ZONiNG



ZEBRA-W Thermostat

User manual

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User manual ZEBRA-W

1 System overview 3

2 Technical specifications 3

2.1 ZEBRA-W Thermostat 3

2.2 ZITY2.0 control unit 3

3 Thermostat location 3

4 Wiring 3

5 Controls and indicators 4

6 Installer configuration 4

7 Basic operation 4

7.1 Turn system on/off 4

7.2 Zone climate control 5

7.3 Operating modes 5

7.3.1 Mode incompatibility 5

8 BASIC Menu 5

9 ADVANCED Menu 6

10 Causes of malfunction 6

11 Fan speed control 7

12 Timer 7

13 Energy-saving mode 7

14 Frost-protection mode 8

15 Time scheduling 8

Equipment management note 8

Warranty 8

1 System overview

ZEBRA-W thermostats are designed to operate together with ZONING SYSTEM control units to control the temperature of up to 12 independent zones.

The ZEBRA thermostat communicates with the control unit. The control unit manages one or more motorized devices (air dampers / radiant-system actuators) that regulate the air / water flow, as well as starting and stopping the HVAC unit that provides the flow.

2 Technical specifications

2.1 Thermostat ZEBRA-W

- Power supply: 12 VDC
- Consumption: < 0.3 VA
- Control output: Modbus RTU RS485
- Wiring: S(max) 4x0.5 mm²
- Operating temperature: 0°C to 50°C
- Storage temperature: -20°C to 60°C
- Humidity range: 10-90% (non-condensing)
- Wall mounting with screws (supplied)
- Protection rating: IP 20
- NTC10K temperature sensor. Accuracy ±0.1°C
- Dimensions (LxHxD): 86x110x11 mm
- Weight 0.11 kg

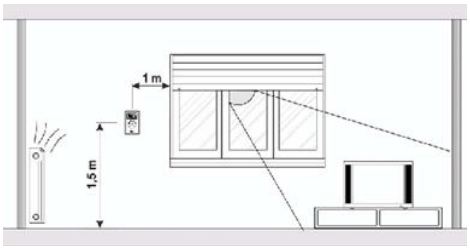
2.2 ZITY2.0 control unit

- Power supply 230 VAC / 50-60 Hz
- Consumption: 666 mA, 8 VA
- 7 relay outputs (maximum load: 5 A, cos φ = 1)
- For installations at an altitude up to 2000 m above sea level.
- Receiver, Category II

- Protection rating: IP 20
- Electrical insulation protection, Class II
- Category II
- Controller type: Programmable.
- For continuously or intermittently occupied zones.
- Operating temperature: 0°C to 45°C
- Storage temperature: -10°C to 60°C
- Dimensions (mm): 160 x 90 x 65
- Weight 0.5 kg

MADEL ATD hereby declares that ZEBRA-W / ZITY2.0 equipment complies with the essential requirements and any other applicable or enforceable provisions of Directives 2014/35/EU LVD, 2014/30/EU EMC and 2014/53/EU RED, 2011/65/EU ROHS, 2001/95/EC General Product Safety, 2012/19/EU WEEE and Regulation 1907/2006 REACH.

3 Thermostat location

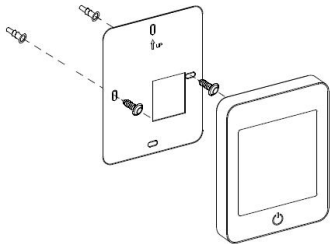


- Place each thermostat in a representative location in the room.

- Position it at an approximate height of 1.5 m, avoiding direct heat sources and unwanted air currents.

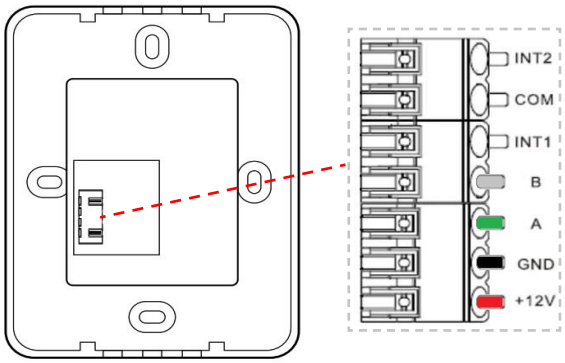
- Avoid placing thermostats near metal masses and conductive elements.

