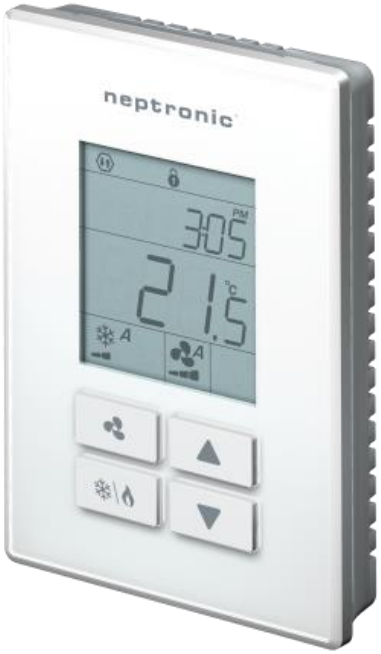
Universal Wall-Mount Controller

TUUB Series

Modbus Communication Module User Guide



Introduction

The TUUB Modbus Communication Module User Guide provides information for using Neptronic® TUUB communication feature. The TUUB uses Modbus communication protocol over serial line in the RTU mode and provides a Modbus network interface between client devices and Neptronic TUUB Series devices.

The TUUB Modbus Guide assumes that you are familiar with Modbus terminology.

The following are the requirements for Modbus:

- *Data Model*. The TUUB Modbus server data model uses only the Holding Registers table.
- *Function Codes*. The TUUB Modbus server supports a limited function codes subset comprising:
    - Read Holding Registers (0x03)
    - Write Single Register (0x06)
    - Write Multiple Registers (0x10)
- *Exception Responses*. The TUUB Modbus server supports the following exception codes:
    - Illegal data address
    - Illegal data value
    - Slave device busy
- *Serial Line*. The TUUB Modbus over serial line uses RTU transmission mode over a two-wire configuration RS485 (EIA/TIA-485 standard) physical layer.
    - The physical layer can use fixed baud rate selection or automatic baud rate detection (default) as per the **Modbus Auto Baud Rate** device menu item or holding register index 1.
    - The supported baud rates are 9600, 19200, 38400, and 57600.
    - The physical layer also supports variable parity control and stop bit configuration as per the **Modbus Comport Config** device menu item or holding register index 2.
    - In auto baud rate configuration, if the device detects only consecutive bad frames (2 or more) for one second with any given baud rate, it will reinitialize itself to the next baud rate.
- *Addressing*. The TUUB device only answers at the following address:
    - The device's unique address (1 to 246) that can be set through the device menu or through holding register index 0.

Holding Registers Table

Table Glossary

Name	Description	Name	Description
W	Writable Register	ASCII	For registers containing ASCII (8-bit) characters
RO	Read Only Register	MSB	Most Significant Byte
Unsigned	For range of values from 0 to 65,535, unless otherwise specified	LSB	Least Significant Byte
Signed	For range of values from -32,768 to 32,767, unless otherwise specified	MSW	Most Significant Word
Bit String	For registers with multiple values using bit mask (example, flags)	LSW	Least Significant Word

Holding Register Table

Register Index	Description	Data Type	Range	Writable
4000**0**	Address - Neptronic ID and Modbus address of current device.	Unsigned	MSB = 22, LSB = 1-246	W
4000**1**	MSTP Baud Rate.	Unsigned *Scale 100*	0, 9600, 19200, 38400, or 57600, 0 = Auto Baud Rate Detection *Value/100 (e.g. 38400 baud = 384)*	W
4000**2**	Communication port configuration.	Unsigned	1 = No parity, 2 Stop bits, 2 = Even parity, 1 stop bit, 3 = Odd parity, 1 stop bit	W
4000**3**	ProdName_87, characters 8-7 of 8 name characters.	ASCII	MSB = 84 (T), LSB = 85 (U)	W
4000**4**	ProdName_65, characters 6-5 of 8 name characters.	ASCII	MSB = 67 (C), LSB = 66 (B)	W
4000**5**	ProdName_43, characters 4-3 of 8 name characters.	ASCII	MSB = 50 (2), LSB = 52 (4)	W
4000**6**	ProdName_21, characters 2-1 of 8 name characters.	ASCII	MSB = 32 (Space), LSB = 0 (Null)	W
4000**7**	Controller Product_Version, actual firmware version.	Unsigned	1 to 65535 (e.g. 115)	RO
4000**8**	Controller parameters version.	Unsigned	1 to 65535 (e.g. 102)	RO
4000**9**	System Status 1.	Bit String	**[B1, B5, B7 – B15]: Reserved** **B0: System operation** *0 = Normal, 1 = Fault* **B2: System override by NSB or OCC** *0 = Normal, 1 = OFF* **B3: ChangeOverMode** *0 = Cooling, 1 = Heating* **B4: AL_FlowSwitch** *0 = No alarm, 1 = Alarm activated* **B6: AL_DirtyFilter** *0 = No alarm, 1 = Alarm activated*	RO

