Control and Connectivity

Panasonic has developed the largest range of control systems to offer the best option for commercial needs. From the individual remote controller for the residential single units up to the newest technology capable of controlling your building anywhere in the world. The simple to use cloud software can even be used from a portable device.

VRF Smart Connectivity+

Schneider Electric

Through thorough energy management, Panasonic's VRF Smart Connectivity is a completely new, state-of-the-art solution providing energy saving and comfort as well as simple installation, operation and running.

VRF Smart Connectivity+ offers efficient energy management and a new air conditioning control solution with high IAQ (indoor air quality).

Energy management system for rooms	Each room is monitored by high-precision sensors, making it possible to make every room's temperature comfortable without wasting energy.
Management system for the entire building	A Building Energy Management System (BEMS) can also be connected for Plug & Play centralised control of the building's entire energy consumption.

Advantages

Dramatic reduction of OpEx with outstanding IAQ.
- 3 Built-in sensors: Temperature, RH and occupancy
- ZigBee wireless sensors: CO_2 / temperature / RH%, window / door, ceiling / wall / water leakage
- Relay Pack, Hotel Room Controller

User-/owner-friendly.
- Colour touch screen
- Simple and easy to use
- 22 languages
- Easy-to-understand error description

Ultimate customisation.
- Customisable colour background
- Custom display/icons, messages
- Programmable logic (also stand alone)
- Various controls and various external connection devices

Easy design and Plug & Play to reduce CapEx.
- Simple Plug & Play VRF connection to Building Energy Management System (BEMS)
- Stand alone or BEMS connected
- Easy installation of ZigBee sensors

VRF Smart Connectivity+: New SE8000.

1 Quality air control

Optimum IAQ is realized using the CO_2 and humidity sensors. The interior environment remains comfortable, while heating and cooling costs are minimized.
The CO_2 sensor can control ventilation systems, which contribute to improving the room's air quality.

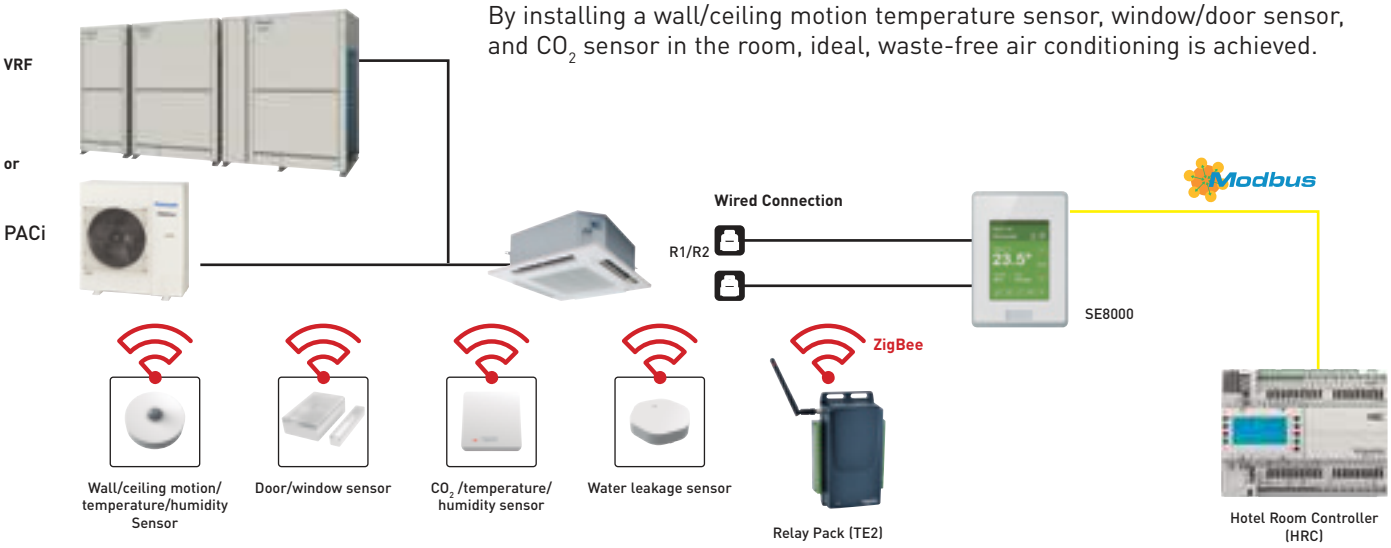
2 Room key card / cardless solutions for hotels

Solutions are provided that meet the needs of various regions and hotel grades.
Whilst the previous model's automatic detection function offered optimal air conditioning with or without a hotel room key card, the latest model enables conventional key cards to control air conditioners and other devices coordinately. The increase in the types of devices that can be connected enables customized control of any hotel room.

3 Other equipment control

One room controller manages various devices including lighting and the blinds.
A ventilation system and other external connection devices (Dry Contact input) can be connected by HRC or TE2 devices so that various control is possible with this controller alone, even without BEMS.

Energy management system for rooms

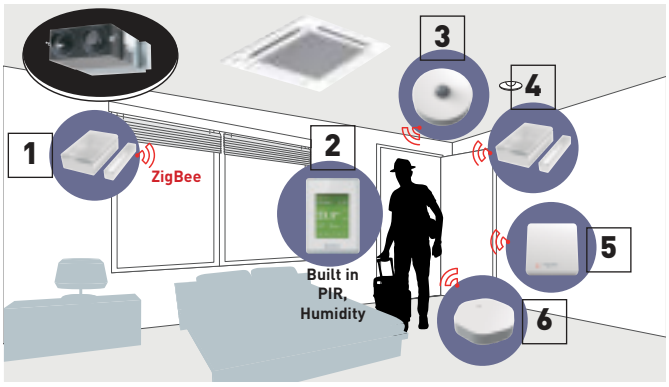


By installing a wall/ceiling motion temperature sensor, window/door sensor, and CO_2 sensor in the room, ideal, waste-free air conditioning is achieved.

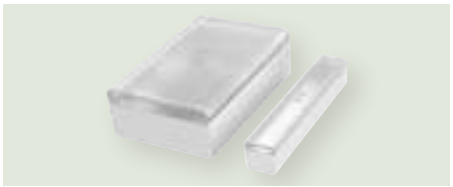
Sensing & Control technology

Using sensors from Schneider Electric, high-quality occupancy control and automatic IAQ control are realised. The sensors detect the presence or absence of occupants, and the opening and closing of doors and windows to achieve the most efficient energy management for exceptional air-conditioned comfort.
Flexible installation is possible to match different applications and building features such as walls, ceilings and proximity to doors and windows. No wiring means extra installation versatility.

Batteries last for up to five years (10-year battery for CO_2 sensor) and are easy to install and replace.



1. Window sensor (option).
2. Room controller.
3. Ceiling motion sensor (option).
4. Door sensor (option).
5. CO_2 sensor (option).
6. Water leakage sensor (option).



Door/window sensor.
Door and window contact detection sensor to monitor opening and closing.

Wall/ceiling motion/temperature/humidity sensor.
Wall and ceiling sensor to detect the presence or absence of occupants.

CO_2 /temperature/humidity sensor.
Monitor indoor air quality, review data on interfacing devices, and control fresh air inside customisable zones.

Water leakage sensor.
Two sensing pads under the body activate when water is present between the two pads. Detecting the water, the sensor reports the event to the controller (and BEMS).

Relay Pack (TE2).
Wireless programmable terminal equipment controllers for HVAC equipment and pulse counting. Includes local memory to store fail safe control sequence.

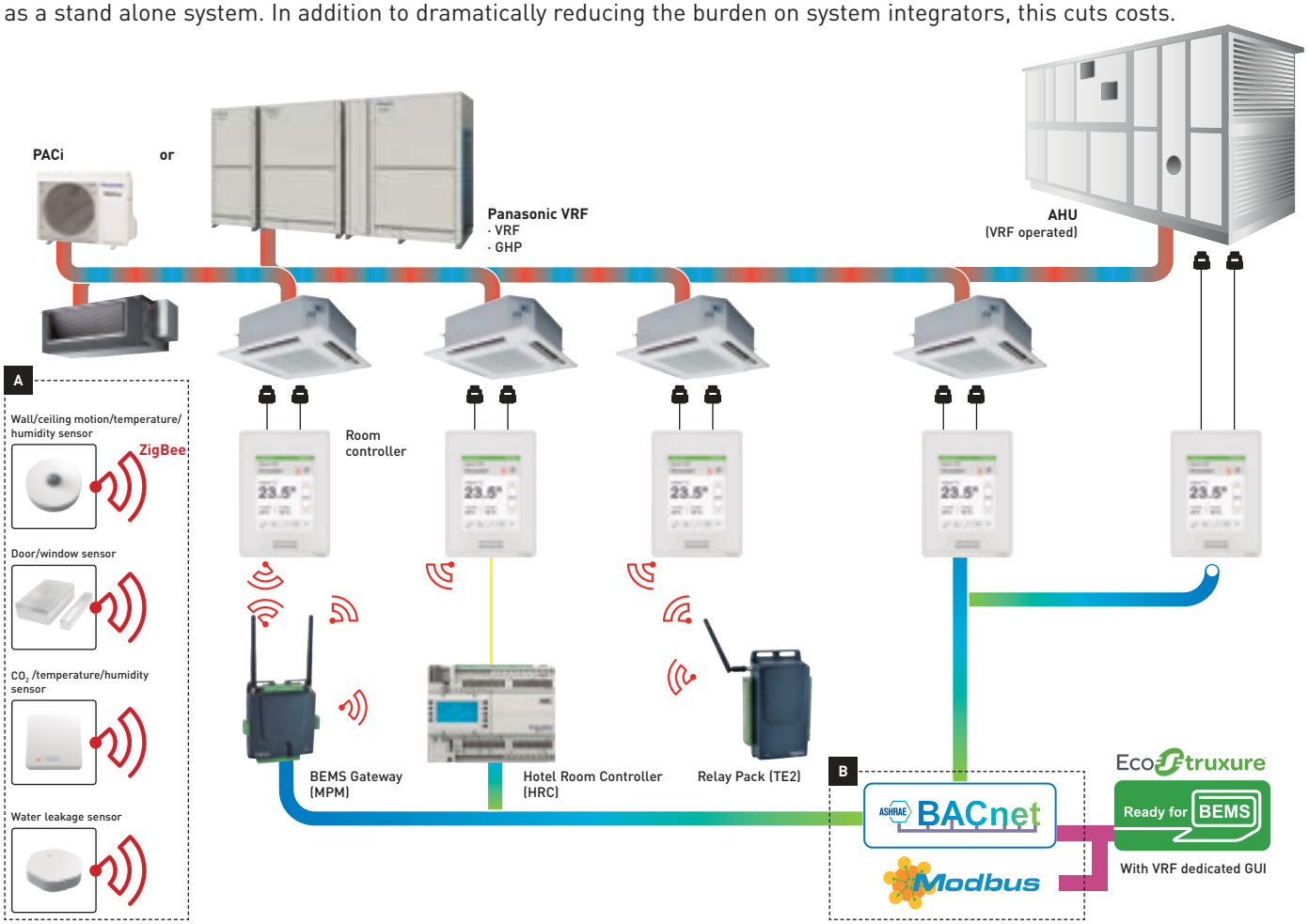
Hotel Room Controller (HRC).
The Hotel Room Controller controls connected guest room devices and aggregates data, making it visible to guest room and property management systems.

Management system for the entire building

The smarter solution to simplify energy management, optimise building efficiency and drive savings.

Plug & Play BEMS connection

With the SE8000, connection to BEMS is extremely easy. Better still, a remote controller is all that's needed to enable use as a stand alone system. In addition to dramatically reducing the burden on system integrators, this cuts costs.



A SE8000 smart controller with direct hub to ZigBee® Pro sensors.
Great occupancy and IAQ control.
Ex: Hotel room occupancy check by PIR sensor, IAQ by CO_2 sensor, door / window contacts.

B BACnet MS/TP and Modbus RTU are embedded.

C For Schneider Electric BEMS connection, Panasonic VRF widgets enable easy Plug & Play. Better understanding for VRF as a chiller system.

BEMS Gateway (MPM).
Multi-Purpose Management devices enable the control, monitoring, and management of entire sites via Schneider Electric's EcoStruxure™ BMS system.

C

Schneider Electric **BEMS Widget** (Exclusive)

* Graphic shows combination of products from Panasonic, Schneider Electric and others. Please consult authorised dealer for more details.

Reference	Description
SER8150R0B1194	Pana Net Con, RH, No PIR, SE Brand, R1R2
SER8150R5B1194	Pana Net Con, RH, PIR, SE Brand, R1R2
VCM8000V5094P	Wireless ZigBee® Pro communication card
TE2*	
SEC-TEA-R-230-5045	Smart terminal controller ZigBee® Pro high power, external antenna, 4UI/4AO/5DO, 220-240 V AC
SEC-TEA-R-24-5045	Smart terminal controller ZigBee® Pro high power, external antenna, 4UI/4AO/5DO, 24 V AC
MPM*	
MPM-UN-0I4-5045	Universal network controller with Building Expert and StruXureWare integration, high power, 6 I /6O, Modbus
MPM-RAEC-5045	Universal network controller cable extension

Reference	Description
HRC*	
HRCEP14R	Hotel room expansion module 14 indoor units
HRCPBG28R	Hotel room controller 28 indoor units
HRCPDG42R	Hotel room controller w/display 42 indoor units
ZigBee Sensors	
SED-CO2-G-5045	Sensor with room CO_2, temperature and humidity
SED-TRH-G-5045	Sensor with room temperature and humidity
SED-WDC-G-5045	Door/window sensor
SED-MTH-G-5045	Wall/ceiling motion/temperature/humidity sensor
SED-WLS-G-5045	Water leakage sensor

Reference	Description
FAS-00	Cover frame. Silver
FAS-01	White
FAS-03	Glossy translucent white
FAS-05	Light tan wood
FAS-06	Dark brown wood
FAS-07	Dark black wood
FAS-10	Brushed steel finish

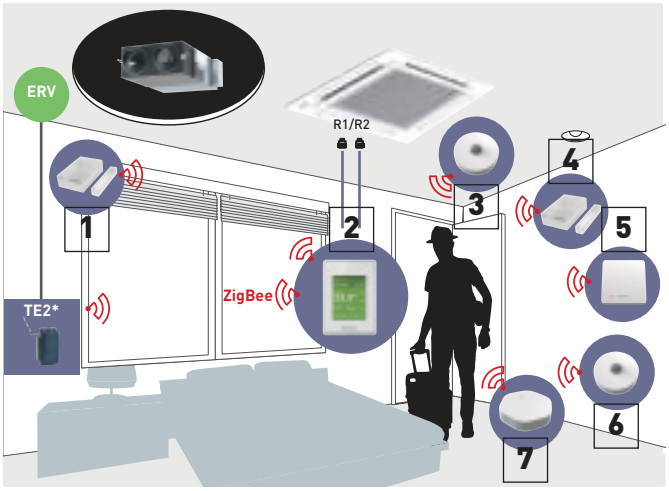
* Those accessories require system integrator support on site.

Smart management solutions

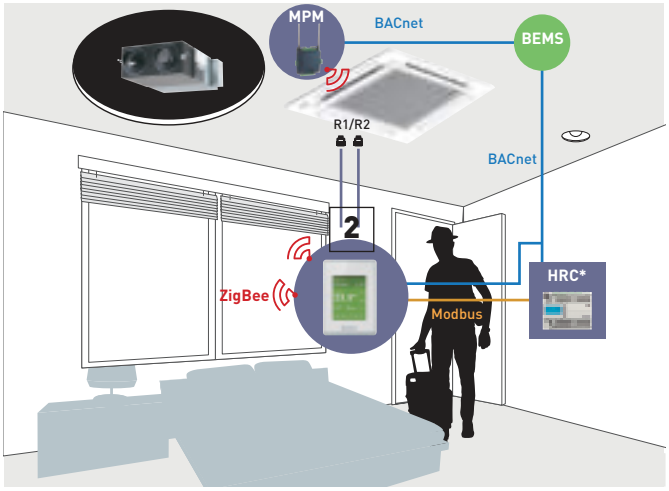
1 Hotels

Room key card or key cardless solutions for hotels.
The SE8000 and ZigBee sensor automatic detection function offer optimal air conditioning regardless of whether there is a hotel room key or not. Sensors detect the presence or absence of occupants and the opening and closing of doors and windows for the optimum air-conditioned environment guests expect. Automatic control ensures the most efficient operation when guests are away or when windows are open. This contributes to an appreciable reduction in operation costs.

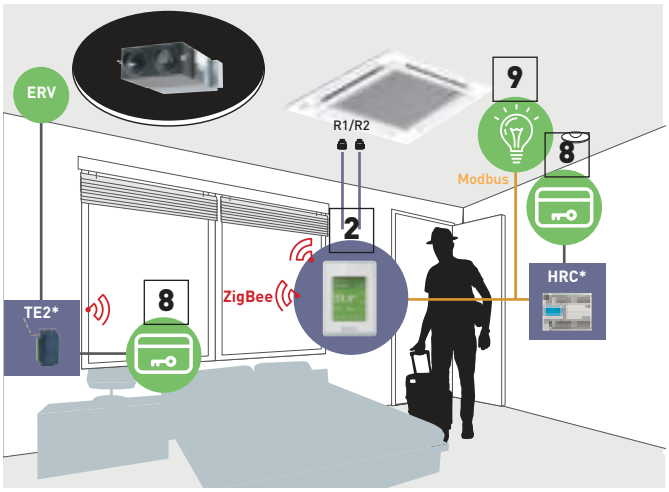
1. Remote sensing & IAQ contorol.
In addition to detecting a room's temperature, humidity and CO_2 concentration, ZigBee remote sensors detect the opening/closing of windows and doors, and the presence/absence of people in a room Various IAQ controls and detailed energy savings are possible by using TE2 (Relay Pack) based on this detected information.



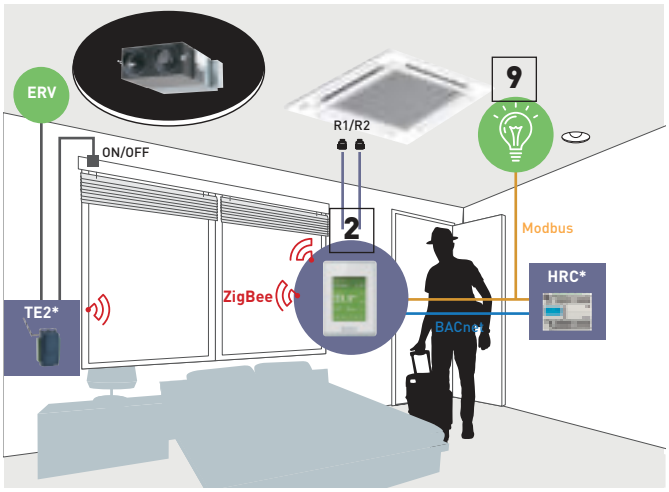
2. BEMS Connectivity.
With MPM as the BEMS gateway and by setting HRC as the guestroom controller, sensing, control and BEMS connection can be realized in coordination with SE8000!



3. Key cardless control.
The introduction of TE2 and HRC enables conventional wired keycards to be connected to the system so that it is possible to meet the specific requirements of various hotel and room types.



4. Other control
The introduction of TE2 and HRC enables the ON/OFF control of devices having Dry Contact input, such as ventilation, lighting and blinds.



1. Window sensor*.
2. Room controller (22 languages).
3. Ceiling motion sensor.
4. Door sensor*.
5. CO_2/Temp. + RH% sensor.
6. Wall motion sensor.
7. Water leakage sensor.
8. Key card (wired).
9. Light control.

* In electrical distribution panel (field supply)

2 Small and medium offices

CO_2 sensors (option) and humidity sensors.
CO_2 sensors (option) take measurements in units of ppm, and humidity sensors enable fine air quality control. This creates the most comfortable space for occupants while contributing to improved employee satisfaction.

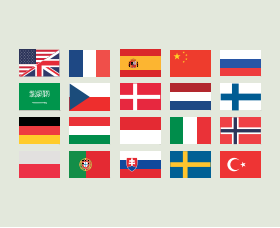
3 Super markets

Humidity sensors.
Humidity sensors enable automatic dehumidification for the optimum IAQ regardless of climatic conditions. This creates an even more comfortable environment for customers, employees, and products themselves.

Innovative and unrivalled advantages

Colour and design to match office interiors.
Colour combinations and design can be set to match different facilities.

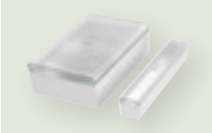
Easy-to-understand error description.
Error description during an emergency is easy to understand, enabling staff to respond quickly.



Customisation in 22 languages possible.
The display can be customised to match the native languages of guests to enable smooth, stress-free communication for hospitality at its finest.

Programmable logic.
Full customisation of remote controller logic possible, and updating to match conditions.

Smart connectivity devices

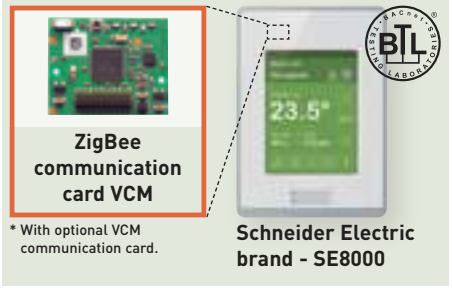


SED-WDC-G-5045
Door/window sensor.

SED-CO2-G-5045
CO_2 temperature/ humidity sensor.

SED-MTH-G-5045
Wall/ceiling motion/ temperature/humidity sensor.

SED-WLS-G-5045
Water leakage sensor.



Features

- Up to 5 year battery life (batteries included)
- Battery life of CO_2 sensor up to 10 years.
- Battery level data point
- Sensor points visible when SE8000 is integrated via BACnet MS/TP
- Sensor status and battery level visible when SE8150 is integrated via ZigBee® Pro
- Integration to BMS only recommended when each MPM is connected to Ethernet and set as a ZigBee® coordinator node

Panasonic AC Smart Cloud

With Panasonic AC Smart Cloud, have your business under control, and start saving!

PANASONIC AC SMART CLOUD

Flexible and scalable solution

· Energy saving
· Zero downtime
· Site(s) management

Centralise control of your business premises, from wherever you are, 24/7/365. It doesn't matter how many sites you have, or where they are! The AC Smart Cloud system from Panasonic allows you to have complete control of all your installations from your tablet or from your computer. In a simple click, all your units from several locations, receive status updates in real-time of all your installations, reducing potential breakdowns and optimizing costs.

Flexible solution for your business

Every time | Everywhere | Multiplatform | Internet browser

Scalable solution for your business

Small to large | 1 to multi sites | Upgrade features* | PACi / ECOi / ECO G

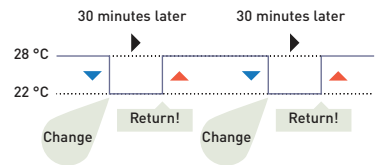
* Customized to meet user demand / Continuous upgrades: new functions and product introductions / IT smart management.

Panasonic AC Smart Cloud offers continuous improvement always thinking about users

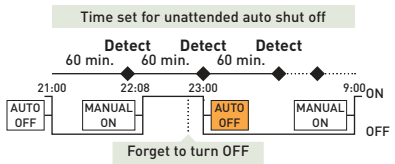
e-CUT function

e-CUT functions are newly available in Panasonic AC Smart Cloud.
5 energy saving settings reduces automatically its energy consumption.

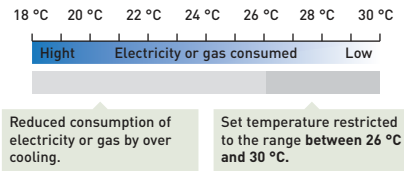
1. Set temperature auto return.
When you want to return to the set temperature after a certain time even if the temperature is changed.



