

# Daikin iTouch Manager Install & Commissioning

**Participant Guide** 



# iTouch Manager Installation and Commissioning Guide

- 1. Introduction
- 2. Installation
- 3. Commissioning
- 4. Control Functions
- 5. Commissioning Options
- 6. Auxiliary Device Control





#### **INTRODUCTION**

- 1. iTM Overview
- 2. Hardware Specification

© 2013 Daikin North America, LLC



### 1. iTM Overview

- **①iTM Features**
- **②iTM System Overview**
- **3DAIKIN** supply equipment
- **4** Field supply equipment
- **⑤iTM Functions**

#### **①iTM Features**



#### Easy operation

- Monitor & operate on a diagram by Layout view
- Direct VRV operation by Operation Window
- Hierarchical zone management by using "Area"

#### Web Accessibility

■ Web browser shows the same screen as iTouch Manager

#### Automatic control functions

Many automatic control functions are supported. Schedule, Setback, Timer extension, Interlock, Emergency stop, Automatic changeover

#### Building facilities

■ Building facilities are connected by using WAGO I/O system

#### History

■ All operations, automatic controls and status changes are stored in history(up to 500,000 items)

© 2013 Daikin North America, LLC

Slide 5

#### iTM Features for Installer



#### Easy installation

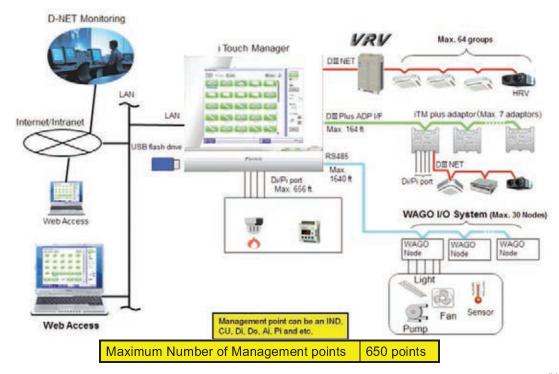
- Wall / flush mount installation
- Automatic management point registration

#### Pre-Engineering

- Data making and function setting can be done on a PC
- All data can be uploaded by USB flash drive

# **②iTM System Overview**





Slide 7 © 2013 Daikin North America, LLC

# 



Equipment	Global model	US model
iTouch Manager	DCM601A51	DCM601A71
iTM plus adaptor	DCM601A52	DCM601A72
PPD option	DCM002A51	DCM002A71
	•	

	Item	Note	Model
Required	Daikin iTM Basic Kit	Power Supply Unit 24 VDC, Connector Module, Bus Coupler, End Module	TBD
Di	2 Channel Di Module		TBD
וט	4 Channel Di Module		TBD
Do	2 Channel Do Module		TBD
Ai	2 Channel Ai Module	4-20 mA, ±10 VDC, 20k Thermistor	TBD
Ao	2 Channel Ao Module	4-20 mA, 0-10 VDC	TBD

Note: WAGO part numbers provide Daikin part number TBD

# **4** Field Supplied Equipment PAIKIN



Equipment	Spec		
USB flash drive	USB2.0		
	Up to 32GB memory can use		
PC for Web access	Windows XP Professional SP3		
	Windows VISTA Business SP2		
	Windows 7 Professional SP1		
	Monitor: 1024x768 or more		
	Web browser: Internet Explorer 8, 9		
	Firefox 10		
	Flash Player Ver11.1		

Slide 9 © 2013 Daikin North America, LLC

# **⑤iTM Functions**



Category		Function	Description	Option	
Monitor & Operation	Monitor screen	Standard view (Icon)	•Hierarchical management by "Area" •Up to 650 Areas can be registered. (Up to 10 hierarchical levels)		
		Standard view (List)	Various status of operation are displayed on list     Sort management points by each status	Std	
		Layout view	•Monitor and control on floor layout diagram		
	Operation	Operation window	Not only on/off but also setpoint, fan speed and setback from the top screen		
		Detailed setup	Fan direction, R/C prohibition, Setpoint restriction, Timer extension, etc. can be set	Std	
	Error monitor		•Error, Analog upper/lower limit error monitoring		
			•Buzzer sounds when an error detected	Std	
		Contact information	Contact information window	. Siu	
	History		500,000 items stored in history     Operation, automatic control, status change and malfunction information are stored in history     History records who operated     History data can be exported to CSV file.	Std	
Remote Access	Web Access	S	Not only monitor & operation but also automatic control, system configuration, etc. are available on Web	Std	
	E-mail		•Up to 10 E-mail addresses can be registered •Target management points can be registered to E-mail address	Sia	

Slide 10 © 2013 Daikin North America, LLC



Category	Function	Description	Option
Automatic Control	Schedule	Up to 100 programs can be registered     On/Off, Operation mode, Cool/Heat setpoint, optimum start, setback setpoint, fan speed, setpoint restriction, timer extension, setback, VAM setting, and analog value can be set	Std
	Interlock	Up to 500 programs can be registered     Not only on/off status but also error detection, operation mode change and analog value can be used as triggers     Time interval is available for trigger detection condition     Cool/Heat Setpoint, Setpoint shift, fan speed, setpoint restriction, timer extension, setback can be set for actions	Std
	Emergency Stop	•Up to 31 programs can be registered •Target of emergency stop equipment can be registered •Manual release is available	Std
	Setback Control	Independent Cool and Heat Setback temperature     Setback control is available with detailed setup, schedule program, interlocking control	Std

© 2013 Daikin North America, LLC



Category	Function	Description	Option
Automatic Control	Automatic Changeover	iTM measures room temperature and can automatically change over between cooling and heating modes. Fixed, Individual, Average, and Vote     Up to 512 groups can be registered.	Std
	Timer Extension	•Indoor unit can be stopped automatically after the selected minutes. •Timer is selectable from 30, 60, 90, 120, 150, 180Min.	Std
PPD	PPD	Power Proportional Distribution	US model DCM00 2A71
System	External equipment connection	•WAGO I/O system (Di, Do, Ai, Ao)	Std
	Locale setting	•12/24 hour selectable •CSV file format selectable	Std
	Screen saver	•3 types of screen saver can be chosen	Std
D-NET	D-NET	•Air Conditioning Network Service System	Service contract



#### **Commissioning and/or Maintenance Technician Functions**

Category	Function	Description
Technician	Management point registration	Automatic groups address detection Automatic indoor unit model detection Automatic icon type selection
Engineering Tool	Pre-engineering tool	Create and modify management points     All function settings
	Layout view construction tool	Max screen size is 1500x1000 pixel     60 screens can be registered     Point information can be put with icon at the same time     Don't need to put icons one by one (20 icons can put at once)

© 2013 Daikin North America, LLC



## 2. Hardware Specification

- **①iTM Controller**
- **②iTM Plus Adaptor**
- ③Available controllers with iTM



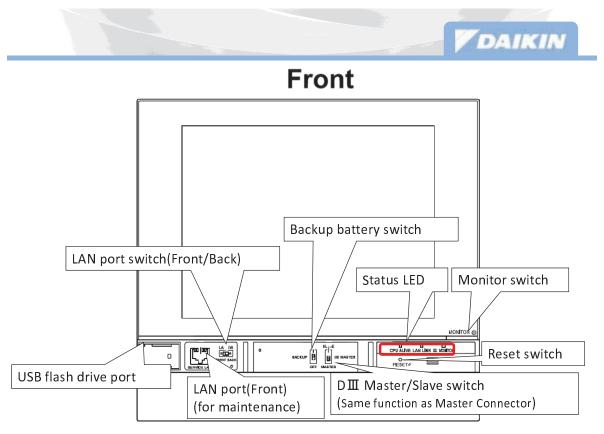
### **1**iTM Controller

(Global model:DCM601A5), US model:DCM601A71)

#### Input/Output port

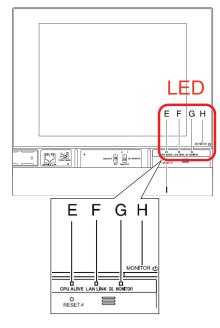
Port Type	Number	Use	
DⅢ	1ch	DⅢ-NET (Up to 64 groups)	
LAN	1ch	Web Access(100BASE-TX ), D-NET	
RS485	1ch	External I/O module (Di,Dio, Ai)	
Di(Pi)	4ch	1 Emergency stop input (Di1)	
		3 Digital/Pulse input	
iTM Plus ADP IF	1ch	iTM Plus Adaptor (Up to 7 Adaptors)	
USB	1ch	USB flash drive (USB2. 0) Max 32GB	

© 2013 Daikin North America, LLC





#### **Status LED**

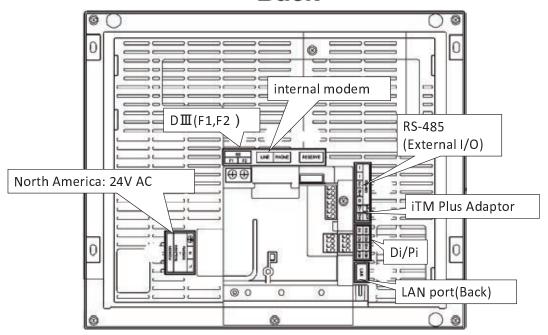


	LED		Note				
		The	The green/orange LED lights wh			le iTM is powered	ON.
			iTM	Status		LED Status	
Н	MONITOR		Power ON	Back light (	ON	ON(Green)	
			FOWER ON .	Back light (	OFF	ON(Orange)	
			Power OFF			OFF	
		The	green LED ir	-	tem	status.	
E	CPU				BI II	NK(0.4sec interval)	
	ALIVE		Malfanation	Hardware		OFF	
			Malfunction	Software		ON	
F	LAN LINK	The green LED lights when the LAN port is linked.					
G	DIII MONITOR		The yellow LED blinks while data is being sent or received on DIII-NET.				

© 2013 Daikin North America, LLC



#### **Back**





## ② iTM Plus Adaptor

US model :DCM601A72

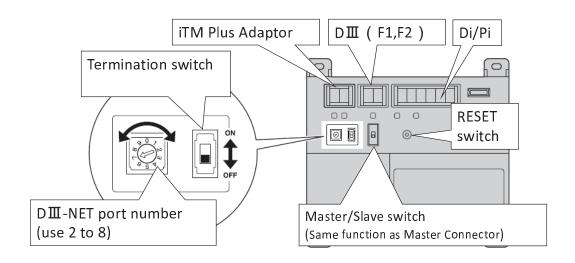
#### Input/Output port

Port	Number	Use
plus ADP IF	1ch	iTM Plus Adaptor ( Up to 7 Adaptors )
DⅢ	1ch	DⅢ-NET(Up to 64 groups)
Di(Pi)	4ch	Emergency stop input,
		Digital/Pulse input

© 2013 Daikin North America, LLC Slide 19



# **iTM Plus Adaptor**





## **3 Available controllers with iTM**

Available controller with iTM

Controller		Installation with iTM	Remark
BACnet Interface	DMS502B71	/	R/C Restriction can not be
LON Interface	DMS504C71	/	used on iTM.
Central Remote Controller	DCS302C71	1	D3Dio,D3Di can not be used. D <b>III</b> addresses 5 -00 ~ 8-15 can not be used.
Unified ON/OFF Controller	DCS301C71	1	D3Dio,D3Di can not be used. D <b>II</b> addresses 5-00 ~ 8-15 can not be used.
iManager III	DAM602A71		Functions are conflicted,
iTouch Controller	DCS601C71	Can NOT install	because these controllers have same functions as iTM like an
Schedule Timer	DST301BA61	with iTM on same DⅢ-NET	automatic control.
			Error code MA will be shown.

