

Daikin Airconditioning UK Ltd

intelligent **Manager**



www.daikin.co.uk

*The ideal solution for control
and management of maximum
1,024 VRV indoor units*

MM Main Features

Intelligent Manager, designed specifically to control VRV systems, is based around 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.

1 Energy Efficiency

- Proportional power consumption division
- Peak load shedding
- Sliding temperature
- Eco mode
- Power failure/release control
- Temperature limit (automatic start)

2 Management

- Operational history management (start/stop, malfunction, operating hours)
- Generation of reports (graphics and tables) (daily, weekly, monthly)
- Advanced tenant management

3 Control

- Login setting
- Individual control (setpoint, start/stop, fan speed) (max. 1,024 indoor units)
- Group control (100 groups)
- Centralised air conditioning control
- Schedule control (128 programs)
- Fire emergency stop control (32 programs)
- Interlock with security system
- Setpoint limitation
- Automatic cooling/heating changeover
- Timer extension

4 Monitoring

- Power failure monitoring
- Visualization via graphical user Interface (GUI) featuring free layout
- Operation mode of indoor and outdoor units
- HRV control
- Fault indication
- Indication filter replacement
- Setpoint indication
- Operation time monitoring
- Multi PC
- On line help
- WatchDOG
- Remote intelligent Manager

* If exceeding the stated number of outdoor units, DIII -NET Expander Adapter <DTA109A51> allows easy system connection as long as restrictions are observed.

- Operating status monitoring for 256 indoor units (40 outdoor units) ~ a maximum of 1,024 indoor units (160 outdoor units) when four iPUs are connected*
- Air conditioning unit failure prediction (optional)
- Upper limit monitoring of integrated values (per management point)
- Continuous operating period monitoring (per management point)

5 Display

- Management point name/ icon/ list display
- Control group list display
- Screen scroll function
- Operation time display
- Integrated switching number display
- Historical display (malfunctions, alarms, control).

6 Measurements

- Operation time integration
- Switching number integration
- Meter reading (through Pi port on iPU)
- Power proportional reading

