

Changzhou Xionghua Tongtai Automation Equipment Co., Ltd



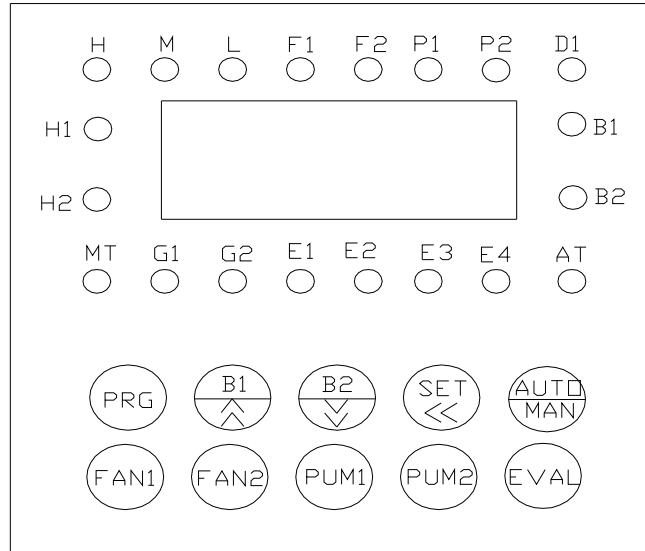
User's Guide
Controller For Buried Waste Treatment Equipment
XHDM-5B

Feature :

- n** It is mainly designed for buried sewage treatment equipments.
- n** It is a controller with the single-chip microcomputer as the core, small size, direct display, powerful function, easy operation. With no professional software knowledge, the user still can modify the date to adapt the different requirements at the site. It can simplify whole system circuit and reduce the elements.
- n** According to the signal from high and low liquid level sensor, it can control fans (one is used and one is prepared), sewage pumps (one is used and one is prepared), sludge pump (or sludge valve) and reflux pump.
- n** The reflux pump and sewage pump can choose linkage,
- n** The sludge valve/sludge pump and fans can choose linkage.
- n** It has the derusting function.
- n** The work time of fans and water pump can be adjustable.
- n** The memory storage is 10 years.

Function :**1. Automatic function**

- I** According to the liquid level, automatically judge to open pump at median level and lose pump at low level or to open two pumps at high level, and one of fans will be linkage operating with the pump. When the level fall to low level, the pump and the fan will stop running,
 - I** The pump can start in turn and run continuously with timing switch function. When the overload of the running pump make the thermal relay operate, the controller will receive signal to stop the pumps and alarm, start the auxiliary pump.
 - I** The fan can start in turn and run continuously with timing switch function. If it detects that the fan has never operate in a period (the period time can be set according to requirements), it will automatically make the fan operate. When the overload of the running fan makes the thermal relay operate, the controller will receive the signal to stop the fan and alarm and start the auxiliary fan.
 - I** The time control of sludge pump/solenoid valve can be set independently and the sludge pump/valve can be linkage with fans
 - I** It has the function of timing starting pumps in turn and anti-rusting, and the timing time and the work time can be set independently
 - I** Reflux pump (one is used and one is prepared) can start in turn, and when they continuously work, their rotation working can be timed. In operating, when the overload of the pump makes the relay operate, the controller will receive the signal to stop the pump, alarm and start the prepared pump
- 2. Manual function :** the pumps, fans and the solenoid valves can start and operate independently



