NFC-TS4310
NFC-TS4315 (BACnet)

TOUCHSCREEN FAN COIL CONTROLLER

DESCRIPTION

The NFC-TS4310 and NFC-TS4315 is a 4.3 inch Colour TFT Touchscreen, Proportional + Integral Fan Coil Controller with BACnet MS/TP connectivity up to 64 devices and supports COV subscription. The Unit has 2 NTC Sensor Inputs, 1 Universal input for remote changeover or changeover NTC Sensor, 2 Digital Inputs (Key Card/Occupancy, Window and Changeover Input), 5 Optically Isolated SSR (Solid State Relay) Outputs (1 x Raise Lower or 2 x PWM-ON/OFF and 3 Digital Fan Speed) and 3 Analogue 0-10VDC Outputs (1 Heating, 1 Cooling and 1 Analogue Fan Speed).
The NFC-TS431x supports both, 2 Pipe and 4 Pipe System. The Raise Lower Outputs are TPC (Time Proportional Control with adjustable valve opening time).
The FCU has built-in real time clock with backup Supercapacitor eliminates the use of battery. The real time clock can be synced with Computer/Server Time Clock with BACnet Time Sync Feature. This controller has BACnet Schedule Object (Read/Writeable) thus providing Schedule Programming with up to 6 Temperature Settings Per Day.
The NFC-TS4310 and NFC-TS4315 works on 24VAC/DC and is Wall Mount with only 25MM Thickness.

FEATURES:

- 4.3 inch Colour TFT Touchscreen
- Three Analogue outputs, one Heating output, one Cooling output and one Fan Speed
- Three Digital Inputs for Key Card/Occupancy, Window and Changeover
- Adjustable No Occupancy Derogation Time
- Programmable Occupancy/Window/Changeover contacts input NC/NO
- Three NTC 10K3A1 Sensor Inputs.
- Schedule Programming with up to 6 Temperature Settings Per Day

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- Sensors offset feature
- Fan Speed Selection Auto/Manual and Analog/Digital
- Programmable Fan Prop Band, Fan On Delay, Fan Start up and Fan Overrun Time
- Adjustable Analog Speed Range with programmable minimum output voltage
- 3 Stage Digital Fan Speed Output
- Full Proportional + Integral
- Separate Integral Time for Heating and Cooling allowing it to be used for Heating and Cooling with or without Integral.
- Celsius/Fahrenheit selection from Main touchscreen (supports BACnet Unit Celsius/Fahrenheit)
- Temperature range from -10°C to +95°C (0.5°C resolution) or 14°F to 203°F (1°F resolution)
- Adjustable Minimum and Maximum Setpoint Range
- Built-in Real Time Clock with Supercapacitor Back-up, up to 48 hours
- Adjustable Back-lit and Back-lit time out
- BACnet MS/TP Connectivity with up to 64 devices (Supports COV Subscription)
- On board EOL(120Ω Termination Resistor)
- Setup entry from Main Screen (PIN Protected)
- 24VAC/DC Power input
- Wall mount (124 x 85 x 24)

SPECIFICATIONS

Power Supply	24VAC/DC, -15/+10% 100mA max (excluded SSRs load)
Temperature Range	-10°C to 95°C (0.5°C Resolution) or 14°F to 203°F (1°F Resolution)
Setpoint Range	-5°C to 95°C (1°C Resolution) or 23°F to 203°F (1°F Resolution)
Temperature Sensors	NTC 10K3A1, adjustable offset ±10°C, 0.5°C Resolution or ±20°F, 1°F Resolution
Integral Time (Heating & Cooling)	0 to 500seconds
Proportional Band (Prop band)	0-50°C, 1°C Resolution or 0-100°F, 2°F Resolution
Deadband	0-10°C, 1°C Resolution or 0-20°F, 2°F Resolution
Time Proportional Control TPC(valve opening time)	0-300seconds
Real Time Clock with 48 hours Capacitor Backup	Adjustable from Setup and supports BACnet Time Sync Feature
Proportional Outputs (Heating, Cooling and Fan)	Digitally Calibrated 0-10VDC, 5mA per output max at 10VDC
Optically Isolated SSR Outputs	Solid State Relays (SSR), 30VAC/DC 1A per SSR
Baud Rate	9600, 19200, 38400 and 76800

ORDERING INFORMATION

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NFC-TS4310 TOUCHSCREEN FAN COIL CONTROLLER
NFC-TS4315 TOUCHSCREEN FAN COIL CONTROLLER with BACnet MS/TP

INSTRUCTIONS

MAIN SETUP

1. From the Main Temperature Screen, press ⚙ icon to go to PIN Entry Page.
2. Type 4 Digit PIN number and press ENTER.

If the PIN Entry is correct, MAIN SETUP Screen will appear. MAIN SETUP Screen gives information about current SYSTEM UNIT (Degrees Celsius/Degrees Fahrenheit), Firmware Version and route to all other settings including SYSTEM SETUP and BACnet SETUP (available in NFC-TS4315 version).

'C/'F (SYSTEM UNIT)

The Controller has two types of Units. Display Unit and System Unit. Display unit can be changed to °C or °F from Main Temperature Screen only. This is available for the guests or users to choose their preferred temperature unit. For example if the guest or user has set the unit to °F, the SYSTEM UNIT in the MAIN SETUP will still be unchanged unless the administrator changes from MAIN SETUP Screen. The System Unit can also be changed using BACnet (NFC-TS4315 version) remotely.

TEMPERATUE SETTINGS

SETPOINT MIN (-5.0°C – 94.5°C/23°F – 202°F) step: 0.5°C/1°F, default: 5.0°C/41°F
SETPOINT MAX (-4.5°C – 95.0°C/24°F – 203°F) step: 0.5°C/1°F, default: 35.0°C/95°F

The SETPOINT MIN and SETPOINT MAX settings restrict all setpoints (except LO-LIMIT & HI-LIMIT), not to go below and above the setpoint minimum and maximum range.

SELECT MAIN SENSOR
(INTERNAL ON-BOARD/EXTERNAL SENSOR SEN1) default: INTERNAL ON-BOARD

This is the selection of main sensor, internal on-board or external sensor at SEN1 input.

OCCUPANCY
SENSOR CONTACT-DIN2

This option helps to interface Occupancy Sensor with Normally Open or Normally Close Volt Free output without changing or modification in the hardware. For example if the Setting is 'NO', then the room status is occupied when the contact open or floating while closing the contact (shorting the input DIN2 to GND or 0V) will set the room status to unoccupied.

UNOCCUPIED (-5.0°C – 95.0°C/23°F – 203°F) step: 0.5°C/1°F, default: 15.0°C/59°F
SETPOINT

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When the system is set to unoccupied, this setpoint overrides the main setpoint or schedule setpoint even if the system is following schedule. The UNOCCUPPIED SETPOINT value is restricted to setpoint minimum and maximum range

NO OCCUPANCY
DEROGATION TIME (0 – 180 min) step: 15 min, default: 15 min

Once the occupancy sensor input is activated, the room status will not be set to unoccupied unless the derogation time elapses.

WINDOW CLOSE
DETECTION CONTACT-DIN1 (NO/NC) default: NO

This option helps to interface Window Contact with Normally Open or Normally Close Volt Free output without changing or modification in the hardware. For example if the setting is 'NO', then the window status is set to 'Closed' when the contact DIN1 is open or floating while closing the contact (shorting the Window input DIN1 to GND or 0V) will set the Window status to 'Opened' and shutdown the Heating and Cooling Cycle. Frost protection is unaffected regardless the Window Status.

OFFSET INTERNAL (±10.0°C/±20°F) step: 0.5°C/1°F, default: 0.0°C/0°F
SENSOR

Internal sensor error can be eliminated by adding offset.