Register Index	Description	Data Type	Range	Writable
400**10**	System Status 2.	Bit String	**[B1, B3-B6, B14]**: **Reserved** **B0: Selector Switch Status** *0 = Remote Mode, 1 = Local Mode* **B2: CO2 Alarm** *0 = Normal, 1 = Alarm* **B7: AL_Override** *0 = Off, 1 = On* **B8: AL_WindowOpened** *0 = Off, 1 = On* **B9: AL_DoorOpened** *0 = Off, 1 = On* **B10: AL_UI1** *0 = Off, 1 = On* **B11: AL_UI2** *0 = Off, 1 = On* **B12: AL_UI3** *0 = Off, 1 = On* **B13: AL_UI4** *0 = Off, 1 = On* **B15: AL_OverHeat** *0 = Off, 1 = On*	RO
400**11**	Internal temperature sensor reading.	Signed *Scale 100*	Unit: ºC/ºF, Range: 0ºC to 50ºC or 32ºF to 122ºF *Value x 100 (e.g. 23°C = 2300 or 33ºF = 3300)*	RO
400**12**	External temperature sensor reading.	Signed *Scale 100*	Unit: ºC/ºF, Range: -40ºC to 100ºC or -40ºF to 212ºF *Value x 100 (e.g. 23°C = 2300 or 33ºF = 3300)*	RO
400**13**	Changeover temperature sensor reading.	Signed *Scale 100*	Unit: ºC/ºF, Range: -40ºC to 100ºC or -40ºF to 212ºF *Value x 100 (e.g. 23°C = 2300 or 33ºF = 3300)*	RO
400**14**	Control temperature reading.	Signed *Scale 100*	Unit: ºC/ºF, Range: -40ºC to 100ºC or -40ºF to 212ºF *Value x 100 (e.g. 23°C = 2300 or 33ºF = 3300)*	W
400**15**	Internal humidity sensor reading.* Not available on all models.	Unsigned *Scale 10*	Unit: % RH, Range: 10%RH to 90%RH, *Value x 10 (e.g. 30%RH = 300)*	RO
400**16**	External humidity sensor reading.	Unsigned *Scale 10*	Unit: % RH, Range: 10%RH to 90%RH, *Value x 10 (e.g. 30%RH = 300)*	RO
400**17**	Analog input 1 reading.	Signed *Scale 100*	Unit: Volts or ºC/ºF, Range: 0V to 10V, -40 to 100ºC or -40 to 212ºF, 0 (open), 1 (close). *Value x 100 (e.g. 3 V = 300/18°C = 1800 or 33ºF = 3300)*	RO
400**18**	Analog input 2 reading.	Signed *Scale 100*	Unit: Volts or ºC/ºF, Range: 0V to 10V, -40 to 100ºC or -40 to 212ºF, 0 (open), 1 (close). *Value x 100 (e.g. 3 V = 300/18°C = 1800 or 33ºF = 3300)*	RO
400**19**	Analog input 3 reading.	Signed *Scale 100*	Unit: Volts or ºC/ºF, Range: 0V to 10V, -40 to 100ºC or -40 to 212ºF, 0 (open), 1 (close). *Value x 100 (e.g. 3 V = 300/18°C = 1800 or 33ºF = 3300)*	RO

Register Index	Description	Data Type	Range	Writable
400**20**	Analog input 4 reading.	Signed *Scale 100*	Unit: Volts or ºC/ºF, Range: 0V to 10V, -40 to 100ºC or -40 to 212ºF, 0 (open), 1 (close). *Value x 100 (e.g. 3 V = 300/18°C = 1800 or 33ºF = 3300)*	RO
400**21**	External CO2 sensor value in ppm.	Signed *Scale 1*	Unit: ppm, 0 to Register (CO2 range), *Value x 1 (e.g. 500 ppm = 500)*	RO
400**22**	Internal CO2 sensor value in ppm.	Signed *Scale 1*	Unit: ppm, 0 to Register (CO2 range), *Value x 1 (e.g. 500 ppm = 500)*	RO
400**23**	CO2 control value in ppm.	Signed *Scale 1*	Unit: ppm, 0 to Register (CO2 range), *Value x 1 (e.g. 500 ppm = 500)*	RO
400**24**	Actual system occupancy state.	Unsigned	1 = NoOccupancy, 2 = Occupancy, 3 = Override	RO
400**25**	Actual night setback state of the system.	Unsigned	1 = Day, 2 = Night, 3 = Override	RO
400**26**	Actual heating demand of ramp 1.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 100% = 1000)*	RO
400**27**	Actual heating demand of ramp 2.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 100% = 1000)*	RO
400**28**	Actual cooling demand of ramp 1.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 100% = 1000)*	RO
400**29**	Actual cooling demand of ramp 2.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 100% = 1000)*	RO
400**30**	Actual changeover demand.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 100% = 1000)*	RO
400**31**	Actual fan demand.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 100% = 1000)*	RO
400**32**	Actual dehumidification demand.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 100% = 1000)*	RO
400**33**	Actual humidification demand.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 100% = 1000)*	RO
400**34**	Cooling Heating SwitchTimerCount - countdown until the system is able to swap the demand.	Unsigned *Scale 1*	Unit: Seconds, Range: 0 to 7200 seconds, *Value/1 (e.g. 100 secs = 100)*	RO
400**35**	Analog output 1 value.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 100% = 1000)*	W
400**36**	Analog output 2 value.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 100% = 1000)*	W
400**37**	Analog output 3 value.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 100% = 1000)*	W

Register Index	Description	Data Type	Range	Writable
400**38**	Analog output 4 value.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 100% = 1000)*	W
400**39**	Binary output - 6 relays output status.	Bit String	**[B7-B15]**: **Reserved** **B0: Binary Output 1** *0 = Open, 1 = Close* **B1: Binary Output 2** *0 = Open, 1 = Close* **B2: Binary Output 3** *0 = Open, 1 = Close* **B3: Binary Output 4** *0 = Open, 1 = Close* **B4: Binary Output 5** *0 = Open, 1 = Close* **B5: Binary Output 6** *0 = Open, 1 = Close* **B6: Binary Output 7** *0 = Open, 1 =Close*	W
400**40**	System command.	Bit String	**[B2, B6, B9 - B15]**: **Reserved** **B0: Cfg_ServiceDisplayAddress** *0 = Normal, 1 = Display address on LCD* **B1: Cfg_CoolingRampLock** *0 = Off, 1 = On* **B3: Cfg_HeatingRamp1Lock** *0 = Off, 1 = On* **B4: Cfg_HeatingRamp2Lock** *0 = Off, 1 = On* **B5: Cfg_ChangeOverRampLock** *0 = Off, 1 = On* **B7: Cfg_HumidifyRampLock** *0 = Off, 1 = On* **B8: Cfg_DehumidifyRampLock** *0 = Off, 1 = On*	W
400**41**	System mode status.	Unsigned	1 = Auto [Register 400**74** allows Auto Mode (1 or 5)] 2 = Heating [Register 400**74** allows Heating Mode (1, 2 or 4)] 3 = EMH [Register 400**41** Bits 2 and 1 = On and Enable (1) and Register 400**74** allows Heating Mode (1, 2 or 4)] 4 = Cooling [Register 400**74** allows Cooling Mode (1, 3 or 4)] 5 = Fan [Register 400**40** Bit 12 = Advanced (1) and Bit 13 = Enable] 6 = Off [Register 400**44** Bit 6 = Enable (0)]	W
400**42**	Fan speed selection by user.	Unsigned	1 = Auto, 2 = Low, 3 = Med, 4 = High	W
400**43**	Temperature setpoint in occupancy or day mode.	Signed *Scale 10*	Unit: ºC/ºF, Range: min to max setpoint, *Value x 10 (e.g. 18°C = 180)*	W

