

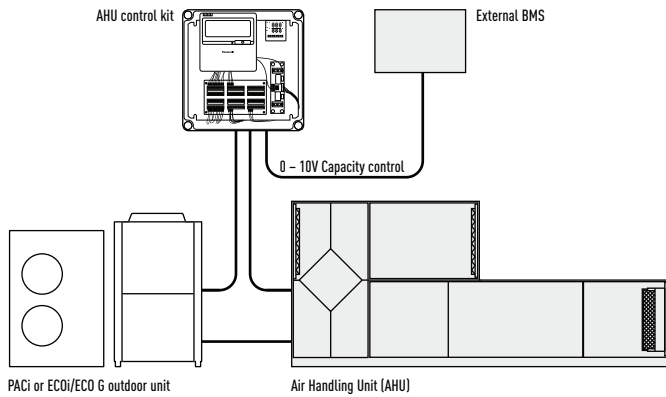
Air Handling Unit Kit 10-25 kW for PACi

Panasonic AHU Kit, 10-25 kW connected to PACi outdoor unit

The new Air Handling Unit Kit has been developed to better meet customer demand:

- IP 65 Box in order to be installed outside
- 0-10V demand control*
- Easy control by BMS

* Only available with Elite PACi, up to from 6kW to 14kW.



Demand control on the outdoor unit managed by external 0-10 V signal.

Control option 1: CZ-280PAH1 / PAW-280PAH2L

- The system's control is simple: control of actual suction temperature vs. set point
- Control works in the same way as that of any indoor unit
- Fan signal issued by the PCB (OFF while defrosting, for instance)

Control option 2: PAW-280PAH2

- System control by probe located at air intake. Sensor works as a 0-10V control thermostat which manages the set point temperature. Control to prevent cold draughts.
- All signals as per standard

Control option 3: PAW-280PAH2

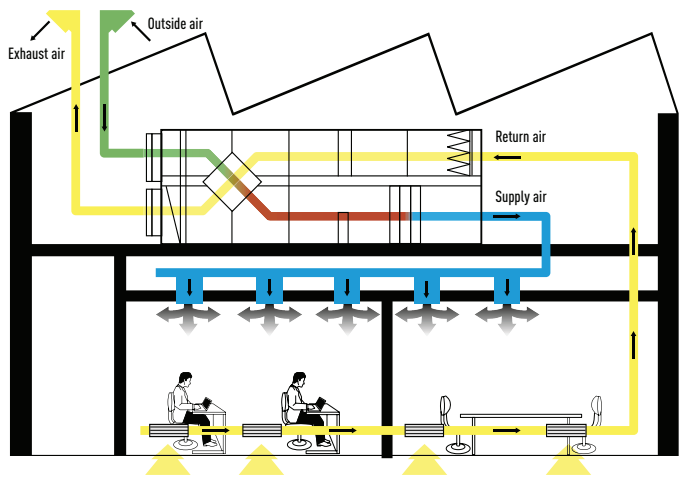
- System control by external environment probe. Sensor works as a 0-10V control thermostat which manages the set point temperature. Enhances efficiency by adjusting capacity to the ambient temperature and enhances comfort as well.
- All signals as per standard

Control option 4: PAW-280PAH2

- System control by a 0-10V control working from an external BMS that manages the set point for the temperature or the capacity. Enhances efficiency by adjusting capacity to the ambient temperature and enhances comfort as well.
- All signals as per standard

Main components of mechanical ventilation systems

The main components of a mechanical ventilation system are the following: Air Handling Unit (AHU), air ducts and air distribution elements.



0-10V control

With the 0-10 v demand control the capacity of the outdoor unit can be controlled by 20 steps.

With the included resistance. 0-10V control scheme with 10V= maximum capacity

Input Voltage* (V)	0 - 0.55	1.1	1.65	2.2	2.8	3.35	3.9	4.45	5.0	5.55	6.1	6.65	7.2	7.8	8.35	8.9	9.45	10.0
Demand (% of nominal current)	Stop ¹	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	No limit / Full capacity ³

When you remove the resistance. 0-10V control scheme with 10V= Thermo-Off

Input Voltage* (V)	0 - 0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5 - 10.0
Demand (% of nominal current)	Stop ¹	40	45	50	55	60	65	70	75	80	85	90	95	100	105	110	115	No limit ²	Thermo-Off ³

* If a voltage range [0 - 0.5 or 9.5 - 10.0V] is indicated, the applied voltage must be within the given limits.

