Wave Checker

UI-351A

UI-351A6

User's Guide

user interface Uisys

What is Wave Checker ?

It will previously check operating information of soldering device so that it helps to prevent problems that actually happen in real process and maximizes production.
Depending on your needs, it provides a variety of functions such as conversion, analysis, simulation and comparison of data.

System Requirements

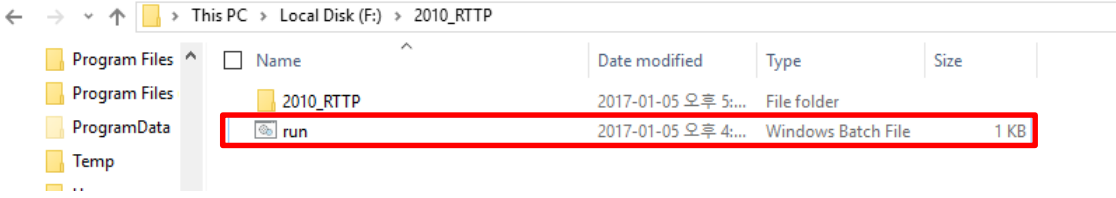
Items	Minimum Requirements	Recommended Requirements
CPU	Above Pentium4 1.2GHz	Above Pentium4 2.0GHz
RAM	Above 1GB	Above 2GB
Video	1024*768 16Bit	Same as the left
Transmission Mode	USB / RS232	Same as the left
OS	Window 95, 2000, XP 7, 8, 10	Same as the left

USB charge (Charging current : 200mA~250mA)

○ Charging (Red)

○ Charging complete (Green)

Installing the RTTPS program

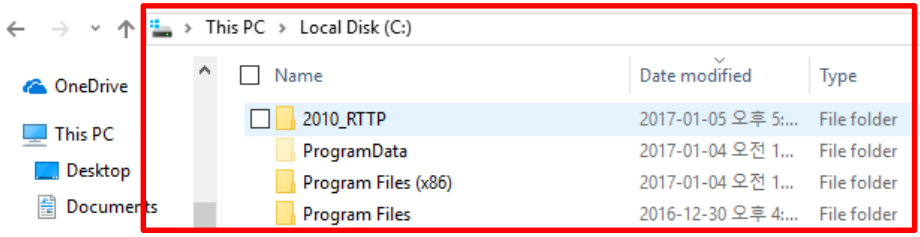


The installation file is provided as USB and the above figure shows the USB internal file structure
After connecting USB to PC, go into USB folder and double click run icon

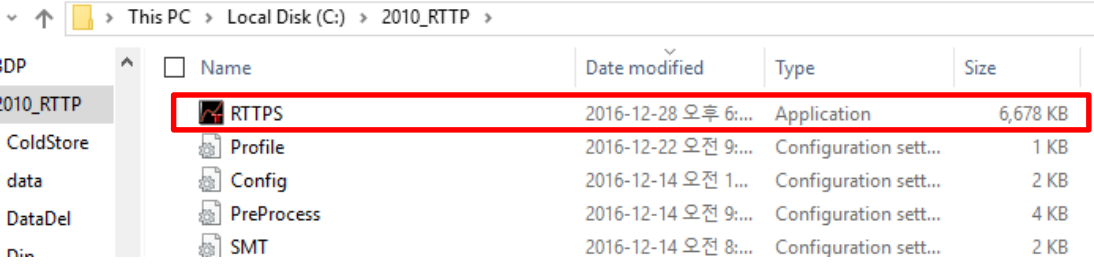
Double-click the icon for the run, installation are in progress, as indicated above
When installation is complete, the message “Installation completed” is displayed

Program Installation

Installing the RTTPS program



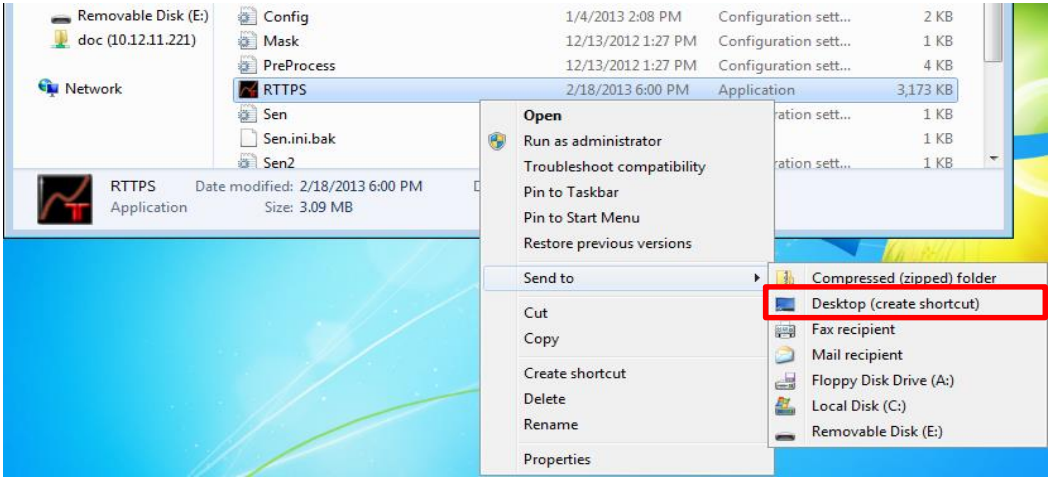
When installation is complete, a folder called 2010_RTTPS is created
On drive C
(Route = C:₩2010_RTTP)

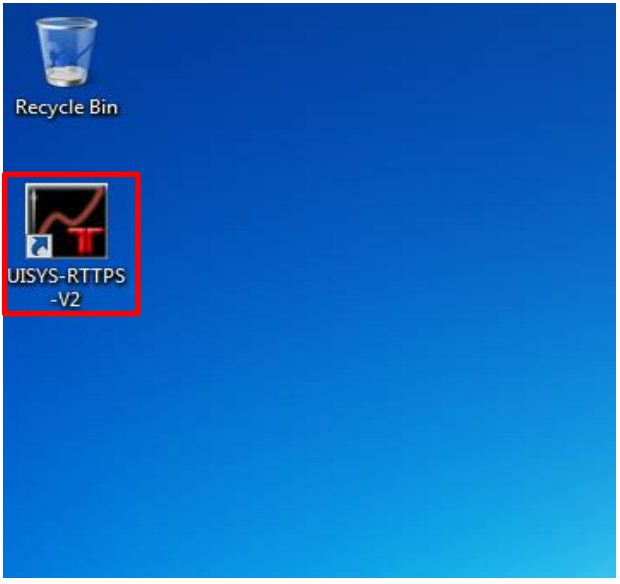


Double-click the executable file in the 2010_RTTP folder to run the program

Create the shortcut icon of ‘RTTPS.exe’

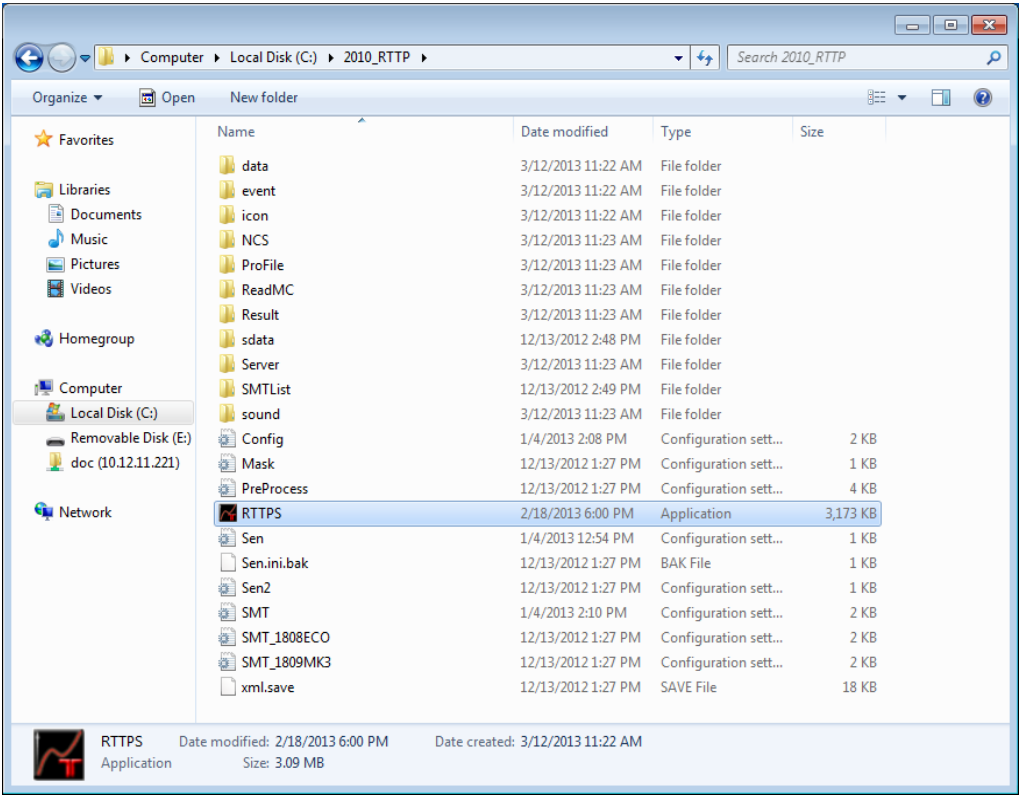
○ Create the shortcut of “RTTPS.exe” in the “C:₩2010_RTTP” folder on the desktop





Explanations Folders

'2010_RTTP' Folder

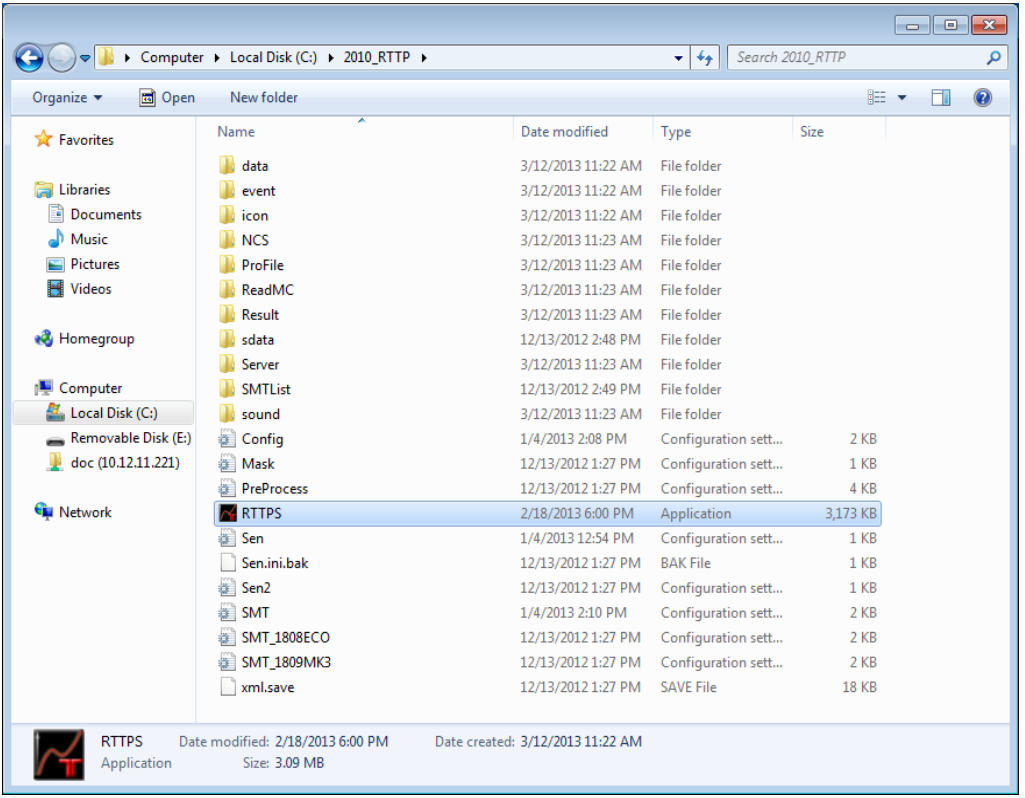


– File Organization –

data : Measurement Data Folder
Doc : Manual Folder
etc : Other Driver Folder
event : Event (Folder where errors are made)
icon : RTTPS-Related icon Folder
NCS : Connection folder with OVEN information and profile data
Profile : PROFILE Measurement Data Save Folder
ReadMC : Program to load the information about HELLER device

Explanations Folders

‘2010_RTTP’ Folder



– File Organization –

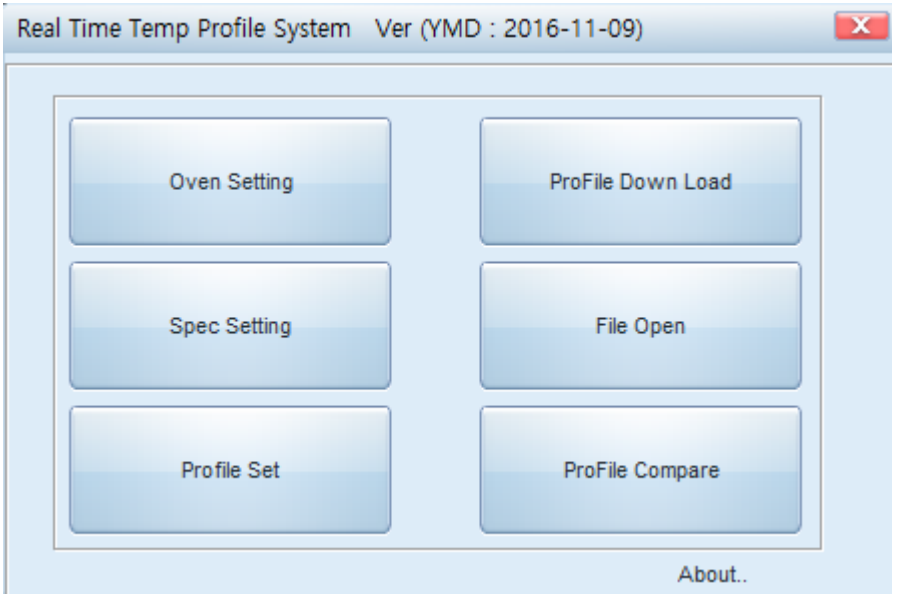
Result : Real time Surveillance Activation Program
sdata : Folder to store the information related to the main temperature detector
Server : Program to control the network
SMTList : Folder to save the data regarding the system
sound : Sounds in relation to RTTPS program

Explanations for Program

Program Execution

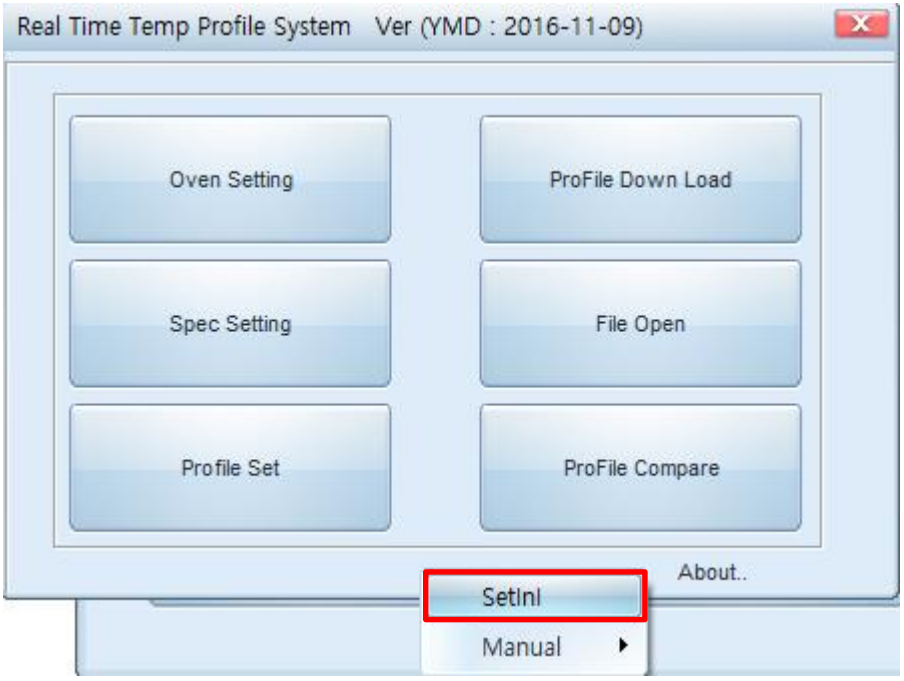
○ Double Click the RTTPS icon on the desktop or the taskbar

Initial Screen of Program



SetINI

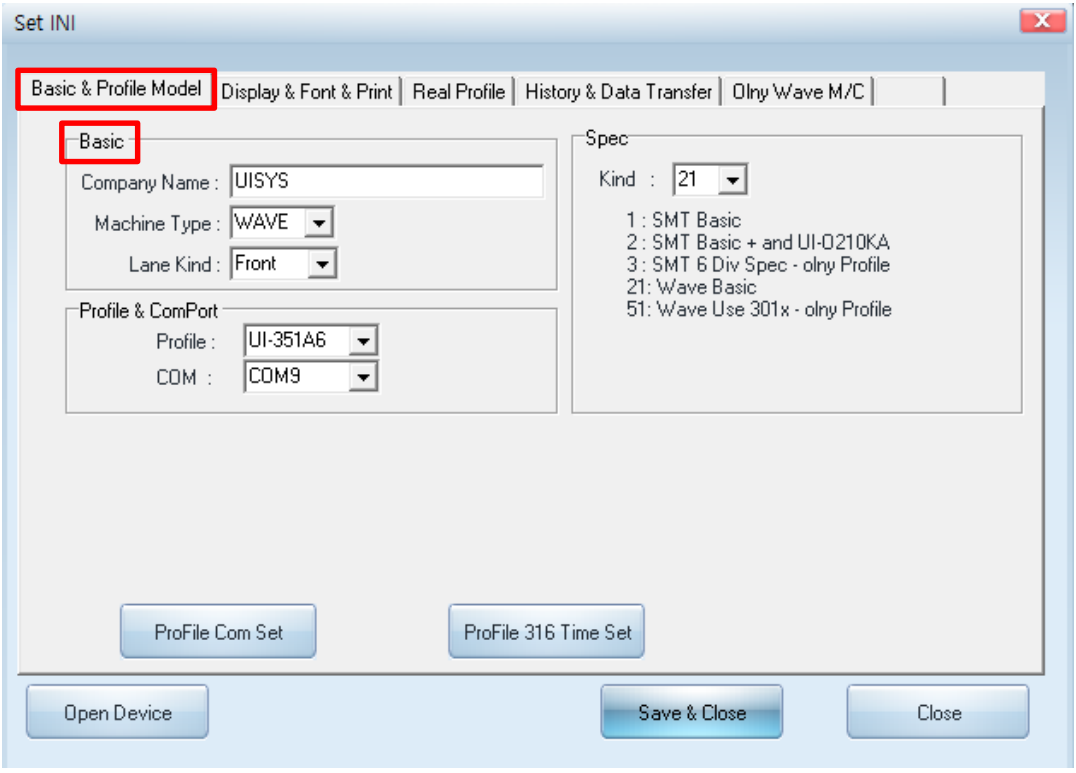
○ Setting the History of Basic Equipment and RTTPS Default Value
(Communication Part, Profile Communication Port, etc.)



○ Right-click on a blank space on the main screen and the SetINI menu appears

SetINI (Basic)

○ Basic & Profile Model _ Basic



– Basic & Profile Model –

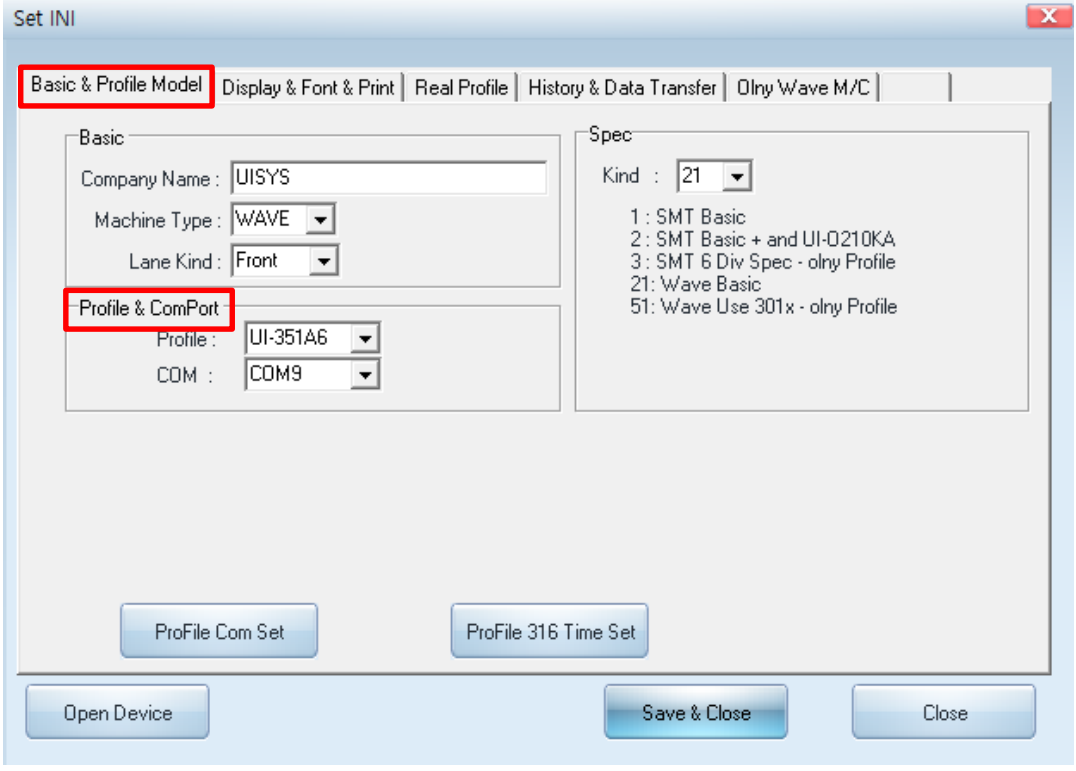
– Basic (Default status input menu of Reflow) –

Company Name : Enter the company name
Machine Type : Reflow equipment, Soldering equipment selection options
(Set to “Wave”)
Lane Kind : Single eqipment, Dual equipment selection options
(Set to “Front”)

Explanations for Program(Preferences)

SetINI

○ Basic & Profile Model – Profile & Comport



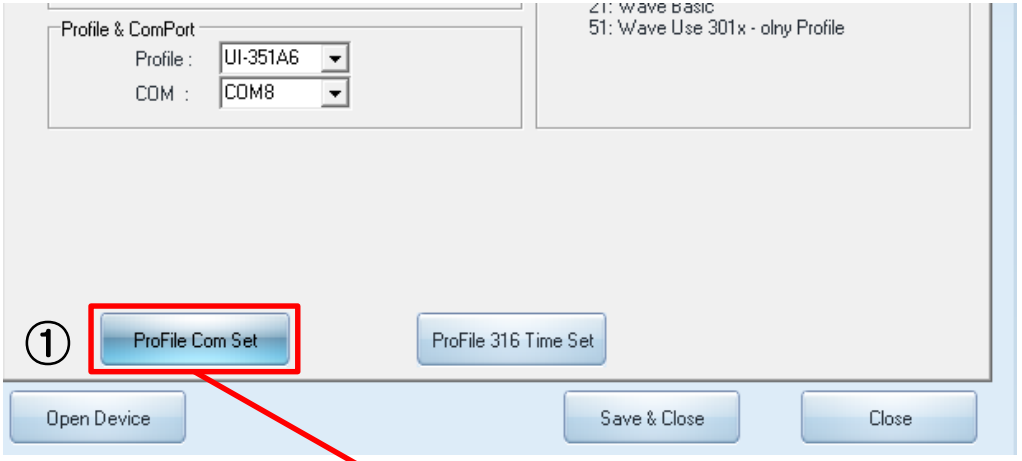
– Basic & Profile Model –

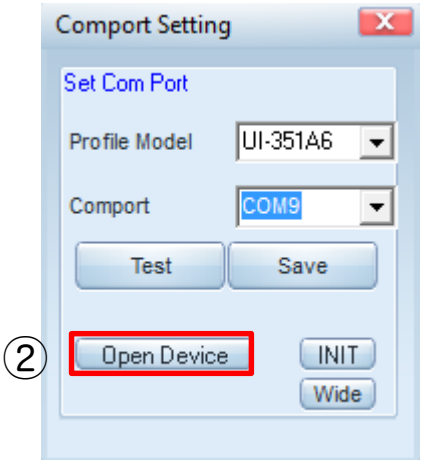
– Profile & ComPort (Profiler communication menu) –

Profile : Profiler settings to use for measurements
(Set to UI-351A or UI – 351A6)
COM : Profiler communication port settings

SetINI

○ How to find a communication port

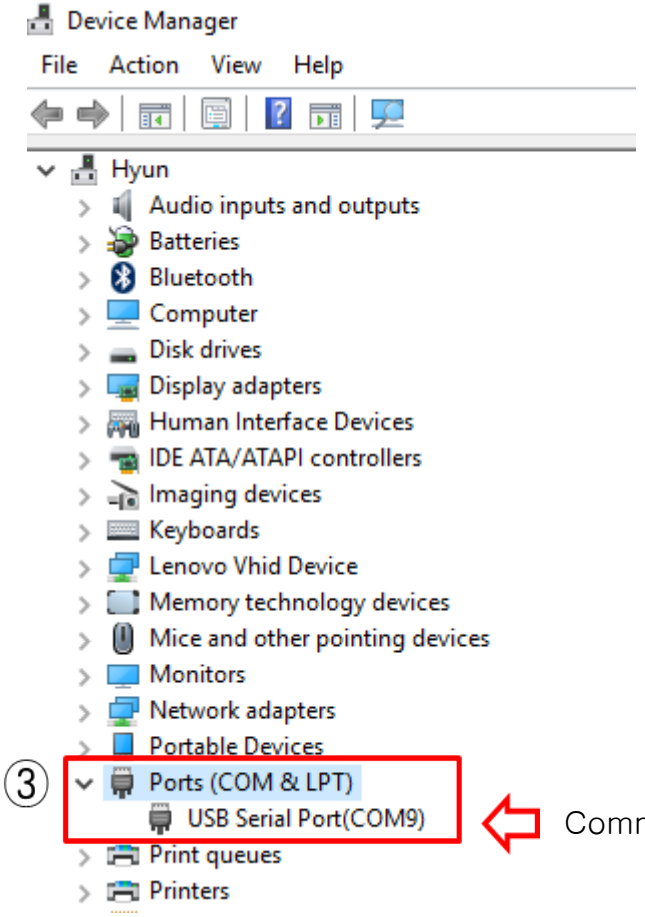




① Click the Profile Com Set button
② Click the Open Device

SetINI

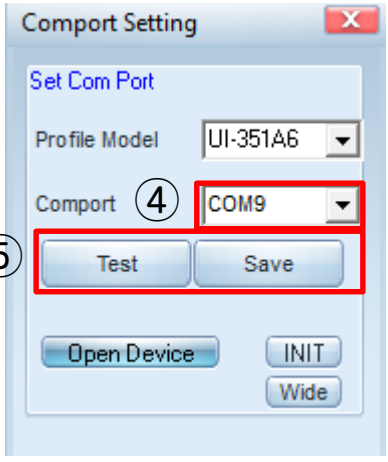
○ How to find a communication port



③ Confirm the Ports(COM & LPT),
USB Serial Port in the Device Manager Menu

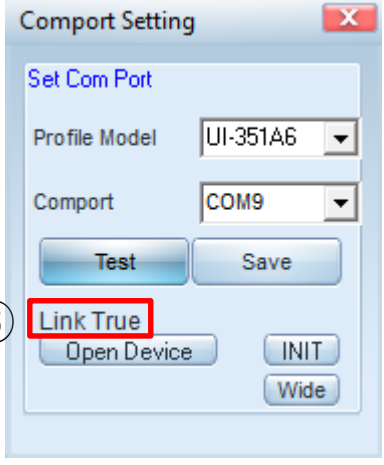
SetINI

○ How to find a communication port



④ Sets the Communication Port identified by Device Manager

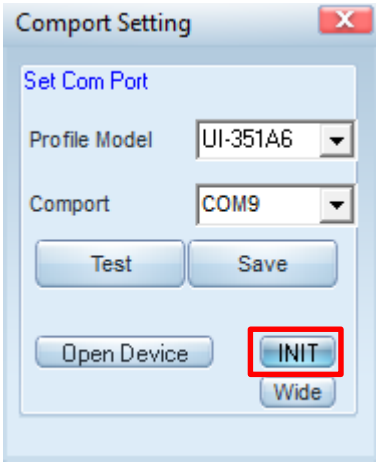
⑤ Click the Save button and then the Test button



