XT-SOFT Configuration Software

Help File

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ProSense XT-SOFT Configuration Software

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Please include the Manual Number and the Manual Issue, both shown below, when communicating with Technical Support regarding this publication.

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Issue	**Date**	**Description of Changes**
1st Edition	10/12	Original
2nd Edition	11/16	Added XTP Series
3rd Edition	02/17	Added ETS Series
4th Edition	02/2020	Add XT-USB configuration cable note to Section 2.1

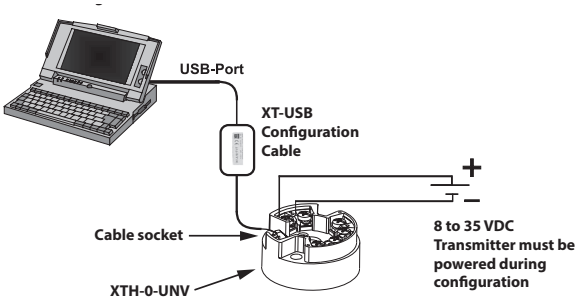
Table of Contents

1. General

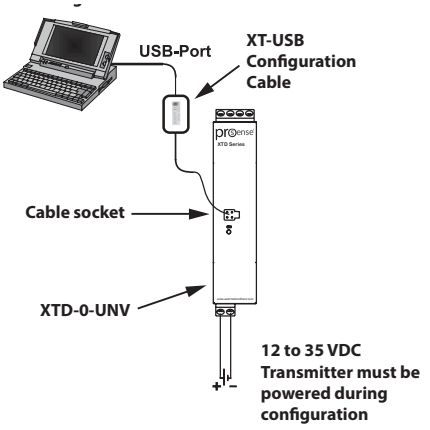
ProSense XT-SOFT PC software is a utility program that allows users to easily configure ProSense XTH-0-UNV and XTD-0-UNV temperature transmitters, ProSense XTP Series temperature transmitter probes, or ProSense ETS Series digital temperature sensors. Download your free copy of XT-SOFT at www.AutomationDirect.com and connect your ProSense temperature transmitter/sensor through an XT-USB configuration cable. An XT-M12 adapter is also required when connecting to an XTP series transmitter probe. (XT-USB and XT-M12 are purchased separately).

Connection Examples

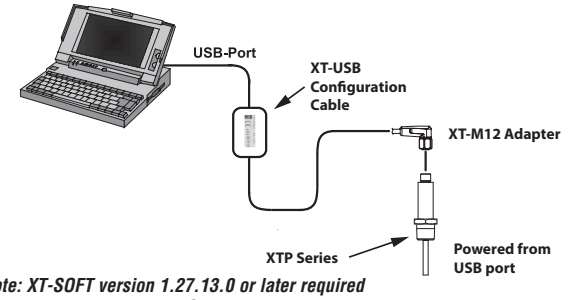
XTH-0-UNV Connection



XTD-0-UNV Connection

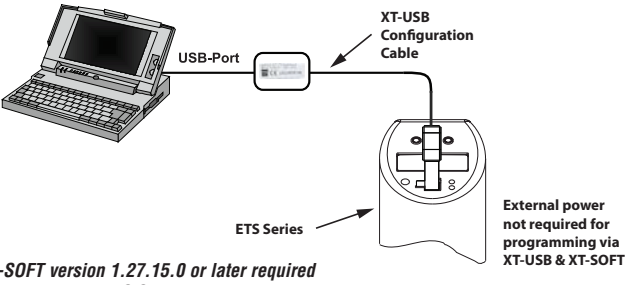


XTP Series Connection



Note: XT-SOFT version 1.27.13.0 or later required for use with the XTP Series.

ETS Series Connection



Note: XT-SOFT version 1.27.15.0 or later required for use with the ETS Series.

2. Operation

2.1 Basic Settings

After ProSense XT-SOFT has been installed and started the following start window appears:

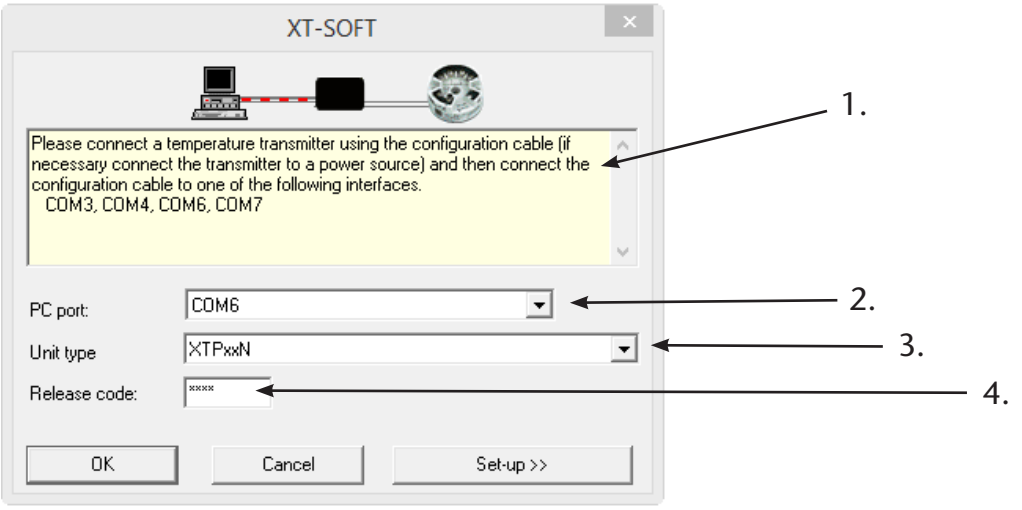


Figure 1

The first time XT-SOFT is started the operating language is requested. On all subsequent starts the last language set-up is used.

In the yellow information field (1) in the Fig. 1 the communication ports available at the time of starting the program are listed. In the PC Port pull-down box (2) select the port where the XT-USB cable is connected or select the Autodetect option to try to detect the connected port. Please note that Autodetect will take longer than manually selecting the communication port, possibly up to two minutes or more. The XT-USB configuration cable should be assigned to a windows communication port from COM1 to COM20 to communicate with the universal temperature transmitter.

Next select the transmitter model from the Unit Type pull-down box (3) or select the Autodetect PC-programmable option (available only when PC Port Autodetect is selected) to try to detect the connected transmitter.

Enter the Release Code (4) for the connected transmitters if it has previously been changed from the default of 0000. Refer to Section 2.6 - Modify Parameters of a Password-Protected Device for additional information.

Changing the release code can prevent the user from accessing the transmitter configuration and should only be done with caution. The transmitter CAN NOT be accessed without the release code and care should be used to document all changes.

