



INSTRUCTION MANUAL (EN)

CM3D - EC
DIGITAL CONTROLLER

DESCRIPTION.....	3
EQUIPMENT WARRANTY.....	3
CE DECLARATION OF CONFORMITY.....	5
TECHNICAL DATA.....	6
DISPLAY AND BUTTONS.....	7
WI-FI APPLICATION FEATURES.....	8
OPERATIONS.....	10
PROGRAMMING MODE.....	11
ADVANCED OPTION A.....	12
ADVANCED OPTION B.....	13
ELECTRICAL WIRING DIAGRAM.....	13
MODBUS COMMUNICATION.....	14

DESCRIPTION

Control unit for terminal units, ARFIT brand, model CM3D, with backlit LCD digital display, designed to control the units through several available functions to optimize their operation. Possibility of connection via Wi-Fi or Modbus communication protocol (RS485) for an even easier operation.

EQUIPMENT WARRANTY

ARFIT guarantees this product against all manufacturing defects for a period of 2 (TWO) years from the date of purchase.

Warranty technical assistance will only be provided upon presentation of the purchase document proving that the equipment is within the warranty period.

If, during the warranty period, the product presents problems resulting from manufacturing defects, ARFIT or its Authorized Technical Services will, at no cost, carry out the repair at their facilities or (at ARFIT's discretion) replace the product, or make available to the customer components to replace the defective ones, in accordance with the following conditions.

ARFIT reserves the right (at its sole discretion) to replace components of defective products or low-value products with either new or refurbished components or products. This warranty covers the equipment only and does not include any costs or losses that may result from equipment downtime, which are therefore expressly excluded.

Warranty Exclusions

- Parts subject to natural wear and tear.
- Parts subject to deterioration or breakage, such as displays, keys, filters, fuses, etc.
- Failures caused by improper or abusive use, carelessness, negligence, atmospheric discharges, flooding, humidity, drops, impacts, accidents, or transport.
- Failures caused by using the equipment for purposes other than those for which it was intended.
- Failures resulting from handling, modification, or repair of the equipment by unauthorized persons or technical services, or from the use of unsuitable parts or accessories.
- Failures caused by incorrect or illegal installation (voltage, water pressure, or others), power supply anomalies, or failure to comply with the instructions.
- Aesthetic wear or deterioration resulting from use, colour changes, oxidation, or corrosion of the device or its components.
- Any repair carried out does not extend the warranty period nor confer the right to any compensation.

The warranty shall be void whenever:

- It is verified that the equipment nameplate has been tampered with or altered.
- False information is provided.
- The equipment is not accompanied by the purchase document.
- The equipment has been handled, modified, or repaired by unauthorized persons or technical services.



- Inspection and maintenance operations are not carried out, or are carried out by unauthorized technicians.

Warnings

- The electrical power supply to which the device will be connected must comply with the applicable standards.
- The device must only be installed and used in accordance with the applicable regulations and for the purpose for which it was designed. Installing or using it differently, or with unsuitable accessories, may be hazardous.
- The manufacturer cannot be held liable for any damage that may result from incorrect installation, use, or maintenance, and/or from repairs carried out by unqualified personnel.
- Read this manual in its entirety before using the equipment.

CE DECLARATION OF CONFORMITY

Declaração de Conformidade CE (PT)

A Arfit Climatização S.A. c/ sede na Rua Domingos Ferreira da Costa, 280, Zona Industrial da Maia I, sector VIII, 4475-297 Maia, Portugal, declara que o produto **CM3D-EC** está em conformidade com as seguintes diretivas e normas em vigor aplicáveis.
A Arfit Climatização S.A. salienta que o domínio da declaração da conformidade é extensível apenas e só ao produto acima referido e desde que sejam respeitados os requisitos inerentes á instalação e utilização do bem em causa. A Arfit Climatização S.A. não se responsabiliza pela junção/integração deste produto com outro equipamento, ou máquina que não tenha sido referenciado/previsto nas instruções. A pessoa responsável pela compilação do processo técnico é : Pedro Miguel Guimarães de Sousa e Silva, na morada acima indicada

