Model 27HU Universal Temperature Transmitter

PC CONFIGURATOR
Model: 27HUCFG

Users Manual

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1. GETTING STARTED

1.1 PC REQUIREMENTS

The following PC performance is required for adequate operation of the 27HUCFG.

PC	IBM PC compatible
OS	Windows XP Service Pack 3 Windows Vista (32 bit) Service Pack 1 Windows 7 (32 bit, 64 bit) Windows 10 (32 bit, 64 bit) The software may not operate adequately in certain conditions.
CPU/Memory	Must meet the relevant Windows' requirements.
Hard disk	10MB minimum free space
Cable	HART modem cable (model: COP-HU)

NOTE

In 27HUCFG Ver3. XX, the number of preambles is fixed to 5 and can not be changed. When you switch from Ver2. XX or older version to Ver3. XX, set the number of preambles to 5 by the old version before installing Ver3. XX.

1.2 INSTALLING & UNINSTALLING THE 27HUCFG

INSTALL

The program is provided as compressed archive. Decompress the archive and execute 'setup.exe' to start up the 27HUCFG installer program. Follow instructions on the Windows.

UNINSTALL

Open Control Panel > Add/Remove Programs. Select the 27HUCFG from the program list and click Delete button.

1.3 STARTING UP THE 27HUCFG

Connect the model 27HU Universal Temperature Transmitter to the PC via HART modem cable.
Press Start on the task bar and choose 27HUCFG from Program menu.

2. MODEL 27HU GENERAL DESCRIPTION

INPUT TYPES

The 27HU supports four types of input signals/sensors: DC millivolts, thermocouple, RTD and resistance. Other than typical IEC standard sensors, user-specific thermocouple and RTD characteristics data are also supported. For RTD input, calibrated RTD data can be incorporated for precise calibration using the Callendar-Van Dusen approximation formula.

MEASURING TYPES

The 27HU supports single and dual sensor measuring. With dual type, 'Difference,' 'Average,' and 'Average and Backup' functions are selectable. 'Drift Alarm' function is also available.

- **Difference**: PV = Sensor 1 – Sensor 2
- **Average**: PV = (Sensor 1 + Sensor 2) / 2
- **Average and Backup**: Average measuring while two sensors are in normal operating conditions. Once one of the sensors is detected as burnout, the other sensor signal is supplied as PV.
- **Drift Alarm**: Detects alarm status when the deviation between the two signals exceeds the setpoint. When 0 is specified as setpoint or with Average and Backup measuring, the drift alarm is canceled.

BURNOUT

Broken wire detection (Burnout) function can be enabled or disabled. When enabled, the 27HU applies an excitation voltage for a very short time period. The PV at burnout is not assured, and the output is according to the preset alarm action.

ALARM OUTPUT

Alarm output (Hold, High or Low) can be specified in case of an abnormality. The output signal is either at hold, or at a specific High or Low signals.

COLD JUNCTION COMPENSATION

For thermocouple inputs, the 27HU supports Internal CJC, External CJC, Constant (value) and no compensation.

- **Internal CJC**: The 27HU uses an internal temperature sensor attached to the terminal.
- **External CJC**: A Pt 100 sensor attached externally is used.
- **Constant**: A specific value is used as reference temperature.

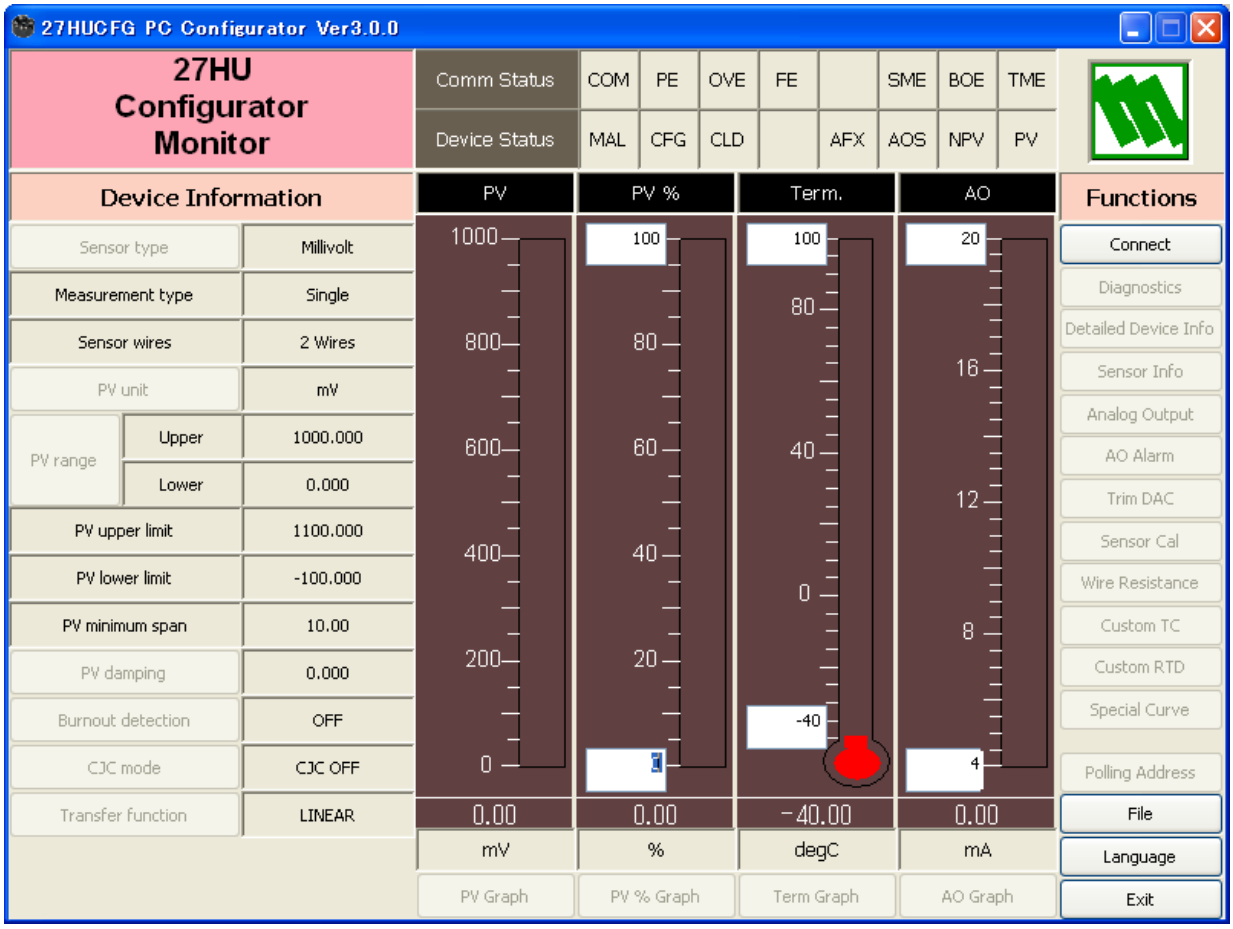
TRANSFER FUNCTION

Transfer (Xfer) Function defines the output function against the PV. Linear, SQRT (Square Root Extraction) and Special Curve (Linearization) are supported.

3. OPERATING THE 27HUCFG PC CONFIGURATOR

Figure 1 shows the initial view of the 27HUCFG PC Configurator window.
In order to enable tools shown on the screen, the model 27HU Universal Temperature Transmitter must be connected to the PC via a HART modem.

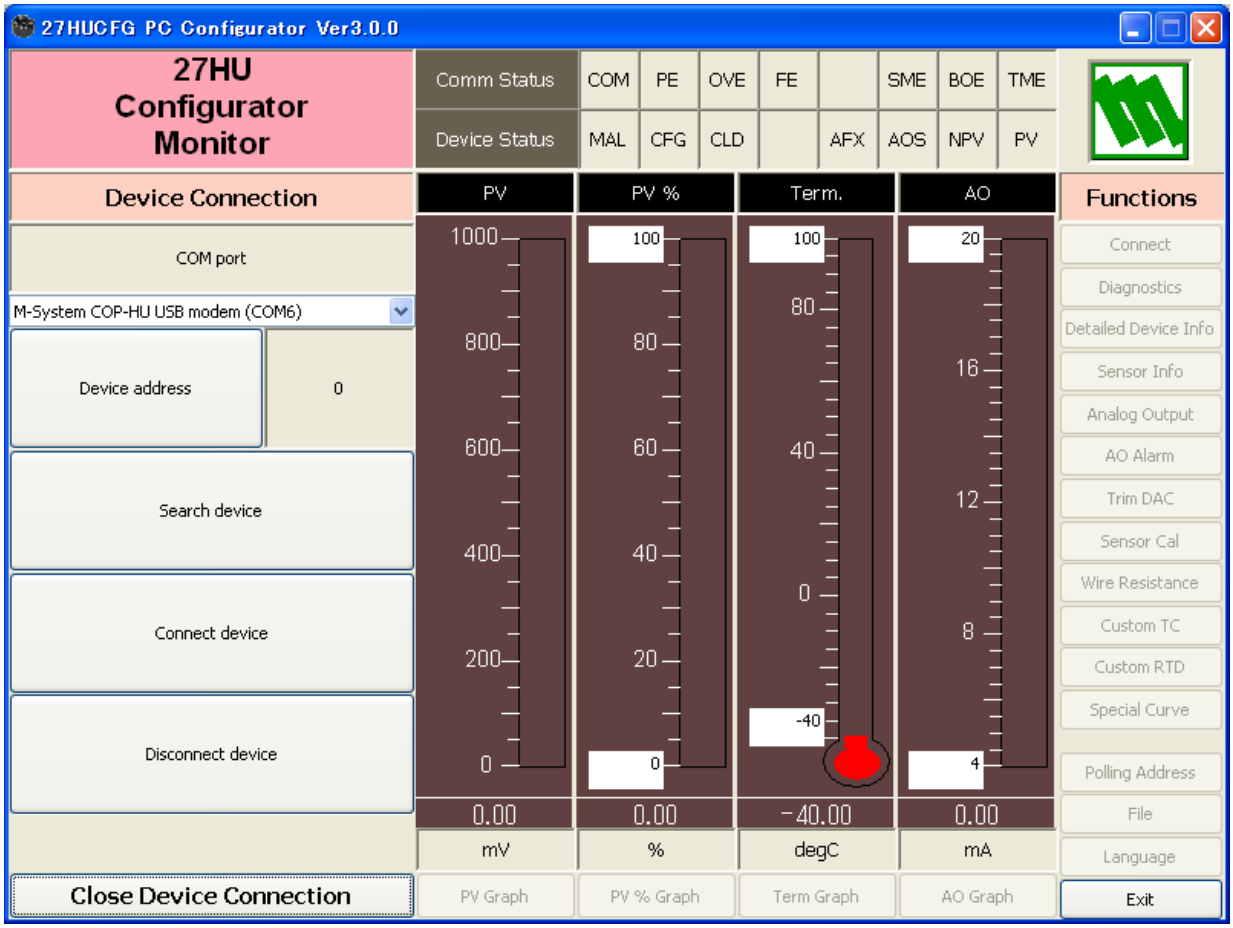
Figure 1. Initial View



3.1 CONNECTING THE DEVICE (27HU)

On the initial view, click [Connect] and the Device Connection menu appears on the screen.