OFFSET EXTERNAL (±10.0°C/±20°F) step: 0.5°C/1°F, default: 0.0°C/0°F
SENSOR SEN1

External sensor error can be eliminated by adding offset.

FROST PROTECTION (ON/OFF) default: OFF

If the Frost Protection is 'ON', then the Heating Output will come on when the Internal Sensor or External Sensor SEN1 temperature falls below 5°C (41°F), even if the heating is off.

POWER ON RESET (AUTO/OFF) default: AUTO
HEATING MODE

In 4 PIPE System, four modes are available for the user:

1. AUTO
2. HEAT
3. COOL
4. OFF

In 2 PIPE System, two modes are available for the user depending on the changeover mode:

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Changeover Heating Mode

1. HEAT
2. OFF

Changeover Cooling Mode

1. COOL
2. OFF

POWER ON RESET HEATING MODE, if 'OFF', will keep the heating and cooling off, on system power up. Frost protection (if 'ON') is unaffected. If 'AUTO' is selected, then on power up, system will be set to AUTO for 4 PIPE System and the system will be set to HEAT or COOL in 2 PIPE System (depending on the changeover mode).

PROP BAND CLG (0.5°C – 15.0°C/1°F – 30°F) step: 0.5°C/1°F, default: 5.0°C/10°F
PROP BAND HTG (0.5°C – 15.0°C/1°F – 30°F) step: 0.5°C/1°F, default: 5.0°C/10°F

These are Proportional Band settings for heating and cooling. Proportional output depends on the error and the Proportional Band. Error is the difference between the room temp and the setpoint when Deadband is 0°C/0°F. If Deadband is not zero, half of the Deadband is added to the Setpoint on Cooling Side and half of the Deadband is subtracted from the Setpoint on Heating Side in order to get the error. See Figure 1…

Note: The function is different when digital output is selected as ON/OFF only. In this case, PROP BAND acts as a differential for that particular digital output. There are only two states of the output when selected as ON/OFF, 0% (OFF) or 100% (ON). Once the output reaches 100%, the selected digital output goes ON and remains ON unless the output falls to 0%. As the output falls to 0%, the selected digital output goes OFF.

DEADBAND (0°C – 10°C/0°F – 20°F) step: 1°C/2°F, default: 2°C/4°F

This is the dead zone between heating and cooling. If the room temperature falls in dead zone, no output will be available, neither heating nor cooling. See Figure 1…

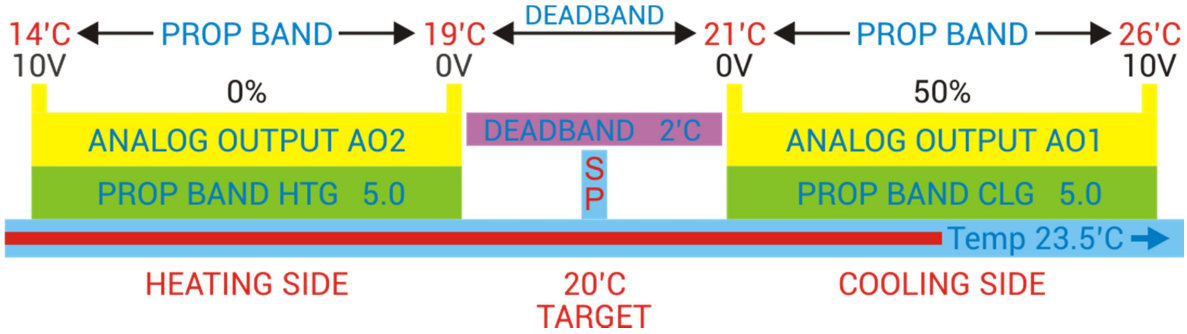

Figure 1

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INTEGRAL TIME CLG (0 – 500 sec) step: 10 sec, default: 0 sec
INTEGRAL TIME HTG (0 – 500 sec) step: 10 sec, default: 0 sec

The Integral Time is used to perform P + I (Proportional + Integral) action. If integral action not required, set integral time to 0 sec.

LO-LIMIT (-10.0°C – 95.0°C/14°F – 203°F) step: 0.5°C/1°F, default: 10.0°C/50°F
SETPOINT

The Lo-Limit is applied to supply air temperature which reduces the cooling output proportionally. Once the supply air temperature reaches the Lo-Limit Setpoint, cooling output is set to zero. This ensures the level of comfort.

LO-LIMIT (0.5°C – 15.0°C/1°F – 30°F) step: 0.5°C/1°F, default: 5.0°C/10°F
PROP BAND

This is the Lo-Limit Proportional Band required to reduce the cooling output proportionally.

HI-LIMIT (21.0°C – 50.0°C/70°F – 122°F) step: 0.5°C/1°F, default: 40.0°C/104°F
SETPOINT

The Hi-Limit is applied to supply air temperature which reduces the heating output proportionally. Once the supply air temperature reaches the Hi-Limit Setpoint, heating output is set to zero. This ensures the level of comfort.

HI-LIMIT (0.5°C – 15.0°C/1°F – 30°F) step: 0.5°C/1°F, default: 5.0°C/10°F
PROP BAND

This is the Hi-Limit Proportional Band required to reduce the heating output proportionally.

OFFSET LIMIT (±10.0°C/±20°F) step: 0.5°C/1°F, default: 0.0°C/0°F
SENSOR SEN2

Limit sensor error can be eliminated by adding offset.

DISPLAY SETTINGS

SCREEN TIMEOUT

SCREEN TIMEOUT (0 – 90 sec) step: 5 sec, default: 30 sec

If screen is not touched till the screen timeout elapses, the controller turns on the screen saving mode. This reduces the TFT back-lit current and power consumption. If screen saving mode not required, set the screen timeout to 0 sec.

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RENAME LOCATION

RENAME LOCATION (20 Characters) default: Change Location

Using QWERTY Keyboard, rename location. Press ENTER to confirm the changes or press CANCEL to discard entry. This can normally be the name of location where the device is installed.

UNOCCUPIED SETPOINT NAME

RENAME UNOCCUPIED SETPOINT (20 Characters) default: UNOCCUPIED

Using QWERTY Keyboard, rename the UNOCCUPIED SETPOINT NAME. Press ENTER to confirm the changes or press CANCEL to discard entry.

DISPLAY/HIDE

DISPLAY TIME/DATE (NONE/TIME/TM+DT) default: TM+DT

This option helps to display or hide Time/Date on Main Temperature Screen. Three options are available:

1. TM+DT (Display Time and Date)
2. TIME (Display Time only)
3. NONE (Do not display Time and Date

DISPLAY LOCATION (NO/YES) default: YES

This option displays or hides location on Main Temperature Screen.

DISPLAY SETPOINT NAME (NO/YES) default: YES

This option displays or hides setpoint name on Main Temperature Screen.

ALLOW SCHEDULE (NO/YES) default: YES
PROGRAMMING
BY END USER?

This option allows guests or user to access schedule programming icon on Main Temperature Screen without login into main setup.

OCCUPIED SETPOINT NAME

RENAME OCCUPIED SETPOINT (20 Characters) default: SETPOINT

Using QWERTY Keyboard, rename occupied setpoint. Press ENTER to confirm the changes or press CANCEL to discard entry.

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SCHEDULE SETPOINT NAME

RENAME SCHEDULE SETPOINT (20 Characters) default: SCHEDULE

Using QWERTY Keyboard, rename schedule setpoint. Press ENTER to confirm the changes or press CANCEL to discard entry.