© 2013 Daikin North America, LLC



Thank You



# iTouch Manager Installation and Commissioning Guide

- 1. Introduction
- 2. Installation
- 3. Commissioning
- 4. Control Functions
- 5. Commissioning Options
- 6. Auxiliary Device Control





#### **INSTALLATION**

- 1. *iTM*
- 2. iTM Plus Adapter (option)
- 3. DIII-NET Wiring

© 2013 Daikin North America, LLC

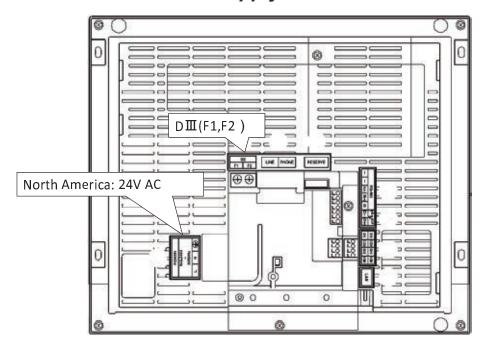


#### 1. *iTM*

Wire Power Supply and DIII-NET Port



#### Wire Power Supply and DIII-NET Port



© 2013 Daikin North America, LLC

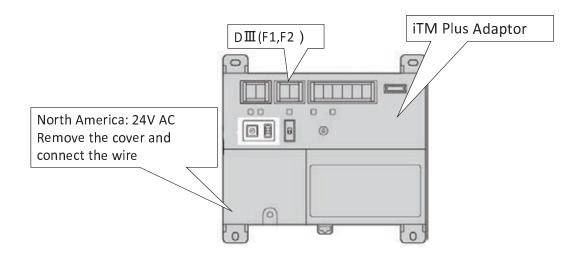


# 2. iTM Plus Adapter (option)

- 1. Wire Power Supply and DIII-NET Port
- 2. Wire iTM and Plus Adaptor
- 3. Configure iTM Plus Adapter Hardware settings
  - DIII-NET Master/slave Controller
  - Port Number
  - Termination



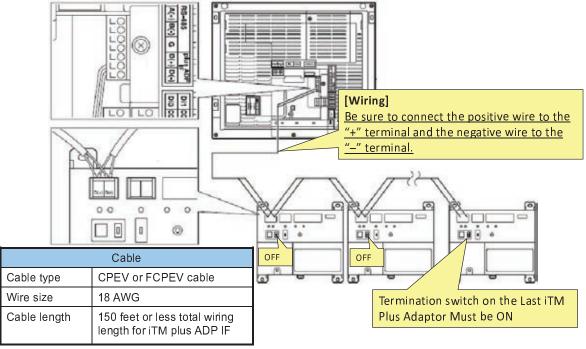
#### 1. Wire Power Supply and DIII-NET Port



© 2013 Daikin North America, LLC

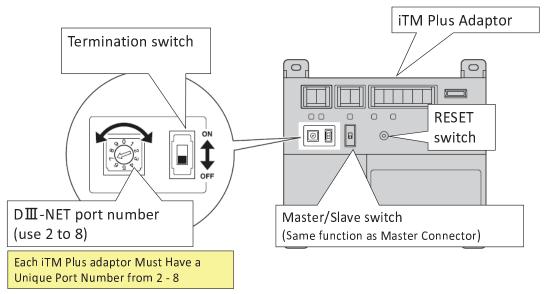


#### 2. Wire iTM and Plus Adaptor Communication Wire





# 3. Configure iTM Plus Adapter DIII-NET Master/Slave Controller, Port number and Termination



© 2013 Daikin North America, LLC

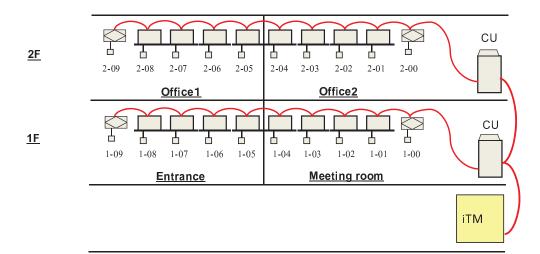


# 3. DIII-NET Wiring

- 1. iTM Wiring
- 2. iTM Plus Adaptor Wiring
- 3. iTM and BACnet Wiring
- 4. Configure DIII-NET Master/Slave Controller



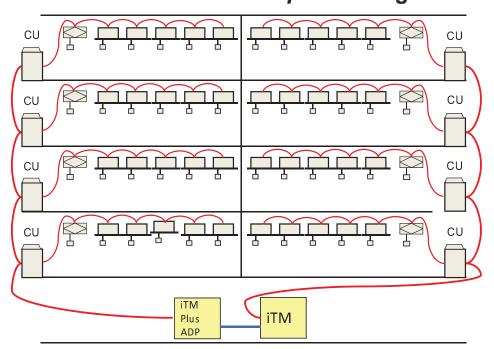
#### 1. iTM Wiring



© 2013 Daikin North America, LLC Slide 11

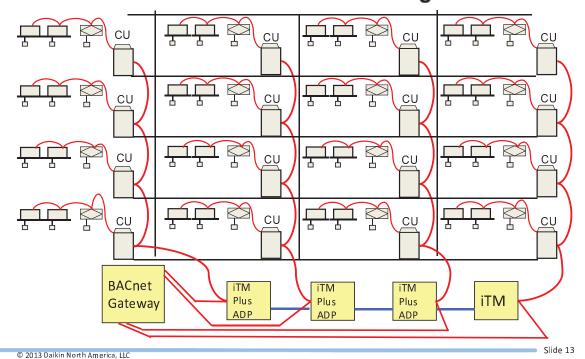


### 2. iTM and Plus Adaptor Wiring





### 3. iTM and BACnet Wiring

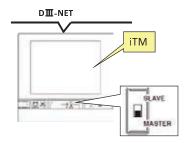




#### 4. Configure DIII-NET Master/Slave Controller

ITM or BACnet/LON Interface should be a DIII-NET Master with the following table.

	ITM	BACnet/LON IF
ITM only	Master	n/a
BACnet IF + ITM	Slave	Master
LON IF + ITM	Slave	Master

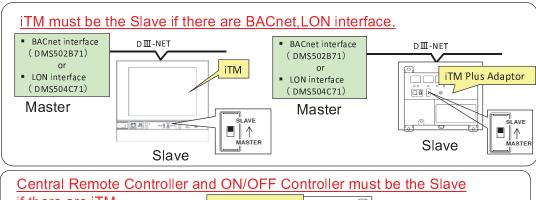


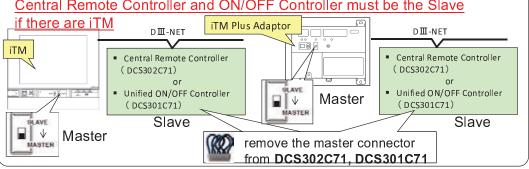


If there are other multi-zone controllers, such as Centralized Controller and/or On/Off Controller, the master connector (blue Jumper) should be removed.



#### Master/Slave Setting





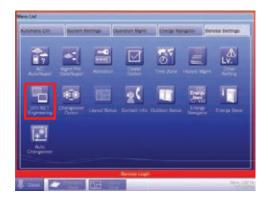
© 2013 Daikin North America, LLC

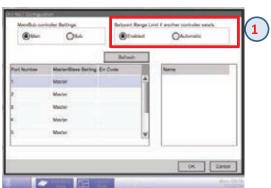
Slide 15

#### iTM v2.0 and BACnet/Lon



- When the either the BACnet or Lon interfaces are connected to the iTM with v2.0 the following settings should be made:
  - Enable the setpoint range limitation (Automatic default setting) under the DIII-Net Engineering menu



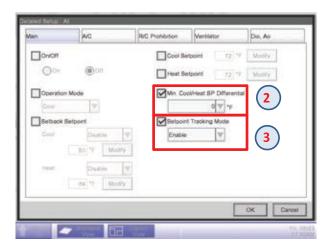


## iTM v2.0 and BACnet/Lon



Cont'd...

- To lock the iTM into single setpoint:
  - 2. Set the setpoint differential to 0°F
  - 3. Enable the Setpoint Tracking mode

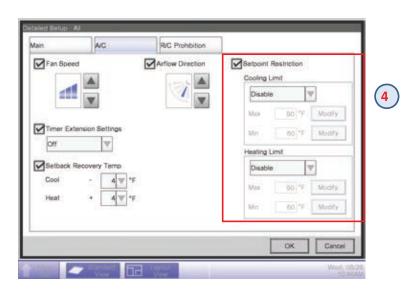


© 2013 Daikin North America, LLC Slide 17

## iTM v2.0 and BACnet/Lon



4. Disable the Setpoint Restriction for cool and heat limits





Thank You



# iTouch Manager Installation and Commissioning Guide

- 1. Introduction
- 2. Installation
- 3. Commissioning
- 4. Control Functions
- 5. Commissioning Options
- 6. Auxiliary Device Control





#### **COMMISSIONING**

- 1. Before start of commissioning
- 2. Basic Commissioning Flow from iTM Touch Screen

© 2013 Daikin North America, LLC



Slide 3

#### 1. Before start of commissioning

- I. Get project information
- II. Design Control method of the Project (Area, Group addressing)
- III. Get latest version software



#### I. Get project information

Please get the following information from Xpress.

- Project drawing
- VRV system information
  - Number of Outdoor Units
  - Number of Indoor units
- Network information
- Control requirements

© 2013 Daikin North America, LLC



Slide 5

#### II. Design Control method of the Project

- 1. Design Group Addressing Method
- 2. Design Control Area Hierarchy



#### **III.** Get latest version software

Latest version-up tool and presetting tool will be provided by Technical Support Center to qualified Technicians only. Same process as the ITC.

- All requests will require, minimum 24 hours for processing
- Send request to:

techsupport@daikinac.com

- 1. Latest Version-up Tool
- 2. Latest Presetting Tool

© 2013 Daikin North America, LLC



# 2. Basic Commissioning Flow from iTM Touch Screen

- I. Configure Basic items
- II. Configure Hardware
- III. Assign Group Addressing to the indoor units
- IV. Register Indoor unit from iTM
- V. Configure Management Points
- VI. Configure Area
- VII. Configure Network
- VIII. Configure Layout View



#### I. Configure Hardware

- 1. Check DIII-NET wiring and connections
- 2. Turn ON Battery Back-up switch
- 3. Configure DIII-NET Master/Slave Controller
- 4. Turn Power ON

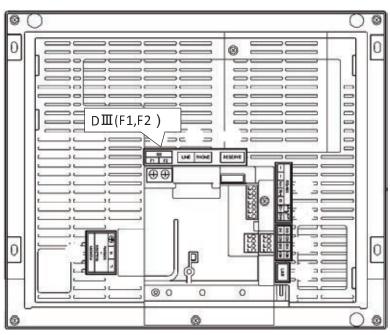
© 2013 Daikin North America, LLC

5. Calibrate Touch Screen

Slide 9

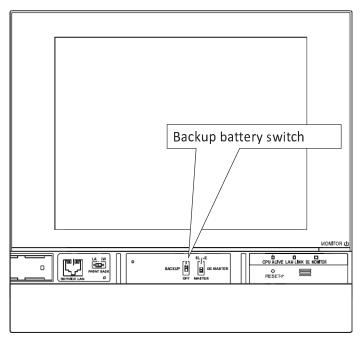


#### 1. Check DIII-NET wiring and connections





#### 2. Turn ON Battery Back-up switch

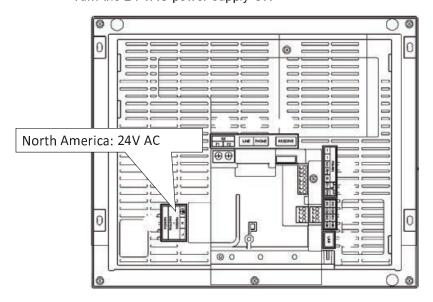


© 2013 Daikin North America, LLC



#### 3. Turn Power ON

- Check the 24 VAC connection
- Turn the 24 VAC power supply ON



### Upgrading the iTM to v2.0

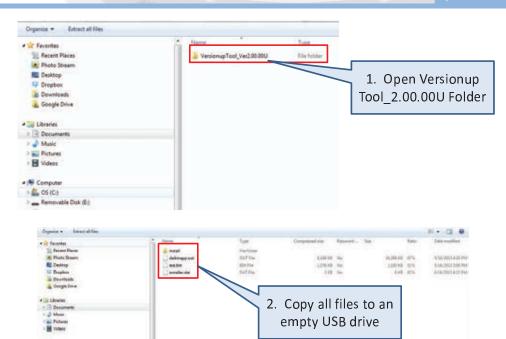


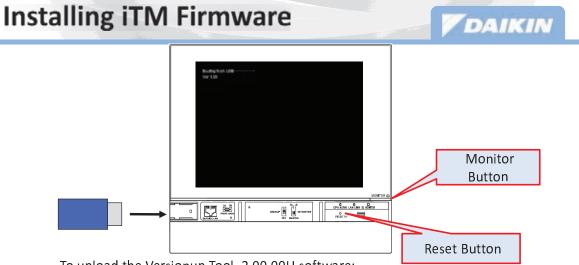
- On a newly installed iTM, complete the upgrade procedure before configuring the iTM
- If upgrading a previously installed iTM (version 1.0x)
  - Record any license activation keys previously installed
  - Record all network settings (ex. IP address, subnet mask, default gateway, email settings)
  - Create a backup file of all data
  - Verify all group addresses configured on the system
    - Have a list of all group addresses and their to room names (ex. 1-01 is office 102)
  - If the floor layout view is used
    - Verify and record the location of all indoor unit icons on the floor plan
- Upgrading from v1.0x to v2.0 will delete/clear <u>ALL</u> data/configurations previous set in the iTM
  - Group addresses can be restored by auto registration automatically
  - Upgrading from v1.0x to v2.0 requires a complete re-commissioning of previously commissioned iTM's
- The PresetLauncher tool for v1.0x will not work with v2.0
  - You must use the v2.0 PresetLauncher Tool once the upgrade is completed

© 2013 Daikin North America, LLC Slide 13

# **Installing iTM Firmware**







To upload the Versionup Tool 2.00.00U software:

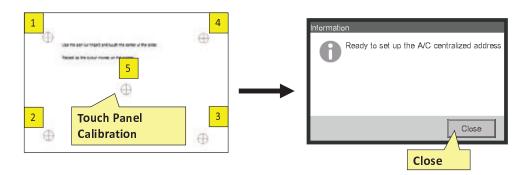
- Hold the monitor button down
- At the same time press the reset button then release it while continuing to hold the Monitor button down.
- The display will go black
- When the words "Booting from USB..." appear release the Monitor button
- The iTM will then upload the software, follow on screen prompts to complete the process

Slide 15 © 2013 Daikin North America, LLC



#### Calibrate Touch Screen

After power on, follow the instruction on the screen to calibrate it.