The OK button will establish connection with the temperature transmitter.

2.2 Settings

The Set-up button (3) Fig. 2 expands the main window to show additional set-up possibilities.

2.2.1 Language

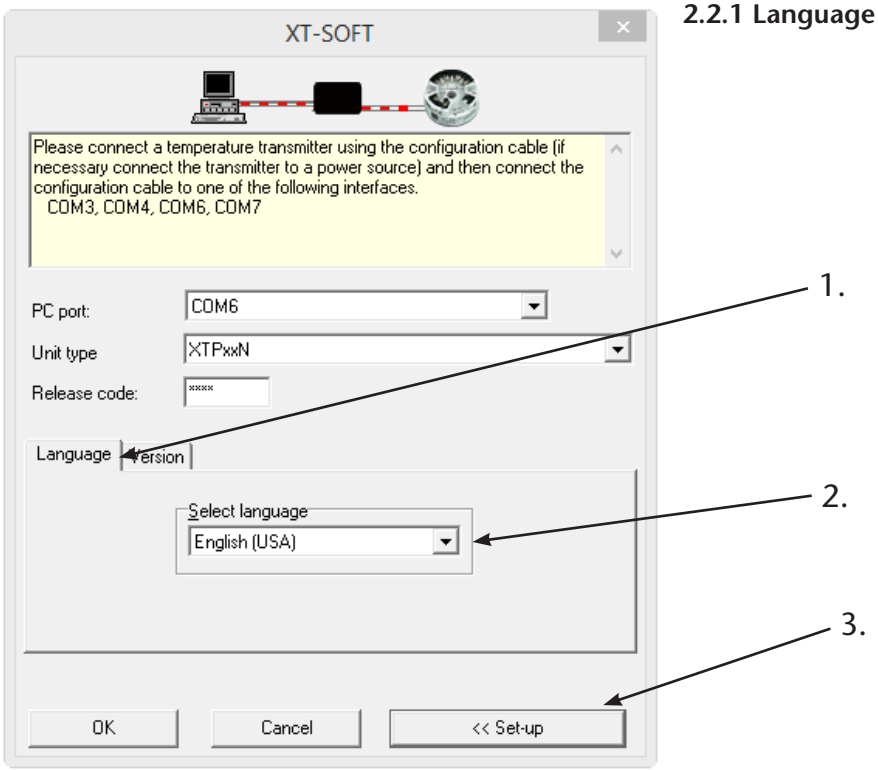


Figure 2

Under the Language tab (1) in Fig. 2 use the Select Language (2) pull-down box to select the desired language.

2.2.2 Version

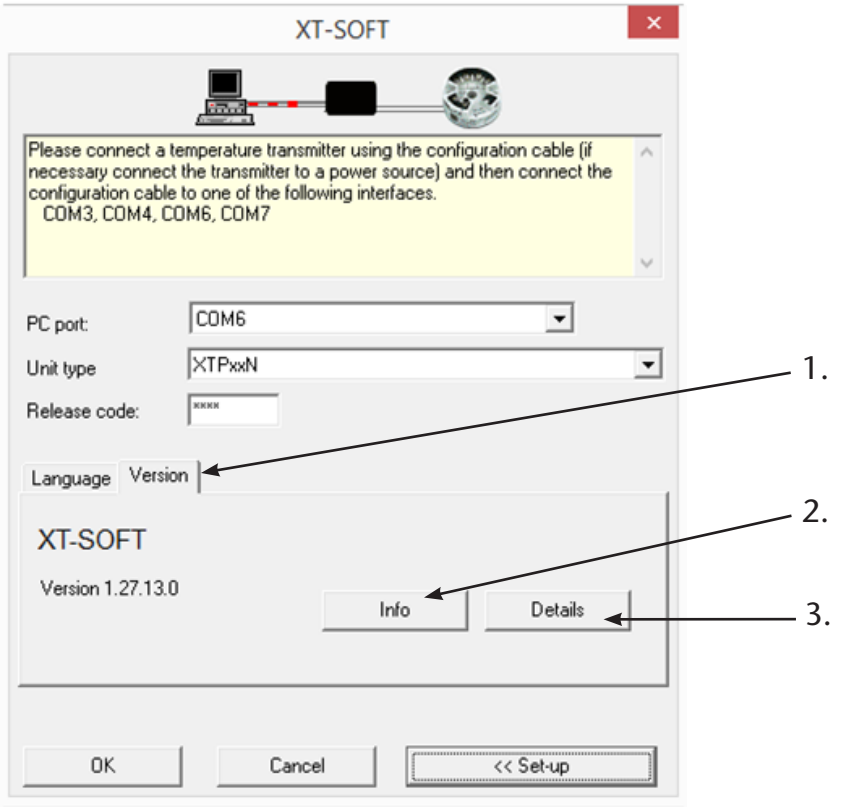


Figure 3

Under the Version tab (1) in Fig. 3 the program name and version is displayed. Use the Info button (2) to open this Help File document in .pdf format. The Details button (3) will open a new window and display information regarding XT-SOFT program components.

2.3 Configuration Window

After connection has been made with the transmitter the Configuration Window (Fig. 4) will open. The actual parameters are read from the connected transmitter and displayed.

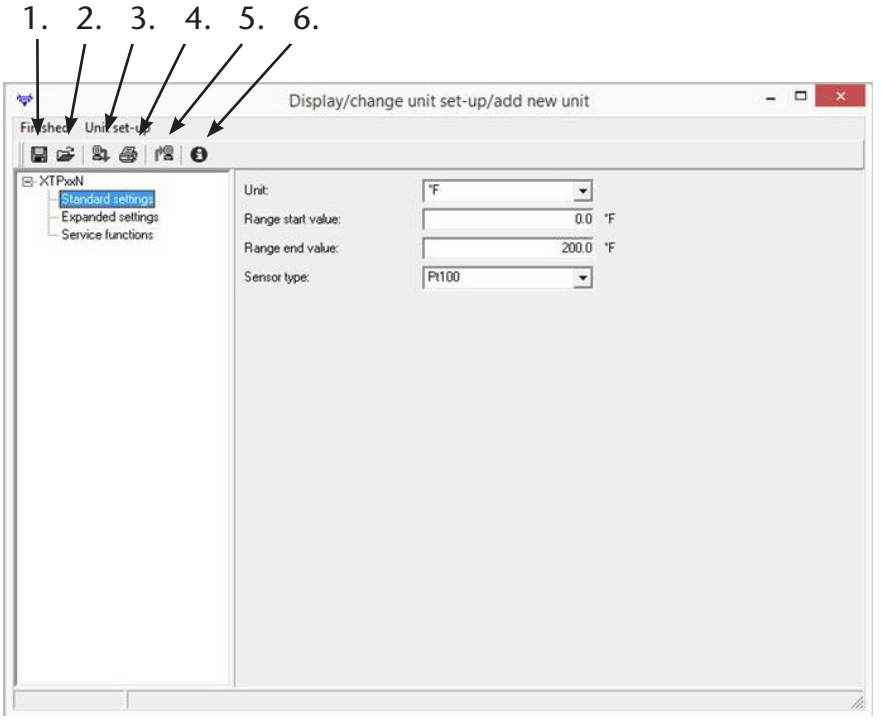


Figure 4

2.3.1 Export of unit set-up

Button (1) in Fig. 4 will open a Save As window allowing the current configuration parameters to be exported (saved) to a file.

