

# FC BASICOM PWM

Electronic controllers for fan coils  
with PWM control for thermic valve actuators



## Description

**FC BASICOM** is a family of universal thermostats designed for use in a network with **Televis or Modbus protocol (using an external converter module) to implement a centralized control system in medium/small systems such as hotels and offices.**

**FC BASICOM PWM** controls modulating valves with thermic actuators, electric heaters and three fan speeds.

Once the unit has been set correctly, **FC BASICOM PWM** can be used to control the following fan coil units:

- 2 pipes;
- 2 pipes with electric heaters;
- 4 pipes.

Typical applications are:

- Household,
- Residential,
- Small commercial areas (offices, hospitals, hotels) **for centralized control of small systems.**

### Installations:






- independent wall thermostat;
  - ceiling-mounted installations;
  - floor-mounted fan coil installations;
- in all cases, automatic control of the three fan speeds based on the offset between the ambient temperature and the set point is possible.

### Main characteristics:

- **PI thermoregulator**
- **Modulating control of thermic valve actuators**
- One range that is now even more comprehensive with a simple modern design,
- One controller for a variety of system requirements;
- Easy to use and install,
- Less risk of damaging electronics,
- Maximum focus on comfort and energy saving;
- Functions:
  - Hot Start and Too Cool,
  - Post Ventilation and Periodic Ventilation,
- Economy input or Window Contact;
- Automatic fan speed;
- Low noise level with solid state technology (TRIAC);
- Range control using special pegs;
- Remote air probe (optional accessory);
- Vertically installed for easier on-board-installation;
- Operating and probe alarm LEDs;
- Attention to specific requirements:
  - Manufacturers: adaptable to specific requirements
  - Distributors: universality reduces stock-holding requirements;
  - Installers: easy to install and less risk of damaging electronics;
  - End-user: simple and intuitive to give maximum comfort and accuracy with a focus on energy saving.

## Models and Connectivity

Other models are available covering a wide range of applications and installations.

	<b>FCMU320/S - FCMU120/S</b> Universal model
	<b>FCMU32E/S - FCMU12E/S</b> Universal model with economy input for reduced set
	<b>FCMU32W/S - FCMU120W/S</b> Universal model with window contact for energy saving
	<b>BUSAdapter350</b> TTL - RS-485 serial interface on DIN rail for connecting FCBASICOM and an RS-485 network designed for connection to Televis or ModBUS supervision system.
	<b>PCInterface1100</b> RS-232/RS-485 serial interface for connecting a PC and a series of instruments in an RS-485 network.