Slide 16 © 2013 Daikin North America, LLC



#### II. Configure Basic items

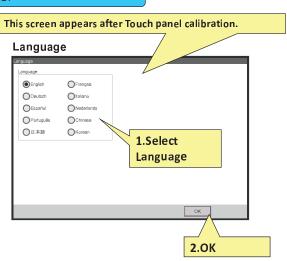
- 1. Language
- 2. Date, Time and Temperature formats and Icon Color
- 3. Time Zone
- 4. Time, Date, Daylight Savings Time (DST)

© 2013 Daikin North America, LLC



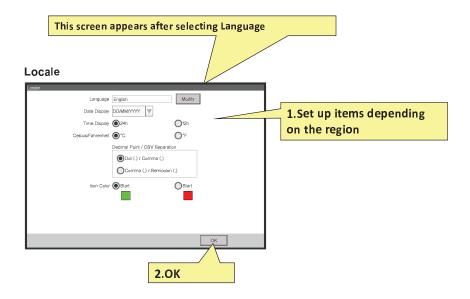
#### 1. Language

#### Locale(System Setting)





#### 2. Date, Time and Temperature formats and Icon Color



© 2013 Daikin North America, LLC

Slide 19

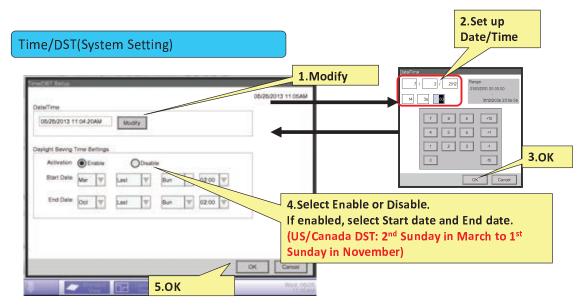


#### 3. Time Zone

# Time Zone Settings Time Zone Settings Time Zone GMT+04.30 Kabul GMT+05.00 Islamabad, Karachi, Tashkent GMT+05.30 Munbai, New Delhi GMT+06.00 Almaty, Dhaka, Colombo GMT+07.00 Bangkok, Hanoi, Jakarta GMT+08.00 Singapore, Perth, Beijng, Hong Kong GMT+09.00 Seoul, Yakutsk, Tokyo GMT+09.00 Seoul, Yakutsk, Tokyo GMT+09.00 Vladivostok, Sydney, Guam, Hobart 2.OK



#### 3. Time, Date, Daylight Savings Time (DST)



© 2013 Daikin North America, LLC

Slide 21



#### III. Assign Group Addressing to the indoor units

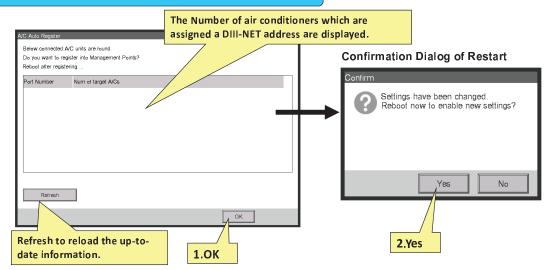
III. Assign group addresses to indoor units, using remote controllers





#### IV. Register Indoor unit

#### A/C (indoor unit) Auto Register (Service Setting)

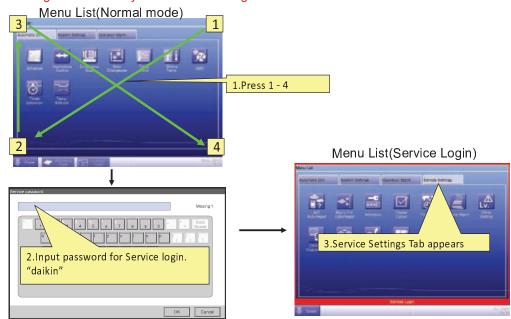


© 2013 Daikin North America, LLC Slide 23



#### V. Configure Management Points (in Service settings Tab)

Service login is necessary for Service Settings



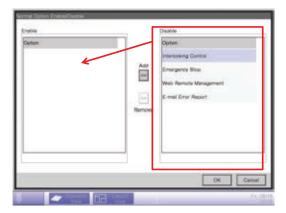
# **Dealer Options**



Dealer Option need to be enable in order for the desired function to operate

 Functions must be moved from the disabled column to the enabled column using the [Add] button





© 2013 Daikin North America, LLC

# **Dealer Options**

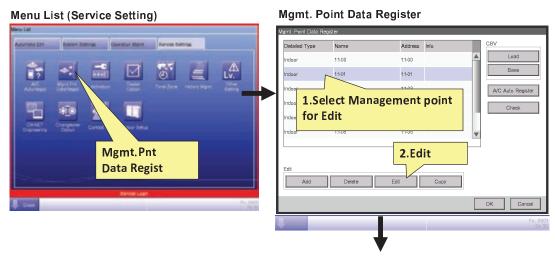


Function	Description	Option
Interlock Control	Up to 500 programs can be registered  Not only on/off status but also error detection, operation mode change and analog value can be used as triggers  Time interval is available for trigger detection condition  Setpoint shift, fan speed, setpoint restriction, timer extension, setback can be set for actions	Enable if Applicable
Emergency Stop	•Up to 31 programs can be registered •Target of emergency stop equipment can be registered •Manual release is available	Enable if Applicable
Web Remote management	Enable Web Access     Not only monitor & operation but also automatic control, system configuration, etc. are available on Web	Enable if Applicable
Email Error Report	•Up to 10 E-mail addresses can be registered •Target management points can be registered to E-mail address	Enable if Applicable

# **Mgmt Point Registration**



#### Configure/Edit Management Points (in Service Setting Tab)



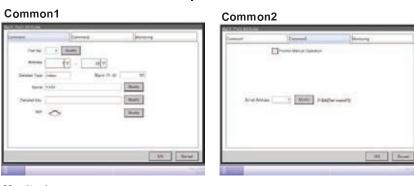
Attributes setup screen(see next page)

© 2013 Daikin North America, LLC



Slide 27

#### Indoor unit Attributes setup screen



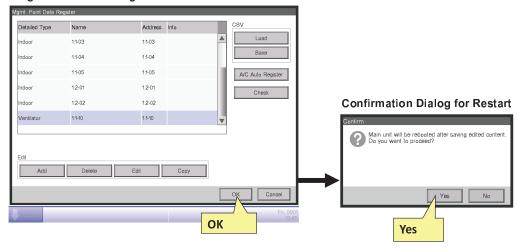
#### Monitoring





#### Register Management point data

Mgmt. Point Data Register

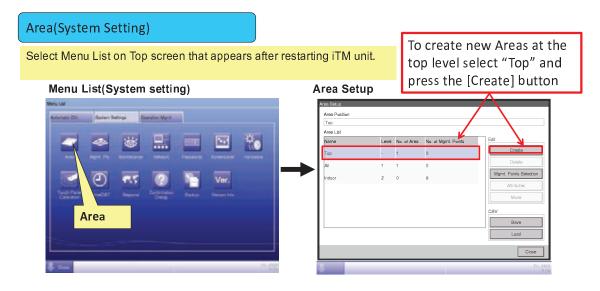


© 2013 Daikin North America, LLC Slide 29



# VI. Configure Area

Configure Area according to the hierarchy design which was done before commissioning

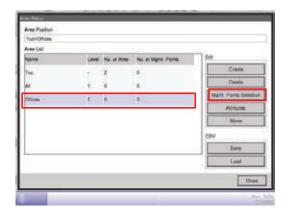


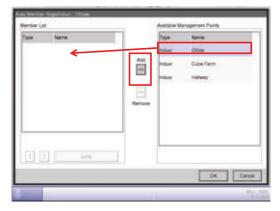
# **Area Configuration**



Once the Area has been created group(s) need to be registered to the Area.

- Select the [Mgmt Points Registration] button to add groups to the Area
- Select group assignment from the list of available management points
- Use the [Add] button to add groups to the Area





© 2013 Daikin North America, LLC



Slide 31

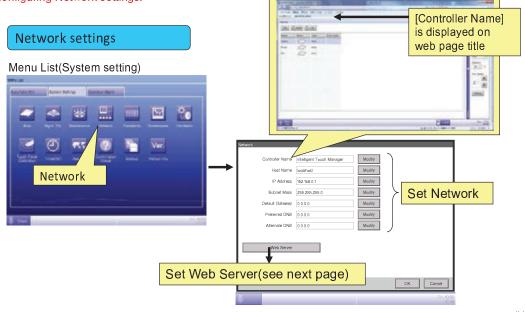
# VII. Configure Network

- 1. IP addresses
- 2. Email information



#### 1. IP addresses

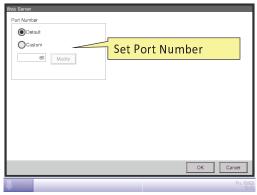
Ask the network administrator of the customer to supply the Network information (IP address(static), subnet mask, Default Gateway, DNS address) and port number before configuring Network settings.



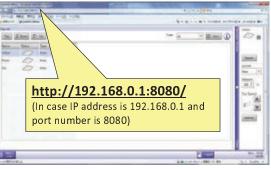
© 2013 Daikin North America, LLC



#### Web Server



Port Number is necessary in URL, if port number is not 80(default).



#### Connect Network cable

#### Caution

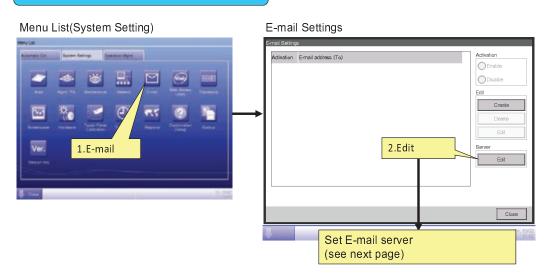
The confliction of IP Address occurs if iTM's IP address is the same as customer's PC.

You must set IP Address correctly that is assigned by customer before you connect iTM to Customer's network.