2.3.2 Import of unit set-up

Button (2) in Fig. 4 will allow a previously exported (saved) parameter configuration file to be selected and imported into the XT-SOFT program.

2.3.3 Transmit set-up to unit

Button (3) in Fig. 4 will transmit (save) the currently displayed parameter settings to the transmitter unit.

2.3.4 Printout of unit set-up

Button (4) in Fig. 4 will open a print dialog box allowing a print out of all operating parameters currently displayed in XT-SOFT.

2.3.5 New readout of the connected transmitter

Button (5) in Fig. 4 will read the saved configuration parameters in the connected transmitter and display them in XT-SOFT.

2.3.6 Info

Button (6) in Fig. 4 will open this Help File document in .pdf format.

2.4 Configuration Parameters for XTH-0-UNV, XTD-0-UNV and XTP Series

The available configuration parameters are divided into three file tree selections: Standard Settings (1) in Fig. 5, Expanded Settings (2), Service Functions(3). The availability of some parameters is dependent on the selection of other parameters (for example, the Cold Junction Compensation parameter is only available when a Thermocouple input type is previously selected).

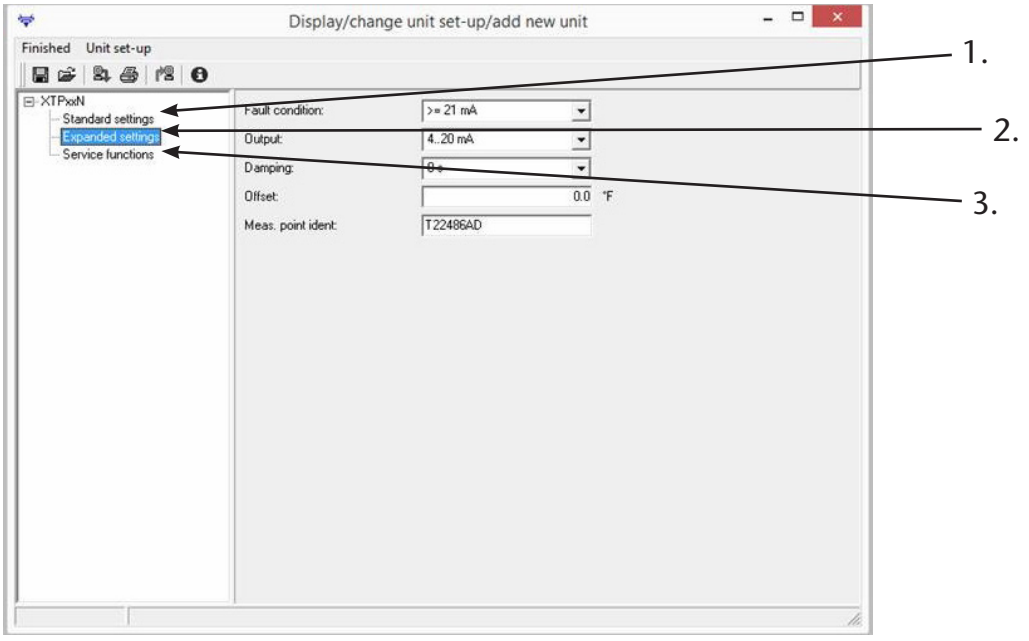


Figure 5

Standard Settings

XTD-0-UNV and XTH-0-UNV Sensor Types:

Sensor Type	*Range Start Value*	*Range End Value*	*Min. Span*
Pt100	-328°F (-200°C)	1562°F (850°C)	18°F (10°C)
Pt500	-328°F (-200°C)	482°F (250°C)	18°F (10°C)
Pt1000	-328°F (-200°C)	482°F (250°C)	18°F (10°C)
Ni100	-76°F (-60°C)	356°F (850°C)	18°F (10°C)
Ni500	-76°F (-60°C)	302°F (150°C)	18°F (10°C)
Ni1000	-76°F (-60°C)	302°F (150°C)	18°F (10°C)
TC Type B	32°F (0°C)	3308°F (1820°C)	900°F (500°C)
TC Type C	32°F (0°C)	4208°F (2320°C)	900°F (500°C)
TC Type D	32°F (0°C)	4523°F (2495°C)	900°F (500°C)
TC Type E	-328°F (-200°C)	1679°F (915°C)	90°F (50°C)
TC Type J	-328°F (-200°C)	2192°F (1200°C)	90°F (50°C)
TC Type K	-328°F (-200°C)	2501°F (1372°C)	90°F (50°C)
TC Type L	-328°F (-200°C)	1652°F (900°C)	90°F (50°C)
TC Type N	-454°F (-270°C)	2372°F (1300°C)	90°F (50°C)
TC Type R	32°F (0°C)	3214°F (1768°C)	900°F (500°C)
TC Type S	32°F (0°C)	3214°F (1768°C)	900°F (500°C)
TC Type T	-328°F (-200°C)	752°F (400°C)	90°F (50°C)
TC Type U	-328°F (-200°C)	1112°F (600°C)	90°F (50°C)
10 to 400 Ω	10 Ω	400 Ω	10 Ω
10 to 2000 Ω	10 Ω	2000 Ω	100 Ω
-10 to 100 mV	-10 mV	100 mV	5 mV
Polynom RTD	20°F (°C)	2000°F (°C)	18°F (10°C)
Pt50 (GOST)	-328°F (-200°C)	2012°F (1100°C)	18°F (10°C)
Pt100 (GOST)	-328°F (-200°C)	1562°F (850°C)	18°F (10°C)
Cu50 (GOST)	-328°F (-200°C)	392°F (200°C)	18°F (10°C)
Cu100 (GOST)	-328°F (-200°C)	392°F (200°C)	18°F (10°C)

XTP Series Sensor Types:

Range Start Value	*Range End Value*	*Min. Span*
-58°F (-50°C)	302°F (150°C)	18°F (10°C)

XTP Series Factory Set Range Start and End Values are dependent on part number.