Figure 2. Device Connection

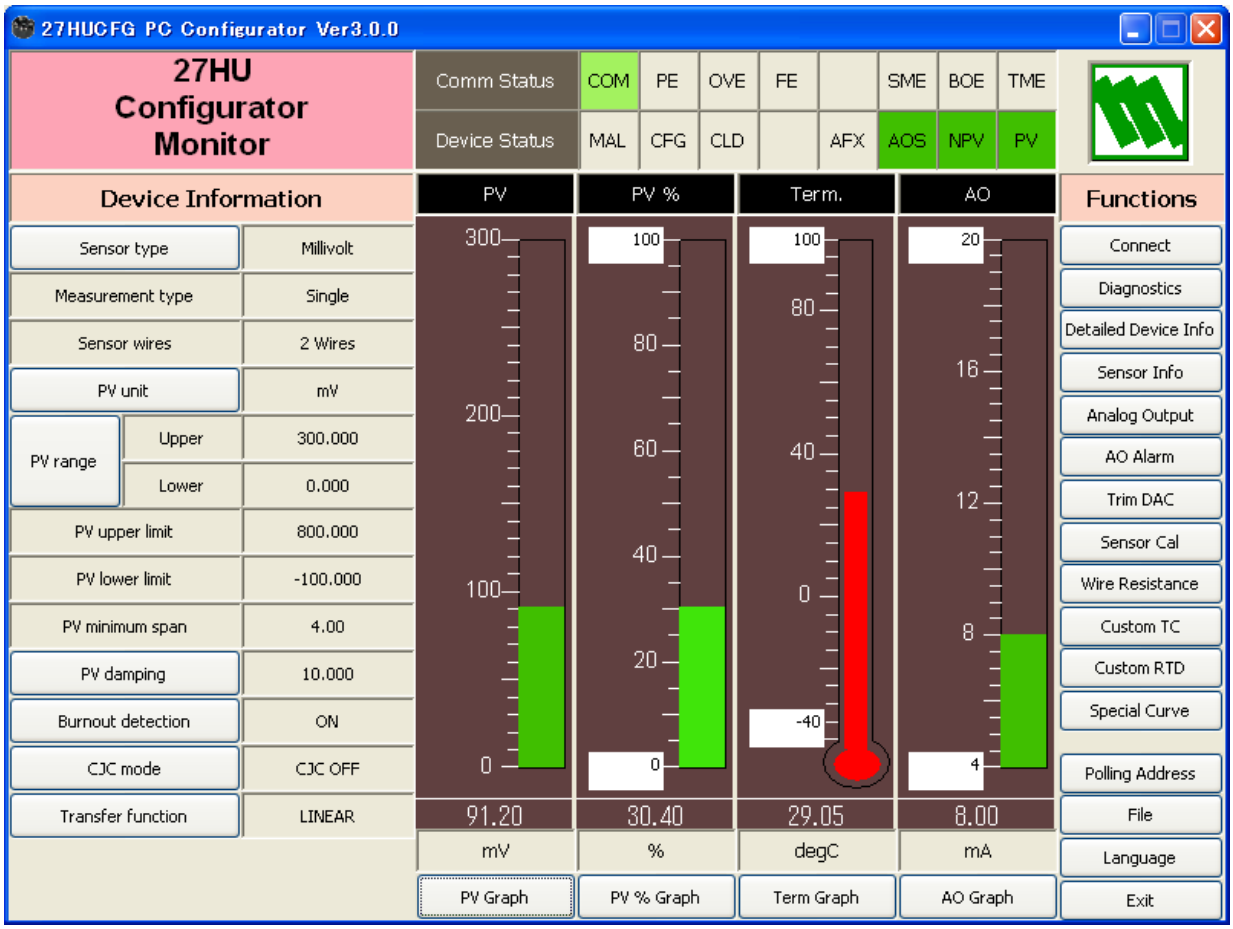


COM port	Choose an adequately configured COM port to be connected.
Device address	Specify polling address of the device to be connected.
Search device	Searches connected devices among the ones whose polling address is already set between 0 and 15. Starts at the address specified in 'device address' field.
Connect device	Connects the device of which polling address is specified in the device address. Once the connection is established, the program uploads the device's configuration information and automatically opens the Device Information view. The view is the base for various operations to configure the 27HU.
Disconnect device	Disconnects the currently connected device.
Close Device Connection	Quits the Device Connection view.

3.2 MONITORING TRENDS

Once the device is connected, the Device Information menu and the trend monitors appears on the screen. The user can configure various parameters of the 27HU.

Figure 3. Device Information



3.2.1 COMMUNICATION STATUS

Comm Status summarizes current communications status by lamps showing the communication status byte contents in HART commands.

[COM] lamp	Blinks with the normal communications condition.
[PE] lamp	Red light turns on when the device detects Parity Error.
[OVE] lamp	Red light turns on when the device detects Overrun Error.
[FE] lamp	Red light turns on when the device detects Framing Error.
[SME] lamp	Red light turns on when the device detects Sum Check Error.
[BOE] lamp	Red light turns on when the device detects Buffer Over Flow Error.
[TME] lamp	Red light turns on when the device detects the communications time out.

3.2.2 DEVICE STATUS

Device Status summarizes current device status by lamps showing the device status byte contents in HART commands.

[MAL] lamp	Red light turns on when malfunction(s) occur(s) in the device such as below. · Wire break detected · ADC module malfunction · CJC sensor error (T/C input in internal or external CJC mode) · Drift alarm in the difference or average measuring Analog output value depends upon the alarm trip type (Hold, High, Low) and alarm value.
[CFG] lamp	Red light turns on when the device configuration is modified. This lamp can be turned off by [Reset configuration change flag] in the Diagnostics view.
[CLD] lamp	Always OFF with the 27HU.
[AFX] lamp	Red light turns on when the analog output entered in fixed output mode. Fixed output mode is initiated by one or more of the following conditions: · Fixed output mode initiated by the application · Analog output saturated · Alarm output is provided, caused by malfunction status · Polling address between 1 and 15 is set
[AOS] lamp	Green light turns on when the analog output is diagnosed to be normal. Red light turns on when the output is saturated upscale or downscale.
[NPV] lamp	Green light turns on when the CJC sensor terminal is within normal temperature range (-50 to 100°C). Red light turns on when it is out of the range.
[PV] lamp	Green light turns on when the sensor input is in the specified range. Red light turns on when it is out of the range.

3.2.3 BARGRAPH & TREND GRAPH

Four bargraphs indicating PV in engineering unit, PV in % of the selected range, the terminal temperature and analog output current are available. When 'External CJC' is selected, the terminal temperature shows that of the external terminals. Otherwise it shows temperature of the internal terminals.

Graph scales can be modified except for the PV in engineering unit of which the scales are automatically determined and fixed according to the selected range.

- At the bottom of each bargraph is [Graph] button which opens a trend graph for the parameter. The example below shows the trend graph for [Term Graph]. Use [Start] and [Stop] buttons to activate/deactivate trending, and click [Close] to quit the graph view.

Figure 4. Trend Graph

3.3 DEVICE CONFIGURATION

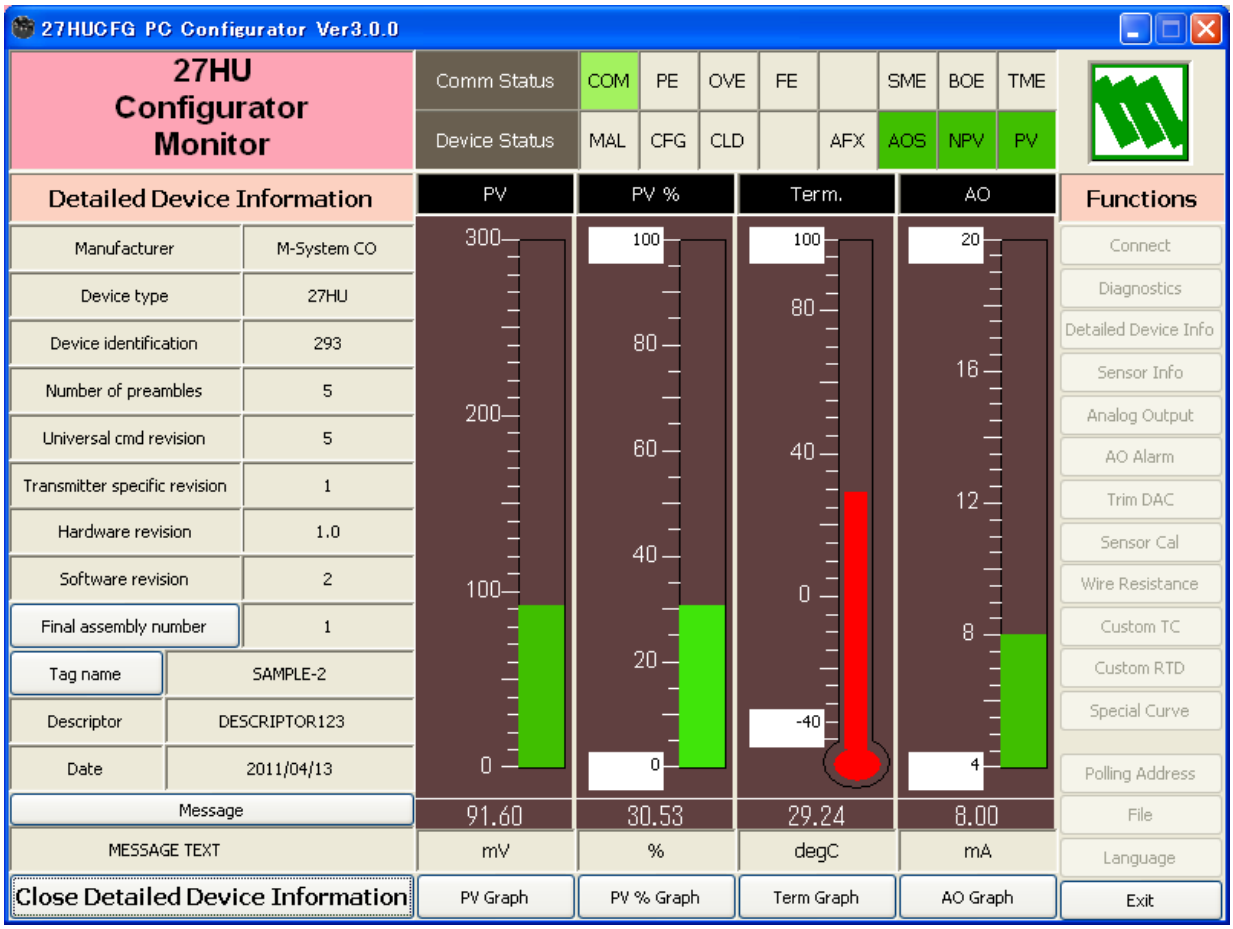
In Figure 3, the Device Information menu on the left shows basic configuration information of the connected device. When you need to change configurations, click the left button for the required parameter to modify its setting.

Sensor type	Specifies sensor type, measurement type and number of extension wires (sensor wires). When a new sensor type is chosen, other default settings are automatically selected.
PV unit	Specifies engineering unit for the PV. When this setting is changed, other related parameters such as PV range, upper/lower limits, PV minimum span are automatically shown in the new unit.
PV range	An appropriate range is automatically set except for the difference measuring.
PV damping	Specifies time constant (0 to 30 seconds) for damping function. Set to 0 to cancel the function.
Burnout detection	Enables/disables burnout (wire break) function.
CJC mode	Enables/disables and choose type of cold junction compensation for thermocouple input. When a thermocouple is specified as the input sensor, the CJC mode is set to 'Internal CJC' at default.
Transfer function	Enables/disables Transfer (Xfer) Function, specifying either the output should be linear to the input signal or linearized to a custom curve data. Selecting this function without a pre-defined Special_Curve is defined as Error.

3.4 DETAILED INFORMATION

In Figure 3, clicking [Detailed Device Info] in Functions menu to the right opens the [Detailed Device Information] menu as shown in Figure 5.

Figure 5. Detailed Device Information



The menu shows the following parameters: Manufacturer, Device type, Device identification, Number of preambles, Universal command revision, Transmitter specific revision, Hardware revision, Software revision, Final assembly number, Tag name, Descriptor, Date and Message.

Final assembly number	You can enter a final assembly number.
Tag name	You can enter a tag name and its description (Descriptor). Date is automatically set with the data modified date. Max. 8 alphanumeric characters for the tag, max. 16 alphanumeric characters for the descriptor.
Message	You can enter a memo in this field. Up to 32 alphanumeric characters.
Close Detailed Device Information	Quits the view.

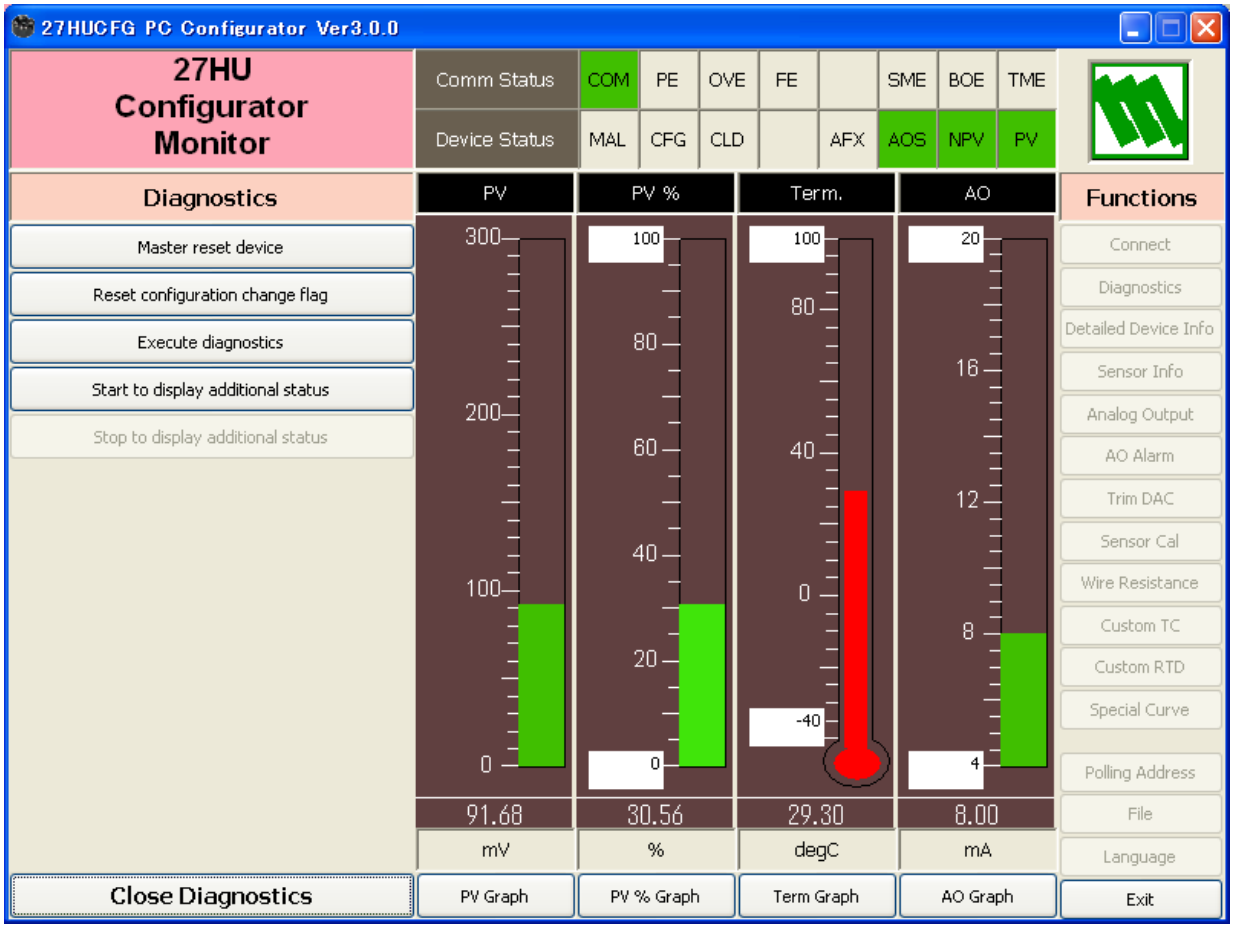
NOTE

Only capital letters are used as 'Tag name', 'Descriptor' and 'Message.' Small letters will be automatically converted to capital letters.

