



PT2E-2920

SDWL-1 Series DTM Operating Manual

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Contents

1. Introduction.....	4
2. Supported FDT Frame Applications	4
3. PC Operating Environment.....	5
4. DTM Installation Procedure.....	5
5. Launching the DTM from Each FDT Frame Application.....	6
5-1. FieldMate Lite operating procedures.....	7
5-1-1. Confirming DTM registration	7
5-1-2. Launching online	9
5-1-3. Launching offline	16
5-2. PACTware operating procedures.....	17
5-2-1. Confirming DTM registration	17
5-2-2. Launching online	20
5-2-3. Launching offline	27
5-3. fdtCONTAINER operating procedures	28
5-3-1. Confirming DTM registration	28
5-3-2. Launching online	29
5-3-3. Launching offline	37
6. Parameter Checking and Setting Procedures	38
6-1. Parameter checking procedure	38
6-2. Online parameter setting procedure.....	39
6-3. Offline parameter batch setting procedure	42
6-3-1. FieldMate operating procedure	42
6-3-2. PACTware operating procedure	45
6-3-3. fdtCONTAINER operating procedure.....	47
7. Parameter List	49
7-1. UAPMO (User Application Process Management Object).....	50
7-1-1. Information menu	50
7-1-2. Diag (Diagnostic) Status menu	51
7-1-3. Battery Health menu.....	56
7-2. CO (Concentrator Object)	57
7-3. TB (Transducer Block)	59

7-4. Concentration	60
7-4-1. Concentration menu	60
7-4-2. Trend menu.....	61
7-5. RIKEN Status	62
7-6. Battery.....	63
7-6-1. Battery menu.....	63
7-6-2. Trend menu.....	64
7-7. SDWL-1 Maintenance.....	65
7-7-1. Main Menu.....	65
7-7-2. Detector Info. menu	66
7-7-3. Gas Info. menu	68
7-7-4. Alarm Test menu.....	69
7-7-5. Settings menu.....	71
7-7-6. Calibration menu	73
8. DTM Upgrade Procedure.....	76
9. DTM Uninstall Procedure	76
10. Precautions.....	76

1. Introduction

This manual describes how to use the DTM (Device Type Manager) for the SDWL-1 and detector parameters. It provides information essential to correct use of the DTM.

The following actions are prohibited for the DTM:

- (1) Modifications or repairs
- (2) Disassembly or analysis
- (3) Any form of analysis, including reverse assembly and reverse compilation
- (4) Transfer or resale or provision as collateral to third parties
- (5) Use by third parties regardless of conditions, such as loan and reuse permission

The contents of this manual are subject to change without notice to allow product improvements. Any duplication or reproduction of this manual without permission is prohibited, whether in whole or in part. Riken Keiki accepts no liability for accidents or damage resulting from use of the product, whether within or outside the warranty period.

Review the warranty policy indicated on the warranty.

2. Supported FDT Frame Applications

The DTM complies with FDT 1.2 and supports operations with the following FDT frame applications:

- FieldMate Lite Edition 3.02
- PACTware 5.0
- fdtCONTAINER 4.2

* FDT (Field Device Tool) is a technology for connecting and setting field devices.

The FDT frame application allows the DTM (Device Type Manager) provided by the device manufacturer to communicate with field devices.

3. PC Operating Environment

The recommended PC operating environment for installing the FDT frame application and DTM is described in Table 3-1.

For operating environments other than the one described in Table 3-1, be sure to perform operation checking first.

Table 3-1 Recommended PC operating environment

Operating system	Windows 7 Professional Service Pack 1 64-bit
	Windows 10 Pro 32-bit/64-bit
RAM	512 MB or more
HDD	1 GB or more free space

4. DTM Installation Procedure

Run the SDWL-1 Device DTM.exe file contained in the SEWL-1 Device DTM_X.X.X folder (Figure 4-1) to install the DTM.

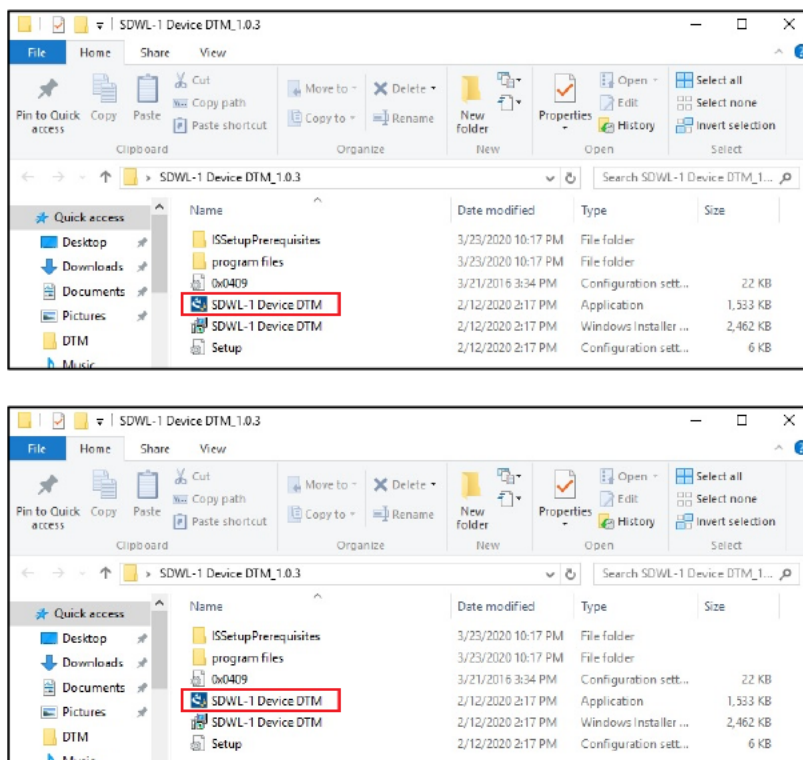


Figure 4-1 SDWL-1 Device DTM_X.X.X folder

The DTM folder shown in Figure 4-2 below is created once installation is complete.

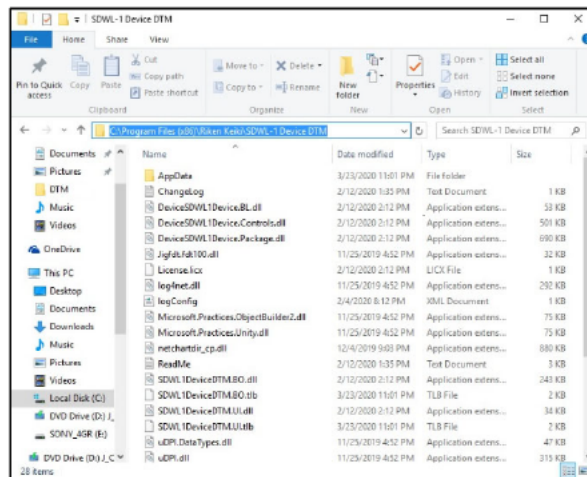


Figure 4-2 DTM folder

5. Launching the DTM from Each FDT Frame Application

This section describes how to launch the DTM (online and offline launching*1) for FDT frame applications supported by this DTM.

Note that only the basic instructions are provided here. For more information, refer to the operating manual for the corresponding FDT frame application. Also note that the following instructions assume use of a YFGW410/YFGW510 ISA100.11a wireless upstream system.

- *1 Offline launching: Used to set all SDWL-1 parameters at once.
Online launching: Used to set or check SDWL-1 parameters individually.

5-1. FieldMate Lite operating procedures

5-1-1. Confirming DTM registration

- ① Launch the DTM Setup Tool from Windows' Start menu ⇒ YOKOGAWA FieldMate Lite ⇒ DTM Setup. (Figure 5-1)

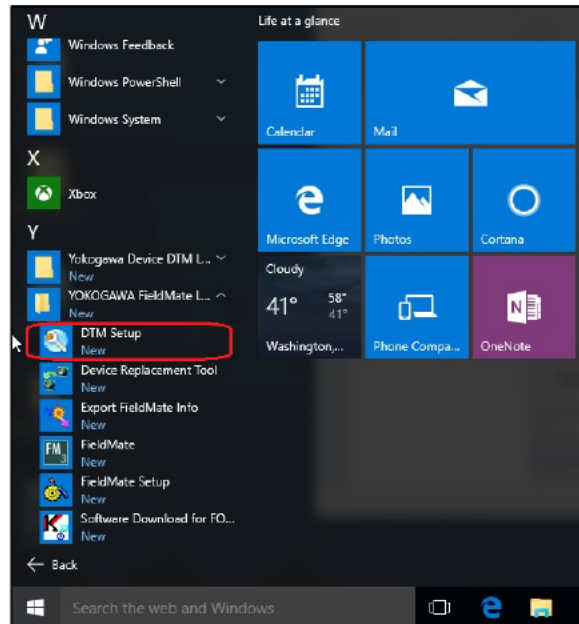


Figure 5-1 Windows menu

- ② Select "Yes" to update the DTM catalog. (Figure 5-2 and Figure 5-3)

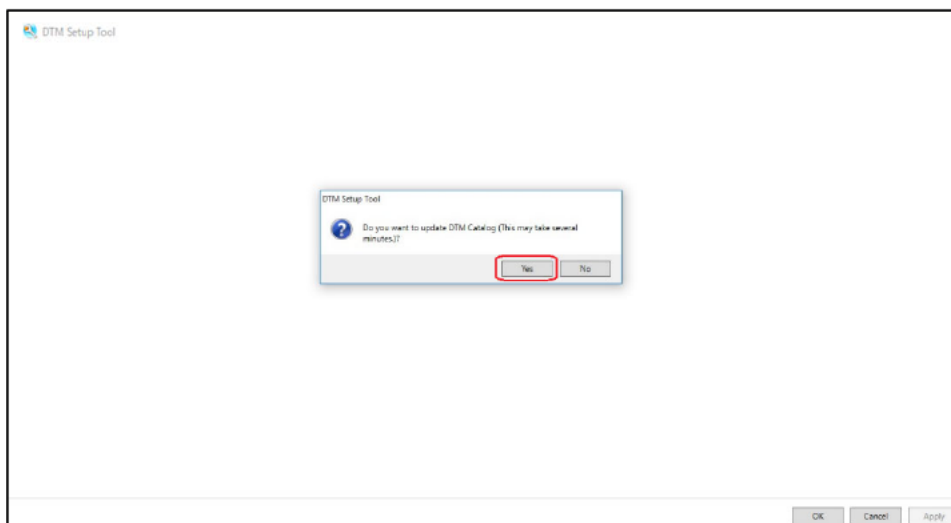


Figure 5-2 DTM Setup Tool (DTM catalog update confirmation)

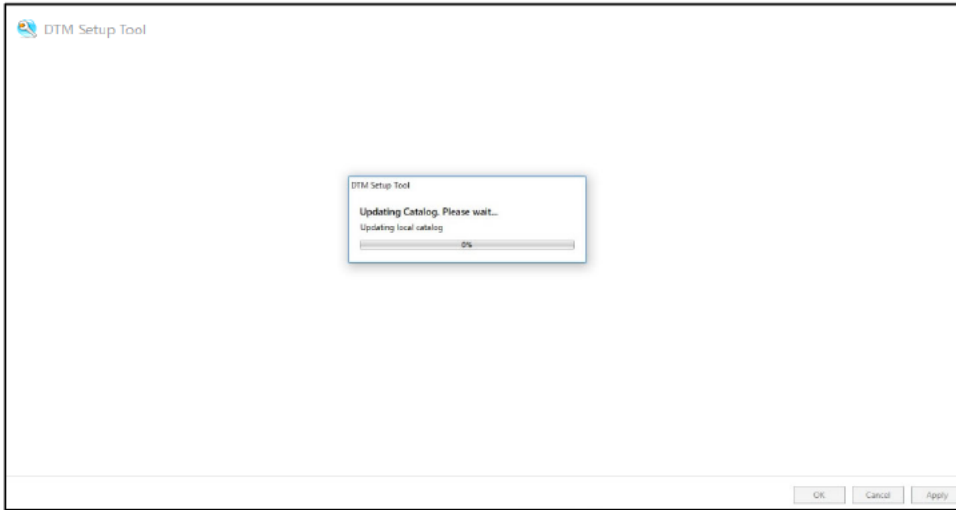


Figure 5-3 DTM Setup Tool (DTM catalog update in progress)

- ③ Once the DTM catalog is updated, the registered DTM list shown in Figure 5-4 below is displayed.

Confirm that “SDWL-1 Device DTM” appears in this list.

DTM Name	DTM Revision	DTM Vendor	Supported Protocols	Associations (Vendor/Model/Revisions)			Edit	
EIX ISA100 DTM	3.6.0.21	YOKOGAWA	ISA100	YOKOGAWA	EIX	1,2	ISA100	[Edit]
FN510 ISA100 DTM (DIDOAI)	3.6.0.21	YOKOGAWA	ISA100	YOKOGAWA	FN510 (DIDOAI)	1	ISA100	[Edit]
FN910 ISA100 DTM	3.6.0.21	YOKOGAWA	ISA100	YOKOGAWA	FN910	1	ISA100	[Edit]
SDWL-1 Device DTM	1.0.3	Riken Keiki Co. Ltd.	ISA100					[Edit]
YTA ISA100 DTM	3.6.0.21	YOKOGAWA	ISA100	YOKOGAWA	YTA510	1,2	ISA100	[Edit]
YTMX ISA100 DTM	3.6.0.21	YOKOGAWA	ISA100	YOKOGAWA	YTMX580	1	ISA100	[Edit]

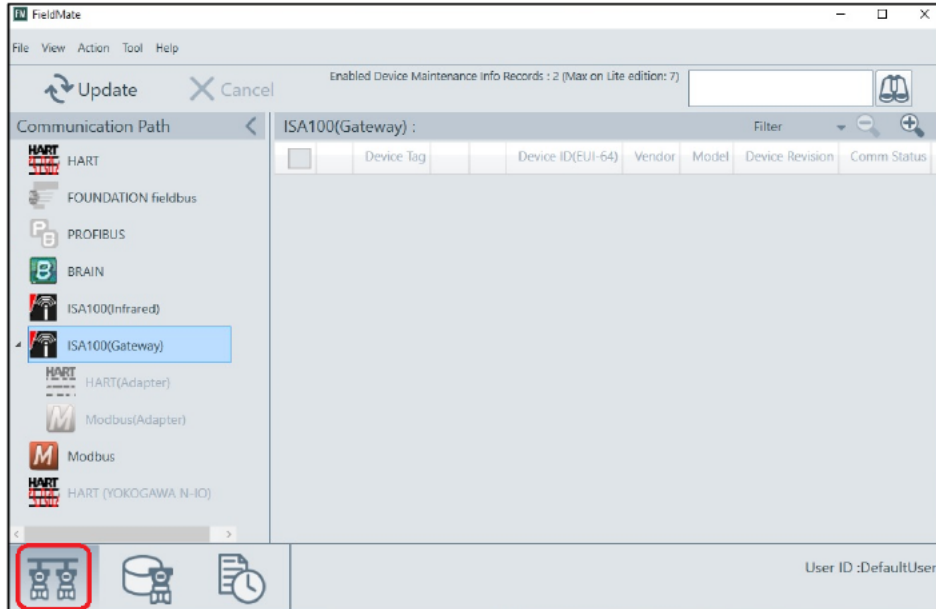
Figure 5-4 DTM Setup Tool (registered DTM list)

5-1-2. Launching online

- ① Launch FieldMate Lite.



- ② Click the icon (segment viewer) in the red box in



- ③ Figure 5-5, then select "ISA100(Gateway)" from the tree menu.

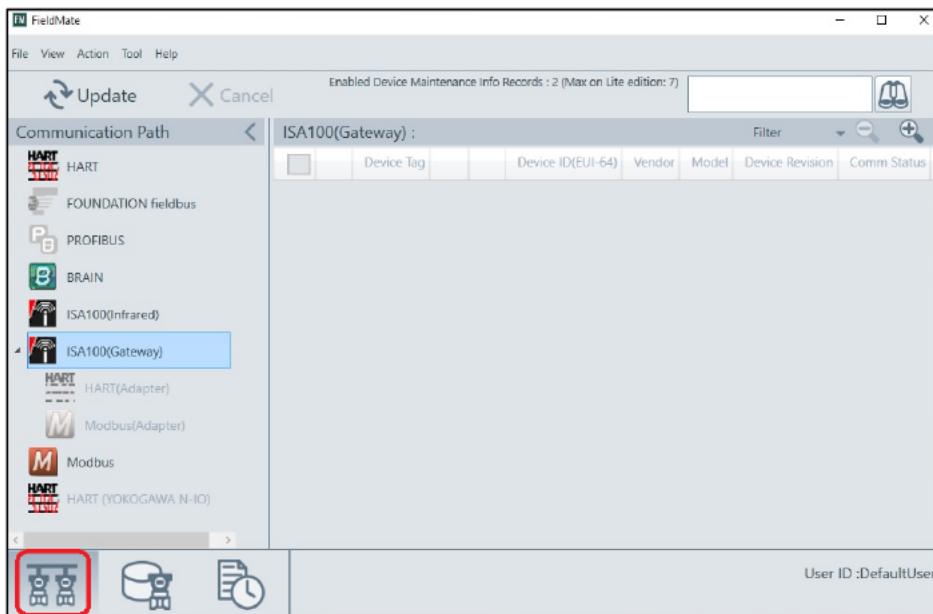


Figure 5-5 Segment viewer (main window)

- ④ Select Main menu ⇒ Tool ⇒ "ISA100 (Gateway) Interface Configuration...". (Figure 5-6)

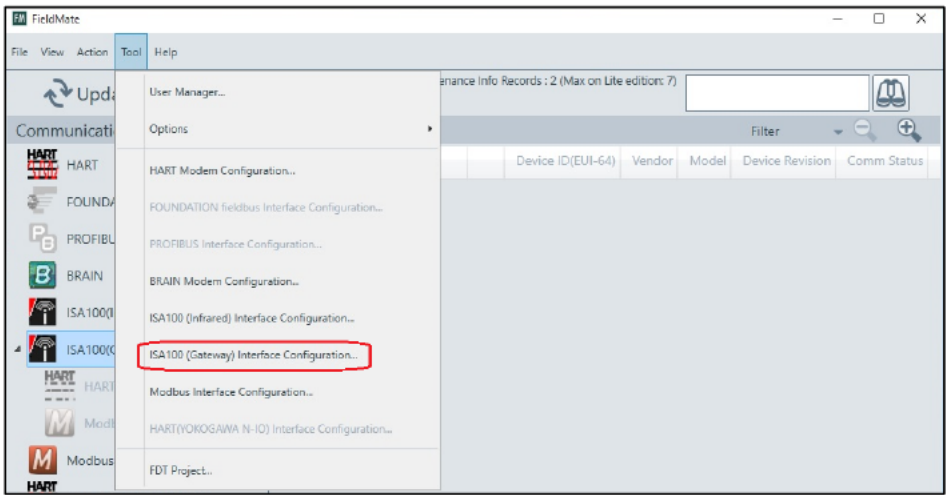


Figure 5-6 Segment viewer (ISA100 (Gateway) Interface Configuration menu)

- ⑤ Enter the management station IP address, then click “Connection Test” to confirm the connection is normally established. (Figure 5-7)

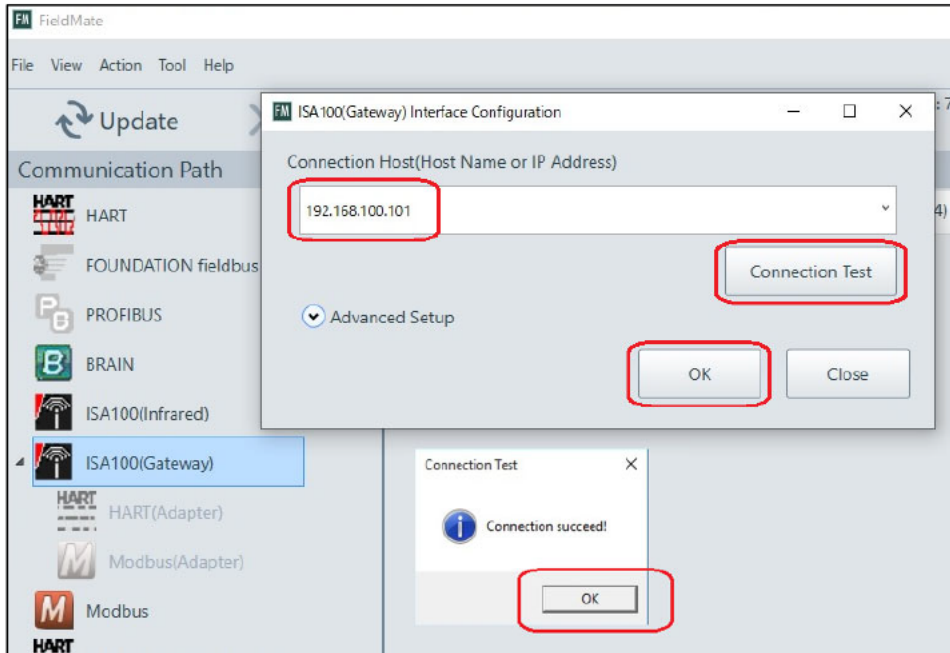


Figure 5-7 Segment viewer (ISA100 (Gateway) connection confirmation)

- ⑥ Return to the segment viewer main window, then click “Update”. The SDWL-1 connected is displayed. (Figure 5-8)

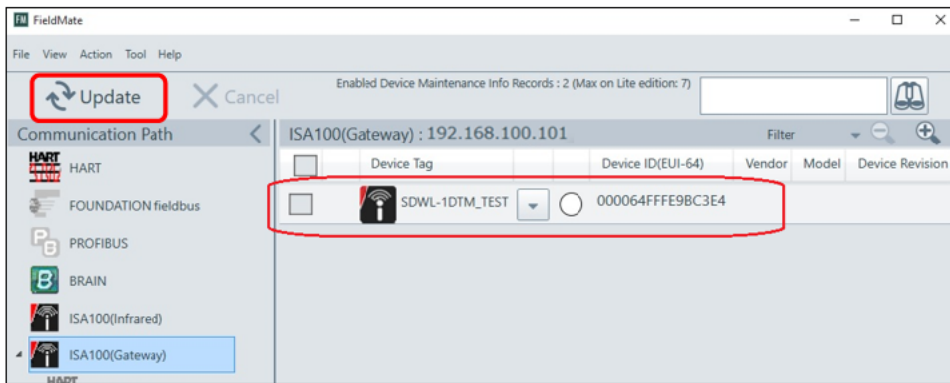
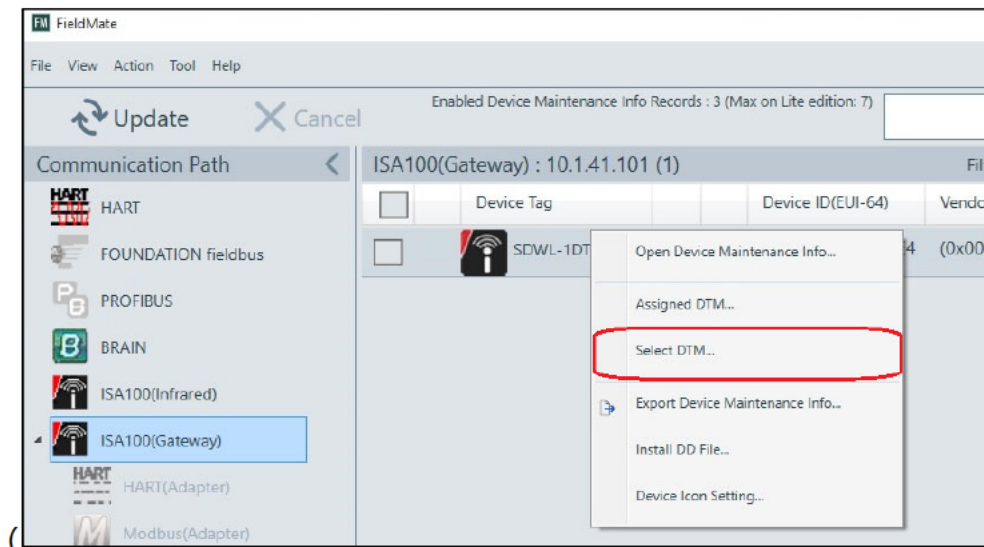


Figure 5-8 Segment viewer (connected wireless device list)

- ⑦ Right-click the SDWL-1 for which you wish to launch the DTM, then click “Select DTM...”.



