

MC6-tuya

Heat/Cool



Main Feature

- 3.5" tft color touch screen
- Humidity sensor, Ambient light sensor
- Wi-Fi connective
- 7 day, weekday/weekend, 24hours schedule
- Four or six events per day
- History data tracking diagram(Up to 4 weeks)
- Energy consumption statics
- Defrost protection
- Modbus RS485 , modbus TCP
- Multi language(9 languages)
- C/F temperature display
- 12/24 hours
- Touch screen lockout

Technical Data

Supply Voltage	230 VAC 50/60 HZ
Relay Rating	230VAC @5 Amp per relay; @16 Amp relay in electric heating model
Output Relay	SPST - NO
Display	320x480 pixels TFT, Capacitive touch screen
Communications	Modbus RTU , modbus TCP
Displayed Temperature Resolution	0.1°C
Smart Schedule Type	7days, weekday/weekend, 24hours
Schedule Per Day	Up to seven different 4- or 6-event program
Standby Consumption	≤0.5 W
Wifi(Option)	IEEE 802.11 b/g/n - 2.4ghz
Security	WPA/WPA2
Dimensions (W/H/D)	96 * 86 * 13.8 (mm)
Weight	≤200 g
Alexa(Option)	Available
Google Home(Option)	

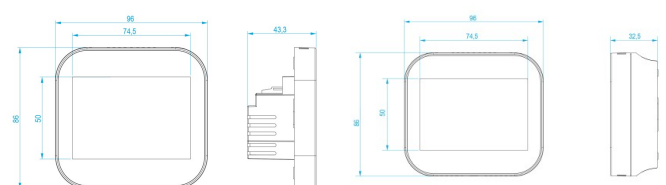
HVAC Product Model

Model	System	Fan	Valve	Input	Modbus
2FA	2 pipes	3 speed	3 ways	Windows/oc cupy/ fire	RTU/TCP
2FC	2 pipes	3 speed	0-10v	Windows/oc cupy/ fire	RTU/TCP
2FGC	2 pipes	0-10v	0-10v	Windows/oc cupy/ fire	RTU/TCP
2FG	2 pipes	0-10v	2 ways	Windows/oc cupy/ fire	RTU/TCP
2FB1	2 pipes	220v fan (0-100%)	2 ways	Windows/oc cupy/ fire	RTU/TCP
4FDE	2 pipes	3 speed	2 ways cool /electric heat	Windows/oc cupy/ fire	RTU/TCP
4FD	4 pipes	3 speed	2 ways	Windows/oc cupy/ fire	RTU/TCP
4FF	4 pipes	3 speed	0-10v	Windows/oc cupy/ fire	RTU/TCP
4FI	4 pipes	0-10v	2 ways	Windows/oc cupy/ fire	RTU/TCP
4FE	4 pipes	220v fan (0-100%)	2 ways	Windows/oc cupy/ fire	RTU/TCP
DX	Direct expansi on (dx)	3 speed	2 stage compressor 1 stage Heating	External sensor/ windows/oc cupy/ fire	RTU/TCP

Heating Product Model

Model	System	Power supply	Heating Relay	Hot Water	External sensor
HA	Boiler/Valve/Und erfloor Water	230VAC	3 Amp	No	No
HE	Electric heating	230VAC	16 Amp	No	NCT10K/3 950
HD (Wireless)	Boiler/Valve/Und erfloor Water	5VDC (USB Power)	No	No	No
HW	Boiler/Valve/Und erfloor Water	230VAC	3 Amp	Yes	No

Outline Dimension



Falcon -Tuya Heat/Cool



Main Feature

- 4.0" tft color touch screen
- Humidity sensor, Ambient light sensor
- Wi-Fi connective
- 7 day, weekday/weekend, 24hours schedule
- Four or six events per day
- History data tracking diagram(Up to 4 weeks)
- Energy consumption statics
- Defrost protection
- Modbus RS485 , modbus TCP
- Multi language(9 languages)
- C/F temperature display
- 12/24 hours
- Touch screen lockout

Technical Data

Supply Voltage	230 VAC 50/60 HZ
Relay Rating	230VAC @5 Amp per relay; @16 Amp relay in electric heating model
Output Relay	SPST - NO
Display	320x480 pixels TFT, Capacitive touch screen
Communications	Modbus RTU , modbus TCP
Displayed Temperature Resolution	0.1°C
Smart Schedule Type	7days, weekday/weekend, 24hours
Schedule Per Day	Up to seven different 4- or 6-event program
Standby Consumption	≤0.5 W
Wifi(Option)	IEEE 802.11 b/g/n - 2.4ghz
Security	WPA/WPA2
Dimensions (W/H/D)	106 * 86 * 29.50 (mm)
Weight	≤200 g
Alexa(Option)	Available
Google Home(Option)	

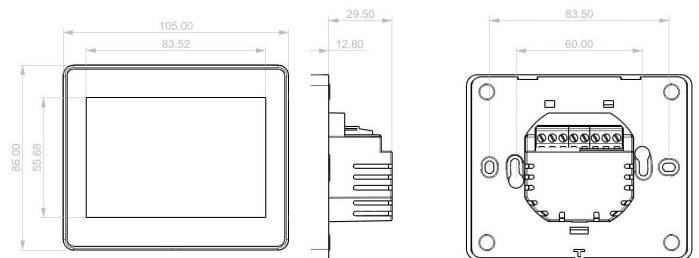
HVAC Product Model

Model	System	Fan	Valve	Input	Modbus
2FA	2 pipes	3 speed	3 ways	Windows/oc cupy/ fire	RTU/TCP
2FC	2 pipes	3 speed	0-10v	Windows/oc cupy/ fire	RTU/TCP
2FGC	2 pipes	0-10v	0-10v	Windows/oc cupy/ fire	RTU/TCP
2FG	2 pipes	0-10v	2 ways	Windows/oc cupy/ fire	RTU/TCP
2FBI	2 pipes	220v fan (0-100%)	2 ways	Windows/oc cupy/ fire	RTU/TCP
4FDE	2 pipes	3 speed	2 ways cool /electric heat	Windows/oc cupy/ fire	RTU/TCP
4FD	4 pipes	3 speed	2 ways	Windows/oc cupy/ fire	RTU/TCP
4FF	4 pipes	3 speed	0-10v	Windows/oc cupy/ fire	RTU/TCP
4FI	4 pipes	0-10v	2 ways	Windows/oc cupy/ fire	RTU/TCP
4FE	4 pipes	220v fan (0-100%)	2 ways	Windows/oc cupy/ fire	RTU/TCP
DX	Direct expansi on (dx)	3 speed	2 stage compressor 1 stage Heating	External sensor/ windows/oc cupy/ fire	RTU/TCP