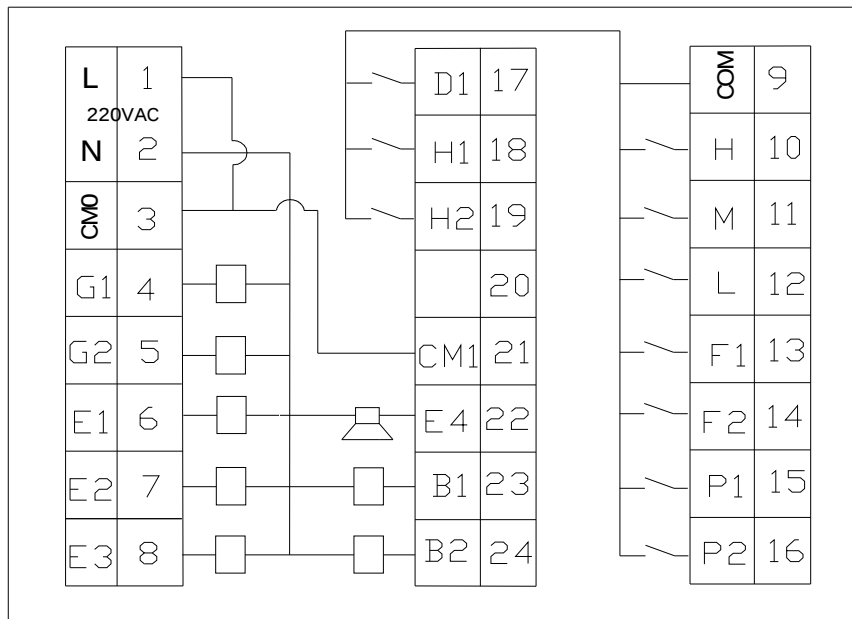
XHDM-5B

1. Operation button:

[PUM1]	manually start and stop 1# pump
[PUM2]	manually start and stop 2# pump
[FAN1]	manually start and stop 1# fan
[FAN2]	manually start and stop 2# fan
[EVAL]	sludge valve/pump ON/OFF
[PRG]	function set
[AUTO/MAN]	automatic/manual switch
$\left[\begin{array}{c} B1 \\ \nearrow \end{array} \right]$	manual start/ stop 1 reflux pump move the cursor in setting mode
$\left[\begin{array}{c} B2 \\ \searrow \end{array} \right]$	manual start/ stop 1 reflux pump move the cursor in setting mode
[SET]	move the cursor /confirm set

2. Indicator :

[H]	High-level indicator(light on - the level has reached, light off - the level has not reached)
[M]	Median-level indicator (light on - the level has reached, light off - the level has not reached, blink- error)
[L]	Low-level indicator (light on - the level has reached, light off - the level has not reached, blink- error)
[F1]	Fan error indicator
[F2]	Fan error indicator
[P1]	1# pump error indicator
[P2]	2# pump error indicator
[H1]	1# reflux pump error indicator
[H2]	2# reflux pump error indicator
[V1]	sludge pump/valve error indicator
[MT]	manual operation indicator;
[AT]	automatic operation indicator
[G1]	1# fan operation indicator
[G2]	2# fan operation indicator
[E1]	1# sewage pump operation indicator
[E2]	2#sewage pump operation indicator
[E3]	sludge pump/valve operation indicator
[E4]	error alarm
[B1]	1# reflux pump operation indicator
[B2]	2# reflux pump operation indicator

Connection Terminal:**XHDM-5B** external connection diagram**1. Input terminal:**

- | | | | |
|-----|--------------------------------------|----|-----------------------------------|
| H | High-level liquid level switch | | |
| M | Median-level liquid level switch | | |
| L | Lower-level liquid level switch | | |
| F1 | 1# pump error signal input | F2 | 2# pump error signal input |
| P1 | 1# fan error signal input | P2 | 2# fan error signal input |
| D1 | sludge pump/valve error signal input | | |
| H1 | 1# reflux pump error signal input | H2 | 2# reflux pump error signal input |
| COM | COM input | | |
| L、N | 220V AC power supply | | |

2. Output terminal:

- | | | | |
|---------|------------------------------------|----|---------------------------------|
| G1 | 1#pump control terminal | G2 | 2#pump control terminal |
| E1 | 1#fan control terminal | E2 | 2#fan control terminal |
| E3 | sludge pump/valve control terminal | | |
| G3 | 1# reflux pump control terminal | G4 | 2# reflux pump control terminal |
| CM0,CM1 | common output terminal | | |
| E4 | error signal output terminal | | |