7 Data storage/Report

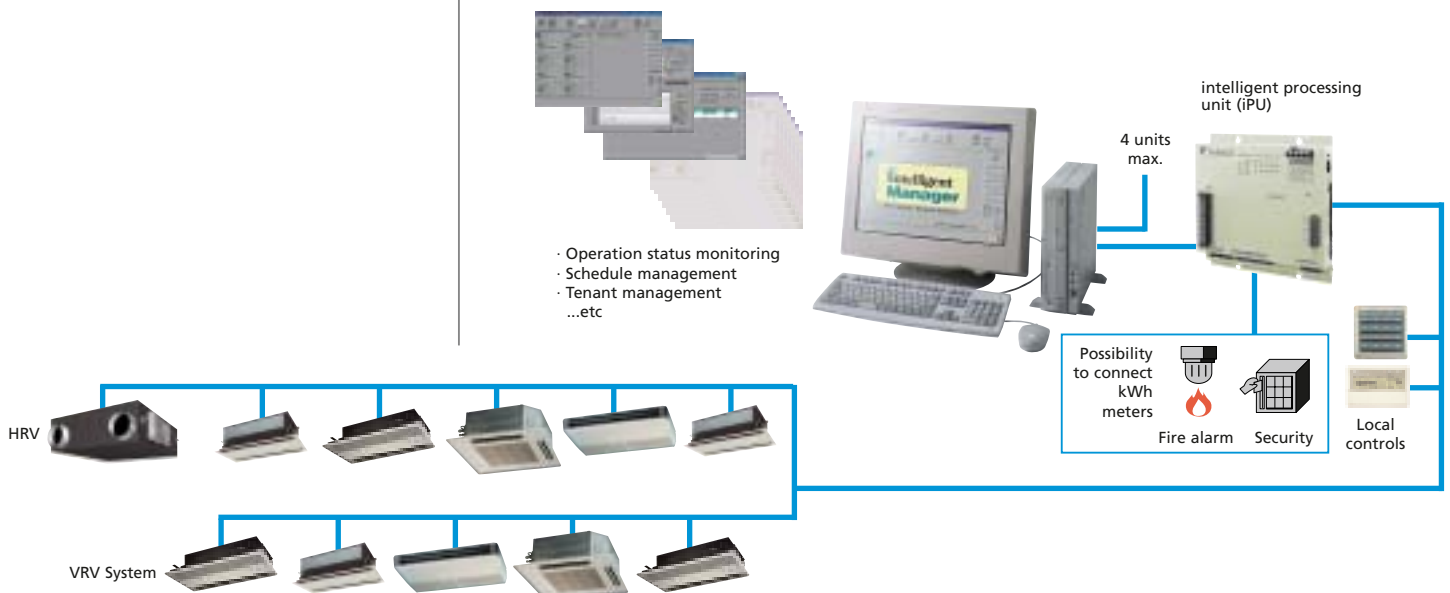
- Print output
- Data storage

8 Warning

- Emergency signal input

9 System Layout

- Up to **1,024 indoor units** can be controlled (by 4 iPUs)
- Ethernet TCPIP / 10 base/T communication
- Integrated digital contacts on the intelligent processing unit (iPU)
 - 19 general input ports
 - 2 digital outputs
- Stand alone operation of the iPU for minimum of 48 hours
- Compatible with UPS shutdown software



Principle of intelligent Manager



1 Visual Navigation

SIMPLE NAVIGATION

Information can be shown simply and quickly by clicking the jump button: a list of all available screens will appear. The back button of course, reverses the procedure.

EASY MANAGEMENT VIA OPTIONAL LAYOUT DISPLAYS

It is possible to display a flexible screen configuration system that increases users' freedom to perform tasks such as decisions on the location of individual air conditioning units with respect to the actual layout of the building.

- Flexible component configuration (background and links)
- 3 active types:
 - Icons
 - Buttons
 - Real time info

2 Graphical Report

Displays minute changes in easily understood terms via graphical expression

Intelligent Manager can provide graphical displays of all operational and measurement data and express changes and comparisons in an easy to understand manner that would be difficult to grasp with mere tables.

Depending on the particular purpose at hand, the graphical report can be switched back and forth between the table report.

- Flexible configuration to display:
 - Temperature
 - Analog Input
 - Power consumption
 - Pulse meter
 - Operation time
 - Indoor units
 - Digital Input
 - Digital output



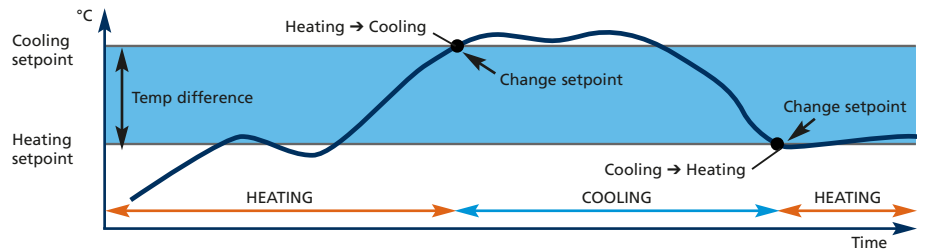
*Temperature and power consumption can be shown in same graph

3 Automatic Cooling / Heating Changeover

Increases comfort and reduces the labour required for managing system operation

Intelligent Manager measures room temperature and can switch automatically between cooling and heating modes, creating comfort by enabling selection of the appropriate mode and removing the human factor from changeover operations.

- Flexible group configuration
- 3 selection methods



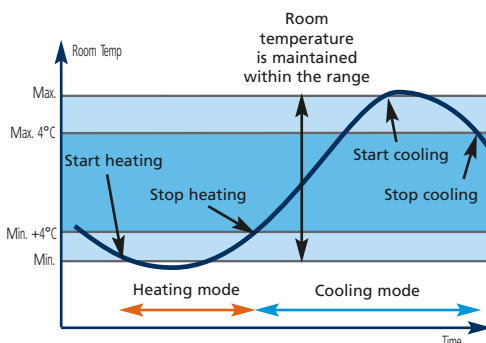
4 Temperature Limit

Provides the appropriate operation management by limiting maximum and minimum temperatures

Intelligent Manager allows users to limit maximum and minimum temperatures, ensuring the appropriate room temperature via automatic control.

It also eliminates any unnecessary and excessive operation that may result in overcooling or overheating.

