The A/C management system that offers powerful functions, yet still gives simple navigation for any user.

Daikin also has various other control devices to suit the specific sizes and conditions of A/C systems.

Using interface

1. Once a month, adjust the clock of the interface.
2. Daikin’s unique P.P.D. system estimates the power consumption of each individual indoor unit based on data communicated from indoor units and compared to the power consumption of an air conditioning installation with a standard setup. Note that P.P.D. is not a “gauge” adapted to the methods of measuring power consumption in each country. All countries differ in the ways tenant billing systems are implemented depending on their respective legal systems. Data obtained by P.P.D. is for reference only and should not be used for official financial transactions.
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● LonWorks®, LON® and LonTalk® are registered trademarks of Echelon Corporation.
● Ethernet is a registered trademark of Xerox Corporation.

Evolution

* RoHS Directive
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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 programme of environmental protection procedures and activities to meet the requirements of ISO 14001.

About ISO 9001
ISO 9001 is a plant certification system defined by the International Organization for Standardization (ISO) relating to quality assurance. ISO 9001 certification covers quality assurance aspects related to the “design, development, manufacture, installation, and supplementary service” of products manufactured at the plant.
Connect VRV to your BMS via BACnet® or LonWORKS® — using Daikin's integrated control system solutions.

Dedicated interfaces make Daikin air conditioners freely compatible with open networks.

Air conditioning control systems can be realised with little equipment and lower costs.

Simple, direct connections make setup quick and easy.

Dedicated interfaces enhance VRV control.

Providing flexible control and monitoring capability that features linked operation with other systems.

Units can be added freely and easily to expand the number of control points.

Other systems such as those for fire and crime prevention can be easily interlocked with Daikin's unit.
**Connect VRV to your BMS via BACnet® or LonWORKS® — using Daikin’s integrated control system solutions.**

Compatible with BACnet® and LonWorks®, the two leading open network communication protocols, the interfaces offered by Daikin provide a seamless connection between VRV and your BMS.

**Dedicated interfaces make Daikin air conditioners freely compatible with open networks**

- **Air conditioning control systems can be realised with little equipment and lower costs.**
- **Simple, direct connections make setup quick and easy.**
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**Typical BACnet® application**

**Typical LonWorks® application**

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**Daikin air conditioning and control systems help you set up an open network.**
Seamless connection between VRV and BACnet® open network protocol.

Functions of operating system version 3.0
(Providing interface from BACnet® to VRV)

- **BTL Certification**
  - High reliability product with BTL certification, the symbol of high quality.
  - Developed to support interoperability testing.

- **PPD data**
  - VRV PPD (power proportional distribution) data can be transmitted by BACnet communication for the BMS system.

- **ISO 16484-5**
  - Supports BACnet/IP in accordance with ISO 16484-5 (Building automation and control systems: Data communication protocol) for BACnet.

- **RoHS compliant**
  - Have been making efforts to facilitate the transition to RoHS.

**Change of value (COV)**

- With the new O.S., a change of object can be automatically read by the BMS without having to constantly scan regularly for any change.

**Property array index**

- This is used for objects such as the Schedule Object that use the Property array index.

- This function transmits two or more packets separately, where the amount of data exceeds one packet size.

- If there is a large number of indoor units, the response is in the "need property request" and the return data are segmented.

- This transaction item can be used automatically with this index, reducing processing time of programming the indoor units into the BMS without having to constantly scan regularly for any change.

**Segments Requests**

- This function transmits two or more packets separately, when the amount of data exceeds one packet size.

- If there is a large number of indoor units, the response is in the "need property request" and the return data are segmented.

- Property array index (Reading of objects)

- This is used for objects such as the Schedule Object that use the Property array index.

- This function transmits two or more packets separately, where the amount of data exceeds one packet size.

- If there is a large number of indoor units, the response is in the "need property request" and the return data are segmented.

**Typical BACnet® application**

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Seamless connection between VRV and BACnet® open network protocol.

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**BTL Certification**
- RoHS compliant
- ISO 16484-5

**PPD data**
- VRV PPD (power proportional distribution) data can be transmitted by BACnet communication for the BMS system.

**Property array index**
- The "Object_List" of the device can be read automatically with this index, so that registration of objects can be done automatically and manually is not necessary.

**RoHS compliant**
- We have been making efforts to facilitate the transition to RoHS and control systems. Data communication protocol for BACnet.

**COV(Change of value)**
- With the new O.L. a change of object can be automatically read by the BMS without having to constantly scan regularly for any change.

**Property array index (Reading of objects)**
- This is used for objects such as the Schedule Object that use the Property Array included in the device object. The reason why this is convenient is that registration of objects can be done automatically and manual input is not necessary.

**Functionality**
- The "Object_List" of the device can be read automatically with this index, so that registration of objects can be done automatically and manually is not necessary.