TIME CLOCK/SCHEDULE

TIME CLOCK SETTINGS

SECONDS	**(0 – 59)**	**step: 1, default:**
MINUTES	**(0 – 59)**	**step: 1, default:**
HOURS	**(0 – 23)**	**step: 1, default:**
DAY	**(MON – SUN)**	**step: 1, default:**
DATE	**(1 – 31)**	**step: 1, default:**
MONTH	**(1 – 12)**	**step: 1, default:**
YEAR	**(2017 – 2030)**	**step: 1, default:**

These are the settings of built-in Real Time Clock (RTC).

SCHEDULE PROPERTIES

PRESENT VALUE (-5.0°C – 95.0°C/23°F – 203°F) step: 0.5°C/1°F, default: 20.0°C/68°F

This is the effective setpoint value, currently being used by the controller to maintain temperature. If the controller is following schedule, updating the present value will be overridden by the next schedule time update. The PRESENT VALUE range is restricted to setpoint minimum and maximum range.

SCHEDULE DEFAULT (-5.0°C – 95.0°C/23°F – 203°F) step: 0.5°C/1°F, default: 22.0°C/72°F

This is the default value to be used for PRESENT VALUE when no other scheduled value is in effect or the value of that particular effective time is null. The SCHEDULE DEFAULT value is restricted to setpoint minimum and maximum range.

OUT OF SERVICE (TRUE/FALSE) default: TRUE

If this value is TRUE, then the PRESENT VALUE is decoupled from internal scheduled value calculations.

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WEEKLY SCHEDULE

MONDAY – SUNDAY

There are maximum of six Time Entries per day can be added and each time entry can be deleted or assigned a value of (-5.0°C – 95.0°C/23°F – 203°F) including null value. These values are restricted to setpoint minimum and maximum range. Any day or its time entry can be copied and pasted to other day or its time entry.

WEEKLY SCHEDULE START DATE

DAY	**(MON – SUN)**	**step: 1, default: MON**
DATE	**(1 – 31)**	**step: 1, default: 1**
MONTH	**(1 – 12)**	**step: 1, default: 7**
YEAR	**(2017 – 2030)**	**step: 1, default: 2019**

This is Weekly Schedule start date.

WEEKLY SCHEDULE END DATE

DAY	**(MON – SUN)**	**step: 1, default: TUE**
DATE	**(1 – 31)**	**step: 1, default: 31**
MONTH	**(1 – 12)**	**step: 1, default: 12**
YEAR	**(2017 – 2030)**	**step: 1, default: 2019**

This is Weekly Schedule end date.

SYSTEM SETUP

SELECT 2 PIPE/4 PIPE SYSTEM (2 PIPE SYSTEM/4 PIPE SYSTEM) default: 4 PIPE SYSTEM

This is the selection between 2 PIPE and 4 PIPE system.

CONFIG 4 PIPE OUTPUTS

This option will be available when 4 PIPE SYSTEM is selected.

1. **COOL ON/OFF or PWM-DO4**
   This option configures the digital output DO4 as ON/OFF or PWM cooling output.
   see ‘PWM COOLING PERIOD IN SECONDS’

2. **COOL FLOATING-DO4:DO5 (0 – 300 sec) step: 1 sec, default: 100 sec**
   This option configures the digital outputs DO4 and DO5 as FLOATING Raise/Lower cooling outputs.
   see ‘FLOATING TIME IN SECONDS’

3. **COOL ANALOG-AO1**
   This option assigns the analogue output AO1 as proportional cooling output.

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4. **HEAT ON/OFF or PWM-DO5**
   This option configures the digital output DO5 as ON/OFF or PWM heating output.
   see 'PWM COOLING PERIOD IN SECONDS'

5. **HEAT FLOATING-DO4:DO5 (0 – 300 sec) step: 1 sec, default: 100 sec**
   This option configures the digital outputs DO4 and DO5 as FLOATING Raise/Lower heating outputs.
   see 'FLOATING TIME IN SECONDS'

6. **HEAT ANALOG-AO2**
   This option assigns the analogue output AO2 as proportional heating output.

CONFIG 2 PIPE OUTPUTS (changeover mode COOL)

This option will be available when 2 PIPE SYSTEM is selected.

1. **COOL ON/OFF or PWM-DO4**
   This option configures the digital output DO4 as ON/OFF or PWM cooling output.
   see 'PWM PERIOD IN SECONDS'

2. **COOL FLOATING-DO4:DO5 (0 – 300 sec) step: 1 sec, default: 100 sec**
   This option configures the digital outputs DO4 and DO5 as FLOATING Raise/Lower cooling outputs.
   see 'FLOATING TIME IN SECONDS'

3. **COOL ANALOG-AO1**
   This option assigned the analogue output AO1 as proportional cooling output.

CONFIG 2 PIPE OUTPUTS (changeover mode HEAT)

This option will be available when 2 PIPE SYSTEM is selected.

1. **HEAT ON/OFF or PWM-DO4**
   This option configures the digital output DO4 as ON/OFF or PWM heating output.
   see 'PWM PERIOD IN SECONDS'

2. **HEAT FLOATING-DO4:DO5 (0 – 300 sec) step: 1 sec, default: 100 sec**
   This option configures the digital outputs DO4 and DO5 as FLOATING Raise/Lower heating outputs.
   see 'FLOATING TIME IN SECONDS'

3. **HEAT ANALOG-AO1**
   This option assigned the analogue output AO1 as proportional heating output.

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CHANGEOVER INPUT (NO/CL, NO/HT or SEN3) default: NO/CL
SENSOR/VOLT FREE-UIN1/SEN3

This option will be available when 2 PIPE SYSTEM is selected. This option configures changeover universal input UIN1 as a Normally Open/Normally Close Volt Free digital input or as a sensor Input without changing or modification in the hardware. For example if the setting is 'NO/CL', then the changeover mode is set to 'COOL' when the contact is open or floating while closing the contact (shorting the changeover digital input to GND or 0V) will set the changeover mode to 'HEAT' and similarly, if the setting is 'NO/HT', then the changeover move is set to 'HEAT' when the contact is open or floating while closing the contact (shorting the changeover digital input to GND or 0V) will set the changeover mode to 'COOL'. However, if the setting is 'SEN3', then the changeover mode depends on the changeover temperature and the setpoint.

CHANGEOVER (-10.0°C – 95.0°C/14°F – 203°F) step: 0.5°C/1°F, default: 20.0°C/68°F
SETPOINT

This option will be available when 2 PIPE SYSTEM is selected and changeover universal input UIN1 is configured as sensor input 'SEN3'. NTC 10K3A1 sensor must be connected to senor input SEN3 when UIN1 is configured as sensor input 'SEN3'. When the changeover temperature is equal to or greater than the changeover setpoint, changeover mode will be set to 'HEAT' and if the changeover temperature is less than the changeover setpoint, changeover mode will be set to 'COOL'.

OFFSET CHANGEOVER (±10.0°C/±20°F) step: 0.5°C/1°F, default: 0.0°C/0°F
SENSOR SEN3

Changeover sensor error can be eliminated by adding offset.

FLOATING TIME (0 – 300) step: 1, default: 100 sec
IN SECONDS

This is the valve/actuator opening and closing time. On POR (power on reset) and after every 24 hours of POR, the controller DO5 output is energised for a period equal to the floating time plus 10% to ensure the valve/actuator is driven to the fully closed position before the time proportional action is applied.

For example if the proportional output is 20% then the output DO4 is energised for 20% of the floating time by driving the valve/actuator to open position. Similar action is taken place when the proportional output change from 20% to 50%, but this time the output DO4 is energised for only 30% of the floating time as the valve/actuator has already travelled 20% of the floating time.

RESTORE DEFAULTS

Confirm Restore Defaults?

By confirming 'YES' will reset all the parameters values to factory defaults.

