# IMM (Intelligent Manager of Midea) 4<sup>th</sup> generation network control system Technical Manual CONTENTS

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## **1. IMM introduction**

### 1.1 System overview

IMM is the short name for Intelligent Manager of Midea. It designs specifically to control VRF systems and includes four parts: IMM software, M-INTERFACE web gateway (can be connected Max. 4 gateways), air conditioner system and softdog.

IMM is based on a centralized format and dedicated to the complete control and monitoring of all the system's functions. It can be used as a flexible multi-purpose system and applied to a variety of needs, according to the scale, purpose and control method of each building. IMM software provides user different operation function and the software must be installed in the PC.

M-INTERFACE gateway can be connected to Midea Central Air conditioner through the M-net port (XYE and K1K2E ports). Under the auto topology mode, one M-INTERFACE gateway can be connected up to 4 refrigerant systems (Max. 256 indoor units and 16 outdoor units); under the manual topology mode, one M-INTERFACE gateway can be connected up to 16 refrigerant systems (Max. 256 indoor units and 64 outdoor units).

### 1.2 System structure figure

Refrigerant systems must be correctly connected to the M-net port of M-INTERFACE gateway and the gateway can connect to the PC which has installed IMM software through LAN terminal. Users can access the M-INTERFACE's WEB function through the Internet from like PC, Pad or Laptop. IMM software can monitor and control the air conditioners and the system structure figure as following:



The router is optional if you want to use more than one computer to control the system. The IMM can connect up to 4 M-INTERFACE gateways, totally could join up 64 refrigerant systems, amount to 1024 indoor units and 256 outdoor units.

## **1.3 Connect models**

1) Can freely connect all VRF models. If the projects need the electricity charge distribution function, you need to use the V4 plus series indoor/outdoor units, and the M-net ports communication wire need to connect from the outdoor units.

2) If Mini VRF will be connected to the project and need the electricity charge distribution function, MD-NIM10 module must be used.

3) The new outdoor units and the old outdoor units cannot be mixed connected to the same M-net port of the M-INTERFACE.

## 1.4 Multiple languages

IMM software and M-INTERFACE gateway can be supported 7 different languages: Simple Chinese, English, Russian, French, Italian, German and Spanish. Customers can switch freely according to their own needs.

## **1.5 IMM network introduction**

IMM software includes three parts: server software, IMM cline-side software and database software. The server software and the database software must be installed in the same computer, the computer and the M-INTERFACE gateway should be in the same subnet segment (for details, please refer to 5.1). The IMM cline-side software can connect to the server through the local or remote network.

### 1.5.1 Local network connection

The IMM cline-side software can be connected to the server through the local network, the local network connection as the following display:



### 1.5.2 VPN network connection

The IMM client-side software and server can use the remote network (VPN) connection. There are two VPN connection methods: router establishing and computer establishing methods. The remote network connection needs some IT knowledge and needs the IT professionals to assist.

#### 1) Router establishing methods

VPN tunnel is established between router and router, and then it can visit WEB page through VPN tunnels. VPN Server can be established by yourself and also can be rented. The topology structure as follow display:



#### 2) Computer establishing methods

Use VPN client-side software and VPN Server to establish VPN tunnel, then user can visit the server through VPN tunnel. VPN client-side software and VPN Server can be achieved by commercial ways. The topology structure as follow display:



## 2. Functions

## 2.1 Function introduction

User can control and manage the air conditioner system through the WEB page and IMM software. WEB page and IMM software can provide different functions and meet the market requirements. In order to ensure the IMM system can be operational normally, you need to check and maintain regularly.

## 2.1.1 WEB Function

There are "Control", "Map", "Setting", "DevInfo", "Upgrade", "CommLog" and "Help" and so on functions on the WEB page of M-INTERFACE gateway.

#### > Control (Device monitoring)

Provides the operating details information of indoor and outdoor units, and it can control indoor units.

Control	/ Map /	Setting	/ DevInfo /	Upgrade /	CommLog /	Help /	Exit	Colostad
Port	Man							Selected
eron e	map .							
Port 1	Port 2	21		200 2/	280	200 2		250
POR 3	Port 4	1-0	1-1	1-2 1-3	1-4	1-2 1	-0 1-39	1-00
Port 5	Port 6							
			Status	Off	Mode	-	Fan speed	8 <u>48</u> 0
		0	Temp. setting		Room temp.	27°C	Swing Device name	
			Limitation	IR Locked	Device ID	0		1-0
			Malfunction		Capacity HP	4 HP		
								2013-07-24 15

## > Map (Visual navigation)

Can display all situations of refrigerant systems; include quantities of indoor and outdoor units in refrigerant system, power meter quantity and communication quality between single device and M-INTERFACE gateway.

C S http://192.168.100.41/main.html		■■ × ● ● × ● ☆ ☆ ☆
@ main.html ×		ntelligent Manager
Control / Map / <u>Map</u>	Setting / DevInfo / Upgrade / CommLog / Help / Exit	
System 1	Image: Non-state         Image: Non-state<	
System 2 System 3 System 4 System 5		
	Indoor unit quantity 7 Outdoor unit quantity 1	
	Meter quantity 1 Communicate quality 100%	
_		2013-07-24 15:20
<.	m	

#### > Setting function

It can set the basic configuration of the, time setting, IP setting, user management and other functions.

C C M http://192.168.100.41/main.html			P + C × 位 ☆
Control / Map /	Setting / DevInfo	/ Upgrade / CommLog / Help / Exit	Intelligent Manager
Basic Ba Time Ba User	Controller name	ICM301 Ok Cancel	
Log     IP     System map     FTP     Controller state	Baud rate	Serial 5 #** * Serial 6 #** * Serial 7 #** *	
Multi-pipe	Compatibility	Serial 8 600 • YES • Ok Cancel	
			2013-07-24 16:01

## > DevInfo (Device information)

Can display and modify the information of indoor and outdoor units.

Control DevInfo	/ Map /	Setting /	Outdoo	o / Upgrade .	/ CommLog / He	lp / Exit		
System 3	System 2	Ports	Address	Device Name	Sales Model	Fan(W)	E-heat(W)	Repair
System 5		1	0	1-0	Other -	180	0	No 👻
		1	1	1-1	Other -	180	0	No 🔻
		1	2	1-2	Other -	180	0	No 👻
		1	3	1-3	Other -	180	0	No 👻
		1	4	1-4	Other -	180	0	No 👻
		1	5	1-5	Other -	180	0	No 🔻
		1	6	1-6	Other -	180	0	No 👻

## > Upgrade (Software upgrade)

The function provides for upgrade the software of M-INTERFACE gateway.

main html		کک ٹیک <mark>× U +</mark> ۹
Control / Map	/ Setting / Devinfo / Upgrade / CommLog / Help / Exit	Intelligent Manager
Upgrade 22 Version 1.1.0.r2891 1.0	Select updated files 浏览	
	( Upgrade Cancel	
		2013-07-24 15:43

## CommLog (Communication log)

Provide communication fault log information of M-INTERFACE gateway.

Control / Map / So <u>CommLog</u>	etting /	/ DevInfo /	Upgrade /	CommLog / Help / Exit	Intelligent Manage					
Control / Map / So CommLog	etting /	/ DevInfo /	Upgrade /	CommLog / Help / Exit						
CommLog										
13 Log										
	Check out the latest 20 - Lines									
	Log level	Time								
	6	Jul 24 16:05:08	igm_agent[883]	exit show device						
	6	Jul 24 16:05:14	dacs[882]	enter cmd handle						
	6	Jul 24 16:05:31	energy[885]	ts_read:1374652800,size:1540						
	6	Jul 24 16:05:53	syswatcher[824]	user exit from console	11					
	6	Jul 24 16:05:59	dacs[882]	enter cmd handle						
	6	Jul 24 16:06:01	energy[885]	ts_read:1374652800,size:1540						
	6	Jul 24 16:06:31	energy[885]	ts_read:1374652800,size:1540						
	6	Jul 24 16:06:55	syswatcher[824]	user exit from console						
	6	Jul 24 16:07:01	energy[885]	ts_read:1374652800,size:1540						
	6	Jul 24 16:07:31	energy[885]	ts_read:1374652800,size:1540						
	6	Jul 24 16:07:57	syswatcher[824]	user exit from console						
	6	Jul 24 16:08:01	energy[885]	ts_read:1374652800,size:1540						
	6	Jul 24 16:08:31	energy[885]	ts_read:1374652800,size:1540						
	6	Jul 24 16:08:59	syswatcher[824]	user exit from console	-					
					2013-07-24 16:1					

## > Help function

Provide error codes of Web page for user.

Contro	ol / Map / Setting / DevInfo / Upg	rade /	CommLog / Help / Exit	
elp				
The fol Note: \ compre	lowing error code list is applicable to the indoor units and outdo When the air conditioner has error, please contact the techni sssor burning accident.	oor units of icians for n	V4+ Series. naintenance, for reducing the electricity cost lost and avoiding causing th	e
Outdo	or Unit	Indoo	or Unit	
EO	Communication error of outdoor units	EO	Phase sequence error or No phase	
E1	Phase sequence error or No phase	E1	Communication error	41
E2	Communication error of outdoor units and indoor units	E2	T1 sensor error	1.
E3	Air discharging temp. sensor error of T3 or T4 or digital compressor	E3	T2A sensor error	
E6	T6 sensor error	E4	T2B sensor error	
E9	Voltage error	E5	Air discharging temp. sensor error of T3 or T4 or digital compressor	
EF	Other errors	E6	Zero crossing detection error	
HO	DSP communication error	E7	EEPROM error	
H1	Network communication error	E8	Fan speed detection is lost control	
H2	Error of decreasing outdoor unit (Valid for main unit)	E9	Communication error of mainboard and display board	
H3	Error of increasing outdoor unit (Valid for main unit)	EA	Compressor over current (Four times)	
PO	Top temp. protection of compressor	EB	Protection for inverter module	
10000	Web second and actuation for six discharging	EC	Fresh error	-

## 2.1.2 IMM Software function

IMM software can provide the main functions to control and modify the units.

### > Control (Device monitoring)

Can control and management the indoor and outdoor units.