⑥ If the Communication is successful, the message “Link True” is displayed

SetINI

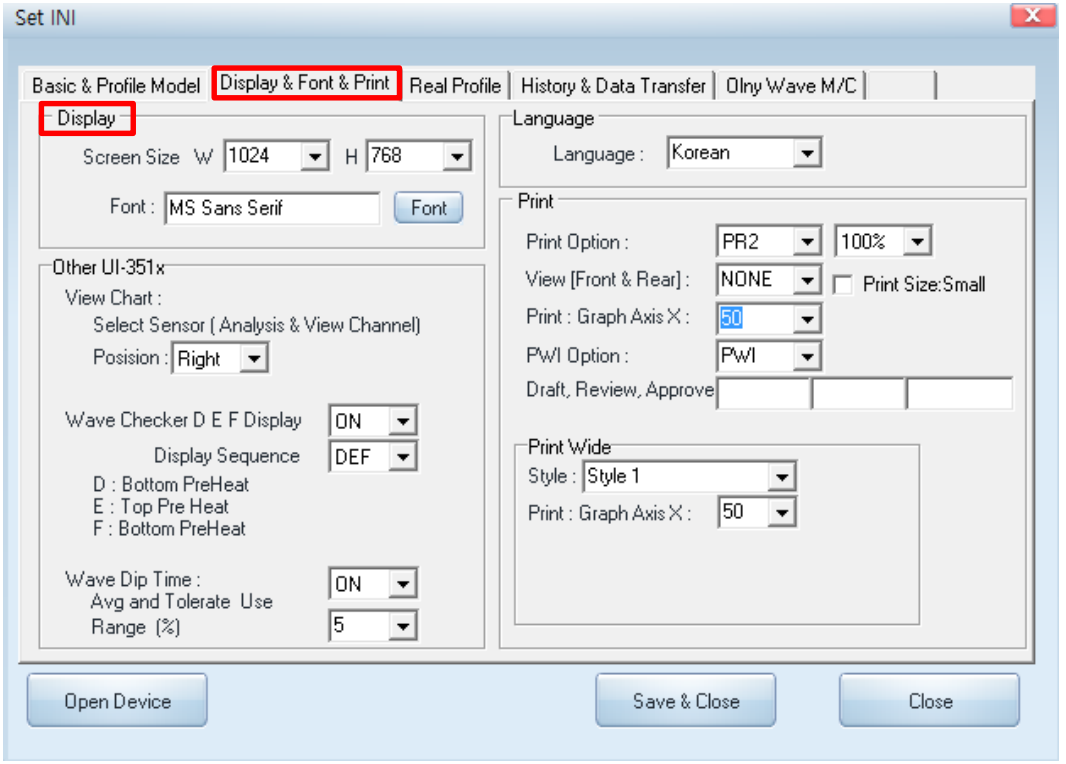
○ How to find a communication port



○ INIT : Factory reset button

SetINI

○ Display & Font & Print – Display



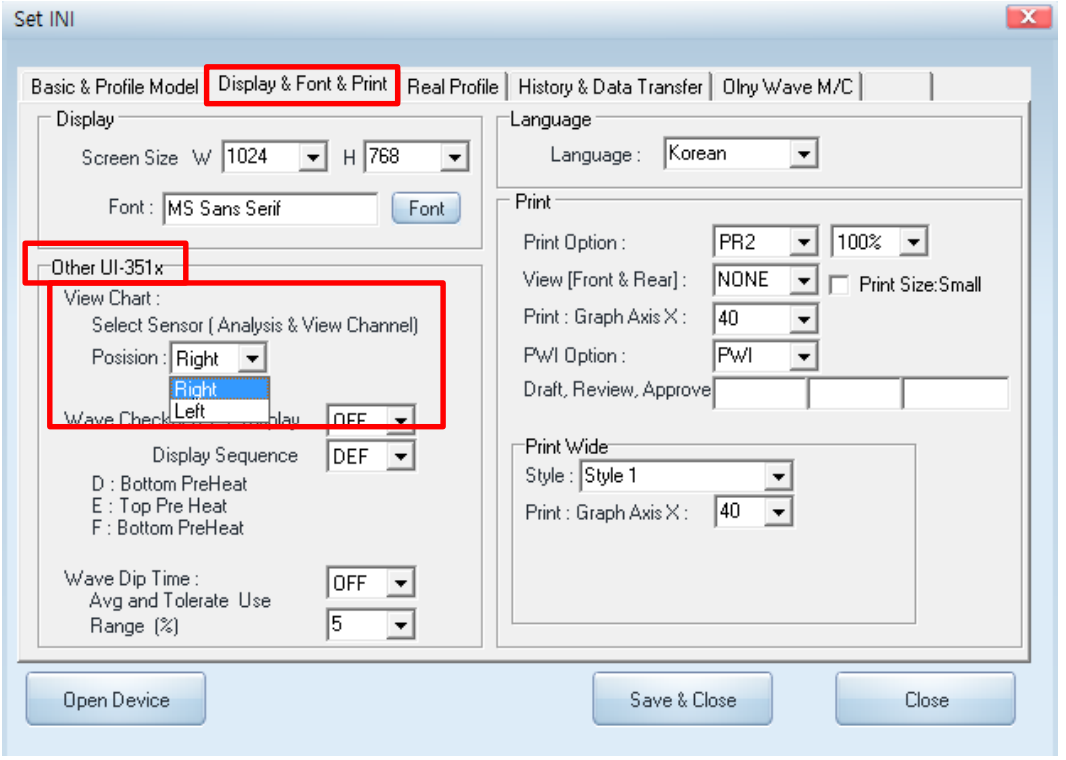
– Display & Font & Print –

– Display (Display Menu) –

Screen Size : Setting W(width) and H(height) of profile view
Font : Font option

SetINI

○ Display & Font & Print – Other UI-351x – View Chart



– Display & Font & Print –

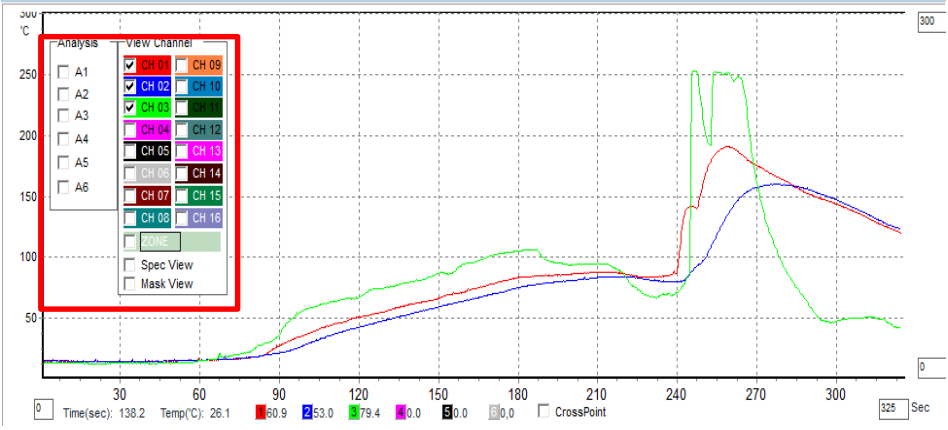
– Other UI-351x (Other version menu) –

Posison : Position setting of the Analysis and View Channel

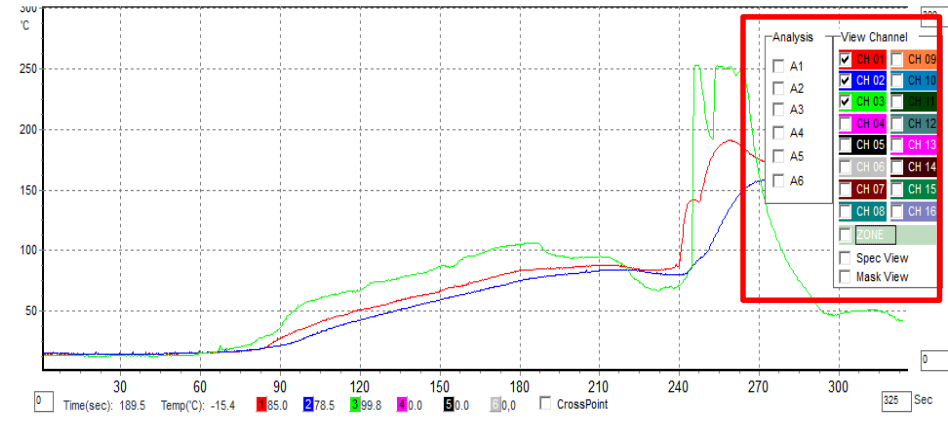
SetINI

○ Display & Font & Print – Other UI-351x – View Chart

Left



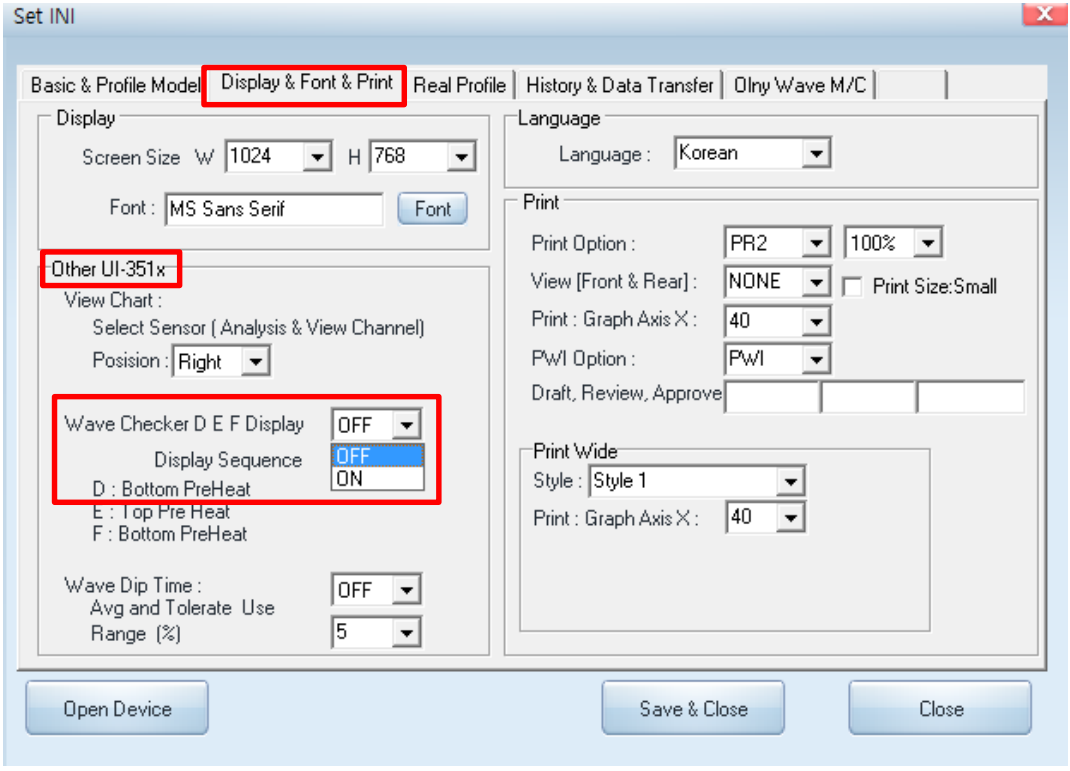
Right



Sensor selection menu Left/Right setting

SetINI

○ Display & Font & Print – Other UI-351x – Wave Checker D E F Display



– Display & Font & Print –

– Wave Checker D E F Display (D,E,F channel display option) –

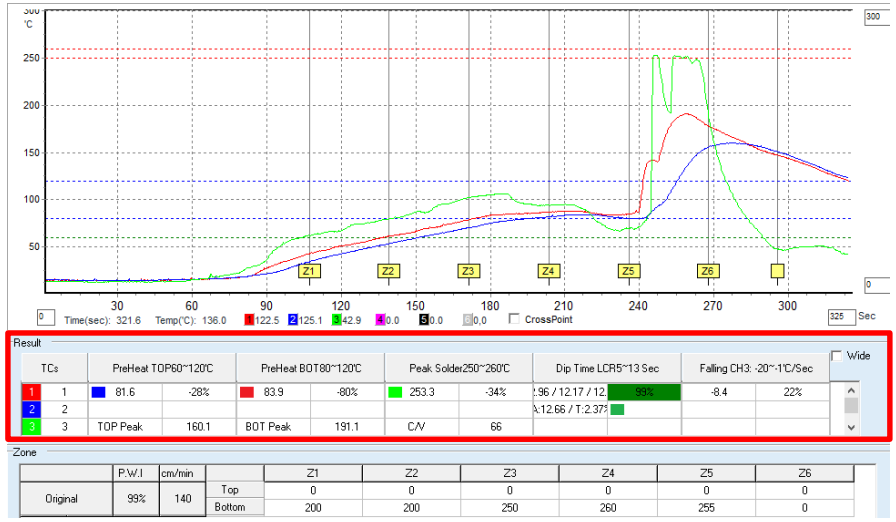
ON : D,E,F channel ON on profile view
OFF : D,E,F channel OFF on profile view

Explanations for Program(Preferences)

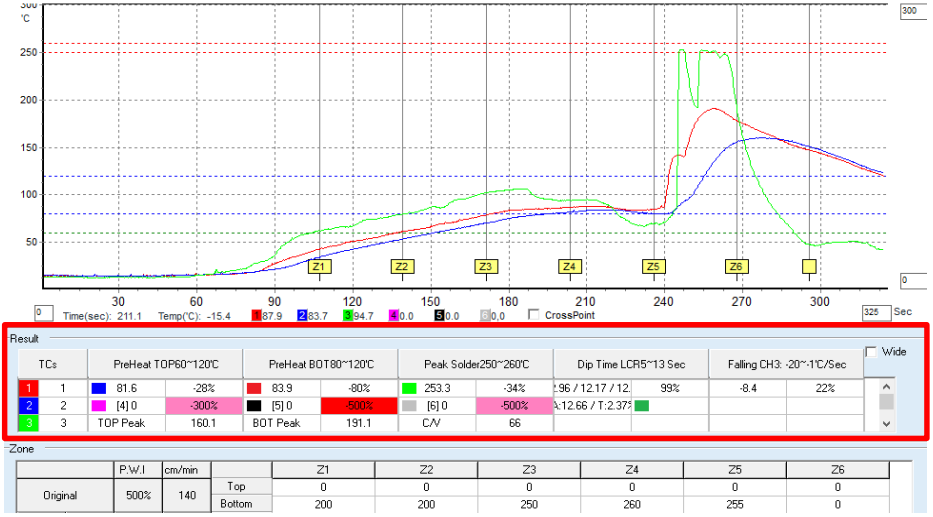
SetINI

○ Display & Font & Print – Other UI-351x – Wave Checker D E F Display

OFF



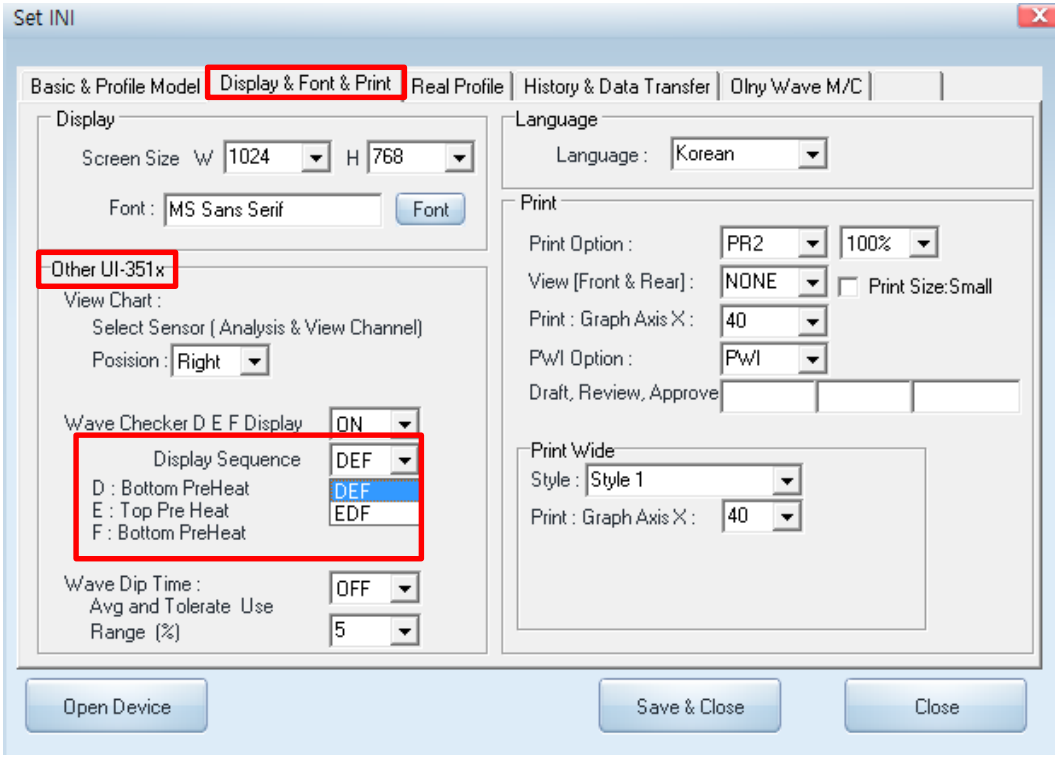
ON



Turn on and off the D,E,F channels in addition to the A,B, and C Channels you are using

SetINI

○ Display & Font & Print – Other UI-351x – Wave Checker D E F Display



– Display & Font & Print –

– Wave Checker D E F Display (D,E,F channel display option) –

DEF : Display in order of D,E,F channels
(E,F channel Top/D channel Bottom)

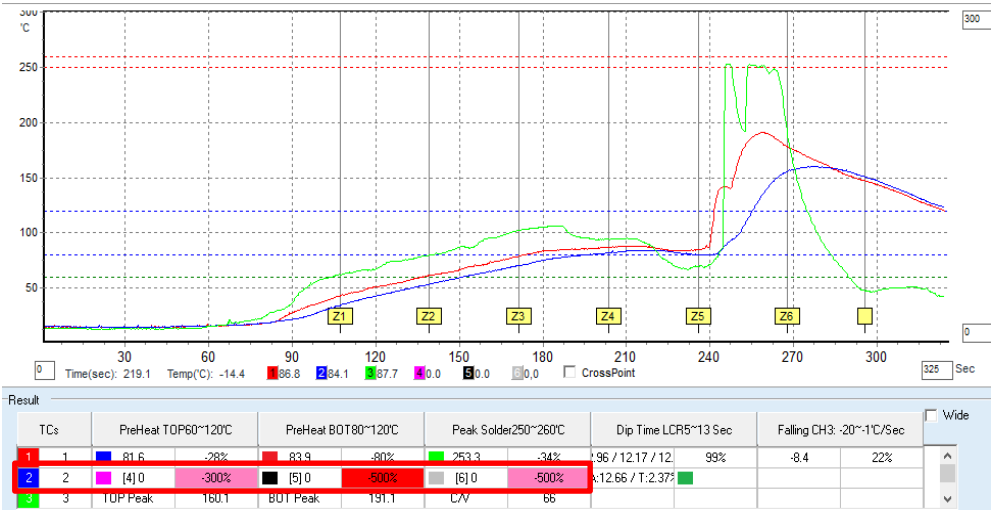
EDF : Display in order of E,D,F channels
(E,F channel Bottom/D channel Top)

Explanations for Program(Preferences)

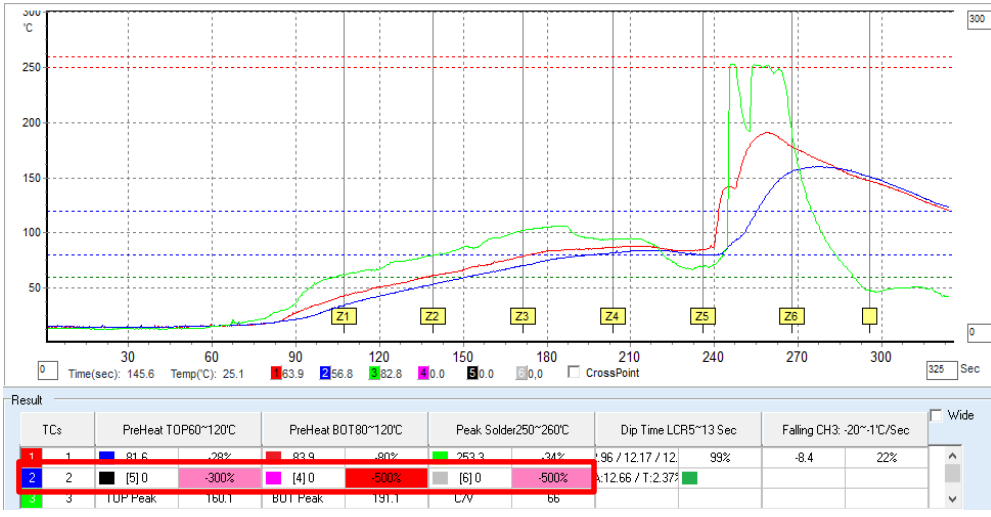
SetINI

○ Display & Font & Print – Other UI-351x – Wave Checker D E F Display

DEF



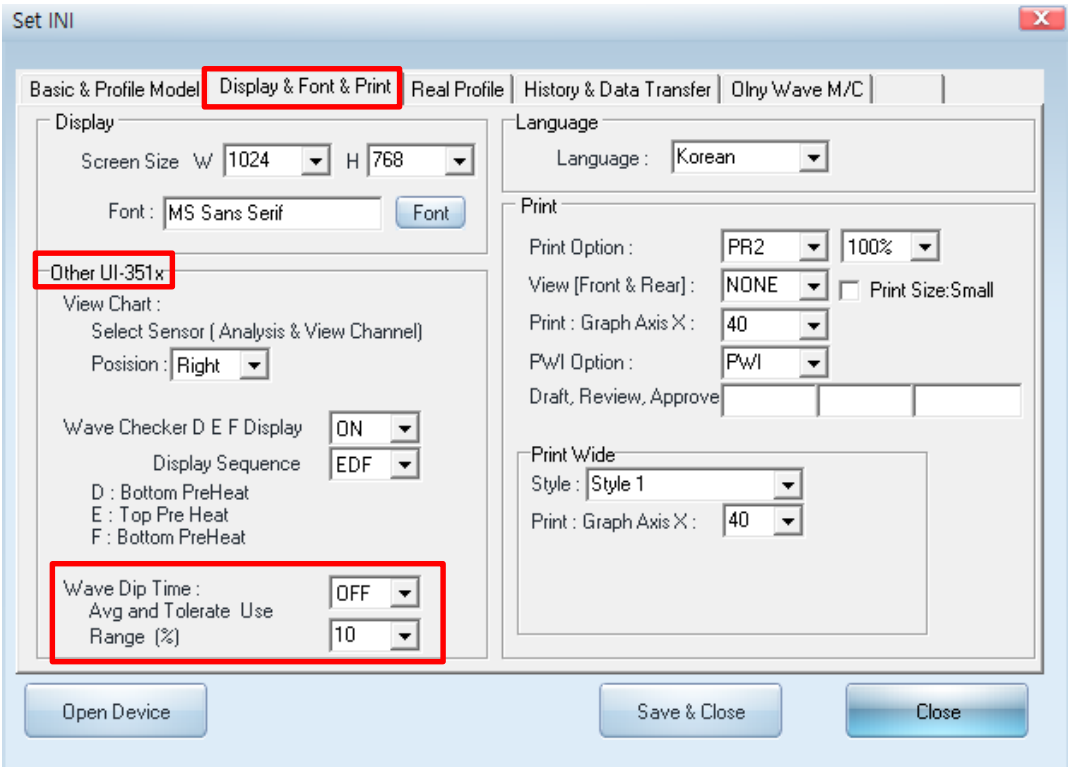
EDF



Set DEF, EDF channel order when D,E,F channel function is ON

SetINI

○ Display & Font & Print – Other UI-351x – Wave Dip Time



– Display & Font & Print –

– Wave Dip Time (Average value of Wave Dip Time,
Whether Torrance value is displayed or not) –

ON : Average value display of Wave Dip Time in Profile view ON
(※ To activate the Wave Dip Time average function, you must set the Dip Time option to ALL in the Spec setting

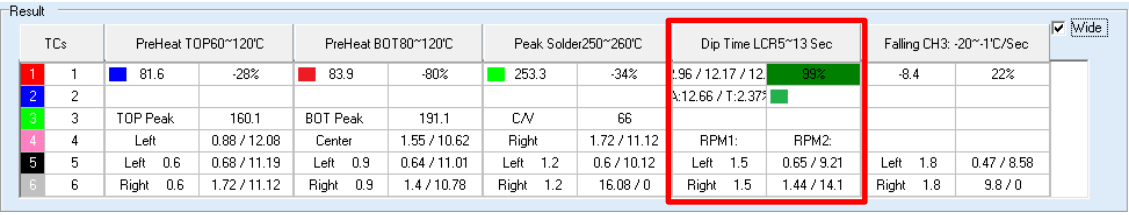
OFF : Average value display of Wave Dip Time in Profile view OFF

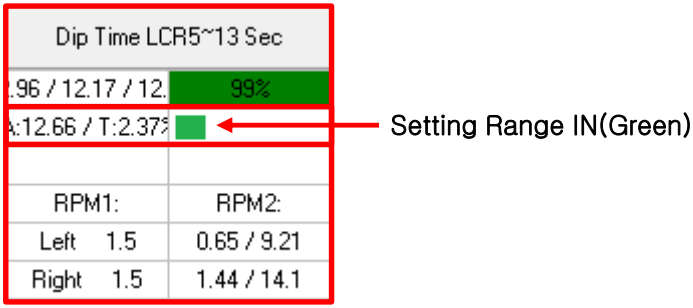
Range(%) : Refers to the range of the longest Wave Dip Time in the measurement data and the average value of the Wave Dip Time if the set range is exceeded, a warning message(red) is displayed

Explanations for Program(Preferences)

SetINI

○ Display & Font & Print – Other UI-351x – Wave Dip Time





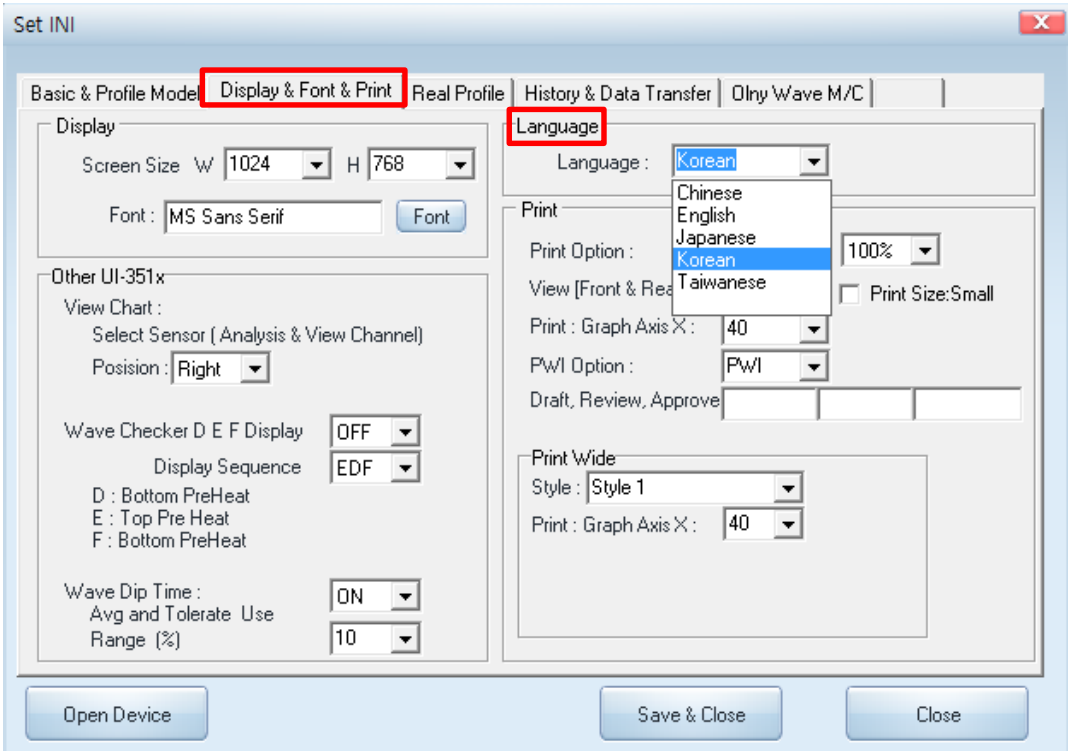
Measurement = Wave dip time 12.96 / 12.17 / 12.84