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CHANGE PIN NUMBER

ENTER NEW PIN

To change PIN, type new PIN number and press 'CHANGE PIN'.

FAN SPEED SETTINGS

FAN ON DELAY (0 – 180 sec) step: 30 sec, default: 0 sec
(Heating only)

The fan on delay is provided only in heating cycle. If not zero and the heating is OFF for more than 30 sec, then the heating off period is inserted for fan on delay during heating cycle. If the heating off period is more than the fan on delay, then the maximum delay will be fan on delay.

FAN START UP (0 – 10 sec) step: 1 sec, default: 0 sec

This option provides a facility to start up the fan at full speed whenever it is switched ON from an OFF state. If the fan start up time is not zero, then the fan will receive full power for the set fan start up time. After the fan start up time is expired, the fan speed will be reduced to the selected value.

FAN OVERRUN (0 – 15 min) step: 1 min, default: 0 min

If not zero, then the fan will continue to run at default low speed for the duration of fan overrun period.

SELECT FAN SPEED OUTPUT TYPE
(DIGITAL: SSR DO1, DO2, DO3/ANALOG OUTPUT AO3) default: DIGITAL

This is the selection between DIGITAL and ANALOG fan speed output.

DIGITAL OUTPUT DO1, DO2, DO3 (AUTO)

These settings will be available when fan speed output 'DIGITAL: SSR DO1, DO2, DO3' is selected.

1. **ΔT1 (0.5°C – 15.0°C/1°F – 30°F) step: 0.5°C/1°F, default: 3.0°C/6°F**
   When the main temperature falls in this cooling ΔT1 band, digital output DO1 is activated.

2. **ΔT2 (0.5°C – 15.0°C/1°F – 30°F) step: 0.5°C/1°F, default: 3.0°C/6°F**
   When the main temperature falls in this cooling ΔT2 band, digital output DO2 is activated.

3. **ΔT3 (0.5°C – 15.0°C/1°F – 30°F) step: 0.5°C/1°F, default: 3.0°C/6°F**
   When the main temperature falls in this heating ΔT4 band, digital output DO1 is activated.

4. **ΔT4 (0.5°C – 15.0°C/1°F – 30°F) step: 0.5°C/1°F, default: 3.0°C/6°F**
   When the main temperature falls in this heating ΔT5 band, digital output DO2 is activated.

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NOTE 1: When the main temperature falls in cooling ΔT4 band or heating ΔT6 band, digital output DO3 is activated.

NOTE 2: All digital outputs depend on FAN ON DELAY, FAN START UP and FANOVERRUN.

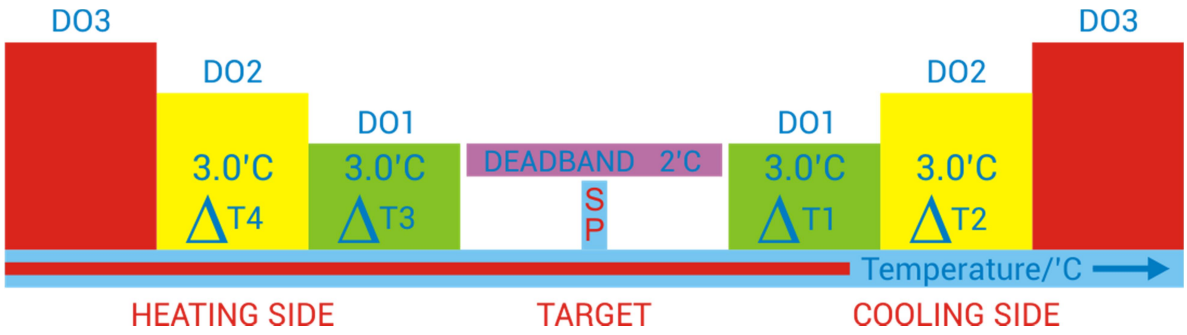

Figure 2

ANALOG OUTPUT AO3 (AUTO)

These settings will be available when fan speed output 'ANALOG OUTPUT AO3' is selected.

1. **FAN PROP BAND CLG (0.5°C – 15.0°C/1°F – 30°F) step: 0.5°C/1°F, default: 3.0°C/6°F**
   This is the Fan Prop Band in cooling cycle.

2. **FAN PROP BAND HTG (0.5°C – 15.0°C/1°F – 30°F) step: 0.5°C/1°F, default: 3.0°C/6°F**
   This is the Fan Prop Band in heating cycle.

FAN MIN/MAX ANALOG OUTPUT: AO3

These settings will be available when fan speed output 'ANALOG OUTPUT AO3' is selected.

1. **MIN ANALOG OUTPUT (0V – 9V) step: 1V, default: 0V**
   This is the analog fan speed minimum output voltage.

2. **MAX ANALOG OUTPUT (1V – 10V) step: 1V, default: 10V**
   This is the analog fan speed maximum output voltage.

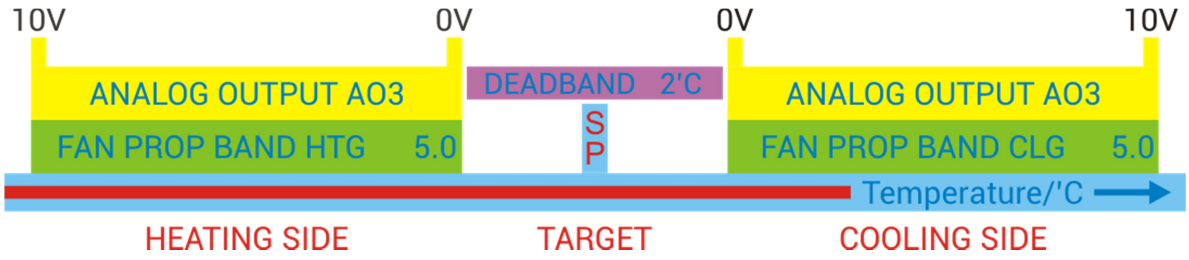

Figure 3

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BACnet SETUP

MS/TP MAC ADDRESS (1 – 127) step: 1, default: 1

This is the controller's unique MAC address. The range 1 – 127 is for master only.

MAX MASTER (1 – 127) step: 1, default: 127

The Max Master is the address where the node that is polling for masters rolls over to MAC address 0.

MAX INFO FRAMES (1 – 10) step: 1, default: 1

This is the setting of maximum number of information frames that a node can send before passing the token to the next node.

BAUD RATE (9600, 19200, 38400 & 76800) default: 19200

This is the communication baud rate. Four baud rates are available for RS-485 communication. Baud rate must be set prior to connecting to the network.

DEVICE INSTANCE (1 – 4194302) default: 1076000 + MAC ADDRESS

This is the device instance number which must be unique within the entire network. A default device instance is the combination of vendor id and device MAC address. For example, vendor id of NORPOSH is 1076 and if the set MAC address is 2 then the default device instance will be set to 1076002.

APDU TIMEOUT (1 – 60000) default: 1000

This is the amount of time in milliseconds between retransmissions of an APDU.

NUMBER OF (1 – 10) step: 1, default: 1
APDU RETRIES

This is the maximum number of times that an APDU is retransmitted.

DEVICE NAME (20 Characters) default: NFC-TS4315

This is the device name which can be renamed to the maximum of 20 alpha-numeric strings and must be unique within the entire network.

LOCATION (20 Characters) default: Change Location

This is the device name which can be renamed to the maximum of 20 alpha-numeric strings and should be renamed where the device is installed. This will help to locate the device during commissioning.

