ZL-610A-R, ZL-620A-R, ZL-630A-R Temperature Controller Instruction Manual V5.5b

1 Introduction

ZL-6x0A-R Series are thermostat with RS485 communication function. The devices are suitable for control of cold storage, seafood storage, water heater, and so on.

2 Main Function

Cooling or heating mode
Periodic or intellectual defrost
Fan control
Temperature calibration
High/low over temp. warning
Temp. output delay protection
Sensor failure warning
Buzzer warning
Multi-function external input
RS485 communication

3 Models

Model	Function				
ZL-610A-R	Cooling/ heating	Periodic defrost		Multi-function external input	RS485 communication
ZL-620A-R		Intellectual defrost			
ZL-630A-R		Intellectual defrost	Fan control		

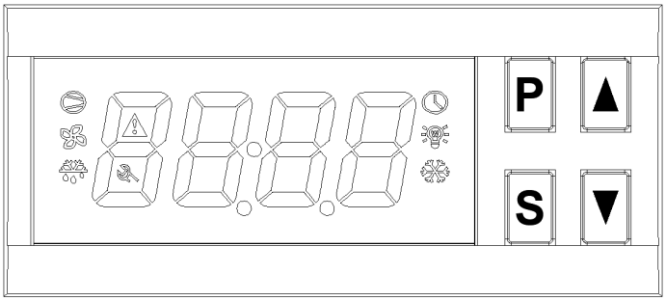
4 Main Specification

Sensor wire: 2 meters
Sensor: NTC, 3 optional, ship with $R_{25℃}$=5K, B=3470K
Setting range: -40 ~ 120℃
Display range: -50 ~ 130℃
Power supply: 185 ~ 245Vac, 50/60Hz
Terminal wire: ≤ 2*1.5mm^2, or 1*2.5mm^2
Load: 3A, 10A, 250Vac (resistive)
Storage: -30 ~ 70℃
Working: -10 ~ 45℃
Working: 5 ~ 85%RH without dew
Case materials: PC + ABS, fireproof
Protection level: IP65 (Front side only)
Dimension: L78 x W34.5 x D71 (mm)
Installation drilling: L71 x W29 (mm)

5 Operation

5.1 Power-on Display

After power on, all LED unit will be on, then model name, and firmware version:



5.2 Display Icon

Icon	Function	On	Off	Blink
	Temp. Output	Energized	Deenergized	Delay protecting
	Defrost	Defrosting	Not defrosting	Dripping water
	Mode	Cooling mode	----	DI energy saving
	Mode	Heating mode	----	DI energy saving
	Maintenance	Need maintenance	No failure found	----
	Warning	Has warning	No warning	----

5.3 On/Offline Switch

Keep〖P〗and〖S〗depressed simultaneously for 3 sec to switch between online and offline.
In offline, display “OFF”.

5.4 Digital Display

Four digits display values in normal condition. They also display warnings as below:

Display	Remark
E01	Room sensor failure (short or open)
E02	Pipe sensor failure (short or open)
Hi	Room temp. Is higher than the high limit
Lo	Room temp. Is lower than the low limit
EE	Memory error
nPA	Alarm, **N**umber of **P**ressure **a**larm < U66
dAt	**D**efrost **a**larm when defrost **t**imeout

Display	Remark
Err	Password error
dEF	Defrosting
dr	DI door open warning
Frd	Forced cooling or heating
UnL	Restore to factory password “1111”
PAL	**P**ressure **a**larm, alarm number = U66

5.5 Set Setpoint

Keep〖S〗depressed for 3 seconds to enter into the setting setpoint status.
Press〖▲〗or〖▼〗 to set the value (keeping depressed can fast set).
Press〖S〗to exit, and **save the setting**.
The status will exit **without saving** the setting if no key operation within 30 seconds.

