# CONTROL AND CONNECTIVITY

Panasonic has developed the largest range of control systems to offer the best option to each need.
From the individual remote control for the residential single units up to the newest technology to control each your buildings around the world from an easy to use software in the cloud by your portable device.

# CONNECT TO THE FUTURE.
# VRF SMART CONNECTIVITY

Life Is On | 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.

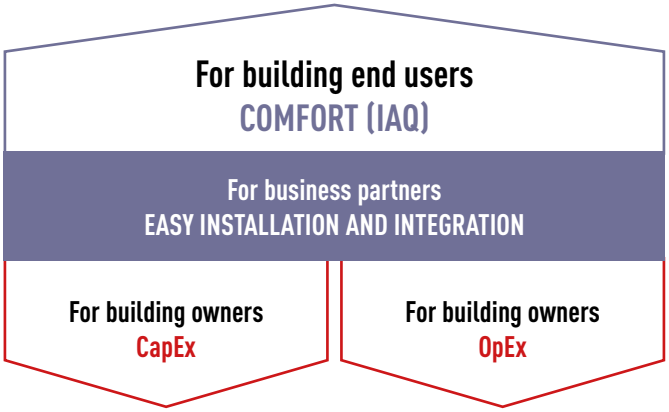
Panasonic, passionately pursuing the ultimate in energy saving through the application of cutting-edge technology, and Schneider Electric, an advanced global energy management specialist offering innovative control systems. This collaboration has set the new standard for creating the next generation of contemporary buildings.

VRF Smart Connectivity Advantages:

- Easy Design and Plug and Play to Reduce CapEx
- Dramatic Reduction of OpEx with Outstanding IAQ
- Ultimate Customization
- User-/Owner-friendly

## VRF Smart Connectivity.
## The future of Control.

A remote controller is all that's required for occupancy control and optimum automatic indoor air quality (IAQ) control. Simple operation with a rented interface further contributes to increased energy efficiency and productivity for reduced capital expenditure (CapEx) and operating expense (OpEx).





Extremely simple Plug and Play connection to a Building Energy Management System (BEMS) is possible. Compared to the current VRF systems and chillers of other companies, connection is smooth and stress-free, so there's considerably less burden on the system integrator.


**Easy Design and Plug and Play to Reduce CapEx.**
- Simple Plug & Play VRF connection to Building Energy Management System (BEMS)
- Stand alone or BEMS connected
- Plug and play additional ZigBee sensors

**Dramatic Reduction of OpEx with Outstanding IAQ.**
- 2 Built in sensors: Temperature and RH
- ZigBee wireless sensors: $CO_2$, window/door, human presence.

**Ultimate Customization.**
- Background colour customisable
- Custom display/icons, messages
- Programmable logic (also stand alone)

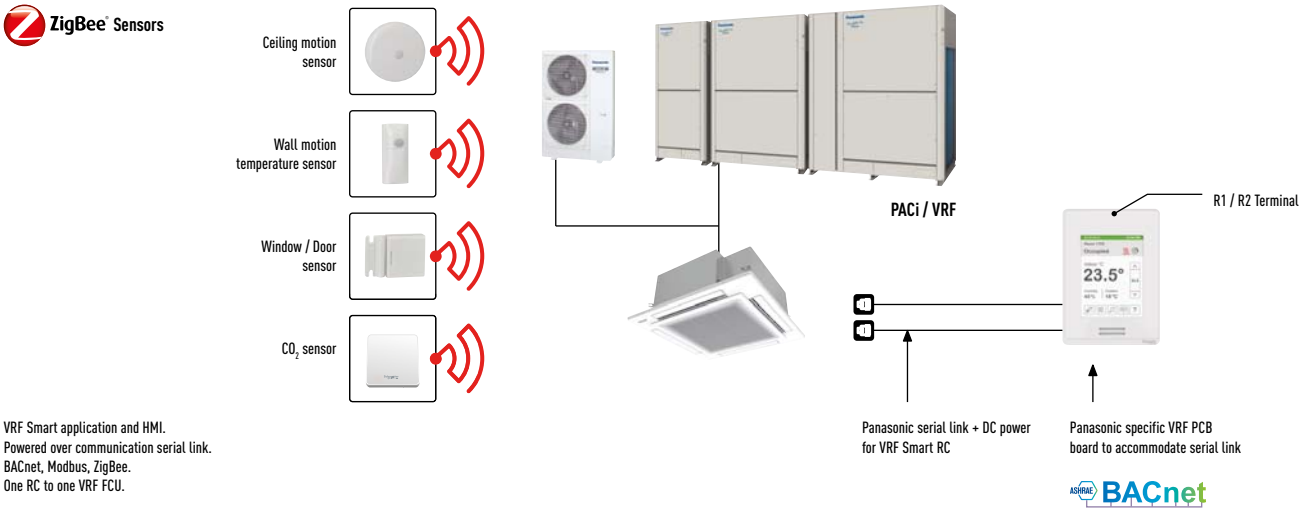
**User-/Owner-friendly.**
- Colour touch screen
- Ease and simply of use
- 6 Languages (English, Italian, French, German, Spanish and Polish)
- Easy to understand error description

# WHAT IS VRF CONNECTIVITY?


## Stand alone Smart Connection

VRF Smart connectivity connects Panasonic ECOi and PACi indoor units by wired connection.

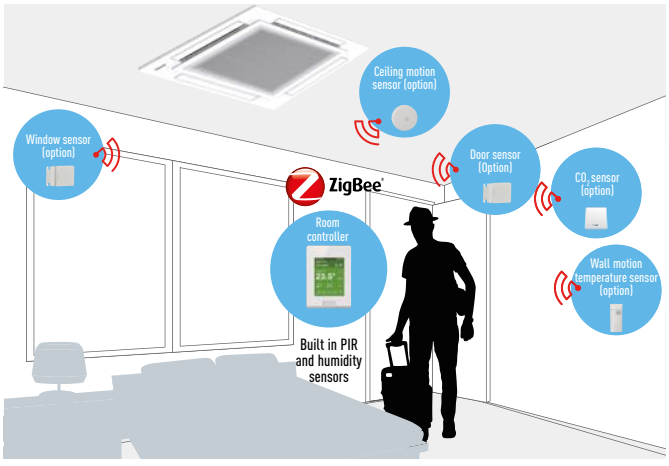
## Wired Solution




VRF Smart application and HMI.
Powered over communication serial link.
BACnet, Modbus, ZigBee.
One RC to one VRF FCU.

## Sensing Technology

The wireless solution using sensors born from the collaboration between Panasonic and Schneider Electric enables easy installation in existing and old buildings in which wiring is difficult (installation in a wired environment is also possible). The result is high-quality occupancy control and automatic IAQ control.
The sensors detect the presence or absence of occupants, and the opening and closing of doors and windows to achieve efficient energy management for exceptional air-conditioned comfort.
Flexible installation is possible to match different applications and building features such as walls, ceilings and closeness to doors and windows. No wiring means extra installation versatility.




Batteries last for up to five years and are easy to install and replace.