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BACnet Protocol Implementation Conformance Statement (PICS)

Vendor Name: NORPOSH LIMITED

Vendor Identifier: 1076

Product Name: Touchscreen Fan Coil Controller

Model Number: NFC-TS4315

Firmware Revision: 43.15.0

Protocol Version: 19

BACnet Interoperability Building Blocks Supported (BIBB)

Read Property

Read Property Multiple

Write Property

Subscribe COV

Who-Is

I-Am

Who-Has

I-Have

DeviceCommunicationControl (DM-DCC-B)

TimeSyncronization (DM-TS-B)

Standard Object Types Supported

Analog Input-R

Analog Output-R

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Analog Value-R/W

Binary Input-R

Binary Output-W

Binary Value-R/W

Multistate Output-W

Multistate Values-R/W

Schedule-R/W

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List of BACnet Proprietary Properties

OBJECT_TYPE Object Instance	Proprietary Property ID	Description	BACnet Data Type	Values	Default
Analog_Input 0	1076300	OFFSET INTERNAL SENSOR	REAL	Range: -10 to +10°C [-20 to +20°F] Resolution: 0.5°C [1°F]	0°C [0°F]
Analog_Input 1	1076301	OFFSET EXTERNAL SENSOR SEN1	REAL	Range: -10 to +10°C [-20 to +20°F] Resolution: 0.5°C [1°F]	0°C [0°F]
Analog_Input 2	1076302	OFFSET LIMIT SENSOR SEN2	REAL	Range: -10 to +10°C [-20 to +20°F] Resolution: 0.5°C [1°F]	0°C [0°F]
Analog_Input 3	1076303	OFFSET CHANGEOVER SENSOR	REAL	Range: -10 to +10°C [-20 to +20°F] Resolution: 0.5°C [1°F]	0°C [0°F]
Analog_Value 10	1076304	SETPOINT MIN	REAL	Range: -5 to 94.5°C [23 to 202°F] Resolution: 0.5°C [1°F]	5°C [41°F]
	1076305	SETPOINT MAX	REAL	Range: -4.5 to 95°C [24 to 203°F] Resolution: 0.5°C [1°F]	35°C [95°F]
	1076306	PROP BAND COOLING	REAL	Range: 0.5 to 15°C [1 to 30°F] Resolution: 0.5°C [1°F]	5°C [10°F]
	1076307	PROP BAND HEATING	REAL	Range: 0.5 to 15°C [1 to 30°F] Resolution: 0.5°C [1°F]	5°C [10°F]
	1076308	DEADBAND	Unsigned	Range: 0 to 10°C [0 to 20°F] Resolution: 1°C [2°F]	1°C [2°F]
	1076309	INTEGRAL TIME COOLING	Unsigned	Range: 0 to 500 (sec) Resolution: 10 (sec)	0 (sec)
	1076310	INTEGRAL TIME HEATING	Unsigned	Range: 0 to 500 (sec) Resolution: 10 (sec)	0 (seconds)
	1076311	LO-LIMIT SETPOINT	REAL	Range: 5 to 15°C [41 to 59°F] Resolution: 0.5°C [1°F]	10°C [50°F]
	1076312	LO-LIMIT PROP BAND	REAL	Range: 0.5 to 15°C [1 to 30°F] Resolution: 0.5°C [1°F]	5°C [10°F]
	1076313	HI-LIMIT SETPOINT	REAL	Range: 21 to 50°C [70 to 122°F] Resolution: 0.5°C [1°F]	40°C [104°F]
	1076314	HI-LIMIT PROP BAND	REAL	Range: 0.5 to 15°C [1 to 30°F] Resolution: 0.5°C [1°F]	5°C [10°F]
Multi_State_Value 60	1076315	FAN ON DELAY	Unsigned	Range: 0 to 180 (sec) Resolution: 30 (sec)	0 (sec)
	1076316	FAN START UP	Unsigned	Range: 0 to 10 (sec) Resolution: 1 (sec)	0 (sec)
	1076317	FAN OVERRUN	Unsigned	Range: 0 to 15 (min) Resolution: 1 (min)	0 (min)
	1076318	FAN MIN ANALOG OUTPUT AO3	Unsigned	Range: 0 to 9V Resolution: 1V	0V
	1076319	FAN MAX ANALOG OUTPUT AO3	Unsigned	Range: 1 to 10V Resolution: 1V	10V
	1076320	FAN PROP BAND COOLING	REAL	Range: 0.5 to 15°C [1 to 30°F] Resolution: 0.5°C [1°F]	5°C [10°F]
	1076321	FAN PROP BAND HEATING	REAL	Range: 0.5 to 15°C [1 to 30°F] Resolution: 0.5°C [1°F]	5°C [10°F]
	1076322	ΔT1	REAL	Range: 0.5 to 15°C [1 to 30°F] Resolution: 0.5°C [1°F]	5°C [10°F]
	1076323	ΔT2	REAL	Range: 0.5 to 15°C [1 to 30°F] Resolution: 0.5°C [1°F]	5°C [10°F]
	1076324	ΔT3	REAL	Range: 0.5 to 15°C [1 to 30°F] Resolution: 0.5°C [1°F]	5°C [10°F]
	1076325	ΔT4	REAL	Range: 0.5 to 15°C [1 to 30°F] Resolution: 0.5°C [1°F]	5°C [10°F]

Table 1

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Device:1076XXX

Property	Value	Default	Read/ Write	Remarks
Application Software Version	1.0			
Database Revision	0			
Description	BACnet FCU			
Device Address Binding				
Firmware Revision				
Local Date	DD/MM/YYY			Current Date
Local Time	HH:MM:SS			Current Time
Location	Change Location		R/W	Max 29 Characters
Max Apdu Length Accepted	480			Max APDU Length for MS/TP
Max Info Frames	1 – 80	1	R/W	
Max Master	1 – 127	127	R/W	
Model Name	NFC-TS4315			
Number of Apdu Retries	1 – 10	1	R/W	
Object Identifier	OBJECT_DEVICE:1076XXX	1076007	R/W	
Object Name	NFC-TS4315		R/W	Max 29 Characters
Object Type	Object Device			
Protocol Object Types Supported				
Protocol Revision	19			
Resolution	0.5°C [1°F]			Setpoint Min increment /decrement
Segmentation Supported	None			
System Status	Operational			
Vendor Identifier	1076			
Vendor Name	NORPOSH LIMITED			

Analog_Input:0

Property	Value	Default	Read/ Write	Remarks
1076300	-10 to +10°C [-20 to +20°F]	0°C [0°F]	R/W	OFFSET INTERNAL SENSOR
Cov Increment	0.5 to 30°C [1 to 60°F]	0.5°C [1°F]	R/W	Change of Value
Description	Main Temperature from Internal On-board Sensor			
Event State	Normal			This value is always set to Normal
Object Identifier	OBJECT_ANALOG_INPUT:0			
Object Name	ROOM TEMPERATURE		R/W	Max 29 Characters
Object Type	Object Analog Input			
Out of Service	True / False			True, if sensor is not in use
Present Value	-5 to 95°C [23 to 203°F]			Measured Sensor Temperature

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Reliability	No Fault Detected No Sensor Over Range Under Range Open Loop Shorted Loop No Output			These values are set by controller depend on the measured sensor value, connectivity to the input port and Out of Service status
Resolution	0.5°C [1°F]			Setpoint Min increment /decrement
Status Flags	In Alarm Fault Overridden Out Of Service			
Units	Degrees Celsius Degrees Fahrenheit	Celsius	R/W	System/Controller working Unit