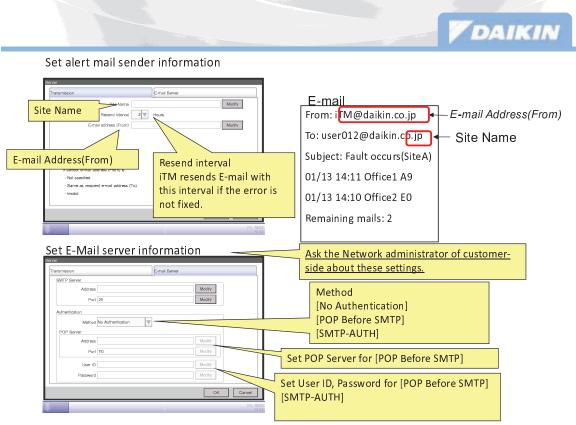


#### 2. Email information

#### Set E-mail Server

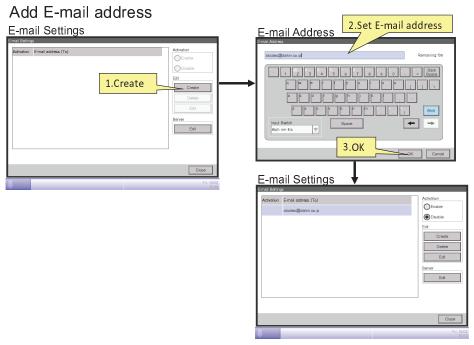


© 2013 Daikin North America, LLC Slide 35





#### Add E-mail address and E-mail alert targets

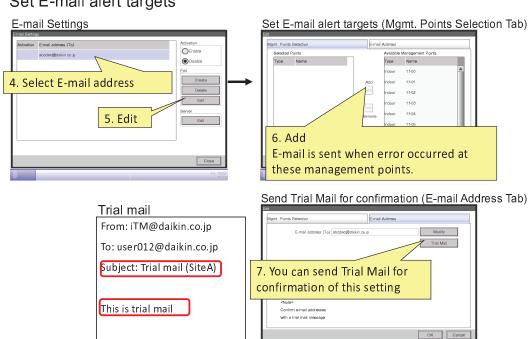


Slide 37 © 2013 Daikin North America, LLC



#### Set E-mail alert targets

Site Name: SiteA



Slide 38 © 2013 Daikin North America, LLC



#### **Enabling E-mail**

#### E-mail Settings



© 2013 Daikin North America, LLC

# **Exercise 1**

Performing the Initial Settings





### VIII. Configure Layout View

- ①What is Layout Screen?
- ②Specification of Layout screen
- ③Installation Overview
- **4** Setting Procedure

#### **Appendix**

- A1. How to get Layout data from iTM
- A2. How to load full Project data which is including Layout data

© 2013 Daikin North America, LLC

# ①What is Layout screen?



Customer can monitor and operate the Management point/Area on layout screen.

The Icon and its information are displayed on layout screen.

The layout screen is changed when you select screen name in Screen Transition list.

Each screen has own screen list.

You can change view range of screen

[Screen Transition list] of 1F

Management point/Area

You can change screen

Screen of Office A in 1F

[Layout view] for displaying Layout screen

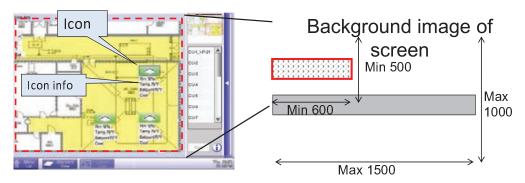
[Screen Transition list] of Office A

[Screen Transition list] of Office A

© 2013 Daikin North America, LLC Slide 42

# 





Item	Spec
Screen	Max 60 screens can be registered
	The screen name must be unique in all screens. Max 20 characters
Background image of screen	JPEG (Max 500 Kbytes per an image)
	600 pixel(width) × 500 pixel(height) to 1500 pixel × 1000 pixel
Icon of Area/Management point	Max 100 icons per a screen
Icon info(Auxiliary Information)	Max 300 information per a screen

© 2013 Daikin North America, LLC

# ③Installation Overview

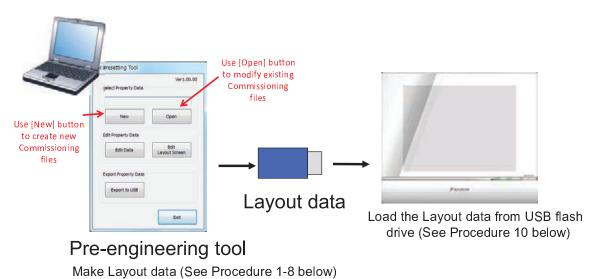
Copy the Layout data to USB flash drive (See

Procedure 9 below)



Slide 43

The layout data can only be configured with Pre-engineering tool on a PC Then the layout data can be imported to iTM by using a USB flash drive



Slide 44 © 2013 Daikin North America, LLC

# Setting Procedure



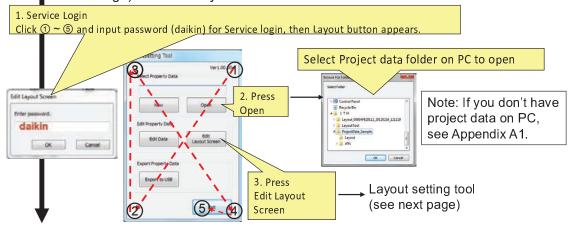
Start

Work on PC

#### 1.Prepare the JPEG file of Background from CAD data of building

#### 2.Start Layout setting tool

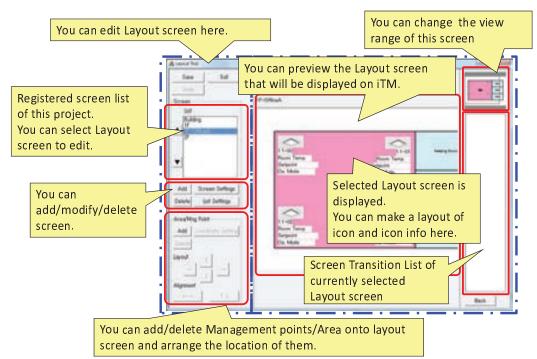
Use Pre-engineering tool (Service login is necessary for Layout screen settings) to make Layout data.



© 2013 Daikin North America, LLC Slide 45

# Layout setting tool on PC



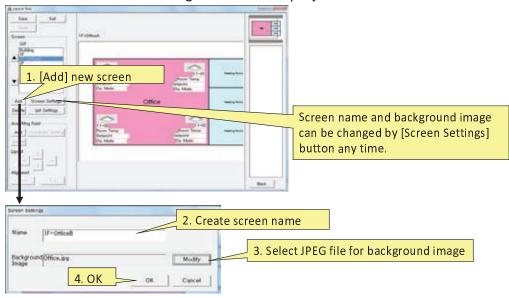




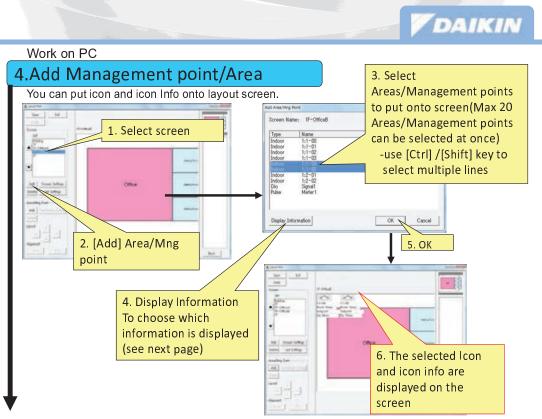
#### Work on PC

#### 3. Register Layout screen

Add a new screen and register it to this project.

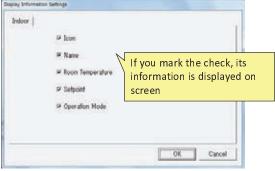


© 2013 Daikin North America, LLC Slide 47





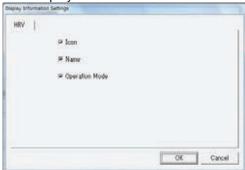
#### Set display information for indoor



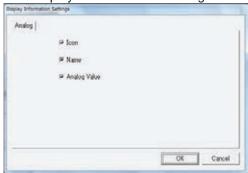
#### Set display information for Di/Dio



#### Set display information for VAM



Set display information for Analog



© 2013 Daikin North America, LLC

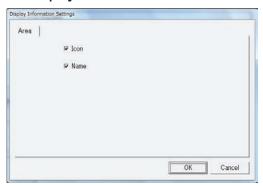
Slide 49



#### Set display information for Pulse



#### Set display information for Area



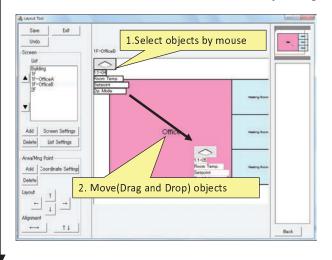


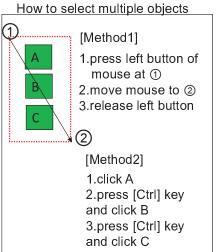
#### Work on PC

#### 5. Move the icon and icon info to correct place

#### [Method 1]: Drag and Drop

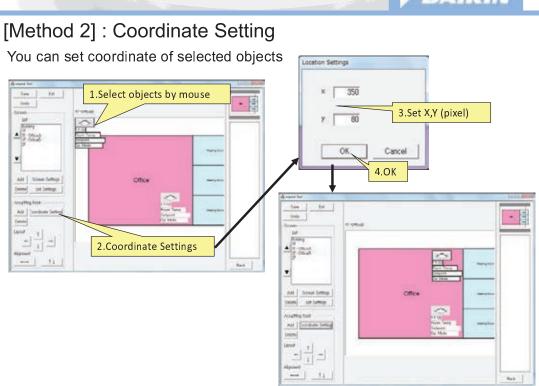
You can move the icon and icon info by using Drag and Drop of mouse operation.





© 2013 Daikin North America, LLC Slide 51



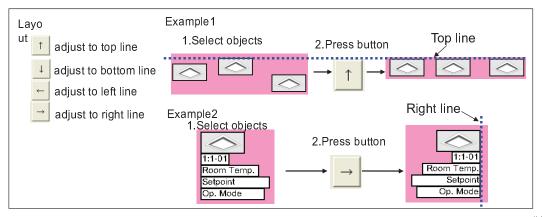




#### [Method 3]: Adjusting

You can adjust the location of selected objects

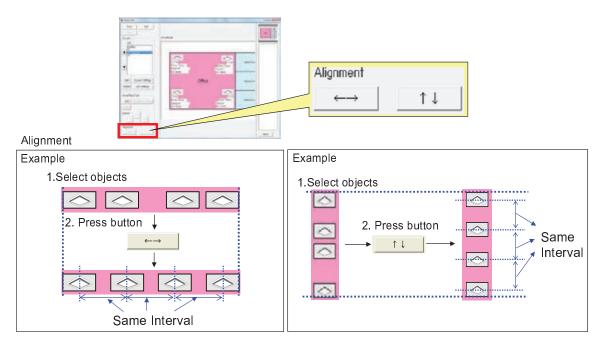




© 2013 Daikin North America, LLC Slide 53



#### You can adjust the location of selected objects

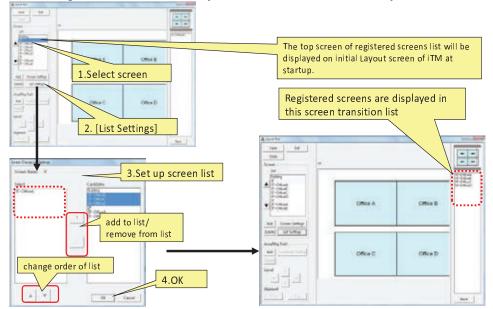




#### Work on PC

### 6.Set up Screen Transition list of selected layout screen

You can register screens where you can transit from currently selected screen.



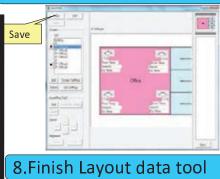
© 2013 Daikin North America, LLC

Slide 55



#### Work on PC

### 7. Save Layout data in Project data folder



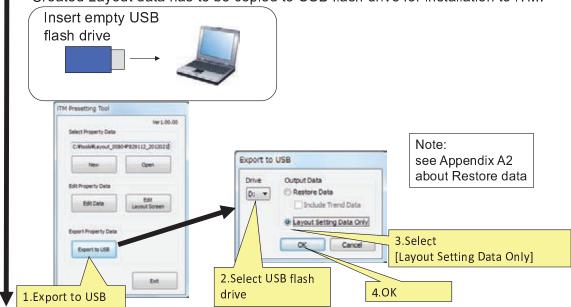




#### Work on PC

#### 9. Copy Layout data to USB flash drive

Created Layout data has to be copied to USB flash drive for installation to iTM.

