DA

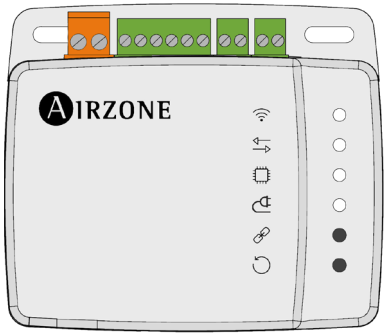
Integrationsmanual

Aidoo Pro Modbus
Aquarea M

Panasonic

For PAW-AZAW-MBS-M

[For AZAI6WSPPN9]



Modbus

AIRZONE

Indeks

Forholdsregler og miljøpolitik

FORHOLDSREGLER

- Af hensyn til din sikkerhed og for at beskytte enhederne skal du følge disse instruktioner:
- Håndtér ikke systemet med våde eller fugtige hænder.
- Afbryd strømforsyningen, før du foretager nogen tilslutninger.
- Pas på, at der ikke opstår kortslutning i nogen af systemets tilslutninger.

MILJØPOLITIK

Bortskaf ikke dette udstyr sammen med husholdningsaffaldet. Elektrisk og elektronisk udstyr indeholder stoffer, der kan skade miljøet, hvis de ikke håndteres korrekt. Symbolet med en overstreget affaldsspand indikerer, at elektrisk udstyr skal indsamles separat fra andet byaffald. For at sikre korrekt miljøhåndtering skal det afleveres på de dertil indrettede indsamlingscentre, når dets levetid er udløbet.

Udstyrets komponenter kan genbruges. Handle i overensstemmelse med gældende regler om miljøbeskyttelse.
Hvis du udskifter det med andet udstyr, skal du returnere det til forhandleren eller aflevere det på et specialiseret indsamlingscenter.

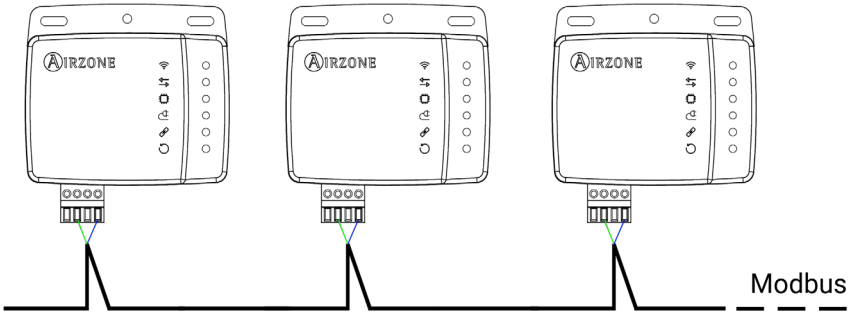
De, der overtræder loven eller vedtægterne, vil blive pålagt de bøder og foranstaltninger, der er fastsat i miljøbeskyttelseslovgivningen.

RS-485 Kommunikationsport

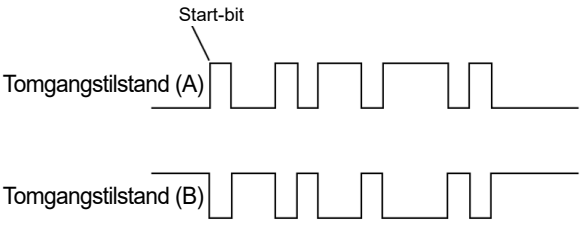
RS-485, også kendt som EIA-485, er en kommunikationsstandard i bus.

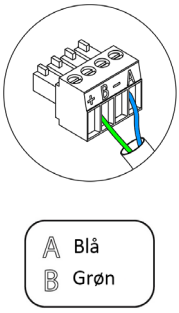
Integrationsbus	
Hastighed på kommunikationsporten	9600 bps
Kommunikation	Halvt duplex
Længde på ramme	8-bits
Stop bit	2-bit
Styring af gennemstrømning	Ingen
Paritet	Ingen

TILSLUTNING



For at systemet kan fungere korrekt, skal du kontrollere, at kun kommunikationskablerne (grøn-blå) er forbundet til de tilhørende domotic-busser. Fastgør ledningerne med klemskruerne i henhold til farvekoden.