Analog_Input:1

Property	Value	Default	Read/ Write	Remarks
1076301	-10 to +10°C [-20 to +20°F]	0°C [0°F]	R/W	OFFSET EXTERNAL SENSOR
Cov Increment	0.5 to 30°C [1 to 60°F]	0.5°C [1°F]	R/W	Change of Value
Description	Main Temperature from External Sensor SEN1			
Event State	Normal			This value is always set to Normal
Object Identifier	OBJECT_ANALOG_INPUT:0			
Object Name	EXTERNAL SENSOR SEN1		R/W	Max 29 Characters
Object Type	Object Analog Input			
Out of Service	True / False			True, if sensor is not in use
Present Value	-5 to 95°C [23 to 203°F]			Measured Sensor Temperature
Reliability	No Fault Detected No Sensor Over Range Under Range Open Loop Shorted Loop No Output			These values are set by controller depend on the measured sensor value, connectivity to the input port and Out of Service status
Resolution	0.5°C [1°F]			Setpoint Min increment /decrement
Status Flags	In Alarm Fault Overridden Out Of Service			
Units	Degrees Celsius Degrees Fahrenheit	Celsius	R/W	System/Controller working Unit

Analog_Input:2

Property	Value	Default	Read/ Write	Remarks
1076302	-10 to +10°C [-20 to +20°F]	0°C [0°F]	R/W	OFFSET LIMIT SENSOR
Cov Increment	0.5 to 30°C [1 to 60°F]	0.5°C [1°F]	R/W	Change of Value
Description	Limit Temperature from Sensor SEN2			
Event State	Normal			This value is always set to Normal
Object Identifier	OBJECT_ANALOG_INPUT:0			
Object Name	LIMIT TEMPERATURE		R/W	Max 29 Characters

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Object Type	Object Analog Input			
Out of Service	True / False			True, if sensor is not in use
Present Value	-5 to 95°C [23 to 203°F]			Measured Sensor Temperature
Reliability	No Fault Detected No Sensor Over Range Under Range Open Loop Shorted Loop No Output			These values are set by controller depend on the measured sensor value, connectivity to the input port and Out of Service status
Resolution	0.5°C [1°F]			Setpoint Min increment /decrement
Status Flags	In Alarm Fault Overridden Out Of Service			
Units	Degrees Celsius Degrees Fahrenheit	Celsius	R/W	System/Controller working Unit

Analog_Input:3

Property	Value	Default	Read/ Write	Remarks
1076303	-10 to +10°C [-20 to +20°F]	0°C [0°F]	R/W	OFFSET CHANGEOVER SENSOR SEN3
Cov Increment	0.5 to 30°C [1 to 60°F]	0.5°C [1°F]	R/W	Change of Value
Description	Changeover Temperature from Sensor SEN3			
Event State	Normal			This value is always set to Normal
Object Identifier	OBJECT_ANALOG_INPUT:0			
Object Name	CHANGEOVER TEMP		R/W	Max 29 Characters
Object Type	Object Analog Input			
Out of Service	True / False			True, if sensor is not in use
Present Value	-5 to 95°C [23 to 203°F]			Measured Sensor Temperature
Reliability	No Fault Detected No Sensor Over Range Under Range Open Loop Shorted Loop No Output			These values are set by controller depend on the measured sensor value, connectivity to the input port and Out of Service status
Resolution	0.5°C [1°F]			Measured Temperature minimum increment or decrement
Status Flags	In Alarm Fault Overridden Out Of Service			
Units	Degrees Celsius Degrees Fahrenheit	Celsius	R/W	System/Controller working Unit

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Analog_Output:4

Property	Value	Default	Read/ Write	Remarks
Description	Analog Cooling Output at AO1			
Event State	Normal			This value is always set to Normal
Object Identifier	OBJECT_ANALOG_ OUTPUT:4			
Object Name	COOLING OUTPUT AO1		R/W	Max 29 Characters
Object Type	Object Analog Input			
Out of Service	True / False			
Present Value	0-100%			Cooling Output set by Controller
Priority Array	Object[] Array			
Relinquish Default	0			
Resolution	1			
Status Flags	In Alarm Fault Overridden Out Of Service			
Units	Percent	Percent		Analog output in percent

Analog_Output:5

Property	Value	Default	Read/ Write	Remarks
Description	Analog Heating Output at AO2			
Event State	Normal			This value is always set to Normal
Object Identifier	OBJECT_ANALOG_OUTPUT:5			
Object Name	HEATING OUTPUT AO2		R/W	Max 29 Characters
Object Type	Object Analog Input			
Out of Service	True / False			
Present Value	0-100%			Cooling Output set by Controller
Priority Array	Object[] Array			
Relinquish Default	0			
Resolution	1			
Status Flags	In Alarm Fault Overridden Out Of Service			
Units	Percent	Percent		Analog output in percent

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Analog_Output:6

Property	Value	Default	Read/ Write	Remarks
Description	Analog Fan Speed Output at AO3			
Event State	Normal			This value is always set to Normal
Object Identifier	OBJECT_ANALOG_OUTPUT:6			
Object Name	FAN ANALOG OUTPUT AO3		R/W	Max 29 Characters
Object Type	Object Analog Input			
Out of Service	True / False			
Present Value	0-100%			Fan Speed Output
Priority Array	Object[] Array			
Relinquish Default	0			
Resolution	1			
Status Flags	In Alarm Fault Overridden Out Of Service			
Units	Percent	Percent		Analog output in percent

Analog_Value:10

Property	Value	Default	Read/ Write	Remarks
1076304	-5 to 94.5°C [23 to 202°F]	5°C [41°F]	R/W	SETPOINT MIN
1076305	-4.5 to 95°C [24 to 203°F]	35°C [95°F]	R/W	SETPOINT MAX
1076306	0.5 to 15°C [1 to 30°F]	5°C [10°F]	R/W	PROP BAND COOLING
1076307	0.5 to 15°C [1 to 30°F]	5°C [10°F]	R/W	PROP BAND HEATING
1076308	0 to 10°C [0 to 20°F]	1°C [2°F]	R/W	DEADBAND
1076309	0 to 500 (sec)	0 (sec)	R/W	INTEGRAL TIME COOLING
1076310	0 to 500 (sec)	0 (sec)	R/W	INTEGRAL TIME HEATING
1076311	5 to 15°C [41 to 59°F]	10°C [50°F]	R/W	LO-LIMIT SETPOINT
1076312	0.5 to 15°C [1 to 30°F]	5°C [10°F]	R/W	LO-LIMIT PROP BAND
1076313	21 to 50°C [70 to 122°F]	40°C [104°F]	R/W	HI-LIMIT SETPOINT
1076314	0.5 to 15°C [1 to 30°F]	5°C [10°F]	R/W	HI-LIMIT PROP BAND
Description	Room Setpoint			
Event State	Normal			This value is always set to Normal
Object Identifier	OBJECT_ANALOG_VALUE:10			
Object Name	SETPOINT		R/W	Max 29 Characters
Object Type	Object Analog Value			
Out of Service	True / False			
Present Value	-5 to 95°C [23 to 203°F]	20°C [68°F]	R/W	Range depends on Setpoint Min and Setpoint Max Value
Resolution	0.5°C [1°F]			Setpoint Min increment /decrement
Status Flags	In Alarm Fault Overridden Out Of Service			
Units	Degrees Celsius Degrees Fahrenheit	Celsius	R/W	System/Controller working Unit

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Analog_Value:11

Property	Value	Default	Read/ Write	Remarks
Description	Unoccupied Setpoint			
Event State	Normal			This value is always set to Normal
Object Identifier	OBJECT_ANALOG_VALUE:11			
Object Name	UNOCCUPIED SETPOINT		R/W	Max 29 Characters
Object Type	Object Analog Value			
Out of Service	True / False			
Present Value	-5 to 95°C [23 to 203°F]	15°C [59°F]	R/W	
Resolution	0.5°C [1°F]			Setpoint Min increment /decrement
Status Flags	In Alarm Fault Overridden Out Of Service			
Units	Degrees Celsius Degrees Fahrenheit	Celsius	R/W	System/Controller working Unit