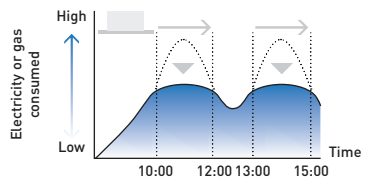
2. Unattendted auto shut off.
When you want to operate outside of a schedule but to monitor and stop automatically.



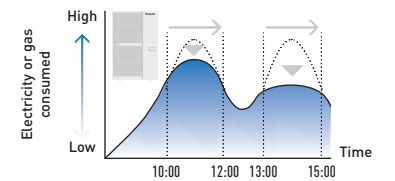
3. Set temperature range limit.
When you want to limit the temperatures that can be set.



4. Energy saving timer / efficient operation setting.
Specify time slots when you want operation capacity reduced.



5. Demand / peak shaving settings/ peak cut settings.
Specify time slots when you want operation capacity of the outdoor units reduced.



Key functions and uniqueness

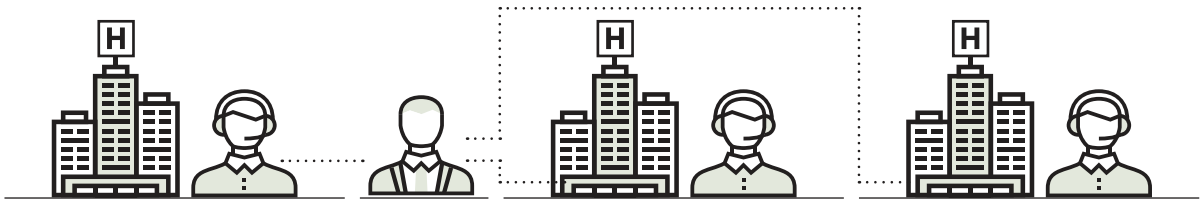
Multi site monitoring.
· It doesn't matter how many sites you have, easy to manage, operate, compare sites, locations, rooms.

Powerful statistics for energy savings.
· Power consumption, capacity, efficiency level can be compared with different parameters (Yearly / monthly / weekly / daily bases)

Schedule setting.
· Yearly / weekly / holiday timer setting as you want

Maintenance notification.
· Error notification by email and with floor layout
· Maintenance notification of ECOi / ECO G outdoor units
· Remote service checker function

User customization [1].
Site administrator can create users as desired and assign customized profiles.



Main functions per user type

Function / Main Tab	Sub-Tab	Basic type (Eg.: Owners, facility managers)	Professional type (Eg.: Installers, maintenance companies)
AC setting	I_U / O_U operation details	✔	✔
	Cloud adapter (CZ-CFUSCC1) details	✔	✔
	AC maintenance		✔
	Map view	✔	✔
Energy saving function	NEW e-CUT	✔	✔
Schedule	Yearly, weekly schedule setting / view	✔	✔
Powerful statistics	Power consumption	✔	
	Capacity	✔	
	Efficiency ranking	✔	

Function / Main Tab	Sub-Tab	Basic type (Eg.: Owners, facility managers)	Professional type (Eg.: Installers, maintenance companies)
Maintenance function	Notification overview / details	✔	✔
	Maintenance settings	✔	✔
	Map view	✔	✔
	Remote service checker		✔
User account [1]	New / update user registration	✔	
System setting	Distribution group overview / details	✔	
	Cut OFF request	✔	
	Map editor		✔

One of our uniqueness is "stable and secured communication package"

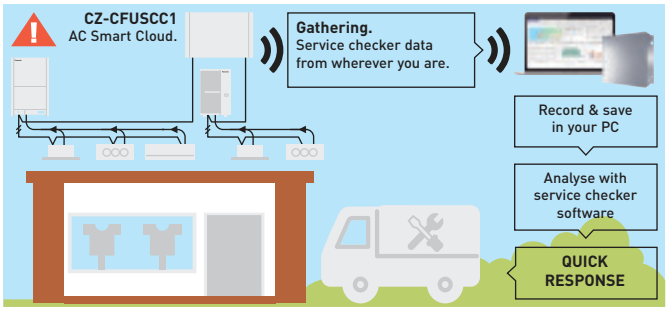
· Connectivity is included in the service. Customers do not have to take time to find and prepare suitable connectivity.
· With an all inclusive service offering, the customer has peace of mind and a one stop shop for all AC Smart Cloud issues they may face including connectivity

This reduces installation time, requiring no integration with existing IT network infrastructure.

Remote service checker function

Zero down time
· Quick analysis & response
· Time & Cost saving for service maintenance task

Recording service checker parameters from wherever you are!
· Data duration: Max. 120 minutes
· Data frequency: 10 – 90 seconds
· Mode selection: With test run or Without test run
· Count down schedule setting available



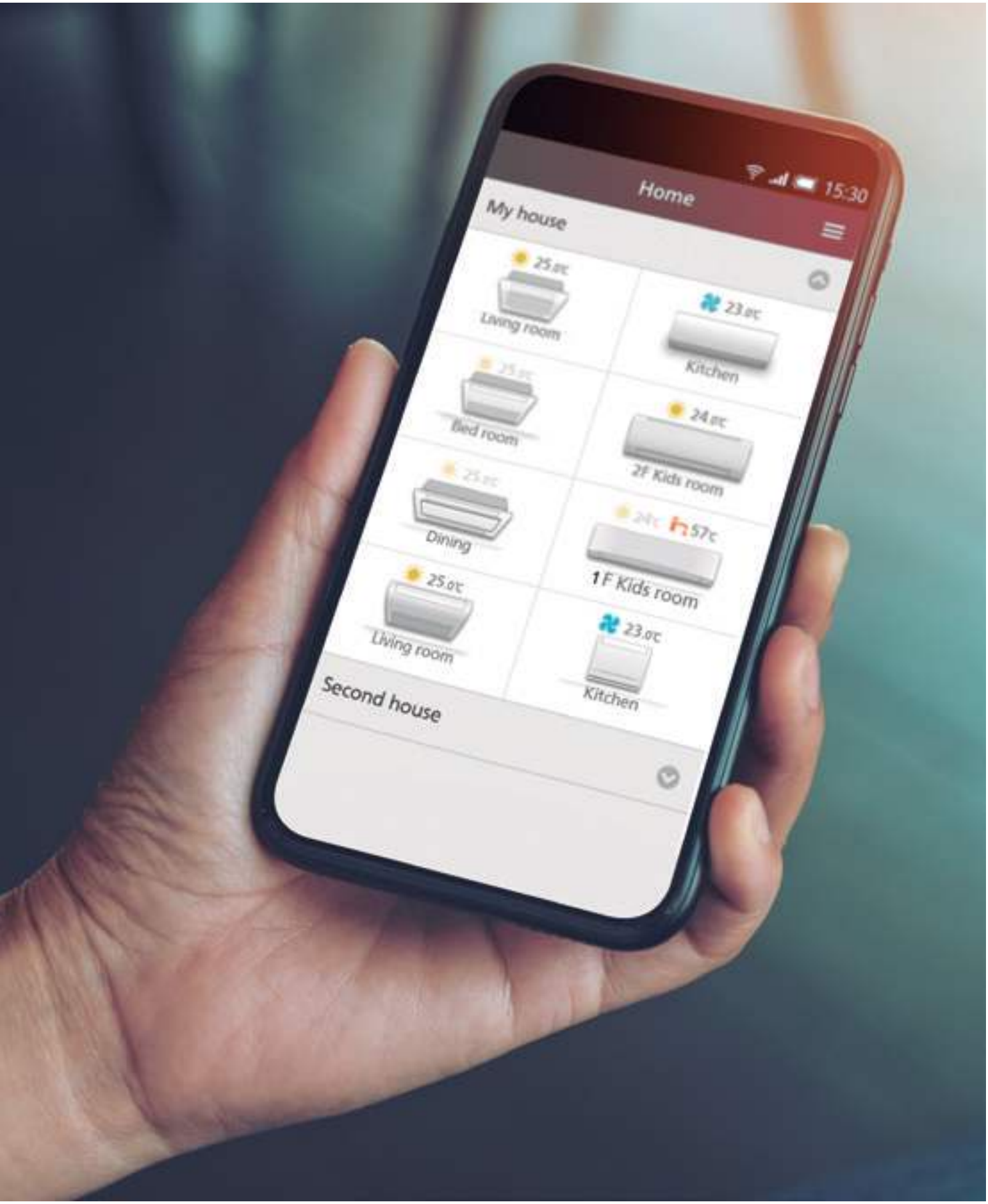
Panasonic AC Smart Cloud parts lists

*** Cloud service fee is additionally required. Please contact an authorized Panasonic dealer.**

CZ-CFUSCC1	AC Smart Cloud communication adaptor. Up to 128 groups. 128 units control
PAW-MVN0AC-V PAW-MVN0AC-K	3G communication package (SIM card included). V, K: Depending on countries [1]

1) Please contact an authorized Panasonic dealer.

Commercial WLAN Adaptor



Panasonic CZ-CAPWFC1 interface adaptor, allows connection of one or a group of indoor units to Panasonic Comfort Cloud App, which provides control, monitoring, scheduling and error alerts.

Advanced smartphone control

Control PACi, ECOi and ECO G units with your smartphone from wherever and whenever you are, by using Panasonic Comfort Cloud App and Commercial WLAN Adaptor. This scalable solution is ideal for one system, one site or multiple locations. Coupling the adapter with the already feature rich systems, makes it an ideal solution for residential and commercial applications.

1 From 1 to 200 units

User can control up to 10 different sites, with up to 20 units / groups per site.

2 1 indoor or 1 group

One simple WLAN adaptor CZ-CAPWFC1 can be connected to 1 indoor unit or to a group (maximum 8 units).

3 Multi user

The Panasonic Comfort Cloud App allows multi-user access control. Restrict user access to specific units.

4 Easy scheduling

Complex weekly scheduling made simple. Not only for one unit, but across multiple sites and from a smartphone.

5 Energy monitor

See the estimated power consumption and compare with other periods, to see how energy consumption can be reduced even more. Check list of units that provides consumption*.

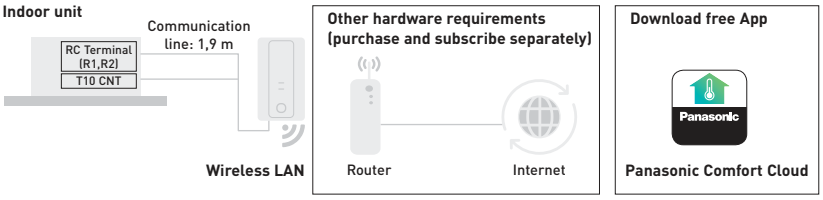
* Function available depending on the model.

6 Error codes

Error code notification through the App, provides early notification and allows for faster repair.

Connection diagram

Commercial WLAN Adaptor wiring length is 1,9 m and connects to indoor unit thru T10 connector and R1/R2 terminal connectors.



Input voltage	12 V DC (supplied from T10 connector)
Power consumption	Maximum 2,4 W
Size (H x W x D)	120 x 70 x 25 mm
Weight	190 g (including communications lines)
Interface	1 x Wireless LAN
Wireless LAN Standard	IEEE 802,11 b/g/n
Frequency range	2,4G Hz band
Operation range	0 ~ 55 °C, 20 ~ 80 RH%
Connectable indoor unit	1 unit
Length of communication line	1,9 m (included in the shipment)

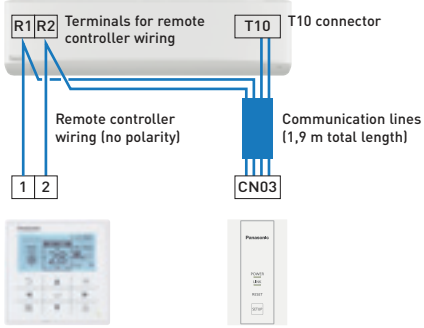
Cloud control is available for all indoor units with P-link

Compatible indoor units type: Model code starting with "S-" (excludes S-80/125MW1E5).
Incompatible indoor units type: Model code starting with "PAW-", "FY-" and S-80/125MW1E5.

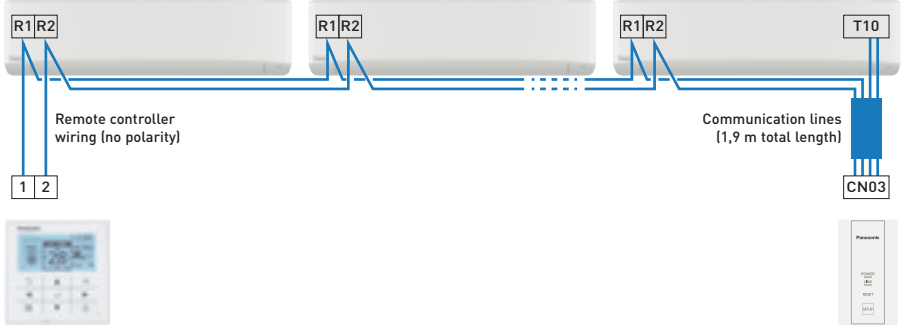
Basic wiring diagram

If there is one indoor unit or if there are multiple indoor units, connect one WLAN adaptor and one remote controller. A remote controller must be connected and it should be set as the "main unit" in the main-sub remote controller settings.

Example when there is 1 indoor unit.



Example when there are multiple indoor units.



New wired remote controller - CZ-RTC6 / CZ-RTC6BL / CZ-RTC6BLW

NEW 2020

1 Intuitive control with stylish design profile

- Simple operation at a glance
- Clean face with full flat & black LCD display
- Compact body only 86x86

2 Control comfort with your smartphone for multi users

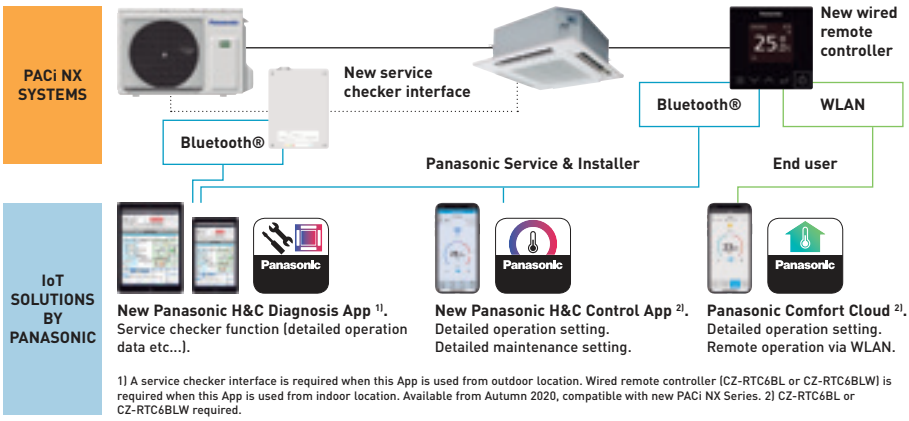
- Flexible control options with IoT integration
- New Panasonic H&C Control App for daily remote control operation
- Panasonic Comfort Cloud App for remote operation 24/7/365

3 Easy maintenance with service support App

- Quick and easy App set-up for system setting
- Panasonic H&C Diagnosis App enables the user to obtain detailed system operation data

Flexible control option with IoT integration

New wired remote controller series are fully integrated with IoT solutions developed by Panasonic. Detailed operation, maintenance setting and service operation are all possible with smartphone or tablet.



1) A service checker interface is required when this App is used from outdoor location. Wired remote controller (CZ-RTC6BL or CZ-RTC6BLW) is required when this App is used from indoor location. Available from Autumn 2020, compatible with new PACi NX Series. 2) CZ-RTC6BL or CZ-RTC6BLW required.

This series give you comfort and control, meeting the varying needs of multi users. Accessible, flexible and convenient. Perfectly meeting modern control needs.

1. Mode Heat/Cool/Dry/Fan/ Auto
2. Fan speed (5levels)
3. Air flow direction
4. nanoe™ X / Econavi setting
5. Menu
6. Down
7. Up
8. Enter
9. ON/OFF

Intuitive operation with simple & modern design panel

Sophisticated design with black flat panel and compact body. From residential to commercial, the wired remote controller series perfectly matches with all kinds of modern building.
It enables user to recognize each function with a simple glance.

* Available functions can be referred in "Basic function list" below.

Wired remote controller line-up

		WLAN	Bluetooth®
CZ-RTC6	Non-wireless	—	—
CZ-RTC6BL	Bluetooth®	—	✔
CZ-RTC6BLW*	WLAN & Bluetooth®	✔	✔

* Available from Autumn 2020, compatible with new PACi NX Series.

Basic specification

Model		**CZ-RTC6 (Non-wireless)**	**CZ-RTC6BL (Bluetooth®)**
Input voltage	V DC	16 (supplied from indoor unit)	
Power consumption		TBC	
Size (H x W x D)	mm	86 x 86 x 25	
Weight	kg	0,1	
Operation range - Temperature / Humidity		0 ~ 40 °C / 20 ~ 80 %	
Temperature setting interval	°C	0,5	
Connectable indoor units		Maximum 8 units (within remote control group)	
Clock	Precision	—	± 30 seconds/month (at normal temperature 25 °C)
	Holding time	—	24 hours
For Bluetooth® Apps		—	iOS: 10.0 or later Android™: 6.0 or later
Bluetooth®		—	Version 4.2 or later

Basic function list

Control item	Controllability	CZ-RTC6	CZ-RTC6BL	CZ-RTC6BLW*
Outdoor compatibility	PACi (PZH2, PZ2 Series)	✔	✔	—
	New PACi (PZH3, PZ3 Series)	✔	✔	✔
	ECOi / ECO G	✔	✔	—
Basic operation	Operation, Mode, Temperature setting, Air flow volume, Air flow direction	✔	✔	✔
Timer function	Time display	—	✔	Coming soon
	Easy ON/OFF timer	—	✔	
	Weekly program timer	—	✔	
Energy saving	Outing function	✔	✔	
	Temperature auto return	—	✔	
	Temperature setting range limitation	—	✔	
	Energy monitoring	—	✔	

Control item	Controllability	CZ-RTC6	CZ-RTC6BL	CZ-RTC6BLW*
Maintenance	System failure information	✔	✔	Coming soon
	Alarm display	✔	✔	
	Service contact registration	—	✔	
	Filter sign reset	✔	✔	
Others	Key lock	✔	✔	
	Ventilation fan control	—	✔	
	Display contrast adjustment	✔	✔	
	Rotation control	—	✔	
	Quiet operation mode	—	✔	
	Wireless control	—	—	

* Available from Autumn 2020.

New Panasonic H&C Control App

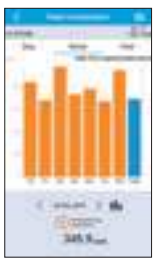
Panasonic H&C Control App for daily remote control operation and quick system setting via Bluetooth®.

* User interface image may be updated without notification.

Home screen

Basic settings

Statistics



Weekly timer

Advanced settings

Panasonic

New service checker interface

The new service checker interface provides easy access to service parameters and service checker data via Bluetooth®.
· A new service checker interface* for PACi NX Series
· Bluetooth® connection
· Panasonic H&C Diagnosis App

* Available as a spare part, compatible with new PACi NX Series.

Input voltage	220-240 V ~ 50-60 Hz (supplied from outdoor unit)
Power consumption	Maximum 2,4 W (including outdoor units)
Size (H x W x D)	175 x 125 x 50 mm
Weight	—
Interface	Bluetooth® 4.2 or later
Frequency range	2,4 GHz band
Operation range - Temperature / Humidity	0 ~ 40 °C / 20 ~ 80 % (no condensation)

* Frequency band in which the ratio equipment operates; 2402 - 2480 MHz.
* Maximum radio-frequency power transmitted in the frequency bands in which the ratio equipment operates; +0 dBm.

Panasonic

Remote controller with Econavi

Easy to use, attractive, clear design, with new demand control functions and energy consumption display! This useful feature makes this remote controller unique!

Design

The CZ-RTC5B wired remote controller is ideal for integration into the most demanding interior architectures. The touch panel features a very sleek and easy to use display, which with its compact display is only 120 x 120 x 16 mm.

Key functions

- Easy setup of the timer and settings of the indoor unit
- Energy consumption display (for all R32 PACi line-up)
- Limitation of the energy consumption (Demand control) by timer.

Display of information

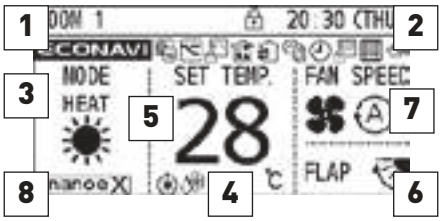
The information is mainly based on pictograms to ensure easy understanding. The minimal amount of text is available in 6 languages (English / German / French / Spanish / Italian / Polish).

The screen is back lit to enable reading even during the night.

Easy access to the menus.
With the new pictograms, the navigation, the selection and the settings are simple and easy to follow.

Basic function (operation display & indication)

All functions are easily available on the remote controller.
· OFF/ON timer · Weekly timer · Quiet operation · Remote controller sensor · Operation prohibit · Filter sign · Energy saving · Centralized control indication · Mode change prohibit · Automatic temperature return · Temperature range limitation · OFF remind · Schedule demand control · Ventilation · Out Function



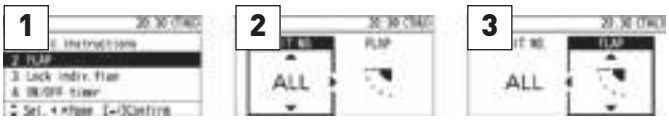
1. Name of the room (Max.16 characters)
2. Time & Day of the week
3. Mode: Hot / Cool / Dry / Fan Auto
4. Status: Heating stand-by / Defrost operation / Stand-by (GHP system)
5. Set temperature
6. Flap setting
7. Fan speed: L-H / Auto
8. nanoe™ X setting

Easy operation and quick access to all menus

1. Set temperature will be selected, when any arrow button is touched
2. Select the item (Mode or Fan speed) by left/right ◂ ▸ key
3. Change the setting by up/down ▴▾ key

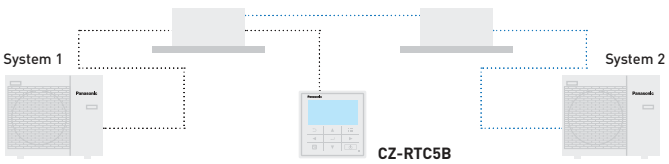
Example of easy access to the functions: air direction setting

1. Select "Air direction" and press "Enter" key
2. Select the unit number by up/down ▴▾ key
3. Select the flap position by up/down ▴▾ key
4. Press "Return" key to go back the Menu display



Backup control by using CZ-RTC5B

Group wiring of 2 systems of PACi can do auto individual control: Rotation operation, backup operation and support operation.



Functions available on the CZ-RTC5B

Control item	Controllability	Indoor units	
		PACi	VRF
Basic operation	Operation, Mode, Temperature setting, Air flow volume, Air flow direction	✔	✔
Timer function	Time display	✔	✔
	Easy ON/OFF timer	✔	✔
	Weekly program timer	✔	✔
Energy saving	Outing function	✔	✔
	Temperature auto return	✔	✔
	Temperature setting range limitation	✔	✔
	OFF remind	✔	✔
	Energy saving mode	✔	✔
	Schedule demand control	✔ [1]	✔
	Energy monitoring - R32	✔	—

Control item	Controllability	Indoor units	
		PACi	VRF
Maintenance	System failure information	✔	✔
	Service contact registration	✔	✔
	Filter sign (rest time display) & Reset	✔	✔
	Auto-address, Test run	✔	✔
	Sensor value monitor	✔	✔
	Simple / Detail setting mode	✔	✔
Others	Key lock	✔	✔
	Ventilation fan control	✔	✔
	Display contrast adjustment	✔	✔
	Remote controller sensor	✔	✔
	Quiet operation mode	✔ [1]	—
	Prohibit setting control from central controller	✔	✔

All specifications subject to change without notice.
1) Not available with PACi Standard R410A line up.