5.6 Set Parameters

Password:
Keep〖P〗depressed for 3 seconds, digits show “---0”.
Press〖▼〗to select the digit of the password, press〖▲〗to set the value of the digit.
press〖S〗 to confirm.
If the password is correct, enter into the parameter setting status, else display “Err”, and exit.
Parameter Set:
The display will show “U01”. Press〖▲〗or〖▼〗to select the parameter code (see table below).
Press〖S〗 to display the value of the code, press〖▲〗or〖▼〗to set its value.
Press〖S〗to return.
So, all the codes could be set.
Keep〖P〗depressed for 3 seconds to exit, and **save the settings**.
The status will exit **without saving** the settings if no key operation for 30 seconds.
Parameter Code Table:

Code	Function	Range	Remark	Factory default	ZL-610A-R	ZL-620A-R	ZL-630A-R
U01	Up limit for setpoint	-40.0~120.0℃	U01>U02	30	●	●	●
U02	Low limit for setpoint	-40.0~120.0℃	U02<U01	-20	●	●	●
U10	Temp. output stop protection time	0~100 min		3	●	●	●
U11	Temp. output run protection time	0~100 min		3	●	●	●
U12	Temp. output run frequency	0~8	Only for cooling mode. U12=0: disable	5	●	●	●
U20	Room sensor calibration	-9.9~+9.9℃		0.0	●	●	●
U21	Pipe sensor calibration	-9.9~+9.9℃		0.0	/	●	●
U22	Hysteresis	0.1~30.0℃	See paragraph 6.1 and 6.2	1.0	●	●	●
U23	Temp. reduction for energy saving	-20.0~20.0℃	Only effective when U63=1	2.0	●	●	●
U30	Defrost period	0~180 hour	U30=0: disable defrost	6	●	●	●
U31	Defrost time	1~180 min		30	●	●	●
U32	Defrost finish temp.	0.5~50℃		12.0	/	●	●
U33	Dripping time	0~180 min		5	●	●	●
U34	Over temp. warning delay after defrost	0~180 hour	U34=0: disable	2	●	●	●
U35	Defrost after turned to online	0~1	U35=0: disable, U35=1: enable	0	●	●	●
U36	Delay to *defrost after turned online*	0~180 min	U36=0: disable	0	●	●	●
U37	Remote (host) forced defrost	0~1	U37=0: defrost on local condition U37=1: remote forced defrosting	0	●	●	●
U38	Defrost type	0~1	U38=0: Electrical heater defrost U38=1: Gas or pump defrost	0	●	●	●
U39	Defrost finish sensor	0~1	U39=0: based on timer only U39=1: based on pipe temperature	1	/	●	●

U3A	Alarm if defrost timeout	0~1	U31=0: no alarm when defrost timeout U31=1: alarm when defrost timeout, only effective when U39=1	0	/	●	●
U40	Fan start temp.	-45.0~+120.0℃	Only effective when U43=0	30.0	/	/	●
U41	Fan start delay	0~600 sec	Only effective when U43=0	0	/	/	●
U42	Fan stop delay	0~600 sec	Only effective when U43=0	0	/	/	●
U43	Fan control mode	0~4	U43=0: Controlled mode (see 6.4) U43=1: Stop in defrosting, see 6.4 U43=2: Stop in defrosting, else running U43=3: Run in defrosting, see 6.4 U43=4: Run in defrosting, else running	0	/	/	●
U44	Fan running time when compressor stops during cooling mode	0~60 min	Only effective when U43=1 or 3	0	/	/	●
U45	Fan stop time when compressor stops during cooling mode	0~60 min	Only effective when U43=1 or 3	0	/	/	●
U46	Fan delay start time after defrost finished	0~30 min		2	/	/	●
U50	Deviation for high temp. warning	0.0~60.0℃	U50=0: disable	10.0	●	●	●
U51	Deviation for low temp. warning	0.0~60.0℃	U51=0: disable	6.0	●	●	●
U52	Over temp. warning delay	0~180 min		30	●	●	●
U53	Over temp. warning delay after power supplied	0~180 hour	U53=0: disable	2	●	●	●
U54	Keep high temperature alarm in offline	0~1	U54=0: no high temperature alarm in offline U54=1: high temperature alarm in offline	0	●	●	●
U60	DI input set	0~2	U60=0: disable U60=1: Normal open U60=2: Normal close	0	●	●	●
U61	Warning delay time to DI door open	0~120 min		0	●	●	●
U62	Buzzer warning	0~1	U62=0: disable, U62=1: enable	0	●	●	●
U63	DI input function	0~2	U63=0: door switch U63=1: switch for energy saving U63=2: button for forced defrost U63=3: pressure input	0	●	●	●
U64	Outputs status during DI door open (No delay to DI door open)	0~3	U64=0: their status keeping unchanged U64=1: fan stops U64=2: compressor deenergized U64=3: compressor and fan stop	3	●	●	●
U65	DI door open, outputs restart after U61 time (when U64=1/2/3)	0~1	U65=0: do not restart U65=1: restart to control	1	●	●	●
U66	Pressure error number limit	0~15		2	●	●	●
U67	Pressure Error Interval	0~99 min		30	●	●	●
U70	Display during defrosting	0~3	U70=0: Room temperature U70=1: The room temperature before defrost U70=2: Setpoint U70=3: "dEF"	3	●	●	●
U71	Time to keep the display during defrost, after defrost finished	0~255 min		30	●	●	●
U90	Working mode	CO / HE	U90=CO: cooling. U90=HE: heating	CO	●	●	●
U91	On/offline status	On / OFF		On	●	●	●
U92	NTC sensor parameter	0~2	U92=0: 5K ohm@25℃, B=3470K U92=1: 10K ohm@25℃, B=3950K U92=2: 10K ohm@25℃, B=3435K	0	●	●	●
U96	Controller ID code	0~31	For classification in net	0	●	●	●
U97	Baud rate	0~3	U97=0: 2400bps U97=1: 4800bps U97=2: 9600bps U97=3: 19200bps	2	●	●	●
U98	Modbus slave address	1~ 200		1	●	●	●
U99	Password	0000 ~ 9999		1111	●	●	●