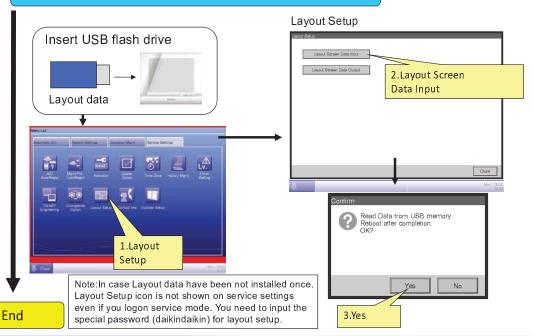


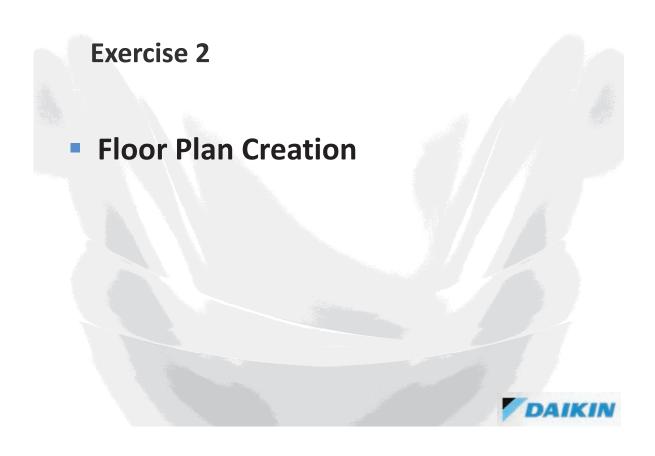
© 2013 Daikin North America, LLC Slide 57



#### Work on iTM

#### 10.Load Layout data to iTM from USB flash drive





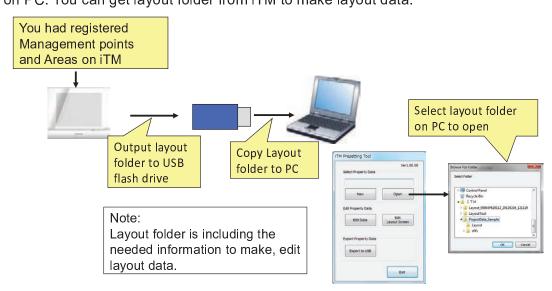


#### A1. How to get Layout data from iTM



#### [Situation1]

In case you installed without Pre-engineering tool, you don't have the project data on PC. You can get layout folder from iTM to make layout data.



© 2013 Daikin North America, LLC

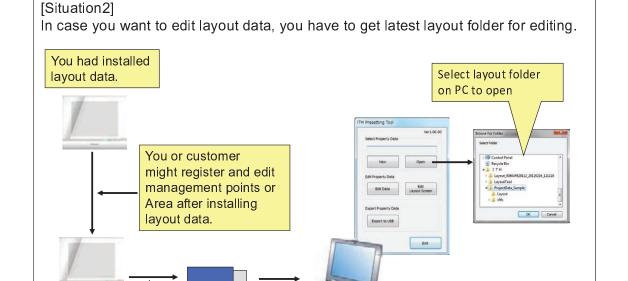
You have to output

USB flash drive

latest layout folder to

Slide 61





© 2013 Daikin North America, LLC Slide 62

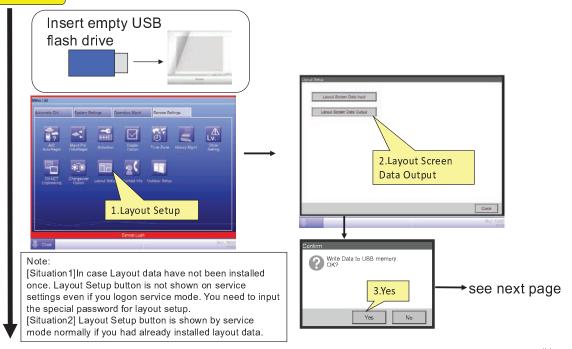
Copy Layout

folder to PC

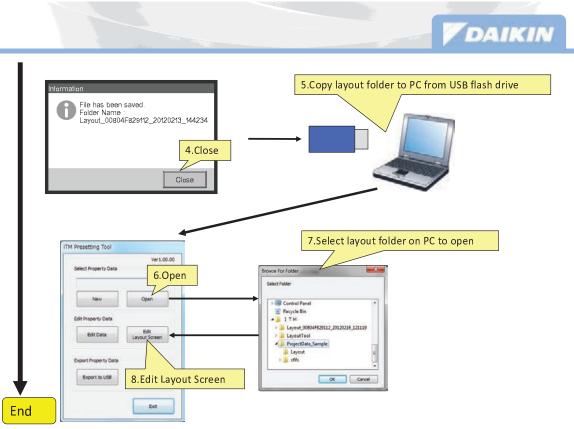


#### Start

#### Procedure of getting Layout data from iTM



© 2013 Daikin North America, LLC

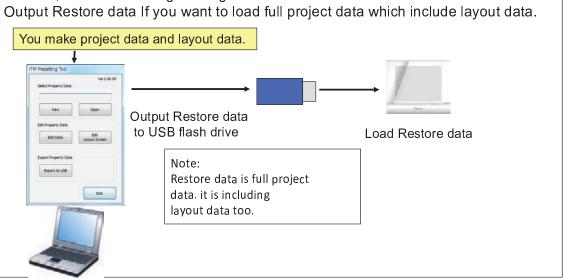


#### A2. How to load full Project data which include Layout data



#### [Situation]

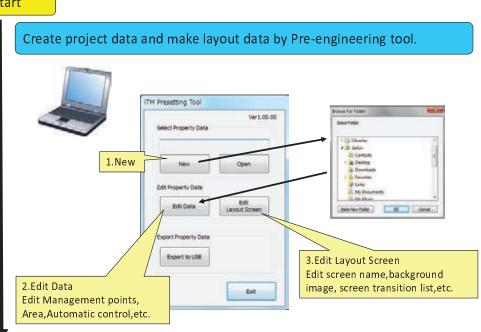
In case you make project data which includes management points, areas, automatic controls, etc. with Pre-engineering tool.



© 2013 Daikin North America, LLC

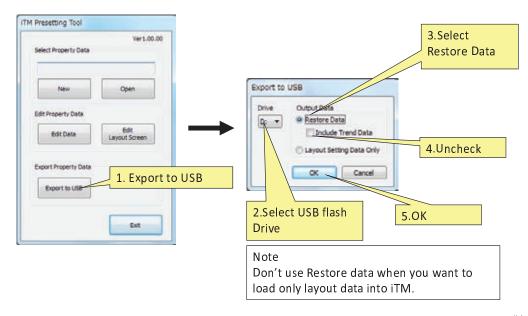


#### Start

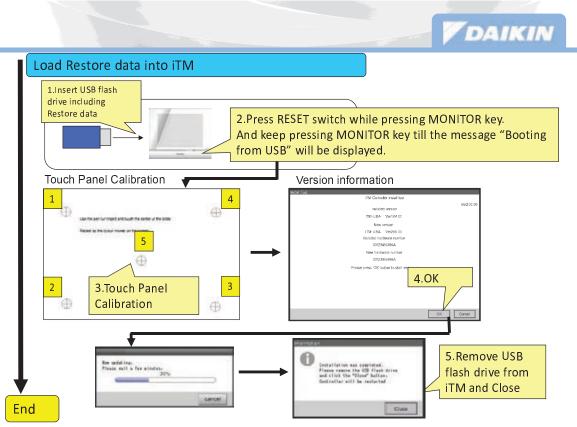




# Make Restore data after editing Layout data



© 2013 Daikin North America, LLC





Thank You



# iTouch Manager Installation and Commissioning Guide

- 1. Introduction
- 2. Installation
- 3. Commissioning
- 4. Control Functions
- 5. Commissioning Options
- 6. Auxiliary Device Control





### **CONTROL FUNCTION**

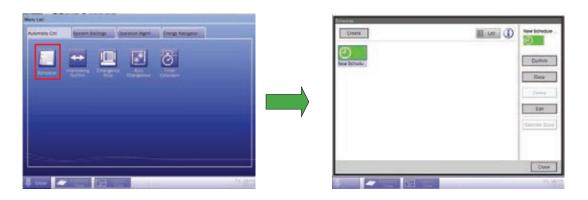
- 1. Schedule
- 2. Setback
- 3. Timer Extension (Unoccupied override)
- 4. Auto changeover
- 5. Emergency Stop
- 6. Interlock
- 7. Temperature Limit

© 2013 Daikin North America, LLC

### 1. Schedule



Slide 3

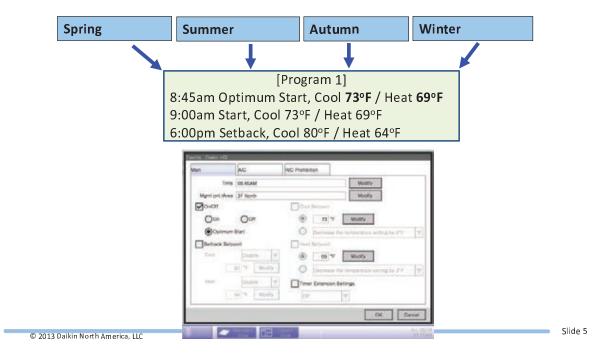


Menu List Schedule

## Schedule control for a year



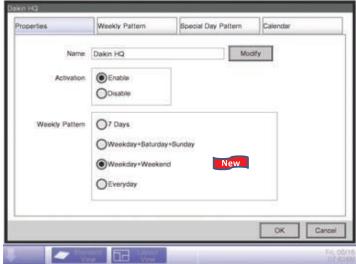
Independent Cool and Heat setpoints and Independent Setback setpoints allow for one schedule to be set to run year round



# Scheduling



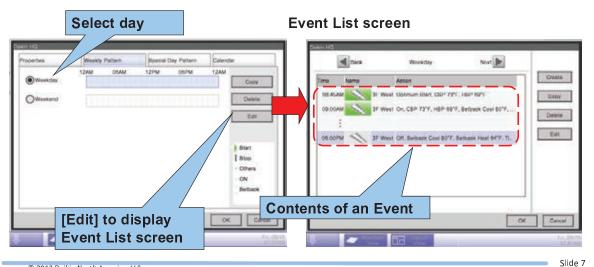
- Up to 100 schedule programs can be created
- 7 day , 5 + 2 (Weekday + Weekend), 5 + 1 + 1 (Weekday + Saturday + Sunday),
   1 (Everyday)





# Weekly pattern

- 7 day, 5 + 2 (Weekday + Weekend), 5 + 1 + 1 (Weekday + Saturday + Sunday), 1 (Everyday)
  - Up to 20 Events can be registered each day.



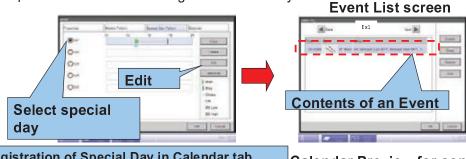
© 2013 Daikin North America, LLC



# **Special Day pattern**

Special Day (such as holiday)

- Up to 5 Special Day patterns (Ex1-Ex5) can be registered.
- Up to 20 Events can be registered each day.



Registration of Special Day in Calendar tab Calendar Preview for confirmation



Slide 8 © 2013 Daikin North America, LLC



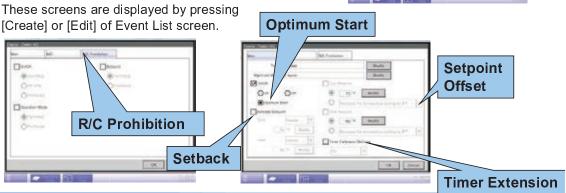
Fan Speed

#### **Event of Schedule**

Event is Not only Start/Stop, Setpoint, Operation Mode.

The following actions are also available.

- Optimum Start
- Setback
- Timer Extension
- Setpoint offset
- R/C Prohibition
- Fan Speed

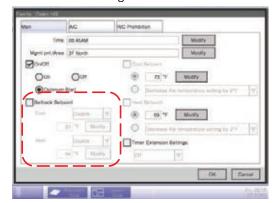


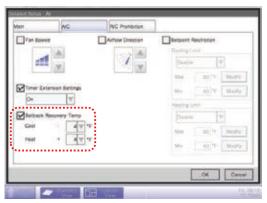
© 2013 Daikin North America, LLC

### 2. Setback



- The setback for iTM v2.0 provides independent setback setpoints for cooling and heating
- By default the setback setpoints are disabled and can be enabled by the schedule, interlock, and settings features
  - The default setpoint for cooling is 80°F (configurable)
  - The default setpoint for heating is 64°F (configurable)
  - Independent Setback Recovery Temp for cooling (-4°F default) and heating (+4°F default)
    - Configurable from 2°F 10°F

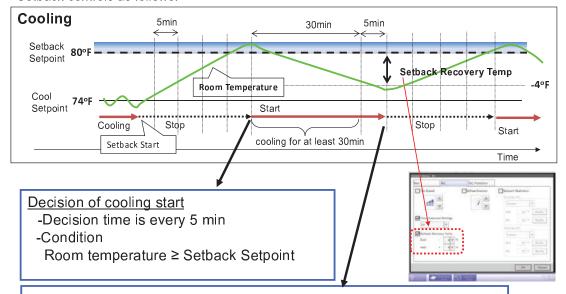




### **Detail of Setback Control (Cooling)**



Setback controls as follows.



