

Crestron **CNTS-N**  
Temperature Sensor Module

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Operations Guide



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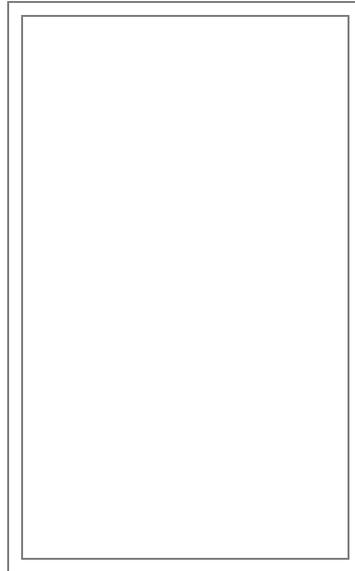


# CNTS-N

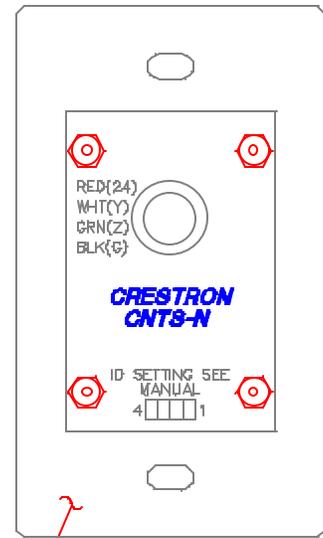
## Description

The CNTS-N, shown below, is CRESTRON's temperature sensor module that communicates with the CRESNET II control system via the CRESNET II network. The sensor measures ambient room temperature and depending on programming, delivers a reading to a touchpanel for display in one of four formats. The CNTS-N is designed for wall mounting using a standard single-gang electrical box. The exposed faceplate and bezel has no discernible features to draw attention to it. Therefore, it can be discreetly located in a room.

### *CNTS-N Physical Views*



FRONT VIEW  
(SHOWN WITH BEZEL)



BACK-UP PLATE

REAR VIEW  
(SHOWN WITHOUT BEZEL)  
(FITS IN SINGLE-GANG  
ELECTRICAL BOX)

## Leading Specifications

The table below provides a summary of leading specifications for the CNTS-N. Dimensions and weight are approximations rounded to the nearest thousandth unit.

*Leading Specifications of the CNTS-N*

SPECIFICATION	DETAILS
Power Requirements	0.5 Watts
CRESNET II Workshop	Version 4.31 or later
CRESNET II Operating System	SR30222.OPS or later
VisionTools for Windows	Version 10.0 or later
Compiler	3.09.17 or later
Temperature Range	32 to 122 degrees Fahrenheit (0 to 50 degrees Celsius)
Dimensions & Weight (CNTS-N with Bezel)	Height: 4.625 in (11.748 cm) Width: 2.875 in (7.303 cm) Depth: 1.125 in (2.858 cm) Weight: 0.540 lb (0.245 kg)

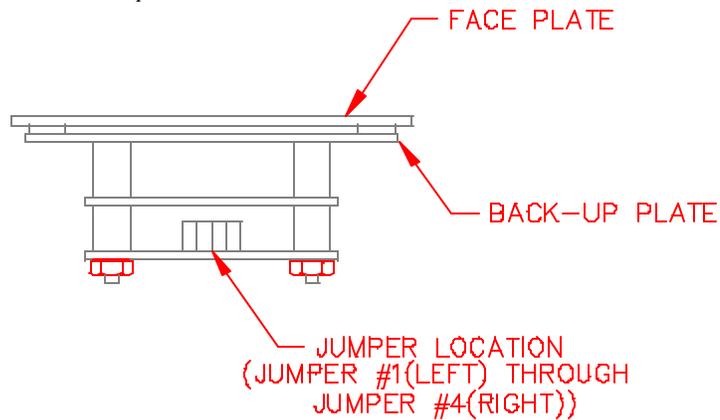
## Setup

### Identity Code

Each device on the CRESNET II network requires the setting of an identity code (NET ID). Typically, these codes are recognized by a two-digit hexadecimal number from 03 to FE. However, the CNTS-N is limited to 16 possible hexadecimal numbers (E0 to EF). The NET ID of each unit must match an ID CODE specified in the "NET.ID" statement of the CRESNET II SIMPL-I program in order for the device to be addressed properly.

