intelligent Manager III

Total Management System from Daikin

DAIKIN AC®

absolute comfort

HOTEL

OFFICE

RESTAURANT

SCHOOL

SHOP

BUILDING GROUP

Main Features of Intelligent Manager

Simple Operation and Management.. 6
A user-friendly interface allows even non-experts to perform building systems management easily.

Data Management.............................. 7
Stores operation data on multiple systems and displays it in graphical format for more effective management.

Total Building Management............. 8-9
Possible to build a system to manage various types of building equipment.

Automated Operation Management... 10-11
Frees the operator from the troubles of daily operation management.

Web Access Function 12
Allows easy management of systems in remote facilities via the Internet using a Web browser.

List of Monitoring and Operation Functions 13

Specifications 14

Web Access Function
Permits control of a facilities system via a Web browser.
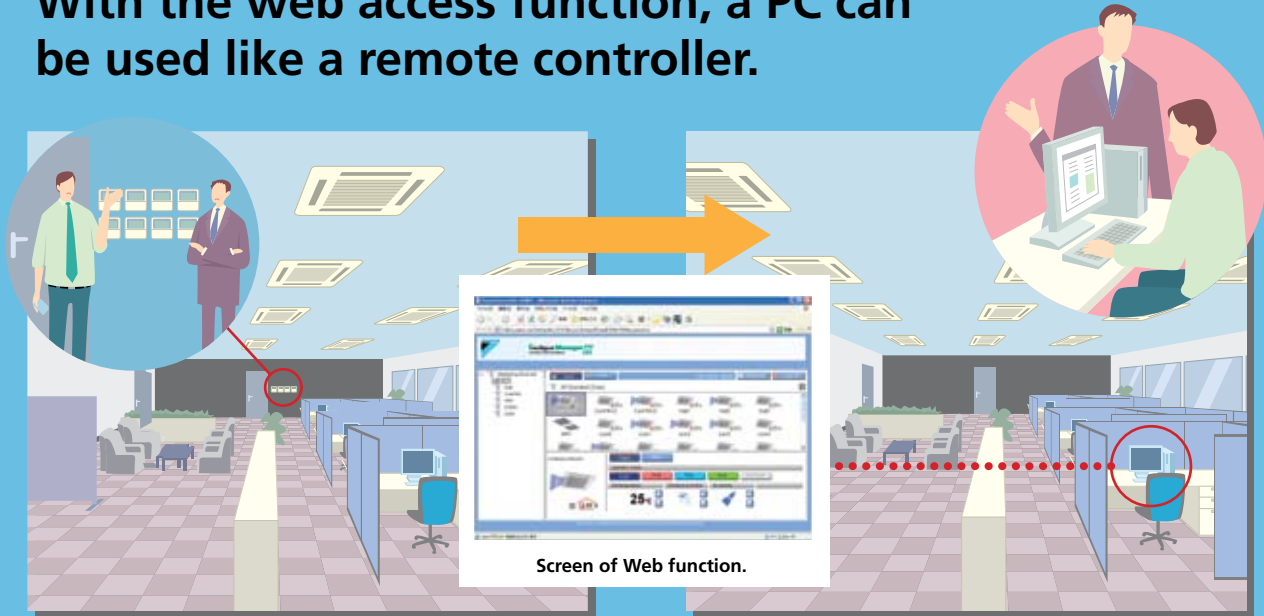
NEW

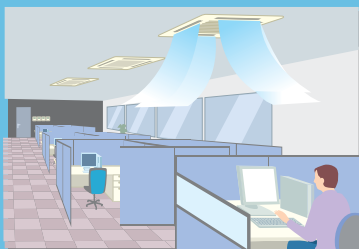## Power Proportional Distribution (PPD)
Proportional distribution of power consumption at outdoor units based upon operational information of indoor units.

Application Examples

With the web access function, a PC can be used like a remote controller.

Screen of Web function.

Standard remote controllers are not necessary.