**Segmented requests**
- The function transmits two or more packets separately, when the amount of data exceeds one packet size.
- If there is a large number of network units the response is in the "read property request" and the return data are separated.

**Typical BACnet® application**
- BACnet is a registered trademark of the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE).

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**DM5602BS1 Specification**
- Daikin’s interface unit for BACnet communicates with BACnet clients via a BACnet over an internet.

**Specifications of Communication**
- Interfaces supported: 1 Data Link Layer Option - BACnet/IP
- PPD data
- ISO 16484-5

**Objects**
- Analog Input
- Analog Value
- Binary Input
- Binary Value
- Multistate Input
- Multistate Output

**Monitoring and control of A/C**
- The items to monitor and control air conditioners from BACnet communication and descriptions of each item are listed below.

**Series and components**
- Numbers of indoor units
- DM5602BS1
- DM5602BS1+DAM412B51 (Optional DI expansion kit)

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**Specifications**
- Model name: DM5602BS1
- BACnet/IP
- Conformance Class 3 (ASWHAS15-1996)
- B-4C (ASWHAS15-1995)
- Single phase AC 100 to 240 200% at 50/60 Hz
- Maximum 20 W
- Openable ambient humidity: 0 to 90% (non-condensation)
- Enclosure: ENCLOSED in METAL Panel

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**Optional DI expansion kit**
- Model name: DAM412B51
- DI board
- 8 signals
- IP20 protection

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Facilitating the network integration of DAIKIN
and LONWORKS®

Open network integration

A gateway for connection to LonWorks® network equipment and building control systems, LonWorks® networks are recognized worldwide as the de facto standard in the building control industry. Systems are available for access control, energy management, fire/life, HVAC, lighting, and more.

Reduction in engineering and cost of wiring

The open protocol specification gives local system integrators complete design freedom. Plus, the ability to combine individual items of equipment into a LonWorks® network reduces the engineering time and costs required for wiring.

Connectable to up to 64 groups

This unit can be connected to up to 64 groups. (This figure depends on the number of control and monitoring functions used.) Please consult your Daikin representative for details.

RoHS-compliant hardware

We have been making efforts to facilitate the transition to RoHS Directive compliance.

*DMS504B51 Specification*
Protocol: LonTalk®
Transmission speed: 76 kbps
Topology: Free topology
Transmission medium: Twisted pair

**Network parameters**
In parameter names, 'nn' refers to air-conditioning unit numbers 01 to 64. For 'NV' with 'nn' attached, a total of 64 NV has been pre-prepared (one for each object).

**Network parameter chart**

**DB-NET Common Objects**

**Air Conditioner Objects**

The product features objects for a group of 64 indoor units. As shown below, the object name and the last 'nn' in the 'nviOnOff' correspond with the DB-NET location.

**Product description**

**Typical LonWorks® application**

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Facilitating the network integration of

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DMS504B51 Specification

- Network parameters

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Network parameter chart

- DAIKIN Central Object

This product features objects for a group of 64 indoor units. As shown below, the object name and the last “nn” in the “nv Name” correspond with the DIII-NET location (W). For ‘NV’ with ‘nn’ attached, a total of 64 NV has been prepared (one for each object).

Air conditioner objects

This product features objects for a group of 64 indoor units. As shown below, the object name and the last “nn” in the “nv Name” correspond with the DIII-NET location (W). For ‘NV’ with ‘nn’ attached, a total of 64 NV has been prepared (one for each object).

Control and monitor function

- Control items

- Monitor items

Specifications

- Item

Model name: DMS504B51 (interface for use in LonWorks®)
Transmission: LonWorks® FT-41 (free topology: 76 kbps)
Rated power supply: Single phase AC 100 V, 200 V, 50/60 Hz
Rated power consumption: Maximum 5 W
Contact input: Use no-voltage contact (forced off) minimum application load DC 16 V and 10 mA
Operable temperature range: -10 to +40°C
Storage temperature range: -20 to +60°C
Operable ambient humidity: 0 to 95% (no condensation)
Insulation resistance: 50 MΩ or more by DC 500 megohmmeter
Installation: Enclosed in electrical panel
Dimensions (W x H x D): 168 x 250 x 30 (mm)
Weight: 1.5 kg

Network protocol chart

- DB-NET Central Object

- DMS504B51 Specification

- Network parameter chart

- Air conditioner objects

- Control and monitor function

- Specifications
Daikin also has various other control devices to suit the specific sizes and conditions of A/C systems.

**Intelligent Manager**
The A/C management system that offers powerful functions, yet still gives simple navigation for any user.

**Intelligent Controller**
Communication capabilities via a Web browser further expand air conditioning control possibilities.

**Using interface**
1. Once a month, adjust the clock of the interface.
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Kita-ku, Osaka, 530-8323 Japan

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