Heating Product Model

Model	System	Power supply	Heating Relay	Hot Water	External sensor
HA	Boiler/Valve/Und erfloor Water	230VAC	3 Amp	No	No
HE	Electric heating	230VAC	16 Amp	No	NCT10K/3 950
HD (Wireless)	Boiler/Valve/Und erfloor Water	5VDC (USB Power)	No	No	No
HW	Boiler/Valve/Und erfloor Water	230VAC	3 Amp	Yes	No

Outline Dimension



MC6
LoraWAN
Heat/Cool



Main Feature

- 3.5" tft color touch screen
- Humidity sensor, Ambient light sensor
- **LoraWAN ,868/ 915mHZ**
- 7 day, weekday/weekend, 24hours schedule
- Four or six events per day
- History data tracking diagram(Up to 4 weeks)
- Energy consumption statics
- Defrost protection
- Modbus RS485 ,modbus TCP
- Multi language(9 languages)
- C/F temperature display
- 12/24 hours
- Touch screen lockout

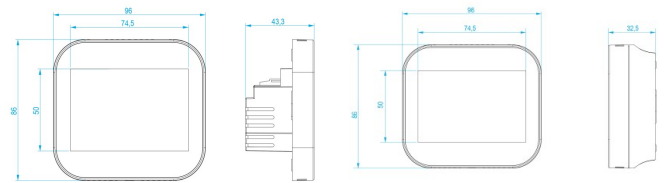
HVAC Product Model

Model	System	Fan	Valve	Input	Modbus
2FA	2 pipes	3 speed	3 ways	Windows/occupy/fire	RTU
2FC	2 pipes	3 speed	0-10v	Windows/occupy/fire	RTU
2FGC	2 pipes	0-10v	0-10v	Windows/occupy/fire	RTU
2FG	2 pipes	0-10v	2 ways	Windows/occupy/fire	RTU
2FB1	2 pipes	220v fan (0-100%)	2 ways	Windows/occupy/fire	RTU
4FDE	2 pipes	3 speed	2 ways cool/electric heat	Windows/occupy/fire	RTU
4FD	4 pipes	3 speed	2 ways	Windows/occupy/fire	RTU
4FF	4 pipes	3 speed	0-10v	Windows/occupy/fire	RTU
4FI	4 pipes	0-10v	2 ways	Windows/occupy/fire	RTU
4FE	4 pipes	220v fan (0-100%)	2 ways	Windows/occupy/fire	RTU
U	Heat pump	1 Speed	3H/2C	External sensor	RTU/TCP

Heating Product Model

Model	System	Power supply	Heating Relay	Hot Water	External sensor
HA	Boiler/Valve/Underfloor Water	230VAC	3 Amp	No	No
HE	Electric heating	230VAC	16 Amp	No	NCT10K/3950
HD (Wireless)	Boiler/Valve/Underfloor Water	5VDC (USB Power)	No	No	No
HW	Boiler/Valve/Underfloor Water	230VAC	3 Amp	Yes	No

Outline Dimension



LoRaWAN



Status data that sends out from thermostat to gateway

Byte ID	Data	data
1	RoomTemp_Hi	room temperature High byte
2	RoomTemp_Lo	room temperature Low byte
3	SetTemp_Hi	Set temperature High byte
4	SetTemp_Lo	Set temperature Low byte
5	MaxSetTempLimit	maximum set temperature
6	MinSetTempLimit	minimum set temperature
7	Humidity	0-100
8	Status	0:OFF,1:ON
9	SysRunningMode	0,1,2,3: Heat,Cool,Vent,Auto
10	FanRunningMode	0,1,2,3: High,Med,Low,Auto
11	valve status	0:OFF,1:ON
12	fan status	high:3,med:2,low:1
13	touch panel lock	0:OFF,1:locked

Command data that thermostat receives from gateway

Byte ID	Data	data
1	SetTemp_Hi	Set temperature High byte
2	SetTemp_Lo	Set temperature Low byte
3	Status	0:OFF,1:ON
4	SysRunningMode	0,1,2,3: Heat,Cool,Vent,Auto
5	FanRunningMode	0,1,2,3: High,Med,Low,Auto
6	touch panel lock	0:OFF,1:locked

MC6-HD

RF Wireless



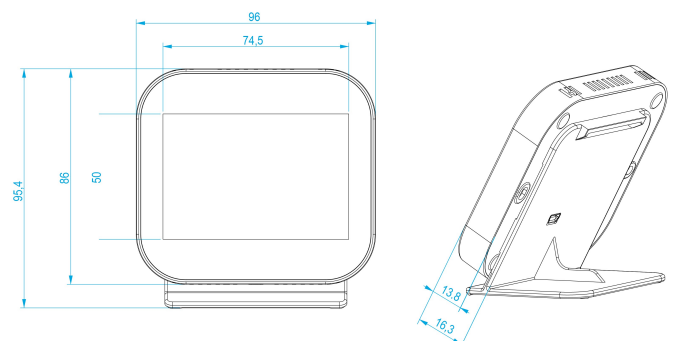
MAIN FEATURE

- USB power supply
- RF Wireless: 433, 868, 915mHZ
- 3.5" tft color touch screen
- Humidity sensor, Ambient light sensor
- Geo-fence
- 7 day, weekday/weekend, 24hours schedule
- Four or six events per day
- Auto sync time and date
- Automatically adjusts to daylight saving time
- Temperature control range 5°C - 45°C
- History data tracking diagram(Up to 4 weeks)
- Energy consumption statics
- Defrost protection
- Modbus TCP(option)
- Work mode: Holiday, Home/Away, Boost(Hold)
- Multi language(9 languages)
- C/F temperature display
- 12/24 hours
- Touch screen lockout
- Works with WB9-RF, RC01,RC02