Register Index	Description	Data Type	Range	Writable
400**44**	System option1.	Bit String	**B0: Cfg_TempUnitTstat** *0 = ºC, 1 = ºF* **B1: Cfg_TempUnitModbus** *0 = ºC, 1 = ºF* **B2: Cfg_TempSetPointLock** *0 = Off, 1 = On* **B3: Cfg_HumSetPointLock** *0 = Off, 1 = On* **B4: Cfg_ProgramModeLock** *0 = Off, 1 = On* **B5: AL_FreezeProtection** *0 = Off, 1 = On* **B6: Cfg_UserSysOffModes** *0 = Enable, 1 = Disable* **B7: Cfg_KeyPadBottomLeftLock** *0 = Off, 1 = On* **B8: Cfg_KeyPadUpperLeftLock** *0 = Off, 1 = On* **B9: Cfg_KeyPadArrowsLock** *0 = Off, 1 = On* **B10: Cfg_UserFanAutoMode** *0 = Enable, 1 = Disable* **B11: Cfg_ NightOrNoOccMode** *0 = Setpoint, 1 = OFF* **B12: Cfg_HumControlSource*** *0 = Intern Sensor, 1 = Extern Sensor* Not available on all models. **B13: Time Mode** *0 = 24h, 1 = 12h* **B14: Cfg_WindowOpenedMode** 0 = Setpoint, 1 = OFF **B15: Cfg_DoorOpenedMode** 0 = Setpoint, 1 = OFF	W

Register Index	Description	Data Type	Range	Writable
400**45**	System option2.	Bit String	**B0: Baud Rate** *0 = Auto, 1 = Manual* **B1: Cfg_ActivateSchedule** *0 = Off, 1 = On* **B2: Cfg_AnalogOutput1Direction** *0 = Direct, 1 = Reverse* **B3: Cfg_AnalogOutput2Direction** *0 = Direct, 1 = Reverse* **B4: Cfg_AnalogOutput3Direction** *0 = Direct, 1 = Reverse* **B5: Cfg_AnalogOutput4Direction** *0 = Direct, 1 = Reverse* **B6: Cfg_BinaryOutput1Direction** *0 = Direct, 1 = Reverse* **B7: Cfg_BinaryOutput2Direction** *0 = Direct, 1 = Reverse* **B8: Cfg_BinaryOutput3Direction** *0 = Direct, 1 = Reverse* **B9: Cfg_BinaryOutput4Direction** *0 = Direct, 1 = Reverse* **B10: Cfg_BinaryOutput5Direction** *0 = Direct, 1 = Reverse* **B11: Cfg_BinaryOutput6Direction** *0 = Direct, 1 = Reverse* **B12: Cfg_BinaryOutput7Direction** *0 = Direct, 1 = Reverse* **B12: Cfg_ FanSpeedOption** *0 = Standard, 1 = Advanced (OE1)* **B13: Cfg_UserSysFanMode** *0 = Disable, 1 = Enable* **B14: Cfg_HideFanDisplay** *0 = No, 1 = Yes*	W

Register Index	Description	Data Type	Range	Writable
400**46**	System option3.	Bit String	**[B11, B14]: Reserved** **B0: DAYLIGHT_SAVINGS_STATUS** *0 = Normal, 1 = Summer* **B1: Cfg_EMHOutput** *0 = Disable, 1 = Enable* **B2: Cfg_ HeatPumpMode** *0 = Off (General Unit), 1 = On (HeatPump)* **B3: Cfg_ReversingValve (O/B)** *0 = O, 1 = B* **B4: Cfg_EMHAutoMode** *0 = No, 1 = Yes* **B5: Cfg_Y2Output** *0 = Disable, 1 = Enable* **B6: Cfg_AnalogInput1MinVolt** *0 = 0.0 Volt, 1 = 2.0 Volt* **B7: Cfg_AnalogInput2MinVolt** *0 = 0.0 Volt, 1 = 2.0 Volt* **B8: Cfg_AnalogInput3MinVolt** *0 = 0.0 Volt, 1 = 2.0 Volt* **B9: Cfg_AnalogInput4MinVolt** *0 = 0.0 Volt, 1 = 2.0 Volt* **B10: Cfg_VFDTempInput** *0 = Intern Sensor, 1 = Extern Sensor* **B12: Cfg_FloatingBO1/BO2Direction** *0 = Direct, 1 = Reverse* **B13: Cfg_FloatingBO3/BO7Direction** *0 = Direct, 1 = Reverse* **B15: Cfg_DeltaTempLogic** *0 = Off, 1 = On*	W

Register Index	Description	Data Type	Range	Writable
400**47**	System option4.	Bit String	**[B3-B5, B12-B15]**: **Reserved** **B0: Cfg_CO2ControlSource** *0 = Internal Sensor, 1 = External Sensor* **B1: Cfg_DisplayHumidity** *0 = Display the temperature only, 1 = Display the temperature and humidity* **B2: Cfg_DisplayCO2** *0 = Don't display CO2 control value, 1 = Display CO2 control value* **B6: Cfg_VFDTempSetpointSource** *0 = VFDTempSetpoint, 1 = TempSetpoint* **B7: Cfg_AnalogOutput1OffVoltage** *0 = Off, 1 = Minimum* **B8: Cfg_AnalogOutput2OffVoltage** *0 = Off, 1 = Minimum* **B9: Cfg_AnalogOutput3OffVoltage** *0 = Off, 1 = Minimum* **B10: Cfg_AnalogOutput4OffVoltage** *0 = Off, 1 = Minimum* **B11: Cfg_CO2AutoSelfCalib** *0 = Off, 1 = On*	W
400**48**	Display information.	Unsigned	1 = Temperature and Demand, 2 = Setpoint and Demand, 3 = Temperature Only, 4 = Setpoint Only, 5 = Off	W
400**49**	Temperature control source.	Unsigned	1 = Network Temp, 2 = Intern Temp, 3 = Extern Temp	W
400**50**	Network fallback timeout.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 60, *Value/1 (e.g. 30 mins = 30)*	W
400**51**	Minimum occupancy/day setpoint.	Signed *Scale 10*	Unit: ºC/ºF, Range: 10ºC to max or 50ºF to max *Value x 10 (e.g. 18°C = 180 or 60ºF = 600)*	W
400**52**	Maximum occupancy/day setpoint.	Signed *Scale 10*	Unit: ºC/ºF, Range: min to 40ºC or min to 104ºF *Value x 10 (e.g. 18°C = 180 or 60ºF = 600)*	W
400**53**	Cooling temperature setpoint in unoccupied or night mode.	Signed *Scale 10*	Unit: ºC/ºF, Range: 10ºC to 40ºC or 50ºF to 104ºF *Value x 10 (e.g.18°C = 180 or 60ºF = 600)*	W