Average(A) = 12.66

Torrance(T) = 2.37% (%Range of 12.66 and 12.96)
※12.66 = 100%

SetINI

○ Display & Font & Print – Language

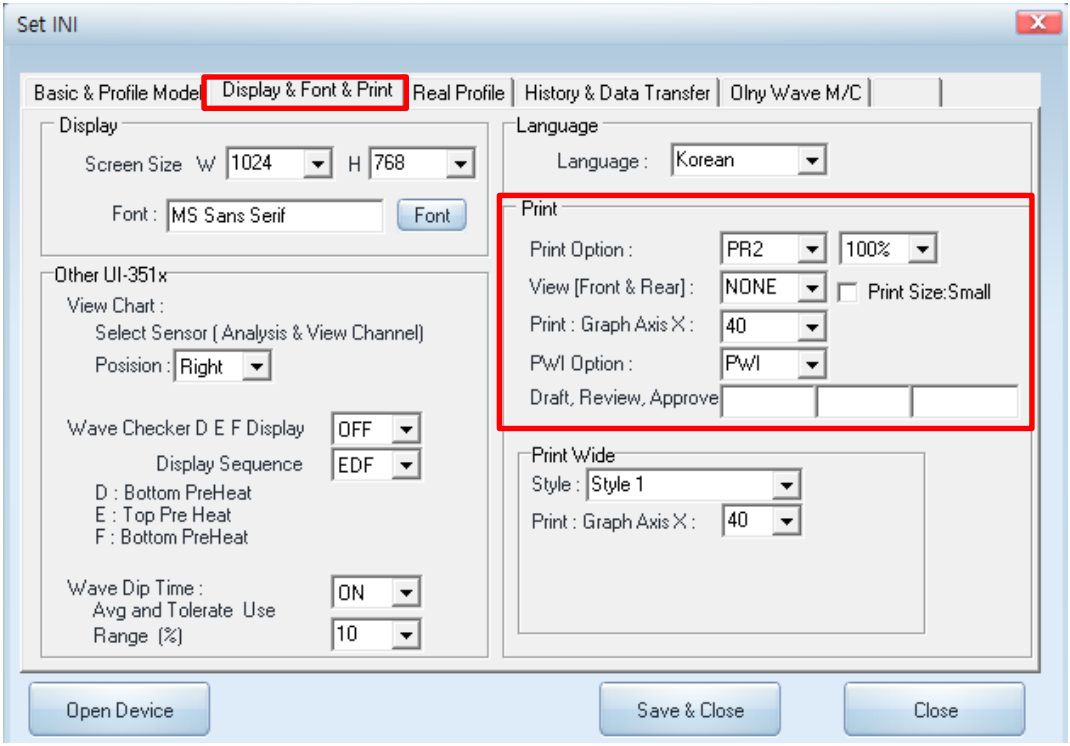


– Language (5 kinds of language support) –

English
Korean
Chinese
Taiwanese
Japanese

SetINI

○ Display & Font & Print – Print



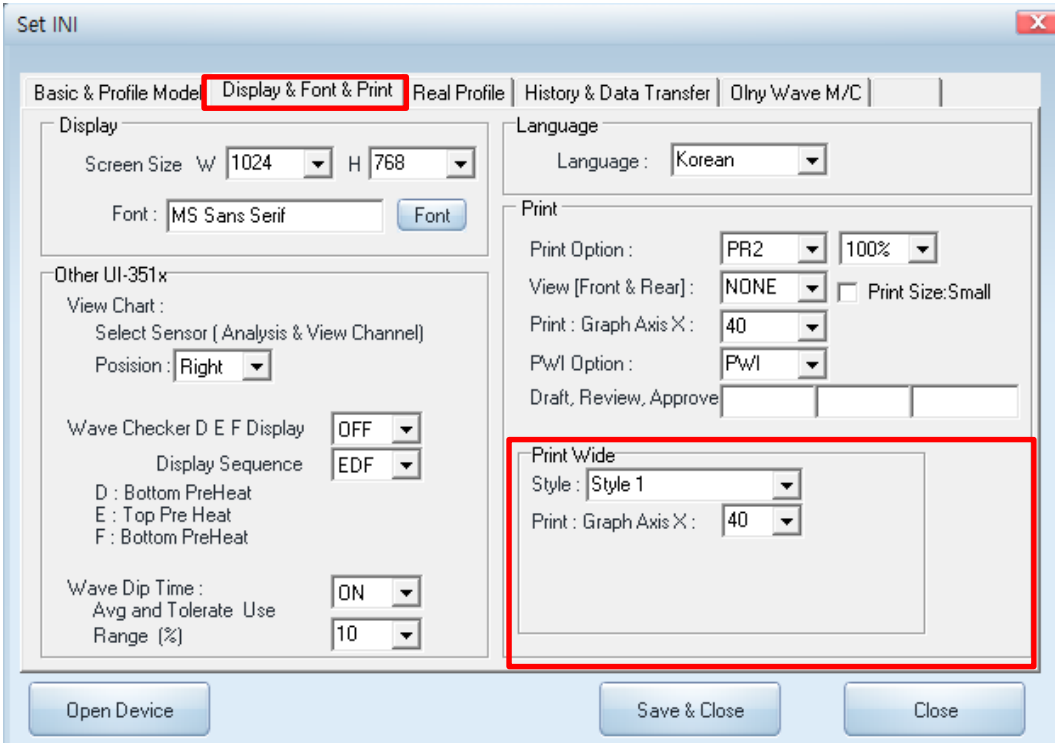
– Display & Font & Print –

– Print (Print Settings) –

Print Option : Use to PR2 (Wave set to PR2)
View[Front & Rear] : Front / Rear display when printout (Wave set to None)
Print : Graph X :
Print : Graph X : Parameter of temperature on graph
10 units ex) 10, 20, 30, …
50 units ex) 50, 100, 150, …
PWI Option : Only reflow option (Wave set to PWI)
Draft. Review.Approve : Enter the responsible verifier name

SetINI

○ Display & Font & Print – Print



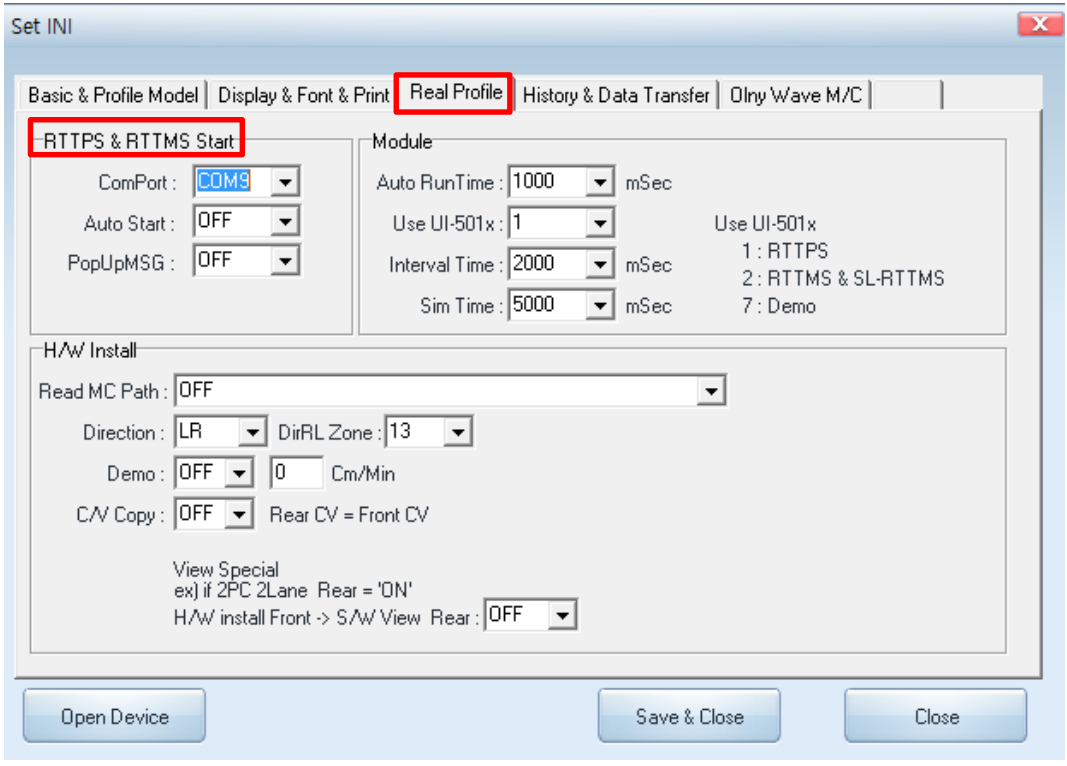
– Display & Font & Print –

– Print (Print Style Settings) –

Style : Only Style 1
Print : Graph Axis X : Parameter of temperature on graph
10 units ex) 10, 20, 30, …
50 units ex) 50, 100, 150, …

SetINI

○ Real Profile – RTTPS & RTTMS Start



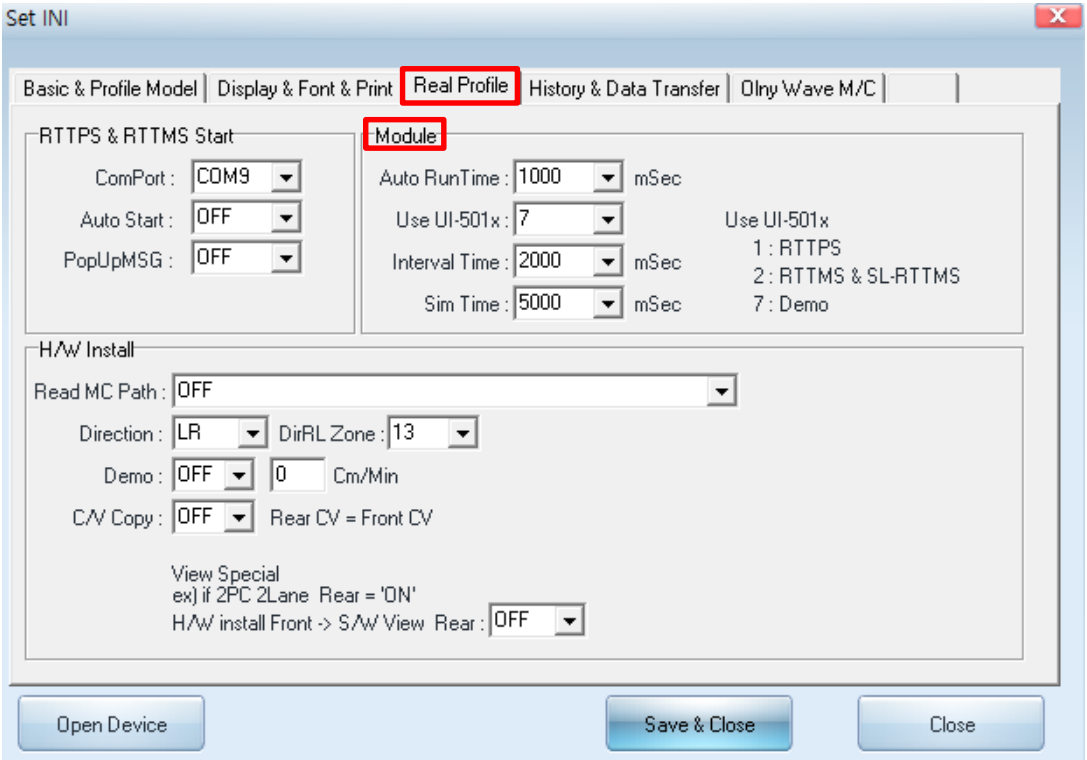
– RTTPS & RTTMS Start (Main controler option menu [RTTPS Mode])–

ComPort : Setting the communication port connected between the main controller and the reflow PC **(Disable in Wave)**

Auto Start : Set whether to start data transfer between main controller and reflow PC (※ Disable 'Viewstate' menu and 'RealProFile' menu when set to OFF) **(Disable in Wave, set to "OFF")**

SetINI

○ Real Profile – Module



- Real Profile-

- Module (Real-time main controller communication settings menu [RTTPS Mode]) -

Auto Run Time : When communicating with the real-time module, if there is no signal of the module, the interval of time to retry of communication **(Disable in Wave)**

Ex) 1000msec : Transmits the signal every second

Use UI-501x : Set the type of real-time module (UI-501x). (Wave is set to **NO.0**)

0 : Not using real-time (Set to **No.0** when using Wave Only)

1 : RTTPS (Normal UI-501)

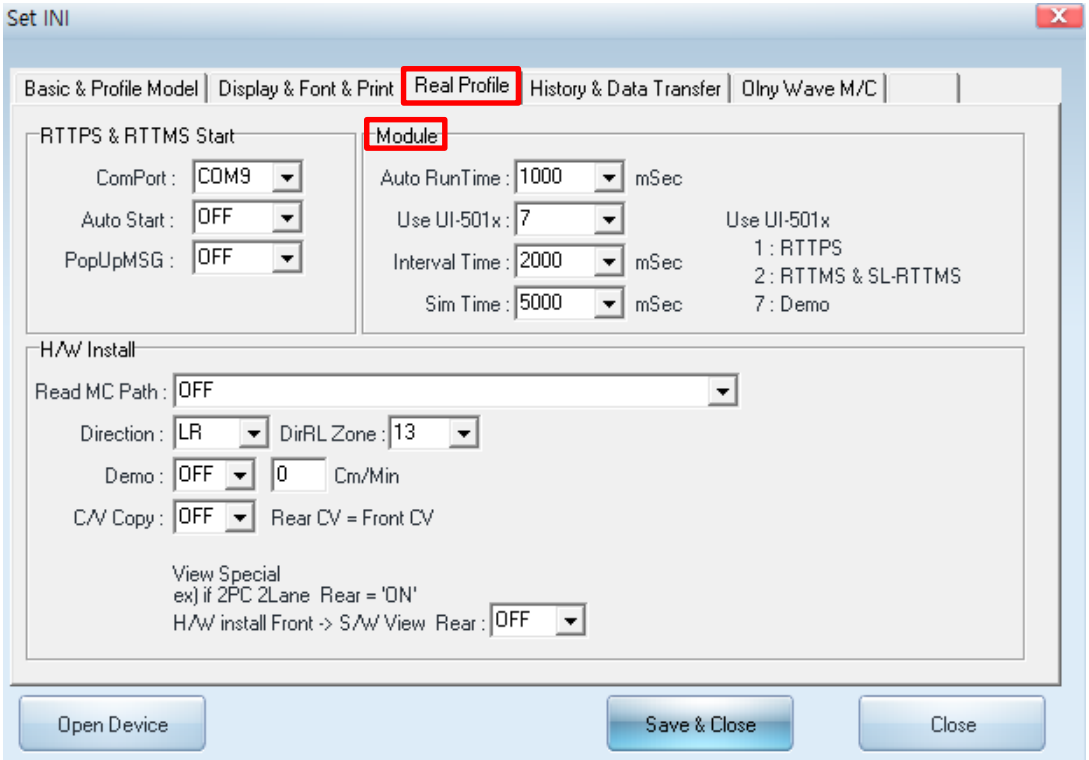
2 : RTTPS & SL-RTTMS (Real-Time version of HELLER equipment)

7 : Demo version

Explanations for Program(Preferences)

SetINI

○ Real Profile – Module



- Real Profile-

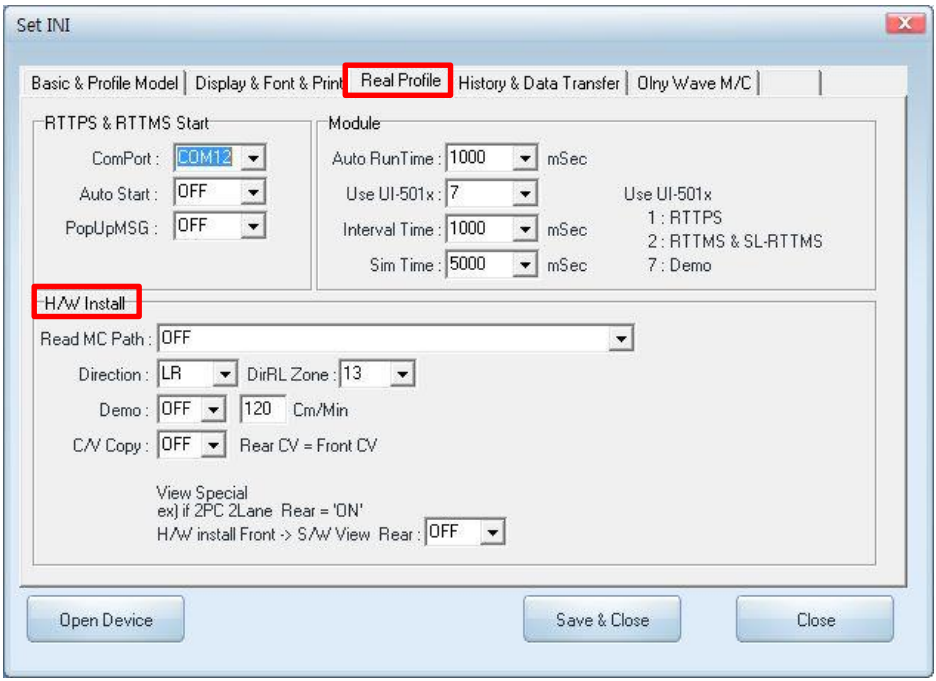
- Module (Real-time main controller communication settings menu [RTTPS Mode]) -

Interval Time : When real-time communication with the module, transmission signal interval **(Disable in Wave)**
[Ex) 1000msec : Transmitting a signal every] second

Sim Time : Interval between incoming signal from rear-time module **(Disable in Wave)** the data is saved in the **file C:₩2010_RTTP₩sdata의 Rx_2016-10-25.txt** after one day, the file **Rx_2016-10-26.txt** is created the data received from the real-time module is stored at the set time interval

SetINI

○ Real Profile – H/W Install



- Real Profile-

- H/W Install ([RTTPS Mode]) -

Read _MC_Path : HELLER reflow machine option

Direction : The traveling direction setting of the equipment
(Left→Right : LR, Right→Left : RL)

DirRL : The total number of species reflow machine
(Cooling zone+ Heating zone)

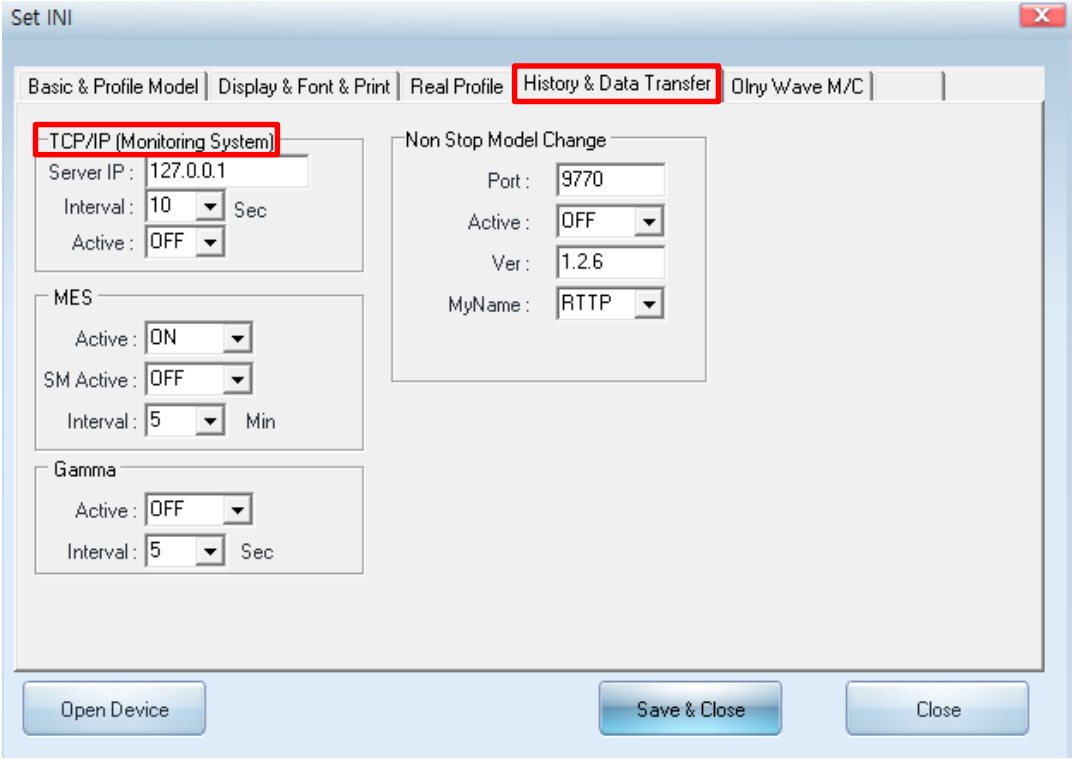
Demo : Without conveyor sensor connected to the main program,
the virtual operating temperature sensor option.

C/V Copy : Show a conveyor sensor connected to the rear to
the front

H/W intall Front -> S/W View Rear : 2PC 2LINE is set to Front only in real-time,
but it is set when you want to see data of
specific PC in the filed as Rear

SetINI

○ History & Data Transfer – TCP/IP (Monitoring System)



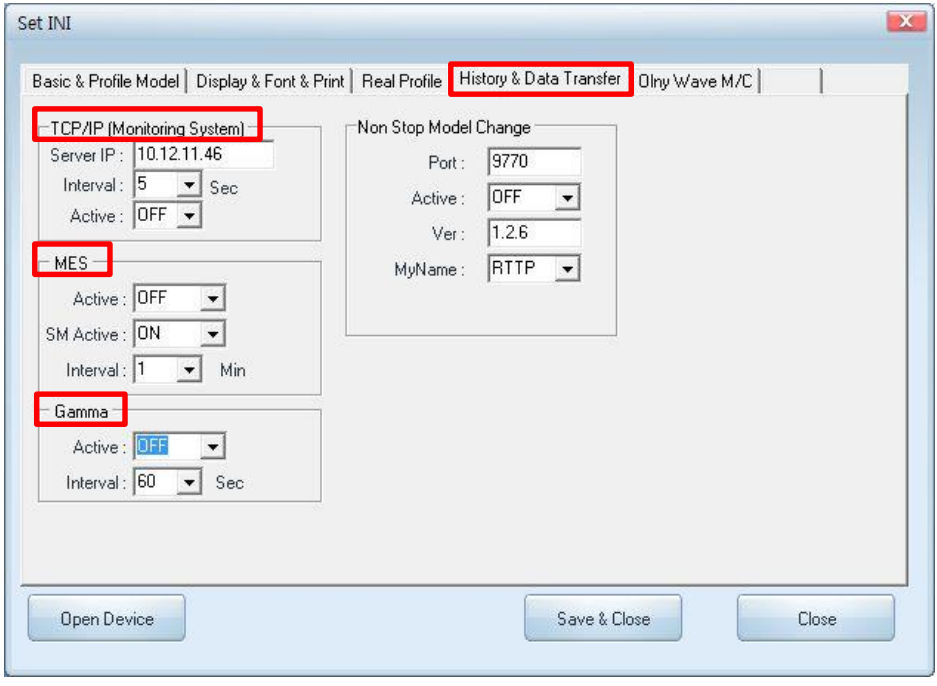
- History & Data Transfer-

- TCP/IP (Menu related to using RTTPS server [RTTPS Mode) -

Server IP : Enter the IP address of the PC to be used as the server
Interval : Setting the data transmission rate
Active : Decide whether to use TCP/IP

SetINI

○ History & Data Transfer – MES, Gamma



– History & Data Transfer–

– MES (SamSung MES System only menu [RTTPS Mode]) –

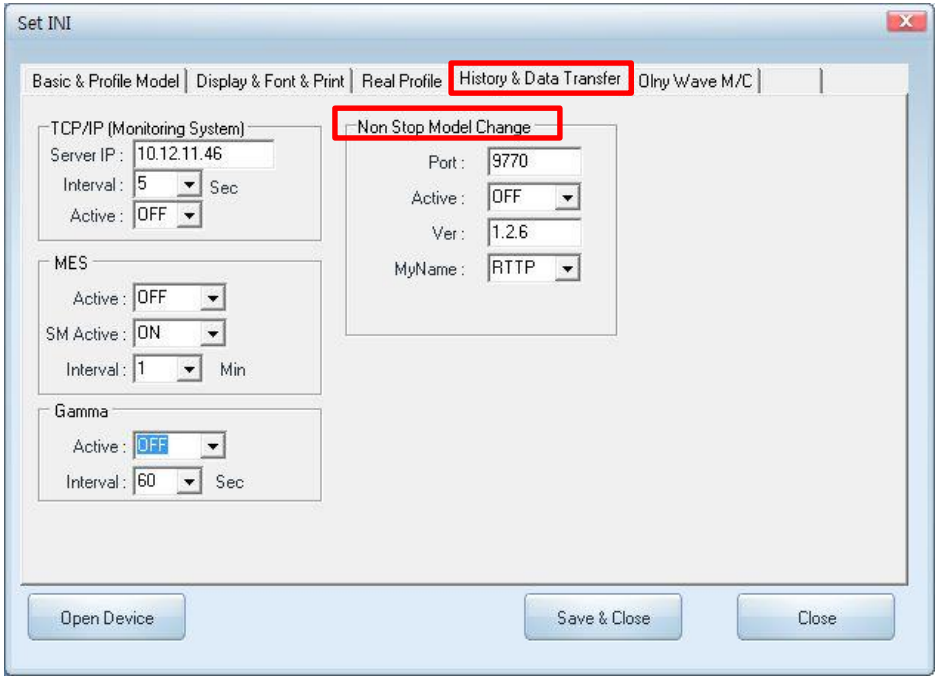
(Disable in Wave)
Active : Enable or disable the MES menu
Interval : Setting the baud rate

– Gamma (SamSung Gamma System only menu [RTTPS Mode]) –

Active : Enable or disable the Gamma menu
Interval : Setting the baud rate

SetINI

○ History & Data Transfer – Non Stop Model Change



– History & Data Transfer–

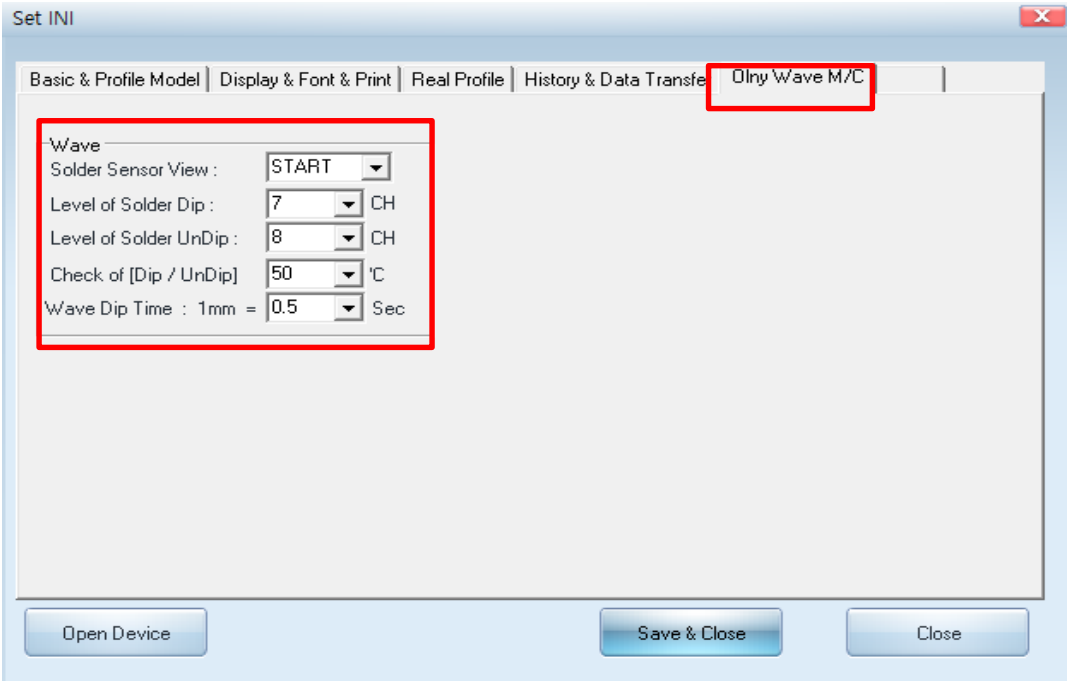
– Non Stop Model Change (Samsung System Only menu [RTTPS Mode]) –

(Disable in Wave)
Port : Enable or disable Gamma menu (Set Transfer Port)
Active : Enable or disable the Non Stop Model Change menu
Ver : Version of model
MyName : Set to name

Explanations for Program(Preferences)

SetINI

○ Only Wave M/C – Wave



- Only Wave M/C-

- Wave (Only Wave-Realtime, Disable in Handy Wave [RTTPS Mode]) -

Solder Sensor View : Whether or not to display the solder sensor from the beginning, setting whether to display from the solder port

Level of Solder Dip : Bottom channel setting of the level of the solder sensors in real-time wave

Level of Solder UnDip : Top channel setting of the level of the solder sensors in real-time wave