6 Control Function

6.1 Cooling Control

If **Troom** ≥ (**Set-point** + U22), and **Temp._output** has stopped for U10, **Temp._output** energized.
If **Troom** ≤ **Set-point**, and **Temp._output** has run for U11, **Temp._output** de-energized.

Temp._output forced energized:
When not defrosting, keep 〖▼〗 depressed for 5 seconds can force **Temp._output** energized for 30 min.
During forced cooling, keep 〖▼〗 depressed for 5 seconds will stop forced cooling.

6.2 Heating Control

If **Troom** ≤ (**Set-point** - U22), and **Temp._output** has stopped for U10, **Temp._output** energized.
If **Troom** ≥ **Set-point**, and **Temp._output** has run for U11, **Temp._output** de-energized.

Temp._output forced energized:
When not in setting status, and **Temp._output** de-energied, keep 〖▼〗 depressed for 5 seconds can force **Temp._output** energized.
During forced heating, keep 〖▼〗 depressed for 5 seconds will stop heating.

6.3 Temp._output delay protection

After power supplied, **Temp._output** could be energized after U10.
After **Temp._output** de-energized, it could be energized again after U10.
After **Temp._output** energized, it could be de-energized after U11.

6.4 Fan Control Mode (only for ZL-630A-R)

U43 = 0: Controlled Mode
When cooling, if Tpipe < U40, and **Temp._output** has run for U41, fan energized.
If U41 = 0, fan will be energized right after the **Temp._output** energized.
After **Temp._output** has de-energized for U42, fan de-energized.
If U42 = 0, fan will be de-energized right after the **Temp._output** de-energized.
U43 = 1: Fan stops during defrosting. At other time, fan works as following:
In cooling mode, during **Temp._output** de-energized:
If U44 ≠ 0 and U45 ≠ 0: fan runs for U44, stops for U45, repeatedly, till **Temp._output** energized.
If U44 ≠ 0 and U45 = 0: fan keeps running.
If U44 = 0: fan keeps stopping.
U43 = 2: Fan stops during defrosting. At other time, fan keeps running.
U43 = 3: Fan runs during defrosting. At other time, fan works as following:
In cooling mode, during **Temp._output** de-energized:
If U44 ≠ 0 and U45 ≠ 0: fan runs for U44, stops for U45, repeatedly, till **Temp._output** energized.
If U44 ≠ 0 and U45 = 0: fan keeps running.
If U44 = 0: fan keeps stopping.
U43 = 4: Fan runs during defrosting. At other time, fan keeps running also.

6.5 Protecting Run When Room Sensor Fails (for Cooling Mode)

When room sensor fails, **Temp._output** will be energized and de-energized periodically.
For every 30 minutes, **Temp._output** will be energized for Trun = U12 * 3 minutes, de-energized for (30 -Trun) minutes.
If U12 = 0, no protecting run.