Register Index	Description	Data Type	Range	Writable
400**54**	Heating temperature setpoint in unoccupied or night mode.	Signed *Scale 10*	Unit: ºC/ºF, Range: 10ºC to 40ºC or 50ºF to 104ºF *Value x 10 (e.g. 18°C = 180 or 60ºF = 600)*	W
400**55**	Heating proportional band for ramp 1.	Unsigned *Scale 10*	Unit: ºC/ºF, 0.5ºC to 5ºC or 1ºF to 9Fº *Value x 10 (e.g. 1ºC = 10 or 2ºF = 20)*	W
400**56**	Heating proportional band for ramp 2.	Unsigned *Scale 10*	Unit: ºC/ºF, 0.5ºC to 5ºC or 1ºF to 9Fº *Value x 10 (e.g. 1ºC = 10 or 2ºF = 20)*	W
400**57**	Cooling proportional band for ramp 1.	Unsigned *Scale 10*	Unit: ºC/ºF, 0.5ºC to 5ºC or 1ºF to 9ºF *Value x 10 (e.g. 1ºC = 10 or 2ºF = 20)*	W
400**58**	Cooling proportional band for ramp 2.	Unsigned *Scale 10*	Unit: ºC/ºF, 0.5ºC to 5ºC or 1ºF to 9ºF *Value x 10 (e.g. 1ºC = 10 or 2ºF = 20)*	W
400**59**	Changeover proportional band.	Unsigned *Scale 10*	Unit: ºC/ºF, 0.5ºC to 5ºC or 1ºF to 9ºF *Value x 10 (e.g. 1ºC = 10 or 2ºF = 20)*	W
400**60**	Heating deadband for ramp 1.	Unsigned *Scale 10*	Unit: ºC/ºF, 0ºC to 5ºC or 0ºF to 9ºF *Value x 10 (e.g. 1ºC = 10 or 2ºF = 20)*	W
400**61**	Heating deadband for ramp 2.	Unsigned *Scale 10*	Unit: ºC/ºF, 0ºC to 5ºC or 0ºF to 9ºF *Value x 10 (e.g. 1ºC = 10 or 2ºF = 20)*	W
400**62**	Cooling deadband for ramp 1.	Unsigned *Scale 10*	Unit: ºC/ºF, 0ºC to 5ºC or 0ºF to 9ºF *Value x 10 (e.g. 1ºC = 10 or 2ºF = 20)*	W
400**63**	Cooling deadband for ramp 2.	Unsigned *Scale 10*	Unit: ºC/ºF, 0ºC to 5ºC or 0ºF to 9ºF *Value x 10 (e.g. 1ºC = 10 or 2ºF = 20)*	W
400**64**	Changeover deadband.	Unsigned *Scale 10*	Unit: ºC/ºF, 0ºC to 5ºC or 0ºF to 9ºF *Value x 10 (e.g. 1ºC = 10 or 2ºF = 20)*	W
400**65**	Changeover setpoint.	Signed *Scale 10*	Unit: ºC/ºF, 10ºC to 40ºC or 50ºF to 104ºF *Value x 10 (e.g. 12ºC = 120 or 60ºF = 600)*	W
400**66**	Fan time out in seconds.	Unsigned *Scale 1*	Unit: Seconds, Range: 0 to 255 seconds, *Value x 1 (e.g.100 secs = 100)*	W
400**67**	Fan damping factor in seconds.	Unsigned *Scale 1*	Unit: Seconds, Range: 0 to 255 seconds, *Value x 1 (e.g.100 secs = 100)*	W
400**68**	Heating integral time factor in seconds.	Unsigned *Scale 1*	Unit: Seconds, Range: 0 to 250 seconds, *Value x 1 (e.g.100 secs = 100)*	W
400**69**	Cooling integral time factor in seconds.	Unsigned *Scale 1*	Unit: Seconds, Range: 0 to 250 seconds, *Value x 1 (e.g.100 secs = 100)*	W

Register Index	Description	Data Type	Range	Writable
400**70**	Cooling Heating SwitchTimer - Delay between cool and heat or vice versa.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 120 minutes, *Value x 1 (e.g.100 mins = 100)*	W
400**71**	Cooling anticycle delay in minutes.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 15 minutes, *Value x 1 (e.g.10 mins = 10)*	W
400**72**	NSB override delay in minutes.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 180 minutes, *Value x 1 (e.g.100 mins = 100)*	W
400**73**	Unoccupied override delay in minutes.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 180 minutes, *Value x 1 (e.g.100 mins = 100)*	W
400**74**	Occupancy minimum time in minutes.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 240 minutes, *Value x 1 (e.g.100 mins = 100)*	W
400**75**	Unoccupied override delay count down in minutes.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 180 minutes, *Value x 1 (e.g.100 mins = 100)*	W
400**76**	Fan mode (speed) in unoccupied or NSB mode.	Unsigned	1 = Low, 2 = Med, 3 = High, 4 = Auto	W
400**77**	Fan mode (speed) when window is opened (alarm).	Unsigned	1 = Low, 2 = Med, 3 = High, 4 = Auto	W
400**78**	Fan mode (speed) when door is opened (alarm).	Unsigned	1 = Low, 2 = Med, 3 = High, 4 = Auto	W
400**79**	System control mode.	Unsigned	1 = Auto, 2 = Heat, 3 = Cool, 4 = Heat or Cool, 5 = Auto Lock	W
400**80**	Override System occupancy/NSB mode.	Unsigned	1 = Locally, 2 = OFF, 3 = Occupied, 4 = Unoccupied, 5 = Day, 6 = Night	W
400**81**	Internal temperature sensor offset correction.	Signed *Scale 100*	Unit: depends on system unit, Range: ± 5ºC or +/-9ºF *Value x 100 (e.g.2ºC = 200 or 3ºF = 300)*	W
400**82**	Universal Input 1 signal.	Unsigned	1 = OFF 2 = Extern sensor 10K 3 = Change over sensor 4 = Change over normally cool 5 = Change over normally heat 6 = Outside air sensor 7 = Extern sensor 0-10V 8 = CO2 sensor 0-10V 9 = Occupancy binary input 10 = NSB binary input 11 = Override binary input 12 = Window binary input 13 = Door binary input 14 = Dirty Filter binary input 15 = Flow switch binary input 16 = OverHeat binary input 17 = Selector switch binary input 18 = Fan Feedback 19 = Humidity sensor 0-10V 20 = Pressure sensor 0-10V 21 = Extern sensor TT-012 22 = Delta T Inlet 10K 23 = Delta T Inlet 0-10V 24 = Delta T Outlet 10K 25 = Delta T Outlet 0-10V	W

