# A3920 Wireless Thermostat Installation Manual Model: A3920 SENDER

#### MODEL DENOMINATION

	A3920 🔲 🗌		
1	Y: Control damper open or close.		
	DA: Control 2-wire Motorized Valve and 3-speed fan. When the temperature reaches the set-point, it will close the Motorized valve with the fan still running.		
	DA2: Control 3-wire Motorized Valve and 3-speed fan. When the temperature reaches the set-point, it will close the Motorized Valve with the fan still running.		
	DB: Control 2-wire Motorized Valve and 3-speed fan. When the temperature reaches the set-point, it will close the Motorized Valve and Fan both.		
	DB2: Control 3-wire Motorized Valve and 3-speed fan. When the temperature reaches the set-point, it will close the Motorized Valve and Fan both		
	<ul> <li>AFCV2A: Control 4 pipe fan coil units, Control two Motorized Valves i and 3-speed fan, when the temperature reaches the set-point, it will close the Motorized Valve with the Fan still running. It has auto changeover function.</li> <li>AFCV2B: Control 4 pipe fan coil units. Control two Motorized Valves and 3-speed fan, when the temperature reaches the set-point, it will close the Motorized Valves and Fan both. It has auto</li> </ul>		
-	changeover function. P1: 5+2 programmable		
1	P2: 7 day programmable, 4 comfort levels		
	P3: Timer only		
	Blank is no function.	I	
	T12: 12-hour clock system display		
	T24: 24-hour clock system display		
	CC: Card Key function. The touch point will close when insert the		
			-
	card.		

# Blank is no function.

Parameter Setting				
Item	Display	Setting	Description	
	(Default	Range		
	Value)			
1	CF (1)	0-1	Celsius/Fahrenheit	
2	SPAN1℃(2°F)	<b>1-3℃(1-6</b> °F)	Differential Temperature	
3	CALI(0)	<b>-4.5-4.5</b> ℃	Temperature Calibration	
4	StAr(2)	0-2	Auto Restart	
5	FUNC(0)	0-2	Timer/programmable	
6	SECt(0)	0-1	5+2/7days programmable	
7	BLIt(ON)	ON-OF	Backlight	
8	HOUr(12)	12-24	12/24hr	
9	LOtP(ON)	ON-OF	Low Temperature Protection	
10	OFF(ON)	ON-OF	Switch OFF Display	
11	UAUL(0)	0-1	2/3-wire valve	
12	FCU2(0)	0-2	4-pipe selection	
13	DELA(0)	0-6	Delay Protection	
14	DABY(1)	0-2	DA/DB/Y selection	
15	LOOP(OF)	ON-OF	Circle Timer Function	
16	tPEN(ON)	ON-OF	Temperature Display	
17	Card(OF)	ON-OF	Dry contact Enable	
18	CAdr(CO)	CC-CO	Dry contact status	
19	ECO(ON)	ON-OF	ECO button	
20	INEF(ON)	ON-OF	Communication failure protection	
21	CAnL(01)	01-06	Wireless channel selection	
22	CrES(0)	0-1	Wireless channel register	
23	FACt(OF)	ON-OF	Factory default reset	
24	TESt(OF)	ON-OF	Relay output test	

Warning: This parameter table must be set by specialized installation personnel. Any inconvenience or damage caused by unauthorized operation will not be covered by warranty.

Set thermostat to OFF, press"PROG"for seconds to entry the parameter setting menu, press"PROG" or "DAY/TIME" to select different items or press "VA" to change the

parameter value. Press "MODE " or wait 30S to save and exit the setting.

- 1)、Celsius/Fahrenheit: 0: Fahrenheit、1: Celsius.

17), Dry contact Enable: ON: ON, OF:OFF

- 18)、 Dry contact status: CO: Normally close, CC: Normally open
- 19), ECO button: ON: Enable, OF: Disable,

- 20), Communication failure protection: OF: Disable, ON: Enable,
- 21). Wireless channel selection: channel number from 01~06
- 22), Wireless channel register: press actuator matching button, 1: wait the thermostat sending message. 0: data match successful.
- 23), Factory default reset: OF: None, ON: Yes.
- 24)  $\$  Relay output test: OF: close, ON: Open, the reply will be switch one by one. POWER SUPPLY

1. The thermostat is supplied with a Li-battery. You can charge the Lithium battery through a USB cable (included) connected to a PC. During the charge process the battery icon will flash on and off.