TECHNICAL DATA

Purpose Of Control	Hvac system
Supply Voltage	24vac, 230 VAC 50/60 HZ
Display	320x480 pixels TFT, Capacitive touch screen
Communications	Modbus TCP
Displayed Temperature Resolution	0.1°C
Control Temperature Step	0.2°C(default = 0.5°C)
Smart Schedule Type	7days, weekday/weekend, 24hours
Schedule Per Day	Up to seven different 4- or 6-event program
Standby Consumption	≤0.5 W
Wifi(Optional)	IEEE 802.11 b/g/n - 2.4ghz
Security	WPA/WPA2
Operating Temperature	1° c- 85° C
Dimensions (W/H/D)	96 * 86 * 16.3 (mm)
Build-In Depth	24.5mm
Weight	≤200 g
Enclosure Rating	Ip 21
Enclosure Material	PC + ABS plastic
Alexa(Optional)	Available
Google Home(Optional)	

Outline Dimension



MC35

Heating
HVAC
Tuya App



Main Feature

- 3.2 " tft color touch screen
- Wi-Fi connective
- 7 day, weekday/weekend, 24hours schedule
- Four or six events per day
- History data tracking diagram(Up to 4 weeks)
- Energy consumption statics
- Defrost protection
- Modbus RS485 ,modbus TCP
- Multi language(9 languages)
- C/F temperature display
- 12/24 hours
- Touch screen lockout

Technical Data

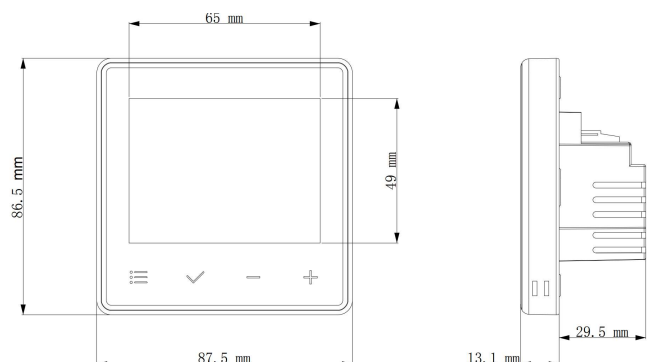
Supply Voltage	230 VAC 50/60 HZ
Relay Rating	230VAC @5 Amp per relay; @16 Amp relay in electric heating model
Output Relay	SPST - NO
Display	320x480 pixels TFT, Capacitive touch screen
Communications	Modbus RTU , modbus TCP
Displayed Temperature Resolution	0.1°C
Smart Schedule Type	7days, weekday/weekend, 24hours
Schedule Per Day	Up to seven different 4- or 6-event program
Standby Consumption	≤0.5 W
Wifi(Optional)	IEEE 802.11 b/g/n - 2.4ghz
Security	WPA/WPA2
Dimensions (W/H/D)	96 * 86 * 13.8 (mm)
Weight	≤200 g
Alexa(Optional)	Available
Google Home(Optional)	

Model	System	Fan	Valve	Input	Modbus
2FA	2 pipes	3 speed	3 ways	Windows/oc cupy/ fire	RTU/TCP
2FC	2 pipes	3 speed	0-10v	Windows/oc cupy/ fire	RTU/TCP
2FGC	2 pipes	0-10v	0-10v	Windows/oc cupy/ fire	RTU/TCP
2FG	2 pipes	0-10v	2 ways	Windows/oc cupy/ fire	RTU/TCP
2FBI	2 pipes	220v fan (0-100%)	2 ways	Windows/oc cupy/ fire	RTU/TCP
4FDE	2 pipes	3 speed	2 ways cool /electric heat	Windows/oc cupy/ fire	RTU/TCP
4FD	4 pipes	3 speed	2 ways	Windows/oc cupy/ fire	RTU/TCP
4FF	4 pipes	3 speed	0-10v	Windows/oc cupy/ fire	RTU/TCP
4FI	4 pipes	0-10v	2 ways	Windows/oc cupy/ fire	RTU/TCP
4FE	4 pipes	220v fan (0-100%)	2 ways	Windows/oc cupy/ fire	RTU/TCP
DX	Direct expansi on (dx)	3 speed	2 stage compressor 1 stage Heating	External sensor/ windows/oc cupy/ fire	RTU/TCP

Heating Product Model

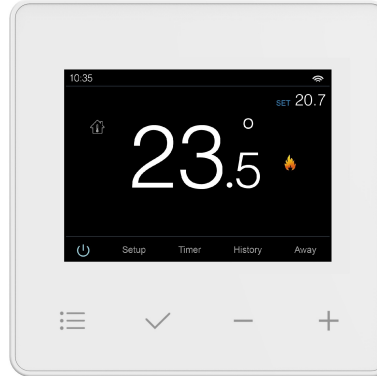
Model	System	Power supply	Heating Relay	Hot Water	External sensor
HA	Boiler/Valve/Und erfloor Water	230VAC	3 Amp	No	No
HE	Electric heating	230VAC	16 Amp	No	NCT10K/3 950
HD (Wireless)	Boiler/Valve/Und erfloor Water	5VDC (USB Power)	No	No	No
HW	Boiler/Valve/Und erfloor Water	230VAC	3 Amp	Yes	No

Outline Dimension



MC28

Heating
HVAC
Tuya App



Main Feature

- 2.8 " tft color touch key
- Wi-Fi connective
- 7 day, weekday/weekend, 24hours schedule
- Four or six events per day
- History data tracking diagram(Up to 4 weeks)
- Energy consumption statics
- Defrost protection
- Modbus RS485 ,modbus TCP
- Multi language(9 languages)
- C/F temperature display
- 12/24 hours
- Touch screen lockout