The NET ID of each CNTS-N has been factory set to EF, but may be changed by removing one or all four of the jumpers. Refer to the illustration below for location of the CNTS-N jumpers. The table that follows reveals which jumpers need to be installed for the corresponding NET ID. An 'X' in the JUMPER column indicates that the jumper is installed.

*CNTS-N Jumper Location*



CNTS-N Jumper Table

NET ID	JUMPER #1	JUMPER #2	JUMPER #3	JUMPER #4
EF	X	X	X	X
EE	X	X	X	
ED	X	X		X
EC	X	X		
EB	X		X	X
EA	X		X	
E9	X			X
E8	X			
E7		X	X	X
E6		X	X	
E5		X		X
E4		X		
E3			X	X
E2			X	
E1				X
E0				

## Preparation for Use

For proper installation, complete the following steps in the order provided.

**CAUTION:** Before making any connections, review latest revision of network interconnection drawing (Doc. 5411).

**NOTE:** Before installing the CNTS-N into a single-gang electrical box, verify correct NET ID setting of the unit.

**NOTE:** For ease of installation, the white faceplate (CNTS-N sensor) can be removed from the CNTS-N. Simply disconnect the 3-pin connector.

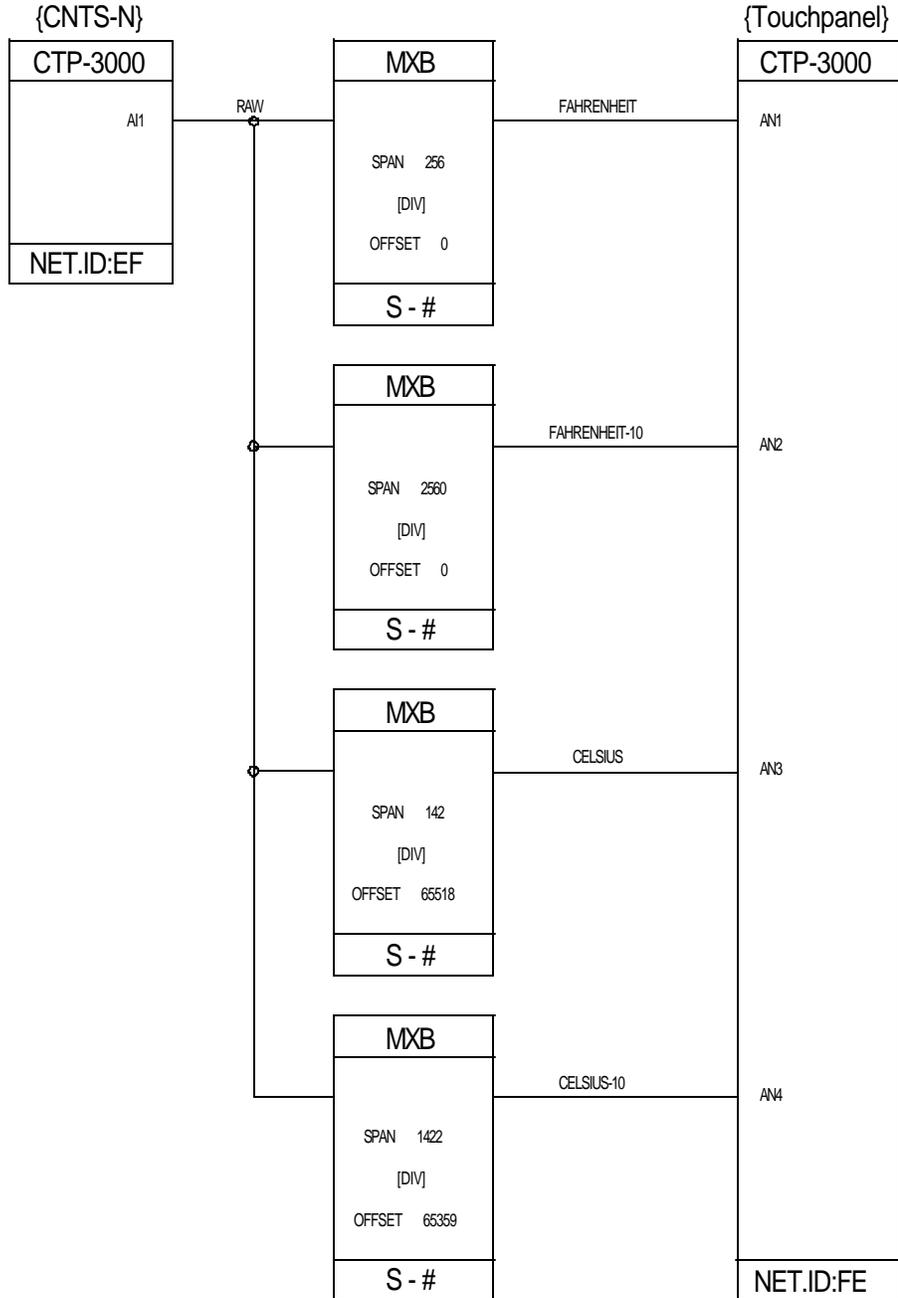
1. Pass the four network wires of the CNTS-N through the bezel opening and set the unit into the bezel.
2. Use four connector nuts and connect the four network wires of the CNTS-N to the network wire in the single-gang electrical box. Refer to the silk-screening on the back of the CNTS-N for a definition of wire color (RED-24, WHT-Y, GRN-Z, and BLK-G).
3. Use two screws (supplied) to secure the CNTS-N and bezel to the single-gang electrical box.
4. If the white faceplate (CNTS-N sensor) was removed, connect the 3-pin connector and position the faceplate over the installed unit. Faceplate is secured with magnetic strips.