3.5 DIAGNOSTICS

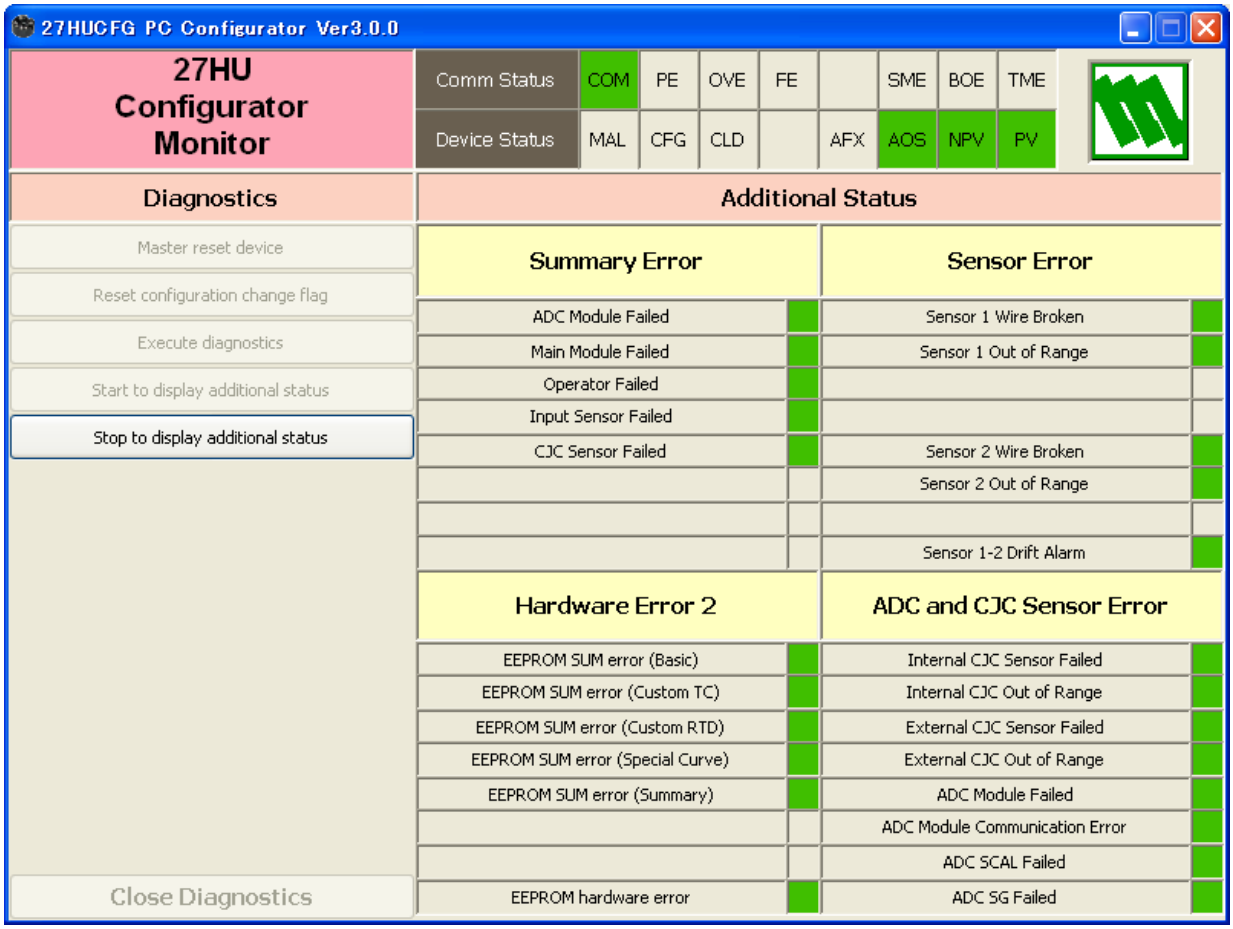
Click [Diagnostics] button to open the Diagnostics view as shown in Figure 6.

Figure 6. Diagnostics



Master reset device	Resets all the configurations to factory default. Basic configuration is read after resetting.
Reset configuration change flag	Turns off the CFG lamp in Device Status. The red CFG lamp is automatically turned on whenever configurations are changed, and remains on unless it is manually reset using this button.
Execute diagnostics	Activates a diagnostics program and results are displayed in Additional Status (Figure 7). The section shows each Additional Status parameter and its status: green in normal status, while red in error.
Start to display additional status	Reads current contents of Additional Status from the device in the intervals of approx. 1 second.
Stop to display additional status	Stops showing Additional Status.
Close Diagnostics	Quits the view.

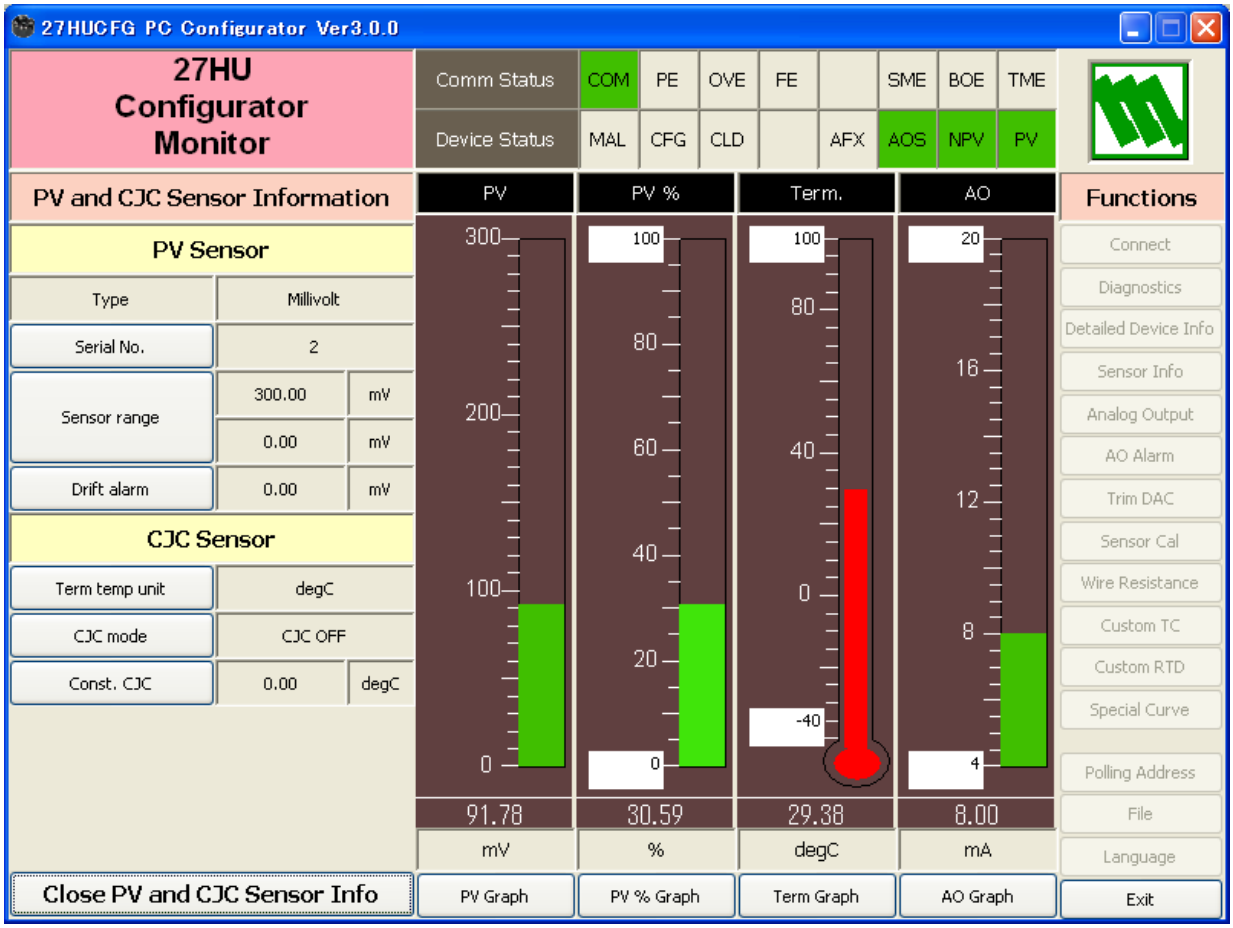
Figure 7. Diagnostics with Additional Status



3.6 PV & CJC SENSOR INFORMATION

Click [Sensor Info] button to open the PV & CJC Sensor Information view as shown in Figure 8.

Figure 8. PV and CJC Sensor Information



3.6.1 PV SENSOR

Type	Shows sensor type.
Serial No.	Specify PV sensor's serial No.
Sensor range	Specify upper and lower input range values of the PV sensor. These values determine ADC gain and other values. Sensor range should be usually the same range as the PV range and should not be changed unnecessarily. However, when measurement type is set to 'Difference,' an actual input measuring range must be set. Default setting is at the maximum, which may affect the accuracy if the value is not changed to an appropriate one.
Drift alarm	Specify drift value for the drift alarm. Set to 0 to cancel alarm.

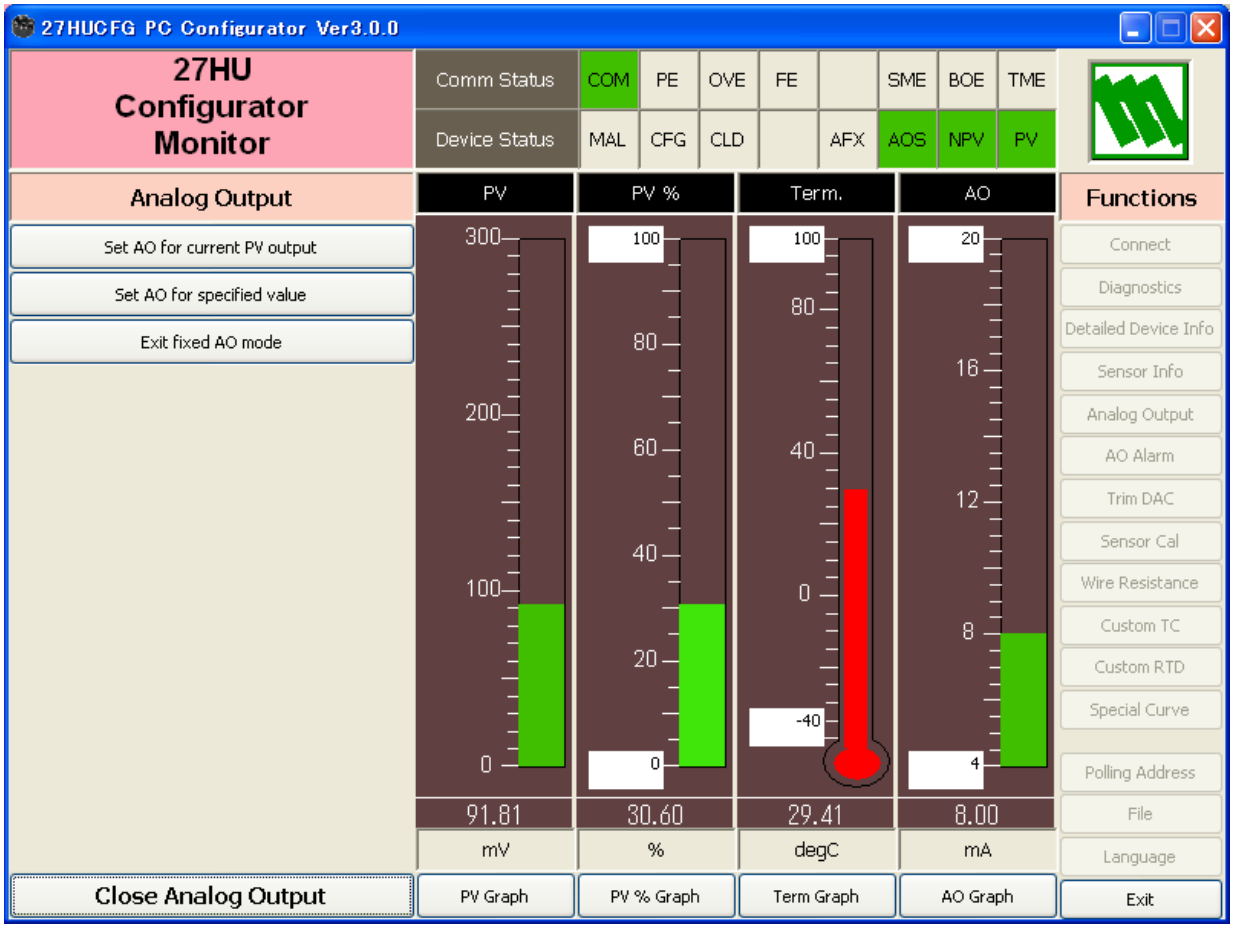
3.6.2 CJC SENSOR

Term temp unit	Specify temperature unit used to measure the terminal temperature.
CJC mode	Specify CJC mode.
Const. CJC	Specify reference temperature of the cold junction point when Constant is selected as CJC mode. 0°C is set at default.
Close PV and CJC Sensor Info	Quits the view.