Datanavi

FAST AND INTUITIVE

EASY ACCESS TO MANUAL DATABASE

ACCURATE SERVICE DATA ON YOUR SMARTPHONE

Datanavi, a new way to connect.
Simple and easy support tool with your smartphone.

datanavi

Overview of datanavi system

Just holding up your smartphone to the LED display on a remote controller (CZ-RTC5B) to receive useful AC system information super fast by Panasonic Light ID Technology. Datanavi also connects to Panasonic Cloud Server for the quick view of manuals, saving data received by Light ID.

What is the Light ID technology developed by Panasonic?
Visible light transmission technology, which enables to transmit information by high-speed and invisible flashing of an LED light source.

Key functions

- Scan & Save AC system info
- Easy access to manual database
- Commissioning, F-Gas check data history

User / administrator (person in charge of AC) functions

- **Fast and intuitive.** Regular operation data, energy consumption data display
- **Easy access to data base.** Getting manuals related on demand
- **No idea what to do when an error happens?** You can share error information and contact service easily

Installer / service company functions

- **Getting technical data depends on your need**
  Service manual. Q & A list. Test run information
- **Acurate error information**

Regular operation

Energy management

Malfunction notice

Operating manual

Test run info

Service data

* User interface image may be updated without notification.

- Simple F-gas regulation check list
- Repair speed check list

Download free Apps, try datanavi!
2 free Apps are necessary to use datanavi.

Panasonic — Download on the App Store — GET IT ON Google Play

LinkRay — Download on the App Store — GET IT ON Google Play

Intelligent controller

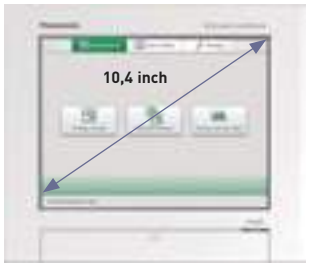
This controller is the smart solution for your advanced requirement in buildings.

Intuitive operation

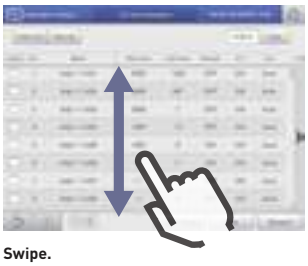
The screens used for operations all follow a common pattern, with the screens being easy to read and easy to use.

- Enlarged screen (10,4 inch) with colour LCD
- Smartphone-like gestures (flick, swipe, touch)

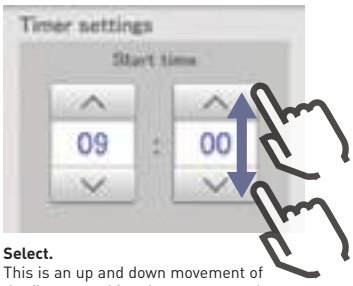
Large screen display. Enlarged by 60 %.



Easy swipe or flick operation.



Swipe.
This is an operation where the finger is slid in a direction (up or down) on the touch panel. This is used to scroll slowly.



Select.
This is an up and down movement of the finger touching the screen, used to pick settings in elements such as spin boxes.

Pull out.
This is an operation where the finger on the touch panel is flicked in a direction (up or down). This is used to scroll quickly.

Enhanced functions for energy saving as standards

- Set temperature auto return settings, Auto shut OFF, set temperature range limit settings
- Demand control function

Screen of set temperature auto return setting.

Auto shut OFF.

Screen of outdoor demand control.

- Outdoor demand input and timer settings possible
- Indoor can be set at ±1 °C/ ±2 °C or thermostat OFF
- Indoor units controlled in sequence at 10-minute intervals

Energy visualization

- Energy saving plans are supported with graph display function
- Displays electricity & gas usage distribution

Screen of graph display.

Useful parameters are shown for your better energy saving.
Ex.) Bar graph:

Indoor unit: Total operating time, thermostat ON operation time (Min.)
Amount used (electricity, gas)
Electricity or gas charges
Outdoor unit: Outdoor unit operation cycles (# cycles)
Engine time in operation (Hrs.)
Cumulative Inverter power output
Cumulative PV power output

Pulse value selection per different data intervals 1 hour/1 day/ 1 month compared with last year.

Main function

Gesture function (flick, swipe, touch)	✔
Graph display (trends, comparisons)	✔
Web functions (Max. 64 users)	✔
Recipient setting for warning email	✔ (Maximum 8)
Automatic return to setting temperature	✔
Limitation of setting temperature range	✔
Left-on prevention	✔
Quiet operation of outdoor unit	✔
Occupant sensor linkage	✔
Demand function	✔
Charge calculation	✔
Log display	✔ Warning 10000 items Status change 50000 items
Linked control Event definition 50 events, input: 32, output: 32	✔
Under maintenance (under inspection registration)	✔

Econavi Sensor

The Econavi sensor detects presence in the room, and quietly adapts the PACi or VRF air conditioning system in order to improve comfort and energy savings.

- Detects human activity and adjusts temperature by 2 degrees (up or down) to optimize comfort and efficiency
- If there is no activity detected for a set time period, the Econavi will stop the unit or move to a new temperature previously set
- The Econavi device is installed independently of the indoor unit, and is located in the area best suited for detection

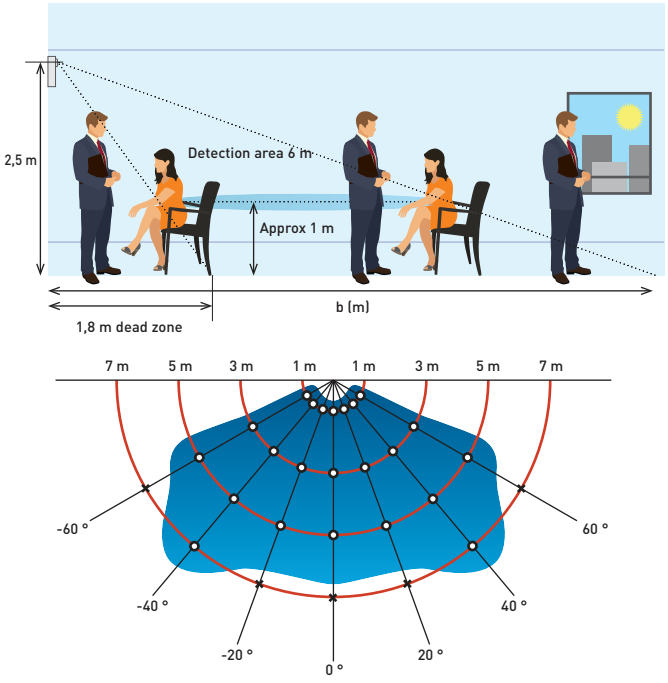
Applications

Saving energy for offices: If the air conditioning is left on after the last employee leaves the office, Econavi will automatically react, reducing or stopping the system. Increased comfort in hotel rooms: When presence is detected in the room, the temperature is automatically adjusted to achieve best comfort.

Key points

- Compatible with Cassette, Wall Mounted, Hide Away and Ceiling units
- Improves efficiency
- Better comfort
- Can be installed in the best location within the room for detection purposes

Sensor location image



Human detection area (2,5 m height angle 30°)

Providing outstanding energy saving performance, Panasonic's Inverter system can be connected to Econavi to detect when energy is being wasted. Econavi senses the presence or absence of people and the level of activity in each area of an office. When unnecessary heating or cooling is detected, indoor units are individually controlled to match office conditions for energy saving operation.

Detection of the level of activity enables precise power saving.
Presence or absence of people at their desks and the level of activity in the office are detected in real time. Set temperature is automatically adjusted to optimise the lower power consumption.

Econavi sensor
CZ-CENSC1

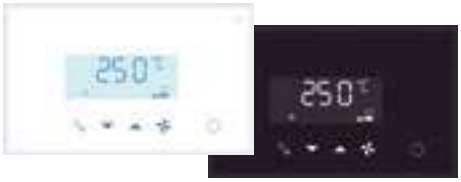
Remote Econavi sensor allows optimum energy operation.
Pillars, walls, cabinets and other fittings obstruct the sensor, reducing the area of detection and lowering the energy saving effect. Taking into consideration blind spots, Panasonic enables the optimum layout for sensors in any office.

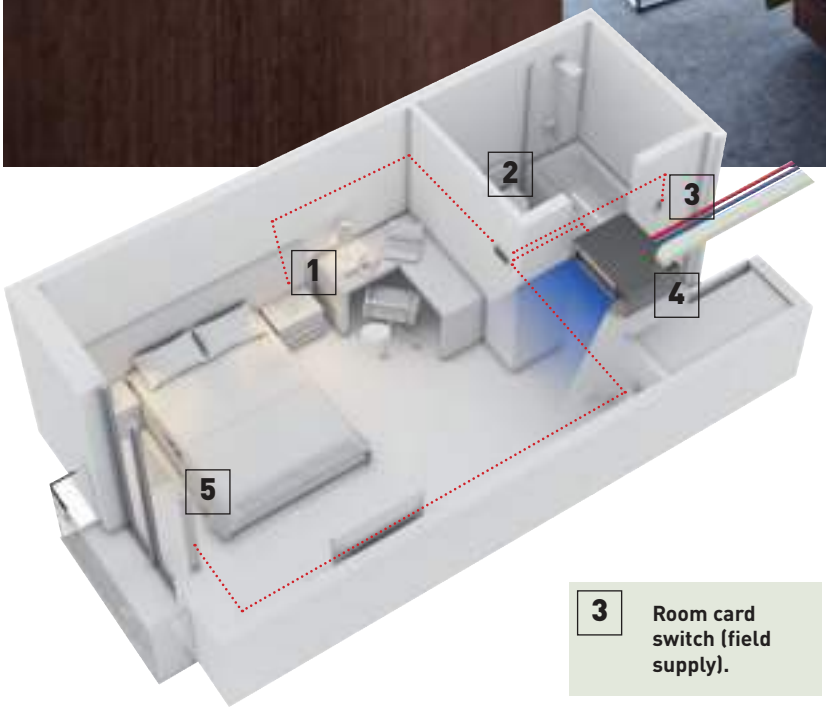
In the morning.
Thorough cooling when there is a high level of activity

In the afternoon.
Reduced cooling when there are fewer people

At night.
Automatic Thermo OFF depending on conditions at the end of the day

Controller for hotel application





3 **Room card switch (field supply).**

Controller to integrate all room hotel needs in one device.
Card switch. Heating and cooling control. Light control. Window control. Possible to connect to Modbus.

1

Lighting control.

2

Wall sensor PAW-WMS-AC (-DC).

4

Indoor unit. Variable static pressure hide away.

5

Window contact PAW-DWC.

Ceiling motion sensor PAW-CMS-AC (-DC).

Innovative line up of room controllers specially designed for hotel applications. With a modern cosmetic that match room interiors and simple operation for hotel guests.

· Easy to install
· Cost effective installation as all electrical cable are centralized on this remote: The lighting, card contact, motion detector, window contact and the air conditioning are controlled
· Architect inspired attractive design with 2 colors: black or white
· Stand alone and Modbus
· Bespoke finish as special order

Energy saving functions included on the device.
Turns OFF air conditioning and lighting when room is unoccupied. Disables air conditioning when window is open. Maximum/minimum setpoint temperature configurable.

Easy remote controller.
The hotel guest will have access to limited functions to control the air conditioning: ON/OFF, Temperature and Fan speed.

Easy set up.
Stand alone model with easy configuration menu to access all parameters. A pre-define scenario can be uploaded on the remote controller connected to a computer to make installation on site Plug & Play (only on the Modbus models).

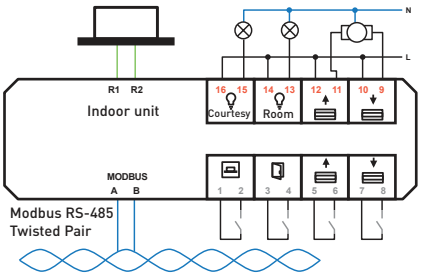
New NFC fast set up.
With the new touch display control and touch room controller setting are quicker than ever. Just touching smartphone with NFC capability the settings will be saved. This function is also possible even when the control is not wired. Giving flexibility to save the setting even before installation.

Type	Model	Colors	Digital inputs	Digital output	BMS	Inst. set up	T. sensor
Touch display controller	PAW-RE2D4-WH	White	2			NFC	Built-in
	PAW-RE2D4-BK	Black	2			NFC	Built-in
Touch room controller	PAW-RE2C4-MOD-WH	White	4	4	Modbus	NFC	Built-in
	PAW-RE2C4-MOD-BK	Black	4	4	Modbus	NFC	Built-in

Room controller: 4 digital inputs & 4 digital output

Room controller offers flexibility and easy installation thanks to 4 preconfigured options. This is available in Modbus type.
Modbus references: PAW-RE2C4-MOD-WH, PAW-RE2C4-MOD-BK.

Wiring configuration example for option 2 in Modbus type.

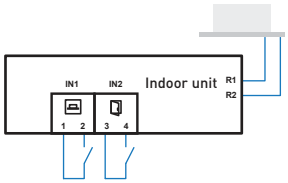


Configurations	4 options available I/O configurations: Inputs				Available I/O Configurations: Outputs			
	Digital	Digital	Digital	Analog	Relay	Relay	Relay	Relay
	1-2	3-4	5-6	7-8	15-16	13-14	11-12	9-10
Option 1	Card	Window	Lighting	Temperature	Courtesy	Lighting	Not used	Valve actuator
Option 2	Card	Window	Blinds up	Blinds down	Courtesy	Lighting	Blinds up	Blinds down
Option 3	Motion sensor	Window	Door contact	Temperature	Courtesy	Lighting	Not used	Valve actuator
Option 4	Lighting	Window	Blinds up	Blinds down	Not used	Lighting	Blinds up	Blinds down

Display: 2 digital inputs

Display control allows to handle 2 inputs to perform most common operation in room hotels.
References: PAW-RE2D4-WH, PAW-RE2D4-BK.

Wiring example for display controller.



Configurations	3 options available: Inputs	
	IN1 (1-2)	IN2 (3-4)
Option 1	Card	Window
Option 2	Motion sensor	Window
Option 3	Motion sensor	Door contact

Hotel room controller	
PAW-RE2C4-MOD-WH	Modbus RS-485 touch room controller with I/O, white
PAW-RE2C4-MOD-BK	Modbus RS-485 touch room controller with I/O, black
PAW-RE2D4-WH	Touch display control with 2 digital inputs, white
PAW-RE2D4-BK	Touch display control with 2 digital inputs, black

Accessories sensors	
PAW-WMS-DC	Wall silent motion sensor 24 V
PAW-WMS-AC	Wall silent motion sensor 240 V AC
PAW-CMS-DC	Ceiling silent motion sensor 24 V
PAW-CMS-AC	Ceiling silent motion sensor 240 V AC
PAW-24DC	Power supply 24 V
PAW-DWC	Door or window contact

BMS interface with P-Link

BMS interface with Panasonic communication bus helps you to get significant savings.
In addition to reducing the time of configuration and installation, the potential mistakes can be avoided.
Easy to use and reliable interfaces for a straightforward integration.

KNX
Modbus®
BACnet™

1 Direct connection to P-Communication bus

- No need for additional gateway (CZ-CFUNC2)
- Significant 50 % cost saving for BMS interface*
- Avoid mistakes and reduce configuration time.

* In the case of PAW-AC2-BAC-16P by Panasonic calculation.

2 Upgraded specifications and easy configuration

- Base PCB board with MCU, Ethernet, RS485, RS232 & USB
- Configuration by IP or USB
- New single configuration tool for all models (IntesisBox MAPS)
- Modular expansion PCBs (KNX, RS485, DALI, MBUS, LON, ANYBUS)

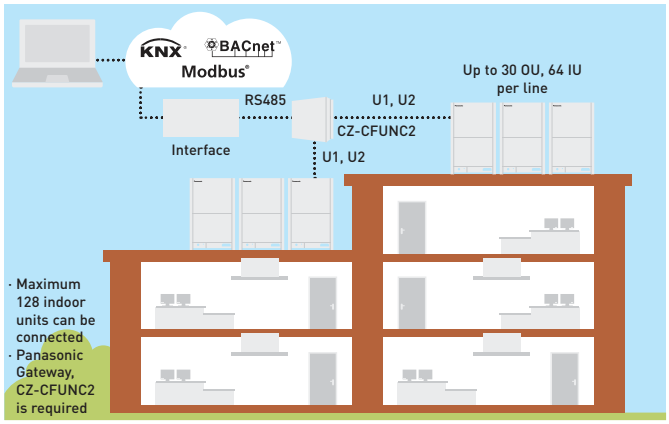
3 BTL certified for BACnet

- BACnet: Version 14 and BTL certified

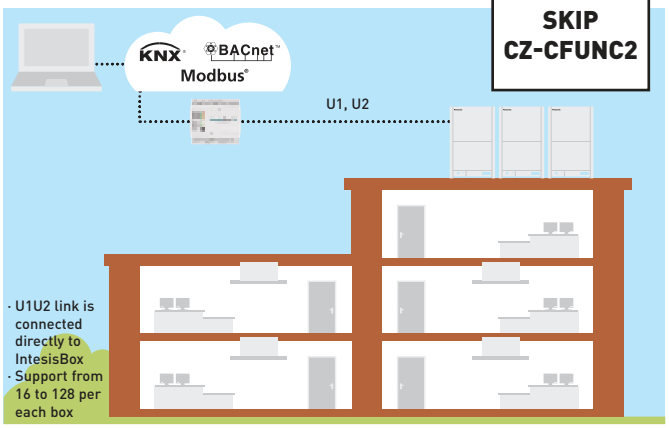
Direct connection to P-Communication bus

The interface can provide faster, cheaper, easier solution in your projects!

Conventional interface.



Interface with P-communication bus.



Upgraded specifications and easy configuration

- Base PCB board with MCU, Ethernet, RS485, RS232 and USB
- Modular expansion PCBs (KNX, RS485, DALI, MBUS, LON, ANYBUS)
- Frontal PCB with all LEDs, buttons and USB console port
- New single configuration tool for all models (IntesisBox MAPS)
- Improved version of the current communication stacks, BTL and KNX Certifications will be possible
- Recoverey of current configuration project working in V6
- Local logging of interface data via USB without the need for a PC
- Configuration by IP or USB (old generation RS232)
- CB certification for EU, US, CA and AU. Also UL marked product

Model for BACnet	Maximum number of indoor units connected
PAW-AC2-BAC-16P	16 indoor units
PAW-AC2-BAC-64P	64 indoor units
PAW-AC2-BAC-128P	128 indoor units
Model for Modbus	**Maximum number of indoor units connected**
PAW-AC2-MBS-16P	16 indoor units
PAW-AC2-MBS-64P	64 indoor units
PAW-AC2-MBS-128P	128 indoor units
Model for KNX	**Maximum number of indoor units connected**
PAW-AC2-KNX-16P	16 indoor units
PAW-AC2-KNX-64P	64 indoor units

Version	Connectable indoor units	Connectable outdoor units	Nr. of P- Communication bus port
16	1-16	1-16	1
64	1-64	1-30	1
128	128 (1-64 / P- Communication bus port)	60 (1-30 / P- Communication bus port)	2

Control and Connectivity

Centralized control systems

BMS system. PC base.

CZ-CSWKC2
P-AIMS. Basic software.
Up to 1024 groups. Controls 1024 units.

Connection with 3rd party controller.

CZ-CAPDC2
Seri-Para I/O unit for outdoor unit.
Up to 4 outdoor units.

CZ-CAPC3
ON/OFF control for external devices such as ERV.
Controls 1 unit.

CZ-CAPBC2
Mini Seri-Para I/O Unit
0 - 10 V.
Controls 1 indoor unit or a group of 8 indoor units.

CZ-CFUNC2
Communication adaptor.
Up to 128 groups.
Controls 128 units.

AC Smart Cloud.

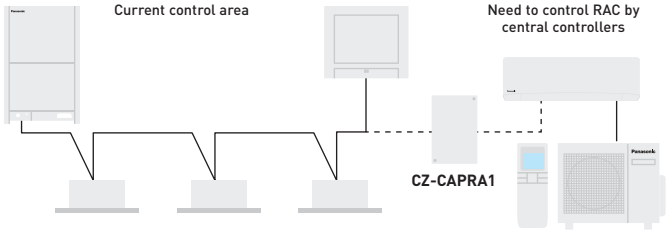
CZ-CFUSCC1
Cloud internet control.
Up to 128 groups. Controls 128 units.

Domestic integration to P-Link - CZ-CAPRA1

Can connect RAC range to P-Link. Full control is now possible.

Integrates any unit in big system control.

- TKEA / PKEA server room integration
- Small offices with domestic indoors
- Tender for refurbishment (old system domestic and VRF in one installation)



Current system for PACi / VRF. Central controller can connect to P-Link line to control units directly.

RAC units cannot connect directly to P-Link to be managed by central controllers.

It's necessary to have interface between P-Link and RAC protocol to cover basic operating items.

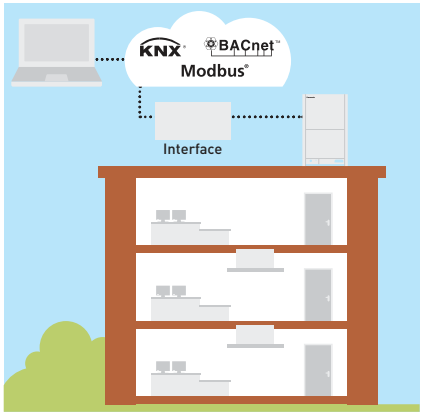
Basic operation items: ON/OFF, Mode select, Temperature setting, Fan speed, Flap setting, Remote control prohibit.
External input: ON/OFF control signal, abnormal stop signal.
External output for Relay [1]**:** Operation status (ON/OFF), alarm status output.

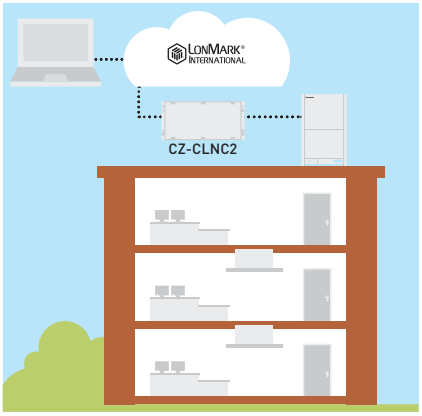
1) Because current CN-CNT connector can not provide the power for external output relay, additional Input power for external relay is necessary.

Easy connection to KNX, Modbus, LonWorks and BACnet

Great flexibility for integration into your KNX / Modbus / LonWorks / BACnet projects allows fully bi-directional monitoring and control of all the functioning parameters.

For more information, contact Panasonic.





