Accessories

Control systems

Mini Building Management System

» Price competitive mini BMS

» Cross-pillar integration

» Intuitive user interface

» Smart energy management

» Flexible in size & integration

» Easy servicing and commissioning

DCM601A51
Mini BMS with cross-pillar integration

System overview

A maximum of 5 intelligent Touch Managers can be connected to a single ITM Integrator.

Integration of third party equipment

- Fire alarm
- kWh meter
- USB memory

Full control of Daikin HVAC-R portfolio

- Di/Pi line Max. 200m
- DCM601A51
- BACnet protocol
- WAGO interface
- NEW
- NEW
- NEW

Direct plug & play connection!

- Chiller
- AHU
- Split
- SkyAir indoor units, air curtain
- Vrv indoor units, air curtain, hydrobox
- Fan coil units
- Refrigeration

Web Access

- internet intranet LAN
- 3G

ITM Integrator (DCM601A53)

Up to 2,560 groups

Max. 7 adapters
Complete Daikin package for building climate control

p. 4 USER FRIENDLINESS
› Intuitive user interface
› Visual layout view and direct access to indoor unit main functions
› All functions directly accessible via both touch screen and web interface

p. 6 SMART ENERGY MANAGEMENT
› Smart energy management tools enable monitoring if energy use is according to plan and help detect origins of energy waste, thus maximizing efficiency
› Powerful schedules guarantee correct operation throughout the year
› Save energy by interlocking air conditioning operation with other equipment as heating, lights, …
› Setback function
› Sliding temperature

p. 11 FLEXIBLE IN SIZE & INTEGRATION
› Cross-pillar integration (Heating, Air conditioning, Applied System, Refrigeration)
› BACnet protocol for 3rd party products integration
› I/O for integration of equipment such as lights, pumps… on WAGO modules
› Modular concept for small to large applications
› Control up to 2,560 indoor unit groups

p. 12 EASY SERVICING AND COMMISSIONING
› Remote refrigerant containment check preventing on site visit
› Simplified troubleshooting
› Save time on commissioning thanks to the pre-commissioning tool
› Auto registration of indoor units
› Contact information of maintenance contractors can be registered and displayed
› E-mails are sent automatically to alert of malfunctions and potential trouble
User friendliness

INTUITIVE USER INTERFACE

Intuitive menu screens enable, even novice users to operate and monitor the system like an expert.

List view
Designed for simplicity, this menu provides a quick view of overall status and essential information in a list format. Using the sorting function, air conditioning units operating under the same conditions and status are identified for comparison and assessment.

Layout view
A special feature utilizes building floor plans to provide a visual representation of system equipment. Without having to memorise equipment names, users can visually locate any installed equipment by searching its position on the floor plan. By selecting the indoor unit, all main functions are directly accessible.

Available languages: English, French, German, Italian, Spanish, Dutch, Portuguese.
ALL FUNCTIONS DIRECTLY ACCESSIBLE VIA STANDARD WEB INTERFACE

Air conditioning control via PC
Manage your air conditioning system via your PC, using the same visual layout as on the intelligent Touch Manager itself.

Central control of multiple buildings

Comprehensive management history
Rather than simply recording malfunctions, the intelligent Touch Manager provides a comprehensive history for equipment events including operation, status change, automatic control, and settings. This assists in system optimisation for additional energy savings and comfort as well as for preventive maintenance.

Easy access to a wide range of menus
Users can easily access advanced menus, simply by touching the menu icon from the main screen.
Smart energy management

POWERFUL SCHEDULES GUARANTEE CORRECT OPERATION THROUGHOUT THE YEAR

Calendar settings can automate daily management of air conditioning equipment for the entire year to optimize energy savings and comfort.

A weekly schedule can be set for any air conditioning unit and its group.

