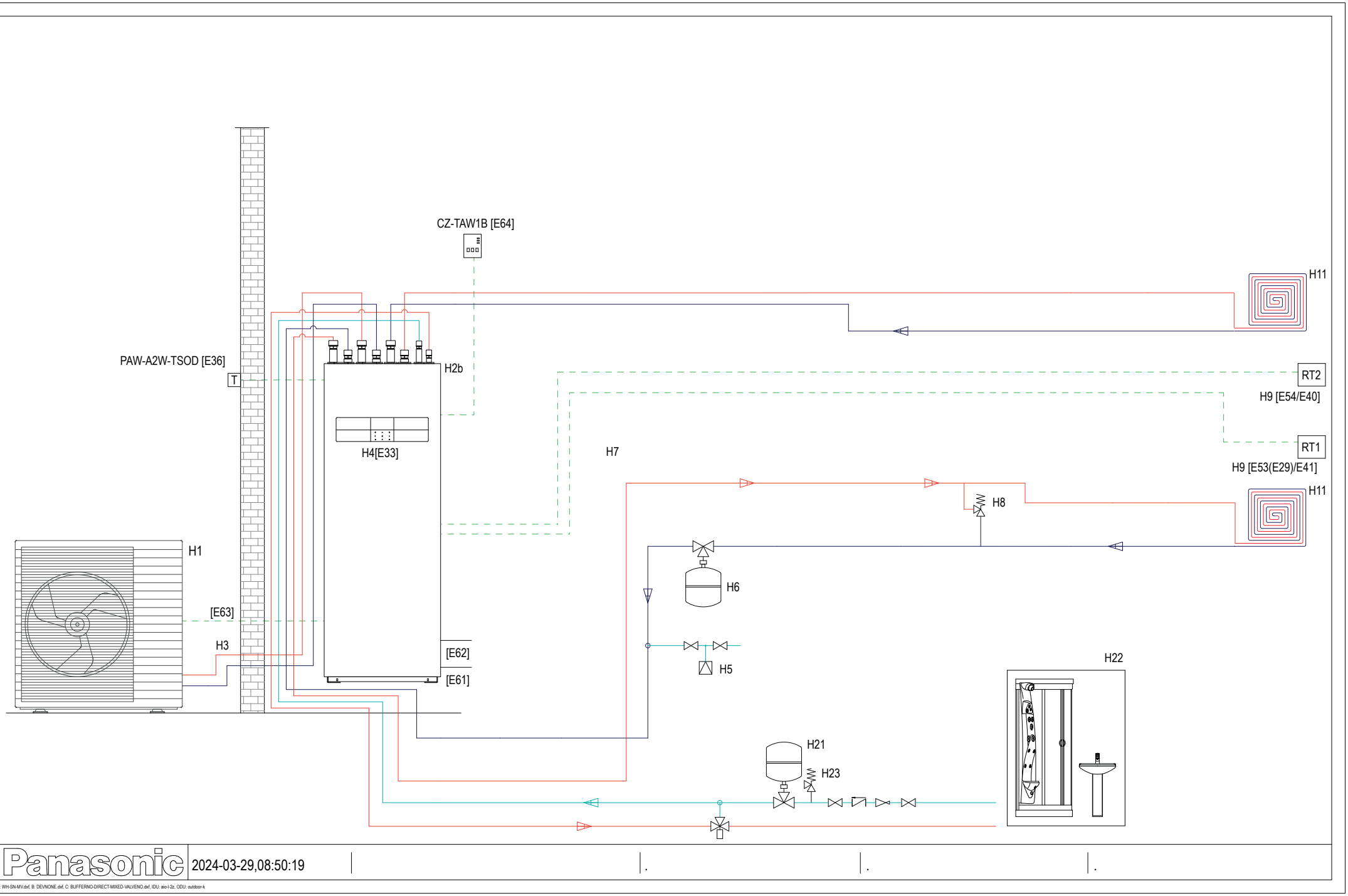

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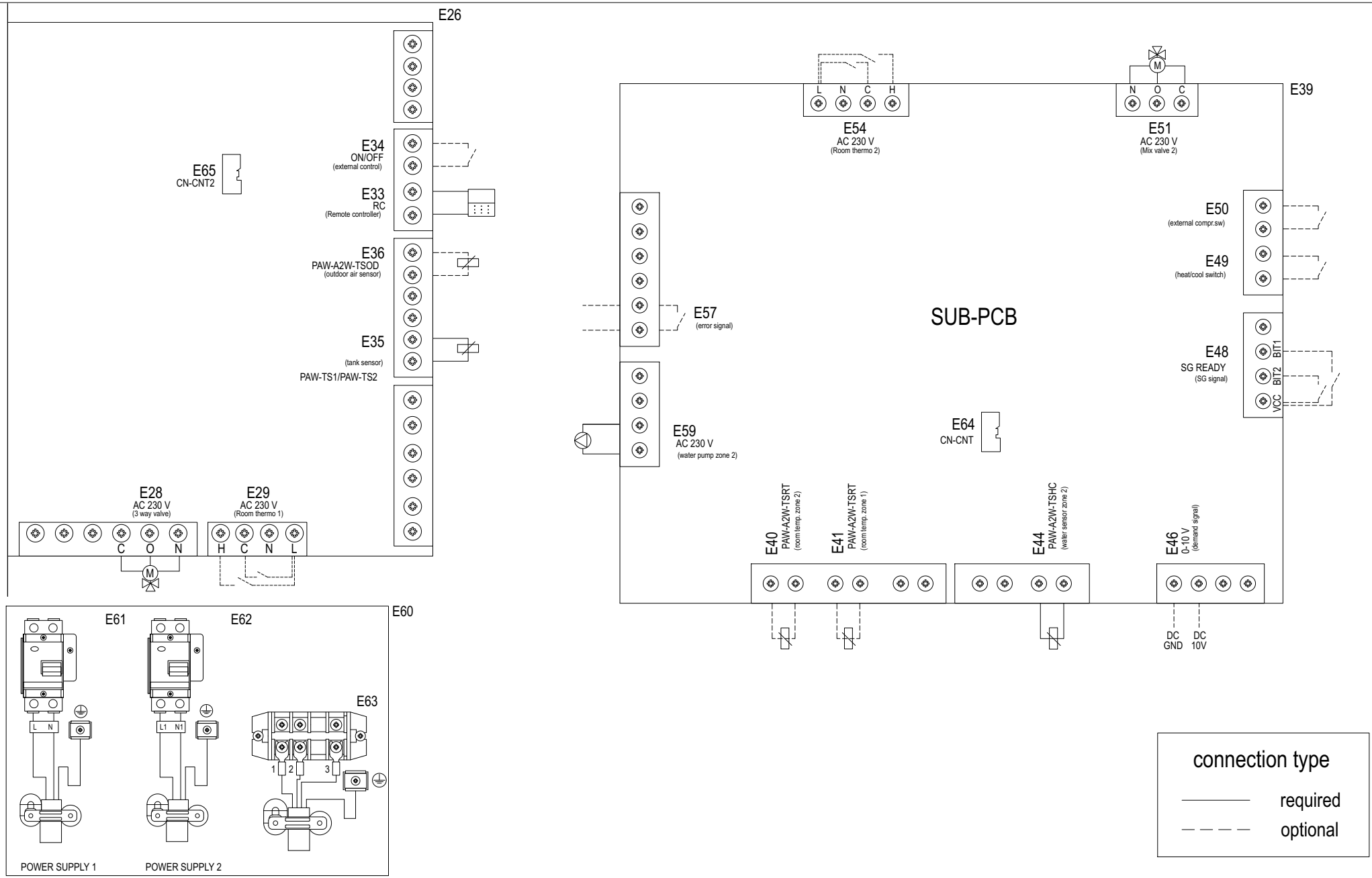
A: WH-SN-MV.dxf, B: DEVNONE.dxf, C: BUFFERNO-DIRECT-MIXED-VALVENO.dxf, IDU: aio-l-2z, ODU: outdoor-k



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E33,E36,E40,E41,E53,E54,E61,E62,E63,E64

System Component List

Panasonic Components

REF	CODE	NR	DESCRIPTION
H1	WH-WDG05LE5	1	Outdoor unit [5, E5]
H2b	WH-ADC0509L3E5B	1	All-in-one 2 zones indoor unit (2)
H9	PAW-A2W-TSRT	2	Room sensor (if needed) (1)
E36	PAW-A2W-TSOD	1	Outdoor air sensor (optional)
---	PAW-GRDBSE20	1	Outdoor unit base ground support (optional)
---	CZ-NE4P	1	Base pan heater (optional)
E64	CZ-TAW1B	1	Wireless/Wired control of the heat pump (optional)

Third Party Components

REF	CODE	NR	DESCRIPTION
H5	Backflow	1	Mandatory for France and Belgium, optional for other countries
H6	Expansion vessel	1	if needed
H8	Overflow valve	1	To be defined according to the system requirements
H9	Room thermostat	2	if needed (1)
H21	Cold water expansion vessel	1	To be defined according to the system requirements
H23	Safety valve	1	if needed (3)

Footnotes

1	Select room thermostats or room sensors according to the selected circuits control.
2	For normal operation, water pressure reading should be between 0.5 bar and 3 bar
3	Inside the AiO unit there is a safety valve with maximum operating pressure 8 bar