⑧ Figure 5-9)

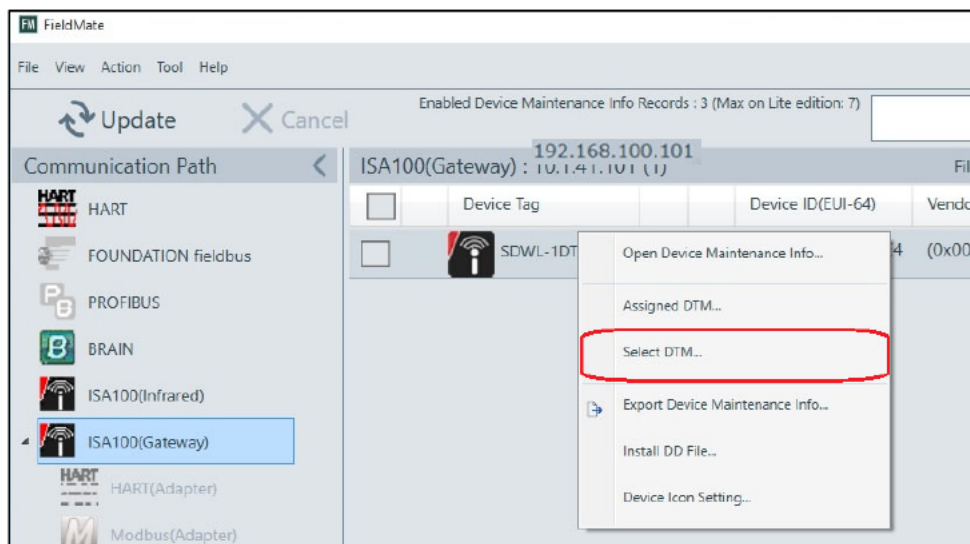


Figure 5-9 Segment viewer (DTM selection menu selection)

Device information is acquired for the SDWL-1 selected. (Figure 5-10)

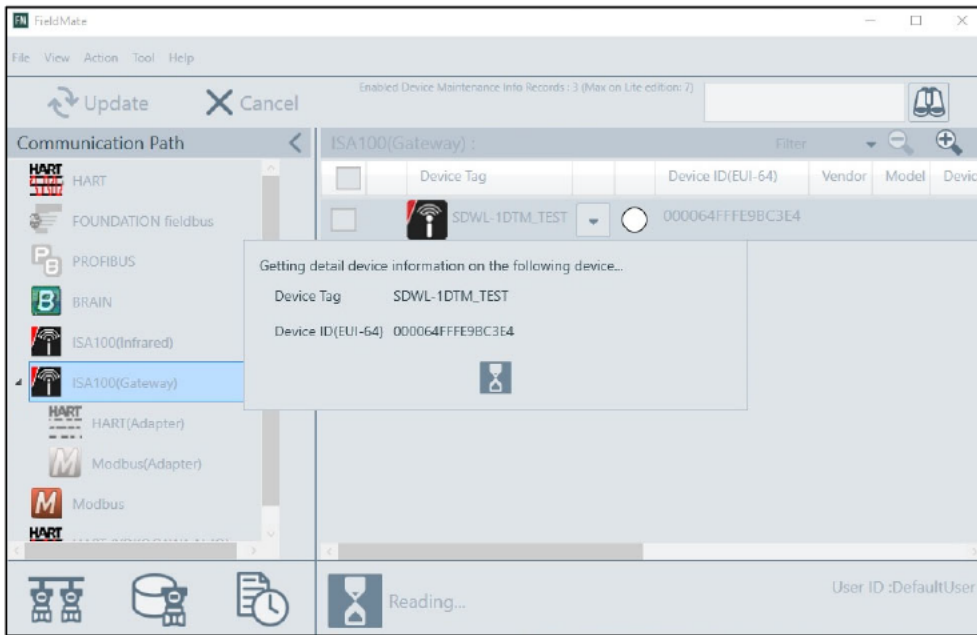


Figure 5-10 Segment viewer (device information acquisition)

- ⑨ Once the device information is acquired, the list shown in Figure 5-11 below is displayed.

Select "SDWL-1 Device DTM" from the list to launch DTM Works.

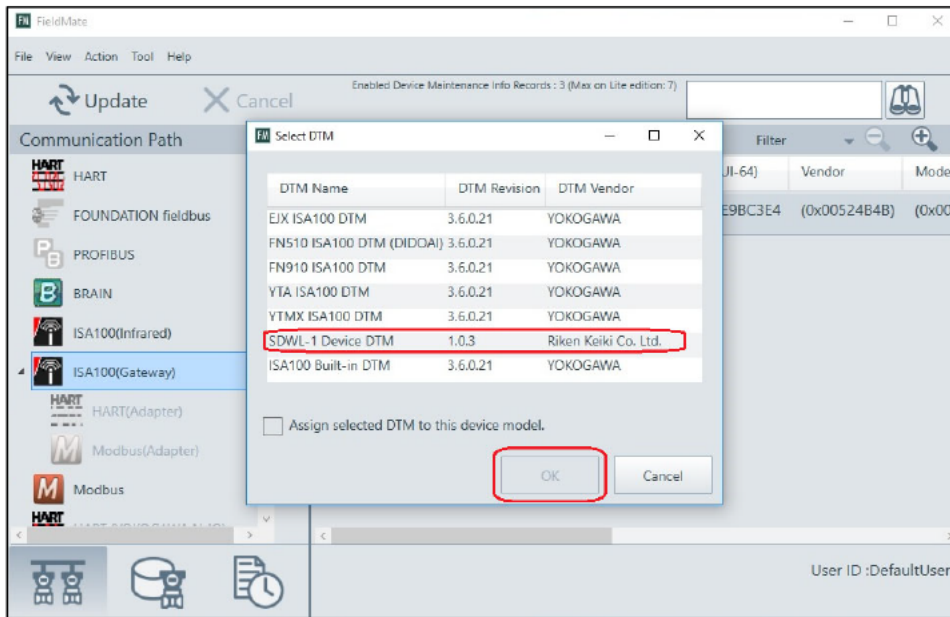


Figure 5-11 Segment viewer (DTM selection)

- ⑩ Select "Load Default Data" in the "Load options for DTM data" dialog. (Figure 5-12 and Figure 5-13)

* The DTM data consists of device parameters and DTM configuration information from the last time the DTM was launched.

Load from Database: Loads from a database.

The parameters are updated automatically once the data is loaded.

Load from File: Loads data from a specified file.

The parameters are updated automatically.

Load Default Data: Loads the device DTM default values.

The parameters are updated automatically if a device is connected.

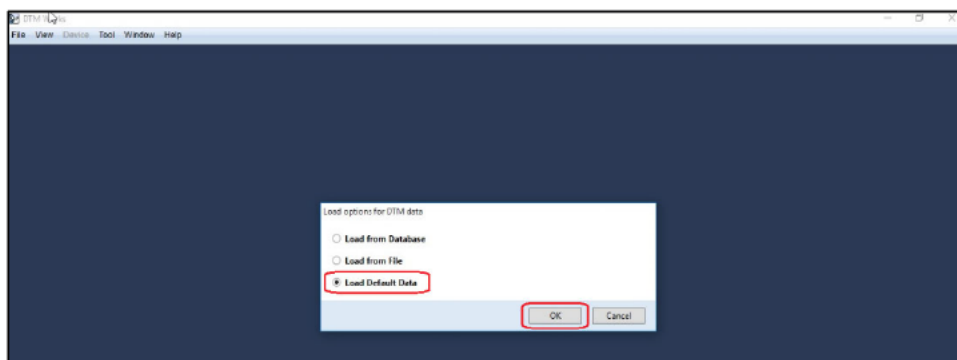


Figure 5-12 DTM Works (Load options for DTM data)

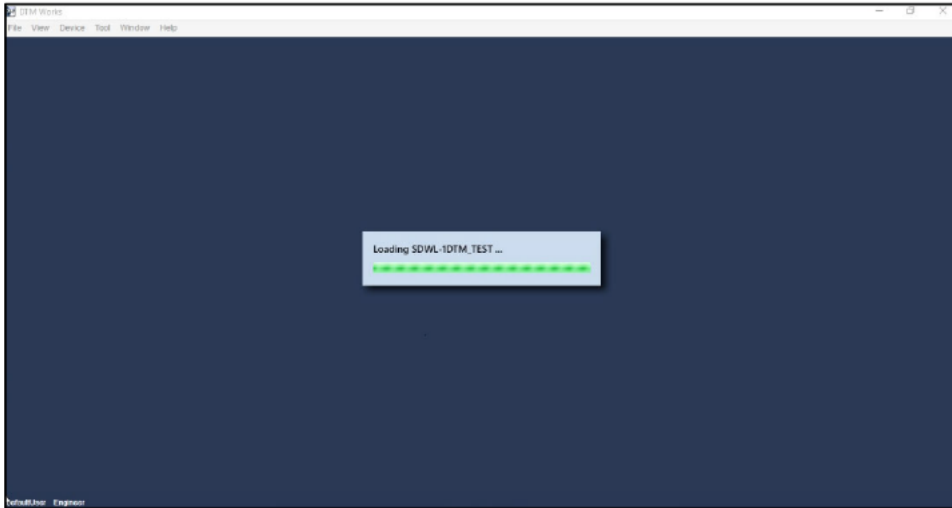


Figure 5-13 DTM Works (loading)

- ① Once DTM Works is launched, the window shown in Figure 5-14 below is displayed. Parameter loading starts automatically. Parameters can then be checked and configured.

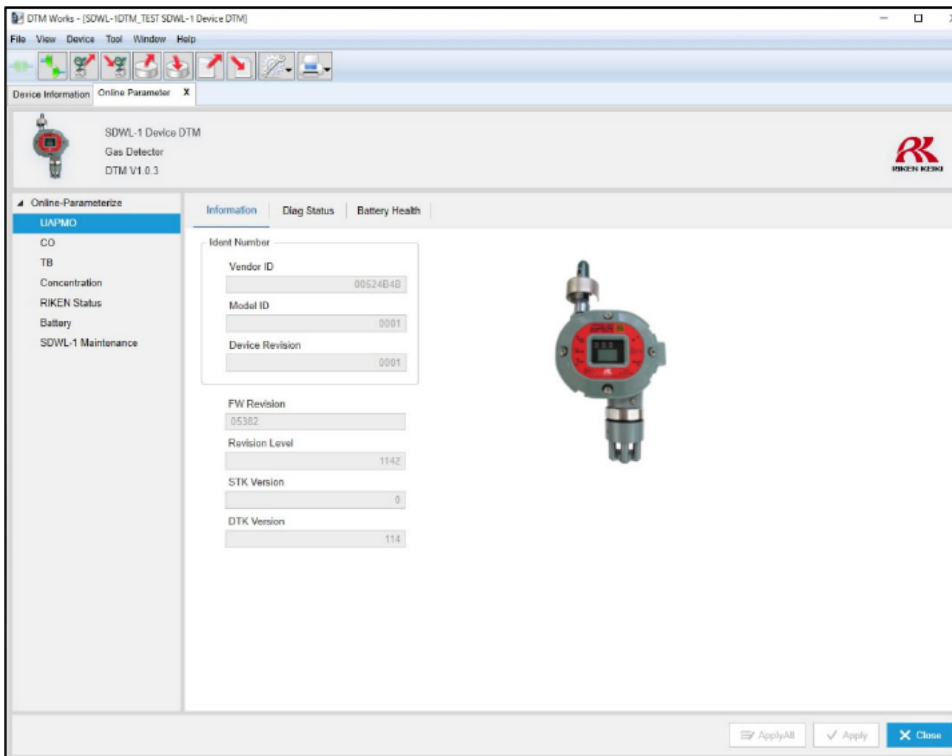


Figure 5-14 DTM Works (normal window)

5-1-3. Launching offline

- ① Disconnect the SDWL-1 after launching DTM Works as described in the previous section (Launching online).

(Figure 5-15)

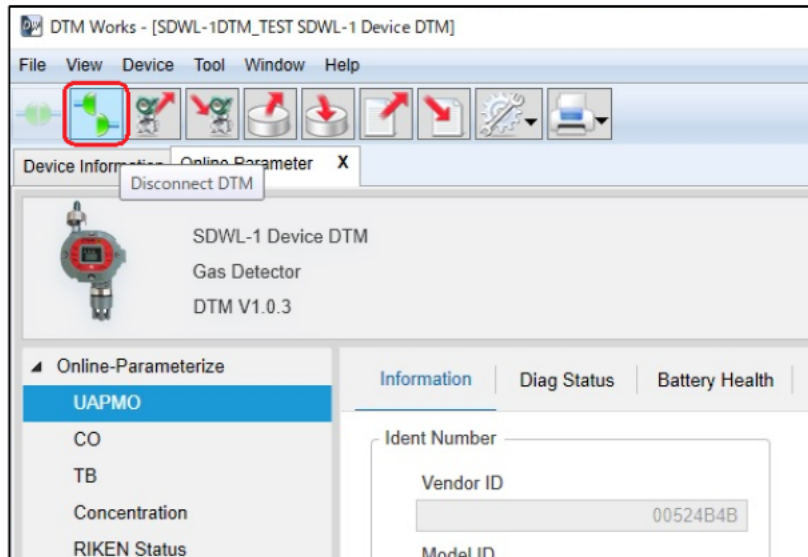


Figure 5-15 Disconnecting the SDWL-1

- ② Select "Offline Parameter" from the Device menu. (Figure 5-16)

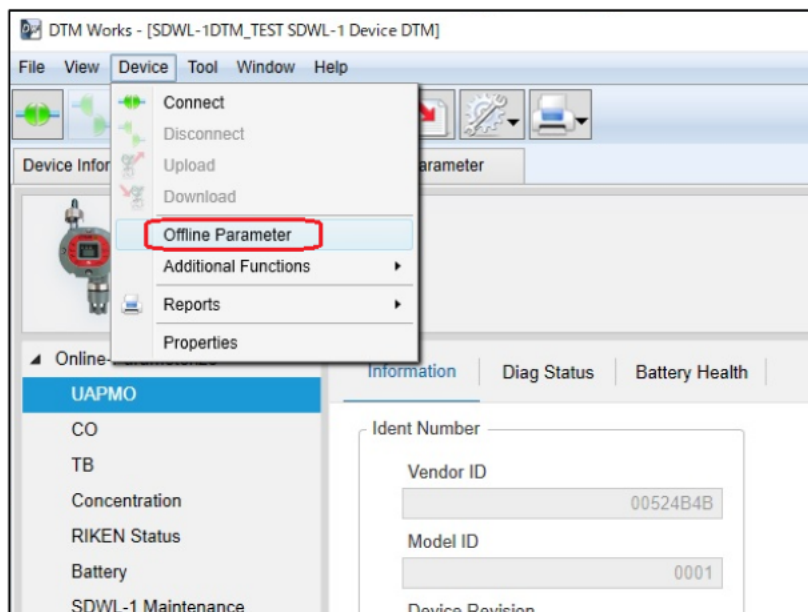


Figure 5-16 Selecting "Offline Parameter"

- ③ The window shown in Figure 5-17 below is displayed to allow offline parameter configuration.

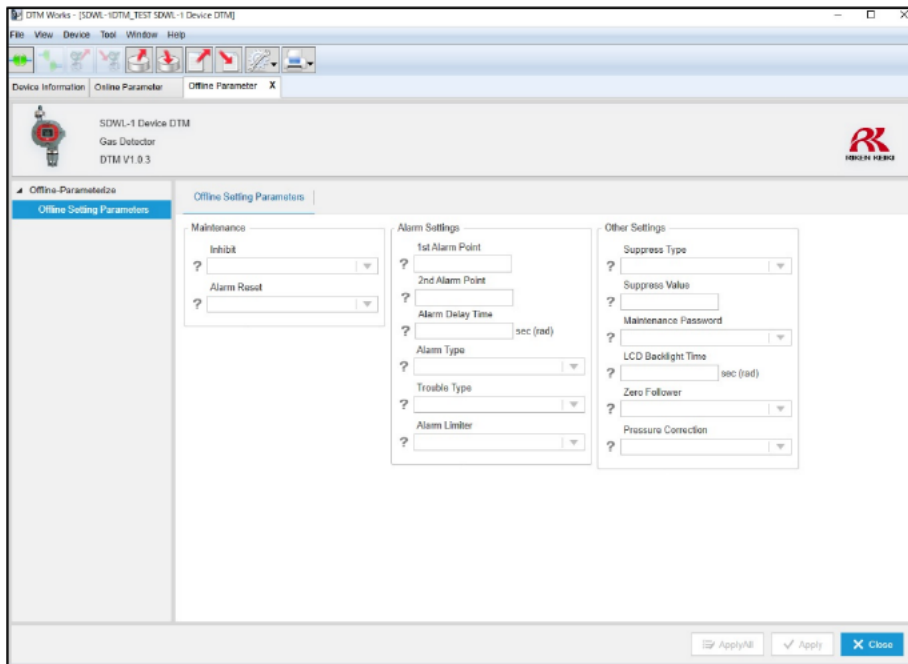
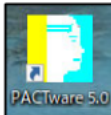


Figure 5-17 Offline Setting Parameters window

5-2. PACTware operating procedures

5-2-1. Confirming DTM registration

- ① Launch PACTware.



- ② Select Main menu ⇒ View ⇒ “Device catalog”. (Figure 5-18)

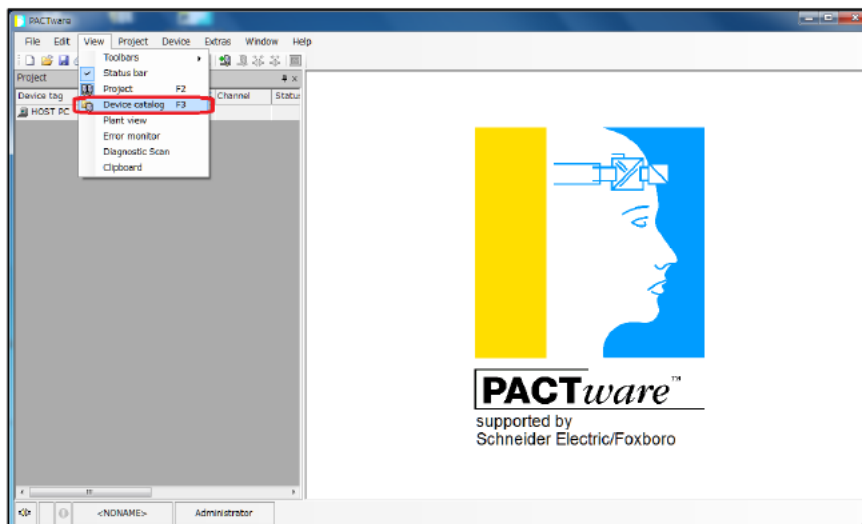


Figure 5-18 PACTware main window (Device catalog menu selection)

- ③ The list of registered DTMs shown in the following figure is displayed. Select “Update device catalog” to update the list. (Figure 5-19 and Figure 5-20)

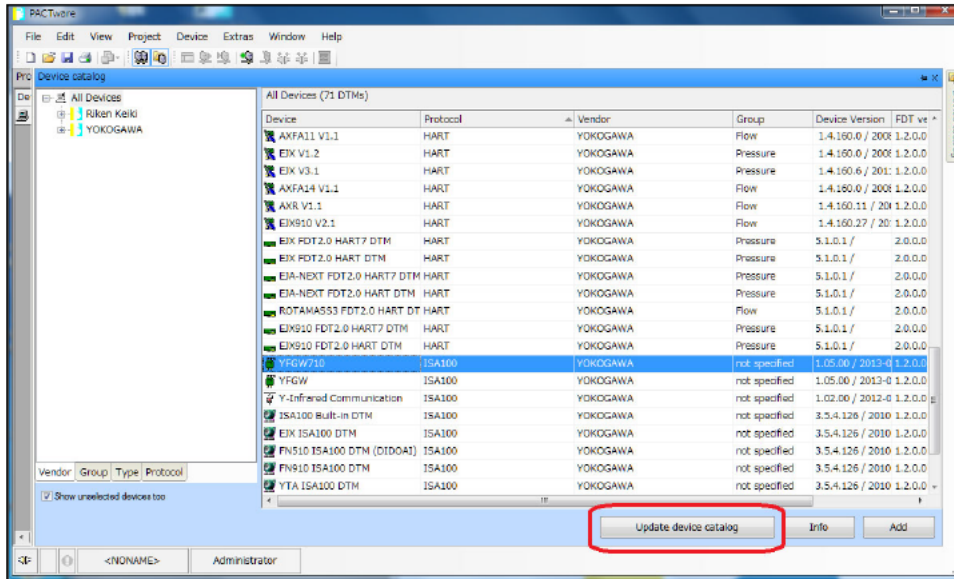
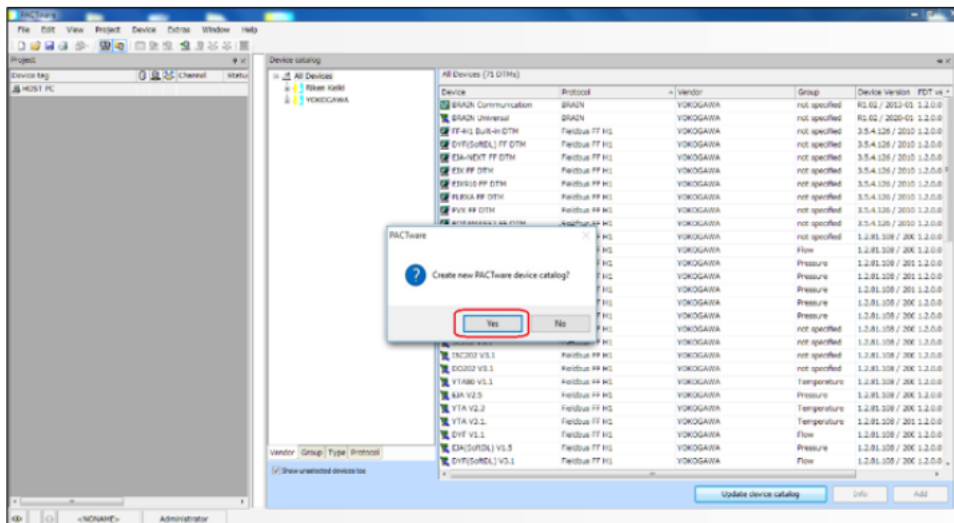


Figure 5-19 Update device catalog selection



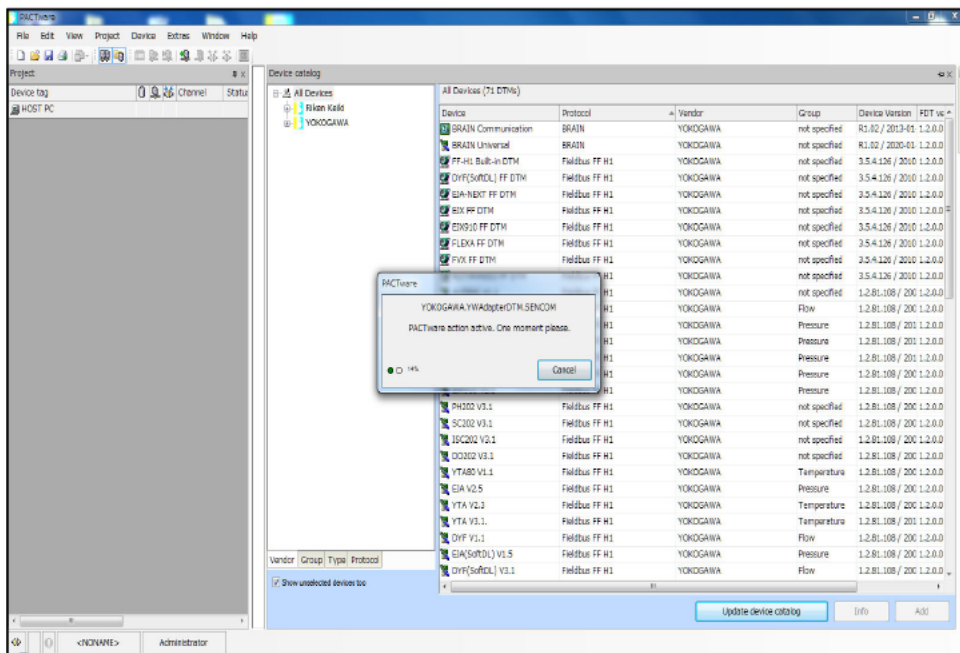
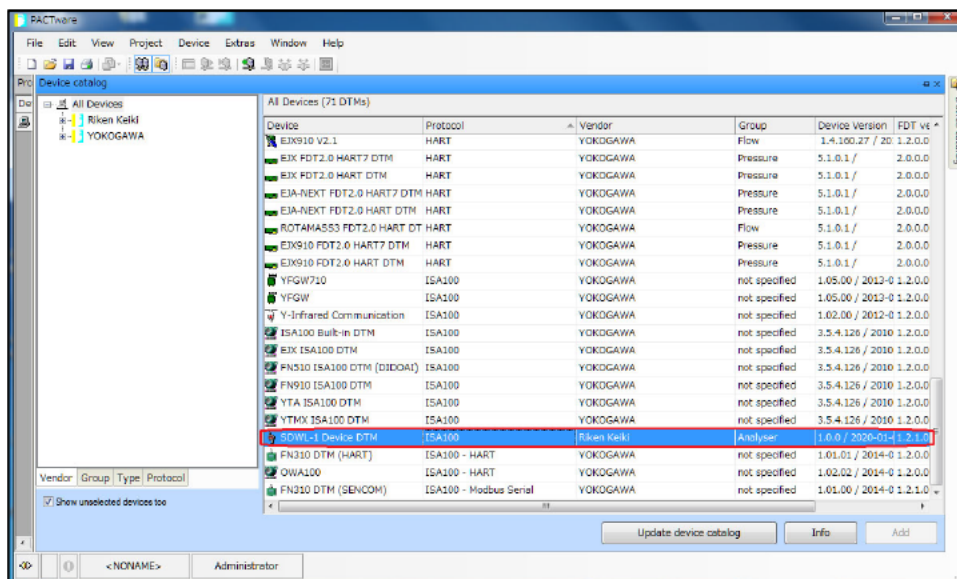


Figure 5-20 DTM list being updated

④ Once the list is updated, confirm that “SDWL-1 Device DTM” and “YFGW710” are listed. (Figure 5-21)

* If “YFGW710” is not listed, download the DTM from the manufacturer’s website.