Analog_Value:12

Property	Value	Default	Read/ Write	Remarks
Description	Changeover Setpoint			
Event State	Normal			This value is always set to Normal
Object Identifier	OBJECT_ANALOG_VALUE:11			
Object Name	CHANGEOVER SETPOINT		Read	Max 29 Characters
Object Type	Object Analog Value			
Out of Service	True / False			
Present Value	-10 to 95°C [14 to 203°F]	20°C [68°F]	R/W	
Resolution	0.5°C [1°F]			Setpoint Min increment /decrement
Status Flags	In Alarm Fault Overridden Out Of Service			
Units	Degrees Celsius Degrees Fahrenheit	Celsius	R/W	System/Controller working Unit

Binary_Input:30

Property	Value	Default	Read/ Write	Remarks
Description	Occupancy Sensor Input			
Event State	Normal			This value is always set to Normal
Object Identifier	OBJECT_BINARY_INPUT:30			
Object Name	OCCUPANCY SENSOR INPUT		R/W	Max 29 Characters
Object Type	Object Binary Input			
Out of Service	True / False			
Polarity	Normal	Normal		
Present Value	0/1			
Status Flags	In Alarm Fault Overridden Out Of Service			

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Binary_Input:31

Property	Value	Default	Read/ Write	Remarks
Description	Window Input			
Event State	Normal			This value is always set to Normal
Object Identifier	OBJECT_BINARY_INPUT:31			
Object Name	WINDOW INPUT		YES	Max 29 Characters
Object Type	Object Binary Input			
Out of Service	True / False			
Polarity	Normal	Normal		
Present Value	0/1			
Status Flags	In Alarm Fault Overridden Out Of Service			

Binary_Input:32

Property	Value	Default	Read/ Write	Remarks
Description	Changeover Input			
Event State	Normal			This value is always set to Normal
Object Identifier	OBJECT_BINARY_INPUT:32			
Object Name	CHANGEOVER INPUT		R/W	Max 29 Characters
Object Type	Object Binary Input			
Out of Service	True / False			
Polarity	Normal	Normal		
Present Value	0/1			
Status Flags	In Alarm Fault Overridden Out Of Service			

Multi_State_Input:40

Property	Value	Default	Read/ Write	Remarks
Description	Occupancy Status			
Event State	Normal			This value is always set to Normal
Number of States	2			
Object Identifier	OBJECT_MULTI_STATE_INPUT:40			
Object Name	OCCUPANCY STATUS		R/W	Max 29 Characters
Object Type	Object Multi State Input			
Out of Service	True / False			
Present Value	1/2			
State Text	1:OCCUPIED 2:UNOCCUPIED			
Status Flags	In Alarm Fault Overridden Out Of Service			

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Multi_State_Output:42

Property	Value	Default	Read/ Write	Remarks
Description	Floating Output			
Event State	Normal			This value is always set to Normal
Number of States	3			
Object Identifier	OBJECT_MULTI_STATE_OUTPUT:42			
Object Name	OCCUPANCY STATUS		R/W	Max 29 Characters
Object Type	Object Multi State Output			
Out of Service	True / False			
Present Value	1 – 3			
Priority Array	Object[] Array			
State Text	1:STOP 2:OPEN 3:CLOSE			
Status Flags	In Alarm Fault Overridden Out Of Service			

Multi_State_Output:43

Property	Value	Default	Read/ Write	Remarks
Description	Fan Digital Speed Output			
Event State	Normal			This value is always set to Normal
Number of States	4			
Object Identifier	OBJECT_MULTI_STATE_OUTPUT:43			
Object Name	FAN DIGITAL OUTPUT			
Object Type	Object Multi State Output			
Out of Service	True / False			
Present Value	1 – 4			
Priority Array	Object[] Array			
State Text	1:OFF 2:LOW 3:MEDIUM 4:HIGH			
Status Flags	In Alarm Fault Overridden Out Of Service			

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Schedule:0

Property	Value	Default	Read/ Write	Remarks
Effective Period	Object[] Array			Schedule Effective Period
List of Object Property References	Reference to OBJECT_ANALOG_VALUE:10			
Object Identifier	OBJECT_SCHEDULE:0			
Object Name	SCHEDULE		R/W	Max 29 Characters
Object Type	Object Schedule			
Out of Service	True / False		R/W	
Present Value	-5 to 95°C [23 to 203°F]		R/W	This value is set by Controller but can be written when Out of Service value is True
Priority For Writing		Lowest And Default		
Reliability	No Fault Detected Unreliable Other Configuration Error			These values are set by controller
Schedule Default	-5 to 95°C [23 to 203°F]	22°C [72°F]		
Status Flags	In Alarm Fault Overridden Out Of Service			

Multi_State_Value:50

Property	Value	Default	Read/ Write	Remarks
Description	Fan Digital Speed Output			
Event State	Normal			This value is always set to Normal
Number of States	4			
Object Identifier	OBJECT_MULTI_STATE_VALUE:50			
Object Name	SELECT AUTO/HEAT/COOL/OFF			
Object Type	Object Multi State Value			
Out of Service	True / False			
Present Value	1 – 4			
State Text	1:AUTO 2:HEAT 3:COOL 4:OFF			
Status Flags	In Alarm Fault Overridden Out Of Service			

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Multi_State_Value:51

Property	Value	Default	Read/ Write	Remarks
Description	Select Main Sensor			
Event State	Normal			This value is always set to Normal
Number of States	2			
Object Identifier	OBJECT_MULTI_STATE_VALUE:51			
Object Name	SELECT MAIN SENSOR			
Object Type	Object Multi State Value			
Out of Service	True / False			
Present Value	1/2	1	R/W	
State Text	1:INTERNAL ON-BOARD 2:EXTERNAL SEN1			
Status Flags	In Alarm Fault Overridden Out Of Service			

Multi_State_Value:52

Property	Value	Default	Read/ Write	Remarks
Description	Select 2 PIPE/4 PIPE SYSTEM			
Event State	Normal			This value is always set to Normal
Number of States	2			
Object Identifier	OBJECT_MULTI_STATE_VALUE:52			
Object Name	SELECT 2 PIPE/4 PIPE SYSTEM			
Object Type	Object Multi State Value			
Out of Service	True / False			
Present Value	1/2	2	R/W	
State Text	1:2 PIPE SYSTEM 2:4 PIPE SYSTEM			
Status Flags	In Alarm Fault Overridden Out Of Service			

Multi_State_Value:53

Property	Value	Default	Read/ Write	Remarks
Description	Select Occupancy Sensor Contacts			
Event State	Normal			This value is always set to Normal
Number of States	2			
Object Identifier	OBJECT_MULTI_STATE_VALUE:53			
Object Name	SELECT OCCUPANCY SENSOR CONTACTS			
Object Type	Object Multi State Value			
Out of Service	True / False			
Present Value	1/2	2	R/W	
State Text	1:NC:Occupied when Contacts closed 2:NO:Occupied when Contacts opened			
Status Flags	In Alarm Fault			

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	Overridden Out Of Service			

Multi_State_Value:54

Property	Value	Default	Read/ Write	Remarks
Description	Turn On/Off Frost Protection			
Event State	Normal			This value is always set to Normal
Number of States	2			
Object Identifier	OBJECT_MULTI_STATE_VALUE:54			
Object Name	TURN ON/OFF FROST PROTECTION			
Object Type	Object Multi State Value			
Out of Service	True / False			
Present Value	1/2	2	R/W	
State Text	1:FROST PROTECTION: ON 2:FROST PROTECTION: OFF			
Status Flags	In Alarm Fault Overridden Out Of Service			