Administrator can also set Start/Stop, Setpoint and below conditions:

- Pre-Cool/Heat • Setback High/Low
- Remote Controller restriction • Timer Extension
- Setpoint shift • fan Speed • Setpoint restriction

Holidays and special days can be set. Monthly schedules can be easily checked on the calendar.

An expiration date can be set for each schedule. This enables a schedule pattern to be automatically changed according to the season.

INTERLOCK WITH OTHER EQUIPMENT

The intelligent Touch Manager offers interlock possibilities that extend beyond simple starting and stopping interlock. This automatic interlock enables the system to maximise air conditioning equipment performance via free cooling or time-delayed ventilation.

Example 1 Free cooling

When the outdoor temperature is lower than the indoor setpoint, cooling operation stops and outdoor air is directly introduced through the ventilation unit to save energy.

Example 2 Ventilation control

Ventilation equipment is controlled depending on the indoor CO₂ levels. Energy losses by over ventilation are prevented while comfort is maintained.

Interlock insures all system components work together, saving energy and increasing comfort.
Example 3 Air conditioning interlock with underfloor heating

When the A/C system is switched to cooling, the underfloor heating is stopped.

Example 4 Air conditioning interlock according to room occupancy status

Keycard control systems and occupancy sensors detect the room occupancy status and automatically change the setpoint or stop the air conditioning operation in unoccupied rooms.

Example 5 Fire alarm

By interlocking fire alarms, the system can perform an emergency stop of air conditioning and ventilation units.

SMART ENERGY MANAGEMENT TOOLS

Energy navigator

Energy consumption of all the equipment (including air conditioning units) can be easily monitored by using the Energy Navigator. Users can indentify units that are an origin of energy waste (units that are overcooling or kept running in unoccupied rooms) and can follow up if energy use is according to plan. The Energy Navigator feature will also provide support in formulation and verification of energy-saving measures to help ensure advanced energy management.

Hourly energy consumption is measured and the intelligent Touch Manager records data sent from the energy meters.
Accumulated data appears in an easy-to-understand graph.

Energy consumption data is presented on a daily and monthly basis. Also, energy targets and projected energy consumption data as well as comparison data with the previous year's actual results are presented in a user-friendly format to help ensure energy-saving control.

Energy consumption is automatically evaluated for each room.

Based on the accumulated data, the intelligent Touch manager automatically identifies rooms and air conditioning units that substantially deviate from operation rules established by the user for operation time and predetermined temperature settings. The system points out in which rooms the biggest energy savings can be achieved.
PPD FUNCTION

The energy consumption is proportionally calculated for each indoor unit. The data can be used for energy management and calculation of air conditioning usage fees for respective tenants.

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

Daikin’s PPD\(^*\) keeps track of power distribution for each indoor unit. It performs air conditioning billing calculations quickly and automatically.

It is easy to output PPD data. PPD data is output in CSV format to a PC or USB memory device and can be freely processed and managed.

\(^*\)PPD (Power Proportional Distribution) is Daikin’s proprietary calculation method
OTHER ENERGY SAVING TOOLS

Automatic changeover

Cooling/heating operations of each room can be automatically changed based on setpoint and room temperature.

* In the case of heat pump type VRV, cooling/heating operations can be changed at the same time for the entire VRV system.

Remote control set point limitation

Specify the minimum and maximum set point, so the user cannot select a temperature outside the range, saving energy.

Setback

Unoccupied rooms such as offices at night have no need for maximum air conditioning operation to maintain a suitable room environment. The setback feature changes the air conditioning setpoints in unoccupied rooms to prevent unnecessary energy consumption and provide lower electricity costs.