LEGEND – Hydraulic Split System

Panasonic

Legend for the hydraulic part	
H1	Hydraulic Split heat pump outdoor unit (provide outdoor unit drain)
H2a	All in One indoor unit: the All in One indoor unit consists of domestic hot water 185 litre tank, DHW temperature sensor, 3 way valve and heat pump indoor unit. The All in One must be installed inside the building. The magnetic filter and the flow meter are included in all L generation heat pumps.
H2b	All in One 2 zones indoor unit: the All in One indoor unit 2 zones consists of domestic hot water 185 litre tank, DHW temperature sensor, 3 way valve, heat pump indoor unit, one mixing valve, a water pump, a water sensor and a water filter for the mixed circuit (top part of the unit). The All in One must be installed inside the building. The magnetic filter and the flow meter are included in all L generation heat pumps.
H3	The connecting pipework between the outdoor unit and indoor unit contains water. The refrigerant contained in the outdoor unit is R290
H4	Remote controller of the Heat pump. Dual remote controllers may be used (optional).
H5	System charge and backflow device
H6	Expansion vessel: every HP has a 10 litre expansion vessel that will cater for 200 litres at 55°C in the fully open heating circuit. Any variation, greater than the specification stated, will require a secondary expansion vessel added to the system.
H7	Electrical connections: to be defined when the hydraulic scheme and the system control logic have been selected.
H8	Automatic bypass valve
H9	Optional thermostat: every circuit can be controlled with one optional thermostat, with one room sensor or with the remote controller (CZ-RTW1 additional controller for additional circuit).
H10	Buffer tank / Volumiser: in the open primary circuit (when all heating – cooling circuits are closed) it is recommended a minimum water volume of at least 30 litres up to and including 9 kW units (kW stated is nominal heating capacity of the heat pump A7/W35).
H11	Heating/cooling circuit: If the HP is connected directly to the system, the minimum water flow rate must be guaranteed. Provide an automatic bypass valve (recommended 1" diameter) or a 3-way diverting valve on hydronic indoor units (fan-coil, duct unit etc.) or a thermostat must be removed to ensure sufficient flow. If you have floor heating provide a safety thermostat (for heating mode) and a dew-point sensor (for cooling mode).
H12	Optional PCB - CZ-NS5P - needed for this scheme
H13	Mix valve with 3 points control
H14	Secondary water pump: they must be chosen according to the system hydraulic performance.
H15	Boiler
H16	Solar panels
H17	Solar pump
H18	Pool pump
H19	Heat exchanger for the swimming pool (to be sized)
H20	Swimming pool
H21	Expansion vessel (cold water)
H22	Sanitary equipment
H23	Inside the All in One unit there is a safety valve with a 8 bar maximum operation pressure.
	Shut-off valve
	Non-return valve
	Security valve
	Thermostatic mixing valve (optional)
	Pressure regulator
	Boiler circuit pipes
	Solar panels circuit pipes
	Pipes
	Domestic cold water pipe
	Electrical wired cables

Legend for the electric part	
E26	Main board PCB: the maximum cable length for sensor inputs is 30 meters and the maximum cable length for outputs and other inputs is 50 meters.
E27	2 way valve: open for heating (O+N) and close for cooling (C+N)
E28	3 way valve: open for DHW (O+N) and close for heating/cooling system (C+N)
E29	Optional thermostat 1: every circuit can be controlled with one optional thermostat (E29 for one zone and E29 and E54 for 2 zones), with one room sensor (E37 for one zone or E40 and E41 for 2 zones) or with the remote controller (E 33, 1 or 2 circuits).
E30	Booster heater
E31	Extra pump control
E32	ON/OFF boiler or deice output (dry contact)
E33	Remote Controller: the L generation heat pump remote controller can be used as a room thermostat for two circuits. The cables maximum length is 50 meters.
E34	External ON/OFF (dry contact)
E35	DHW tank sensor
E36	Outdoor air sensor (optional)
E37	Zone 1 room sensor (see point E29)
E38	OLP booster heater: on the OLP contact must be put a jumper if external booster heater is used and controlled by Panasonic heat pumps.
E39	Optional PCB: the maximum cable length for sensor inputs is 30 meters and the maximum cable length for outputs and other inputs is 50 meters. If the optional PCB (CZ-NS5P) is installed, the room sensor 1 and the extra pump control contacts of the main PCB are disabled
E40	Zone 2 room sensor (see point E29)
E41	Zone 1 room sensor (see point E29)
E42	Buffer tank sensor
E43	Pool water sensor
E44	Water sensor zone 2 (see point E29)
E45	Water sensor zone 1 (see point E29)
E46	Demand signal (0-10 V)
E47	Solar sensor
E48	Smart Grid signal: the 2 contacts can increase the set-point for DHW and heating or cooling if there is energy production from the PV panels. The 2 input contact can be also used to control a bivalent system with boiler and heat pump using an external control. The 2 options exclude one another.
E49	Heat / cool switch
E50	External compressor switch
E51	Mixing valve zone 2
E52	Mixing valve zone 1
E53	Optional thermostat 1 (see point E29)
E54	Optional thermostat 2 (see point E29)
E55	Pool pump
E56	Solar pump
E57	Error signal (dry contact
E58	Pump zone 1
E59	Pump zone 2
E60	All in One indoor unit power supply
E61	All in One indoor unit power supply 1 - main
E62	All in One indoor unit power supply 2 - heaters
E63	Connection to the outdoor unit: the outdoor unit power supply comes from the All in One indoor unit, so it is not necessary to bring a direct power supply to the outdoor unit.
E64	CZ-TAW1B is a device that can allow the remote control of the heat pump using a LAN or Wifi connection to the modem. Using this device the HP can be online on the Aquarea Smart Cloud website (https://aquarea-smart.panasonic.com).