**SED-WDS-P-5045**
Window / Door sensor

**SED-CMS-P-5045**
Ceiling motion sensor

**SED-WMS-P-5045**
Wall motion temperature sensor

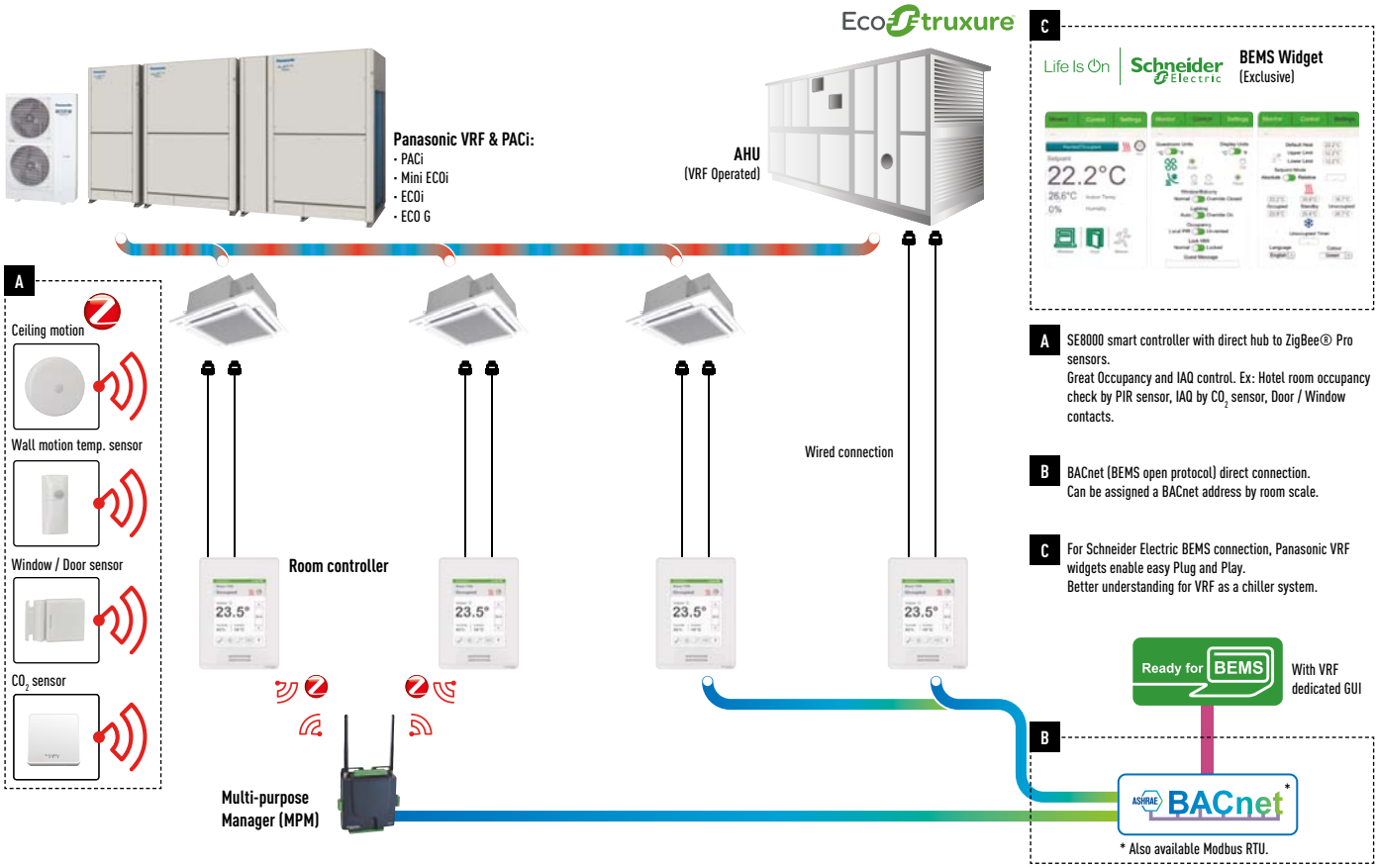
**SED-CO2-G-5045**
$CO_2$ sensor

## BEMS Smart Connection

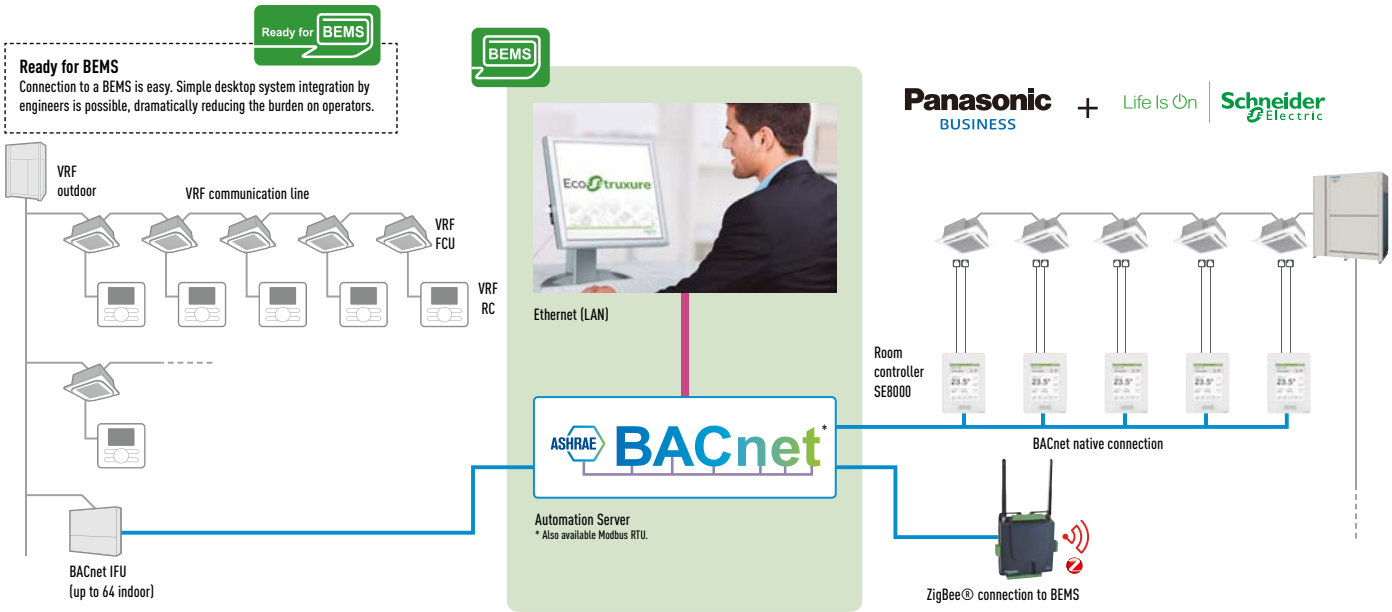
The Smarter solution to simplify energy management, optimize building efficiency and drive savings.

### Plug and Play BEMS connection.

With Plug and Play, connection to a BEMS is extremely easy. Better still, a remote controller is all that's needed to enable use as a stand-alone system. As well as dramatically reducing the burden on system integrators, this cuts costs.




## BEMS conventional system vs VRF Smart Connectivity




| | Conventional | VRF Smart Connectibity | Advantage |
|---|---|---|---|
| Hardware connection | Need 2 Hardware CZ-CFUNC2 + BMS I/F | Required BACnet objects manual Wired/wireless) | CapEx: Saving interfaces |
| Integration | Manual system integration per indoor | Advanced plug & play connection | CapEx: Integrator time |
| | Required BACnet objects manual | Advanced plug & play connection | CapEx: Integrator time / OpEx: Full Integration of VRF signals |

# INNOVATIVE AND UNRIVALLED ADVANTAGES


## Stand alone Smart Connection VRF.

### $CO_2$ and humidity sensors for high IAQ

$CO_2$ sensors taking 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.


### Energy management for high return on investment (ROI)

Avoid the huge costs that occur when the control of air conditioning is left to staff with a tailor-made solution. Automatically controlled operation with precise settings reduces both wasted energy and running costs. This in turn contributes to improved ROI which is directly linked to management.

### Installation possible during business hours without closing the store

To install a new system, it was previously necessary to close stores and restaurants. Now, thanks to Panasonic's wireless technology, smart installation is possible without closing an establishment or performing building work such as knocking down walls. And the enjoyment of customers isn't interrupted.

### Colour and design to match office interiors

When creating an office environment, a stylish appearance that complements the design of the office rather than interfering with it is an important consideration. Colour combinations and design can be set to match different facilities.


### Easy-to-understand Error Description

Error description for an emergency is easy to understand, enabling staff to respond quickly. Eliminating the wasted cost of calling a service person every time there's a problem, this reduces total annual maintenance costs.

Guest room Management solutions for hotels.
Deliver exceptional guest satisfaction while optimizing energy and operational efficiency.

## Customization in 7 languages possible

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

## Occupancy sensors enabling automatic control for outstanding efficiency

Sensors in the room and on the controller detect the presence or absence of occupants and the opening and closing of windows and doors. While maintaining the optimum air-conditioned environment guests expect, automatic control ensures the most efficient operation when they are away or when windows are open. This contributes to an appreciable reduction in operation costs.

## A truly comfortable experience for guests

Easy-to-understand, refined on-screen images enable display of hotel logos and original welcoming messages. Colour and design can also be customized for different facilities to create an even more comfortable environment for guests.


## VRF Smart Connectivity Devices


Schneider Electric
brand - SE8000

SED-WDS-P-5045
Window / Door sensor

SED-CMS-P-5045
Ceiling motion sensor

SED-WMS-P-5045
Wall motion temperature sensor

SED-CO2-G-5045
$CO_2$ sensor

| Remote Controller | Description |
|---|---|
| SER8150R0B1194 | Panasonic Net Con, RH, No PIR, R1/R2 |
| SER8150R5B1194 | Panasonic Net Con, RH, PIR, R1/R2 |
| **Interface** | **Description** |
| VCM8000V5094P | Panasonic R1R2 to Zigbee adaptor box No Brand |
| VCM8000V5094G[1] | (For Wave1) Wireless Zigbee Pro / Green Com card |
| **Sensor** | **Description** |
| SED-WMS-P-5045 | SED SEN OCC WALL ZP |
| SED-WDS-P-5045 | SED SW DOR/WIN ZP |
| SED-CMS-P-5045 | SED SEN OCC CEIL ZP |
| SED-CO2-G-5045 | $CO_2$ module for SE(R)/VT/(R)8000 |

1. VCM8000V5094G : Required in case Wave1 wired product need to do MPM connection.

## Features

- Up to 5-year battery life, batteries included
- Battery level is a point
- Sensor points visible in SBO when SE8000 is integrated via BACnet MS/TP
- Sensor status and battery level visible in SBE when SE8000 is integrated via ZigBee® Pro
- Integration to SBE only recommended when each MPM is connected to Ethernet and are set as ZigBee® Coordinator nodes

# PANASONIC AC SMART CLOUD

## Flexible solution and scalable solution

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

Centralize 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, preventing 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 / Upgraded new functions / Upgraded by new products / IT smart management.