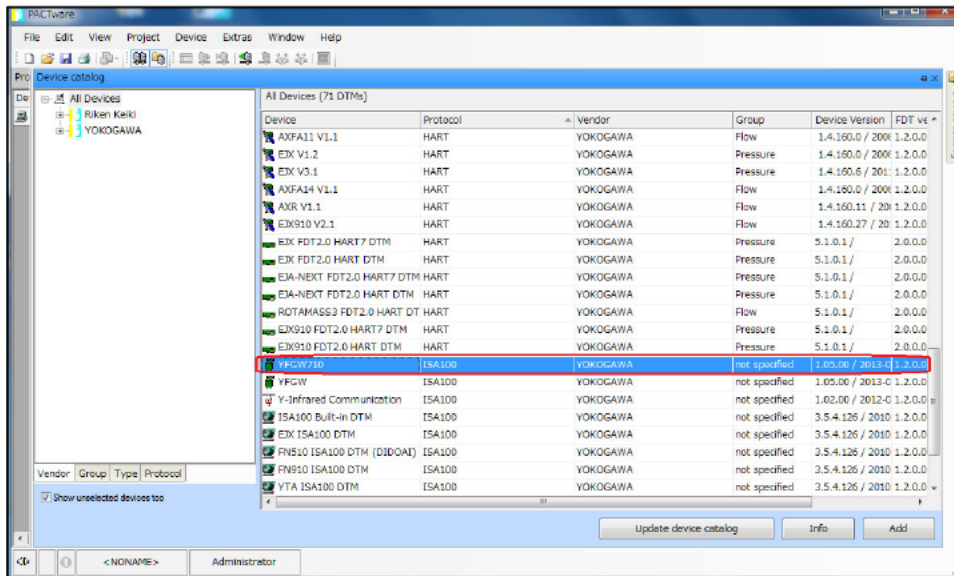


Figure 5-21 DTM list after updating

5-2-2. Launching online

- ① First launch the DTM for the ISA100.11a wireless upstream system. Right-click "HOST PC" in the tree menu on the left side of the main window, then select "Add device". (Figure 5-22)

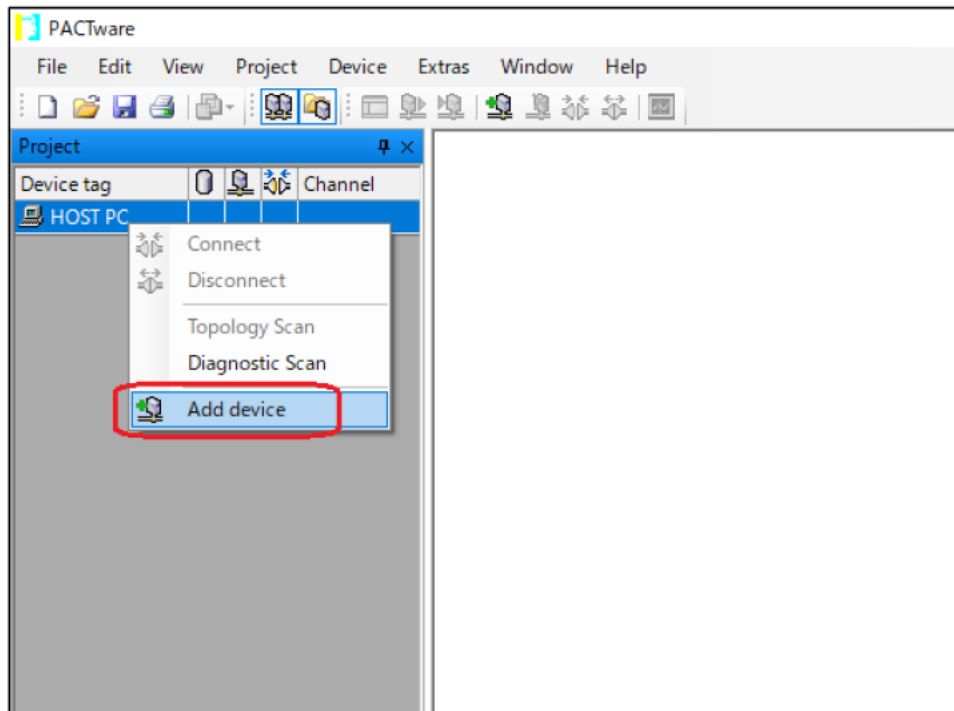


Figure 5-22 Selecting "Add device" menu

- ② Select the ISA100.11a wireless upstream system “YFGW710” in the device list.
 (Figure 5-23)
 * Select “YFGW710” even when using the YFGW410.

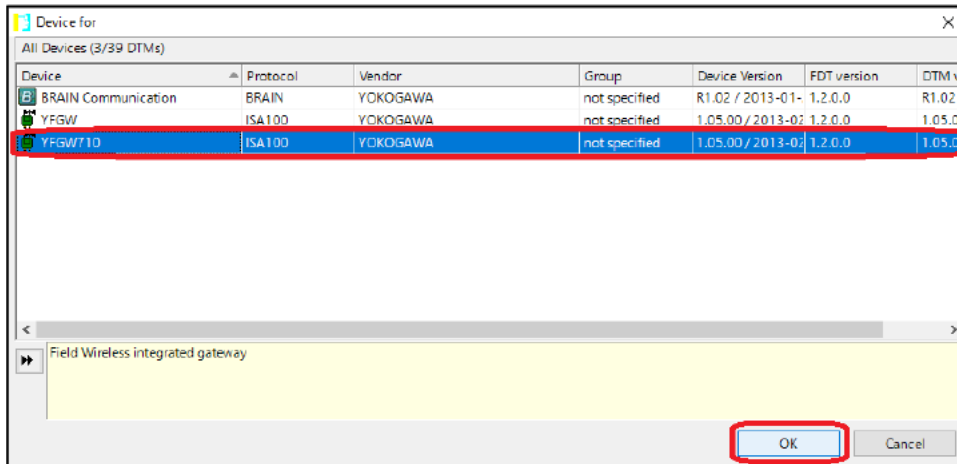


Figure 5-23 Selecting ISA100.11a wireless upstream system

- ③ “ISA100GW” is added to “HOST PC” in the tree menu on the left side of the main window. Right-click “ISA100GW”, then select “Connect” to connect to the ISA100.11a wireless upstream system. (Figure 5-24)

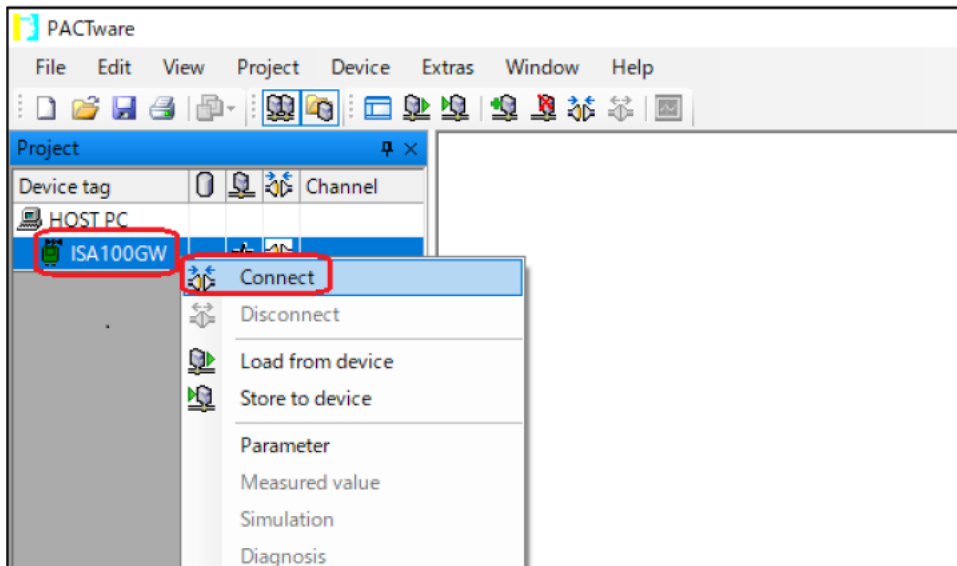


Figure 5-24 Connecting to ISA100.11a wireless upstream system

- ④ Next, check to confirm that PACTware and the ISA100.11a wireless upstream system are correctly connected. Right-click “ISA100GW” in the tree menu on the left side of the main window, then select “Show Live List...”. (Figure 5-25)

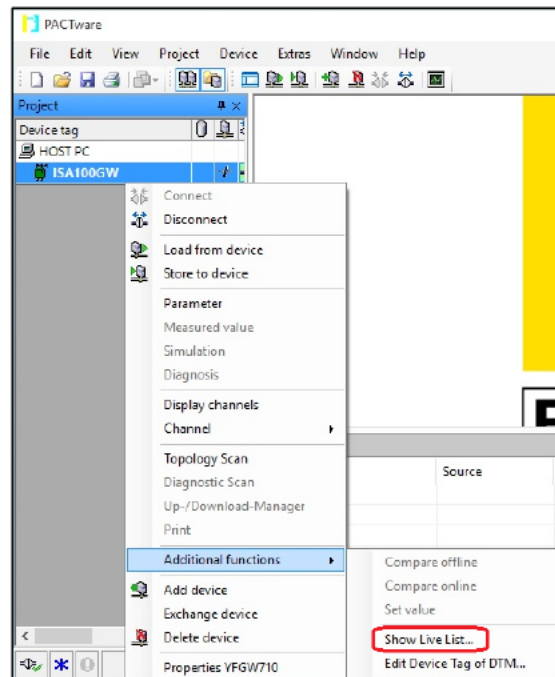


Figure 5-25 Selecting “Show Live List...” menu

- ⑤ The live list is displayed. Click “Update Live List” to update the live list. The SDWL-1 will be displayed on the list if it is correctly connected to the system. (Figure 5-26)

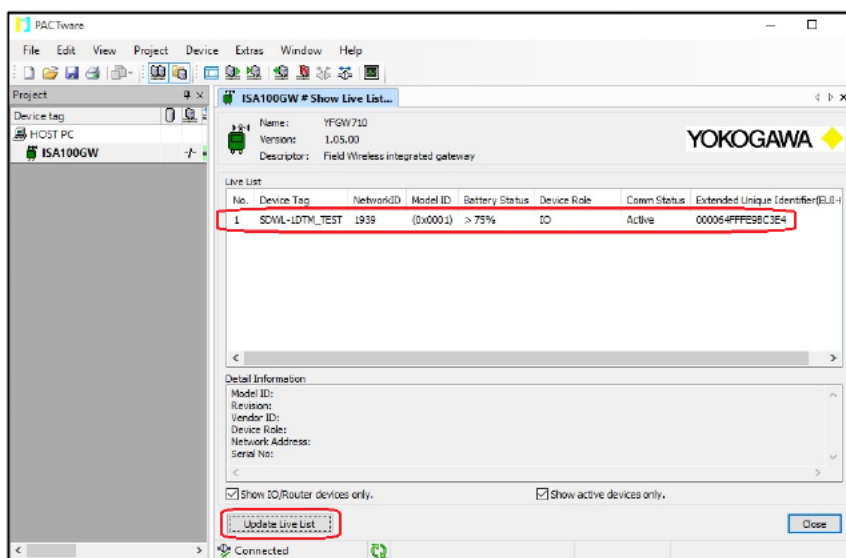


Figure 5-26 Updating live list

- ⑥ Next, launch the DTM for the SDWL-1.
 Right-click "ISA100GW" in the tree menu on the left side of the main window, then select "Add device". (Figure 5-27)

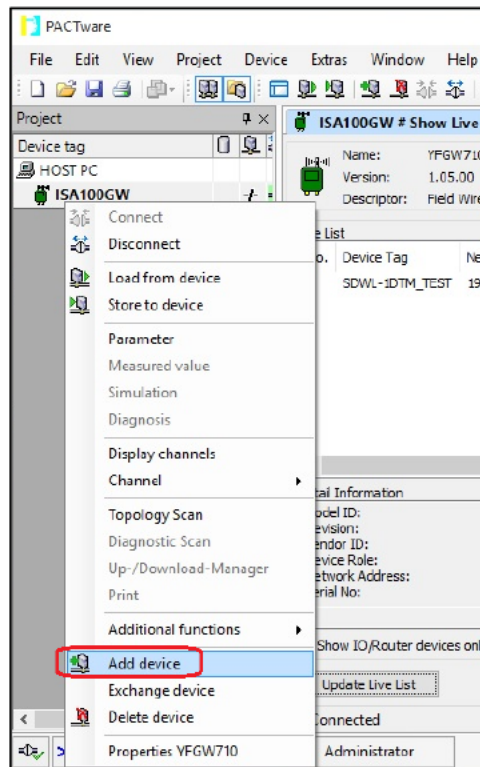


Figure 5-27 Selecting "Add device" menu

- ⑦ Select "SDWL-1 Device DTM" (DTM for the SDWL-1) from the device list. (Figure 5-28)

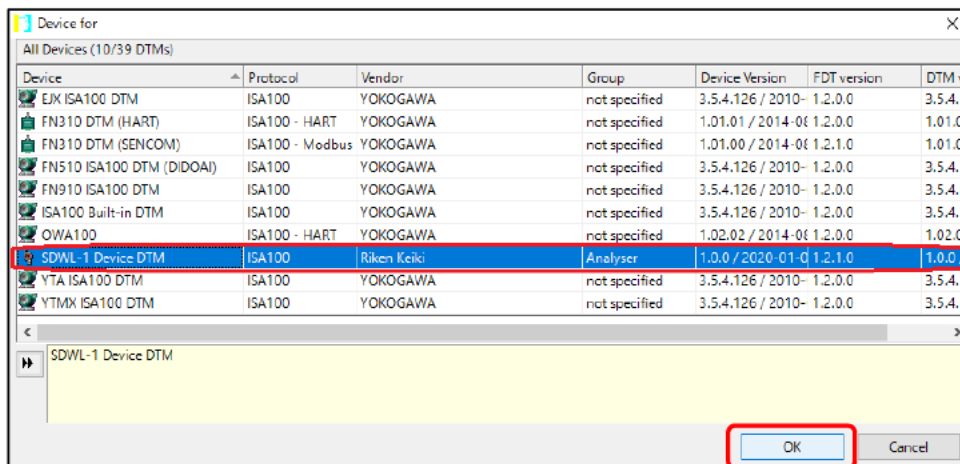


Figure 5-28 Selecting SDWL-1 DTM

- ⑧ “SDWL-1 Device DTM” is added to the tree menu on the left side of the main window. (Figure 5-29)

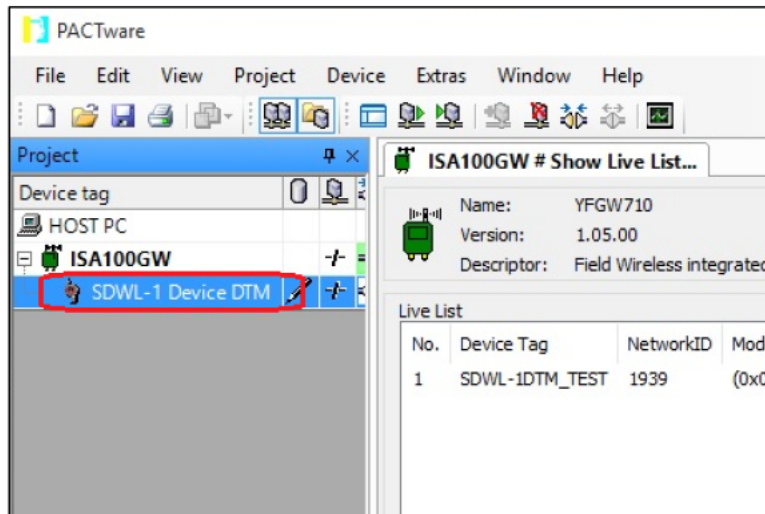


Figure 5-29 SDWL-1 DTM added

- ⑨ Next, right-click “ISA100GW” in the tree menu on the left side of the main window, then select “Edit Device Tag of DTM...”. (Figure 5-30)

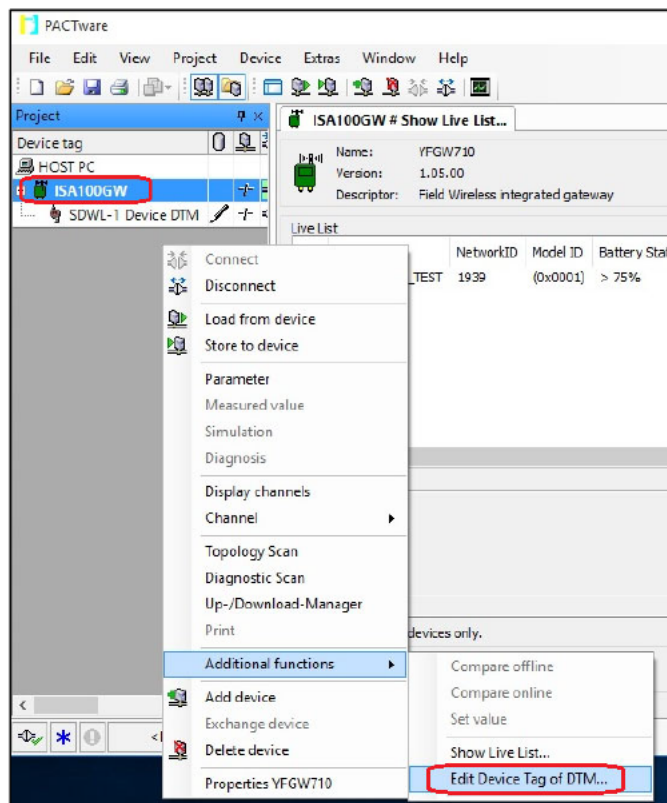


Figure 5-30 Selecting “Edit Device Tag of DTM...” menu

- ⑩ Select the corresponding SDWL-1 from the DTM list in the “ISA100GW # Edit Device Tag of DTM...” tab, then select “Edit Device Tag...”. (Figure 5-31)

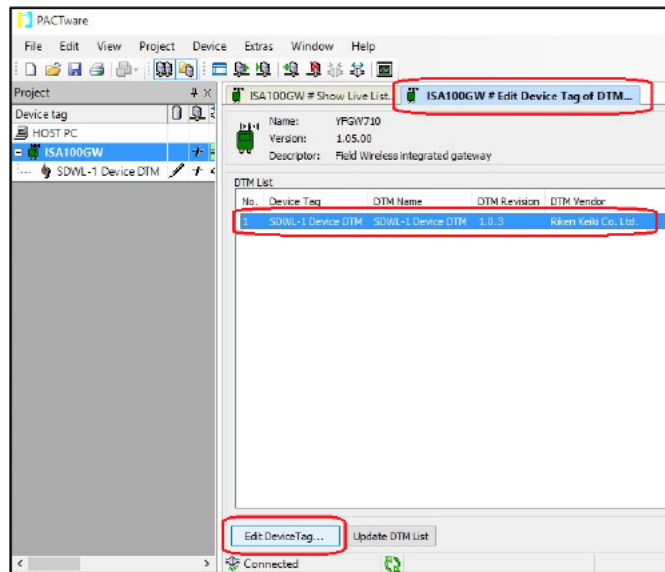


Figure 5-31 DTM list (selecting DTM for editing device tag)

- ⑪ Select the SDWL-1 to be connected from the device list, then click “OK”. (Figure 5-32)

- * Selecting a device causes the tag name to appear automatically in the “Device Tag:” box.
- * Selecting “Update Device List” updates the device list and displays the devices currently connected to the system.

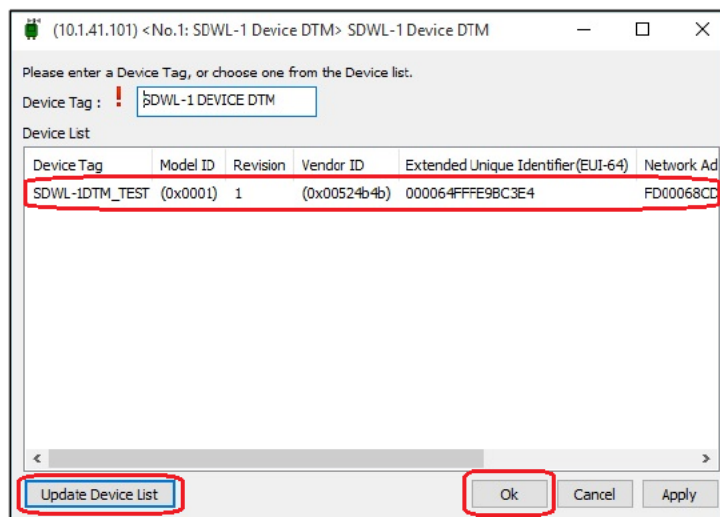


Figure 5-32 Editing device tag (with SDWL-1 DEVICE DTM selected)

- ⑫ The SDWL-1 with the device tag edited is added to the tree menu on the left side of the main window. Right-click, then select “Connect” to connect to the SDWL-1. (Figure 5-33)

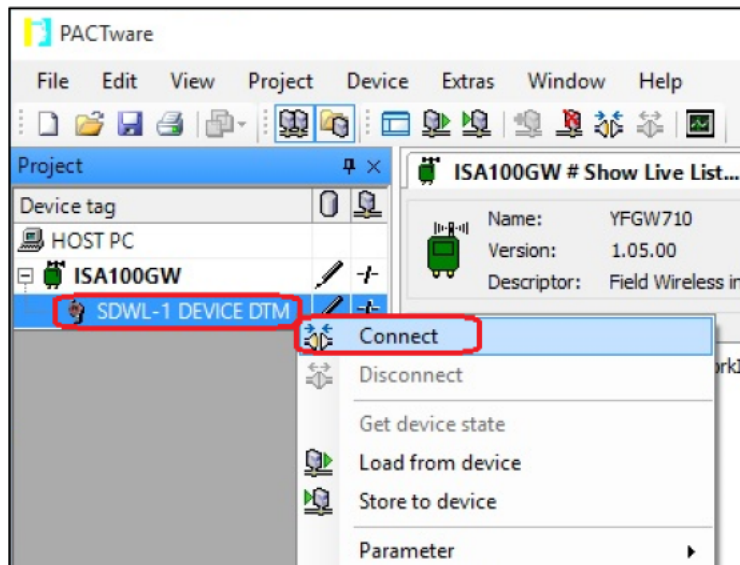


Figure 5-33 Connecting to SDWL-1

- ⑬ Right-click the SDWL-1 (tag name) in the tree menu on the left side of the main window, then select “Online parameterization”. (Figure 5-34)

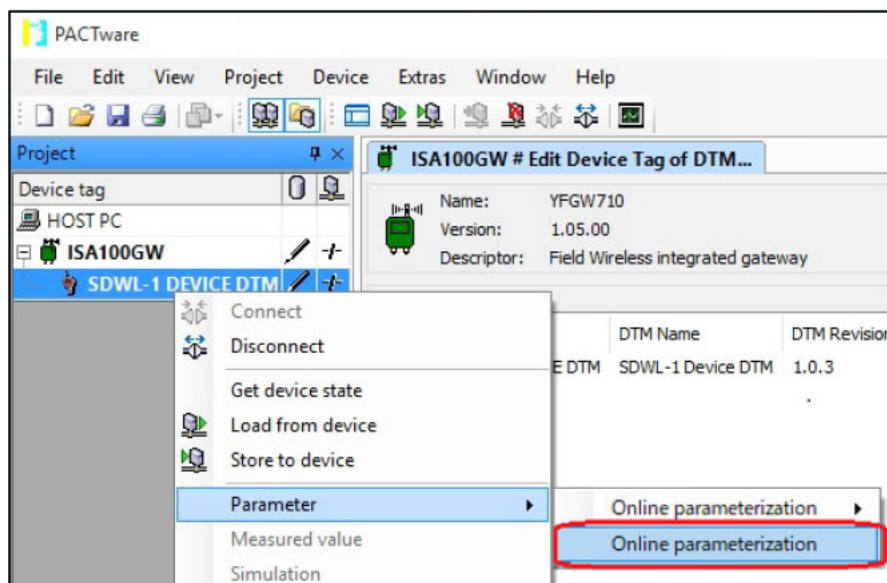


Figure 5-34 Selecting “Online parameterization” menu

- ⑭ Once the DTM is launched, the window shown in Figure 5-35 below is displayed, and parameter loading starts automatically. Parameters can then be checked and configured.

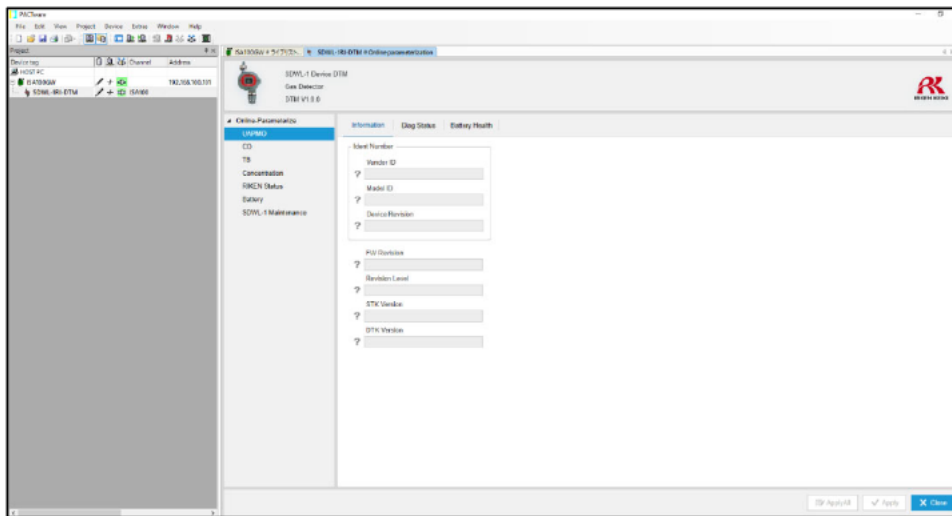


Figure 5-35 Online window

5-2-3. Launching offline

- ① Follow the instructions in the previous section (for launching online) as far as step ⑪.
- ② Right-click the SDWL-1 (tag name) in the tree menu on the left side of the main window, then select "Offline Parameterize". (Figure 5-36)

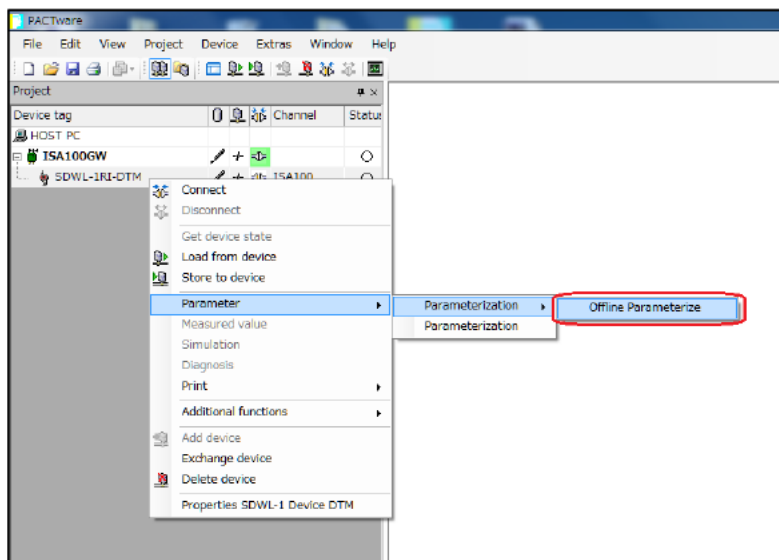


Figure 5-36 Selecting "Offline Parameterize" menu

- ③ The window shown in Figure 5-37 below is displayed to allow offline parameter configuration.