Timer Extension

To conserve energy when rooms are left unoccupied, the system switches off the air conditioning after a predetermined time. This can be a true energy saver for a variety of building types including school classrooms, meeting rooms, …

Sliding Temperature

This function is designed to change setpoint to reduce differences between the outdoor and indoor temperatures. Particularly useful at building entrances and similar locations, this function effectively prevents a “heat shock” from exposure to a sudden drop in temperature and can also enhance energy savings.
Flexible in size & integration

IN SIZE

Modular design for use in small to large applications
A single intelligent touch controller can manage up to 512 groups of indoor units (in combination with up to 7 iTM plus adaptors).
Via the iTM integrator you can integrate up to 5 iTM’s and manage up to 2,560 groups of indoor units from one iTM.

IN INTEGRATION

Controlling the total solution
Intelligent Touch Manager mini BMS in combination with Daikin’s energy efficient product portfolio.

- Manage ALL HVAC-R equipment from one central location, plug & play
- Smart energy management
- Interlock with other third party equipment such as alarms, key card, ...

1. Entrance – Biddle air curtain
2. Rooms – VRV heat recovery for climate control & Daikin Altherma Flex Type for hot water
3. Banquet hall – VRV or Chiller with air handling unit for climate control and ventilation
4. Kitchen – Convenipack for refrigeration

From simple A/C control to small BMS integrating lighting, pumps, … via the modular WAGO I/O or BACnet

Via the modular approach of the Wago I/O and BACnet protocol you can add the exact number of I/Os to fit the size of the building. WAGO is connected to the iTM via a Modbus connection, for BACnet there is a direct connection on the iTM.
Easy servicing and commissioning

REMOTE REFRIGERANT CONTAINMENT CHECK

Easy, comfortable and cost efficient compliance to F-gas requirement for bi-yearly refrigerant containment check.

No need for the installer to go on site:
• Remotely set the time and date for refrigerant containment check.

No interruption of indoor comfort of the tenants
• Remote check can be done at night

How it works?

SIMPLIFIED TROUBLE SHOOTING

Display of maintenance contact information
Contact information of maintenance contractors can be registered and displayed.

E-mail alerts for reporting malfunctions
E-mail alerts are sent immediately to inform concerned parties of malfunctions involving equipment connected to the intelligent Touch Manager. Equipment models, error codes, etc. are sent enabling recipients to take immediate action.
Air Conditioning Network Service System (Optional Maintenance Service).

The intelligent Touch Manager can be connected to Daikin’s own Air Conditioning Network Service System for remote monitoring and verification of operation status of air conditioning units. By its ability to predict malfunctions, this service provides customers a peace of mind.

The intelligent Touch Manager connects seamlessly to Daikin’s 24-hour Air Conditioning Network Service System.*

SAVE TIME ON COMMISSING THANKS TO THE PRE COMMISSIONING TOOL

Commissioning of a VRV system was never easier and faster. 3 flexible ways enable you to commission the VRV system the way you want.

1. Commission the VRV directly from the ITM and save time by:
   • auto registration of connected indoor units
   • automatic allocation of the correct indoor unit type and icon

2. Export the settings of the commissioned system and easily customize them via your PC:
   • save time by working from your PC
   • make the customization from anywhere you want, no need to be on site

3. Prepare the project with the pre engineering tool before commissioning:
   • reduce time on site as you only need to upload the settings
   • make the customization from anywhere you want, no need to be on site

*Because of restrictions in applicable areas and release times, please consult a Daikin representative separately for details.
## Intelligent Touch Manager function