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

PROFESSIONAL
AC SMART CLOUD

### Key functions and uniqueness

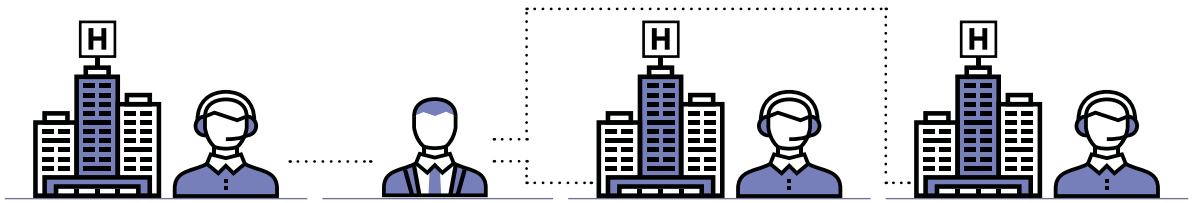
**Multi site monitoring.**
- It doesn't matter how many sites you have, easy to manage, operate, compare per sites, locations, rooms.

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

**Schedule setting.**
- Weekly / holiday timer setting as you want
- One setting can be copied to other sites

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

**User customization.**
Site administrator can create users as desired and assign customized profiles.




### 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

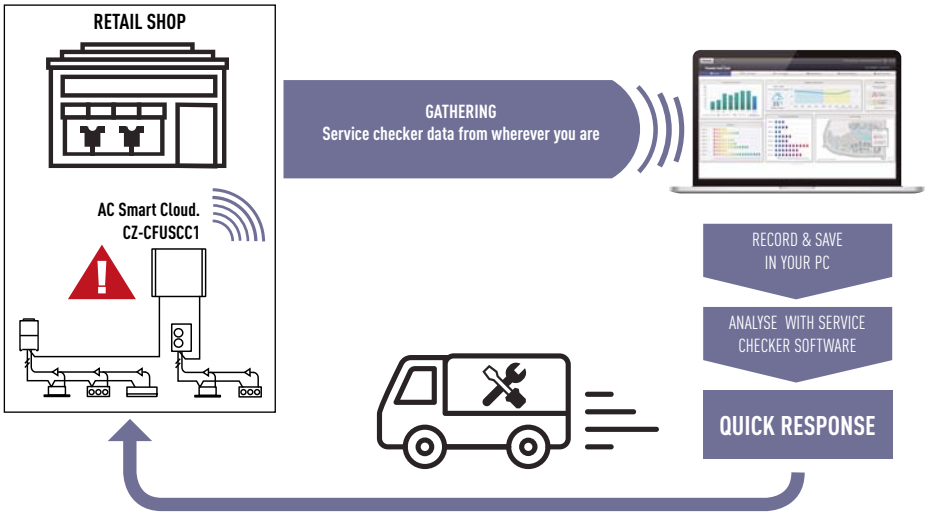
3G router + SIM card

### New remote service checker function

For professional profile

**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 min
- Data frequency: 10 – 90 seconds
- Mode selection: With test run or Without test run
- Count down schedule setting available



# 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 control unique!

## Design

The new CZ-RTC5B wired remote control 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 16mm.

## 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.

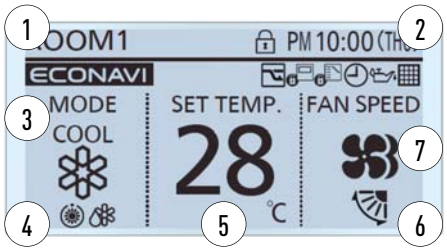
**Easy Access to the menus.**
With the new pictograms, the navigation, the selection and the settings are simple and easy to follow.

## 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.

## Basic function (Operation display & indication)

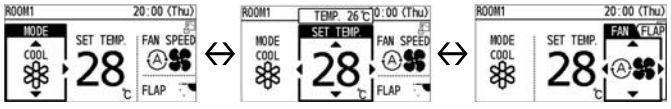
All functions are easily available on the remote controller.
• OFF/ON timer • Weekly timer • Quiet operation • Remote control sensor • Operation prohibit • Filter sign • Energy saving • Centralized control indication • Mode change prohibit • Automatic temperature return • Temperature range limitation • 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: H / M / L / Auto

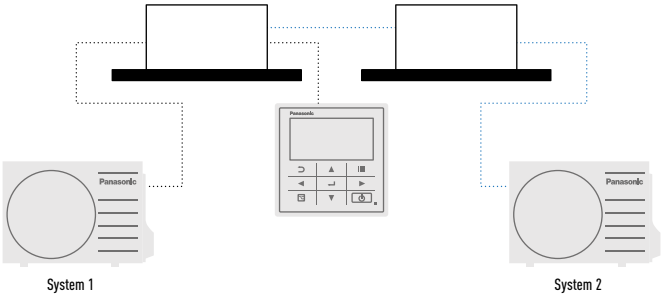
## Easy operation and quick access to all menus

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



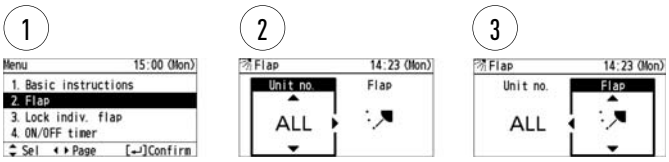

## Backup control by using CZ-RTC5B

Group wiring of 2 systems of PACi can do auto individual control.
- Rotation operation
- Backup operation
- Support operation




## Example of easy access to the functions: Air direction setting

1. Select "Air direction" and press "determine" 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




## Functions available on the CZ-RTC5B

| Control item | Controllability | Indoor Units | | |
|---|---|---|---|---|
| | | PACi Standard | PACi Elite | All VRF |
| Basic Operation | Operation, Mode, Temperature setting, Airflow volume, Airflow 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 | – | ✔ | ✔ |
| | Energy monitoring - R32 | ✔ | ✔ | – |
| 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 | – | ✔ | – |
| | Prohibit setting control from Central controller | ✔ | ✔ | ✔ |

All specifications subject to change without notice.

# NEW DATANAVI

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

datanavi

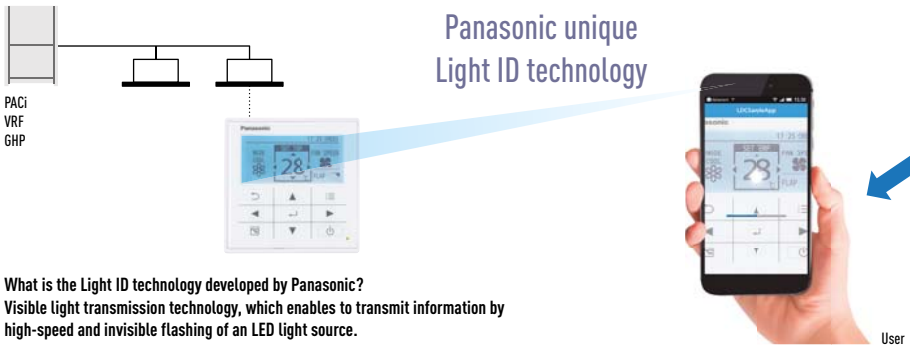
**FAST AND INTUITIVE**

**EASY ACCESS TO MANUAL DATABASE**

**ACCURATE SERVICE DATA ON YOUR SMARTPHONE**

### 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. Data Navi also connects to Panasonic Cloud Server for the quick view of manuals, saving data received by Light ID.



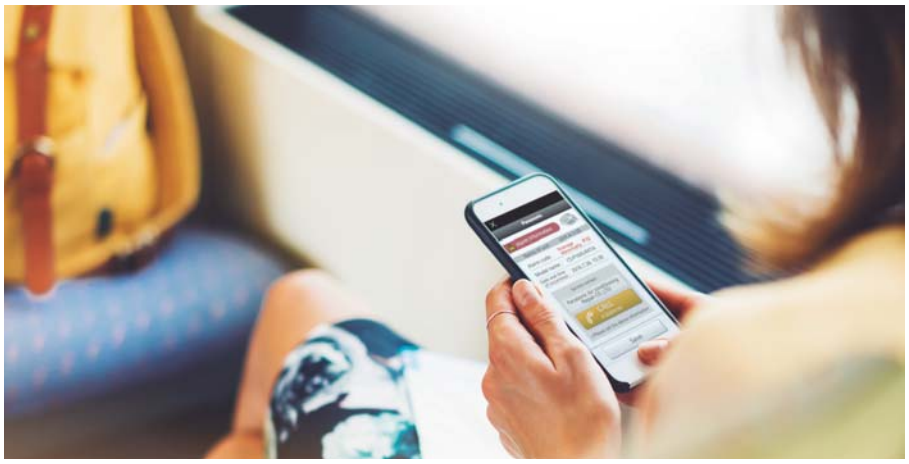

**What is the Light ID technology developed by Panasonic?**
**Visible light transmission technology, which enables to transmit information by high-speed and invisible flashing of an LED light source.**