- Fix the rear cover of the thermostat to the wall using the supplied plugs and screws.

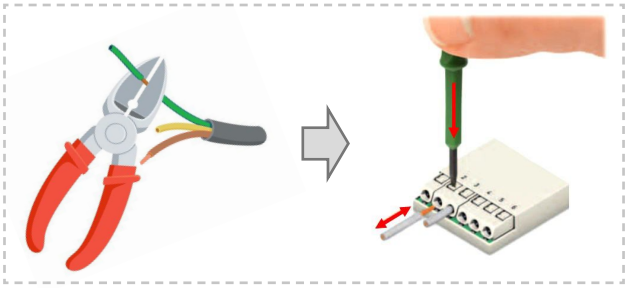


4 Wiring

The ZEBRA-W thermostat requires power through the GND/+12V terminals at 12 VDC, supplied by a power source with a minimum capacity of 0.3 VA. This power can also be supplied by the ZITY2.0 control unit.



In addition to the power supply, A/B terminals are provided for communication with the ZITY2.0 control unit via RS485. The connection terminal block is located on the rear of the thermostat:



Insert the stripped ends of the cables into their corresponding terminals, which use a push-in connection system to secure the cable.

5 Controls and indicators

1 Power on/off key

2 Control keys: Menu / Up / Down / Fan speed

3 Function-lock and mode-incompatibility lock indicator

4 Room temperature / General OFF

5 Setpoint temperature / Zone-off indicator

6 Timer-active indicator

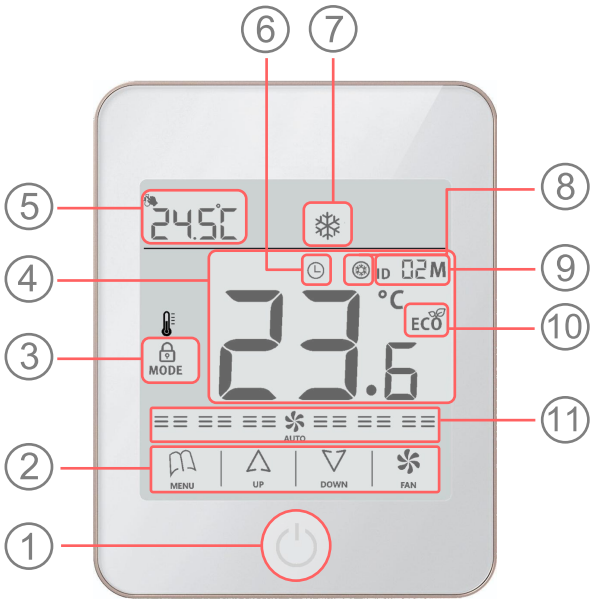
7 Operating-mode indicator

8 Frost-protection mode active indicator

9 Zone number and type (Master / Slave)

10 Energy-saving mode active indicator

11 Fan-speed indicator



6 Installer configuration

Before using ZONING with ZEBRA-W thermostats, they must have been configured and linked to the system by an accredited installer.

The complete initial configuration guide can be found in “ZITY2.0 - Installation and operation manual”.