Modbus-protokol

Modbus-protokollen er en kommunikationsstruktur, der bruges til at etablere **master-slave-/klient-server-kommunikation** mellem intelligente enheder, der er forbundet på forskellige typer busser eller netværk.

Hver enhed, der skal kommunikere via Modbus, får en unik adresse. Masterenheder sender en kommando i en ramme, som indeholder adressen på enheden eller slutenhederne (slaverne). Alle enheder får tilsendt rammen, men kun modtageren fortolker og udfører kommandoen. Modbus-kommandoer indeholder checksum-information, så modtageren kan opdage transmissionsfejl.

Bemærk: *Det er muligt at sende information til flere enheder samtidigt ved hjælp af en ramme kaldet "Broadcast".*

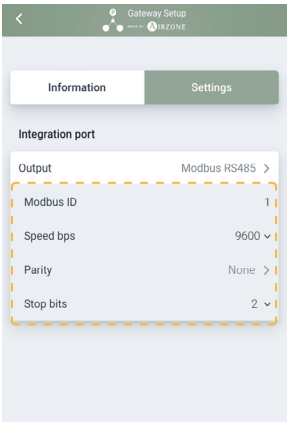
Hver besked indeholder redundant information, der sikrer, at den bliver modtaget korrekt. Hvis masteren efter et vist tidsrum ikke modtager en bekræftelse, tolker den det som en fejl og afbryder kommunikationen.

Den anvendte transmissionstype er MODBUS-RTU. Hver byte med data repræsenteres af to 4-bit tegn i hexadecimalt format. Formatet på rammen er følgende:

Start	0	1	2	3	4	5	6	7	Paritet	Stop

KONFIGURATION AF SLAVEADRESSEN FOR AIDOO PRO MODBUS PANASONIC AQUAREA M-ENHED

Aidoo er en **Modbus-slave-enhed** så det er nødvendigt at angive dens adresse. For at gøre dette skal du forbinde din Aidoo via Gateway Setup for Panasonic-appen (tilgængelig til iOS og Android) ved at følge de trin, der er beskrevet i afsnittet "Gateway Setup for Panasonic".



Modbus-funktionskoder

Modbus basic-kommandoer gør det muligt at styre en enhed for at ændre værdien af dens registre (hukommelsesplads) eller for at anmode om indholdet af disse registre, afhængigt af koderne:

Kode	Funktion
03	Læs hold-registre
04	Læs inputregistre
06	Forudindstil/skriv enkelt holderegister
16	Forudindstil/skriv flere holding-registre

Modbus-kommandoer

Formatet på kommandoerne til læse/skrive-handlinger er som følger (8 byte):

Slave-adresse	Betjeningskode	Registrér adresse	Data	CRC
1 byte	1 byte	1 byte	1...2·N bytes	2 bytes

- **Slave-adresse** Definerer det system, der skal tilgås. En Modbus-kommando indeholder Modbus-adressen på den enhed, den er beregnet til (1 til 247). 0-adressen er reserveret til transmission til alle enheder (broadcast).
- **Betjeningskode:** Angiver den handling, der skal udføres.
- **Registrér adresse:** Angiver den handling, der skal udføres. I kommandoer, der skal udføres i flere registre, skal du definere den boot-log, hvorfra du vil arbejde fortløbende.
- **Data:** Består af 2 bytes (simple handlinger) eller et sæt af 2 bytes (flere handlinger), der indeholder informationen i kommandoen.
- **CRC:** Der tilføjes to bytes til slutningen af gennemstrømningen for at registrere transmissions- eller modtagelsesfejl. Denne handling udføres ved hjælp af Cyclic Redundant Code.

  Generatorpolynomium: **CRC-16 = $x^{16} + x^{15} + x^2 + 1$.**

SKRIV KOMMANDOER

Skriv et enkelt holderegister

Byte	Felt
0	Slavens adresse (1 - 247) (0: Broadcast)
1	Skriv enkelt register (6)
2	Registrér adresse
3	
4	Data, der skal skrives
5	
6	CRC
7	

Svaret, så længe der ikke er nogen fejltype, skal have præcis samme format som skrivekommandoen.