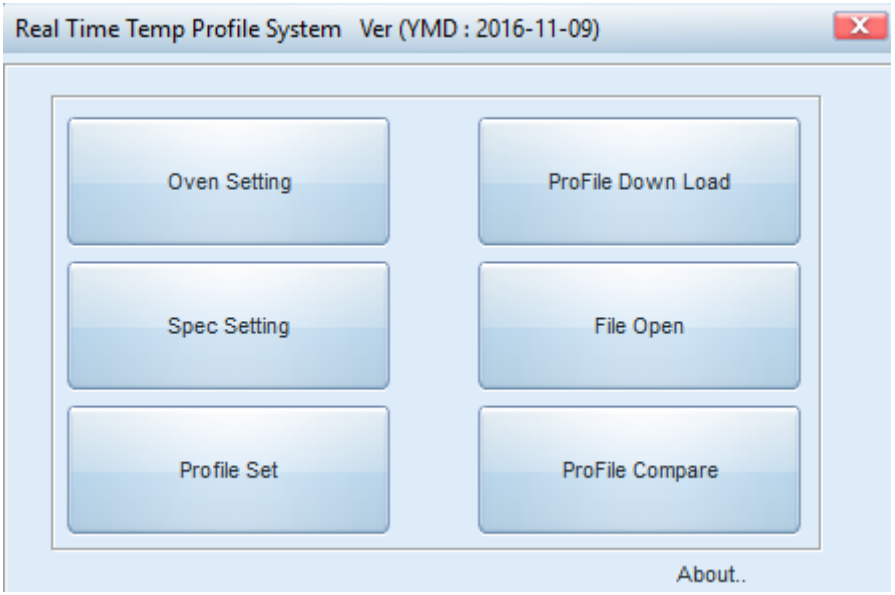
Check of (Dip/UnDip) : Set the temperature difference between the solder sensor top/ bottom the level in real-time wave

Wave Dip Time : 1mm : Set how much such of the distance sensor 1mm from the real-time waveform is changed dip time (However, the center value only to the calculation)

Explanations for Program(Main)

Program initial screen

○ Main Screen Menu Description(Ver : YMD : 2016-11-09)



– Explanation for Menu –

Oven Setting : Conditions of Wave Equipment and Setting of Real-time Module

Profile Down Load : Download measured data

Spec Setting Set good range of production model

File Open : Load profile data that was saved when downloading

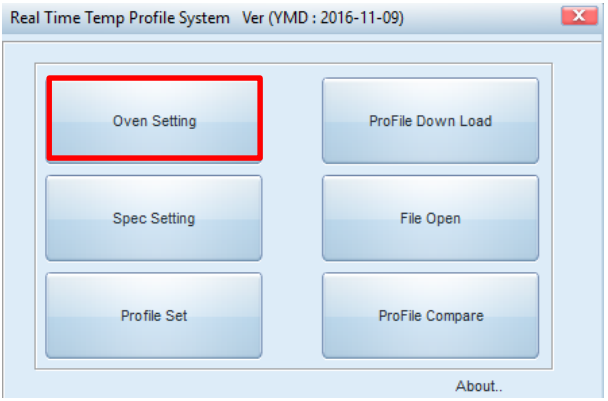
Profile Set : Enter basic information for the current profile

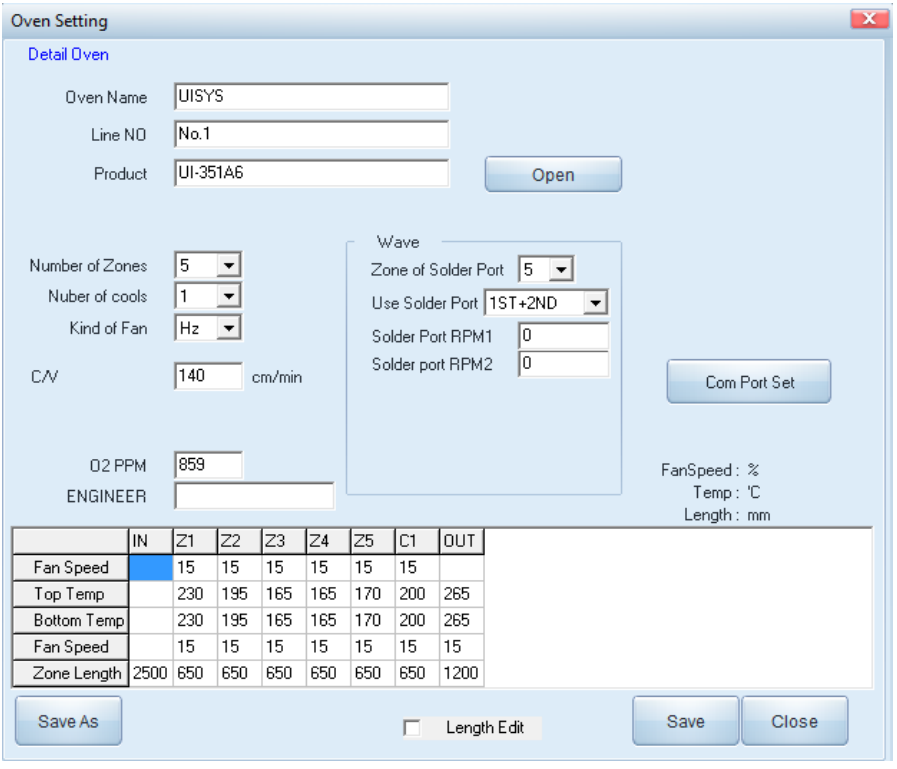
ProFile Compare : Different profile data can be compared

Explanations for Program(Oven Setting)

Oven Information

○ Oven Setting

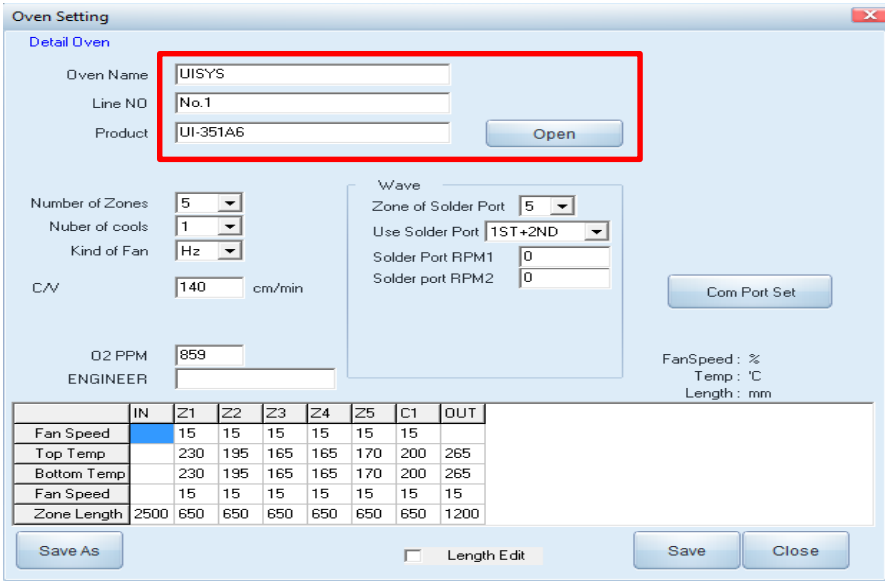




Explanations for Program(Oven Setting)

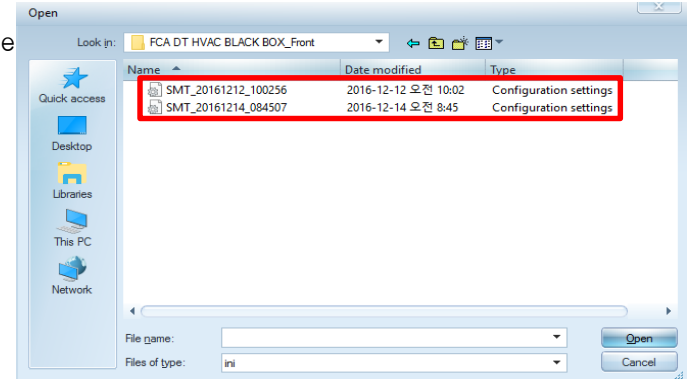
Oven Information

○ Oven Setting – Detail Oven



Oven Name : Name of Reflow Oven
Line NO : Line Number
Product : Product model Name
(Ex. PCB_1.0.3)

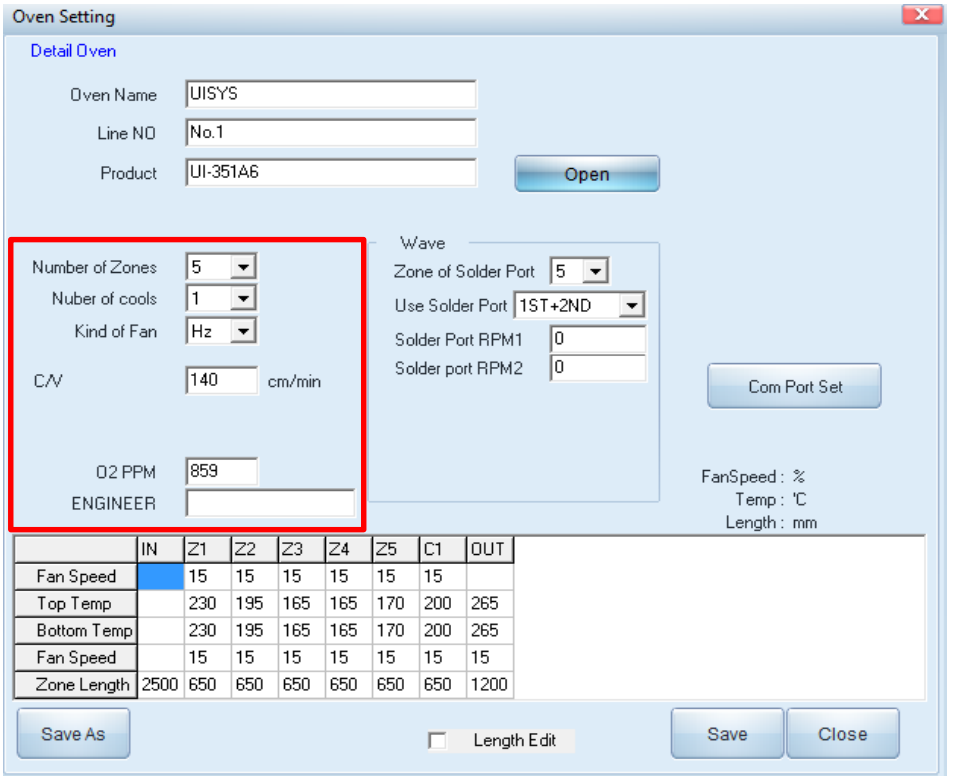
Open :
You can load the saved Settings
(As shown on the right)



Explanations for Program(Oven Setting)

Oven Information

○ Oven Setting – Detail Oven



Number of Zone : Number of heating zone

Number of Cools : Number of cooling zone

Kind of Fan : Units of the heater fan speed

C/V : Type of fan speed(Hz, %, rpm. Setting to generally Hz)

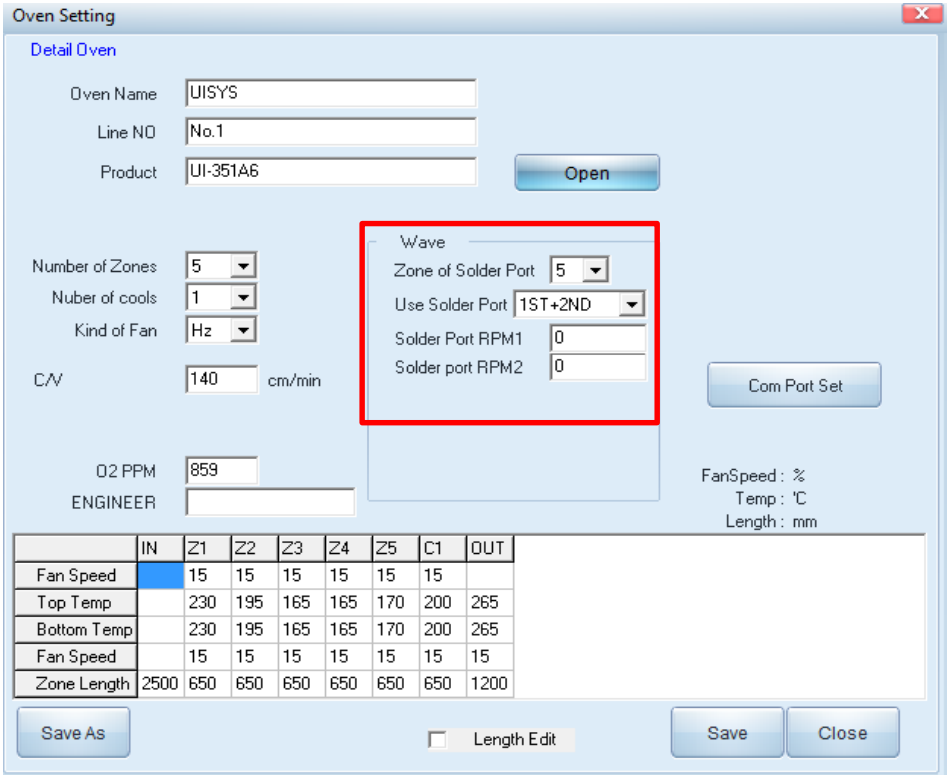
O2 PPM : Oxygen concentration being managed

ENGINEER : Name of machine manager

Explanations for Program(Oven Setting)

Oven Information

○ Oven Setting – Detail Oven – Wave



– Wave (Setting to Real-time wave) –

Zone of Solder Port : Zone location of solder port

Use Solder Port : Number of using solder port

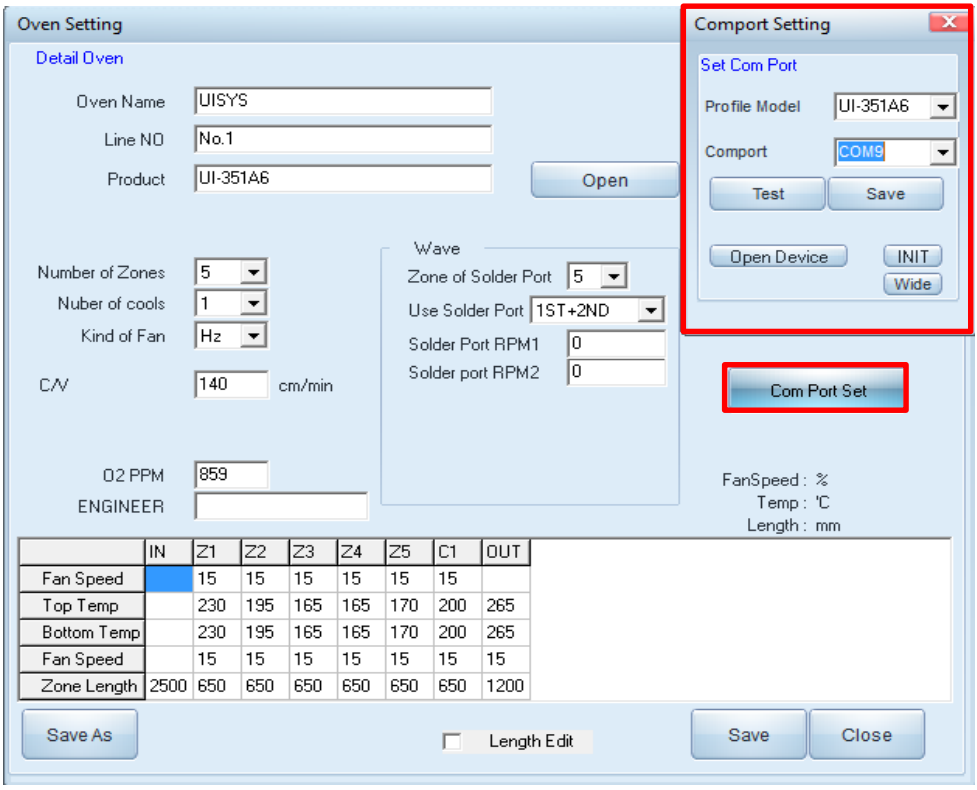
Solder Port RPM1 : First solder port impeller RPM

Solder Port RPM2 : Second solder port impeller RPM

Explanations for Program(Oven Setting)

Oven Information

○ Oven Setting – Detail Oven – ProFile Com Set

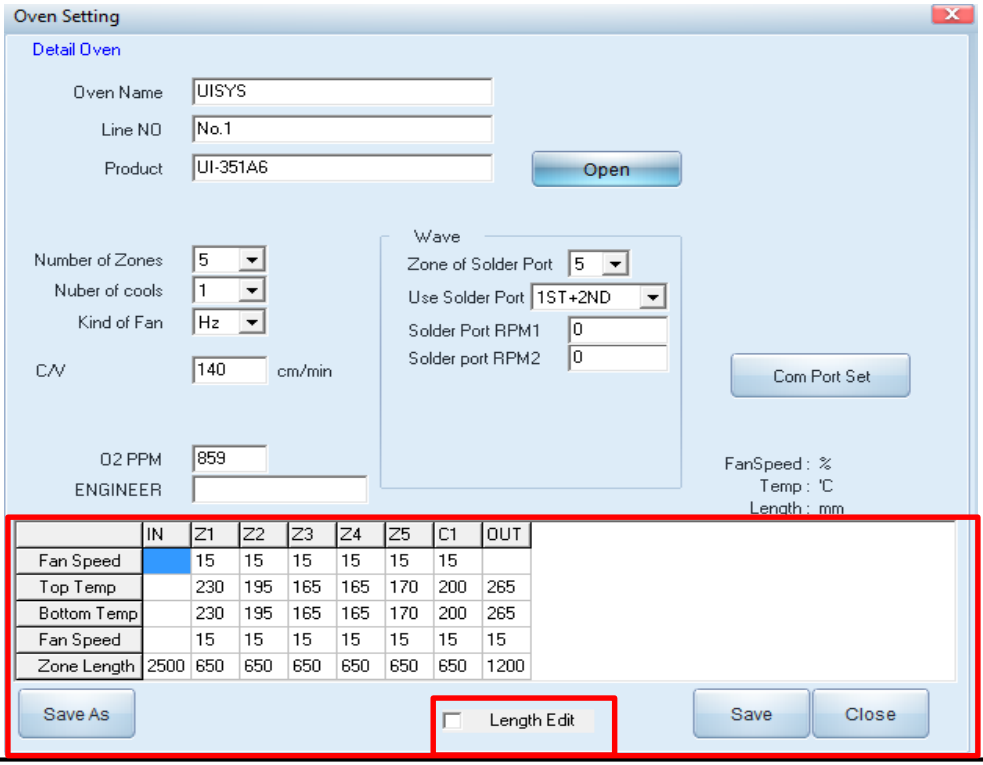


– Profile Com Set (Profile communication menu [14~16 page]) –

Profile Model : Profile setting to use for measurements (Set to UI-351A6 or UI-351A)
Comport : Set of ports that are connected to the Profiler
Test : Communication test with Comport and profiler
Save : Save profiler model and Comport
* Press Save button and Press Test button
* When a successful connection “Link True”
Open Device : Shortcut Opendevice (Comport for confirmation)
INIT: Profiler factory reset button

Oven Information

○ Oven Setting – Detail Oven – Edit Oven Length



– Edit Oven Length (Edit reflow length in use) –

Fan Speed : Fan speed of top

Top Temp : Temperature of heater of top

Bottom Temp : Temperature of heater of bottom

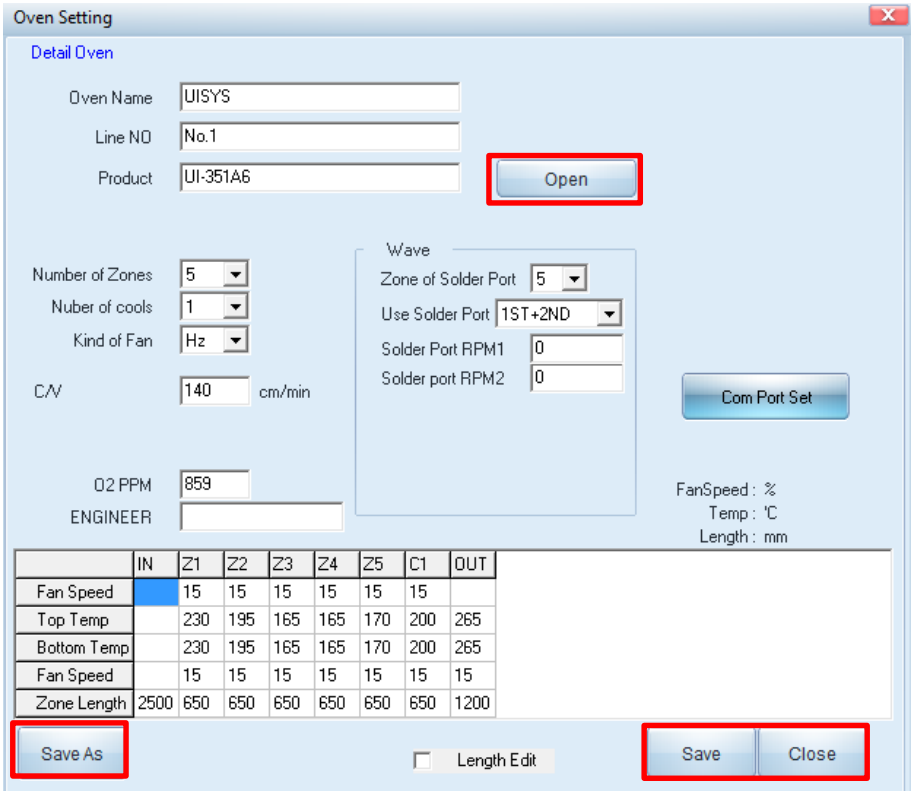
Fan Speed : Fan speed of bottom

Zone Length : The length of the zone, the first IN value measures the distance from the photo sensor recognition area to the Z1 entry point depending on the change in the value, the measured value of the C/V speed may be affected
To modify the length “Length Edit” must be checked

Explanations for Program(Oven Setting)

Oven Information

○ Oven Setting – Detail Oven – Button Description (Open, Save As, Save, Close)



– Button Description (Open, Save As, Save, Close) –

Open : Pressing the "Open" button brings up the previously saved Wave Setting

Save As : Pressing the "Save As" button, the setting value displayed on the current screen is saved as file

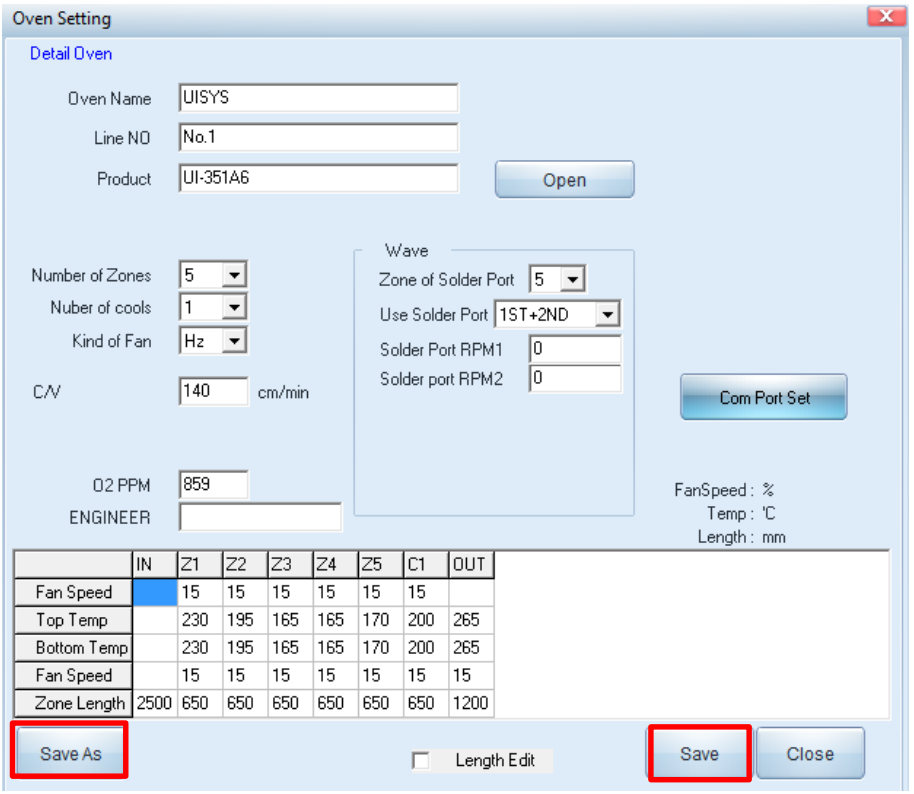
Save : Pressing the "Save" button use the current setting on the screen

Close : Close the current status screen (If the imported contents are not correct, or if you click the 'Close' button without pressing the 'Save' or ' Save As' button after modifying the information values go back to before editing)

Explanations for Program(Oven Setting)

Oven Information

○ Oven Setting – Detail Oven – Button Description (Save As, Save)



Oven Setting -> Save button

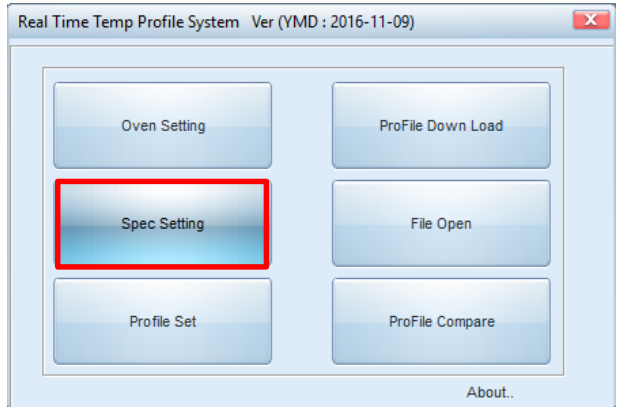
Create the folder that named following 'Front Product' at 'C:₩2010_RTTPS₩Profile' through push the 'SAVE' button.

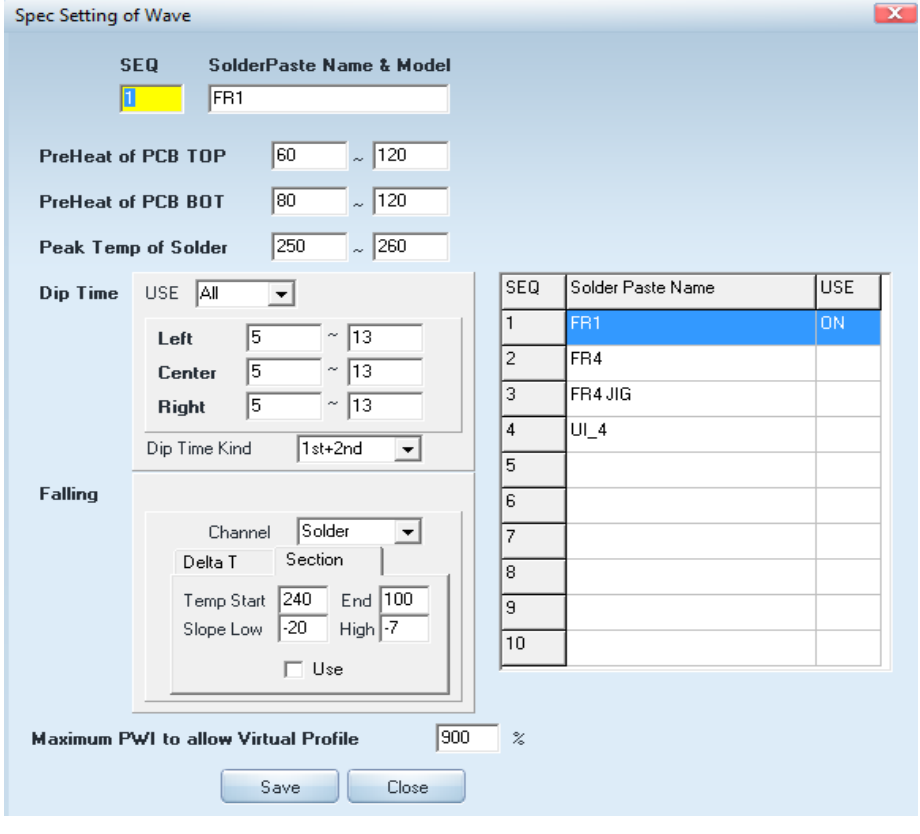
○ Oven Setting -> SAVE AS button

Create the '.INI file' that include input values on 'Oven Setting' into the folder that named following 'Front Product' at 'C:₩2010_RTTP₩Profile' through push the 'SAVE AS' button.