The external dimension and the perforate dimension

Panel: 96*96

Depth:115

Perforate dimension: 91*91

1. Function Code Table

Function Name	Function Code	Range	Unit	Factory Set	Remark
Password digital	CD000			00010	If CD000=CD002, all the parameters can be changed. And when exit, please set a new password,if not it will remember the password
Enter delay time of high-level,median-level and low level	CD001	0-29999	t	10	Signal delay
Password set value	CD002				User can change the password
The timing work time of sewage pumps in turn	CD003	0-29999	t	100	When the work time of one pump reaches the set value,the pump stops and another pump starts When CD03=0, the two sewage pumps will not rotate work
The delay time of double sewage pumps	CD004	0-29999	t	250	When one pump works,and the level can not reach low-level in the set time,the another pump open together. When CD04=0, no delay to open the two pumps
anti-rust delay time of sludge pumps	CD005	0-29999	t	20001	Anti-rust waiting time '0' is no anti-rust
Anti-rust work time of sludge pumps	CD006	0-29999	t	10005	Anti-rust time
The timing work time of fans in turn	CD007	0-29999	t	300	When the work time of one fan reaches the set value,the fan stops and another fan starts When CD007=0 or the workstation of fans is just one unit, the two fans will not rotate work
The paused interval time of the fans	CD008	0-29999	t	350	'continuous work'mode1: when CD09=0, the CD07 can set the rotation work time or the fans.
The interval work time of fans	CD009	0-29999	t	50	'continuously work'mode2: when the CD09 sets the work time, the CD08 can set the interval time of the rotation work
The paused interval time of the sludge pump(mud pump)	CD010	0-29999	t	200	Interval mode CD43=0 '0'stop all the time
The interval work time of the sludge pump (mud pump)	CD011	0-29999	t	50	Interval mode CD43=0 '0'work all the time
Input points NO/NC selection	CD012	0-255	-	0	Property setting of the input points
Timer No. low limit display	CD013	0-11	-	3	Timer work display
Timer No. upper limit display	CD014	0-11	-	6	Timer work display
Error masking	CD015	0-65535	-	0	'1' error is not used
Linkage work mode between sludge pump and fans	CD016	0-2	-	0	0- no linkage 1- start 1 fan 2- start 2 fans (when the mud valve is at interval work mode CD43=0, this parameter is useful)

Linkage work mode between reflux pump and sewage pumps	CD017	0-2		0	0- no linkage(reflux pumps only have interval work mode) 1- start 1 sewage pump 2- start 2 sewage pumps
Linkage work mode between sewage pump and fans	CD018	0-1		0	0- no linkage 1- sewage pump and fan is linkage(only open 1 fans)
Reflux pump delay time	CD021	0-29999	t	500	'0' stop all the time
Reflux pump work time	CD022	0-29999	t	50	'0' work all the time
Workstation selection of the sewage pump	CD040	0-2		0	0- double pumps work(rotated, timing and error switched) 1- only 1# pump works 2- only 2# pump works
Workstation selection of the fans	CD041	0-2		0	0- double fans work(rotated, timing and error switched) 1- only 1# fan works 2- only 2# fan works
Workstation selection of reflux pump	CD042	0-2		0	0- double pumps work(rotated, timing and error switched) 1- only 1# pump works 2- only 2# pump works
Work mode of sludge pump (mud pump)	CD043	0-3		0	0- interval 1- manual 2- interval and linkage with sewage pump 3- interval and linkage with fan
Work mode of reflux pumps	CD044	0-1		0	0- interval 1- manual
Timing set(days)	CD101	0-366	Day(24-hour)		If the set exceeds 366 days, the timing shutdown is useless
Timing set(0.1 hour)	CD102	0-9999	0.1 hour		
Actual total (days)	CD103	0-366	day(24-hour)		If the actual total time exceeds the timing set, the controller automatically stop the program
Actual total(0.1 hour)	CD104	0-9999	0.1 hour		
Factory set	CD109				The user can not set the parameter

Note : 't' is the time unit, in the value, the highest digit is '0', then the unit is 0.1s.the highest digit is '1', then the unit is 1s; the highest digit is '0', then the unit is 1min.

2. Application Diagram