Skriv flere registre

Byte	Felt
0	Slavens adresse (1 - 247) (0: Broadcast)
1	Skriv flere registre (16)
2	Start-registeradresse
3	Antal registre, der skal skrives (N)
4	
5	Samlet antal bytes af skrivedata (2-N)
6	Data, der skal skrives i register 1
7	
...	
5 + 2·N	Data, der skal skrives i register N
6 + 2·N	
7 + 2·N	CRC
8 + 2·N	

Svaret, så længe det er fejlfrit, vil være:

Byte	Felt
0	Adresse på slaven (1-247) (0: Broadcast)
1	Skriv flere registre (16)
2	Start-registeradresse
3	
4	Antal registre, der skal skrives (N)
5	
6	CRC
7	

LÆS KOMMANDOER

Spørgsmål

Byte	Felt
0	Slavens adresse (1 - 247) (0: Broadcast)
1	Læsning af optegnelser (3/4)
2	Start-registeradresse
3	
4	Antal registre, der skal læses (N)
5	
6	CRC
7	

Svar

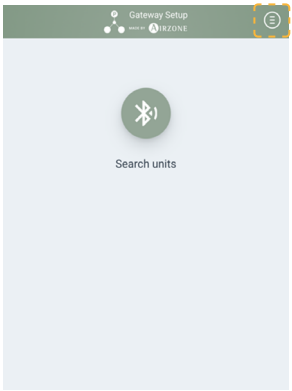
Byte	Felt
0	Slaveadresse (1 - 247) (0: Broadcast)
1	Læs vente-registre (3/4)
2	Antal svarbytes (2-N)
3	Data, der skal læses i register 0
4	
...	
3 + 2·N	Data, der skal læses i register N
4 + 2·N	
5 + 2·N	CRC
6 + 2·N	

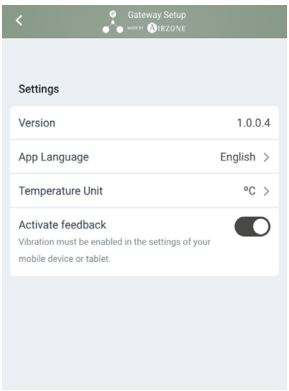
Gateway Setup for Panasonic

NETVÆRKSKONFIGURATION

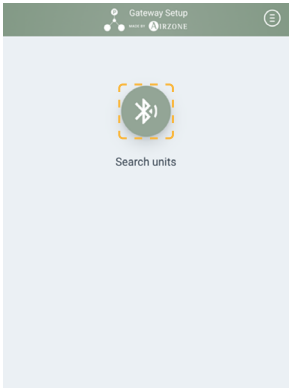
Hvis du klikker på *Konfiguration* på hovedskærmen i appen "Gateway Setup for Panasonic", kan du vælge applikationens arbejdssprog samt temperaturenheder.

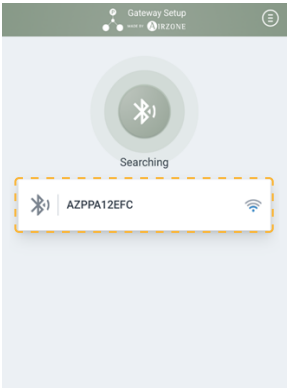
- **Version.** Det angiver programmets version.
- **Sprog.** Appen er tilgængelig på 9 sprog (tysk, græsk, engelsk, spansk, fransk, italiensk, polsk, portugisisk og den tyrkiske sprogfamilie).
- **Enheder.** Celsius (°C) eller Fahrenheit (°F).
- **Aktiv feedback.** Denne funktion kræver, at enhedens vibrationer aktiveres.





Klik igen på hovedskærmen på knappen *Bluetooth* for at begynde a søge efter enheder i nærheden. Vælg din "Aidoo Pro Modbus Panasonic Aquarea M" for at fortsætte.