2. 100-240VAC power supply.

Plug USB cable into power supply to charge battery. No need for computer

Note: The Lithium battery should be charged over 8 hours for the first 3 times to properly condition the battery.

## PAIRING THE THERMOSTAT

The thermostat and receiver will work only when they match successfully to realize 1-1 control.

Step 1 (Receiver): Power on the receiver, press the pairing key for less than one second (The key is on the right side of the receiver, don't press the key for a long time). The receiver will attempt to register matching data from the thermostat. The unit should finish registration within 1 minute, if the receiver hasn't received the matching data in 1 minute, the receiver matching data will reset back to the previous settings automatically.

Step 2 (Thermostat): Press "O" icon to "OFF" mode, then press and hold "PROG" key for 3 seconds until the screen changes to menu setting. Press "DAY/ TIME" or "PROG" key until LCD displays "CAnL", press up/down key to set the channel address you wanted.

The channel addresses are optional from 01-06.

Step 3 (Thermostat): In the parameter setting interface, continuously press " DAY/TIME" or "PROG" key until the LCD displays "CrES", press up key to set the parameter to "1". The thermostat will send the pairing data to the Receiver. After matching successfully, the thermostat

will be back to Home.

INSTALLATION

Tools required:





This icon means Received Signal Strength Indication, the more unit it shows, the stronger the signal is, only with one and one more unit displaying can make the wireless outfit being in normal service. Signal Strength can be detected in the moment of data sending and receiving, therefore the Received Signal Strength Indication will be refreshed only after data sending.

#### Error Mode

- @ E1: Sensor error
- E2: Memory chip malfunction alert.
- P E4: Channel changed without matching with the receiver
- I HI: The room temperature is higher than 55℃.
- ☞ LO: The room temperature is lower than 0°C.

If the thermostat is unable to control your system due to an unexpected problem, the thermostat will enter Error Mode. In this condition, the thermostat flashes "E1", "E2" on the LCD display, and shuts off your system. When the thermostat wireless channel address is changed without registeration, the display will show "E4" to warn, it must re-register , "E4" will disappear after registeration succeed. Or you may set your thermostat back to the original channel to avoid re-registeration.



#### Caution

Be sure to connect all the wires as the wiring diagrams and keep it away from water, mud and other materials to prevent the unit to be spoiled.



01 CAUF

Key position

CLEZ

- 3)、Temperature Calibration: -4.5-4.5°C.
- 4), Auto Restart: when power is on, the thermostats status is: 0: maintain OFF. 1: switch on automatically. 2:same status before the power failure.
- 5) Timer/programmable: 0:None, 1: Programmable, 2: Timer.
- 6)、5+2/7days programmable: 0:5+2days. 1:7days.
- 7)、Backlight: ON/OFF.
- 8)、12/24hr: 12: 12hrs, 24:24hrs.
- 9), Low Temperature Protection: OF: No protection, ON: Enable.
- 10), Switch OFF Display: if temperature will show on the LCD When the thermostat is OFF, OF:NO, ON:YES.
- 11), 2/3-wire valve: 0: 2-wire valve, 1: 3-wire valve , please note: "UAUL" can only be set when"FCV2 "set to"0".
- 12), 4-pipe selection : 0: None, 1: FCV2, 2:AFCV2, please note FCV2 can only be set when" DABY "set 0 or 1.
- 13), Delay Protection: heating device delay protection, from 1~6minutes.
- 14), DA/DB/Y selection : 0:DA, 1:DB, 2:Y . please note Y is only available when "FCV2"set to 0.
- 15), Circle Timer Function: this parameter can only be set when "FUNC" is "2". ON: Enable, OF: Disable.
- 16), Temperature Display: ON: Display room temperature, OF: Display setpoint temperature.