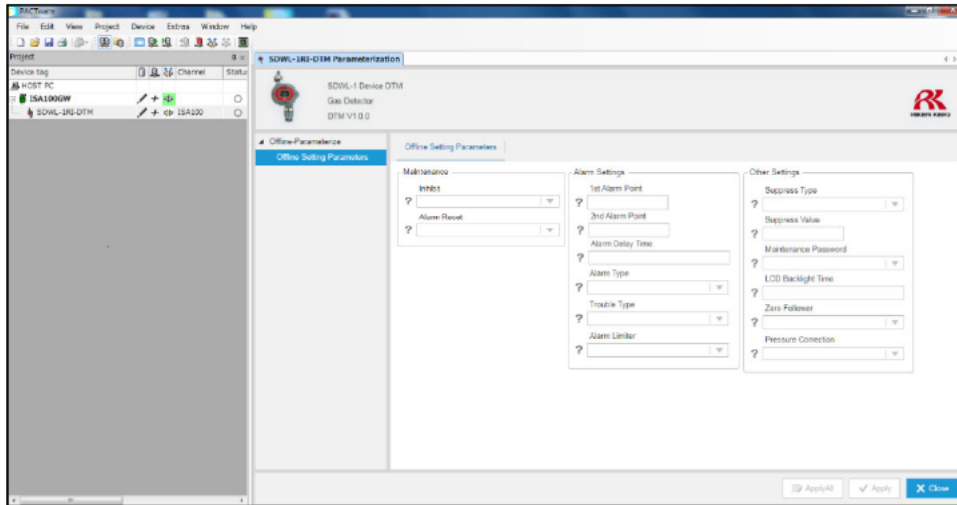


Figure 5-37 Offline Setting Parameters window

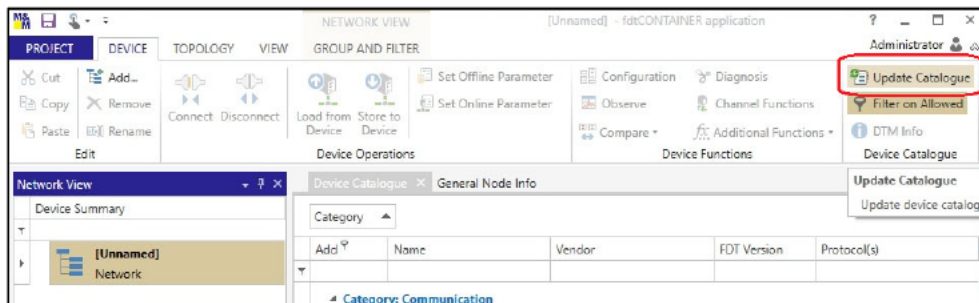
5-3. fdtCONTAINER operating procedures

5-3-1. Confirming DTM registration

- ① Launch fdtCONTAINER.



- ② Select Main menu ⇒ DEVICE tab ⇒ "Update Catalogue". (Figure 5-38)



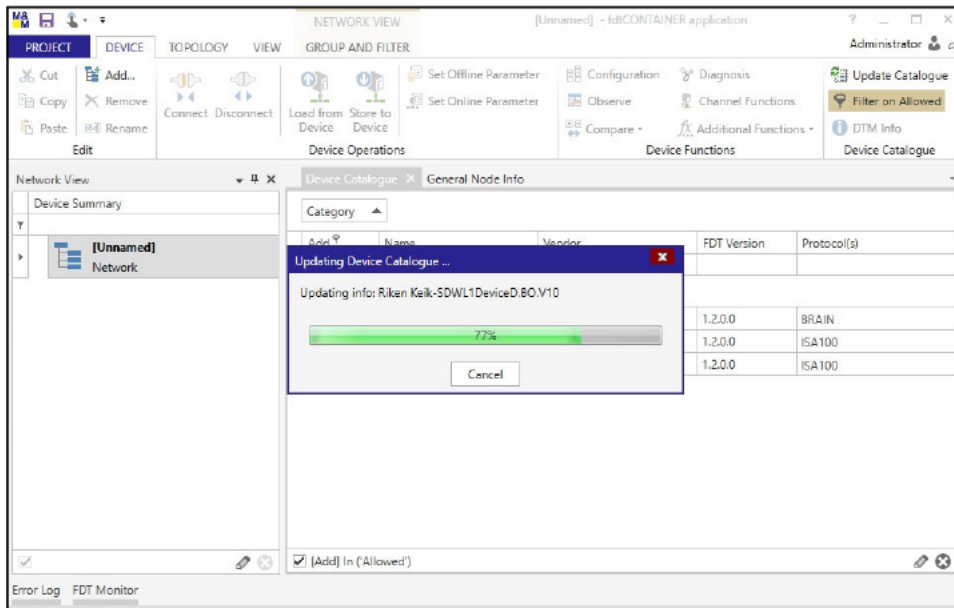


Figure 5-38 fdtCONTAINER main window ("Update Catalogue" menu selected)

5-3-2. Launching online

- ① First launch the DTM for the ISA100.11a wireless upstream system. Right-click "[Unnamed] Network" in the tree menu on the left side of the fdtCONTAINER main window, then select "Add...".
(Figure 5-39)

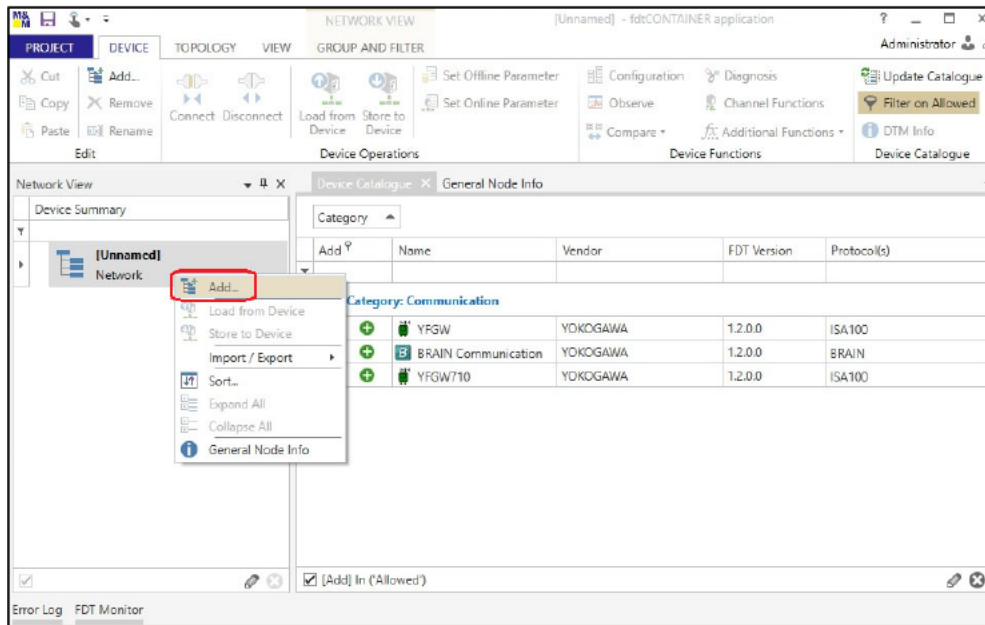


Figure 5-39 Selecting "Add..." menu

- ② Select the ISA100.11a wireless upstream system “YFGW710” in the device list. (Figure 5-40)

* Select “YFGW710” even when using the YFGW410.

If “YFGW710” is not listed, download the DTM from the manufacturer’s website.

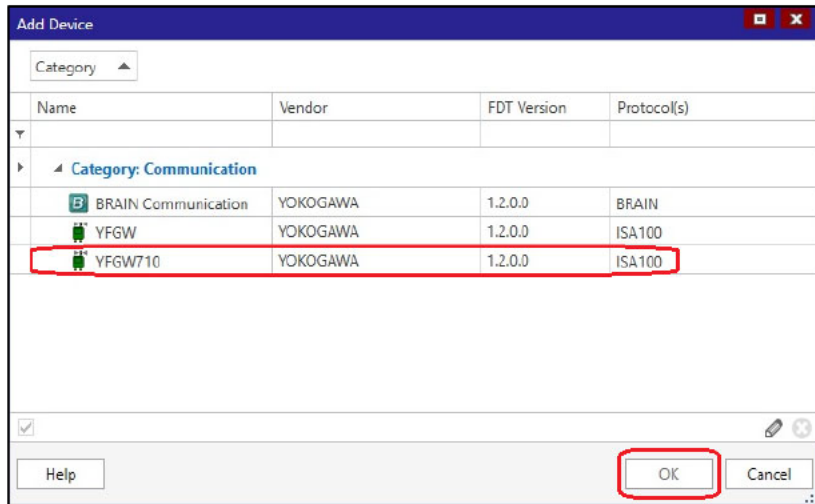


Figure 5-40 Selecting ISA100.11a wireless upstream system

- ③ “ISA100GW YFGW710” is added to “[Unnamed] Network” in the tree menu on the left side of the main window. Right-click, then select “Connect” to connect to the ISA100.11a wireless upstream system. (Figure 5-41)

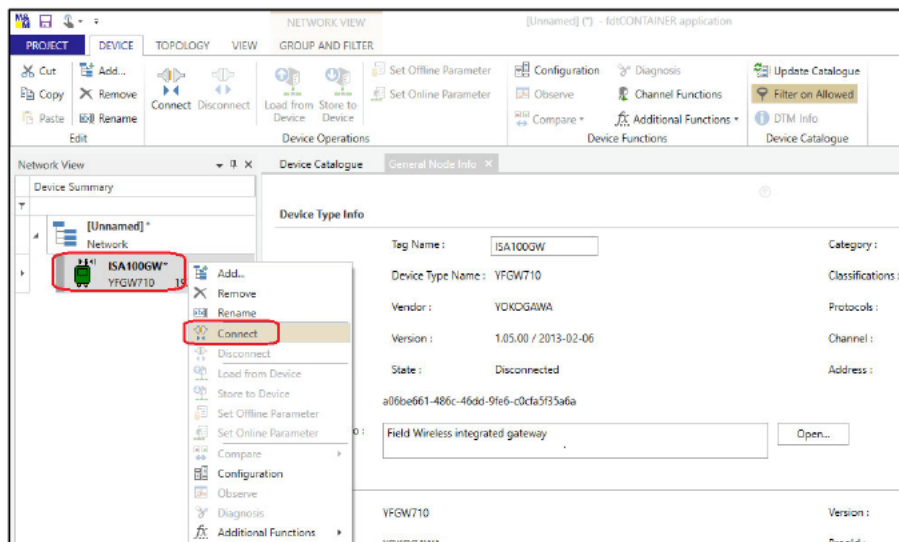


Figure 5-41 Connecting to ISA100.11a wireless upstream system

- ④ Next, check to confirm that fdtCONTAINER and the ISA100.11a wireless upstream system are correctly connected. Right-click "ISA100GW" in the tree menu on the left side of the main window, then select "Show Live List...". (Figure 5-42)

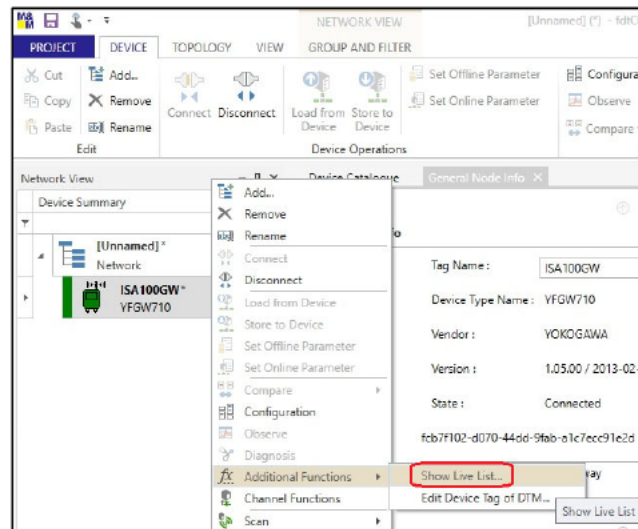


Figure 5-42 Selecting "Show Live List..". menu

- ⑤ The live list is displayed. Click "Update Live List" to update the live list. The SDWL-1 will be displayed on the list if it is correctly connected to the system. (Figure 5-43)

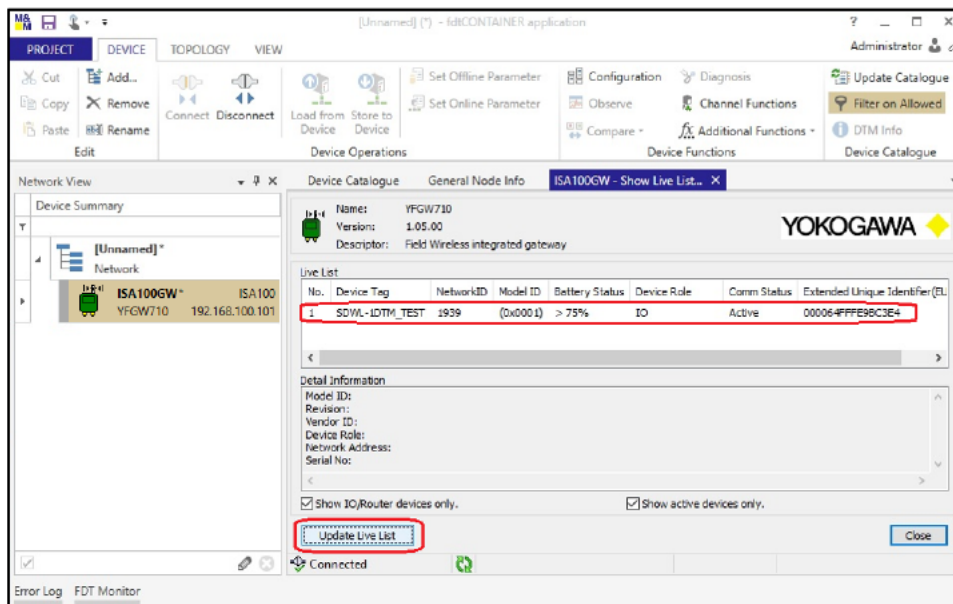


Figure 5-43 Updating live list

- ⑥ Next, launch the DTM for the SDWL-1. Right-click “ISA100GW” in the tree menu on the left side of the main window, then select “Add...”. (Figure 5-44)

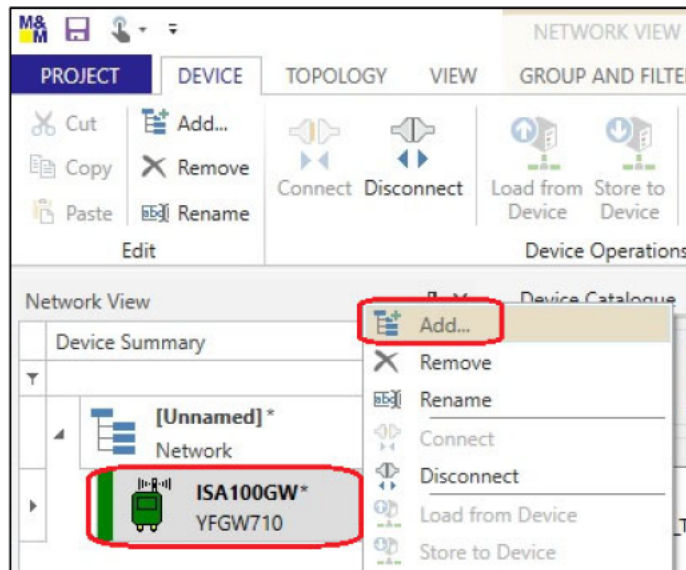


Figure 5-44 Selecting “Add...” menu

- ⑦ Select “SDWL-1 Device DTM” (DTM for SDWL-1) from the device list. (Figure 5-45)

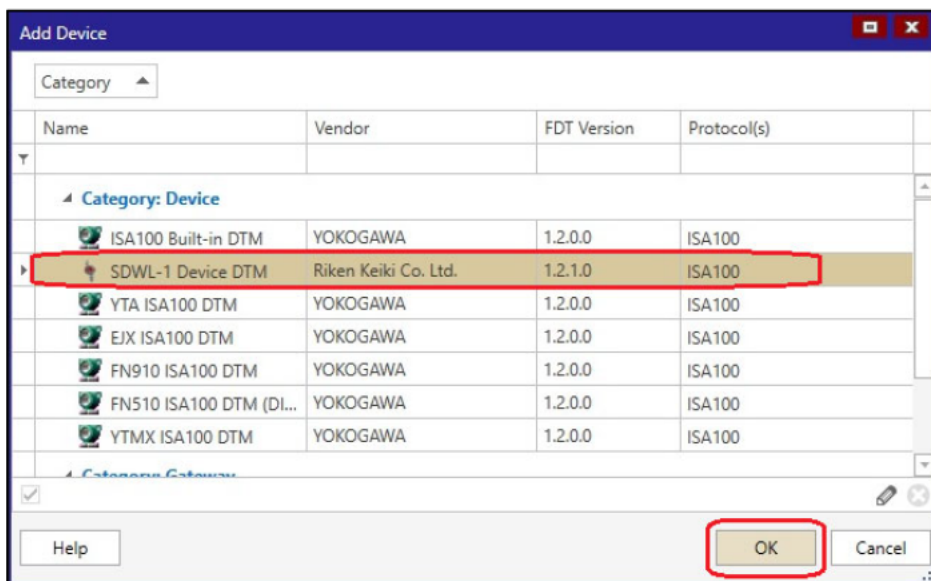


Figure 5-45 Selecting SDWL-1 DTM

- ⑧ “SDWL-1 Device DTM” is added to the tree menu on the left side of the main window. (Figure 5-46)

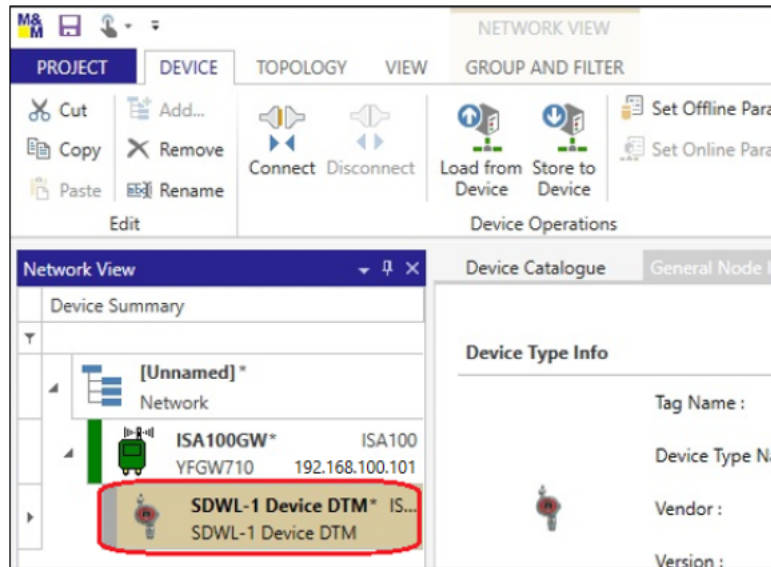


Figure 5-46 SDWL-1 DTM added

- ⑨ Next, right-click “ISA100GW” in the tree menu on the left side of the main window, then select “Edit Device Tag of DTM...”. (Figure 5-47)

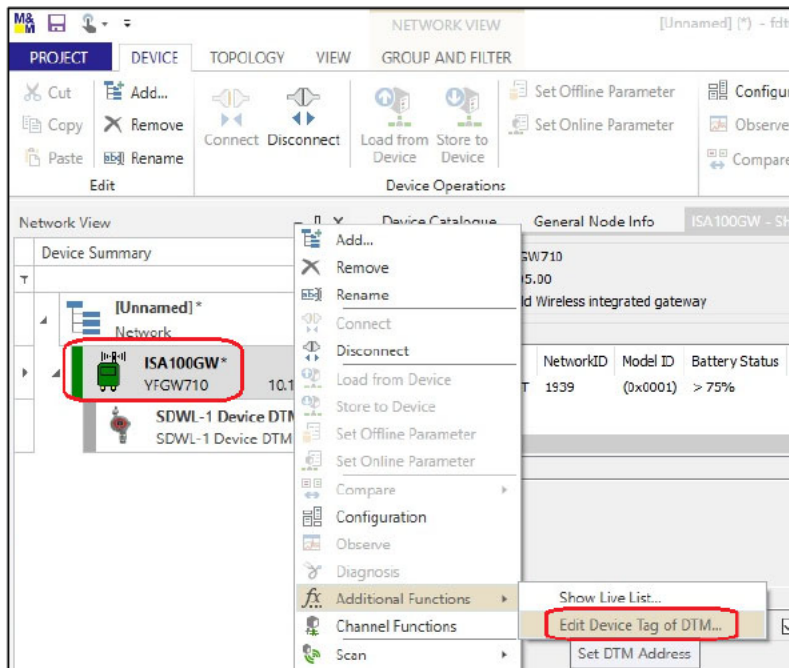


Figure 5-47 Selecting “Edit Device Tag of DTM...” menu

- ⑩ Select the corresponding SDWL-1 from the DTM list in the “ISA100GW # Edit Device Tag of DTM...” tab, then select “Edit Device Tag...”. (Figure 5-48)

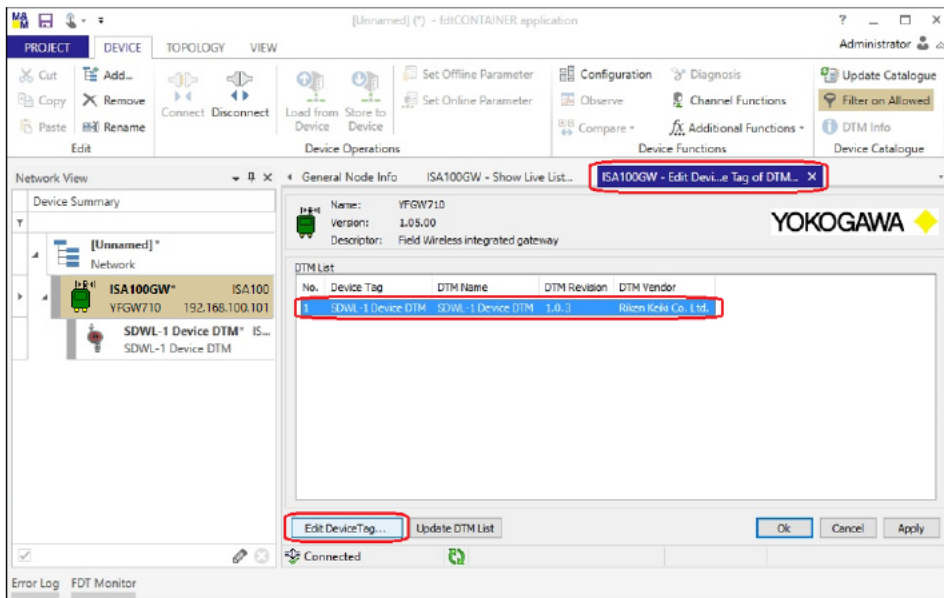


Figure 5-48 DTM list (selecting DTM for editing device tag)

- ⑪ Select the SDWL-1 to be connected from the device list, then click “OK”. (Figure 5-49)
- * Selecting a device causes the tag name to appear automatically in the “Device Tag:” box.
 - * Selecting “Update Device List” updates the device list and displays the devices currently connected to the system.

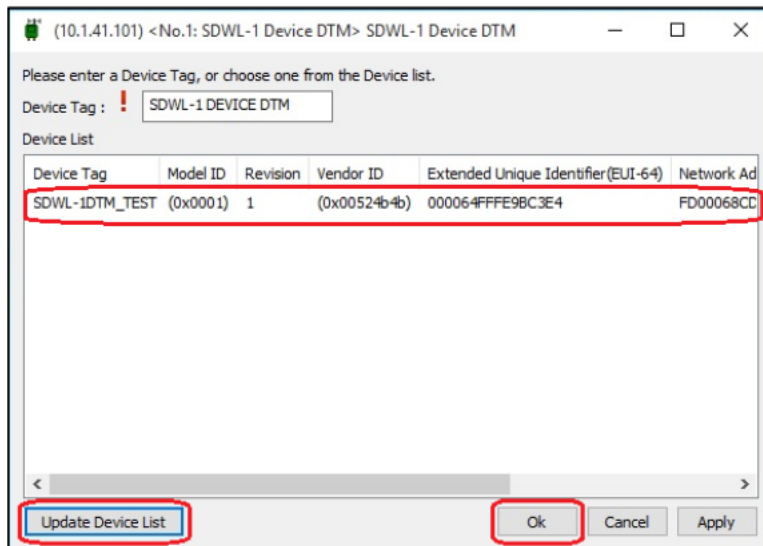


Figure 5-49 Editing device tag (with SDWL-1DTM_TEST selected)

- ⑫ The SDWL-1 with the device tag edited is added to the tree menu on the left side of the main window. Right-click, then select "Connect" to connect to the SDWL-1. (Figure 5-50)

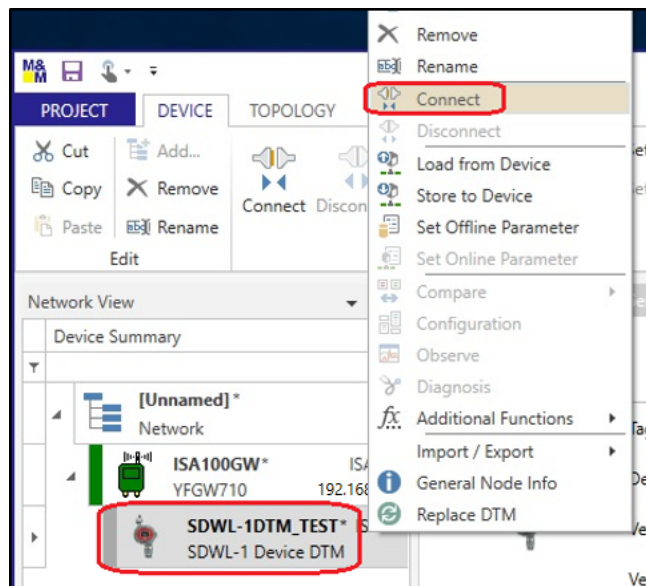


Figure 5-50 Connecting to SDWL-1

- ⑬ Right-click the SDWL-1 (tag name) in the tree menu on the left side of the main window, then select "Set Online Parameter". (Figure 5-51)

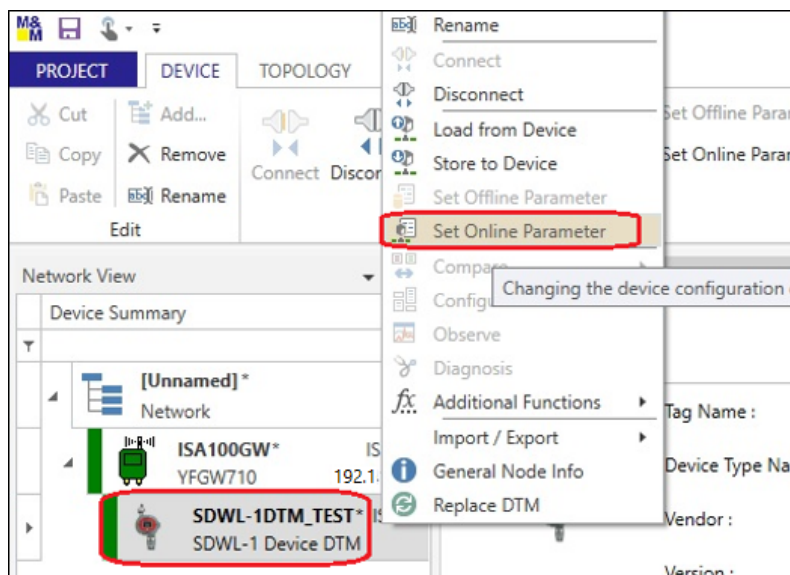


Figure 5-51 Selecting "Set Online Parameter" menu

- ⑭ Once the DTM is launched, the window shown in Figure 5-52 below is displayed, and parameter loading starts. Parameters can then be checked and configured.