Total management from PC is possible.
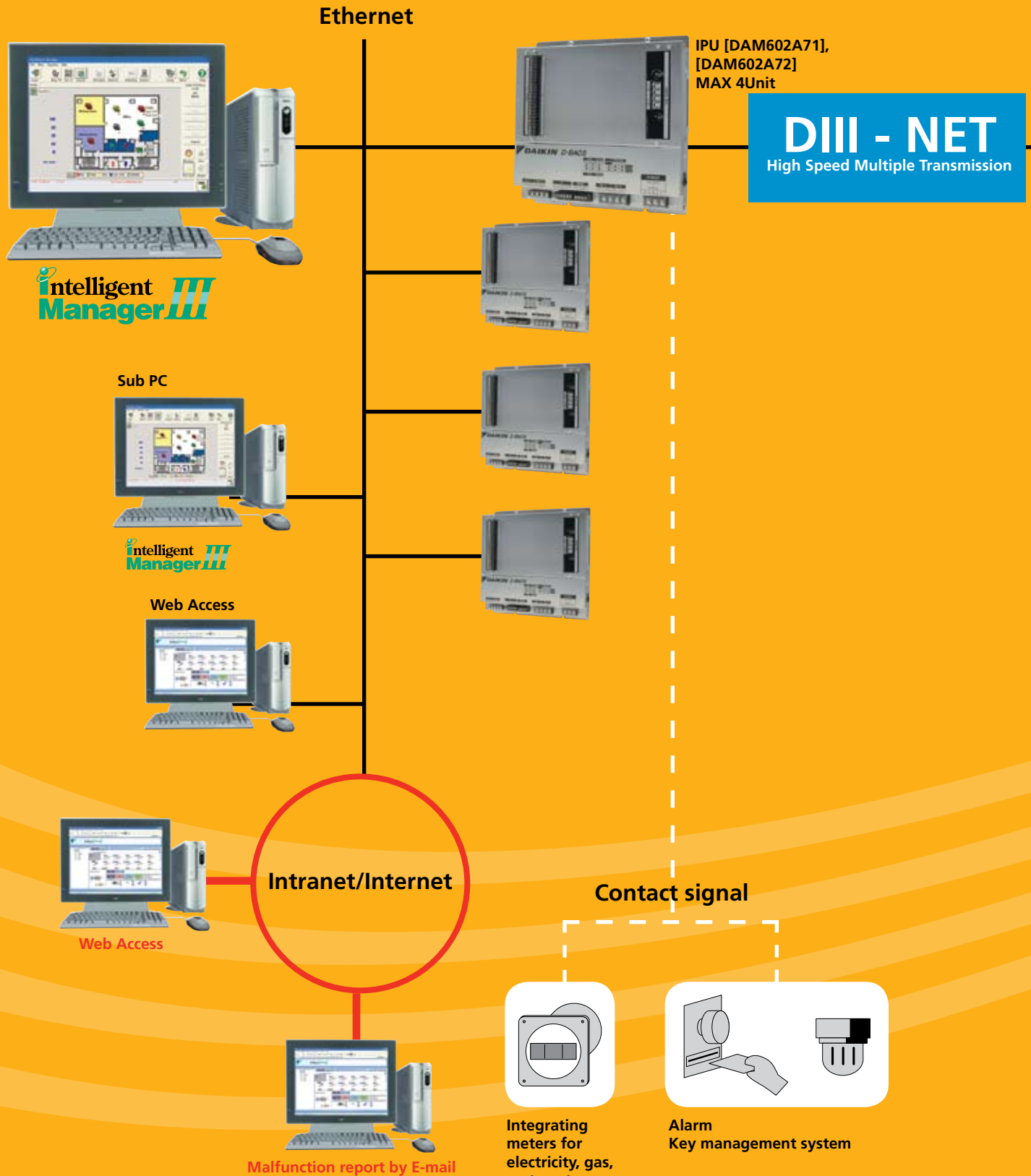
Elimination of the remote controllers simplifies remodeling activities.

Avoid having to locate remote controllers in public areas.

Programming errors and misuse of the system are eliminated.

3

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Intelligent Manager III System Overview

Intelligent Manager III provides total management of a Daikin systems as well as equipment from other manufacturers, such as air conditioning, lighting, and water supply systems.

Ethernet

IPU [DAM602A71], [DAM602A72]
MAX 4Unit

DIII - NET
High Speed Multiple Transmission

intelligent Manager III

Sub PC

intelligent Manager III

Web Access

Intranet/Internet

Web Access

Contact signal

Malfunction report by E-mail

Integrating meters for electricity, gas, water, etc.

**Alarm
Key management system**

VRV III

Sky Air

**Interface Adaptor
for DIII-NET Use
[KRP928B2S]**

Room Air*
Conditioner

**Dio unit
[DEC102A51-US]**

On/Off and status monitoring
• Air handling unit
• Fan coil unit
• Chilling unit from
  other manufacturers

**Di unit
[DEC101A51-US]**

Malfunction and status monitoring
• Boilers
• Tanks
• Key management system

*Please confirm the compatibility with adaptor.

Simple Operation and Management
Even non-experts can monitor and operate building systems easily.

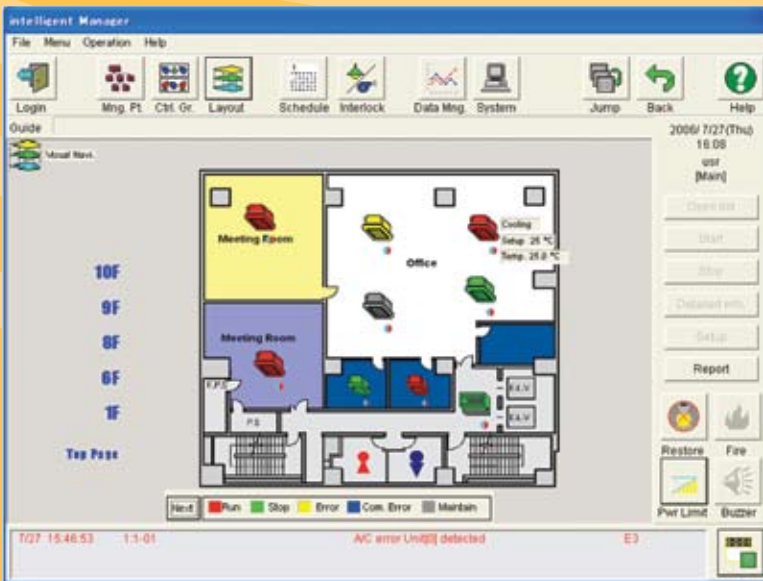## Multiple displays present a wealth of information in an easy-to-understand format.
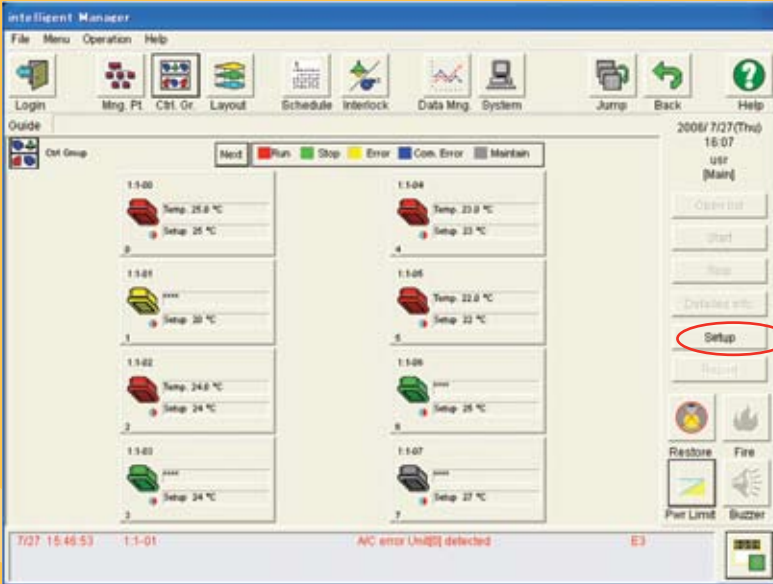
Individual detailed monitoring screen