Standard Settings Continued

Connections: RTD wiring connection (only available when an RTD Sensor type is selected)
.....2-wire
.....3-wire
.....4-wire
Units: Temperature engineering units
.....°C
.....°F
Measurement Range Start Value: Input the low end of the desired temperature range (4mA value).
.....Limited to the range start value for the Sensor Type selected
Measurement Range End Value: Input the high end of the desired temperature range (20mA value).
.....Limited to the Range end value for the Sensor Type selected.
Coefficient X0 to X4:
.....Only available when Polynom RTD Sensor type is selected. Enter coefficients for custom linearization of an RTD sensor

Expanded Settings

Cold Junction: Selection of the internal cold junction compensation or external comparison to a temperature value. (only available when a Thermocouple Sensor type is selected).
.....Internal
.....External
External Temperature: Input of the external temperature comparison value when external cold junction is selected
.....-40 to 80°C or -40 to 176°F (depending on the range limits of the Sensor type selected)
Cable Resistance: Input of cable resistance compensation (only available when a RTD Sensor type with 2-wire connection is selected)
.....0.0 to 20.0 ohms
Fault Condition: Input the desired output current value on a sensor break or short circuit
.....Up scale ≥ 21.0 mA
.....Down scale ≤ 3.6 mA
Output: Select the action of the output current signal
.....4 to 20 mA
.....20 to 4 mA
Filter or Damping: Selection of the digital filter time constant
.....0 to 8 seconds
Offset: Input of desired zero point correction
.....-9.9 to 9.9°C (-17.8 to 17.8°F)
Measuring point identification: Custom identification name for this transmitter
.....Up to 8 characters

Service Functions

Output Simulation: Enable simulation mode to drive transmitter output current to a fixed value (parameters must be transmitted to the unit to activate the simulation mode)

.....On

.....Off

Output Current: Enter the output current fixed value for Output Simulation Mode

.....3.8 to 20.5 mA

Password: Enter a custom Release Code for this transmitter that must be entered before XT-SOFT can connect to the transmitter. Refer to Section 2.6 - Modify Parameters of a Password-Protected Device for additional information.

.....4-digit numeric code (default is 0000)

Changing the release code can prevent the user from accessing the transmitter configuration and should only be done with caution. The transmitter CAN NOT be accessed without the release code and care should be used to document all changes.

2.5 Configuration Parameters for ETS Series

The available configuration parameters are divided into six file tree selections: Basic Settings (1) in Fig. 6, Output (2) in Fig. 7, Output 2 (3) in Fig. 8, Analog Output (4) in Fig. 9, Service Settings (5) in Fig. 10, Identification (6) in Fig. 11. The availability of some parameters is dependent on the selections of other parameters.

Basic Settings (Figure 6)

1. Units: Temperature engineering units
.....°C
.....°F
.....K
2. Offset: Configure zero point
.....±18°F
.....±10°C
.....±10K
3. Display: Configure display parameter and orientation
.....Display off
.....Display off (rotated) 180°
.....Measured value
.....Measured value
.....Swichpoint
.....Switchpoint (rotated) 180°
4. Damping: Measured value damping with regard to display value and output
.....0 (no damping) up to 40s (in increments of 1 second)
5. DESINA: PIN assignment of the M12 connector is in accordance with the guidelines of DESINA
.....Yes
.....No

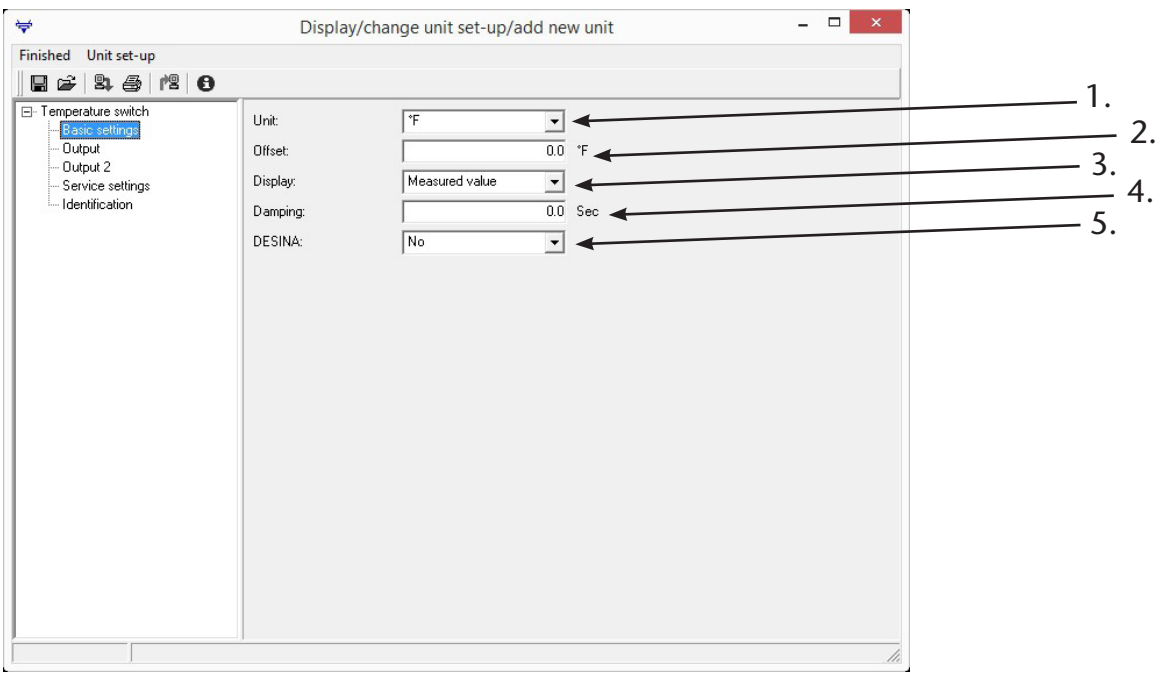


Figure 6

Output (Figure 7)

1. Output functions:
.....Window NC
.....Hysteresis NC
.....Window NO
.....Hysteresis NO
.....Analog output (ETSxxN-xx-1001 only and only one output can be configured as analog)
2. Switch point:
.....-57.1 to 302°F (-49.5 to 150°C) in increments of 0.18°F (0.1°C)
3. Switch-back point:
.....-58 to 300°F (-50 to 149°C) in increments of 0.18°F (0.1°C)
Note: minimum distance between switch point and switch-back point 0.9°F (0.5 °C/K)
4. Delay switch point:
.....0 to 99s in increments of 0.1s
5. Delay switch-back point:
.....0 to 99s in increments of 0.1s