bl / Dev. indication e monitoring soor unit(64) \$990(0) 2(64) nerouued(0)	/ Sched	ule /	Eco	7	ECS	/ Publi	- Day	DW	Contractor of		-		user
e monitoring oor unit(64) 590(0) 2(64) ngrouped(0)	15						C Dev. /	Dev. Manag	ement /	Statistical	/ N	ote alarm	/ L
590(0) 2(64) ngrouped(0)	15					Error(	(4) 🗶 Offline(	12) <b>n</b> Schedule	e(21) 🔳 Cool(8	8) 🔲 Heat(59)	E Fan(0) E O	ff(14) 🖬 Locke	ed(7) 😄 Select
590(0) 2(64) ngrouped(0)	16												
2(64) ngrouped(0)	~~>>					5 <b>6</b>	is the second se						
ngrouped(0)	27'C	26°C	26°C	27°C	28°C	26°C	26°C	-*-	-*-	-*-	-*-	-*-	-*-
	41100测测	41101	41102	41103	41104	41105	41106	41200	41202	41203	41204	41205	41206
								16	15	15			16
	-*-	-*-	-*-	- <b>X</b> -	-*-	-*-	30°C	25°C	29°C	25°C	25°C	29°C	29°C
	41207	41208	41209	41210	41211	41220	41301	41302	41303	41304	41305	41306	41307
	IS	16	15	15		15	16						
	26°C	25°C	25°C	27°C	24°C	27°C	24°C	25°C	25°C	25°C	25°C	25°C	25°C
	41139	41160	41402	41403	41404	41405	41461	42200	42201	42202	42203	42204	42205
	25℃	250	25°C	25°C	25°C	25'C	25°C	25°C	25°C	25'0	25°C	25°C	25°C
	42206	42207	42208	42209	42210	42211	42212	42213	42214	42215	42216	42217	42218
	2570	1577	250	1577	2577	2510	25%	2510	2575	1510	25%	25%	~
	42219	42220	42221	42222	42223	42224	42225	42226	42227	42228	42229	42230	42231
			~~~×			~~>>	~~>	~~~~					
	42222	25°C	25°C	42225	42226	25°C	25°C	25°C	25°C	422.41	422.42	422.42	25°C
	42232	42233	42234	42233	42230	42237	42230	42239	42240	42241	42242	42243	42244
	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C
	Device control	Device detailed	information										
	On/Off	Ð	Mode		F F	an	D						
	Temp		e										

## > Dev.indication (Device indication)

User can see the location A/C which unit you want to check. IMM supports the traditional display, and can be combined with the building structure, rapid positioning monitors and controls A/C state.



#### > Schedule (Schedule management function)

Provides the schedule control function and uses can set the running schedule for every day. There are 4 sections and 10 actions per section in each day for each single unit or group. Automatically performs facility start/stop control, switching the operating mode, setting temperatures and enabling/disabling the remote control according to the present time schedule.

Midea													2.1.0.26
Activation P	roject miormat	ion nei	p Adva		ECC	/ Deskti	Day (	Der Mara		Castistical		the starse	administrator
Control / Dev. molcano	on / Scne	aule /	Eco	/	EUS	/ Public	: Dev. /	Dev. Manage	ment /	Statistical	/ N	ote alarm	/ Log
Schedule management													
<b>1</b> 23	15	15	15	15	15	15	15	15	15	15	15	15	15
	200	100	2000	100	2070	250	250	2570	2577	100	2570	-	2572
	42100	42101	42102	42103	42104	42105	42106	42107	42108	42100	42110	42111	42112
	42100	42101	42102	42105	42104	42103	42100	42107	42100	42109	42110	42111	42112
	25°C	25°C	▲ 25°C	25°C	25°C	a 25°C	25°C	25°C	25°C	25°C	25°C	a 25°C	25°C
	42113	42114	42115	42116	42117	42118	42119	42120	42121	42122	42123	42124	42125
		16	15		15	15	15	15	15	15	15		15
	25°C	25°C	25°C	25°C	o 25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	26°C
	42126	42127	42128	42129	42130	42131	42132	42133	42134	42135	42136	42137	42138
	15	16	16	15	16	15	15	16	15	15	15	15	15
	2510	2510	0 2510	2510	2510	2510	0.2510	2510	2510	2510	2510	0 2510	0 2510
	42139	42140	42141	42142	42143	42145	42146	42147	42148	42149	42150	42151	42152
	15	16	16	15	16	15	15	16	15	15	15		
	25°C	25°C	25°C	26°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C		
	42153	42154	42155	42156	42157	42158	42159	42160	42161	42162	42163		
						[	Device selection	ng					
						1	1	Mon 5	Tues 🔽 W	ad 🔽 Thurs	Fri Sa	ut 🔲 Sum	
	Time Setting	On/Off Setting	Mode Setting	Fan Setting	Temp. Setting	Swing Settin	9						
							Ŭ		2013yea	rs		Oct	
							27	Jan.	Feb.	Mar.	S N	T W	T F S
Name 123								April	May	June	6.7	1 2 8 9	3 4 5 10 11 12
							Ŭ		A	Ser	13 14	15 16	17 18 19
Add 👔 Delete							15	July	Aug.	sep.	20 21	22 23 29 30	24 25 26
Save 🔾 Cancel	22:10	关闭	制冷	低档	24°C	解锁		Oct.	Nov.	Dec.	21 20	30	
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iner.										- Compe(d)	-42	,, J.	

## > Eco (Energy saving management)

IMM provides the energy saving management function. User can set limit to any running unit, any parameter, such as cooling temp., heating temp., fan speed, running mode and so on.

		on Hel		Stal.							_			2.1.0.21
Control / Dev. indication	n / Sched	lule /	Eco	/	ECS	/ Publ	ic Dev. /	Dev. Manaş	gement /	Statistical	,	Note alarm	user /	Log
Energy-saving management							Error(0) 🗶 Off	line(0) @ Sch	edule(9) ∎ Co	ol(4) 📕 Heat(0)	$\equiv Fan(0)$	∎ Off(5) 🔒 Loo	cked(6) 🔿 Se	lected(0)
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电控(9)														
Ungrouped(88)	<u>a</u> 27℃ 4110050500	26°C	26°C	27°C	28°C	41105	26°C	26°C	25°C					
	41100/(3/(3/))	41101	41102	41105	41104	41103	41100	41139	41100					
		-					_						_	
	Cooling temp. Li	mit	> Settin	g On/Off Li	mit	Setti	ng Fan speed	limit	Sett	ting RI limit		> Settin	ıg	
	Heating temp. Li	mit	> Settin	g Modes lim	iit	Setti	ng Swing lim	it	Sett	ting				
													Ϋ́	
Successfully connect to the ser	ver								2	Prompt(1)	u 🗧 War	ning(19)	2013-07-24	16:26:16

#### > ECS (Statistics of energy consumption)

Statistics of energy consumption function is the electricity charge distribution function. Electricity charge apportionment can be performed easily for the power consumed when billing users for air conditioner power charges, such as tenants in a commercial building, offices in a rental building, or rooms in a hotel.



## > Public Dev. (Public device)

IMM software provide the public device management, users can set the unit as the public device for free, and it is convenient to manage the energy charge of the public devices.

Midea 🔹				Stal.									2.1.0.263
Menu Project informatio	on Help	Advanced	functions		700		_	12.14				administ	rator
Control / Dev. indication	1 / Scne	dule /	Eco	/	ECS	/ Public	: Dev.	7 Dev. Management	/ Statistical	/	Note alarm	/	Log
Public device													_
■ 41 6号厂房(7)								l .					
■ 42預信式(0)	265		3010	2510	2510	260	2017						
■ Ungrouped(0)	41100	41205	41206	41304	41305	41306	41307						
Idle devices(1)					Cancel	the public use sta	itus A	s idle device					
Used devices(89)					Cultor							·	
Successfully connect to the service	ver								Prompt(0)	({ w	/arning(13)	2013-10-09	15:53:32

#### > Dev.Management (Device management)

Offers the group divisions function of air-conditioner device.

nu Activation Proje	ect informatio	on Helt	Adva	nced functi	ons								
trol / Dev. indication	/ Sched	ule /	Eco	7	ECS	/ Publ	c Dev.	Dev. Manag	ement /	Statistical	/ 1	lote alarm	administrato
vice management													
loor unit(97)													
(165) (55)	260	2770	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	260	260		250	~~>>	~~>	2817	2770	~~>	3010
统(9)	41100	41101	41102	41103	41104	41105	41106	41200	41202	41203	41204	41205	41206
2现[甙(64)													
ngrouped(0)	27°C							27°C	20°C	25°C	25°C	26°C	29°C
	41207	41208	41209	41210	41211	41220	41301	41302	41303	41304	41305	41306	41307
	25°C	25°C	29°C	26°C	25°C	30°C	30°C						
	41139	41160	41402	41403	41404	41405	41461						
tdoor unit(7)													
M WEB controller(2)													
ding name 41 6号厂房													
Add 👸 Delete													
Save D Cancel													
and the second se													

### Statistical (Data statistics)

IMM system provides the state changing records of indoor unit, outdoor unit and M-INTERFACE gateway.

June				and the second sec	Stal.							2.1
nu Act	ivation Project	information	ı Help	Adva	nced functions							service
itrol /	Dev. indication /	Schedul	e /	Eco	/ E	CS / Public	Dev. / Dev. M	lanagement	1	Statistical	/ Note alarm	Log
atistical data												
											(	
		Lists stati	stics									Q Search
rt time												Ernort
12.00.01.0					-				-		-	Export
12-09-01 0	2	Number	lime		Device name	Device ID	Switch status	Running	⊦an	Setting Error	Function lim	π
1 time		628	2013-07-19 0	0.00.11		1921681004104303	OII	Cool	LOW	240		
- une		629	2013-07-19 0	J:00:11		1921681004104304	Off	Cool	LOW	240		
13-07-24 23	×.	630	2013-07-19 0	0.00.11		1921681004104305	Off	Cool	LOW	240		
		632	2013-07-19 0	0.00.11		1021681004104361	Off	Cool	LOW	240	RL limit Locked	
vice rating		632	2013-07-19 0	00.10		1021681004100000	Off	Cool	LOW	240	IN MILLOUNCU	
		634	2013-07-19 0	1.00.10		1021681004100001	Off	Cool	LOW	2410	RL limit:Locked	
loor unit	2	635	2013-07-19 0	1:00:10		102168100/100002	Off	Cool	Low	2417	IN MILLOUNCU	
		636	2013-07-19 0	00.10		1021681004100003	Off	Cool	Low	240	RL limit:Locked	
statistics		637	2013-07-19 0	00.10		192168100/100005	Off	Cool	Low	240	On/Off Limit:Locked (	On On/Off
. statistics		638	2013-07-19 0	1.00.10		1921681004100005	Off	Cool	Low	240	On/On Ennie Educid C	,on/on/1
	E C	630	2013-07-19 0	00.10		1021681004101100	Off	Cool	Low	240		
		640	2013-07-19-0	00.10		1021681004101102	Off	Cool	Low	240		
		6/1	2013-07-19 0	00.10		1921681004101102	Off	Cool	Low	2410		
		642	2013-07-19 0	0.00.10		1921681004101104	Off	Cool	Low	2410		
		643	2013-07-19 0	0.00.10		1921681004101105	Off	Cool	Low	241		
		644	2013-07-19 0	0.00.10		1921681004101106	Off	Cool	Low	2410		
		645	2013-07-19 0	0.00.10		1921681004101107	Off	Cool	Low	2410		
		646	2013-07-19.0	0.00.10		1921681004101108	Off	Cool	Low	2417		
		647	2013-07-19 0	0.00.10		1921681004101109	Off	Cool	Low	2410		
		648	2013-07-19 0	0:00:10		1921681004101110	Off	Cool	Low	24°C		
		649	2013-07-19 0	0:00:10		1921681004101111	Off	Cool	Low	24°C		
		650	2013-07-19 0	):00:10		1921681004101120	Off	Cool	Low	24°C	On/Off Limit:Locked C	On,On/Off
		651	2013-07-19 0	0:00:10		1921681004102201	Off	Cool	Low	24°C		
		652	2013-07-19 0	0:00:10		1921681004102202	Off	Cool	Low	24°C		
		653	2013-07-19 0	0:00:10		1921681004102203	Off	Cool	Low	24°C		
		654	2013-07-19 0	0:00:10		1921681004102204	Off	Cool	Low	24°C		
		655	2013-07-19 0	0:00:10		1921681004102205	Off	Cool	Low	24°C		
		656	2013-07-19 0	0:00:10		1921681004102206	Off	Cool	Low	24°C		
		657	2013-07-19 0	0:00:10		1921681004102207	Off	Cool	Low	24°C		
		658	2013-07-19 0	0:00:10		1921681004103039	Off	Cool	Low	24°C	On/Off Limit:Locked C	On,On/Off I
		659	2013-07-19 0	0:00:10		1921681004103060	Off	Cool	Low	24°C	On/Off Limit:Locked C	On,On/Off I
		660	2013-07-19 0	20:00:09	42200	1921681004200100	Off	Cool	Low	24°C		
		661	2013-07-19 0	0:00:09	42201	1921681004200101	Off	Cool	Low	24℃		
		662	2013-07-19 0	0:00:09	42202	1921681004200102	Off	Cool	Low	24℃		
Statistics	Reset				10000					~ .0~		
Successfully	connect to the server									Promot(0)	15 Warming(11) 20	13 07 24 17:48

#### > Note alarm (Warning message)

If error occurs, it will be notified with warning message. The system is able to send error messages to designated mobile phone number automatically via public phone lines and SMS Modem .(\* optional)

**Notes:** It is necessary to purchase an additional piece of equipment named "SMS Modem" from Midea.

## > Log

It can offer all the operations records of the IMM client-side.

Activation Proje	ct information	Help Ad	vanced functions			administrator
l / Dev. indication	/ Schedule	/ Ecc	/ EC	S / Public Dev. / Dev.	Management / Statistical /	Note alarm / Lo
	Lists statistics					Q Sear
ime						Export
09-26 0	Number	lleor	Operation type	Time	Operation content	- Lapor
	Number	User	Operation type	1012 0 20 早期 0:50:26 惑寻系统	Operation content	De
me		user	Login	2013-9-30 生明 9:50:3( 夏水赤坑		
	2	user	Login	2013-9-30 生明- 9:30.00 豆水赤坑		
-10-09 23	3	user	Login	2013-9-30 生期 9.49.22 豆水が坑		
vipe	4	user	Login	2013-9-30 生期- 9.40.41 巡山系统		
·P*	5	user	Login	2013-9-30 生明 9.47.02 豆水赤坑		
n 💌	0	user	Login	2013-9-30 生期 9.40.3( 底山东坑		
	0	user	Login	2013-9-30 生明 9.46.42 豆水示抗		
	0	user	Login	2013-9-30 生則- 9:46.2 豆水形坑		
	10	Service	Login	2013-9-30 生明 9.45.35 豆水示抗		
	10	user	Login	2013-9-30 生明 9.33.10 夏水赤坑		
	10	user	Login	2013-9-30 生期 9.20.34 豆水赤坑		
	12	user	Login	1013-9-30 生明 0.34.11 匹山永坑		
	14	user	Login	012.0.20 星期 16:31:3 显示示抗		
	14	user	Login	013-9-30 年期- 15:29.1 直水示抗		
	16	user	Login	012 0 20 星期 15:10:5 夏永永沈		
	17	user	Login	013-9-30 年期- 13:02.3 且永示抗		
	10	user	Login	012 0 20 星期 14:43:4 夏尔尔统		
	10	user	Login	013-9-30 年期 14:32.3 区国东抗		
	20	convico	Login	012.0.20 星期 14:23:4 夏永永流		
	20	Service	Login	013-9-30 生期 14:17:3 显示示抗		
	21	user	Login	013-9-30 年期-14:17:3 巡山示抗		
	22	user	Login	012.0.20 星期 14:17:0 退出系统		
	23	user	Login	013-9-30 年期-14:17.0 区山永坑		
	24	conviso	Login	012 0 20 星期 11:07:0 退出系统		
	25	service	Login	013-9-30 年期 10:41:2 啓寻系统		
	20	service	Login	013.0.30 星期 10:41.2 豆木示抗		
	29	USOF	Login	013 0 30 星期- 10:40:0 星光系统		
	20	user	Login	013-0-30 星期— 10:40:1 近山东抗		
	30	user	Login	013 0 30 星期- 10:30:5 退出系统		
	21	user	Login	013-9-30 星期 10:35:3 送出永永		
	32	user	Login	013.0.30 星期— 10:33.3 豆水示抗		
	32	user	Login	013-9-30 星期 10:20:2 夏永永永		
	34	user	Login	2013.0.20 星期日 0:26:11 登录玄绪		
	04	user	Login	2012-0-20 年期日 0-15-0- 双早安依		
Statistics 2 Reset	•		m			•

## > Setting

It offers project information configuration and electricity price configuration functions.

	••
Chidea Printing Printing Table Advanderation	.1.0.212
erui Activation Project information Project information Project information service service // Dev. indication // Schedule // Eco // ECS // Public Dev. // Dev. Management // Statistical // Note alarm // Log	ł
Setting	
Project information	
Project installation and wiring responsible department	
Project installation superintendent TEL 🔽 Monitoring the outdoor unit ammeter disconnection alarm	
Screen cleaning time limit (hours) 250 Small load operation can should be less than 4	
C One-part electric price 1	
© Step tariff C Peak valley price	
Step 1: start         0         End         15         Unit price         1	
Step 2: start         15         End         20         Unit price         2           Step 3: start         70         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7         7	
step 3: start 20 Unit price 3	
Device maintain electric power consumption statistics: if select "Device maintain electric power consumption statistics", then it will separate do the running electric consumption statistics and maintain electric consumption of	
indoor unit; it not, then it will do the total electric consumption of indoor unit, at that time, if the indoor unit running time is 0, it also will produce total electric consumption.	
Estimate electric consumption of indoor unit itself: it's suggested that add ammiter indoor to record the electric consumption of indoor unit itself, under the non-adding situation, it can choose "Estimate electric consumption of indoor to record the electric consumption of indoor unit itself." to estimate the electric consumption of indoor fan and electric heater.	
C Sure C Reset	ן כ
Successfully connect to the server 2013-07-24 17/37	:52
	37

## Account management

It can change the account password.

										- 🗆 ×
Mid	lea' 📕									
Menu A	ctivation	Project in	nformation	Help Advanced for	nctions					service
Control	/ Dev. indic	cation /	Schedule	/ Eco /	ECS	/ Public Dev.	/ Dev. Management	/ Statistical	/ Note alarm	/ Log
Setting										
P	Project informatio	m								
P	Project installation	n and wiring res	ponsible department							
P	roiect installatio	n superintenden	nt .	TEL		Monitoring the ou	stdoor unit ammeter disconner	ction alarm		
Т	Fechincal support			TEL						
s	creen cleaning tir	me limit (hours)	250	Small load operation can shou	d be less than 4					
	0. Ore rest day									
	One-part elec Step tariff	Peak valle								
	Time 1: start	1 CdR Yanno	y price	Unit or	~					
	Time 2: start		End	Unit pr	~					
	Time 3: start		End	Unit pr	~					
	Time 4: start		End	Unit pr	~					
	- Thur - Stat	·			• • • • • • • • • • • • • • • • • • • •		"" unto de sta accesion et		et a subsche deserver	No. of
	indoor unit; if	in electric powe not, then it will	er consumption stati 1 do the total electric	consumption of indoor unit, at	lectric power consum hat time, if the indoo	nption statistics", then it v ir unit running time is 0, it :	vill separate do the running en also will produce total electric	ectric consumption stati consumption.	stics and maintain electric o	consumption of
	- Estimate elect		findaar veit itaal	6 W			to our it itself under the new	-direction it can a	"Estimata alastria a	tion of
L	indoor unit its	self" to estimate	the electric consump	ption of indoor fan and electric h	eater.	electric consumption of mo	100f Ufin nsen, under the non-	adding situation, it can t	2000se Estimate electric o	insumption of
									C) Sura	C Reset
Successfu	ully connect to th	he server						Prompt(1)	Warning(19)	2013-07-24 17:38:27
		2	8 E	IMM					ế 🛤	17:38

## > Refrigerant system

It can display the indoor and outdoor units' information in the refrigerant system, and respond the system mapping relation.

												- 🗆 ×
Midea				nl.								2.1.0.212
Menu Activation Pr Control / Dev. indication	roject informati n / Sche	ion Help dule /	Advance Eco	d functions / ECS	/ Pub	ic Dev. / I	Dev. Management	/ Statistical		Note alarm	service /	Log
Refrigerant system							, in the second s					
▶ 4101(2)												
41-5-00	27°C	25°C										
▶ 4104(7)	41139	41160										
▶3 4201(64)												
				41.5.00	1							
	Outdoors	2	Main dev. ID Slave dev. 1 ID	41-3-00	Main ammeter Slave 1 ammeter							
			Slave dev. 2 ID		Slave 2 ammeter							
			Slave dev. 3 ID									
Successfully connect to the ser	ver							Prompt(0)	¤(){ Wa	ming(11)	2013-07-24 1	7:43:09
📀 🥝 📋 🖉	3	$\mathbf{i}$	IMM						/	ế 🖪 🤅	) 🔁 🕪 21	17:43 013-7-24

## > Device searching

It can search the air conditioners and gateway devices in the same network.

	dial I.	_										- 🗆 ×
		- Indiana		Stel.								2.1.0.212
Menu	Activation P	roject information	Help Adva	nced func	tions				<b>0</b> - 2 - 2 - 2		service	
Control	/ Dev. indication	n / Schedule	/ Eco	/	ECS	/ Public Dev.	/ Dev. Man	lagement /	Statistical	/ Note alarm	/	Log
Device se	arening											
	Local IP	10.46.1.204,192.168.100.	204					Start searchin	g			
	IMM Web IP	192.168.100.41						Total devices	12			
	Port 1	2	Port	2	0			Port 3	0			
	Port 4	7	Port	5	1			Port 6	0			
	Port 7	0	Port	8	2							
	IMM Web IP	192.168.100.42						Total devices	65			
	Port 1	0		Port 2	64			Port 3	0			
	Port 4	0		Port 5	1			Port 6	0			
	Port 7	0		Port 8	0							
Succ	essfully connect to the ser	ver						C	Prompt(0)	<b>₫</b> € Warning(11)	2013-07-24 1	17:42:37
		e a 7	2 MM							ế 🖪	🚅 🗉 🚯 🗉	17:42

## 3. Operation introduction

## 3.1 IMM software login (general user login)

There are two login methods for IMM software: general user login and administrator login.

Now introduction the general user login first.

Operate the IMM client-side software and it will enter the following page:

IMM	IMM 2.0.0.70 REL
	Intelligent Manager of Midea
	User name   user
	Password Save password
	Midea
Successfully connect to the server	Midea Creates A Better /

When display "Connect to the server successfully" at the lower left of the login page, then you can carry out the login operations. The login operations steps as follow:

- 1) Input user name and password, the defaults are "user";
- 2) Choose whether save the password;
- 3) Click "OK" button to carry out login;
- 4) Click "Cancel" button to exit;

When clicked the "OK" button and login successfully, it will enter the system home page.

## 3.2 log out

Click the icon in upper-right corner, and it will display "Logging out the system, please waiting" and exit the system.

	_ و الغار ه							>
Menu	Project information	Help		- Inde				2.1.0.17
Control Log	/ Dev. indication / S	chedule /	Eco /	ECS / Publ	ic Dev. / Dev. Manage	ment / Statistic	al / Note alar	user m / <b>Log</b>
Start time		Lists stat	tistics	Operation for	Time			Export
End time			i User	operation ty		I		operation of
Log type				ging out the system, please	wait			
ə Sta	ttistics 🔾 Reset							٩
Succe	essfully connect to the server				🗠 Pro	ompt(0)	Warning(397)	2013-04-03 18:00:37

## 3.3 System initialization

When user login is successful, it will display the system initialization dialogue frame as

following, and carry out the system initialization to update the system information.

Click the "Exit the system" button, it will stop the initialization work and exist the system.

Ø	System initializing, please wait(2 seconds)
	Start initializing the system
	Synchronizing system files data
	Synchronizing device running data
	Execute synchronization refresh
	Finished all the initialization operations
	Exit the system

Software version and user's login

## 3.4 Main page introduction

Menu bar	Aidea				Seed.										×
Function bar	Menu Activation P Control / Dev. indicatio Device monitoring	roject information n / Sched	on Hel lule /	P Eco	/	ECS	/ Publi	c Dev. / (4) ¥ Offline()	Dev. Manaş 12) m Schedul	gement / le(21) <b>= Cool</b> (	Statistical	/ N Fan(0) 0	ote alarm ff(14) = Locks	/ Lo d(7) © Select	у <u>g</u> ed(0)
Display area —	Indoor unit(\$7) >> 現拉(9) >> Ungrouped(\$\$)	2000 41100 41100 41207 41207 41207 41207 41207 41207 42200 42206 42210 42210 42210 42212 42222 42232 42232 42232	1       2000         41101       41101         41208       100         41208       100         4100       2500         42207       2500         42220       2500         42220       2500         42220       2500         42220       2500         42220       2500         42233       2500         2500       2500         2500       2500         42233       2500         2500       2500         2500       2500         2500       2500         2500       2500         2500       2500         2500       2500         2500       2500         2500       2500         2500       2500         2500       2500         2500       2500         2500       2500         2500       2500         2500       2500         2500       2500         2500       2500         2500       2500	200 41102 41102 250 41402 250 42208 250 42221 250 42221 250 42221 250 42221	1 277 41103 41103 41103 41210 41403 277 41403 277 41403 277 41209 42209 42229 42222 42225 42225 257 42235	23C 41104 41211 41211 41404 224C 41404 42210 42220 42223 42223 42223 42223	200 41105 41105 41220 41405 270 41405 42211 42221 42221 42221 42223 42223	24C 41106 24C 41301 24C 41301 24C 424C 42212 25C 42212 25C 42212 25C 42225 25C 42225	41200 41200 41302 41302 42500 42200 42213 42213 42226 42225 42226 42225 42225 42225 42225	41202 41202 41202 41303 2502 42201 42214 42227 42227 42224 42227 42224 42227 42240 42227	41203 41203 25C 41304 42202 42202 42215 42228 42215 42228 42241 42241 42241	41204 41204 41305 25C 41305 42203 42203 42216 42216 42229 42242 42242 42242 42242	41205 41205 2502 41306 2502 42204 2502 42217 2502 42217 2502 42230 2502 42230 2502 42243 2502 42243 2502 42243	41206 41206 41207 2502 4205 42205 42218 42231 42231 42231 42244 42231 42244	
Information		On/Off Temp.	Ð	Mode Swing		D2 F	an	Þ							
remind bar	Outdoor unit(7) Evelve WEB controller(2) Successfully connect to the ser	ver								E	Prompt(1)	<b>⊈</b> € Warnin	g(19)	Sending	19:49

The system main page display as following:

Menu bar: provide the system function menu.

Function bar: include the device monitoring, device indication (visual navigation), schedule management, Eco (energy saving management), ECS (electricity charge distribution), public device, device management, data statistics, note alarm (warning message) and log function.

Display area: display the detailed information of each function.

Information remind bar: can display the prompt message and alarm information.

The upper-right corner of the interface will display the software version and user's login name.

## 3.5 Device monitoring function

There are three parts can be operation: indoor units monitoring class, outdoor units monitoring class and the M-INTERFACE gateway monitoring class. Each part can be divided primary group and the secondary group display. For example, under the indoor unit, it will display the primary group: Buildings; and under the primary group it will display secondary group: first floor, second floor, third floor etc.

## 3.5.1 Indoor unit monitoring

Selecting "indoor unit" class, the left side of page will display the group information of the indoor unit, and the right will display all the indoor units in the IMM system. Select the "device control" can control single or more sets indoor units; select the "device details information" can check the operating detail information of a single device.

#### 1) Check the operating state of indoor unit

Choose the "device detail information" and select any one indoor unit, then the bottom of the page will display the operating detail information of this device.

										-	•
											2.1.0.1
Menu Project information	on Help									user	
Control / Dev. indication /	Schedule	/ Eco	/ E0	CS / Pu	blic Dev.	Dev. Mana	igement / St	atistical /	Note alarm	/ Le	og
Device monitoring			🛔 Error(7) 🐇 (	Offline(317) 📾 S	chedule(18)	Cool(18)	∎Heat(0) ■ Fa	n(0) ∎ Off(228	8) 🔒 Locked(24	i) 😄 Selecter	d(1)
Indoor unit(570)		1									
▶ china buildings(40)	15								15		
■ R & D center building(28)	25°C	25°C	25°C	25°C	25°C	25°C	25°C	26°C	25°C	25°C	
■ Ungrouped(502)	40200	40201	40202	40203	40204	40205	40206	40207	40208	40209	
	15	15							15	15	
	25°C	250	250	250				10015	250	250	
	40210	40211	40212	40213	40214	40215	40216	40217	40218	40219	
	15										
	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	24°C	
	40220	40221	40222	40223	40224	40225	40226	40227	40228	40229	
	250	250	2570	2570	2510	2570	(The second seco		2570	250	
	40230	40231	40232	40233	40234	40235	40236	40237	40238	40239	•
		10201	10101	10200	10201	10200	10200	10207	10200	10203	
	Device contr	ol Device deta	ailed information	on							
	On/Off	On	Running	Cool	Fan	Low	Lim	it			
	Setting	24°C	Ambient	25°C	Error						
Outdoor unit(77)	Dev. Name	40200	Dev. No.	192.168.100.40-	02 Collected	2013-4-4 8	3:33:47				
IMM WEB controller(4)											
Successfully connect to the ser	ver					M	Prompt(0)	<b>d</b> € Warning(3	97) 201	3-04-04 08:34	4:35

Displayed detail information: on and off state, operating mode, device's name and device number and so on.

#### 2) Control the operating state of indoor unit

Choose the "Device control", select the single or more sets indoor units (selecting method refers to 3.5.4) to configure parameters: on and off setting, operation mode, fan speed, temperature and swing setting, and click "send" button after setting, it will display as following dialog:

										-	×□
										2	2.1.0.179
Menu Project informatio	n Help	Faa	/ 50	<b>c</b> /	Public Der	/ Derr Mana	gamant / St	atistical /	Note alarm	user	
Control / Dev. Indication /	Schedule /	Eco	7 EC	0 /	Public Dev.	Cool(18)	gement / St	n(0) = Off(22)	Note atariti	/ Lo	)g 1(2)
Indoor unit(570)				iiiiie(517) (	g Schedule(10	) • • • • • • • • • • •		n(0) = On(22)	b) = Locked(24	) o selected	(3)
▶ china buildings(40)	15	15	15	15		15	15	15			
▶ R & D center building(28)	25°C	25°C	25°C	25°C	25°C	25°C	25°C	26°C	25°C	25°C	
▶ Ungrouped(502)	40200	40201	40202	40203	40204	40205	40206	40207	40208	40209	
	15	15							15	15	
	25°C	25°C	25°C	25°C	<b>∄</b>	1	1	Ĥ	25°C	25°C	
	40210	40211	40212	40213	40214	40215	40216	40217	40218	40219	
	15	15	15	15							
				25°C	25°C	25°C	25°C	25°C	25°C	24°C	
	40220	40221	40222	40223	40224	40225	40226	40227	40228	40229	
							$\bigcirc$				
	25°C	25°C	25°C	25°C	25°C	25°C	<u>î</u>	Ĥt	25°C	25°C	
	40230	40231	40232	40233	40234	40235	40236	40237	40238	40239	•
	Device control	Device det	ailed information								
	On/Off On		Mode	Cool	Ð	Fan Low	Þ	I			
	Temp. 24°C		Swing	On	N						
Outdoor unit(77)									د	Sending	
IMM WEB controller(4)											-
Successfully connect to the serv	er						Prompt(0)	u() Karning(3	97) 201	3-04-04 08:35	5:14

After click "send" button ,the page will display the icons which waiting for being sent, and after the order is finished, the send waiting icons will disappear, the page will be refresh, then we can check the running state of air conditioner. If the control is failed, the "Prompt message" will display the control failed information on the page bottom.

Notes: double click the digit below the icon can change the device's name, and then press ENTER key to confirm.

lcon	Remark	lcon	Remark	lcon	Remark	
25°C	Cooling mode (Blue)	25°C	Heating mode (Orange)	25°C	Fan only (Green)	
	Error (Red)	25°C	Locking		Power off (Gray)	
*-	Offline (White)	25°C	Selected unit		The control order is running, please waiting	

#### 3) Indoor icon introduction

States selection:

There are some display states of the indoor unit: error (**LEron**), Offline (**LOT**), schedule (**LSCHECULE**), cooling (**LCCOL**), heating (**LERON**), fan only (**LERON**), power off (**LOT**), locked (**LICCKED**) and selected (**LICCKED**). Click the above icons, and it will display all the corresponding state of each unit. Right-click the "selected" icon, and it will "All select/cancel all select", if selection "All select", it will select all the icons; if selection "cancel all select", it will cancel selecting all the icons. Right-click the "locked" icon, it will display the locked lists, and click the corresponding list will display the corresponding devices.

## 3.5.2 Outdoor unit monitoring

Selecting "outdoor unit" class, it will display the group information of the outdoor unit on the left side page, and the right side of page will display the corresponding outdoor units.



There are some display states of the outdoor unit: error, offline, cooling, heating and

selected. Selected or right-click the single outdoor unit can check the on and off state,

ambient temperature, power meter information etc. under the "Device details information".

#### **Outdoor icon introduction**

lcon	Remark	lcon	Remark	lcon	Remark
240	Cooling mode ( Blue)		Error (Red)	25°C	Selected unit
24	Heating mode (Orange)		Power off (Gray)	) 	Offline (White)

States selection:

The outdoor unit display state: error (**Lerror**), offline (**Lori**), cooling (**Lori**), heating (**Leated**), power off (**Lori**) and selected (**Selected**). Click above icons, and it will display all the corresponding state of each unit. E.g.: click the cooling icon on the central building, and then it will display all units which under the cooling state as following dialog:

				seed.					- □ × 2.1.0.179
Menu Project informatio	n Help							liser	
Control / Dev. indication /	Schedule	/ Eco	/ ECS	/ Public D	ev. / Dev.	Management /	Statistical / ]	Note alarm / $at(0) \equiv Off(6) \cap Sel$	Log