6.6 Run When Pipe Sensor Fails

When pipe sensor fails, the defrost function will be canceled (for ZL-620A-R and ZL-630A-R).
When pipe sensor fails, and the fan works in controlled mode (U43 = 0), fan will only work according to U41 and U42 (for ZL-630A-R), skip the condition from U40.

6.7 Defrost (for Cooling Mode)

Defrost Start: After **Temp._output** energized for U30, and Tpipe < U32, defrost starts.
Defrost End: When Tpipe > U32, or the defrosting has lasted for U31, defrost ends.
Note: for ZL-610A-R, only acts according to U30 and U31.

Electrical Heater Defrost (U38 = 0): during defrost, **Temp._output** de-energized, **defrost output** energized.
Gas or Pump Defrost (U38 = 1): during defrost, **Temp._output** energized, **defrost output** energized.

Manually Forced Defrost:

During none-defrost status, keeping 〖▲〗 depressed for 7 seconds will start forced defrost.
During defrost status, keeping 〖▲〗 depressed for 7 seconds will stop defrost, start dripping water process.

Dripping Water:

After defrost finished, the device will be dripping for U33, then start cooling again.
Note: No dripping function, when the manual forced defrost finished, or when the pipe sensor fails.

Check for Tpipe, Left Time of Defrosting, Left Time of Dripping Water:

When Troom displayed, press 〖▲〗 will show Tpipe (ZL-610A-R does not have this function).
Attention: when this key is depressed for 7 seconds, it will start forced defrost.
When defrosting, press 〖▼〗 will show the left time of defrost.
When dripping, press 〖▼〗 will show the left time of dripping.

7 Buzzer

Every key press, there will be a short beep. Every confirmation press, there will be a long beep. Every error operation, there will be three short beeps.
When the device has failure, or external input (door open):
If U62 = 0, no buzzing warning.
If U62 = 1, there will be continuous buzzing for warning.
Press 〖P〗 can stop warning, if warning condition disappears.

8 Over Temp. Warning

When Troom ≥ (**Setpoint** + U50), there will be warning if the following condition meets:
U50 > 0 (U50 is not set to 0):
If power just supplied, U53 has passed.
If defrost just finished, U34 has passed.
The Troom keeps up condition for U52.
When Troom ≤ (**Setpoint** – U51), there will be warning if the following condition meets:
U51 > 0 (U51 is not set to 0):
If power just supplied, U53 has passed.
If defrost just finished, U34 has passed.
The Troom keeps up condition for U52.

9 Energy Saving Mode

When U63 = 1, and DI input is effective, the controller enters into Energy Saving Mode.
During energy saving mode, the actual setpoint will be setpoint + U23.
For example, if setpoint = 2.0, U23 = +2.0, u63 = 1, DI is effective, the actual setpoint will be 4.0 ℃.

10 Pressure Alarm

When U63 = 3, and DI input is effective, pressure alarms.
When pressure alarms, compressor stops.
After the alarm disappears, the compressor can work again, if during the interval U67, the alarm number < U66.
After the alarm disappears, the compressor can not work again, if the alarm number = U66 within U67. Turning off and online again, the compressor can work again.

11 External Input DI

If U61 = 0, DI is disabled.
If U61 = 1, NO, normal open, the connected switch or button will be effective when closed.
If U61 = 2, NC, normal close, the connected switch or button will be effective when open (not short).

When U63 = 0, it connects to door switch.
When U63 = 1, it controls the energy saving mode.
When U63 = 2, it controls the forced defrost.
When U63 = 3, DI is pressure input.

12 Sensor Calibration

The room sensor and pipe sensor can be calibrated by U20 and U21.

13 Restore To Factory Default Settings

Keep〖P〗and〖▲〗depressed simultaneously for 5 sec, there will be a short beep, and “UnL” displays.
Press〖▼〗twice, there will be a beep, all setting will be restored to factory default settings.

14 Checking Controller Information

Keep〖S〗and〖▲〗depressed simultaneously for 5 sec, the controller’s model and version will display.