The same detailed settings as the local remote control are available.
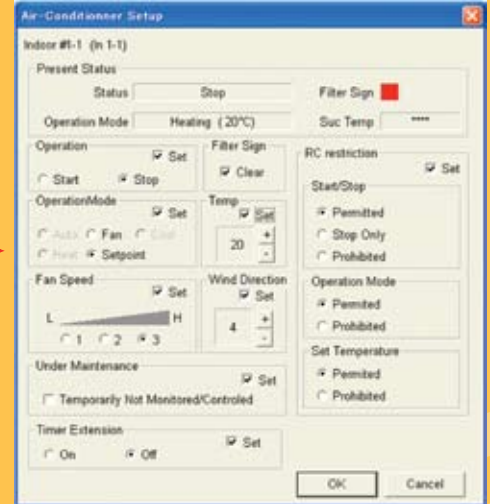
Setup screen

Floor visual navigation

Main monitoring and operation menu

- • On/Off status
- • Operation mode
- • Set point
- • Room temperature
- • Malfunction
- • Fan speed
- • Airflow direction
- • Remote control operation restrictions

Icons and colors indicate operation status at a glance.

| Run | Stop | Error | Comm. Error | Maintain |

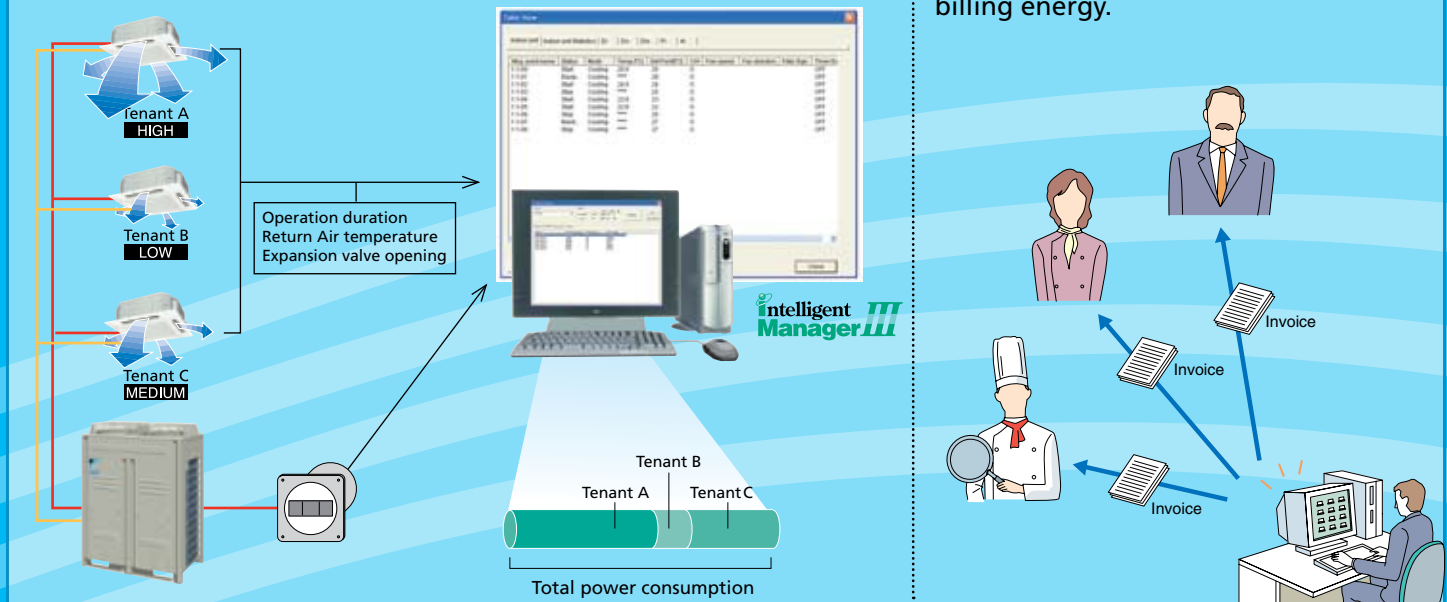**Note: Colors shown can be changed.**

Data Management

Stored data essential for improved system management is displayed in comprehensible graphical format.

PPD — Power Proportional Distribution (option)

Operational information of individual indoor units are monitored, allowing for distribution of power consumption at outdoor units.

Daikin PPD system* generates tenant reports and helps building owners for billing energy.