Screws and wall anchors are included for mounting the thermostat. To install the thermostat you should have the following tools and materials. Slotted screwdriver Phillips screwdriver Hammer Electric drill and 3/16" drill bit

1) Gently pry off the round metal mounting bracket on the back of the thermostat. 2) Attach the mounting bracket to the wall using the screws and wall anchors included. 3) Align the thermostat to the bracket and push together.



# A3920 Wireless Thermostat Installation Manual Model: A3920 Receiver

# A3920 RECEIVER

# GENERAL

A3920 wireless receiver should work with the A3920 sender thermostat as a set of wireless thermostat. Through wireless data communication between thermostat and receiver, with controlling signal and code sent, received and executed we can realize temperature control on personal requirement. The thermostat A3920 will adjust the environment temperature by deciding on the switch of corresponding fan coil unit at the end of air conditioning, motorized valves, ball valves and damper to reach at a comfortable environment and energy saving.

#### TECHNICAL DATA

a	Sensing	Element:	NTC

- Display accuracy: 0.5°C
- a Heating range: 5~34℃
- Cooling range: 6~35°C
- a Display range: 0∼55°C
- Working environment: 0°C~50°C(32°F~120°F)
- $_{eff}$  Humidity: 5 $\sim$ 95% RH(non-condensing)
- $_{\ensuremath{\textcircled{}}}$  Self consumption power:  $<\,$  1 W
- $_{ff}$  Power supply: AC 85 $\sim$ 260V, 50/60Hz
- ${\scriptstyle \textcircled{m}}$  Wiring terminal: connect 2 $\times$  1.5 mm2 or 1 $\times$  2.5 mm2 wires
- for Output load current: < 2A (Resistive)
- Shell: Fire retardant PC
- Dimension: 4.5x3.8x1.8 in ( 116×98×45 mm ) (HxWxD)
- Protection class: IP 20
- SWireless carrier wave frequency : 433MHz
- Communication baud rate : 2.4kbps
- Wireless channels: 1~6 channels
- Wireless frequency bias: 5.2K
- Scommunication distance: Up to 100 Meters Open Space

#### RECEIVER OUTPUTS

Receiver terminals			
L	85-260VAC (L)		
н	High speed output for Fan, 85-260VAC output		
ME (FO)	Medium speed output for Fan (Normal open for Y type), 85-260VAC output		
LO (FC)	Low speed output for Fan (Normal close for Y type), 85-260VAC output		
VA1(VAL/VO)	Cooling valve(cooling and heating valve/3 wire valve normal open terminal): 85-260VAC output		
VA2 (VC)	Heating valve(3 wire valve normal close terminal):: 85-260VAC output		
CA	Insert card checking input terminal		
CA	Insert card checking input terminal		
N	85-260VAC (N)		

After thermostat registers successfully, it can control the device as per personal demand. The thermostat will send data to the receiver which will decode data and open up

Step 3 (Thermostat): In the parameter setting interface, continuously press " DAY/TIME" or "PROG" key until the LCD displays "CrES", press Up key to set the parameter to "1". The thermostat will send the pairing data to the Receiver. After matching successfully, the thermostat will be back to Home.

#### FAIL SAFE

If there is not any output change in a period of time. The thermostat will send a signal to the receiver every 20 minutes to check and confirm the receiver the communication is working normally. If the receiver fail to receive the signal from the thermostat within 20mins, the receiver will activate Fail safe to protect the system against a loss of wireless signal or should the thermostat battery fail whilst you are away

# WIRING











This receiver includes two M3.5 cross screws for mounting. To install your thermostat, you should have the following tools and materials.

- Small Philips screwdriver
- Electric drill and 3/16" bit

#### CAUTION

To prevent electrical shock and/or equipment damage, disconnect electric power to the system at the main fuse or circuit breaker box until installation is complete.

#### WARNING

Do not use on circuits exceeding specified voltage. Higher voltage will damage the receiver and could cause shock or fire hazard. Do not short out terminals or primary control to test. Shorts or incorrect wiring will damage thermostat and could cause personal injury and/or property damage.

#### TRANSPARENT COVER INSTALLATION

Press the transparent cover down as shown, until it snaps in place.