Indoor unit(370) Outdoor unit(370) 의 china buildings(11) 대 문 문 한 Decenter buildings(23) 까산室-끼动仇(6) 品质测试끼动(6) 의 Ungrouped(54)	40600	41500							
	Device deta	iled information							
	On/Off	On	Ambient	21°C					
	Indoors	2	Malfunction		Ammeter	000850.29			
	Dev. Name	41500,22	Dev. No.	192.168.100.41-04	Collected	2013-04-04 08:32	2:1		
IMM WEB controller(4)									
Successfully connect to the serv	er					Prompt(0)	u( € Warning(397	) 2013-04-04	08:33:34

### 3.5.3 M-INTERFACE gateway monitoring

Selecting "IMM WEB controller" (M-INTERFACE gateway) menu, the page will display all the M-INTERFACE gateways in the IMM system.

				- □ × 2.1.0.179
Menu Project informatio	on Help		user	
Control / Dev. indication /	Schedule / Eco	/ ECS / Public Dev.	/ Dev. Management / Statistical / Note alarm /	Log
Device monitoring			<b>≜</b> Error(0) ¥ Offline(0) <b>≗</b> Locked(0) ⊙ S	elected(0)
Indoor unit(570)				
Outdoor unit(77)				
I VIM WEB controller(4)				
	40 41	42 43		
	Device control			
	Dev No	I imit	Emergenov	
	200.100.		Energency	
			D Sei	nding
Successfully connect to the serv	ver		Prompt(0) 📫 Warning(397) 2013-04-0	3 18:03:25

There are 3 display states of M-INTERFACE gateway: off-line, locked and selected. When selecting or right-click one M-INTERFACE gateway, the bottom of page will display gateway's IP address and with the limit mode or not, and users can control the M-INTERFACE gateway through setting the limit mode parameters, emergency stop parameters and then click "send" button. Double-click the device name can change the gateway's name, and press enter key to save. E.g.: selecting the M-INTERFACE gateway named 40 and 42 (selecting method refers to 3.5.4), and select the "limit mode" parameters, and then click the "send" button, the page display as following dialog:

		- 21	□ × .0.179
Menu Project information	on Help	user	
Control / Dev. indication /	Schedule / Eco / ECS / Public Dev. / Dev. Manage	ement / Statistical / Note alarm / Log	
Device monitoring		Error(0) * Offline(0)  Locked(0)  Selected(2)	)
Indoor unit(570)			<u></u>
Outdoor unit(77)			
IMM WEB controller(4)			
	<b>TO TI T</b>		
	Device control		
	D N 100 120 100 40 T 1 1 T 1 T - 1 4		_
	Dev. No. 192.108.100.42 Limit Locked Emergency		
		Sending	
		+	
Successfully connect to the serv	ver TIMN	npt(0) 📫 Warning(397) 2013-04-03 18:04:0	0

After setting "Limit mode" successfully, the device icon will add a lock icon.

r ai ailietei 5 Specilications.	Parameters	specifications:
---------------------------------	------------	-----------------

Parameters	Remark					
	Lock: cannot operate in the WEB page of M-INTERFACE					
Limit mode	ateway					
	Unlock: can unlock the M-INTERFACE gateway					
	: cannot operate the emergency stop function					
Emergency stop	Stop: can operate the emergency stop function and turn off all					
	the unit which under the same M-INTERFACE gateway					

#### Icon specification

lcon	Remark	lcon	Remark				
	M-INTERFACE gateway						
805	work normally	- <b>X</b> -	M-INTERFACE galeway online				
D	M-INTERFACE gateway		M-INTERFACE gateway				
	locked		selected				

#### States selection:

There are 3 states of M-INTERFACE gateway: locked (Locked), offline (Locked) and selected (Desected). Clicking above state icons can check the corresponding state of each gateway. If clicking the offline icon, it will display all the gateways which are offline. Right-click the "selected" icon and it will display "All select/cancel all select" frame, if choosing "All select", and then all the icons will be selected in the same page; if choosing "cancel all select" all the icons will be cancel selected in the same page.

#### 3.5.4 Shortcut keys operation

#### • The mouse shortcut keys operation

The system offers shortcut keys operations, it convenient for user to select/cancel one or more sets devices quickly.

1. Select single icon

Left-click the icon, if the icon has been framed, it means this device is selected.

2. Select several icons

There are two methods for selecting several icons:

1) Use the same way as selecting single icon to choose the device icons which you want to choose.

2) Left-click outside the frame in the page and drag a dotted line frame to select the corresponding icons.

3. Cancel single selected icon

Left-click the selected icon again, it will cancel selecting the icon

4. Cancel several selected icons

There are two methods for canceling several selected icons:

1) Cancel several selected icons way is the same as canceling single selected icon.

2) Double-click the left/middle/right key of the mouse in the blank place of the page, to cancel several selected icons.

#### • Function shortcut keys operations

Right-click the Selected icon, it will display the selection frame "All select/cancel all select", if choosing "All select" or "Cancel all selected" can select and cancel quickly. The operation steps as follow:

1) Select the "indoor unit" or "outdoor unit" class (or primary group or secondary group).

2) Click any one state display icon (cooling, heating, error, off unit etc.), for example, click the cooling state icon, all the cooling units will be display.

3) Click the "select all" option, then all the cooling units will be selected in the same page, and if clicking the "cancel the selected all", all the selected icons will be canceled selecting.

## 3.6 Visual navigation

IMM system provide the visual navigation function and users can be combined with the building structure, rapid positioning, monitors and controls A/C state.

Right-click any one secondary group, it will display "Enable equipment position change" and " Replace floor plan" frame, and click "Replace floor plan", then it display as following dialog:



User selects the corresponding floor plan (the picture will be in JPG format stored in the map folder of the IMM client-side installation menus) and click "Save" button, and click "Close" button after operation.

After selecting the floor plan, then click "Start changing device's location", user can select any one device and drag it on the page to change its location.

## **3.7 Schedule Control**

IMM system provide the schedule control function, users can operate schedule management of the indoor unit.

1																- 🗆 X
		1.0	- Illing I	-										IMM 2	.0.0.44	RELEASE
Menu	Activation Fil	e Proj	ect informat	tion Help										-	user	
Control	/ Dev. indicatio	n /	Schedule	/ Ec	o /	ECS	/ Public Dev.	/ Dev. Managem	ient /	Statistical	1	Note	alarm	- /	L	.og
Schedule	management															
							Device se	lecting								
		Time	0n/0ff	Mode	Fan	Temp.	Swing	🗆 Mon. 🗆	Tues. 🗌 W	Ved. 🔲 Thurs.	🗆 Fri. 🗆	Sat. [	] Sun.			
		Setting	Setting	Setting	Setting	Setting	Setting		2012yea	rs			A	ug.		$\triangleright$
							15	Jan.	Feb.	Mar.	S	M	TV	V T	F	S
								April	May	June	5	6	7	. 2 в 9	3 10	4
Name							Ŭ				12	13	14 1	5 16	17	18
							-	July	Aug.	Sep.	19	20	21 2	2 23	24	25
- <u>7</u>	dd 🚺 🗋 Delete						Ŭ	Oct.	llov.	Dec.	26	27	28 2	9 30	31	
<b>1</b> - S	ove 🔵 💭 🗖 Cancel															
📑 Succ	ressfully connect to the ser	/er								Prompt(0	) 📢	Warnin	g(132)	2012-0	J8-31 1/	5:01:40

Schedule control steps are as follows:

Add the name



Click the "Add" button and input the schedule name
#### Add device

Click the "Device selection" button on the page, then it will display the add device frame as the following display:



Click the "Non-selected device" option, select the device and click the "add" button. Click the "Selected device" option, and then it shows up the selected devices. Choose the relative devices, and click "Move" to move the devices into "Non-selected device". After selection, click "OK" and then close the selection frame. The page will display the selected devices.

													-	□ ×
	11-11-1	dia la											2.	1.0.179
Menu Project information Control / Dev. indication /	1 Help Schedule /	Eco	/ EC	:S /	Public Dev.	/ Dev. Manaj	gement / S	Statistical	/	Note	alarm	user /	Lo	g
Schedule management														
	15 25°C	25°C	15 25°C	15 25°C	15 25°C	15 25°C	15 25°C	2	26°С	15	25°C	15	25°C	
	40200	40201	40202	40203	40204	40205	40206	402	207	40	208	40	209	
		15												
	40210	40211												
					Devic	ce selecting								
	Time On	/Off Mode	Fan Temp	. Swing	Mon.	Tues. 🕅 Wed.	Thurs.	Fri.	Sat.	📄 Su	n.			
	Setting Set	ung setung	Setting Setting	g setting		2013years					April			
				Ŭ	Jan.	Feb.	Mar.	S	M 1	Т 2	W 3	Т 4	F 9	S S
Name open machine				Ĩ	April	May	June	7	8	9	10	11	12 1	3
🚰 🗛 👌 Delete				27	July	Aug.	Sep.	21	22	23	24	25	26 2	7
Save 📿 Cancel					Oct.	Nov.	Dec.	28	29	30				
Successfully connect to the serve	r					∑ I	Prompt(0)	<b>¤</b> { Wa	rning(3	97)	20	13-04-04	4 08:55:	03

### • Control parameters setting

In the control parameters setting page, users can set time, on /off state, operation mode, fan speed, temperature, swinging parameters. Click the cancel icon to cancel the setting.

Time Setting	On/Off Setting	Mode Setting	Fan Setting	Temp. Setting	Swing Setting		
09:55	On	Cool	Medium	<b>18</b> ℃	On		
					0	 	Cancel icon
					27		
					0		
					ũ		

#### Time selecting

There are two ways can add time: date and week.

Date: select corresponding month and date and they will change to red.

Week: select corresponding week, then the day of each week will be listed in the schedule.

For example, selected Monday, then every Monday will run this schedule which you setting.



#### Save

After setting, click the save button and display as the following:

																- 🗆 ×
																2.1.0.179
Menu Project information	i Hel	þ												user		
Control / Dev. indication /	Schedule	1	Eco	/	ECS	/	Public Dev.	/ Dev. Manag	gement / S	Statistical	1	Note	e alarm	/	I	Log
Schedule management																
• open machine	15	15		15		15	15	15	15	15	ŝ	15		15		
	~~		~~~			~~~~		~~~	~~~				<u> </u>		~	>
	25°C		25°C	2:	5°C	25°C	25°C	25°C	25°C	2	6°C		25°C		25°C	
	40200	4	0201	402	02	40203	40204	40205	40206	402	207	4	0208	4	10209	
	15	15														
	25 C		25 C													
	40210	4	0211													
							Devic	ce selecting								
	Time	0.0/06	Mada	Ean	Tomp	Suring	✓ Mon.	Tues. 🔲 Wed.	Thurs.	Fri.	Sat.	Su	m.			
	Setting	Setting	Setting	Setting	Setting	Setting				$\sim$						
						Ŭ		2013years		$\mathbf{b}$			April			
	09:55	On	Cool	Medium	18°C	On	Jan.	Feb.	Mar.	S	м	Т	w	т	F	S
Name Open machine											1	2	3	4	5	6
Ivanie Open macinite						171	April	May	June	7	8	9	10	11	12	13
Add N Delete							July	Aug.	Sep.	14	22	23	24	25	26	20
						Ù	Oct	Nov	Dec	28	29	30				
Save Cancel								1001	000							
Successfully connect to the server	r							M 1	Prompt(0)	u(){ wa	rning(3	97)	20	)13-04-	04 08::	56:44

The upper left corner of the page will display the schedule name and the right page will display the added device. If device is the first time setting schedule, then the icon will add the schedule icon.

Use the "Data statistics" function can check the schedule operating state. About the important timing plan, you should set it again after 5 minutes.

# 3.8 Energy saving management

IMM software provides the Energy saving management for indoor units and the function just only available for the new type indoor unit series (V4 plus series), the old type indoor series (V4 series) do not support the function.

											- 0	⊐ ×
<b></b>			Albert L								2.1.0	0.179
Menu	Project information	on Help									liser	
Control	/ Dev. indication /	Schedule /	Eco	/ E	CS /	Public Dev.	/ Dev. Mana	gement / St	atistical /	Note alarm	/ Log	
Energy-	saving management			💧 Erro	r(4) 🐇 Offline	e(0) 🛚 Schedul	e(4) 🔳 Cool(6)	Heat(0)	Fan(0) ∎ Off(3	30) 🔒 Locked(	0)  Selected(0)	
▶ china	buildings(40)											٦
1 floor(4	t)	15	15	15								
2 floor(3	86)	25°C	25°C	25°C	25°C	25°C	25°C	ft l	A state	<u>#</u>	A state	
₽ R & D	center building(28)	40200	40201	40209	40210	40212	40213	40214	40215	40216	40217	
🖬 Ungro	uped(502)											
		25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	
		40230	40231	40232	40233	40234	40235	40248	40249	40250	40251	
		25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	
		40252	40253	40254	40255	40256	40257	40258	40259	40260	40261	
		250	2030	2570	2570		2570	2570	250	150	1570	
		40262	40263	40300	40301	40302	40303	40304	40305	40306	40307	
			10200	40200	40001		40000	10001	40000	40200	10007	7
		Cooling temp.	Limit	Set	ting On/Off	Limit	Se Se	tting Fan sp	eed limit	N S	Setting	
		Heating temp.	Limit	Set	ting Modes	limit	Se Se	tting Swing	limit	<b>N</b>	etting	
		RI limit		Set	ting							
										Y.		
Suc	cessfully connect to the ser	ver						Prompt(0)	u() € Warning(3	97) 201	13-04-04 08:57:44	•

The left side will display the indoor units information, and select single or more sets indoor units, and choose the energy saving option, click the "Setting" button. After setting each parameter, the indoor unit icon will display the locked icon. If it needs to unlock the limit, then choose the "Unlocked" and "Setting" button will unlock the limit and the locked icon disappear. If the control failure, check the failed information in the "Prompt message". Click the right key of the mouse on an indoor unit, and then the bottom of the interface will display the locking detail information of this device.

### Selection specifications:

There are seven elements to be limited, such as cooling temp, heating temp, on/off control, running mode, fan speed, swinging and remote control. Users can set each parameter of them to save energy. It's very convenient to manage the IDU operation state.

Selection	Specifications
Capling town limit	Set the lowest limit of cooling temp, and limit the remote
Cooling temp. limit	controller control
Heating town limit	Set the lowest limit of heating temp, and limit the remote
Heating temp. Infit	controller control
Turn on and off unit limit	Limit the indoor unit turn on and off operations by the
rum on and on unit limit	remote controller
Mode limit	Limit the unit cooling or heating mode operations
Fan speed display	Limit the fan speed control by the remote controller
Swinging limit	Limit the swinging control by the remote controller
Remote controller limit	Limit the air conditioner operations by the remote controller

# 3.9 Electricity charge distribution (Patented)

Electricity charge distribution function can be performed easily for the power consumed when billing users for air conditioner power charges, such as tenants in a commercial building, offices in a rental building, or rooms in a hotel. The M-INTERFACE gateway collects the energy used by outdoor units and capacity demand of each indoor unit, apportions the energy to each indoor unit, report the hourly power consumption of each indoor unit to the IMM, the 24 hours electricity charges by tenant are calculated by IMM system. After technicians set the pricing standards, the IMM system automatically assigned energy using situation, users can view the electricity discharge directly. It is the Midea patented technology.

		- 🗆 ×
Menu Activation Project	information Help	2.1.0.179
Control / Dev. indication / Sche	user sdule / Eco / ECS / Public Dev. / Dev. Management / Statistical / Note alarm /	Log
Activation	Activate tip	
Activation code		
	Please note: this function can be used to activate	
Activation 3 Reset		
Successfully connect to the server	Prompt(0) 🗹 🔆 Warning(397) 2013-04-04 (	09:00:00

The function needs to be activated before use and users need to send the activate code back to our company for activation. After activation, the page as shown in the figure below:

a state in the		
		2.1.0.17
Menu Project information Control / Dev. indication / Sched Energy consumption statistics	Help user lule / Eco / ECS / Public Dev. / Dev. Management / Statistical / Note alarm /	Log
Start time	Lists statistics	earching port
End time Dev. statistics	Prompt box Congratulations! System activation succeeded	
Statistics Setting	۲	۲
Successfully connect to the server	☑ Prompt(0) (1 (¥ Warning(397)) 2013-04-04 0	9:01:36

Select the "Start time", "End time" and "Dev. statistics" parameters, and then click the "statistics" button, the page will display all the statistics result. If not select the "Dev. statistics ", it default selects all the devices.

trol / Dev. indication / Scl						user
	nedule /	Eco /	ECS / Public D	ev. / Dev. Management /	Statistical / No	te alarm / Log
ergy consumption statistics						
	Lists statist	ics				Q Search
art time						Export
013-04-01	Number	Device name	Device ID	Runing time (hh:mm)	ON times (times)	Runing electric
	1	40200	1921681004001100	42:20	10	
id time	2	40200	1921681004001101	42:23	10	0
	3	40207	1921681004001102	43:26	9	0
513-04-04	4	40203	1921681004001103	43:36	9	0
	5	40204	1921681004001104	43:35	10	0
ev. statistics	6	40205	1921681004001105	44:02	8	0
	7	40206	1921681004001106	28:00	9	0
E I	8	40207	1921681004001107	28:25	8	0
	9	40208	1921681004001108	27:59	9	0
	10	40209	1921681004001109	28:03	9	0
	11	40210	1921681004001110	43:56	8	0
	12	40211	1921681004001111	28:00	9	0
	13	40212	1921681004001112	44:19	8	0
	14	40213	1921681004001113	43:18	7	0
	15	40214	1921681004001114	00:00	0	0
	16	40215	1921681004001115	00:00	0	0
	17	40216	1921681004001116	00:00	0	0
	18	40217	1921681004001117	00:00	0	0
	19	40218	1921681004001118	27:18	8	0
	20	40219	1921681004001119	27:21	8	0

Click the "Setting" button, and it will display the dialogue frame to set the calculation method of electricity statistics.

Click the "Export" button and it will export the displayed results in the xls/txt/csv format. The xls format displays are as follows.

Number	Device name	Device ID	Runing time (hh:mm)	ON times (times)	Runing
1	40200	1921681004001100	42:20	10	0
2	40201	1921681004001101	42:23	10	0
3	40202	1921681004001102	43:26	9	0
4	40203	1921681004001103	43:36	9	0

Input the unit's name and click the "Searching" button can search the unit and check the parameters. Such as input in "40200" and searching, then the page will display the searching results as following.

	- Charalline I			
Menu Project information	Help			user
Control / Dev. indication / Schee	dule / Eco /	ECS / Public Dev.	/ Dev. Management / Statistical /	Note alarm / Log
Energy consumption statistics	Lists statistics		40200	O Searching
Start time	Lists statistics			Export
2013-04-01	Number   Device name	Device ID Ru	uning time (hh:mm) ON times (time	es) Runing electric qu
End time	1 40200	1921681004001100	42:20 10	0
2013-04-04				
Dev. statistics				
E4				
Statistics Setting	*	m		Þ
Successfully connect to the server			Prompt(0) 🛛 🕰 🗧 Warning(3)	2013-04-04 09:05:59

#### Notes:

1. Power statistics results only as for a reference, cannot use for commercial calculating

record.

2. IMM software can backup data automatically, and you'd better export the report per month.

# 3.10 Public device

For the commercial office building or apartment-style hotel, in order to ensure the power distribution reasonability, it's necessary to divide the power of public device for each user. The power rate of the idle device and public device will be divided into other using device in IMM system and it does not appear in export report.

										- 🗆 ×
	- Andrew			and.						2.1.0.179
Menu Project informatio	on Help								user	
Control / Dev. indication /	Schedule /	Eco /	ECS	/ Public	Dev. / Dev.	Managemen	t / Statistical	1 / Note	alarm /	Log
Public devices (65)										
■ china buildings(0)										-
■ R & D center building(0)	25°C	25°C	25°C	<b>a</b>	25°C	25°C	25°C	25°C	25°C	
■ Ungrouped(65)	42134	42135	42136	42137	42138	42139	42140	42141	42147	
	25°C	25°C	25°C	25°C	25°C	25°C	25°C	0 25°C	a 25°C	
	42148	42149	42150	42151	42152	42153	42155	42212	42214	
	@ 25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	
	42215	42300	42301	42302	42303	42304	42310	42311	42312	
	25°C	2510	25°C	2510	2510	25°C	25°C	25°C	25°C	
	42313	42314	42315	42316	42317	42323	42324	42325	42326	
	25°C	25°C	25°C	25°C	25°C	25°C	26°C	25°C	a 25°C	
	42327	42328	42329	42330	42331	42332	42333	42334	42335	
	L									
Idle devices(10) Used devices(495)			Cancel	the public use s	tatus As i	idle device				
Successfully connect to the serv	ver		•			🔄 Prompt	(0) ⊑(]{ W	arning(397)	2013-04-04	4 09:06:24

Find the corresponding device in the operated device, click "As public device" or "As idle device" button, and divide it to the public device or idle device. Idle device means the devices are not used; public device means the devices in the public place, such as the unit on the hall or the corridor etc. You can also click "Cancel the public use state" button cancel.

# 3.11 Device management

IMM software provides the group division function, it convenient for device management.

Menu	Proiect informatio	n Hel	p dube			Stat.				2.1.0.179
Control	/ Dev. indication /	Schedule	/ I	Eco /	ECS	/ Public Dev.	/ Dev. Management /	Statistical /	user Note alarm /	Log
Device I Indoor u	management unit(570)									
₽ china ₽ R & I	buildings(40) ) center building(28)									
▶ª Ungro	ouped(502)									
Outdoo: IMM W	r unit(77) VEB controller(4)									
Add build	dings									
	Add Delete									
Su	ave D Cancel	er					Prompt(0)	¤(]€ Warning(39)	7) 2013-04-04	09:07:02

Click the corresponding group option, the corresponding device in the group will be displayed in the right of the page.

#### ✓ Add group

The adding group method of the outdoor/indoor unit is in the same way (Take adding the secondary group of indoor unit for example):

Add floors	lfloo	r	
6	Add	<u>ک</u>	Delete
2	ave	_ 2	Cancel

Selecting the primary group "China buildings (40)" first, and then click the "Add" button to input the secondary group name (1 floor). And click "Save" button, then it will build a secondary group (4 floor) under the indoor and outdoor unit, and select the devices which you want to add to the "1 floor", left-click the "4 floor" and choose the "Selected device add [1 floor] floor".



After adding the device successfully, the 1 floor group will display the added devices. Devices can only be added in the secondary group.



#### ✓ Change the indoor unit model

IMM can access the indoor unit according to the actual type to select the appropriate icon display. Users can more easily grasp the system information

Select single or more set units under the secondary group and right-click on the unit, it will display as the following option to change the indoor unit model.

	Marchaelline has and a second as	2.1.0.1
Control / Dev. indication /	Schedule / Eco / ECS / Public Dev. / Dev. Management / Statistical / Note alarm /	Log
Indoor unit(570) China buildings(46) I floor(10) 2 floor(36) R & D center building(28) Ungrouped(496)	10       25C         40200       25C         40201       10         15       15C         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         15       100         16       100         17       100         18       100         100       100	
Outdoor unit(?7) IMM WEB controller(4) Floor name 1 floor Add Delete		
Successfully connect to the ser	rver ∑ Prompt(0) 🗹 (€ Warning(397) 2013-04	-04 09:09:56

When select the corresponding model, the indoor unit picture will change.

### ✓ M-INTERFACE gateway display

											- 🗆 ×
											2 1 0 179
Menu	Project informatio	n Help							_	_	2.1.0.175
Control	/ Dev. indication /	Schedule /	Eco /	ECS	/ Public I	Dev / Dev	. Manageme	nt / Statistica	al / Note	user	Log
Davice m	magament		200	200							208
Indoor un	it(570)										
Outdoor u	nit(77)	15	15	15	15	15	15	15	15	15	-
IMM WE	B controller(4)	2570	2572	250	2570	1510	250	250	260	2570	
■ <b>3 40(188)</b>		40200	40201	40202	40203	40204	40205	40206	40207	40208	
■ 41(33)		40200	10201	15	40205	40204	40205	40200		40200	
■ 42(106)											
■ 43(320)		25°C	25°C	25°C	25°C	25°C	1	<u>11</u>	<u>fi</u>	<u>1</u>	
		40209	40210	40211	40212	40213	40214	40215	40216	40217	
		25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	25°C	
		40218	40219	40220	40221	40222	40223	40224	40225	40226	
		25°C	25°C	24°C	25°C	25°C	25°C	25°C	25°C	25°C	
		40227	40228	40229	40230	40231	40232	40233	40234	40235	
		<b>A</b>	1	25°C	25°C	25°C	25°C	25°C	25°C	25°C	
		40236	40237	40238	40239	40240	40241	40242	40243	40244	
		150	25'C	2570	250	1510	250	2570	2510	250	•
Succ	essfully connect to the serv	1 25 C	250	25 C	25 C	25 C	Zo C	0 <b>1</b>	25 C	2013-04-04	09-10-21
	connect to the serv	-					riompt(		armig(597)	2013-04-04	03.10.21

Click the "IMM WEB controller", the page display as following:

The left of page will display all gateways and their terminals (40, 41, 42, and 43), click the corresponding terminals, the right of page will display the air conditioner device under the terminal; 1-4 terminals are indoor unit terminals, 5-8 terminals are outdoor unit terminals.

# 3.12 Data statistics

Statistical the operation changing records of indoor unit, outdoor unit and M-INTERFACE gateway. Through this function can check the operation state of the schedule and the changing state of the device.

ويستقلقه الشنوي	the address to		-			
Menu Project information	Help					2.1.0.1)
Control / Dev indication / Sche	dule / Eco	/ ECS	/ Public Dev	Dev Management	/ Statistical / Note a	user larm / Log
Statistical data					Statistical	
	Lists statistics					Q Searching
Start time						Export
<b>B</b>	Number	Time	Device name	Device ID	Switch status Run	ning Fan
End time						
E						
Device rating						
8						
Dev. statistics						
B						
	•					4
Statistics J Reset						
Successfully connect to the server				Prompt(0)	u()€ Warning(397)	2013-04-04 09:10:48

Select the "Start time", "End time", "Device rating" and "Dev. statistics" parameters, and then click the "Statistics" button, it will display as follows:

ttrol / Dev. indication / Sch	nedule /	Eco / ECS	/ Public Dev	. / Dev. Management	/ Statistical /	Note alarm	user / I	Log
atistical data	Lists statis	tics					Q Sea	rchi
art time							Expor	t
013-04-04 0	Number	Time	Device name	Device ID	Switch status	Running	Fan	
	1	2013-04-04 08:57:01	41139	1921681004103039	On	Fan	Medium	' 0
ıd time	2	2013-04-04 08:54:33	41160	1921681004103060	Off	Cool	Low	
013 04 04 23	3	2013-04-04 08:39:46	40220	1921681004001120	On	Cool	Low	
013-04-04 23	4	2013-04-04 08:39:46	40221	1921681004001121	On	Cool	Low	
	5	2013-04-04 08:39:46	40222	1921681004001122	On	Cool	Low	
evice rating	6	2013-04-04 08:33:27	41139	1921681004103039	On	Cool	Medium	
ndaarunit	7	2013-04-04 08:33:27	41160	1921681004103060	On	Cool	Medium	
	8	2013-04-04 00:00:39	42300	1921681004202200	Off	Cool	Low	
	9	2013-04-04 00:00:39	42301	1921681004202201	Off	Cool	Low	
ev. statistics	10	2013-04-04 00:00:39	42302	1921681004202202	Off	Cool	Low	
	11	2013-04-04 00:00:39	42303	1921681004202203	Off	Cool	Low	
8	12	2013-04-04 00:00:39	42304	1921681004202204	Off	Cool	Low	
	13	2013-04-04 00:00:39	42305	1921681004202205	Off	Cool	Low	
	14	2013-04-04 00:00:39	42306	1921681004202206	Off	Cool	Low	
	15	2013-04-04 00:00:39	42307	1921681004202207	Off	Cool	Low	
	16	2013-04-04 00:00:39	42308	1921681004202208	Off	Cool	Low	
	17	2013-04-04 00:00:39	42309	1921681004202209	Off	Cool	Low	
	18	2013-04-04 00:00:39	42310	1921681004202210	Off	Cool	Low	
	19	2013-04-04 00:00:39	42311	1921681004202211	Off	Cool	Low	
	20	2013-04-04 00:00:39	42312	1921681004202212	Off	Cool	Low	
	04	0040 04 04 00.00.00	40040	1001001001000010	Off	Cool	Low	

Click the search button in the statistics page, and the statistics result will be displayed in the page. Such as input "41139", then the page will display the searching results as follows:

trol / Dev. indication / Sche	dule /						11500
uror / Dev. Indication / Sch	ouuc /	1 LOC	/ Dublic Dor	· / Dor: Monogomont	( Construction 1 )	Note elerm	/ 1
		ECO / ECS	/ 14010 Dev	. / Dev. Management	/ Statistical /	Note alarm	/ 1
atistical data							
	Lists statist	tics					Q Sea
art time					L.		Expor
013-04-04 0	Number	Time	Device name	Device ID	Switch status	Running	Fan
	1 1	2013-04-04 08:57:01	41139	1921681004103039	On	Fan	Medium
id time	2	2013-04-04 08:54:33	41160	1921681004103060	Off	Cool	Low
013-04-04 23	3	2013-04-04 08:39:46	40220	1921681004001120	On	Cool	Low
2	4	2013-04-04 08:39:46	40221	1921681004001121	On	Cool	Low
	5	2013-04-04 08:39:46	40222	1921681004001122	On	Cool	Low
vice rating	6	2013-04-04 08:33:27	41139	1921681004103039	On	Cool	Medium
- de constit	7	2013-04-04 08:33:27	41160	1921681004103060	On	Cool	Medium
	8	2013-04-04 00:00:39	42300	1921681004202200	Off	Cool	Low
	9	2013-04-04 00:00:39	42301	1921681004202201	Off	Cool	Low
v. statistics	10	2013-04-04 00:00:39	42302	1921681004202202	Off	Cool	Low
	11	2013-04-04 00:00:39	42303	1921681004202203	Off	Cool	Low
B	12	2013-04-04 00:00:39	42304	1921681004202204	Off	Cool	Low
	13	2013-04-04 00:00:39	42305	1921681004202205	Off	Cool	Low
	14	2013-04-04 00:00:39	42306	1921681004202206	Off	Cool	Low
	15	2013-04-04 00:00:39	42307	1921681004202207	Off	Cool	Low
	16	2013-04-04 00:00:39	42308	1921681004202208	Off	Cool	Low
	17	2013-04-04 00:00:39	42309	1921681004202209	Off	Cool	Low
	18	2013-04-04 00:00:39	42310	1921681004202210	Off	Cool	Low
	19	2013-04-04 00:00:39	42311	1921681004202211	Off	Cool	Low
		2012 04 04 00:00:20	/2312	1921681004202212	Off	Cool	Low
	20	2010-04-04 00.00.09	42012		~		

Click the "Export" button and it will export in the xls/txt/csv format, the xls format display as

follows:

Number	Time	Device name	Device ID	Switch status	Running	Fan
1	2013-04-04 08:57:01	41139	1921681004103039	On	Fan	Medium
2	2013-04-04 08:33:27	41139	1921681004103039	On	Cool	Medium
3	2013-04-04 00:00:32	41139	1921681004103039	Off	Cool	Low

# 3.13 Warming message (Optional)

The system can receive error message from air conditioner units in more than one building or structures and the system is able to send error messages to designated mobile phone number automatically via public phone lines and SMS Modem. It is easy to monitor the state of air conditioner.

**Notes:** It is necessary to purchase an additional piece of equipment named 'SMS Modem' from Midea.

Menu Project information	Help									×
Control / Dev. indication /	Schedule	/ E	ico /	ECS	/ Public Dev.	/ Dev. Management /	Statistical	/ Note alarr	user	Log
Message alarm	Active Provint		993727 68	0000000	the production of the		NEWS ELECTROPY	11 11 11 11 11 11 11 11 11 11 11 11 11		
	Pacairar									
Start alarm	Receiver									
No	ALCOND. T			1 0					Add	Delete
Alarm Time	Number	Name	none numbe	send?						
0-23										
Send dates										
3										
Contents										
^										
Ψ.										
Save Save	SMS status failure	SMS serial	1 SMS	center number						