Register Index	Description	Data Type	Range	Writable
400**83**	Universal Input 2 signal.	Unsigned	1 = OFF 2 = Extern sensor 10K 3 = Change over sensor 4 = Change over normally cool 5 = Change over normally heat 6 = Outside air sensor 7 = Extern sensor 0-10V 8 = CO2 sensor 0-10V 9 = Occupancy binary input 10 = NSB binary input 11 = Override binary input 12 = Window binary input 13 = Door binary input 14 = Dirty Filter binary input 15 = Flow switch binary input 16 = OverHeat binary input 17 = Selector switch binary input 18 = Fan Feedback 19 = Humidity sensor 0-10V 20 = Pressure sensor 0-10V 21 = Extern sensor TT-012 22 = Delta T Inlet 10K 23 = Delta T Inlet 0-10V 24 = Delta T Outlet 10K 25 = Delta T Outlet 0-10V	W
400**84**	Universal Input 3 signal.	Unsigned	1 = OFF 1 = Extern sensor 10K 3 = Change over sensor 4 = Change over normally cool 5 = Change over normally heat 6 = Outside air sensor 7 = Extern sensor 0-10V 8 = CO2 sensor 0-10V 9 = Occupancy digital input 10 = NSB digital input 11 = Override digital input 12 = Window digital input 13 = Door digital input 14 = Dirty Filter digital input 15 = Flow switch digital input 16 = OverHeat digital input 17 = Selector switch digital input 18 = Fan Feedback 19 = Humidity sensor 0-10V 20 = Pressure sensor 0-10V 21 = Extern Sensor TT-012 22 = Delta T Inlet 10K 23 = Delta T Inlet 0-10V 24 = Delta T Outlet 10K 25 = Delta T Outlet 0-10V	W
400**85**	Universal Input 4 signal.	Unsigned	1 = OFF 2 = Extern sensor 10K 3 = Change over sensor 4 = Change over normally cool 5 = Change over normally heat 6 = Outside air sensor 7 = Extern sensor 0-10V 8 = CO2 sensor 0-10V 9 = Occupancy digital input 10 = NSB digital input 11 = Override digital input 12 = Window digital input 13 = Door digital input 14 = Dirty Filter digital input 15 = Flow switch digital input 16 = OverHeat digital input 17 = Selector switch digital input 18 = Fan Feedback 19 = Humidity sensor 0-10V 20 = Pressure sensor 0-10V 21 = Extern Sensor TT-012 22 = Delta T Inlet 10K 23 = Delta T Inlet 0-10V 24 = Delta T Outlet 10K 25 = Delta T Outlet 0-10V	W
400**86**	External temperature sensor offset correction.	Signed *Scale 100*	Unit: depends on system unit, Range: ± 5ºC or +/-9ºF *Value x 100 (e.g.2ºC = 200 or 3ºF = 300)*	W
400**87**	Changeover control mode.	Unsigned	1 = Local, 2 = Cool, 3 = Heat	W

Register Index	Description	Data Type	Range	Writable
400**88**	Minimum external temperature reading.	Signed *Scale 10*	Unit: depends on system unit, Range: -40ºC to 0ºC or -40ºF to 32ºF *Value x 10 (e.g.-20°C = -200 or -20°F = 200)*	W
400**89**	Maximum external temperature reading.	Signed *Scale 10*	Unit: depends on system unit, Range: 50ºC to 100ºC or 122ºF to 212ºF *Value x 10 (e.g.60°C = 600 or 140°F = 1400)*	W
400**90**	Maximum CO2 reading.	Signed *Scale 1*	Unit: PPM, Range: 1000 to 5000, *Value x 1 (e.g.2000 = 2000)*	W
400**91**	Alarm level of CO2.	Signed *Scale 1*	Unit: PPM, Range: 1000 to CO2 range, *Value x 1 (e.g.1000 = 1000)*	W
400**92**	Fan output signal.	Unsigned	1 = 1 speed, 2 = 2 speeds, 3 = 3 speeds, 4 = Analog	W
400**93**	Ramp to control analog output 1.	Unsigned	1 = Off 2 = Changeover with fan 3 = Cooling 1 with fan 4 = Cooling 2 with fan 5 = Heating 1 with fan 6 = Heating 2 with fan 7 = Heating 2 8 = Cooling 1 Heating 1 With Fan 9 = HumidifyWithFan 10 = CO2 alarm 11 = 6 Way Valve 12 = Delta temperture 13 = VFD/ECMTempLoopEnable 14 = VFD Pressure Loop	W
400**94**	Minimum voltage for analog output 1 (volt).	Unsigned *Scale 10*	Unit: Volt, Range: 0V to 10V, *Value x 10 (e.g. 3 V = 30)*	W
400**95**	Maximum voltage for analog output 1 (volt).	Unsigned *Scale 10*	Unit: Volt, Range: 0V to 10V, *Value x 10 (e.g. 3 V = 30)*	W
400**96**	Ramp to control analog output 2.	Unsigned	1 = Off 2 = Changeover with fan 3 = Cooling 1 with fan 4 = Cooling 2 with fan 5 = Heating 1 with fan 6 = Heating 2 with fan 7 = Heating 2 8 = Cooling 1 Heating 1 With Fan 9 = HumidifyWithFan 10 = CO2 alarm 11 = 6 Way Valve 12 = Delta temperature 13 = VFD/ECMTempLoopEnable 14 = VFD Pressure Loop 15 = FAN (not available if AO1 is set to VFD/ECMTempLoopEnable or VFD Pressure Loop)	W
400**97**	Minimum voltage for analog output 2 (volt).	Unsigned *Scale 10*	Unit: Volt, Range: 0V to 10V, *Value x 10 (e.g. 3 V = 30)*	W
400**98**	Maximum voltage for analog output 2 (volt).	Unsigned *Scale 10*	Unit: Volt, Range: 0V to 10V, *Value x 10 (e.g. 3 V = 30)*	W