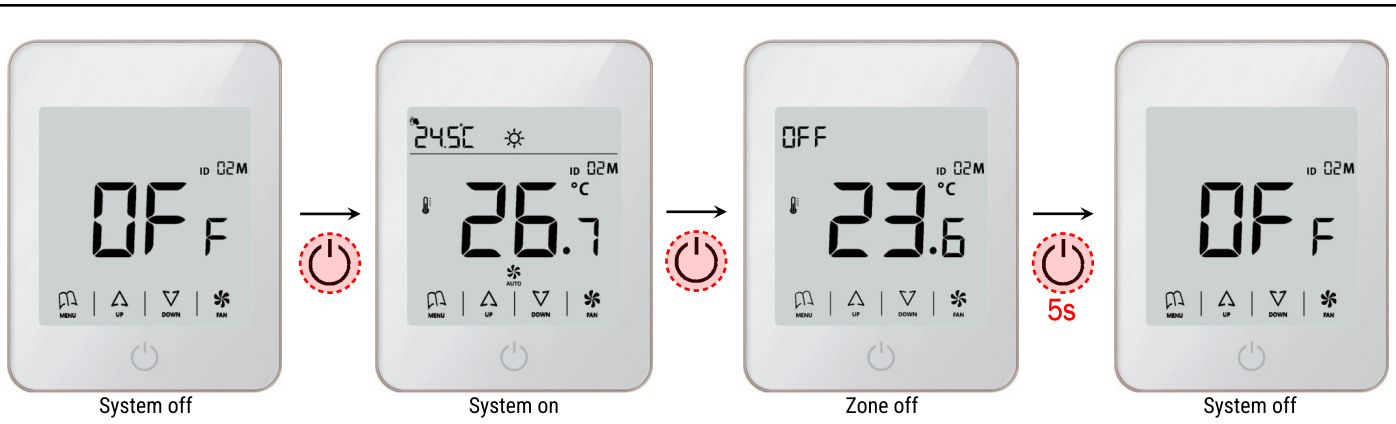
7 Basic operation

7.1 Turn system on/off

Function available only on the thermostat configured as MASTER. It has three operating states:

- **System on** — Activates the master zone, and any zone can request temperature demand from the system.
- **Zone off** — Switches off only the zone associated with the master thermostat. The other zones remain operational and can request temperature demand.
- **System off** — Completely switches off the system. All zones are off and cannot request temperature demand.

Press ⏻ to change state. To switch the system off, press for 5 s.

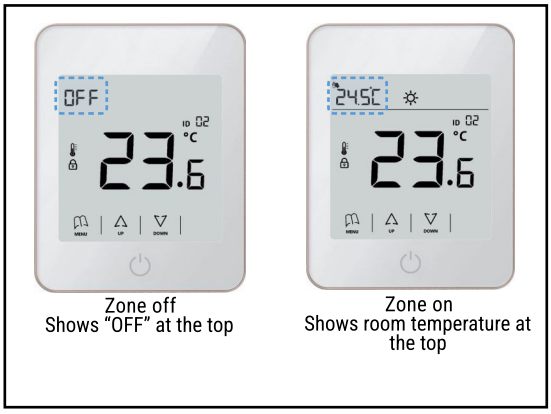


7.2 Zone climate control

Follow these steps on the thermostat in each zone:

Zone on/off
Press the icon to turn the zone thermostat on/off.

Change setpoint temperature
Change the setpoint temperature using the UP/DOWN arrows.



Zone off
Shows "OFF" at the top

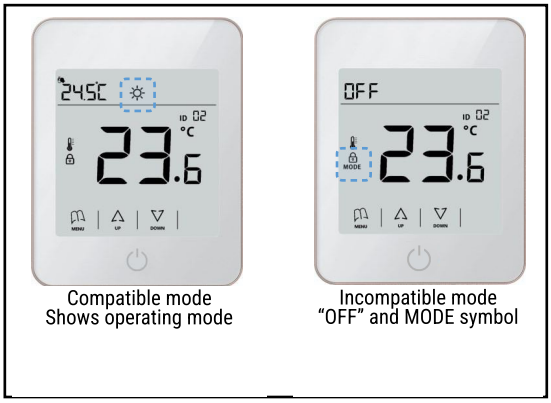
Zone on
Shows room temperature at the top

7.3 Operating modes

The system operating mode is controlled exclusively from the MASTER thermostat (see BASIC menu). Thermostats configured as slaves are automatically updated to the selected mode.

7.3.1 Mode incompatibility

If a SLAVE thermostat does not support the selected operating mode(1), it switches off automatically and displays a lock symbol on its screen.



Compatible mode
Shows operating mode

Incompatible mode
"OFF" and MODE symbol

(1) Operating modes are configured in the installer menu (see "ZITY2.0 - Installation and operation manual").