## Programming

SIMPL is CRESTRON's object-oriented programming language designated for easy implementation of the control system requirements. The objects that are used in

SIMPL are called symbols. A basic CNTS-N SIMPL program is shown as a block diagram and described below.

*CNTS-N SIMPL Program*

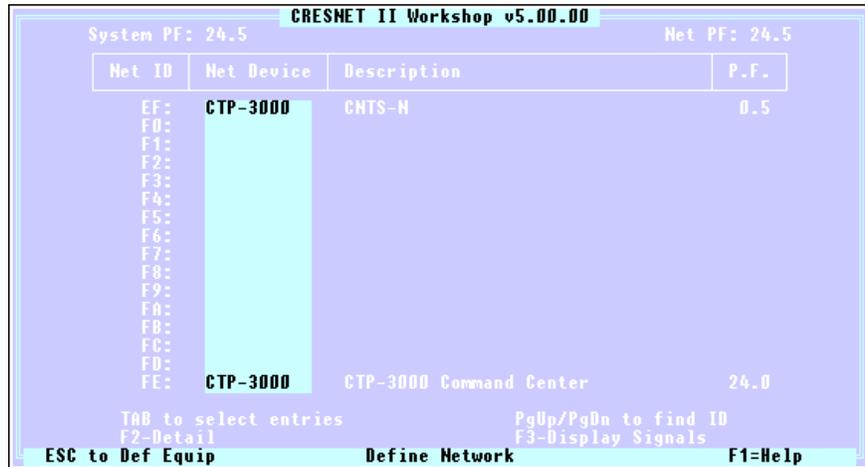


**Workshop**

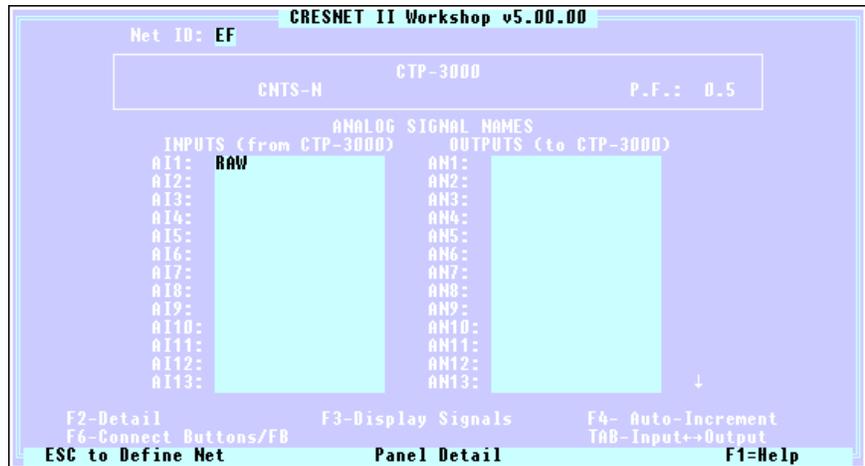
The CRESNET II Workshop is designed to simplify the various operations needed to program and run a CRESNET II control system. Define the CNTS-N as a CTP-3000 with NET ID equal to EF. If the NET ID has been altered as described in “Identity Code” on page 2, use this new NET ID in the Workshop. The series of screen displays (shown on the next page) is accessible from the “Define Network” option of

the SIMPL-I Menu in the CRESNET II Workshop. These screens are shown to clarify the means of assigning signal names to the SIMPL program in the block diagram.

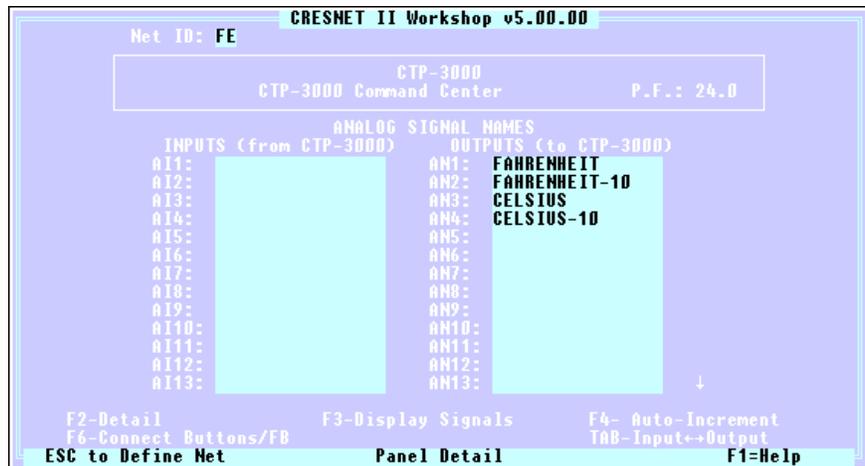
CNTS-N Workshop Screens (1 of 3)



CNTS-N Workshop Screens (2 of 3)



CNTS-N Workshop Screens (3 of 3)



From the “Define Network” screen of the Workshop (refer to screen 1 of 3), cursor down to NET ID EF and depress TAB until “CTP-3000” appears in the NET DEVICE column. Depress F2 to enter the definition. From this screen depress F7 to display the ANALOG SIGNAL NAME screen (refer to screen 2 of 3). Enter the signal name coming from the CNTS-N on channel AI1. In the example, the signal name RAW is used. A signal name must be entered on AI1 for the CNTS-N to report back values properly. Repeat this procedure for the touchpanel and assign proper signal names (refer to screen 3 of 3).

**NOTE:** When entering values into the MXB symbol, type the value and depress the F10 key before moving off the field. This forces the Workshop to accept the numeric parameter instead of attempting to convert it to a percentage. Verify that the optional [DIV] field is left blank; it is not used for this application.