15 Installation

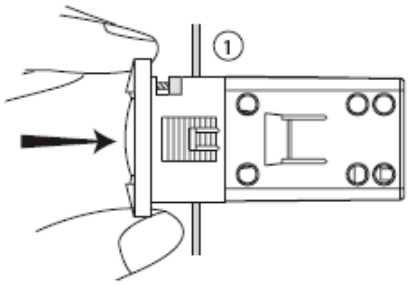
Warning!

Avoid install controller in the following environment:

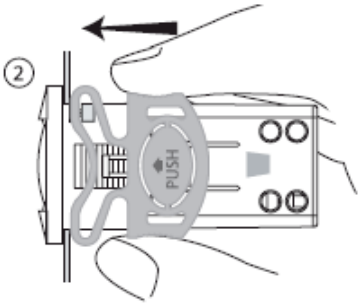
- More wet than 90%RH, or easily dew.
- Vibrating, or be shocked.
- Possible sprayed.
- Under erosive air.
- Under explosive air.

Installation

1st: Insert into drilling hole



2nd: Clamp

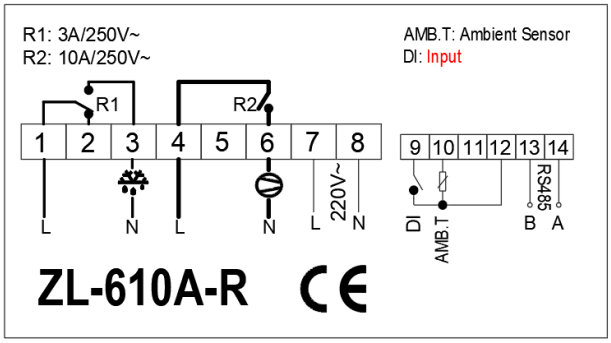


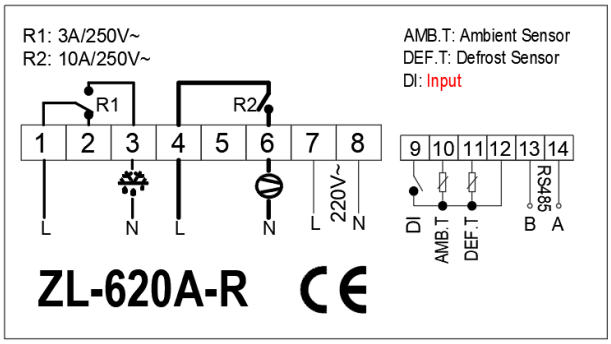
16 Electrical Wiring

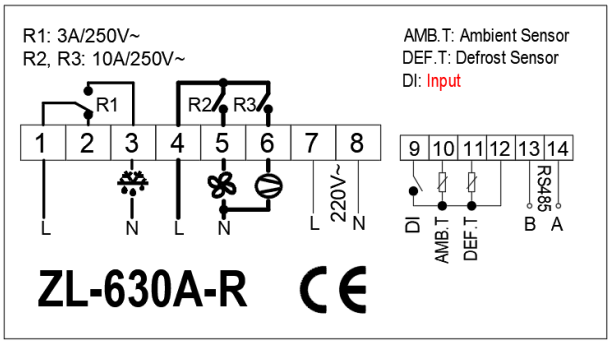
Warning!

- Wiring work should be manipulated by certified technicians.
- Supplied power should within specification requirement.
- Sensor and input signal bundles should not be laid together with power supply bundles, in same pipe
- Sensor’s bundle is better as short as possible. Not wind the redundant length bundle to electrical noise equipment.
- Do not touch inside components.
- Equip safety devices for equipment for equipment protection and human safety. Before supply power, check wiring again.

Electrical Wiring







17 Communication

The controller has RS485 interface, based on Modbus-Rtu protocol:

Communication: serial half duplex.

Baud rate: 2400bps，4800bps，9600bps(default) or 19200bps.

Data bit: 8 bits (LSB 1st). Parity: none. Start bit: 1 bit. Stop bit: 1 bit.