3.7 FIXED ANALOG OUTPUT

Click [Analog Output] button to open the Analog Output view as shown in Figure 9.

Figure 9. Analog Output

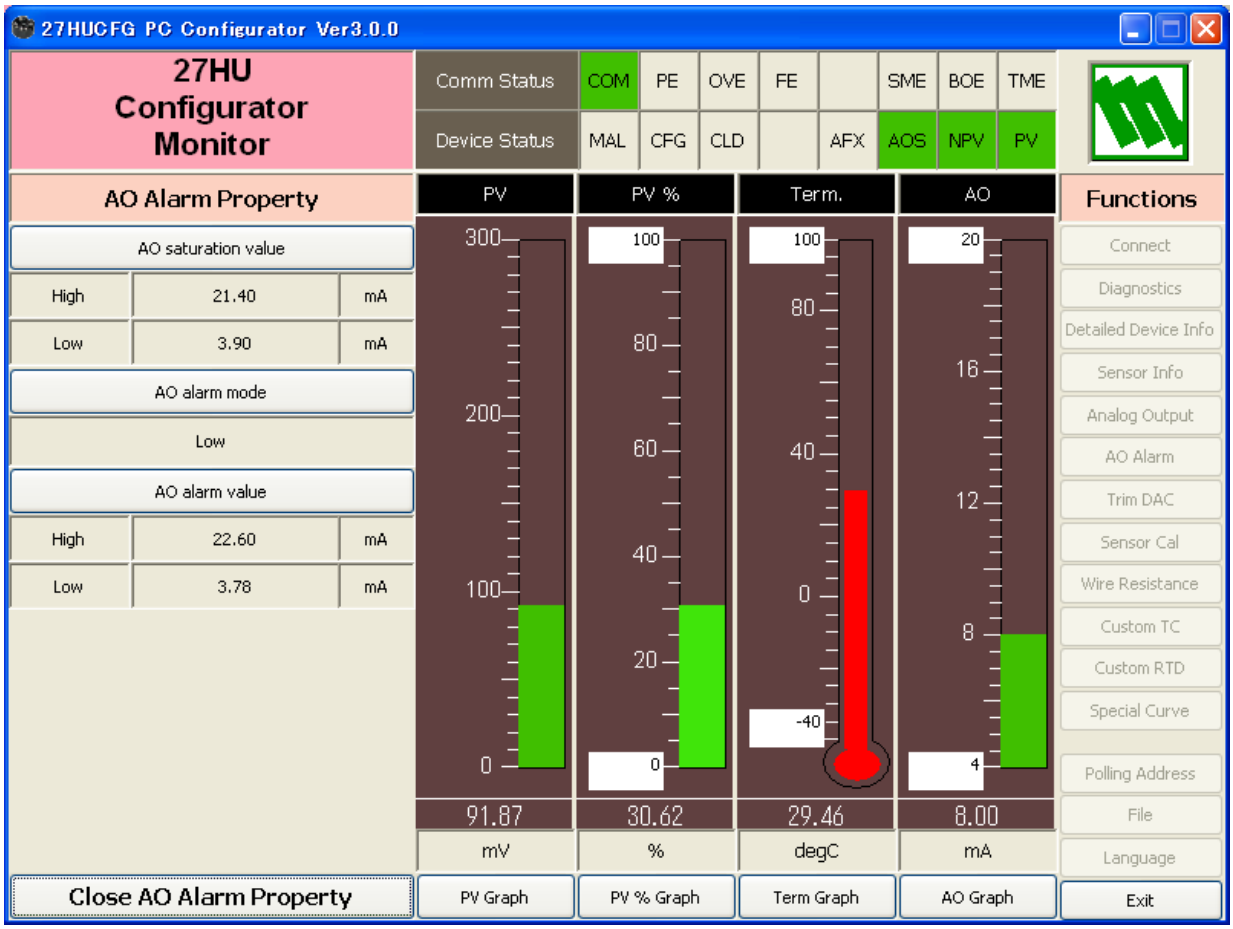


Set AO for current PV output	The output current is held at the current value.
Set AO for specified value	You can set a specific fixed value for the output.
Exit fixed AO mode	Cancel the fixed output mode to return the device into normal output mode. It is recommended to fix the analog output signal while those parameters affecting the output signal are configured, and then to reset the device to normal mode after the setting is complete.
Close Analog Output	Quits the view.

3.8 AO ALARM PROPERTY

Click [AO Alarm] button to open the AO Alarm Property view which specifies the transmitter's action in case of abnormality, as shown in Figure 10.

Figure 10. AO Alarm Property

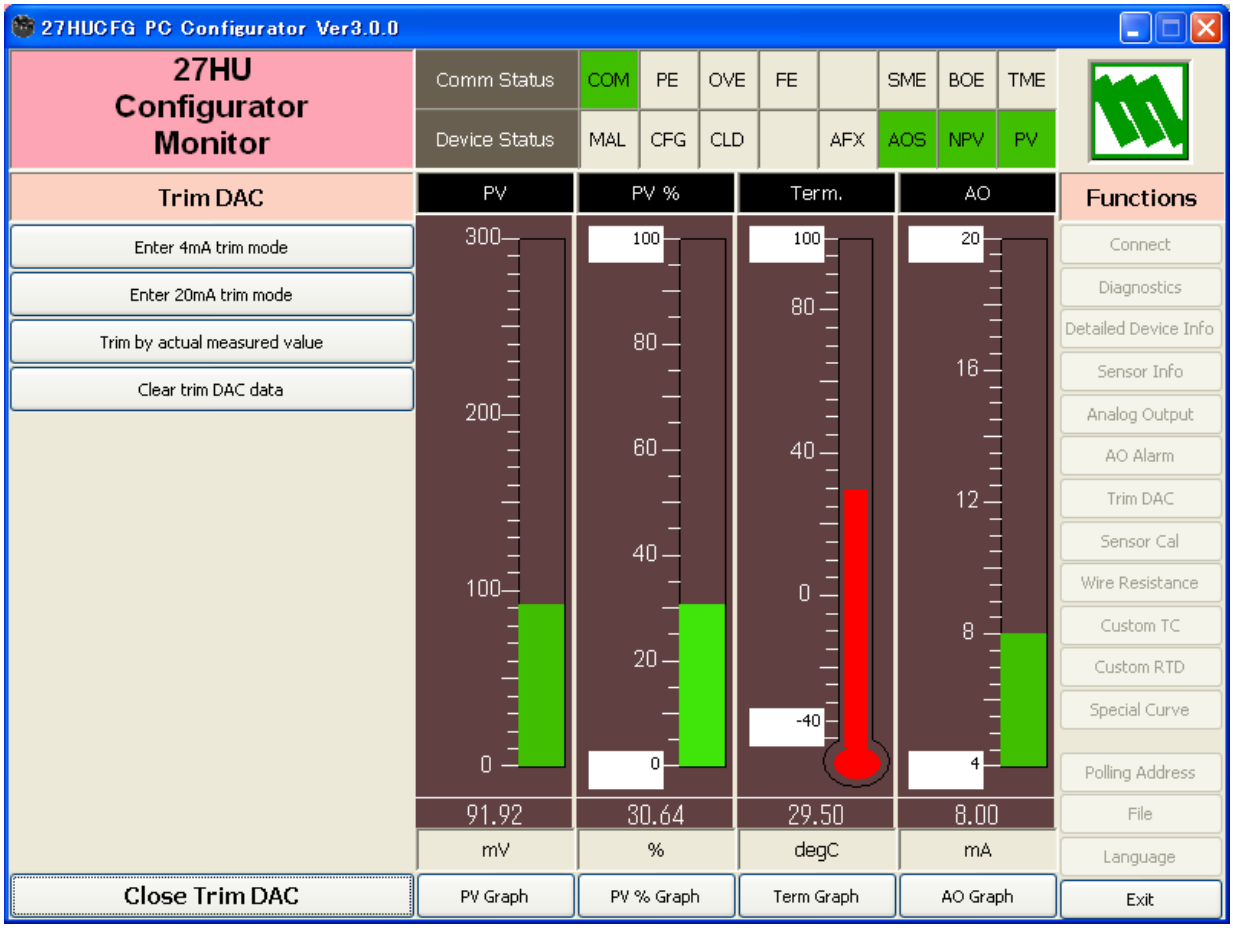


AO saturation value	Specifies upper and lower limits of saturated output. When the output value proportional to the PV input is out of this range, the output is limited at the AO saturation value. The red AFX lamp in Device Status turns on while the output is limited.
AO alarm mode	Selects specific output values for High and Low alarm mode. The red MAL and AFX lamps in Device Status turn on while the output is in alarm status. Both the alarm and the saturated output must satisfy the following conditions: 3.75mA ≤ Low Alarm < 3.8mA ≤ Low Saturation ≤ 4.0mA 20mA ≤ High Saturation ≤ 21.5mA < High Alarm ≤ 23.0mA
Close AO Alarm Property	Quits the view.

3.9 DAC TRIMMING

Click [Trim DAC] button to open the Trim DAC view as shown in Figure 11.

Figure 11. Trim DAC



3.9.1 ENTER 4mA TRIM MODE

(1) Click [Enter 4mA trim mode]. The device outputs a fixed 4mA signal.
(2) Measure actual output current at the receiving instrument to which the device output should be matched.
(3) Click [Trim by actual measured value] to set the measured value. The actual value can be set from 3.8mA up to 4.2mA.
(4) Repeat setting [Trim by actual measured value] until the measured output shows 4mA.

3.9.2 ENTER 20mA TRIM MODE

(1) Click [Enter 20mA trim mode]. The device outputs a fixed 20mA signal.
(2) Measure actual output current at the receiving instrument to which the device output should be matched.
(3) Click [Trim by actual measured value] to set the measured value. The actual value can be set from 19.8mA up to 20.2mA.
(4) Repeat setting [Trim by actual measured value] until the measured output shows 20mA.

3.9.3 RESETTING TO THE DEFAULT

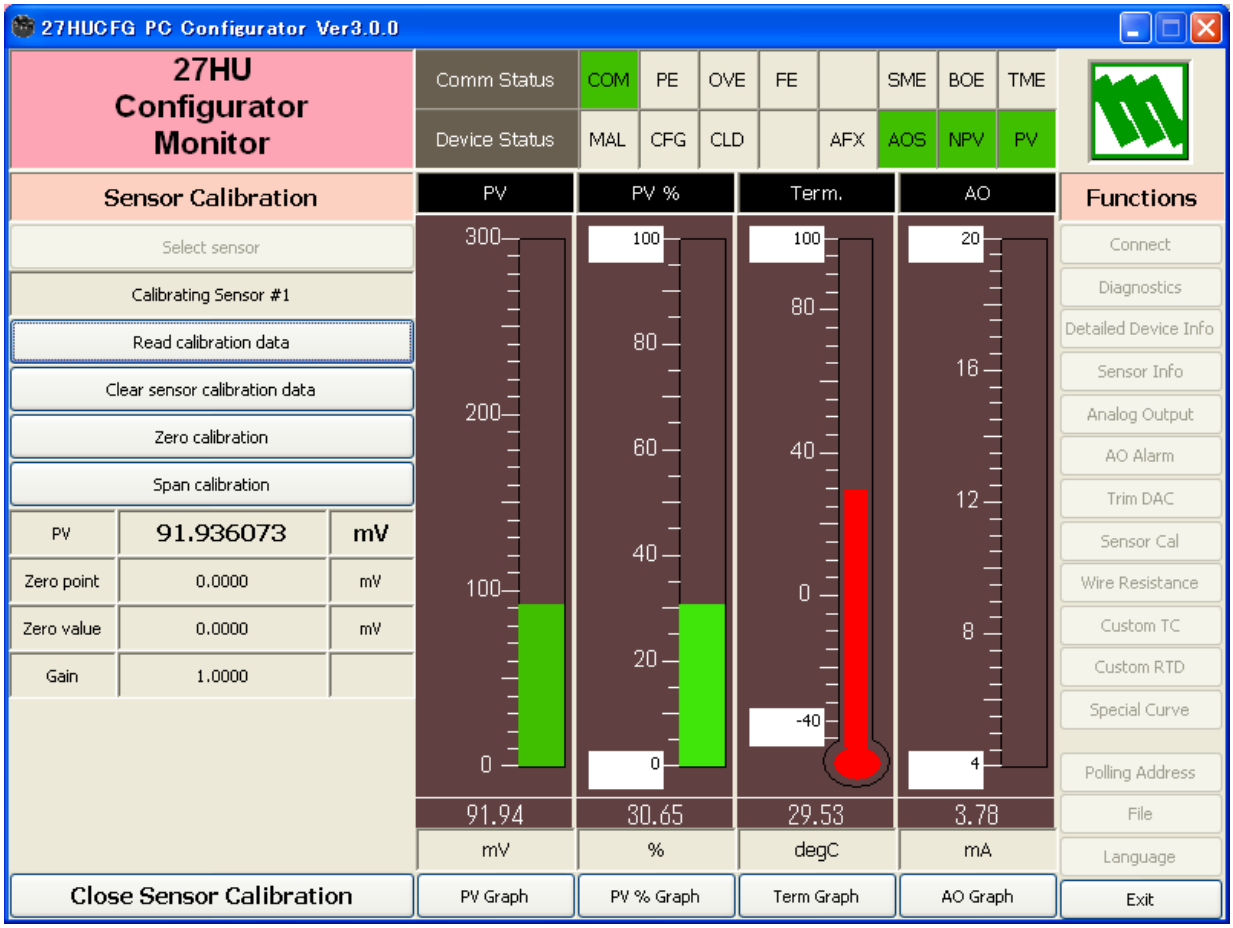
Click [Clear trim DAC data] to return the device to the factory default trimming values.
[Close Trim DAC] quits the view.