Spec Setting of Wave

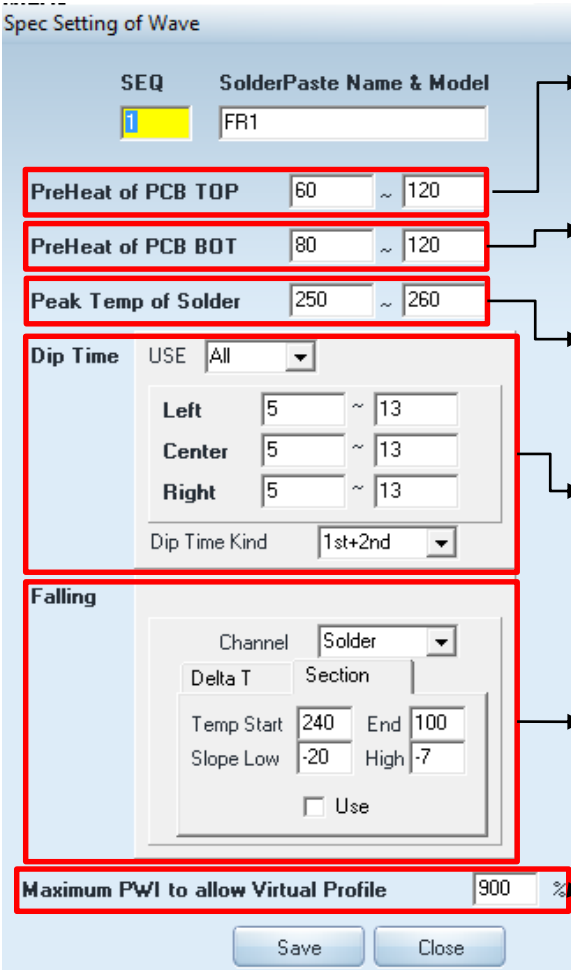
○Spec Setting of Wave





Spec Setting of Wave

○ Spec Setting of Wave



PreHeat of PCB TOP :
PCB preheat top surface temperature

PreHeat of PCB BOT :
PCB preheat bottom surface temperature

Peak Temp of Solder :
Solder port temperature

Dip Time
1. Center : Measure the central Dip Time
2. All : left, center, right, measure each Dip time

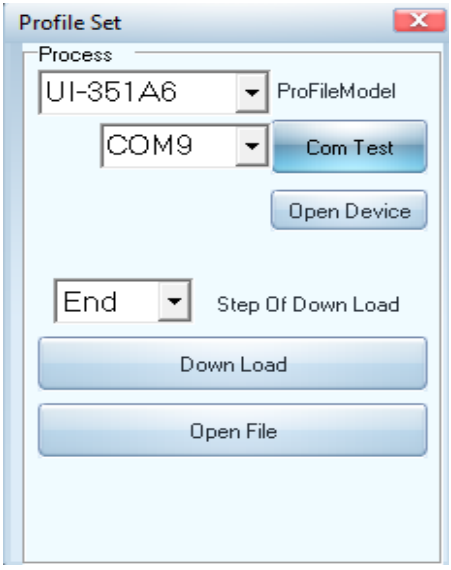
Falling :
Section after solder port

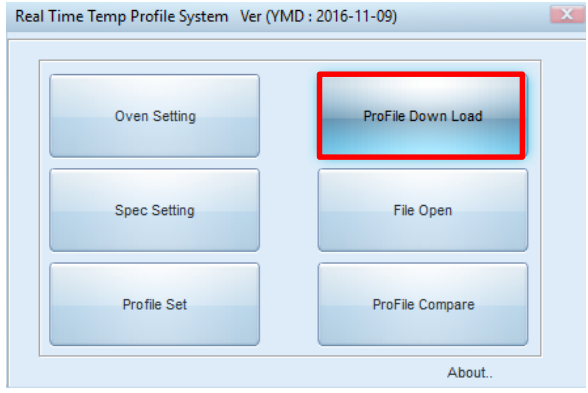
실시간 프로파일에서 사용될 PWI최대값
Maximum PWI value available for Real-Time Profiler

1. Delta T type
   Measurement method of average temperature change per second in 20 sec interval where the temperature change of the falling section is greatest
2. Section type
   Measurement of average temperature change per second within the specified temperature range

ProFile Down Load

○ ProFile Down Load – Profile Set





– ProFile Set –

ProFile Model : Select the profile model to use (UI-351A6)

Com Test : Confirm communication link between Pc and Profiler

Open Device : Device Manager shortcut

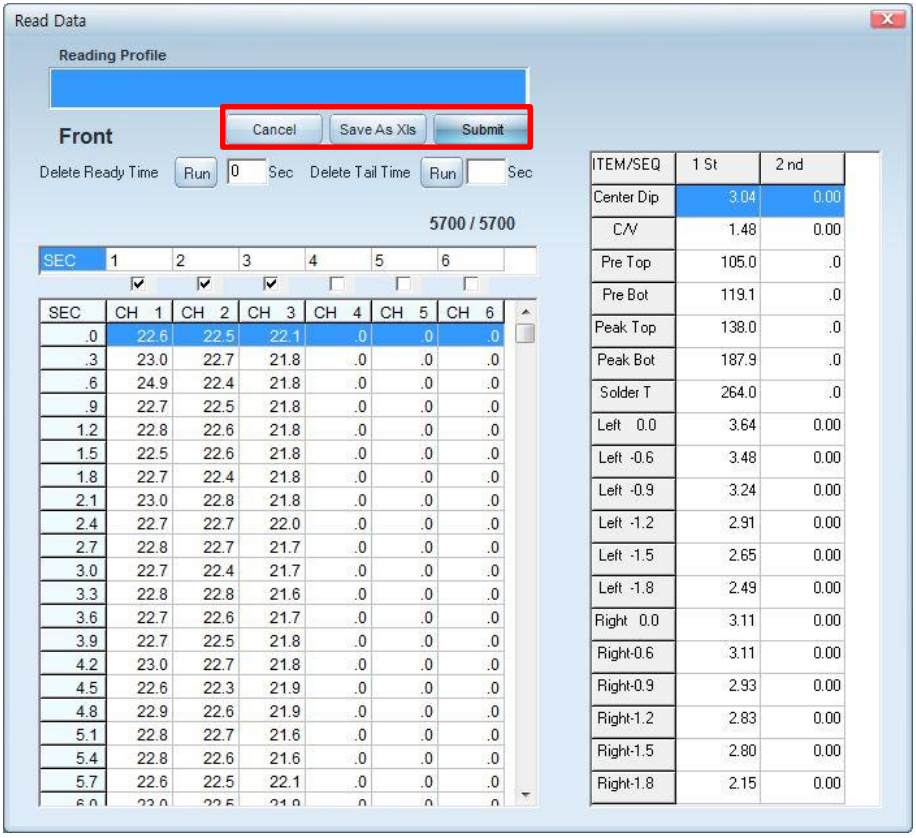
Step Of Down Load : Internal data stored in Profiler (Can store up to 5 times)

Down Load : Download data stored in Profiler

Open File : Used to load saved data (.3ui file)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Read Data

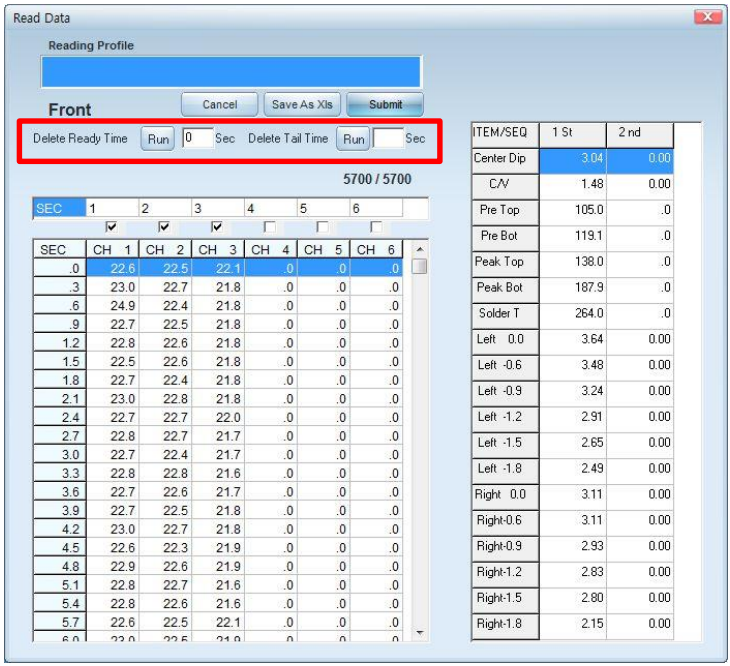


Save As Xls : Save the downloaded data as an Excel file

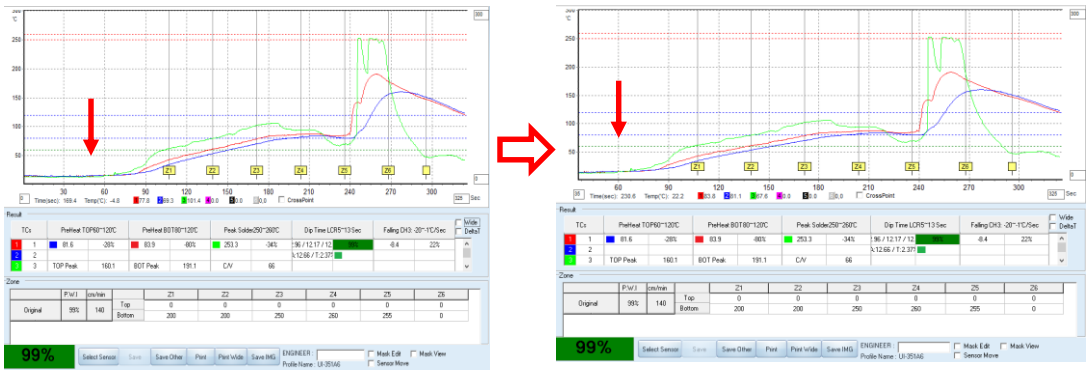
Submit : Graph the downloaded data (Click to go to Profile View)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Read Data



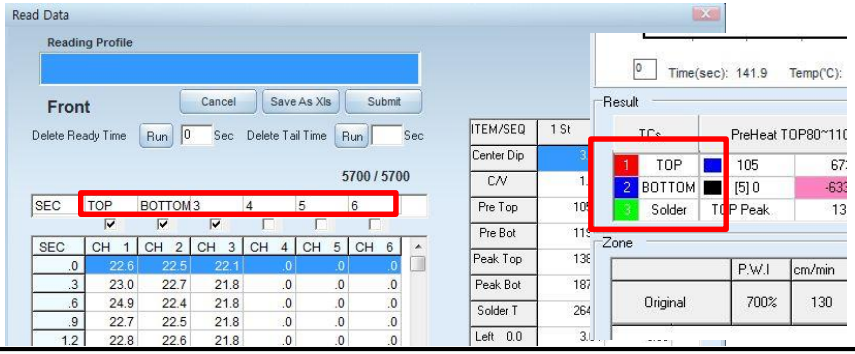
Delete front of graph Time : Remove the front (Used to edit the graph)
Delete back of graph Time : Remove the rear (Used to edit the graph)



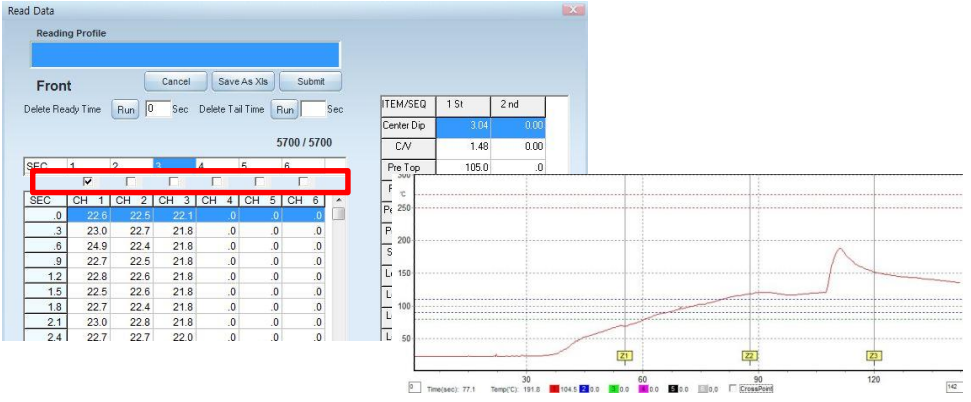
ex) Delete front of graph time

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Read Data



○ **Channel edit function** : You can change the name
(Used to edit the graph)



Ex) Select only No.1 channel

○ **Channel selction function** : When you delete or edit a graph

Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Read Data

SEC	CH 1	CH 2	CH 3	CH 4	CH 5	CH 6
.0	22.6	22.5	22.1	.0	.0	.0
.3	23.0	22.7	21.8	.0	.0	.0
.6	24.9	22.4	21.8	.0	.0	.0
.9	22.7	22.5	21.8	.0	.0	.0
1.2	22.8	22.6	21.8	.0	.0	.0
1.5	22.5	22.6	21.8	.0	.0	.0
1.8	22.7	22.4	21.8	.0	.0	.0
2.1	23.0	22.8	21.8	.0	.0	.0
2.4	22.7	22.7	22.0	.0	.0	.0
2.7	22.8	22.7	21.7	.0	.0	.0
3.0	22.7	22.4	21.7	.0	.0	.0
3.3	22.8	22.8	21.6	.0	.0	.0
3.6	22.7	22.6	21.7	.0	.0	.0
3.9	22.7	22.5	21.8	.0	.0	.0
4.2	23.0	22.7	21.8	.0	.0	.0
4.5	22.6	22.3	21.9	.0	.0	.0
4.8	22.9	22.6	21.9	.0	.0	.0
5.1	22.8	22.7	21.6	.0	.0	.0
5.4	22.8	22.6	21.6	.0	.0	.0
5.7	22.6	22.5	22.1	.0	.0	.0
6.0	23.0	22.6	21.9	.0	.0	.0

○ SEC : Second
Display in the 0.3 seconds of sampling time

○ CH 1 ~ CH 6
Using 1Channel ~ 6Channel

Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Read Data

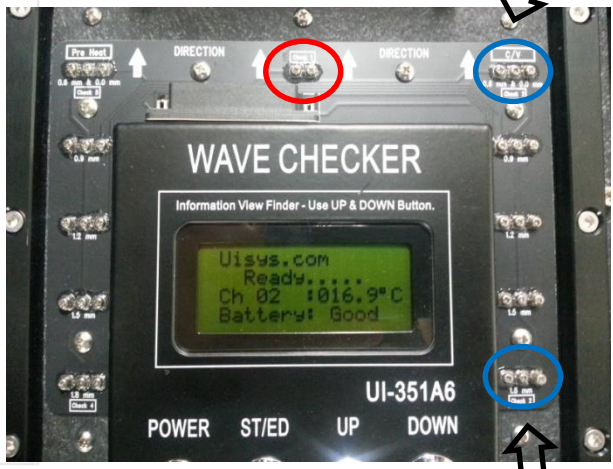
ITEM/SEQ	1 St	2 nd
Center Dip	3.04	0.00
C/V	1.48	0.00
Pre Top	105.0	.0
Pre Bot	119.1	.0
Peak Top	138.0	.0
Peak Bot	187.9	.0
Solder T	264.0	.0
Left 0.0	3.64	0.00
Left -0.6	3.48	0.00
Left -0.9	3.24	0.00
Left -1.2	2.91	0.00
Left -1.5	2.65	0.00
Left -1.8	2.49	0.00
Right 0.0	3.11	0.00
Right-0.6	3.11	0.00
Right-0.9	2.93	0.00
Right-1.2	2.83	0.00
Right-1.5	2.80	0.00
Right-1.8	2.15	0.00

○ ITEM/SEQ : Display data

① Center Dip : Center dip time
② C/V : Conveyor speed
* Calculating the conveyor speed by the time difference between the right pin sensor point A and point B

Center Dip : Center dip time
Center Dip : Center dip time
*Display in the 0.3 seconds of sampling time

A



B

Explanations for Program(ProFile Down)

ProFile Down Load/ Read Data

○ ProFile Down Load – ProFile Set – Down Load – Read Data

ITEM/SEQ	1 St	2 nd
Center Dip	3.04	0.00
C/V	1.48	0.00
Pre Top	105.0	.0
Pre Bot	119.1	.0
Peak Top	138.0	.0
Peak Bot	187.9	.0
Solder T	264.0	.0
Left 0.0	3.64	0.00
Left -0.6	3.48	0.00
Left -0.9	3.24	0.00
Left -1.2	2.91	0.00
Left -1.5	2.65	0.00
Left -1.8	2.49	0.00
Right 0.0	3.11	0.00
Right-0.6	3.11	0.00
Right-0.9	2.93	0.00
Right-1.2	2.83	0.00
Right-1.5	2.80	0.00
Right-1.8	2.15	0.00

○ ITEM/SEQ : Display data

① Pre Top : B Channel
Sensor position : Top of preheater board
② Pre Bottom : A Channel
Sensor position : Bottom of preheater board

Pre Top : preheater zone temperature of top of preheater board(B Channel)

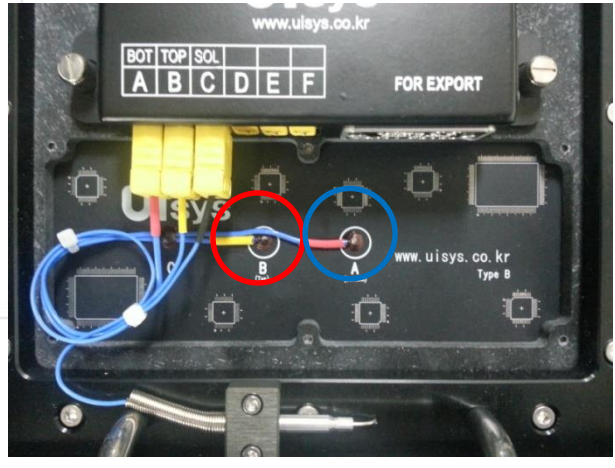
Pre Bot : preheater zone temperature of bottom of preheater board(A Channel)

*The temperature value of the preheater zone is the temperature value of the top surface and bottom surface when the port touches the left pin sensor(0mm)

Peak Top : The maximum temperature of top of preheater board(B Channel)

Peak Bot : The maximum temperature of bottom of preheater board(A Channel)

Solder T : The maximum temperature of solderport(C Channel)



Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Read Data

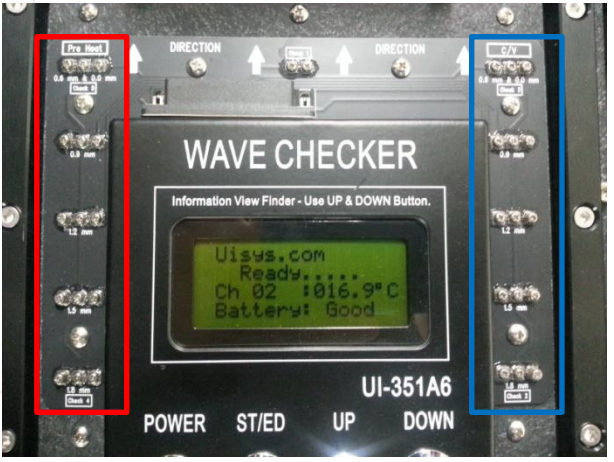
ITEM/SEQ	1 St	2 nd
Center Dip	3.04	0.00
C/V	1.48	0.00
Pre Top	105.0	.0
Pre Bot	119.1	.0
Peak Top	138.0	.0
Peak Bot	187.9	.0
Solder T	264.0	.0
Left 0.0	3.64	0.00
Left -0.6	3.48	0.00
Left -0.9	3.24	0.00
Left -1.2	2.91	0.00
Left -1.5	2.65	0.00
Left -1.8	2.49	0.00
Right 0.0	3.11	0.00
Right-0.6	3.11	0.00
Right-0.9	2.93	0.00
Right-1.2	2.83	0.00
Right-1.5	2.80	0.00
Right-1.8	2.15	0.00

○ ITEM/SEQ : Display data

① **Left** : Pin sensor
(it must be left in both solder the 3-pin)
② **Right** : PIn sensor
(It must be left in both solder the 3-pin)

Left 0.0 : Left 0.0mm
Left -0.0 : Left -0.6mm
Left -0.0 : Left -0.9mm
Left -0.0 : Left -1.2mm
Left -0.0 : Left -1.5mm
Left -0.0 : Left -1.8mm

Right 0.0 : Right 0.0mm
Right -0.0 : Right -0.6mm
Right -0.0 : Right -0.9mm
Right -0.0 : Right -1.2mm
Right -0.0 : Right -1.5mm
Right -0.0 : Right -1.8mm



Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Read Data

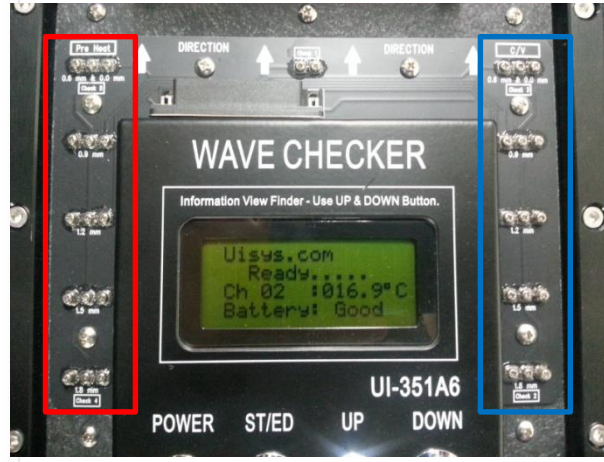
ITEM/SEQ	1 St	2 nd
Center Dip	3.04	0.00
C/V	1.48	0.00
Pre Top	105.0	.0
Pre Bot	119.1	.0
Peak Top	138.0	.0
Peak Bot	187.9	.0
Solder T	264.0	.0
Left 0.0	3.64	0.00
Left -0.6	3.48	0.00
Left -0.9	3.24	0.00
Left -1.2	2.91	0.00
Left -1.5	2.65	0.00
Left -1.8	2.49	0.00
Right 0.0	3.11	0.00
Right-0.6	3.11	0.00
Right-0.9	2.93	0.00
Right-1.2	2.83	0.00
Right-1.5	2.80	0.00
Right-1.8	2.15	0.00

○ ITEM/SEQ : Display data

① 1 st : When the pin sensor touches the first port, the 1st data is filled

② 2 nd : When the pin sensor touches the second port, the 2nd data is filled

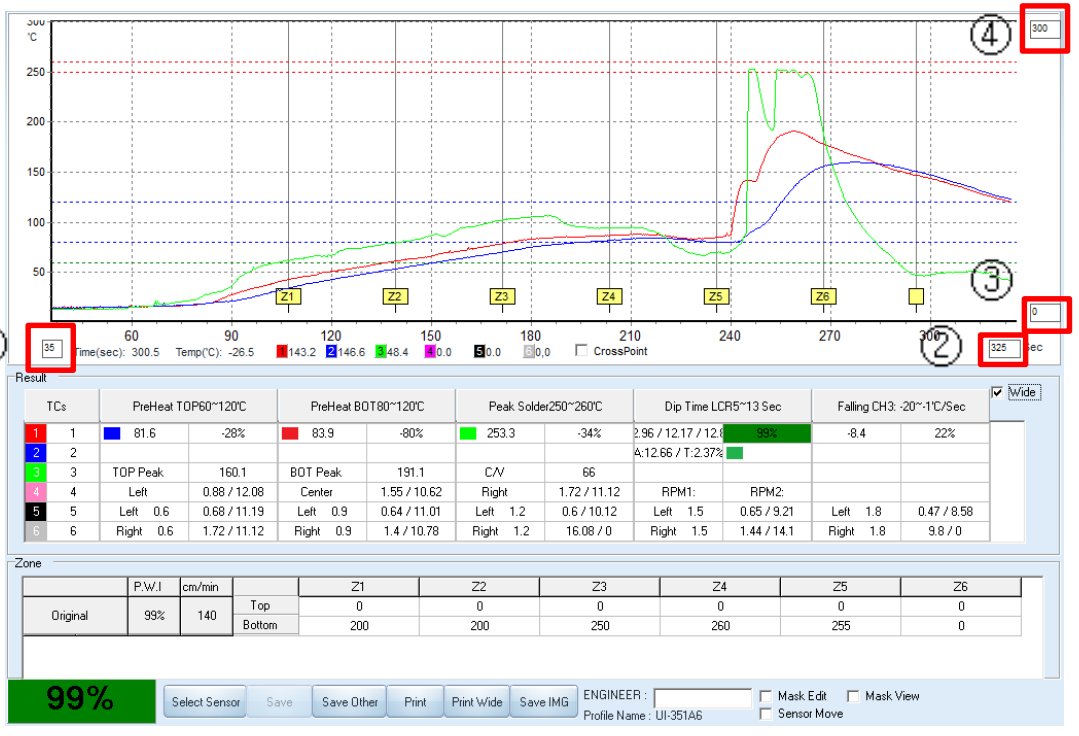
* Each sensor pins are individual operation



Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



○ Specify the range of the graph

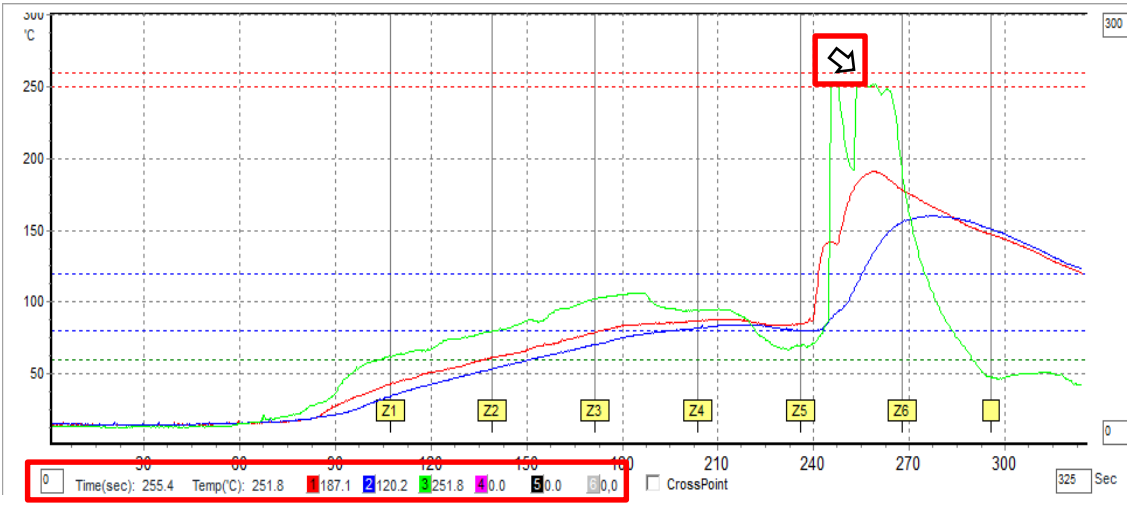
You can set the range of the graph with the keyboard

① Delete front of graph Time
② Delete back of graph Time
③ X-axis range of the graph
④ Y-axis range of the graph

Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



– Description of the cursor position –

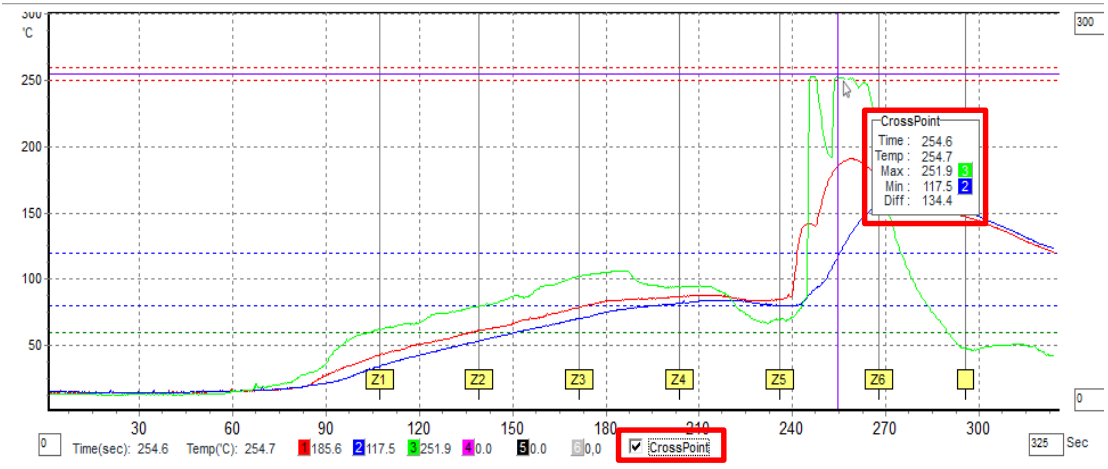
Time(sec) xxx.xx : Time of the current position of the cursor
Temp(℃) xxx.xx : Temperature of the current position of the cursor

1 : Temperature of No.1 channel of the cursor position
2 : Temperature of No.2 channel of the cursor position
3 : Temperature of No.3 channel of the cursor position
4 : Temperature of No.4 channel of the cursor position
5 : Temperature of No.5 channel of the cursor position
6 : Temperature of No.6 channel of the cursor position

Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



-CrossPoint (The extension selection of X-axis and Y-axis to the position of the cursor)