However, if a single value (e.g. 1.0V) is indicated, the applied voltage must be within +/-0.1V of the given value to achieve the assigned demand setting.

Examples: "Stop" can be achieved with any analogue input value greater than 0V and less than or equal to 0.5 V; 40% demand can be achieved with any analogue input value greater than or equal to 0.9V and less than or equal to 1.1V etc.

1) Stop: AHU system / indoor unit is completely switched off.

2) No Limit: No restrictions applied by BMS to AHU system / indoor unit performance (equivalent to "full-load operation" of AHU system / indoor unit).

3) Thermo-Off: No cooling / heating operation (compressor is switched off; however, the fans may still be operating). For example, forced Thermostat-Off mode can be used for free cooling.

Optional parts: Following functions are available by using different control accessories:

CZ-RTC4 Timer remote controller

- Operation-ON/OFF
- Mode select
- Temperature setting

* Fan operation signal can be taken from the PCB.

CZ-CAPBC2 Mini seri-para I/O unit (advanced version only)

- Easy integration in external AHU control systems and BMS
- Demand control: 40 to 115 % (5 % steps) of nominal current by 0-10 V input signal*
- Target temperature setting by 0-10 V or 0-140 Ω input signal*
- Room supply air temperature output by 4-20 mA signal
- Mode select or/and ON/OFF control
- Fan operation control
- Operation status output/ Alarm output
- Thermostat ON/OFF control

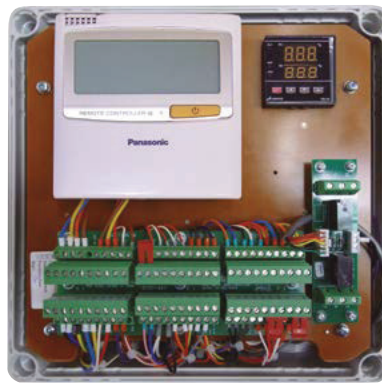
* Demand control by external BMS cannot be combined with the demand control or target temperature setting accomplished by the thermostat. However, if simultaneous demand control and target temperature setting is needed, this can only be achieved by using a second (optional) CZ-CAPBC2 interface.

PAW-OCT, DC12 V outlet. OPTION terminal

- Output signal= Cooling/Heating/Fan status
- Defrost
- Thermostat-ON

CZ-T10 terminal / PAW-T10 PCB to connect to T10 connector

- A Dry contact PCB has been developed to easily control the unit
- Input signal operation ON/OFF
- Remote control prohibition
- Output signal Operation ON status maximum 230 V 5 A (NO/NC)
- Output signal alarm status max. 230 V 5 A (NO/NC)
- Alarm output (by DC12V)
- Additional available contacts:
 - External humidifier control (ON/OFF) 230 VAC 3 A
 - External fan control (ON/OFF) 12V DC
 - External filter status signal potential free
 - External float switch signal potential free
 - External leakage detection sensor or TH. OFF contact potential free (possible usage for external blow out temperature control)



New AHU Kit connects PACi outdoor units to Air Handling Units system

The Panasonic AHU Kits offer a wealth of connectivity possibilities so can be easily integrated into many systems.

Application: Hotels, offices, server rooms or all large buildings where air quality control such as humidity control and fresh air and is needed.

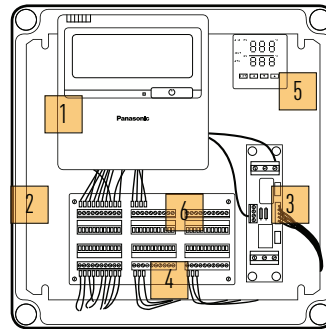
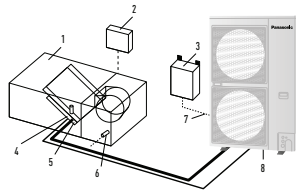
2 types of AHU Kit: Advanced and Standard

Model Code	IP 65	0-10V demand control*	Outdoor temperature shift compensation. Cold draft prevention
CZ-280PAH1			
PAW-280PAH2	Yes	Yes	Yes
PAW-280PAH2L	Yes	No	No

* With CZ-CAPBC2.