3.10 SENSOR CALIBRATION

Input values from the sensor can be finely calibrated. The mV and thermocouple inputs are calibrated against the measured voltage; while the RTD and resistance input is against the measured resistance. Calibration data is entered in PV's engineering unit value.

Click [Sensor Cal] button to open the Sensor Calibration view as shown in Figure 12.

Figure 12. Sensor Calibration



Select sensor	Selectable for dual sensor inputs. Specifies either Sensor #1 or #2 to calibrate.
Calibrating Sensor #1	Shows the sensor number to calibrate.
Read calibration data	Calls up and display present calibrated values in these fields.
Clear sensor calibration data	Returns the device to the factory default status (Zero point = Zero value = 0, Gain = 1.00).

The present measured value is indicated in the middle column of the PV row, updated every 0.5 seconds (approx.). Refer to this value when calibrating the sensor. It takes several seconds for the calibration result affects the measured value on the display.

Calibration points can be specified to any point within the measuring range, however, we recommend to use Low range of PV range for zero calibration, and High range for span.

Apply zero calibration point input signal and click [Zero calibration] to open the field where you can enter a target value. The result is shown in the PV display field. Data before calibration is shown in the Zero point field, while that after calibration is shown in the Zero value field.

Apply span calibration point input signal and click [Span calibration] to open the field where you can enter a target value. The result is shown in the PV display field. Span point gain against the zero point is shown in the Gain field. The calculated gain out of the range from 0.5 to 2.0 cannot be applied.

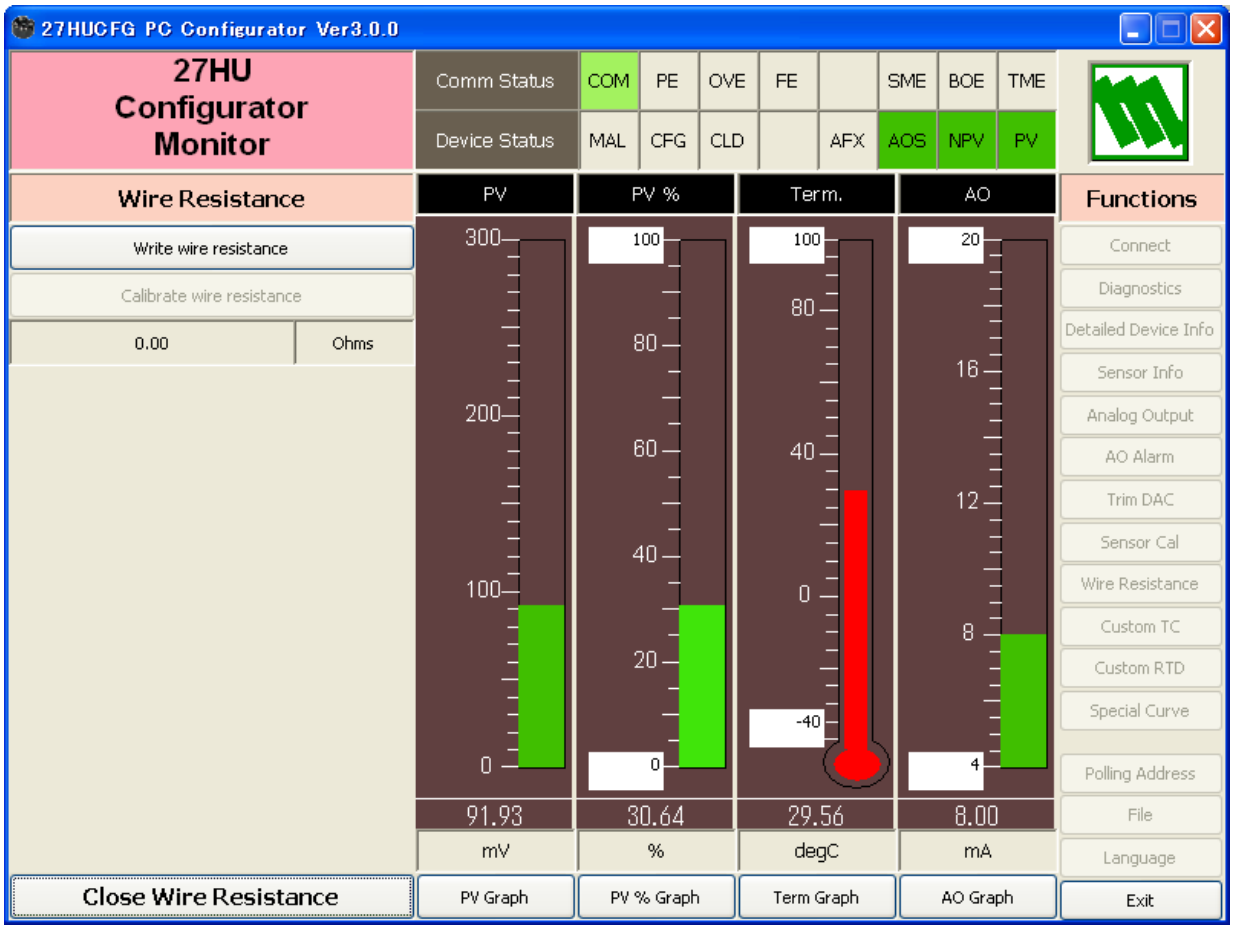
When the sensor type is changed, calibration data is reset to the factory default values.

[Close Sensor Calibration] quits the view.

3.11 WIRE RESISTANCE

Errors caused by extension wire resistance for 2-wire RTDs, 2-wire resistance and external CJC sensor can be compensated by using this function.
Click [Wire Resistance] button to open the Wire Resistance view as shown in Figure 13.

Figure 13. Wire Resistance



Write wire resistance	Specifies actual wire resistance value between 0 and 20.0 ohms.
Calibrate wire resistance	Available for 2-wire resistance input. The device automatically calculates wire resistance by entering the true value. (Typically, short across the sensor wires and enter 0 ohm.) Wire resistance is shown below the button.
Close Wire Resistance	Quits the view.

3.12 CUSTOM TC

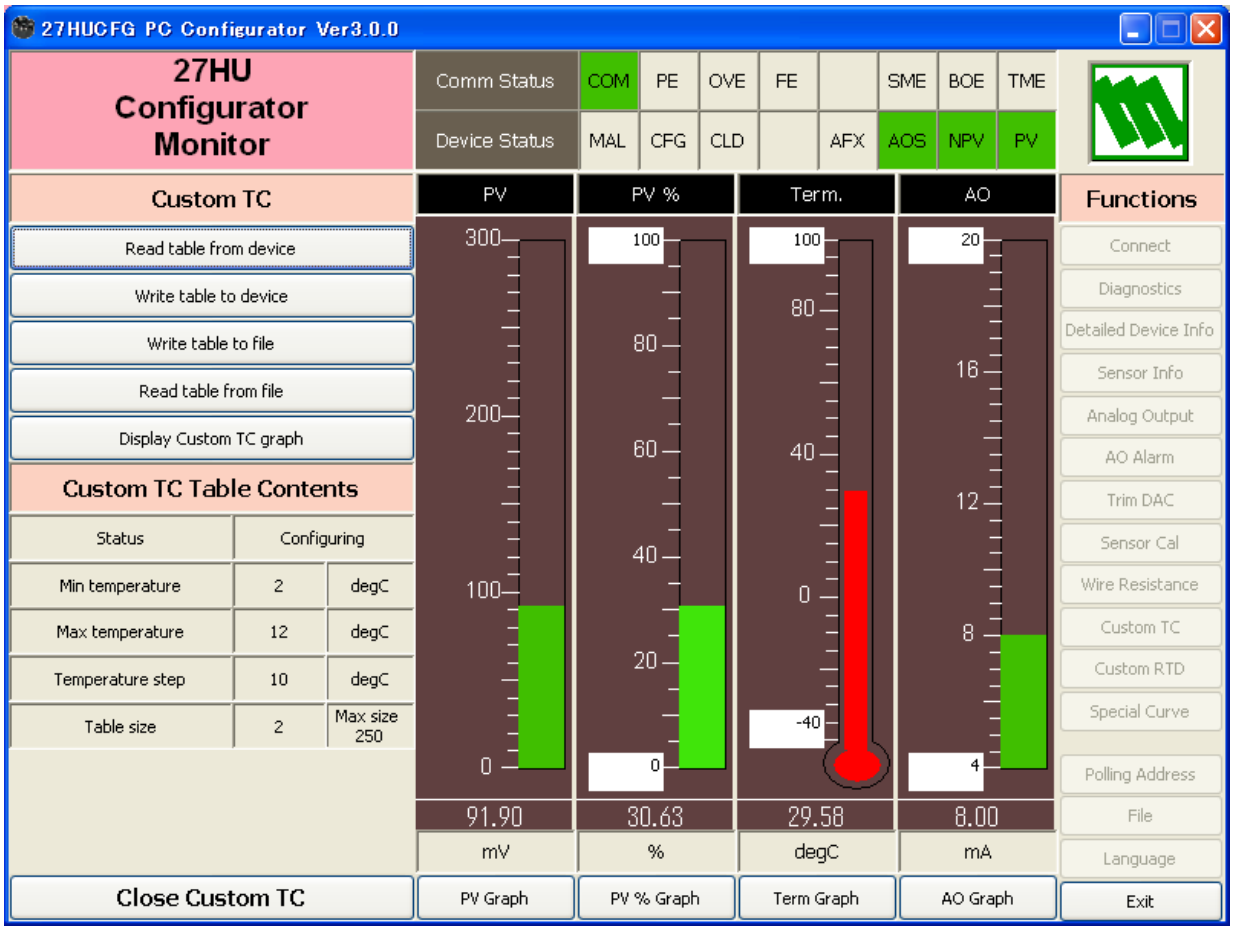
The 27HU supports user-specific thermocouple table function. In order to use a user-specific table, data in text format must be defined and registered.
The file format is as following.
Define the minimum temperature value in Celsius at Minimum TC Temperature.
Specify the Temperature Step used in the table, from 1°C to 50°C.
Describe characteristics data within { }. Data must be entered in mV. Up to 250 points can be specified.

```
/*******************************************************
/*    Custom TC Table Definition
/*    Ti=f(Xi)     (0<=i<Size)
/*       Temperature Step (1 to 50 degC)
/*       -100<=Xi<800mV
/*       Xi<Xi+1
/*       2<=Size<=250
/*******************************************************
Minimum TC Temperature=0      ← Minimum temperature T0 (°C)
Step=10                 ← Temperature step (°C)
{
10.0000                 ← Voltage value for T0 (mV)
 :
20.0000                 ← Voltage value for Tmax (mV)
}
```

Once the data file is ready, register the file on the 27HUCFG.

Click [Custom TC] button to open the Custom TC as shown in Figure 14.

Figure 14. Custom TC



Read table from file	The program uploads a file stored in the PC. When uploaded, the file contents summery is indicated under Custom TC Table Contents. I/O characteristic data longer than 250 points are ignored.
Display Custom TC graph	I/O characteristics data can be shown in a graph.
Write table to file	The program saves currently displayed I/O characteristics data to a file.
Write table to device	The program downloads currently displayed I/O characteristics to the 27HU. When downloading is successfully complete, Status under Custom TC Table Contents shows 'Configured.' Then the option 'TC Spec (Custom TC)' becomes available to choose among the sensor type selections. If 'TC Spec' has been already selected before this setting is done, you can not download a particular data file.
Read table from device	The program uploads I/O characteristics table registered in the 27HU. If there is no file registered, Status under Custom TC Table Contents shows 'Non configured.'
Close Custom TC	Quits the view.

3.13 CUSTOM RTD

The 27HU supports calibrated RTD and user-specific RTD table functions. In order to use these functions, RTD's characteristics data must be defined and registered.

CALIBRATED RTD

Callendar-Van Dusen approximation formula as shown below is used.

Rt = R0 * (1 + A*T + B*T^2 + (T – 100)*C*T^3) (if T ≥ 0, C = 0)

where Rt : Resistance at T°C (ohms)
R0 : Resistance at 0°C (ohms)
T : Temperature (°C)
A, B, C : Coefficient

Calibrate the RTD and determine the coefficients A, B, C and R0.
Click [Write calibrated RTD] button and enter these values to automatically create a sensor characteristic data. Once the data is incorporated by pressing [Read table from device], its contents can be reconfirmed by [Display Custom RTD graph] and [Write table to file].