Time : Time of the current position of the cursor
Temp : Temperature of the current position of the cursor
Max : Displays the maximum temperature value and channel among the six channels on the time axis at the cursor position
Min : Displays the minimum temperature value and channel among the six channels on the time axis at the cursor position
Diff : The difference between the Max value and Min value

Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)

TCs		PreHeat TOP60~120℃		PreHeat BOT80~120℃		Peak Solder250~260℃		Dip Time LCR5~13 Sec		Falling CH3: -20~-1℃/Sec	
1	1	81.6	-28%	83.9	-80%	253.3	-34%	:96 / 12.17 / 12.	99%	-8.4	22%
2	2							A:12.66 / T:2.37			
3	3	TOP Peak	160.1	BOT Peak	191.1	C/V	66				
4	4	Left	0.88 / 12.08	Center	1.55 / 10.62	Right	1.72 / 11.12	RPM1:	RPM2:		
5	5	Left 0.6	0.68 / 11.19	Left 0.9	0.64 / 11.01	Left 1.2	0.6 / 10.12	Left 1.5	0.65 / 9.21	Left 1.8	0.47 / 8.58
6	6	Right 0.6	1.72 / 11.12	Right 0.9	1.4 / 10.78	Right 1.2	16.08 / 0	Right 1.5	1.44 / 14.1	Right 1.8	9.8 / 0

– Result : Display the production management standards –

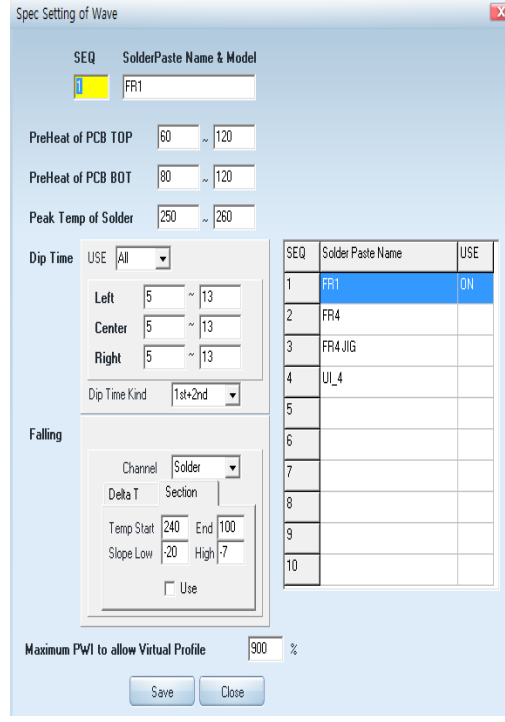
Preheat Top : 60~120℃

Preheat Bot : 80~120℃

Peak Solder : 250~260℃

Dip TimeLCR1 : 5~13 Sec

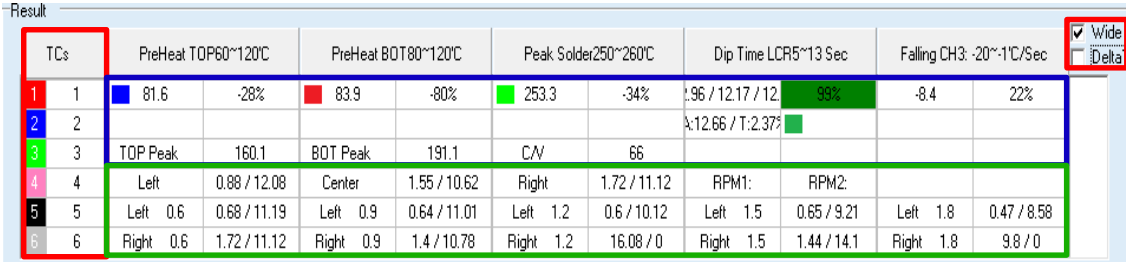
Falling CH3 : 240~100℃
−20~−1℃/S



Explanations for Program(ProFile Down)

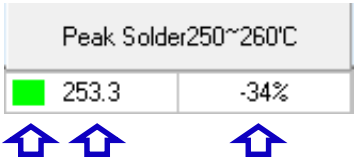
ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



○ TCs: Color display for each channel

○ Display temperature and PWI data



Ex)

Channel / temperature / PWI

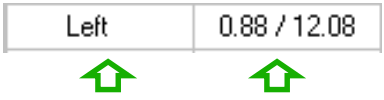
12.96/12.17/12.84 : Left/Center/Right 0.0mm Dip time of pin sensor

TOP Peak : Maximum temperature of top of preheater

BOT Peak : Maximum temperature of bottom of preheater

C/V : Speed of conveyor

○ Display pinsensor data



Ex)

Left 0.0mm First / Second

RPM1 : Display 1st impeller RPM

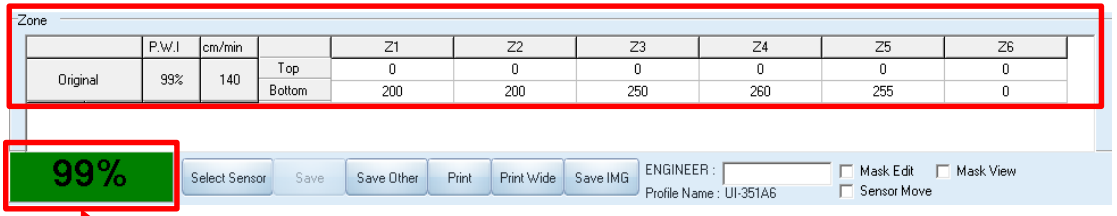
RPM2 : Display 2nd impeller RPM

○ wide: Whether or not to display the detailed measurement results

Explanations for Program(ProFile Down)

ProFile Down Load

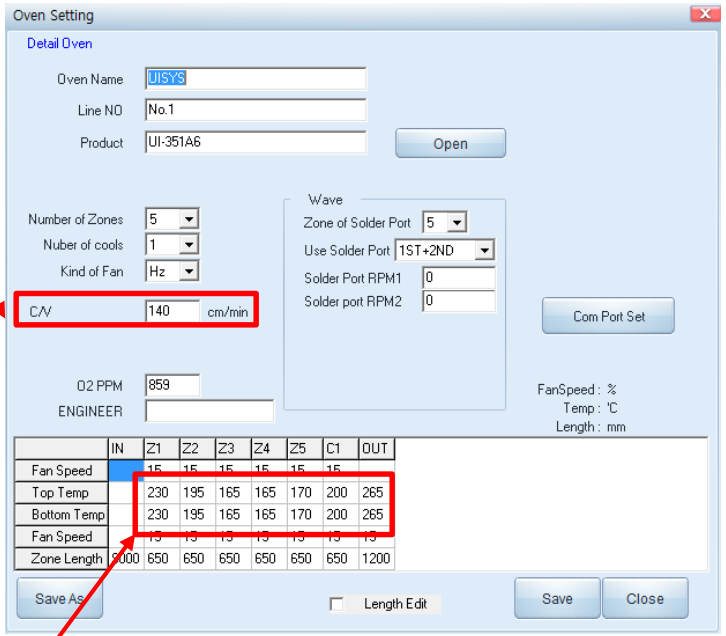
○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



– Zone (Data of wave device set in current Oven Setting) –

P.W.I : Displays the worst PWI value of the currently measured PWI results

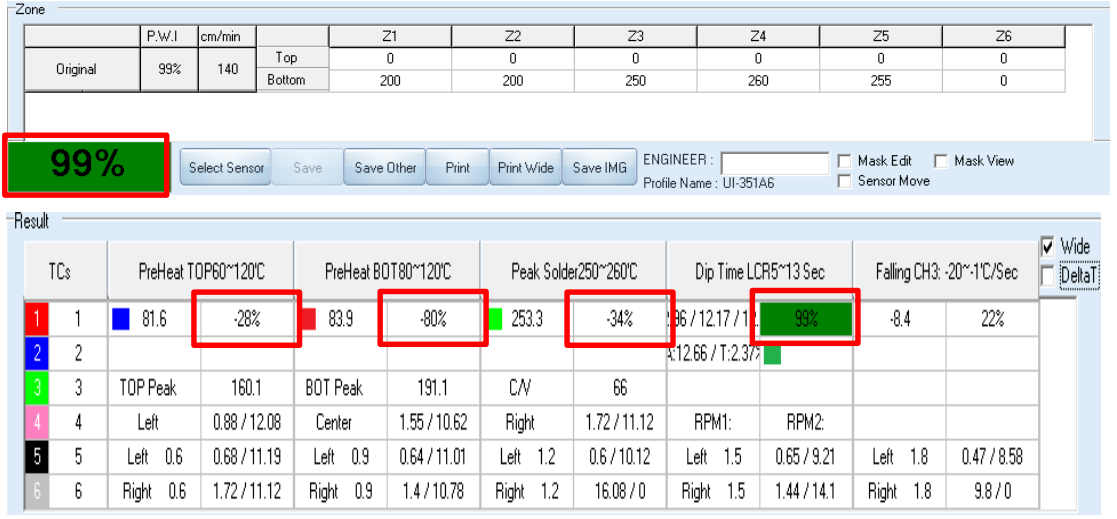
cm/min : Conveyor speed value of wave device set in current Oven Setting



The temperature data set in the device

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



– PWI값 (The worst of the currently measured PWI values) –

Kind of PWI, which is currently operation (It may vary according to the set value)

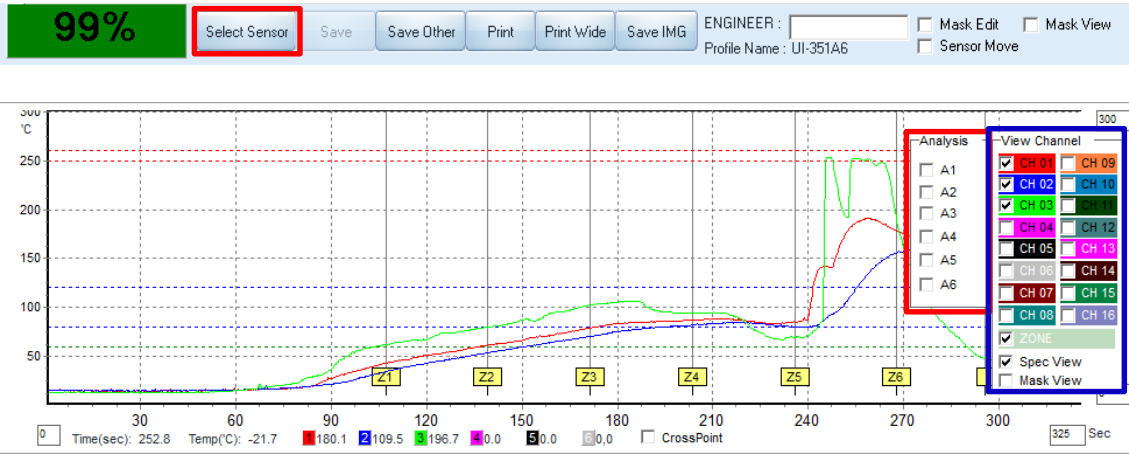
Temperature of Top : 2CH
Temperature of Bottom : 1CH
Temperature of Solder : 3CH
Dip Time : Pin sensor 0.0mm , Left / Center / Right
Solder CH03 : Speed when channel3 temperature drops from 240 to 100 degrees
It is Over-Spec is displayed in pink, PWI worst value is displayed in red

What is the PWI? (page 97)

Explanations for Program(ProFile Down)

ProFile Down Load

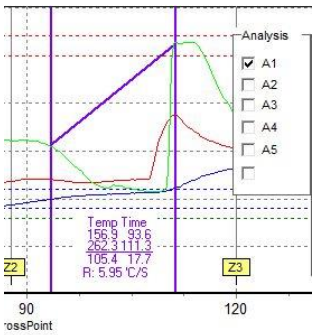
○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



– Select Sensor (Used to analyze the graph) –

Analysis : Used for accurate determination of the graph
(Up to five can be used)

- First point **temperature / time detection**
- Second point **temperature / time detection**



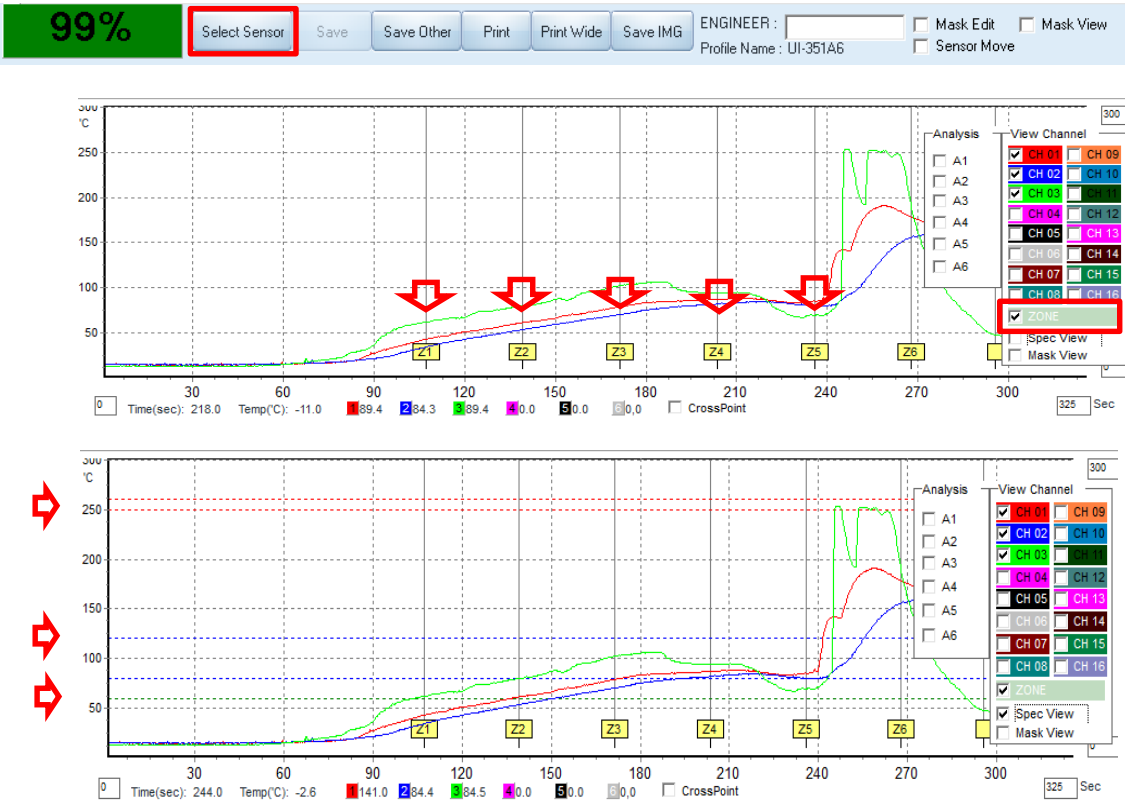
- **Temperature difference / time difference detection** between two point
- Temperature change per hour between two point
  (*Printer is output together.)

View Channel : You can show and hide a specific channel's graph

Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



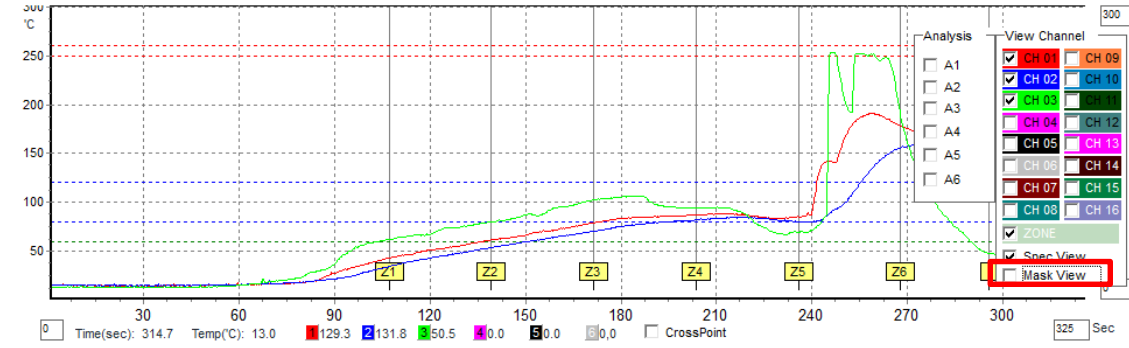
– Select Sensor (Used to analyze the graph) –

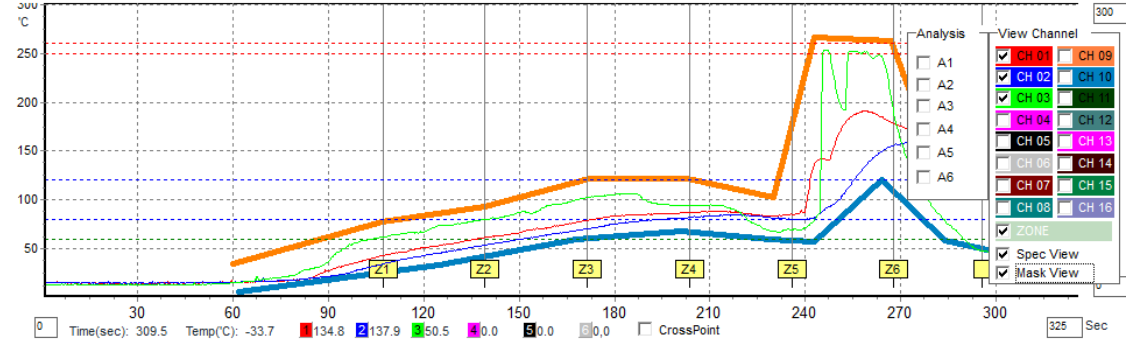
ZONE : Whether zone graphs are displayed
Spec View : Whether the production control standard is displayed on the graph

Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



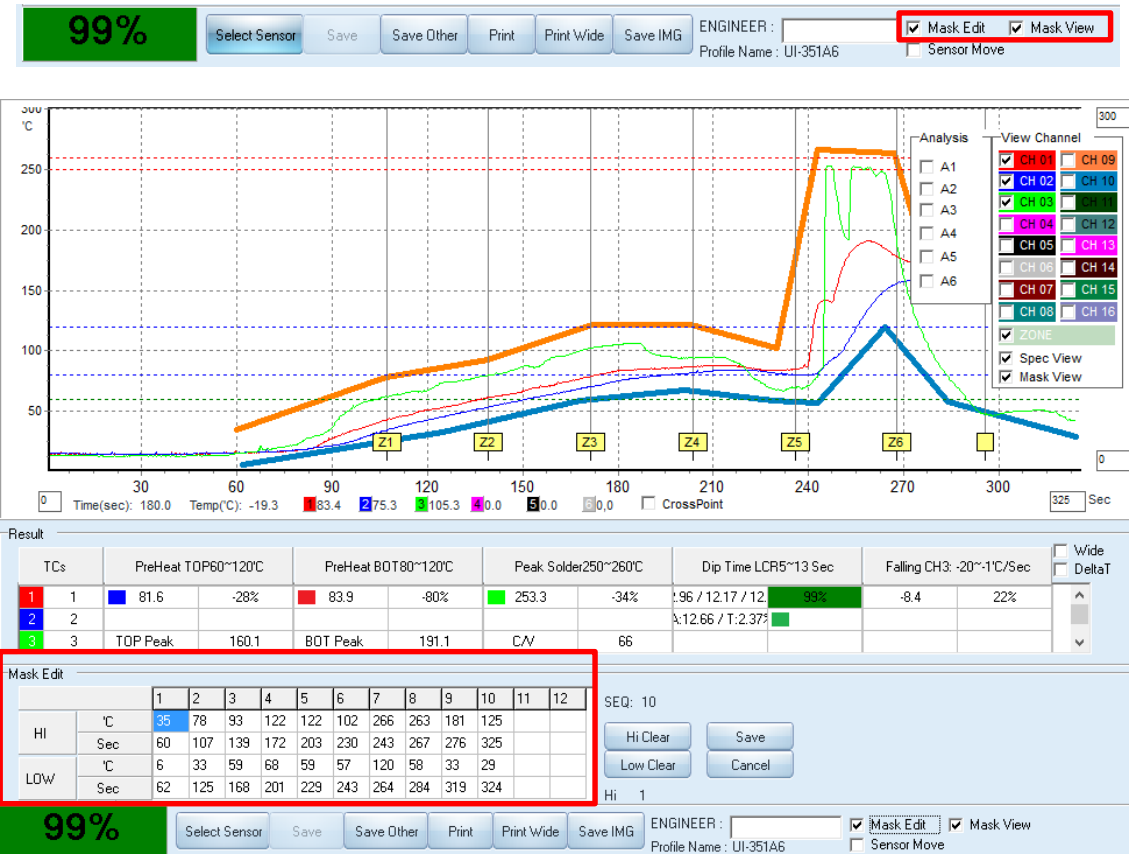


Mask View : Whether the mask is displayed
Mask Edit : You can edit the mask spec

Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



Mask Edit : You can edit the mask by clicking on the desired pointer on the graph if you want detailed mask setting, you can input it manually in the edit function after editing, be sure to click save button to save the mask view function is activated

Hi Clear : Clear top line

Low Clear : Clear below line

Save : Mask Save

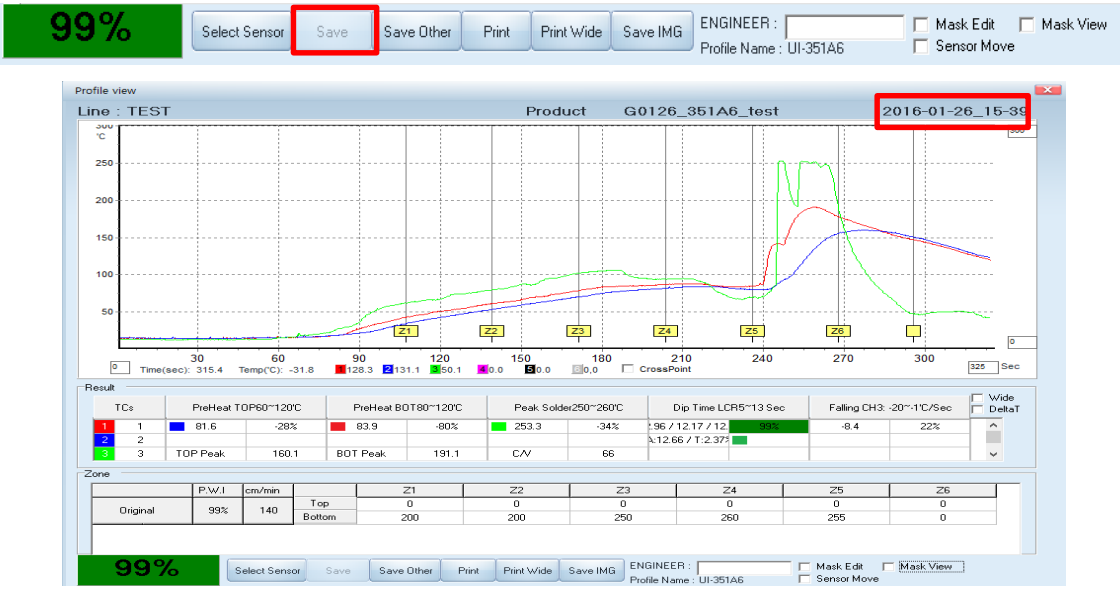
One mask per production control standard is saved

if you load the saved production management standard, you can also import saved mask

Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



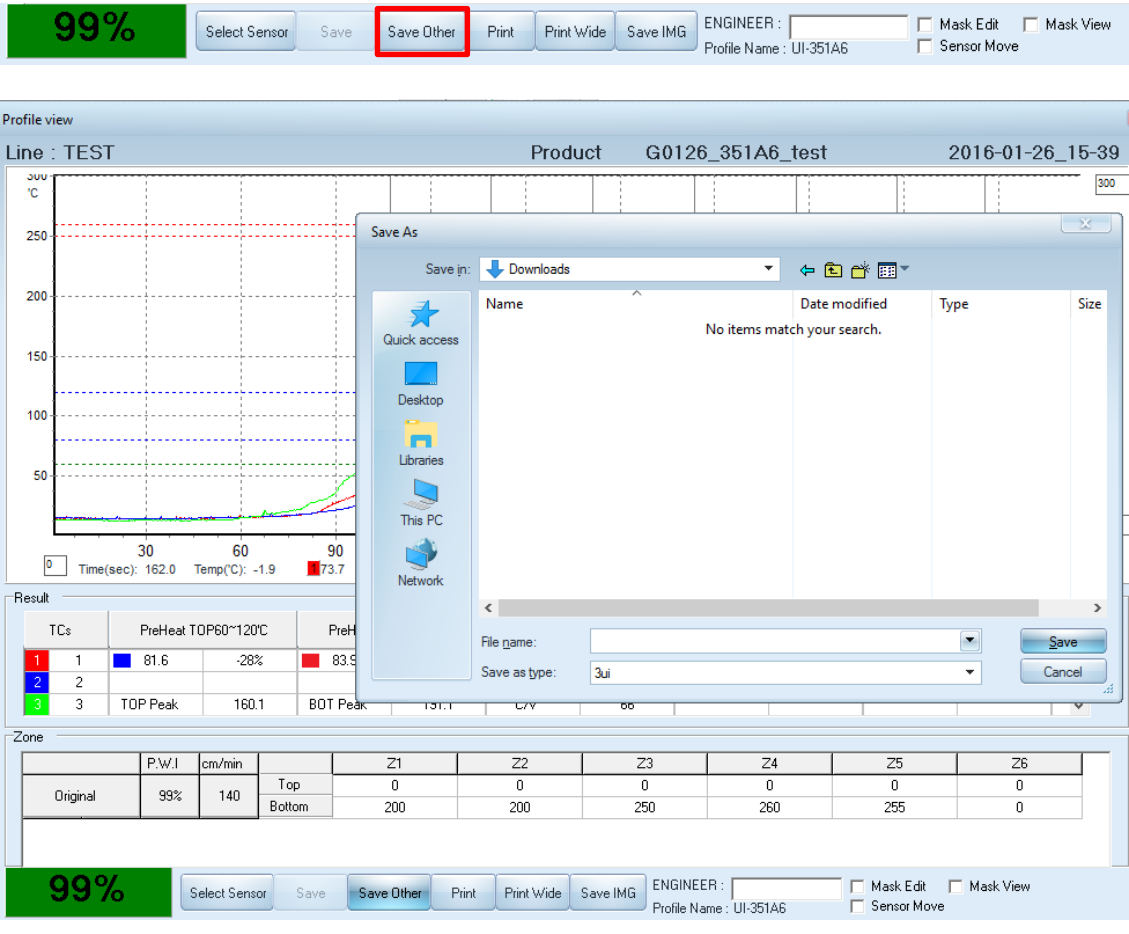
– Save (Save data) –

It is saved automatically in PCB folder set in Oven Setting.
When saving, Oven Setting information and internal temperature data conveyor speed are saved together
The path is saved as **C: ₩ 2010RTTPS ₩ Profile** ₩ PCB name (Product set in Oven Setting) ₩ year-month-day_time-minute (PWI value) .3ui, and is displayed at the upper left corner of the Profile View

Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



– Save Other (Saving data to another path) –

Used when saving **.3ui** file to another path

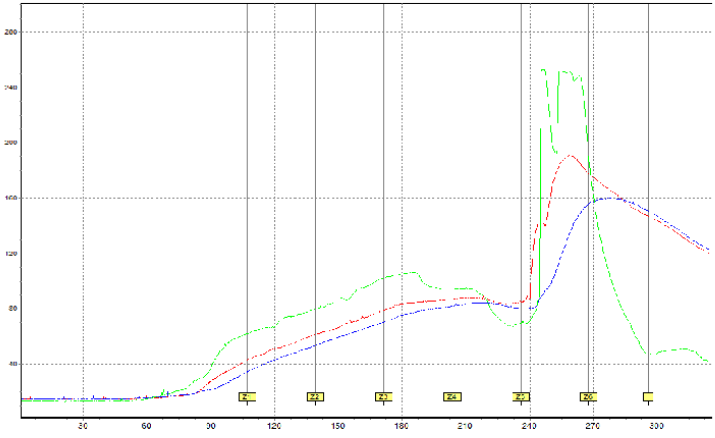
Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)

Line : TEST

2016-01-26_15-39



Oven Name	UISYS	PWI
Product Name	G0126_351A6_test	99%
Engineer		
SolderPaste Name FR1		

	Draft	Review	Approve
Submit			
	/	/	/

Zone	Z1	Z2	Z3	Z4	Z5	Z6
Top	0	0	0	0	0	0
Bottom	200	200	250	260	255	0
C/V Speed	140 cm/min					