			Econavi control	Built-in thermostat	Indoor units which can be controlled	Use limitations	Function ON/OFF	Mode setting	Fan speed setting	Temperature setting	Air flow direction	Permit/Prohibit switching	Weekly program	BMS protocol
Individual controllers														
Touch room controller for hotel with Dry Contacts		**PAW-RE2C4-MOD-WH** **PAW-RE2C4-MOD-BK** WH: White, BK: Black. Bespoke finish available on request.	—	✔	1 indoor unit	—	✔	✔	✔	✔	—	✔	—	Modbus + 4 digital I/O signals
Touch display control for hotel with Dry Contacts		**PAW-RE2D4-WH** **PAW-RE2D4-BK** WH: White, BK: Black. Bespoke finish available on request.	—	✔	1 indoor unit	—	✔	✔	✔	✔	—	✔	—	Stand alone + 2 digital inputs
Design wired remote controller		**CZ-RTC5B**	✔	✔	1 group, 8 units	· Up to 2 controllers can be connected per group	✔	✔	✔	✔	✔	—	✔	—
Wired remote controller		**CZ-RTC6** Non-wireless	✔	✔	1 group, 8 units	· Up to 2 controllers can be connected per group	✔	✔	✔	✔	✔	—	—	—
		CZ-RTC6BL With Bluetooth®	✔	✔	1 group, 8 units	· Up to 1 controller can be connected per group	✔	✔	✔	✔	✔	—	✔	—
		CZ-RTC6BLW With WLAN & Bluetooth® (available from Autumn 2020)	✔	✔	1 group, 8 units	· Up to 1 controller can be connected per group	✔	✔	✔	✔	✔	—	✔	—
Wired remote controller		**CZ-RTC2** For Floor-standing (MP1) indoor units	—	✔	1 group, 8 units	· Up to 2 controllers can be connected per group	✔	✔	✔	✔	✔	—	✔	—
Infrared remote controller		**CZ-RWS3 + CZ-RWRU3W** **CZ-RWS3** **CZ-RWS3 + CZ-RWRL3** **CZ-RWS3 + CZ-RWRD3** **CZ-RWS3 + CZ-RWRT3** **CZ-RWS3 + CZ-RWRC3**	✔	—	1 group, 8 units	· Up to 2 controllers can be connected per group	✔	✔	✔	✔	✔ [1]	—	—	—
Centralized controllers														
Central controller with weekly timer		**CZ-64ESMC3**	✔	—	64 groups, maximum 64 units	· Up to 10 controllers, can be connected to one system · Main unit/sub unit (1 main unit + 1 sub unit) connection is possible · Use without remote controller is possible	✔	✔	✔	✔	✔ [1]	✔	✔	—
Only ON/OFF operation from central station. ON/OFF controller		**CZ-ANC3**	—	—	16 groups, maximum 64 units	· Up to 8 controllers (4 main units + 4 sub units) can be connected to one system · Use without remote controller is impossible	✔	—	—	—	—	✔	—	—
Intelligent controller (touch screen panel)		**CZ-256ESMC3**	✔	—	Main unit: 128. Up to 256 units can be expanded	· Communication adaptor CZ-CFUNC2 is necessary for connection with more than 128 units	✔	✔	✔	✔	✔ [1]	✔	✔	—

1. Setting is not possible when a remote controller unit is present (use the remote controller for setting). * All specifications subject to change without notice.

Individual controllers

Room controller for hotel rooms

PAW-RE2C4-M0D-WH // PAW-RE2C4-M0D-BK
· Easy to install
· Cost effective installation as all electrical cables are centralised on this remote
· Architect inspired attractive design
· Direct connection to the Indoor unit with all primary functions of indoor unit available
· 2 options available: Stand alone and Modbus communication
· Colours: WH: White. BK: Black
· Room controller: 4 digital inputs and 4 digital outputs

From this remote controller.
The lighting, card contact, motion detector, window contact and the air conditioning are controlled.

Energy saving functions included on the device.
· Turns OFF air conditioning and lighting when room is unoccupied
· Disables air conditioning when window is open
· Maximum/minimum setpoint temperature configurable

Fast and simple set up.
Set up is simple and easy for room controllers. But it is extremely easy and quick with touch models, which can be set up by using smartphone with NFC technology, even when control is not yet installed / powered.

Display control for hotel rooms

PAW-RE2D4-WH // PAW-RE2D4-BK
· Easy to install
· Cost effective installation as all electrical cables are centralised on this remote
· Architect inspired attractive design
· Direct connection to the Indoor unit with all primary functions of indoor unit available
· Stand alone communication
· Colours: WH: White. BK: Black
· Basic hotel function: 2 digital inputs

From this remote controller.
The card contact, motion detector, window contact and the air conditioning are controlled.

Energy saving functions included on the device.
· Disables air conditioning when window is open
· Maximum/minimum setpoint temperature configurable

Fast and simple set up.
Set up with smartphone with NFC technology, even when control is not yet installed/powered.

New wired remote controller

NEW 2020

nanoe™ X

ECONAVI

CZ-RTC6 // CZ-RTC6BL // CZ-RTC6BLW [1]
· 3 line-up. CZ-RTC6: Non-wireless, CZ-RTC6BL: Bluetooth®, CZ-RTC6BL: WLAN & Bluetooth®
· Intuitive control with stylish design profile
· Clean face with full flat & black LCD display
· Dimension (H x W x D): 86 x 86 x 25 mm

Panasonic H&C Control App [2].
· Daily remote control operation via Bluetooth®
· Quick and easy App set-up for system setting

Panasonic H&C Diagnosis App [3].
· Easy access to service parameters and service checker data via Bluetooth®

Basic operation.
· Mode setting: Heat / Cool / Dry / Fan / Auto
· Temperature setting
· Fan speed: 5 levels
· Air flow direction
· nanoe™ X & Econavi setting
· Weekly program [4]

1) Available from Autumn 2020, compatible with new PACi NX Series.
2) CZ-RTC6BL or CZ-RTC6BLW required.
3) A service checker interface is required and available from Autumn 2020. Compatible with new PACi NX Series.
4) Can be set from Panasonic H&C Control App.

Design wired remote controller

datanavi
nanoeX
ECONAVI

CZ-RTC5B
· Power consumption monitor (only for PACi)
· Flat face design & touch sensor switch for stylish design and operating usability
· New functions such as for energy saving & monitoring and for service use are available on the full dot LCD (3,5" display)
· Improved illumination
· White LED backlit
· Blink when alarm occurs

Datanavi
· Scan & save AC system info
· Easy access to manual database
· Commissioning, F-Gas check data history

* Panasonic App is required on your smartphone.

Basic Operation.
· Operation
· Mode
· Temperature setting
· Air flow volume
· Air flow direction

Timer function.
· Outing function
· Weekly program timer
· Easy ON/OFF timer
· Time display

Energy saving.
· Outing function
· Temperature setting range limitation
· Temperature auto return
· OFF remind
· Schedule demand control
· Energy saving mode
· Energy monitoring

Others.
· Key lock
· Ventilation fan control
· Display contrast adjustment
· Remote controller sensor
· Quiet operation mode
· Prohibit setting control from central controller
· Rotation / backup control

* Power consumption monitoring is available for all PACi systems except R410A PACi Standard.
* Rotation and backup control with CZ-RTC5B is available for all PACi systems.

Wired remote controller

CZ-RTC2 (for Floor standing (P1) indoor units)
· Time function 24 hours real time clock (week day indicator)
· Weekly programme function (a maximum of 6 actions can be programmed for each day)
· Sleeping function (this function controls the room temperature for comfortable sleeping)
· Maximum 8 indoor units can be controlled from one remote controller
· Remote controller by main remote controller and sub controller is possible (maximum 2 remote controllers (main remote controller and sub controller) can be installed for one indoor unit)
· Possible to connect to the outdoor unit using PAW-MRC cable for servicing purposes
· Outing function (this function can prevent the room temperature from dropping or rising when the occupants are out for a long time)

Basic remote controller ON/OFF.
· Operation mode changeover (Cooling, Heating, Dry, Auto, Fan)
· Temperature setting (Cooling / Dry: 18 ~ 30 °C Heating: 16 ~ 30 °C)
· Fan speed setting High / Medium / Low and Auto
· Air flow direction adjustment
· Dimensions (H x W x D): 120 x 120 x 16 mm

Individual controllers

Infrared remote controller

nanoe™X
ECONAVI

CZ-RWS3 + CZ-RWRU3W // CZ-RWS3 // CZ-RWS3 + CZ-RWRL3 // CZ-RWS3 + CZ-RWRD3 // CZ-RWS3 + CZ-RWRT3 // CZ-RWS3 + CZ-RWRC3

- Easy installation for the 4 Way Cassette type simply by replacing the corner part
- 24 hour timer function
- Remote controller by main remote controller and sub controller is possible (Max. 2 remote controllers (main remote controller and sub controller) can be installed for one indoor unit)
- When CZ-RWS3 is used, infrared control becomes possible for all indoor units (1: when a separate receiver is set up in a different room, control from that room also becomes possible. 2: automatic operation by means of the emergency operation button is possible even when the remote controller has been lost or the batteries have been exhausted)
- Operation of separate energy recovery ventilators (when commercial ventilation fans or heat-exchange ventilation fans have been installed, they can be operated with this remote controller (interlocked operation with the indoor unit or independent ventilation ON/OFF)

CZ-RWS3 + CZ-RWRU3W
For 4 Way 90x90 Cassette.

CZ-RWS3
For Wall Mounted and 4 Way 60x60 (with a panel) and Floor Console.

CZ-RWS3 + CZ-RWRL3
For 2 Way Cassette.

CZ-RWS3 + CZ-RWRD3
For 1 Way Cassette.

CZ-RWS3 + CZ-RWRT3
For Ceiling.

CZ-RWS3 + CZ-RWRC3
For all indoor units.

Remote sensor

CZ-CSRC3

- This remote sensor can be connected to any PACi or VRF unit. Use it to detect the room temperature when no remote controller sensor or body sensor is used (connection to a system without a remote controller is possible)
- For joint use with a remote controller switch, use the remote controller switch as main remote controller
- Batch group control for up to 8 indoor units
- Appearance design based on simplified remote controller chassis
- Dimensions (H x W x D): 120 x 70 x 17 mm
- Weight: 70 g
- Temperature/Humidity range: 0 °C to 40 °C / 20 % to 80 % (no condensation) (indoor use only)
- Power source: 16 V DC (supplied from indoor unit)
- Maximum number of connectable indoor units: Up to 8 units

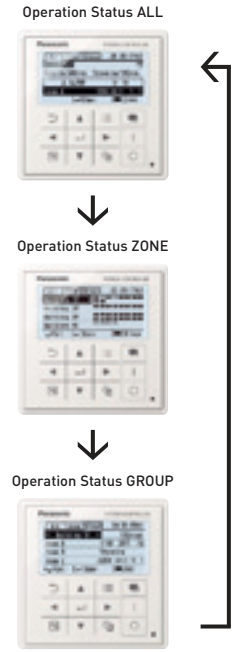
Control contents		Part name, model No.	Quantity
Standard control	· Control of the various operations of the indoor unit by wired or infrared remote controller · Cooling or heating mode of the outdoor unit is decided by the first priority of the remote controller · Switching between remote controller sensor and body sensor is possible	High spec wired remote controller: CZ-RTC5B Infrared remote controller: CZ-RWS3 + CZ-RWRU3W // CZ-RWS3 + CZ-RWRL3 // CZ-RWS3	1 unit each
(1) Group control	· Batch remote controller on all indoor units · Operation of all indoor cells in the same mode · Up to 8 units can be connected	High spec wired remote controller: CZ-RTC5B Infrared remote controller: CZ-RWS3 + CZ-RWRU3W // CZ-RWS3 + CZ-RWRL3 // CZ-RWS3	1 unit
(2) Main/ sub remote controller	· Maximum 2 remote controllers per indoor unit · The button pressed last has priority · Timer setting is possible even with the sub remote controller	Main or sub.: High spec wired remote controller: CZ-RTC5B Infrared remote controller: CZ-RWS3 + CZ-RWRU3W // CZ-RWS3 + CZ-RWRL3 // CZ-RWS3	As required

Centralised controllers

System controller with schedule timer

ECONAVI

Sample display image / Operation status display



CZ-64ESMC3
Operation with various functions from central station.
Panasonic unveils state-of-the-art digital controller.
Panasonic's innovative and easy to use interface that offers full functionality with an integrated schedule timer and system controller, making managing heating and cooling systems easier than ever before. The CZ-64ESMC3 includes Panasonic's popular schedule timer, which gives users full flexibility over when they want their property heated or cooled. Users can adjust the system for holidays, pausing operations for long periods of time so that energy isn't wasted heating or cooling an empty home or office. The controller also allows six operations per day to be programmed.

Mix of current 2 controllers: System controller + schedule timer.
System controller will be designed by taking priority on these 2 operations with following technical key points:
· Same operation feeling as wired remote controller by touch-key panel
· High visibility and usability by full-dot LCD
· Based on high wired remote controller
· Maximum 64 group of indoor units, individual control for 64 units
· 4 zone control; 1 zone = maximum 16 groups
· Several energy saving function (based on CZ-RTC5B)
· 6 timer program per day for 1 week (7 days) operation (total 6 x 7= 42 programs)
· Basic setting items (Temperature, Mode, Fan speed, Flap position) can be set by same manner as CZ-RTC5B

Function list:
Central control functions:
· Central control / individual setting
  - Start-stop prohibition for remote controller
  - Start-stop / Mode change / Temperature setting prohibition for remote controller
  - Mode change / Temperature setting prohibition for remote controller
  - Mode change prohibition for remote controller
  - Select items for prohibition
· Filter information
  - Filter sign
  - Filter sign reset
· Ventilation setting

Timer functions and external I/O:
· Weekly timer
  - Timer setting enable / disable
  - Copy of timer setting
· Maintenance
  - External signal (Start / Stop) (Demand control)
  - Centralized control master-slave setting
  - Alarm history
· Initial setting
  - Clock

Energy saving, maintenance and operating functions:
· Energy saving control
  - Econavi ON/OFF
· Filter information
  - Filter sign and hour counter display
· Maintenance
  - Service contact
· Initial setting
  - Clock display setting
  - Name Setting
  - Operation lock setting
  - Operation sound setting
  - LCD contrast setting
  - LCD backlight setting
  - Select displayed language (EN/FR/IT/ES/DE)
  - Administrator password
· Setting information list

ON/OFF controller

CZ-ANC3
Only ON/OFF operation from central station.
· 16 groups of indoor units can be controlled
· Collective control and individual group (unit) control can also be performed
· Up to 8 ON/OFF controller (4 main, 4 sub) can be installed in one link system
· The operation status can be determined immediately
· Dimensions (H x W x D): 121 x 122 x 14 + 52 mm (embedding dimension)

Power supply: 220 to 240 V AC.
I/O part: Remote input (effective voltage: within 24 V DC): All ON/OFF.
Remote output (allowable voltage: within 30 V DC): ON, Alarm.

Note: As operation mode and temperature settings are not possible with the ON/OFF controller, it must be used together with a remote controller, a system controller etc.

Centralised controllers

Intelligent controller (touch screen panel)

ECONAVI

CZ-256ESMC3
Simplified load distribution ratio (LDR) for each tenant.
Dimensions (H x W x D): 240 x 280 x 20 (+60) mm.
Power supply: Single Phase 100-240 V ~ 50/60 Hz.
Maximum number of connectable indoor units: 256 units (maximum per link: 64 units).
Maximum number of connectable outdoor units: 120 units (maximum per link: 30 units).
· Central control device: Up to 10 units
Enlarged display screen: 10,4 inch touch-panel colour LCD. Pursuing visibility, ease of use.
Retrieve data from USB memory: Place the USB port inside the panel (USB memory available in stores). Communication adaptor: CZ-CFUNC2*.

* CZ-CFUNC2 is required to connect more than 128 indoor units.

Functions:
· Graph display (trends, comparisons)
· Econavi ON/OFF
· Outdoor unit quiet operation ON/OFF
· Energy saving functions: Set temperature auto return settings, Auto shut OFF, Set temperature range limit settings, Energy saving for PAC current value,etc.
· Event control (such as equipment linkage)
· Performs closing at end of any period

Operation and status.
You can check to operational status (ON/OFF, operating mode, alarms, etc.) of all indoor units and outdoor units in real time.
You can also select indoor units to change their settings.

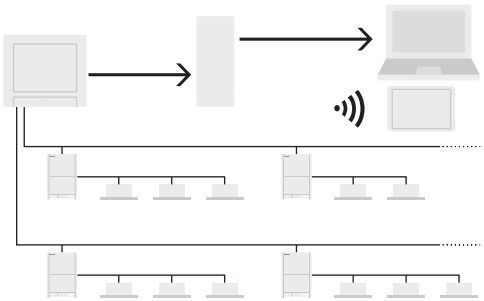
Operation scheduling.
You can register daily operation schedules (ON/OFF time, operating modes, set temperatures, etc.) for individual indoor units or groups of indoor units.
Operations can be schedule for up to 2 years in advance.

Load distribution calculation for each tenant.
· Air-conditioner load distribution ratio is calculated for each unit (tenant) with used energy consumption data (m^3, kWh)
· Calculated data is stored as a CSV type file
· Data from the last 365 days is stored

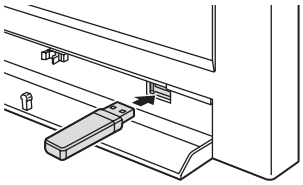
Web application. Web access & control from remote station.
· Accessing from remote PC
· You can monitor/operate system by using web browser

Remote controller.
The LAN terminal on this unit enables you connect it to a network. Connecting to Internet will enable you to operate the unit and check the status using a PC from a remote location*.

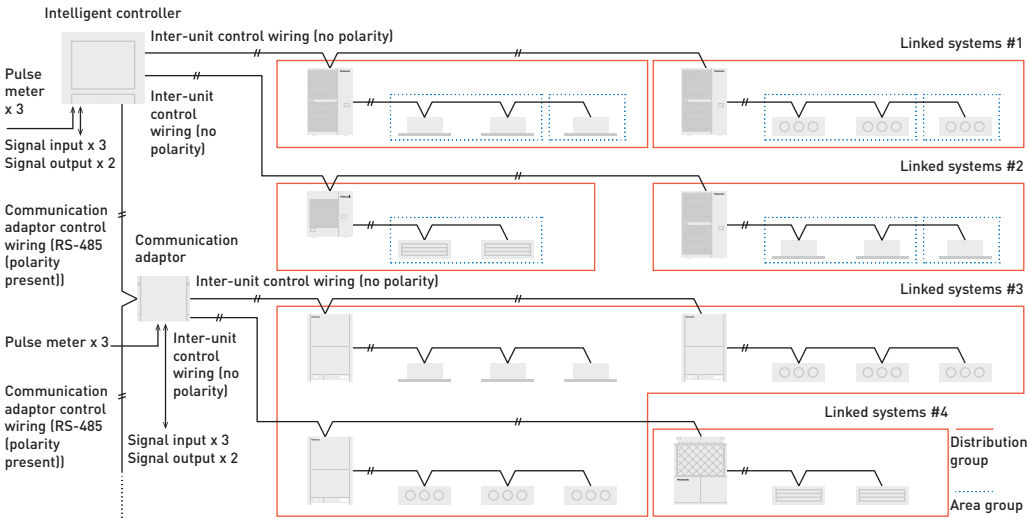
* Remote access rights and additional IT infrastructure / programming may be required.



Backup tool to save your commissioning time.
Various data such as distribution, setting, log history etc. can be saved by CSV file.
Setting data of CSV file is available to edit and import to the controller again.
You can save time for commissioning and change setting flexibly and easily by your PC.
· Customize data
· Data recovery
Data can be imported again by general USB.



System configuration example.

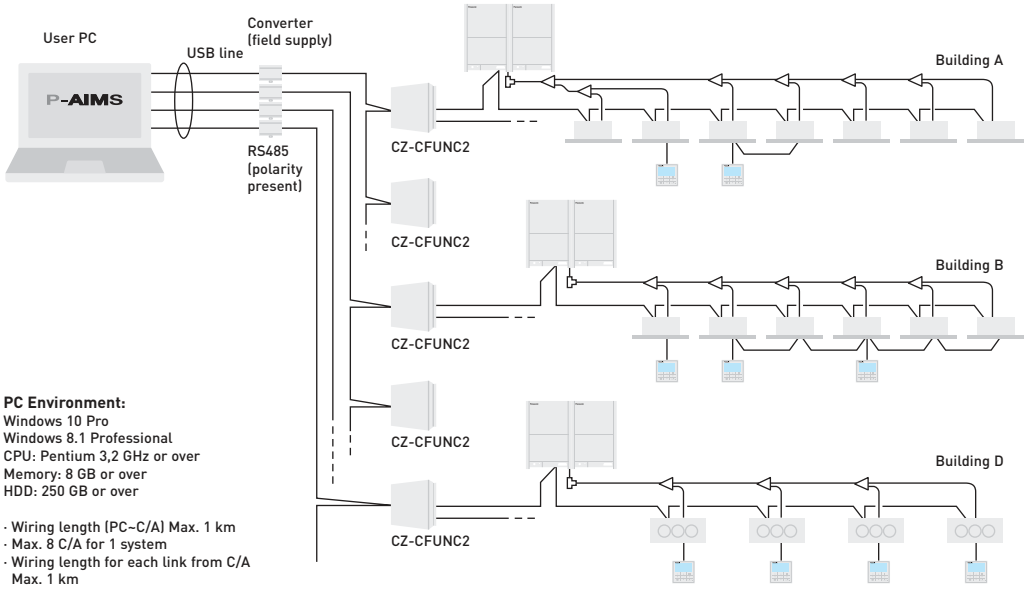


P-AIMS. Panasonic Total Air conditioning Management System

CZ-CSWKC2 / P-AIMS Basic software.
Up to 1024 indoor units can be controlled by one PC.

Functions of basic software.
· Standard remote controller for all indoor units.
· Many timer schedule programs can be set on the calender.
· Detailed information display for alarms.
· CSV file output with alarm history, operating status.
· Automatic data backup to HDD.

P-AIMS is suitable for large shopping centers and universities with many areas/ buildings. 1 "P-AIMS" PC can have 4 independent systems at once.
Each system can have maximum 8 C/A units, and control maximum 512 units. In total, 1024 indoor units can be controlled by 1 "P-AIMS" PC.



PC Environment:
Windows 10 Pro
Windows 8.1 Professional
CPU: Pentium 3,2 GHz or over
Memory: 8 GB or over
HDD: 250 GB or over

· Wiring length (PC–C/A) Max. 1 km
· Max. 8 C/A for 1 system
· Wiring length for each link from C/A Max. 1 km

P-AIMS optional software CZ-CSWAC2 for load distribution. Load distribution calculation for each tenant.
· Air-conditioner load distribution ratio is calculated for each unit (tenant) with used energy consumption data (m^3, kWh)
· Calculated data is stored as a CSV type file
· Data from the last 365 days is stored

P-AIMS optional software CZ-CSWWC2 for web application.
Web access & control from remote station.
· Accessing P-AIMS software from remote PC
· You can monitor/operate ECOi System by using web browser (Internet Explorer)

P-AIMS optional software CZ-CSWGC2 for object layout display. Whole system can be controlled visually.
· Operating status monitor is available on the layout display
· Object's layout and indoor unit's location can be checked at once
· Each unit can be controlled by virtual remote controller on the display
· Max. 4 layout screens are shown at once

P-AIMS optional software CZ-CSWBC2 for BACnet software interface. Connectable to BMS system.
· Can communicate with other equipment by BACnet protocol
· ECOi System can be controlled by both BMS and P-AIMS
· Maximum 255 indoor units can be connected to 1 PC (that has P-AIMS basic & BACnet software).

With 4 upgrade packages the basic software can be upgraded to suit individual requirements.