#### TRANSPARENT COVER UNINSTALL

Insert the screwdriver between the transparent cover and black cover and gently pry it



#### TROUBLESHOOTING

Problem	Solution			
Scrambled or double	1. Remove clear film			
display (numbers over				
numbers)				
No display	1. Check the Li-battery install correctly.			
	2. Charge Li-battery.			
Dim display	1. Charge Li-battery.			
Entire display always	1. Replace the unit.			
Fragmentary Display	1. Replace the unit.			
Always display"E1",	1. Replace the unit.			
Program does not	1. Check that the time is set properly to "AM" or "PM"			
change at your desire	2. Check for the correct day settings.			
setting				
Delay time in turning	1. Delay time of the four thermostats should be consistent,			
on heating equipment	if not consistent, the delay time in turning on the heating			
changes after a newly	equipment will depend on the latest successfully			
successful registry.	registered thermostat's delay time			
The heating	1. The heating equipment needs 3-minute waiting to turn			
equipment does not	on again after immediate shutting.			
turn on.	2. Check out thermostat delay setting, it means a period for			
	complete open-up of valve and thereafter the heating			
	equipment will turn on.			
Erratic display	1. Replace the unit.			
Receiver no output	1. Check if the thermostat is working, and if the power is			
	supplied to the receiver			
	2. Check if the communication is correct.			
	3. Match the thermostat and the receiver again.			
Communication failed	1. Check if the thermostat is working, if the thermostat is			
	effective, and if the power is supplied to the receiver			
	2. Check if the wireless channel you set is consistent with			

corresponding valve.

#### **OPERATION**

The A3920 Receiver receives the signal from the Wireless Thermostat without any wires and controls on the switch of corresponding device.

#### MATCHING

The thermostat and receiver will work only when they match successfully to realize 1-1 control.

Step 1 (Receiver): Power on the receiver, touch the Match key for less than one second (Don't press the key long). The Communication LED will come on. Then receiver will attempt to register matching data from the thermostat. The LED goes out after finished pairing. You should finish registration within 1 minute Note: You need to finish pairing the thermostat within before the receiver pair LED goes

out. Otherwise, the receiver matching data will reset back to the previous settings automatically.

Step 2 (Thermostat): Press "U" icon to "OFF" mode, then press and hold "PROG" key for 3 seconds until the screen changes to menu setting. Press"DAY/TIME" or "PROG" key until LCD displays "CAnL", press up/down key to set the channel address you wanted. The channel addresses are optional from 01-06.

INSTALLATION GUIDE	

	the receiver	
	3. Adjust the distance between the thermostat and the	
	receiver properly.	
	4. Match the thermostat and the receiver again.	
Communication	1. Need to change channel to re-register.	
unusual		

If you experience any other problems, call us for technical assistance.



Be sure to connect all the wires as the wiring diagrams and keep

it away from water, mud and other materials to prevent the unit to

be spoiled.

Caution

# A3920 Wireless Thermostat Owners Manual

# Model: A3920 SENDER

A3920 series thermostat is a luxurious wireless thermostat to control fan coil unit and controller. The unit is designed with a nice and unique appearance. It is widely used for room temperature control in residential, industrial and business premises. According to difference between the set-point temperature and room temperature, each thermostat will decide on the switch of corresponding fan coil unit at the end of air conditioning, motorized valves, ball valves and damper to reach at a comfortable environment and energy saving purpose.