- Flexible group configuration



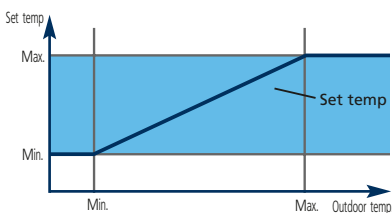
5 Sliding Temperature

Eliminates overcooling via sensory comfort control

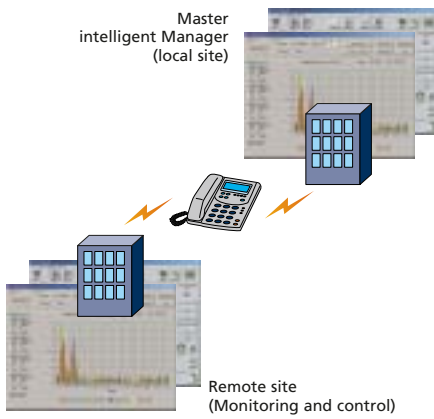
Intelligent Manager can monitor the outdoor temperature and automatically adjust room temperature, minimizing drastic indoor/outdoor temperature differentials and promoting maximum energy efficiency.

Intelligent Manager can also eliminate uncomfortable cold shock zones around building entrances etc.

- Flexible group configuration



Note: Optional DII-Ai kit required DAM101A51



6 Remote Intelligent manager

Flexible management of air conditioning equipment in multiple buildings

Intelligent Manager enables the flexible monitoring and control of remote air conditioning systems via public phone lines. Air conditioning systems in more than one building can be managed from one location, making it easy to reduce system management costs and bring consistency to the system environment.

- Remote control and monitoring, data management, etc
- Based on Windows RAS (remote access).

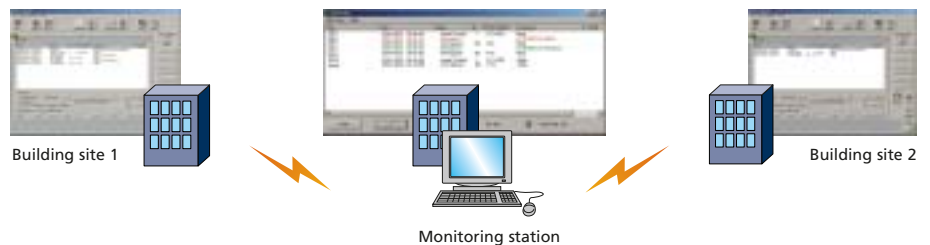
7 WatchDOG

Large-scale maintenance systems can be run at low costs

The system can receive error messages from air conditioning units in more than one building or structure via public phone lines. This allows the user to configure an appropriate maintenance system over a broad area at the lowest cost.

WatchDOG (telephone remote monitoring):

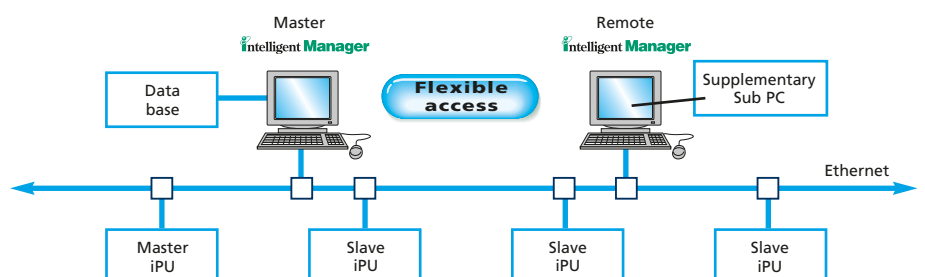
- Transmit malfunctions, etc
 - Configurable dial retry
 - Alternative phone Nr
- Remote monitoring:
 - Multiple sites
 - Printouts
 - File backup



8 Multi-PC

Can be connected to existing LANs, contributing to a reduction in costs.

Intelligent Manager can be easily connected to existing LAN networks, enabling users can reduce installation costs.





Display of operating schedule setting/status

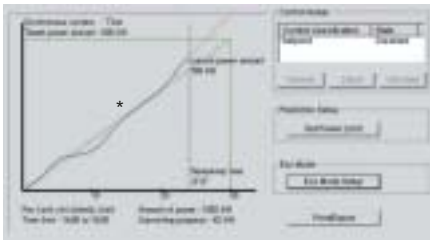
9 Schedule Possibilities

Automatically performs facility start/stop control, switching the operating mode, setting temperatures and enabling/disabling the remote control according to the preset time schedule. All that is required is the registration of a single week cycle, program scheduling and the specification of which operations should be performed on each day. Furthermore, Also, holidays or special days throughout any one year (13 months) can be specified along with the method of operation for holidays or special days in the same way as the daily operating schedule when using the schedule program.

