write	
			1.00 Range (100cm)				
40155	0155	**Set the height from the lower part of the tank to the lower part of the pressure tube**				Read/ write	
			0.12 range (12cm)				
40156	0156	**Water pump stop level set**				Read/ write	
			0.2 Range (20cm)				
40157	0157	**Double pump run or single pump emergency run level setting**				Read/ write	
			0.7 range (70cm)				
40158	0158	**Water pump double pump run or single pump emergency run level set**				Read/ write	
			0.9 range (90cm)				
40159	0159	**Water pump double pump operation or single pump emergency operation overflow level setting**				Read/ write	
			1 Measuring range (100cm)				

FOCUS ON INTELLIGENT WATER SYSTEM

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