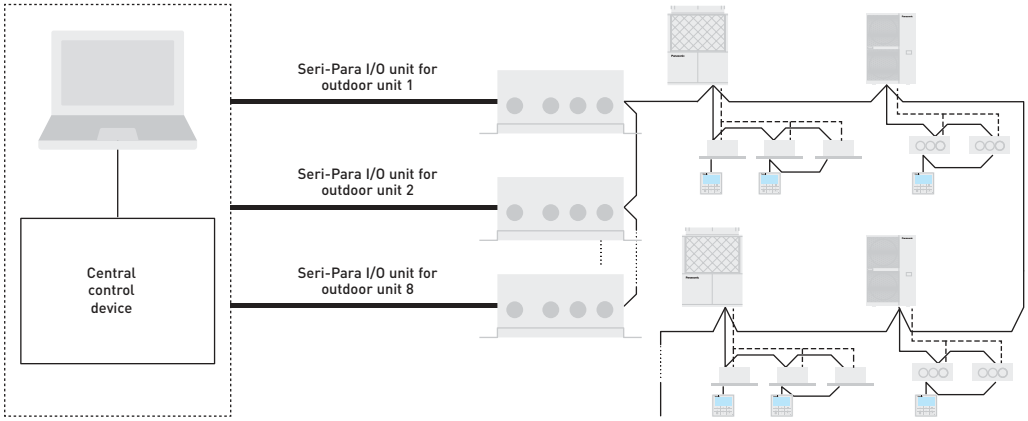
Centralised controllers

Seri-Para I/O unit for outdoor unit

CZ-CAPDC2 for ECOi / CZ-CAPDC3 for Mini ECOi and PACi.
Connection with 3rd party controller.
· This unit can control up to 4 outdoor units
· From the central control device, mode changing and batch operation/batch stop are possible
· Required for demand control

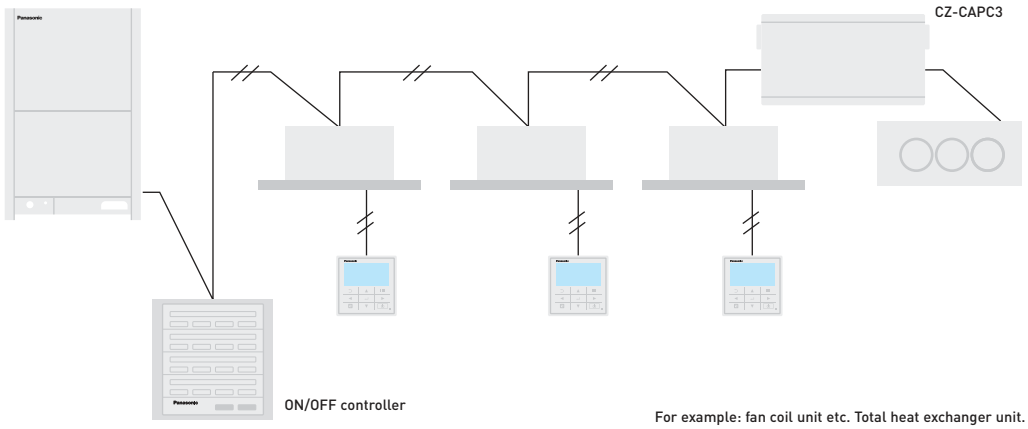
Dimensions (H x W x D): 80 x 290 x 260 mm.
Power supply: Single phase 100/200 V (50/60 Hz), 18 W.

Input: Batch operation/Batch stop (non-voltage contact/24 V DC, pulse signal). Cooling/Heating (non-voltage contact/static signal). Demand 1/2 (non-voltage contact/static signal) (local stop by switching).
Output: Operation output (non-voltage contact). Alarm output (non-voltage contact).
Wiring length: Indoor/outdoor operation lines: Total length 1km. Digital signal: 100 m or shorter.



Local adaptor for ON/OFF control

CZ-CAPC3
Connection with 3rd party controller.
· Control and status monitoring is possible for individual indoor unit (or any external electrical device up to 250 V AC, 10 A) by contact signal



For example: fan coil unit etc. Total heat exchanger unit.

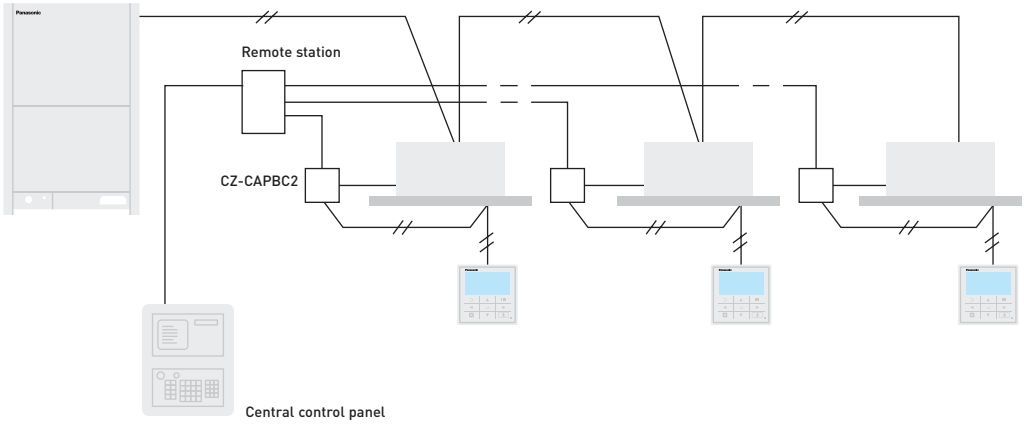
MINI Seri-Para I/O Unit 0 -10 V

CZ-CAPBC2

Connection with 3rd party controller.

- Control and status monitoring is possible for individual indoor unit (1 group)
- In addition to operation and stop, there is a digital input function for air speed and operation mode
- Temperature setting and measuring of the indoor suction temperature can be performed from central monitoring
- Power is supplied from the T10 terminal of the indoor units
- The analog input for demand of the outdoor capacity by 20 steps (from 40 % to 120 %) by 0-10 V
- The analog input for temperature setting is 0 to 10 V, or 0 to 140 Ohm
- Separate power supply also is possible (in case of suction temperature measuring)

* Ask to your distributor.



Communication adaptor for VRF connectivity

CZ-CFUNC2

This communication interface is required to connect a ECOi and GHP systems to a BMS. An additional interface is needed to convert the information into KNX / Modbus / BACnet language. CZ-CFUNC2 is very easy to operate and to connect to the Panasonic P-Link, which is the ECOi bus. From the CZ-CFUNC2, all the indoor and outdoor units of the installation can be easily control. Two linked wiring systems can be connected to one CZ-CFUNC2.
Dimensions (H x W x D): 260 x 200 x 68 mm

* As this is not a splash-proof design, it must be installed indoors or in the control panel, etc.

PACi and VRF control and connectivity

Controls and connectivities are the key to offer better comfort and price. Panasonic offers its customers cutting-edge technology, specially designed to ensure our air conditioning systems deliver optimal performance.

BMS CONNECTIVITY

PACi, ECOi and ECO G connectivity

The interface has been designed specifically for Panasonic and provides complete monitoring, control and full functionality of the line-up from IntesisHome, KNX, Modbus, BACnet and LonWorks installations.
This connectivity solution with "PAW" model names is made by a third party company, please contact Panasonic for more information.

	Room controller	Interface	BMS Type	Maximum number of indoor units connected
ECOi / PACi indoor units	SER8150R0B1194 / SER8150R5B1194		Modbus / BACnet	1 Unit/group
		PAW-RC2-KNX-1i	KNX	1 (1 Group of indoor units)
		PAW-RC2-MBS-1	Modbus RTU [1]	1 (1 Group of indoor units)
		PAW-RC2-MBS-4	Modbus	4 Indoor/groups
		PA-RC2-WIFI-1	IntesisHome	1 (1 Group of indoor units)
		PAW-RC2-BAC-1	BACnet	1
PACi / ECOi / ECO G P-Link		PAW-AC2-KNX-16P	KNX	16
		PAW-AC2-KNX-64P	KNX	64
		PAW-AC2-MBS-16P	Modbus	16
		PAW-AC2-MBS-64P	Modbus	64
		PAW-AC2-MBS-128P	Modbus	128
		PAW-TM-MBS-RTU-64	Modbus RTU [2]	64
		PAW-TM-MBS-TCP-128	Modbus TCP [2]	128
		PAW-AC2-BAC-16P	BACnet	16
		PAW-AC2-BAC-64P	BACnet	64
		PAW-AC2-BAC-128P	BACnet	128
		CZ-CLNC2	LonWorks	16 Groups of maximum 8 indoor units, in total maximum 64 indoor units

1) Interface Modbus RTU/TCP is needed in case if Modbus TCP connection. PAW-MBS-TCP2RTU (ModBus RTU Slave devices). 2) Interface CZ-CFUNC2 needed.

Airzone. Control of the Hide Aways

Airzone has developed interfaces to easily connect to Panasonic Commercial Hide Away units. Ensuring optimum performance, comfort and energy savings, the new system is efficient and easy to install.

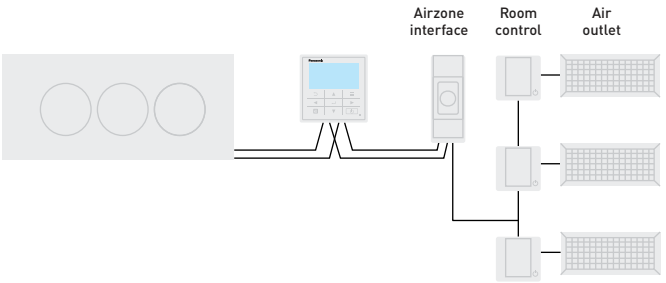
Airzone full range of accessories for any duct project.

Different type of outlets

Also plenum automatic doors

Full range of remote controls (wired / Infrared, ...)

AIRZONE



ECOi, ECO G and PACi connectivity indoor units

PCB's and cables for ECOi, ECO G and PACi indoor units.

Name of the cables	Function	Comment
CZ-T10	All T10 functions	Requires field supplied accessory
PAW-FDC	Operate external fan	Requires field supplied accessory
PAW-OCT	All option monitoring signals	Requires field supplied accessory
CZ-CAPE2	3-Pipe control PCB	Requires additional wires from spare part supply
PAW-EXCT	Forced Thermo OFF/Leakage D.	Requires field supplied accessory

Name of the PBC	Function	Comment
PAW-T10	All T10 functions	Allows easy connection "Plug & Play"
PAW-PACR3	Redundancy of 2 or 3 systems; for ECOi and PACi	Redundancy of 2 or 3 ECOi or PACi systems including temperature monitoring, error indication, backup, alternative run

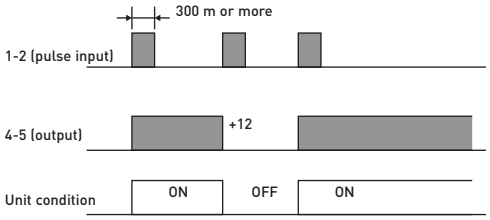
T10 connector (CN061)

CZ-T10
Panasonic has developed an optional accessory (consisting of plug + wires) called CZ-T10 to enable an easy connection to this T10 connector.

Connecting an ECOi indoor unit to an external device is easy. The T10 terminal featured in the electronic circuit board of all indoor units enables digital connection to external devices.

T10 terminal Specification (T10: CN015 at indoor unit PCB).

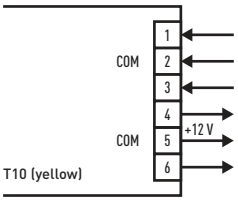
· Control items: 1. Start/stop input
2. Remote controller prohibit input
3. Start signal output
4. Alarm signal output



NOTE: The wire length from indoor unit to the relay must be within 2,0 m. Pulse signal changeable to static by cutting jumper JP001.

· Condition
1. 1-2 (Pulse input): Unit ON/OFF condition switching with a pulse signal. (1 pulse signal: shortage status more than 300 msec. or more)
2. 2-3 (Static input): Open / Operation with remote is permitted (Normal condition) Close / Remote controller is prohibited
3. 4-5 (Static output): 12 V output during the unit ON / No output at OFF
4. 5-6 (Static output): 12 V output when some errors occur / No output at normal

· Example of wiring

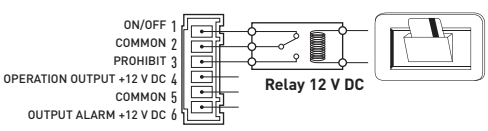


Usage example.
Forced OFF control.

Term 1 & 2: Free contact for ON/OFF signal (cut *JP1* for static signal) when the hotel card is it connected the contact must be close (the unit can be used).

Term 2 & 3: Free contact to prohibit all function in the remote controller install in the room when the hotel card is it removed the contact must be closed (the unit can not work).

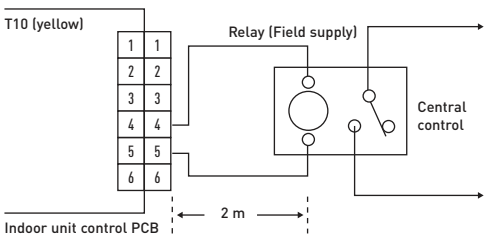
Terminal = T10



Operation ON/OFF signal output.

· Condition:
4-5 (Static output): 12 V output during the unit ON / No output at OFF

· Example of wiring



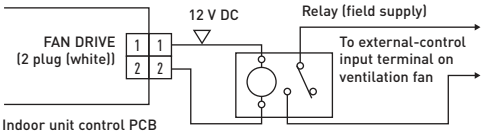
Note: The wire length from indoor unit to the Relay must be within 2,0 m. Pulse signal changeable to static by cutting jumper JP001.
* PACi-NX series is not compatible.

Fan drive connector (CN032)

PAW-FDC
Panasonic has developed an optional accessory (consisting of plug + wires) called PAW-FDC to enable an easy connection to this fan drive connector (CN032).

Operating the ventilation fan from the remote controller
- Start / stop of external ventilation and total heat exchanger fans
- Works even if indoor unit is stopped
- In case of group control ➔ all fans will operate; no individual control

External fan ON/OFF

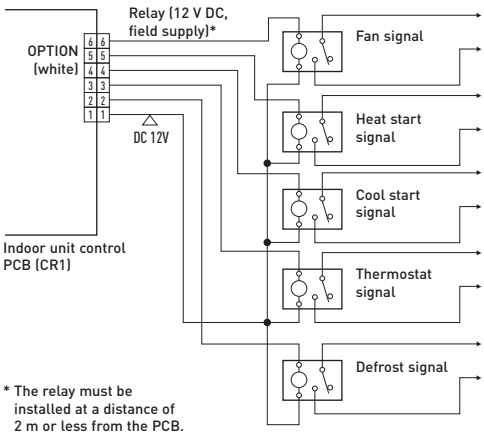


Option connector (CN060) output external signals

PAW-OCT
Panasonic has developed an optional accessory (consisting of plug + wires) called PAW-OCT to enable an easy connection to this Option Connector (CN060).

With the combination of the T10 and the option CN060 an external control of the indoor units is possible!

6P (white): Outputs external signals as shown in the figure below



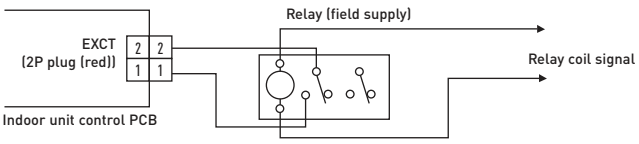
EXCT connector (CN009)

PAW-EXCT
Panasonic has developed an optional accessory (consisting of plug + wires) called PAW-EXCT to enable an easy connection to this EXCT Connector (CN009).

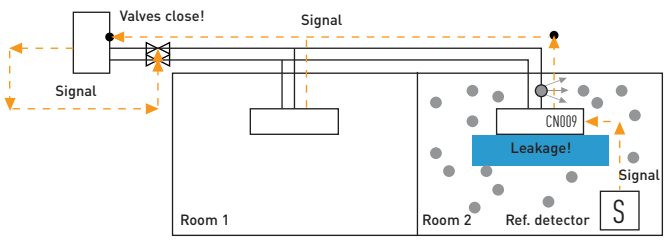
A) With static input.
➔ STATIC INPUT ➔ THERMO OFF ➔ ENERGY SAVING
2P plug (red): Can be used for demand control. When input is present, forces the unit to operate with the thermostat OFF.

Note: The length of the wiring from the indoor unit control PCB to the relay must be 2 m or less.

· Examples of wiring:



B) Example: In connection with a refrigerant sensor.
- Signal from leakage detector: non voltage, static.
- Indoor unit setting: Code 0b ➔ 1
- Connector for leak detector: EXCT
- Outdoor unit setting:
  Code C1 ➔ 1 power output if alarm from O2 connector 230 V
  Code C1 ➔ 2 power output if alarm from O2 connector 0 V
- Displayed alarm message P14




Panasonic
ECO i-W

Discover a new era of ECOi, the ECOi-W. Heat pump chillers

Panasonic introduces the new ECOi-W heat pump chiller series.
This new series provides a wide variety of HVAC system solutions, to meet all of your residential, commercial and industrial needs.

ECOi-W meets the customer's needs, with this fully customisable heat pump chiller

Unrivaled reliability and quality.
Panasonic solutions can be enjoyed for years to come, even in the most extreme climates. Panasonic does not compromise on product quality, safety or durability, in order to provide the ultimate comfort when you need it most.

ECO i - W

There is a reason to choose Panasonic as your partner.

Panasonic does not compromise on product quality, always strives for 100 % quality.
ECOi-W series offers smart technology meeting your needs at home and business.

Energy saving

HIGH SEER 4,04

High seasonal efficiency in cooling mode.
SEER follows COMMISSION REGULATION (EU) No 2016/2281.

HIGH SCOP 3,43

High seasonal efficiency in heating mode.
SCOP follows COMMISSION REGULATION (EU) No 813/2013.

High performance and comfortability

SUPER QUIET

Super quiet.
Extra quiet operation is available as standard (with sizes 20 – 40, 140 - 210).

BLUEFIN

Bluefin.
Bluefin coil comes as standard. The life time of coils have been extended thanks to the hydrophilic coating.

ULTIMATE CUSTOMISATION

Ultimate customisation.
Various pump, hydraulic, ambient options offered, plus many more.
Ultimate customization for your needs and environment.

AUTOMATIC FAN

Automatic fan operation.
The microprocessor control automatically adjusts the fan speed as a function of the operating conditions.

-17°C HEATING MODE

Down to -17 °C in heating mode.
The ECOi-W system works in heating mode at outdoor temperature down to -17 °C.

50°C COOLING MODE

Up to 50 °C in cooling mode.
The ECOi-W system works in cooling mode at outdoor temperature up to 50 °C.

DEFROST LIMITING

Defrost limiting cycle (140 – 210).
Each pair of coils can be defrosted wisely while the other pair of coils are running in heating mode.
This alternated defrost cycle ensures stable hot water even at low ambient conditions.

High connectivity

BMS CONNECTIVITY

BMS connectivity.
The communication port can be integrated into the ECOi-W system and provides easy connection and control.
Modbus RTU is equipped as standard. Modbus TCP/IP, BACnet IP and BACnet MSTP as optional availability.

Reliable quality

100% QUALITY
QUALITY CERTIFIED BY PANASONIC

Quality certified by Panasonic.
Panasonic does not compromise on product quality, safety, durability in order to provide the ultimate comfort when you need it most.

EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

Eurovent certified performance.
The performance of ECOi-W Series has been certified by Eurovent to prove the high quality and high performance by Panasonic.
https://www.eurovent-certification.com/

ErP

ECOi-W Series are compliant with ErP regulation.
SEER follows COMMISSION REGULATION (EU) No 2016/2281.
SCOP follows COMMISSION REGULATION (EU) No 813/2013.

Support materials for customers

AutoCAD 2D files and BIM models for ECOi-W full range is ready at Panasonic PROClub.
https://www.panasonicproclub.com

ECOi-W, the solution for hotels, offices and industry

ECOi-W provides the optimal performance in any climatic condition.

1 High energy saving and comfort
- High SEER/SCOP
- Quiet operation
- Integrate ECOi-W and VRF systems with BMS control

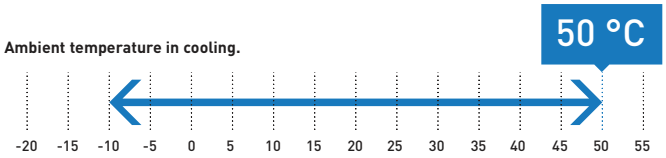
2 High flexibility
- From 20 kW to 210 kW
- Customisable design
- Operating range: -17 °C (heating) to 50 °C (cooling)
- Wide range of hydraulic options
- Wide range of communication protocols

3 High quality
- Defrost limiting coil design (140 to 210)
- Optimized design for service and maintenance
- Compact footprint

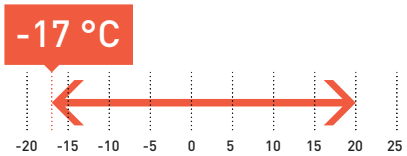
Operating conditions

Panasonic ECOi-W provides a wide operation range from -17 °C in heating to 50 °C in cooling.

Ambient temperature in cooling.

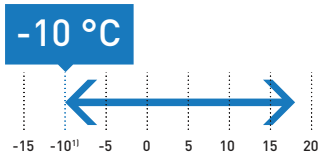


Ambient temperature in heating.

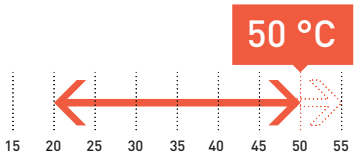


Cooling: Outside air temperature (°C (DB)). Heating: Outside air temperature (°C (WB)).

Water outlet temperature in cooling.
One of the uniquenesses which ECOi-W has, is the water outlet temperature down to -10 °C in cooling. It can ensure the operation temperature of the process equipment in factories.



Water outlet temperature in heating.



1) With glycol 45 %, 5 °C without glycol. 2) For 140-210 models.

55 °C[2)]

ECOi-W line-up

ECOi-W Size	20	25	30	35	40	45	55	65	75	90	105	125	140	150	170	190	210
Cooling capacities (kW)	19,4	25,3	26,9	35,8	37,4	46,8	53,3	65,8	71,6	91,4	106,2	121,9	125,4	137,6	150,9	175,8	195,4
Heating capacities (kW)	19,5	26,9	29,7	37,3	41,6	48,5	58,2	67,2	75,9	88,1	101,0	119,1	143,7	153,7	170,1	194,9	217,6
SEER	3,9	3,9	3,9	3,7	3,9	3,7	3,9	4,0	4,0	3,9	3,9	3,9	3,9	3,9	3,9	3,7	3,7
SCOP	3,4	3,3	3,3	3,4	3,4	3,2	3,3	3,4	3,4	3,3	3,3	3,4	3,3	3,4	3,3	3,3	3,2
Energy efficiency class (Scale A+++ to D) [1]	A+	A+	A+	A+	A+	A+	A+	A+									
Dimensions (H x W x D) [2]	1983 x 1000 x 1000			1983 x 1000 x 1000		1986 x 2180 x 1160		1986 x 2180 x 1160		2286 x 2180 x 1160			2295 x 2856 x 2210		2321 x 2856 x 2210		

1) Seasonal space heating energy efficiency class according to scale from A+++ to D. 2) Without buffer tank.

Panasonic Certified Quality

Class A pump

An efficient pump is equipped as a standard*. A wide range of single and double pump, plus pump drive option is available.

* Available in 20-40.

Axial AC/EC fan

The microprocessor control automatically adjusts the fan speed as a function of the operating conditions.

SWEP BP heat exchanger

Very compact & long durability of SWEP Braze Plate Heat Exchanger.
Unique design for the size 140 - 210 improving frost protection and efficiency.

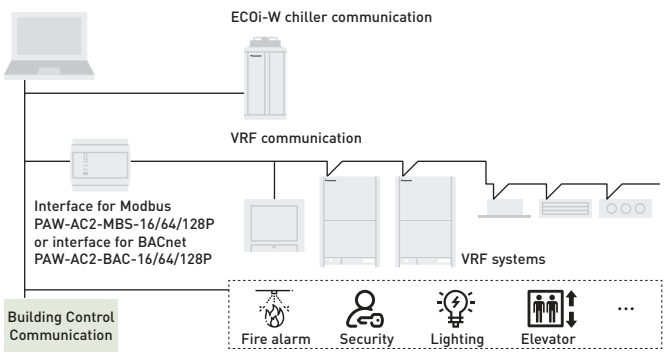
Model type supplied may vary.

Simple user friendly control

In addition to basic control functions...
- Intelligent logic control for inlet water temperature
- Night setback operation to reduce electrical consumption and noise
- Automatic test operation at the push of a button

BMS integration

Modbus RTU as standard.
Modbus TCP/IP, BACnet IP and BACnet MSTP as optional availability.
Integrated systems with ECOi-W Chiller, VRF and BMS control can be offered.