Register Index	Description	Data Type	Range	Writable
400**99**	Ramp to control analog output 3.	Unsigned *Scale 10*	1= Off 2 = Change Over with fan 3 = Cooling 1 with fan 4 = Cooling 2 with fan 5 = Heating 1 with fan 6 = Heating 2 with fan 7 = Heating 2 8 = Cooling 1 Heating 1 With Fan 9 = HumidifyWithFan 10 = CO2 alarm 11 = 6 Way Valve 12 = Delta temperature	W
40**100**	Minimum voltage for analog output 3 (volt).	Unsigned *Scale 10*	Unit: Volt, Range: 0V to 10V, Value x 10 *(e.g. 3 V = 30)*	W
40**101**	Maximum voltage for analog output 3 (volt).	Unsigned *Scale 10*	Unit: Volt, Range: 0V to 10V, Value x 10 *(e.g. 3 V = 30)*	W
40**102**	Ramp to control analog output 4.	Unsigned *Scale 10*	1 = Off 2 = Change Over with fan 3 = Cooling 1 with fan 4 = Cooling 2 with fan 5 = Heating 1 with fan 6 = Heating 2 with fan 7 = Heating 2 8 = Cooling 1 Heating 1 With Fan 9 = HumidifyWithFan 10 = CO2 alarm 11 = 6 Way Valve 12 = Delta temperature	
40**103**	Minimum voltage for analog output 4 (volt).	Unsigned *Scale 10*	Unit: Volt, Range: 0V to 10V, Value x 10 (e.g. 3 V = 30)	W
40**104**	Maximum voltage for analog output 4 (volt).	Unsigned *Scale 10*	Unit: Volt, Range: 0V to 10V, Value x 10 (e.g. 3 V = 30)	W
40**105**	Position of CH1 AO output while heating (%).	Unsigned *Scale 1*	Unit: %, Range: 0% to 100%, *Value x 1 (e.g. 10% = 10)*	W
40**106**	Ramp to control binary output 1.	Unsigned	1 = Off 2 = Changeover with fan 3 = Cooling 1 with fan 4 = Cooling 2 with fan 5 = Heating 1 with fan 6 = Heating 2 with fan 7 = Heating 2 8 = Cooling 1 Heating 1 With Fan 9 = HumidifyWithFan 10 = CO2 alarm	W
40**107**	Delay before activation of BO1 in minutes.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 15 Minutes, *Value x 1 (e.g. 5 mins = 5)*	W
40**108**	Close position percentage for contact BO1.	Unsigned *Scale 1*	Unit: %, Range: 15% to 80%, *Value x 1 (e.g. 20% = 20)*	W
40**109**	Open position percentage for contact BO1.	Unsigned *Scale 1*	Unit: %, Range: 0% to BO1closepos-4%, *Value x 1 (e.g. 20% = 20)*	W
40**110**	Ramp to control binary output 2.	Unsigned	1 = Off 2 = Changeover with fan 3 = Cooling 1 with fan 4 = Cooling 2 with fan 5 = Heating 1 with fan 6 = Heating 2 with fan 7 = Heating 2 8 = Cooling 1 Heating 1 With Fan 9 = HumidifyWithFan 10 = CO2 alarm	W

Register Index	Description	Data Type	Range	Writable
40**111**	Delay before activation of BO2 in minutes.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 15 Minutes, *Value x 1 (e.g. 5 mins = 5)*	W
40**112**	Close position percentage for contact BO2.	Unsigned *Scale 1*	Unit: %, Range: 15% to 80%, *Value x 1 (e.g. 20% = 20)*	W
40**113**	Open position percentage for contact BO2.	Unsigned *Scale 1*	Unit: %, Range: 0% to BO2closepos-4%, *Value x 1 (e.g. 20%= 20)*	W
40**114**	Ramp to control binary output 3.	Unsigned	1 = Off 2 = Changeover with fan 3 = Cooling 1 with fan 4 = Cooling 2 with fan 5 = Heating 1 with fan 6 = Heating 2 with fan 7 = Heating 2 8 = Cooling 1 Heating 1 With Fan 9 = HumidifyWithFan 10 = CO2 alarm	W
40**115**	Delay before activation of BO3 in minutes.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 15 Minutes, *Value x 1 (e.g. 5 mins = 5)*	W
40**116**	Close position percentage for contact BO3.	Unsigned *Scale 1*	Unit: %, Range: 15% to 80%, *Value x 1 (e.g. 20% = 20)*	W
40**117**	Open position percentage for contact BO3.	Unsigned *Scale 1*	Unit: %, Range: 0% to BO3closepos-4%, *Value x 1 (e.g. 20% = 20)*	W
40**118**	Ramp to control binary output 4.	Unsigned	1 = Off 2 = Changeover with fan 3 = Cooling 1 with fan 4 = Cooling 2 with fan 5 = Heating 1 with fan 6 = Heating 2 with fan 7 = Heating 2 8 = Cooling 1 Heating 1 With Fan 9 = HumidifyWithFan 10 = CO2 alarm 11 = FAN	W
40**119**	Delay before activation of BO4 in minutes.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 15 Minutes, *Value x 1 (e.g. 5 mins = 5)*	W
40**120**	Close position percentage for contact BO4.	Unsigned *Scale 1*	Unit: %, Range: 15% to 80%, *Value x 1 (e.g. 20% = 20)*	W
40**121**	Open position percentage for contact BO4.	Unsigned *Scale 1*	Unit: %, Range: 0% to BO4closepos-4%, *Value x 1 (e.g. 20% = 20)*	W
40**122**	Ramp to control binary output 5.	Unsigned	1 = Off 2 = Changeover with fan 3 = Cooling 1 with fan 4 = Cooling 2 with fan 5 = Heating 1 with fan 6 = Heating 2 with fan 7 = Heating 2 8 = Cooling 1 Heating 1 With Fan 9 = HumidifyWithFan 10 = CO2 alarm 11 = FAN	W