### 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



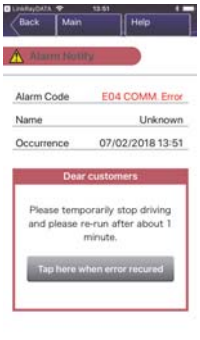
### Installer / Service company functions

- **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**


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

**Service data**


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

Download on the App Store
Google play

# ECONAVI SENSOR

The all 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, 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

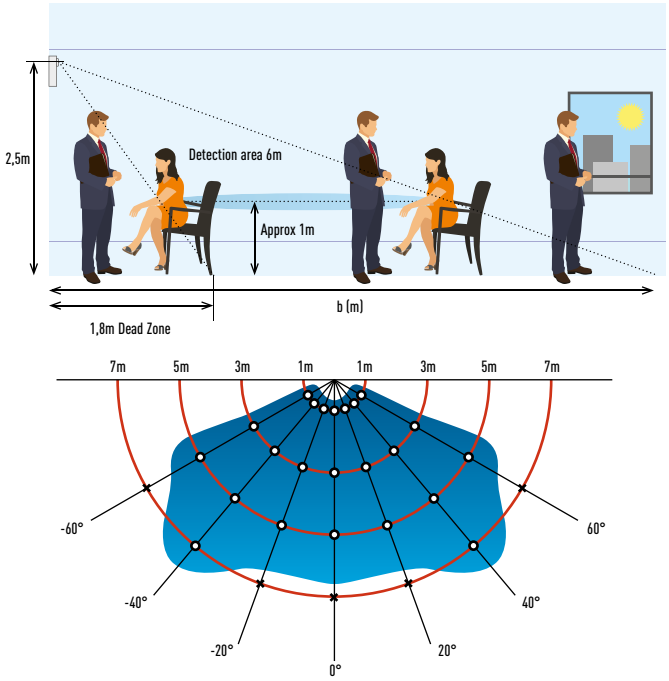
## Applications

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
- Improves efficiency
- Better Comfort
- Can be installed in the best place of the room for detection purposes

## Sensor location image

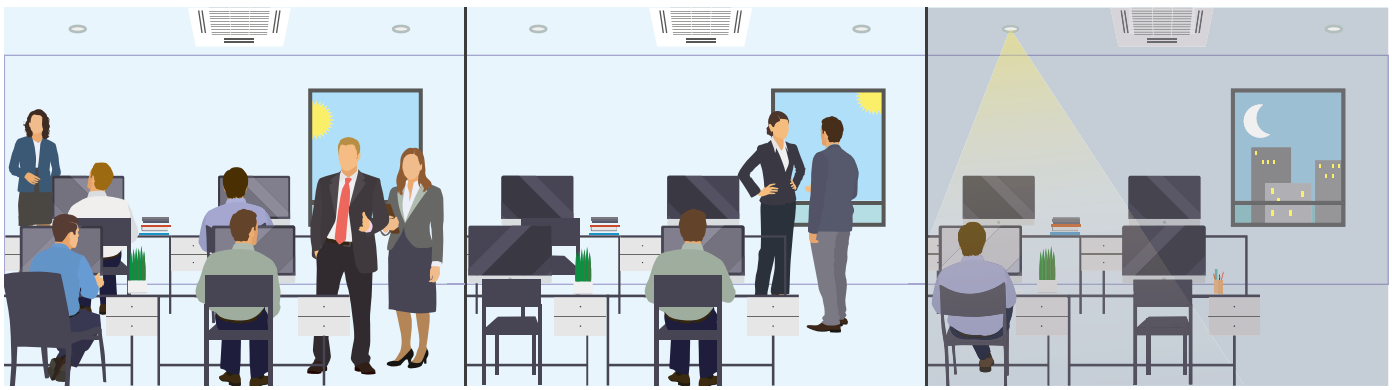



Human detection area (2,5m height angle 30°)

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.


**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

# INTELLIGENT CONTROLLER

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

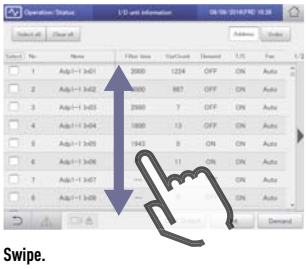
## Intuitive operation

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

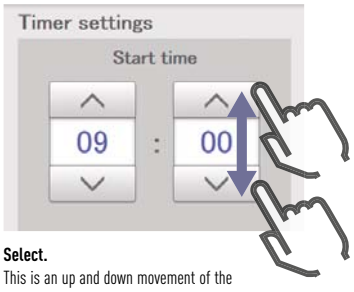
- Enlarged screen (10,4 inch) with colour LDC
- Smartphone-like operations (Swiping, flicking)

**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.



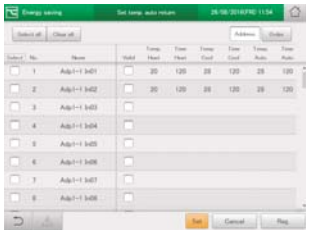

**Select.**
This is an up and down movement of the finger touching the screen, used to pick settings in elements such as spin boxes.

**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.

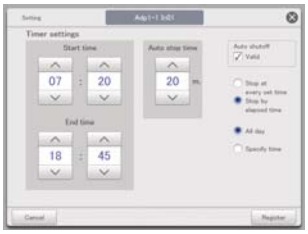
## Enhanced functions for energy saving as standards

- Set temperature auto return settings, Auto shutoff, Set temperature range limit settings
- Demand control function

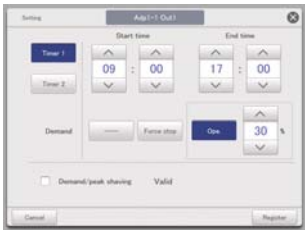
**Screen of Set temperature auto return setting.**



**Auto shutoff.**



**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

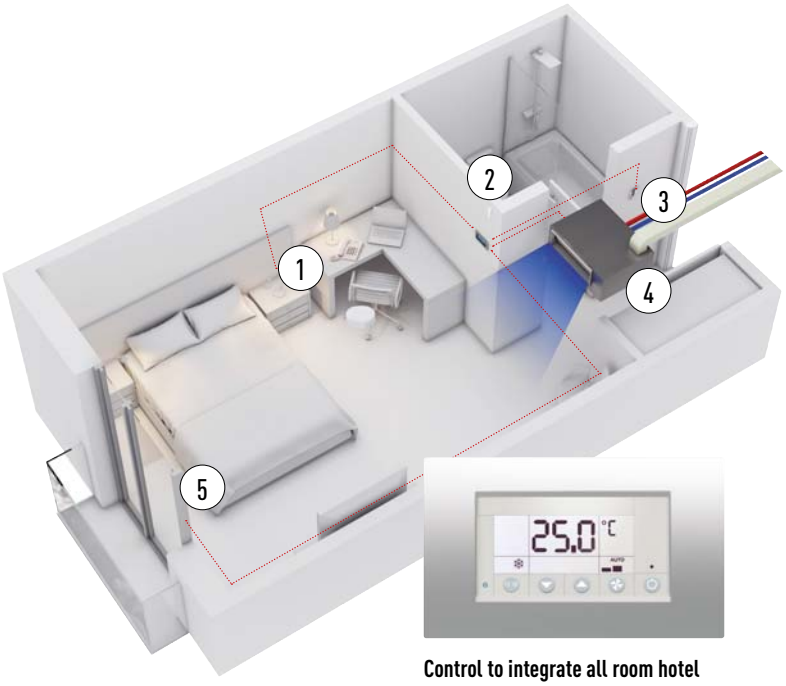
| | |
|---|---|
| Gesture function (Flick, Swipe) | ✔ |
| Graph display (Trends, comparisons) | ✔ |
| Web functions (Max. 64 users) | ✔ |
| Recipient setting for warning email | ✔ (Maximum 8) |
| Automatic return to setting temperature | ✔ |
| Limitation of setting temperature range | ✔ |
| Left-on prevention | ✔ |
| Quiet operation of outdoor unit | ✔ |
| Occupant sensor linkage | ✔ |
| Demand function | ✔ |
| Charge calculation | ✔ |
| Log display | ✔<br>Warning 10.000 items<br>Status change 50.000 items |
| Linked control<br>Event definition 50 events, Input: 32, Output: 32 | ✔ |
| Under maintenance (Under inspection registration) | ✔ |

# CONTROL FOR HOTEL APPLICATION

More easier to install, cheaper to integrate one only control to integrate all devices. Nice, easy and cost effective! Panasonic has developed an innovative line up of remote controls specially designed for Hotel applications.