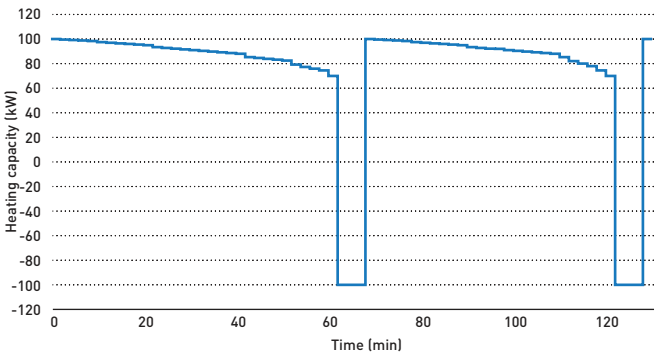
Panasonic does not compromise on product quality, safety or durability, in order to provide the ultimate comfort when you need it most.

Defrost limiting coil design

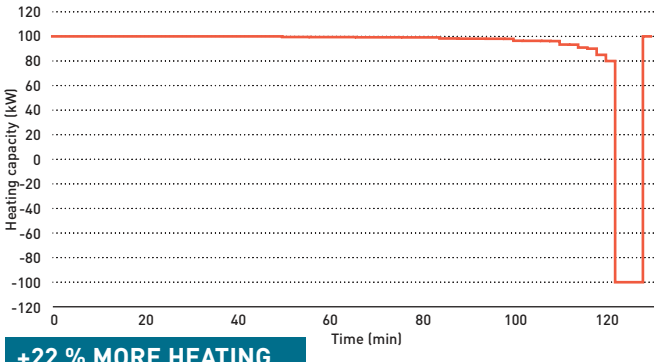
- Fin space increased to prevent the coil freezing
- Number of rows increased to maintain the same capacity in standard conditions
- Designed to decrease freezing frequency as soon as outdoor air temperature goes below 7 °C

* Available in 140-210.

Standard coil: 2 defrost cycles every 130 min.



Special coil design: 1 defrost cycle every 130 min.



+22 % MORE HEATING
+15 % HIGHER COP
SCOP IMPROVED

Victaulic grooved connection

Victaulic Installation-Ready™ couplings assure proper piping installation. Optimized design to reduce installation effects, including noise and vibration attenuation.

* Available in 140-210.
** Victailic connection kit (PAW-SYSVICTH) is optional.

Model type supplied may vary.

Bluefin as standard

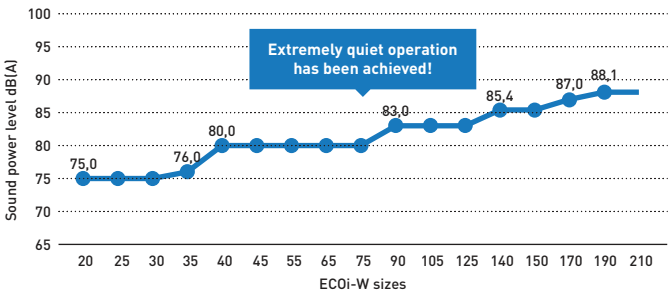
Bluefin anti-corrosion coating prevents salt damage for a longer life time.

Low noise

ECOi-W series is equipped with the compressor phonic insulation box as a standard.

* Standard in 20-40, 140-210. Optional in 45-125.

ECOi-W quiet operation in full range.



* Performance with standard fans. In the range 45-125, noise performance without low noise option.

Range of ECOi-W outdoor units

Page	Outdoor units	20 kW	25 kW	30 kW	35 kW	40 kW	45 kW	55 kW	65 kW	75 kW
P. 378	ECOi-W 20 to 40	 U-020CWNB U-020CWBS	U-025CWNB U-025CWBS	U-030CWNB U-030CWBS	 U-035CWNB U-035CWBS	U-040CWNB U-040CWBS				
P. 380	ECOi-W 45 to 75						 U-045CWNB U-045CWBM	U-055CWNB U-055CWBM	 U-065CWNB U-065CWBM	U-075CWNB U-075CWBM
P. 382	ECOi-W 90 to 125									
P. 384	ECOi-W 140 to 210									

	90 kW	105 kW	125 kW	140 kW	150 kW	170 kW	190 kW	210 kW
								
	U-090CWNB U-090CWBM	U-105CWNB U-105CWBM	U-125CWNB U-125CWBM					
								
				U-140CWNB U-140CWBL	U-150CWNB U-150CWBL	U-170CWNB U-170CWBL	U-190CWNB U-190CWBL	U-210CWNB U-210CWBL

U- 020/025/030/035/040 CW

Cooling capacity: 19,4 to 37,4 kW
Heating capacity: 19,5 to 41,6 kW

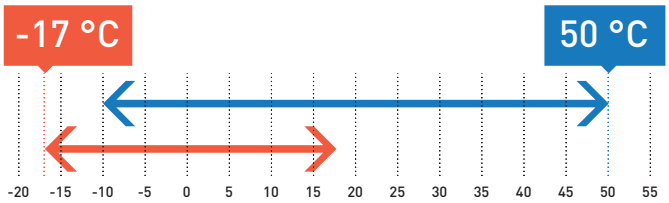
Compact and powerful heat pump chiller series with Panasonic quality verification. ECOi-W Series guarantees quiet operation.

20 - 25 - 30

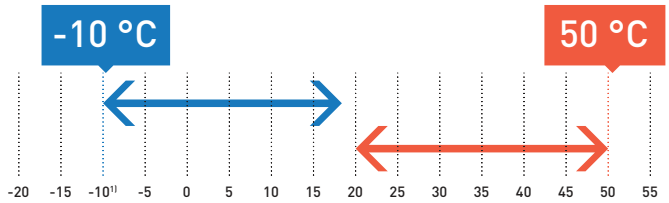
35 - 40

- High seasonal efficiency in cooling and heating
- Eurovent certified
- Ambient temperature operation range: -10 to +50 °C in cooling, -17 to +20 °C in heating
- Water outlet temperature range: -10 to +18 °C in cooling, +20 to +50 °C in heating
- Super quiet operation
- Optimized design for service and maintenance
- Simple user friendly control as standard
- Modbus RTU as standard

Ambient temperature.



Water outlet temperature.



Cooling: Outside air temperature (°C (DB)). Heating: Outside air temperature (°C (WB)).
1) With glycol 45 % maximum, 5 °C without glycol.

Technical focus

- Chiller type: heat pump
- Compressor type (number of compressors): Scroll compressors (2)
- Refrigeration type: R410A
- Refrigerant circuit: 1
- Fan type (number of fans): axial fan (1)
- Heat exchanger: stainless steel plate heat exchanger
- Flow switch, water safety & air purge valves included
- Water filter included (mandatory to be installed on site)
- Night mode setting to save energy and reduce noise level
- Water compensation curve control
- Bluefin anti-corrosion coating
- Optional hydraulic kit
- Optional finned coil treatment
- Optional Modbus TCP/IP, BACnet IP and BACnet MSTP

Available options

Options				
Pump	**Pump drive**	**Hydraulic options**	**Ambient options**	**Miscellaneous options**
Single pump (as standard)	Fixed speed	Low water pressure sensor	Finned coil treatment - epoxy	Soft starter
	Variable twin speed	Water isolation valves	Rubber pads	Power supply w/o neutral
	Variable capacity		Spring damper	Modbus TCP/IP
	Constant outlet pressure		All seasons	BACnet MSTP
	Constant differential pressure		Nordic pack	BACnet IP

See more details on page 388.

PAW-SYSREMKIT
Optional Remote control.

PAW-SYSS0V1
Optional Shut off valves kit for model 20 - 40.

Model			20	25	30	35	40
Standard without buffer tank			**U-020CWNB**	**U-025CWNB**	**U-030CWNB**	**U-035CWNB**	**U-040CWNB**
With buffer tank			**U-020CWBS**	**U-025CWBS**	**U-030CWBS**	**U-035CWBS**	**U-040CWBS**
Power supply	Voltage	V	400	400	400	400	400
	Phase		Three Phase	Three Phase	Three Phase	Three Phase	Three Phase
	Frequency	Hz	50	50	50	50	50
Cooling capacity [1]		kW	19,4	25,3	26,9	35,8	37,4
Input power cooling [1]		kW	6,10	8,61	9,34	13,51	13,64
Total EER 100 % [1]			3,18	2,94	2,88	2,65	2,74
SEER [2]			**3,9**	**3,9**	**3,9**	**3,7**	**3,9**
ηsc [2]		%	153,00	152,00	152,00	144,00	153,00
Heating capacity [3]		kW	19,5	26,9	29,7	37,3	41,6
Input power heating [3]		kW	6,11	9,28	9,93	13,23	13,51
SCOP [4]			**3,4**	**3,3**	**3,3**	**3,4**	**3,4**
ηsh [4]		%	132,00	128,00	128,00	132,00	133,00
Energy efficiency class (Scale A+++ to D) [5]			A+	A+	A+	A+	A+
Startup type			Direct	Direct	Direct	Direct	Direct
Maximum operating current		A	17,70	22,20	24,30	31,80	33,80
Startup current w/o softstarter / w softstarter		A	52,71 / 28,11	63,71 / 35,21	77,29 / 48,79	118,34 / 52,99	119,34 / 53,99
Sound power level (w standard fans)		dB(A)	75,0	75,0	75,0	76,0	76,0
Sound pressure level (w standard fans) [6]		dB(A)	42,8	42,8	42,8	43,8	43,8
Dimensions (w standard fans) w/o buffer tank	H x W x D	mm	1983 x 1000 x 1000	1983 x 1000 x 1000	1983 x 1000 x 1000	1983 x 1000 x 1000	1983 x 1000 x 1000
Dimensions (w standard fans) w buffer tank	H x W x D	mm	1983 x 1000 x 1507	1983 x 1000 x 1507	1983 x 1000 x 1507	1983 x 1000 x 1507	1983 x 1000 x 1507
Weight (w 1 pump) w/o buffer tank		kg	280	290	320	330	330
Weight (w 1 pump) w buffer tank		kg	345	355	385	395	395
Refrigerant (R410A)		kg	6,5	8,4	8,4	9,1	9,2
Number of refrigerant circuit			1	1	1	1	1
Compressors							
Number			2	2	2	2	2
Type			Scroll	Scroll	Scroll	Scroll	Scroll
Part load step		%	0 / 50 / 100	0 / 50 / 100	0 / 50 / 100	0 / 50 / 100	0 / 50 / 100
Crankcase heater		W	2x40	2x40	2x49	2x49	2x49
Evaporator							
Number			1	1	1	1	1
Type			Plate	Plate	Plate	Plate	Plate
Nominal water flow (cooling)		m³/h	3,35	4,36	4,64	6,16	6,44
Water pressure drop (cooling)		kPa	23	37	22	37	40
Water volume		l	1,78	1,78	2,55	2,55	2,55
Antifreeze heater		W	30	30	30	30	30
Coils							
Number			1	1	1	1	1
Frontal surface		m²	2,4	2,4	2,4	2,8	2,8
Number of rows			2	2	2	2	2
Fans standard							
Number			1	1	1	1	1
Airflow		m³/h	9000	13000	13000	16000	16000
Rotation speed		r.p.m.	900	900	900	650	650
Power input (each fan)		W	620	940	940	930	930
Water connections							
Type			Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228
Inlet - diameter		Inch	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
Outlet - diameter		Inch	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2

Accessories	
PAW-SYSREMKIT	Remote control

Accessories	
PAW-SYSS0V1	Shut off valves kit for model 20 - 40

1) Data refers to 7 °C leaving chilled water temperature and 35 °C condenser air temperature, according EN14511 standard. 2) Following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers. 3) Data refers to 45 °C leaving warm water temperature and 7 °C ambient coil air temperature with 87 % R.H., according EN14511 standard. 4) Following COMMISSION REGULATION (EU) No 813/2013 for low-temperature heat pumps. 5) Following COMMISSION REGULATION (EU) No 811/2013 for low-temperature heat pumps. Scale from A+++ to D, as of 26th September 2019. 6) Sound pressure levels calculated at 10 meters. Sound pressure levels refer to ISO standard 3744 with parallel piped shape.
* w: with, w/o: without.

HIGH SEER 3,91 | HIGH SCOP 3,40 | ErP | SUPER QUIET | BLUEFIN | ULTIMATE CUSTOMISATION | AUTOMATIC FAN | -17°C HEATING MODE | 50°C COOLING MODE | BMS CONNECTIVITY

U - 045/055/065/075 CW

Cooling capacity: 46,8 to 71,6 kW
Heating capacity: 48,5 to 75,9 kW

High seasonal efficiency in cooling, maximum SEER 4,04 in this range. ECOi-W Series offers a variety of options to meet your needs.

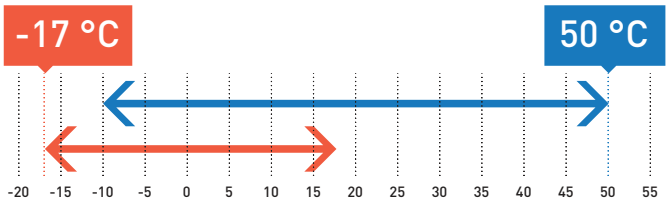
45 - 55

65 - 75

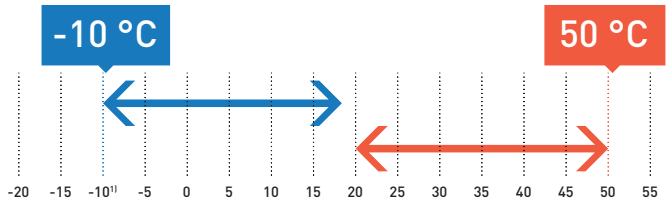
EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

- High seasonal efficiency in cooling and heating
- Eurovent certified
- Ambient temperature operation range: -10 to +50 °C in cooling, -17 to +20 °C in heating
- Water outlet temperature range: -10 to +18 °C in cooling, +20 to +50 °C in heating
- Optional extra-low noise kit available
- Optimized design for service and maintenance
- Simple user friendly control as standard
- Modbus RTU as standard

Ambient temperature.



Water outlet temperature.



Cooling: Outside air temperature (°C (DB)). Heating: Outside air temperature (°C (WB)).
1) With glycol 45 % maximum, 5 °C without glycol.

Technical focus

- Chiller type: heat pump
- Compressor type (number of compressors): Scroll compressors (2)
- Refrigeration type: R410A
- Refrigerant circuit: 1
- Fan type (number of fans): axial fan (1 for 45/55, 2 for 65/75)
- Heat exchanger: stainless steel plate heat exchanger
- Flow switch, water safety & air purge valves included
- Water filter included (mandatory to be installed on site)
- Night mode setting to save energy and reduce noise level
- Water compensation curve control
- Bluefin anti-corrosion coating
- Optional hydraulic kit
- Optional finned coil treatment
- Optional Modbus TCP/IP, BACnet IP and BACnet MSTP

Available options

Options				
Pump	**Pump drive**	**Hydraulic options**	**Ambient options**	**Miscellaneous options**
Single pump	Fixed speed	Low water pressure sensor	Finned coil treatment - epoxy	Soft starter
Double pump	Variable twin speed	Water isolation valves	Outdoor coil protection grid	Power supply w/o neutral
	Variable capacity		Rubber pads	Modbus TCP/IP
	Constant outlet pressure		Spring damper	BACnet MSTP
	Constant differential pressure		All seasons fan control	BACnet IP
			Extra-low noise kit	Container transport
			High pressure fan	Refrigerant gauge

See more details on page 388.

PAW-SYSREMKIT
Optional Remote control.

PAW-SYSS0V2
Optional Shut off valves kit for model 45 - 75.

Model			**45**	**55**	**65**	**75**
Standard without buffer tank			**U-045CWNB**	**U-055CWNB**	**U-065CWNB**	**U-075CWNB**
With buffer tank			**U-045CWBM**	**U-055CWBM**	**U-065CWBM**	**U-075CWBM**
Power supply	Voltage	V	400	400	400	400
	Phase		Three Phase	Three Phase	Three Phase	Three Phase
	Frequency	Hz	50	50	50	50
Cooling capacity [1]		kW	46,8	53,3	65,8	71,6
Input power cooling [1]		kW	16,90	19,67	22,10	24,26
Total EER 100 % [1]			2,77	2,71	2,98	2,95
SEER [2]			**3,7**	**3,9**	**4,0**	**4,0**
ηsc [2]		%	145,00	151,00	159,00	157,00
Heating capacity [3]		kW	48,5	58,2	67,2	75,9
Input power heating [3]		kW	17,32	20,35	22,47	24,33
SCOP [4]			**3,2**	**3,3**	**3,4**	**3,4**
ηsh [4]		%	126,00	128,00	134,00	133,00
Energy efficiency class (Scale A+++ to D) [5]			A+	A+	A+	—
Startup type			Direct	Direct	Direct	Direct
Maximum operating current		A	40,20	44,20	59,40	64,40
Startup current w/o softstarter / w softstarter		A	133,20 / 65,80	140,20 / 72,80	201,43 / 101,03	206,43 / 106,03
Sound power level (w standard fans)		dB(A)	80,0	80,0	80,0	80,0
Sound pressure level (w standard fans) [6]		dB(A)	47,8	47,8	47,8	47,8
Dimensions (w standard fans) w/o buffer tank	H x W x D	mm	1986 x 2180 x 1160	1986 x 2180 x 1160	1986 x 2180 x 1160	1986 x 2180 x 1160
Dimensions (w standard fans) w buffer tank	H x W x D	mm	1986 x 2680 x 1160	1986 x 2680 x 1160	1986 x 2680 x 1160	1986 x 2680 x 1160
Weight (w 1 pump) w/o buffer tank		kg	540	540	610	610
Weight (w 1 pump) w buffer tank		kg	700	700	770	770
Refrigerant (R410A)		kg	14,0	14,3	18,9	19,3
Number of refrigerant circuit			1	1	1	1
Compressors						
Number			2	2	2	2
Type			Scroll	Scroll	Scroll	Scroll
Part load step		%	0 / 50 / 100	0 / 43 / 57 / 100	0 / 40 / 60 / 100	0 / 45 / 55 / 100
Crankcase heater		W	2x66	2x66	2x66	2x66
Evaporator						
Number			1	1	1	1
Type			Plate	Plate	Plate	Plate
Nominal water flow (cooling)		m³/h	8,06	9,18	11,30	12,31
Water pressure drop (cooling)		kPa	30	35	28	37
Water volume		l	4,10	4,10	6,10	6,10
Antifreeze heater		W	30	30	2x30	2x30
Coils						
Number			1	1	2	2
Frontal surface		m²	4,20	4,20	5,55	5,55
Number of rows			2	2	2	2
Fans standard						
Number			1	1	2	2
Airflow		m³/h	22500	22500	15000	15000
Rotation speed		r.p.m.	790	790	650	650
Power input (each fan)		W	1650	1650	930	930
Water connections						
Type			Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228
Inlet - diameter		Inch	2	2	2	2
Outlet - diameter		Inch	2	2	2	2

Accessories	
PAW-SYSREMKIT	Remote control

Accessories	
PAW-SYSS0V2	Shut off valves kit for model 45 - 75

1) Data refers to 7 °C leaving chilled water temperature and 35 °C condenser air temperature, according EN14511 standard. 2) Following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers. 3) Data refers to 45 °C leaving warm water temperature and 7 °C ambient coil air temperature with 87 % R.H., according EN14511 standard. 4) Following COMMISSION REGULATION (EU) No 813/2013 for low-temperature heat pumps. 5) Following COMMISSION REGULATION (EU) No 811/2013 for low-temperature heat pumps. Scale from A+++ to D, as of 26th September 2019. 6) Sound pressure levels calculated at 10 meters. Sound pressure levels refer to ISO standard 3744 with parallel piped shape.
* w: with, w/o: without.

HIGH SEER 4,04 | HIGH SCOP 3,43 | ErP ✔ | BLUEFIN | ULTIMATE CUSTOMISATION | AUTOMATIC FAN | -17°C HEATING MODE | 50°C COOLING MODE | BMS CONNECTIVITY

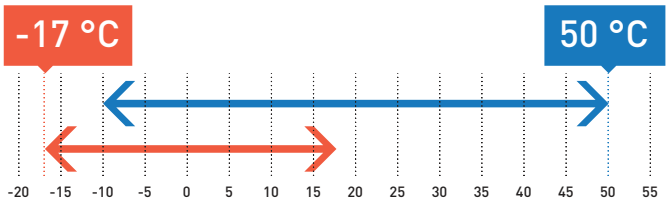
U - 090/105/125 CW

Cooling capacity: 91,4 to 121,9 kW
Heating capacity: 88,1 to 119,1 kW

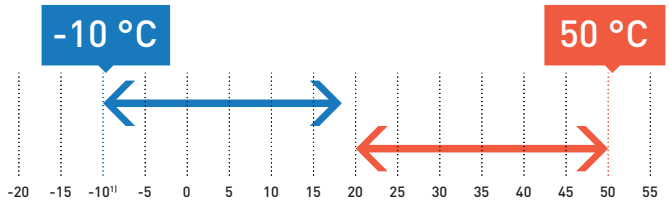
Customizable design gives high flexibility. Wide range of communication protocols fulfill the requirements in hotels, offices, industry applications.

- High seasonal efficiency in cooling and heating
- Eurovent certified
- Ambient temperature operation range: -10 to +50 °C in cooling, -17 to +20 °C in heating
- Water outlet temperature range: -10 to +18 °C in cooling, +20 to +50 °C in heating
- Optional extra-low noise kit available
- Optimized design for service and maintenance
- Simple user friendly control as standard
- Modbus RTU as standard

Ambient temperature.



Water outlet temperature.



Cooling: Outside air temperature (°C (DB)). Heating: Outside air temperature (°C (WB)).
1) With glycol 45 % maximum, 5 °C without glycol.

Technical focus

- Chiller type: heat pump
- Compressor type (number of compressors): Scroll compressors (2)
- Refrigeration type: R410A
- Refrigerant circuit: 1
- Fan type (number of fans): axial fan (2)
- Heat exchanger: stainless steel plate heat exchanger
- Flow switch, water safety & air purge valves included
- Water filter included (mandatory to be installed on site)
- Night mode setting to save energy and reduce noise level
- Water compensation curve control
- Bluefin anti-corrosion coating
- Optional hydraulic kit
- Optional finned coil treatment
- Optional Modbus TCP/IP, BACnet IP and BACnet MSTP

Available options

Options				
Pump	**Pump drive**	**Hydraulic options**	**Ambient options**	**Miscellaneous options**
Single pump	Fixed speed	Low water pressure sensor	Finned coil treatment - epoxy	Soft starter
Double pump	Variable twin speed	Water isolation valves	Outdoor coil protection grid	Power supply w/o neutral
	Variable capacity		Rubber pads	Modbus TCP/IP
	Constant outlet pressure		Spring damper	BACnet MSTP
	Constant differential pressure		All seasons fan control	BACnet IP
			Extra-low noise kit	Container transport
			High pressure fan	Refrigerant gauge

See more details on page 388.

PAW-SYSREMKIT
Optional Remote control.

PAW-SYSS0V3
Optional Shut off valves kit for model 90 - 125.