### 'Manual Mode Selection' 4 positions



### 'Auto Selection' 2 positions



Characteristics	'Manual Selection' OFF/Heat/Cool/AUTO			'Manual Selection' OFF/Heat/Cool/AUTO			'Auto Selection' ON/OFF			'Auto Selection' ON/OFF		
	Model FCMU	320/S	32E/S	32W/S	320/S	32E/S	32W/S	120/S	12E/S	12W/S	120/S	12E/S
<b>Part Number</b>	FC10S1X00500	FC1E51#00500	FC1W51#00500	FC10S1X00501	FC1E51#00501	FC1W51#00501	FC10S1X20500	FC1E51#20500	FC1W51#20500	FC10S1X20501	FC1E51#20501	FC1W51#20501
<b>X = not significant- Digital Input not present</b>												
<b># = Digital Input powered or voltage-free, N.O. or N.C.</b>												
<b>Application</b>												
2 pipes	*	*	*	*	*	*	*	*	*	*	*	*
2 pipes with integrated electric heaters	*	*	*	*	*	*	*	*	*	*	*	*
2 pipes with regulated electric heaters	*	*	*	*	*	*	*	*	*	*	*	*
4 pipes	*	*	*	*	*	*	*	*	*	*	*	*
<b>Installation</b>												
Wall-mounted	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)	(*)
Device-mounted — ceiling	*	*	*	*	*	*	*	*	*	*	*	*
Device-mounted - floor	*	*	*	*	*	*	*	*	*	*	*	*
<b>Inputs/Outputs</b>												
Digital Inputs	-	1	1	-	1	1	-	1	1	-	1	1
Air probe	1	1	1	1	1	1	1	1	1	1	1	1
Remote air probe (not supplied)	1	1	1	1	1	1	1	1	1	1	1	1
Remote water probe (not supplied)	1	1	1	1	1	1	1	1	1	1	1	1
Triac output 230V~ FANS <b>1 A max.</b>	3	3	3	3	3	3	3	3	3	3	3	3
Triac output 230V~ VALVE <b>0.5 A max.</b>	2	2	2	2	2	2	2	2	2	2	2	2
LEDs	3	3	3	3	3	3	3	3	3	3	3	3
<b>Functions</b>												
PI thermoregulator	•	•	•	•	•	•	•	•	•	•	•	•
Modulating control of thermic valve actuator	•	•	•	•	•	•	•	•	•	•	•	•
Hot Start	**	**	**	**	**	**	**	**	**	**	**	**
Too Cool	**	**	**	**	**	**	**	**	**	**	**	**
Economy Input	-		-	-	•	-	-	•	-	-	•	-
Window Contact	-	-	•	-	-	•	-	-	•	-	-	•
Operating/probe alarm LEDs	•	•	•	•	•	•	•	•	•	•	•	•
<b>Protocol</b>	TLV	TLV	TLV	MBus	MBus	MBus	TLV	TLV	TLV	MBus	MBus	MBus

• compatible

\* dip-switch selectable

\*\* only if remote water probe is present

(\*) system configuration (wall-mounted) automatically identified if the remote air probe is not installed