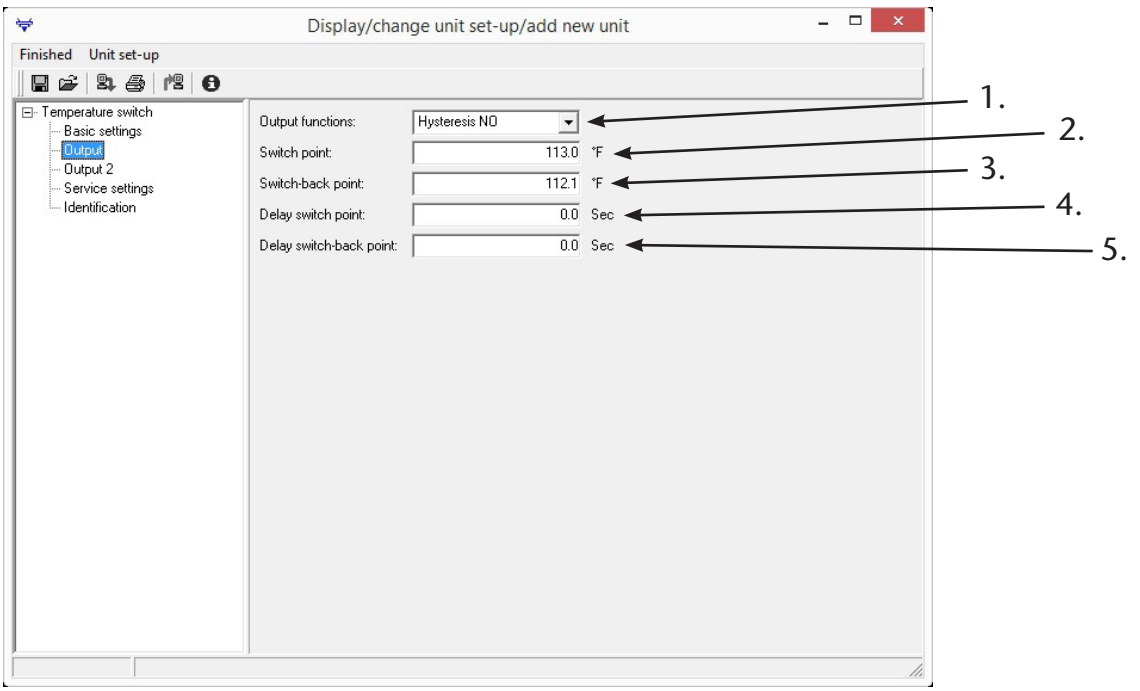


Figure 7

Output 2 (Figure 8)

1. Output functions 2:
.....Window NC
.....Hysteresis NC
.....Window NO
.....Hysteresis NO
.....Analog output (ETSxxN-xx-1001 only and only one output can be configured as analog)
2. Switch point 2:
.....-57.1 to 302°F (-49.5 to 150°C) in increments of 0.18°F (0.1°C)
3. Switch-back point 2:
.....-58 to 300°F (-50 to 149°C) in increments of 0.18°F (0.1°C)
Note: minimum distance between switch point and switch-back point 0.9°F (0.5 °C/K)
4. Delay switch point 2:
.....0 to 99s in increments of 0.1s
5. Delay switch-back point 2:
.....0 to 99s in increments of 0.1s

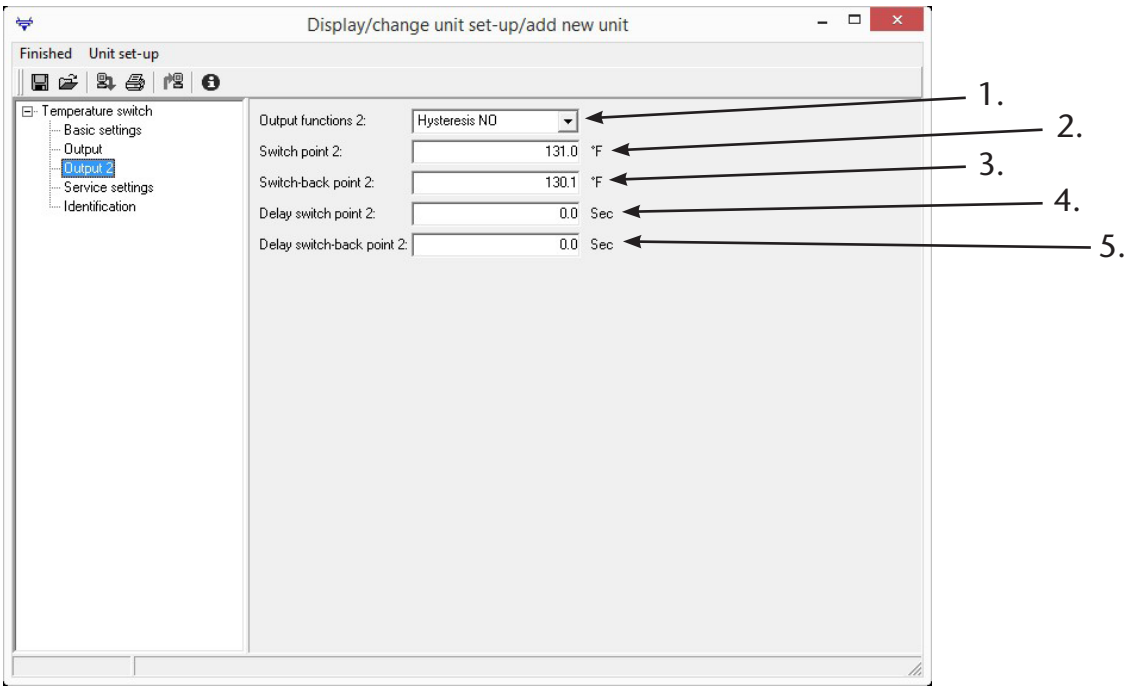


Figure 8

Analog Output (Figure 9)

Note: Analog Output parameters are available only if one of the outputs was configured for Analog Output.