USER-SPECIFIC RTD TABLE

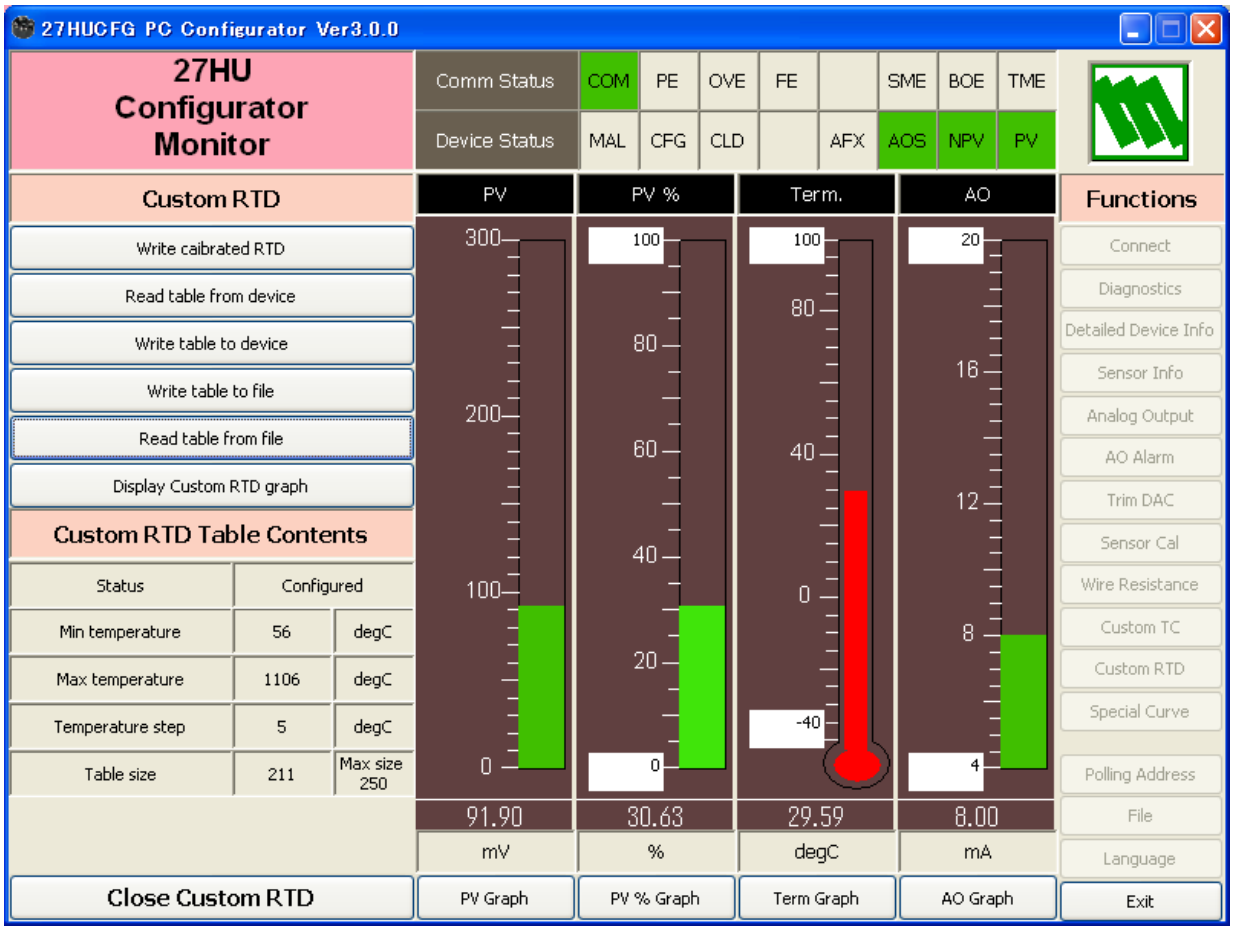
User-specific RTD data is defined in the format of texts. The file format is as following.
Define the minimum temperature value in Celsius at Minimum RTD Temperature.
Specify the Temperature Step used in the table, from 1°C to 50°C.
Describe characteristics data within { }. Data must be entered in ohms. Up to 250 points can be specified.

```
/*******************************************************
/*    Custom RTD Table Definition
/*    Ti=f(Xi)     (0<=i<Size)
/*       Temperature Step (1 to 50 degC)
/*       0<=Xi<4000 Ohm
/*       Xi<Xi+1
/*       2<=Size<=250
/*******************************************************
Minimum RTD Temperature=0    ← Minimum temperature T0 (°C)
Step=10                  ← Temperature step (°C)
{
100.000000                   ← Resistance value for T0 (Ω)
 :
200.000000                   ← Resistance for Tmax (Ω)
}
```

Once the data file is ready, register the file on the 27HUCFG.

Click [Custom RTD] button to open the Custom RTD as shown in Figure 15.

Figure 15. Custom RTD



Read table from file	The program uploads a file stored in the PC. When uploaded, the file contents summery is indicated under Custom RTD Table Contents. I/O characteristic data longer than 250 points are ignored.
Display Custom RTD graph	I/O characteristics data can be shown in a graph.
Write table to file	The program saves currently displayed I/O characteristics data to a file.
Write table to device	The program downloads currently displayed I/O characteristics to the 27HU. When downloading is successfully complete, Status under Custom RTD Table Contents shows 'Configured.' Then the option 'RTD Spec (Custom RTD)' becomes available to choose among the sensor type selections. If 'RTD Spec' has been already selected before this setting is done, you can not download a particular data file.
Read table from device	The program uploads I/O characteristics table registered in the 27HU. If there is no file registered, Status under Custom RTD Table Contents shows 'Non configured.'
Close Custom RTD	Quits the view.

3.14 LINEARIZATION TABLE SETTING

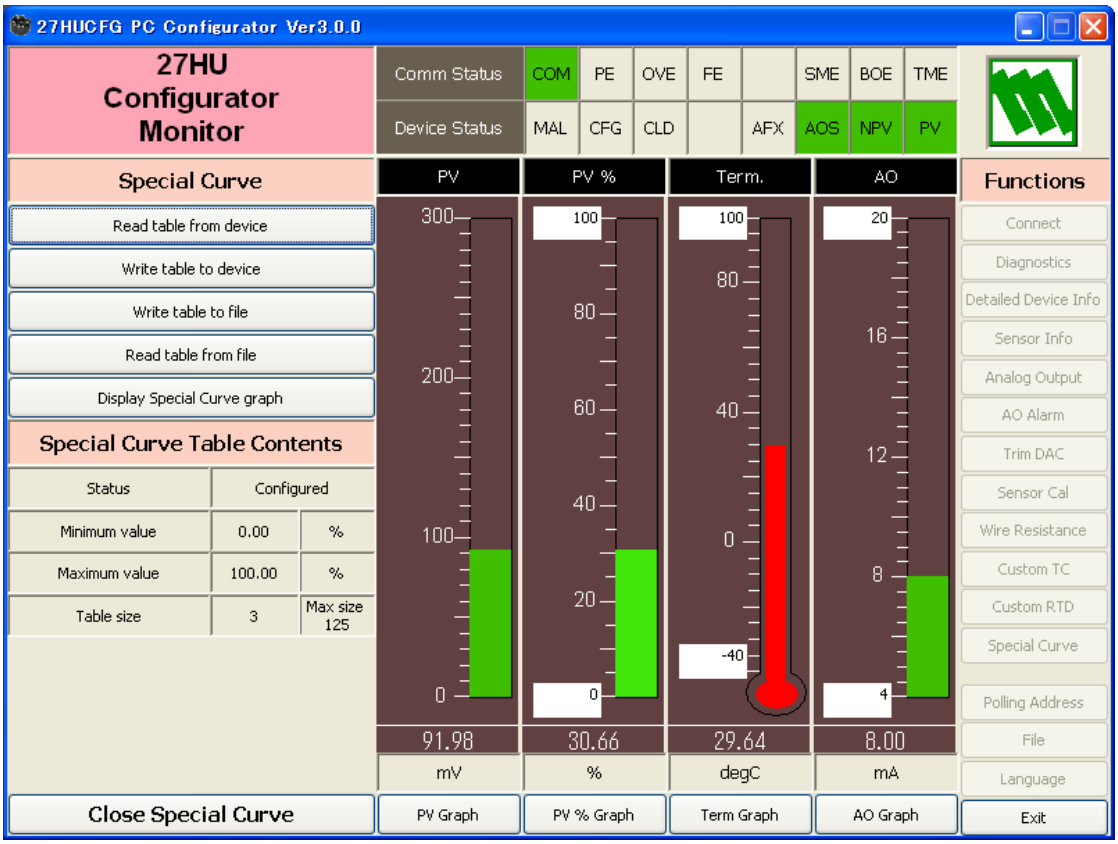
The 27HU supports user-specific linearization table function (Special_Curve). In order to use the Special_Curve, data in text format must be defined and registered.
The file format is as following.
Describe characteristics data within { }. Sets of X and Y values must be entered in %. Up to 125 points can be specified.

```
/*******************************************************
/*    Linearization Table (Special Curve) Definition
/*    Yi=f(Xi)     (0<=i<Size)
/*       -15<=X,Y<115%
/*       Xi<Xi+1
/*       2<=Size<=125
/*******************************************************
{
0.000000,        0.000000          ← The minimum X and Y values
 :
100.000000,100.000000        ← The maximum X and Y values
}
```

Once the data file is ready, register the file on the 27HUCFG.

Click [Special Curve] button to open the Special Curve as shown in Figure 16.

Figure 16. Special Curve

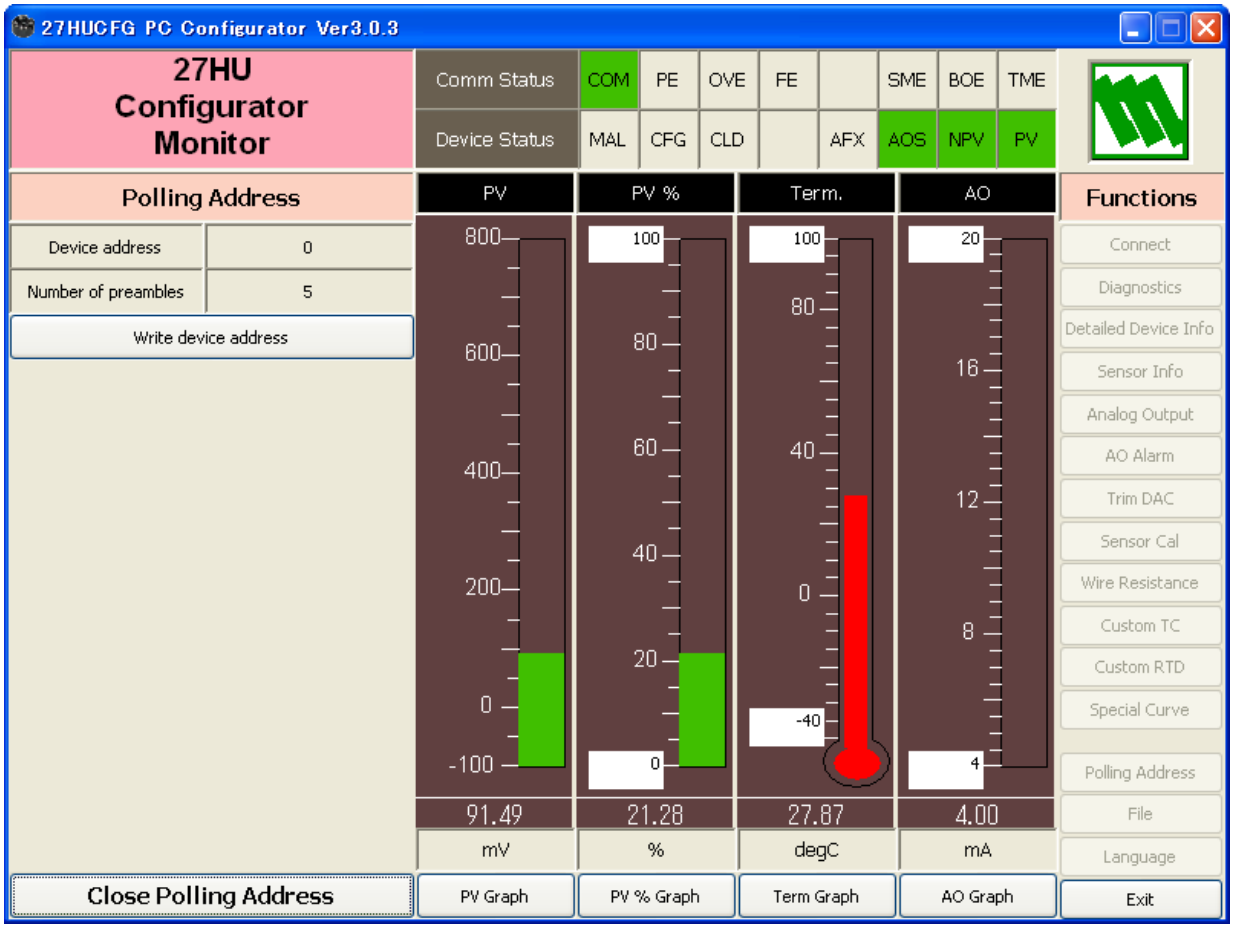


Read table from file	The program uploads a file stored in the PC. When uploaded, the file contents summery is indicated under Special Curve Table Contents. I/O characteristic data longer than 125 points are ignored.
Display Special Curve graph	I/O characteristics data can be shown in a graph.
Write table to file	The program saves currently displayed I/O characteristics data to a file.
Write table to device	The program downloads currently displayed I/O characteristics to the 27HU. When downloading is successfully complete, Status under Special Curve Table Contents shows 'Configured.' Then the option 'Special_Curve' become available to choose among the transfer function selections. If 'Special_Curve' has been already selected before this setting is done, you can not download a particular data file.
Read table from device	The program uploads I/O characteristics table registered in the 27HU. If there is no file registered, Status under Special Curve Table Contents shows 'Non configured.'
Close Special Curve	Quits the view.