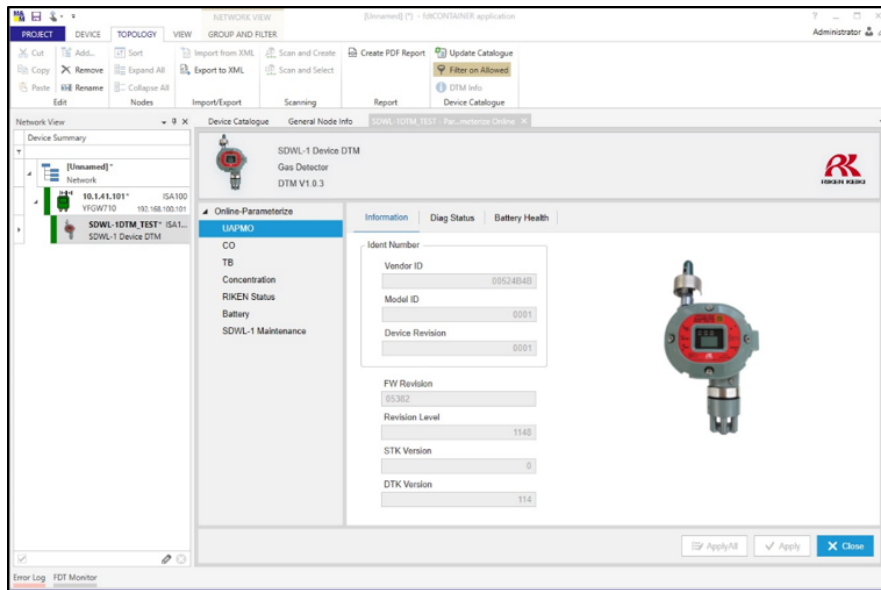


Figure 5-52 Online window

5-3-3. Launching offline

- ① Follow the instructions in the previous section (for launching online) as far as step ①.
- ② Right-click the SDWL-1 (tag name) in the tree menu on the left side of the main window, then select "Set Offline Parameter". (Figure 5-53)

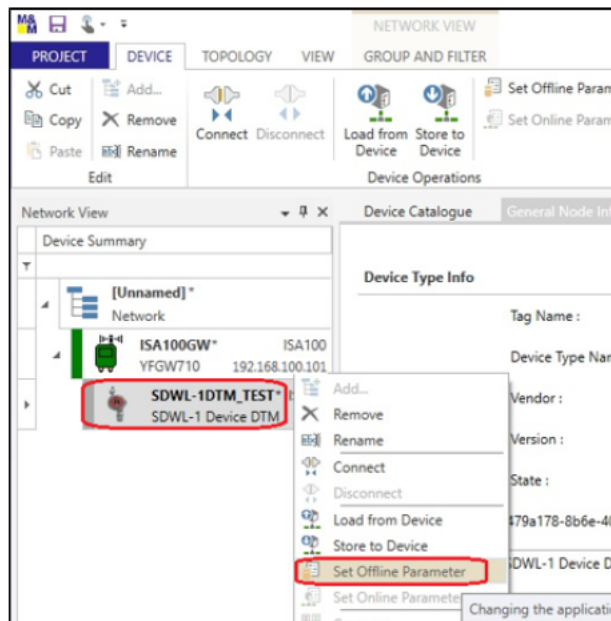


Figure 5-53 Selecting "Set Offline Parameter" menu

- ③ The window shown below is displayed to allow offline parameter configuration. (Figure 5-54)

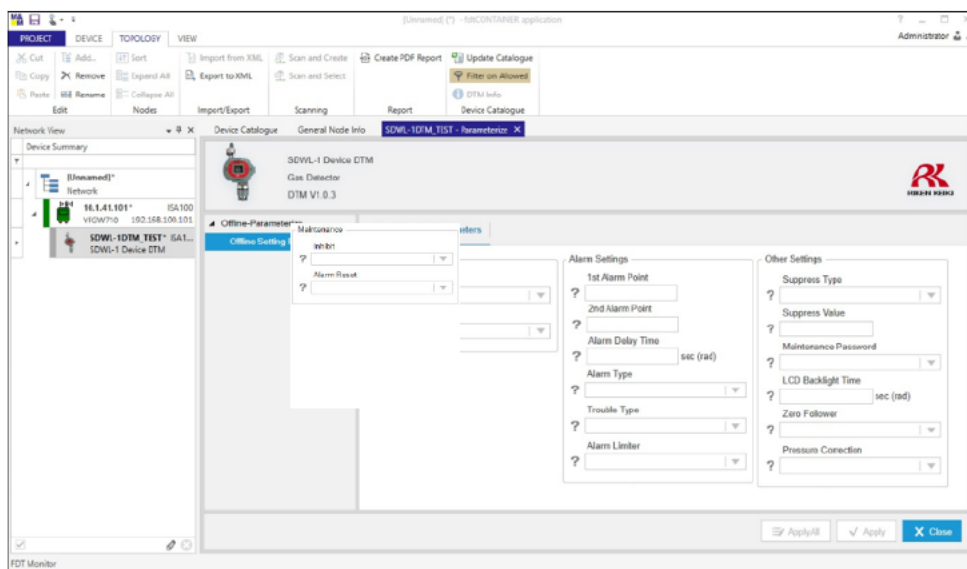


Figure 5-54 Offline Setting Parameters window

6. Parameter Checking and Setting Procedures

The SDWL-1 allows target gas and antenna information to be checked, detectors to be set, gas alarms to be tested, and self-diagnostic results to be checked via wireless communication.

6-1. Parameter checking procedure

After launching the DTM, select the tree menu item and tab to start loading the display parameters.

"?" is displayed while parameters are being loaded. The parameter values are displayed for confirmation once they are loaded.

"🔄" is displayed for parameters that are automatically reloaded periodically.

(Figure 6-1 and Figure 6-2)

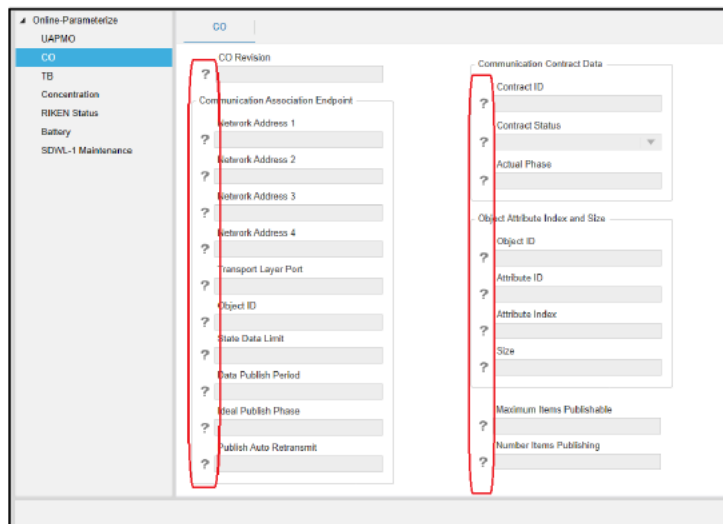


Figure 6-1 Parameters being loaded

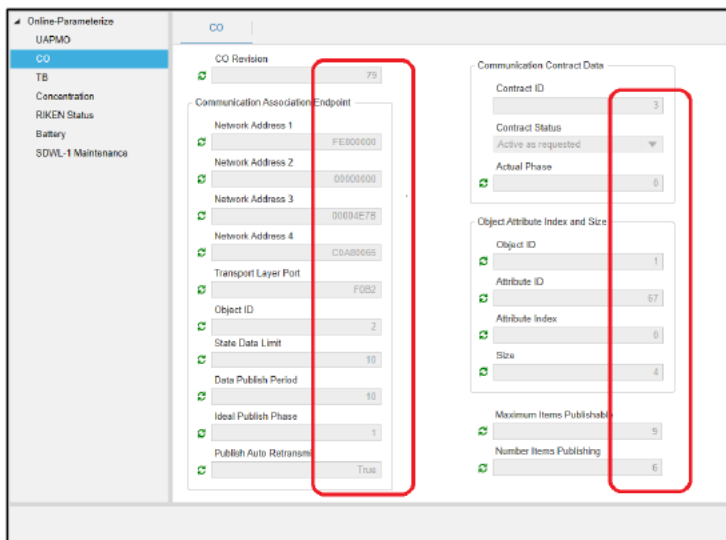


Figure 6-2 Parameters after loading (parameters able to be checked)

Note that all parameters can be loaded at once via menus within the individual FDT frame applications.

6-2. Online parameter setting procedure

- ① Use the tree menu and tabs to display the parameters to be set. Parameters that can be set are displayed with active text boxes. Parameters that can't be set (confirmation only) have disabled text boxes. (The blue box in Figure 6-3 indicates a parameter that can be set. The red box indicates a parameter that can only be confirmed.)

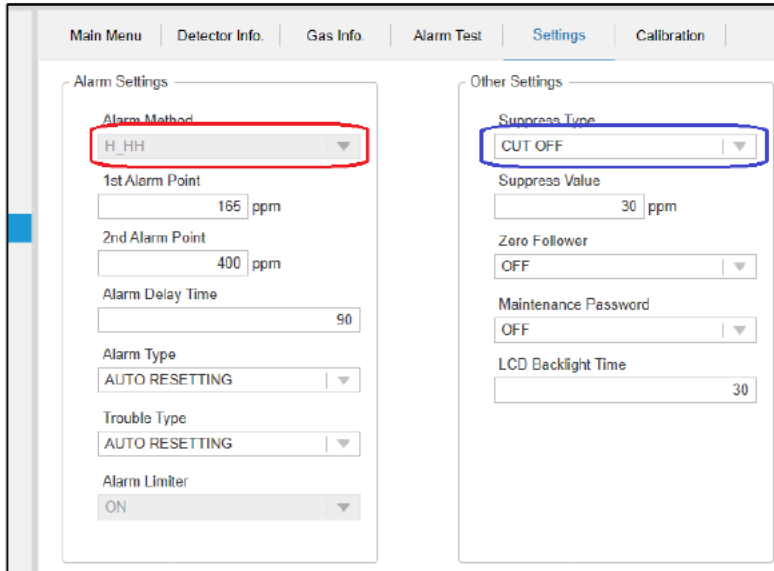


Figure 6-3 Parameters that can and cannot be set (confirmation only)

- ② Parameter values can be edited by entering values directly or by selecting from the drop-down list.

Current values appear against a yellow background when edited. (Figure 6-4)

* Note that changes are not reflected at this stage.

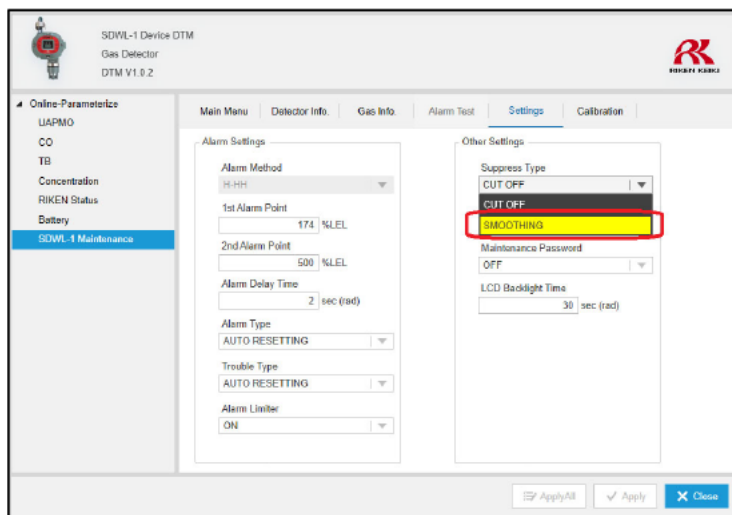


Figure 6-4 Editing parameter values

- ③ After editing parameter values, click “Apply”. The yellow background disappears once the changes are successfully completed. (Figure 6-5)

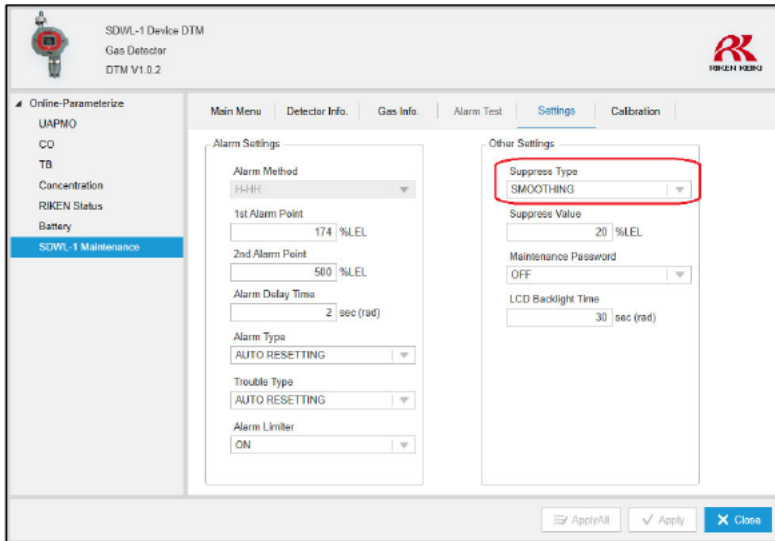
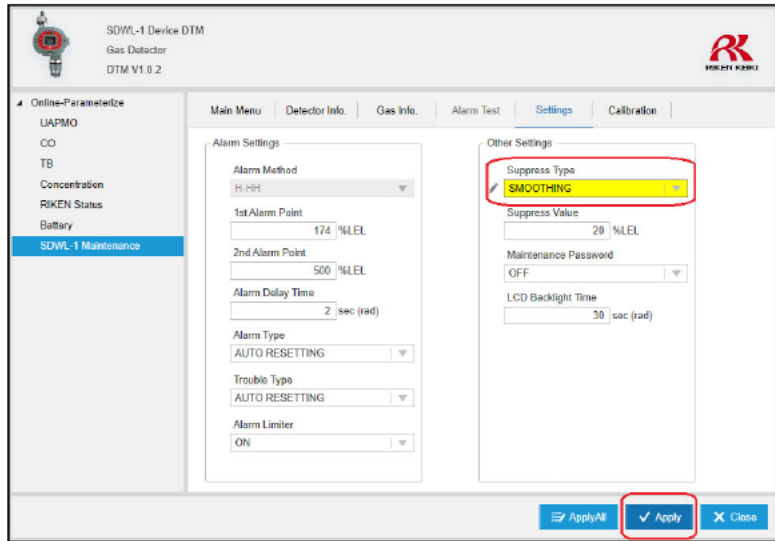


Figure 6-5 Parameter value editing completed

Note that multiple parameters on different tabs can be edited at the same time.
(Figure 6-6)

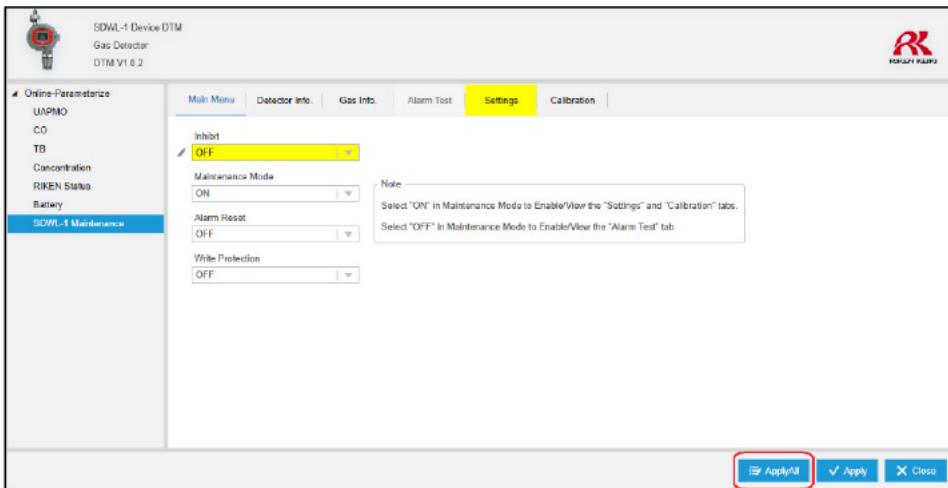
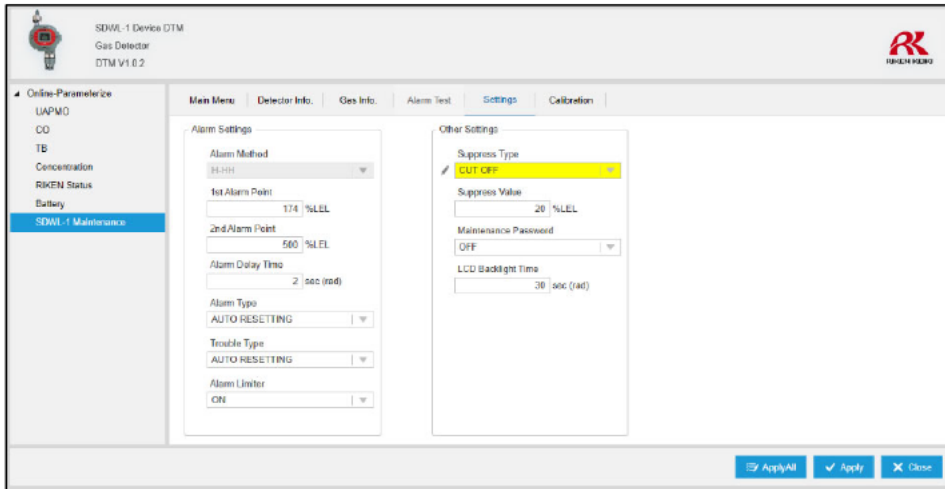


Figure 6-6 Editing multiple parameter values (on different tabs)

6-3. Offline parameter batch setting procedure

The individual FDT frame application offline functions can be used to set certain parameters all at once. This section describes procedures with the individual FDT frame applications.

6-3-1. FieldMate operating procedure

- ① Disconnect communication with the SDWL-1, edit the parameter values within the "Offline Setting Parameters" tree menu, and click "Apply". (Figure 6-7)

* Parameters with blank text boxes cannot be edited.

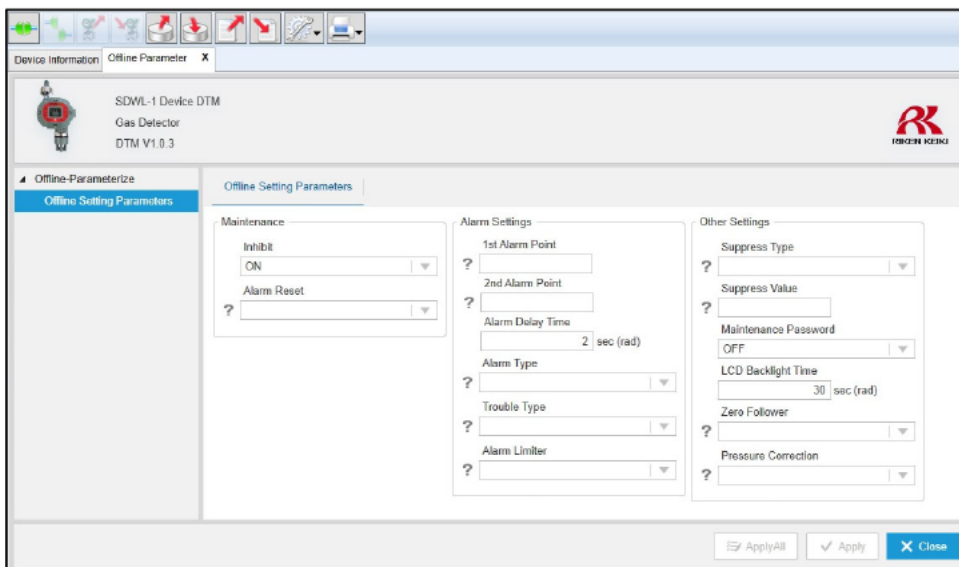
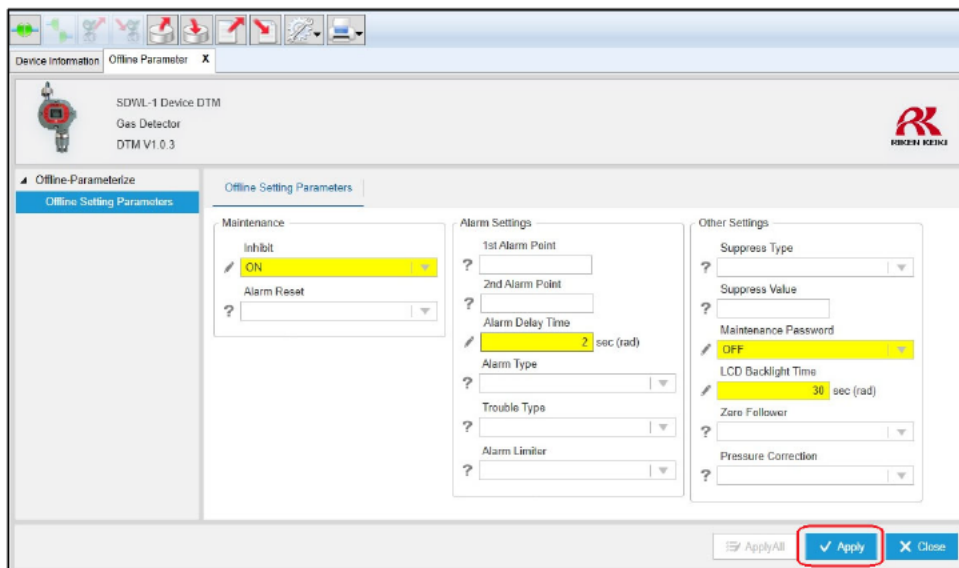


Figure 6-7 Offline parameter value editing

② Reconnect to the SDWL-1. (Figure 6-8)

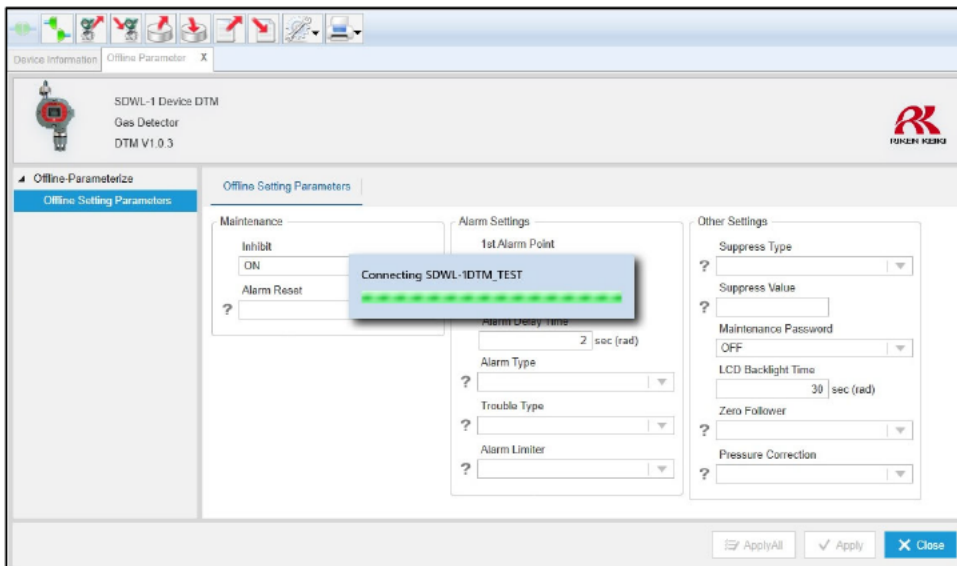
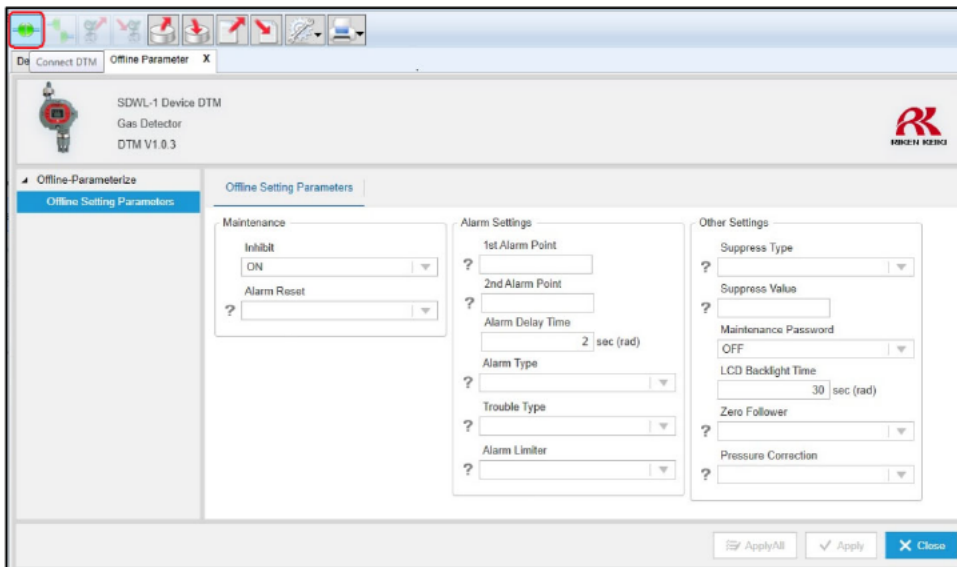


Figure 6-8 Connecting to SDWL-1

- ③ Click the Download button. A download confirmation dialog appears. Click “Yes”. (Figure 6-9) Parameter setting is complete once the download indicator disappears.