Model			**90**	**105**	**125**
Standard without buffer tank			**U-090CWNB**	**U-105CWNB**	**U-125CWNB**
With buffer tank			**U-090CWBM**	**U-105CWBM**	**U-125CWBM**
Power supply	Voltage	V	400	400	400
	Phase		Three Phase	Three Phase	Three Phase
	Frequency	Hz	50	50	50
Cooling capacity [1]		kW	91,4	106,2	121,9
Input power cooling [1]		kW	34,36	38,06	46,35
Total EER 100 % [1]			2,66	2,79	2,63
SEER [2]			**3,9**	**3,9**	**3,9**
ηsc [2]		%	153,00	152,00	153,00
Heating capacity [3]		kW	88,1	101,0	119,1
Input power heating [3]		kW	33,75	38,40	45,46
SCOP [4]			**3,3**	**3,3**	**3,4**
ηsh [4]		%	128,00	129,00	131,00
Startup type			Direct	Direct	Direct
Maximum operating current		A	77,90	86,00	102,00
Startup current w/o softstarter / w softstarter		A	264,90/127,30	311,96/145,76	349,96/182,56
Sound power level (w standard fans)		dB(A)	83,0	83,0	83,0
Sound pressure level (w standard fans) [5]		dB(A)	50,8	50,8	50,8
Dimensions (w standard fans) w/o buffer tank	H x W x D	mm	2286 x 2180 x 1160	2286 x 2180 x 1160	2286 x 2180 x 1160
Dimensions (w standard fans) w buffer tank	H x W x D	mm	2286 x 2680 x 1160	2286 x 2680 x 1160	2286 x 2680 x 1160
Weight (w 1 pump) w/o buffer tank		kg	790	900	920
Weight (w 1 pump) w buffer tank		kg	950	1060	1080
Refrigerant (R410A)		kg	22,0	32,3	33,0
Number of refrigerant circuit			1	1	1
Compressors					
Number			2	2	2
Type			Scroll	Scroll	Scroll
Part load step		%	0/45/55/100	0/38/62/100	0/33/67/100
Crankcase heater		W	66/82	66/95	66/95
Evaporator					
Number			1	1	1
Type			Plate	Plate	Plate
Nominal water flow (cooling)		m³/h	15,73	18,25	20,95
Water pressure drop (cooling)		kPa	26	34	45
Water volume		l	10,80	10,80	10,80
Antifreeze heater		W	2x30	2x30	2x30
Coils					
Number			2	2	2
Frontal surface		m²	6,4	6,4	6,4
Number of rows			2	3	3
Fans standard					
Number			2	2	2
Airflow		m³/h	21000	21000	21000
Rotation speed		r.p.m.	790	790	790
Power input (each fan)		W	1650	1650	1650
Water connections					
Type			Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228	Male gas threaded BSPP ISO 228
Inlet - diameter		Inch	2 1/2	2 1/2	2 1/2
Outlet - diameter		Inch	2 1/2	2 1/2	2 1/2

Accessories	
PAW-SYSREMKIT	Remote control

Accessories	
PAW-SYSS0V3	Shut off valves kit for model 90 - 125

1) Data refers to 7 °C leaving chilled water temperature and 35 °C condenser air temperature, according EN14511 standard. 2) Following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers. 3) Data refers to 45 °C leaving warm water temperature and 7 °C ambient coil air temperature with 87 % R.H., according EN14511 standard. 4) Following COMMISSION REGULATION (EU) No 813/2013 for low-temperature heat pumps. 5) Sound pressure levels calculated at 10 meters. Sound pressure levels refer to ISO standard 3744 with parallel piped shape.
* w: with, w/o: without.

HIGH SEER 3,89 | HIGH SCOP 3,35 | ErP ✔ | BLUEFIN | ULTIMATE CUSTOMISATION | AUTOMATIC FAN | -17°C HEATING MODE | 50°C COOLING MODE | BMS CONNECTIVITY

U - 140/150/170/190/210 CW

Cooling capacity: 125,4 to 195,4 kW
Heating capacity: 143,7 to 217,6 kW

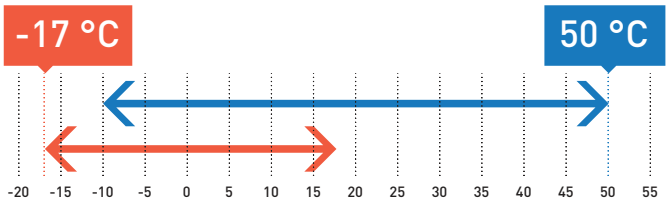
Heat pump chiller series with powerful operation by 4 scroll compressors. Maximum water outlet temperature in heating is up to 55 °C [1]. Defrost limiting design ensures to provide stable hot water even at low ambient conditions.

· Smart defrost:
Defrost limiting design to ensure a constant water outlet temperature even at very low temperatures

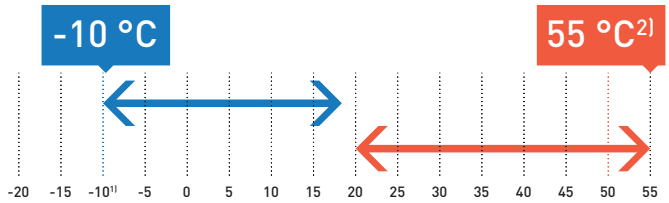
1 DEFROST CYCLE EVERY 130 MINUTES.	Heating Capacity: +22 % Integrated COP: +15 % Improved SCOP Class

· High seasonal efficiency in cooling and heating
· Eurovent certified
· Ambient temperature operation range: -10 to +50 °C in cooling, -17 to +20 °C in heating
· Water outlet temperature range: -10 to +18 °C in cooling, +20 - +55 °C [1] in heating
· Super quiet operation
· Victaulic water connections
· Optimized design for service and maintenance
· Simple user friendly control as standard
· Modbus RTU as standard
· Modbus TCP/IP as standard

Ambient temperature.



Water outlet temperature.



Cooling: Outside air temperature (°C (DB)). Heating: Outside air temperature (°C (WB)).
1) With glycol 45 % maximum, 5 °C without glycol. 2) Please contact an authorized Panasonic dealer in the case of condition > 50 °C.

Technical focus

· Chiller type: heat pump
· Compressor type (number of compressors): Scroll compressors (4)
· Refrigeration type: R410A
· Refrigerant circuit: 2
· Fan type (number of fans): axial fan (4)
· Heat exchanger: stainless steel plate heat exchanger
· Flow switch, water safety & air purge valves included
· Water filter included (mandatory to be installed on site)
· Night mode setting to save energy and reduce noise level
· Water compensation curve control
· Bluefin anti-corrosion coating
· Optional hydraulic kit
· Optional finned coil treatment
· Optional gauges hydraulic and refrigerant
· Optional BACnet

1) Please contact an authorized Panasonic dealer in the case of condition > 50 °C.

Available options

Options				
Pump	**Pump drive**	**Hydraulic options**	**Ambient options**	**Miscellaneous options**
Single pump Low Pressure	Fixed speed	Low water pressure sensor	Finned coil treatment - epoxy	Soft starter
Single pump High Pressure	Variable twin speed	Water isolation valves	Outdoor coil protection grid	Power supply w/o neutral
Double pump Low Pressure	Variable capacity	Hydraulic gauges	Rubber pads	Modbus TCP/IP
Double pump High Pressure	Constant outlet pressure		Spring damper	BACnet IP
	Constant differential pressure		All seasons fan control	Refrigerant gauge
			Nordic pack	
			High pressure fan	

See more details on page 388.

PAW-SYSREMKIT
Optional Remote control.

Model			140	150	170	190	210
Standard without buffer tank			**U-140CWNB**	**U-150CWNB**	**U-170CWNB**	**U-190CWNB**	**U-210CWNB**
With buffer tank			**U-140CWBL**	**U-150CWBL**	**U-170CWBL**	**U-190CWBL**	**U-210CWBL**
Power supply	Voltage	V	400	400	400	400	400
	Phase		Three Phase	Three Phase	Three Phase	Three Phase	Three Phase
	Frequency	Hz	50	50	50	50	50
Cooling capacity [1]		kW	125,4	137,6	150,9	175,8	195,4
Input power cooling [1]		kW	43,55	47,77	52,73	64,83	72,54
Total EER 100 % [1]			2,88	2,88	2,86	2,71	2,69
SEER [2]			**3,9**	**3,9**	**3,9**	**3,7**	**3,7**
ηsc [2]		%	152,00	152,00	153,00	145,00	144,00
Heating capacity [3]		kW	143,7	153,7	170,1	194,9	217,6
Input power heating [3]		kW	45,80	50,20	55,40	67,50	78,30
SCOP [4]			**3,3**	**3,4**	**3,3**	**3,3**	**3,2**
ηsh [4]		%	130,00	132,00	129,00	129,00	126,00
Startup type			Direct	Direct	Direct	Direct	Direct
Maximum operating current		A	108,00	119,00	136,00	153,00	170,00
Startup current w/o softstarter / w softstarter		A	251,00 / 130,00	262,00 / 141,00	324,00 / 161,00	341,00 / 178,00	396,00 / 201,00
Sound power level (w standard fans)		dB(A)	85,4	85,4	87,0	88,1	88,1
Sound pressure level (w standard fans) [5]		dB(A)	53,4	53,4	55,0	56,1	56,1
Dimensions (w standard fans) w/o buffer tank	H x W x D	mm	2295 x 2856 x 2210	2295 x 2856 x 2210	2321 x 2856 x 2210	2321 x 2856 x 2210	2321 x 2856 x 2210
Dimensions (w standard fans) w buffer tank	H x W x D	mm	2295 x 3666 x 2210	2295 x 3666 x 2210	2321 x 3666 x 2210	2321 x 3666 x 2210	2321 x 3666 x 2210
Weight (w 1 low Pa pump) w/o buffer tank		kg	1512	1515	1605	1677	1937
Weight (w 1 low Pa pump) w buffer tank		kg	1644	1647	1737	1809	2069
Refrigerant (R410A)		kg	2x24,7	2x24,7	24,7/33,3	2x33,3	2,33,3
Number of refrigerant circuit			2	2	2	2	2
Compressors							
Number			4	4	4	4	4
Type			Scroll	Scroll	Scroll	Scroll	Scroll
Part load step		%	0 / 24 / 26 / 48 / 50 / 52 / 74 / 76 / 100	0 / 23 / 27 / 46 / 50 / 54 / 73 / 77 / 100	0 / 20 / 24 / 44 / 45 / 55 / 69 / 80 / 100	0 / 22 / 28 / 44 / 50 / 56 / 72 / 78 / 100	0 / 19 / 31 / 38 / 50 / 62 / 69 / 81 / 100
Crankcase heater		W	4x66	4x66	3x66/82	2x82/2x66	2x95/2x66
Evaporator							
Number			1	1	1	1	1
Type			Plate	Plate	Plate	Plate	Plate
Nominal water flow (cooling)		m³/h	21,56	23,65	25,95	30,24	33,62
Water pressure drop (cooling)		kPa	33	39	24	32	40
Water volume		l	8,49	8,49	12,21	12,21	12,21
Antifreeze heater		W	60	60	120	120	120
Coils							
Number			4	4	4	4	4
Frontal surface		m²	11,88	11,88	11,88	11,88	11,88
Number of rows			2+2	2+2	2+3	3+3	3+3
Fans standard							
Number			4	4	4	4	4
Airflow		m³/h	56000	56000	71000	86000	83000
Rotation speed		r.p.m.	900	900	900	900	900
Power input (each fan)		W	940	940	940 - 1650	1650	1650
Water connections							
Type			Victaulic	Victaulic	Victaulic	Victaulic	Victaulic
Inlet - diameter		Inch	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2
Outlet - diameter		Inch	2 1/2	2 1/2	2 1/2	2 1/2	2 1/2

Accessories	
PAW-SYSREMKIT	Remote control

Accessories	
PAW-SYSVICTH	Victaulic connection kit for model 140 - 210

1) Data refers to 7 °C leaving chilled water temperature and 35 °C condenser air temperature, according EN14511 standard. 2) Following COMMISSION REGULATION (EU) No 2016/2281 for comfort application chillers. 3) Data refers to 45 °C leaving warm water temperature and 7 °C ambient coil air temperature with 87 % R.H., according EN14511 standard. 4) Following COMMISSION REGULATION (EU) No 813/2013 for low-temperature heat pumps. 5) Sound pressure levels calculated at 10 meters. Sound pressure levels refer to ISO standard 3744 with parallel piped shape.
* w: with, w/o: without.

HIGH SEER 3,91 | HIGH SCOP 3,36 | ErP | SUPER QUIET | BLUEFIN | AUTOMATIC FAN | ULTIMATE CUSTOMISATION | -17°C HEATING MODE | 50°C COOLING MODE | DEFROST LIMITING | BMS CONNECTIVITY

Control

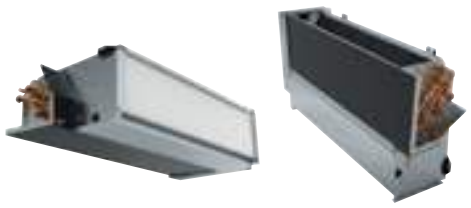
Simple user friendly control

Main features	
Basic operation	ON/OFF setting
	Cooling / Heating mode setting
Energy Saving	Intelligent logic control for inlet water temperature
	Night setback operation to reduce electrical consumption and noise
	Part load operating mode
	Maximum discharge temperature control
Service / Maintenance	Automatic test operation at the push of a button
	Alarm notice with the latest 10 alarms
	Counter for operating hours of compressor and pump
	Compressor operating limits saved in a flash memory
Others	BMS compatible (RS485 ModBus RTU or BacNet MSTP protocol)

A control panel with intuitive design is equipped on all ECOi-W systems as standard.

The microprocessor based control has a new IHM logic and implements a smart handling for your demand.

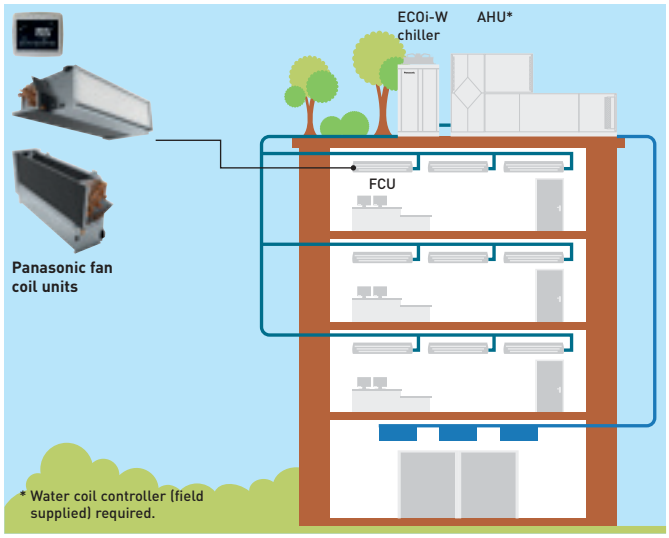
Fan coils application with ECOi-W heat pump chiller system



ECOi-W series can be integrated with fan coils to optimize comfort.

Easy to install, improved sound level and performance

Quiet & comfort operation.
Cooling capacity 1,0 to 15 kW. Heating capacity: 1,5 to 20 kW.



1 **Innovation for an optimum comfort**

2 **Low energy consumption fan**

3 **Efficient high-quality coil**

4 **Flexible installation: vertical or horizontal**

Range of fan coil units

This advanced controller provides a higher level and performance. The fan coil range consists of a compact ducted range ideal for residential and commercial use and one model with high static pressure for commercial applications. All units are certified by Eurovent, include drain pan and filter and are equipped with a low consumption fan motor.
The D type is even more flexible thanks to an L-shaped drain pan. The unit can be installed either in a horizontal or in a vertical position.

Fan coil controller PAW-FC-RC1

This advanced controller provides a higher level of comfort in heating. The sensor can be used as a water flow sensor, stopping the fan when the water temperature is low, avoiding cold drafts in winter.

Features:
· Room thermostat
· 3 outputs, 230 V relays for fan control
· 2 outputs, 230 V relays for heating / cooling control
· Modbus RTU slave
· 1 DI for presence detection (key card switch)
· 1 AI for sensor

			Compact units								High Static Pressure
Left side connection			**PAW-FC-D11-1**	**PAW-FC-D15-1**	**PAW-FC-D24-1**	**PAW-FC-D28-1**	**PAW-FC-D40-1**	**PAW-FC-D55-1**	**PAW-FC-D65-1**	**PAW-FC-D90-1**	**PAW-FC-H150**
Right side connection			**PAW-FC-D11-1-R**	**PAW-FC-D15-1-R**	**PAW-FC-D24-1-R**	**PAW-FC-D28-1-R**	**PAW-FC-D40-1-R**	**PAW-FC-D55-1-R**	**PAW-FC-D65-1-R**	**PAW-FC-D90-1-R**	**PAW-FC-H150-R**
Total cooling capacity [1]	Med/S-Hi	kW	1,0/1,5	1,2/1,7	2,0/2,5	2,4/3,2	3,2/4,6	4,6/5,8	6,1/7,3	6,1/8,1	11,9/14,8
Sensible cooling capacity [1]	Med/S-Hi	kW	0,8/1,1	0,9/1,3	1,5/1,9	1,8/2,3	2,2/3,3	3,3/4,5	4,3/5,1	4,6/6,3	9,6/12,9
Heating capacity [1]	Med/S-Hi	kW	1,4/2,0	1,5/2,2	2,4/3,1	2,9/4,0	4,1/5,7	5,3/7,1	7,9/9,3	8,1/11,6	14,9/19,9
Power consumption	S-Lo/Med/S-Hi	W	14/24/36	10/18/29	16/37/45	15/37/56	28/55/72	37/75/105	53/100/147	90/112/188	180/421/675
Fuse rating		A	2	2	2	2	2	2	2	2	6
Dimensions [2]	H x W x D	mm	220x570x430	220x570x430	220x753x430	220x938x430	220x1122x430	220x1307x430	220x1121x530	220x1316x530	356x1600x798
Weight [3]		kg	13	13	15	20	22	26	27	38	63
Sound power global	S-Lo/Med/S-Hi	dB(A)	33/40/49	31/43/50	30/45/52	30/44/51	34/46/56	38/51/58	43/56/61	50/55/64	52/64/71
Sound pressure global	S-Lo/Med/S-Hi	dB(A)	24/31/40	22/34/41	21/36/43	21/35/42	25/37/47	29/42/49	34/47/52	41/46/55	31/45/51
Static pressure	Max	Pa	30	30	50	50	70	70	70	70	110
Airflow [1]	Med/S-Hi	m³/h	190/283	179/265	274/390	357/499	486/716	640/933	893/1064	936/1397	2112/3176
Water pressure drop	Med/S-Hi	kPa	19,5/39,2	3,9/6,3	19,3/28,8	17,1/28	22,8/46,9	37,4/60,2	15,4/21,5	19,3/32,5	19,8/26,1
Fan speeds			3 speeds	3 speeds	3 speeds	3 speeds	3 speeds	3 speeds	3 speeds	3 speeds	3 speeds
Fan motor and number of speeds			AC 5 speeds	AC 5 speeds	AC 5 speeds	AC 5 speeds	AC 5 speeds	AC 5 speeds	AC 5 speeds	AC 5 speeds	AC 5 speeds
Drain pan and air filter			Included	Included	Included	Included	Included	Included	Included	Included	Included
Water connections		Inch	1/2	1/2	1/2	1/2	1/2	1/2	3/4	3/4	1

Accessories	
PAW-FC-RC1	Advanced wired remote controller for fan coils
PAW-FC-903TC	**NEW** Wired remote controller for fan coils (available from April 2020)
PAW-FC-2WY-11/55-1	2 way valve + drain pan (for PAW-FC-D11/15/24/28/40/55-1)
PAW-FC-2WY-65/90-1	2 way valve + drain pan (for PAW-FC-D65/90-1)

Accessories	
PAW-FC-2WY-150	2 way valve (for PAW-FC-H150)
PAW-FC-3WY-11/55-1	3 way valve + drain pan (for PAW-FC-D11/15/24/28/40/55-1)
PAW-FC-3WY-65/90-1	3 way valve + drain pan (for PAW-FC-D65/90-1)
PAW-FC-3WY-150	3 way valve (for PAW-FC-H150)

1) Airflow and capacity at 0 Pa of static pressure. 2) Including pan and electrical box. 3) Without water content. * Performances based on: Cooling: Air: 27 °C DB / 19 °C WB, Chilled water: 7 °C / 12 °C - Heating: Air: 20 °C DB, Hot water: 50 °C / 45 °C. ** Fan coil units are produced by Systemair.

Model referencing and options

Options table 20 - 125

Option	Type	Ref.	Description	Model											
1	Capacity			20	25	30	35	40	45	55	65	75	90	105	125
2	Refrigerant & compressor type	W	R410A fixed speed	•	•	•	•	•	•	•	•	•	•	•	•
3	Buffer tank option	NB	No buffer	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std
		BS	Buffer tank (small)	•	•	•	•	•							
		BM	Buffer tank (medium)						•	•	•	•	•	•	•
4	Pump option		No pump	•	•	•	•	•	Std	Std	Std	Std	Std	Std	Std
			Single pump	Std	Std	Std	Std	Std	•	•	•	•	•	•	•
			Double pump						•	•	•	•	•	•	•
5	Pump drive option		Pump drive - fixed speed *	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std
			Pump drive - variable twin speed (single pump)	•	•	•	•	•	•	•	•	•	•	•	•
			Pump drive - variable twin speed (double pump)						•	•	•	•	•	•	•
			Pump drive - variable capacity (single pump)	•	•	•	•	•	•	•	•	•	•	•	•
			Pump drive - variable capacity (double pump)						•	•	•	•	•	•	•
			Pump drive - constant outlet pressure (single pump)	•	•	•	•	•	•	•	•	•	•	•	•
			Pump drive - constant outlet pressure (double pump)						•	•	•	•	•	•	•
			Pump drive - constant differential pressure (single pump) **	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
6	Hydraulic options		No hydraulic option	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std
			Low water pressure sensor	•	•	•	•	•	•	•	•	•	•	•	•
			Water isolation valves	•	•	•	•	•	•	•	•	•	•	•	•
			Electric heater - low power						•	•	•	•	•	•	•
			Electric heater - high power						•	•	•	•	•	•	•
7	Ambient options		No ambient options	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std
			Finned coil treatment - epoxy	•	•	•	•	•	•	•	•	•	•	•	•
			Outdoor coil protection grid	•	•	•	•	•	•	•	•	•	•	•	•
			Rubber pads	•	•	•	•	•	•	•	•	•	•	•	•
			Spring damper	•	•	•	•	•	•	•	•	•	•	•	•
			All seasons (fan speed control)	•	•	•	•	•	•	•	•	•	•	•	•
			Nordic pack ***	•	•	•	•	•							
			Low noise	Std	Std	Std	Std	Std	•	•	•	•	•	•	•
			High pressure fan ****		•	•	•	•	•	•	•	•	•	•	•
8	Miscellaneous options		No miscellaneous options	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std
			Soft starter	•	•	•	•	•	•	•	•	•	•	•	•
			Power supply w/o neutral *****	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO	SO
			Standard BMS option (Modbus RTU)	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std	Std
			Modbus TCP/IP	•	•	•	•	•	•	•	•	•	•	•	•
			BACnet MSTP	•	•	•	•	•	•	•	•	•	•	•	•
			BACnet IP	•	•	•	•	•	•	•	•	•	•	•	•
			Container transport						•	•	•	•	•	•	•
			Refrigerant gauge						•	•	•	•	•	•	•

* Fixed speed pump drive is standard when selecting a pump. Please select an alternative pump drive if required.
** Constant differential pump drive option is only available on a special order and requires additional production time. Please contact your local sales representative.
*** The Nordic pack is not required on models 45 - 125 due to model design.
**** High pressure fan is not available on model 20 due to body design.
***** Power supply without neutral is only available on a special order and requires additional production time. Please contact your local sales representative.