Model	System	Fan	Valve	Input	Modbus
2FA	2 pipes	3 speed	3 ways	Windows/oc cupy/ fire	RTU/TCP
2FC	2 pipes	3 speed	0-10v	Windows/oc cupy/ fire	RTU/TCP
2FGC	2 pipes	0-10v	0-10v	Windows/oc cupy/ fire	RTU/TCP
2FG	2 pipes	0-10v	2 ways	Windows/oc cupy/ fire	RTU/TCP
2FBI	2 pipes	220v fan (0-100%)	2 ways	Windows/oc cupy/ fire	RTU/TCP
4FDE	2 pipes	3 speed	2 ways cool /electric heat	Windows/oc cupy/ fire	RTU/TCP
4FD	4 pipes	3 speed	2 ways	Windows/oc cupy/ fire	RTU/TCP
4FF	4 pipes	3 speed	0-10v	Windows/oc cupy/ fire	RTU/TCP
4FI	4 pipes	0-10v	2 ways	Windows/oc cupy/ fire	RTU/TCP
4FE	4 pipes	220v fan (0-100%)	2 ways	Windows/oc cupy/ fire	RTU/TCP
DX	Direct expansi on (dx)	3 speed	2 stage compressor 1 stage Heating	External sensor/ windows/oc cupy/ fire	RTU/TCP

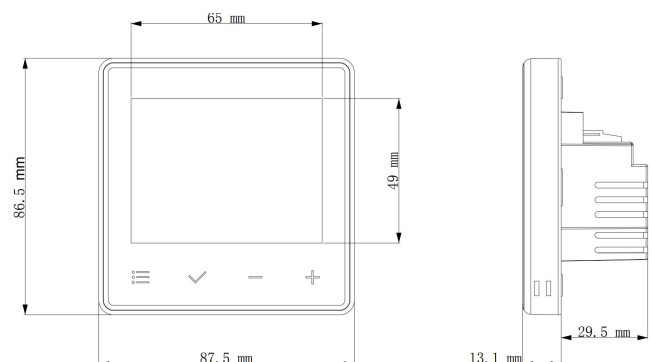
Technical Data

Supply Voltage	230 VAC 50/60 HZ
Relay Rating	230VAC @5 Amp per relay; @16 Amp relay in electric heating model
Output Relay	SPST - NO
Display	320x480 pixels TFT, Capacitive touch screen
Communications	Modbus RTU , modbus TCP
Displayed Temperature Resolution	0.1°C
Smart Schedule Type	7days, weekday/weekend, 24hours
Schedule Per Day	Up to seven different 4- or 6-event program
Standby Consumption	≤0.5 W
Wifi(Optional)	IEEE 802.11 b/g/n - 2.4ghz
Security	WPA/WPA2
Dimensions (W/H/D)	96 * 86 * 13.8 (mm)
Weight	≤200 g
Alexa(Optional)	Available
Google Home(Optional)	

Heating Product Model

Model	System	Power supply	Heating Relay	Hot Water	External sensor
HA	Boiler/Valve/Underfloor Water	230VAC	3 Amp	No	No
HE	Electric heating	230VAC	16 Amp	No	NCT10K/3950
HD (Wireless)	Boiler/Valve/Underfloor Water	5VDC (USB Power)	No	No	No
HW	Boiler/Valve/Underfloor Water	230VAC	3 Amp	Yes	No

Outline Dimension



MC21

Heating
HVAC
Tuya App



Product Model

Main Feature

- 3.2" LCD
- 220VAC, 24VAC(Optional) power supply
- WiFi enable+APP (Optional)
- Tuya App
- Time and date sync to internet
- White backlight
- Touch keys with backlight
- Smart Touch key
- 7 day, weekday/weekend schedule
- Defrost protection
- Floor temperature limitation
- Home/Away mode
- Holiday function
- Hold temperature function
- Modbus RS485
- C/F temperature display
- Touch key lockout
- DI input(Occupy/Fire/External Sensor)

Technical Data

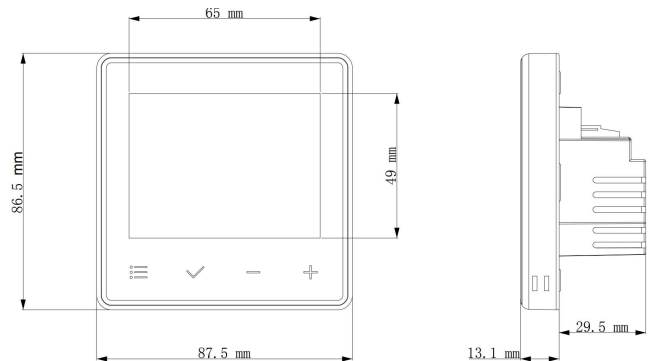
Supply Voltage	230 VAC 50/60 HZ
Relay Rating	230VAC @5 Amp per relay; @16 Amp relay in electric heating model
Output Relay	SPST - NO
Display	3.2" LCD , VA . Capacitive touch screen
Communications(Optional)	Modbus RTU , modbus TCP
Displayed Temperature Resolution	0.5°C
Smart Schedule Type	7days, weekday/weekend, 24hours
Schedule Per Day	Up to seven different 4- or 6-event program
Standby Consumption	≤0.5 W
Wifi(Optional)	IEEE 802.11 b/g/n - 2.4ghz
Security	WPA/WPA2
Dimensions (W/H/D)	87 * 87 * 12.6 (mm)
Weight	≤200 g

Model	System	Power supply	Heating Relay	Hot Water	External sensor
MC21-HA	Boiler/Valve/Underfloor Water	230VAC	3 Amp	No	NCT10K/3950
MC21-HE	Electric heating	230VAC	16 Amp	No	NCT10K/3950

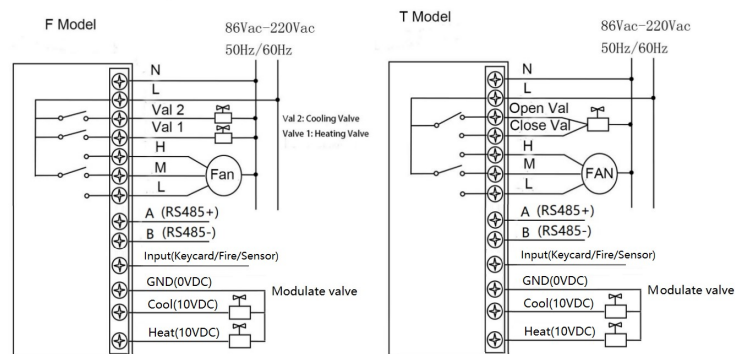
HVAC Product Model

Model	System	Fan	Valve
2FA	2 pipes	3 speed	3 ways
2FC	2 pipes	3 speed	0-10v
2FGC	2 pipes	0-10v	0-10v
2FG	2 pipes	0-10v	2 ways
4FD	4 pipes	3 speed	2 ways
4FF	4 pipes	3 speed	0-10v
4FI	4 pipes	0-10v	2 ways