Declaration of Conformity CE (EN)

Arfit Climatização S.A. with headquarters in Rua Domingos Ferreira da Costa, 280, Zona Industrial da Maia I, sector VIII, 4475-297 Maia, Portugal, declares that the product **CM3D-EC** is fully in conformity with the following directives and standards.
Arfit Climatização S.A. declares that the declaration of conformity is regarding the above mentioned product as long as the installation and user rules are respected. Arfit Climatização S.A. can not be responsible when this product is integrated or connected to any other equipment not mentioned of the instruction manual. The person responsible for compiling the technical file is: Pedro Miguel Guimarães de Sousa e Silva, at the address above.

Declaración de Conformidad CE (ES)

Arfit Climatização S.A. establecida en Rua Domingos Ferreira da Costa, 280, Zona Industrial da Maia I, sector VIII, 4475-297 Maia, Portugal, declara que el producto **CM3D-EC** esta en conformidad con las siguientes directivas y normas en vigor aplicables.
Arfit Climatização S.A. establece que el dominio de la declaración de conformidad es extensible sólo y únicamente para el producto mencionado anteriormente sujetos al cumplimiento de las exigencias inherentes a la instalación y el uso de los bienes en cuestión. El Arfit Climatização S.A. no se hace responsable de fusión / integración de este producto con otros equipos o maquinaria que no ha sido referenciada / provista con las instrucciones. La persona responsable de la elaboración del expediente técnico es: Pedro Miguel Guimarães de Sousa e Silva, a la dirección precitada

Déclaration de Conformité CE (FR)

Arfit Climatização S.A. basée a Rua Domingos Ferreira da Costa, 280, Zona Industrial da Maia I, sector VIII, 4475-297 Maia, Portugal, déclare que le produit **CM3D-EC** est conforme aux directives et normes en vigueur indiquées.
Arfit Climatização S.A. déclare que le domaine de la déclaration de conformité est extensible uniquement pour le produit mentionné plus haut sous et sous réserve de conformité avec les exigences inhérentes à l'installation et à l'utilisation des biens concernés. La Arfit Climatização S.A. n'est pas responsable de fusion / intégration de ce produit avec d'autres appareils ou machines qui n'a pas été référencé / prévue dans les instructions. La personne responsable de la constitution du dossier technique est: Pedro Miguel Guimarães de Sousa e Silva, à l'adresse ci-dessus.

Diretivas/Directives/Diretivas/Directives:	Normas/Standards/Normas/Normes:
<ul style="list-style-type: none"> Radio Equipment Directive 2014/53/EU 	<ul style="list-style-type: none"> EN 301 489-1 V2.2.3 EN 301 489-17 V3.2.4 EN 300 328 V2.2.2 EN 62311: 2020 EN 62368-1:2014+A11:2017

Maia, 27 November 2024

Technical Management



Pedro Silva

TECHNICAL DATA

Dimensions

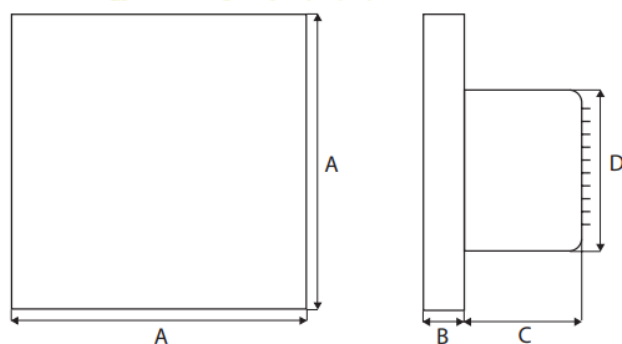


Image 1

DIMENSIONS	
A (mm)	86
B (mm)	16
C (mm)	32
D (mm)	48

Characteristics	
Supply voltage	80-240V AC
Maximum current	3A
Control range	5°C - 35°C
Operating temperature	-10°C - +60°C