<table>
<thead>
<tr>
<th>Category</th>
<th>Function</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic functions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>iTM plus adaptor (DCM601AS2)</td>
<td>Maximum number of adaptors: 7</td>
<td></td>
</tr>
<tr>
<td>Management points</td>
<td>Maximum number of management points: 650 (Number of D III connection management points: 512)</td>
<td></td>
</tr>
<tr>
<td>Areas</td>
<td>Maximum number of areas: 650 Maximum area hierarchies: 10</td>
<td></td>
</tr>
<tr>
<td>Supported languages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English, French, German, Italian, Spanish, Portuguese, Dutch, Chinese and Japanese</td>
<td>English, French, German, Italian, Spanish, Portuguese, Dutch, Chinese and Japanese</td>
<td></td>
</tr>
<tr>
<td>Monitoring screens</td>
<td>Icon view: Icons show the operation status of equipment. List view: Detailed information of each management point is displayed. Layout view: Up to 60 screens can be created.</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Schedule</td>
<td>Number of programmes: 100 Up to 20 actions/day can be set.</td>
<td></td>
</tr>
<tr>
<td>Weekly schedule</td>
<td>7 days of the week + 5 special days can be set.</td>
<td></td>
</tr>
<tr>
<td>Yearly calendar</td>
<td>Special days can be specified by date or month/week/day of the week.</td>
<td>Special day settings can be reused every year.</td>
</tr>
<tr>
<td>Seasonal schedule</td>
<td>Programmes for respective seasons can be switched by date.</td>
<td></td>
</tr>
<tr>
<td>Interlock</td>
<td>Number of programmes: 500 Interlock is possible for on/off, malfunction, analogue value, and operation mode switching.</td>
<td></td>
</tr>
<tr>
<td>Emergency stop</td>
<td>Number of programmes: 31</td>
<td></td>
</tr>
<tr>
<td>Automatic changeover</td>
<td>Number of changeover groups: 512</td>
<td></td>
</tr>
<tr>
<td>Temperature limit</td>
<td>Number of temperature limit groups: 8 Upper limit range: 32-50°C Lower limit range: 2-16°C</td>
<td></td>
</tr>
<tr>
<td>Sliding temperature</td>
<td>Number of sliding temperature groups: 8 Outdoor temperature range: 18-34°C Setpoint range: 16-32°C</td>
<td></td>
</tr>
<tr>
<td>Heating Mode Optimisation (HMO)</td>
<td>Unneeded heating is prevented.</td>
<td></td>
</tr>
<tr>
<td>Timer extension</td>
<td>Operation stop is selectable from 30, 60, 90, 120, and 180 minutes.</td>
<td></td>
</tr>
<tr>
<td>Setback</td>
<td>Setback setpoint can be set for 2 patterns. Temperature range: 1-7°C, -1 -7°C (setpoint shift amount).</td>
<td></td>
</tr>
<tr>
<td>Data control</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power Proportional Distribution</td>
<td>Hourly Power Proportional Distribution results up to 13 months are recorded. The system supports data output in CSV format.</td>
<td></td>
</tr>
<tr>
<td>Energy Navigator</td>
<td>Actual results of daily/monthly energy consumption are shown in graphs. Comparisons can be made with predetermined values/actual results of the previous year. Inefficient operation of VRV indoor units is automatically identified, and energy waste is calculated.</td>
<td></td>
</tr>
<tr>
<td>Remote access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Web access</td>
<td>Web browsers can display the same type of screen as the intelligent Touch Manager. Up to 4 administrators and 60 general users can be registered. Screens and operation accessible to general users can be restricted.</td>
<td></td>
</tr>
<tr>
<td>E-mail alerts</td>
<td>Up to 10 e-mail addresses can be set. Addresses for sending malfunction alerts can be set by range of management points. The SMTP server authentication method is selectable from no authentication, POP before SMTP, and SMTP-AUTH.</td>
<td></td>
</tr>
<tr>
<td>System</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Automatic registration</td>
<td>Indoor units connected to D III-NET are automatically detected, and icons for respective models are automatically registered.</td>
<td></td>
</tr>
<tr>
<td>Security</td>
<td>Screen lock functions are available. Access restrictions can be set for each general user.</td>
<td></td>
</tr>
<tr>
<td>Screen savers</td>
<td>Screen savers are selectable from 3 patterns.</td>
<td></td>
</tr>
<tr>
<td>Setting of contact information</td>
<td>Contact information for servicing can be registered.</td>
<td></td>
</tr>
<tr>
<td>Air Conditioning Network Service</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air Conditioning Network Service System</td>
<td>A service agreement needs to be concluded.</td>
<td></td>
</tr>
<tr>
<td>Energy Saving Air Conditioning Network Service System</td>
<td>A service agreement needs to be concluded.</td>
<td></td>
</tr>
</tbody>
</table>
### iTM integrator function