Tenant A **HIGH**

Tenant B **LOW**

Operation duration
Return Air temperature
Expansion valve opening

Tenant C **MEDIUM**

intelligent Manager *III*

Invoice

Invoice

Invoice

Tenant B

Tenant A   Tenant C

Total power consumption

*The Power Proportional Distribution (PPD) feature supplies the user with a reasonably calculated apportionment of the total power consumption by the Daikin air-conditioning system to individual units on the system. Because input to the PPD includes measured pulses in the refrigerant system and because the air-conditioning system includes a number of variables, including operating temperatures and pressures, piping length, heat exchange rates and others, no meter-type apportionment of individual users' consumption can be made. However, the PPD feature provides an apportionment methodology that uses highly advanced technology as applied to the many variables in an air-conditioning system.

Energy saving and maintenance management

Operation duration indication

Displays the operation time periods and cumulative operation duration for individual units. This information can be useful when determining maintenance timing, calculating the number of hours of operation, or drawing up maintenance schedules.

Meter checking function

Meter data on electricity, water, and gas usage for the entire facility can be managed centrally. This eliminates the need to check meters manually, and data can be checked in real time whenever necessary.

Operation History

The past operation status of individual units is displayed in chronological sequence. This basic data is useful for identifying the causes of malfunctions or analyzing ways of reducing power consumption.

Malfunction History

This provides a record of basic data that is useful for maintenance management and planning. It can be used to check past malfunctions (details, time, etc.), to study countermeasures for the future.

Stored data is displayed in comprehensible graphical format

Trend display: Allows tracking of transitions between time periods and analysis of trends.
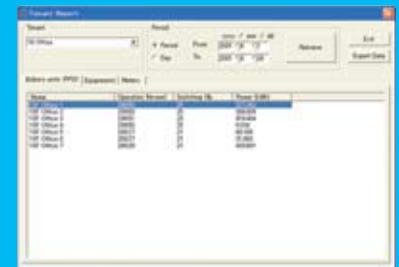
List display: Useful for comparisons between items or checking of detailed information.

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Total Building Management

It is possible to build a system providing centralized control over many types of equipment, including a VRV system, and even to coordinate the operation of multiple utility systems.
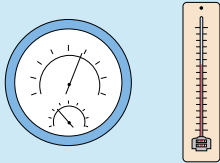
Water tanks

The system can monitor the amount of water stored in the tanks via links with ball taps or water level sensors.
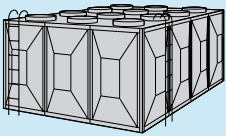
Sensors

The system can collect data on temperature, humidity, CO_2 density, etc., from sensors via optional PLC.
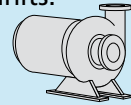
Alarms and security devices

The system can receive signals from alarms and security devices.
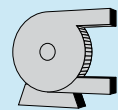
Pumps

The system can turn water supply or transfer pumps on and off as well as monitor their operation status. It is also possible to interlock the operation of pumps and chilling units.
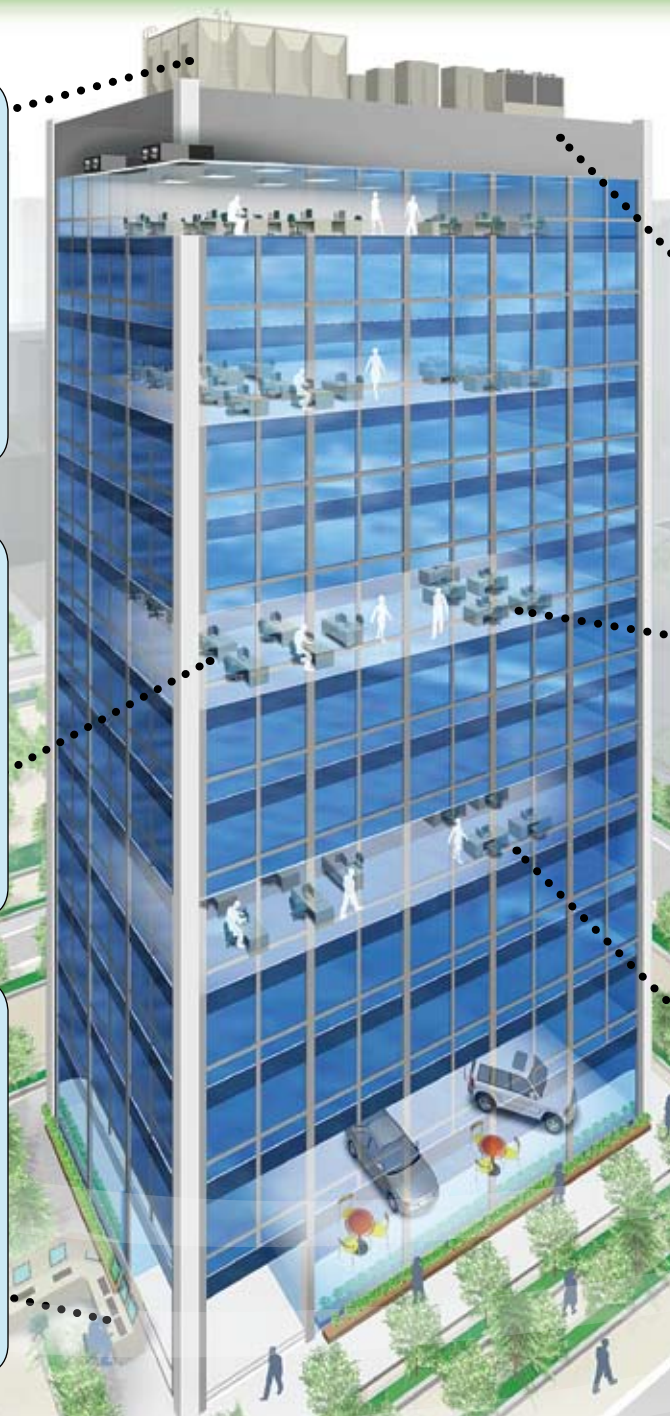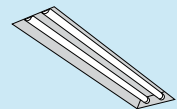
Air supply and exhaust fans

The system can turn fans on and off as well as monitor their operation status.