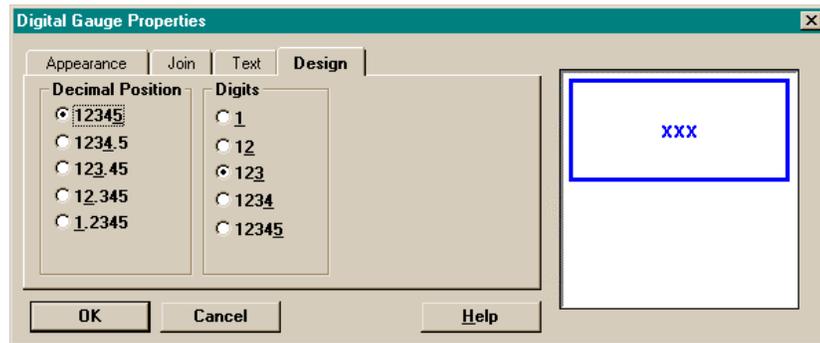
There are four temperature display formats: Fahrenheit without fractional part, Fahrenheit with fractional part, Celsius without fractional part, and Celsius with fractional part. To obtain these values from the RAW signal, four different MXB symbols are used (refer back to the SIMPL-I block diagram). Each MXB output is routed to an analog output of a touchpanel definition (CTP-3000 in the example). VisionTools™ for Windows (VTW) is used to properly display the outputs via the Digital Gauge object.

### VisionTools for Windows

**NOTE:** When displaying results, use any available output on the CTP-3000 definition. The analog outputs in this example are only a sample (i.e., CELSIUS-10 could be routed to AN26 and could join the digital gauge to 26 instead of 4).

When designing touchpanel layout pages, keep in mind that all object properties are assigned from the respective properties dialog boxes. The “Digital Gauge Properties” dialog box has a number of tabs for various settings. For this example, the Join and Design tabs must be accessed (refer to illustration below). The table that follows the illustration itemizes all the necessary settings for the signals in the block diagram.

Digital Gauge Properties Dialog Box (Design Tab)



Digital Gauge Settings for CNTS-N

SIGNAL	CHANNEL	JOIN #	DECIMAL POSITION	DIGITS
FAHRENHEIT	AN1	1	12345	123
FAHRENHEIT-10	AN2	2	1234.5	1234
CELSIUS	AN3	3	12345	123
CELSIUS-10	AN4	4	1234.5	1234

# Problem Solving

## Troubleshooting

The table below provides corrective action for possible trouble situations. If further assistance is required, please contact a CRESTRON technical support representative.

### *CNTS-N Troubleshooting*

TROUBLE	POSSIBLE CAUSE(S)	CORRECTIVE ACTION
Touchpanel displays incorrect temperature format.	Design attributes assigned with VTW are incorrect.	Use VTW to open project and verify that Design attributes (DECIMAL POSITION and DIGITS) are properly assigned.
Touchpanel readings are incorrect.	Values entered into MXB symbols are incorrect.	Use CRESNET II Workshop and verify that SPAN and OFFSET values are correctly entered.
Touchpanel does not display any temperature readings.	CNTS-N is not wired properly.	Verify CNTS-N wiring (RED-24, WHT-Y, GRN-Z, and BLK-G).

## Further Inquiries

If after reviewing this Operations Guide for the CNTS-N, you can not locate specific information, please take advantage of CRESTRON's award winning technical support team in your area. Dial one of the following numbers.

- In the US, call (888) CRESTRON [(888) 273-7876] - the call is toll free or (201) 894-0660.
- In Europe, call +32.15.730.974.
- In Asia, call +852.2341.2016.

## Syntax

The following syntax codes for the CNTS-N are provided for compatibility purposes only.

**NET.ID <E0 to EF>: CTP-3000**

**AI1 = <Signal Name>**

**\analog signal to bargraph**



**Crestron Electronics, Inc.**  
101 Broadway, PO Box 394  
Cresskill, NJ 07626  
Tel: 888.CRESTRON / 201.894.0660  
Fax: 201.894.1192 / BBS: 201.894.1317  
<http://www.crestron.com>

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