TCs	Position	PreHeat TOP 60~120'C		PreHeat BOT 80~120'C		Peak Solder 250~260'C		Dip Time L C R 5~13 Sec		Falling CH3 -20~-1'C/Sec	
		Temp	PWI	Temp	PWI	Temp	PWI	Time	PWI	Slope	PWI
1	1	81.6	-28%	83.9	-80%	253.3	-34%	12.96 / 12.17 / 12.84	99%	-8.4	22%
2	2							\:12.66 / T:2.37%			
3	3	TOP Peak	160.1	BOT Peak	191.1	C/V	66				
4	4	Left	0.88 / 12.08	Center	1.55 / 10.62	Right	1.72 / 11.12	RPM1:	RPM2:		
5	5	Left 0.6	0.68 / 11.19	Left 0.9	0.64 / 11.01	Left 1.2	0.6 / 10.12	Left 1.5	0.65 / 9.21	Left 1.8	0.47 / 8.58
6	6	Right 0.6	1.72 / 11.12	Right 0.9	1.4 / 10.78	Right 1.2	16.08 / 0	Right 1.5	1.44 / 14.1	Right 1.8	9.8 / 0

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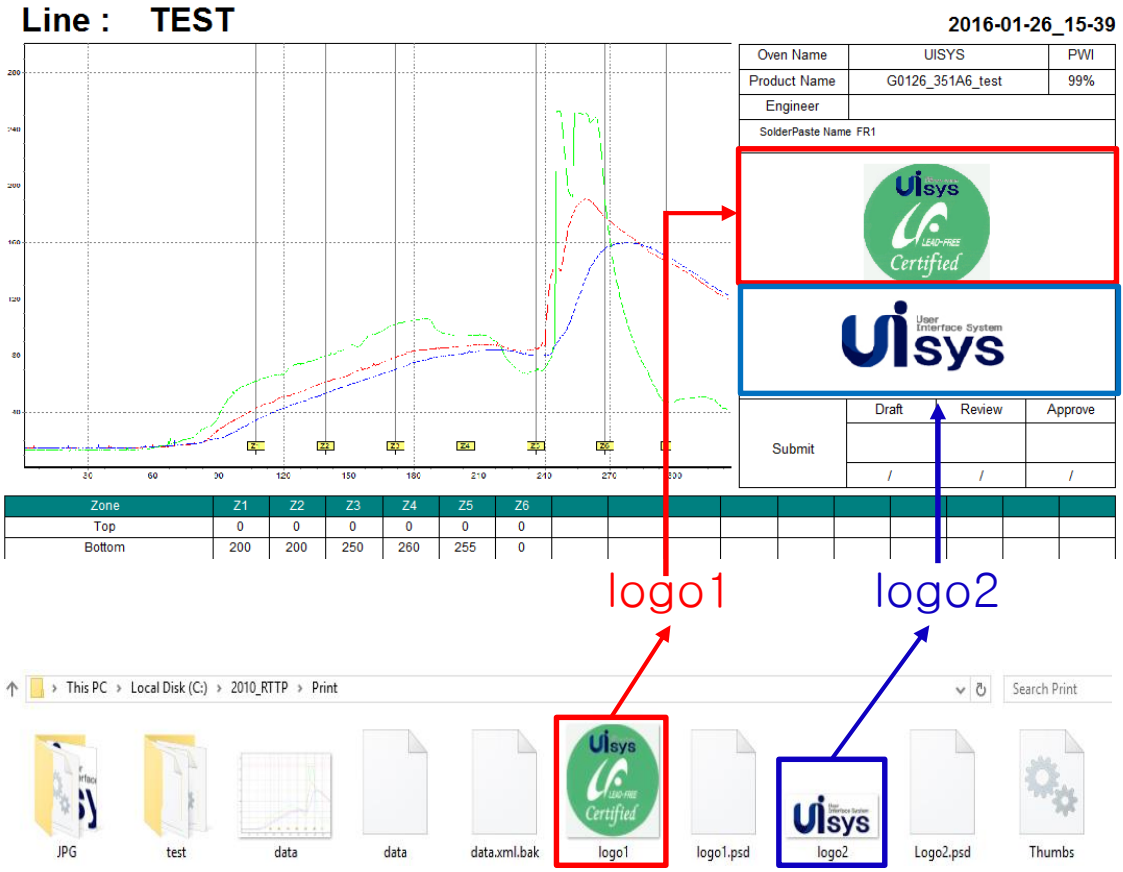
– Print (Printing, All information is printed) –

Explanations for Program(ProFile Down)

ProFile Down Load(Logo Change)

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



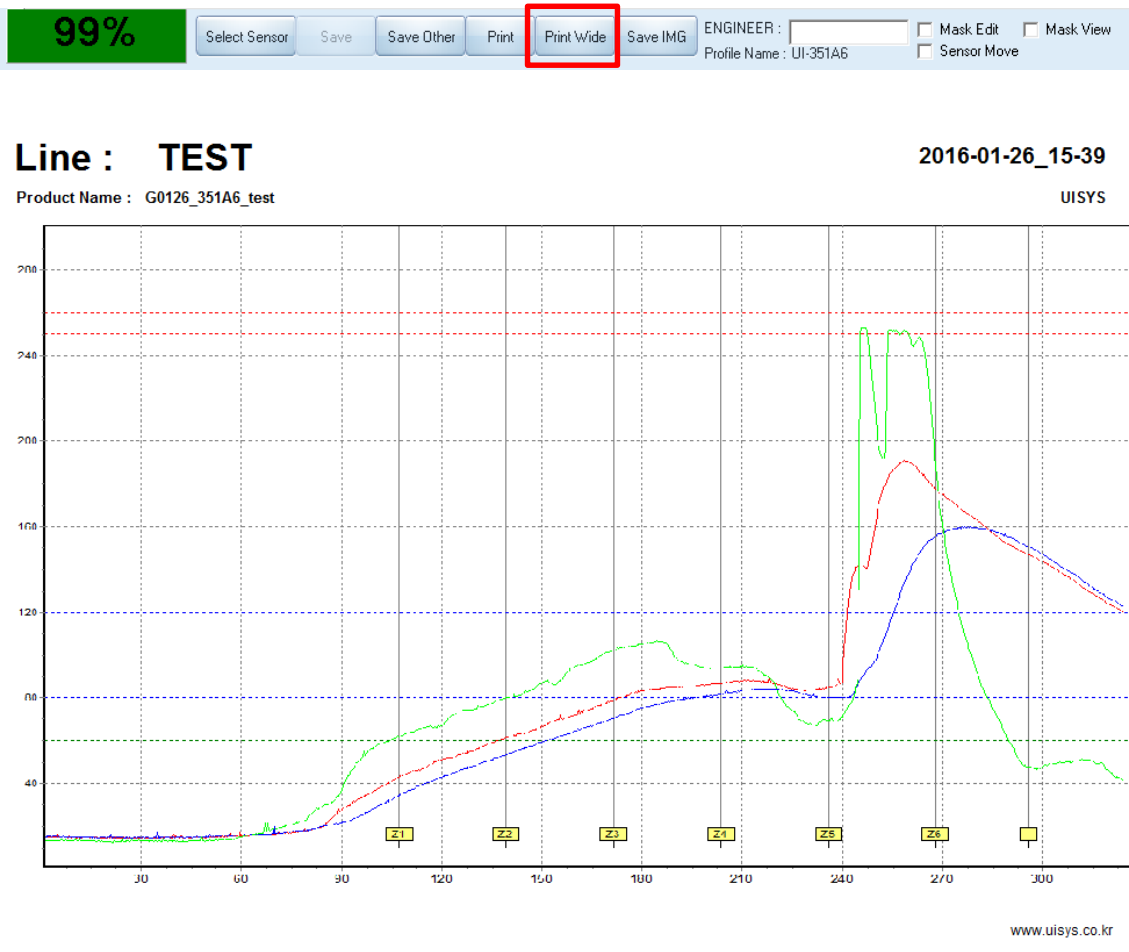
C:₩2010_RTTP₩Print

Attach the jpg file to the path and change the file name to logo1, logo2

Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)

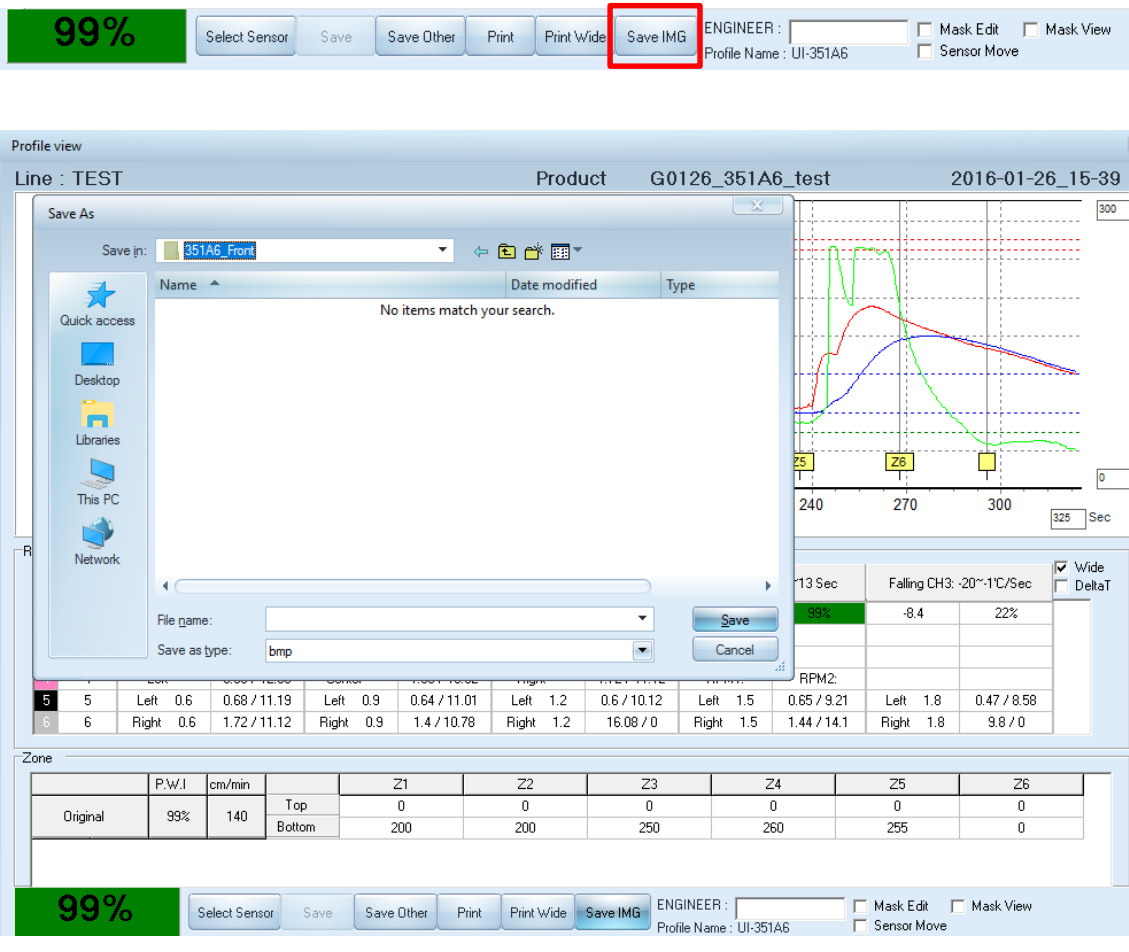


– Print Wide (Printing, Basic information and graph is printed) –

Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



– Save IMG (Save as picture file [.bmp]) –

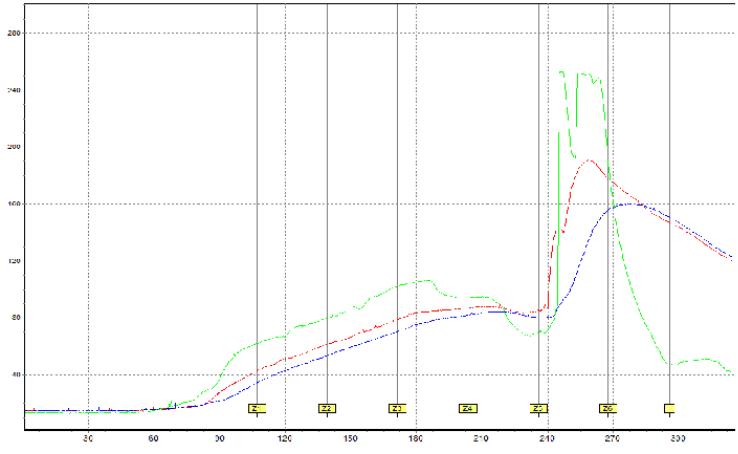
Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)

Line : TEST

2016-01-26_15-39



Oven Name	UISYS	PWI
Product Name	G0126_351A6_test	99%
Engineer	H.S Jang	
SolderPaste Name FR1		

	Draft	Review	Approve
Submit			
	/	/	/

Zone	Z1	Z2	Z3	Z4	Z5	Z6									
Top	0	0	0	0	0	0									
Bottom	200	200	250	260	255	0									
C/V Speed	140 cm/min														

TCs	Position	PreHeat TOP 60~120'C		PreHeat BOT 80~120'C		Peak Solder 250~260'C		Dip Time L C R 5~13 Sec		Falling CH3 -20~-1'C/Sec	
		Temp	PWI	Temp	PWI	Temp	PWI	Time	PWI	Slope	PWI
1	1	81.6	-28%	83.9	-80%	253.3	-34%	12.96 / 12.17 / 12.84	99%	-8.4	22%
2	2							A:12.66 / T:2.37%			
3	3	TOP Peak	160.1	BOT Peak	191.1	C/V	66				
4	4	Left	0.88 / 12.08	Center	1.55 / 10.62	Right	1.72 / 11.12	RPM1:	RPM2:		
5	5	Left 0.6	0.68 / 11.19	Left 0.9	0.64 / 11.01	Left 1.2	0.6 / 10.12	Left 1.5	0.65 / 9.21	Left 1.8	0.47 / 8.58
6	6	Right 0.6	1.72 / 11.12	Right 0.9	1.4 / 10.78	Right 1.2	16.08 / 0	Right 1.5	1.44 / 14.1	Right 1.8	9.8 / 0

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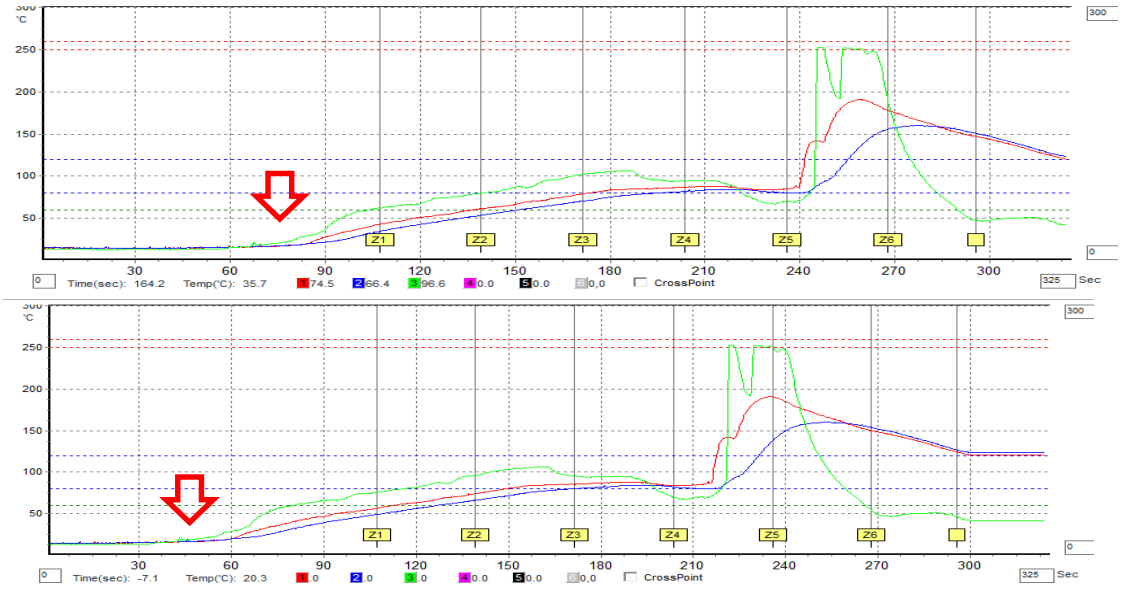
– Engineer (Enter the name of manager) –

Explanations for Program(ProFile Down)

ProFile Down Load

○ ProFile Down Load – ProFile Set – Down Load – Submit(Profile View)



– Sensor Move (Ability to move the graph for each channel) –

<< : Move by 5 seconds to the left

< : Move by 0.1 seconds to the left

>> : Move by 5 seconds to the right

> : Move by 0.1 seconds to the right

You can move after clicking for each channel

(*Stored in 3ui file when you save)

Select All : Click select all

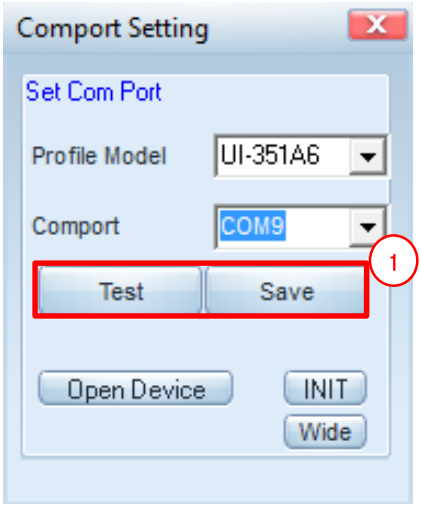
ProFile Measurement Method

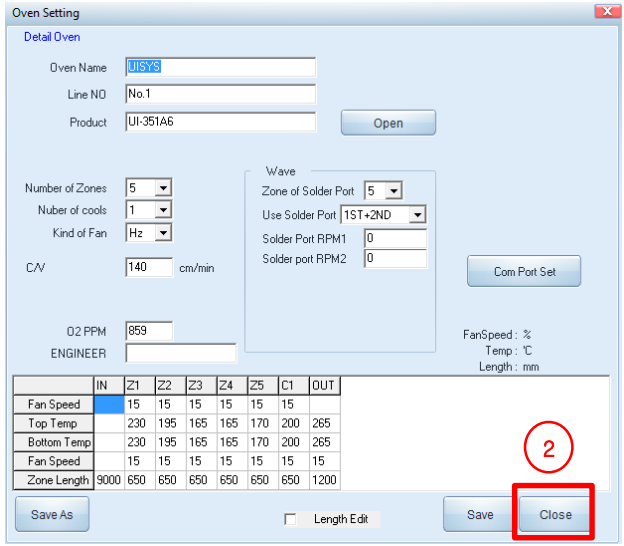
○ Measurement method using UI-351A6

1. Connect the sensor to A~F channels.
2. Push the power button to turn on the power
3. Push the ST/ED button and start measuring
4. After finishing measuring (After passing the reflow equipment), press the button again
5. Link the profiler to the computer
6. Download and analyze measured data

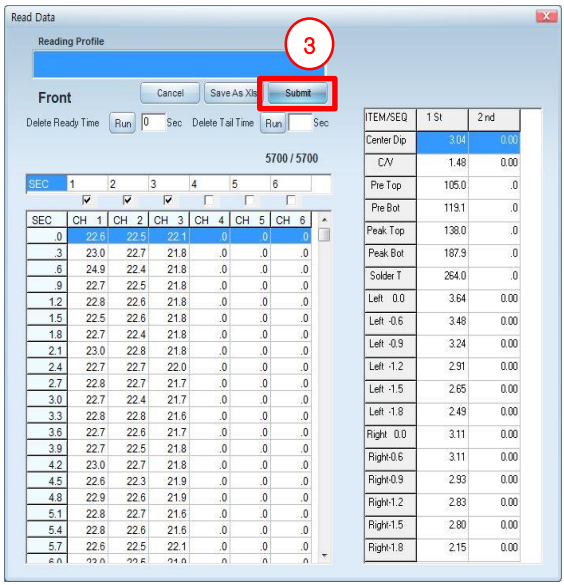
ProFile Setting

○ ProFile Setting





Afrer checking that the information on the line matches the wave device, click the ‘Close’ button



When you receive all the data from the profiler, click the ‘Submit’ button

ProFile Down Load

○ ProFile Set – Down Load – Submit(Profile View)

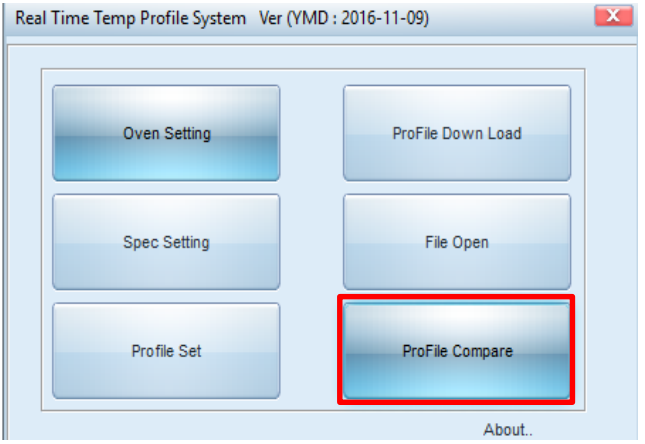
Save the measured data.

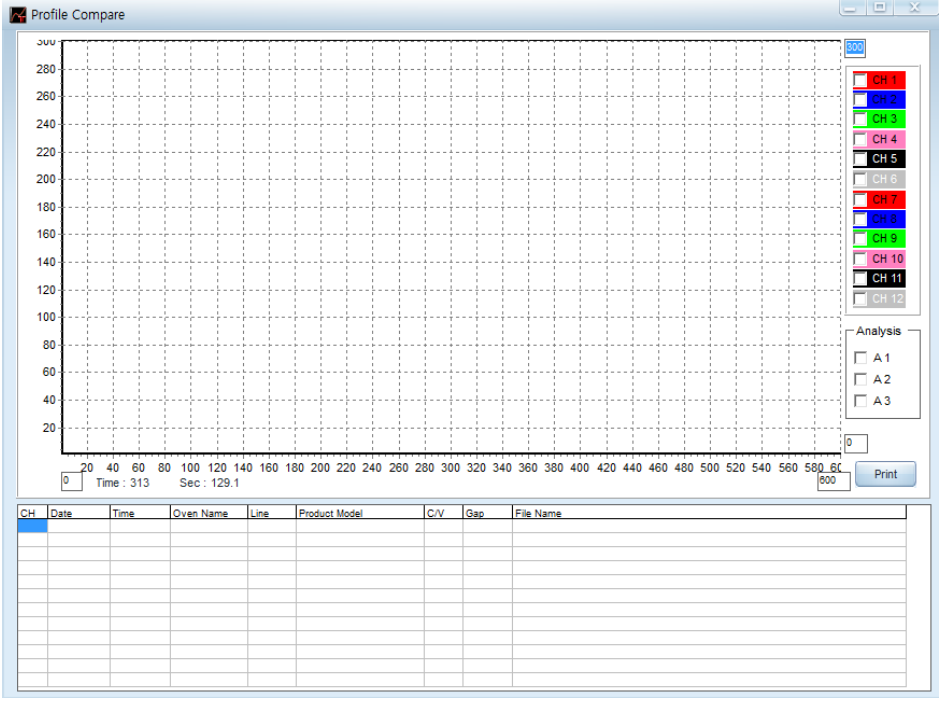
Analyze the measured data to determine if it meets production conditions
If it does not match the production conditions, correct it and measure the Profile again