Outline Dimension



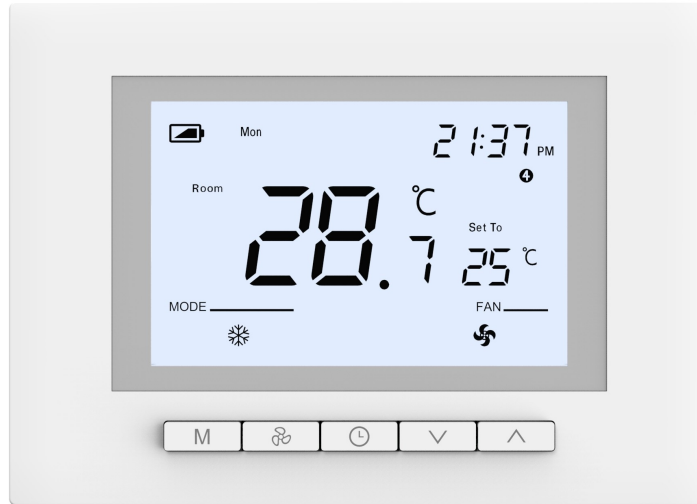
WIRING DIAGRAM



MC7

3H/2C,
pump

Heat



MAIN FEATURE

- Battery powered or 24VAC hardwired
- 7 Day/ 5-2 programmable or non programmable
- 3H/2C Heat pump or dual fuel
- 2H/2C Conventional AC
- C / F temperature display
- Selectable programmable fan options
- Two or four events per day
- Control Range 41°F - 122°F
- Adaptive recovery
- Short-cycle protective
- Optional interval / outdoor sensors
- Outdoor temperature display with Sensor
- Manual or auto changeover
- Key lock feature
- Temperature averaging with optional sensors
- Selectable Stage Differentials
- Selectable heating and cooling set points
- Demand or lock staging options
- Night light option when hard wired

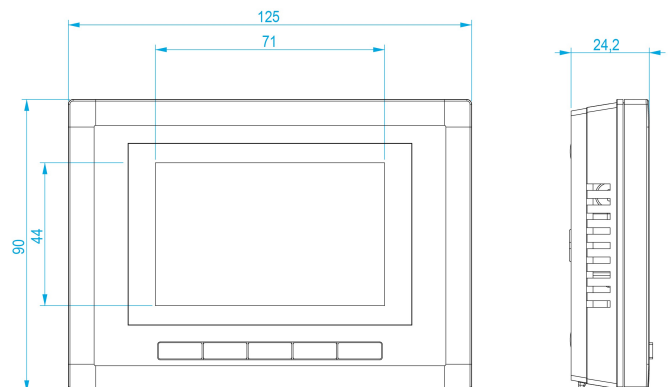
HVAC SYSTEM COMPATIBILITY

Equipment	Supported?
Gas/Oil/Electric heating (up to two stages)	Yes
Standard electric cooling (up to two stages)	Yes
Traditional AC (up to two stages)	Yes
Heat pump with auxiliary heat (up to three stages)	Yes
Dual fuel systems	Yes
Boilers	Yes
1 remote sensor(10K resistive temperature)	Yes

TECHNICAL DATA

Input Voltage:	(Hardwired) 20-30 VAC 50/60
Relay Rating	24 VAC @ 1 Amp maximum per relay
Battery Power	(4) AA 1.5 V
Operating	32° F to 150° F
Operating Humidity	0-95% (non-condensing)
Storage Temperature	32° F to 150° F
Size:	125mm W x 90mm H x 25.8mm
Back Light	White LED
Short-cycle	Delay Off or 3 minutes
Displayed	1° F
Setpoint Ranges:	41° F - 122° F
Heating	41° F - 120° F
Cooling	43° F - 122° F
Limits:	Heating (Factory default = 90° F) Cooling (Factory default = 50° F)
Onboard and	NTC Type 3
Outdoor sensor type	100K @ 77 F, B3950
Tolerance	+/- 3% @ 77 F

OUTLINE DIMENSIONS:



RC01/02

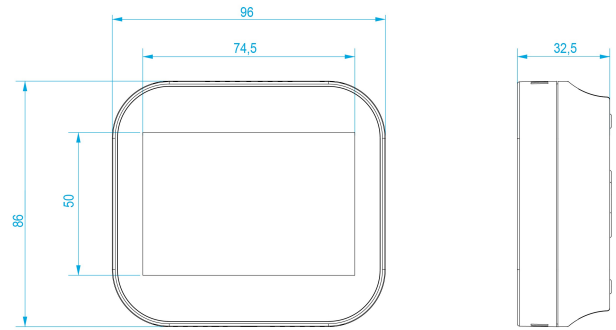
1/2 channels
wireless receiver



MAIN FEATURE

- AC230 power supply
- Works with **MC6-HD**
- RF Wireless: 868,mHz
- 1/2 channels outputs
- Boiler/ valve/electric heating

