

OBJECT LIST FOR CTU4501 P2 H3 SUPER EC F 19187208 PIC18F46K22

MODBUS RTU Mode, Address Slave 1-247, TimeOut 100ms, Baud 9600, n, 8, 1

All Registers Signed Integer 16 bit, W-Register Writable

Command: 0x03 = Read Holding Registers

0x06 = Preset Single Register

0x2B = Read Device Identification (Basic = 0x01, Regular = 0x02)

Reg Num	Reg Addr	Name	Range, Units	Default
1	0x000	T1_RoomTemperature	7...32°C	(R)
2	0x001	T2_ChangeOverSensorTemperature	-40...89°C	(R)
3	0x002	T3_IndoorCoilTemperature	-40...89°C	(R)
4	0x003	AI1_Input	0...10000 mV	(R)
5	0x004	AI2_Input	0...10000 mV	(R)
6	0x005	CoolingOutput	0...10000 mV	0 mV (W)
7	0x006	HeatingOutput	0...10000 mV	0 mV (W)
8	0x007	_12_FanOut	0...10000 mV	(R)
9	0x008	DIPSW21_TestingOccupancySensor	0-Off,1-On	(R)
10	0x009	DIPSW22_CTRL_FAN	0-Off,1-On	(R)
11	0x00A	DIPSW23_CTRL_FAN	0-Off,1-On	(R)
12	0x00B	DI8_OccupancySensor: 0-Close, 1-Open (if polarity=0)	0-Off,1-On	(R)
13	0x00C	DI1_FlowSwitch: 0-Close, 1-Open (if polarity=0)	0-Off,1-On	(R)
14	0x00D	DI2: 0-Close, 1-Open (if polarity=0)	0-Off,1-On	(R)
15	0x00E	DI3: 0-Close, 1-Open (if polarity=0)	0-Off,1-On	(R)
16	0x00F	DI4: 0-Close, 1-Open (if polarity=0)	0-Off,1-On	(R)
17	0x010	DI5: 0-Close, 1-Open (if polarity=0)	0-Off,1-On	(R)
18	0x011	DI6: 0-Close, 1-Open (if polarity=0)	0-Off,1-On	(R)
19	0x012	DI7: 0-Close, 1-Open (if polarity=0)	0-Off,1-On	(R)
20	0x013	_15_COOL1	0-Off,1-On	(R)

Reg Num	Reg Addr	Name	Range, Units	Default
21	0x014	_14_HEAT1	0-Off,1-On	(R)
22	0x015	_17_HEAT2	0-Off,1-On	(R)
23	0x016	_18_HEAT3	0-Off,1-On	(R)
24	0x017	_G1_LIGHT_OFF	0-Off,1-G1LightOff	0-Off (W)
25	0x018	OnOff	0-Off,1-On	0-Off (W)
26	0x019	UnOccupancy	0-Off,1-Unocc	(R)
27	0x01A	AutoFan	0-Off,1-On	0-Off (W)
28	0x01B	Celsius (1 – Celsius)	0-Fahren, 1-Celsius	1-Celsius (R)
29	0x01C	RestoreDefault	0-Off,1-Restore	0-Off (W)
30	0x01D	PanelTemperatureDisplay	0-Off,1-On	1-On (W)
31	0x01E	EnableOverrideInputOutput	0-Disable,1-Enable	0-Disable (W)
32	0x01F	ViewFloatValue	0-Off,1-View	0-Off (W)
33	0x020	DisableOccupancySensor	0-Off,1-Disable	0-Off (W)
34	0x021	DI8_OccupancySensor_Polarity	0-Off,1-On	0 (W)
35	0x022	DI1_FlowSwitch_Polarity	0-Off,1-On	0 (W)
36	0x023	DI2_Polarity	0-Off,1-On	0 (W)
37	0x024	DI3_Polarity	0-Off,1-On	0 (W)
38	0x025	DI4_Polarity	0-Off,1-On	0 (W)
39	0x026	DI5_Polarity	0-Off,1-On	0 (W)
40	0x027	DI6_Polarity	0-Off,1-On	0 (W)
41	0x028	DI7_Polarity	0-Off,1-On	0 (W)
42	0x029	LockRoomModule	0-Off,1-Lock	0-Off (W)
43	0x02A	LockRoomModuleMode	0-Off,1-Lock	0-Off (W)
44	0x02B	LockRoomModuleFanSpeed	0-Off,1-Lock	0-Off (W)
45	0x02C	LockRoomModuleSetPoint	0-Off,1-Lock	0-Off (W)
46	0x02D	LockRoomModuleOnOff	0-Off,1-Lock	0-Off (W)
47	0x02E	LockRoomModuleBeeper	0-Off,1-Lock	0-Off (W)