8 BASIC Menu

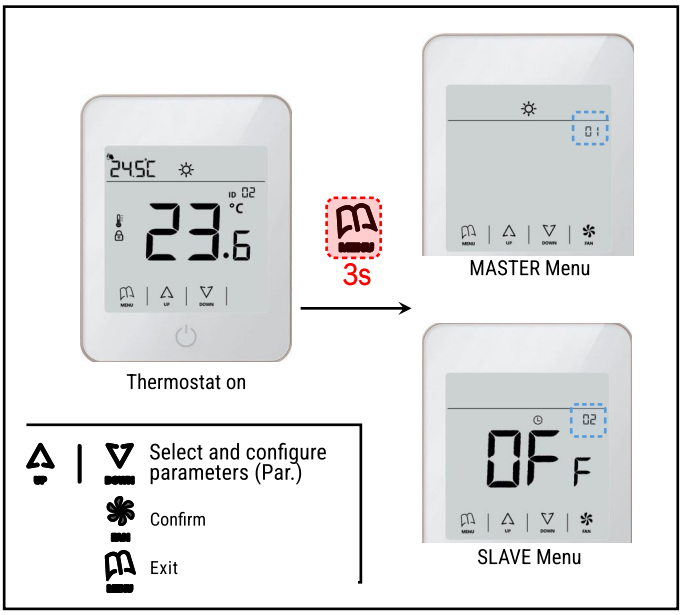
The thermostats have a user BASIC Menu whose parameters vary depending on whether the device is configured as master or slave.

With the thermostat on, press for 3 s to access the menu.

MASTER (Working Mode)

Press once the MENU button.

Air heating
Air cooling
Ventilation
Dehumidification
Radiant cooling
Radiant heating



MASTER (BASIC Menu)

Parameter	Description	Default value	Available values	
02	Timer	OFF	OFF	Temp. Inactive
			0.5	0.5 h to OFF
			1	1 h to OFF
			2	2 h to OFF
			3	3 h to OFF
			4	4 h to OFF
			5	5 h to OFF
03	ECO mode	OFF	OFF	Inactive
			ON	Active
			0.5	0.5 h to OFF

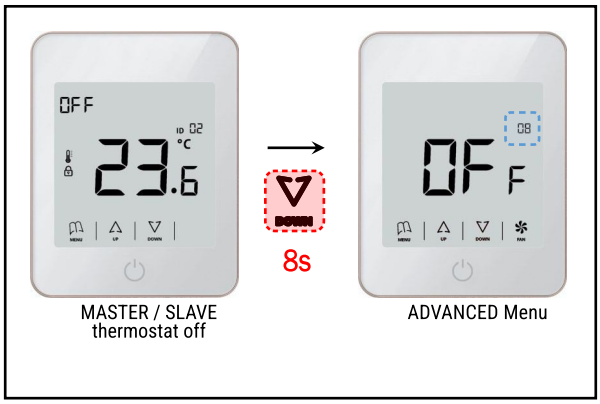
SLAVE (BASIC Menu)

Parameter	Description	Default value	Available values	
02	Timer	OFF	OFF	Temp. Inactive
			0.5	0.5 h to OFF
			1	1 h to OFF
			2	2 h to OFF
			3	3 h to OFF
			4	4 h to OFF
			5	5 h to OFF
03	Mode ECO	OFF	OFF	Inactive
			ON	Active
			0.5	0.5 h to OFF

9 ADVANCED Menu

The thermostats have a user ADVANCED menu.

With the thermostat off, press for 8 s to access the menu.



Menu navigation keys:

Icon	Description	Action
	UP and DOWN	Select and configure parameters (Par.)
	FAN	Confirm
	MENU	Exit

MASTER / SLAVE (ADVANCED Menu)

Parameter	Description	Values
08	Screen backlight	On = Backlight always on; OFF = Backlight turns off after 10 s (*)
09	Hysteresis	0.2 / 0.3 / 0.4 / 0.5 (*)
10	°C/°F	°C = Celsius (*); °F = Fahrenheit
11	Frost protection	0 = Not active; 1 = Active (*)
12	Frost-protection temperature	4°C to 10°C (Default = 7°C) Temperature value that activates frost protection
13	Max. setpoint T° - Cooling mode	16 to 30°C (default 30°C)
14	Min. setpoint T° - Cooling mode	16 to 30°C (default 16°C)
15	Max. setpoint T° - Heating mode	16 to 30°C (default 30°C)
16	Min. setpoint T° - Heating mode	16 to 30°C (default 16°C)
17(1)	*Factory Reset*	*On = Reset to default values; OFF = Inactive (*)*
18(1)	*Temperature compensation*	*-8°C to +8°C (Default = 0°C)*
19(1)	*Digital input 1*	*0 = Not active (*); 1 = Window contact; 2 = Presence contact; 3 = Condensation sensor*
20(1)	*Digital input 2*	*0 = Not active (*); 1 = Window contact; 2 = Presence contact; 3 = Condensation sensor*
21(1)	*Digital input 1 configuration*	*0 = Normally closed (*); 1 = Normally open*
22(1)	*Digital input 2 configuration*	*0 = Normally closed (*); 1 = Normally open*