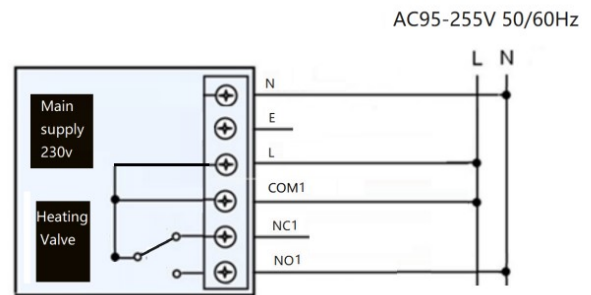
Outline Dimension



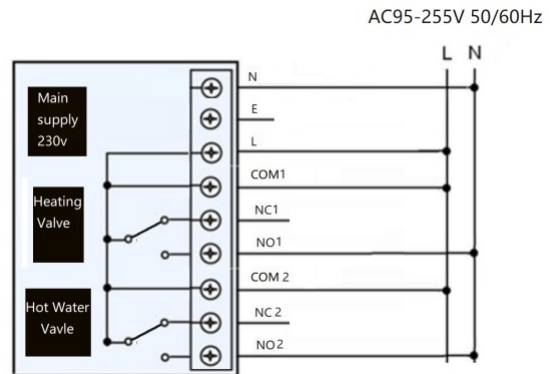
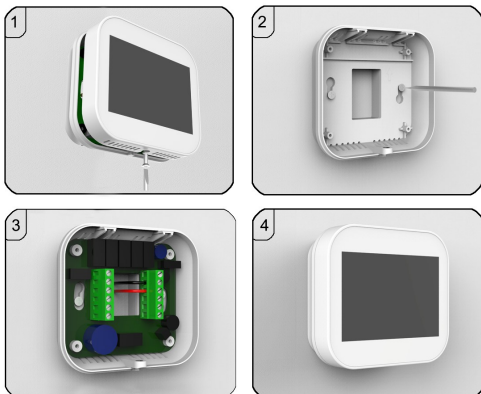
TECHNICAL DATA

Purpose Of Control	Underfloor heating system
Supply Voltage	, 230 VAC 50/60 HZ
Communications	Wireless RF 868mHz
Output relay	5A/16A
Operating Temperature	1° c- 85° C
Dimensions (W/H/D)	96 * 86 * 32.5 (mm)
Weight	≤200 g
Enclosure Rating	Ip 21
Enclosure Material	PC + ABS plastic

Wiring diagram

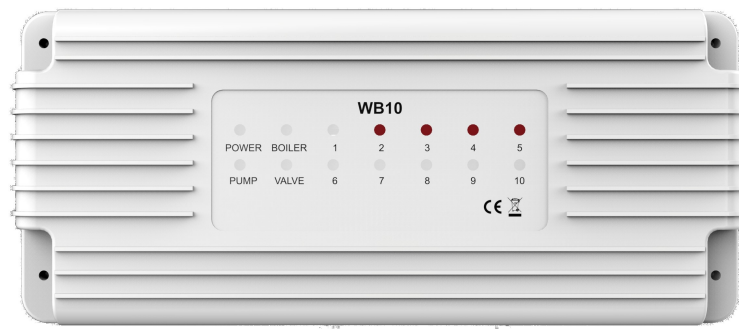


Installation



WB6/8/10

6/8/10 Ways Wired Wiring centre



Introduction

The WB10 is an 10 Zone wiring centre for use with 230v thermostats .the WB10 can be used to control any actuator or valve which requires a 230v AC signal to open. For mid position valves and those requiring a closing signal, a changeover relay is required. At the same time the WB10 offers the ability to operate a boiler or other heat source through a volt free output. Additional outputs designed for use with under-floor heating systems are also included as standard. These are the pump and valve outputs which would normally operate a manifold pump or a manifold valve.

The pump delay time is 3 mins.

WB10 has a feature of pump delay , user could set it 3mins or 1min by adjusting the switch on the pcb , the pump output delay time is 3 minutes if switch is set to "1" ; the pump output delay time is 3 minutes if switch is set to "ON" ; the pump delay switch is close to the fuse on the pcb board.

Connections

Mains Supply

Power supply into the WB10, which should be fused at 5 amps, these connections are;

L = Live or phase 230v AC 50/60Hz E = Earth N = Neutral

Heat Enable

This is the main call for heat for the system, there are 3 connections;

LS = Live Supply E = Earth LR = Live Return

UFH Valve

Used for an underfloor heating manifold valve.

Zones 1...10 (Inputs)

Zone inputs are clearly marked at the top of the circuit board;

L = Live supply to thermostat.

E = Earth

N = Neutral supply to thermostat.

S/L = 230v switch live from thermostat, this activates the corresponding zone output.

Zones 1...10 (Outputs)

Zones outputs are clearly marked

L = live out to actuator or valve

N = neutral to actuator or valve

There are two connections live (L) and neutral (N), both terminals marked L are the same and both terminals marked N are the same.

Each zone output corresponds to the thermostat wired in at the top of the pcb.

UFH Pump

Used for an underfloor heating manifold pump, connections are;

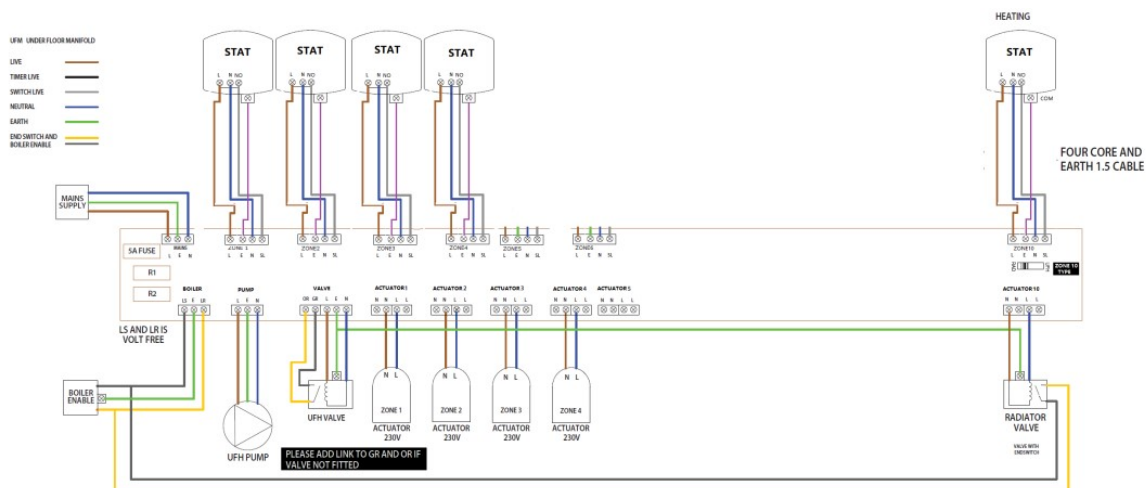
L = Live E = Earth N = Neutral

When an under-floor heating zone sends a call for heat to the WB10, the live & neutral output will supply 230v to the manifold pump .

Fuses

15amp, 30mm anti-surge fuse, this fuse supplies power to all 230v outputs from the board it protects the zone, pump/valve outputs.