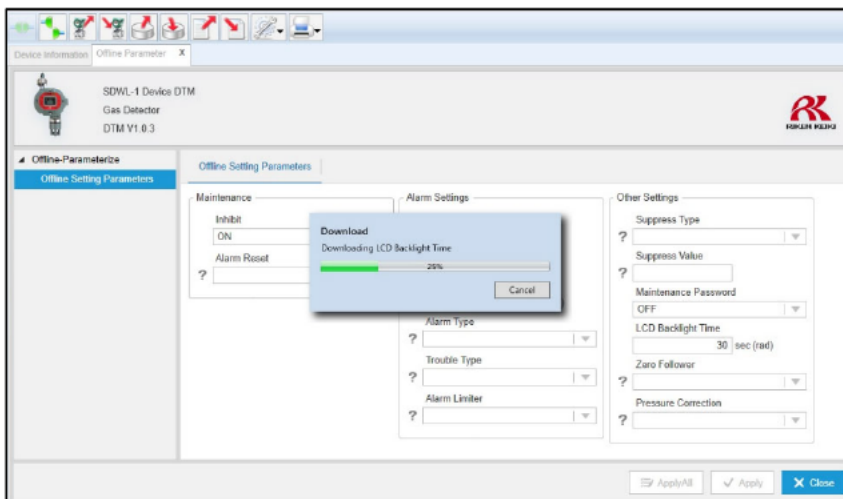
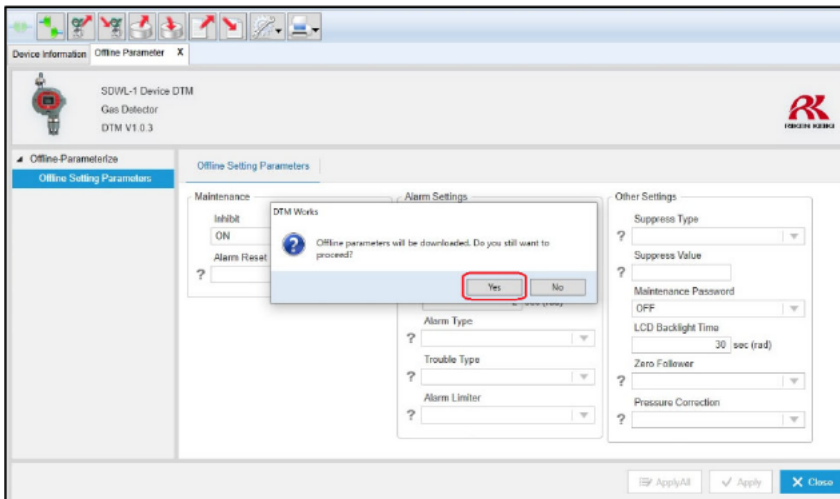
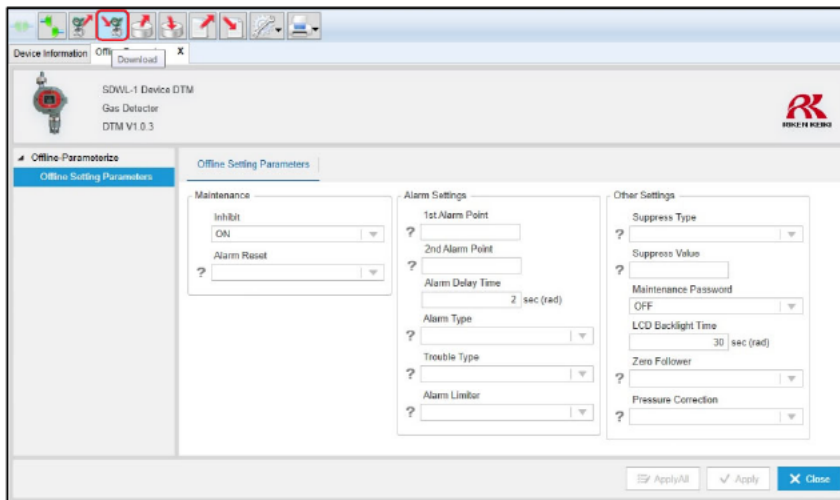


Figure 6-9 Downloading parameter settings to SDWL-1

6-3-2. PACTware operating procedure

- ① Edit the parameter values within the “Offline Setting Parameters” tree menu, then click “Apply”. (Figure 6-10)

* Parameters with blank text boxes cannot be edited.

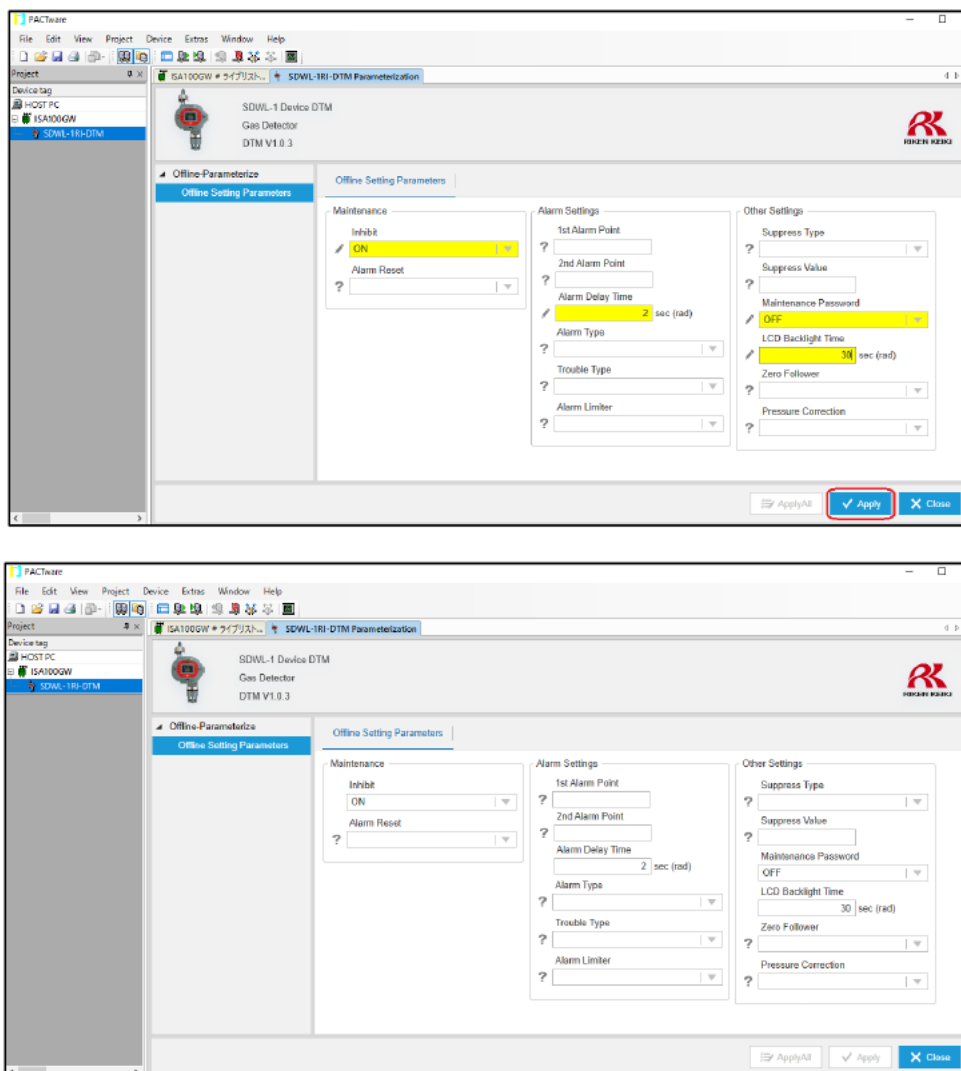


Figure 6-10 Offline parameter value editing

- ② Right-click the SDWL-1 (tag name) in the tree menu, then select “Store to device”. A download confirmation dialog appears. Click “Yes”. Parameter setting is complete once the download indicator disappears. (Figure 6-11)

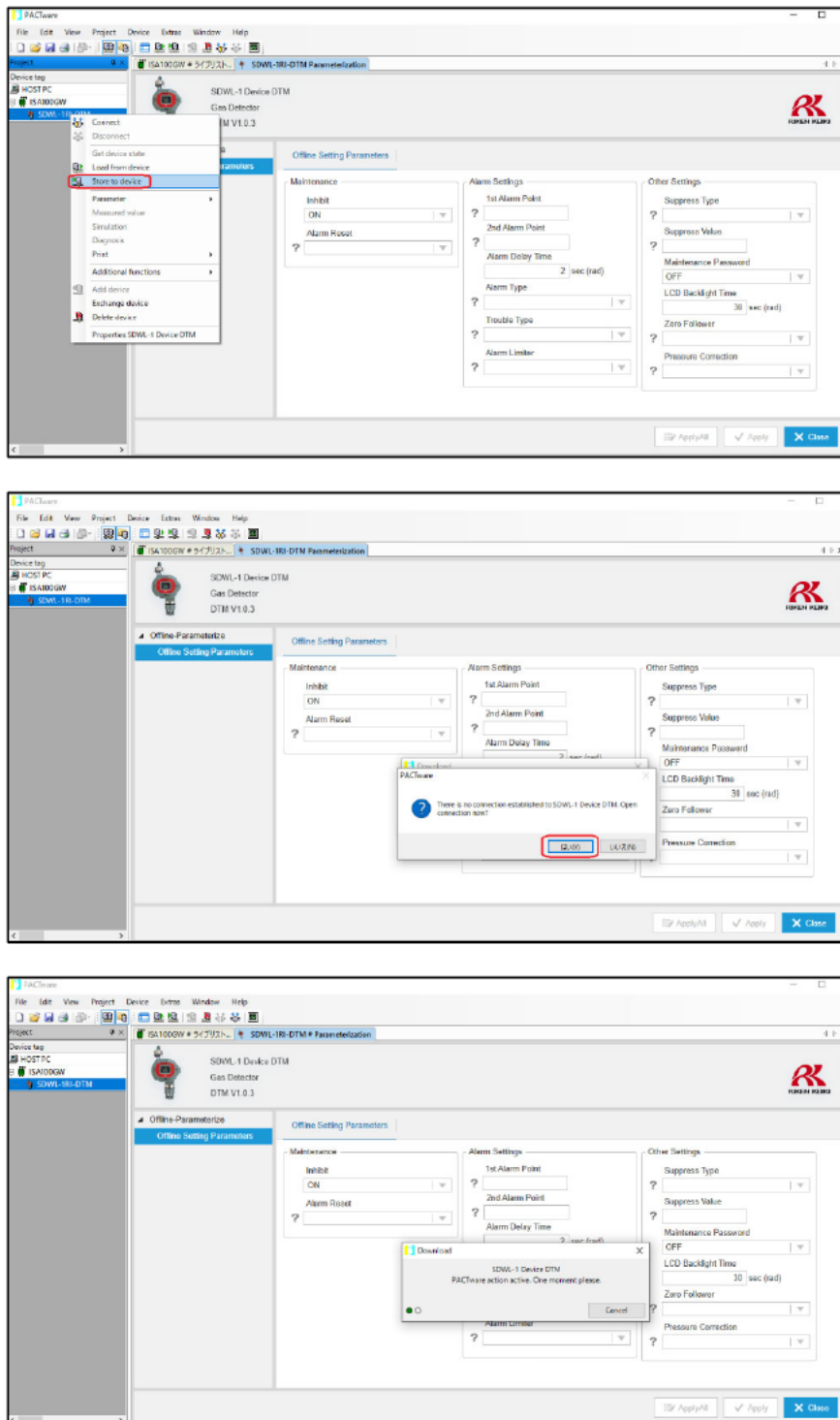


Figure 6-11 Downloading parameter settings to SDWL-1

6-3-3. fdtCONTAINER operating procedure

- ① Edit the parameter values within the "Offline Setting Parameters" tree menu, then click "Apply". (Figure 6-12)

* Parameters with blank text boxes cannot be edited.

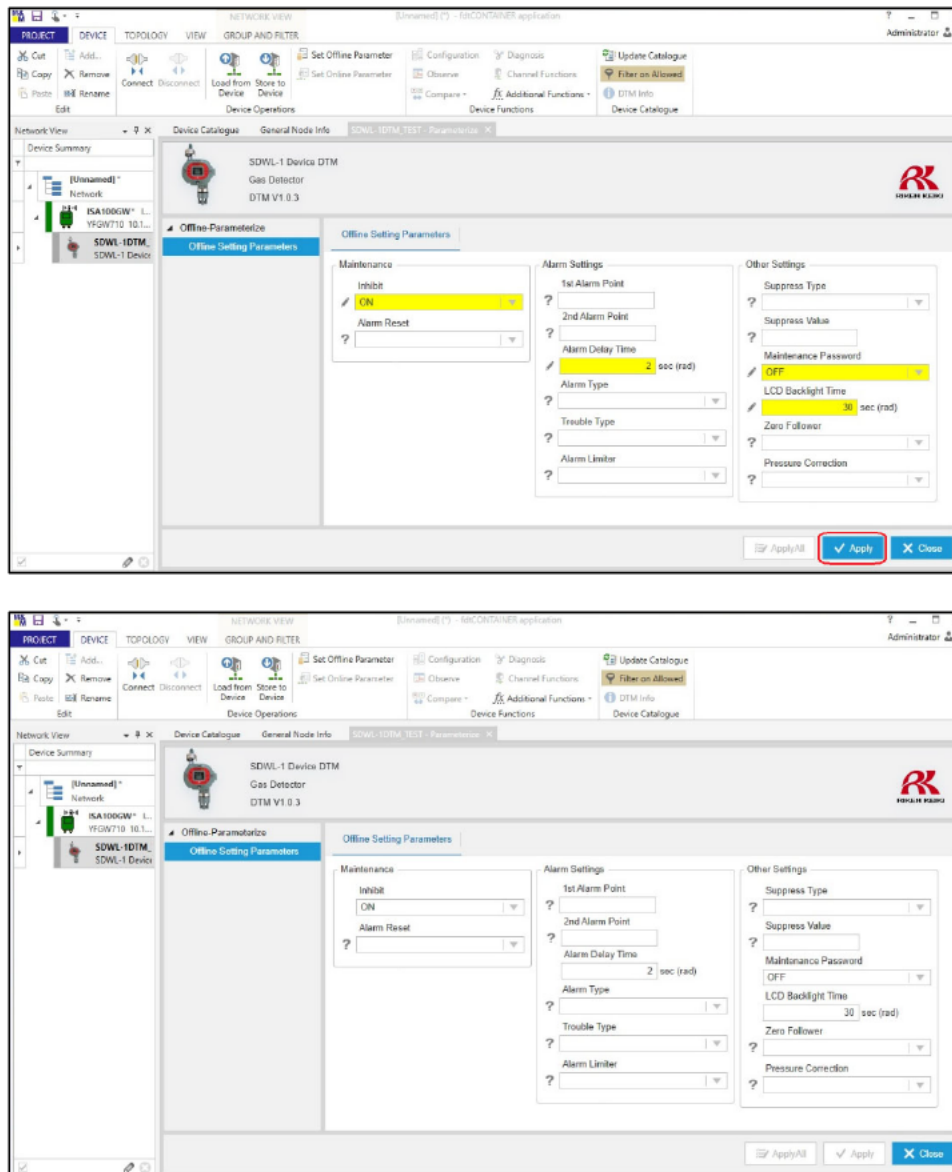


Figure 6-12 Offline parameter value editing

- ② Right-click the SDWL-1 (tag name) in the tree menu, then select “Store to Device”. Downloading starts. Parameter setting is complete once the download indicator disappears. (Figure 6-13)

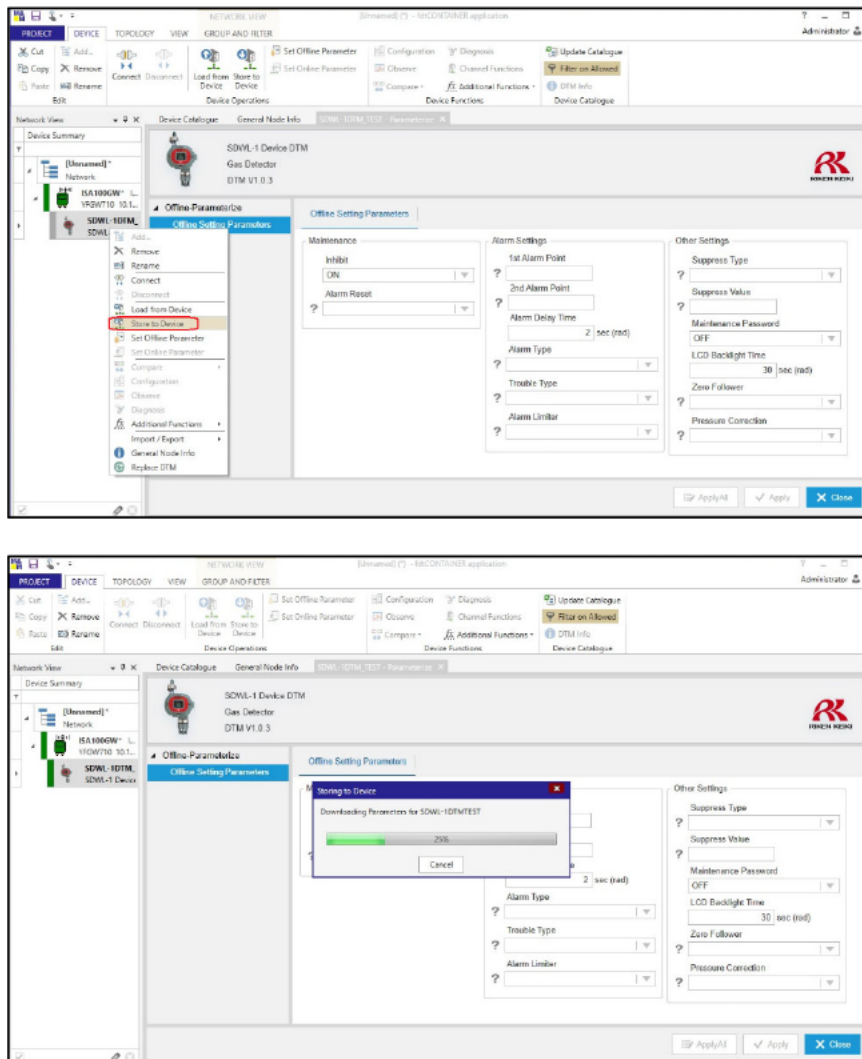


Figure 6-13 Downloading parameter settings to SDWL-1

7. Parameter List

Table 7-1 lists the parameters that can be checked or set. Details of the individual parameters are provided from "7-1 UAPMO (User Application Process Management Object)" onward.

Table 7-1 Parameter list

Online menu	Item
UAPMO	<ul style="list-style-type: none">• Information• Diag Status• Battery Health
CO	<ul style="list-style-type: none">• CO
TB	<ul style="list-style-type: none">• TB
Concentration	<ul style="list-style-type: none">• Concentration• Trend
RIKEN Status	<ul style="list-style-type: none">• RIKEN Status
Battery	<ul style="list-style-type: none">• Battery• Trend
SDWL-1 Maintenance	<ul style="list-style-type: none">• Main Menu• Detector Info.• Gas Info.• Alarm Test• Settings• Calibration

7-1. UAPMO (User Application Process Management Object)

This menu allows the user to check information such as the SDWL-1 version, diagnostic information, and power status.

Menu list

- Information
- Diag Status
- Battery Health

7-1-1. Information menu

This allows the user to check information such as the SDWL-1 manufacturer ID and version details. (Figure 7-1 and Table 7-2)

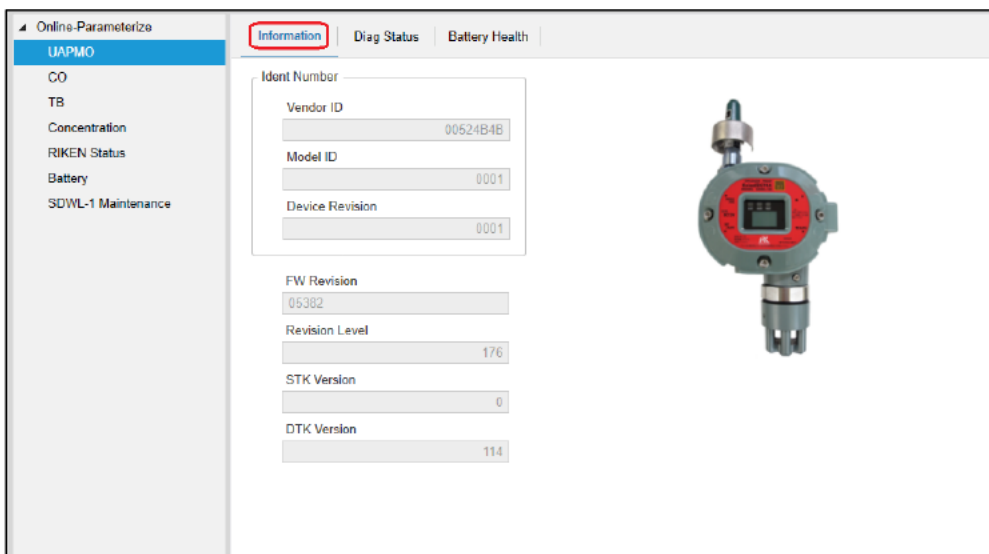


Figure 7-1 Information window

Table 7-2 Information menu list

Item	Details	Attribute
Vendor ID	SDWL-1 manufacturer code	Read only
Model ID	Model number	Read only
Device Revision	SDWL-1 revision	Read only
FW Revision	SDWL-1 program number	Read only
Revision Level	UAP setting revision	Read only
STK Version	Stack verification version	Read only
DTK Version	Device verification version	Read only

7-1-2. Diag (Diagnostic) Status menu

This allows the user to view the SDWL-1 diagnostic information and check alert settings for individual diagnostic items.