1. Lower range value: Temperature value at 4mA

.....-58 to 266°F (-50 to 130°C) in increments of 0.18°F (0.1°C)

2. Upper range value: Temperature value at 20mA

.....-22 to 302°F (-30 to 150°C)

Note: minimum distance between lower range value and upper range value 36°F (20°C/K)

3. Failure behavior: Value of current output on error

.....Minimum: ≤ 3.6 mA

.....Maximum: ≥ 21.0 mA

.....Hold: maintain last value

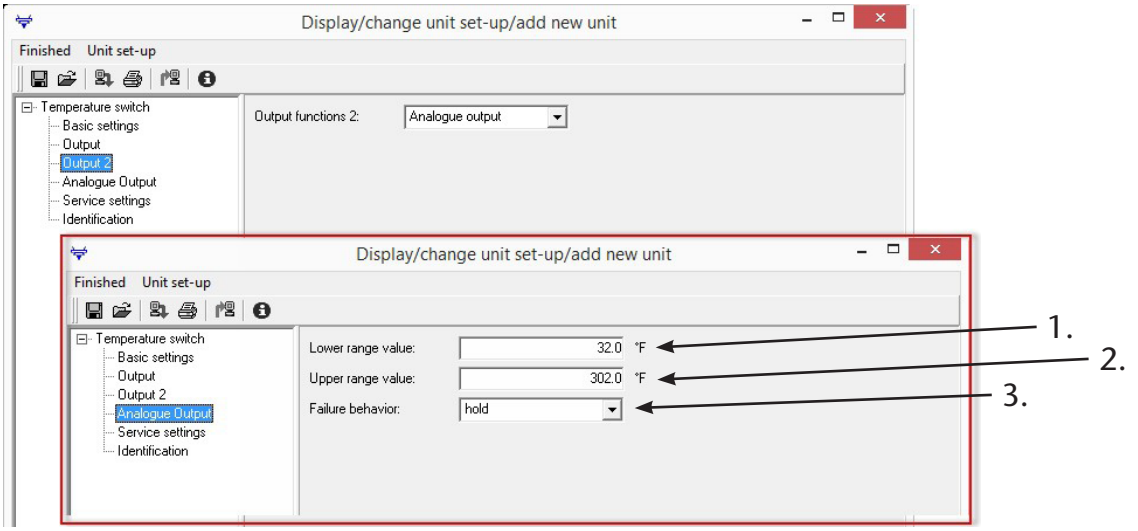


Figure 9

Service Settings (Figure 10)

1. Old password: In order to transmit a new password (locking code) to the unit, the old 4-digit password (locking code) must first be entered here. Then a new password (locking code) can be entered in the "New Password" field.

2. New password: After entering the old 4-digit password (locking code) in the "Old password" field, a new 4-digit numeric password (locking code) can be entered here. Next click the transmit set-up to unit button in the menu bar to save the new password (locking code) to the unit. To change other parameters, exit and restart XT-SOFT entering the new password in the Release Code field in the start-up window. Refer to Section 2.6 - Modify Parameters of a Password-Protected Device for additional information.

Changing the password can prevent the user from accessing the transmitter configuration and should only be done with caution. The transmitter CAN NOT be accessed without the release code and care should be used to document all changes.

3. Static revision counter (Read only):
.....Value increases when a new setup from XT-Soft is sent to the device
4. Device status (Read only):
.....For internal use by the factory
5. Last diagnosis: (Read only)
.....For internal use by the factory
6. Simulation output: Enable simulation mode to drive output current to a fixed value
.....OFF: No simulation
.....Open: Switch output open
.....Close: Switch output closed
7. Simulation output 2: Enable simulation mode to drive output current to a fixed value
.....OFF: No simulation
.....Open: Switch output open
.....Close: Switch output closed
.....3.5, 4.0, 8.0, 12.0, 16.0, 20.0, 21.7: values for analog output
8. Max indicator (Read only):
.....Display of maximum measured process value
9. Min indicator (Read only):
.....Display of minimum measured process value
10. Switching cycles OUT 1 (Read only):
.....The number of times the output changes states from ON to OFF or OFF to ON
11. Switching cycles OUT 2 (Read only):
.....The number of times the output changes states from ON to OFF or OFF to ON