(*) Default values

(1) Parameter available only for configuration by a technician during initial commissioning.
Any subsequent modification by unauthorized personnel may cause system operating problems.

10 Causes of malfunction

The following list describes several system behaviors that may be interpreted as malfunctions if their cause is unknown.

If abnormal system operation persists after reviewing the possible causes indicated, or if the issue is not listed below, contact an accredited technician or the ZONING Telephone Technical Support Service for verification.

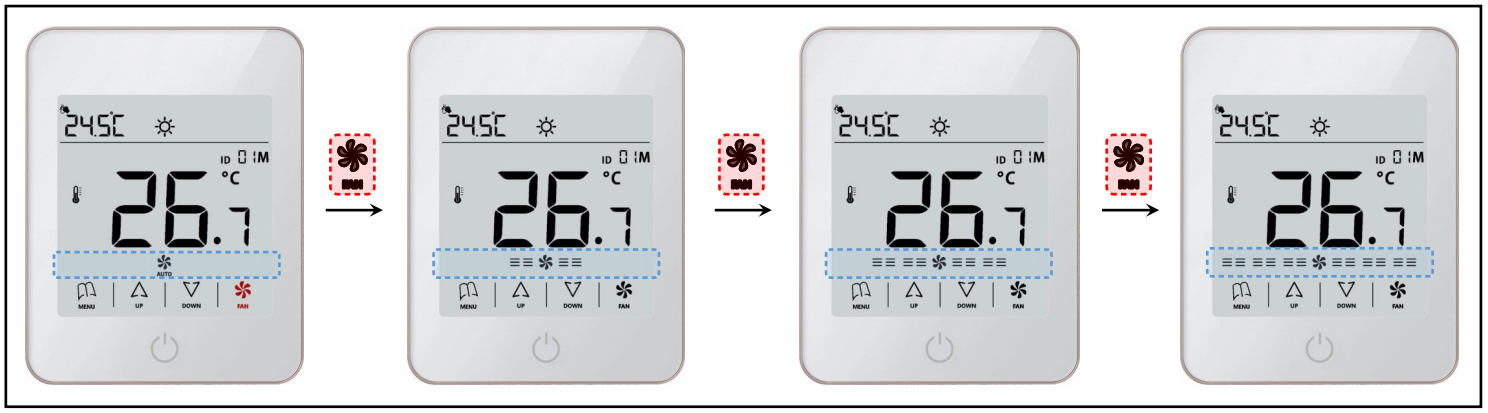
Incorrect operation	Possible cause
The zone does not respond to power-on	Verify that the MASTER thermostat is not OFF (system off)
The zone setpoint values change randomly	Check mode compatibility / MASTER shutdown / Control by APP
The zone is calling but the system does not start	Verify that ECO mode is not active and that the 3°C difference between setpoint and room temperature has not yet been reached.

11 Fan speed control

For zoning of air-conditioning systems, the zone system manages fan speed automatically according to the zones calling for conditioning.

Ventilation mode is controlled exclusively from the master thermostat.

With the thermostat on, press the key to select the desired fan mode.



Symbol	Fan mode	Description
AUTO	**Auto**	The system operates according to the automatic algorithm. Fan speed increases according to the zones calling.
	Speed 1	The control algorithm prioritizes low speeds, reducing speed by 1 level compared with Auto mode.
	Speed 2	The control algorithm prioritizes medium/high speeds, increasing speed by 1 level compared with Auto mode.
	Speed 3	The control algorithm prioritizes high speeds, increasing speed by 2 levels compared with Auto mode.

12 Timer

Each thermostat can be programmed with a countdown until it switches off.