System & regulations. System overview

- AHU Kit equipment (Field supplied)
- AHU Kit system controller (Field supplied)
- AHU Kit controller box (with control PCB)
- Thermistor for Gas pipe (E2)
- Thermistor for Liquid pipe (E1)
- Thermistor for Suction air
- Inter-unit wiring
- Outdoor unit



- Remote control CZ-RTC4
- New plastic IP 65 Box
- PAW-T10 PCB for dry contact
- 0-10V demand control PCB
- Intelligent thermostat for:
 - Cold draft prevention
 - Outdoor temperature shift compensation
- Terminal base for sensors and power supply

AHU Connection Kit



PCB, Power trans, Terminal block



Thermistor x2 (Refrigerant: E1, E2)



Thermistor (Air: TA; 1 sensor)



Standard wired remote controller.

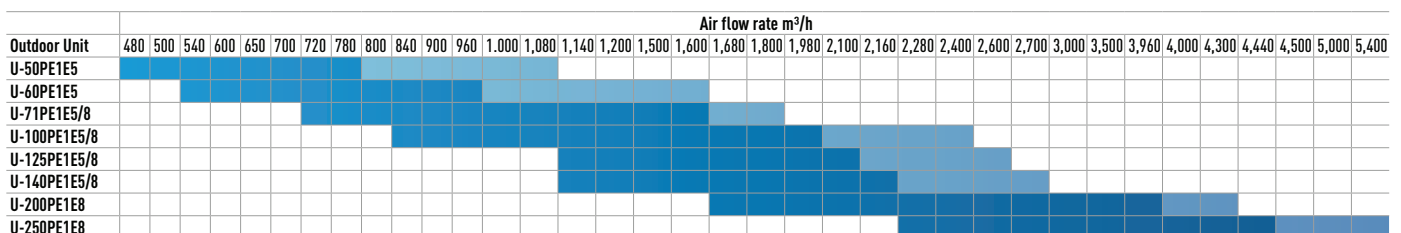


Included Timer remote controller CZ-RTC4

AHU PACi Elite	Cooling capacity		Heating capacity		Air volume		Dimensions		Piping length		Elevation difference (in/out)	
	Nominal		Nominal		High / Low		H x B x D		Min / Max		Min / Max	
	kW		kW		m ³ /min		mm		m		m	
PAW-280PAH2	6 / 25		7 / 28		480 / 4,440		404 x 425 x 78		5 / 30*		10	
PAW-280PAH2+PAW-280PAH2	50.0		56.0		2,280 / 8,880		404 x 425 x 78		5 / 30*		10	

* For U-200PE1E8A and U-250PE1E8.

AHU connection kit / System combination			Air volume	Dimensions	Piping length	Elevation difference (in/out)	Piping connections	
Capacity kW	Outdoor unit	AHU	High / Low	H x B x D	Min / Max	Min / Max	Liquid pipe	Gas pipe
			m ³ /min	mm	m	m	Tum (mm)	Tum (mm)
5.0	U-50PE1E5	PAW-280PAH2	480 / 780	404 x 425 x 78	5 / 30	10	1/4 (6,35)	1/2 (12,7)
6.0	U-60PE1E5A	PAW-280PAH2	540 / 960	404 x 425 x 78	5 / 30	10	3/8 (9,62)	5/8 (15,88)
7.5	U-71PE1E5A/U-71PE1E8A	PAW-280PAH2	720 / 1.500	404 x 425 x 78	5 / 30	10	3/8 (9,62)	5/8 (15,88)
10.0	U-100PE1E5A/U-100PE1E8A	PAW-280PAH2	840 / 1.980	404 x 425 x 78	5 / 30	10	3/8 (9,62)	5/8 (15,88)
12.5	U-125PE1E8A	PAW-280PAH2	1.140 / 2.100	404 x 425 x 78	5 / 30	10	3/8 (9,62)	5/8 (15,88)
14.0	U-140PE1E8A	PAW-280PAH2	1.140 / 2.100	404 x 425 x 78	5 / 30	10	3/8 (9,62)	5/8 (15,88)
20.0	U-200PE1E8A	PAW-280PAH2	1.680 / 3.960	404 x 425 x 78	5 / 70	10	3/8 (9,62)	1 (25,4)
25.0	U-250PE1E8A	PAW-280PAH2	2.280 / 4.440	404 x 425 x 78	5 / 70	10	1/2 (12,7)	1 (25,4)



Standard condition in cooling mode intake air temperature. Rating Conditions: Cooling Indoor 27°C DB / 19°C WB.

Maximum condition in cooling mode intake air restriction temperature Min18°C DB / 13°C WB Max 32°C DB / 23°C WB