Options table 140 - 210

Option	Type	Ref.	Description	Model				
1	Capacity			140	150	170	190	210
2	Refrigerant & compressor type	W	R410A fixed speed	•	•	•	•	•
3	Buffer tank option	NB	No buffer	Std	Std	Std	Std	Std
		BL	Buffer tank (large)	•	•	•	•	•
4	Pump option		No pump	Std	Std	Std	Std	Std
			Single pump low pressure	•	•	•	•	•
			Single pump high pressure	•	•	•	•	•
			Double pump low pressure	•	•	•	•	•
			Double pump high pressure	•	•	•	•	•
5	Pump drive option		Pump drive - fixed speed *	Std	Std	Std	Std	Std
			Pump drive - variable twin speed (single pump)	•	•	•	•	•
			Pump drive - variable twin speed (double pump)	•	•	•	•	•
			Pump drive - variable capacity (single pump)	•	•	•	•	•
			Pump drive - variable capacity (double pump)	•	•	•	•	•
			Pump drive - constant outlet pressure (single pump)	•	•	•	•	•
			Pump drive - constant outlet pressure (double pump)	•	•	•	•	•
			Pump drive - constant differential pressure (single pump) **	SO	SO	SO	SO	SO
			Pump drive - constant differential pressure (double pump) **	SO	SO	SO	SO	SO
6	Hydraulic options		No hydraulic option	Std	Std	Std	Std	Std
			Low water pressure sensor	•	•	•	•	•
			Water isolation valves	•	•	•	•	•
			Hydraulic gauges	•	•	•	•	•
7	Ambient options		No ambient options	Std	Std	Std	Std	Std
			Finned coil treatment - epoxy	•	•	•	•	•
			Outdoor coil protection grid ***	•	•	•	•	•
			Rubber pads	•	•	•	•	•
			Spring damper	•	•	•	•	•
			All seasons (fan speed control)	•	•	•	•	•
			Nordic pack	•	•	•	•	•
			Low noise	Std	Std	Std	Std	Std
			High pressure fan	•	•	•	•	•
8	Miscellaneous options		No miscellaneous options	Std	Std	Std	Std	Std
			Soft starter	•	•	•	•	•
			Power supply w/o neutral	•	•	•	•	•
			Standard BMS Option (Modbus RTU)	Std	Std	Std	Std	Std
			Modbus TCP/IP	•	•	•	•	•
			BACnet IP	•	•	•	•	•
			Refrigerant gauge	•	•	•	•	•

* Fixed speed pump drive is standard when selecting a pump. Please select an alternative pump drive if required.
** Constant differential pump drive options are only available on a special order and requires additional production time. Please contact your local sales representative.
*** Not available when using Nordic pack.


CO_2
REFRIGERATION

Panasonic condensing units with natural refrigerant

The new environmentally friendly CO_2 condensing units for commercial refrigeration.
With Panasonic condensing units you can expect: · Energy savings · Low noise levels · Light weight · Low refrigerant charge · Low installation cost · Low costs on servicing

Choose the green solution by Panasonic

ENVIRONMENTALLY FRIENDLY
CO_2
CONDENSING UNITS

Why CO_2?: Natural refrigerant

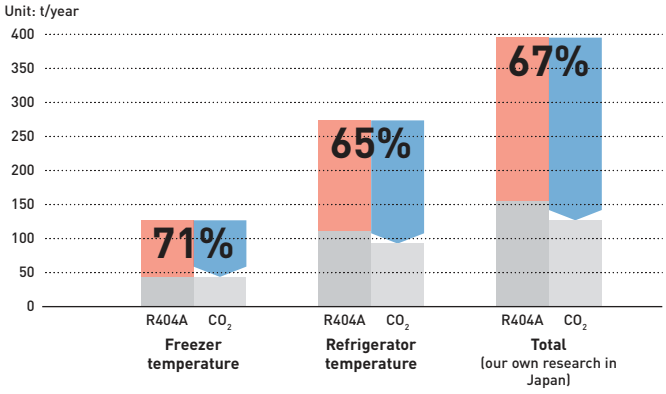
EU F-Gas regulation is a key priority for European countries. It ensures compliance with the Kigali Amendment supporting international climate commitments on greenhouse gases and leading the global transition to climate-friendly HFC-free technologies.
Carbon dioxide (R744) is regaining its place in the refrigeration world. Driven by environmental concerns, legislation now requires increased adoption of 'alternative' refrigerants, such as CO_2.
CO_2 is an environmentally-friendly solution, with zero ODP and "GWP" (Global Warming Potential)=1 means natural substance in the atmosphere.
In Europe a step-by-step HFC reduction has been in place since the F-Gas regulation was introduced in 2015.
Countries all over the world have actively been preparing to enact the necessary domestic legislation to implement the agreement to reduce the use of HFCs.

Panasonic is now able to provide a solution in Europe with CO_2 refrigeration systems to prevent global warming and to support environment-friendly retail operations.
The following table shows how well R744 (CO_2) performs regarding environmental impact and safety.

ODP (Ozone Depletion Potential) = 0 - GWP (Global Warming Potential) = 1.

	Next generation refrigerant			Current refrigerant	
	CO_2	Ammonia	Isobutane	R410A	R404A
ODP	**0**	0	0	0	0
GWP	**1**	0	4	2090	3920
Flammability	**Non flammable**	Light flammable	Flammable	Non flammable	Non flammable
Toxicity	**No**	Yes	No	No	No

Comparison of CO_2 emissions



ENERGY SAVING
25,4 % Freezer
16,2 % Refrigeration

CO_2 EMISSION
67 % Reduction

Direct influence [1]
Indirect influence [2]

1) Direct influence presents the effect of refrigerant leakage comparing R744 (CO_2) with R404A.
2) Indirect influence presents CO_2 emissions linked to power consumption of CO_2 unit and conventional units.

By Panasonic research in Japan. Comparing 6 shops average for R404A inverter multi condensing unit.

Energy saving

Natural CO_2 / R744.
R744 refrigerant provides higher energy saving and lower CO_2 emission compared to R404A. Zero ODP and GWP=1 means natural substance.

Inverter+.
Inverter Plus System classification highlights Panasonic's highest performing systems.

High efficiency compressor.
Powerful 2-stage CO_2 rotary compressor by Panasonic. It delivers high performance all year around.

High performance and comfortability

Super quiet.
Systems operate extremely quiet. Minimum 35,5dB(A) @10 m with 200VF5 model.

Operation range up to 43 °C.
The system operates up to 43 °C, allowing for installation in various locations.

Anti corrosion coating.
Selectable fin type with or without an anti corrosion coating. The anti corrosion coating prevents salt damage for a longer lifespan.

Heat recovery port.
The heat recovery port is available to cut running costs as optional. By utilizing exhausted heat generated by refrigeration to the energy source for heating.

Automatic fan.
Microprocessor control automatically adjusts the outdoor fan speed in CO_2 systems for efficient operation.

5 Years compressor warranty.
We guarantee the outdoor unit compressors in the entire range for five years.

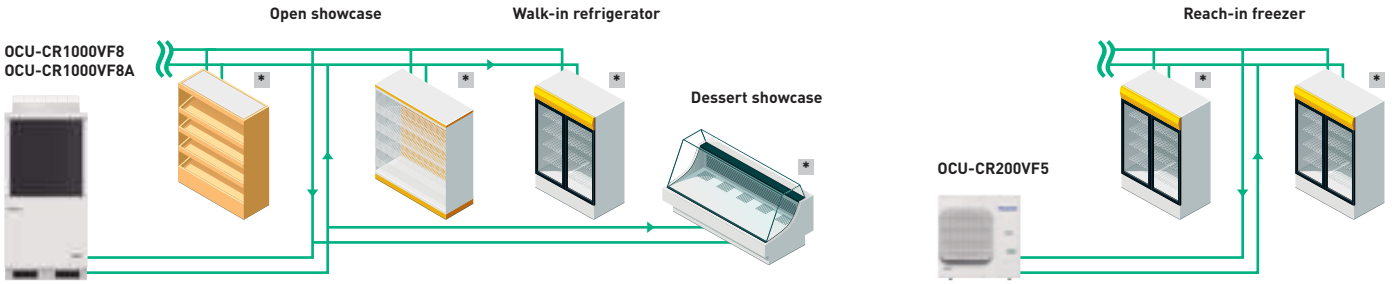
High connectivity

BMS connectivity.
The system can by supervised with major monitoring system.

Natural solution with high energy saving

Showcases

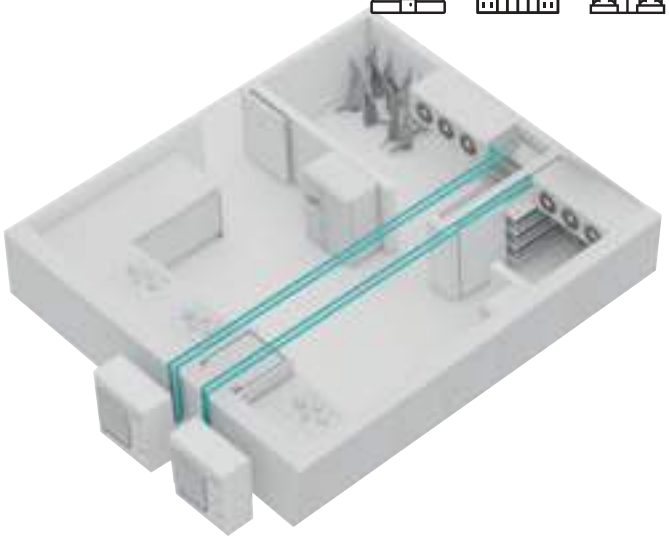
Convenience stores, supermarkets, service stations.



* Controllers: PAW-CO2-PANEL or local supply.

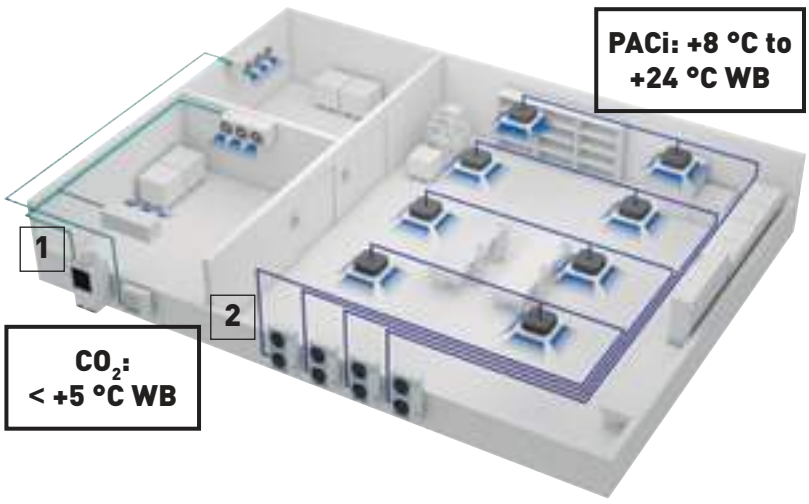
Cold room application to keep food fresh

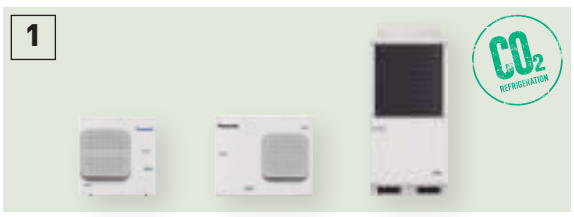
Restaurants, schools, fast food chains.



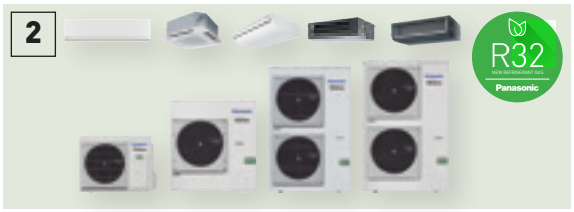
Cold room application integrated with PACi systems

Panasonic offers various solutions for cold rooms by combining a wide range of products.
Integrated with PACi system, it allows for flexible design and installation.





CO_2 Condensing units for refrigerated room.



PACi systems for cooling rooms between 8 °C WB and 24 °C.

* Please refer pages 210, 211.

CO_2 transcritical condensing units CR Series

A new addition to the CR Series, the 7,5 kW MT Type offers a wide range of refrigeration systems, meeting the specific needs of small retail stores.

1 Superior efficiency with reliable quality

- Panasonic has combined the 2-stage compressor with the split cycle for increased efficiency
- High seasonal performance. SEPR: Maximum 3,83 in cooling, 1,92 in freezing[1)]
- High COP at high ambient temperature

1) 200VF5.

2 Flexible installation

- Set-points at medium or low temperature available depending on applications
- Compact unit
- Silent operation
- Long piping length: Maximum100 m[2)]
- High external static pressure[2)]
- Transfer pressure control for stable expansion valve control in showcases[2)]

2) 1000VF8/8A.

3 Heat recovery port as renewable energy

- Maximum 16,7 kW of heating for free
- Optional possibility to get subsidy (depending on location)
- Easy connection process

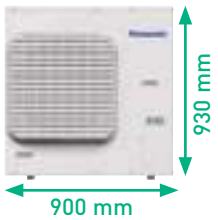
Superior cooling capacity at each evaporating temperature

CO_2 transcritical condensing units have a high cooling capacity at each set point. The CO_2 2-stage compressor developed by Panasonic is designed to compress CO_2 refrigerant twice; it reduces the load in operation by half (compared to 1-stage refrigerant compression) and delivers increased durability and reliability.

Units can be programmed to run at low and medium temperatures at initial set-up. These settings can then be modified by turning a simple and user friendly rotary switch to further enhance energy savings.

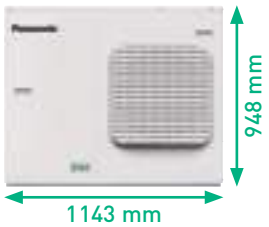
MT/LT TYPE
200VF5 - 4 kW / 2 kW

3,83
SEPR COOLING*
1,92
SEPR FREEZING*



MT TYPE
400VF8 - 7,5 kW

NEW
2020

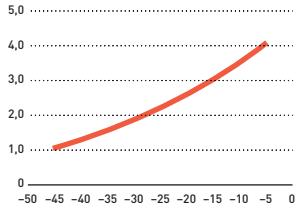


MT TYPE
1000VF8 - 15 kW

MT/LT TYPE
1000VF8A - 16 kW / 8 kW

* SEPR values has been tested at 3-part laboratory.

OCU-CR200VF5(SL)
Cooling capacity (kW)

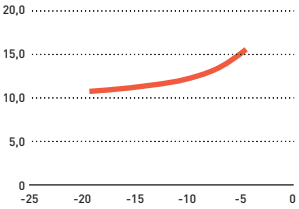


Ambient temperature: 32 °C, 230V, compressor: operation frequency: 65 S^{-1} refrigerant: R744, suction gas temperature: 18 °C.

OCU-CR400VF8(SL)
Cooling capacity (kW)

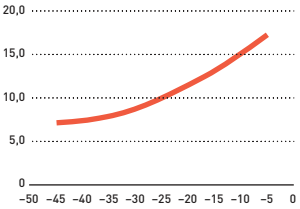
Coming soon

OCU-CR1000VF8(SL)
Cooling capacity (kW)



Ambient temperature: 32 °C, 400V, compressor: operation frequency: 60 S^{-1}, refrigerant: R744, suction gas temperature:18 °C.

OCU-CR1000VF8A(SL)
Cooling capacity (kW)



Ambient temperature: 32 °C, 400V, compressor: operation frequency: 60 S^{-1}, refrigerant: R744, suction gas temperature:18 °C.

CR Series	Low temperature	Medium temperature	Heat recovery port	ET (Evaporation Temperature) set points range	Room size example*
OCU-CR200VF5	✔	✔	—	-45 ~ -5 °C	10 m³ / 40 m³
OCU-CR400VF8	—	✔	✔	-20 ~ -5 °C	20 m³
OCU-CR1000VF8	—	✔	—	-20 ~ -5 °C	200 m³
OCU-CR1000VF8A	✔	✔	✔	-45 ~ -5 °C	50 m³ / 200 m³

* Room size is reference. Please contact to authorized Panasonic dealer for calculation.

Technology by Panasonic

Reliable CO_2 technology by Panasonic

- Reliable quality: Made in Japan
- 10000 units sold and installed in 3700 retail operations such as convenience stores and supermarkets in Japan*
- Excellent quality control established by skilled factory team
- Panasonic offers 5 year warranties on compressors and 2 years on components
- The 5 year compressor warranty matches the products long lifespan

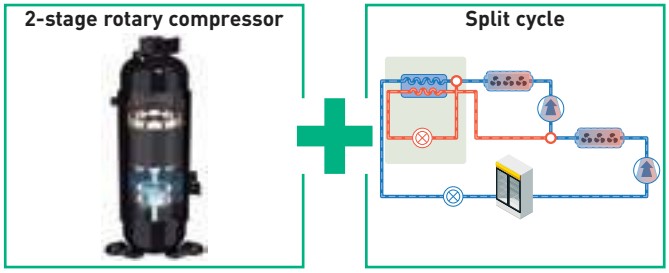
* As of the end of November 18.

Panasonic's combined technology of the 2-stage compressor with the split cycle

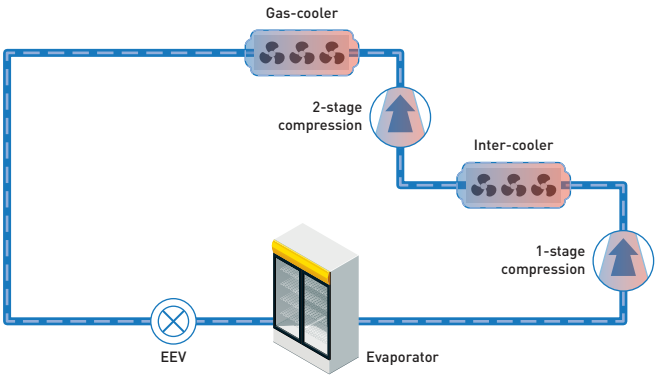
The video for detailed information is ready!

- Panasonic 2-stage rotary compressor delivering powerful performance for more than 20 years
- Split cycle* enhances cooling effect

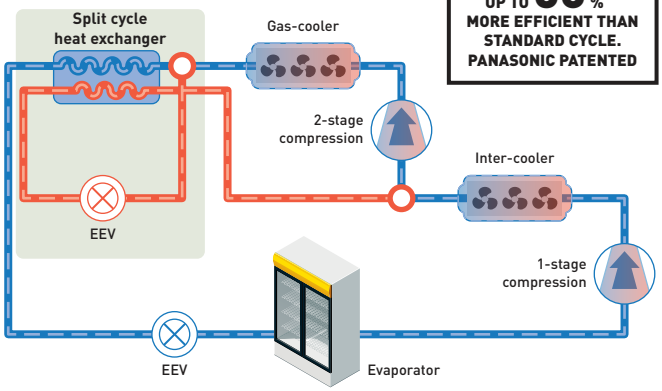
* Available for 200VF5 and 1000VF8A models.
** In the case that the standard cycle with 1-stage rotary compressor was compared.



Standard cycle.



Split cycle.



UP TO 50 % MORE EFFICIENT THAN STANDARD CYCLE. PANASONIC PATENTED**

Heat recovery function for heating

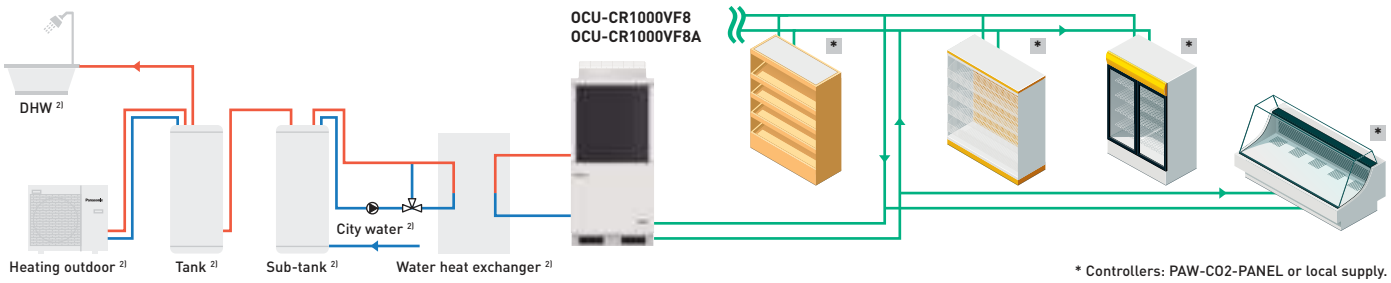
This function offers refrigeration combined with heating all in one system. The ground-breaking solution allows for increased opportunity to cut running costs by utilizing exhausted heat from refrigeration and transferring to the energy source for heating.

16,7 KW[1] OF HOT WATER FOR FREE

1) Under the condition: ambient temperature 32 °C, evaporation temperature -10 °C. 100 % Partial load.2) Local supply.

What is heat recovery function?

New solution example.
Heat recovery system can produce both heating and refrigeration.



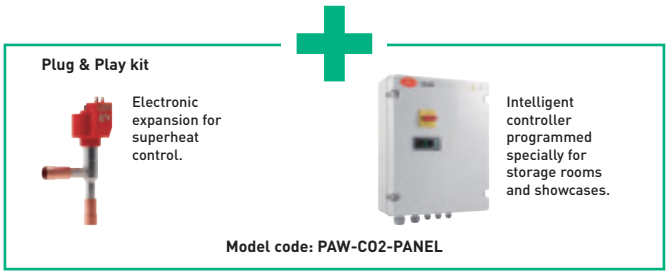
* Controllers: PAW-CO2-PANEL or local supply.

Excellent quality control established by skilled factory team. Reliability is our main target and therefore we offer compressor warranties of 5 years, and 2 year warranties on other components!

Saving installation time with Plug & Play kit

To ensure a quick and easy installation, Panasonic has designed a one box solution that includes the condensing unit, a panel pre-programmed controller, electronic expansion and all required sensors in addition to providing simple instructions.

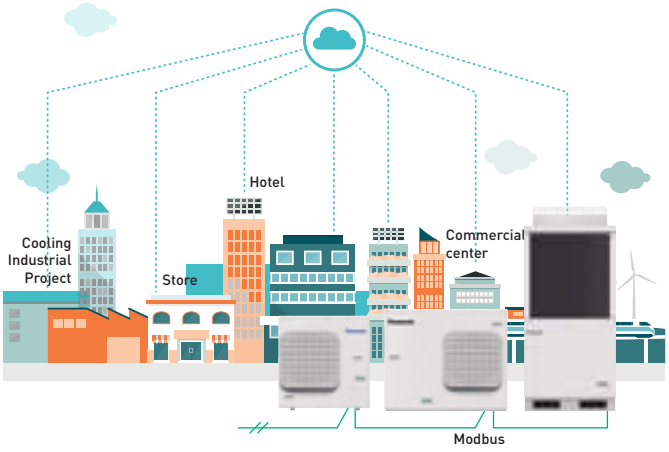
Panasonic condensing units with natural refrigerant: The environmentally friendly and reliable solution for convenience stores, supermarket, service stations and cold rooms.



Modbus compatibility with monitoring system

Panasonic CO_2 condensing unit CR Series can be supervised through major monitoring system such as CAREL, Eliwell and Danfoss. Monitoring systems ensure the recording, monitoring and reporting of temperature conditions of entire CO_2 condensing units system.

Monitoring system		
CAREL	Danfoss	eliwell by Schneider Electric
Standard boss & boss-mini	AK-SM Series	TelevisGo



Design support tool available in Panasonic PRO Club

Panasonic has launched a new online calculator to support engineers, installers, and technicians to quickly make calculations when specifying solutions for commercial refrigeration systems. The calculator can be found on Panasonic's PRO Club.

- Evaporation temperature selection
- Cooling capacity calculator
- Refrigerant pipe calculation
- Electronic expansion valves calculation
- Refrigerant amount calculation

Ready to works on all devices, computers, tablets and smartphones!!

PRO Club **www.panasonicproclub.com** or connect simply with your smartphone to the PRO Club using this QR

Range of CO_2 condensing units CR Series

Outdoor units	MT	4,0 kW	7,0 kW	15,0 kW	16,0 kW
	LT	2,0 kW	3,5 kW	7,5 kW	8,0 kW

4 kW MT / LT
(200VF5)

OCU-CR200VF5
OCU-CR200VF5SL

NEW!
7,5 kW MT
(400VF8)

OCU-CR400VF8
OCU-CR400VF8SL

15 kW MT
(1000VF8)

OCU-CR1000VF8
OCU-CR1000VF8SL

16 kW MT / LT
(1000VF8A)

OCU-CR1000VF8A
OCU-CR1000VF8ASL

PAW-CO2-PANEL