Lighting

The system can turn lighting on and off as well as monitor its operation status.
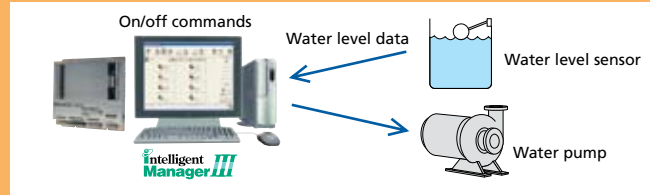
Examples of interlock control

Automated control

Interlock control of tanks and pumps

The system can turn pumps on and off based on the water storage volume, and thereby maintain a constant water level.

On/off commands | Water level data | Water level sensor

Water pump

Turning off power when people forget

Interlock control of lighting or key management systems and air conditioning equipment

The system can monitor signals that turn off the lights or lock the key management system and shut down the air conditioning equipment in the corresponding area. This prevents wasted electricity if tenants accidentally leave the air conditioning on when they leave.
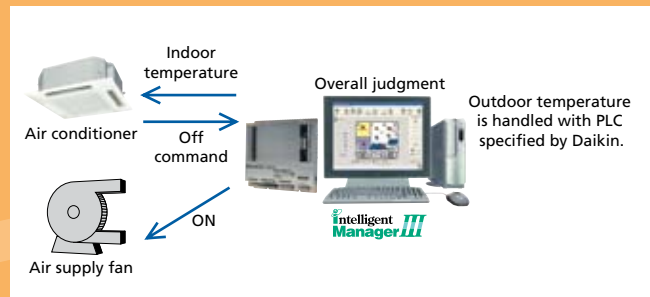
Off in corresponding area | Turning off the A/C and lighting

Locking signal

Light switch | Key management device
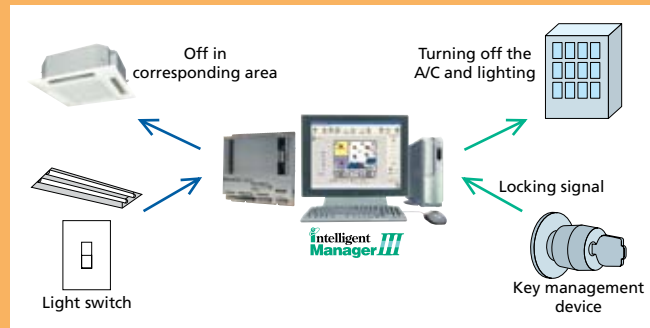
Processing of analog data

Interlock control of outdoor temperature sensors and air conditioning and ventilation equipment
***Requires optional PLC**

If the data from the sensors indicate the temperature is lower outside than inside, the system can automatically shut down the air conditioner and switch on the air intake fans to save electricity.

Indoor temperature | Overall judgment | Outdoor temperature is handled with PLC specified by Daikin.

Air conditioner | Off command

Air supply fan | ON

Processing of alarm signals

Interlock control of alarms and air conditioning or ventilation equipment

If an alarm signal is received, the system can automatically shut down the air conditioning or ventilation equipment in the affected area.

Off command to affected area

Ventilation fan | Blower

Air conditioner | Alarm signal
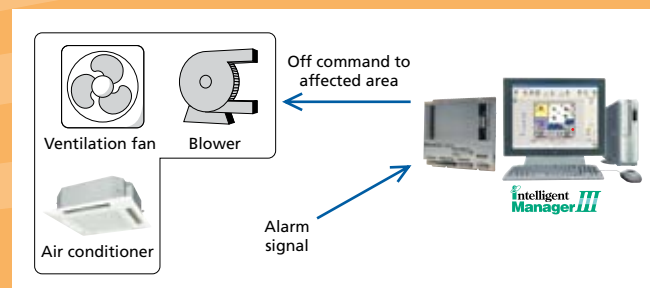
Adapters to extend the equipment management capabilities of Intelligent Manager III.

Di unit (DEC101A51-US)

This dedicated monitoring adapter keeps track of the operation status and malfunctions of connected equipment.

Dio unit (DEC102A51-US)

In addition to the monitoring functions of the Di unit, this adapter adds on/off and other operation capabilities.

Automated Operation Management

Automated control functions free the operator from the details of daily operation management.

Schedule

• Daily operation start/stop time settings
• Holiday settings
• Automatic switching to heating (fan) mode
• Automatic switching of temperature settings

(e.g.)Pre-cooling and pre-heating control enables comfortable temperature at the start of the day.
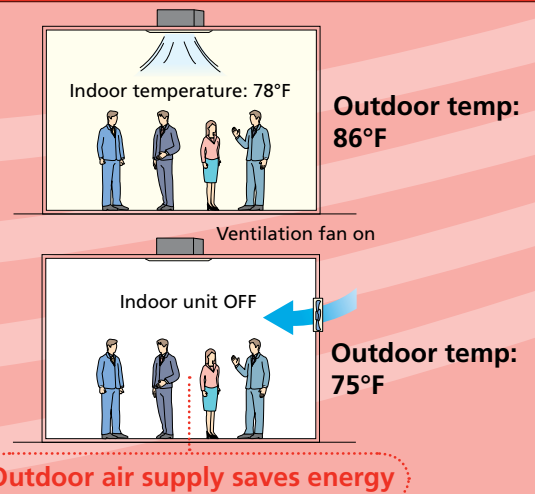
This function switches the air conditioning system on beforehand so that the temperature is just right when users arrive.