Successfully connect to the server						[	Prompt(0)	Warning(397)	2013-04-0	4 09:48:42

Connection the SMS Modem correctly at first, and then add the recipient phone number, configuration parameters. If error occurs, the system will send the warning messages to the recipient automatically.

# 3.14 Log function

Mana Davia tinfamortian	The state of the s	2.1.0.179
Control / Dev. indication / Sch	ndule / Eco / ECS / Public Dev. / Dev. Managem	user ent / Statistical / Note alarm / Log
	Lists statistics	Q Searching
Start time	Numbei User iperation typ Time	Export Operation content
End time		
Log type		
E4		
Statistics S Reset	٠	۶
Successfully connect to the server	Prom	pt(10) 🛋 🤅 Warning(397) 2013-04-04 09:17:22

It can display the IMM system operation records by all users.

Select the "Start time", "End time" and "Log type" parameters, there are five types in Log type: command, schedule, energy saving, login and low-load operation reminding. And then click the "Statistics" button, the page will display the statistics result. Click the "Reset" button, the selection frame will be cleared.

Notes:

1. Low-load operation reminding function means energy-requiring is lower the setting value when the outdoor unit is operated.

2. IMM can run low-load operation reminding according to the total capacity, the reminding value can set as you need. It helps users understand the system and energy saving better, and achieve centralized control management conveniently.

user	Operation type		Q Searchii Export
user	Operation type	Time	Q Searchi Export
User user	Operation type	Time	Export
User user	Operation type	Time	
user		Time	Ope
licor	Login	2013-04-04 08:59:21	Evit the system
user	Command	2013-04-04 08:35:12	OnIndoor unit.CoolMode.LowF
user	Command	2013-04-04 08:30:51	UnlockedLimit mode
	user user	user Command user Login	user Command 2013-04-04 08:30:12 user Login 2013-04-04 08:30:06

Input the search content and click the "searching" button, it will carry out the searching function. Such as input "login", then the page will display the searching results as following:

1.1.1.1.1						-
nu Project inform	ation Help		and.			2.1.
ntrol / Dev indication	/ Schedule /	Eco /	FCS / Public Dev	/ Dev. Management	/ Statistical / Note al	user arm / Log
ng	, senedate ,	200 /	200 / 10020 200			
-B	Lists stati	istics			login	Q Searchi
art time						Export
013-04-04 0	Number	User	Operation type	Time		Ope
nd time	2	user	Login	2013-04-04 08	3:58:58 Exit the system	n
013-04-04 23	3	user	Login	2013-04-04 08	3:30:06 Login the syst	em
015-04-04 25			5			
og type						
Command,Login,Small load	oper 🔊					
-						
Statistics 2 R	leset	III				4
Successfully connect to the	e server			Prompt(1	10) 🛋 🕻 Warning(397)	2013-04-04 09:22:2

Click the "Export" button and the result will be exported in xls/txt/csv format, the xls form display as following:

Number	User	Operation type	Time	Operation content
1	user	Login	2013-04-04 08:59:21	Login the system
2	user	Login	2013-04-04 08:58:58	Exit the system
3	user	Login	2013-04-04 08:30:06	Login the system

## 3.15 Prompt message

If there are some prompt messages, the prompt message icon will be change to red, and click the "Prompt message" icon can check the corresponding information.

Number	Prompt Type	Time	Device rating	Device name	
10	Command failed	2012-07-13 09:47:29	Indoor unit	43107	
11	Command failed	2012-07-13 09:47:26	Indoor unit	43106	
12	Command failed	2012-07-13 09:47:23	Indoor unit	43105	
13	Command failed	2012-07-13 09:47:20	Indoor unit	43104	
14	Command failed	2012-07-13 09:47:17	Indoor unit	43103	
15	Command failed	2012-07-13 09:47:14	Indoor unit	43102	
16	Command failed	2012-07-13 09:47:11	Indoor unit	43101	
17	Command failed	2012-07-13 09:47:08	Indoor unit	43100	
18 Su	cessfully connect to the server.	2012-07-13 09:46:32			
			1	,	

Prompt types include: air filter cleaning reminding function, low-load operation indicate, operate failed and the server connection failed. Click a prompt message, the bottom of the page will display detailed information. If checked "Popup the newest Message", then the prompt dialogue frame will be popped-up automatically when there is any prompt message.

# 3.16 Alarm message

When a fault occurs, the connection failed, the system will give an alarm message. The alarm frame display as follows:

Number	Current status	Time	Device rating	Device name	Alarm details
236	Alarm	2012-07-13 08:59:56	Outdoor unit	40800	Ammeter discon
237	Alarm	2012-07-13 08:59:56	Outdoor unit	48800	Ammeter discon
238	Alarm cleared	2012-07-13 09:03:00	Indoor unit	48400	Disconnection al
239	Alarm	2012-07-13 09:00:30	Indoor unit	48408	Disconnection al
240	Alarm	2012-07-13 09:00:30	Indoor unit	48420	Disconnection al
241	Alarm	2012-07-13 09:00:30	Indoor unit	48421	Disconnection al
242	Alarm	2012-07-13 09:00:30	Indoor unit	48422	Disconnection al
243	Alarm	2012-07-13 09:00:30	Indoor unit	48423	Disconnection al
244	Alarm	2012-07-13 09:00:30	Indoor unit	48425	Disconnection al
245	Alarm	2012-07-13 09:00:30	Indoor unit	48426	Disconnection al
246	Alarm	2012-07-13 09:00:30	Indoor unit	48427	Disconnection al

When the alarm condition is removed and the alarm dialog will display the "Alarm cleared". Click a massage will display the detailed massage on the bottom of page. If checked the "Popup the newest alarm", it will popup the prompt frame automatically when there is prompt message. When there was alarm message, it should be maintained immediately.

# 3.17 Troubleshooting

## 3.17.1 Login failed

#### 1) The server connection failed



Login before connected to the server, it will display "Fail to connect the server". The solution is: check whether the configuration information of IMM client-side setting is right, whether the network between the server and the IMM client-side is smooth and whether the IMM client-side can connect to the database or not.

#### 2) Wrong password

There may be two reasons for login WEB page failure:

01 .No input password: If the user does not input the password, and click "OK", then it will display "Please input the password". Type the correct password and then login again.

02. Wrong Password: When the password is wrong, it will display "login failed". Type the correct password again.



#### 3) Control failed

1).When setting the mode lock, it might cause control failed. For example, locking the heating mode, then open the cooling mode, it will cause control failed, and the failed information will display in the prompt message frame. It needs to unlock the air conditioner, and do the mode setting again.

2). If setting the remote controller lock, then when using remote controller to control the air conditioner, it will cause control failure.

3). When controlling the indoor unit, if it is failed, then find out the reason through the prompt message.

#### 4) No respond in operate page

1) As for the IMM control page, if the page cannot be operated, then should check the connecting icon in the lower left of the page to judge, whether it was normally connected to the server, if the connection failed, then it needs to contact the local dealer or technicians to maintain the network.

## 3.17.2 Error code analysis of IMM client-side interface

The following error code tables are suitable for the V4 plus series indoor and outdoor units.

#### Indoor unit error codes table:

Codes	Error protection	Codes	Error or protection	
EO	Phase sequence error or lack of phase	P1	Anti-cold or defrost protection	
E1	Communication error	P2	Condenser high temp. protection	
E2	Room temp. T1 sensor error	Р3	Compressor temp. protection	
E3	Middle evaporator temp. T2 sensor error	Ρ4	Discharge pipe temp. protection	
F4	Evaporator outlet temp. T2B	P5	Discharge high pressure	
	sensor error	15	protection	
F5	T3/T4/digital compressor	PG	Discharge low pressure	
	discharge temp. sensor error	10	protection	
FG	Zero crossing detection error	D7	Over voltage or under	
LU	Zero crossing detection end	F7	voltage protection	
E7	EEPROM error	P8	Compressor over current protection	
го	Fan speed detection out of	рг	Other protections	
EO	control error	PF		
	Communication error		Communication error between network	
E9	between main board and	0#	connect module	
	display board		and mainboard	
	Compressor over current		Communication error between	
EA	error	1#	centralized controller and	
	(4 times)		network connect module	
ЕР	Inverter module error	2#	Communication error between	
LD			centralized monitor and function module	
			Communication error between	
EC	Fresh error	3#	centralized monitor and computer	
			(gateway)	
ED	Outdoor unit error	4#	Order limit execution	
EE	Water level checking error	5#	Order timeout, no execution	
EF	Other errors	6#	Excepted address not exist	
PO	Evaporator temp. protection	7#	Error (unsupported) order	

#### Outdoor unit error code table:

Codes	Error or protection	Codes	Error or protection
50	Communication error between	50	Discharge low pressure
EU	outdoor units	PZ	protection
Г1	Phase sequence error or lack of	50	Compressor current protection 1
C1	phase	P5	
ГЭ	Indoor units and master unit	D4	Discharge temp, protection
CZ	communication error	P4	Discharge temp. protection
	Ambient temp. T4/pipe temp.T3 or		
E3	digital compressor discharge	P5	Condenser high temp. protection
	sensor error		
E6	T6 sensor error	P6	Inverter module protection
E9	Voltage error	P7	Compressor current protection 2
EF	Other errors	P8	Compressor current protection 3
ЦО	DSB communication error	P9	Over voltage or under
по	DSF communication end		voltage protection
H1	Network communication error	PA	Defrosting protection
	Quantity of outdoor units		
H2	decrease error (only display on	PD	Oil return
	master unit)		
<u>ц</u> р	Quantity of outdoor units increase	DE	Oil balance
пэ	error (only display on master unit)	PE	Oli balance
DO	Top temperature protection of	DE	Other protections
PU	inverter compressor	PF	
D1	Discharge high pressure	/	
L T	protection	/	/

# 4. Hardware introduction

## 4.1 System structure overview



- M-INTERFACE gateway is used to query and control indoor unit, and transmits the state information of indoor unit to the computer and the controlling and querying orders from the computer to the indoor unit.
- The air conditioner should be connected to the M-net ports of the M-INTERFACE gateway, and the gateway can communicate with IMM software through the LAN port.
- The longest of Network cable should be 100 meters. Communication wire must use the 3-core shielded wire, and the 485 communication wire can be up to 1000 meters between each Web controller and the outdoor unit

- Under the auto topology mode, one M-INTERFACE gateway can be connected Max. 4 refrigerant systems, insert 16 outdoor units and 256 indoor units, the wiring should be polarity connection: indoor/outdoor units of No.1 system must be connected to the No.1 and No.5 port of M-INTERFACE; the indoor /outdoor units of No.2 system must be connected to the No.2 and No.6 port; indoor/outdoor units of No.3 system must be connected to the No.3 and No.7 port; indoor/outdoor units of the No.4 system must be connected to the No.4 and No.8 port.
- Under the manual topology mode, one M-INTERFACE gateway can be connected Max.16 refrigerant systems, insert 64 outdoor units and 256 indoor units. Indoor units belong to the same refrigerant system cannot connect to different M-net ports, but the M-net port can connect indoor units from different systems and the indoor units' address must be different; outdoor units belong to the same system cannot connect to different M-net ports, but the M-net port can connect outdoor units from different systems and the outdoor units' address must be different.
- M-INTERFACE gateway controller can only be installed at the end of the XYE or K1K2E communication wire, cannot be installed at the middle of the XYE or K1K2E communication wire. And need to add matched resistance120 Ω if necessary.

# 4.2 Side view of M-INTERFACE gateway



## 4.2.1 M-INTERFACE gateway ports

Console	Lan	년 년년 in1 in2 e				
					000	000
		1 2 3 4 5 6	K1 K2 E 5	K1 K2 E 6	K1 K2 E 7	K1 K2 E 8

### Physical product picture



There are 8 M-net ports on the M-INTERFACE gateway, and the1 to 4 port are the indoor unit communication ports, they can only connect to XYE ports of the indoor units; 5 to 8 port are the outdoor units communication ports, can only connect the K1K2E ports of the outdoor units.

### 4.2.2 Dimensional design (319\*251\*67.5mm)



1) Front view of M-INTERFACE gateway controller (Unit: mm)

2) Side view of M-INTERFACE gateway controller (Unit: mm)





3) Detailed drawing of installation holes (Unit: mm)



Installation precautions:

1. Must be installed indoors, guarantee the gateway controller installation must be higher

than the ground 50 cm;

- 2. Install at a place where should not affect by electromagnetic wave or dust;
- 3. Avoid installation place where affects by sunshine or heat source device etc.
- 4. Avoid installation place where has high humidity or can contact the water;
- 5. Avoid installation place where will produce corrosive or flammable gas.

## 4.2.3 Communication wiring diagram

M-INTERFACE gateway need to install at the end of the XYE or K1K2E communication wire, it cannot be installed at the middle of the XYE or K1K2E communication wire. Connection needs to use  $0.7 \text{mm}^2 \sim 1.0 \text{mm}^2$  three cores shielded communication wire.







# 4.2.4 LED indication lamp





Indication lamp	Color	Specifications
TX1~TX8	Yellow	1 to 8 lamp is the sending ports indication lamps
RX1~RX8	Green	1 to 8 lamp is the receiving ports indication lamps
Power	Red	Power indication lamp
States	Green	States indication lamp
Alarm	Yellow	Alarm indication lamp
Modem	Green	Reserve indication lamp

LED States:

Under the normal situation, state lamp will be flashed with 1Hz and the alarm lamp will

lights off.

With error situation, state lamp and alarm lamp will be flashed with 1Hz at the same time.

## 4.2.5 M-INTERFACE gateway specifications

	Voltage	AC 100-240V~1P,50/60 Hz	
Power supply	Consumption power	Max. 15W	
	Voltage fluctuation	Rated value ±10%	
	Ambient temp.	<b>-10~50</b> ℃	
	Ambient humidity	0~95%	
	Storage temp.	<b>-20~60</b> ℃	
Capacity	Insulate resistance	When it is DC 500VM,it will over 50M $\Omega$	
Weight	Weight 4.4kg		
Dimension(W*H*D) 319*67.5*251(mm)		319*67.5*251(mm)	

### 4.2.6 Dial switch definition



Dial code switch locates on the display lamp panel

Dial		OFF(Factory	
name	ON	default )	
SW1-1	No electricity charge distribution function	With electricity charge distribution function	
SW1-2	Dial code setting IP	WEB setting IP	<b>1 2 3 4</b> OFF
SW1-3	Manual topology mode	Auto topology mode	
SW1-4	Reserve		

When dial SW- 2 set to OFF and SW-3 set to ON means that the system can use WEB function to set the IP and apply the manual topology mode.

\*Notes: when manual adjusts the dial code switch, it needs to take off the top cover plate of M-INTERFACE gateway. There are 4 bolts on the cover plate, please take them down and keeping properly.

### 4.2.7 Battery installation

After setting the dial code switch, take out the battery from the accessory bag, and the positive pole of battery must be upward side and install on the mainboard as the following. System time synchronization refers to 5.2.3 synchronization time.



## 4.2.8 I/O Port

Gateway	Name	Note
Pin1		Error output port.
Pin2		When the device operates normally, Pin1 and Pin2 will be broken, and Pin2 and Pin3 will be connected. If there are some errors, Pin1 and Pin2 will be connected, Pin2 and Pin3 will be broken.
Pin3		When A/C is powered off, the device still output error.
Pin4		Emergency stop input signal. If the signal is high level (12~36V DC), then means emergency stop; if the signal is low level (0~0.7V DC), then means operate normally.
Pin5	4 5 6	Reserve
Pin6		Ground wire of emergency signal.

Installation notes:

- 1). Avoid to sunlight exposure
- 2). Do not close to the heating source.
- 3). Do not install in places with high humidity or water.
- 4). Do not install in the place where is easy to produce corrosion or flammable gas.

# 4.3 UPS installation instruction(Optional)

UPS model	BK650-CH
Capacity	650 VA/400 Watt
Output voltage	220V±8%(Battery)
Output power	50Hz±1Hz(Battery)

Notes: When turnoff the power, please turn off the computer safely.

## 4.3.1 UPS wiring figure



One UPS can only provide power supply for one computer, one switchboard and 4

M-INTERFACE gateways.

### 4.3.2 UPS installation

According to UPS BA650-CH operation instruction, power wire and signal wire

separately connect to the power and computer. Install UPS BK650-CH power

management software.

Notes: please carefully read the UPS operation instruction, and safely shut down the computer when power-off.

# 4.4 Softdog

Softdog must be inserted to the server PC first, and then operate the server software. The softdog can be inserted to any USB ports of PC. Softdog will be sent with the device and it is only used by Midea.



# 5. M-INTERFACE gateway introduction

M-INTERFACE gateway has 8 M-net ports, 1 LAN port, 8 M-net ports indication lamps, 4 state display lamps (Power, States, Alarm, and Modem) and a power switch.

## **5.1 M-INTERFACE network**

M-INTERFACE gateway can connect the local area network or Internet network through LAN port. M-INTERFACE gateway can connect to the LAN network through switch or router. IP address of computer or other similar devices must be in the same subnet area as the IP address of M-INTERFACE gateway,

## 5.1.1 IP configuration

Default IP of M-INTERFACE gateway is 192.168.100.40, subnet mask is 255.255.255.0. M-INTERFACE gateway's IP address and IMM server must be in the same subnet area. If you want to modify the gateway's IP address through the WEB page, you need to manually configure static IP address of the PC or other similar devices (Pad, Laptop), and static IP must be meet the following requires: within 192.168.100 segment, subnet mask is 255.255.255.0. The single IP is the general configuration, if the PC IP address is not easy to modify, can be used to configure multiple IP ways. Now take Windows 7 for an example.

### 5.1.1 PC configure the statistic IP

#### > Configure single IP

Open the protocol attribute dialogue box to configure the IP address and subnet mask. For example: IP address is 192.168.100.44, subnet mask is 255.255.255.0.

After configuration, click the "OK" button to finish single IP configuration.

	Internet Protocol Version 4 (TCP/	IPv4) Properties
	General You can get TP settings assigned	automatically if your network supports
	this capability. Otherwise, you n for the appropriate IP settings.	eed to ask your network administrator
	Obtain an IP address auton	natically
	IP address:	192 . 168 . 100 . 44
	Subnet mask:	255 . 255 . 255 . 0
	Default gateway:	
	Obtain DNS server address	automatically
Ouse the following IP address:		
IP address:	192 .168 .100 .44	· · ·
Subnet mask:	255.255.255.0	Advanced
Default gateway:		OK Cancel

#### > Configure several IP

It needs to configure a statistic IP address before configure several IP.

1) Check the local IP

Open the property dialogue box, if the option "uses the following IP address" is selected, and the display page with an IP address, then the local IP is a static IP address, otherwise it is a dynamic IP address, and then it needs to configure a statistic IP address.
#### 2) Configuration static IP address

Open the "start" menu, and input "cmd" in the search box, the dialog box as following:



Input "ipconfig" on the above diagram, the page will display local dynamic IP address; fill in the IP address to the properties dialog box, static IP address configuration is completed. Open the property dialogue box again, select the "Advanced", you will enter the "Advanced TCP/IP settings". Click "add" button in the IP address bar, add an IP address in the same net area with "192.168.100.40", such as IP is192.168.100.101, subnet mask is 255.255.255.0, and click the "Add" button complete setting, the dialog box as following:

Internet Protocol Version 4 (TCF	P/IPv4) Properties		Advanced TCP/IP Settings	8 2
General		/	IP Settings DNS WINS	
You can get IP settings assigned	ed automatically if your network supports	· /	IP addresses	
this capability. Otherwise, you for the appropriate IP settings	need to ask your network administrator	i i i	IP address	Subnet mask
Obtain an IP address auto	omatically	- i	TCP/IP Address	<u> २</u>
<ul> <li>Use the following IP address</li> </ul>	ess:		IP address:	192 . 168 . 100 . 101
IP address:	192 .168 .100 .44	/ /	Subnet mask:	255.255.255.0
Subnet mask:	255.255.255.0			
Default gateway:		1		Add Cancel
Obtain DNS server addres	ss automatically	1		
Ouse the following DNS service of the service of	ver addresses:	1	A	Add Edit Remove
Preferred DNS server:		/		
Alternate DNS server:	Step 1	1	Automatic metric	Step 2
Validate settings upon ex	xit Advanced		Incentace mecho:	
	OK Cancel	<b>`</b>		OK Cancel

\*Notes: do not set the gateway IP to be: 192.168.100.0/255, if not the server will be error during operation. You can ask the IT engineer to configure IP address.

## 5.1.2 Web local connection

M-INTERFACE gateway can connect to the LAN network through switch or router. IP address of computer or other similar devices must be in the same subnet area as the IP address of M-INTERFACE gateway, and input the address of M-INTERFACE gateway in the browser(e.g.: http://192.168.100.40) then you can access the M-INTERFACE WEB to control the air conditioner. The topology structure of local access as following:



#### 5.1.3 Remote network connection

Under the environmental permit conditions, M-INTERFACE gateway can be set up in the public network. Users can control air conditioner via computer or other similar devices anytime and anywhere. There are 3 remote network connection ways:

Notes: Remote connection needs the help from the network administrator.

#### Statistic IP

Configure the public network statistic IP address for M-INTERFACE gateway, and set it in the internet, we can visit the public network address (visit WEB page) directly.

It needs to consult and get the public network address from the local network operator.

The corresponding cost of the public access will be charged by the operator and need to consider the problem of network security at the same time.



## > Network port mapping

If there is a public network address shared in a company, it needs to map a port for M-INTERFACE gateway from fire wall.

When the PC or other similar devices access M-INTERFACE gateway, they visit it like http:// public network IP: port. For example: http:// 203.208.60.72:6080.



### VPN access

The IMM client-side and server also can use the remote network (VPN) connection. VPN has router establishing and PC establishing methods.

#### 1) Router establishing method

M-INTERFACE gateway may use the same public IP address with other devices and cannot map a port to the M-INTERFACE gateway, and then can use VPN for remote visiting.

VPN tunnels achieve connection by routers, or using VPN client-side software and VPN server in the computer, and then we can visit the M-INTERFACE gateway from long-distance. VPN Server can be established by oneself and also can be rented. The topology structure as following display:



#### 2) PC establishing method

It is difficult to establish VPN tunnel by PC for ordinary users

Use VPN client-side software and VPN Server to establish VPN tunnel together on the user's computer, then user can visit the server through VPN tunnel. VPN client-side software and VPN Server can be achieved by commercial ways. The topology structure as follow display:



## 5.1.4 Setting the gateway IP address

In PC which is configured with a static IP via a browser (for example: Internet Explorer 9) to enter the IP configuration page of the WEB system and as an administrator to operate the WEB system, WEB page will display as following:

C G T C C LONG T BE				
C @ http://192.168.100.41/main.html			م	- OX 合会感
🧭 main.html 🛛 🗙 🔤	· · · · · · · · · · · · · · · · · · ·			
© main.html × Control / Map / Setting Basic Time User Log IP System map FTP Controller state Multi-pipe Other	Setting / DevInfo Ipv4 address Ipv4 mask Ipv4 gateway Ipv4 DNS server	/ Upgrade         / CommLog           192.168.100.40         255.255.0           192.168.100.1         1           10.16.15.110         0           0k         Cancel	Intelligent N / Help / Exit Ipv4 address Ipv4 mask Ipv4 gateway Ipv4 DNS server	Aanager 192. 168. 100. 40 255. 255. 255. 0 192. 168. 100. 1 10. 16. 15. 110
			2013-0	Ok Cancel

After setting and click the "OK" button. If there are several M-INTERFACE gateways in

the same network segment, and then the IP addresses cannot be repeated.

## **5.2 M-INTERFACE configuration**

## 5.2.1 Administrator login

Input the IP address of the M-INTERFACE gateway in the browser and press Enter key, then the page will enter the web login page (take Window 7 and IE for example):

1). Double-click logo on the page , it will display the login frame (figure 1 and figure 2), and the default user name is "adm".

- 2). Input your password in the login fields (default: 123456).
- 3) Select language
- 4) Click the [Ok] button will enter the M-INTERFACE WEB page.
- 5) Click the [Cancel] button will cancel login.

(         (         (         (         (         (         (         (         (         (         (         (         (         (         (         )         (         )         (         )         (         )         (         )         (         )         (         )         (         )         (         )         (         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )         )	() (1) (1) (1) (1) (1) (1) (1) (1) (1) (
JMMweb login ×	1004.00
User User	
Password Language English Cancel Double of Midee Creakes A Better (	lick a
	15:05 2013/7/24

Fig.1

🧲 💮 🦉 http://19.	2.168.100.41/index.jsp		> - ♂ 次 ☆ ☆ ≧ 、
IMMweb login	×		1000
		Admin User adm Password Language English ) Ok ) Cancel	Ant Manager of Midea
🙆 🌔 📋			🖮 🖽 🚭 🛱 🐠 15:05 2013/7/24 😵 🖗 14:16

Fig.2

## 5.2.2 Serial port setting

				د د	
C ( http://192.168.100.41/main.html				P-CX	승 숫 🖗
@ main.html ×					
main.html     ×      Control / Map / S      Setting      Basic     Time     User     User     Log     IP     System map     FTP     Controller state     Multi-pipe     Other	etting / DevInfo Controller name Baud rate Compatibility	/ Upgrade / CommL IGM301 Ok Cancel Serial 5 600 • Serial 6 600 • Serial 7 600 • Serial 8 600 • TES • Ok Cancel	og / Help / Exit Outdoor unit port: V4+/D4+: 600 Other models: 480	gent Manager	*
		1		2013-07-24 16:01	
l 🙆 🌔 🚞 📖 👩	Ĩ.			🏾 🕮 🛃 🍕 🙄 🌒	16:01
					2013/7/24

After login, select "Setting" and click "Basic" can set the serial port as following:

The baud rate of 5 to 8 serial ports should be set to be the communication baud rate of outdoor units (V4 plus and D4 plus outdoor units' baud is 600, other models' baud is 480). If the indoor units cannot compatibility (0533 chip indoor units cannot compatibility), the option of "compatibility" should be selected "yes", and then the gateway controller will distribute the capacity to the indoor units automatically. It needs to be restarting the unit after modification, otherwise it will fail. If the setting baud rate was different from the outdoor unit communication baud rate, then it cannot search outdoor units which connected to the port.

## 5.2.3 Synchronization time

Synchronous the M-INTERFACE gateway's time as following:

Select "Time zone", and click the "OK" button, and then click "Synchro time" button to complete synchronous time setting function.

$(\leftarrow)$	Definition for the second seco			P-CX	命公会
🦉 main.ht	tml ×				
	Control / Map / Setting P Basic P Time User Log I IP System map FTP Controller state Multi-pipe Other	Setting / DevInfo Controller time Host time Time zone	/ Upgrade / CommLog / Help / Exit 2013-07-24 16:00:27 2013-07-24 16:02:47 Synchro time UTC+08:00 China Mainland, Hong Kong, Western Australia, Singa Ok Cancel	Intelligent Manager pore, Taiwan, Russia •	
			7	2013-07-24 16:02	
		्र		é 😫 🍕 🕁 🌗	16:02

## 5.2.4 User's password management

The administrator can modify their own password and 4 common user's password, the page will display as following:

Admin		
User adm		
Old Password	(6~10 Numbers or letters)	
New Password	(6~10 Numbers or letters)	
Repeat	(6~10 Numbers or letters)	
	ancei	
User		
	1	
User Useri		
New Password	(6~10 Numbers or letters)	
Repeat	(6~10 Numbers or letters)	
Dok DC	ancel	
	Admin User adm Old Password New Password Repeat Ok OC User User User User Ok Oc	Admin User adm Old Password (6-10 Numbers or letters) New Password (6-10 Numbers or letters) Cok Cancel User User User User Vser Vser Vser Vser Vser Vser Vser V

After modifying and click "Ok" button.

## 5.2.5 IP setting

If you want to connect the M-INTERFACE gateway to the local network, then it needs to reset the M-INTERFACE IP address. After setting and click "OK" button. If there are many M-INTERFACE gateways in the same network area, then the IP address cannot be repeated.

Attp://192.168.100.41/main.html			P-CX ① ☆ 贷
🖉 main.html 🛛 🗙	4		
main.html Control / Map / Setting Basic Time User Log Elog System map FTP Controller state Multi-pipe Other	Setting / DevInfo / Ipv4 address Ipv4 mask Ipv4 gateway Ipv4 DNS server	Upgrade / Help / Exit	Intelligent Manager
			2013-07-24 15:34

## 5.2.6 FTP setting

FTP setting page as following:

Control / Map / Setting	Setting / DevInfo /	Upgrade / CommLog	Intelligent Manager of Midea / Help / Exit
<ul> <li>Basic</li> <li>Time</li> <li>User</li> <li>Log</li> <li>IP</li> <li>System map</li> <li>FTP</li> <li>Controller state</li> <li>Multi-pipe</li> <li>Other</li> </ul>	FTP host Port User Pwd	192.168,100.62 21 test •••••	<ol> <li>Set the IP address</li> <li>Port (default: 21)</li> <li>Login name (default: test)</li> <li>Password (default: 123456)</li> </ol>
			2012-11-12 16:05

It needs to set the IP address of the FTP server (the PC address of the server software installation), and the default port is 21, user's name default "test" and the login password default 123456. Click "Apply" button will complete the setting.