Outline dimension



WB9-RF

9 Ways Wireless Wiring centre



Introduction

The WB9-RF is an 9 Zone **wireless** wiring centre for use with 230v thermostats ,works with **MC6-HD, RF01**,the outline dimension is 32cm x 14cm x 5.5cm .the WB9-RFcan be used to control any actuator or valve which requires a 230v AC signal to open. For mid position valves and those requiring a closing signal, a changeover relay is required. At the same time the WB9-RF offers the ability to operate a boiler or other heat source through a volt free output. Additional outputs designed for use with under-floor heating systems are also included as standard. These are the pump and valve outputs which would normally operate a manifold pump or a manifold valve.

Connections

Mains Supply

Power supply into the WB10, which should be fused at 5 amps, these connections are;

L = Live or phase 230v AC 50/60Hz
E = Earth
N = Neutral

Boiler

This is the main call for heat for the system, there are 3 connections;

C = common
NO = normally open
NC = normally closed

Boiler

This is the main call for heat for the system, there are 3 connections;

C = common
NO = normally open
NC = normally closed

H/W

This output is used to control a hot water cylinder thermostat

C = common
NO = normally open

N = Neutral to actuator or valve

There are two connections live (L) and neutral (N), both terminals marked L are the same and both terminals marked N are the same. Each zone output is numbered, Zone 1 will respond to radio signals from the thermostat paired to zone 1, Zone 2 output will respond to thermostat numbered 2 etc.

Pump

Used for an underfloor heating manifold pump. Connections are clearly marked

L = live or phase 230v ac 50/60Hz

N = Neutral

E = Earth

Fuses

WB9-RF is protected by 2 fuses

Fuse 1. 5amp, 20mm anti-surge fuse, this fuse supplies and protects the internal electronics.

Fuse 2. 5amp, 20mm anti-surge fuse, this fuse supplies power to all 230v outputs from the board it protects the zone, pump and valve outputs.

Outline dimension

32cm x 14cm x 5.5cm

Specification

Power Supply	AC230V,50-60HZ.
Power consumption	7W.
Max load on boiler output	3A, AC230V ,resistive.
Max load on H/W output	3A, AC230V, resistive.
Max load for zone outputs	3A, AC230V, resistive.
Max load	5AMP

CH3

CO2/RH/TEMP Monitor



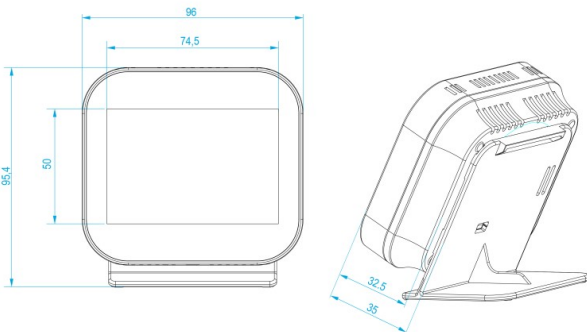
TECHNICAL DATA

Power Supply voltage	USB Supply, DC5V;
Display	320x480 pixels color TFT - capacitive touch
Operating temperature	1° C- 85° C
CO2 sensor type	Dual Channel NDIR
CO2 accuracy	@22 °C (72 °F)±40ppm + Display*2%
CO2 detective range	0-9999 ppm
NDIR life time	15 Years
Displayed temperature resolution	0.1°C
CO2 High/Low alert settings interval	50 ppm
CO2 High/Low alert settings range	400 – 5000 ppm
Displayed CO2 resolution	1 ppm
Standby power consumption	≤0.5 W
Display dimensions	76.5 X 52 mm(W/H)
Dimensions (W/H/D)	96 * 86 * 32.5 (mm)
Weight	≤200 g
Enclosure rating	IP 21
Product material	PC + ABS plastic

MAIN FEATURE

- USB power supply, DC5V;
- 3.5" TFT color display, 480*320 resolution
- Capacitive touch
- Dual Channel NDIR CO2 sensor
- NDIR life time 15 years
- 7 days CO2 history data diagram
- 7 days temperature history data diagram
- 7 days humidity history data diagram
- With humidity sensor (+/- 3%)
- With ambient light sensor
- CO2 high, low alert message reminder
- Auto ON/OFF via ambient light
- C/F temperature display
- Children touch-lock
- Auto change daylight savings (DST)
- Multi language
- Night light option(Auto On/Off with ambient sensor)
- Auto backlight dim with ambient light sensor

OUTLINE DIMENSION



ITEM PACKAGE



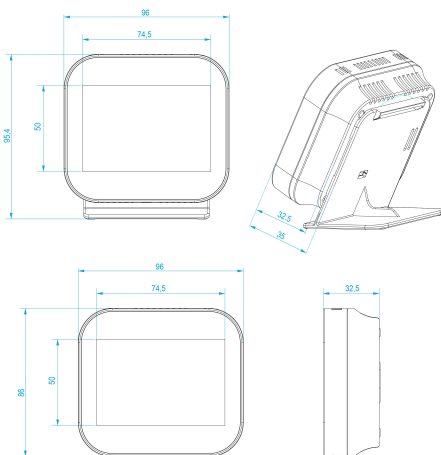
MCH3-Pro



MAIN FEATURE

- USB power supply, DC5V;
- Wi-Fi connective (2.4G)
- LoRaWAN (868mHz)
- 3.5" TFT color display, 480*320 resolution
- Capacitive touch
- NDIR CO2 sensor, 15 years life time
- 7 days CO2 history data diagram
- 7 days temperature history data diagram
- 7 days humidity history data diagram
- With humidity sensor (+/- 3%)
- With ambient light sensor
- CO2 high, low alert message reminder
- Auto ON/OFF via ambient light
- C/F temperature display
- Children touch-lock
- Auto change daylight savings (DST)
- Multi language(Optional)
- Night light option(Auto On/Off with ambient sensor)
- Auto backlight dim with ambient light sensor