- Easy to install
- Cost effective installation as all electrical cable are centralized on this remote
- Architect inspired attractive design
- Direct connection to the Indoor unit with most of the functions of the indoor unit
- 3 options available: Stand-Alone, Modbus or LonWorks communication
- 2 frame colours: White and aluminium

**From this remote control:** 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
**Easy remote control:** The hotel customer will have access to limited functions to control the air conditioning:
ON/OFF, Temperature (under a certain limit fixed during the start up) and Fan speed
**Easy set up:** Stand-Alone model with easy configuration menu to access all parameters. The installation is simplified as all the cables should arrive to the remote control. A pre-define scenario can be uploaded on the remote control connected to a computer to make installation on site plug and play (only on the Modbus and LonWorks models).




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


**Lighting control.**

3. Room card switch*
2. Human sensor


**Indoor unit. Variable static pressure hide away.**

5. Window contact*

* Field supply

## Four preconfigured systems (option 1 to 4)

The remote control have a 4 preconfigured systems in order to easily integrate it.

**4 options available I/O configurations: Inputs.**

| Configurations | Digital 1-2 | Digital 3-4 | Digital 5-6 | Analog 7-8 |
|---|---|---|---|---|
| Option 1 | Card | Window | Lighting | Temperature |
| Option 2 | Card | Window | Blinds up | Blinds down |
| Option 3 | Motion sensor | Window | Door contact | Temperature |
| Option 4 | Lighting | Window | Blinds up | Blinds down |

**Available I/O Configurations: Outputs.**

| Configurations | Relay 15-16 | Relay 13-14 | Relay 11-12 | Relay 9-10 |
|---|---|---|---|---|
| Option 1 | Courtesy | Lighting | Not used | Valve actuator |
| Option 2 | Courtesy | Lighting | Blinds up | Blinds down |
| Option 3 | Courtesy | Lighting | Not used | Valve actuator |
| Option 4 | Not used | Lighting | Blinds up | Blinds down |

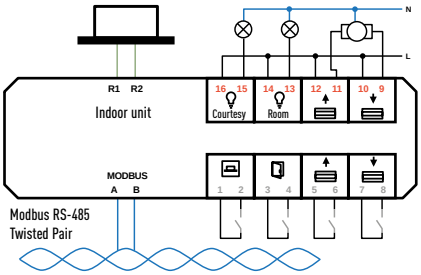
**I/O Definitions: Inputs.**

| Description | Functionality |
|---|---|
| Card | Occupancy room status. Enable HVAC Control and automatically switches ON Courtesy and Lighting outputs |
| Window | Temporary disables HVAC System |
| Lighting | Push button to turn ON/OFF Lighting Output when room occup. |
| Temperature | Analog input for Valve Actuator output control on 2nd zone |
| Blinds up | Push button for Blind Up motor output control |
| Blinds down | Push button for Blind Down motor output control |
| Motion sensor | In combination with Door Contact, enables HVAC Control and automatically switches ON Courtesy and Lighting outputs |
| Door contact | In combination with Motion Sensor, enables HVAC Control and automatically switches ON Courtesy and Lighting outputs |

**I/O Definitions: Outputs.**

| Description | Functionality |
|---|---|
| Courtesy | Automatically turns ON when room changes to occupied or unoccupied mode. It turns to OFF after a configurable time-out |
| Lighting | Automatically turns ON/OFF when room changes to occupied/unoccupied. Manual override with Lighting input |
| Valve actuator | HVAC Control for a 2nd zone |
| Blinds up | Output for Blind Up motor control |
| Blinds down | Output for Blind Down motor control |

**Example I/O: Wiring configuration for Option 2.**




**Example I/O: Option 2.**

| Terminals | Description | Type |
|---|---|---|
| A, b | Modbus RS-485 | Bi-directional |
| R1, r2 | Indoor unit | Bi-directional |
| 1, 2 | Card contact | Digital input |
| 3, 4 | Window contact | Digital input |
| 5, 6 | Blinds up | Digital input |
| 7, 8 | Blinds down | Analog input |
| 9, 10 | Blinds down | Relay output |
| 11, 12 | Blinds up | Relay output |
| 13, 14 | Lighting room | Relay output |
| 15, 16 | Lighting courtesy | Relay output |

**Panasonic Reference.**

| | |
|---|---|
| **PAW-RE2C3-WH** | Stand-Alone with I/O White frame |
| **PAW-RE2C3-GR** | Stand-Alone with I/O Grey Frame |
| **PAW-RE2C3-MOD-WH** | Modbus RS-485 with I/O White frame |
| **PAW-RE2C3-MOD-GR** | Modbus RS-485 with I/O Grey frame |
| **PAW-RE2C3-LON-WH** | LonWorks TP/FT-10 with I/O White frame |
| **PAW-RE2C3-LON-GR** | LonWorks TP/FT-10 with I/O Grey frame |

# CONTROL AND CONNECTIVITY

## Centralized Control Systems

### BMS System. PC Base.


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

### Connection with 3rd Party Controller.

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

Local adaptor for ON/OFF control.
Controls 1 to 8 units.
CZ-CAPC3

Mini Seri-Para I/O Unit 0 - 10V.
Controls 1 to 8 units.
CZ-CAPBC2

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

### AC Smart Cloud.

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

## Domestic integration to P-Line - CZ-CAPRA1

Can connect all ranges to P-Line. Full control is now possible.

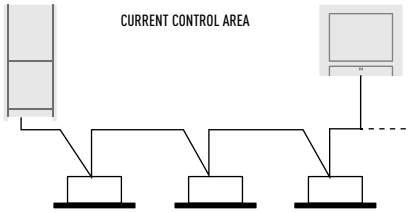
**Integrates any unit in big system control.**

- TKEA Server room integration
- Small offices with Domestic indoors
- Tender for refurbishment (old system Domestic and VRF in one installation)

**Centralized Control Systems: 64 Indoor Units**

**Intelligent Controller / Web Server: 256 Indoor Units**

**P-AIMS: 1.024 Indoor Units**


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

→

RAC units cannot connect directly to S-link to be managed by Central Controllers.

→

It's necessary to have interface between S-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 | ✔ |
| Econavi ON/OFF | ✔ |

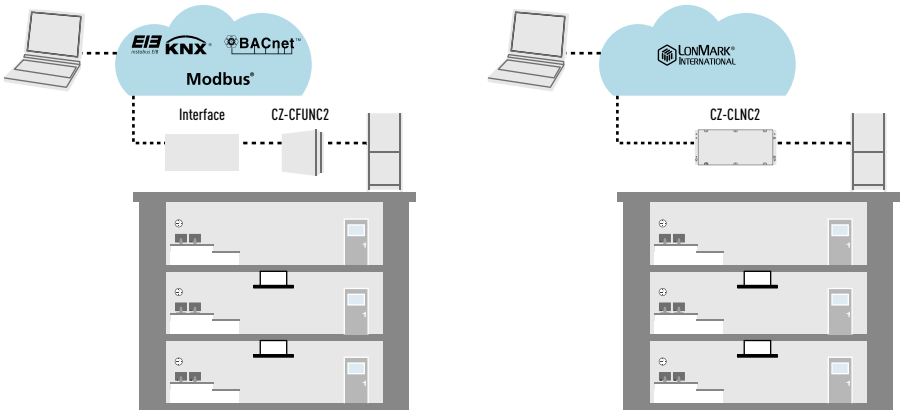
| External input | |
|---|---|
| ON/OFF control signal | ✔ |
| Abnormal stop signal | ✔ |
| **External output for Relay[1]** | |
| Operation status (ON/OFF) | ✔ |
| Alarm status output | ✔ |

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** | | | | | | | | | | | | | | |
| Control for hotel application. Intelligent Controller |  | PAW-RE2C3-WH /-GR<br>PAW-RE2C3-MOD-WH /-GR<br>PAW-RE2C3-LON-WH /-GR<br>White / Grey | – | ✔ | 1 indoor unit | – | ✔ | ✔ | ✔ | ✔ | – | ✔ | – | Stand alone Modbus or LonWorks |
| Wired remote controller. Design wired remote controller |  | CZ-RTC5B | ✔ | ✔ | 1 group, 8 units | · Up to 2 controllers can be connected per group | ✔ | ✔ | ✔ | ✔ | ✔ | – | ✔ | – |
| Wired remote controller. Normal operation |  | CZ-RTC2 (for Floor Standing (MP1) indoor units) | – | ✔ | 1 group, 8 units | · Up to 2 controllers can be connected per group | ✔ | ✔ | ✔ | ✔ | ✔ | – | ✔ | – |
| Wireless remote controller |  | CZ-RWSU3 / CZ-RWSL2N /<br>CZ-RWSK2 / CZ-RWSD2 /<br>CZ-RWST3N /<br>CZ-RWSK2 + CZ-RWSC3 | – | ✔ | 1 group, 8 units | · Up to 2 controllers can be connected per group | ✔ | ✔ | ✔ | ✔ | ✔[1] | – | – | – |
| Quick and easy operation Simplified remote controller |  | CZ-RE2C2 | – | ✔ | 1 group, 8 units | · CZ-RE2C2: 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<br>· Main unit/sub unit (1 main unit + 1 sub unit) connection is possible<br>· Use without remote controller is possible | ✔ | ✔ | ✔ | ✔ | ✔[1] | ✔ | ✔ | – |
| Only ON/OFF operation from center 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<br>· Use without remote controller is impossible | ✔ | – | – | – | – | ✔ | – | – |
| Simplified load distribution ratio (LDR) for each tenant. 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 control unit is present (use the remote control for setting). * All specifications subject to change without notice.