## 5.2.7 Multi-pipe system configuration

The function is only available for three-pipe system (V4+R system). It can set system mode (3: three-pipe system), auto cooling and heating mode (YES: auto mode setting),  $\Delta T$  (Room temperature (T1) - Setting temperature (Ts) =  $\Delta T$ ), time interval (interval of indoor unit modes changing).



After setting and click "Save" button, auto mode of three-pipe system will be set completely in the setting page.

## 5.2.8 Search device

Under the system map function can operate device search through auto topology and manual topology mode

#### 5.2.8.1 Auto topology mode

Under the auto topology mode, you can operate the device search function through the WEB page.

On the setting page, click "system map" and enter the refrigerant system mapping page to click the "Scan" button. M-INTERFACE gateway can search the air conditioners automatically.

(	
P-CX	的公给
Intelligent Manager	
2013-07-24 16:05	,
	10.05
	P → C X Intelligent Manager 2013-07-24 16:05

### 5.2.8.2 Manual topology mode

Under the manual topology mode, it needs to manual import the system topology documents (topology document refers to 9.1), and during the importing process, M-INTERFACE gateway will operates device search function automatically. Importing system topology documents page as following:

C 🛞 (# http://192.168.100.41/main.html			P-CX 命会锁
🥖 main.html 🛛 🗙			
Control / Map /	Setting / DevInfo / L	Jpgrade / Help / Exit	Intelligent Manager
<ul> <li>Basic</li> <li>Time</li> <li>User</li> <li>Log</li> <li>IP</li> <li>System map</li> <li>FTP</li> <li>Controller state</li> <li>Multi-pipe</li> <li>Other</li> </ul>	Work mode Export topology Import topology	Manual topology Export Scan Browse_ Upload Cancel	
			2013-07-24 15:53
•		III .	*
📀 🏉 🚞 🐺 🔤 🛛	<b>I</b>		

Notes: During the device searching process, it will check the indoor and outdoor devices automatically.

## 5.2.9. Device verification

#### 5.2.9.1 Search results check

After searching, WEB page will display this information: quantity of the indoor and outdoor units, serial number of indoor and outdoor units and so on.

Physicial State (1922) 182 108 100 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 - 4 -		
Foreinter Suggested Stes + WebSles Galley + W MSM maintum Control / Map / Setting / Devtnfo / Upgrade / CommLog / Help / Exit Control / Map / Setting / Devtnfo / Upgrade / CommLog / Help / Exit Export topology Exert Sere Import topology Exert Sere FIP System map FIP System map FIP System map 6 fifthe scan: 100% Kave been found the indoor: 0.0,7_0,7_1,8_0,8_1 Ok Cance The number of indoor: 28,7b Have been found the indoor 1_0,1_1,1_2,1_3,1_4,1_5,5c Ok Cance The scan: 100% Have been found the indoor 1_0,1_1,1_2,1_3,1_4,1_5,5c The scan: 100% Have been found the indoor 1_0,1_1,1_2,1_3,1_4,1_5,5c The scan: 100% Have been found the indoor 1_0,1_1,1_2,1_3,1_4,1_5,5c The scan: 100% Have been found the indoor 1_0,1_1,1_2,1_3,1_4,1_5,5c The scan: 100% Have been found the indoor 1_0,1_1,1_2,1_3,1_4,1_5,5c The scan: 100% Have been found the indoor 1_0,1_1,1_2,1_3,1_4,1_5,5c The scan: 100% Have been found the indoor 1_0,1_1,1_2,1_3,1_4,1_5,5c The scan: 100% T	🕂 🗙 ಶ Bing	<del>-</del> ۵
Pennhell          Control / Map / Setting / DevInfo / Upgrade / CommLog / Help / Exit         Exter         * Basic         * User         * User         * Ugg         * Ugg         * Ugg         * Digg         * Digg         * Digg         * System map         * FIP         * Controller state         * Multi-pipe mode         * Other         * Other         * Other         * Other		
Control / Map / Setting / Devinfo / Upgrade / CommLog / Help / Exit         Extain <ul> <li>Basic</li> <li>Time</li> <li>User</li> <li>Log</li> <li>P</li> <li>Specime map</li> <li>FTP</li> <li>Control er state</li> <li>Wulti-pipe mode</li> <li>Other</li> </ul> <ul> <li>Multi-pipe mode</li> <li>Other</li> <li>Multi-pipe mode</li> </ul> <ul> <li>Multi-pipe mode</li> <li>Other</li> </ul> <ul> <li>Multi-pipe mode</li> <li>Multi-pipe mode</li></ul>	▼ Safety ▼ Tools	• @• <sup>»</sup>
Control / Map / Setting / Devinto / Upgrade / CommLog / Help / Ext         Station         ** Basic         ** Time         ** User         * Log         ** Inp         ** Dig         ** FTP         ** Controller state         ** Multi-pipe mode         ** Other         ** Other    The number of indoor: 28, The number of outdoor:6,Progress          ** Other    The number of indoor: 28, The number of outdoor:6,Progress     The number of indoor: 28, The number of outdoor:6,Progress          ** Other    The number of indoor: 28, The number of i	Intelligent Manager of Midea	*
<ul> <li>Basic</li> <li>Time</li> <li>User</li> <li>Log</li> <li>Export topology</li> <li>Export</li></ul>		
The number of indoor:28,7 of the scan:100% Have been found the indoo 1_0,1_1,1_2,1_3,1_4,1_5,		
5,2_6,2_7,2_8,2_9,2_10, 6,3_15 Have been found the outd 5_0,6_0,7_0,7_1,8_0,8_1	The number of outdoor: oor: i,1_6,1_39,1_60,2_0,2_2 i,2_11,2_20,3_1,3_2,3_3 door:	6,Progress 2,2_3,2_4,2 ; 3,3_4,3_5,3

### 5.2.9.2 Communication quality inspection

WEB function will give out the communication quality between gateway and single air

conditioner, display as following:



Click single device, the communication quality bar will display the communication quality

between this device and gateway.

## 5.2.10 Device information setting

#### 5.2.10.1 Indoor unit information setting

Select the refrigerant system, click the "IndoorInfo", and then the indoor unit information will display as following:

<u>DevInfo</u> System 1	System 2	IndoorInfe	o Outdoo	rInfo				
System 3	System 4	Ports	Address	Device Name	Sales Model	Fan(W)	E-heat(W)	Repair
System 5		2	0	2-0	Other 👻	150	0	No 👻
		2	2	2-2	Other 👻	150	0	No 👻
		2	3	2-3	Other •	150	0	No 🔻
		2	4	2-4	Other +	150	0	No 🔻
		2	5	2-5	Other •	150	0	No 🔻
		2	6	2-6	Other •	150	0	No 🔻
		2	7	2-7	Other +	150	0	No 🔻
		2	8	2-8	Other •	150	0	No 🔻
		2	9	2-9	Other •	150	0	No 🔻
		2	10	2-10	Other •	150	0	No 🔻
		2	11	2-11	Other +	150	0	No 🔻
		2	20	2-20	Other -	150	0	No 🔻
								2013-07-24 15

The display contents include: port (terminal number which connected to the M-net port), indoor or outdoor units' address, physics location (device name), sales model, fan power, E-heater power and maintenance state information. Administrator can modify the physical location, sales model, fan power (when the sales model is others can modify only), electrical heating power (when the sales model is others can modify only) and maintenance state. After modifying the physical location, the corresponding device name will be modified, and if other options will be modified, it will affect the electricity charge distribution function. After modifying and then click the "Save" button.

If setting the maintenance state to "yes", devices will not participate in electricity charge distribution, and it needs to restart the M-INTERFACE gateway. Under the maintenance

state, devices will not display in the WEB page. And if modify the maintenance state property of the device, IMM software needs to search again. Otherwise, it fails to control, and user can see "Didn't find the indoor unit address information" in the prompt message frame. After searching the IMM software again, the devices which under the maintenance state will not display in the IMM software control page.

#### 5.2.10.2 Outdoor unit information setting

Select the refrigerant system to click the "OutdoorInfo", and then outdoor unit information will display as following:

	ttp://192.168.100	41/main.html					۵-OX 🟠
html	×	Statute of the local division of the local d					
	and f	11.	الأسطار وال				Intelligent Manager
	Control	/ Map /	Setting /	DevInfo	/ Upgrade /	Help / Exit	
I	DevInfo						
	System 1	System 2	IndoorInfo	Outdoor	Info		
	System 3	System 4	Ports	Address	Device Name	Sales Model	
	System 5		8	0	8-0	MDV-252(8)W/DRN1(B)	•
							Save Cancel
							Ť
							2013-07-24 15:40

The display contents include: port, address, device name and sales model. Administrator can modify the "Device Name" and "Sales Model" parameters, and click the "Save" button will be OK. After modifying the device name, the corresponding device name will be changed.

## 5.2.11 Software upgrade

M-INTERFACE gateway can be upgraded through WEB page. When administrator logins the WEB page and enter to the software upgrade page, the display as following:



Select the "Upgrade" and click "Browse" button in the page to select the upgrade program, and then click the "Upgrade" button will perform the upgrade command. After upgrade, the page will prompt "Re-start the M-INTERFACE" message. After restarting the gateway and upgrade finish. Upgrade time is about 10 minutes, and during the upgrade process cannot cut-off the power.

## 5.2.12 Communication diagnosis

Control / Map	/ Setting /	/ DevInfo /	Upgrade /	CommLog / Help / Exit	ent Manage
CommLog					
Da Fod	Check out	the latest 20 👻	Lines		<u>^</u>
	Log level	Time	Process	Content	
	6	Jul 24 16:05:08	igm_agent[883]	exit show device	
	6	Jul 24 16:05:14	dacs[882]	enter cmd handle	
	6	Jul 24 16:05:31	energy[885]	ts_read:1374652800,size:1540	
	6	Jul 24 16:05:53	syswatcher[824]	user exit from console	E
	6	Jul 24 16:05:59	dacs[882]	enter cmd handle	
	6	Jul 24 16:06:01	energy[885]	ts_read:1374652800,size:1540	
	6	Jul 24 16:06:31	energy[885]	ts_read:1374652800,size:1540	
	6	Jul 24 16:06:55	syswatcher[824]	user exit from console	
	6	Jul 24 16:07:01	energy[885]	ts_read:1374652800,size:1540	
	6	Jul 24 16:07:31	energy[885]	ts_read:1374652800,size:1540	
	6	Jul 24 16:07:57	syswatcher[824]	user exit from console	
	6	Jul 24 16:08:01	energy[885]	ts_read:1374652800,size:1540	
	6	Jul 24 16:08:31	energy[885]	ts_read:1374652800,size:1540	
	6	Jul 24 16:08:59	syswatcher[824]	user exit from console	-
					2013-07-24 16:1
					2013-07-24 10.1

Administrator can login WEB page to check the communication diagnosis information.

Administrator can clear the logs, download the logs and download the diagnosis information in this page.

## 5.2.13 Precautions

1). When change the auto/manual modes of M-INTERFACE gateway, user must be set the dial code first.

2). If cannot use the sending button in the WEB page, it means the M-INTERFACE gateway was locked in the IMM software. It needs to be un-locked in the state page of M-INTERFACE gateway.

3).After change the system inserted port number, it must to search M-INTERFACE again.

4). In I/O port, Pin4 and Pin6 ports' input voltage are higher than 3V and last for 3 seconds,

M-INTERFACE will send emergency stop command and all the devices which connected

to the M-INTERFACE gateway will be stopped.

5). Install the battery before use the M-INTEFACE gateway.

## 5.3 Web operation introduction

## 5.3.1 User login

Input the IP address of the M-INTERFACE gateway in the browser and press Enter key,

then the page will enter the web login page (take Window 7 and IE for example):

- 1) Select the user's name and input your password (default password: 123456).
- 2) Select language
- 3) Click the [Ok] button will enter the M-INTERFACE WEB page.
- 4) Click the [Cancel] button will cancel login.



Notes:

For safety, each user name is allowed only login in one place, if there is repeated login (even 2 different browsers on the same computer), the first login users name will be forced back to the login page. After login system, if there is not operation about 5 minutes, then operation again, the page will return to the login page automatically.

### 5.3.2 WEB home page

Web home page consists of three parts: main menu, submenu and information display page. Main menu can display all functions, include "Device monitoring", "System mapping", "Setting", "Device information" and "Help" etc. Submenu: simple divide the main menu. Information display: display information of a function.



## 5.3.3 Devices monitoring

It can display the operation states of indoor/outdoor units according to the ports and system way. You can control the indoor units and check the operation/error states of indoor/outdoor units. The detailed display page will refresh automatically for per 10 seconds.

### Ports monitoring

Under the device monitoring function to select the port, the page will display the corresponding units which connect to the 8 m-net ports. The 1 to 4 ports are connected to the indoor units and it can check and modify the indoor units' running state. The 5 to 8 ports are connected to the outdoor units and it can check the outdoor units' running state.

#### 1) Check the running states of indoor unit

Indoor running states: cooling, heating, fan only, turn off, offline, error and locking. Different running state will correspond to different images. Click a single indoor unit, it will display the operating state information of the indoor unit on the bottom of page, including on/off state, running mode, units' name and HP etc. information.

C ( ) ( http://192.168.100.41/main.html						⊳ - Q X	습☆發
<i>i</i> main.html ×							
م الكلية م	la charlina i ant	and.			Inte	lligent Manage	r
Control / Map /	Setting / DevInfo /	Upgrade /	Help / E	xit			
Control	🔍 Cool 💦 🔍 He	at 🔍 🔍 Fan	Close	Offline 💄 Err	or 🗎 Locked	<ul> <li>Selected</li> </ul>	
Port							
Port 1 Port 2	ິງ 27℃ <b>26℃</b>	26°C 27°C	28°C	26°C 26°C	26°C	25°C	
Port 3 Port 4	1-0 1-1	1-2 1-3	1-4	1-5 1-6	1-39	1-60	
Port 5 Port 6							
Port 7 Port 8							
			<< < 1 > >	>			
	Status	Off	Mode		Fan speed		
	I emp. setting	 ID Locked	Room temp.	2/℃	Swing		
	Malfunction	IN LOCKED	Capacity HP		Device name	1-0	
	Manufiction		Capacity TIP	TIF			
						2013-07-24 15:1	6

### 2) Control the running states of indoor unit

Click the "O" button, and then will enter the control page.

A ttp://192.168.100.41/main.html		P-C× 命会部
@ main.html ×		
		Intelligent Manager
Control / Map /	Setting / DevInfo / Upgrade / Help	/ Exit
Control	🔍 Cool 🔍 Heat 🔍 Fan 🔍 C	ose 🔅 Offline 💄 Error 🚔 Locked 🔿 Selected
● Port ● Map     Port 1 Port 2		
Port 3 Port 4	1-0 1-1 1-2 1-3	1-4 1-5 1-6 1-39 1-60
Port 5 Port 6		
Port 7 Port 8		
	<<	: <1>>>
	Status Off - Mode C	Cool - Swing Off -
	Temp. setting 7. Fan speed	digh → → Send

We can select the single or multi units to control and set the control parameters, including "ON/OFF setting", "running mode", "Swing setting", "Temp setting" and "Fan speed setting". And then click the "Send" button and after that the page will display the information to send success or failure. You can check the execution state of order through the change icons on the page.

#### 3) Check the running states of outdoor unit

Select the 5-8 ports, the page will display the corresponding outdoor unit, and then click one outdoor unit, it will display the operating states, include ON/OFF state, running mode, fan state, indoor unit quantity, error /protection states, ammeter readings etc.

	E S lette	o://192.168.100	41/main.html		5 <del>-</del> Q	× <i> (</i> main.html	>	<	ĥ
		S.L.	Mary Incolline						
	Control /	Map /	Setting / E	0evInfo /	Upgrade	/ Help /	Exit		
	Control		Cool	Heat	Fan	Close	Offline .	Error 🔒 Lock	ced O Selected
	● Port  ◎ M Port 1	ap Port 2	34°C	Step	2: select	one ODU			
	Port 3	Port 4	5-0						
	Port 5	Port 6		×					
	Port 7	Port 8		$\backslash$	N	<< < 1 > >	>		
Step 1: se	elect 5-8 pc	orts	Status		On	Mode	Cool	Fan speed	On
			The Qty o unit	f indoor	2	Malfunction		Meter reading	4740.14 kwh
			Ambient t	emp.	34°C	Device name	5-0		

#### 4) Control the running states of outdoor unit

There are 5 priority running modes can be selected: heating priority, cooling priority,

Voting priority (larger capacity requirement), heating mode only and cooling mode only.

🔶 🕘 🥖 http://192.168.100.41/main.h × Intelligent Manager Map / Setting / DevInfo Upgrade Help Control Exit Control Port Map Port 2 Port 1 Port 3 Port 4 5-0 Port 5 Port 6 Port 7 Port 8 < 1 > elect mode heat first 👻 C Send 2013-03-02 09:37

The function is only available for V4+W series

### > System monitoring

Click "System map" under the device monitor function. The function can be in accordance with the refrigerant system to display all indoor units of each system and it can check and control the operating states of all indoor units.

#### 1) Check the detailed information of indoor units

Select one refrigerant system, the page will display all the indoor unit of the refrigerant system, and then click one indoor unit, it will display the operating states, including ON/OFF state, running mode, fan speed, indoor unit quantity, error/protection states, ammeter readings etc.



### 2) Control the running states of indoor unit

Click the "O"button, and then will enter the control page. Select the single or multi units can control and set the control parameters, including "ON/OFF setting", "running mode", "Swing setting", "Temp setting" and "Fan speed setting". And then click the "Send" button and after that the page will display the information to send success or failure. You can check the execution state of order through the change icons on the page.

	1/main.html	P - C × 🧉 main.html	×	6
and feller				
Control / Map /	Setting / DevInfo / Up	ograde / Help / Ex	xit	
Control	🔍 Cool 💦 🔍 Heat	● Fan ● Close ○ C	Offline 📕 Error 🛱 Locked	Selected
◎ Port				
System 1 System 2				
System 4	1-0 1-1 1-2	1-3 1-4 1	1-5 1-6	
		<< < 1 > >>		
	Status On 👻	Mode Cool 🗸	Swing Off •	
	Temp. setting 17℃ ▼	Fan speed High $\bullet$	Send	$\cup$

## 5.3.4 System mapping

It can display entire situation of the refrigerant system and to reflect the mapping relationship between the indoor and outdoor units.

C http://192.168.100.41/main.html		P+CX 6 公 @
i main.html ×		A
and the loss	- Phone in the second	Intelligent Manager
Control / Map / S	etting / DevInfo / Upgrade / Help / Exit	
Map		
System 1		
8-0	1-0 1-1 1-2 1-3 1-4 1-5 1-6	6
System 2		
System 3		
System 5		
	<< 1 A >>>	
	previous_page	
	Indoor unit quantity 7	
	Outdoor unit quantity 1	
	Meter quantity 1	
	Communicate quality 100%	
		2013-07-24 15:21

Select a single refrigerant system, the page display all indoor units icon which under this refrigerant system, and then the bottom of the page will display the indoor unit quantity, outdoor unit quantity and ammeter quantity. Click the single indoor unit to check the communication quality between this device and the M-INTERFACE gateway.

Characters instruction:

Indoor unit quantity	Calculate all the indoor unit quantity of
Indoor unit quantity	refrigerant system
	Calculate all the outdoor unit quantity of
	refrigerant system
	Calculate all the ammeter quantity of
	refrigerant system
	Communication quality between single
Communication quality	device and M-INTERFACE gateway

## 5.3.5 Setting function

In order to ensure the M-INTERFACE gateway can operation safety, normal users can only operation the "user management" function and other function operational method refer to the administrator login.

### > User management

It can change the account password of this user' name and click "OK" button after changing.

A http://192.168.100.41/main.html		P - C × 命会感
@ main.html ×		
Control / Map / S Setting	etting / DevInfo / Upgrade / Help / Exit	Intelligent Manager
Basic	User	
IN Time IN User	User user1	
■ Log	Old Password (6~10 Numbers or letters)	
IP	New Password (6~10 Numbers or letters)	
System map	Repeat (6~10 Numbers or letters)	
■ FTP		
Controller state	Cancel	
<ul> <li>Multi-pipe</li> </ul>		
Other		
		2013-07-24 15:33

## > Refrigerant system mapping

Output the topology document, the auto topology structure as follow display:

- 6 http://192.168.100.4	0/main.html	,Q = C X 🧔 main.html
ما أذاك		
Control / Map /	Setting / DevInfo /	Upgrade / Help / Ex
Setting		
• Basic	Work mode	Auto topology
🛤 Time	WORK mode	Auto topology
🛤 User	Export topology	Export Sound
n Log		
•a IP		
😝 System map		
NO FTP		

## > Gateway controller state

It can display the states information of gateway controller, including lock or unlock the gateway controller, SD card state, SD card reader error.

Locked state : Unlocked Indock SD Card Status : Yes SD card reader error : No	Image: Basic       Locked state       : Unlocked       unlock         Image: Time       SD Card Status       : Yes       format         Image: User       SD card reader error       : No         Image: Log       : System map       : System map         Image: FTP       : Controller state         Image: Multi-pipe       : Other
SD Card Status : Yes SD card reader error : No	Imme       SD Card Status       : Yes         In User       SD card reader error       : No         In Log       Image: System map       Image: System map         In FTP       Image: System map       Image: System map         In Controller state       Image: System map       Image: System map         In Multi-pipe       Image: System map       Image: System map         In Other       Image: System map       Image: System map
SD card reader error : No	Image: SD card reader error : No       Image: SD card r
	<ul> <li>Log</li> <li>IP</li> <li>System map</li> <li>FTP</li> <li>Controller state</li> <li>Multi-pipe</li> <li>Other</li> </ul>
	<ul> <li>IP</li> <li>System map</li> <li>FTP</li> <li>Controller state</li> <li>Multi-pipe</li> <li>Other</li> </ul>
	<ul> <li>System map</li> <li>FTP</li> <li>Controller state</li> <li>Multi-pipe</li> <li>Other</li> </ul>
	<ul> <li>FTP</li> <li>Controller state</li> <li>Multi-pipe</li> <li>Other</li> </ul>
	Image: State stat
	Multi-pipe     Other
	• Other

#### 5.3.6 Device information

It can check the indoor/outdoor units' information in the refrigerant system.

Indoor units information

Select one refrigerant system and click the "Indoor Info", it will display the indoor units' information as following. The display contents including: serial port (the number of M-net ports), address, physics location, sales model, fan power, E-heater power and maintenance states etc. information.

a a transmitter an							
← <  Ø #ttp://192.168.100.41/main.html P = ♂ × ⑦ ☆ ∅							
Ø main.html							
Intelligent Manager					igent Manager		
Control / Map /	Setting 7	Devinto	7 Upgrade	7 Help 7 Exit			
System 1 System 2 IndoorInfo OutdoorInfo							
System 3 System 4	Ports	Address	Device Name	Sales Model	Fan(W)	E-heat(W)	Repair
System 5	1	0	1-0	0ther -	180	0	No 🔻
	1	1	1-1	0ther 🔻	180	0	No 🔻
	1	2	1-2	0ther 💌	180	0	No 🔻
	1	3	1-3	Other •	180	0	No 🔻
	1	4	1-4	Other •	180	0	No 💌
	1	5	1-5	Other -	180	0	No 💌
	1	6	1-6	Other -	180	0	No 🔻
						Save	Cancel
							2013-07-24 15:38

#### > Outdoor units' information

Select one refrigerant system and click the "Outdoor Info", it will display the outdoor units' information as following. The display contents including: serial port, address, physics location, sales model.

	v	ि @ ¤ २ • ৫ X कि ☆ ۞
and the law		Intelligent Manager
Control / Map /	Setting / DevInfo / Upgrade / Help / Exit	
System 1 System 2	IndoorInfo OutdoorInfo	
System 3 System 4	Ports Address Device Name Sales Model	
System 5	8 0 8-0 MDV-252(8)W/DRN1(B)	•
		Save
		2013-07-24 15:40

## 5.3.5 Help function

The function offers error code table for analyze, to help user to check the malfunction and the error code may differ from the display contents in the display board, please refer to the corresponding technical manual for the product

## 5.3.6 Exit function

The function can operate back to the login page when click the "Exit" menu, and the system will back to the login page automatically.

## 5.3.7 Troubleshooting

#### 1) Unable to enter the login page

Input IP address of M-INTERFACE gateway in the browser will enter the login page. If it cannot display the login page, then may be error of network; if necessary, you can ask the IT administer to check the local network. Check the computer whether stay the same network area with the N-INTERFACE gateway.

#### 2) Login failed

There may be two reasons for login gateway WEB page failure:

#### ✓ No password

If the user does not input a password and then clicked "OK", it will display as following dialog box. Input the correct password and then login again.

		Message fi	rom webpage		Intelligent	: Mana
	Ţ	Jser Password anguage	Please input the pwo OK User1 English	d v cel		

#### 2) Wrong password

	Message from webp	Intelligent Mana
User Pass Lang	User1 word ••• uage English Ok O Cancel	

When the password is wrong, it will display "Login failed". Input correct password again.

#### 3) No device display

If login successful, but there is no data display on the home page, please check whether the wiring of M-net communication port is correct, whether the air conditioner system has been connected with M-INTERFAVE gateway correctly.

#### 4) Control failed

When changing the operating states of indoor units, it may be prompt message of "Setting failed", means the current operation failed. Please check whether the communication between the device and M-net terminal was correct, and also the Ethernet.

#### 5) No respond in operate page

As for the M-Interface gateway control page, when operating the page and no respond or display "No connection" message, that means the network communication between computer and M-Interface gateway is broke off, and it needs to check the computer network card, IP setting, and the switch board, as well as the IP of the M-Interface gateway and LAN port network card indication lamp of M-Interface gateway whether have the right set up.

# 5.3.8 Icon specification

User friendly icon-based unit control, color indication and icon make it easy to recognize unit state.

Icon	specification	lcon	specification	
	Indoor unit error (red)	25°C	Indoor unit is selected, ambient temp. $25^\circ\!\!\mathbb{C}$ (blue)	
<b>*</b>	Indoor unit is offline (white)	25C	Outdoor unit operates cooling, ambient temp. 25°C (blue)	
25°C	Indoor unit runs cooling mode, ambient temp. 25℃(blue)	25C	Outdoor unit is turn off, ambient temp. 25℃(grey)	
25°C	Indoor unit runs heating mode, ambient temp. 25℃(croci)	25°C	Outdoor unit runs heating mode, ambient temp. 25°C (croci)	
25°C	Indoor unit runs fan only, ambient temp. 25℃(green)		Outdoor unit error (red)	
25°C	Indoor unit is powered off, ambient temp. 25℃(grey)	25℃	Outdoor unit is selected, ambient temp. 25°C (blue)	
25°C	Indoor unit is locked, ambient temp. 25℃(grey)	<b>X</b> -	Indoor unit is offline (white)	
# 6. Software

# 6.1 Software installation

# 6.1.1 Preparation

Before installation the 4th generation of VRF network control software, it needs to meet the following requirements:

	Specification	Suggestions	Remark
PC	CPU: i3 or more Internal storage: 2G or above Hard disk: 120G or more Keyboard/Mouse with middle roller Network: 108ASE-T Display: Screen resolution should over 1024*768 and screen size should over 17 inch	Use the IBM or DELL products	Must be use the desktop PC, and make sure computer can work normally before installing the software. laptop is not available.
System	Microsoft Windows XP ; Professional Service Pack 3; Windows 7 Home/ Ultimate / Official version 32-bit system Windows 8 official version 32/64-bit. Windows 8 Ultimate /win 8 pro 64 bit		
Document form	NTFS document form		

### > System requirements

1. Make sure that the fire wall of server and IMM software PC has been closed.

2. In non-English system area, change PC's system region and language form setting when the IMM software and database installation is complete. (Take windows 7 English system for example):

## > Languages setting (take Win 7 for example)

Open the control panel, the display as following:

					State (Resident)					×
00	Control Panel + All Contro	ol Panel I	ems 🕨					<b>- 4</b>	earch Control Panel	Q
File Ed	it View Tools Help									
Adjus	t your computer's settings								View by: Large icons 🔻	
p	Action Center	1	Administrative Too	ls 🗾	AutoPlay	3	Backup and Restore		BitLocker Drive Encrypt	tion
	Color Management	Ø	Credential Manage	r 💕	Date and Time	۲	Default Programs		Desktop Gadgets	
-	Device Manager		Devices and Printer	rs 🧧	Display	٩	Ease of Access Center	F	Flash Player	
R	Folder Options	A	Fonts		Getting Started	•3	HomeGroup	R	Indexing Options	
<b>N</b>	Intel(R) Graphics and Media		Internet Options		Java	۹	Keyboard		Location and Other Sensors	
Ì	Mouse	Lt.	Network and Sharin Center	ng	Notification Area Icons	Ð	ODBC	2	Parental Controls	
No.	Performance Information and Tools	×	Personalization		Phone and Modem	1	Power Options	a	Programs and Features	5
R	Recovery	٩	Region and Langua	ige 🏼 🍇	RemoteApp and Desktop Connections		Sound	Ģ	Speech Recognition	
۲	Sync Center	R	System		Taskbar and Start Menu		Troubleshooting	88	User Accounts	
3	Windows CardSpace	讄	Windows Defender	1	Windows Firewall	2	Windows Update		邮件	
	All Control Panel	I	5.21.2	22.docx - M	licroso			CH 🚎	- 💰 🗿 📇 🗊 🔩 👔	13:47

Double click "Region and Language", and it will display the dialog as following:

Formats       Location       Keyboards and Languages       Administrative         Format:       English (United States) <ul> <li>Date and time formats</li> <li>To an additional states</li> <li>To additingradient</li> <li>To additingradient</li></ul>
Format: English (United States)
English (United States)       Date and time formats
Date and time formats
Short date: yyyy/M/d
Long date: yyyy,M,dd 💌
Short time: H:mm 💌
Long time: H:mm:ss 💌
First day of week: Sunday
What does the notation mean?
Examples
Short date: 2012/11/13
Long date: 2012,11,13
Short time: 14:13
Long time: 14:13:33
Additional settings
Go online to learn about changing languages and regional formats
OK Cancel Apply

Setting the time form as the above frame, after setting and then click "OK" button to save.

Select "Administrative" and then display as following:

Welcome screen and new user accounts View and copy your international settings to the welcome screen, system accounts and new user accounts.	ormats	Location	Keyboards and Langua	ages Administrative
View and copy your international settings to the welcome screen, system accounts and new user accounts. Copy settings Tell me more about these accounts Language for non-Unicode programs This setting (system locale) controls the language used when displaying text in programs that do not support Unicode. Current language for non-Unicode programs: English (United States) Change system locale?	Welc	ome scree	n and new user accou	nts
Copy settings Tell me more about these accounts Language for non-Unicode programs This setting (system locale) controls the language used when displaying text in programs that do not support Unicode. Current language for non-Unicode programs: English (United States) Change system locale What is system locale?	View	v and copy ounts and	/ your international se new user accounts.	ttings to the welcome screen, system