Register Index	Description	Data Type	Range	Writable
40**123**	Delay before activation of BO5 in minutes.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 15 Minutes, *Value x 1 (e.g. 5 mins = 5)*	W
40**124**	Close position percentage for contact BO5.	Unsigned *Scale 1*	Unit: %, Range: 15% to 80%, *Value/1 (e.g. 20% = 20)*	W
40**125**	Open position percentage for contact BO5.	Unsigned *Scale 1*	Unit: %, Range: 0% to BO5closepos-4%, *Value/1 (e.g. 20% = 20)*	W
40**126**	Ramp to control binary output 6.	Unsigned	1 = Off 2 = Changeover with fan 3 = Cooling 1 with fan 4 = Cooling 2 with fan 5 = Heating 1 with fan 6 = Heating 2 with fan 7 = Heating 2 8 = Cooling 1 Heating 1 With Fan 9 = HumidifyWithFan 10 = CO2 alarm 11 =6 Way valve 12 = Delta temperature 13 = FAN (available only if fan type is 1-2-3 speeds) 14 = VFD/ECMTempLoopEnable 15 = VFD Pressure Loop	W
40**127**	Delay before activation of BO6 in minutes.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 15 Minutes, *Value x 1 (e.g. 5 = 5 mins)*	W
40**128**	Close position percentage for contact BO6.	Unsigned *Scale 1*	Unit: %, Range: 15% to 80%, *Value x 1 (e.g. 20% = 20)*	W
40**129**	Open position percentage for contact BO6.	Unsigned *Scale 1*	Unit: %, Range: 0% to BO6closepos-4%, *Value x 1 (e.g. 20% = 20)*	W
40**130**	Ramp to control binary output 7.	Unsigned	1 = Off 2 = Change Over with fan 3 = Cooling 1 with fan 4 = Cooling 2 with fan 5 = Heating 1 with fan 6 = Heating 2 with fan 7 = Heating 2 8 = Cooling 1 Heating 1 With Fan 9 = HumidifyWithFan 10 = CO2 alarm	W
40**131**	Delay before activation of BO7 in minutes.	Unsigned *Scale 1*	Unit: Minutes, Range: 0 to 15 Minutes, Value x 1 (e.g. 5 = 5 mins)	W
40**132**	Close position percentage for contact BO7.	Unsigned *Scale 1*	Unit: %, Range: 15% to 80%, Value x 1 (e.g. 20% = 20)	W
40**133**	Open position percentage for contact BO7.	Unsigned *Scale 1*	Unit: %, Range: 0% to BO7closepos-4%, Value x 1 (e.g. 20% = 20)	W

Register Index	Description	Data Type	Range	Writable
40**134**	Input contact of analog 1, 2, 3 and 4.	Bit String	**[B4-B15]: Reserved** **B0: Analog input 1** *0 = Normally Open, 1 = Normally Close* **B1: Analog input 2** *0 = Normally Open, 1 = Normally Close* **B2: Analog input 3** *0 = Normally Open, 1 = Normally Close* **B3: Analog input 4** *0 = Normally Open, 1 = Normally Close*	W
40**135**	Delay before activation of UI1 in seconds.	Unsigned *Scale 1*	Unit: Seconds, Range: 0 to 3600 seconds, *Value/1 (e.g. 20 secs = 20)*	W
40**136**	Delay before activation of UI2 in seconds.	Unsigned *Scale 1*	Unit: Seconds, Range: 0 to 3600 seconds, *Value/1 (e.g. 20 secs = 20)*	W
40**137**	Delay before activation of UI3 in seconds.	Unsigned *Scale 1*	Unit: Seconds, Range: 0 to 3600 seconds, Value/1 (e.g. 20 secs = 20)	W
40**138**	Delay before activation of UI4 in seconds.	Unsigned *Scale 1*	Unit: Seconds, Range: 0 to 3600 seconds, Value/1 (e.g. 20 secs =20)	W
40**139**	Humidity control mode status.	Unsigned	1 = Auto, 2 = Dehumidification, 3 = Humidification, 4 = Off	W
40**140**	Humidity setpoint (%RH) in occupancy or day mode.	Unsigned *Scale 10*	Unit: %RH, Limited by min/max humidity setpoint, *Value x 10 (e.g. 20%RH = 200)*	W
40**141**	Dehumidification setpoint (%RH) in unoccupied or night mode.	Unsigned *Scale 10*	Unit: %RH, Range: 10%RH to 65%RH, *Value x 10 (e.g. 20%RH = 200)*	W
40**142**	Humidification setpoint (%RH) in unoccupied or night mode.	Unsigned *Scale 10*	Unit: %RH, Range: 10%RH to 65%RH, *Value x 10 (e.g. 20%RH = 200)*	W
40**143**	Minimum user setpoint.	Unsigned *Scale 10*	Unit: %RH, Range: 10%RH to max, *Value x 10 (e.g. 20%RH = 200)*	W
40**144**	Maximum user setpoint.	Unsigned *Scale 10*	Unit: %RH, Range: min to 90%RH, *Value x 10 (e.g. 20%RH = 200)*	W
40**145**	Humidity proportional band.	Unsigned *Scale 10*	Unit: %RH, Range: 3%RH to 10%RH, *Value x 10 (e.g. 4%RH = 40)*	W
40**146**	Humidity deadband.	Unsigned *Scale 10*	Unit: %RH, Range: 0%RH to 5%RH, *Value x 10 (e.g. 4%RH = 40)*	W
40**147**	Internal humidity sensor offset correction. * Not available on all models.	Signed *Scale 10*	Unit: %RH, Range: ± 5%RH, *Value x 10 (e.g. 2%RH = 20)*	W
40**148**	External humidity sensor offset correction.	Signed *Scale 10*	Unit: %RH, Range: ± 5%RH, *Value x 10 (e.g. 2%RH = 20)*	W