# INDIVIDUAL CONTROLLERS

## Control for hotel application. Intelligent Controller (for VRF)


**PAW-RE2C3-WH // PAW-RE2C3-GR // PAW-RE2C3-MOD-WH // PAW-RE2C3-MOD-GR // PAW-RE2C3-LON-WH // PAW-RE2C3-LON-GR**

- Easy to install
- Cost effective installation as all electrical cable are centralized on this remote
- Architect inspired attractive design
- Direct connection to the Indoor unit with most of the functions of the indoor unit
- 3 options available: Stand-Alone, Modbus or LonWorks communication
- 2 frame colours: White and aluminium

**From this remote control.**
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

## Wired remote controller. Design wired remote controller

datanavi 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 • Airflow volume
- Airflow 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 / Back up control

* Several functions can not use on some outdoor unit. Ex. Power consumption monitor is not available for PACi Standard, Backup/Rotation control for PACi system.

## Wired remote controller. Normal operation (for Floor Standing (MP1) indoor units)


**CZ-RTC2**
- 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 control 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 16mm

## Wireless remote controller

CZ-RWSC3
For 4 Way 90x90 Cassette.

CZ-RWSL2N
For 2 Way Cassette.

CZ-RWSK2
For Wall Mounted and 4 Way 60x60 (with CZ-KPY3A).

CZ-RWSD2
For 1 Way Cassette.

CZ-RWST3N
For Ceiling.

CZ-RWSK2 + CZ-RWSC3
Combination for all indoor units.

**CZ-RWSC3 // CZ-RWSL2N // CZ-RWSK2 // CZ-RWSD2 // CZ-RWST3N // CZ-RWSK2 + CZ-RWSC3**

- Easy installation for the 4 Way cassette type simply by replacing the corner part
- 24 hour timer function
- Remote control 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-RWSC3 is used, wireless 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 control (interlocked operation with the indoor unit or independent ventilation ON/OFF)

## Simplified remote controller. Quick and easy operation

**CZ-RE2C2. A remote controller with simple functions and basic operation.**

- Suitable for open rooms or hotels where detailed functions are not required
- ON/OFF, operation mode switching, temperature setting, air speed switching, air flow direction setting, alarm display, and remote controller self-diagnosis can be performed
- Batch group control for up to 8 indoor units
- Remote control by main remote controller and sub controller is possible with a simplified remote controller or a wired remote controller (up to two units)
- Dimensions (H x W x D): 120 x 70 x 16mm


## Remote sensor

**CZ-CSRC3**

- This remote sensor can be connected to any indoor unit. Please 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 control switch, use the remote control 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 17mm
- Weight: 70 g
- Temperature/Humidity range: 0 °C to 40 °C / 20 % to 80 % (no condensation) (indoor use only)
- Power Source: DC16 V (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 wireless remote controller<br>• Cooling or heating mode of the outdoor unit is decided by the first priority of the remote controller<br>• Switching between remote controller sensor and body sensor is possible | Timer remote controller: CZ-RTC4 // CZ-RTC5B<br>Wired remote controller: CZ-RE2C2 // CZ-RE2C3<br>Wireless remote controller: CZ-RWSU3 // CZ-RWSL2N // CZ-RWSK2 // CZ-RE2C2 // CZ-RE2C3 | 1 unit each |
| (1) Group control | • Batch remote control on all indoor units<br>• Operation of all indoor cells in the same mode<br>• Up to 8 units can be connected | Timer remote controller: CZ-RTC4 // CZ-RTC5B<br>Wired remote controller: CZ-RE2C2 // CZ-RE2C3<br>Wireless remote controller: CZ-RWSU3 // CZ-RWSL2N // CZ-RWSK2 // CZ-RE2C2 // CZ-RE2C3 | 1 unit |
| (2) Main/sub remote control | • Max 2 remote controllers per indoor unit<br>• The button pressed last has priority<br>• Timer setting is possible even with the sub remote controller | Main or sub. Timer remote controller: CZ-RTC4 // CZ-RTC5B<br>Wireless remote controller: CZ-RWSU3 // CZ-RWSL2N // CZ-RWSK2 // CZ-RE2C2 // CZ-RE2C3 | As required |

# CENTRALISED CONTROLLERS

## System Controller with Schedule timer. Operation with various function from center station

ECONAVI

**Sample display image / Operation status display**

Operation Status ALL

Operation Status ZONE

Operation Status GROUP

**CZ-64ESMC3**

**Panasonic unveils state-of-the-art digital controller**

Panasonic has launched its latest controller, an 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:**

From CZ-64ESMC2 System controller:

- 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

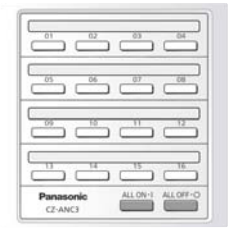
From CZ-ESWC2 Schedule timer:

- 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

From CZ-RTC5B

- 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. Only ON/OFF operation from center station



**CZ-ANC3**

- 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 + 52mm (embedding dimension)

Power supply: AC 220 to 240V.

I/O part: Remote input (effective voltage: within DC 24V): All ON/OFF.
Remote output (allowable voltage: within DC 30V): All ON, All 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.

## Intelligent Controller (Touch screen panel). Simplified load distribution ratio (LDR) for each tenant

ECONAVI

**CZ-256ESMC3**
Dimensions (H x W x D): 240 x 280 x 20 (+60)mm.
Power supply: Single Phase 100-240V ~ 50/60Hz.
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.

**Functions:**
- Graph display (trends, comparisons)
- Econavi ON/OFF
- Outdoor unit quiet operation ON/OFF
- Energy-saving functions: Set temperature auto return settings, Auto shutoff, 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

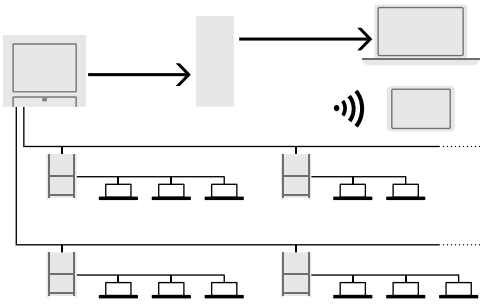
**Operation and status.**
You can check to operational status (ON/OFF, operating mode, alarms, etc.) of all indoor units and outdoor units in real time.
You can also select indoor units to change their settings.

**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

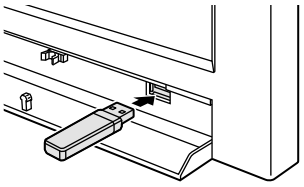
**Web application. Web access & control from remote station.**
- Accessing from remote PC
- You can monitor/operate system by using Web browser

**Remote control.**
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.

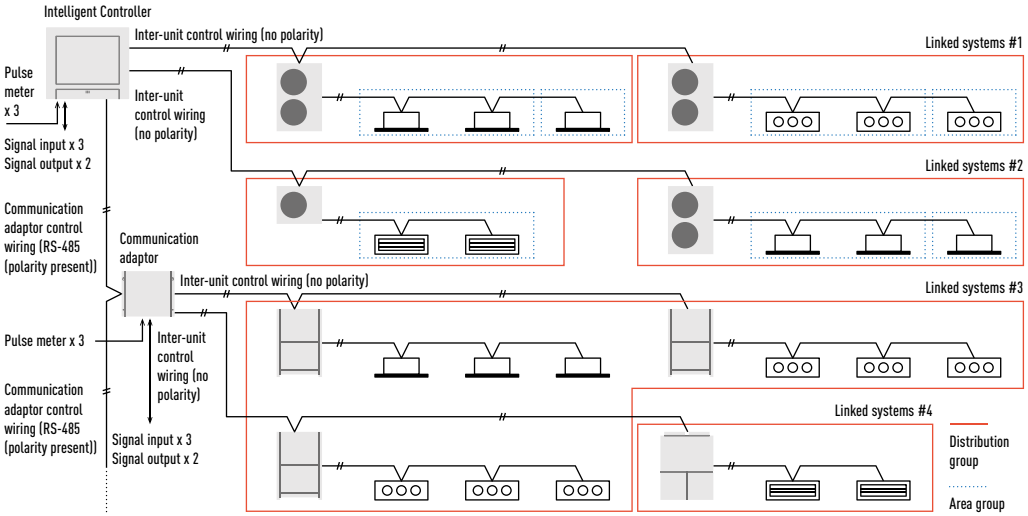


**Back up tool to save your commissioning time.**
Various data such as distribution, setting, log history etc. can be saved by CSV file.
Setting data of CSV file is available to edit and import to the controller again.
You can save time for commissioning and change setting flexibly and easily by your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

Data can be imported again by general USB.