Tell me more about these accounts  Language for non-Unicode programs  This setting (system locale) controls the language used when displaying text in programs that do not support Unicode.  Current language for non-Unicode programs: English (United States)  Change system locale?				🚱 Copy settings
Clanguage for non-Unicode programs This setting (system locale) controls the language used when displaying text in programs that do not support Unicode. Current language for non-Unicode programs: English (United States) Change system locale What is system locale?	Tell	me more	about these accounts	
This setting (system locale) controls the language used when displaying text in programs that do not support Unicode. Current language for non-Unicode programs: English (United States) Change system locale What is system locale?	Lang	uage for n	on-Unicode program	5
Current language for non-Unicode programs: English (United States)   Change system locale  What is system locale?	This text	s setting (s in prograr	ystem locale) controls ms that do not suppor	the language used when displaying t Unicode.
English (United States)	Cur	rent langu	age for non-Unicode	programs:
What is system locale?				
What is system locale?		English (U	nited States)	
		English (U	nited States)	😵 Change system locale
	Whi	English (Ui at is systen	nited States) <u>n locale?</u>	Change system locale
	Wha	English (U	nited States) <u>n locale?</u>	Change system locale
	Whi	English (U	nited States) <u>n locale?</u>	Change system locale
	Wh	English (U	nited States) <u>n locale?</u>	Change system locale
	Wh	English (U	nited States) <u>n locale?</u>	Change system locale

Click "Change system locale...", then it will display the following figure:

lat do not suppo	ort Unicode. This s	setting affects all user a	accounts on the
omputer.			
urrent system lo	cale:		
nglish (United S	tates)		•

Select "English (United States)", click "OK". And re-start the computer after modification. Note: during the IMM software operating process, do not change the region and

language setting; otherwise it will lead the electricity charge distribution error.

#### Accounts setting

If server and IMM software install on the windows7 system, then it need to set as following:

Open the control panel will enter the following figure:

00											00	23
00	Control Panel + All Control	rol Panel I	tems 🕨							▼   <b>4</b> 7    3	earch Control Panel	٩
Adjus	t your computer's settings										View by: Large icons 🔻	
p	Action Center	1	Administrative Tools	9	Autodesk 打印样式管理器		Autodesk 绘图仪管理器		AutoPlay			
3	Backup and Restore	-	BitLocker Drive Encryption	1	Color Management		Configuration Manager (32-bit)	G	Credential Manager			
ť	Date and Time	۲	Default Programs		Desktop Gadgets	÷.	Device Manager	-	Devices and Printers			
	Display	0	Ease of Access Center	£	Flash Player (32-bit)	E	Folder Options	A	Fonts			
	Getting Started	٩ð	HomeGroup	æ	Indexing Options	e	Internet Options		Java			
Solution	JInitiator 1.3.1.18 (32-bit)	0	Keyboard	6)	Lenovo HD Audio Manager		Location and Other Sensors	Ì	Mouse			
1	Network and Sharing Center		Notification Area Icons	1	Performance Information and Tools	4	Personalization	4	Phone and Modem			
1	Power Options	2	Program Download Monitor (32-bit)	Ø	Programs and Features	R	Recovery		Region and Language			
*	Remote Control (32-bit)	4	RemoteApp and Desktop Connections	7	Run Advertised Programs (32-bit)	0	Sound	Ş	Speech Recognition			
۲	Sync Center		System		Taskbar and Start Menu		Troubleshooting	88	User Accounts			
3	Windows CardSpace	鼺	Windows Defender	1	Windows Firewall		Windows Update	١	邮件 (32-bit)			
		0	W								○中→ 3 % 回 4 ¥ 戶 01 図 、 4 m 900	
		2									2013-9	-2

Select the "User account", and enter the following figure:

ie Edit View Tools Help Control Panel Home Manage your credentials Create a password reset disk Link online IDs Manage your file encryption certificates Configure advanced user profile properties Change my environment variables	Make changes to your user account Change your password Change your picture Change your account name Change your account type Manage another account Change User Account Control settings	
-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--

Click the "Change user account control setting" on the above interface and it will enter the following figure:

😵 User Account Control Settings		
Choose when to be User Account Control hel [Tell me more about User Always notify	notified about changes to your computer ps prevent potentially harmful programs from making changes to your com Account Control settings	puter.
	Never notify me when:	
	<ul> <li>Programs try to install software or make changes to my computer</li> <li>I make changes to Windows settings</li> </ul>	
 	Not recommended. Choose this only if you need to use programs that are not certified for Windows 7 because they do not support User Account Control.	
Never Hotily		
	🛞 OK Car	ncel

Setting to the "Never notify" as the above figure and click "OK" button, and then it needs to restart the computer after modification.

When install the server and IMM software, you need to set as following:

Take Windows 7 system for example:

Open the "Power option" in the control panel and it will enter the following interface:



Click "Change power settings" as the above figure, and it will enter the following interface:

				0 0 0
Star Barran       All and public	Control Panel 🔸	All Control Panel herrs  Power Options		
Area meter and many and many and many and many and many and participal and and many and man	Control Panel Home	Select a nouver plan		
State The State	Require a password on wakeup	Power plans can help you maximize your computer's performance or conserve energy. Make a plan active by		
Back       Charge page has the fact with the fact with the end page manual with the end page has the fact with the end page has the end	Choose what the power button	selecting it, or choose a plan and customize it by changing its power settings. <u>Tell me more about power</u> plans		
<ul> <li>Bender ans man eine eine eine eine eine eine eine ei</li></ul>	does Create a power plan	Preferred plans		
<ul> <li>Charge for a starting of the startin</li></ul>	Choose when to turn off the display	Balanced (recommended)     Change plan settings Automatically balances performance with energy consumption on capable aurdware.		
Make additional plans       Charge plan settings         Image plan settings       Charge plan settings	Change when the computer sleeps	Power saver Change plan settings Save energy by reducing your computer's performance where possible		
Byperformanic       Charge plan setting:         Byperformanics, but my use more energy.       Image: Description of the setting of the setti		Hole additional plans		
See to Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano Personalizano		High reformance     Change plan settings		
Sealo Pendiancia Disc Accounts		Favors performance, but may use more energy.		
Sector Presolation box Accords				
Se elo Presonitaria bio Racouti				
Se allo Personalization De ra Accuration				
Sealo Pesalation Bear Accust				
See aloo Personalization Bio et Accounts				
See allo Fersonalization Der Accounts				
Section Personalization Bio ef Accounts				
Seealo Personilation Use Accours				
See Wo Personalization De ra Accounts				
See tilo Personalization Der Accounts				
See allo Personalization Uper Accounts				
See allo Personalization U <i>er Accounts</i>				
See allo Personalization Der Accounts				
See tillo Personalization Use Accounts				
See also Personalization User Accounts				
See also Personalization User Accounts				
See also Personalization Wer Accounts				
중 후 과 1 See also Personalization User Accounts				
See also Personalization User Accounts			<b>8 </b>	J % 🖽 🕯 🖬
Secalito Personalization Uper Accounts				
Personalization User Accounts	See also			
USE PSLOWIG	Personalization			
	USE PLEVING			
🔊 🔗 😋 📕 🕅 🖪 💷 🕿 👘 👘 👘		🛃 🗛 🕅 🖪 📴 🕊	сн 🔁 🔺 👍	9.18

Click "Change plan settings" as the above interface, and it will enter the following figure:

Change settings for the p Choose the sleep and display sett	lan: Balanced tings that you want your computer to use.
🔮 Turn off the display:	Never •
Put the computer to sleep:	Never •
Change advanced power settings	;

Setting the "Turn off the display" and "Put the computer to sleep" to "Never" state, and click the "Change advanced power settings". It will display as following:

Power Options
Advanced settings
Select the power plan that you want to customize, and then choose settings that reflect how you want your computer to manage power.
Balanced [Active]
Balanced
Hard disk
Turn off hard disk after
Setting (Minutes): Never
Desktop background settings
Sleen
USB settings
Power buttons and lid
PCI Express
Drocessor nower management
Restore plan defaults
OK Cancel Apply

Setting the "Turn off hard disk after" to "Never" state, after setting and clicks "OK" button.

#### > Port setting

It needs to ensure that the 21 port of the server has been open. If the server PC doesn't open the port 21, then it will display prompt information about opening port 21 when starts Energy FTP software, displays as following:



#### **Operation method:**

Take windows XP system for example:

"Start"  $\rightarrow$  "Control panel"  $\rightarrow$  "Windows fire wall", select "Exception" and it will enter the following interface:

🖗 Windows Firewall 🛛 🔀
General Exceptions dvanced
Windows Firewall is blocking incoming network connections, except for the programs and services selected below. Adding exceptions allows some programs to work better but might increase your security risk.
Programs and Services:
Name
<ul> <li>File and Printer Sharing</li> <li>Network Diagnostics for Windows XP</li> <li>Remote Assistance</li> <li>Remote Desktop</li> <li>UPnP Framework</li> </ul>
Add Program Add Port Edit Delete
Display a notification when Windows Firewall blocks a program
What are the risks of allowing exceptions?
OK Cancel

Select "Add port" and it will enter the following interface:

Add a Port			
Use these settings number and protoc want to use.	to open a port through Windows Firewall. To find the port ol, consult the documentation for the program or service you		
<u>N</u> ame:	ftp		
<u>P</u> ort number:	21		
	⊙ <u>I</u> CP O <u>U</u> DP		
What are the risks of opening a port?			
Change scope	OK Cancel		

Please input the name "ftp" and port number "21" as the above figure, and then click the "OK" button.

Notes: do not change the region and language setting of the system before install the software on other language system.

### 6.1.2 System components installation

Database software, server software and dogsoft driver must be installed on the same computer. The IMM software can be installed on the other computer. If the server is Microsoft Windows XP system, you must install the program first:

NET Framework 3.5 SP1, Microsoft Windows Installer 4.5, Windows PowerShell 1.0 and dotNetFx40\_Full\_x86\_x64.exe.

If IMM software is Microsoft Windows XP system, then it needs to previous install the program NET Framework 3.5 SP1 and dotNetFx40\_Full\_x86\_x64.exe assembly. IMM software and server which with Microsoft Windows 7 systems do not need to install the system components. Take Microsoft Windows XP system for example:

#### > NET Framework 3.5 SP1 installation

You need to find out the program called dotNetFx35setup.exe, under the disk menu of Windows XP components\NET Framework 3.5\ dotnetfx35\ wcu\ dotNetFramework, Installation steps are as following.

1. Double click the program called dotNetFx35setup.exe, it will display as following:



2. After installing components, it will enter the following interface:

🍜 Microsoft .NET Frameworl	x 3.5 SP1 Setup		
Welcome to Setup	Framework		
Be sure to carefully read and unde license terms. You must accept the	rstand all the rights and restrictions described in the license terms before you can install the software.		
MICROSOFT SOF			
Press the Page Down key to see m	pre text. Print		
<ul> <li>I have read and ACCEPT the te</li> </ul>	rms of the License Agreement		
◯ I DO NOT ACCEPT the terms of	the License Agreement		
Send information about my setup experiences to Microsoft Corporation. Details regarding the <u>data collection policy</u>			
Download File Size:	53 MB		
Download Time Estimate:	2 hr 9 min (56 kbps)		
	14 min (512 kbps)		
	Install > Cancel		

Then select "I have read and ACCEPT the terms of the License Agreement", and click "Install" button.

3. "Download and installation process" as following:



4. After installation and click exit.



#### > Microsoft Windows Installer 4.5 installation

1. Under the Windows XP components\Windows Installer 4.5 menu, you need to find out the program called WindowsXP-KB942288-v3-x86.exe and double-click it.



2. Click the "Next" button and runs as the following figure.

Software Upda	te Installation Wizard	×
License Agre	eement	
1	Please read the following license agreement. To continue with setup, you must accept the agreement.          MICROSOFT SOFTWARE LICENSE TERMS         MICROSOFT WINDOWS INSTALLER, VERSION 4.5         These license terms are an agreement between         Microsoft Corporation (or based on where you         live, one of its affiliates) and you. Please         read them. They apply to the software named         above, which includes the media on which you         IDo Not Agree	
	< Back Next > Cano	el

3. Select "I Agree" and click "Next" button then will display as following:



4. Click "Continue" and will display as following:

Software Update Installation Wizard	
Updating Your System	
Please wait while setup inspects your current configuration, archives your current files and updates your files. Backing up files	
Details Backing up registry	]
< <u>B</u> ack Finish	Cancel

5. After installation, then click "Finish" to re-start the computer.



#### > Windows PowerShell 1.0 installation

Under Windows XP components\Windows PowerShell 1.0 menu, you need to find out the program called PowerShell\_Setup\_x86.msi.

1. Double-click the program called "PowerShell\_Setup\_x86.msi", and it will display the following dialog:



2. Click the "Next" button on the above dialog, and it will display the following:

🚰 Tindows PowerShell Setup Tiz	ard		
License Agreement			
Please read the following license agree	ment carefully.		
MICROSOFT PRE-REL LICENSE TERMS	EASE SO	FTWARE	4
MICROSOFT WINDO VERSION 2.0 (COMM PREVIEWS)	WS POWE UNITY TE	Ershell Echnolo	GY
These license terms are an acreem	ent between M	icrosoft Corpora	tion (or 📃
• I accept the terms in the license agreen	nent		
$\bigcirc$ I <u>do</u> not accept the terms in the license	agreement		
	< <u>B</u> ack	<u>N</u> ext >	Cancel

3. Select "I accept the ...... "on the above dialog, and click the "Next" button.

🔂 Tindows PowerShell Setup Tiz:	ar d		
Start Installation			
The wizard is ready to begin installation			
Click Install to begin the installation or cl	ick Cancel to exit t	the wizard.	
	< <u>B</u> ack	Install	⊆ancel

4. Click "Install" button on the above dialog, it will be installation automatically.

j Tindows	PowerShell Setup Tizard
Installing	Windows PowerShell(TM) ¥2 (CTP)
13	Please wait while Setup installs Windows PowerShell(TM) V2 (CTP). This may take several minutes. Status: Copying new files
	< <u>B</u> ack <u>N</u> ext > Cancel



5. After installation and click "Finish" button will be OK.

#### DotNetFx40\_Full\_x86\_x64.exe installation

Under the Windows XP components\NET Framework 4.0 menu, you need to find out the program called dotNetFx40\_Full\_x86\_x64.exe, installation steps are as follows.

1. Double-click the program called dotNetFx40\_Full\_x86\_x64.exe, it will display as following dialog.

crosoft .NET Framework	4 Setup	
T Framework 4 Setup Please accept the license term	s to continue.	Microsoft .NET
MICROSOFT SO	OFTWARE	
☑ I have read and accept the	license terms.	3
Download size estimate:	0 MB	
Download time estimates:	Dial-Up: 0 minutes Broadband: 0 minutes	
Yes, send information abou	It my setup experiences to Micros	oft Corporation.

2. Select "I have read and .....", and click "Install (I)" button, it will be installation automatically.

🌆 Microsoft .NET Framework 4 Setup	
<b>Installation Progress</b> Please wait while the .NET Framework is being installed.	Microsoft* .NET
File security verification:	
All files were verified successfully.	
Installation progress:	0
Installing .NET Framework 4 Client Profile	
C	Cancel

3. After installation, it will display as the following frame.



4. After installation and click "Finish" button will be OK.

## 6.1.3 Database installation

Under the DataBase menu to find out the program called "SQLEXPRWT\_x86\_ENU.exe", installation steps are as follows.

1. Double click the program called "SQLEXPRWT\_x86\_ENU.exe", it will display as

following dialog.



2. Click the "New installation or add ....." on the above dialog and it will be installation automatically as following dialog.

🎇 SQL Server 2008 B2 Setup		<u> </u>
Setup Support Rules		
Setup Support Rules identify p Failures must be corrected bef	roblems that might occur when you install SQL Server Setup support files. ore Setup can continue.	
Setup Support Bules	Rule check in progress	
	Show details $\gg$	<u>R</u> e-run
	OK	Cancel

3. After installation and click "OK" button, it will enter the next step.

🎀 SQL Server 2008 B2 Setup					
License Terms					
To install SQL Server 2008 R2	, you must accept the Microsoft Software License Terms.				
<b>License Terms</b> Setup Support Files	MICROSOFT SOFTWARE LICENSE TERMS				
	MICROSOFT SQL SERVER 2008 R2 EXPRESS WITH TOOLS				
	MICROSOFT SQL SERVER 2008 R2 EXPRESS WITH ADVANCED SERVICES				
	These license terms are an agreement between Microsoft Corporation (or based on where you live, one of its affiliates) and you. Please read them. They apply to the software named above, which includes the media on which you received it, if any. The terms also apply to any Microsoft				
	updates,				
	supplements,				
	Internet-based services, and				
	support services				
	Copy Print				
	✓ I accept the license terms. □ Send feature usage data to Microsoft. Feature usage data includes information about your				
	hardware configuration and now you use SqL Server and its components. See the Microsoft SQL Server 2008 R2 Privacy Statement for more information.				
	< Eack Next > Cancel				

4. Select "I accept the license terms" and click "Next" button, it will be installation automatically as following dialog.

🏫 SQL Server 2008 B2 Setup				<u> </u>
Setup Support Files				
Click Install to install Setup required.	) Support files. To install or up	pdate SQL Server 2008 R2,	these files are	
License Terms	The following components are n	required for SQL Server Se	etup:	
Setup Support Files	Feature Name	Status		
	Setup Support Files			
	ExecuteCalculateScenarioWorkf.	Low		
			< Back Install	Cancel

5. After installation and click the "Install" button on the above dialog, it will display as

following dialog.

🎀 SQL Server 2008 B2 Setup		
Feature Selection Select the Express with Advance	ed Services features to install.	
Setup Support Rules Feature Selection Installation Rules Instance Configuration Disk Space Requirements Server Configuration Database Engine Configuration Error Reporting Installation Configuration Rules Installation Progress Complete	Features: Instance Features Database Engine Services Sold Server Replication Shared Features Subscription Subscription Subscription Select All Shared feature directory: C:\Frogram Files\M	Description: Server features are instance -aware and have their own registry hives. They support multiple instances on a computer.
	<	Back Next > Cancel Help

6. Select all the options on the above content, and click the "Next" button, it will display as following dialog.

😭 SQL Server 2008 B2 Setup						_ 🗆 X
Instance Configuratic Specify the name and instance installation path.	on ID for the instance of SQL	Server. Insta	nce ID becomes pa	rt of the		
Setup Support Rules License Terms Feature Selection Installation Rules Instance Configuration Disk Space Requirements Server Configuration Database Engine Configuration Error Reporting Installation Configuration Rules Installation Progress	© Default instance C Mamed instance: Instance ID: Instance goot directory: SQL Server directory: Installed instances:	MSSQLSERVER MSSQLSERVER C:\Program F C:\Program F	/iles\Microsoft SQ /iles\Microsoft SQ	L Server\ L Server\MSSQL1	10_50. MSSQLSERVER	
Complete	Instance Name   Inst	ance ID	Features	Edition	Version	
			< Back	<u>N</u> ext >	Cancel	Help

7. Select "Default instance" on the above dialog and click "Next" button, it will display as

following dialog.

🎊 SQL Server 2008 B2 Setup					_ D ×
Server Configuration					
Specify the service accounts an	nd collation co	nfiguration.			
Setup Support Rules License Terms Feature Selection Installation Rules Instance Configuration Disk Space Requirements Server Configuration Database Engine Configuration Error Reporting Installation Configuration Rules Installation Progress Complete	Service Acco Microsoft Service SQL Server SQL Server	unts Collation	use a separate account for Account Name MT AUTHORITY'NETWOR NT AUTHORITY'LOCAL <u>U</u> se the same acco	each SQL Serve	r service. Startup Type Automatic Y Disabled Y Server services
			< <u>B</u> ack	Next > Ca	ncel Help

8. Select "NT AUTHORITY/SYSTEM" on the above dialog and click "Next" button, it will display as following dialog.

🐕 SQL Server 2008 B2 Setup		<u>_0×</u>
Database Engine Config Specify Database Engine authen	g <b>uration</b> tication security mode, administrators and data directories.	
Setup Support Rules License Terms Feature Selection Installation Rules Instance Configuration Disk Space Requirements Server Configuration Database Engine Configur Error Reporting Installation Configuration Rules Installation Progress Complete	Account Provisioning Data Directories FILESTREAM Specify the authentication mode and administrators for the Database En Authentication Mode © Windows authentication mode © Windows authentication mode © Windows authentication and Windows authentication) Specify the password for the SQL Server system administrator (sa) acco Enter password: © Confirm password: © Confirm password: Specify SQL Server administrators THEONE Administrator (Administrator) SQL Scatter administrator Add Current User Add Remove	gine.
	<u>≤ <u>B</u>ack <u>N</u>ext &gt; C</u>	ancel Help

9. Select "Mixed Mode...... "on the above dialog, and input the sa user's password,

default password is 654321. Click "Next" button, it will display as following dialog.

🏗 SQL Server 2008 R2 Setup	
Error Reporting Help Microsoft improve SQL Server fe	atures and services.
Setup Support Rules Feature Selection Installation Rules Instance Configuration Disk Space Requirements Server Configuration Database Engine Configuration <b>Error Reporting</b> Installation Configuration Rules Installation Progress Complete	Specify the information that you would like to automatically send to Microsoft to improve future releases of SQL Server. These settings are optional. Microsoft treads this information as confidential. Microsoft may provide updates through Microsoft Update to modify feature usage data. These updates might be downloaded and installed on your machine automatically, depending on your Automatic Update settings. See the Microsoft SQL Server 2008 R2 Privacy Statement for more information. Read more about Microsoft Update and Automatic Update.
	< Back Next > Cancel Help

10. Do not select "Send Windows and SQL Server.... "on the above dialog, and click "Next" button, it will display as following dialog.

髂 SQL Server 2008 B2 Setup	
Complete Your SQL Server 2008 R2 instal	lation completed successfully.
Setup Support Rules License Terms Peature Selection Instance Configuration Disk Space Requirements Server Configuration Database Engine Configuration Error Reporting Installation Configuration Rules Installation Progress Complete	Summary log file has been saved to the following location: C:\Program Files\Microsoft SQL Server\100\Setup Bootstrap\Log\20120503 165528 \Summary THEONE 20120503 165528 txt Information about the Setup operation or possible next steps: Tour SQL Server 2008 R2 installation completed successfully.
	Supplemental Information: The following notes apply to this release of SQL Server only. Microsoft Update For information about how to use Microsoft Update to identify updates for SQL Server 2008 R2, see the Microsoft Update Web site at http://go.microsoft.com/fwlink/7LinkTd=108409. Samples By default, sample databases and sample code are not installed as part of SQL Server Setup.

11. After installation and click "Close" button.

## 6.1.4 Server installation

Under the IMM menu to find out the program called IMMServer\_Vx.exe (server installation

program). The installation steps are as following.

1. Double-click the installation program, it will display as following dialog.



2. Click the "Next" button and it will enter the next step.



3. Select "I agree to the terms of this license agreement" on the above dialog and click "Next" button, it will enter the next step.

🐱 IMM Server Setup	X
Shortcut Folder Where would you like the shortcuts to be installed?	
The shortcut icons will be created in the folder indicated below. If you don't want to use the default folder, you can either type a new name, or select an existing folder from the list. Shortcut Folder:	
IMM Server	~
<ul> <li>Install shortcuts for current user only</li> <li>Make shortcuts available to all users</li> </ul>	
< <u>B</u> ack <u>N</u> ext > <u>C</u> ancel	

4. Click the "Next" button on the above dialog, and it will enter the next step.

5 IMM Server Setup	×
Installation Folder Where would you like IMM Server to be installed?	
The software will be installed in the folder listed below. To select different location, either type in a new path, or click Change to b an existing folder. Install IMM Server to:	st a prowse for
C:\Program Files\IMMServer	C <u>h</u> ange
Space required: 8.62 MB Space available on selected drive: 1,019.1 MB	
<u>Back</u> <u>Next</u>	Cancel

6. You can change the software installation menu. In order to ensure the safety of the system, you'd better install in a non-system disk. Such as the operating system can be installed in the C disk, then the software can be installed in D or E disk. Click the "Next" button.



After installation, click "Finish" button and exit installation. You can find out the "IMM Client" software under the "start" "all programs".

## 6.1.5 IMM client-side software installation

Under the IMM menu to find out the program called IMMClient\_Vx.exe, and the installation steps are as following.

1. Double-click the program called IMMClient\_Vx.exe, and it will display as following dialog.



2. Click the "Next" button and it will enter the next step as following dialog.

😼 IMM Client Setup	X
License Agreement Please read the following license agreement carefully.	
<ul> <li>SOFEWARE USING LICENSE AGREEMENT The user agreed Guangdong Midea Heating &amp; Ventilating Equipment Co., Ltd. (shorted for "Company") performs duties and fulfills obligations of this agreement for the Midea Intelligent Management System product. This agreement stipulated that Company would not responsible for the third party with any direct, indirect or relative loss, which caused by no matter what kinds of reasons. User must responsible for all the risks by using this product, include all kinds of losses with infringement, maintenance, data loss, benefit loss etc. Even though Company has already learned about the potentially risk of this product, Company will not responsible for loss risk which caused by user or third party direct using, indirect loss, damage, and any contract and infringement act (include inattention factors ).</li> <li>I agree to the terms of this license agreement</li> <li>I do not agree to the terms of this license agreement</li> </ul>	
< Back Mext > Cancel	

3. Select "I agree to the terms of this license agreement" and click "Next" button. It will enter the next step as following dialog.

🐱 IMM Client Setup	×
Shortcut Folder Where would you like the shortcuts to be installed?	
The shortcut icons will be created in the folder indicated below. If you don't want to use the default folder, you can either type a new name, or select an existing folder from the list.	
Shortcut Folder:	
IMM Client	/
<ul> <li>⊙ Install shortcuts for current user only</li> <li>○ Make shortcuts available to all users</li> </ul>	
< Back Next > Cancel	

4. Click the "Next" button on the above dialog.

🐱 IMM Client Setup	×
Installation Folder Where would you like IMM Client to be installed?	
The software will be installed in the folder listed below. To se different location, either type in a new path, or click Change t an existing folder.	elect a so browse for
Install IMM Client to:	
C:\Program Files\IMM	C <u>h</u> ange
Space required: 30.2 MB Space available on selected drive: 443.1 MB	
< <u>Back</u> Mext >	Cancel

5. You can change the software installation menu and you'd better install in a non-system disk, and then click "Next" button.



6. After installation, click "Finish" button and exit installation.

# 6.1.6 Softdog driver installation

Under Dog Driver menu to find out the softdog driver program (MicroDogInstdrv.exe), and double-click this program to install (take Windows 7 system for example). It will enter the next step as following dialog.

1. Select the "USB dog driver" and click the "Install Driver" button on the following dialog.

MicroDog and NetDog Windows I	Driver	
	Current Operating System System Platform: Wind System Path: C:W	ows 7 Vindows\system32
	Driver Status	•
com	Driver Installation           Image: USB Dog Driver           Image: Parallel Dog Driver	Driver Originstallation
Dog Driver	Date of drivers' package:	2010.2.4
install Driver 🔶	Uninstall Driver	eck Driver 🔀 Exit

2. After installation and click the "Exit" button on the following dialog.

MicroDog and NetDog Windows I	Driver	
	Current Operating System          System Platform:       Wind         System Path:       C:\V         Driver Status       V	ows 7 Vindows\system32