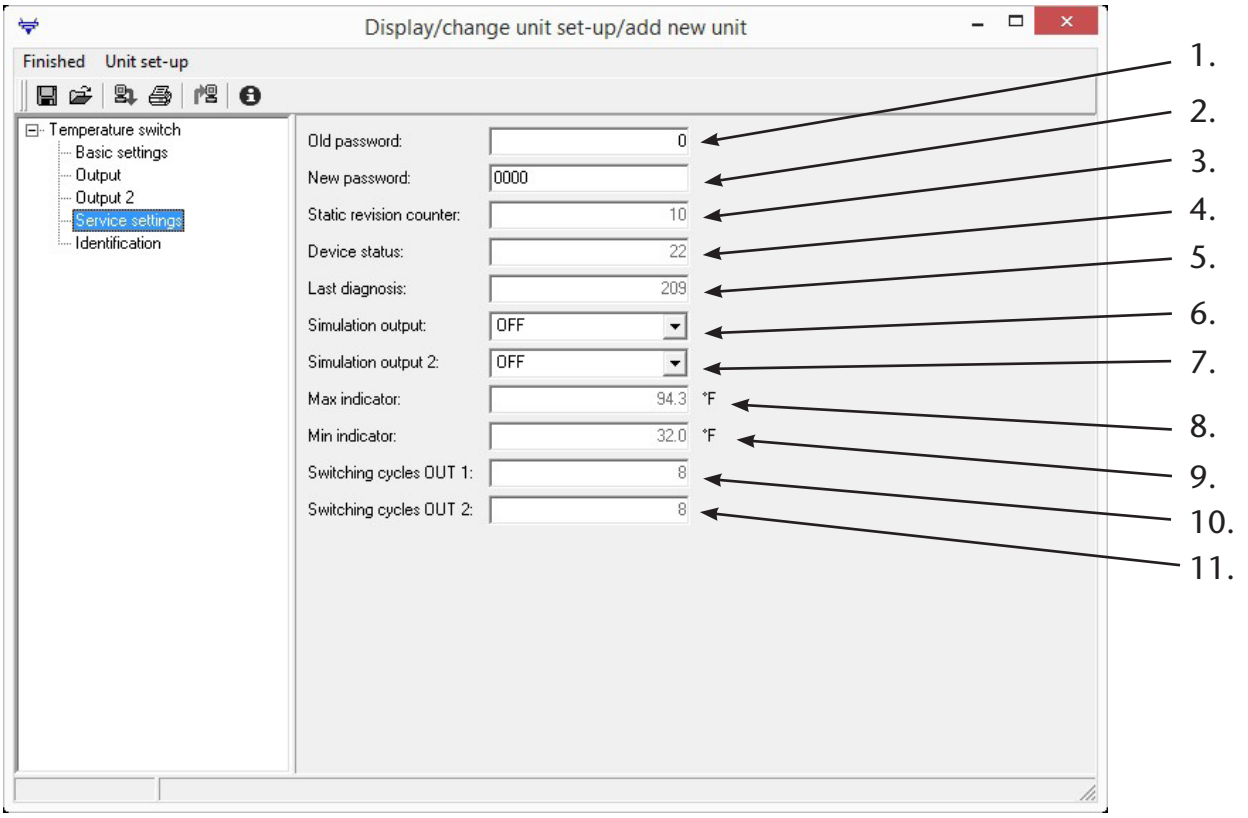
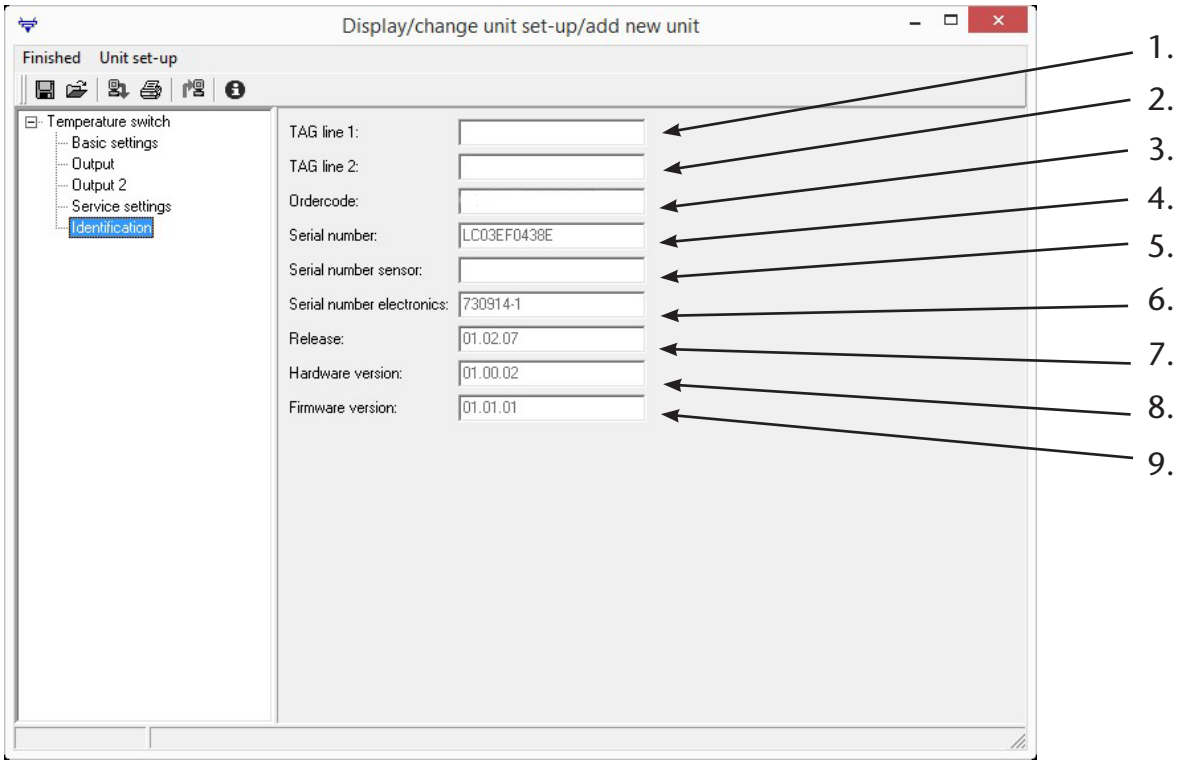


Figure 10

Identification (Figure 11)

1. TAG line 1: Custom identification name for this transmitter up to 18 characters
2. TAG line 2: Custom identification name for this transmitter up to 18 characters
3. Ordercode (Read only):
.....Part number of connected unit
4. Serial number (Read only):
.....For internal use by the factory
5. Serial number sensor (Read only):
.....For internal use by the factory
6. Serial number electronics (Read only):
.....For internal use by the factory
7. Release (Read only):
.....For internal use by the factory
8. Hardware version (Read only):
.....For internal use by the factory
9. Firmware version (Read only):
.....For internal use by the factory


Display/change unit set-up/add new unit
Finished
Unit set-up
Temperature switch
Basic settings
Output
Output 2
Service settings
Identification
TAG line 1:
TAG line 2:
Ordercode:
Serial number:
LC03EF0438E
Serial number sensor:
Serial number electronics:
730914-1
Release:
01.02.07
Hardware version:
01.00.02
Firmware version:
01.01.01
1.
2.
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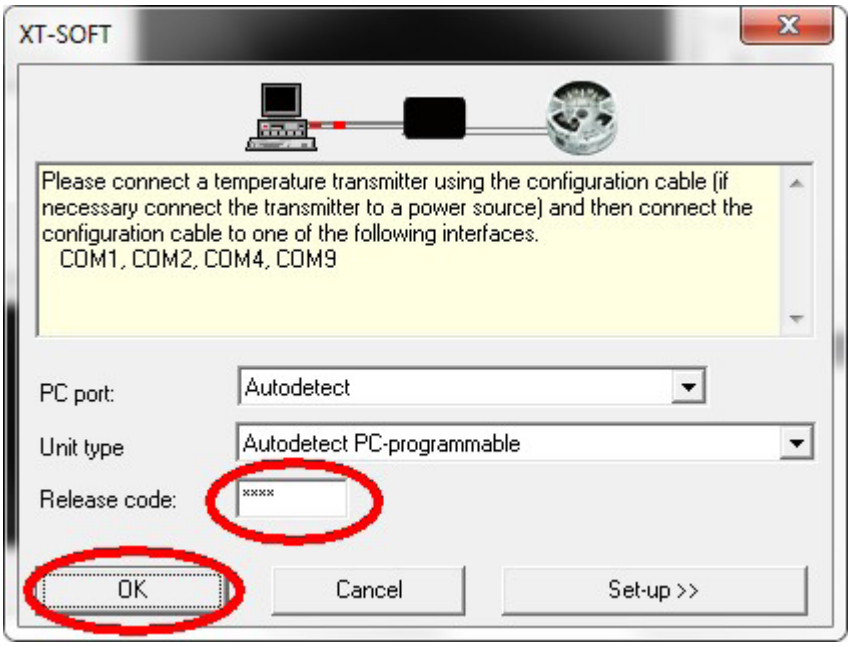
4.
5.
6.
7.
8.
9.