#### Decision of stop

- -Decision time is every 5 min after 30 min from the time cooling starts.
- -Condition

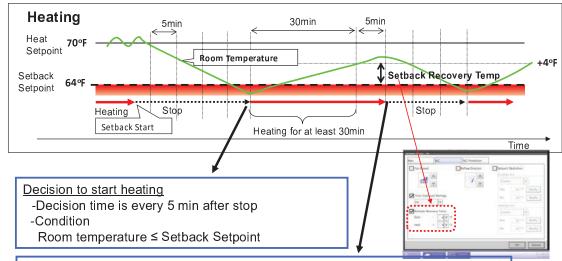
Room temperature ≤ Setback Setpoint – Setback Recovery Temp

© 2013 Daikin North America, LLC



# Detail of Setback Control (Heating)

Setback controls as follows.



#### Decision to stop indoor unit operation

- -Decision time is every 5 min after 30 min from the time heating starts.
  - Condition

Room temperature ≥ Setback Setpoint + Setback Recovery Temp

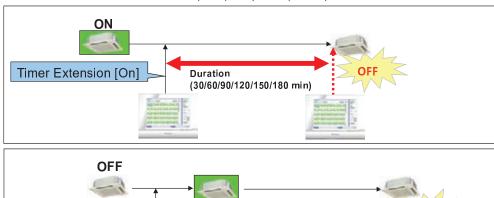
© 2013 Daikin North America, LLC

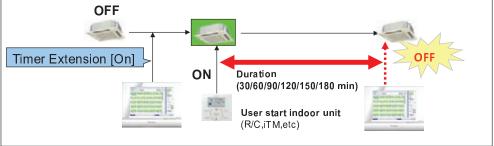
Slide 11



# 3. Timer Extension (Unoccupied Override)

Stop indoor units automatically after selected duration. Duration is selectable from 30, 60, 90, 120, 150, 180Min





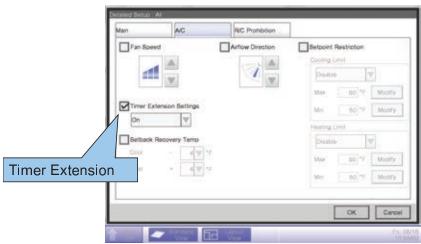
© 2013 Daikin North America, LLC

Slide 13



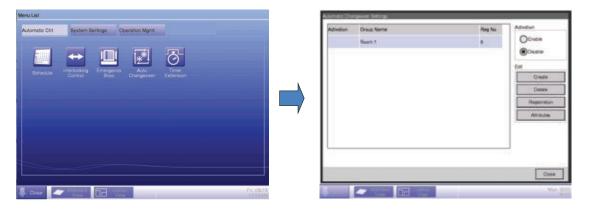
# Timer Extension Must be Turned ON to Operate during the unoccupied period

- Indoor unit should be turned off
- When schedule turns indoor units on timer extension (On setting) does not carry through to the occupied period
  - Timer extension must be turned On during the occupied period to operate



# 3. Auto changeover





Menu List

Automatic changeover

© 2013 Daikin North America, LLC

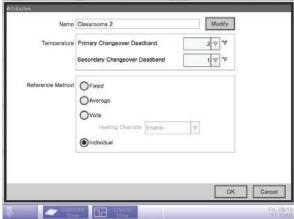
Slide 15

# iTC v2.0 – Auto-changeover



### **Attributes**

- The Attributes selection allows:
  - The user to set the Primary Changeover deadband (PCd) and the Secondary Changeover deadband (SCd) change over value
  - Select the Changeover method
    - This must be done before configuring the changeover groups.



# iTC v2.0 – Auto-changeover



#### iTM can manage Auto-changeover of indoor units in the Changeover Group

Configuration Type	Changeover evaluated by	Changeover affects to	Good for	
.,,,,			Heat Pump	Heat Recovery
Individual	Room temperature and setpoints of the individual indoor unit group in the Area	Individual indoor unit group in the changeover group		<b>√</b>
Fixed	Room temperature and setpoints of the representative unit (first registered unit) in the Area		✓	<b>~</b>
Vote	Allows users to configure the system changeover based upon weighted priority (weighted demand configurable)	All indoor unit groups in the changeover group	✓	<b>√</b>
Averaging	Room temperature and setpoints of the average of all indoor unit groups in the Area (weighted demand configurable)		<b>√</b>	<b>√</b>

© 2013 Daikin North America, LLC

#### [Fixed method]

Group name	First Floor Office	
Indoor unit (Representative model = Indoor unit 1)	Indoor unit 1 (Changeover Master Unit)	Indoor unit 2
(Representative model = Indoor unit 1)	Indoor unit 3	Indoor unit 4
Primary Changeover Deadband	2°F (adjustable 1-4°F)	
Secondary Changeover Deadband	1°F (adjustable 1-4°F)	
Heat Orver Ride	_	
Reference Method	[Fixed]	



#### [Individual method]

Group name	Hotel Guest Rooms		
200-2	Indoor unit 1 (Changeover Master Unit)	Indoor unit 2 (Changeover Master Unit)	
Indoor unit	Indoor unit 3 (Changeover Master Unit)	Indoor unit 4 (Changeover Master Unit)	
Primary Changeover Deadband	2°F (adjustable 1-4°F)		
Secondary Changeover Deadband	1°F (adjustable 1-4°F)		
Heat Orver Ride	<del>-</del>		
Reference Method	[Individual]		

#### [Average method]

Group name	Common Areas			
Indoor unit	Indoor unit 1 (Changeover Master Unit)	Weight	Indeed and A	Weight
		3	Indoor unit 2	1
	Indoor unit 3	Weight	Indoor unit 4	Weight
		1		1 1
Primary Changeover Deadband	2°F (adjustable 1-4°F)			
Secondary Changeover Deadband	1°F (adjustable 1-4°F)			
Heat Orver Ride				
Reference Method	[Average]			

#### [Vote method]

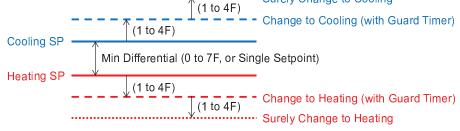
Group name	Second Floor Offices			
Indoor unit	Indoor unit 1 (Changeover Master Unit)	Weight	Indoor unit 2	Weight
		3 #10000 till 2	. 1	
	Indoor unit 3	Weight	Indoor unit 4	Weight
		1		1
Primary Changeover Deadband	2°F (adjustable 1-4°F)			
Secondary Changeover Deadband	1°F (adjustable 1-4°F)			
Heating Orverride	Enable			
Reference Method	[Vote]			

- Example settings for each changeover method
- A weighted demand can be assigned to each indoor unit group when the Average or Vote changeover methods are selected

### iTM v2.0 - Auto-changeover



- Automatic changeover in Heat Pump and Heat Recovery Systems
  - Available for Changeover methods Individual, Fixed, and Averaging
  - At 1°F above cooling or 1°F below heating setpoint (default)
    - Configurable between 1°F 4°F (improved)
  - Another 1°F above cooling or 1°F below heating changeover points immediate changeover ignoring guard timer (new)
    - Configurable between 1°F 4°F (new)
  - Guard timer to prevent frequent mode change (improved)
    - 15, 30, or 60 (default) minute guard timer settable Surely Change to Cooling



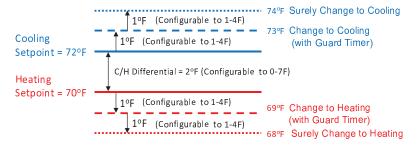
© 2013 Daikin North America, LLC

Slide 19

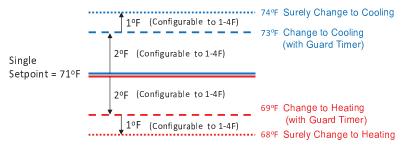
### iTM v2.0 - Auto-changeover



#### Example #1 = Dual Setpoints



#### Example #2 = Single Setpoint

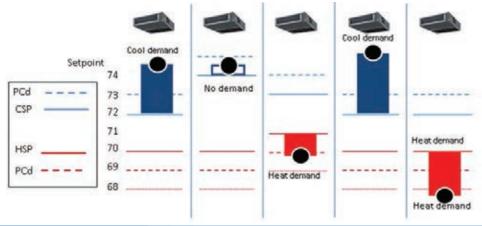


#### ITM V2.0 - Vote Method





- The Vote method changes the operation mode comparing total cooling demand with total heating demand
  - The Vote Method allows users to configure the system changeover based upon weighted priority
  - Ideal for Heat Pump or under the BS unit in Heat Recovery systems where rooms may have varying loads
  - The setpoints can be different in each indoor unit within the changeover group. The demand is calculated based on the setpoints in comparison to room temperature for each indoor unit.
  - The demand within the Primary Changeover deadband (PCd) is considered as no demand.
  - Guard timer applies



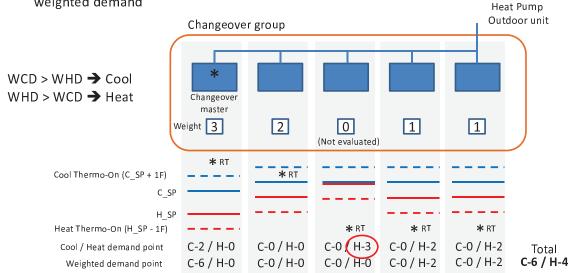
© 2013 Daikin North America, LLC

Slide 21



#### **Weighted Demand**

 A weight (0 to 3) can be configured for each indoor unit and is multiplied by the degree difference between the room temperature and setpoint to calculate the weighted demand



Note: Guard timer initiated after changeover to prevent frequent mode change (15, 30, 60 (default) min. )



#### **Heat Override**

- The Vote methods supports a Heat Override
  - Prioritizes switching to the heating mode if at least one room temperature falls below the secondary heat changeover point (heat setpoint minus the secondary changeover deadband) even if the total cooling demand is greater than the total heating demand

© 2013 Daikin North America, LLC Slide 23

### **Exercise 3**

**Monitor/Operation/Scheduling** 



## 4. Emergency Stop







Menu List

Emergency stop

© 2013 Daikin North America, LLC Slide 25

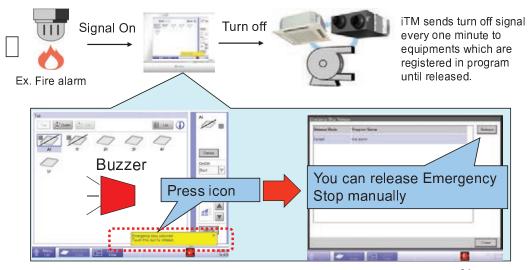
### **Emergency Stop**



Up to 31 Emergency Stop Programs can be registered.

When Emergency stop signal comes, iTM turns off equipment automatically according to your registered programs.

You can know the occurrence of Emergency stop by Buzzer and icon.



### 5. Interlock







Menu List

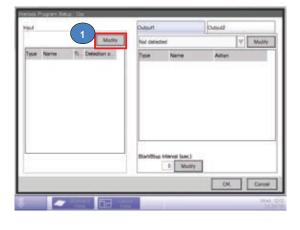
Interlocking control

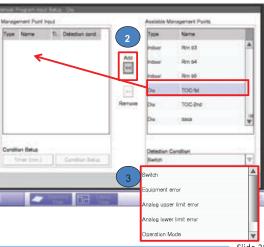
© 2013 Daikin North America, LLC





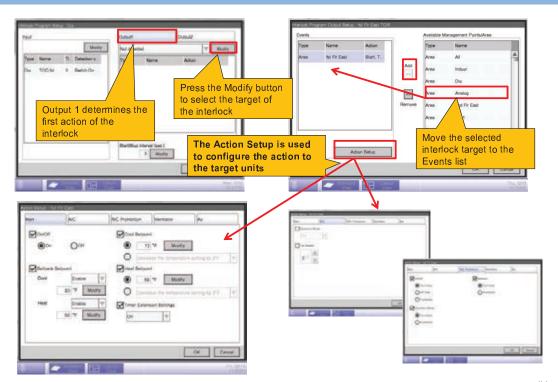
- First select the interlock trigger (indoor unit, DOAS, damper, occupancy sensor, etc) from the Available Management Points list and move it to the Management Point Input list using the Add button
- Select the Detection Condition for the interlock from the drop down list



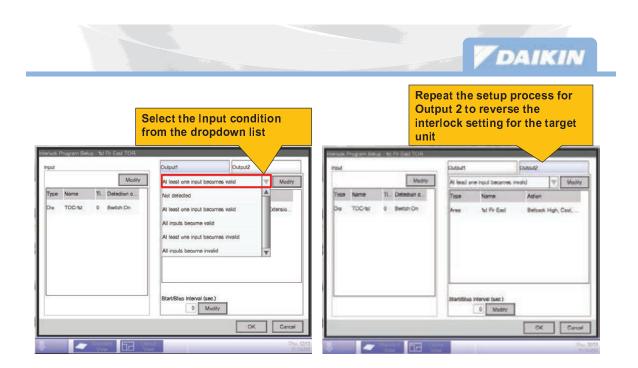


Slide 28





© 2013 Daikin North America, LLC Slide 29



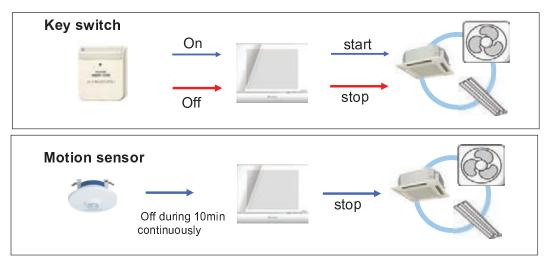
#### Interlocking control



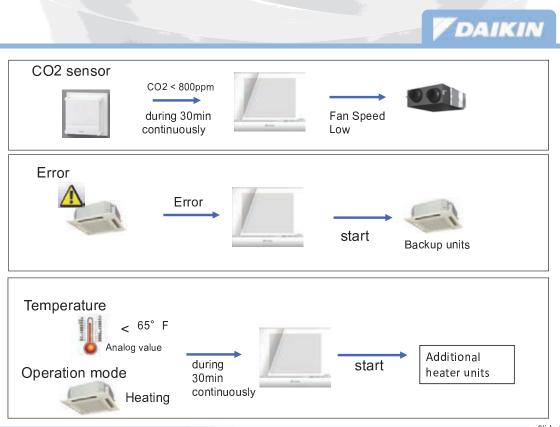
Up to 500 programs can be registered.