Air conditioning ON — **Before start**

Comfortable indoor temperature — **Start of the day**
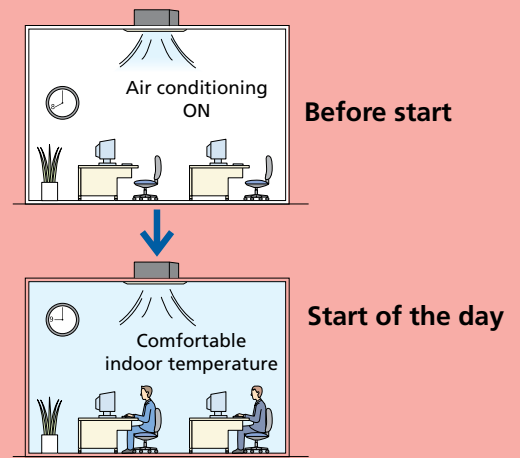
Analog interlock

During cooling operation, this function shuts down the air conditioning equipment and brings in cool air from outside when the system determines that the outdoor temperature is lower than the temperature setting. Using outside air for cooling reduces energy consumption.
*Requires optional PLC

Indoor temperature: 78°F — **Outdoor temp: 86°F**

Ventilation fan on

Indoor unit OFF — **Outdoor temp: 75°F**

Outdoor air supply saves energy

Automatic change over

The Intelligent Manager III measures room temperature and can automatically change over between cooling and heating modes. This provides comfort by enabling selection of the appropriate mode and takes the human factor out of changeovers.

• Flexible group configuration
• 3 selection methods

°F
Heating ➡ Cooling
Cooling Set Point
Temp Difference
Change Set Point
Change Set Point
Heating Set Point
Cooling ➡ Heating
◄— Heating —► ◄— Cooling —► ◄Heating►
Time
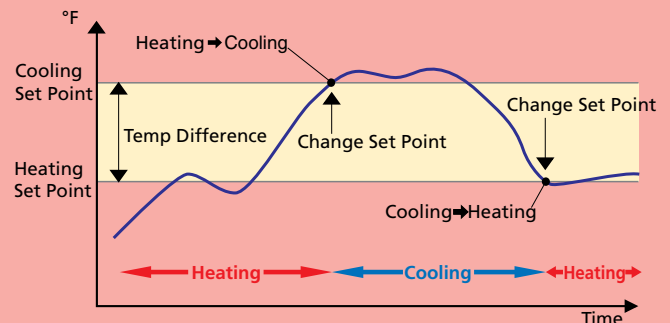
Temperature limit

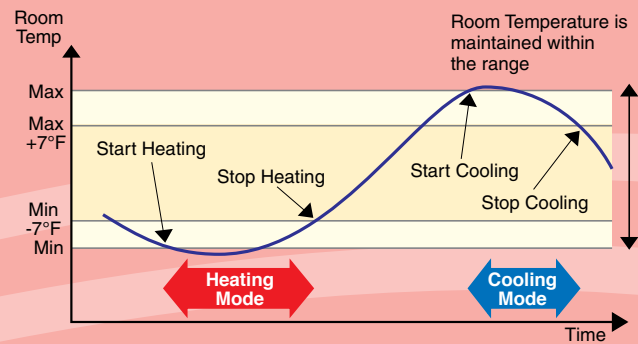Intelligent Manager III allows users to put limitations on the maximum and minimum temperatures and realize an appropriate room temperature via automatic control. Furthermore it eliminates any unnecessary and excessive operation that may result in over cooling or overheating.

• **Flexible group configuration**

Remote controller restriction

Remote control operation can be disabled for specific air conditioner units. This can prevent trouble arising from pranks or setting errors in locations such as school classrooms or entrance lobbies and other public areas.


Sliding temperature

Intelligent Manager III can monitor the outdoor temperature and automatically adjust room temperature to minimize drastic temperature differences with the outdoors. Along with energy efficiency, Intelligent Manager also can eliminate any uncomfortable cold shock around building entrances.
*Requires optional PLC

• **Flexible group configuration**
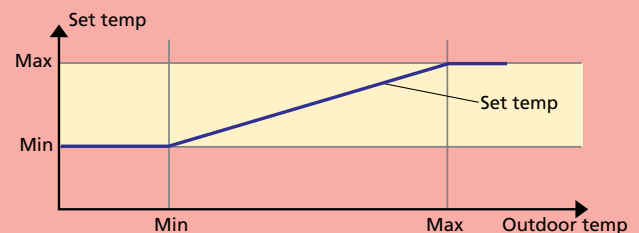
Web Access Function (Option)

Allows easy management of systems in remote facilities via LAN using a Web browser.