The timer is activated in parameter no. 2 of the basic user menu and has the following values:

Inactive / 0.5 h to OFF / 1 h to OFF / 2 h to OFF / 3 h to OFF / 4 h to OFF / 5 h to OFF

When the timer is activated, the symbol appears on the display



Timer active

13 Energy-saving mode

ECO mode is available on all thermostats and, when activated, it virtually changes the setpoint temperature by ±3°C. It is used in temporarily unoccupied zones to maintain a certain level of comfort without excessive energy consumption.

ECO mode is selected in parameter no. 3 of the basic user menu, allowing it to be enabled/disabled.

When ECO mode is activated, the symbol appears on the display ECO

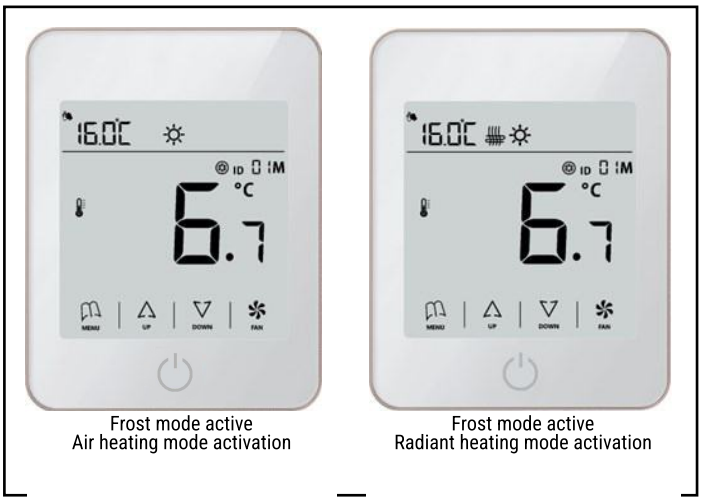


ECO mode active

14 Frost-protection mode

Operating mode on the Master thermostat.

Important: Correctly configure the Active mode parameter in the installer menu (see “ZITY2.0 - Installation manual”, section 2.3.E), because Frost-protection mode will activate the heating mode defined in that menu.



Frost mode active
Air heating mode activation

Frost mode active
Radiant heating mode activation

Frost-protection mode is enabled and configured in parameters no. 11/12 of the advanced user menu.

When the room temperature is below 7°C, the MASTER thermostat automatically switches on in heating mode with a setpoint temperature of 16°C.

When the mode is activated, the symbol appears on the display

15 Time scheduling

Time schedules in the ZONING SYSTEM require the NETBOX module.

Once the module has been installed and configured (see “NETBOX Installation Manual”), the zone system can be managed using the “ZONING2.0” APP, available for iOS and Android.

Zoning 2.0

Download on the App Store

GET IT ON Google Play

WEEE (RAEE)

Do not dispose of Electrical and Electronic Equipment as municipal waste. This equipment must be collected for recycling. Act in accordance with current legislation.

Warranty conditions

MADEL AIR TECHNICAL DIFFUSION (MATD) guarantees the correct operation of the ZONING SYSTEM product and grants the consumer the right, for the statutory warranty period applicable on the date of purchase, to corrective measures by the manufacturer in the event of non-conformity of the product. Damage to products due, among other causes, to improper installation, handling or storage under unsuitable conditions is excluded from this right.

Should any issue or question arise, the consumer has telephone technical support for ZONING SYSTEM at +34 93 889 80 91, where MATD technicians will assist in resolving possible installation questions and/or incidents. It is important to call from the equipment installation site in order to carry out the necessary tests on site and make a correct diagnosis. If MATD technicians detect an anomaly, they will issue an incident report, “return authorization”, which will serve as authorization to return the equipment for subsequent inspection and/or repair at the factory. No material will be accepted for return without prior “return authorization”.

To request on-site technical assistance, the requester may download the “ZONING SYSTEM assistance request” document from www.zoning.es and send it duly completed to support@zoning.es, where the request will be processed.

Before requesting on-site technical assistance, it is recommended to contact MATD telephone support to diagnose the problem and, in some cases, avoid unnecessary charges that the requester will have to pay if the intervention does not meet the terms and conditions of the statutory warranty.

For more detailed information, see “ZONING SYSTEM assistance request”, available for download at www.zoning.es.

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