DISPLAY AND BUTTONS

Display



Image 2

Buttons and Symbols

Icon	Description
^	Increase button: press briefly to increase the value; press and hold to check the external sensor temperature (when the sensor type is N3 in the advanced option)
⋮	Mode change button: press briefly to switch between manual mode and program mode; press and hold to set special function parameters
v	Decrease button: press briefly to decrease the value; press and hold to lock/unlock the keys
⋈	Fan speed selection button: press briefly to set the fan speed (confirmation key when setting parameters); press and hold to enter "Sleep" mode settings
⏻	Power button: On/Off
⋮ ⋈	Press simultaneously to enter Wi-Fi pairing mode
📶	Wi-Fi connection
📶 x	Wi-Fi connection status: Disconnected
🔒	Child lock
☁	Cloud icon
AUTO	Program mode: runs the preset program
👉	Manual mode
AUTO 👉	Temporary manual mode
🕒	Clock



WI-FI APPLICATION FEATURES

A mobile phone with a 4G network and a wireless router are required. Connect the wireless router to the mobile phone and record the Wi-Fi password.

First Step – Download the application



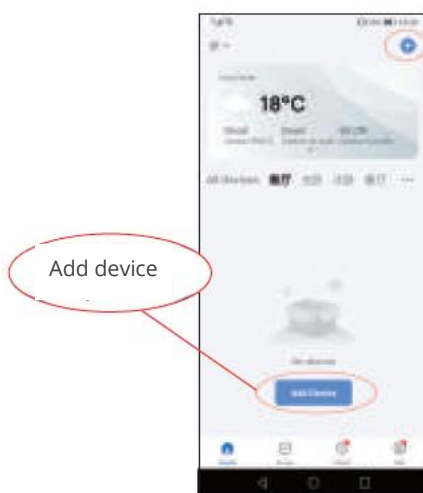
SMART LIFE

To download the Wi-Fi application, access **Google Play** or the **App Store**, or use the following QR code. Turn on the thermostat and press and hold the  and  buttons simultaneously to activate Wi-Fi.

The network distribution icons  and  and must flash at the same time.

Second Step – Register your account

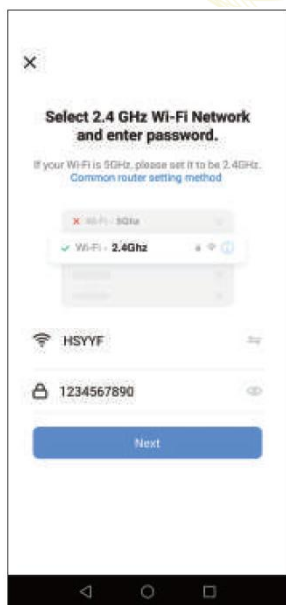
Third Step – Connect your Wi-Fi signal (EZ distribution mode)



1. Add the device, or tap “+”





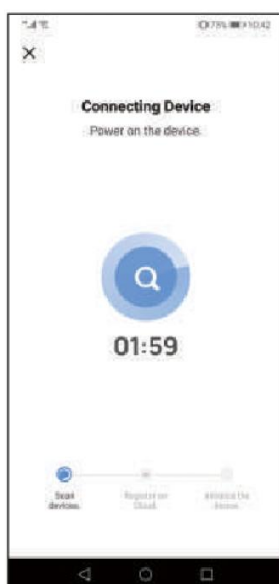
2. Select a small appliance:
– Thermostat



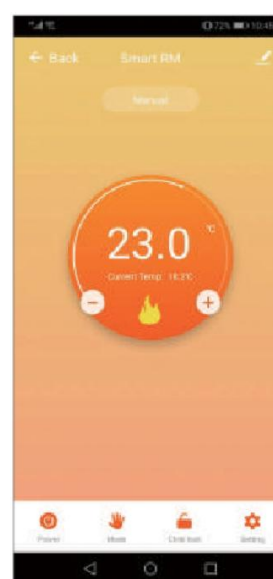
3. Select the Wi-Fi network and enter the password