1 Operate the system from a personal computer just as you would with a remote control

The units connected to each Intelligent Manager III system can be operated from a personal computer with a Web browser installed. This eliminates the need to install additional remote control devices, which take up space and can be troublesome when moving to a new location.
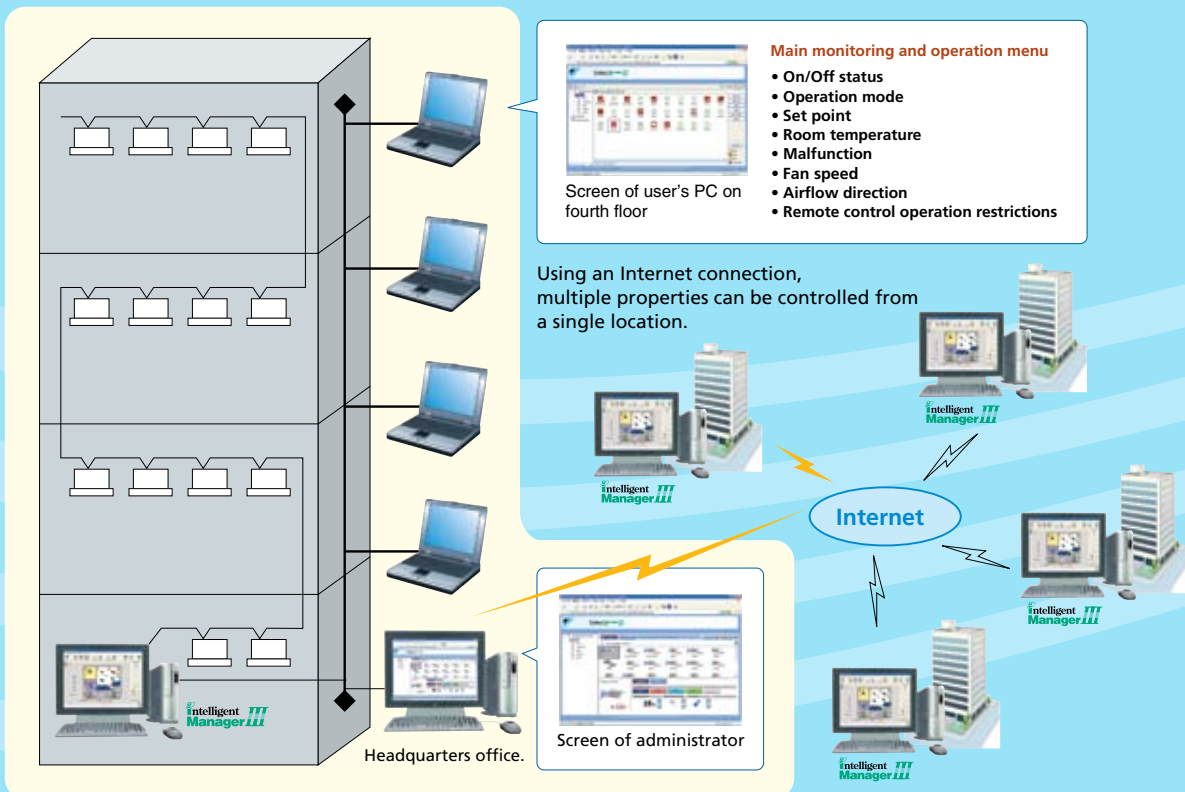
3 E-mail alert of malfunctions

Alert and details of malfunctions are sent to a specified e-mail address. This allows for a quick response when a problem occurs without the need for technical staff to be in front of the computer at all times.

2 Centralized management of multiple buildings in remote locations

Intelligent Manager III systems installed at multiple locations can be accessed using a personal computer. This makes it easy to manage multiple facilities from a remote location.

4 Centralized power management for multiple facilities

Intelligent Manager III systems installed at multiple locations can be accessed using a personal computer. This makes it easy to manage multiple facilities from a remote location.

Ability to Control Systems in Multiple Buildings from a Central Headquarters

Remote Monitoring of Multiple Properties

Main monitoring and operation menu
- On/Off status
- Operation mode
- Set point
- Room temperature
- Malfunction
- Fan speed
- Airflow direction
- Remote control operation restrictions

Screen of user's PC on fourth floor

Using an Internet connection, multiple properties can be controlled from a single location.

Internet

Headquarters office.

Screen of administrator

Note:
The following items need to be set up, managed, and operated by yourself.
1. Security - An environment that satisfies your security policy.
2. Network - Equipment and settings that suit your network environment. A network security device such as a firewall which is necessary when connecting via the Internet.
3. The Internet connection is shown for illustration purposes only. Network equipment, and an Internet service provider contract, etc., will be necessary to connect to the Internet.

Intelligent Manager III List of Monitoring and Operation Functions

Main monitoring and operation menu			• On/Off status • Operation mode • Set point • Room temperature • Malfunction • Fan speed • Airflow direction • Remote control operation restrictions
Screen indications			Icon display, icon customization, icon color switching, layout diagram display, screen reservation
Operation functions	Individual operation		Control of max. 1,024 indoor units
			Enable/disable lower-rank control units
	Control group (zone)		Control of max. 1,024 indoor units divided into max. 200 groups
		Action	Simultaneous start/stop, sequential start/stop
	Management group		Guarentee of max. 10 hierarchies (guarentee of max. 1,024 indoor units per group-internal management point), guarentee of max. 10,000 points that are the total management groups and management points
Control	Schedule	Number of schedules	200
		Weekly schedule	Monday to Sunday, cyclic
		Execution schedule	7 days, beginning with current day
		Yearly calendar	13 months
		Base calendar	Yes
		Setting pattern	Weekly: 7, special days: 2
		Actions per day	20
		Actions	Start/stop, operation mode, set point, timer extension, remote controller restriction
	Interlock	Number of Interlocks	200, inputs max 128 program
		Input targets	Start/stop, malfunction, analog comparison
		Output actions	Start/stop, operation mode, set point, timer extension, remote controller restriction
	Emergencies		Emergency stop control, shutdown backup power control
	Change Over	Number of group	512 (groups per control unit), max. 128 units per group
		Temperature setting differential	2 to 13°F
	Temp. Limit	Setting values	Upper limit: 90 to 122°F, lower limit: 36 to 60°F
	Energy saving		Set Point Range Limitation
	Other control functions		Heating Mode Optimization
Measurement	Measurement		Operation duration, operation start/stop count
	Power Proportional Distribution (PPD)		Available as an option
	Data management		Simple tenant management, graphical display
System	User management	Number of User	255
		Access	Password (15 characters) management, capability of editing authorisations, license management
	Network		IP address setting
	History		500,000 items of saved data
	PC		Max. 1 master PC and 1 sub PC
	User-defined applications		Applications specified by the user can be started from the monitoring panel.
Web support (option)			Remote monitoring via the Web, individual air conditioning unit operation via the Web, e-mail alert or notification