Figure 11

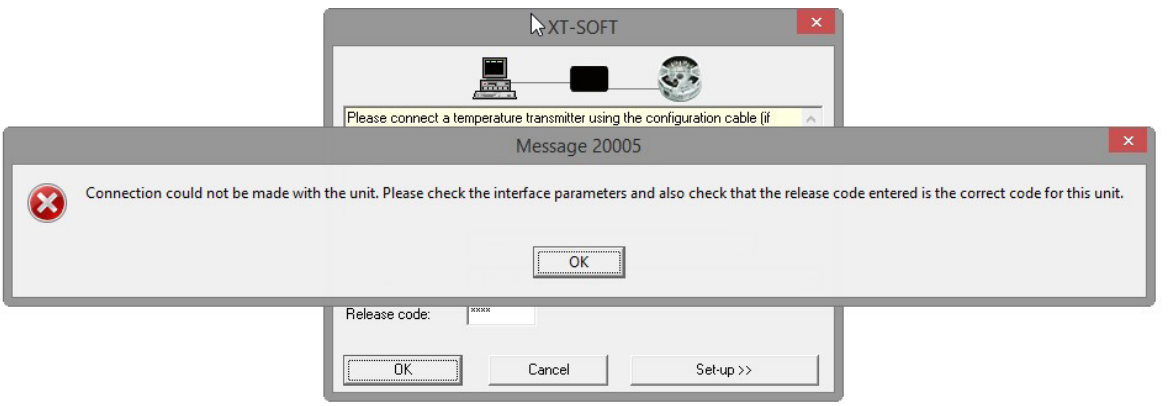
2.6 Modify Parameters of a Password-Protected Device

Open XT-SOFT.

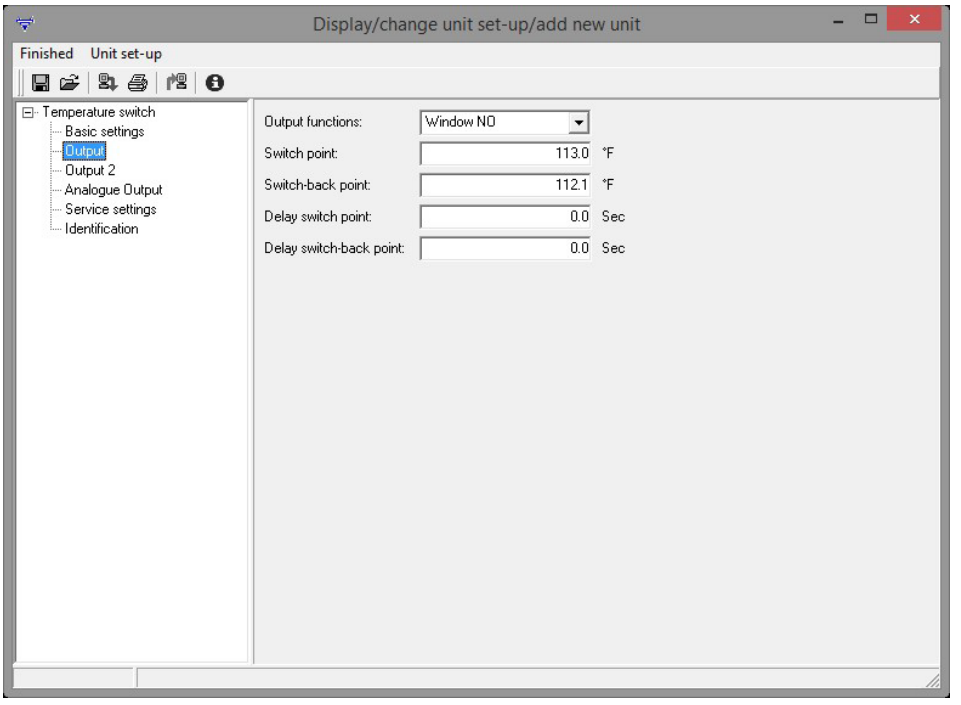
Enter the four-digit release code (also referred to as locking code or password) and click OK.



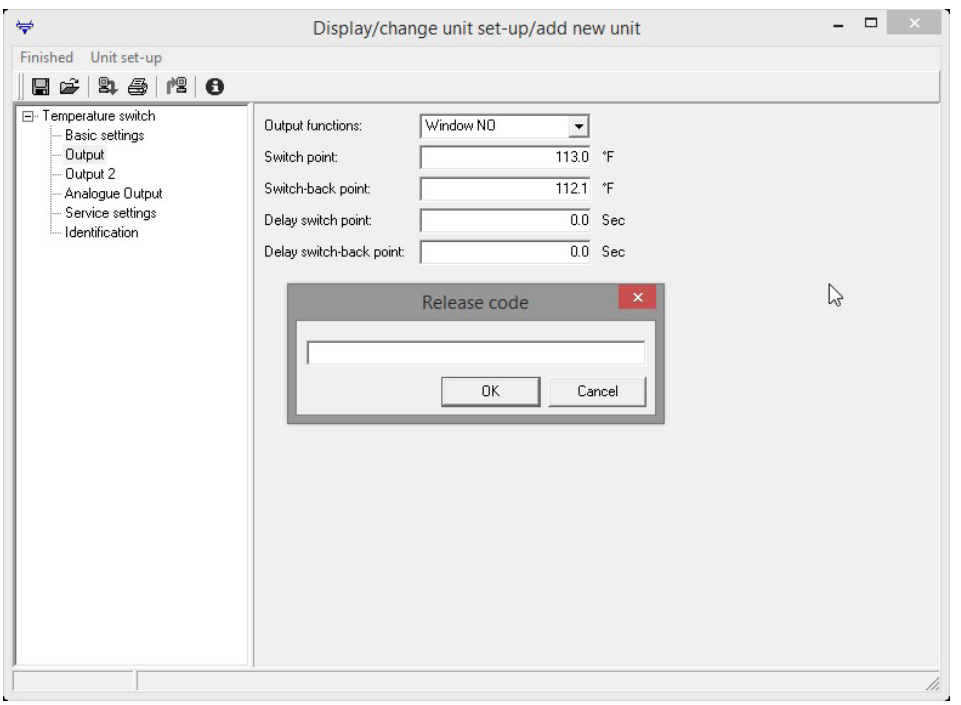
If Release Code entered does not match the Release Code stored in the device the following message will be displayed.



Once the correct Release Code is entered, select the parameter to be changed. For example: Output Function



The "Release code" dialog box will open



Enter the device release code and click OK.
Modify the parameter(s) to be changed.
Transmit set-up to unit.
Exit XT-SOFT