(Figure 7-2, Figure 7-4, Figure 7-5, Table 7-3, and Table 7-5)

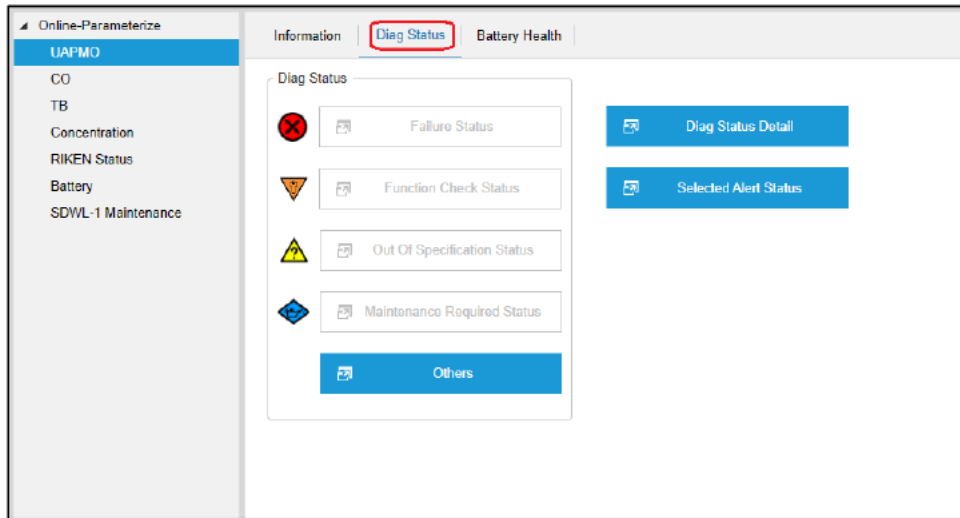


Figure 7-2 Diag Status window

Table 7-3 Diag Status menu list

Item	Details	Attribute
Diag Status*	Device diagnostic information <ul style="list-style-type: none"> • Failure Status • Function Check Status • Out Of Specification Status • Maintenance Required Status • Others 	Read only
Diag Status Detail	Detailed device diagnostic information	Read only
Selected Alert Status	Alert setting information	Read only

*Diag Status consists of 15 items in total, and these are subdivided into five groups. (Table 7-4)

If any of the 15 items is enabled, the status of the corresponding group will become active, allowing the details to be checked. (Figure 7-3)

Table 7-4 Diag Status item list

Item	Details	
Failure Status	Faults in electronics	Hardware faults
	Faults in sensor or actuator element	Gas sensor faults
Function Check Status	Installation, calibration problem	Gas adjustment failed
	Out of service	(Not supported)
	Software update incomplete	(Not supported)
	Simulation is active	IO simulation mode active
Out Of Specification Status	Outside sensor limits	(Not supported)
	Environmental conditions out of device specification	Antenna temperature abnormality
Maintenance Required Status	Fault Prediction: Maintenance required	(Not supported)
	Power is critical low: Maintenance need short-term	Low battery level warning
	Power is low: Maintenance need mid-term	Battery replacement warning
Others	Detail information available	Diag Status Detail active (Always active)
	1st Alarm	1st gas alarm
	2nd Alarm	2nd gas alarm
	Pressure Failure	Pressure sensor abnormality warning

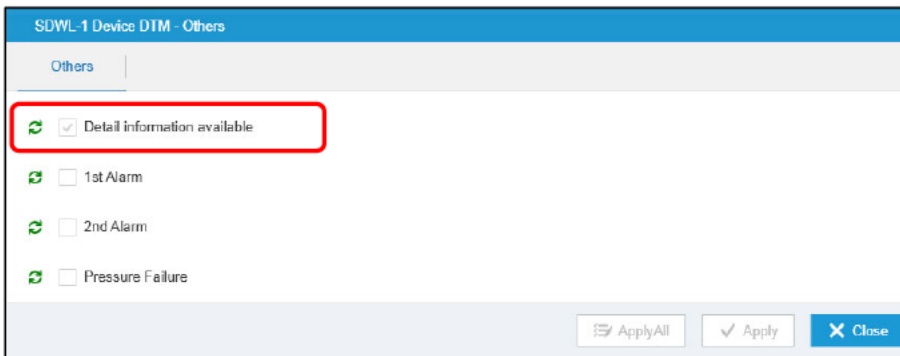
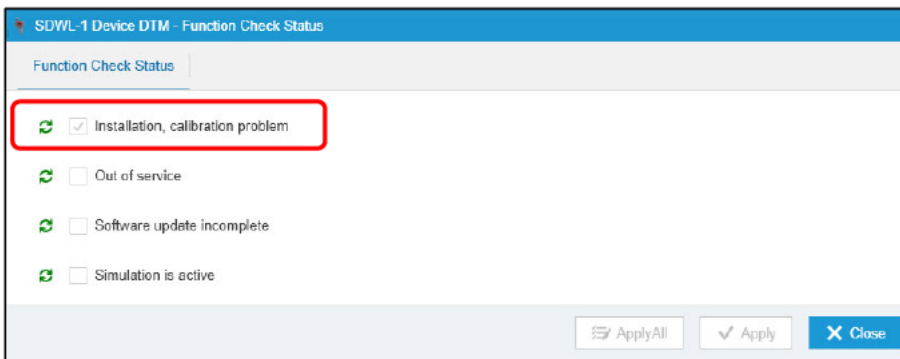
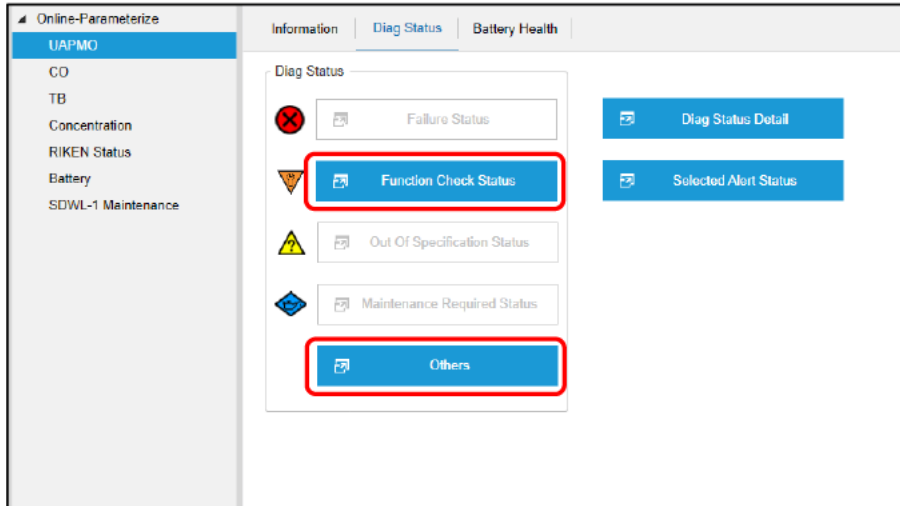


Figure 7-3 Example: With “Installation, calibration problem” and “Detail information available” active

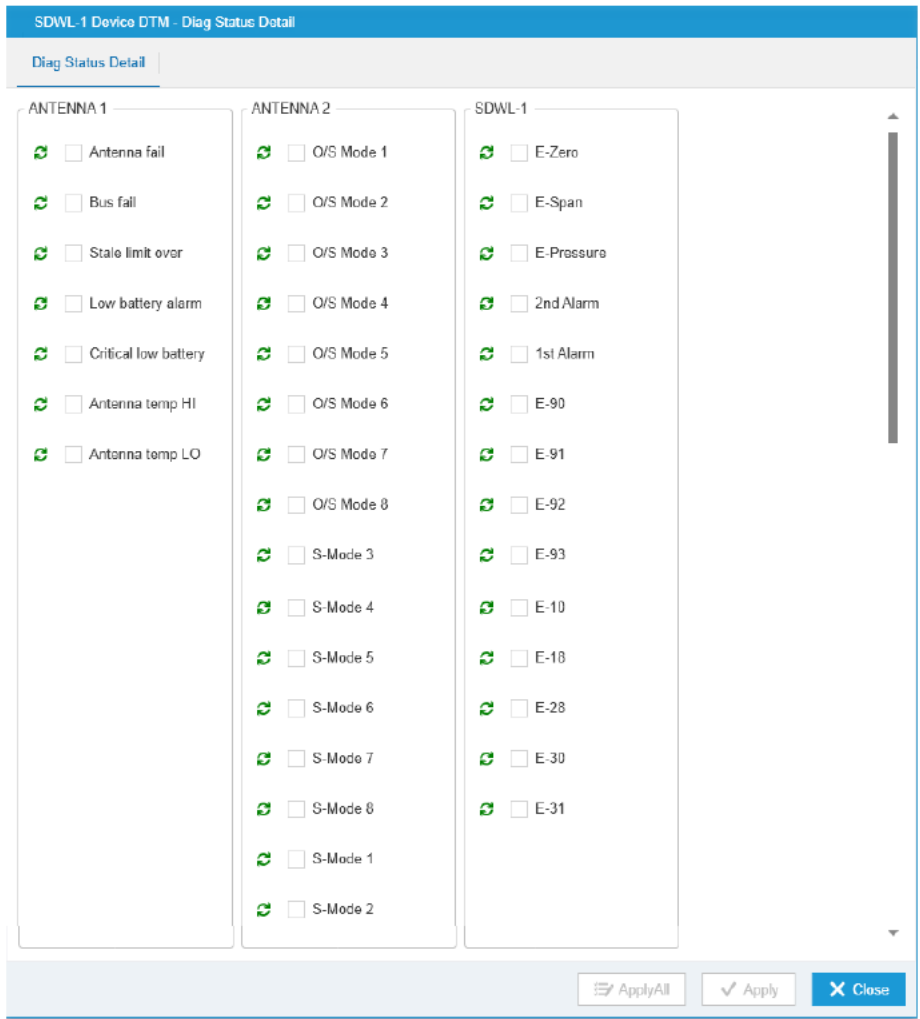


Figure 7-4 Diag Status Detail window

Table 7-5 Diag Status Detail item list

Item	Details	
ANTENNA 1	Antenna fail	Antenna fault
	Bus fail	Between antenna and gas detector Communication abnormality
	Stale limit over	Stale limit detection
	Low battery alarm	Battery replacement warning
	Critical low battery	Low battery level warning
	Antenna temp HI	Antenna temperature over 85 °C
	Antenna temp LO	Antenna temperature below -40 °C
ANTENNA 2	O/S Mode 1 to O/S Mode 8	(Not supported)
	S-Mode 1 to S-Mode 8	(Not supported)
SDWL-1	E-Zero	Zero adjustment failed
	E-Span	Span adjustment failed
	E-Pressure	Pressure sensor abnormality warning
	2nd Alarm	2nd gas alarm
	1st Alarm	1st gas alarm
	E-90	ROM fault
	E-91	RAM fault
	E-92	EEPROM fault
	E-93	External A/D fault
	E-10	Sensor not connected
	E-18	Zero following fault
	E-28	Thermistor fault
	E-30	RI sensor not connected
E-31	RI sensor fault	

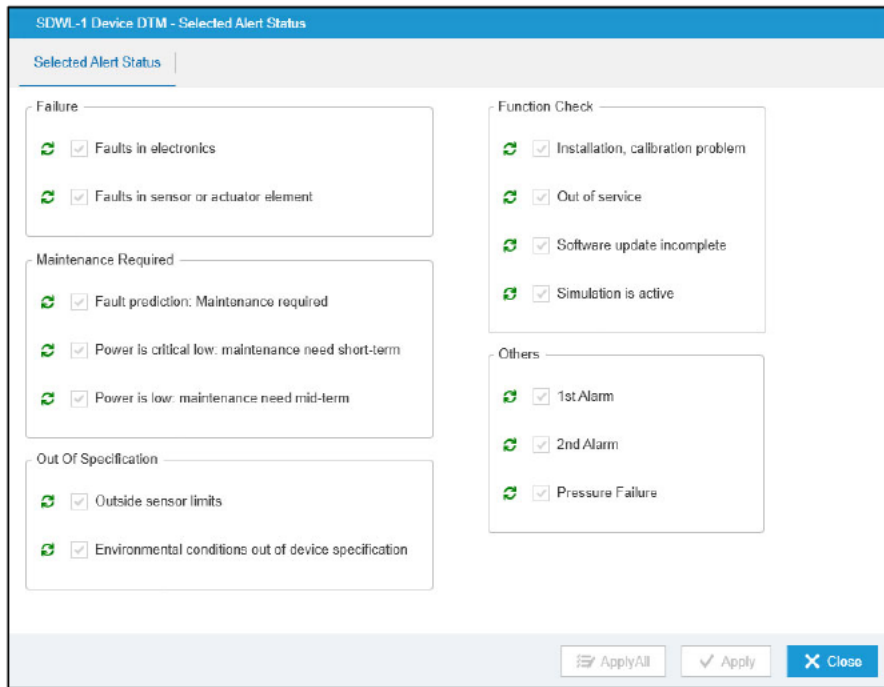


Figure 7-5 Selected Alert Status window (alert setting check)

7-1-3. Battery Health menu

This menu allows the user to check SDWL-1 battery levels and reset the number of days of remaining battery life.

(Figure 7-6, Table 7-6, and Table 7-7)

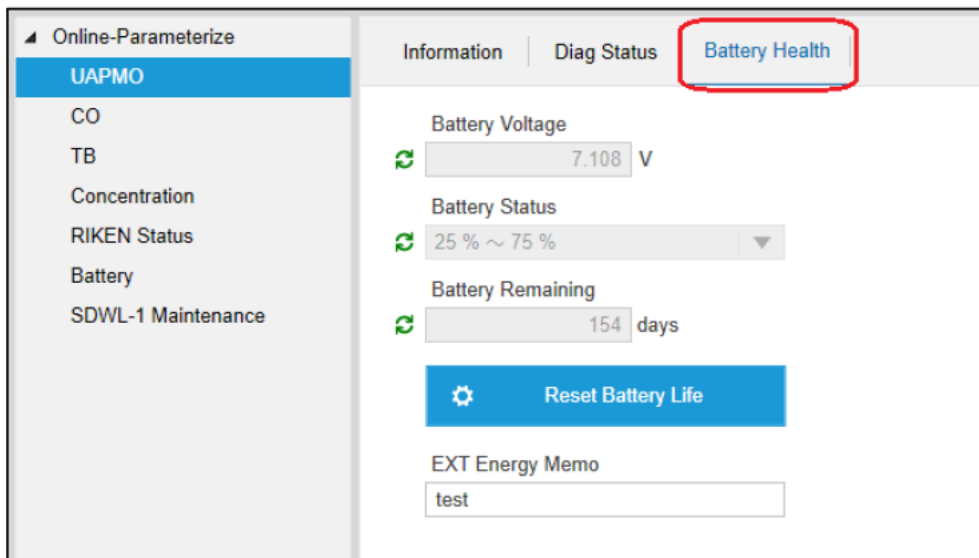


Figure 7-6 Battery Health window

Table 7-6 Battery Health menu list

Item	Details	Attribute
Battery Voltage	Battery voltage	Read only
Battery Status	Remaining battery level (see Table 7-7)	Read only
Battery Remaining	Days of remaining battery life	Read only
Reset Battery Life	Resets the number of days of remaining battery life.	Write only
EXT Energy Memo	External power supply memo	Read/Write

Table 7-7 Battery Status details

Item	Display	Details
Battery Status	External	Using external power supply
	Over 75 %	Battery level 75 % or more
	25 % ~ 75 %	Battery level between 25 % and 75 %
	Under 25 %	Battery level 25 % or less

7-2. CO (Concentrator Object)

This menu allows the user to check the access point information and publishing conditions.

(Figure 7-7 and Table 7-8)

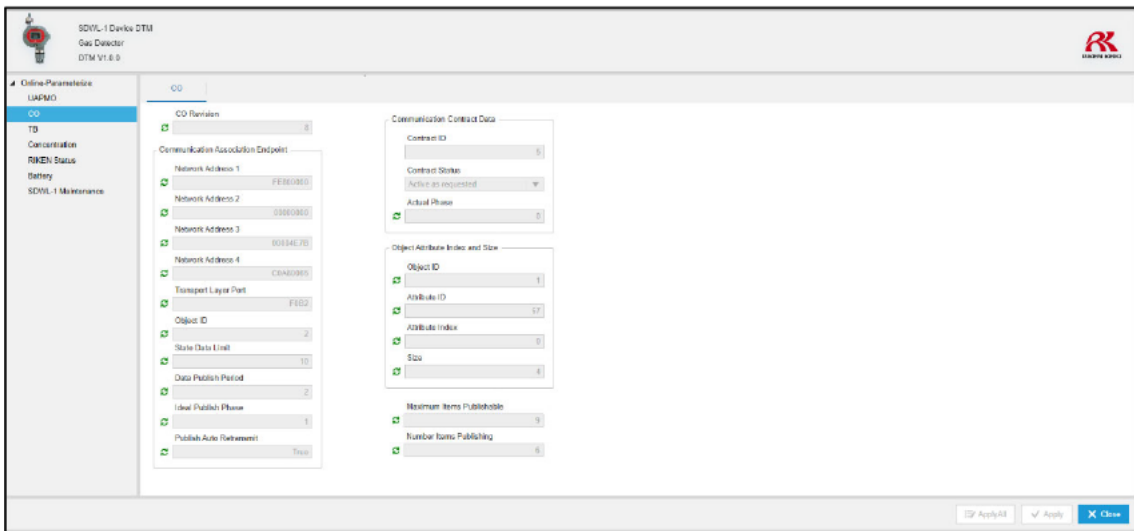


Figure 7-7 CO window

Table 7-8 CO menu list

Item	Details	Attribute
CO Revision	Concentrator Object revision	Read only
Network Address 1	Network address 1/4 of communication party	Read only
Network Address 2	Network address 2/4 of communication party	Read only
Network Address 3	Network address 3/4 of communication party	Read only
Network Address 4	Network address 4/4 of communication party	Read only
Transport Layer Port	TSAP address of communication party	Read only
Object ID	Object ID of communication party	Read only
Stale Data Limit	Number of retries for communication error detection	Read only
Data Publish Period	Communication period	Read only
Ideal Publish Phase	Phase value requested from System Manager	Read only
Publish Auto Retransmit	Publish transmission mode	Read only
Contract ID	Publishing contract ID	Read only
Contract Status	Contract status	Read only
Actual Phase	Phase value specified by System Manager	Read only
Object ID	Object ID	Read only
Attribute ID	Attribute ID	Read only
Attribute Index	Attribute index	Read only
Size	Size	Read only
Maximum Items Publishable	Maximum number of attributes that can be included for publishing	Read only
Number Items Publishing	Number of attributes currently published	Read only

7-3. TB (Transducer Block)

This menu allows the user to check the SDWL-1 basic information and wireless communication status and switch to Deep Sleep Mode.

- * Wireless communication will be disconnected if Deep Sleep Mode is selected.
(Figure 7-8 and Table 7-9)

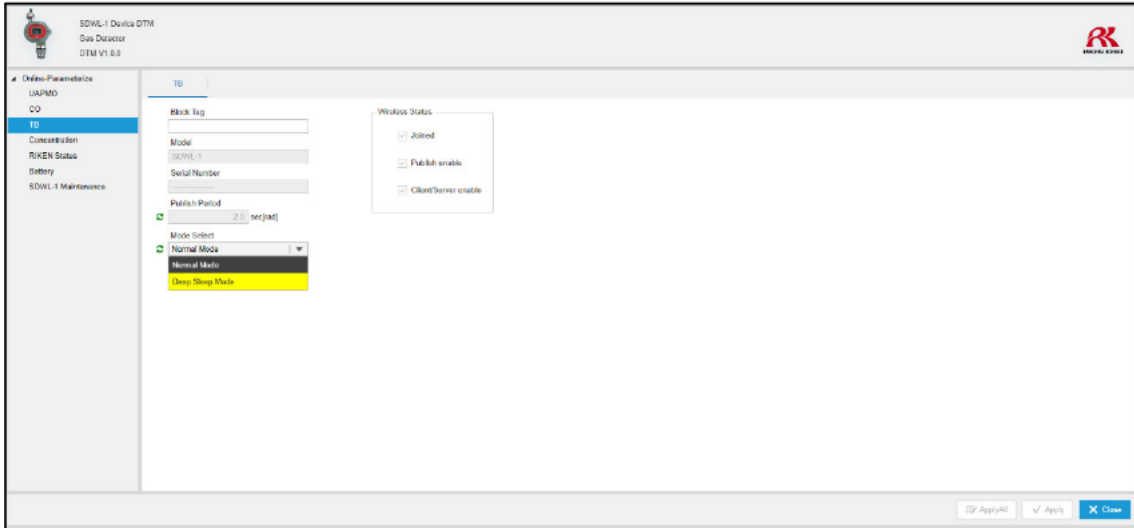


Figure 7-8 TB window

Table 7-9 TB menu list

Item	Details	Attribute
Block Tag	TB block tag	Read/Write
Model	Gas detector name	Read only
Serial Number	SDWL-1 serial number	Read only
Publish Period	Data update interval	Read only
Mode Select	Selects energy-saving mode (Deep Sleep Mode).	Read/Write
Wireless Status	Wireless communication status <ul style="list-style-type: none"> • Joined • Publish enable • Client/Server enable 	Read only

7-4. Concentration

This menu allows the user to check the gas concentration currently being measured numerically and graphically.

Menu list

- Concentration
- Trend

7-4-1. Concentration menu

This menu allows the user to check details such as target gas concentration, measurement range, and units. (Figure 7-9 and Table 7-10)

Figure 7-9 Concentration window

Table 7-10 Concentration menu list

Item	Details	Attribute
Status	Wireless communication status	Read only
Concentration	Gas concentration	Read only
Maximum	Concentration upper limit	Read only
Minimum	Concentration lower limit	Read only
Unit	Units	Read only
Decimal	Number of decimal places	Read only

7-4-2. Trend menu

This menu allows the user to check the gas concentration currently being measured graphically. Graph refreshing starts with the time the window is displayed as 0 seconds. (Figure 7-10)

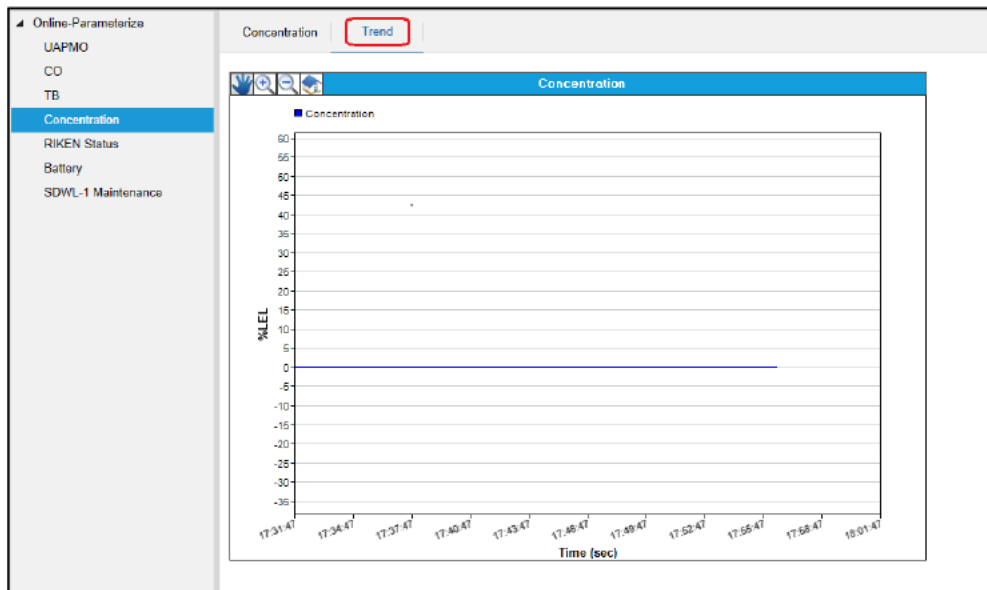





Figure 7-10 Target gas concentration trend graph


* Graph operations


The trend graph can be manipulated using the menu at the top left of the graph.


 Scroll graph


Method: Click  and **drag the graph** to scroll.


 Enlarge graph

Method: Click  and **click on the graph** to enlarge the graph. (Click repeatedly to expand the graph still further.)

 Reduce graph

Method: Click  and **click on the graph** to make the graph smaller. (Click repeatedly to make the graph still smaller.)

 Reset graph operations

Method: Click  to restore the graph to the state before operations were performed.

7-5. RIKEN Status

This menu allows the user to check parameters related to the information for the gas currently being measured processed by Kanshiro (Riken Keiki gas detection alarm system). (Figure 7-11 and Table 7-11)

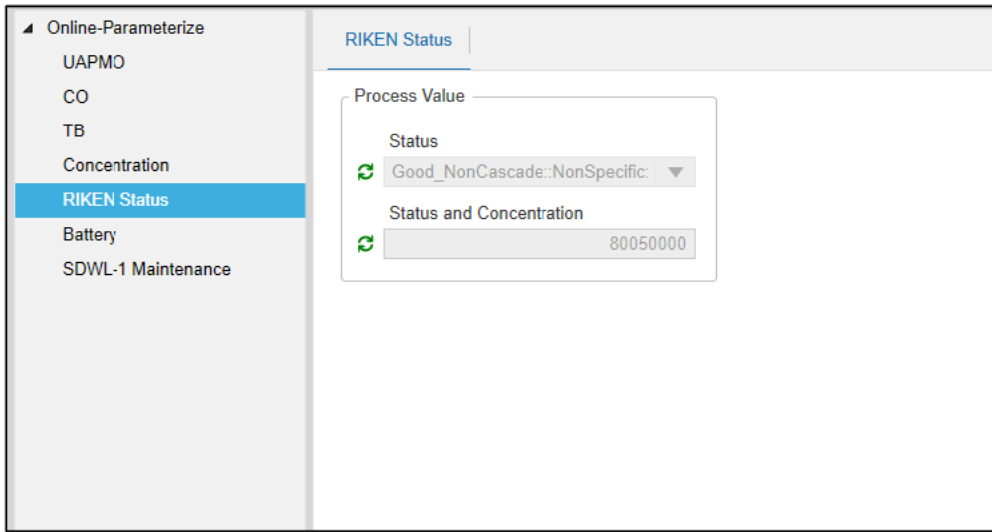


Figure 7-11 RIKEN Status window

Table 7-11 RIKEN Status menu list

Item	Details	Attribute
Status	Wireless communication status	Read only
Status and Concentration	SDWL-1 status and target gas concentration	Read only

7-6. Battery

This menu allows the user to check SDWL-1 battery levels numerically and graphically.

Menu list

- Battery
- Trend

7-6-1. Battery menu

This menu allows the user to check SDWL-1 battery levels [0 to 100 %].

(Figure 7-12 and Table 7-12)

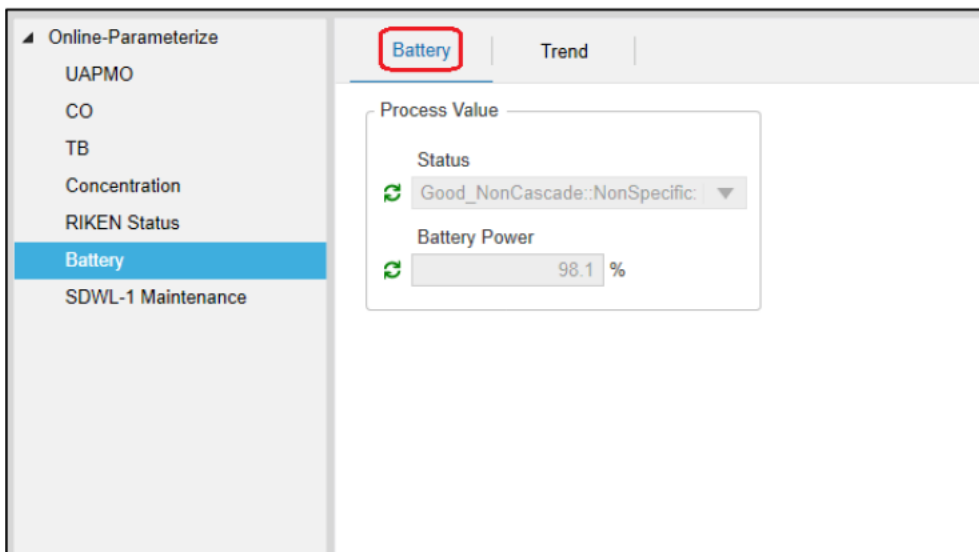


Figure 7-12 Battery window

Table 7-12 Battery menu list

Item	Details	Attribute
Status	Wireless communication status	Read only
Battery Power	Battery level	Read only

7-6-2. Trend menu

This menu allows the user to check SDWL-1 battery levels graphically. Graph refreshing starts with the time the window is displayed as 0 seconds. (Figure 7-13)

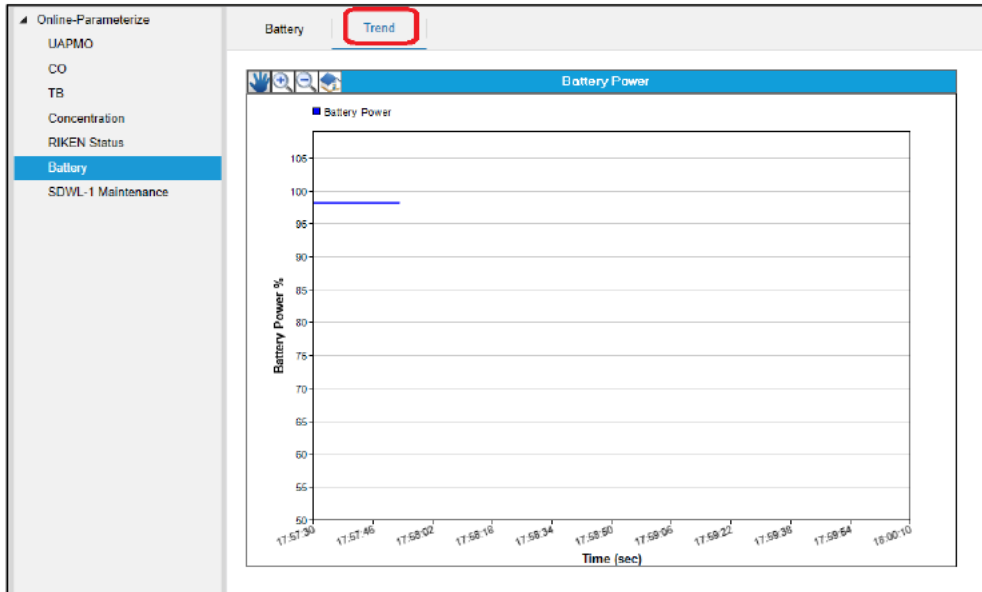


Figure 7-13 Battery level trend graph

* For information on how to manipulate the graph, see Section 7-4-2.