## Characteristics common to all models

### Functions

Automatic change-over

Periodic Ventilation

Control of set point

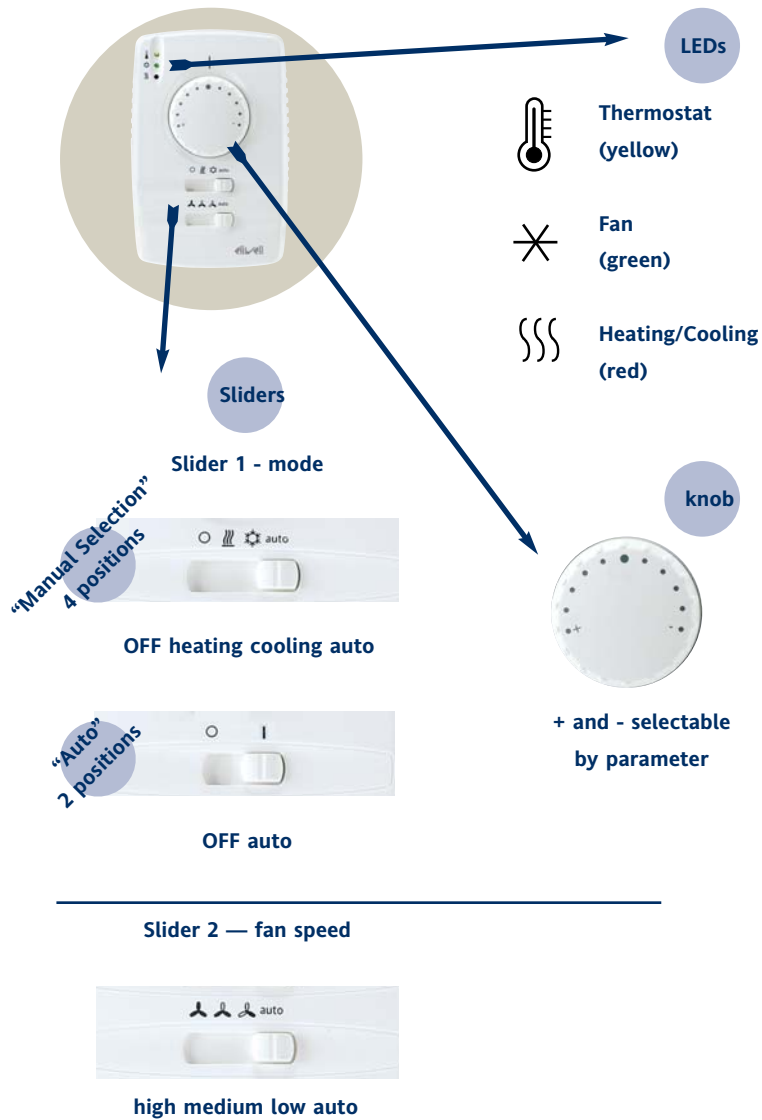
Post Ventilation

Automatic speeds

Regulation of valves/fans

Number Model	Code FCM	Description
		Fan Coil BASICOM PWM
1st	U	Universal model, fan coil system with 2 or 4 pipes selectable (with dip-switch)
2nd	3	• slider 1 (mode) : Off / Heating / Cooling / Automatic
	1	• slider 2 (mode) : ON/OFF
3rd	2	Heating Mode (electric heaters) present selectable (with dip-Switch)
4th	0	Digital input not present
	E	Economy input present
	W	Window Contact input present
5th	/S	Model with remote water and air probe inputs

## User interface



## Technical Data

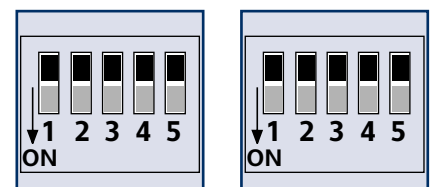
- Power supply: 230V~ 50/60Hz
- Electrical data for 230V output: 0.5 A max for valve outputs and 1 A max for fan outputs
- Insulation class: II
- Protection class: IP30
- Analogue inputs: 1 (+1) NTC probes
  - remote air probe (optional); cover 4.7 X 27 mm; plastic resin tube; length of cable: 1.5 m
  - remote water probe (optional); cover 6 X 23 mm; plastic resin tube; length of cable: 2 m
- Serial: TTL for connection (via **BusAdapter350\***) to Televis/modBUS network
- **\*NOTE: Only use BusAdapter350 for connection in RS-485 network**
- Unit dimensions: 80x120x40 mm
- Mounting: wall-mounted, device-mounted (floor or ceiling)
- Colour of casing:
  - Front: white;
  - Base unit: white.
- Connections: screw terminal block for wires with 2.5 mm maximum diameter<sup>2</sup>
- Ambient temp.: 0...55 °C
- Storage temp.: -20...85 °C
- Compliance: CE LV-EMC compliant

## Dip Switch Table

DIP NUMBER	Description	ON	OFF
1	Type of installation	ceiling-mounted	floor-mounted
2	Fan	continuous (1)	on request (2)
3	Thermostat control	on valve	on fan
4 and 5	Type of unit		
	• 2 pipes without electric heaters	-	4,5
	• 2 pipes with integrated electric heaters	4,5	-
	• 2 pipes with regulated electric heaters	5	4
	• 4 pipes	4	5