18 MODBUS-RTU function table

Coils:

Address	Name	RW	Range	Function Code	Remark	ZL-610A-R	ZL-620A-R	ZL-630A-R
Failure								
0	Room sensor failure	R	0~1	0x01	0: ok. 1: failure	●	●	●
1	Pipe sensor failure	R	0~1	0x01	0: ok. 1: failure	/	●	●
8	High temp. warning	R	0~1	0x01	0: ok. 1: warning	●	●	●
9	Low temp. warning	R	0~1	0x01	0: ok. 1: warning	●	●	●
Coil output								
20	Temp. output	R	0~1	0x01	0: de-energized, 1: energized	●	●	●
21	Fan output	R	0~1	0x01	0: de-energized, 1: energized	/	/	●
22	Defrost output	R	0~1	0x01	0: de-energized, 1: energized	●	●	●
Misc								
50	Remote forced defrost	RW	0~1	0x01/0x05	0: off. 1: on	●	●	●
51	System on/offline	RW	0~1	0x01/0x05	0: offline. 1: online	●	●	●
52	Defrost status	R	0~1	0x01	0: off. 1: on	●	●	●
53	DI door open warning	R	0~1	0x01	1: door open warning	●	●	●
54	DI energy saving status	R	0~1	0x01	1: energy saving status	●	●	●
55	DI forced defrost status	R	0~1	0x01	1: forced defrost status	●	●	●
56	Reset all kinds of warning remotely	W	0xFF00	0x05	0xFF00: Reset all warning remotely	●	●	●
57	Pressure alarm	R	0~1	0x01	1: Alarming	●	●	●
58	Defrost timeout alarm	R	0~1	0x01	1: Alarming	/	●	●

Registers:

Address	Name	RW	Range	Remark	Function Code	ZL-610A-R	ZL-620A-R	ZL-630A-R
0	Room Temp.	R	-50.0~130.0℃	real value ×10	0x03	●	●	●
1	Pipe Temp.	R	-50.0~130.0℃	real ×10	0x03	/	●	●
7	Temp. output stop protection time	RW	0~100 min		0x03/0x06/0x10	●	●	●
8	Temp. output run protection time	RW	0~100 min		0x03/0x06/0x10	●	●	●
9	Temp. output run frequency	RW	0~8		0x03/0x06/0x10	●	●	●
10	Room sensor calibration	RW	-9.9~+9.9℃	real ×10	0x03/0x06/0x10	●	●	●
11	Pipe sensor calibration	RW	-9.9~+9.9℃	real ×10	0x03/0x06/0x10	/	●	●
12	Hysteresis	RW	0.1~30.0℃	real ×10	0x03/0x06/0x10	●	●	●
13	Display during defrosting	RW	0~3	0: Room temperature 1: Room temperature before defrost 2: Setpoint 3: “dEF”	0x03/0x06/0x10	●	●	●
14	Time to keep defrosting display after defrost finished	RW	0~255 min		0x03/0x06/0x10	●	●	●
15	Defrost period	RW	0~180 hour	0: defrost forbidden	0x03/0x06/0x10	●	●	●
16	Defrost time	RW	1~180 min		0x03/0x06/0x10	●	●	●
17	Defrost finish temp.	RW	0.5~50.0℃		0x03/0x06/0x10	/	●	●
18	Dripping time	RW	0~180 min		0x03/0x06/0x10	●	●	●
19	Over temp. warning delay after defrost	RW	0~180 hour		0x03/0x06/0x10	●	●	●
20	Defrost after turned to online	RW	0~1	0: disable. 1: enable	0x03/0x06/0x10	●	●	●
21	Delay for defrost after turned to online	RW	0~180 min		0x03/0x06/0x10	●	●	●
22	Defrost Mode	RW	0~1	0: auto. 1: remote control	0x03/0x06/0x10	●	●	●
23	Fan start temp.	RW	-45~+120℃	real ×10	0x03/0x06/0x10	/	/	●
24	Fan start delay	RW	0~600 sec.		0x03/0x06/0x10	/	/	●
25	Fan stop delay	RW	0~600 sec.		0x03/0x06/0x10	/	/	●
26	Fan control mode	RW	0~4	0: Controlled mode, see 6.4 1: Stop in defrosting, see 6.4 2: Stop in defrosting, else running 3: Run in defrosting, see 6.4 4: Run in defrosting, else running	0x03/0x06/0x10	/	/	●
27	Fan run time when compressor stops during cooling mode	RW	0~60 min		0x03/0x06/0x10	/	/	●
28	Fan stop time when compressor stops during cooling mode	RW	0~60 min		0x03/0x06/0x10	/	/	●
29	Defrost finish sensor	RW	0~1	0: neglect pipe temp. 1: based on pipe temp.	0x03/0x06/0x10	/	●	●
31	Deviation for high temp. warning	RW	0~60℃	real ×10	0x03/0x06/0x10	●	●	●
32	Deviation for low temp. warning	RW	0~60℃	real ×10	0x03/0x06/0x10	●	●	●
33	Over temp. warning delay	RW	0~180 min		0x03/0x06/0x10	●	●	●
34	1st Over temp. warning delay after turned to online	RW	0~180 hour		0x03/0x06/0x10	●	●	●
35	Defrost type	RW	0~1	0: electrical heater 1: gas	0x03/0x06/0x10	●	●	●
36	Controller ID code	RW	0~31		0x03/0x06/0x10	●	●	●
39	See U60	RW	0~2	See U60	0x03/0x06/0x10	●	●	●

