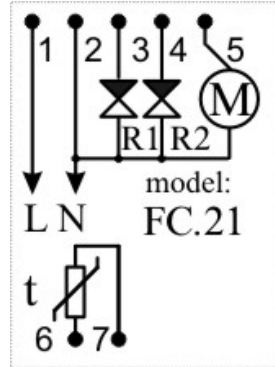
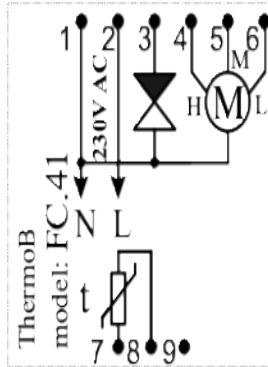


THERMOSTAT WITH WiFi FOR FAN COIL UNIT

models: **ThermoB.FC.41.W** and **ThermoB.FC.21.W**



FC.41

FC.21

Flash mount or wall box D80 install

Schemes of use

	System type	Outputs		Room fan start		Use of NTC.2 Sensor	Zones/ circuits	Heat/Cool selection
		n1	n2	Time delay	t° fluid NTC.2			
1	4 pipe.	Heat	Cool	Yes	Yes	Fan start/stop	1	Manual
2	2 pipe	Heat/Cool	-	Yes	Yes	Fan start/stop	1	Manual / Auto based on fluid t°
2	2 pipe.	Heat/Cool	Zone 2	-	Yes	Fan start/stop	2	Manual
3	2 pipe.	Heat/Cool	Zone 2	Yes	-	Zone 2 start/stop	2	Manual
Weekly schedule		2x Global temperature set points ECON/COMF				Frost protection		

Characteristics:

2 or 4 pipe systems	1 or 2 zones
LCD display, 4 push buttons	Integrated room temperature sensor
Model: FC.41: - 4x Relay outputs: valve 1 or (2) fan speed 3 or (3) - 5A max/230V AC - Fan control on 3 or 2 fixed speeds * If 4 pipe mode or 2 zone is selected the relay outputs are re-arranged so have 2 valve and 2 fan speeds	Model: FC.21: -2x Relay outputs (valves) -1x Triac output with user selectable 4 fan speeds. - Relay output 5A /230V AC - Triac output 1Arms/230V * function of automatic fan speed boost if low voltage of power supply is sensed (of speed 1)
Power supply 170-230VAC, <2VA	Additional external temperature sensor NTC.2
WiFi control of models „W” , Internet cloud service in EU. Mobile App available	
Overall dimensions	
Of front panel 90x90x17mm	Of back 62x51x23.5mm
Protection class IP20	Operational conditions: -5T45, RH80%
Temperature reading range -10° .. +45° / 0.5°C	Set point temperature range +15°C .. +45°C / 0.5°C
Installation dimensions 60 mm ±3 or 80mm ±1	
2 types of user interface Basic and Advanced: - Basic – simple mode with 1 temperature set point, on/off and fan speed selector - Advanced – full functional mode with 2 temperature set points, week schedule, on/off and fan speed selector	
Model: FC.20P have 2 relays and PWM 0-10V output instead of Triac controll.	

This product is 100% designed and manufactured in EU (Bulgaria)