	Driver Installation	Driver Originstallation
Dog Driver	USB Dog Driver Parallel Dog Driver Date of drivers' package:	VISB Dog Driver Parallel Dog Driver 2010.2.4
Install Driver	Uninstall Driver	eck Driver 🗶 Exit

# 6.2 IMM software configuration

## 6.2.1 Server and client-side operation configuration

#### 6.2.1.1 Database operation

1. Under "Start" menu and select "All programs" to open the "SQL Server Configuration Manager".



2. Operate TCP/IP in the SQL Service network configuration.



On the above dialog, the "TCP/IP" must be set to "Enabled".

3. Change Sql Server property.

🚘 Sql Server Configuration Manager	IN REAL PROPERTY.	State Law March	Contract Contract	
Eile Action View Help				
♦ ♦ 2 0 8 12				
SQL Server Configuration Manager (Local)	Name	State	Start Mode	Log On As
GQL Server Services     JogL Server Network Configuration     GP Protocols for MSSQLSERVER     GP Protocols for SQLEXPRESS     P SQL Native Client 10.0 Configuration	DSQL Server (MSSQLSERVER) SQL Server (SQLEXPRES) SQL Server Agent (MSSQLSERVER) SQL Server Agent (SQLEXPRESS) SQL Server Browser	Running Stopped Stopped Stopped Stopped	Automatic Automatic Other (Boot, System, Disabled or Unknown) Other (Boot, System, Disabled or Unknown) Manual	LocalSystem LocalSystem NT AUTHORITY/NETWORKSERVICE NT AUTHORITY/NETWORKSERVICE NT AUTHORITY/LOCALSERVICE

On the above dialog, right-click on the "SQL Server (MSSQLSERVER) and select the

"Property", it will enter the following dialog.

SQL Server Agent (MSSQLSERVER) Properties
Log On Service Advanced
Log on as:
Built-in account:
Password:
Confirm password:
Service status: Stopped
<u>St</u> art Stop <u>P</u> ause <u>R</u> estart
OK Cancel Apply Help

Select "Built-in account" and "Local System", and then click "OK" button.

4. Open the connected IP address

🚡 Sql Server Configuration Manager	The second course	and the second second second	Contract Contract	
<u>File Action View H</u> elp				
🗢 🔿 🖄 🖾 🗟 🛛				
1 SQL Server Configuration Manager (Local)	Protocol Name	Status		
SQL Server Services  SQL Server Network Configuration  R Protocols for MSSQLSERVER  R Protocols for SQL SPRES	G Shared Memory	Enabled		
	Named Pipes	Disabled		
	<b>а ТСР/IР</b>	Enabled		
SOL Native Client 10.0 Configuration	ATVIA 6	Disabled		
i naper i i				

Right-click the "TCP/IP" on the above dialog, select the "Property", it will enter the following dialog.

TCP/IP Properties	8 ×
Protocol IP Addresses	
🗆 IP1	×
Active	Yes
Enabled	Yes
IP Address	fe80::3453:c30c:2c4a:4a38%11
TCP Dynamic Ports	
TCP Port	1433
E IP2	
Active	Yes
Enabled	Yes
IP Address	10.46.1.212
TCP Dynamic Ports	
TCP Port	1433
E IP3	
Active	Yes
Enabled	Yes 💌
IP Address	::1 *
Enabled	
Enable or disable the IP address	
ОК Са	ncel <u>A</u> pply Help

Select the "IP Addresses" on the above dialog, and it will open the corresponding IP address. You need to change the "Enabled" set to" Yes" and TCP Port need to set to 1433 (127.0.0.1 address must be open). And then click the "OK" button.

5. Re-start the SQL Service server

Sql Server Configuration Manager	CARL DOWNER, MARRIED	ALC: NOT THE	Constantion of the local division of the loc	
<u>F</u> ile <u>A</u> ction <u>V</u> iew <u>H</u> elp				
1 SQL Server Configuration Manager (Local)	Name	State	Start Mode	Log On As
SQL Server Services  SQL Server Services  SQL Server Network Configuration  Protocols for SQLSERVER  Protocols for SQLEXPRES  SQL Native Client 10.0 Configuration	b) SQL Server (NSSQLESEVER)           b) SQL Server (SQLEXPRESS)           b) SQL Server Agent (MSSQLESEVER)           b) SQL Server Agent (SQLEXPRESS)           b) SQL Server Browser	Running Stopped Stopped Stopped Stopped	Automatic Automatic Other (Boot, System, Disabled or Unknown) Other (Boot, System, Disabled or Unknown) Manual	LocalSystem LocalSystem NT AUTHORITY/NETWORKSERVICE NT AUTHORITY/LOCALSERVICE NT AUTHORITY/LOCALSERVICE

Right-click the "SQL Server (MSSQLSERVER)" on the above dialog, and select the "start/restart", and then it will re-start the database server.

#### 6.2.1.2 Database initialization

The purpose of database initialization is created an IMM database in the database, and it can operation initialization. The operation steps are as following:

 Double-click InitializationDB.exe in the server software installation menu (E.g.: D:\Program Files\IMMServer), it will display as following dialog.

Q Initialize Database 10.4	- • •
Parameter Setting	
💿 Initialize DabaBase 🛛 🗇 Update D	atabase
Database Server IP:	
Port:	
Database Name:	
Login Name:	
Password:	
Initialize the database using SQL file:	
	Choose
Choose the Database Save Directory:	
	Choose
Connect to Database	
Initialize Database	

2. Select the "Initialize DabaBase" and input the initialization parameters.

🔇 Initialize Database 1.0.4	
Parameter Setting Initialize	e DabaBase 💿 Update Database
Database Server IP:	127.0.0.1
Port:	1433
Database Name:	ІММ
Login Name:	Sa
Password:	******
Initialize the databa	ase using SQL file:
Choose the Database S	Save Directory:
	Choose
Connect	t to Database
	Initialize Database

-142-

Parameter specifications:

Database Server IP: 127.0.0.1 local default IP

(Make sure to set "Yes" for the "Enabled" of address 127.0.0.1 in the step four sated in

6.2.1.1)

Port: 1433 TCP/IP default port number: 1433

Database Name: IMM

To be set up a database name (through the program to create, default is IMM)

Login Name: sa (Default user)

Password: \*\*\* (default 654321)

Initialize the database using SQL file: IMM.sql

The SQL script files to initialize the database, it is in the directory of D:\Program Files\IMMServer.

Choose the Database Save Directory:

D:\IMM\_Server menu stored the database document, it's recommended to be none-system disk.

After the above parameters, click the "Connect to Database" button; if the button turns to be gray and display "Connect Successfully", means to connect the database successfully. Then can continue to operate.

3. Initialize the IMM database

After connecting to the database successfully and the "Initialize Database" have been activated, click "Initialize Database" button again to initialization operation. If initialize database succeeds, it will display as following.



If the database initialization failed, please check whether there is the IMM sql file exists in the server installation menu (e.g. D:\Program Files\IMMServe) or the IMM database has already existed in database.

#### 6.2.1.3 Establish database user

1. Open SQL Server Management studio under the "Start"  $\rightarrow$  "All programs" menu.

In microsoft SQL Sciver 2000
Microsoft SQL Server 2008 R2
Import and Export Data (32-bit)
🖳 SQL Server Management Studio
Configuration Tools
Just Integration Services

2. Select the SQL Server authentication, and use sa account to login the database.

	Microsoft*	<b>Server</b> "2008 R2
	Server <u>t</u> ype: Server name: <u>A</u> uthentication: Login: <u>P</u> assword:	Database Engine THEONE SQL Server Authentication sa
Login: sa Password: 654321	Connect	Cancel Help Options >>

3. After login, it will display the following dialog:

🍢 Bicrosoft SQL Server Banagement Studie
<u>File Edit View D</u> ebug <u>T</u> ools <u>W</u> indow <u>C</u>
😟 New Query 📄 🕞 😂 🗐 🍏 🥃
Object Explorer 🗸 🗸 🗙
Connect 🕶 🚉 🔳 🍸 😰 🍒
🖃 🐻 THEONE (SQL Server 10.50.1600 - sa)
🕀 🧰 Databases
E Security
4. Right-click "Logins" and select "New Login" in the popup dialog, it will display the following dialog

	📕 Login - New				
	Select a page	🔄 Script 👻 🚺 Help			
7	🚰 General Mar Server Roles	Login name:	Тим		Search
	Ser Mapping	C Windows onthentisation	J		
	Securables Status	<ul> <li>SQL Server authentication</li> </ul>			
		Password:	****		
Sorver Poles		Confirm password:	****		
		Specify old password			
		Qld password:			
		Enforce password polic	cy		
		Enforce password expir	ration		
		User must change passy	word at next login		
		C mapped to certificate		<u> </u>	
		C Mapped to asymmetric key		<b></b>	
		) map to tredential	1	×	Add
		Mapped Credentials	Credential	Provider	
	Connection				
	Server: THEONE				
	Connection:				
	<b>A</b> 1001				
	View connection properties				
	Progress				Remove
	Ready		TMM	-	
	.db.	Deraure database:	\[\] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \[ \] \		
		nerant raugnage;	,		
				OK	Cancel

Input "IMM" in the Login name and choose "SQL Server authentication", and then input IMM user password (default: IMMV4).Do not choose anything in the red dialog on the above, and choose "IMM" in the default database.

5. Left-click the "Server Roles" on the above dialog, it will display the following dialog:

🚪 Login - Wew	21-	
Select a page	Script - Thelp	
General Server Roles User Mapping Securables	Server role is used to grant server-wide security privileges to a user.	
	Server roles: Utkadain: dborestor diskadain: processadain	
	V public securityadnin securityadnin setupadnin V sysadnin	
Connection		
THEONE Connection: Sa		
Progress		
	OK Cancel	

Select "sysadmin" on the above dialog and click "OK" button. It will be set up the database user successfully.

#### 6.2.1.4 Update the database

The function is only used for IMM software upgrade from the first phase to the II phase.

The operation steps as following:

 Double-click "InitializationDB.exe" in the server software installation menu (E.g.: D:\Program Files\IMMServer), it will display the following dialog:

🖉 Initialize Database 1.0.4	
Parameter Setting © Initialize	DabaBase 🖲 Update Database
Database Server IP:	
Port:	
Database Name:	
Login Name:	
Password:	
Update the database u	sing SQL file:
	Choose
Choose the Database S	ave Directory: Choose
Connect	to Database
	Update Database

1. Choose the "Update Database" and input the update parameters

🖉 Initialize Database 104
Parameter Setting O Initialize DabaBase Initialize DabaBase
Database Server IP: 127.0.0.1 Port: 1433
Database Name: IMM
Password: **
Update the database using SQL file: Choose
Choose the Database Save Directory:
Connect to Database
Update Database

Parameter specifications:

Database Server IP: 127.0.0.1 Local default IP

(Make sure to set "Yes" for the "Enabled" of address 127.0.0.1 in the step four sated in

6.2.1.1)

Port: 1433

TCP/IP default port number: 1433

Database Name: IMM

To be set up a database name (through the program to create, default is IMM)

Login Name: sa (Default user)

Password: \*\*\*

You need to input the password (default 654321) when installing the database software.

Initialize the database using SQL file: IMM.sql

The SQL script files to initialize the database, it is in the directory of D:\Program Files\IMMServer.

Choose the Database Save Directory:

D:\IMM\_Server menu stored the database document, it's recommended to be none-system disk.

After the above parameters, click the "Connect to Database" button; if the button turns to be gray and display "Connect Successfully", means to connect the database successfully. Then can continue to operate.

3. Initialize the IMM database

After connecting to the database successfully and the "Initialize Database" have been activated, click "Initialize Database" button again to carry out initialization operation.

### 6.2.1.5 Server operation configuration

Under server installation menu (e.g.: D:\Program Files\IMMServer), you can open the program name called IMMServerSet.exe, and it will display the following dialog:

Server Configura	tion									
Collection procedu	Collection procedures									
Path:										
Caption:	Server Port1: Server Port2:									
Control IP:										
Database										
IP:	Port: Database Name:									
User Name:	Password:									
Electricity										
Path:										
Ftp Port:	Ftp User Name:         Ftp Password:         Create Directory									
Ftp Path:										
Electricity Original:										
Electricity Error:										
Electricity OK:										
Backup Path:										
	Read Save									

Operation steps:

1. Click the button on the right side of Path in option "Collection procedures", and choose the server's installation menu, e.g.:\Program Files\IMMServer.

2. Click the button on the right side of Path in option "Electricity", and choose the electricity analysis program installation menu, e.g.:

D: \Program Files\IMMServer\EnergyFTP.

3. Click "Read" button, it will display the following dialog:

Path:	D:\Program	Files\IMMServer						
Caption:	IMM		 Server Port1	7700		Server Port2: 5500		
Control IP:								
Database								
IP:	127.0.0.1		Port:	1433		Database Name: 📗	1M	
User Name:	IMM		Password:	IMM∀4				
Electricity								
Path:	D:\Program	Files\IMMServer\I	EnergyFTP					
Ftp Port:	21	Ftp User N	ame: test		Ftp Passwor	d: 123456	Create Direc	tory
Ftp Path:								
Electricity Origina	al:							
Electricity Error:								
Electricity OK:								
Backun Path:								

Input Control IP (M-INTERFACE gateway IP which needs to be searched), e.g.: 192.168.100.40; several IP should separate by English comma and make sure the form is right.

4. Select Ftp Path, Electricity Original, Electricity Error, Electricity OK path.

There are two methods can be selected:

1). Click the right button () to select the exiting path in the corresponding frame.

2). Click the "Create Directory" button, auto select the path for it. The follow is the interface

of clicking the "Create Directory" (default selects the method):

2014	Server Configuration							
	Collection procedu	lures						
	Path:	E:\Program Files\IMMServer						
	Caption:	IMM Server Port1: 7700 Server Port2: 5500						
	Control IP:	192.168.100.40						
	Database							
	IP:	127.0.0.1 Port: 1433 Database Name: IMM						
	User Name:	MM Password: MMV4						
	Electricity							
	Path:	E:\Program Files\\MMServer\EnergyFTP						
	Ftp Port:	21 Ftp User Name: test Ftp Password: 123456 Create Directory						
	Ftp Path:	E:\Program Files\IMMServer\EnergyFTP\Ftp						
	Electricity Original:	E:\Program Files\\MMServer\EnergyFTP\Original						
	Electricity Error:	E:\Program Files\\MMServer\EnergyFTP\Error						
	Electricity OK:	E:\Program Files\\MMServer\EnergyFTP\OK						
	Backup Path:		Π					
L		Read Save						

5. Click the button on the right side of Path in option "Backup Path", and select the backup document storage path.

Notes: The database file must be stored in the same menu when initialize the database (refer to the second step in 6.2.1.2).

6. Click the "Save" button and close the dialogue frame.

7. After configuration, double-click the program "IMMServer.exe" in the server software installation menu (softdog must be inserted first), and you need to build a show.txt document, it will display the following dialog:



When it displays "Connect to database success" and it means that the configuration was successfully.

Notes: If you change IMMServerSet configuration, the server must be re-started

### 6.2.1.6 IMM software client-side operation configuration

1. Under the IMM Client-side software installation menu (e.g.: D:\Program Files\IMM), you

can open the program "IMMIp.exe" and it will display the following dialog:

🔤 Client-side Confi	guration				×
Server IP:	127.0.0.1		Server port:	7700	-
Data port IP:	127.0.0.1		Data port:	1433	
Ftp IP:	127.0.0.1		Ftp port:	21	-
Select Language	English	-		,	
		Save			

Parameter specifications:

Server IP: Server IP address

Data port IP: Database IP address

Ftp IP: FTP server IP address (server IP address)

Server port: Default 7700, must be same with Server port1 of Server Configuration in

#### 5.2.1.4.

Data port: Default 1433 and cannot be changed normally.

Ftp port: Default 21 and cannot be changed normally.

Select language: Can change client-side interface language.

After configuration and click "Save" button.

Notes: Default Server IP, Data port IP and Ftp IP data terminal are the same.

2. Double-click the cursor middle key on the blank place of the above dialog, and it will display the following dialog:

Client-side Co	nfiguration		X
Database name:	IMM	Database port:	1433
Data user name:	IMM	Data user password:	IMMV4
FTP user name:	test	Ftp user password:	123456
Upgrade path:	/update/update.zip	5	
	Sav	e	

Parameter specifications:

Database name: Refer to 6.2.1.2 in the name of the database you have built, default IMM.

Database port: Default 1433 and cannot be changed normally.

Database user name: Refer to 6.2.1.2 in the name of the database you have built, default IMM.

Database password: Refer to 6.2.1.2 and the user (IMM) default password is IMMV4.

FTP user name: Default test and cannot be changed normally.

FTP password: Default 123456 and cannot be changed normally.

Upgrade path: Default/ update/update.zip, and cannot be changed normally.

After configuration and click "Save" button.

3. In the "Start" menu bar, click "All Programs" to run "Midea intelligent management system", or in the client installation menu to run IMM.exe program, it will display the following dialog:



If the left side of the interface displays "Connect the server successfully", it means that configure is correctly.

Notes: If it is the first time to run the software, you need to select the language which you need.

## 6.2.2 Process management configuration

The process management is for make sure the program can be operated again after exit program process. E.g.: the IMMServer is in the process management range, if IMMServer process stops, then the process management program can make the IMMServer process start again.

#### 6.2.2.1 Operate IMMTaskMGR software

Under the "Start"  $\rightarrow$ "All Programs"  $\rightarrow$  "Midea intelligent management system –service side" to run the IMMTaskMGR software, it will display the following dialog: Notes: if did not display, need to establish a show.txt document in IMMTaskMGR software

installation directory, e.g.: D:\Program Files\IMMServer\TaskMGR):

Q	) I 🗤 Taski Gl	3					
Г	-Retrieval pr	ocedures —					
	Program Name	s Status	Vse o	Running time	Exit time	Running path	
Į							
		Start		Delete	Add	Quit	

#### 6.2.2.2 IMMTaskMGR software operation

#### 1. Add monitor program

Click "Add" button on the above, it will display a row letter, and then click "Running path" to select the path where installed the monitoring program. E.g. add IMMServer process, the interface will display as following (It need to add the IMMServer.exe and IMMEnergy.exe, separately in the D:\Program Files\IMMServer and D:\Program Files\IMMServer and D:\Program Files\IMMServer.exe and D:\Program Fi

(	InstaskiGR							
	-Ket	trieval proc ogram Name	Status	Use o	Running time	Exit time	Running path	
	☑	IMMServer	Normal	1996	05-14 05:05:04		C:\Program	<u></u>
			Pause		Delete	Add	Quit	

After adding, you can check the corresponding process operating from task manager as

following dialog:

ا 🛒 ا	Windows Task Manage Options View H	r elp		- L.	نع. لم					
Ap	plications Processes	Services	Performance Net	working Users						
	Image Name	PID	User Name	CPU	Working Set (Memory)	Peak Working Set (Memory)	Working Set Delta (Memory)	Memory (Privi		
	360rp.exe	4064	midea	00	8,896 K	156,756 K	к			
	360sd.exe	3456	midea	00	1,836 K	16,872 K	к			
	360tray.exe	2288	midea	00	10,360 K	39,032 K	к			
	apcsystray.exe	3856	midea	00	4,432 K	11,712 K	к			
	csrss.exe	464	SYSTEM	00	53,856 K	139,796 K	к			
	dwm.exe	3108	midea	00	38,928 K	95,128 K	к	E		
	explorer.exe	3132	midea	00	86,256 K	127,060 K	-16 K			
	FamItrfc.Exe	2652	SYSTEM	00	112 K	3,604 K	к			
	FamItrfc.Exe	5636	midea	00	1,472 K	7,240 K	к			
	IMMEnergy.exe	4180	midea	00	15,364 K	28,584 K	К			
	IMMServer.exe	5376	midea	00	35,088 K	35,364 K	8 K			
	IMMService.exe	2668	midea	00	22,496 K	22,524 K	K			
	IMMTaskMGR.exe	3640	midea	00	13,028 K	24,488 K	128 K			
	jucheck.exe	2680	midea	00	1,308 K	13,856 K	K			
	jusched.exe	3380	midea	00	3,752 K	12,544 K	K			
	MacroCTray.exe	3432	midea	00	500 K	4,920 K	К			
	PDFXCview.exe	988	midea	00	31,992 K	370,812 K	K			
	QQ.exe	864	midea	00	41,784 K	136,388 K	К			
	QQExternal.exe	6028	midea	00	8,188 K	21,396 K	К	-		
	•							Þ		
Show processes from all users								End Process		
Proc	rocesses: 74 CPU Usage: 1% Physical Memory: 84%									

If you want to display IMMServer and IMMEnergy operating interfaces, you need to set up

a new document called "show.txt" in the corresponding menu.

#### 2. Delete monitor program

Choose the program which you want to delete and click "Delete" button, the corresponding program will be deleted from the interface and the corresponding program will stop monitoring.

() INTaskiGR					
-Retrieval procedure	s ———				
Program Name	Status	Vse o	Running time	Exit time	Running path
☑ IMMServer	Restart	9024	05-14 05:05:04	05-14 17:14:42	C:\Program Files\IMMServ
IMMEnergy					C:\Program Files\IMMServ
•					
St	art	Dele	ete	Add	Quit

3. Pause all the monitored programs

Click "Pause" button and it will pause all the programs monitoring; click "Start" button and it will operate the monitor function again. If click "Quit" button will be stopped IMMTadkMGR process.

🔇 INNTaski GR						
-Retrieval procedures	·					
Program Name	Status	Vse o	Running time	Exit time	Ru	nning path
IMMServer	Restart	9024	05-14 05:05:04	05-14 17:14:42	C:\Program	Files\IMMServ
IMMEnergy					C:\Program	Files\IMMServ
Sta	rt	Dele	ete	Add	Quit	

## 6.3 software operates

Operate steps as following:

1. Insert softdog in the server PC.

2.In the "Start" menu bar, click "All Programs"→"Midea intelligent management system – service side" to run IMMTaskMGR software, and according to the monitor program method in 6.2.2.2 to add "IMMServer" and "IMMEnergy" processes in the IMMTaskMGR interface.

3. Click the client-side software in "Start" $\rightarrow$ "All programs" $\rightarrow$ "Midea intelligent management system", and then enter the client-side login interface.

# 6.4 Aadministrator login

Administrator can use the following method to login.

1. Open the IMM client-side software and it will enter the following dialog:



2. Double-click the icon "IMM" in the upper left corner, and then double-click in the upper right corner of the version information (e.g.: IMM2.0.0.70RELEASE), double-click on the right side of the "user" option to choose the "service".

	IMM 2.0.0.70 RELEASE
	Intelligent Manager of Midea
	administrator service user User name user
	Password Save password
	J Sure J Cancel
	Aldea
Successfully connect to the server	Midea Creates A Better Life

- 1. User's name: Service
- 2. The default password is "service".
- 3. You can save the password or not.
- 4. Click "OK" button can be login.

# 6.5 Account management

When the administrator login the IMM client-side, select "Account management" under the "Advance function" and it will enter the following dialog:

Mean Project information Help Advanced functions   Centrel / Dev. inflexion / Schedule / Eco / ECS / Pablic Dev. / Dev. Management / Statistical / Note slarm / Log   Accent sussymmet   Number account authority password   1 user Connon user rights ******   2 service Service permissions ******   3 administrator Admin permissions ******	Mid	eaille	- In all the second		band				
Control / Dev. Indication / Schedule / Eco / ECS / Public Dev. / Dev. Management / Statistical / Note alimn / Eco Nuclear and the statistical / Note alimn / Eco Number account authority password authority password authority	Menu P	roject information	Help Ad	vanced functions				_	
Second       authority       password         1       user       Common user rights       ******         3       administrator       Admin permissions       ******         3       administrator       Admin permissions       ******	Control	/ Dev. indication	/ Schedule	/ Eco	/ ECS	/ Public Dev.	/ Dev. Management /	Statistical / Note ala	rm / Log
Number       account       authority       password         2       service       Service permissions       *****         3       administrator       Admin permissions       *****	Account mana	gement					-		
Aumber       account       authority       password         1       user       Common user rights       ******         3       administrator       Admin permissions       ******			24						Sama
Number       account       authority       password         1       user       Common user rights       ******         2       service permissions       ******         3       administrator       Admin permissions       ******									
Number     account     authority     password       1     user     Common user rights     *****       2     service     Service permissions     *****       3     administrator     Admin permissions     *****		12			T.		в		
2 service Service permissions 3 administrator Admin permissions 3 becaution of the server to the server (New York (New	Number		account		Common user rights	authority	******	password	
3 administrator Admin permissions *****	2		service		Service permissions		******		
Secondarily consect to the server	3		administrator		Admin permissions		******		
Sacessfully connet to the serve Sacessfully connet to the serve Sacessfully connet to the serve 2013-10-09 1547:14 2013-10-09 1547:14 2013									
Successfully connect to the server 2013-10-00 15:47:14 2013-10-00 15:47:14 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 2013-10 201									
Socessfully consect to the server Socessfully consect to the server     Socessfully consect to the se									
Successfully connect to the server C Prompt(0) C Warning(13) 2013-10-09 154/7.14									
Successfully connect to the server Prempt(0) C Wrning(13) 2013-10-09 15:47:14									
Successfully connect to the server 2013-10-09 1547:14									
Successfully connect to the server									
Successfully connect to the server Prompt(0) C Warning(13) 2013-10-09 15:47:14									
Successfully connect to the server 2013-10-09 15:47:14									
Successfully connect to the server 2013-10-09 15:47:14									
Successfully connect to the server Prompt(0) C Warning(13) 2013-10-09 15:47:14									
Successfully connect to the server 2013-10-09 15:47:14									
Successfully connect to the server Successfully connect to the server									
Successfully connect to the server									
Successfully connect to the server     Yempt(0)     U(     Warning(13)     2013-10-09 15:47:14     15:47									
Successfully connect to the server Successfully connect to the server									
Successfully connect to the server									
Successfully connect to the server     Yermpt(0)     U(§ Warning(13)     2013-10-09 15:47.14     15:47									
Successfully connect to the server									
Successfully connect to the server Prompt(0) at Warning(13) 2013-10-09 15:47:14									
Successfully connect to the server									
Successfully connect to the server Prompt(0) 4 Warning(13) 2013-10-09 15:47:14									
Successfully connect to the server Prompt(0) (Warning(13) 2013-10-09 15:47:14									
Successfully connect to the server Prompt(0) of Warning(13) 2013-10-09 15:47:14									
Successfully connect to the server 2013-10-09 15:47:14									
Successfully connect to the server     Yempt(0)     Warning(13)     2013-10-09 15:47:14									
Successfully connect to the server									
Successfully connect to the server     Prompt(0)									
	Successfu	illy connect to the server						Prompt(0) 📢 🗧 Warning(13)	2013-10-09 15:47:14
						-	*		15:47

Click the corresponding account and input the new password and click "Save" button.

Notes:

User name "user" default password is "user".

User name "service" default password is "service".

# 6.6 Setting

When the administrator login the IMM client-side, select "Setting" under the "Advance function" and it will enter the following dialog:

0	addil a 👝	
		0.212
Control	Activation Project information Help Advanced functions  / Dev. indication / Schedule / Eco / ECS / Public Dev. / Dev. Management / Statistical / Note alarm / Log	
Settin		
		7
	Project information Project installation and wiring responsible department	
	Project installation superintendent TEL 🔽 Monitoring the outdoor unit ammeter disconnection alarm	
	Techincal support TEL	
	Screen cleaning time limit (hours) 250 Small load operation can should be less than 4	
	C One-part electric price 1	
	© Step tariff C Peak valley price	
	Step 1: start         0         End         15         Unit price         1	
	Step 2: start 15 End 20 Unit price 2	
	Step 3: start 20 Unit price 3	
	During maintain statistic scores communities statistics if rates "During maintain statistic statistics" they is well second to the market statistic communities statistic statistics and anisted statistic communities of	
	Device maintain electric power consumption statistics, it sets a Device maintain electric power consumption statistics, une it will separate ou ure numing electric consumption statistics and maintain electric consumption of indoor unit, at that time, if the indoor unit running time is 0, it also will produce total electric consumption.	
	Estimate electric consumption of indoor unit itself: it's suggested that add ammter indoor to record the electric consumption of indoor unit itself, under the non-adding situation, it can choose "Estimate electric consumption of	
	indoor unit itself" to estimate the electric consumption of indoor fan and electric heater.	
	C Sure C Reset	
📑 s	essfully connect to the server 🖸 Prompt(1) 🕫 2013-07-24 17:37:52	
<b>@</b>		24

Configure the report display forms of program information, electricity price and electricity partition.

Screen cleaning time limit (hours) is the air filter cleaning reminding function. It records the total running time of the indoor unit. When the accumulated running time reaches the pre-set value, click warning message can see the air filter cleaning reminding message, to remind users that the air filter of the indoor unit needs to be cleaned.

Small load operation (low-load operations indicate): When the outdoor unit is running and the capacity requirements are lower than the set value.

#### **Electricity price calculation methods**

There are three kinds of electricity price calculation methods: one-part electric price (the single price), Step tariff (the multi-stage price) and Peak valley price (the peak-valley price, the setting steps as following:

1. Select the "one-part electric price" frame and input the price value, and then all the cost will be calculate according to the price.

🖲 One-part electric	5
price	

2. Select the "Step tariff price" and setting the load-point and price. The electricity charge

