

Fan Coil Management

USER MANUAL

Translation of the original instructions

Version: **1.0**

Date: **28/06/2022**

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VERSION	DATE	CHANGES
1.0	28/06/2022	-

Any information inside this manual can be changed without advice.

This handbook can be download freely from the website:
www.eelectron.com

Exclusion of liability:
Despite checking that the contents of this document match the hardware and software, deviations cannot be completely excluded. We therefore cannot accept any liability for this.
Any necessary corrections will be incorporated into newer versions of this manual.

Symbol for relevant information 

Symbol for warning 



1. Fan coil management

Communication objects involved:

"<Output Dxx xx> Heating Valve"	1 Bit	CW
"<Output Dxx xx> Heating Valve Status"	1 Bit	CRT
"<Output Dxx xx>Cooling Valve"	1 Bit	CW
"<Output Dxx xx>Cooling Valve Status"	1 Bit	CRT
"<Output Dxx xx>Command %"	1 Bytes	CW
"<Output Dxx xx>Speed Status %"	1 Bytes	CRT
"<Output Dxx xx>Speed 1"	1 Bit	CW
"<Output Dxx xx>Speed 1 Status"	1 Bit	CRT
"<Output Dxx xx>Speed 2"	1 Bit	CW
"<Output Dxx xx>Speed 2 Status"	1 Bit	CRT
"<Output Dxx xx > Speed 3"	1 Bit	CW
"<Output Dxx xx> Speed 3 Status"	1 Bit	CRT
"<Output Dxx xx> Enable Speed"	1 Bit	CW

The devices allow the management of the following configurations for the fan coil:

Block	Relays	Valves (pipes)	Speeds
B	2	1 valve (2 pipes)	1 speeds
C	3	1 valve (2 pipes)	2 speeds
	3	2 valves (4 pipes)	1 speed
D	4	1 valve (2 pipes)	3 speeds
	4	2 valves (4 pipes)	2 speeds
E	5	2 valves (4 pipes)	3 speeds

The following are the possible configurations:

Block B 2 Relays - 1 valve (2 pipes) / 1 speeds					
ex.	OUT1/2	OUT1	VALVE	OUT2	SPEED 1
Block C – 3 Relays - 1 valve (2 pipes) / 2 speeds					
ex.	OUT 1/2/3	OUT1	VALVE	OUT2	SPEED 1
				OUT3	SPEED 2
Block C – 3 Relays - 2 valvole (4 tubi) / 1 velocità					
ex.	OUT 1/2/3	OUT1	WARM VALVE		
		OUT2	COOLING VALVE	OUT3	SPEED 1
		OUT5	COOLING VALVE		
Block D – 4 Relays - 2 valves (4 pipes) / 2 speeds					
ex.	OUT 1/2/3/4	OUT1	HEATING-VALVE	OUT2	COOLING VALVE
		OUT3	SPEED 1	OUT4	SPEED 2
Block D – 4 Relays - 1 valve (2 pipes) / 3 speeds					
ex.	OUT 1/2/3/4	OUT1	VALVE	OUT2	SPEED 1
		OUT3	SPEED 2	OUT4	SPEED 3
Block E – 5 Relays - 2 valves (2 pipes) / 3 speeds					
ex.	OUT 1/2 3/4/5	OUT1	HEATING VALVE	OUT2	COOLING VALVE
		OUT3	SPEED 1	OUT4	SPEED 2
		OUT5	SPEED 3	-	-
		OUT11	SPEED 1	OUT12	SPEED 2
		OUT13	SPEED 3	-	-

Main parameters for fan coil management

KNX PARAMETER	SETTINGS
Relay state when valve is deactivated	Relay is open when valve is deactivated Relay is closed when valve is deactivated
Defines whether the relay must be open or closed to open / close the valve; the valve is deactivated when the fluid does not circulate.	
Global all valve closed	Not subordinate Subordinate
Defines whether the fan coil valves participate in the management of the global object <Global All> All valve closed.	
Delay between Speed Changes (Sec.)	1... 255
This parameter sets the pause time between switching off the relay that controls a speed and switching on another relay to activate another speed	
Delay on ventilation start (min)	1 ... 15
This parameter introduces a delay time between the reception of a command that opens the valve the activation of the ventilation speeds. Sometimes the hydraulic system needs some time before supplying the hot fluid to the fan coil; with this delay it is avoided to introduce cold air in the first few minutes after the start. The delay can be entered in heating mode or in cooling mode or in both modes and only when one of the speeds is activated starting from the status of no active speed (V1, V2 and V3 are all deactivated). To inform the actuator of the active heating or cooling status, use the global <Global All> Heat / Cool object	
Lower limit value	0% - 5% - 10%
Minimum value of control in the transition from speed 1 to OFF.	
Limit value speed 1/2	10% + 40% resolution 5%
Control value in the transition from speed 1 to 2 and vice versa.	
Limit value speed 2/3	60% + 90% risoluzione 5%
Control value in the transition from speed 2 to 3 and vice versa.	
Value to send - speed 1	0... 255
Value to send - speed 2	0... 255
Value to send - speed 3	0... 255
These 3 parameters indicate the value to be sent on the bus as a notification of the speed status. The value is in the range from 0 to 255 and must be displayed by the supervisor as a percentage value. Enter a value corresponding to the desired percentage value following the formula $Value_{255} = Value \cdot 100 \cdot 255 / 100$ Example: if you want to send the value 10% for speed 1: $value_{255} = 10 \cdot 255 / 100 = 25$	
Enable speed object	disabled / enabled
With this parameter it is possible to enable the 1 bit object "<Output Dxx xx> Enable Speed".	
Enable speed activation telegram	telegram "0" / telegram "1"
It defines which telegram value enables the speed activation.	
Behaviour on power up	none / switch off valve and speed
it defines the status of servomotor after power up.	
Behaviour on power down	none / switch off valve and speed
it defines the status of servomotor after power down.	
Valve feedback	disabled / enabled

Defines whether or not to send the status of the valve with a 1-bit object.	
Command % feedback	disabled / enabled
Defines whether or not to send the status with a 1-byte object.	
Speed feedback	disabled / enabled
Defines whether or not to send the status of the speed with a 1-bit object.	