



APPLIED SOLUTIONS BUSINESS

AIR HANDLING UNIT WITH INTEGRATED CONTROLS



SMART BUILDING FRIENDLY



PLUG AND PLAY



REDUCE CARBON FOOTPRINT



DAIKIN FACTORY QUALITY ASSURED

INTEGRATED CONTROLS FOR SMARTER BUILDINGS



SMART BUILDING FRIENDLY

Daikin Air Handling Units (AHU) combine innovative technology with high quality components to maximise energy efficiency and indoor air quality in medium to large scale commercial buildings.

Now, to assist in the creation of performance-optimised smart buildings, Daikin has introduced Air Handling Units with Product Integrated Controls (AHU-PIC) – an IoT-ready air handling unit offering ultimate control straight out of the box.

SIMPLE, EFFECTIVE CONNECTION

Factory-fitted controls are pre-programmed and tested prior to delivery, minimising connection costs and effort.

ENHANCED CONTROL AND RELIABILITY

Easily configurable for internet connectivity or existing BMS integration, the unit enables deeper insight and monitoring of building performance and meets key government objectives such as Building 4.0 CRC.

When commissioned in conjunction with other Daikin Applied Solutions such as chillers, building owners can benefit from a whole-of-system approach to data-driven insights that allows them to monitor and optimise the performance and maintenance needs of a number of solutions present within the building.

BENEFITS FOR THE BUILDING OWNER

- Integrates with existing BMS systems and IoT platforms
- Delivers data-driven insights for monitoring of building performance and maintenance needs
- Contributes to smart building credentials
- Meets key Green Building objectives

BENEFITS FOR THE BUILDER

- No requirement for field-fitting of controls to the AHU reducing onsite labour and work related health & safety.
- Significantly reduces time and trades on site for faster project timelines

BENEFITS FOR THE CONSULTANT

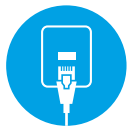
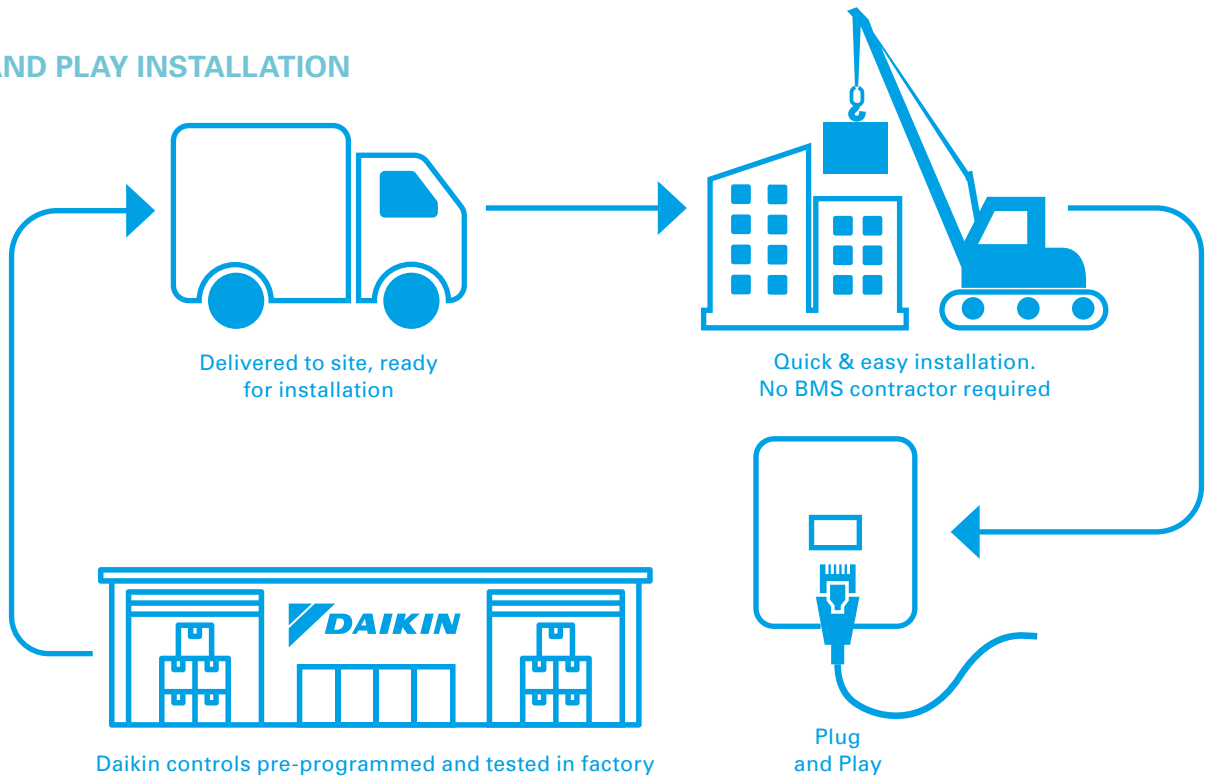
- Simplifies specification and minimises risk over control integration
- Arrives on site with Daikin pre-programmed integrated controls factory-fitted and tested
- Easily configurable for internet connectivity or conventional BMS or BACnet integration