3.15 POLLING ADDRESS

Click Polling Address button to open the Device Address view as shown in Figure 17.

Figure 17. Polling Address



Device address	Shows the polling address of currently connected device.
Write device address	Write to the device a new polling address. Selectable addresses are from 0 to 15. The output current is fixed to 4mA, and [Analog Output] or [Trim DAC] functions become unavailable.
Number of preamble	Shows number of preamble at HART communication. Not rewritable.
Close Polling Address	Quits the Polling Address view.

3.16 FILE MANAGEMENT

The 27HU's configurations can be saved in a file and then read out to be downloaded to multiple modules.
Click [File] button to open the File Management view as shown in Figure 18.
While this view is active, the device connection is severed, therefore the 27HU device can be connected and disconnected freely except during Upload or Download operations.
The view is divided in two sections: 'File Configuration' and 'Device Configuration.' 'File Configuration' shows data transfer (Read or Write) between the PC Configurator and the PC, while 'Device Configuration' shows data transfer (Upload or Download) between the configurator and the 27HU device.
The 27HUCFG's configuration views consist of two pages. Click [Page] button to switch between pages. The second page appears as shown in Figure 19.
Click [Exit] to complete the file management operations. The device will remain disconnected and must be 'Connected' to start monitoring.

NOTE

Validity of the selected range values is not verified in this view. Please make sure to set them according to the described specifications.

Figure 18. File, 1st Page

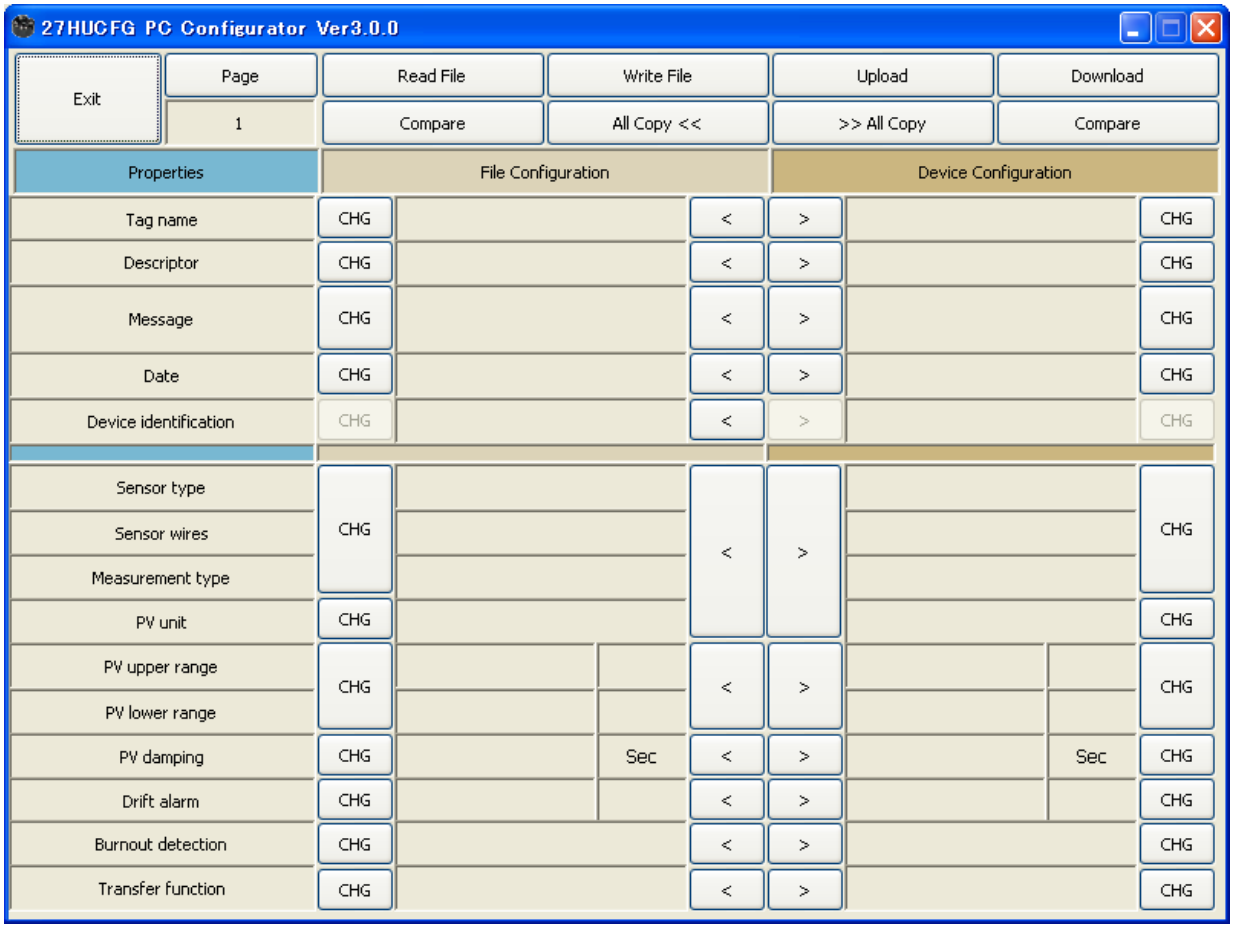
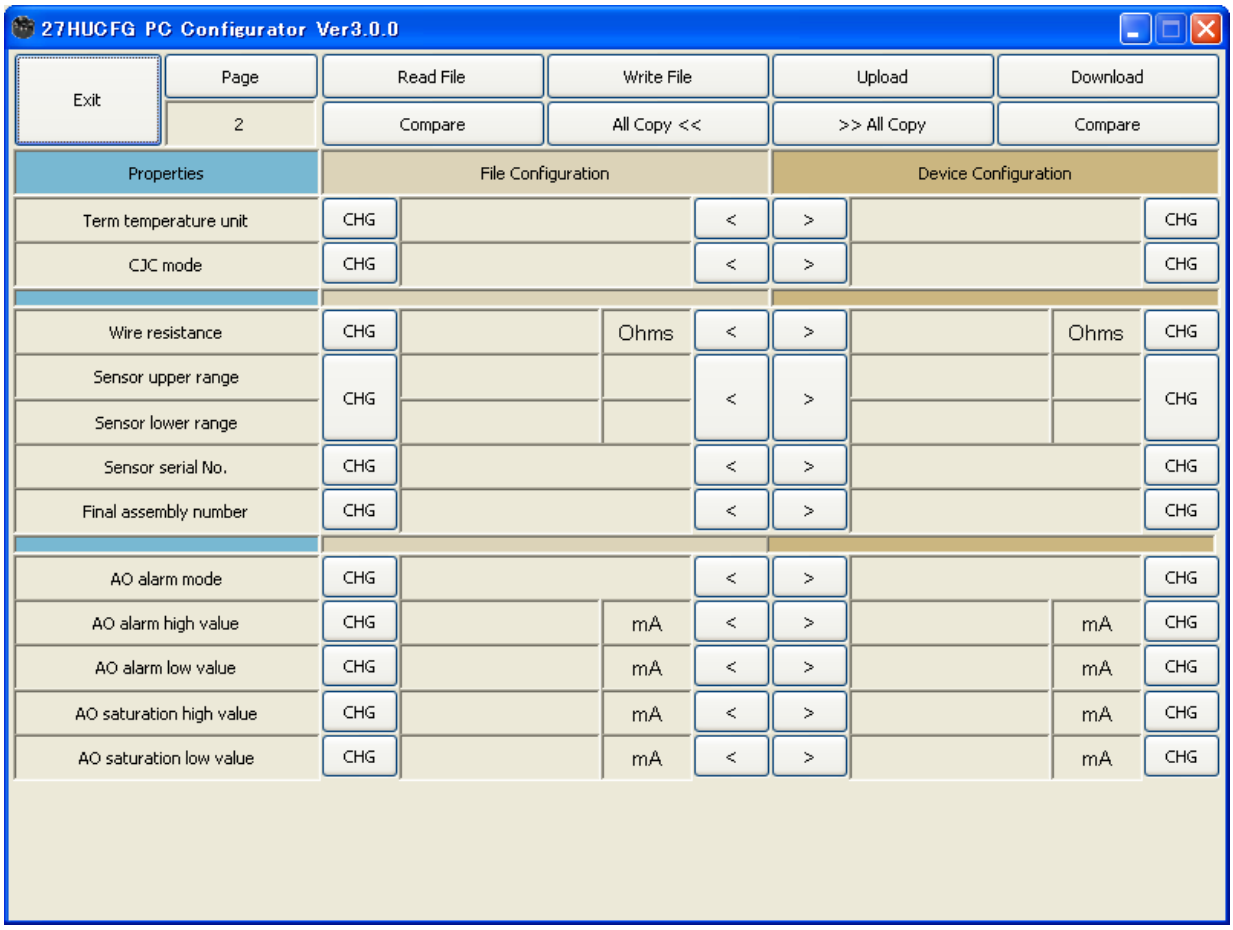


Figure 19. File, 2nd Page

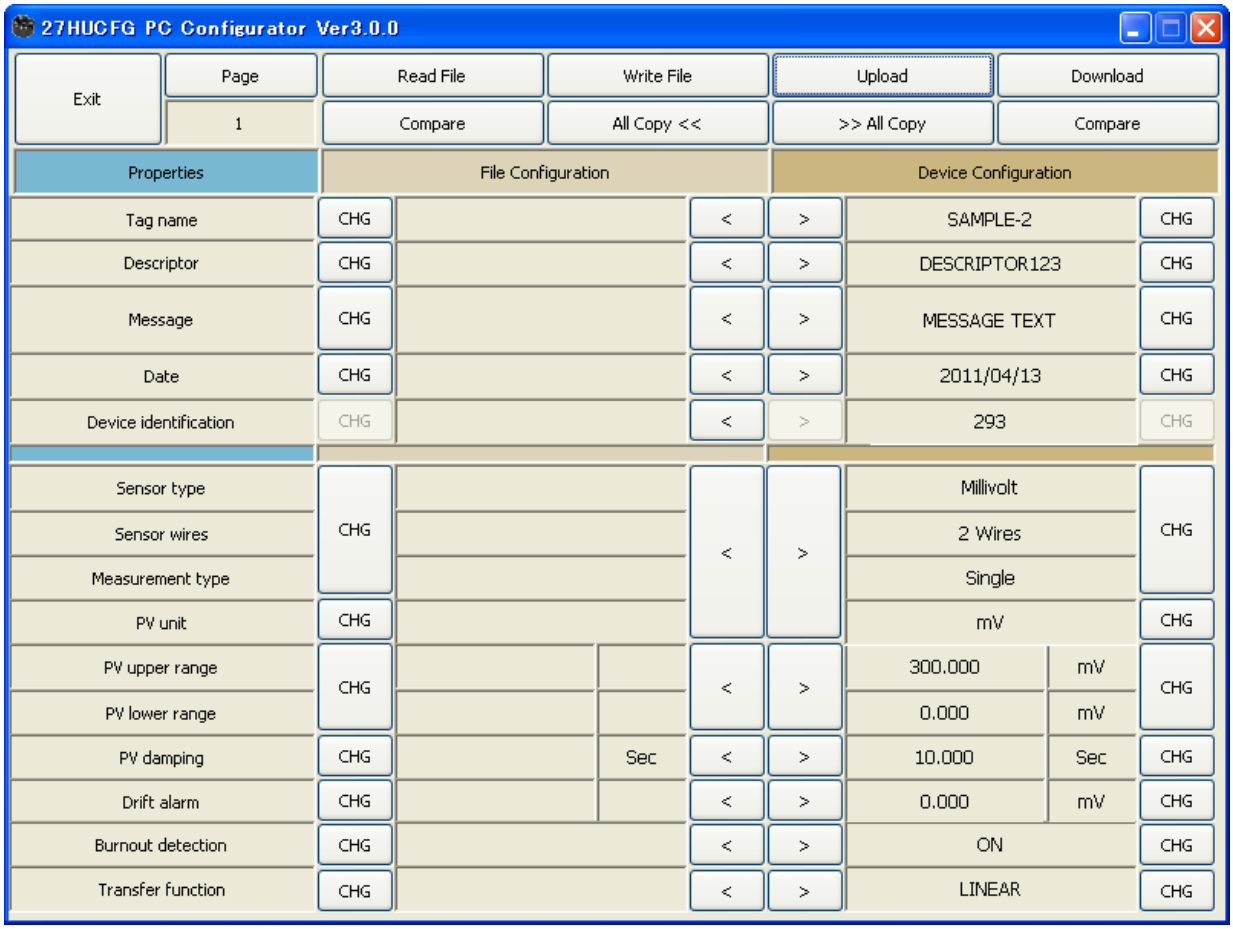


3.16.1 TRANSFERRING DATA TO/FROM DEVICE

Click [Upload] button to connect to the 27HU device, to read out its configuration data and to show it in 'Device Configuration' fields on the screen (Figure 20). COM port and Device Address can be changed in 'Connect' view. Once the uploading is complete, all background colors are back to the initial state.
Click [Download] button to connect and write configuration data in 'Device Configuration' fields to the 27HU device.
If an error occurs and downloading is stopped during the process, erred data field is highlighted in med pale red background color.
When the downloading is successfully complete, the configuration data is automatically uploaded and the background color returns to the initial state.
Connection to the device is automatically severed after each uploading or downloading, to allow it removed.

NOTE
'Device identification' is an identifier inherent to each device. It cannot be changed or downloaded to a device.