**System Configuration Example.**



# CENTRALISED CONTROLLERS

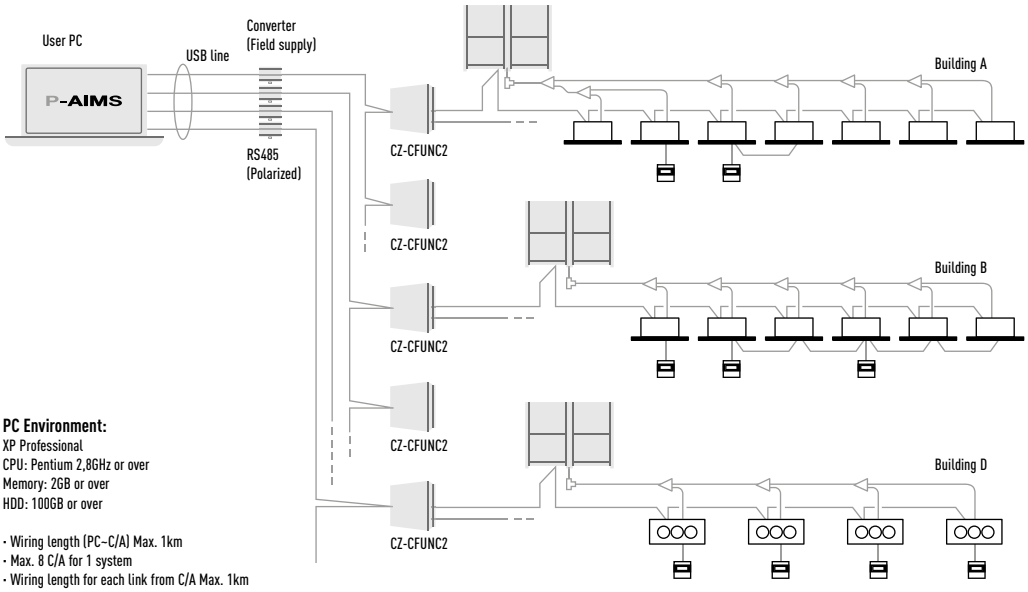
## P-AIMS. Panasonic Total Air Conditioning Management System



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

**Functions of basic software.**
- Standard remote control 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:**
XP Professional
CPU: Pentium 2,8GHz or over
Memory: 2GB or over
HDD: 100GB or over

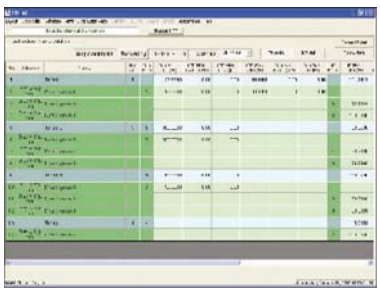
- Wiring length (PC–C/A) Max. 1km
- Max. 8 C/A for 1 system
- Wiring length for each link from C/A Max. 1km

**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 6N 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 6N system can be controlled by both BMS and P-AIMS
- Max. 255 indoor units can be connected to 1 PC (that has P-AIMS basic & BACnet software).



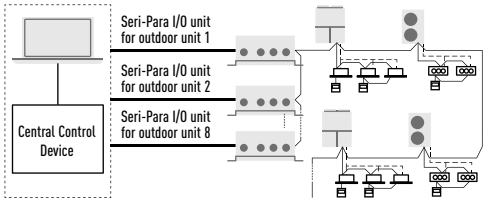
With 4 upgrade packages the basic software can be upgraded to suit individual requirements.

## Seri-Para I/O unit for outdoor unit. Connection with 3rd Party Controller

**CZ-CAPDC2 for ECOi / CZ-CAPDC3 for Mini ECOi and PACi.**
- 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

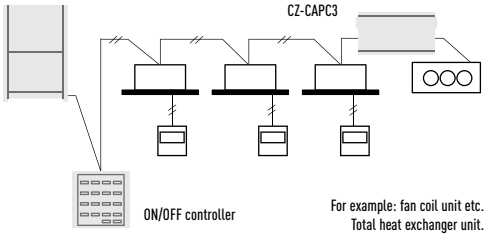
Dimensions (H x W x D): 80 x 290 x 260mm.
Power supply: Single Phase 100/200V (50/60Hz), 18W.
Input: Batch operation/Batch stop (non-voltage contact/DC 24 V, pulse signal). Cooling/Heating (non-voltage contact/static signal). Demand 1/2 (non-voltage contact/static signal) (Local stop by switching).

Output: Operation output (non-voltage contact). Alarm output (non-voltage contact).
Wiring length: Indoor/Outdoor operation lines: Total length 1km.
Digital signal: 100m or shorter.




## Local adaptor for ON/OFF control. Connection with 3rd Party Controller

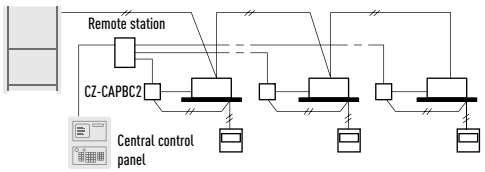
**CZ-CAPC3**
- Control and status monitoring is possible for individual indoor unit (or any external electrical device up to 250 V AC, 10 A) by contact signal




## MINI Seri-Para I/O Unit 0 -10V. Connection with 3rd Party Controller

**CZ-CAPBC2**
- 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 CZ-T10 terminal of the indoor units
- The analog input for demand of the outdoor capacity by 20 steps (from 40% to 120%) by 0-10V
- The analog input for temperature setting is 0 to 10V, 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 68mm

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

# CENTRALISED CONTROLLERS

## Centralised Control Systems

**A custom web application to manage the centralized operation of A2W and GHP systems.**

Operation and monitoring of devices connected to the Management System can be realized both remotely/locally from any device with connection to the internet (Laptop, Tablet, Mobile)

The system will make the interaction with air conditioning systems easier, improving the operation set as well as the global control of installations.

The application will act with various units, regardless of whether they are available in the same intranet or in different locations, transparently to users at any time. In this way, our solution allows to overcome main restrictions like onsite maintenance or the lack of centralization.

In addition, the application offers significant improvements in terms of control:

- Aircon units can be grouped in a totally custom way
- Possibility to realize group commands and batch commands (in succession)
- Alarms and events can be controlled more efficiently and a lot more...

**Features of current system.**

Operation Functions

- Start & Stop
- Temperature settings
- Operation mode selection
- Fan speed, Fan direction settings
- Prohibition of use of remote controller

**Operation Monitoring.**

- Monitoring of operation status and alarms
- Monitoring of filter cleaning signs
- Display of alarm logs

**Program Timers.**

- Up to 50 types of weekly timer
- Holiday and Special Days

**Benefits.**

The solution offers significant benefits for the different actors involved in its management:

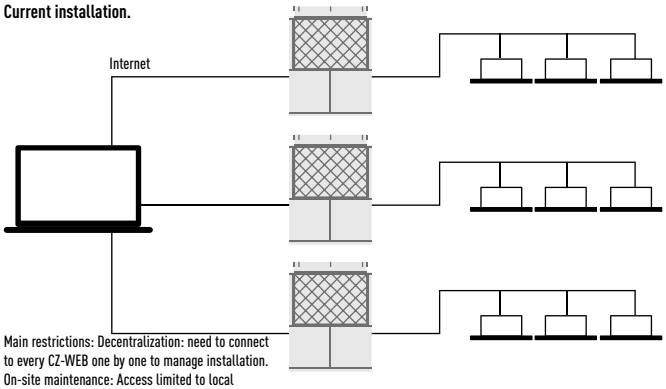
**For the building Ownership:**

- Strong equipment performance
- Energy saving
- Increased lifetime of equipment
- Savings in maintenance costs

**For Maintenance companies:**

- Instant knowledge of any incident
- Possibility of preventive alarms
- Reduction of systematic visits (warning and remote control)
- More effective maintenance support

**Current installation.**



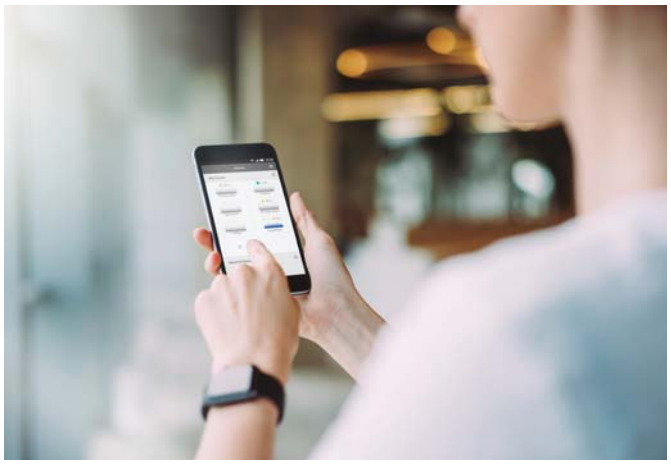

Main restrictions: Decentralization: need to connect to every CZ-WEB one by one to manage installation.
On-site maintenance: Access limited to local network.