4. Confirm the thermostat; the Wi-Fi icon   must be flashing






































5. Device connection










6. Connected





OPERATIONS

Operation	Description	
Power On/Off	Press  to switch the thermostat on and press again to switch it off. When switched off, the valve closes and the fan stops.	
Set Temperature	With the thermostat switched on, briefly press  to decrease the temperature and  to increase the temperature in 0.5 °C steps.	
Fan Speed	With the thermostat switched on, press "  " to select the fan speed (High  , (Medium  , (Low  , (Auto  with animation).	
Set Time	With the thermostat powered ON, press and hold "  " for 3-5 seconds, select "  ", then press "  " to set the time: when the minute indicator "mm" starts flashing, press "  " or "  " to adjust; press "  " to move to the next setting. Use the same method to set the hour and the weekday. Finally, press  or wait 5 seconds to exit.	
Operating Mode	Power ON state: press and hold "  " for 3-5 seconds, briefly press "  " to select  , then press "  " to choose the mode:     "  " means cooling mode, "  " means heating mode, "  " means ventilation mode; "  " means automatic mode.	
Control Valve	Cooling mode (heating mode): when the indoor temperature is more (or less) than 1 °C from the set temperature, the valve opens; once the set temperature is reached, the valve closes and the fan continues running. Ventilation mode: (by default the fan is not temperature-controlled). If the fan is temperature-controlled, both the valve and the fan will be switched off.	
Key Lock Function	Press and hold  to lock/unlock the keys.	
Alarm	E1: Internal sensor alarm	E2: External sensor alarm (if applicable).
	Temperature above 55 °C: display shows "HI"	Temperature below 0 °C: display shows "LO"
Night Mode	Power ON state: press and hold "  ,  flashes; briefly press "  " to activate, briefly press "  " to cancel. Note: Night mode is not available when ventilation mode or automatic mode is active.	
Check IP Address	With the thermostat switched on, press and hold  to enter the configuration interface, select item 4 () and briefly press  to view the IP address.	



PROGRAMMING MODE


The controller supports the configuration of different schedules and temperatures and is compatible with the programmable modes 5+2, 6+1, and 7 days.

Configuration for the next time period. Press and hold  for 3-5 seconds, then briefly press  to select . Next, briefly press  to set the programming mode configuration and use  and  to adjust the value. Then, briefly press  to set the configuration for the next time period.

Time Sections		Icon	Time (Default)	Temperature (Default)
Monday to Sunday	1		06:00	20°C
	2		08:00	15°C
	3		17:30	22°C
	4		22:00	15°C

ADVANCED OPTION A

Turn off the thermostat, then press and hold  for 5 seconds to enter the advanced configuration options. Press  briefly to select the next item, and press “^” or “v” briefly to select the next item, and press.

Symbol	Item	Parameter	Default
A1	Temperature sensor calibration	-9 a +9°C	- 1°C
A2	Child lock	0: Partial lock (power on/off and temperature adjustment allowed) 1: Full lock	0
A3	Minimum temperature setting	5-15°C	5°C
A4	Maximum temperature setting	16-50°C	35°C
A5	Fan energy-saving control	0: Valve off, fan off 1: Valve off, fan always on	0
A6	Programming	0 = 5+2 1 = 6+1 2 = 7 (all days the same)	0
A7	Valve output selection	2: 2 pipe 4: 4 pipe	4
A8	Sensor selection	N1: Internal sensor N2: External sensor N3: Dual sensor (when N3 is selected in heating mode, normally only the valve opens. The fan turns on when the external temperature is detected as $\geq X$ °C. When the temperature is detected below $(X-2)$ °C, the fan turns off.)	N1
A9	External sensor temperature setting	20-60°C	38°C
AA	Standby brightness	0: Off 1: Low brightness 2: High brightness	2
AB	Low speed	5-30% 【0,5-3v】	10
AC	Medium speed	35-75% 【3,5-7,5v】	50
AD	High speed	80-100% 【8,0-10v】 【display limit 100, shows 90】	100
AE	Reset	Displays "Ao", press  until all symbols appear on the screen	Ao

ADVANCED OPTION B

Switch off the thermostat, press and hold for 5 seconds to enter the advanced programming options, press briefly to select the next item, and press or to set the value of each item.