Reg Num	Reg Addr	Name	Range, Units	Default
48	0x02F	Mode 0–Fan Only;1-Cool;2-Heat;3–AutoChange	0...3	1-Cool (W)
49	0x030	FanSpeed 0–AutoSpeed;1-Low;2-Medium;3–High	0...3	1-Low (W)
50	0x031	SetPoint	10...30°C	22°C (W)
51	0x032	SetPointLimitCool	10...30°C	10°C (W)
52	0x033	SetPointLimitHeat	10...30°C	30°C (W)
53	0x034	SetPointEffective	10...30°C	0°C (R)
54	0x035	ReturnAirSensorCalibration	-6...6°C	0°C (W)
55	0x036	DeadZoneForCool	0...5°C	1°C (W)
56	0x037	DeadZoneForHeat	0...5°C	1°C (W)
57	0x038	HEAT_RELAY_TimeDelayOnNext	0...60 sec	1 sec (W)
58	0x039	HEAT_RELAY_TimeDelayOffNext	0...60 sec	1 sec (W)
59	0x03A	COOL_PropOutTresholdTime	1...100 sec	60 sec (W)
60	0x03B	CoolProportionalBand	1...10°C	2°C (W)
61	0x03C	COOL_IntegralTime	0...600 sec	240 sec (W)
62	0x03D	COOL_IntegralValue	0..100	10 (W)
63	0x03E	Not in use	-32768...32767	0 (W)
64	0x03F	COOL_Demand	0...100%	0% (W)
65	0x040	COOL_MinimumValue	0...100%	0% (W)
66	0x041	COOL_MaximumValue	0...100%	100% (W)
67	0x042	HEAT_TS_SamplePeriod	1...100 sec	60 sec (W)
68	0x043	HeatProportionalBand	1...10°C	2°C (W)
69	0x044	HEAT_IntegralTime	0...600 sec	240 sec (W)
70	0x045	HEAT_IntegralValue	0..100	10 (W)
71	0x046	Not in use	-32768...32767	0 (W)
72	0x047	HEAT_Demand	0...300%	0% (W)
73	0x048	HEAT_MinimumValue	0...100%	0% (W)
74	0x049	HEAT_MaximumValue	0...100%	100% (W)