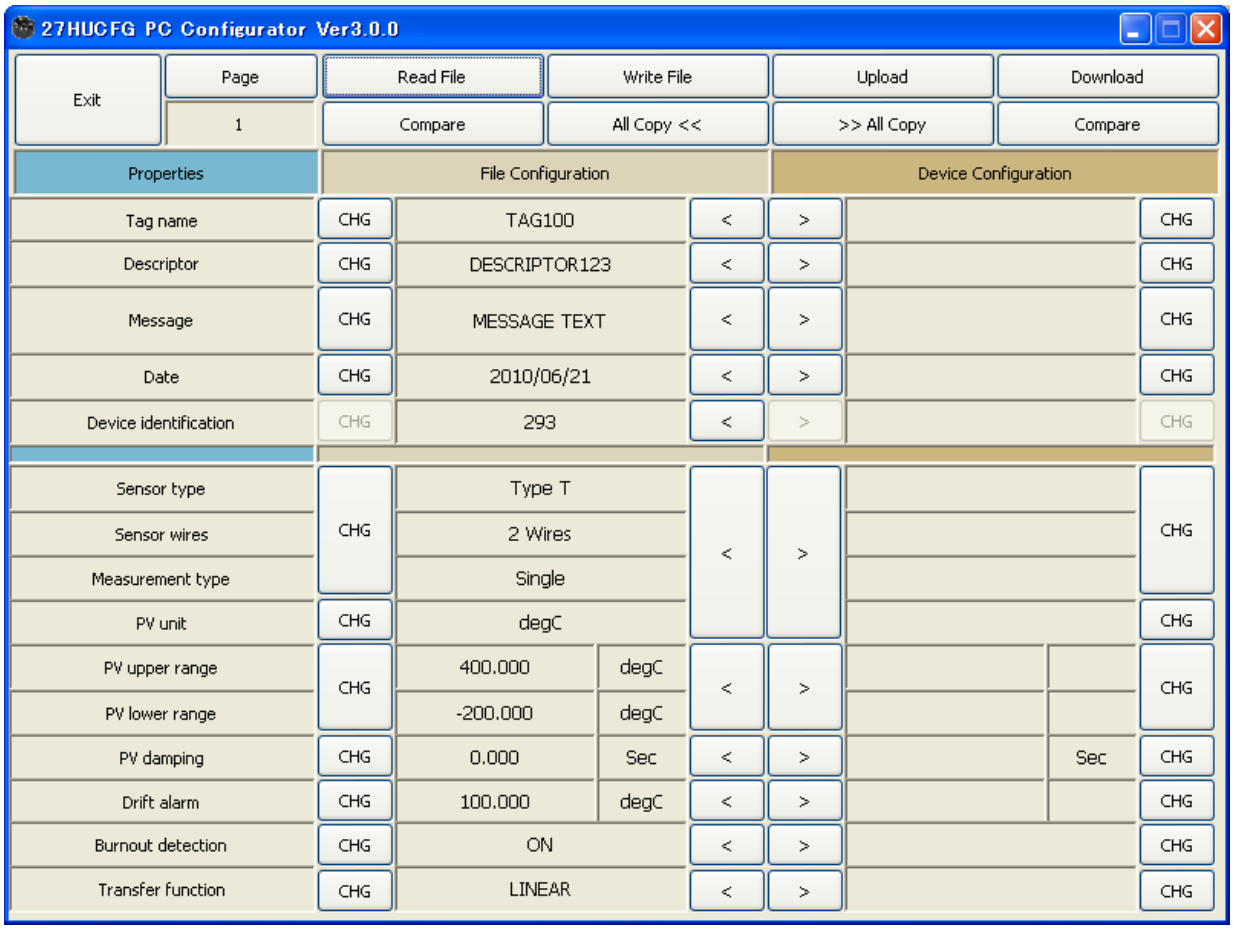
Figure 20. Data Uploaded



3.16.2 READING/WRITING FILES

Click [Read File] button to read the configuration data from a specified file and to show it in 'File Configuration' fields on the screen (Figure 21). All background colors are back to the initial state.
Click [Write File] button to write the configuration data in 'File Configuration' fields to a specified file.

Figure 21. File Read Out



3.16.3 MODIFYING PARAMETERS

Click [CHG] button at the left of each field to modify the parameter. Fields in which the parameter has been changed will be highlighted in light yellow background color. [CHG] buttons placed across multiple fields indicate that these parameters can be modified in single sequence.

When one parameter has been changed, related fields are also affected. For example, when 'Sensor type' is modified, 'PV unit' and 'PV range' may be automatically changed.

Parameters can be copied between 'File Configuration' and 'Device Configuration' using [<] and [>] buttons. Copied fields will be highlighted in light yellow background color.

Using [All Copy <<] or [All Copy >>] buttons enables transferring all parameters between the sections. Copied fields will be highlighted in light yellow background color.

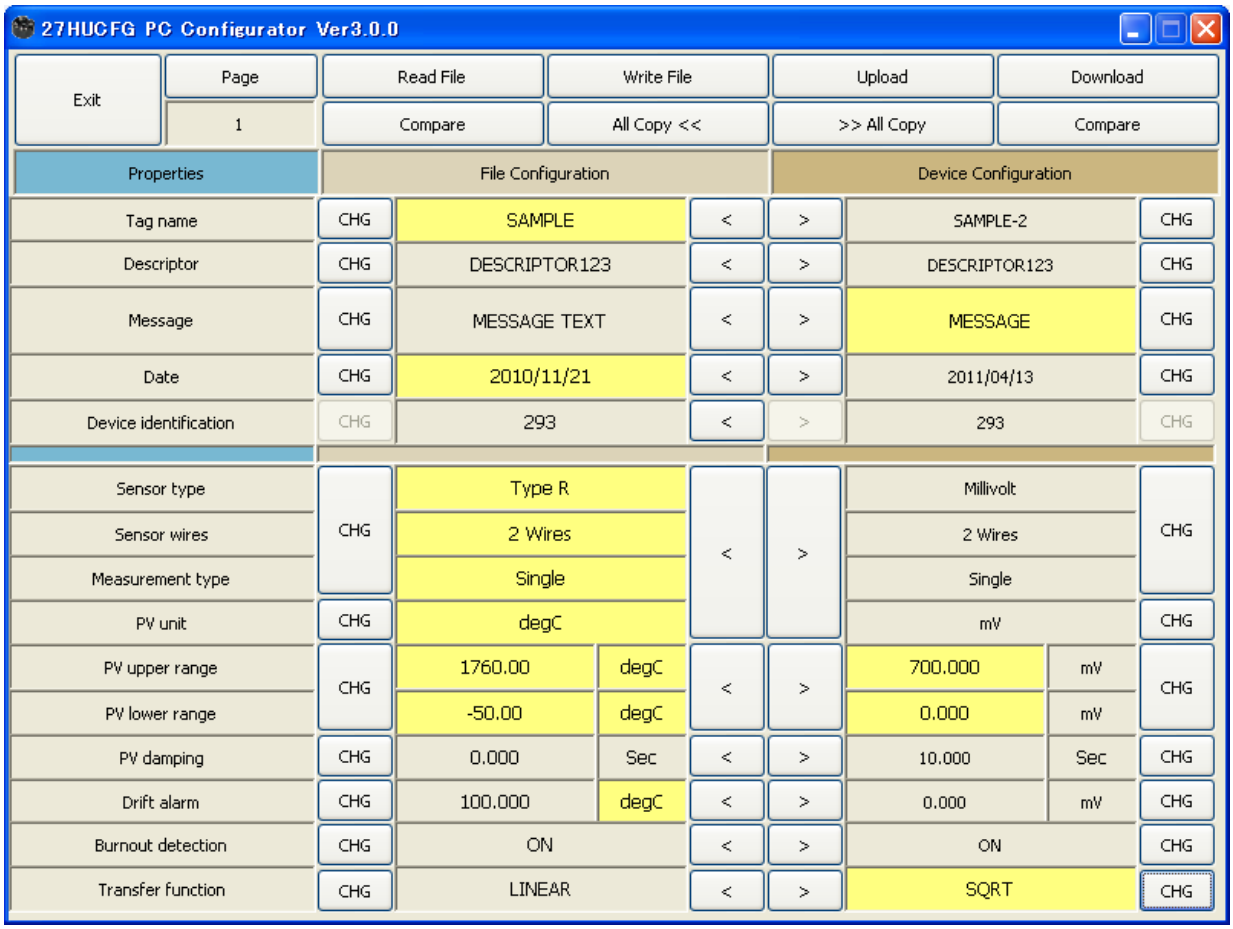
NOTE

(1) 'Date' is automatically set to the day when 'Tag name' and/or 'Descriptor' are changed. 'Date' can be modifiable.

(2) Only capital letters are used as 'Tag name', 'Descriptor' and 'Message.' Small letters will be automatically converted to capital letters.

(3) 'Device identification' is an identifier inherent to each device. It cannot be copied from 'File Configuration' to 'Device Configuration' field.

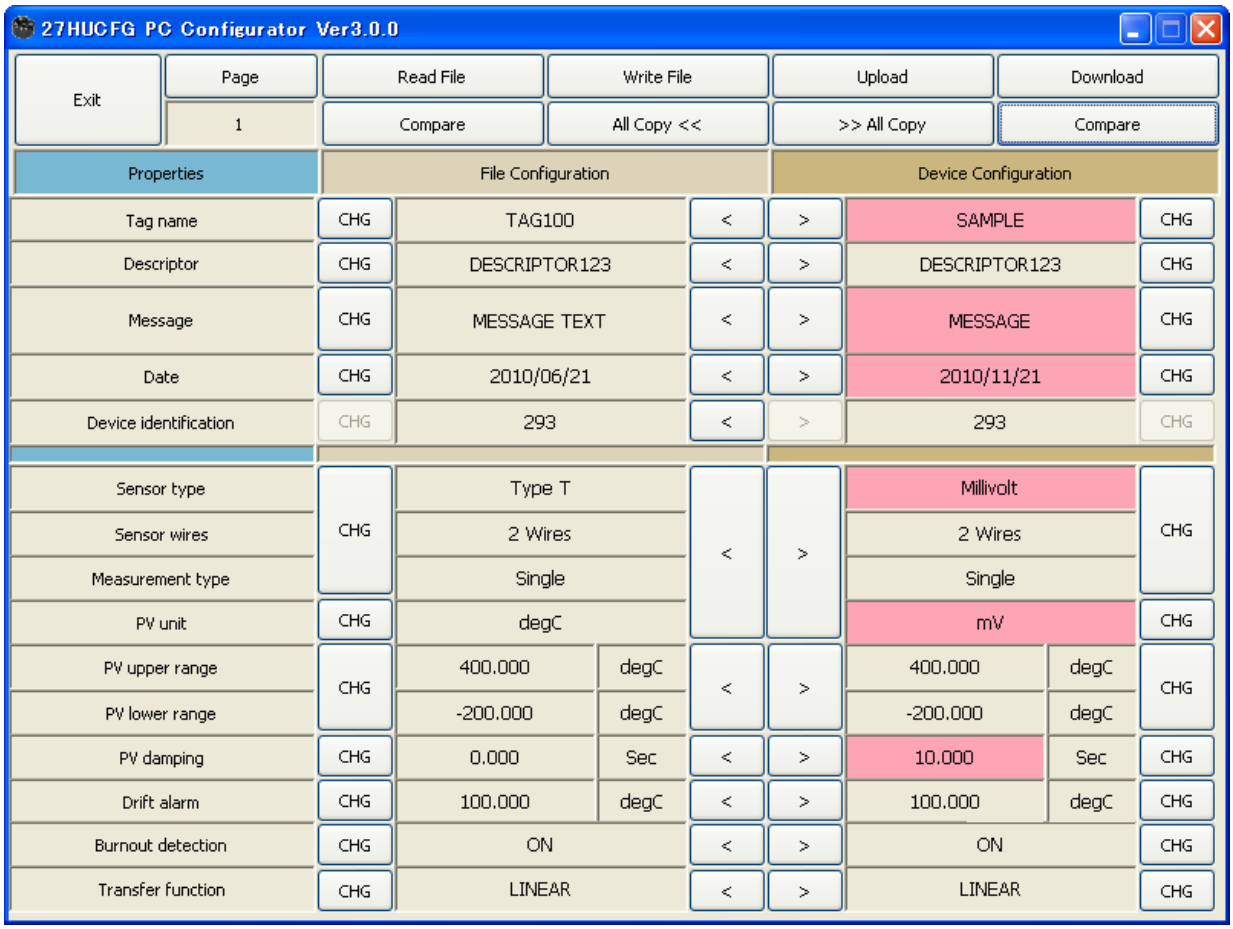
Figure 22. Parameters Modified



3.16.4 COMPARING FILE TO DEVICE

You can compare the configuration data in 'File Configuration' fields and 'Device Configuration' fields.
Click [Compare] button in 'Device Configuration' fields to compare its data to those in 'File Configuration' fields. Deviations will be highlighted in med pale red background color.
Click [Compare] button in 'File Configuration' fields to compare its data to those in 'Device Configuration' fields. Deviations will be highlighted in med pale red background color.

Figure 23. Parameters Compared



3.17 LANGUAGE

Click [Language] button to open the Language view as shown in Figure 24. The user can select the display language of the 27HU.

Figure 24. Language

Click [Select language] to select the available language. The selected language is shown on the screen immediately. English is available in each language version of Windows, while Windows in your PC must support other language in order to display it.
[Close Language] quits the view.