Not only Interlocking with Start/Stop status.

- -Interlocking with analog value, error, operation mode is also available.
- -The input timer can be used as trigger of interlocking control.



© 2013 Daikin North America, LLC Slide 31



### **Exercise 4**

# **Interlock Control**





Thank You



# iTouch Manager Installation and Commissioning Guide

- 1. Introduction
- 2. Installation
- 3. Commissioning
- 4. Control Functions
- 5. Commissioning Options
- 6. Auxiliary Device Control





### **COMMISSIONING OPTIONS**

- 1. Using Preset Tool
- 2. Web Access for commissioning
- 3. Editing .CSV File for Management Point

© 2013 Daikin North America, LLC



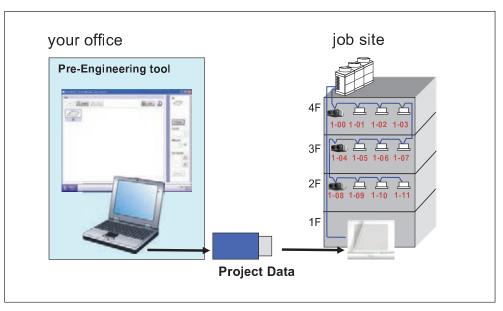
Slide 3

1. Using Preset tool



Pre-setting with Pre-Engineering tool on PC at your office.

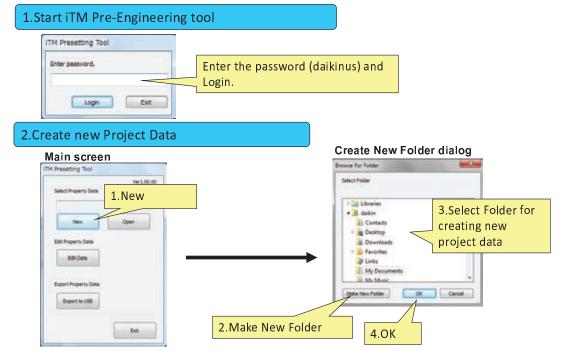
You can lessen the work at job site, such as installing iTM in a large new project.



© 2013 Daikin North America, LLC



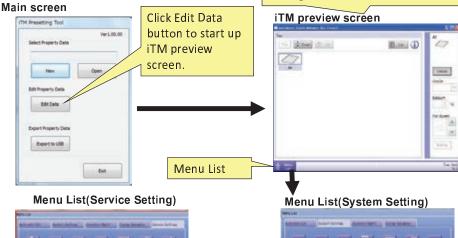
## Preset Tool on PC at Office





#### 3. Open iTM preview screen to edit Project Data

iTM preview screen allows you to make similar settings as with iTM unit.



© 2013 Daikin North America, LLC

Slide 7



- 4. Locale(System Setting)
- 5. Time zone(Service Setting)
- 6. Time/DST (System Setting)

Set DST, but Date/Time is not included in Project Data.

- 7. Contact Information(Service Setting)
- 8. Management point (Service Setting)

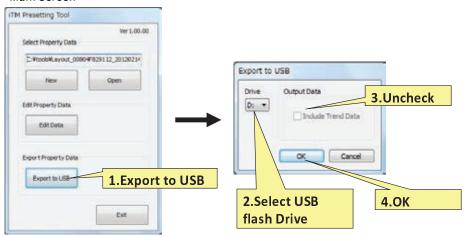
if auto registration was done at job site and you got a CSV file from iTM, (explained in section 3, "Editing .CSV File for Management Point") you can lessen the work to register management points.

9. Area (System Setting)



#### 10. Save Project Data to USB flash drive

#### Main screen



© 2013 Daikin North America, LLC



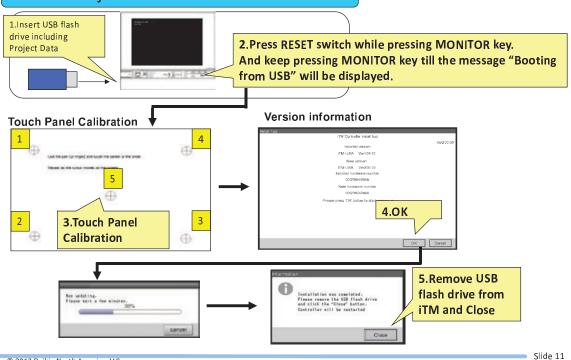
# Setup at job site (Load Project Data)

1-6 are same procedure as Basic commissioning

- 1. [iTM] Set Master/Slave
- 2. [iTM] Backup battery switch ON
- 3. DⅢ-NET wiring
- 4. [iTM] Power ON
- 5. Touch panel calibration
- 6. Assign DⅢ-Address with Remote Controller



#### 7. Load Project Data to iTM

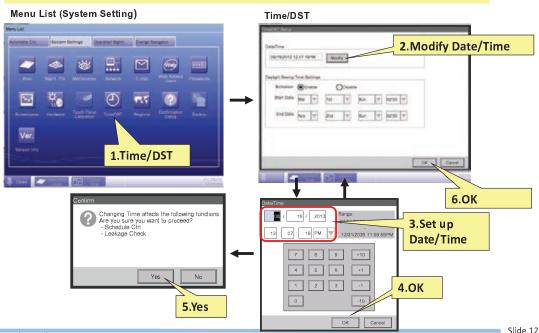


© 2013 Daikin North America, LLC



#### 8. Date/Time(System Setting)

Select Menu List on Top screen that appears after Loading Project Data and Restarting iTM.





## 2. Web Access for commissioning

Slide 13

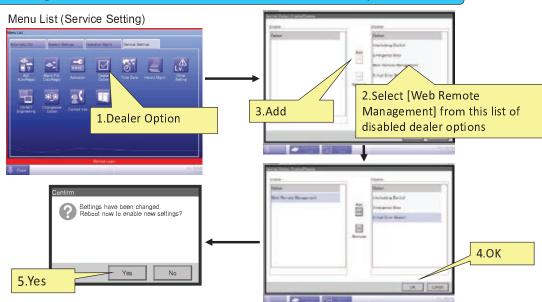
© 2013 Daikin North America, LLC



## Web access user Settings

for login from Web Browser

#### 1. Register Web access function as available option





#### 2. Register the login user(General users, Administrators)

#### Menu List(System Setting)



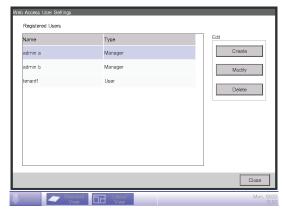
© 2013 Daikin North America, LLC

Slide 15

## Web Manager/Admin



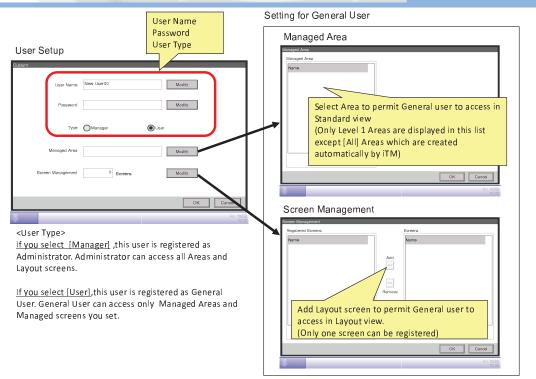
- For web access
  - There is no default Admin user name and password for web access
  - User name and password must be set up for Manager/Admin
    - Up to 4 Manager/Admin users can be set up
    - All 4 Managers/Admin users can use the web access at the same time
  - Up to 60 general users can be set up
    - Only 16 users can have web access at the same time





## Web General User





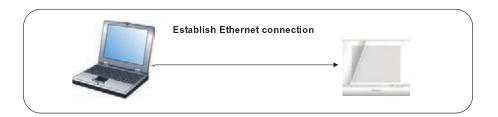
© 2013 Daikin North America, LLC Slide 17

## **Exercise 5**

# **General User Setup**







# From the Laptop/PC Follow the same procedure as in Basic Commissioning

© 2013 Daikin North America, LLC Slide 19



## 3. Editing .CSV File for Management Point

# **Setting Procedure**



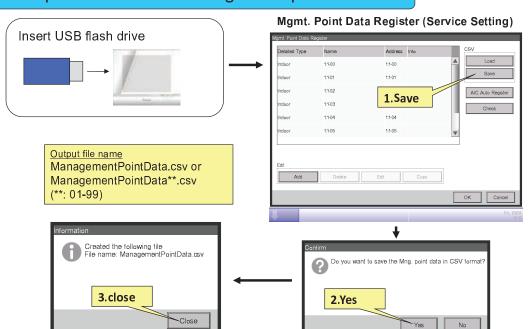
The 1-11 are same procedure as Basic commissioning

- 1.[iTM] Set Master/Slave
- 2.[iTM] Backup battery switch ON
- 3.D3-NET wiring
- 4.[iTM] Power ON
- 5.Touch panel calibration
- 6. Assign DⅢ-Address with Remote Controller
- 7. Locale(System Setting)
- 8. Time zone(Service Setting)
- 9. Time/DST(System Setting)
- 10.A/C (Indoor unit) Auto Register
- 11. Contact Information(Service Setting)

© 2013 Daikin North America, LLC Slide 21

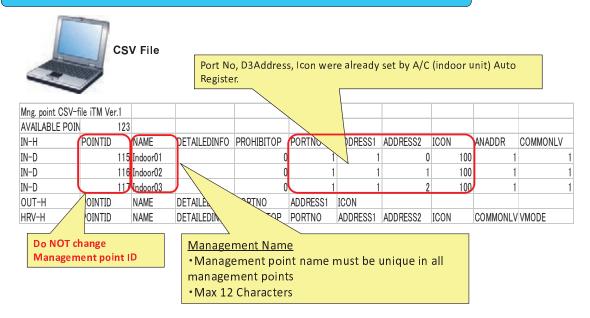


#### 12. Output CSV file with management point data

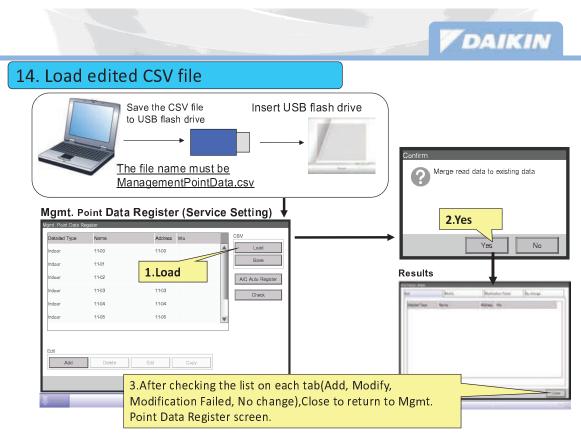




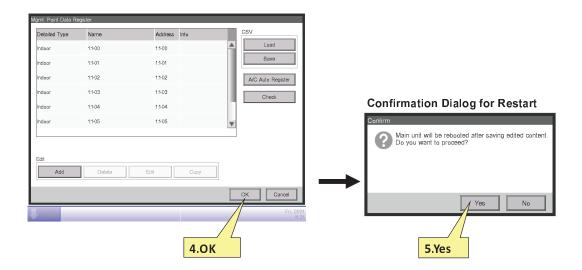
#### 13. Edit CSV file and create Management point data