#### Structure of thermostat and explanation for the keypads



S/N	Description			
1	Week display symbol: Display from Mon to Sun.			
2	Comfort level symbol: Indicate1-4 comfort levels.			
3	Room temperature display symbol: Indicate the room temperature			
4	Set temperature display symbol: Indicate the set temperature			
5	Temperature display: Display the room temperature and set temperature.			
6	Cooling on symbol: Indicate the present cooling device is on.			
7	Heating on symbol: Indicate the present heating device is on.			
8	Off time setting symbol: It comes on when setting off time.			
9	Battery icon: Remind the recharging or low power warning.			
10	Wireless sending icon: It comes on when sending wireless data.			
	Time display: It displays the current time and setting time. It indicates the			
11	parameter options when setting the parameter. It indicates the days when			
	being on the hold mode.			
12	Indicate the days under hold-on mode.( not available)			
13	Up arrow: Setting temperature and parameters button.			
14	Down arrow: Setting temperature and parameters button.			
15	Time/week button: Press the button to program the time and week			
16	Program button: Press the button to program the comfort levels.			
17	Program button: A long press on the button to program the comfort levels.			
18	Slid cover: Open the slid cover to press the buttons.			
10	Energy saving button: Press this button to make running according to the			
15	economical setting temperature.			
20	Fan speed selecting button: Press this button to select "auto", "low",			
20	"medium" and "high" speed.			
21	Mode shift: when power on, to shift heating/cooling/ventilating mode.			
22	ON/OFF: Press this button to select on/off mode.			
23	PM: 12-hour clock system			
24	Indicate the days unit under hold-on mode.			
25	Keypad lock icon: The current keypad is under lock status.			
26	AM: 12-hour clock system			
27	Timer icon: Indicate the current status is timer on/off.			
28	ON time setting symbol: It displays on LCD when setting on time.			
29	Auto-speed icon: Indicate the current FCU operating mode is auto shift.			
30	Low-speed fan icon: Indicate the current fan speed of FCU is low.			
31	Medium-speed fan icon: Indicate the current fan speed of FCU is medium.			
32	High-speed fan icon: Indicate the current fan speed of FCU is high			
33	Temperature unit display: °C=Celsius			
34	Wireless Signal strength indication			
35	Auto mode icon: The current working mode is auto mode.			
36	Ventilating mode icon: The current working mode is ventilating.			
37	Heating mode icon: The current working status is heating.			
38	Cooling mode icon: The current working status is cooling.			

#### Programmable and timer optional

- Keypad lock
- 12/24 hour clock systems optional
- Real time clock
- Low temperature protection
- EEPROM
- Power failure restore
- Manual or Auto 3-speed changeover
- Celsius and Fahrenheit display optional
- Pre-heat function optional
- Auto, Cool, Heat, Ventilation mode optional
- Card Key function
- ECO function

#### POWER SUPPLY

1. The thermostat is supplied with a Li-battery. You can charge the Lithium battery through a USB cable (included) connected to a PC. During the charge process the battery icon will flash on and off.



- 2、100-240VAC power supply.
   Plug USB cable into power supply to charge battery. No need for computer.
- $\mathbf{3}_{\mathsf{N}}$  After initial battery charging, recharge the

battery every 4 - 6 months for best operation. Frequency of charging depends on changes that require a sending signal to receiver.

Note: The Lithium battery should be charged over 8 hours for the first 3 times to properly condition the battery.

#### **OPERATION**

**Thermostat on/off:** To turn the thermostat off completely, press "otin" Button. The display will be turned off. To turn the thermostat back on, press the "otin"" button.

✓ Temperature Set: Press "<sup>()</sup> to turn on the thermostat, touch the Up and Down keys to adjust the set temperature. The change value is 1° C for each touch. Note: When being in auto mode, it allows you separately to adjust the set temperature for heating and cooling. Only need to press the Up and Down keys to enter the temperature setting interface, press "MODE" button to choose the heating and cooling temperature set. Then use the Up and Down keys to allow you adjust the set temperature. When the comfort levels function is enabled, above set temperature will keep a period of time in the current level. When the next level is coming, the thermostat will shift to run the set temperature of current level automatically.

ECO function: when there is nobody in the room, this function is to increase cooling setpoint and decrease heating setpoint to save energy, Please note there are cooling and heating economy temperature setting.

►ECO temperature setting: press "ECO" to entry economy mode to run the economy temperature, LCD will show "ECO", if your current mode is heating, press UP/DOWN key to set the heating economy temperature, press "MODE" to change to cooling, press UP/DOWN key to set the cooling economy temperature, and then press "ECO" to save

will be opened. Otherwise, it will be closed. Cooling valve is always closed.

Control Motorized Valve under 2-pipe configuration

Under cooling/heating mode, if the difference between room temperature and set-point exceed 1° C, FCU valve will be open, if room temperature and set-point are equal, DA/DA2 will close the FCU valve with the fan still running, DB/DB2 will close the FCU valve and Fan both.