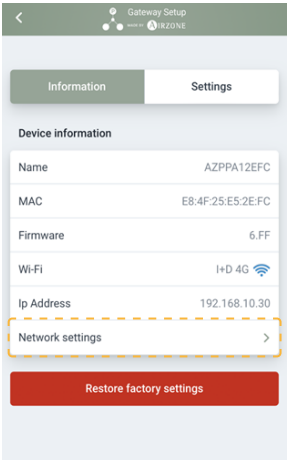




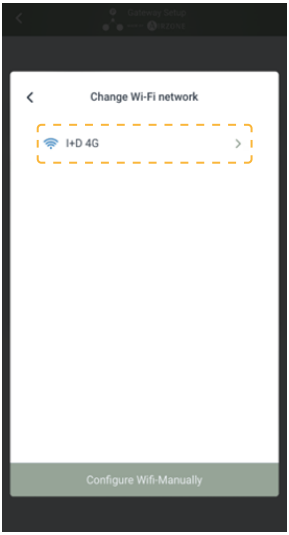
Når enheden er valgt, vises informationsmenuen.

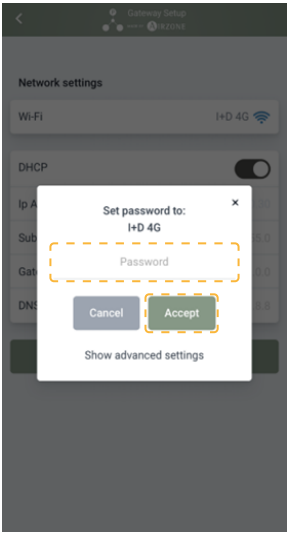
- **Navn.** Enhedens navn.
- **MAC.** Enhedens MAC-adresse.
- **Firmware.** Det angiver enhedens version.
- **Wi-fi.** Netværk forbundet til enheden.
- **IP-adresse.** Den viser enhedens IP-adresse.
- **Netværkskonfiguration.** Det bruges at konfigurere enheden.

Tryk på knappen *Fabriksnulstilling* for at gendanne de oprindelige værdier.



Ved at gå ind i *Netværkskonfiguration* kan du ændre wi-fi-netværket efter behov.

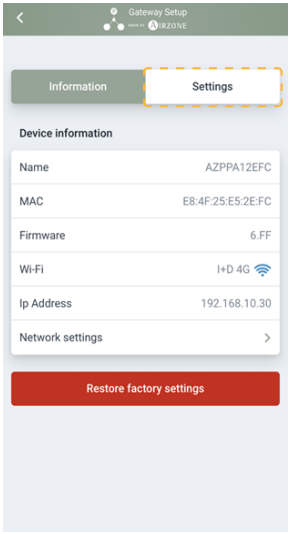


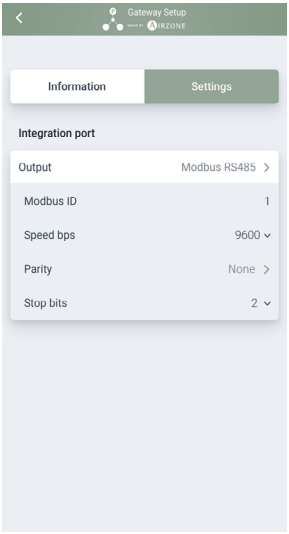


KONFIGURATION MODBUS RS-485

Ved at åbne konfigurationsmenuen kan du ændre følgende enhedsparametre:

- **Modbus-id.** Værdi mellem 1 og 255.
- **Hastighed i bps.** Der er 14 valgbare hastigheder (100, 300, 500, 600, 1200, 2400, 4800, 7800, 9600 (standard), 19200, 38400, 57600, 76800 og 115200 bps).
- **Paritet.** Ingen, lige eller ulige.
- **Stop bit.** Vælg en værdi mellem 1 og 2.





Download appen Gateway Setup for Panasonic

Modbus-registre

AIDOO PRO MODBUS PANASONIC AQUAREA M (PAW-AZAW-MBS-M [AZAI6WSPPN9])