BENEFITS FOR THE INSTALLER

- Quality control and testing performed in factory to reduce risk of issues during installation
- Plug and play – BMS contractor can communicate with AHU-PIC via High Level Interference (HLI) removing the need for field-fitting of controls
- Easy access to all components for service and maintenance
- Fast and easy installation



PLUG AND PLAY INSTALLATION



PLUG AND PLAY

Timely, efficient and safe completion of projects is becoming increasingly important in the construction industry. AHU-PIC is pre-programmed and pre-commissioned with controls factory-fitted and tested prior to arriving on site meaning once it is delivered it is ready

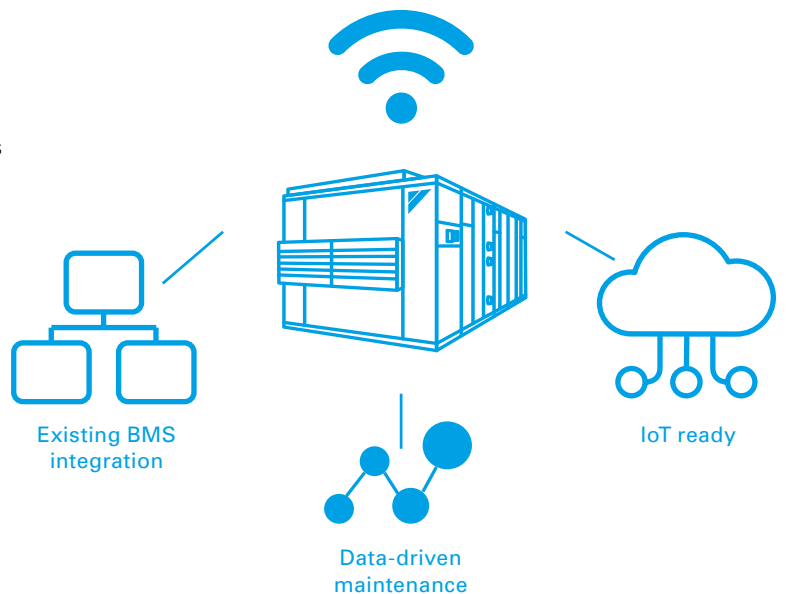
for immediate installation. The built-in controls are easily connected to existing BMS or ICN platforms without the need for a BMS contractor ensuring the system is online quickly. With less trades and installation processes on site, work related health & safety risk is minimized and construction timelines are accelerated.

SMARTER CONNECTIVITY

AHU-PIC provides a versatile range of connectivity options through its support for open standards with text and graphics based programming tools. It can natively communicate with BACnet and Modbus standards for easy BMS integration. Optionally it can connect to a wired or broadband/wifi network and it can also be used as a stand alone server for smaller installations.

Supported protocols include:

- IP addressing
- TCP communications
- DHCP for easy network configuration
- DNS for simple lookup of addresses
- HTTP/HTTPS for Internet access through firewalls, which enables remote monitoring and control
- NTP (Network Time Protocol) for time synchronization throughout the system
- SMTP or SMTPS with support for SSL/TLS based authentication, enables sending email messages triggered by schedule or alarm
- SNMP enables network supervision and reception of application alarms in designated network management tools



The variety of onboard ports include an RS-485 port and two USB ports for host and device connection. Two LAN ports allow for easy connection.

For retrofit installations, MSTP is used for retrofit applications where there is no IP network in the building and it is deemed cost prohibitive.



CONFIGURABLE INTEGRATED CONTROL SYSTEM



Data-driven insights can be used successfully to optimise a building's performance and to predict potential failures and maintenance needs before they become costly. AHU-PIC integrated control system offers extremely precise control using a wide range of settings for excellent operational efficiency.

INTEGRATED CONTROL

The control offers a flexible solution for building management and monitoring using a local control or remotely via a secure browser driven interface or a combination of both. The wizard based setup allows AHU components and control strategies to be configured with the click of a button via the web browser interface.

CONTROL PANEL

The electrical control panel comes complete with Direct Digital Control (DDC) and is combined with in-built temperature, humidity and CO₂ sensors to control mixing dampers, heat recovery wheels, water valves, pressure switches for filter fans, fan motors and inverters. The control system can manage the chilled water coil, hot water coil, DX cooling and/or heating coil(s) of single or multiple refrigerant circuits.