40	See U61	RW	0~120 min		0x03/0x06/0x10	●	●	●
41	Buzzer warning	RW	0~1	0: disable, 1: enable	0x03/0x06/0x10	●	●	●
42	Remote forced temp. output on	RW	0x0000 / 0xFF00	0x0000: not forced 0xFF00: forced on	0x03/0x06/0x10	●	●	●
47	Setpoint	RW	-40.0~+120.0℃	real ×10	0x03/0x06/0x10	●	●	●
49	Working mode	RW	0~1	0: cooling, 1: heating	0x03/0x06/0x10	●	●	●
50	Remote (host) forced defrost	RW	0x0000 / 0xFF00	0xFF00: forced defrost	0x01/0x05/0x06/0x10	●	●	●
51	Remote On/Off	RW	0x0000 / 0xFF00	0x0000: offline 0xFF00: online	0x01/0x05/0x06/0x10	●	●	●
52	Restore to factory default	RW	0~1	1: restore settings	0x06/0x10	●	●	●
53	Password	RW	0~9999		0x03/0x06/0x10	●	●	●
54	See U23	RW	-20.0~+20.0℃	real ×10	0x03/0x06/0x10	●	●	●
55	See U63	RW	0~2		0x03/0x06/0x10	●	●	●
56	See U64	RW	0~3		0x03/0x06/0x10	●	●	●
57	See U65	RW	0~1		0x03/0x06/0x10	●	●	●
58	Up limit for set point	RW	-40.0~120.0℃	Be bigger than low limit	0x03/0x06/0x10	●	●	●
59	Low limit for set point	RW	-40.0~120.0℃	Be smaller than up limit	0x03/0x06/0x10	●	●	●
60	Fan delay start time after defrost finished	RW	0~30 min		0x03/0x06/0x10	/	/	●
61	Keep high temperature alarm in offline	RW	0~1	See U54	0x03/0x06/0x10	●	●	●
62	**P**ressure **e**rror **n**umber limit	RW	1~15	See U66	0x03/0x06/0x10	●	●	●
63	**P**ressure **E**rror **I**nterval	RW	1~99 min	See U67	0x03/0x06/0x10	●	●	●
64	Alarm if defrost timeout	RW	0~1	See U3A	0x03/0x06/0x10	/	●	●
65	NTC sensor setting	RW	0~2	See U92	0x03/0x06/0x10	●	●	●

19 Key Operation Conclusion

Key	Pressing (sec.)	Description
〖S〗	3	Enter into temperature setting status
	0.1	Save the set-point
〖P〗	3	Enter into parameter setting status
		Save the set parameters
	0.1	Stop alarming buzzing, if during alarming buzzing
〖▼〗	5	Start forced cooling/heating for 30 min, if not in defrost status.
		Stop the forced cooling/heating.
	0.1	Display rest time of defrost, if during defrost
		Display rest time of dropping, if during dropping
		-
〖▲〗	7	Start forced defrosting, effective in cooling mode
		Stop forced defrosting
	0.1	Display T2 value, if now display T1 value
		+
〖P〗 + 〖▲〗	5	Restore to factory settings
〖S〗 + 〖▲〗	5	Display product info.
〖S〗 + 〖P〗	3	Switch between online and offline, display OFF in offline status