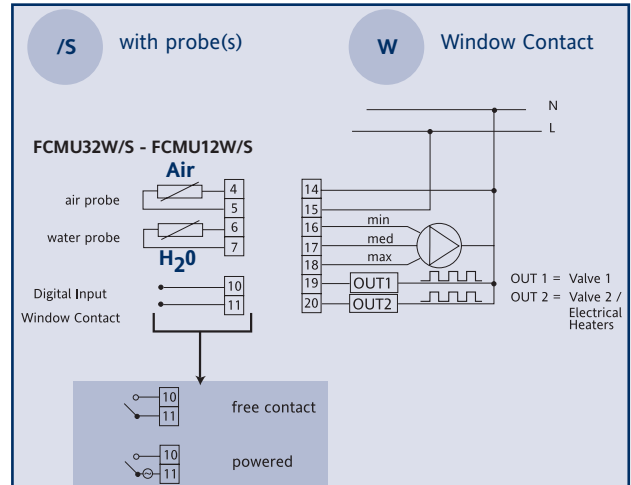
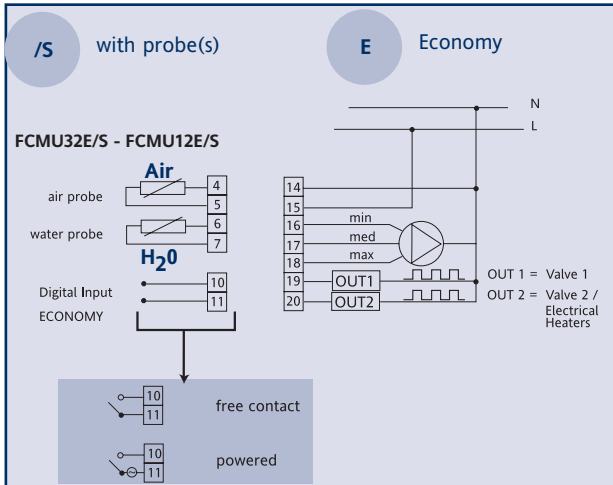
- (1) no Hot Start and Too Cool.  
 (2) on request in heating mode;  
 continuous in cooling mode.

Dip Switch



# Wiring diagram

FCMU320/S - FCMU120/S Digital Input not present



## Legend

- Air** remote air probe
- H<sub>2</sub>O** remote water probe
- Window Contact** window contact
- Economy** Economy
- OUT1** Valve 1
- OUT2** Valve 2/Electric Heaters

**Digital Input - if present (Free contact / Powered):**  
depending on model

## Accessories

### PROBES

#### Remote water probe

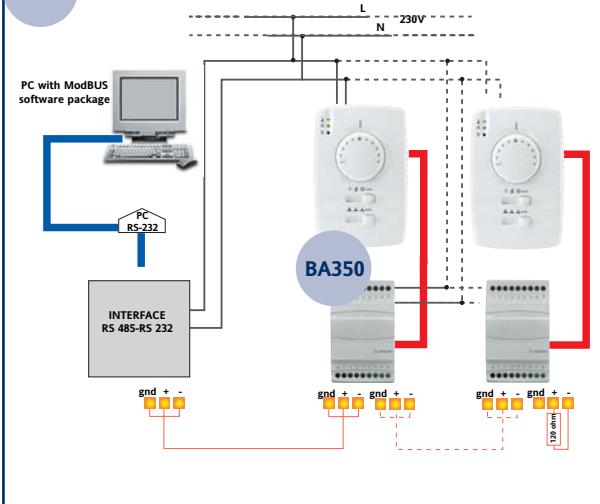
SN8PAA1500 NTC probe, PVC cable, plastic resin AISI 304 tube with reinforced insulation (metal) 1.5 m long metal cover 6X40

#### Remote air probe

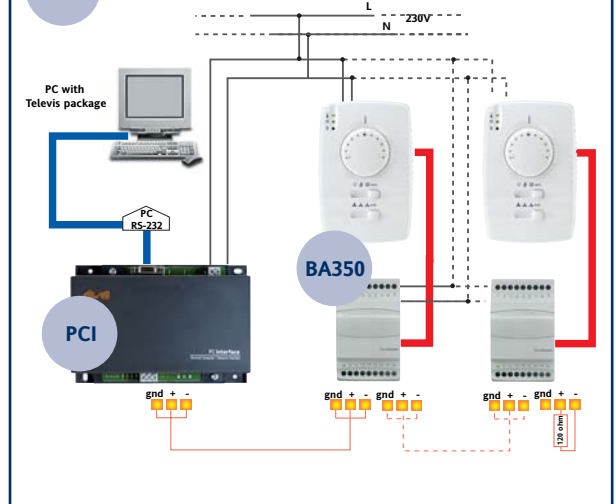
SN8PCL1500 NTC probe with plastic resin tube with reinforced insulation 6X40 PVC cable 1.5 m long; plastic cover 7X24.5

## Connectivity

### ModBUS



### Televis



**BA350** BUSAdapter350

**PCI** PCInterface1100

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