Multi_State_Value:55

Property	Value	Default	Read/ Write	Remarks
Description	Power on Reset Heat Mode			
Event State	Normal			This value is always set to Normal
Number of States	2			
Object Identifier	OBJECT_MULTI_STATE_VALUE:55			
Object Name	POWER ON RESET HEAT MODE			
Object Type	Object Multi State Value			
Out of Service	True / False			
Present Value	1/2	1	R/W	
State Text	1: POWER ON RESET HEAT MODE: AUTO 2: POWER ON RESET HEAT MODE: OFF			
Status Flags	In Alarm Fault Overridden Out Of Service			

Multi_State_Value:56

Property	Value	Default	Read/ Write	Remarks
Description	Select Window Contacts			
Event State	Normal			This value is always set to Normal
Number of States	2			
Object Identifier	OBJECT_MULTI_STATE_VALUE:56			
Object Name	SELECT WINDOW CONTACTS			
Object Type	Object Multi State Value			
Out of Service	True / False			
Present Value	1/2	2	R/W	

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State Text	1:NC:Window Status CLOSED when contact closed 2:NO:Window Status CLOSED when contact opened			
Status Flags	In Alarm Fault Overridden Out Of Service			

Multi_State_Value:57

Property	Value	Default	Read/ Write	Remarks
Description	Configure Outputs			
Event State	Normal			This value is always set to Normal
Number of States				This depends on 2 PIPE and 4 PIPE System
Object Identifier	OBJECT_MULTI_STATE_VALUE:57			
Object Name	CONFIG OUTPUTS			
Object Type	Object Multi State Value			
Out of Service	True / False			
Present Value			R/W	
State Text				This depends on 2 PIPE and 4 PIPE System
Status Flags	In Alarm Fault Overridden Out Of Service			

Multi_State_Value:58

Property	Value	Default	Read/ Write	Remarks
Description	Select Changeover Type			
Event State	Normal			This value is always set to Normal
Number of States	3			
Object Identifier	OBJECT_MULTI_STATE_VALUE:58			
Object Name	SELECT CHANGEOVER TYPE			
Object Type	Object Multi State Value			
Out of Service	True / False			
Present Value	1 – 3		R/W	
State Text	1:DRY CONTACT: NO Cooling/NC Heating 2:DRY CONTACT: NO Heating/NC Cooling 3:CHANGEOVER SENSOR SEN3			
Status Flags	In Alarm Fault Overridden Out Of Service			

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Multi_State_Value:59

Property	Value	Default	Read/ Write	Remarks
Description	Select Fan Speed Output Type			
Event State	Normal			This value is always set to Normal
Number of States	2			
Object Identifier	OBJECT_MULTI_STATE_VALUE:59			
Object Name	SELECT FAN SPEED OUTPUT TYPE			
Object Type	Object Multi State Value			
Out of Service	True / False			
Present Value	1/2		R/W	
State Text	1:ANALOG OUTPUT AO3 2:DIGITAL OUTPUT DO1, DO2, DO3			
Status Flags	In Alarm Fault Overridden Out Of Service			

Multi_State_Value:60

Property	Value	Default	Read/ Write	Remarks
1076315 – 1076325				See Table 1
Description				This depends on Fan Speed Type
Event State	Normal			This value is always set to Normal
Number of States				This depends on Fan Speed Type
Object Identifier	OBJECT_MULTI_STATE_VALUE:60			
Object Name	FAN SPEED OUTPUT TYPE			
Object Type	Object Multi State Value			
Out of Service	True / False			
Present Value			R/W	This depends on Fan Speed Type
State Text				This depends on Fan Speed Type
Status Flags	In Alarm Fault Overridden Out Of Service			

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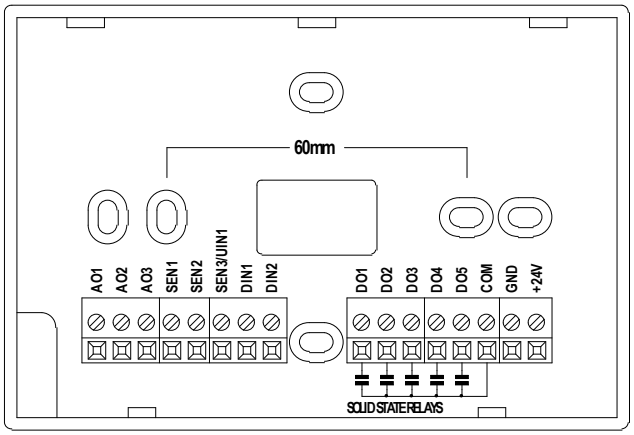
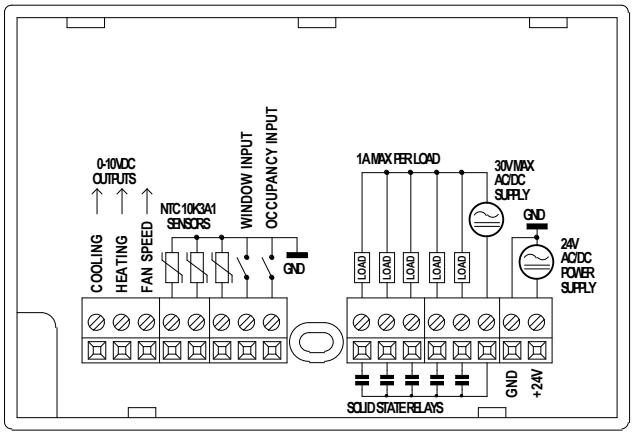
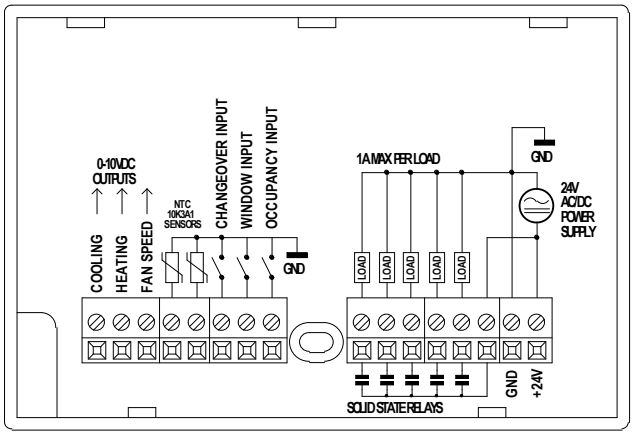
NFC-TS4310
NFC-TS4315 (BACnet)

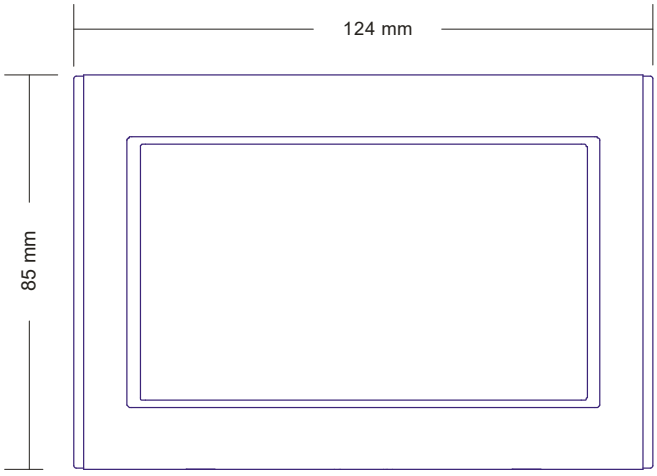
TOUCHSCREEN FAN COIL CONTROLLER

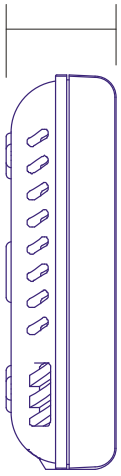
WIRING REFERENCE/DIMENSIONS











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