Registers	Description	Values	Read (R) Write (W)	Operations
0	Operation	0 → Off 1 → On	R & W	0x03, 0x04, 0x06, 0x10, 0x16
1	Outdoor actual temperature	- 127 °C ~ 127 °C	R	0x03, 0x04
2	Outlet water temperature	- 127 °C ~ 127 °C	R	0x03, 0x04
3	Inlet water temperature	- 127 °C ~ 127 °C	R	0x03, 0x04
4	Mode	1 → Heat 2 → Heat tank 3 → Tank 4 → Cool tank 5 → Cool 6 → Auto (default) 7 → Auto tank	R & W	0x03, 0x04, 0x06, 0x10, 0x16
		8 → Auto heat 9 → Auto heat tank 10 → Auto cool 11 → Auto cool tank	R	0x03, 0x04
5	Heat mode water temperature sensor	1 → Compensation curve 2 → Direct	R & W	0x03, 0x04, 0x06, 0x10, 0x16
6	Cool mode water temperature sensor	1 → Compensation curve 2 → Direct	R & W	0x03, 0x04, 0x06, 0x10, 0x16
9	Zone 1 / Zone 2 On/Off	1 → On/Off 2 → Off/On 3 → On/On	R & W	0x03, 0x04, 0x06, 0x10, 0x16
10	Zone 1 sensors	1 → Water temperature 2 → External 3 → Internal 4 → Thermistor	R & W	0x03, 0x04, 0x06, 0x10, 0x16
11	Zone 2 sensors	1 → Water temperature 2 → External 3 → Internal 4 → Thermistor	R & W	0x03, 0x04, 0x06, 0x10, 0x16

Registers	Description	Values	Read (R) Write (W)	Operations
12	Zone 1: [Water shift/room/pool] set point temperature	**HEAT** Water Shift → - 5 °C ~ 5 °C Water → 20 °C ~ 75 °C[1] Room → 10 °C ~ 30 °C Pool → 15 °C ~ 35 °C **COOL** Water Shift → - 5 °C ~ 5 °C Water → 5 °C ~ 20 °C Room → 18 °C ~ 35 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
13	Zone 2: [Water shift/room/pool] set point temperature	**HEAT** Water Shift → - 5 °C ~ 5 °C Water → 20 °C ~ 75 °C[1] Room → 10 °C ~ 30 °C Pool → 15 °C ~ 35 °C **COOL** Water Shift → - 5 °C ~ 5 °C Water → 5 °C ~ 20 °C Room → 18 °C ~ 35 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
14	Zone 1: Actual [water outlet/ room/pool] temperature	- 127 °C ~ 127 °C	R	0x03, 0x04
15	Zone 2: Actual [water outlet/ room/pool] temperature	- 127 °C ~ 127 °C	R	0x03, 0x04
16	Zone 1: Temperature conf. mode	1 → Room 2 → Compensation curve 3 → Direct 4 → Pool	R	0x03, 0x04
17	Zone 2: Temperature conf. mode	1 → Room 2 → Compensation curve 3 → Direct 4 → Pool	R	0x03, 0x04
18	Zone 1: Min. set point temperature	**HEAT** Water Shift → - 5 °C Water → 20 °C Room → 10 °C Pool → 15 °C **COOL** Water Shift → - 5 °C Water → 5 °C Room → 18 °C	R	0x03, 0x04

[1] *Værdierne kan variere afhængigt af indendørsenhedens model. Den maksimale værdi er angivet i Register 36.*

Registers	Description	Values	Read (R) Write (W)	Operations
19	Zone 1: Max. set point temperature	**HEAT** Water Shift → 5 °C Water → 75 °C[1] Room → 30 °C Pool → 35 °C **COOL** Water Shift → 5 °C Water → 20 °C Room → 35 °C	R	0x03, 0x04
20	Zone 2: Min. set point temperature	**HEAT** Water Shift → - 5 °C Water → 20 °C Room → 10 °C Pool → 15 °C **COOL** Water Shift → - 5 °C Water → 5 °C Room → 18 °C	R	0x03, 0x04
21	Zone 2: Max. set point temperature	**HEAT** Water Shift → 5 °C Water → 75 °C[1] Room → 30 °C Pool → 35 °C **COOL** Water Shift → 5 °C Water → 20 °C Room → 35 °C	R	0x03, 0x04
30	Tank On/Off	0 → Off 1 → On	R & W	0x03, 0x04, 0x06, 0x10, 0x16
32	Tank actual temperature	- 127 °C ~ 127 °C	R	0x03, 0x04
33	Tank water set temperature	40 °C ~ 75 °C[1]	R & W	0x03, 0x04, 0x06, 0x10, 0x16
34	Tank heater	1 → Internal 2 → External	R & W	0x03, 0x04, 0x06, 0x10, 0x16
35	Tank water min. set point temperature	40 °C	R	0x03, 0x04
36	Tank water max. set point temperature	55 °C ~ 75 °C	R	0x03, 0x04
45	Tank mode energy consumption	0 ~ 65.534 W	R	0x03, 0x04