Control ventilating mode

In ventilating, Motorized Valve will be closed with the fan still running. Users can manually select HIGHT/MED/LOW fan speed as per their need.

#### Low temperature protection

When the thermostat turns off and the room temperature is lower than 5° C, it will be turned on automatically in heating mode with "  $\star$ " flashing, when room temperature is higher than 7° C, the thermostat will turn off heating devices.

Pre-Heat Function

It is only available for DB/DB2/AFCV2B thermostats in heating mode. When the system switches from OFF to ON or switches from the other modes to HEATING, and the heating device is on firstly, there is a time delay by selecting among 0/10/20/30/40/50/60 seconds for FCU to be opened.

Card Key function: When the card is inserted, the thermostat will control the receiver. If the card is pulled out, the output of receiver will be override closed. The thermostat can check if the receiver with/without the card. The "NOCA" flashes on the thermostat if it is without the card.

Note: this display can only be refreshed after sending the wireless data successfully.

#### Setting time and day

EXAMPLE: Set the Thermostat to the current time of 9:43 a.m. on

Saturday Refer to steps below.



#### Events (comfort levels) default programmable

 Thermostat will conduct 7-day programmable according to the table below under the default set.

Comfort Level No.	Start time	Setting temp in	Setting temp in
		Cooling	Heating
1	6:00AM	26	20
2	8:00AM	28	16
3	4:00PM	26	20

#### BASIC FEATURES

ON/OFF

Room temperature setting

and exit setting.

Locking the Keypad: The keyboard can be locked to prevent unauthorized changes to the thermostat. To lock or unlock the keyboard, press and hold the "ECO" key for 3 seconds. When activated, you will see the lock symbol. To cancel, repeat the steps above.

✓ Mode set: Press "MODE" key to shift the working mode. "△"indicates AUTO mode,
"✤"indicates COOL mode, "✦"indicates HEAT mode, "⑥"indicates VENTILATE mode.

☞ Fan speed set: Press "FAN" to set fan speed. " ② "(Auto)、" ふ "(Low)、" ふ " (Med)、 " ふ " (High)

In the "Auto" mode, the fan speed will shift automatically. It means when the room temperature has 1° C difference with the set-point, it will shift the Low speed. When it has 2° C difference, it goes to run Med speed automatically, When it has 3° C

difference, it will run the High speed automatically.

#### Control FCU Valve under 4-pipe configuration

(1) In cooling, when the room temperature is 1°C higher than the set-point, the cool valve will be opened. When the room temp is lower to the set-point, the cooling valve will be closed. Heating valve is always closed.

(2) In heating, when the room temperature is 1°C lower than the set-point, the heat valve

## 4 10:00PM 28 16

#### Manual Programming

Your thermostat can be programmed for weekdays and weekends, or have unique programs for all 7 days. Use Weekday / Weekend Programs or 7-day Programming to enter or revise programs to match your Personal Program Schedule. The same steps are used when entering programs for the first time, or revising programs entered during Auto Programming.

 Familiarize yourself with Manual Programming, so that you can easily modify your programs as your comfort needs change. The example below demonstrates the Manual Programming method.

#### NOTE

1. This programming function can be used only on the type of PI and P2 thermostats.

2. Using 5/2 Day Programming or 7 Day Programming depends on your schedule.

3. When setting the program time, note the AM/PM indicator.

4. The program time can be set in 10-minute increments

#### Weekday/Weekend Programming Weekday Programs

#### **ON/OFF** Timer set

Note: This function is available for P3 type thermostat only.

(TIMER ON ·---





If you want to set different program for each day, you should program day by day. And program the time and temperature you desired for each day.

PROG	Select the Mon, then you can only	MON
	program 4 levels for Mon.	
TIME	Same way to program the 4 levels for	
PROG	Mon and weekdays. Follow steps 2-7.	



NOTE: Another approach for programming is to program a whole week firstly. Set same

programs from Mon to Sun. Then change the programs of only those days which will

have different programs.

go back automatically.