PR.01. Hysteresis of room temp 0.5°C~3.0°C/ 0.5°	PR.02. Frost protection 0°C~15°C /1° if set to „0“ the function is not active
PR.03. Scheme selection and „Heat“ / „Cool“ mode selection = 0: Advanced interface, Man/Auto Heat/Cool select Manual: [PR14 =0 / 1 / 2] ----- 4 pipe system ----- Automatic Heat/Cool, if [PR20 > 0] - Heat: T.Room <= T.COMF - 0.5°C. - Cool: T.Room >= T.COMF +0.5°C * Cool: T. ECON = T. COMF + [PR20] * Heat: T. ECON = T. COMF - [PR20] Manual Heat/Cool, if [PR20 = 0] - при T.ECON <= T.COMF : Отопл. - при T.ECON >= T.COMF : Охл. ----- 2 pipe system ----- Automatic Heat/Cool, if [PR14 =3] sensor NTC.2 select Heat/Cool mode * Cool: T. ECON = T. COMF + [PR20] * Heat: T. ECON = T. COMF - [PR20]	- Heat: T.ECON <= T.COMF. - Cool: T.ECON >= T.COMF * The value of [PR20] is ignored =1: Advanced interface. fixed on „Cool“ mode - Operation at 2 temperature set points T.ECON, T.COMF, AUTO , MAN * if [PR20 > 0] T. ECON=T.COMF+ [PR20] =2: Advanced interface. fixed on „Heat“ mode - Operation at 2 temperature set points T.ECON, T.COMF, AUTO , MAN * if [PR20 > 0] T. ECON=T.COMF+ [PR20] =3: Basic interface. fixed on „Cool“ mode - Operation at 1 temperature set point T.COMF =4: Basic interface. fixed on „Heat“ mode - Operation at 1 temperature set point T.COMF
PR.04. not used	PR.05. Time zone -12~ +14 step 1h
PR.06. Correction of room temperature ±5°C/0.5	PR.07. Lock code, if set to “0” – no lock
PR.08. Duration of MAN mode (0-4h), if 0 – continuous	PR.09. Min set point value of T.ECON 15°~45°/0.5°
PR.10. Min set point value of T.COMF 15°~45°/0.5°	PR.11. Max set point value of T.ECON 15°~45°/0.5°
PR.12. Max set point value of T.COMF 15°~45°/0.5°	
PR.13. Selection of 2 / 4 pipe and 1 or 2 zones = 0: „2“ pipe, zones 1 (Fan coil only mode) - Relay 1 – valve, Relay 2 (FC.21)– not used - Fan speed at pause = STOP - FC.41 – Fan speeds: 3 (L-M-H) = 1: „2“ pipe, zones 1 (Fan coil only mode) - Relay 1 – valve, Relay 2 (FC.21)– not used - Fan speed at pause = P1 (constant ventilation) - FC.41 – Fan speeds: 3 (L-M-H) = 2: „2“ pipe, zone 2 (Fan coil + zone 2 mode) - Relay 1 – fan coil valve, Relay 2 – zone 2 on/off - Fan speed at pause = STOP - FC.41 – Fan speeds: 2 (L-M); outp “H”=Relay 2	= 3: „2“ pipe, zone 2 (Fan coil + zone 2 mode) - Relay 1 – fan coil valve, Relay 2 – zone 2 on/off - Fan speed at pause = P1 (constant ventilation) - FC.41 – Fan speeds: 2 (L-M); outp “H”=Relay 2 *zone 1 is active to T.SetPoint +/- zone hyst [PR21] *zone 2 is active to T.SetPoint +/- hyst [PR01] = 4: „4“ pipe, zone 1 (Fan coil only mode) - Relay 1 – Heat valve, Relay2 – Cool valve - Fan speed at pause = STOP - FC.41 – Fan speeds: 2 (L-M); outp “H”=Relay 2 = 5: „4“ pipe, zone 1 (Fan coil only mode) - Relay 1 – Heat valve, Relay2 – Cool valve - Fan speed at pause = P1 (constant ventilation) - FC.41 – Fan speeds: 2 (L-M); outp “H”=Relay 2
PR.14. Use of NTC.2 sensor = 0:- NTC.2 is not used, fan starts with time start/stop with delay based on [PR18] = 1: NTC.2 reads fluid temperature of fan coil unit - used for fan start/stop control * „Cool“, fan enabled if T.NTC.2 < [PR16]	* „Heat“, fan enabled if T.NTC.2 > [PR15] = 2: NTC.2 – reads zone 2 related temperature - used for zone 2 start / stop - Fan start/stop wit time delay based on [PR18] * „Cool“, zone 2 enabled if T.NTC.2 > [PR16] * „Heat“, zone 2 enabled if T.NTC.2 < [PR15]
PR.15. Set point of NTC.2 - Heat enable value +20°C ~ +70°C / 1°C	PR.16. Set point of NTC.2 - Cool enable value +1°C ~ +30°C / 1°C
PR.17. Hysteresis of fans speed change, 0.5°C~3.0°C/ 0.5°	PR.18. Delay of fan operation * if PR14 = 0 or 2, at “Cool” – used for dehumidification Also sets minimal period between fan speed change if Fan.AUTO
PR.19. Reading value of NTC.2 sensor	
PR.20. T.ECON set point selection - „0” - free selectable by end user - if 0.5 ~ 5 : T.ECON is linked to T.COMF * if „Heat“ mode T.ECON = T.COMF – [PR20] * if „Cool“ mode T.ECON = T.COMF + [PR20]	PR.21. Hysteresis of operation range of zone 1 / zone 2 if „Cool“ mode: * Zone 1 : T.Room > T.SetPoint + [PR21] * Zone 2 : T.Room > T.SetPoint if „Heat“ mode: * Zone 1: T.Room < T.SetPoint - [PR21] * Zone 2: T.Room < T.SetPoint
PR.22. Fan low speed set point #1 20% ~ 65% /1%	PR.23. Fan speed set point #3 74% ~ 100% /1%
Notes: *for model FC41 parameters PR.22 and PR.23 are not used ** Fan speed of #2 is calculated automatically between [PR22] and [PR23], Fan speed #4 = 100% *** The minimal period between fan speed change in Fan.AUTO is 90 sek	