10 Easy Management of Electricity Consumption

Provides information on proportional electrical power distribution, making it easier to manage electricity consumption

Software to compute electric power proportional distribution enables electricity consumption data (CSV format) for each indoor unit (or group) connected to Intelligent manager to be saved. It can then be displayed on a PC or spreadsheet programme. Consumption rates can be freely calculated relative to the different accounting methods that may be used according to the respective conditions.



Power consumption prediction based control. Provide more comfortable environment.
* Real time control

11 Power Limit Control

Enables systematic management of air conditioning power consumption

Intelligent Manager can predict the air conditioning operating cycle in order to limit power consumption to the set targets. This enables users to systematically manage air conditioning power consumption, which has hitherto been uncertain.

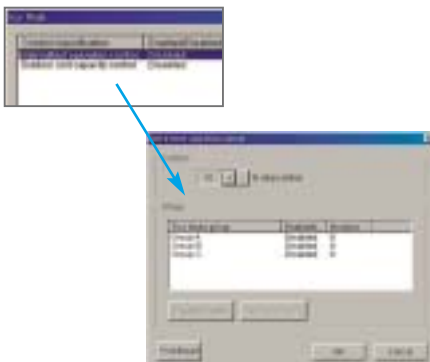
- Flexible group configuration
- Set point
- Real time control
- 30 minutes prediction time

12 ECO Mode

Reduces power consumption by 10 to 20%, whilst maintaining room comfort

Based on a predetermined schedule, intelligent Manager executes capacity control and intermittent operation for all air conditioning units in order not to increase the discomfort index.

- Flexible group configuration
- 2 control types:
 - Alternative stop control
 - Outdoor unit capacity control



Specifications

Item		Comments	
PC	Performance	CPU	Pentium 300MHz minimum, 500MHz or above recommended
		Memory	64Mb or above
		HDD	4GB minimum, 8GB or above recommended
	Network	10 Base/T Ethernet	
	Operation	Keyboard, mouse, sound & speaker	
	Software	Windows NT (ver4.0(SP4)), Windows 2000 IM3.XX, up to 1,024 indoor units / 4 IPU	
CRT	SVGA	800 x 600, 1,024 x 768	
Printer		A4 page printer	
Network equipment		Multi Port HUB (4 or more parts)	
IPU (intelligent processing unit)	DAM602A51		256 indoor units per IPU
	DAM602A52		128 indoor units per IPU
	DAM602A53		192 indoor units per IPU
	Back-up for power failure		Data is filed in non volatile memory
	Transmission		DIII-NET std: 1 line; Max. 4 lines / 1iPU
	Power supply		AC200-240V, ± 10%, 50/60Hz, Max. 20W
	Ambient temperature		-10 ~ +50°C
	Ambient humidity		0~98% (condensation is not acceptable)
	Dimensions	HxWxD mm	281 x 260 x 58.5
	Weight	kg	4
UPS (eg. APC SMART UPS 1,000)	Capacity		200~250W / 20min
	Voltage		As required on the field
	Control signals		Power failure signal (from UPS), UPS shut down signal (to IPU)/Power failure signal from UPS to PC
	Relay		I/O module (AP9610)

Accessories

Item		Comments
Interface adapters	KRP928A2S	For connection to Split units
	DTA102A52	For connection to R-407C/R-22 Sky Air units
	DTA112B51	For connection to R-410A Sky Air units
DIII Ai	DAM101A51	<ul style="list-style-type: none"> • Measurement of outdoor temperature: -10 ~ +50°C • DIII-NET communication to Intelligent Manager • Installation: Outdoors, waterproof case adopted • Power supply: AC 200-240V, 50/60Hz
Digital input	DEC101A51	Input contacts: 16 points
Digital input/output	DEC102A51	Input contacts: 8 points; ouput contacts: 4 points



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Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.



ISO14001 assures an effective environmental management system in order to help protect human health and the environment from the potential impact of our activities, products and services and to assist in maintaining and improving the quality of the environment.

Specifications are subject to change without prior notice



Daikin units comply with the European regulations that guarantee the safety of the product.

VRV products are not within the scope of the Eurovent certification programme



Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of environmental friendly products. This challenge demands the eco design and development of a wide range of products and an energy management system; which involves energy conservation and reduction of waste.

Daikin products are distributed by: