

# iPlantManager

## PLANT ROOMS ARE AMONGST THE HIGHEST ENERGY CONSUMERS IN COMMERCIAL BUILDINGS

Plant rooms present a huge energy saving potential for many commercial buildings. Yet, they are often unoptimised and overlooked because HVAC systems there are complex and challenging. To manage them correctly and efficiently, dedicated and specialised control solutions are necessary.

### A WATER-SIDE OPTIMISATION SOLUTION THAT IMPROVES THE ENERGY PROFILE OF YOUR BUILDING

The iPlant Manager is a water-side optimisation solution designed to optimise and improve plant room operating energy efficiency.

It's a solution that leverages Daikin's vast experience as a leading HVAC solution provider — and can be easily integrated with efficient equipment, building control capabilities and air-side optimisation solutions to achieve a full building air-conditioning solution.

## WHAT IS iPLANT MANAGER?

iPlant Manager is a next-gen plant room optimisation and control software system. It's an easy-to-use solution that enables operators to achieve optimal control of every plant room device through a single synergistic system.

### AN EXCELLENT CONDITION-BASED MAINTENANCE REGIME

Through an intelligent performance feedback loop operating logic, the iPlant Manager automatically enables real-time energy optimisation by comparing actual energy consumption against recommended trends and data. This dynamic process also allows for early detection of system degradation, poor performance and potential faults, greatly streamlining and enhancing the maintenance process.

## HOW iPLANT MANAGER

### ACHIEVES THE WATER-SIDE OPTIMIZATION

**1**

iPlant Manager enables to connect to the equipment in your chiller plants after installation of the hardware. It provides a complete, reliable and easy-to-access measurement of key components of the plant room.



**2**

The software at the heart of iPlant Manager runs a continuous performance feedback loop powered by advanced self-learning algorithms.



**3**

The algorithms calculate the efficiency of each chiller and ancillary devices in real time whilst comparing actual efficiency against the benchmark.



**4**

After running diagnostics of your chiller plant's operational efficiency, iPlant Manager can adjust the plant and determine the best unit sequence to be activated from fixed sequence or automatically according to the performance profile of each unit, which lead to immediate energy and cost savings.

## BUILDING OPTIMISATION SOLUTIONS

**45%**

of commercial buildings' total energy usage is attributed to HVAC systems

**65%**

of this is used by the plant room alone

**78%**

of this plant room energy is used in thermal fluid generation

### DAIKIN'S AIR-CONDITIONING OPTIMISATION SOLUTIONS

**AIR-SIDE OPTIMISATION**  
(GET™ Control)

**WATER-SIDE OPTIMISATION**  
(iPlant Manager)



### UNLOCK SIGNIFICANT COST SAVINGS AND ENERGY EFFICIENCY

With its in-depth understanding of all thermodynamic variables involved in managing plant room HVAC equipment, the iPlant Manager is a good investment to realise the plant room's huge energy savings potential and reduce your total energy bill significantly.

FUNCTIONS / FEATURES IN THE PLANT ROOM	BMS WHEN APPLIED TO PLANT ROOM	iPLANT MANAGER WHEN APPLIED TO PLANT ROOM	iPlantManager MAIN BENEFITS
"Design once, apply many"	Ad hoc customisation necessary	✓ + Highly configurable proven, standard solutions	Tailored customisation only required for special cases
Factory tested features	Not available	✓	
Management	✓	✓	Scheduling, temperature settings and management
Monitoring	✓	✓	3D graphics and user friendly dash board
Web accessibility	Possible	✓ Native embedded	Licence-free accessibility from anywhere
Communication and transparency to other systems	Possible	Embedded	Native open protocol (Niagara Framework) integration into BMS
Possible plant room configurability	All types, by means of custom programming	Most types standard, all types possible. "Design once, apply many"	Only certain special plant configurations may require custom programming
Time to complete commissioning	Long	Short	"Design once, apply many" approach, factory tested functionalities
Configurability	Ad hoc custom programming	✓	Powerful wizards utilised for configuration of main parameters
Support for maintenance	Limited	✓ In-depth advanced	Advanced diagnostic capabilities for "Condition based maintenance"
Advanced Diagnostics	Not available	✓	Turns data into easy-to-read, actionable system knowledge for analysis and diagnostic
Performance Measurement	Possible	✓	User friendly dashboard
Efficiency Verification	Not Available	✓	Compares actual performance of HVAC unit against ideal design performance in real time and monitors data continuously
Sensor auto check	None	✓ For water cooled	"Utilises" "heat balance" calculation for real-time sensors checks
Charts	Limited	✓ Powerful	Standard and customized charts (via chart builder function) are available
Reports	Possible	✓	Standard and customized reports are available
Produced energy cost calculation	Optional	✓	Available in real-time and also by means of dedicated energy reports
CO2 emissions calculations	Possible	✓ Standard	
Control	To be developed ad hoc	✓ Standardised, proven, tested	For all types of units
Optimisation	Limited	✓ High level	Real-time optimisation via machine learning & AI for best performance at every instant

### WITH WATER-SIDE OPTIMIZATION SOLUTIONS, WE HELP OUR CUSTOMERS TO ACHIEVE:



Provides **up to 40% savings on energy consumption**



**Promote sustainable image and reduce complaints from building users**



**Overall improvement in plantroom efficiency and space comfort conditions**



**Minimize operation and maintenance related costs**

### APPLICATION



Green Buildings, mainly offices with emphasis on smart technologies, occupancy comfort etc.



Buildings targeting for premium Green Mark certification or Super Low Energy with clear focus on achieving industry leading energy efficiency targets for total air-conditioning system.

**Daikin Holdings Singapore Pte Ltd**

Address: 10 Ang Mo Kio Industrial Park 2, Singapore 569501 Tel: +65 6583 8888 Email: [dhos.support@daikin.com.sg](mailto:dhos.support@daikin.com.sg)

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