Symbol	Item	Parameter			Default
IP	Address	01-FF			01
B1	Communication speed	0: 2400	1: 4800	2: 9600	2

ELECTRICAL WIRING DIAGRAM

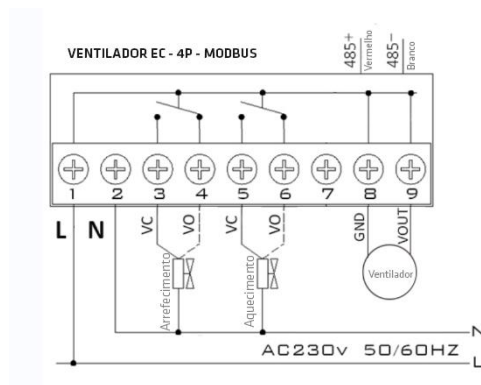


Image 3

MODBUS COMMUNICATION

This controller is equipped with an RS485 Modbus communication port, allowing its integration with centralized management systems.

Modbus Variables

The available variables may vary according to the unit configuration. The most relevant variables are listed below.

Address	Name	Type	RW	Description
10030	Temperature setpoint	Signed 16-bit	RW	°C
10031	Operating mode	Signed 16-bit	RW	0 = Cooling; 1 = Heating; 2 = Ventilation; 3 = Auto
10032	Thermostat temperature	Signed 16-bit	R	°C
10033	Clock (seconds and minutes)	Signed 16-bit	R	High Byte: seconds; Low Byte: minutes
10034	Clock (hours and days)	Signed 16-bit	R	High Byte: hours; Low Byte: day
10035	Temperature offset	Signed 16-bit	RW	(-9~9); 0=-9;1=-8,5;2=-8;3=-7,5;...
10036	Fan speed	Signed 16-bit	RW	0 = Auto; 1 = Low; 2 = Medium; 3 = High
10037	ON/OFF	Signed 16-bit	RW	0= Off; 1= On
10038	Controller lock	Signed 16-bit	RW	0= Off; 1= On
10039	Partial controller lock	Signed 16-bit	RW	0 = Partial lock; 1 = Full lock
10040	Maximum temperature setpoint value	Signed 16-bit	RW	20-50°C
10041	Minimum temperature setpoint value	Signed 16-bit	RW	5-15°C
10042	Probe alarm / Recovery	Signed 16-bit	R	High Byte: probe alarm 0 = OFF, 1 = ON; Low Byte: Recovery request 0 = OFF, 1 = ON
10043	Unit mode	Signed 16-bit	R/W	0 = Manual; 1 = Program; 3 = Temporary manual
10044	Ambient temperature	Signed 16-bit	R	Factor x10 °C

10045	Setpoint temperature	Signed 16-bit	R	Factor x10 °C
10046	Day setting	Signed 16-bit	RW	1 to 7
10047	Hour setting	Signed 16-bit	RW	0 to 23
10048	Minute setting	Signed 16-bit	RW	0 to 59
10049	Second setting	Signed 16-bit	RW	0 to 59

Version 12.12.24 – ARFIT reserves the right to modify the information contained in this document without prior notice.

The version of the manual must be verified via the article's QR code.

(PAGE INTENTIONALLY LEFT BLANK)

your
COMPLETE SOLUTIONS

SEDE
Zona Industrial da Maia I, Sector VIII
R. Domingos Ferreira da Costa, 280
4475-297 Maia - PORTUGAL