<table>
<thead>
<tr>
<th>Category</th>
<th>Function</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic functions</td>
<td>intelligent Touch Manager (DCM601A51)</td>
<td>Maximum number of units: 5</td>
</tr>
<tr>
<td></td>
<td>Management points</td>
<td>Maximum number of management points: 3,250</td>
</tr>
<tr>
<td></td>
<td>Areas</td>
<td>Maximum number of areas: 3,250</td>
</tr>
<tr>
<td></td>
<td>Supported languages</td>
<td>English, French, German, Italian, Spanish, Portuguese, Dutch, Chinese, and Japanese</td>
</tr>
</tbody>
</table>

### Types of management points and target equipment/interface

<table>
<thead>
<tr>
<th>Management point</th>
<th>Supported equipment</th>
<th>Number of management points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indoor</td>
<td>DIII-compatible indoor units</td>
<td>Maximum: 80</td>
</tr>
<tr>
<td></td>
<td>Interface adaptor for SkyAir (DTA102A52)</td>
<td>Maximum: 512 *1</td>
</tr>
<tr>
<td></td>
<td>Interface adaptor for residential indoor unit (KRP928BB2S)</td>
<td>Maximum: 512 *1</td>
</tr>
<tr>
<td></td>
<td>AHU connection kit (EKENMCCL, EKENQDCB, EKENQFCB)</td>
<td>Maximum: 512 *2</td>
</tr>
<tr>
<td></td>
<td>FCU (FWC-BT/BF, FWF-BT/BF)</td>
<td>Maximum: 320 *2</td>
</tr>
<tr>
<td></td>
<td>Central control adaptor kit (DTA107A55)</td>
<td>Maximum: 60</td>
</tr>
<tr>
<td>Hydrobox</td>
<td>DIII-compatible units (HXY-A, HXHD-A, EKHBRL-ACV1, EKHBRL-ACY1, EKHMIRD-A, EKHMVYD-A)</td>
<td>Maximum: 512 *1</td>
</tr>
<tr>
<td>Outdoor</td>
<td>VRV outdoor units</td>
<td>Maximum: 80</td>
</tr>
<tr>
<td>Ventilator</td>
<td>Heat Reclaim Ventilator</td>
<td>Maximum: 512 *1</td>
</tr>
<tr>
<td>D3 Chiller</td>
<td>DIII-compatible air-cooled chillers (UWA/Y)/water-cooled chillers (ZUW)</td>
<td>Maximum: 512 *3</td>
</tr>
<tr>
<td></td>
<td>DIII-compatible inverter chillers (EWAQ-BAWN/BAWP, EWAQ-ADV/ADV/ACV3/ACW1, EWQ-BAWN/BAWP/EWQ-ADV/ADV/ACV3/ACW1)</td>
<td>Maximum: 512 *3</td>
</tr>
<tr>
<td></td>
<td>Di port of intelligent Touch Manager</td>
<td>Maximum: 32 *3</td>
</tr>
<tr>
<td></td>
<td>Di port of iTM plus adaptor</td>
<td>Maximum: 32 *3</td>
</tr>
<tr>
<td>External Di</td>
<td>Wago Di</td>
<td>Maximum: 512 *4</td>
</tr>
<tr>
<td>D3 Dio</td>
<td>General-purpose adaptor (DTA103A51)</td>
<td>Maximum: 80</td>
</tr>
<tr>
<td>External Dio</td>
<td>Wago Di, Do</td>
<td>Maximum: 512 *4</td>
</tr>
<tr>
<td>Pi</td>
<td>Pi port of intelligent Touch Manager</td>
<td>Maximum: 32 *3</td>
</tr>
<tr>
<td>Internal Pi</td>
<td>Internal Pi</td>
<td>Maximum: 80</td>
</tr>
<tr>
<td></td>
<td>Energy consumption of VRV outdoor units</td>
<td>Maximum: 512 *4</td>
</tr>
<tr>
<td>External Ai</td>
<td>Wago Ai</td>
<td>Maximum: 512 *4</td>
</tr>
<tr>
<td>Internal Ai</td>
<td>Room temperature, setpoint</td>
<td>Maximum: 80</td>
</tr>
<tr>
<td></td>
<td>D3 Chiller outlet/inlet water temperatures</td>
<td>Maximum: 512 *4</td>
</tr>
<tr>
<td>External Ao</td>
<td>Wago Ao</td>
<td>Maximum: 512 *4</td>
</tr>
<tr>
<td>McQuay AHU</td>
<td>POEL638.70 BACnet connection</td>
<td>Maximum: 20 *5</td>
</tr>
<tr>
<td>BACnet Di</td>
<td>BACnet connection</td>
<td>Maximum: 512 *6</td>
</tr>
<tr>
<td>BACnet Dio</td>
<td>BACnet connection</td>
<td>Maximum: 512 *6</td>
</tr>
<tr>
<td>BACnet Ai</td>
<td>BACnet connection</td>
<td>Maximum: 512 *6</td>
</tr>
<tr>
<td>BACnet Ao</td>
<td>BACnet connection</td>
<td>Maximum: 512 *6</td>
</tr>
<tr>
<td>BACnet MSi</td>
<td>BACnet connection</td>
<td>Maximum: 512 *6</td>
</tr>
<tr>
<td>BACnet MSiio</td>
<td>BACnet connection</td>
<td>Maximum: 512 *6</td>
</tr>
</tbody>
</table>