**Offer reliable solution to improve existing functionalities.**

- Running timer
- Remote control through Web Cloud Application or local. Accessible anytime, anywhere, via a device with internet connection
- Centralized Control: Manage several installations in one single interface. Ideal for multi-site organizations
- Easy monitoring and maintenance thanks to group commands, and batch commands. Easy supervision of complex installations
- Secure Remote Access. Powerful identity protection and convenient access control

# PACi AND VRF CONNECTIVITY & CONTROL

BMS
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. You can properly manage the air conditioning and perform comprehensive monitoring and control, with all of the features the remote control provides at home, from anywhere in the world thanks to the internet applications Panasonic has created for you.

**Panasonic PACi and ECOi protocol room controllers and Interfaces**

| Type of connection | Number of units | RC or IF | Gateway required | Modbus | KNX | BacNet | LonWorks |
|---|---|---|---|---|---|---|---|
| ECOi / PACi Indoor Units | 1 unit/group | Room controller | – | PAW-RE2C3-MOD-GR | | SER8150R0B1194 | PAW-RE2C3-LON-GR |
| | | | | PAW-RE2C3-MOD-WH | | SER8150R5B1194 | PAW-RE2C3-LON-WH |
| | | | | SER8150R0B1194 | | | |
| | | | | SER8150R5B1194 | | | |
| | | Interfaces | – | PAW-RC2-MBS-1 | PAW-RC2-KNX-1i | PAW-AC-BAC-1 | |
| | 4 units/groups | Interfaces | – | PAW-RC2-MBS-4 | | | |
| ECOi P-Link | 64 indoors | Interfaces | – | | | | CZ-CLNC2[1] |
| | | Interfaces | CZ-CFUNC2 | PAW-AC-MBS-64 | PAW-AC-KNX-64 | PAW-AC-BAC-64 | |
| | 128 indoors | Interfaces | CZ-CFUNC2 | PAW-AC-MBS-128 | PAW-AC-KNX-128 | PAW-AC-BAC-128 | |

1) 16 groups of maximum 8 indoor units, in total maximum 64 indoor units.

## ECOi and GHP Connectivity

**Plug and play interface connected directly to the P-Link.**

The interface has been designed specifically for Panasonic and provides complete monitoring, control and full functionality of the line-up from IntesisHome, KNX, EnOcean, Modbus, BacNet and LonWorks installations.

This connectivity solution is made by a third party company, please contact Panasonic for more information.

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.

| | Model name | Interface | Maximum number of indoor units connected |
|---|---|---|---|
| ECOi / PACi Indoor Units | 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) |
| ECOi P-Link | PAW-AC-KNX-64 | KNX[2] | 64 |
| | PAW-AC-KNX-128 | KNX[2] | 128 |
| | PAW-AC-MBS-64 | Modbus | 64 |
| | PAW-AC-MBS-128 | Modbus | 128 |
| | PAW-TM-MBS-RTU-64 | Modbus RTU[2] | 64 |
| | PAW-TM-MBS-TCP-128 | Modbus TCP[2] | 128 |
| | PAW-AC-BAC-1 | Bacnet | 1 |
| | PAW-AC-BAC-64 | Bacnet[2] | 64 |
| | PAW-AC-BAC-128 | Bacnet[2] | 128 |
| | CZ-CLNC2 | LonWorks | 16 groups of max. 8 indoor units, in total max. 64 indoor units |

## Airzone. Control of the PACi Hide Aways

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

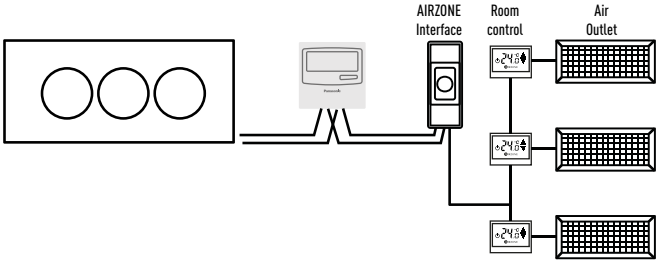
**Airzone full range of accessories for any duct project.**

Different type of outlets

Also plenum automatic doors

Full range of RC (wired/wireless, ...)

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 | Option monitoring signals wo. fan | 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-T10V | All T10 functions + powermonitoring | Same like PAW-T10 + monitoring the power supply of indoor unit |
| PAW-T10H | ON/OFF; Prohibit 5VDC & 230VAC | Specials for single hotel card or window contact |
| PAW-T10HW | ON/OFF; Prohibit 5VDC | For hotel card + window contact at same time |
| 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 |
| PAW-SERVER-PKEA | Redundancy of 2 units PKEA | Redundancy of 2 units PKEA including temperature monitoring, error indication, backup, alternative run |

## T10 connector (CN015)

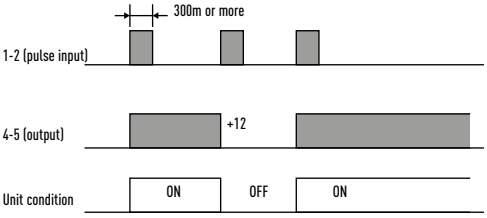

### CZ-T10

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).

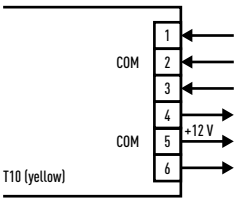
- Control items: 1. Start/stop input
  2. Remote controller prohibit input
  3. Start signal output
  4. Alarm signal output




NOTE: The wire length from indoor unit to the Relay must be within 2,0m. Pulse signal changeable to static with JP cutting. (Refer to JP001)

- Condition
1. 1-2 (Pulse input): Unit ON/OFF condition switching with a pulse signal. (1 pulse signal: shortage status more than 300msec. 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): 12V output during the unit ON / No output at OFF
4. 5-6 (Static output): 12V output when some errors occur / No output at normal

- Example of wiring

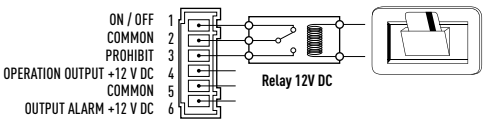



### Usage Example.
### Forced OFF control.

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).

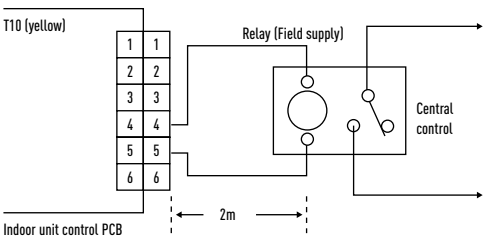
Term 2 & 3: Free contact to prohibit all function in the remote controller install in the room when the hotel card is it removed the contact must be closed (the unit can not work).

**Terminal = T10**




### Operation ON/OFF signal output.

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

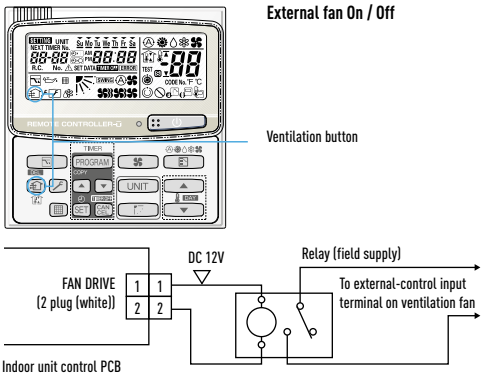



NOTE: The wire length from indoor unit to the Relay must be within 2,0m. Pulse signal changeable to static with JP cutting. (Refer to JP001)

## 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



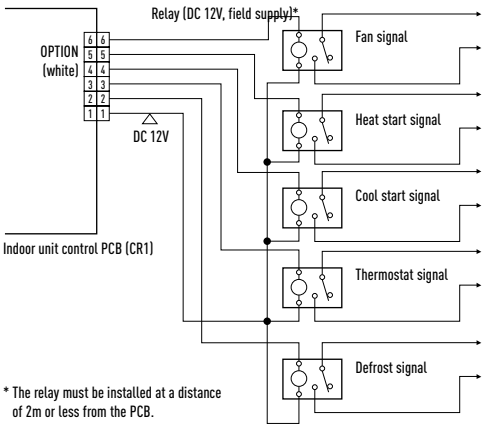


## Option Connector (CN060) Output external signals

**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**





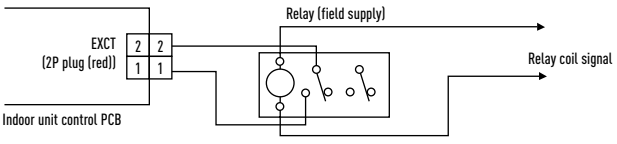
## EXCT Connector (CN009)

**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 2m or less.
* Lead wire with 2P plug (special—order part: WIRE K/854 05280 75300)

- 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 230V
  Code C1 ➔ 2 power output if alarm from O2 connector 0V
- Displayed alarm message P14