SERVER CAPABILITY

The server includes a powerful permission system that provides a high standard of authentication. It can run multiple control programs, manage built-in I/O alarms and users, handle scheduling and logging, and communicate using a variety of protocols. Because of this, most parts of the system function autonomously and continue to run as a whole even if communication is interrupted or individual servers or devices go offline. Universal I/Os and the built-in programmable server allow for an easy upgrade that the building might need in future such as VOC or other sensors.

ASSURED QUALITY

AHU-PIC can be installed with the ultimate peace of mind that the whole system is warranted by Daikin.



**DAIKIN
FACTORY
QUALITY
ASSURED**

DESIGNED FOR THE FUTURE

The building and construction industry is constantly evolving. Developers and manufacturers are facing increasing challenges to deliver more efficient, technologically-advanced and high-performing buildings with reduced waste, lower costs and valuable sustainability benefits.

Innovation in products and processes that meet these challenges will ensure the building industry contributes to a stronger economy and makes a positive social and environmental impact.

Green Building

Generally, a green building is a building where its design & construction has positive impact to the environment. Besides, the operation of the building is resource-efficient and environmentally responsible throughout its life-cycle. At the same time, provide good indoor air quality to the occupants in the building.

Industry partners, research partners and the government have collaborated to identify specific targets to guide the transformation of the building industry and provide a framework around which developers, builders, consultants and installers can design and construct smarter, more sustainable buildings.

These targets include:

Energy: life-cycle cost reduction through higher performing, efficient buildings

Sustainability: reduction in CO₂ emissions for more sustainable buildings

Air Quality : Good indoor air quality, with embedded technology to adapt environment change

Daikin AHU-PIC delivers technological control into the hands of building owners, consultants and installers offering them deeper insight into building performance with advanced systems integration and connectivity requiring fewer people and processes.

DATA THAT DELIVERS



REDUCE
CARBON
FOOTPRINT

Daikin is dedicated to assisting the building industry in meeting key green building targets. An integral part of this mission is through the provision of intelligent data directly from the control units that identifies systems and equipment that aren't performing at their optimal level from both a technological and environmental perspective.

When AHU-PIC is integrated with existing BMS or ICN systems, users can remotely access key data and make adjustments so that both preventative and optimization measures can be quickly implemented. In particular, detailed readings on energy consumption, CO₂ emission levels, building temperature and air quality levels give building managers the power to impact the building's overall energy usage and reduce its carbon footprint.



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ASSUMPTIONS

All representations made in Daikin marketing and promotional material are based on the assumptions that the correct equipment has been selected, appropriately sized and installed in accordance with Daikin's installation instructions and standard industry practices.

QUALITY CERTIFICATIONS

Daikin Industries Limited was the first air conditioning equipment manufacturer in Japan to receive ISO 9001 certification. All Daikin manufacturing facilities have been certified to ISO 9001 Quality Management System requirements. ISO 9001 is a certificate for quality assurance concerning 'design, development, manufacturing, installation and related service' of products manufactured at that factory.

ENVIRONMENTAL CERTIFICATIONS

Daikin Industries Limited has received ISO 14001 Environmental Certification for the Daikin production facilities listed below. ISO 14001 is an international standard specifying requirement for an environmental management system, enabling an organisation to formulate policy and objectives, taking into account legislative requirements and information about significant environmental impacts. It applies to those environmental aspects within the organisation's control and over which it can be expected to have an influence.

The certification relates only to the environmental management system and does not constitute any endorsement of the products shipped from the facility by the International Organisation for Standardisation.

Head Office / Tokyo Office
Shiga Plant (Japan)
Sakai Plant (Japan)
Daikin Industries Ltd (Thailand)
Yodogawa Plant (Japan)
Daikin Australia Pty. Ltd.
Daikin Refrigeration Malaysia Sdn. Bhd

Certificate number: EC02J0355
Certificate number: EC99J2044
Certificate number: JOA-E-80009
Certificate number: JOA-E-90108
Certificate number: EC99J2057
Certificate number: CEM20437
Certificate number: EMS130287

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Residential Air Conditioning
Manufacturing Div (ISO 9001)
JOA-0486 May 2, 1994
(Shiga Plant)

**Commercial Air Conditioning
and Refrigeration**
Manufacturing Div (ISO 9001)
JMI10107 December 28, 1992
(Kanaoka Factory and Rinkai
Factory at Sakai Plant)

**Industrial System and Chiller
Products Manufacturing Div**
(ISO 9001)
JOA-0495 May 16, 1994
(Yodogawa Plant and Kanaoka
Factory and Kishiwada Factory)

Daikin Europe N.V (ISO 9001)
Lloyd 928589.1 June 2, 1993

Daikin Industries (Thailand) Ltd
JOA-1452 September 13, 2002
(ISO 9001)



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