*1: Total of DIII connection equipment (Indoor, Ventilator, D3 Chiller, D3 Dio, D3 Dio)  
*2: Maximum number of management points for D3 Chiller only  
*3: Total of Di/Pi management points  
*4: Total of External Di, External Do, External Ai, and Internal Ai  
*5: Maximum number of McQuay AHU management points  
*6: Total of BACnet connection management points. McQuay AHU management point should count as 20 per management point.

### DAIKIN supplied equipment

<table>
<thead>
<tr>
<th>Model</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCM601A51</td>
<td>intelligent Touch Manager</td>
</tr>
<tr>
<td>DCM601A52</td>
<td>iTM plus adaptor (Option)</td>
</tr>
<tr>
<td>DCM601A53</td>
<td>iTM integrator (Option)</td>
</tr>
<tr>
<td>DCM002A51</td>
<td>iTM power proportional distribution software (Option)</td>
</tr>
<tr>
<td>DCM008A51</td>
<td>iTM energy navigator software (Option)</td>
</tr>
<tr>
<td>DCM009A51</td>
<td>BACnet equipment connection (Option)</td>
</tr>
</tbody>
</table>

### Locally supplied equipment

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
</tr>
</thead>
</table>
| USB memory | USB 2.0  
Up to 32GB memory can use                  |
| PC for Web access | Windows XP Professional SP3 (32bit)  
Windows VISTA Business SP2 (32bit,64bit)  
Monitor: 1024x768 or more  
Web browser: Internet Explorer 8, 9  
Firefox 10.0  
Flash Player Ver11.1  |
| WAGO I/O system | Modbus communication unit: WGDLCM/CPLR  
DC24V power supply unit: 787-712  
DC24V power supply module: 750-613  
Connector: 750-960  
Terminator module: 750-600  
Di module: 750-400, 750-432, 750-430  
Do module: 750-513/000-001, 750-504  
Ao module: 750-555, 750-559, 750-554, 750-560  
Pi module: 750-638  
Thermistor module: 750-461/020-000  |
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