Register Index	Description	Data Type	Range	Writable
40**149**	Pressure sensor value in Pascals.	Unsigned *Scale 1*	Unit: Pascals, Range: 100 to Register Maximum pressure value range [40**135**], *Value/1 (e.g. 200Pa = 200)*	RO
40**150**	Maximum pressure value range.	Unsigned *Scale 1*	Unit: Pascals, Range: 200 to 20000, *Value/1 (e.g. 200Pa = 200)*	W
40**151**	Actual VFD pressure loop x 10 (%).	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 2% = 20)*	RO
40**152**	VFD pressure loop setpoint.	Unsigned *Scale 1*	Unit: Pascals, Range: 100 to Register Maximum pressure value range [40**135**], *Value/1 (e.g. 200Pa = 200)*	W
40**153**	VFD pressure loop deadband.	Unsigned *Scale 1*	Unit: Pascals, Range: 0 to 100, *Value x 1 (e.g. 20Pa = 20)*	W
40**154**	VFD pressure loop proportional band.	Unsigned *Scale 1*	Unit: Pascals, Range: 100 to 500, *Value x 1 (e.g. 250Pa = 250)*	W
40**155**	VFD pressure loop integral time.	Unsigned *Scale 1*	Unit: Seconds, Range: 0 to 250 seconds, *Value x 1 (e.g. 50 secs = 50)*	W
40**156**	Actual VFD temperature loop while cooling x 10 (%).	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 2% = 20)*	RO
40**157**	Actual VFD temperature loop while heating x 10 (%).	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, *Value x 10 (e.g. 2% = 20)*	RO
40**158**	VFD temperature loop setpoint x 10 (ºC or ºF).	Signed *Scale 10*	Unit: depends on system unit, Range: 10ºC to 40ºC or 50ºF to 104ºF, *Value x 10 (e.g. 30°C = 300 or 60ºF = 600)*	W
40**159**	VFD temperature loop deadband x 10 (ºC or ºF).	Unsigned *Scale 10*	Unit: depends on system unit, Range: 0ºC to 5ºC or 0ºF to 9ºF, *Value x 10 (e.g. 2°C = 20 or 4ºF = 40)*	W
40**160**	VFD temperature loop proportional band x 10 (ºC or ºF).	Unsigned *Scale 10*	Unit: depends on system unit, Range: 0.5ºC to 5ºC or 1ºF to 9ºF, *Value x 10 (e.g. 2°C= 20 or 4ºF = 40)*	W
40**161**	VFD temperature loop integral time.	Unsigned *Scale 1*	Unit: Seconds, Range: 0 to 250 seconds, *Value x 1 (e.g. 50 secs = 50)*	W
40**162**	Voltage required for closing the 6-way valve.	Unsigned *Scale 100*	Unit: V, Range: 0 to 11 V, *Value x 100 (e.g. 2V = 200)*	W
40**163**	Minimum output voltage required for cooling for the 6-way valve.	Unsigned *Scale 100*	Unit: V, Range: 0 to 11 V, *Value x 100 (e.g. 2V = 200)*	W
40**164**	Minimum output voltage required for heating for the 6-way valve.	Unsigned *Scale 100*	Unit: V, Range: 0 to 11 V, *Value x 100 (e.g. 2V = 200)*	W
40**165**	6-way valve size selection in inches.	Unsigned	1 = 1/2, 2 = 3/4, 3 = 1	W
40**166**	Signal type for Analog output 1.	Unsigned	1 = Analog, 2 = On-Off, 3 = Pulsing	W

Register Index	Description	Data Type	Range	Writable
40**167**	Signal type for Analog output 2.	Unsigned	1 = Analog, 2 = On-Off, 3 = Pulsing	W
40**168**	Signal type for Analog output 3.	Unsigned	1 = Analog, 2 = On-Off, 3 = Pulsing	W
40**169**	Signal type for Analog output 4.	Unsigned	1 = Analog, 2 = On-Off, 3 = Pulsing	W
40**170**	Signal type for Binary output 1.	Unsigned	1 = Pulsing, 2 = On-Off, 3 = Floating	W
40**171**	Signal type for Binary output 2.	Unsigned	1 = Pulsing, 2 = On-Off	W
40**172**	Signal type for Binary output 3.	Unsigned	1 = Pulsing, 2 = On-Off, 3 = Floating	W
40**173**	Signal type for Binary output 4.	Unsigned	1 = Pulsing, 2 = On-Off	W
40**174**	Signal type for Binary output 5.	Unsigned	1 = Pulsing, 2 = On-Off	W
40**175**	Signal type for Binary output 6.	Unsigned	1 = Pulsing, 2 = On-Off	W
40**176**	Signal type for Binary output 7.	Unsigned	1 = Pulsing, 2 = On-Off	W
40**177**	PIR Relay sensor.	Unsigned	0 = Relay was not activated, 1 = Relay was activated	W
40**178**	Floating output motor timing for BO1/BO2.	Unsigned *Scale 1*	Unit: Seconds, Range: 15 to 250 seconds, Value x 1 *(e.g. 20 secs = 20)*	W
40**179**	Floating output motor timing for BO3/BO7.	Unsigned *Scale 1*	Unit: Seconds, Range: 15 to 250 seconds, Value x 1 *(e.g. 20 secs = 20)*	W
40**180**	*Reserved*			
40**181**	Floating output value for BO1/BO2.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, Value x 1 *(e.g. 2% = 20)*	W
40**182**	Floating output value for BO3/BO7.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, Value x 1 *(e.g. 2% = 20)*	W
40**183**	*Reserved*			
40**184**	Value for Pulse output 1.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, Value x 1 *(e.g. 2% = 20)*	W
40**185**	Value for Pulse output 2.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, Value x 1 *(e.g. 2% = 20)*	W
40**186**	Value for Pulse output 3.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, Value x 10 *(e.g. 2% = 20)*	W
40**187**	Value for Pulse output 4.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, Value x 10 *(e.g. 2% = 20)*	W
40**188**	Value for Pulse output 5.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, Value x 10 *(e.g. 2% = 20)*	W
40**189**	Value for Pulse output 6.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, Value x 10 *(e.g. 2% = 20)*	W

Register Index	Description	Data Type	Range	Writable
40**190**	Value for Pulse output 7.	Unsigned *Scale 10*	Unit: %, Range: 0% to 100%, Value x 10 *(e.g. 2% = 20)*	W
40**191**	Delta temperature between inlet and outlet.	Signed *Scale 100*	Unit: depends on system unit, Range: -12°C to 12°C or 10.4°F to 53.6°F *Value x 100 (e.g. 8°C = 800 or 6ºF = 600)*	W
40**192**	Delta temperature set point.	Signed *Scale 100*	Unit: depends on system unit, Range: -12°C to 12°C or 10.4°F to 53.6°F *Value x 100 (e.g. 8°C = 800 or 6ºF = 600)*	W
40**193**	Light intensity sensor value.	Unsigned *Scale 1*	Unit: Luxes, Range: 0 to 16000 Luxes, *Value x 1 (e.g. 20 Luxes = 20)*	RO
40**194**	Light intensity sensor maximum range.	Unsigned *Scale 1*	Unit: Luxes, Range: 1000 to 16000 Luxes, *Value x 1 (e.g. 20 Luxes = 20)*	W
40**195**	*Reserved*			
40**196**	VOC sensor value.	Unsigned *Scale 1*	Unit: PPB, Range: 0 to 30000 PPB, *Value x 1 (e.g. 20 PPB= 20)*	RO
40**197** to 40**198**	*Reserved*			
40**199**	User backlight or contrast intensity.	Unsigned *Scale 1*	Unit: %, Range: 0% to 100%, Value x 1 (e.g. 30% = 30)	W
40**200**	Occupancy backlight or contrast intensity.	Unsigned *Scale 1*	Unit: %, Range: 0% to 100%, Value x 1 (e.g. 30% = 30)	W
40**201**	Unoccupancy backlight or contrast intensity.	Unsigned *Scale 1*	Unit: %, Range: 0% to 100%, Value x 1 (e.g. 30% = 30)	W

Notes

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