OUTLINE DIMENSION



Power Supply	USB Supply, DC5V; 110-230VAC(Optional);
Display	320x480 pixels color TFT Capacitive touch
LoRaWAN	868mHz/923mHz/915mHz
WiFi	IEEE 802.11 b/g/n - 2.4ghz
Security	WPA/WPA2
Operating temperature	1° C- 85° C
Sensors	CO2: 0-10000 ppm (±30ppm + 3%MV) Temperature: -10°C – 70°C,±(0.4 C 25 C) Humidity: 0 – 100%, ±3 %
Communication	WiFi LoRaWan
Data protocols	MQTT Device Configuration Using HTTP Download OTA Updates Via HTTP
NDIR life time	15 Years
Standby power consumption	≤0.5 W
Display dimensions	76.5 X 52 mm(W/H)
Dimensions (W/H/D)	96 * 86 * 32.5 (mm)
Weight	≤200 g
Enclosure rating	IP 21
Product material	PC + ABS plastic

LoRaWAN (Customized)



CH60



LoRaWAN

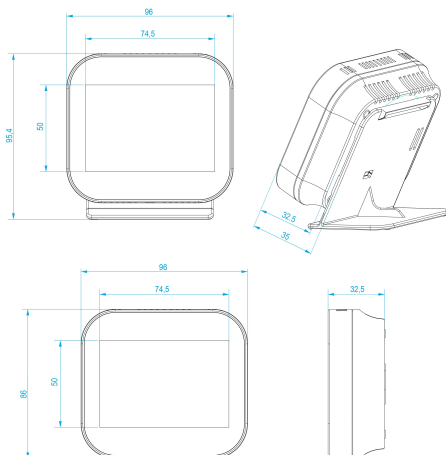
WiFi

MODBUS RTU/TCP

MAIN FEATURE

- USB power supply, DC5V;
- **Wi-Fi connective (2.4G)**
- **LoRaWAN (Option)**
- **Modbus RTU/TCP (Option)**
- **USB data export(.txt)**
- 3.5" TFT color display, 480*320 resolution
- Capacitive touch
- NDIR CO2 sensor, 15 years life time
- External CO/RH/Temp sensor(**Option**)
- With CO2, Temp, Humidity calibration
- Data record interval time- 1,5,15,30,60 mins
- History data qty - 7000 records
- 7 days CO2 history data diagram
- 7 days temperature history data diagram
- 7 days humidity history data diagram
- With humidity sensor (+/- 3%)
- With ambient light sensor
- CO2 high, low alert message reminder and buzzer
- C/F temperature display
- Children touch-lock
- Auto change daylight savings (DST)
- Multi language(Option)
- Auto backlight dim with ambient light sensor

OUTLINE DIMENSION



TECHNICAL DATA

Power Supply	USB Supply, DC5V; 110-230VAC, 24VAC(Option);
Display	320x480 pixels color TFT Capacitive touch
LoRaWAN	868mHz/923mHz/915mHz
WiFi	IEEE 802.11 b/g/n - 2.4ghz
http	Customized
MQTT	Customized
Data encryption	AES256
Operating temperature	1° C- 85° C
Sensors	CO2: 0-5000 ppm (±30ppm + 3%MV) Temperature: -10°C – 70°C,±(0.5 C 25 C) Humidity: 0 – 100%, ±3 % VOC: 0-60.000 ppb Particulate Matter (PM1.5, PM2.5, PM4, PM10): 4 KB0-100 µg/m3 (±10 µg/m3), 100 – 1.000 (±10 %) Pressure: 50 to 115 kPa, ±1 kPa accuracy
Communication	WiFi -MQTT,HTTP LoRaWan (Option)
Data protocols	MQTT Device Configuration Using HTTP Download OTA Updates Via HTTP
NDIR life time	15 Years
Standby power consumption	≤0.5 W
Display dimensions	76.5 X 52 mm(W/H)
Dimensions (W/H/D)	96 * 86 * 32.5 (mm)
Weight	≤200 g
Enclosure rating	IP 21
Product material	PC + ABS plastic

TRV

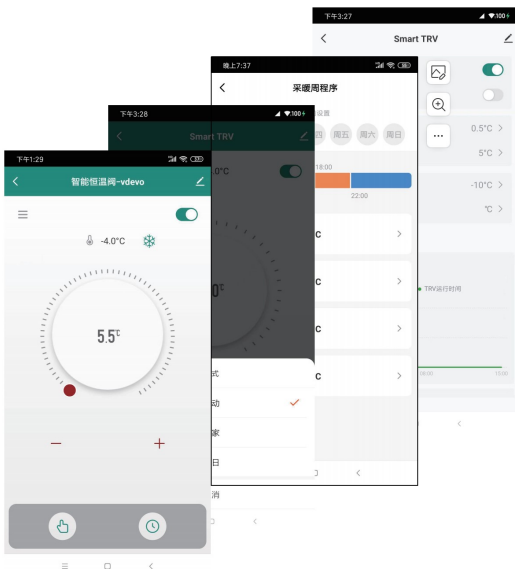
- B :Bluetooth
- W:WiFi
- Z: Zigbee



MAIN FEATURE

- LED digital display
- Set temperature and function through mobile APP (Tuya)
- Knob to adjust TRV setting temperature
- Can choose to use Wifi, Zigbee, Bluetooth, RF433, LoraWan and other wireless programs
- Stepper motor, precise temperature control, low noise
- Top mounting battery (2xAA/LR6 1.5V)
- Window detection, anti-freeze protection
- Quick home function, with the gateway, all TRV one-click synchronization away from home
- Provide compatible M30, CRL (Caleffi), GLA (Giacomini) standard transfer

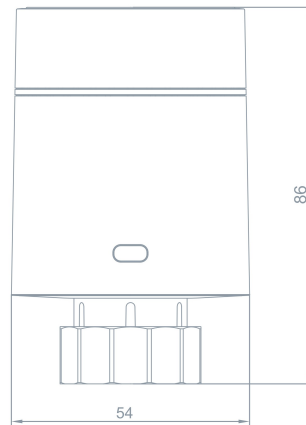
APP(iOS and Android)



TECHNICAL DATA

Wireless	Zigbee3.0
Input	3V(2x1.5V AA)
Threaded connection	M30x1.5mm
Product dimension	Ø 54x86mm
Net weight	135g
Temp setting range	4°-35
Wireless	Zigbee3.0

OUTLINE DIMENSIONS:



OEM/ODM