Click the ‘Print’ button to print

RroFile Compare

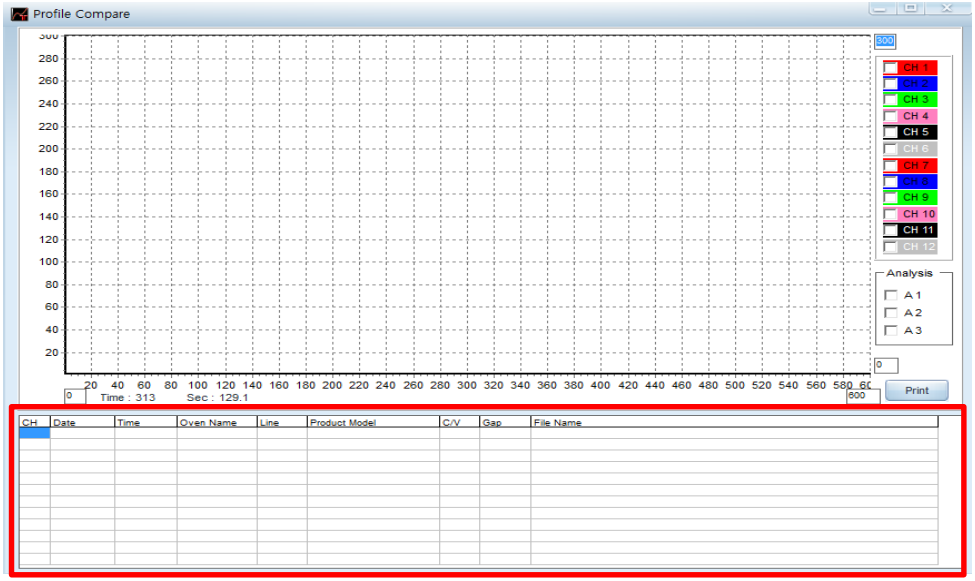
○ RroFile Compare

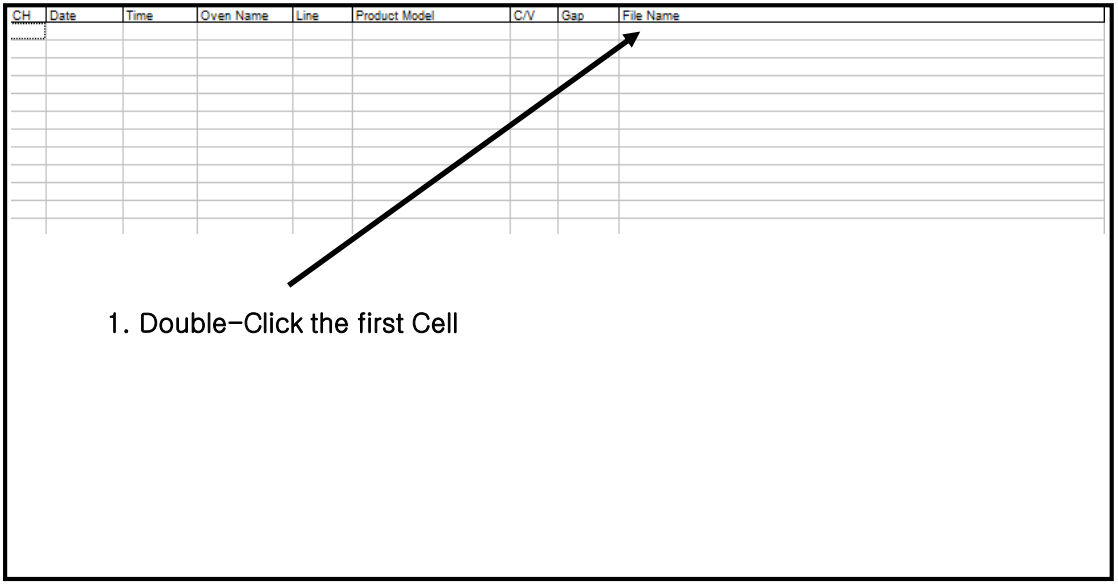




ProFile Compare

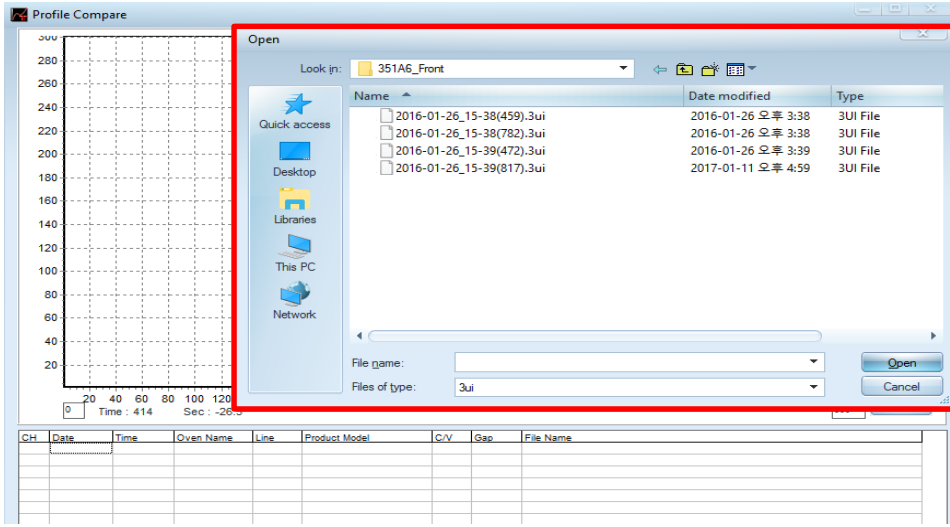
○ ProFile Compare

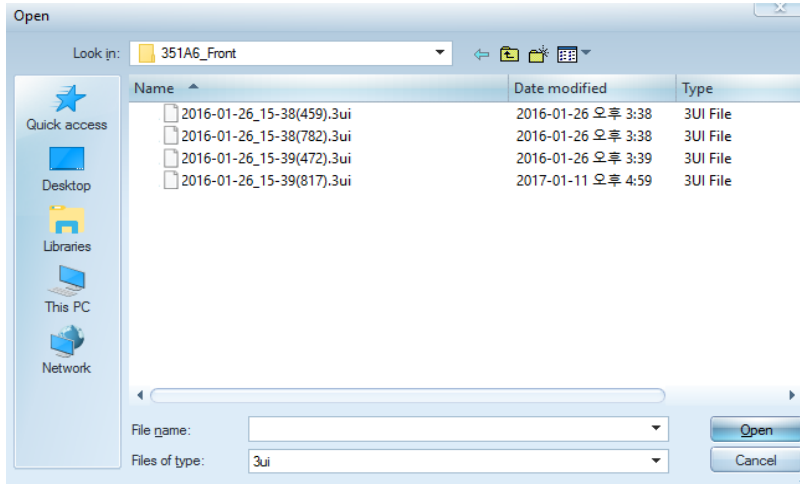




ProFile Compare

○ ProFile Compare

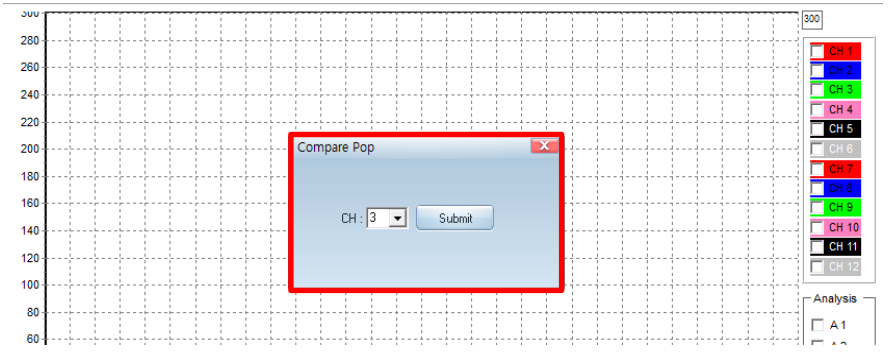


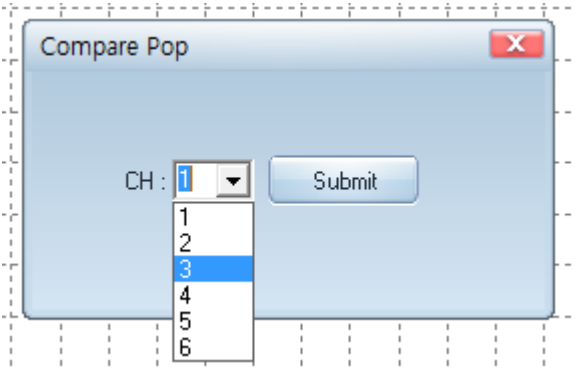


2. Double – Click on the cell to open the file search window as shown above
   Load the file you want to compare

ProFile Compare

○ ProFile Compare

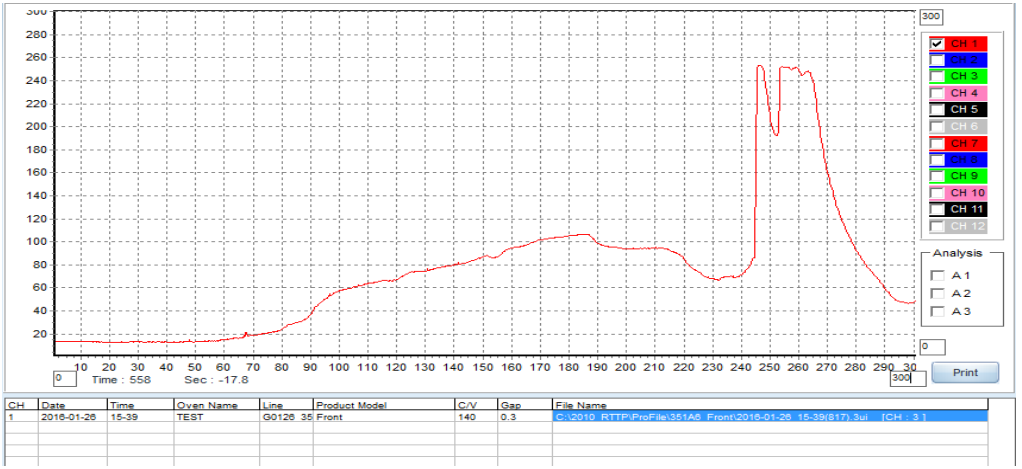




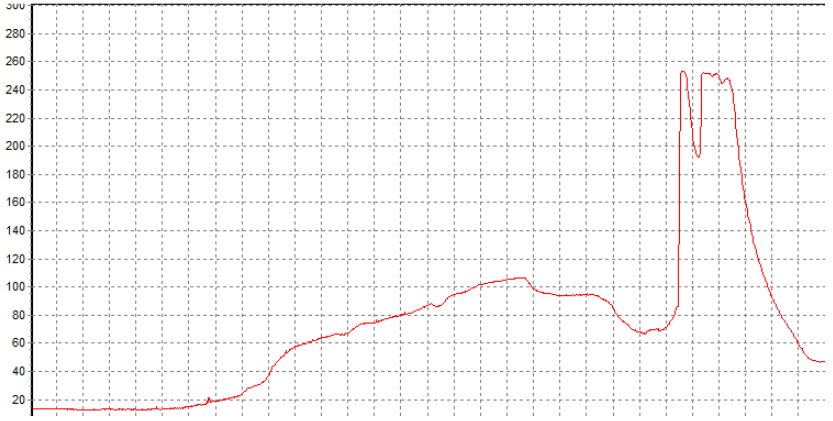
3. When you load the file you want to compare, you can select the desired channel from the loaded file as shown above.
   After selecting the desired channel, click submit

ProFile Compare

○ ProFile Compare



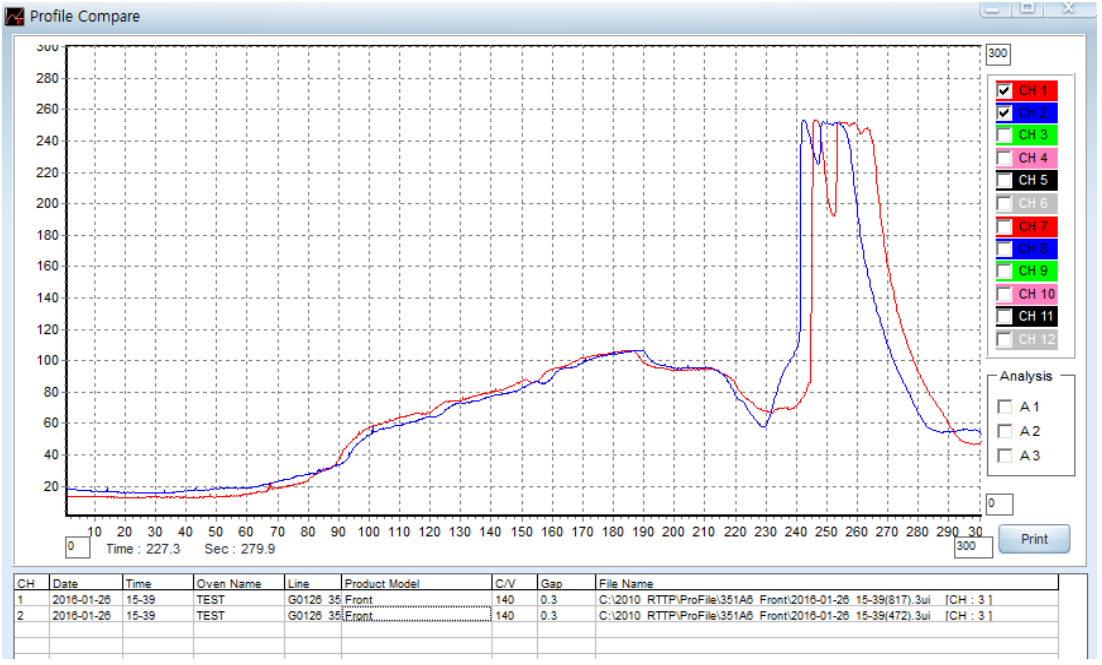
CH	Date	Time	Oven Name	Line	Product Model	C/V	Gap	File Name
1	2016-01-26	15-39	TEST	G0126_35	Front	140	0.3	C:\2010_RTTP\ProFile\351A5_Front\2016-01-26_15-39(617).3ui [CH : 3 1



4. The desired channel data in the loaded file will be displayed as a graph

ProFile Compare

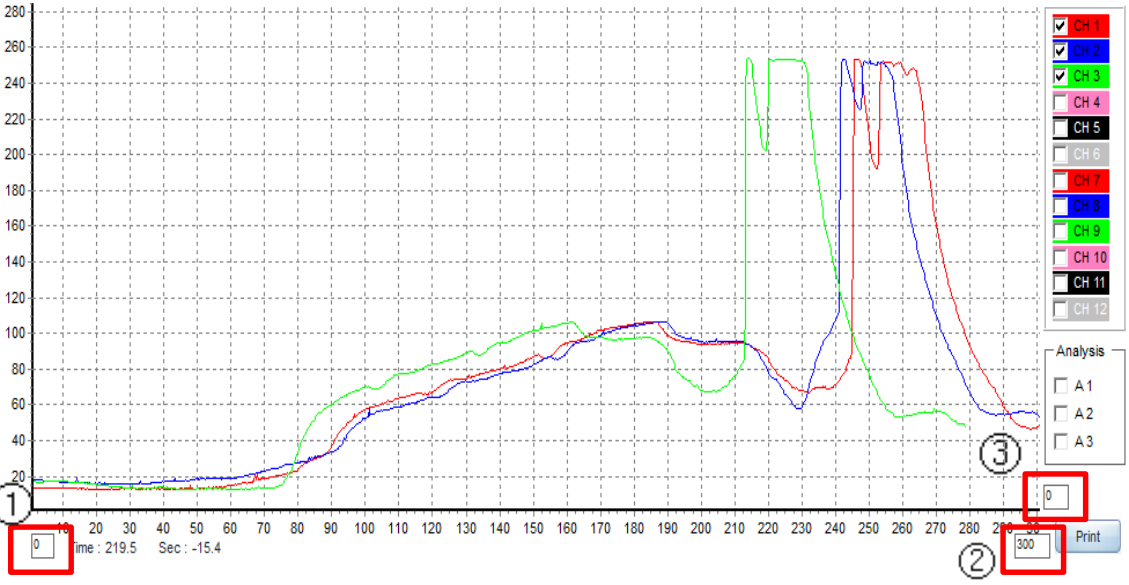
○ ProFile Compare



5. By repeating the same operation by calling another data file to be compared in the second cell, you can compare and analyze channel – specific data in one view from different file

ProFile Compare

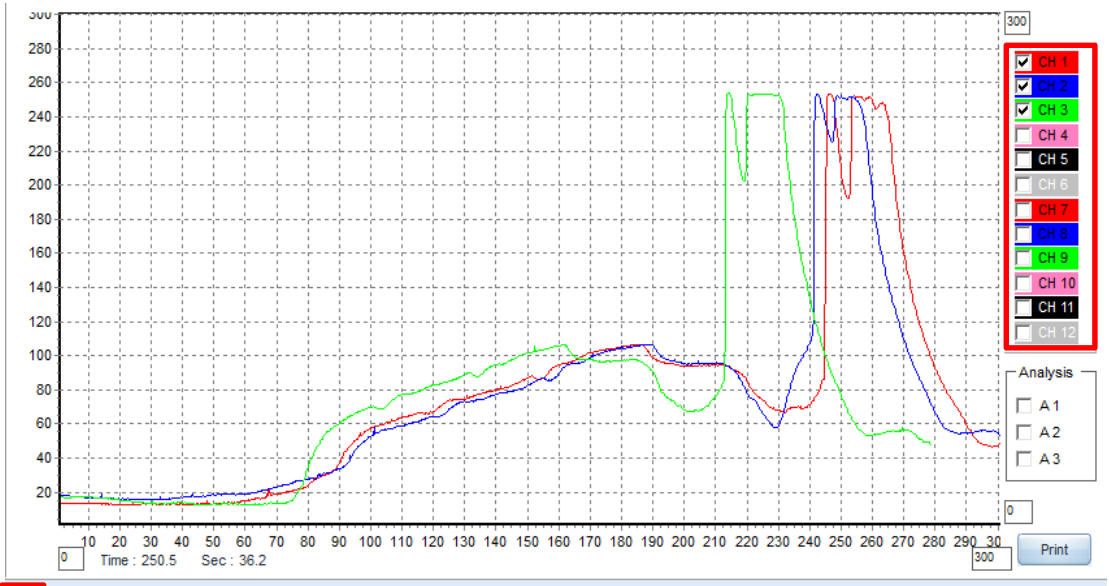
○ ProFile Compare



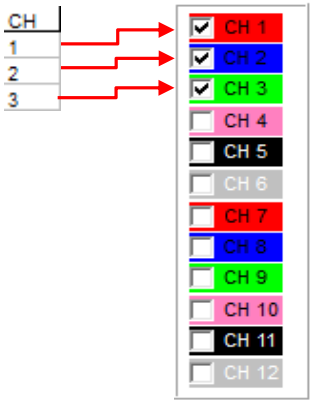
① : Delete front of graph Time
② : Delete back of graph Time
③ : X-axis range of the graph

ProFile Compare

○ ProFile Compare



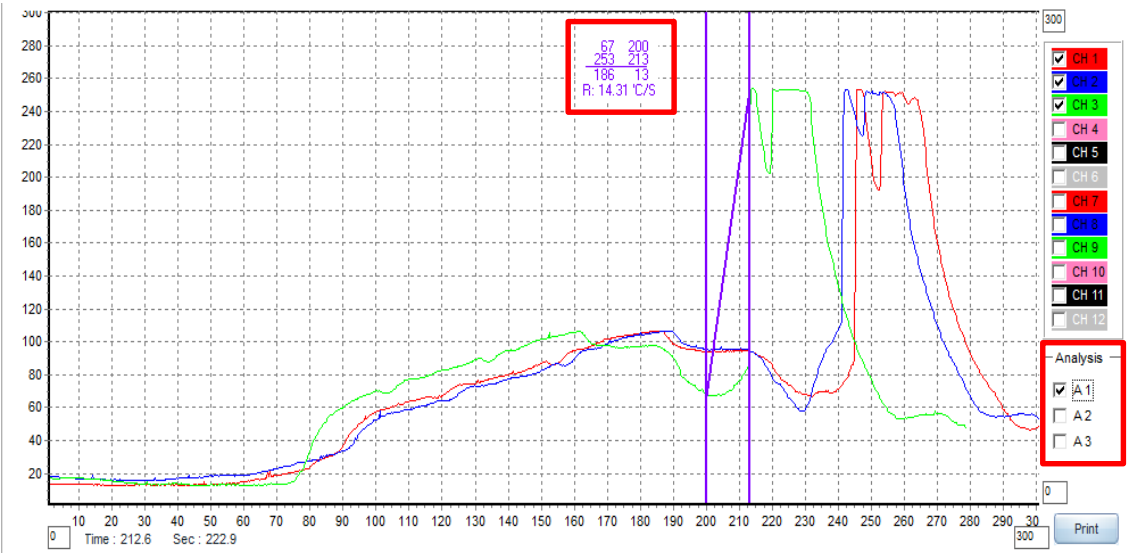
CH	Date	Time	Oven Name	Line	Product Model	C/V	Gap	File Name
1	2016-01-26	15-39	TEST	G0126 35	Front	140	0.3	C:\2010 RTTP\ProFile\351A6 Front\2016-01-26 15-39(817).3ui [CH : 3]
2	2016-01-26	15-39	TEST	G0126 35	Front	140	0.3	C:\2010 RTTP\ProFile\351A6 Front\2016-01-26 15-39(472).3ui [CH : 3]
3	2016-01-26	15-38	TEST	G0126 35	Front	140	0.3	C:\2010 RTTP\ProFile\351A6 Front\2016-01-26 15-38(782).3ui [CH : 3]

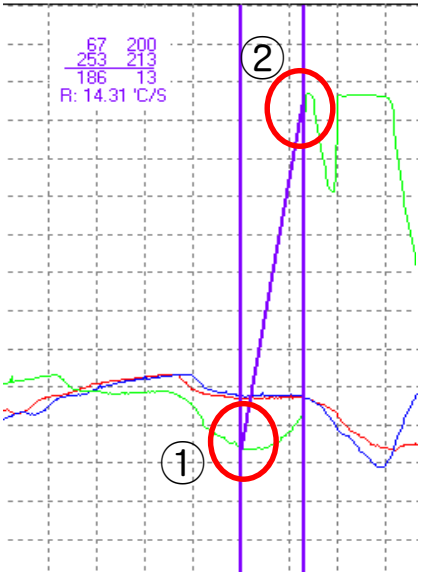


The loaded data can be turned on and off
Using the channel bar

ProFile Compare

○ ProFile Compare





Using the analysis function, comparison of point 1 and point 2 is possible

67 200 → Point ① (Temperature / Time)

253 213 → Point ② (Temperature / Time)

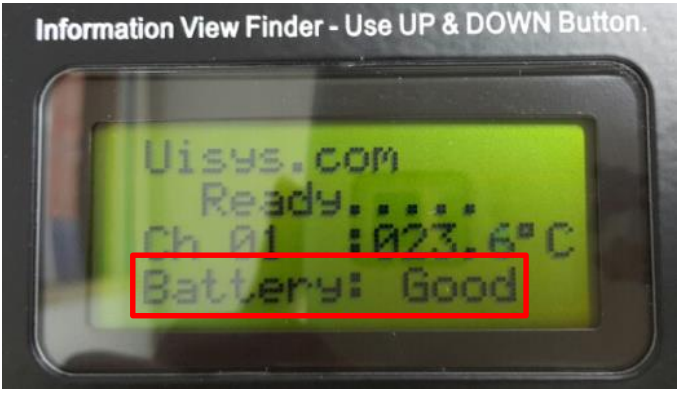
186 13 → ① and ② (Temperature difference / Time difference)

R: 14.31 'C/S → Slope of ① and ②

Simple Profile Measurement Method

○ Check charge staus

The state of charge before use will fully charge the state



You can see the current battery status
Battery : Good, Please use

Simple Profile Measurement Method

○ Measure

1. Connect the sensor to A~F channels.
2. Push the power button to turn on the power
3. Push the ST/ED button and start measuring
4. After finishing measuring (After passing the reflow equipment), press the button again

※ Please check the measurement direction and battery condition before measuring

Simple Profile Measurement Method

○ Communicate

When the measurement is completed, connect the download cable

When the download cable is connected to the PC,
The message ----COMM---- is displayed on the
Screen as shown above

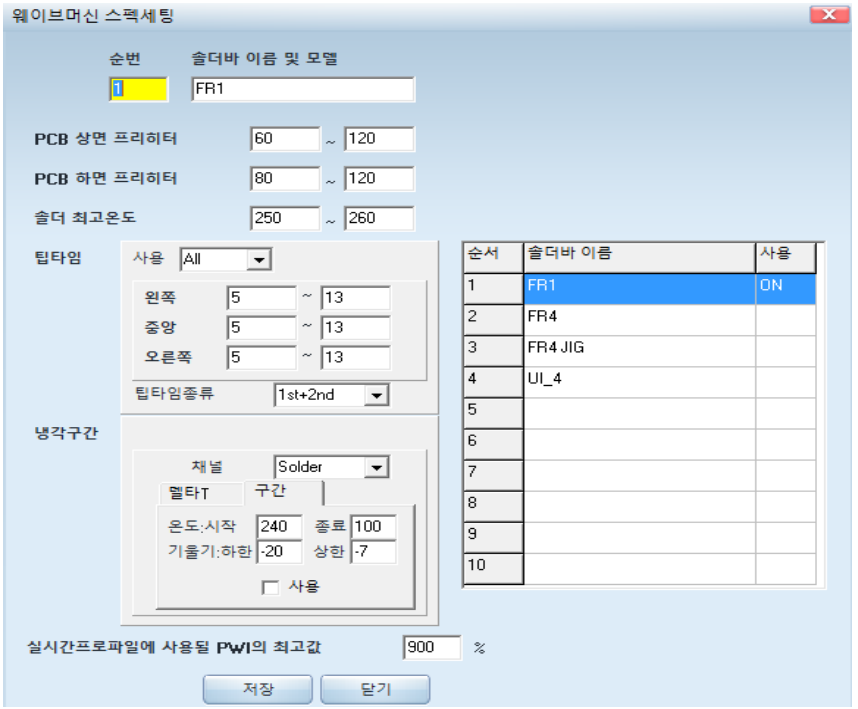
ProFile Compare

○ ProFile Compare

Set the information for the oven in the oven setting menu (P.39~46)

ProFile Compare

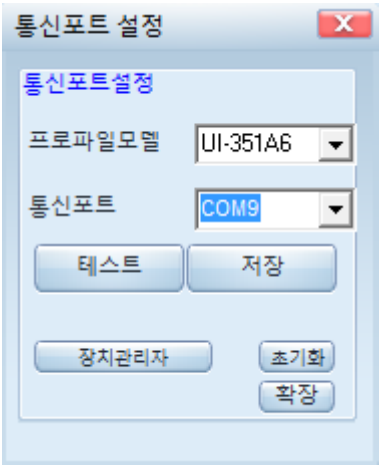
○ ProFile Compare



Set the spec setting in the spec setting menu (P.47~48)

ProFile Compare

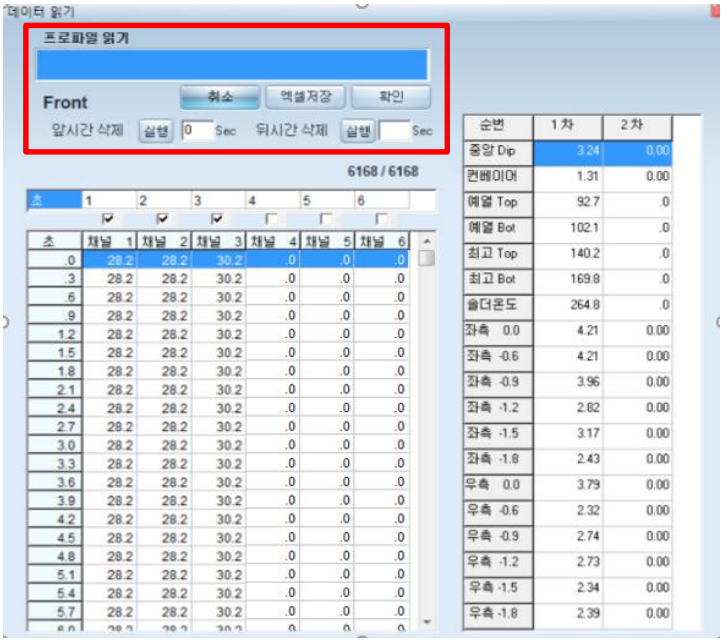
○ ProFile Compare



Set communication port in profile set menu (P.14~16)

ProFile Compare

○ ProFile Compare

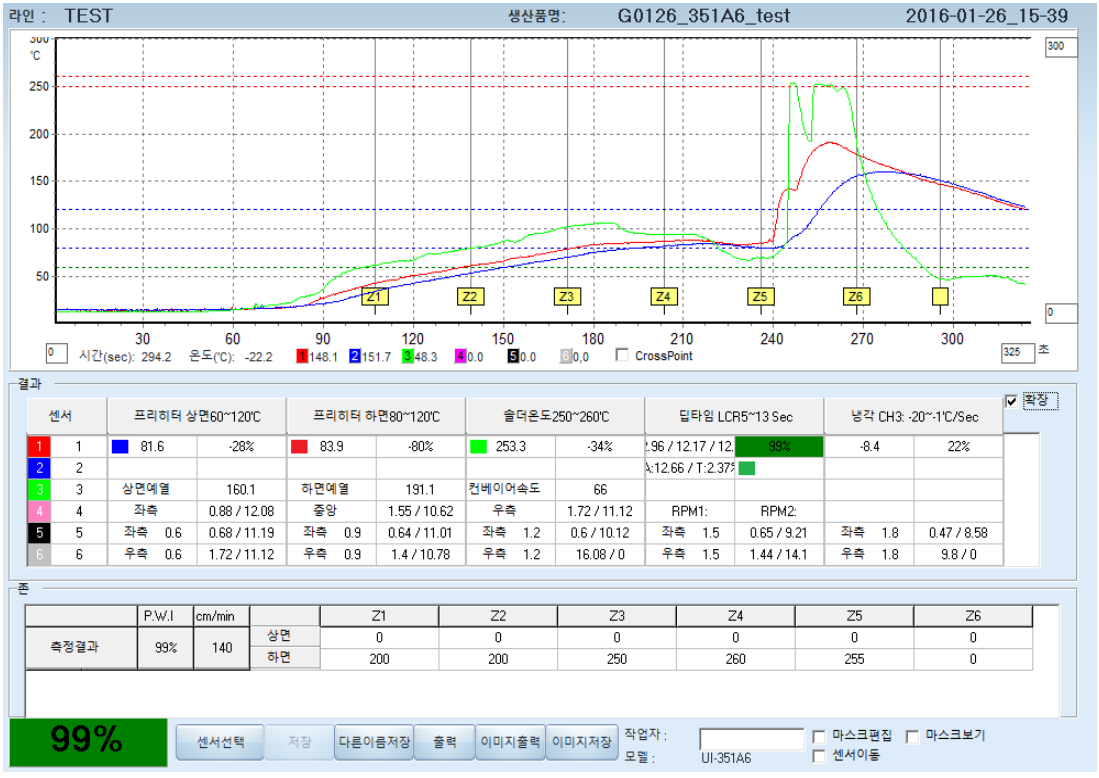


Download the measurement data in the ProFile Down Load menu
Press Submit button to go to Profile View (P.49~76)

Explanations for Program (Compare)

ProFile Compare

○ ProFile Compare



You can check the information of the graph and measurement data in the Profile View

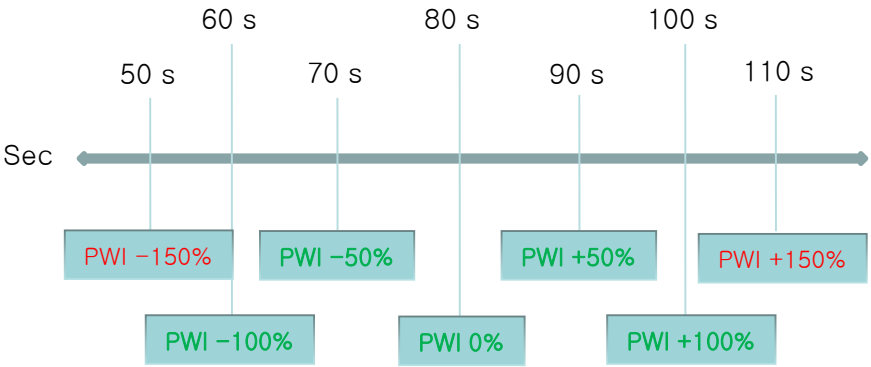
Spec Setting

○ Referrence

What is PWI?

It is a abbreviated word of Process Window Index, and indicates the dispersion of measured values on the standard spec information related to manufacturing.
As shown in the following graph, it becomes closer to 0% when it is near the spec optimal value. If it goes near to the limit of spec, it gets closer to ±100%. In case that it goes beyond ±100%, it exceeds the spec. Therefore, we put emphasis on keeping the analyzed PWI points lower than ±100% when running this system.

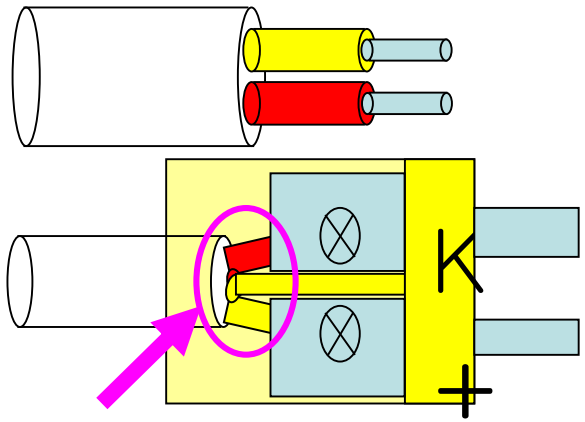
If the spec conditions of preheat section are maintaining 150~200℃ and 60~100 seconds, the time measurement within the constant temperature scope becomes the standard so that the following PWI points can be earned.



In each specification, respective PWI is calculated and the most dangerous value among them will be observed by this system.

Additional description(K type sensor)

Sensor Assembly and Explanation



Be Cautious for Short

○ In case that the thermocouple (temperature detector) is 'red/yellow', the red one is connected to 'K' and the yellow one is linked to '+' section.

※ Caution
- If the lines are separated from the coupling sections while measuring due to the improper connection during measurement, the temperature data is not transmitted.
- Two lines become short because the metal section of lines when assembling, the temperature data is not sent correctly.

Manufacturer : Uisys user interface

Made in Korea

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Uisys user interface