7-7. SDWL-1 Maintenance

This menu allows the user to check SDWL-1 product information and perform zero calibration, span adjustment, and gas alarm testing.

* The specifics displayed will differ depending on the sensor type.

Menu list

- Main Menu
- Detector Info.
- Gas Info.
- Alarm Test
- Settings
- Calibration

7-7-1. Main Menu

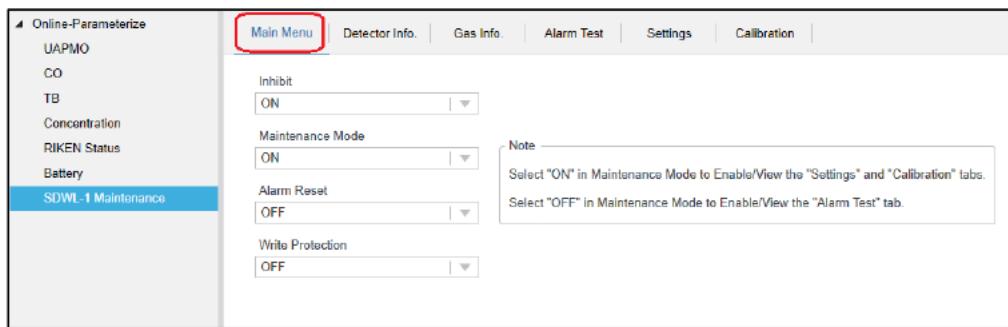


Figure 7-14 Main Menu window

Table 7-13 Main Menu list

Item	Details	Attribute
Inhibit	Inhibit on/off	Read/Write
Maintenance Mode*1	Maintenance mode on/off	Read/Write
Alarm Reset	Alarm reset on/off	Read/Write
Write Protection*2	Write protection on/off	Read/Write

*1 The Alarm Test menu cannot be selected when Maintenance Mode is enabled. The Settings and Calibration menus cannot be selected when Maintenance Mode is disabled.

*2 Write protection for SDWL-1 measurement and alarm parameters.

7-7-2. Detector Info. menu

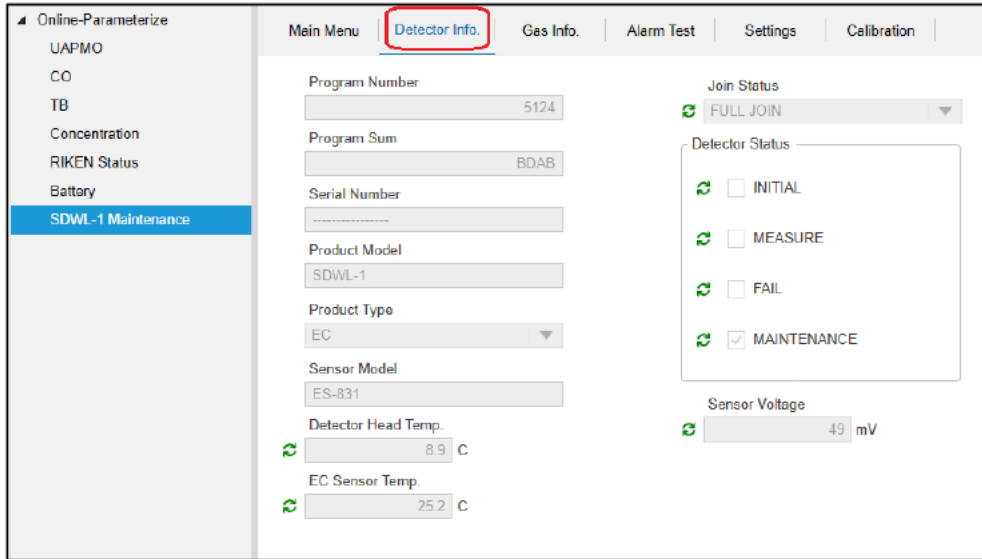


Figure 7-15 Detector Info. window

Table 7-14 Detector Info. menu list

Item	Details	Attribute
Program Number	Program number	Read only
Program Sum	SUM value	Read only
Serial Number	Serial number	Read only
Product Model	Product model	Read only
Product Type	Sensor type	Read only
Sensor Model	Sensor model	Read only
Detector Head Temp.	SDWL-1 temperature	Read only
EC Sensor Temp. (EC only)	Sensor temperature	Read only
Join Status	Wireless connection status (see Table 7-15)	Read only
Detector Status	SDWL-1 operation status (see Table 7-16)	Read only
Sensor Voltage (EC only)	Sensor voltage	Read only
Atm. Pressure (OX only)	Atmospheric pressure	Read only

Table 7-15 Join Status details

Item	Status	Details
Join Status	NOT JOIN	Not connected to network
	JOIN	Connecting to network
	FULL JOIN	Connected to network

Table 7-16 Detector Status details

Item	Status	Details
Detector Status	INITIAL	Initial
	MEASURE	Measurement
	FAIL	Fault
	MAINTENANCE	Maintenance mode

7-7-3. Gas Info. menu

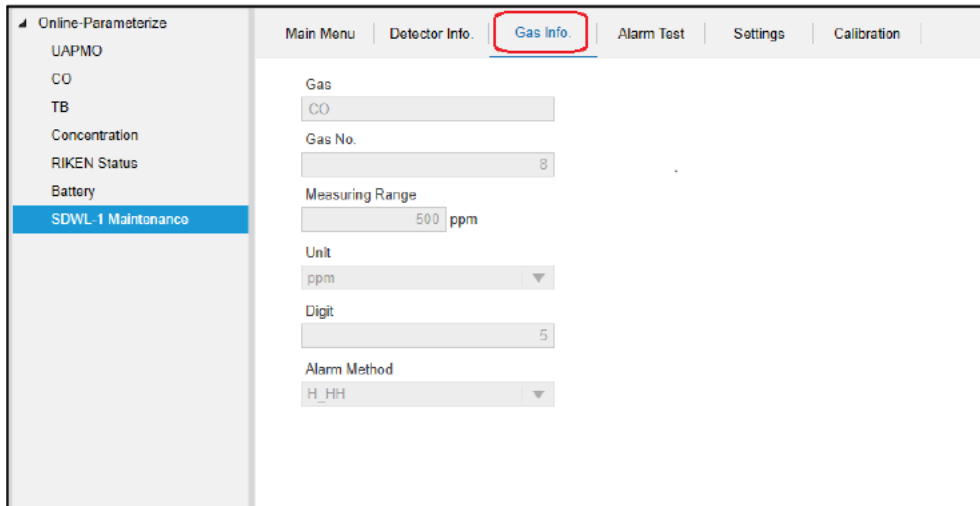


Figure 7-16 Gas Info. window

Table 7-17 Gas Info. menu list

Item	Details	Attribute
Gas	Gas name	Read only
Gas No.	Gas number	Read only
Measuring Range*3	Measurement range	Read only
Unit	Units	Read only
Digit	Digit	Read only
Alarm Method	Alarm type	Read only

*3 Displayed with the decimal point omitted

Example: Displayed as "500" if the gas alarm setpoint is 50.0 %LEL

7-7-4. Alarm Test menu

Performs an SDWL-1 gas alarm test. (Figure 7-17)

This menu can be selected only when “Maintenance Mode” is disabled. “Alarm Test Concentration” and “Alarm Contact” can be edited only when “Alarm Test Mode” is enabled.

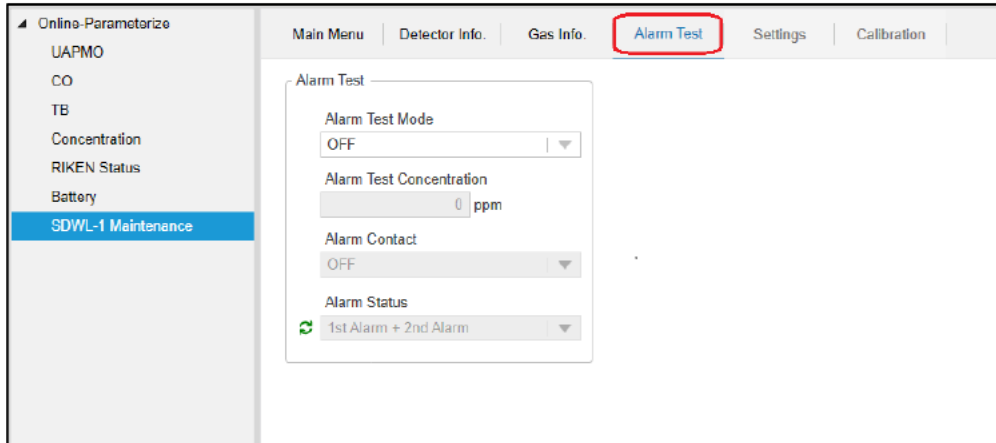


Figure 7-17 Alarm Test window

Table 7-18 Alarm Test menu list

Item	Details	Attribute
Alarm Test Mode	Gas alarm test on/off	Read/Write
Alarm Test Concentration*4	Gas alarm test concentration	Read/Write
Alarm Contact	Gas alarm contact on/off	Read/Write
Alarm Status	Gas alarm status (see Table 7-19)	Read only

*4 Enter a value without the decimal point.

Example: Enter “1000” if the measurement range is 100.0 %LEL.

Table 7-19 Alarm Status details

Item	Display	Details
Alarm Status	NONE	No alarm
	1st Alarm	1st gas alarm
	1st Alarm + 2nd Alarm	1st gas alarm + 2nd gas alarm

The procedure for performing a gas alarm test is as follows:

- ① Change "Alarm Test Mode" to "ON", then click "Apply".
- ② Enter the gas alarm test concentration in "Alarm Test Concentration".
- ③ To activate a contact, set "Alarm Contact" to "ON".
* Do not use this with non-contact specifications.
- ④ Click "Apply" to start gas alarm testing.
- ⑤ Check to confirm that the gas concentration corresponds to the test gas concentration in the Concentration menu.
If the test gas concentration reached the alarm level here, "Alarm Status" will change accordingly. (Table 7-19 Alarm Status details)
- ⑥ To end the test, set "Alarm Test Mode" to "OFF", "Alarm Test Concentration" to "0", and "Alarm Contact" to "OFF", then click "Apply".

7-7-5. Settings menu

This menu can be selected only when “Maintenance Mode” is enabled.

* Be sure to disable “Maintenance Mode” once all settings are complete.

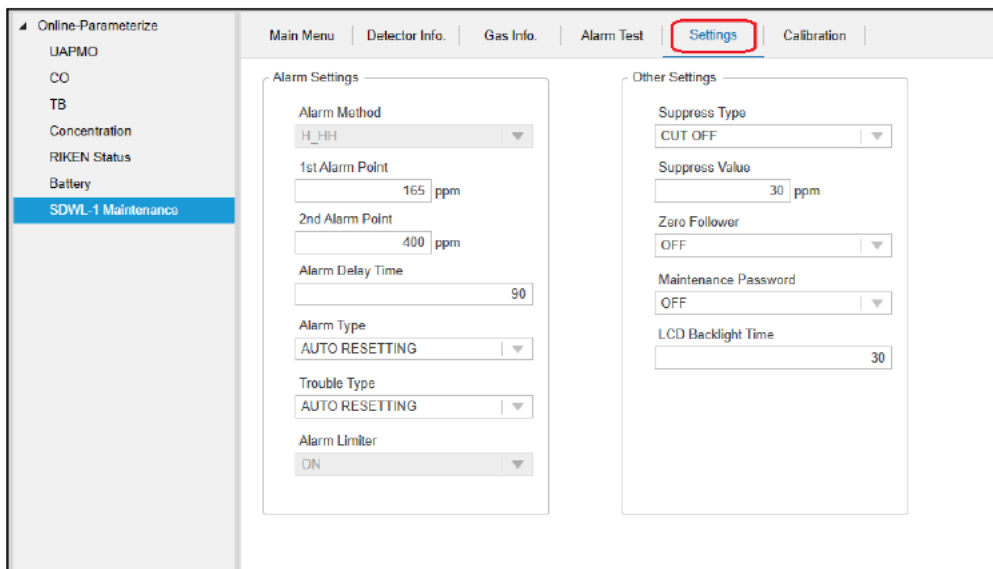


Figure 7-18 Settings window

Table 7-20 Settings (Alarm Settings) menu list

Item	Details	Attribute
Alarm Method	Gas alarm type	Read only
1st Alarm Point*5	1st gas alarm setpoint	Read/Write
2nd Alarm Point*5	2nd gas alarm setpoint	Read/Write
Alarm Delay Time	Gas alarm delay time	Read/Write
Alarm Type	Gas alarm pattern (see Table 7-21)	Read/Write
Trouble Type	Fault alarm pattern (see Table 7-21)	Read/Write
Alarm Limiter	Gas alarm limiter on/off	Read/Write

*5 Displayed with the decimal point omitted

When setting, enter a value omitting the decimal point.

Example: Enter “500” if the gas alarm setpoint is 50.0 %LEL.

Table 7-21 Alarm (Trouble) Type details

Item	Setting	Details
Alarm Type	AUTO RESETTING	Auto reset
Trouble Type	LATCHING	Self-latching

Table 7-22 Settings (Other Settings) menu list

Item	Details	Attribute
Suppress Type	Suppression type (see Table 7-23)	Read/Write
Suppress Value*6	Suppression value	Read/Write
Zero Follower (EC only)	Zero following on/off	Read/Write
Maintenance Password	Maintenance password protection on/off	Read/Write
Pressure Correction (OX only)	Pressure correction on/off	Read/Write
LCD Backlight Time	Backlight illumination time	Read/Write

*6 Displayed with the decimal point omitted

When setting, enter a value omitting the decimal point.

Table 7-23 Suppress Type details

Item	Setting	Details
Suppress Type	CUT OFF	Cut-off
	SMOOTHING	Smoothing

7-7-6. Calibration menu

This menu allows the user to perform zero calibration and span adjustment, and to initialize calibration data. (Figure 7-19)

This menu can be selected only when “Maintenance Mode” is enabled.

* Be sure to disable “Maintenance Mode” once all the settings are complete.

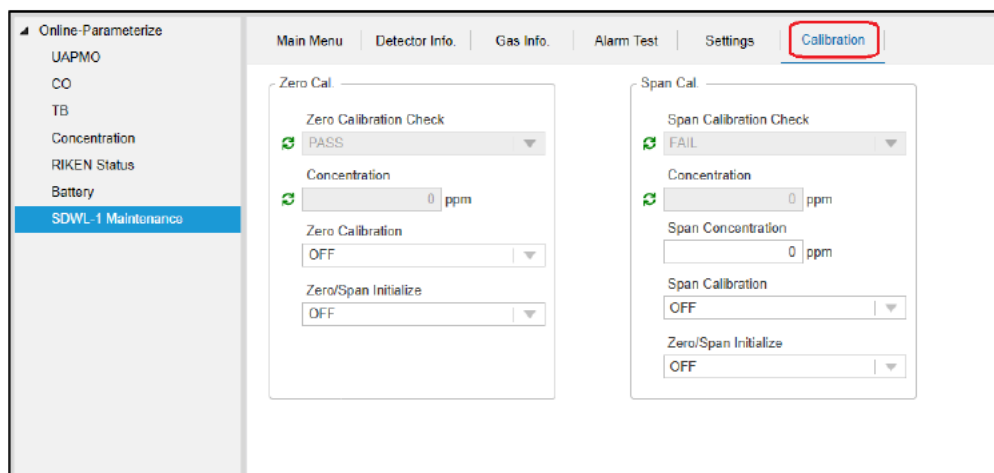


Figure 7-19 Calibration window

Table 7-24 Calibration (Zero Cal.) menu list

Item	Details	Attribute
Zero Calibration Check	Zero calibration status (See Table 7-26)	Read only
Concentration*7	Current concentration	Read only
Zero Calibration	Zero calibration on/off	Read/Write
Zero/Span Initialize	Calibration data initialization on/off	Read/Write

*7 Displayed with the decimal point omitted

Table 7-25 Calibration (Span Cal.) menu list

Item	Details	Attribute
Span Calibration Check	Span adjustment status (See Table 7-26)	Read only
Concentration*8	Current concentration	Read only
Span Concentration*8	Span adjustment concentration	Read/Write
Span Calibration	Span adjustment on/off	Read/Write
Zero/Span Initialize	Calibration data initialization on/off	Read/Write

*8 Displayed with the decimal point omitted

When setting, enter a value omitting the decimal point.

Table 7-26 Zero Calibration Check/Span Calibration Check details

Item	Setting	Details
Zero Calibration Check Span Calibration Check	NO ACTION	Not performed
	RUN	In progress
	PASS	Successful
	FAIL	Failed

The procedure for performing zero calibration is as follows:

- ① Change “Zero Calibration” to “ON”, then click “Apply”.
- ② Repeatedly press the upload buttons in the following figures (Figure 7-20, Figure 7-21, and Figure 7-22).

Check to confirm that “Zero Calibration Check” changes in the sequence “NO ACTION” → “RUN” → “PASS”. Also check to confirm that “Concentration” is at the appropriate gas concentration. If calibration fails, the “FAIL” warning will appear. This status persists until either zero calibration succeeds or the power to the SDWL-1 main unit is turned on once again.

- ③ Change “Zero Calibration” to “OFF”, then click “Apply”.

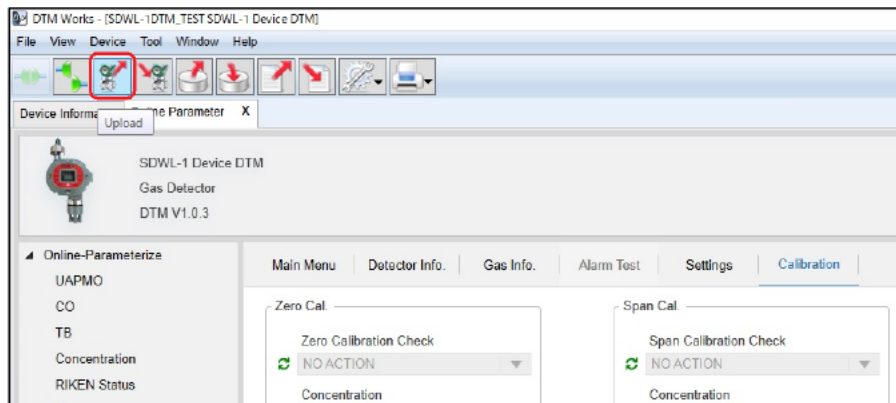


Figure 7-20 Upload procedure (for FieldMate)

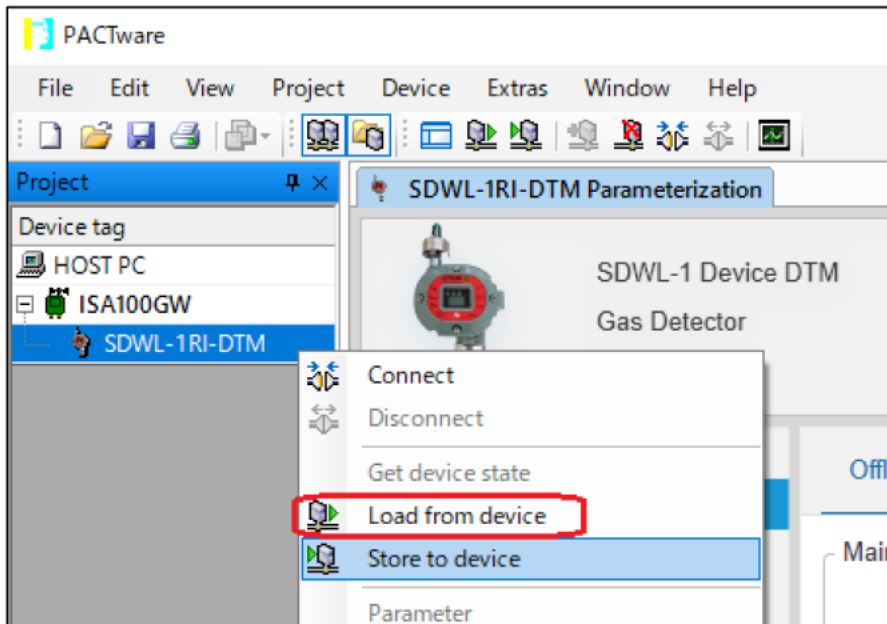


Figure 7-21 Upload procedure (for PACTware)

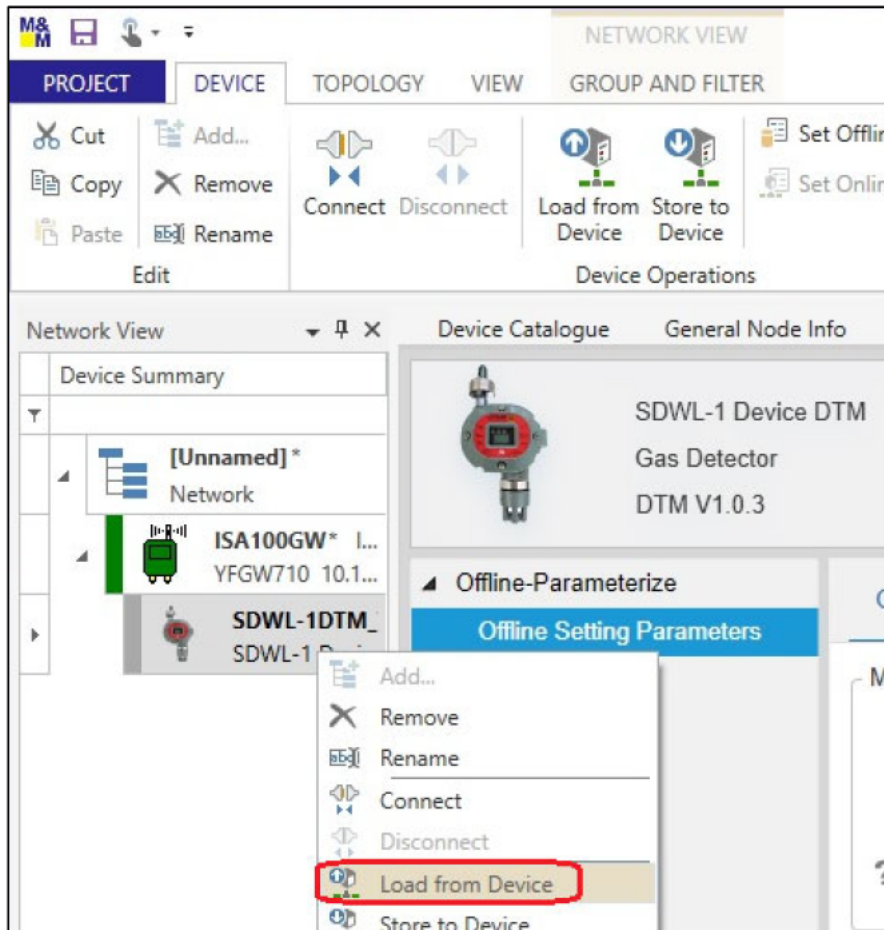


Figure 7-22 Upload procedure (for fdtCONTAINER)

The procedure for performing span adjustment is as follows:

- ① Enter the span adjustment concentration (value with decimal point omitted) in "Span Concentration".
- ② Change "Span Calibration" to "ON", then click "Apply".
- ③ Repeatedly press the upload buttons in the previous figures (Figure 7-20, Figure 7-21, and Figure 7-22).

Check to confirm that "Span Calibration Check" changes in the sequence "NO ACTION" → "RUN" → "PASS".

Also check to confirm that "Concentration" is at the appropriate gas concentration. If span adjustment fails, the "FAIL" warning will appear. This status persists until either span adjustment succeeds or the power to the SDWL-1 main unit is turned on once again.

The procedure for initializing calibration data is as follows:

* Make sure both "Zero Calibration" and "Span Calibration" are set to "OFF" before initializing calibration data.

- ① Change "Zero/Span Initialize" to "ON", then click "Apply".
 - * Use "Zero/Span Initialize" within "Zero Cal."
- ② Check to confirm that "Zero Calibration Check" and "Span Calibration Check" are switched to "NO ACTION".
- ③ Change "Zero/Span Initialize" to "OFF", then click "Apply".

8. DTM Upgrade Procedure

Run the SDWL-1 Device DTM.exe file found in the SDWL-1 Device DTM_X.X.X folder (upgrade version) to install in the same way as when installing for the first time. Older versions of DTM detected during installation will be upgraded automatically.

9. DTM Uninstall Procedure

Use "Add or Remove Programs" in the Windows Control Panel to uninstall the DTM software.

* With Windows 10, uninstall by selecting Windows' Start menu ⇒ Settings ⇒ System ⇒ Apps & features.

10. Precautions

The fdtCONTAINER printing function cannot be used with the Japanese operating system.

Revision history

Issue	Revision	Issue date
0	First issue	4/1/2021