Reg Num	Reg Addr	Name	Range, Units	Default
75	0x04A	COOL_DelayStartingFan	0...300 sec	0 sec (W)
76	0x04B	COOL_DelayStoppingFan	0...300 sec	0 sec (W)
77	0x04C	HEAT_DelayStartingFan	0...300 sec	0 sec (W)
78	0x04D	HEAT_DelayStoppingFan	0...300 sec	30 sec (W)
79	0x04E	TimeSwitchingToUnOccupiedMode	0...3600 sec	1200 sec (W)
80	0x04F	UnOccupancyModeSelect 0-On/Off; 1-Start/Stop; 2-Light Only; 3-Economy	0...3	0-On/Off (W)
81	0x050	ThermostatStartStop 0-On/Off, 1-Start/Stop	0...1	0-On/Off (W)
82	0x051	CO2_FromPanel	0...5000 ppm	(R)
83	0x052	CO2_MinimumValue	0...5000 ppm	0 ppm (W)
84	0x053	CO2_MaximumValue	0...5000 ppm	2000 ppm (W)
85	0x054	CO2_EffectiveValue	0...5000 ppm	(R)
86	0x055	CO2_Alarm	0-Off, 1-Alarm	(R)
87	0x056	HUMIDITY_MinimumValue	0...100%	20% (W)
88	0x057	HUMIDITY_MaximumValue	0...100%	90% (W)
89	0x058	HUMIDITY_FromPanel	0...100%	(R)
90	0x059	HUMIDITY_EffectiveValue	0...100%	(R)
91	0x05A	HUMIDITY_Alarm	0-Off; 1-Alarm	(R)
92	0x05B	FAN_LowValue	0...100%	(R)
93	0x05C	FAN_MediumValue	0...100%	(R)
94	0x05D	FAN_HighValue	0...100%	(R)
95	0x05E	FAN_MinimumValue	0...100%	0% (W)
96	0x05F	FAN_AUTO_SPEED_MinimumValue	0...100%	0% (R)
97	0x060	FAN_AUTO_SPEED_MaximumValue	0...100%	100% (R)
98	0x061	FanECMProportionalBand	0...5°C	2°C (W)
99	0x062	FAN_EffectiveValue	0...100%	(R)
100	0x063	PanelTimeChangeDisplay 0-Temperature Only; 10-Humidity Only	0...10 sec	0 sec (W)

Reg Num	Reg Addr	Name	Range, Units	Default
101	0x064	Not in use	0...4095	0 (W)
102	0x65	BaudRate (0 - 9600, 1 - 19200, 2 - 38400)	0...2	0-9600 (W)
103	0x66	LightOff	0-LightOff Inactive 1-LightOff Active	0-Off (W)
104	0x67	PI -Enable	0-Disable,1-Enable	0-Disable (RW)
105	0x68	Heater1_CutIn (% of HeatDemand)	0...200%	40% (RW)
106	0x69	Heater1_CutOut (% of HeatDemand)	0...200%	10% (RW)
107	0x6A	Heater2_CutIn (% of HeatDemand)	0...200%	80% (RW)
108	0x6B	Heater2_CutOut (% of HeatDemand)	0...200%	40% (RW)
109	0x6C	Heater3_CutIn (% of HeatDemand)	0...200%	120% (RW)
110	0x6D	Heater3_CutOut (% of HeatDemand)	0...200%	80% (RW)
111	0x6E	CoolProportionalLimitOn	0...50%	40%(RW)
112	0x6F	CoolProportionalLimitOff	0...20%	10%(RW)
113	0x70	HeatProportionalLimitOn	0...50%	40%(RW)
114	0x71	HeatProportionalLimitOff	0...20%	10%(RW)

***-writable only if the value of the register 31 (“EnableOverrideInputOutput”) is “1”.

Attention!

Commissioning purposes. When the technician writes into registers 64*** (“CoolDemand”) and 72*** (“HeatDemand”), the OnOff outputs (registers 20...23) and proportional outputs (registers 6, 7) response.

After commissioning the technician must make Restore Default operation – write “1” to register 29 (“RestoreDefault”).

Registers 1...5* have range -32655...32655 during override. After the break of power all overridden registers return to values, measured by analog inputs.**

While register 32 (“ViewFloatValue”) is “1”, all the registers of units °C (temperature) – marked by “*” - are presented in format Integer (Real value * 10, Meitav-tec OEM “floating point” format).

Read value examples:

Register 1 “T1_RoomTemperature = 221” represents a real value = 22.1°C.

Register 50 "SetPoint = 150" represents a real value = 15.0°C.

Register 55 "DeadZoneForCool = 10" represents a value = $1 * 0.5 \text{ °C} = 0.5 \text{ °C}$

Write value examples:

To write 20°C to the "SetPoint", send "200" to the Register 50.

To write 25°C to the "SetPointLimitHeat", send "250" to the Register 52.

To write 1.5 °C to the "DeadZoneForCool", send $3 * 10 = "30"$ to the Register 55.

Attention! When PI is enabled, writing to any register causes clearing of the Integral correction Value (used to compensate the static error) of HeatDemand and CoolDemand.