© 2013 Daikin North America, LLC Slide 23







#### 15. Area(System Setting)

See iTM user's manual about Area Setup

© 2013 Daikin North America, LLC Slide 25



Thank You



# iTouch Manager Installation and Commissioning Guide

- 1. Introduction
- 2. Installation
- 3. Commissioning
- 4. Control Functions
- 5. Commissioning Options
- 6. Auxiliary Device Control

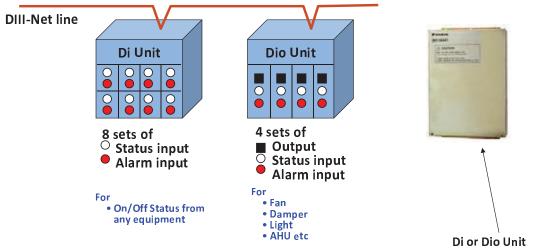


## Monitor/Control via I/O Units



#### **Digital Input (DEC101A51-US2)** Digital Input/Output unit (DEC102A51-US2)

- Equipment is controlled like an indoor unit
  - On / Off based monitoring / controlling
  - One DIII-Net address is consumed for each set for third party equipment

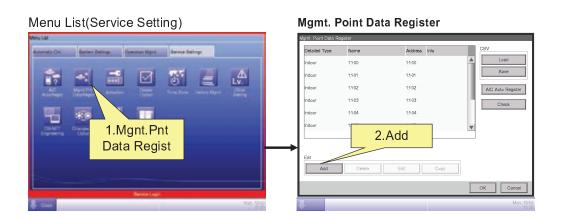


© 2013 Daikin North America, LLC

Slide 3

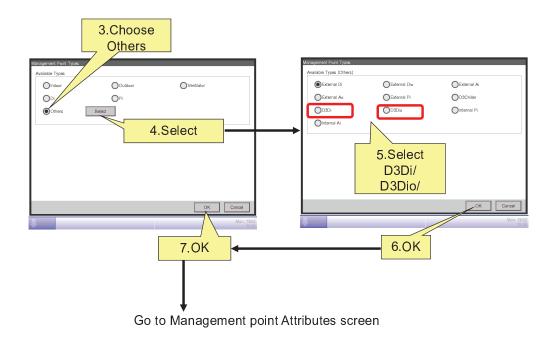
# 





# Di/Dio Management Point Registration DAIKIN

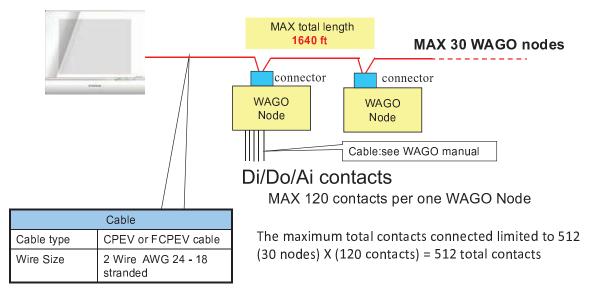




Slide 5 © 2013 Daikin North America, LLC



The WAGO module provides Di, Do, and Ai capabilities for connecting non-Daikin equipment into the DIII-NET system



# **WAGO Specifications**





24 VCD Power Supply Unit



S. Spill

Connector



Bus Coupler



Di, Do, Ai, Ao, End Modules

	Item	Note	Model
Required	Daikin iTM Basic Kit	Power Supply Unit 24 VDC, Connector Module, Bus Coupler, End Module	TBD
Di	2 Channel Di Module		TBD
	4 Channel Di Module		TBD
Do	2 Channel Do Module		TBD
Ai	2 Channel Ai Module	4-20 mA, ±10 VDC, 20k Thermistor	TBD
Ao	2 Channel Ao Module	4-20 mA, 0-10 VDC	TBD

© 2013 Daikin North America, LLC

Slide 7

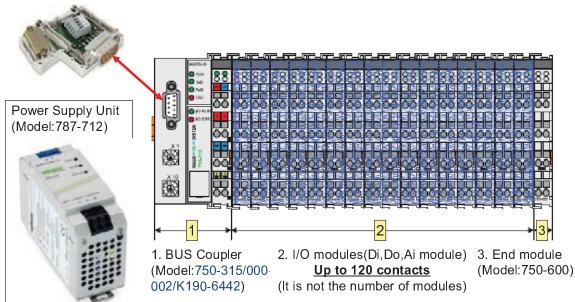
Slide 8

### **WAGO Overview**



■ The WAGO consists of a power supply, BUS coupler, I/O modules, and an end module

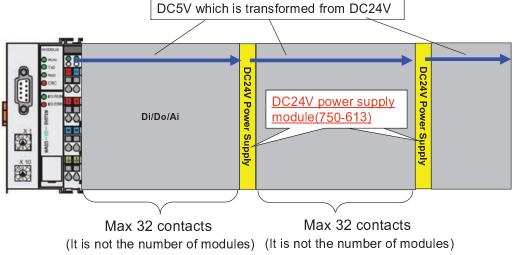
Connector(Model:750-960)





## DC24V Power Supply module (750-613)

- BUS Coupler needs DC24V from DC24V Power Supply unit (787-712).
- BUS Coupler can supply DC5V up to 32 contacts.
- DC24V Power Supply module(<u>750-613</u>) must be inserted at every 32 contacts.

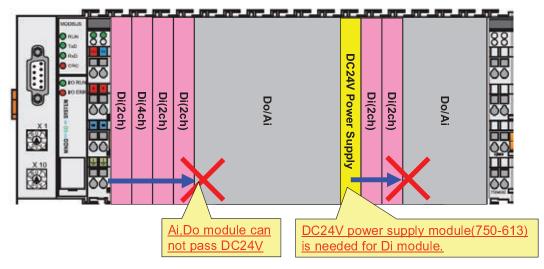


© 2013 Daikin North America, LLC Slide 9

#### WAGO Specifications (cont'd...)



- Di module needs DC24V.but Ai, Do module can not pass DC24V to next module.
- The DC24V power supply module(750-613) must be inserted, if the Di module is located at the next to Ai, Do module.



# WAGO I/O Module Management Point | DAIKIN



Project requirements will dictate which I/O modules will be required

Management point type	Purpose	Required I/O module and the number of contacts			
		Di	Do	Ai	Ao
External Di	On/Off monitor	1 contact			
	Error monitor	1 contact(*)			
External Dio (output: constant contact)	On/Off monitor	1 contact(*)			
	Error monitor	1 contact(*)			
	On/Off operation(output)		1 contact		
External Dio (output: instantaneous contact)	On/Off monitor	1 contact(*)			
	Error monitor	1 contact(*)			
	On operation(output)		1 contact		
	Off operation(output)		1 contact		
External Ai	Analog monitor			1 contact	
External Ao	Analog operation				1 contact

<sup>(\*):</sup> If the monitoring is not needed, these contacts are not required.

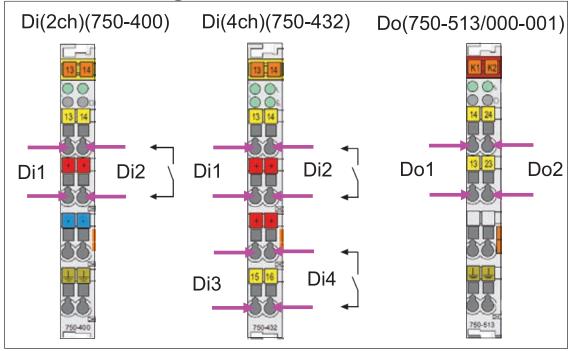
© 2013 Daikin North America, LLC

Slide 11

# WAGO I/O Module



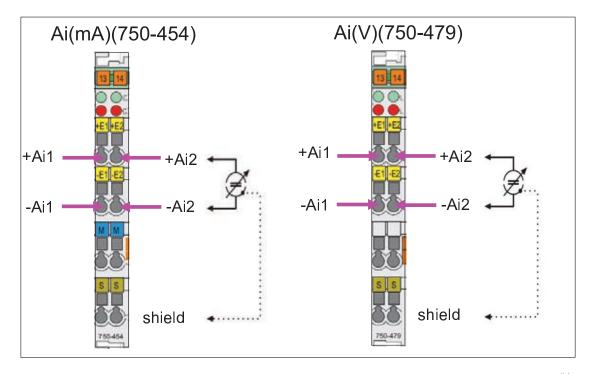
## Wiring I/O module and contacts



Slide 12 © 2013 Daikin North America, LLC

# WAGO I/O Module

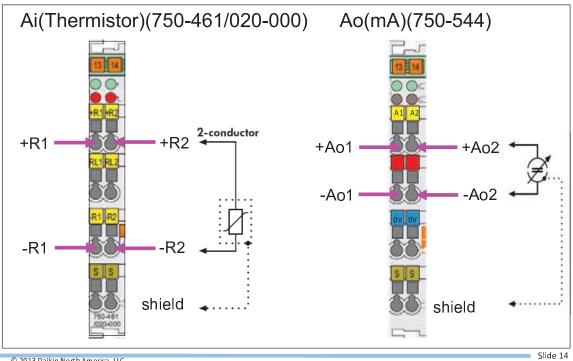




Slide 13 © 2013 Daikin North America, LLC

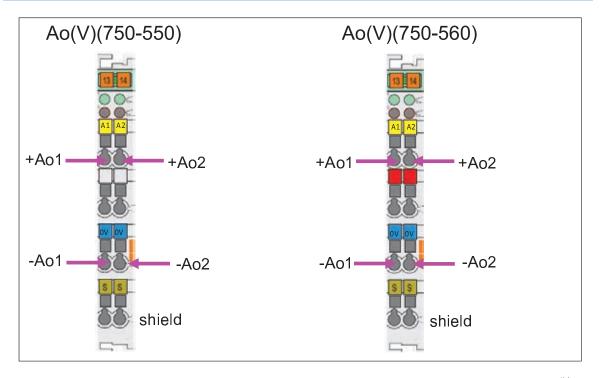
# WAGO I/O Module





# WAGO I/O Module



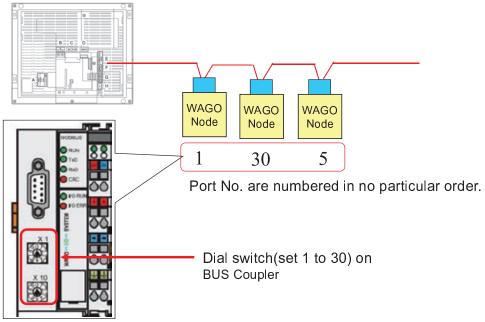


© 2013 Daikin North America, LLC

### **WAGO Node Port Number**



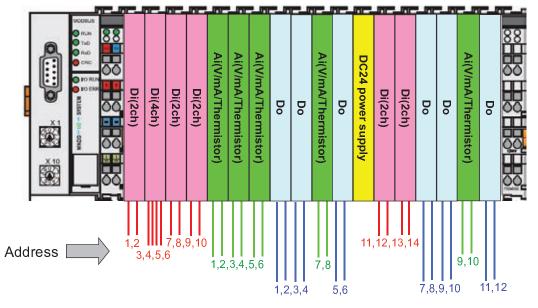
• The Port number must be 1 to 30 and unique at every WAGO Node.



## **WAGO I/O Module Addressing**



- Address is decided by location of I/O module.
- Address is counted by module type.

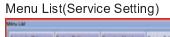


© 2013 Daikin North America, LLC

Slide 17

# 







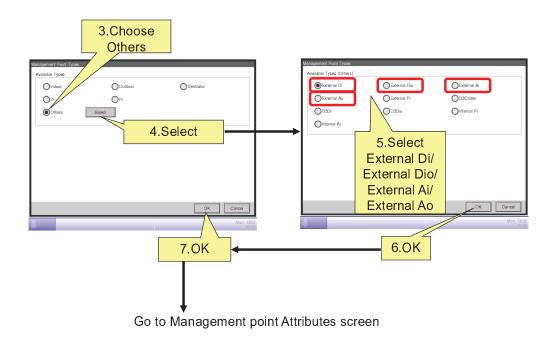
#### Mgmt. Point Data Register



Slide 18 © 2013 Daikin North America, LLC

# WAGO Management Point Registration DAIKIN





Slide 19 © 2013 Daikin North America, LLC



Thank You