[1] *Værdierne kan variere afhængigt af indendørsenhedens model. Den maksimale værdi er angivet i Register 36.*

Registers	Description	Values	Read (R) Write (W)	Operations
46	Heat mode energy consumption	0 ~ 65.534 W	R	0x03, 0x04
47	[Cool mode / Heat recovery mode] energy consumption	0 ~ 65.534 W	R	0x03, 0x04
49	*For future use*			
50	Version of Modbus gateway	Example: 0x0100 → v1.0.1	R	0x03, 0x04
52	Error code	0 → No error 1XXX → H + error 2XXX → F + error 3XXX → U + error	R	0x03, 0x04
64	Deice status	0 → Off 1 → On	R	0x03, 0x04
70	Current error status	0 → No error 1 → Error	R	0x03, 0x04
81	Tank connection	0 → No 1 → Yes	R & W	0x03, 0x04, 0x06, 0x10, 0x16
82	Number zones	1 → 1 zone 2 → 2 zones	R & W	0x03, 0x04, 0x06, 0x10, 0x16
83	Zone 1 setup	1 → Room 2 → Pool	R & W	0x03, 0x04, 0x06, 0x10, 0x16
84	Zone 2 setup	1 → Room 2 → Pool	R & W	0x03, 0x04, 0x06, 0x10, 0x16
85	Direction	1 → Room 2 → Tank	R	0x03, 0x04
86	Outdoor type	1 → STD 2 → TCAP 3 → HWT	R	0x03, 0x04
105	Heat / Cool meter	If K Series onwards: 0 → No 1 → Yes	R	0x03, 0x04
106	Tank meter	If K Series onwards: 0 → No 1 → Yes	R	0x03, 0x04
107	Electricity meter HP	If K Series onwards: 0 → No 1 → Yes	R	0x03, 0x04

Registers	Description	Values	Read (R) Write (W)	Operations
111	SG ready: Control pattern	If K Series onwards: 1 → Normal 2 → HP Stop 3 → Capacity 1 4 → Capacity 2	R	0x03, 0x04
112	Water pressure	If K Series onwards: 0 ~ 5080 mbar	R	0x03, 0x04
113	Water inlet 2 temperature	If L Series onwards: - 127 °C ~ 127 °C	R	0x03, 0x04
116	RC-1: Room thermostat internal sensor temperature	- 127 °C ~ 127 °C	R	0x03, 0x04
117	Model series	1 → H-Series 2 → J-Series 3 → K-Series 4 → L-Series 5 → M-Series	R	0x03, 0x04
118	RC-2: Room thermostat internal sensor temperature	- 127 °C ~ 127 °C	R	0x03, 0x04
120	Heat mode energy consumption total (MSB)	0 ~ 4.294.967.294 kWh	R	0x03, 0x04
121	Heat mode energy consumption total (LSB)			
122	Heat mode energy generation total (MSB)	0 ~ 4.294.967.294 kWh	R	0x03, 0x04
123	Heat mode energy generation total (LSB)			
124	[Cool mode / Heat recovery mode] energy consumption total (MSB)	0 ~ 4.294.967.294 kWh	R	0x03, 0x04
125	[Cool mode / Heat recovery mode] energy consumption total (LSB)			
126	[Cool mode / Heat recovery mode] energy generation total (MSB)	0 ~ 4.294.967.294 kWh	R	0x03, 0x04
127	[Cool mode / Heat recovery mode] energy generation total (LSB)			