will be calculated according to the stage price of the power consumption.

⊙Step ( tariff	C Peak valley price				
Step 1: start	D	End	15	Unit price	1
Step 2: start	16	End	20	Unit price	1
Step 3: start	21			Unit price	2

3. Select "Peak-valley price", input the load-point and price in each period. It offers four periods in one day to calculate in "peak valley price". For example: the first stage is setting as 0-1, and the unit electric price is 2, which means from 0:00 to 02:00, the power consumption is calculated by the unit electric charge of 2.

C Step tariff	Peak valley price				
Time 1: start	0	End	1	Unit price	2
Time 2: start	2	End	3	Unit price	1
Time 3: start	4	End	5	Unit price	1
Time 4: start	6	End	23	Unit price	1

After configuration and click the "OK" to save.

# 6.7 Device searching

After administrator login the client-side and select "Device search" under "Advance function", it will display the following dialog:

Notes: After first installation or reinstall, IMM software must be operated the device searching.

	Project information	Help Advance	l functions						service
ol / Dev. indi	cation / Schedule	/ Eco	/ EC	S / Public Dev.	/ Dev. Man	agement /	Statistical	/ Note alarm	/ Le
ce searching									
							_		
Local IP	10.46.1.204,192.168.100.20	)4				Start searching			
IMM Web IP	192.168.100.41					Total devices	39		
Port 1	9	Port 2	12			Port 3	7		
Part 4	5	Paul 5	1			Part 6	1		
ron 4		Poirs	·			rono			
Port 7	2	Port 8	2						
IMM Web IP	192.168.100.42					Total devices	65		
Port 1	0	1	Port 2 64			Port 3	0		
Port 4	0	1	Port 5 1			Port 6	0		

Local IP frame displays the server IP address. Click "Start searching" button, server will search specified IP address of M-INTERFACE gateway. (The specified IP address can be set in 6.2.1.4).

If there is server connection or database failures during running the device reaching function, it needs to search the devices again. After system installed, you need to run the device reaching function as an administrator.

# 6.8 Refrigerant system



After administrator login the IMM client-side software, select "Refrigerant system" under "Advance function" menu, it will enter the following dialog:

The interface can search all M-INTERFACE gateway and refrigerant system, the left side of page can display the refrigerant system and the system, the upper right display the indoor units under corresponding refrigerant system, the lower side display the outdoor unit quantity, indoor unit quantity, outdoor main/slave units' ID number, outdoor unit corresponding ammeter readings.

# 7. Electricity charge distribution

# 7.1 Electricity charge distribution overview

The algorithm of electricity charge distribution is Midea patented technology.

M-INTERFACE gateway collects the data from indoor units, outdoor units and ammeter's data with a cycle of 30 seconds through M-net terminal. Every hour (120 sampling periods) take refrigerant systems as a unit to configure the electricity consumed by outdoor unit, and report the result documents to the IMM software. IMM software will gather the electricity documents and create the user report.

## 7.1.1 Distribution factor

Indoor units' distribution factor calculation:

M-INTERFACE gateway will sum 120 "capacity requirements" of one indoor unit in the refrigerant system, and then divide the summation of all the indoor units' "capacity requirements" of refrigerant system to get the unit partition factor  $\beta$ .

Notes: "capacity requirement" of indoor unit is calculated by setting temperature, ambient temperature, mode and horsepower etc. parameters, the actual display to be electrical expansion valve opening etc.

## 7.1.2 Electricity distribution

M-INTERFACE gateway will divide the outdoor unit consumed electricity gathered by every hour to be: outdoor unit operating electricity P1, outdoor unit standby electricity P2 and outdoor unit malfunction electricity P3. The distribution factor β multiply by P1 to get the indoor unit operating electricity X, P2 divide indoor unit quantity to get the indoor unit operating electricity Y. M-INTERFACE gateway will turn X, Y, P1, P2, P3 to be electricity documents then upload to IMM software.

## 7.1.3 Electricity settlement

IMM software will gather the received electricity documents, and accord to the user selection to produce report of electricity price output in the specified hour.

**Settlement 1:** IMM software gathered electricity documents, add the indoor unit's X, Y and all the outdoor unit abnormal electricity P3, and this summation divide the effective indoor unit quantity get the value, then to get the consumed electricity W.

**Settlement 2:** IMM software gathered electricity documents, add all indoor units' X to get indoor unit operating electricity W1; all the outdoor unit standby electricity P2 and normal electricity P3's summation divide the effective indoor unit quantity get the indoor unit maintenance electricity W2.

## 7.1.4 Method of settlement

Settlement 1 can get the indoor unit consumed electricity W, even if the indoor unit didn't operate, W cannot be 0. For indoor unit standby electricity Y cannot be 0. Settlement 2 can get the indoor unit operating electricity W1 and maintenance electricity W2. If indoor unit didn't operate then W1 is 0. W2 can get through "Air-conditioner maintenance cost".

## 7.2 Factors affect the electricity distribution error

## 7.2.1 Power meter sampling error

Ammeter precision has different class. Class 1 is 1% error. Class 2 is 2% error.

## 7.2.2 Calculation error

Electricity partition calculation error is 1%, that's two decimal places.

#### 7.2.3 Safeguard system under malfunction situations

When the device cannot collect the data for power-off, off-line, safeguard system is necessary to avoid electricity loss or serious phenomenon. At that time the reasonableness of electricity distribution will be decreased. It should be handled the device error as soon as possible. If the following situations came out, the safeguard system will be operated:

1. When total indoor unit quantity of a refrigerant system were 1~5 sets, and disconnected indoor units in an hour were more than 1 set, classify P1 as P3 power;

When total indoor unit quantity of a refrigerant system were 6~10 sets, and disconnected indoor units in an hour were more than 2 sets, classify P1 as P3 electricity;
 When total indoor unit quantity of a refrigerant system were 11~64 sets, and

4. When there has produced P1 electricity, but total indoor unit capacity requirements in an hour were zero, classify P1 as P3 electricity;

disconnected indoor units in an hour were more than 3 sets, classify P1 as P3 electricity;

5. When it changed the ammeter and the first readings of changed ammeter was larger than the readings of the former ammeter, and then it will produce P3 electricity;

Increase the reasonableness of electricity partition under this situation is: calculate the electricity report before changing the ammeter and use a new day (begin with 00:00) as the start time of the next calculation.

6. When the outdoor unit off-line, the produces electricity during off-line period will as P3 electricity;

7. When the ammeter was disconnected, the produces electricity during the disconnected will as P3 electricity;

8. When the M-INTERFACE gateway powered off (disconnected, switchboard power-off error etc.), classify the produced electricity during this period as P3 electricity;

9. When the M-INTERFACE gateway system time was synchronized back to the past, as the follow display, supposed M-INTERFACE gateway was operating till 19:00, at this time point, synchronized the M-INTERFACE gateway system time back to 18:00, and continued to operate 2 hours to the current time 20:00. And the timestamp between

-166-

18:00~19:00 will come out twice. Under this situation, the electricity of the set back time will be lost.



If came out this situation, it needs to find out the electricity readings records of 19:00 and 20:00 in IMM database and manual share the electricity for indoor units to avoid lose.

10. The ammeter readings continue to change, produce P4 electricity. Communication between outdoor unit and ammeter met the ammeter communication rules, the correctness of the data transmission was protective, but under some disturbed or ammeter error situations, sampled ammeter readings may be changed. For low down the correctness of electricity partition, filter the ammeter changed situation, and the filtering value P4 will be recorded in the electricity document but not in electricity partition.

11. Electricity produced during IMM WEB software upgrade period (about 8 minutes) will be classified as P3 electricity.

Notes:

P3 electricity will be shared to indoor units according to the effective indoor unit quantity; Generally it should not use an old ammeter for changing;

When the customer reads ammeter and finds out the ammeter reading is abnormal, that may cause by ammeter readings changed, it needs to correct the ammeter.

# 7.3 indoor unit power consumption estimation

## 7.3.1 Estimation method

The fan and electrical heater of the indoor unit will consume electricity. The consumed electricity of indoor unit is the sum of the fan and E-heater's consumed electricity. Fan consumed electricity: fan's operating hour multiply the fan's rated power. E-heater consumed electricity: electrical heater's operating hour multiply the electrical heater's rated power.

## 7.3.2 Estimation error

The fan and electrical heater might be outputted not as the rated power during operating process, e.g.: AC fan may be operated high/med/low three speeds. This situation will cause error. The estimation value will be more than the actual value. If cannot accept this error, then can choose to install the ammeter at the indoor unit power supply side.

## 7.4 User report selection

After install the IMM software, through administrator rights to select user report way:

- 1. Output/not output maintenance cost
- 2. Estimate/not estimate indoor unit consumed electricity
- Notes:

If the customer does not accept the non-operating air-conditioner might cause output cost, it's suggested that select "Output maintenance cost";

If the customer does not accept the error caused by indoor unit consumed electricity estimation, it's suggested that select not estimate indoor unit consumed electricity, and install the ammeter at the indoor unit power supply side.

# 7.5 Public air conditioner and idle air conditioner setting

IMM software can divide the air conditioners to be public air conditioner and idle air conditioner, this function is suitable for the situations of commercial office building or apartment-style hotel. The setting interface is as follow:



IMM software will calculate the consumed electricity of public and idle air-conditioner, and share to the effective indoor units.

## 7.6 Full heat exchanger and new fan insert

Under the full heat-exchanger and new fan requirements situations, these two air-conditioners cannot mix with V4+ indoor units to connect into the refrigerant system. Under auto topology mode, needs to separate insert to M-net indoor unit communication connector; under manual topology mode, needs to establish a single refrigerant system in CSV document (refer to 8.1).

# 7.7 Electricity partition situation

Under the following situations, will share electricity:

1. Indoor unit standby.

2. Indoor unit operates the fan, the report display the device operating time not less than 0, but still has cost.

3. Outdoor unit produces abnormal electricity; at this time, no matter what modes the indoor unit operates, the abnormal electricity will be shared.

## 7.8 Precautions

1. Midea electricity partition method is not through the calculation tools, but through collecting the data and analysis and calculate the data, then get the result, so this cost report is only for reference, and should not use for commercial calculation basis.

2. If M-INTERFACE gateway's topology structure changes (air-conditioner quantity change), then use the changing time as separate point to print the report separately.

3. Indoor unit operation time specification

E.g.: 10 sets indoor units, one indoor unit operation time is not 0, other units are 0(select not estimate indoor unit electricity), why shares the electricity?

Reason: Operate the fan, or reach the setting temperature, indoor unit operation time will not be 0, but at that time the indoor unit state is the same with other standby indoor units, so share the electricity.

# 8. IMM software upgrade

# 8.1 Database backup

Before the IMM software upgrade, the database must be backup. And before the backup, it need to choose a directory that the backup file storage. For example, D: \ IMM\_DB\_BACK. Before backup the database, be sure to disconnect all database connection, close the IMM client side software and server.

## 8.1.1 Close the client and server applications

Close the IMM client software interface directly, shut down the server can follow the steps below:

At the same time, press "CTRL + ALT + Delete" key on the keyboard, select "Start Task Manager", as below:

1	Vindows Task Manager								
File	Options View Help								
A	pplications Processes Services Performance	Networkin	g Users						
	Image Name	PID	User Name	CPU	Working Set (Memory)	Peak V 🔺			
	AlipaySecSvc.exe	1456	SYSTEM	00	3,440 K				
	csrss.exe	372	SYSTEM	00	2,152 K				
	csrss.exe	432	SYSTEM	00	22,876 K	_			
	dwm.exe	4060	midea	00	632 K	=			
	explorer.exe	4084	midea	00	91,232 K				
	FamItrfc.Exe	4256	SYSTEM	00	3,340 K				
	FamItrfc.Exe	5124	midea	00	6,568 K				
	EeiO.exe	3056	midea	00	7,204 K				
	IMMEnergy.exe	3952	midea	00	24,212 K				
	IMMServer.exe	2352	midea	02	35,104 K				
	IMMTaskMGR.exe	4032	midea	00	22, 128 K				
	inetinfo.exe	1632	SYSTEM	00	1,228 K				
	LnsMtsSvc.exe	1656	SYSTEM	00	680 K				
	lsass.exe	520	SYSTEM	00	5,816 K				
	lsm.exe	528	SYSTEM	00	1,024 K				
	MacroCTray.exe	3076	midea	00	704 K				
	mainserv.exe	1480	SYSTEM	00	3,052 K				
	mDNSResponder.exe	1552	SYSTEM	00	2,244 K				
	notepad.exe	3204	midea	00	3,588 K				
	notepad.exe	4928	midea	00	5,976 K				
	PortTunnel.exe	1944	SYSTEM	00	1,128 K				
	QQ.exe	1776	midea	00	44,424 K	-			
	٠ III					+			
	Show processes from all users					10			
					Er	na Process			
Proc	esses: 64 CPU Usage: 6% Ph	ysical Memory	r. 83%			.H			

You must be in accordance with the order to close the IMMTaskMGR. exe process, IMMEnergy. exe program and IMMServer. exe.

Take closing IMMEnergy. exe program for example:

Selected IMMEnergy. exe in the bar, and then click "End Process" button. Choose "end process" in the pop-up box, then IMMEnergy. exe program was shut down.

## 8.1.2 Database backup

"Start"  $\rightarrow$  "all programs"  $\rightarrow$  Microsoft Sql server 2008 R2 $\rightarrow$ sql server Management Studio. On the pop-up login box to input sa password (set in the database be installed, default: 654321), access the database, find the below part.



Click the red box to expand the Database option, the diagram below:



Please backup database of the red box. The backup steps reference to 9.3.1.

# 8.2 Backup the power file

Find the server installation directory (for example: D:\Program Files\IMMServer\ EnergyFTP), Backup the entire OK folders which stores the power data files.

# 8.3 Uninstall the client and the server software

## 8.3.1 Uninstall the client software

Before uninstall the client software, the client software must be closed. Then click: start $\rightarrow$  all the procedures  $\rightarrow$ IMM Client  $\rightarrow$ Uninstall IMM Client



Select "Next" button will display as following:



Click "Finish" button and Uninstall complete.

## 8.3.2 Uninstall the server software

Before uninstall the server, all the server software should be closed. Then click:

Start→Control Panel→Programs and Features → Right click the IMM Server →Uninstall

# 9.Appendix

# 9.1 Topology documents specification

System topology document reflects the system mapping relation, the topology document use CSV form, under manual topology mode, needs manual fill the CSV document.

### 1. Document structure

	Å	B	C	D	E	F	G	H	Ι	J	K	L	I	N	0	P	Q	R
1	sys_i	d out door	indoor_	lindoor_	2 indoor_3	3 indoor_	4indoor_	5 indoor_	6indoor_	7indoor_	8indoor_9	indoor_1	0indoor_	11indoor_1	2indoor_1	.3indoor_1	14indoor_1	5 indoor_10
2																		
3																		
4																		

#### 2. Column name specifications

Column name	Specifications
sys_id	System number(range 1,2,15,16)
outdoor	Outdoor unit
Indoor_x(x=1,2.315,,16)	Indoor unit

#### 3. Form

sys\_id form: 1.2.....16.

Outdoor form: "Port No." \_ "Outdoor unit address" (Display as two number, not enough number then add 0 in front of it)

Indoor\_x form: "Port No." \_ "Indoor unit address" (Display as two number, not enough number then add 0 in front of it)

### 4. Specifications

There are max. 16 systems in a CSV document, that is sys\_id value's range is

(1,2,.....16).

There are max. 4 outdoor units in a system, each outdoor unit in a row, and fill 16 indoor units behind it.

Indoor units in the same system cannot come out in several ports, but a port can has several indoor units (different indoor unit addresses) of several systems. That means indoor unit port number of the same system is the same.

Outdoor units in the same system cannot come out in several ports, but a port can has several outdoor units (different outdoor unit addresses) of several systems. That means outdoor unit port number of the same system is the same.

Outdoor unit address range: 00~31, outdoor main unit address must find the value from (0,4,8,12,16,20,24,28).

Indoor unit address range: 00~63 (use two number display)

Port number range: 01~08 (use two number display)

#### 5. Examples

System 1 concludes one outdoor unit (address: 00) and 64 indoor units (address: 00~63),

outdoor unit connect to the No.5 port, indoor unit connect to No.1 port.

System 2 concludes one outdoor unit (address: 04) and 12 indoor units (address: 00~11),

outdoor unit connect to the No.8 port, indoor unit connect to No.4 port.

System 3 concludes one outdoor unit (address: 08) and 12 indoor units (address: 12~23),

outdoor unit connect to the No.8 port, indoor unit connect to No.4 port.

system 4 concludes one outdoor unit (address: 20) and 40 indoor units (address: 24~63),

outdoor unit connect to the No.8 port, indoor unit connect to No.4 port.

CSV document filling as follow:

	A	B	C	D	E	F	G	H	Ι	J	K	L	I	N	0	P	Q	R
1	sys_id	outdoor	indoor_1	l indoor,	2 indoor_3	indoor_	4 indoor_9	indoor_(	6 indoor	7 indoor_	8 indoor <sub>.</sub>	9 indoor	10indoor	llindoor	12indoor	13 indoor	14 indoor	_15indoor_16
2	1	05_00	01_00	01_01	01_02	01_03	01_04	01_05	01_06	01_07	01_08	01_09	01_10	01_11	01_12	01_13	01_14	01_15
3	1		01_16	01_17	01_18	01_19	01_20	01_21	01_22	01_23	01_24	01_25	01_26	01_27	01_28	01_29	01_30	01_31
4	1		01_32	01_33	01_34	01_35	01_36	01_37	01_38	01_39	01_40	01_41	01_42	01_43	01_44	01_45	01_46	01_47
5	1		01_48	01_49	01_50	01_51	01_52	01_53	01_54	01_55	01_56	01_57	01_58	01_59	01_60	01_61	01_62	01_63
6	2	08_04	04_00	04_01	04_02	04_03	04_04	04_05	04_06	04_07	04_08	04_09	04_10	04_11	2940303748	1920/08/2		5-5-25.9
7	3	08_08	04_12	04_13	04_14	04_15	04_16	04_17	04_18	04_19	04_20	04_21	04_22	04_23				
8	4	08_20	04_24	04_25	04_26	04_27	04_28	04_29	04_30	04_31	04_32	04_33	04_34	04_35	04_36	04_37	04_38	04_39
9	4		04_40	04_41	04_42	04_43	04_44	04_45	04_46	04_47	04_48	04_49	04_50	04_51	04_52	04_53	04_54	04_55
10	4		04_56	04_57	04_58	04_59	04_60	04_61	04_62	04_63								

# 9.2 The history power data query

1. Database will auto backup the data of previous 3 months, and carries out backup operation at 02:30 every day. E.g.: Database IMM\_12010203 backup is the data of Jan, Feb and Mar in 2012.

2. If carry out database backup query operation, it only needs configure the database to need connected database in the client-side IMMIP.exe dialogue frame. E.g.: if needs to query Apr, May and Jun of 2012's data, then do the following setting in IMMIP.exe:

		×		
Change to: IMM_12040506	Database name:	IMM	Database port: 1	433
	Data user name:	IMM	Data user password:	MMV4
	FTP user name:	test	Ftp user password: 1	23456
	Upgrade path:	/update/update.zip		
		Sa	ve	

Set the database name to be IMM\_12040506, and then click "Save" button to finish.

# 9.3 Database backup and restore

## 9.3.1 Backup the database

Taking IMM database for example:

1) Right click the IMM database, "Tasks"  $\rightarrow$  "Back Up...", as below:

		sql server 2008 备份还原的问题,docx - Microsoft Word	0 ×
サ始 油入 贝面布局 SJ用	BHF mal 明 BUE		
File Edd View	Uebug Tools Window Uebug Tools Window Uebug Tools Window Server 10.50.1600 - midea- s m Databases New Database New Database New Query Script Database as Policies Facets Start PowerShell Reports Rename Delete Refresh Properties ,	Detach Take Offline Bring Online Shrink • Back Up Restore • Generate Scripta Extract Data-tier Application Registre as Data-tier Application Import Data	
Output Ready		* t ×	
页面: 1/1 字数: 8 🕉 中文(中国) 插入			10-19
💓 📃 Desktop 🔚 IMM	DATA 🖉 百日	国度捷麦 🌠 SQL SERV 👯 Microsoft 🔚 Restore Fi 🍟 sql server 🛯 🖶 🔺 🛞 💆 🔬 🧐 😭	2012-09-20

Back Up Database - IMM								
Select a page	🔄 Script 🔻 🚺 Help							
Poptions								
	Source							
	Da <u>t</u> abase:		IMM     SIMPLE					
	Recovery model:							
	Backup type:		Full					
	Copy-only Backup							
	Backup component:							
	Oatabase							
	Files and filegroups:							
	Backup set							
	Name:	IMM-Full Database Backup						
	Description:							
	Backup set will expire:							
Connection	After:		0		days			
Server:	) <u>O</u> n:		2013- 7-31					
127.0.0.1	Destination	-						
Connection:	Back up to:	۲	Disk	(	) Ta <u>p</u> e			
Wew connection properties	C:\Program Files\Microsoft	SQL Se	erver\MSSQL10	_50.MSSQLSER	VER\MSSG	A <u>d</u> d		
Progress						Remove		
Ready	•				Þ	Contents		
.4B.								
					ОК	Cancel		

2) Click the "Add" button will enter the following page:

Select Backup Destination	×
Select the file or backup device for the backup destination. You can create backup devices for frequently used files.	
Destinations on disk	
<u>File name:</u>	
oft SQL Server\MSSQL10_50.MSSQLSERVER\MSSQL\Backup\	
Backup device:	
· · · · · · · · · · · · · · · · · · ·	
OK Cancel	

3) Click the button in the red box, select the directory used to save backup files in the pop-up box:

U Locate Database Files - MIDEA-PC								
Select the file:								
🗄 💼 Program Files			×					
🕀 🛅 Program Data								
🖶 🛅 Recovery								
🗄 💼 sinocpc								
🖶 🛅 System Volume Informa	ation							
🖶 💼 temp								
🖶 👘 🧰 tmp								
🖶 💼 Users								
🖶 🛅 Windows								
AUTOEXEC.BAK								
i i i i i i i i i i i i i i i i i i i								
🗄 💼 SAVG								
RECYCLE.BIN								
🗄 🛅 backupdata								
📄 🖶 🖷 DB								
i ⊡ DriverGenius2011			=					
📄 🗄 💼 FTP								
imm_Database								
IMM_DB_BACK								
i iMM_Server								
🗄 👘 🛄 linux								
Image: Biology And State And Sta	ionalPlus2007							
⊡ Program Files			-					
i in the sinococ								
Selected path:	D:\IMM_DB_BAC	К						
Files of type:	Backup Files(*.ba	k;*.tm)	•					
File <u>n</u> ame:								
L		OK	Cancel					

4) Click the backup directory, type the name of the backup in the red box: IMM. bak (the same with the database name, Take. Bak suffix). Click "OK" button.


5) Click "OK " button in the above image.

🧻 Back Up Database - IMM					- • •
Select a page	Script 🔻 🚺 Help				
Poptions	Source				
	Da <u>t</u> abase:		IMM		•
	Recovery model:		SIMPLE		
	Backup type:		Full		•
	Copy-only Backup				
	Backup component:				
	Database				
	Files and filegroups:				
	Backup set				
	<u>N</u> ame:	IMM-Full Datab	ase Backup		
	Description:				
	Backup set will expire:				
Connection	After:	0		days	
Server:	© <u>O</u> n:	2013- 7-31			
Connection:	Back up to:	Disk		) Ta <u>p</u> e	
sa           sa           Usew connection properties	C:\Program Files\Microsoft SQL So D:\IMM_DB_BACK\IMM.bak	erver\MSSQL10	50.MSSQLSER	/ER\MSSG	A <u>d</u> d
Progress					Remove
Ready	•			Þ	<u>C</u> ontents
				ОК	Cancel

6) Choose backup file in the picture above , click "ok" button.

After backup is completed, the successful message will be popuped, as follow:



# 9.3.2. Restore the database

Close all the connections before restore the database (include IMM client-side and server), and delete the data and log documents of waiting restored database (IMM.mdf and IMM\_log.ldf), e.g.: D:\DB\IMM.mdf and D:\DB\IMM\_l og.ldf

2 New Query		÷.,			
Object Explorer	* ‡ ×				
Connect + 🛃 🛃	= 7 💽 🔏				
<ul> <li>Iocal) (SQL S</li> <li>Database</li> <li>System</li> </ul>	ierver 10.50.1600 - midea- s m Databases				
H 🔰 M H 🚺 IM H 🚺 IM H 🚺 IM	New Database New Query Script Database as				
⊞ 🚺 IM	Tasks	•	Detach		
E Securit	Policies Facets	•	Take Offline Bring Online		
E Server	Start PowerShell		Shrink	•	
🗉 🛅 Manag	Reports		Back Up		
	Rename		Restore	•	Database
	Delete		Generate Scripts		Files and Filegroups
	Refresh		Extract Data-tier Application		Transaction Log_
	Properties		Register as Data-tier Application Import Data Export Data		

Select the database which needs to backup on the above figure, and right click on the database which needs to backup, select "Tasks"  $\rightarrow$  "Restore"  $\rightarrow$  "File and Filegroups", then display as the following:

Restore Files and Filegroups	- IMM				
Select a page	🔄 Script 🔻 🛐 Help				
Options	Destination to restore Select or type name of ti	he a new or existing database	for your restore of	1. Select the data which needs to b	abase ackup
	T <u>o</u> database: Source for restore	IMM		•	
	Specify the sources and	l location of backup sets to res	store	2. Click the bu	itton
	From device:				
	Sglect the backup sets t Rest Name	o restore: File Type	Туре	File L	
Connection Server: (local)					
Connection: midea-PC\midea P <u>View connection properties</u>					
Progress Ready					
	•			4	
			ОК	Cancel	

After click the right side button of "From device", then display as following:

Specify Backup		×
Specify the backup media and its loc	ation for your restore operation.	
Padeus modia:		
Dackup media.		
Backup location:		
		Add
		Remove
		Contents
	<u>O</u> K Cancel	Help
L		.tt.

Uccate Backup File - MIDEA-PC	
Select the file:	
C: SAVG SRECYCLE.BIN SRECYCLE.BIN SRECYCLE.BIN SRECYCLE.BIN DB DriverGenius2011 FTP IMM_Database IMM_DB_BACK IMM_Server IMM_Server Imvx Mix Server MyDrivers Program Files Sinocpc SQL Express System Volume Information System Volume Information System Volume Information System Volume Information System Volume Information System Volume Information System Volume Information Server System Volume Information System	onalPlus2007 tion
Selected path:	D:\IMM_DB_BACK
Files of type:	Backup Files(*.bak;*.tm)
File <u>n</u> ame:	IMM.bak
	OK Cancel

Click the "Add" button of the above, then display as follow:

Select the document used for restoring, click "OK" button.

Restore Files and Filegroups	- IMM			- O X
Select a page	🔄 Script 🔻 📑 Help			
Options	Destination to restore			
	Select or type name of the a new o	or existing database for y	our restore operation	
	T <u>o</u> database:	IMM		•
	Source for restore			
	Specify the sources and location o	f backup sets to restore		
	From <u>d</u> atabase:	IMM		~
	From device:	C:\tmp\22.bak		<u></u>
	Select the backup sets to restore;	Sel	ect it	
	Kest Name	File Type	Туре	File L
Connection			ruii	
Server: (local)				
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	Original File Name	File Type	Restore As		
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	IMM_log	Log	D:\DB\IMM_log.ldf		
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Click the "Option" of the above image, then displays as following:

Selected the red box section on the above image and click "ok" button. Restore operation

is complete.

# 9.4 Power meter installation (Customized)

# 9.4.1 Power meter installation solution

At present there are two kinds of power meter wiring schemes in engineering:

A refrigerant system can be connected to three-phase digital power meter of low current only used by Midea (can connect to the external current transformer). The external current transformer power meter can be installed directly on the power of the air conditioner system bus, implement a refrigerant system with one meter.

Code	Name	Overload current
DTS624 M	three-phase digital power	
D15634-W	(380V,50Hz,6A)(CHINT)(RoHS)	180A
BH-0.66-30IB	current transformer (150A/5A)	

2. A outdoor unit connects to three-phase digital power meter of large current, at present

there are two kinds of meter in using, details are as follows:

Code	Name	Overload current	
	three-phase digital power meter	180A	
D15634-F	(380V,50Hz,100A)(RoHS)		
	three-phase digital power	604	
D15034/D15030	(60A)(RoHS)	60A	

# 9.4.2 Wiring instructions

#### 1. The wiring between current transformer and power meter

The power meter installed is DTS634-M. In the wiring diagram, the 1, 4 and 7 ports of the power meter need to connect to current transformer's S1 terminal; the 3, 6 and 9 ports of the power meter need to connect to current transformer's S2 terminal. The 2, 5 and 8 ports of the power meter need to connect to three-phase power supply. The 10 and 11 ports of the power meter need to connect to ground. In sure to safety, it's necessary to connect current transformer's S2 terminal before connecting the ground.



2. The connection of meter and outdoor unit

In the above figure 485A connects to the O terminal of power meter. 485B connects to A terminal of power meter. The length of communication wire should less than 100m. Communication cable is isolated to high voltage.

3. Notes:

(1) The power meter is customized by Midea, it has been set the percentage of 30:1, and if it is bought from the market, it will not normally use

(2) DTS634-M meters' current specifications:

1.5 (6) A is used with BH-0.66-30IB current transformer, and the current specifications will change into: 45 (180) A, so the power meter's maximum current is 180 A.

(3) We only offer DTS634-M power meter and BH-0.66-30IB current transformer. The connection line from current transformer output to the electricity meter should be offered by installer. We suggest that the line diameter should  $\geq$ 2.5mm<sup>2</sup>.

Current transformer of BH-0.66 30IB:



Face

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