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Intelligent Manager III Series and its Components

Package name	DACA-IMP-128	DACA-IMP-256	DACA-IMP-512	DACA-IMP-768	DACA-IMP-1024
Max number indoor units	128	256	512	768	1024
Max number outdoor units	20	40	80	120	160
PC, UPS, etc.	Included in the package				
Hardware model name	DAM602A72	DAM602A71	DAM602A71x2	DAM602A71x3	DAM602A71x4

Intelligent Manager III Optional functions

Power Proportional Distribution	DAM002A71
Web access	DAM004A71

*To use optional functions with intelligent Manager, one option license must be purchased for each intelligent Manager system.

The Power Proportional Distribution (PPD) feature supplies the user with a reasonably calculated apportionment of the total power consumption by the Daikin air-conditioning system to individual units on the system. Because input to the PPD includes measured pulses in the refrigerant system and because the air-conditioning system includes a number of variables, including operating temperatures and pressures, piping length, heat exchange rates and others, no meter-type apportionment of individual users' consumption can be made. However, the PPD feature provides an apportionment methodology that uses highly advanced technology as applied to the many variables in an air-conditioning system.

Specification

Item		Requirement Specification
iPU Intelligent Processing Unit DAM602A71 DAM602A72	Backup for power failure	Data is filed into nonvolatile memory
	DⅢ Port	2(DAM602A72) / 4(DAM602A71)
	Di/Pi Port	20
	Do Port	2
	RS232C Port	2 (PC, modem)
	PCMCIA slot	1 (Memory card)
	Power supply	AC24V±10%,60Hz,Max 20W
	Ambient temperature	14 -122°F
	Ambient humidity	0~98%(condensation is not acceptable)
	Dimension, mass	10.2"(W) x 11.1"(H) x 2.3"(D), 8.8lbs

Item		Requirement Specification
PC	CPU	XP: Pentium III 800MHz Vista: Intel®Core™ 2CPU 1.86GHz
	OS	Windows XP Professional SP2 or later Windows Vista Business SP1 or later
	Memory	XP: 256MB or more VISTA: 1GB or more
	HDD	4GB or more
	Network	100Base/T Ethernet
	Operation	Keyboard/Mouse, Sound and Speaker
CRT	SVGA	800x600, 1024x768, 1280x1024
Printer		Page Printer
Network Equipment		Multi Port HUB (5 or more ports)
UPS e.g. APC SU700, 1000 series	Capacity	200-250 W/20 min
	Voltage	As required
	Control signals	Power failure signal (from UPS) UPS shut down signal (to UPS)
	Relay I/0 module	AP9610
WHM (kWh meter) for PPD	Pulse Transmitter	• 1 pulse to 1kW or 10kW, width must be between 40-400msec. • Output relay must be electronic type • No voltage output

Intelligent Manager III Optional adapters

Item		Di unit DEC101A51-US	Dio unit DEC102A51-US
Input		8pairs based on a pair of On/Off input and abnormality input	4 pairs based on a pair of On/Off input and abnormality input
Output		——	In case of normally output, 4 units are controllable. In case of instantaneous output, 2 units are controllable.
Installation method		indoor installation	
Operating Condition	surrounding temperature	14°F - 104°F	
	humidity	10 to 85%	
Power supply		115 or 208/230VAC for Power supply box	
Rated power consumption		15W	
Applied standard		Safety standard : IEC730,EMC standard : CISPR22-A(EMI), CISPR(EMS)	
Mass (Weight)		5.5 lbs	
Dimension		7.8"(H) x 13.2"(W) x 2.8"(D)	

⚠️ **WARNING**

Using Intelligent Manager III

1. To use Intelligent Manager, it is necessary to have additional equipment, such as a personal computer and a UPS. Contact your representative or the manufacturer for details.

2. Installation of Intelligent Manager must be performed by a Daikin-trained engineer.

3. Do not install additional software, such as games, on the personal computer used to run Intelligent Manager.

4. Changing the system settings of the personal computer used to run Intelligent Manager could cause Intelligent Manager to malfunction. Do not change the personal computer's system settings under any circumstances.

5. Once a month, adjust the clock of the personal computer and iPU used to run Intelligent Manager.

• The contents within this catalogue are effective as of September 2008. Note that changes to the content due to product improvements and the like may be conducted without prior notice.

• Please contact a Daikin representative before using an Intelligent Manager III.

• Besides Intelligent Manager III, Daikin also markets various other A/C management devices. Feel free to contact Daikin for catalogues or any necessary information.

• Ethernet is a registered trademark of Xerox corporation.

ISO 9001

The air conditioners manufactured by Daikin Industries have received **ISO 9000** series certification for quality assurance.

Certificate Numbers:
(ISO9001) JMI-0107   (ISO9002) **JQA-1452**
                JQA-1452

ISO 14001

All Daikin Industries locations and subsidiaries in Japan have received environmental management system standard **ISO 14001** certification.

**Daikin Industries, Ltd.
Domestic Group**
Certificate Number: EC99J2044

About ISO 14001

ISO 14001 is the standard defined by the International Organization for Standardization (ISO) relating to environmental management systems. Our group has been acknowledged by an internationally accredited compliance organization as having an appropriate program of environmental protection procedures and activities to meet the requirements of ISO 14001.

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Dealer Information