Registers	Description	Values	Read (R) Write (W)	Operations
128	Tank mode energy consumption (MSB)	0 ~ 4.294.967.294 kWh	R	0x03, 0x04
129	Tank mode energy consumption (LSB)			
130	Tank mode energy generation (MSB)	0 ~ 4.294.967.294 kWh	R	0x03, 0x04
131	Tank mode energy generation (LSB)			
150	External SW	0 → No 1 → Yes	R & W	0x03, 0x04, 0x06, 0x10, 0x16
151	Heat / Cool SW	0 → Disable 1 → Enable	R & W	0x03, 0x04, 0x06, 0x10, 0x16
152	External compressor SW	If H/J/K/L Series: 0 → No 1 → Yes	R & W	0x03, 0x04, 0x06, 0x10, 0x16
		If M Series: 0 → No 1 → Yes - Heat source 2 → Yes - Heater	R & W	0x03, 0x04, 0x06, 0x10, 0x16
153	Solar connection	0 → No 1 → Yes - Buffer tank 2 → Yes - DHW tank	R & W	0x03, 0x04, 0x06, 0x10, 0x16
154	SG ready	If H/J/K/L Series: 0 → No 1 → Yes	R & W	0x03, 0x04, 0x06, 0x10, 0x16
		If M Series: 0 → No 1 → Yes - Capacity 2 → Yes - Power consumption	R & W	0x03, 0x04, 0x06, 0x10, 0x16
155	Δt Buffer tank	0 ~ 10 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
156	SG ready: DHW capacity up (1-0)	50 % ~ 150 % Resolution: ± 5 %	R & W	0x03, 0x04, 0x06, 0x10, 0x16
157	SG ready: Heat capacity up (1-1)	50 % ~ 150 % Resolution: ± 5 %	R & W	0x03, 0x04, 0x06, 0x10, 0x16
158	Compensation curve - Heat - Zone 1 - Max. temperature	20 °C ~ 75 °C[1]	R & W	0x03, 0x04, 0x06, 0x10, 0x16

[1] *Værdierne kan variere afhængigt af indendørsenhedens model. Den maksimale værdi er angivet i Register 36.*

Registers	Description	Values	Read (R) Write (W)	Operations
159	Compensation curve - Heat - Zone 1 - Min. temperature	20 °C ~ 75 °C[1]	R & W	0x03, 0x04, 0x06, 0x10, 0x16
160	Compensation curve - Heat - Zone 1 - Outdoor air min. temperature	- 20 °C ~ 15 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
161	Compensation curve - Heat - Zone 1 - Outdoor air max. temperature	- 20 °C ~ 15 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
162	Compensation curve - Heat - Zone 2 - Max. temperature	20 °C ~ 75 °C[1]	R & W	0x03, 0x04, 0x06, 0x10, 0x16
163	Compensation curve - Heat - Zone 2 - Min. temperature	20 °C ~ 75 °C[1]	R & W	0x03, 0x04, 0x06, 0x10, 0x16
164	Compensation curve - Heat - Zone 2 - Outdoor air min. temperature	- 20 °C ~ 15 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
165	Compensation curve - Heat - Zone 2 - Outdoor air max. temperature	- 20 °C ~ 15 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
166	Compensation curve - Cool - Zone 1 - Max. temperature	5 °C ~ 20 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
167	Compensation curve - Cool - Zone 1 - Min. temperature	5 °C ~ 20 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
168	Compensation curve - Cool - Zone 1 - Outdoor air min. temperature	15 °C ~ 30 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
169	Compensation curve - Cool - Zone 1 - Outdoor air max. temperature	15 °C ~ 30 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
170	Compensation curve - Cool - Zone 2 - Max. temperature	5 °C ~ 20 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
171	Compensation curve - Cool - Zone 2 - Min. temperature	5 °C ~ 20 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
172	Compensation curve - Cool - Zone 2 - Outdoor air min. temperature	15 °C ~ 30 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16

[1] *Værdierne kan variere afhængigt af indendørsenhedens model. Den maksimale værdi er angivet i Register 36.*

Registers	Description	Values	Read (R) Write (W)	Operations
173	Compensation curve - Cool - Zone 2 - Outdoor air max. temperature	15 °C ~ 30 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
174	Solar (actual)	0 → Off 1 → On	R	0x03, 0x04
175	2-way valve direction (actual)	0 → Off 1 → On	R	0x03, 0x04
176	Zone 1: Water temperature	- 127 °C ~ 127 °C	R	0x03, 0x04
177	Zone 2: Water temperature	- 127 °C ~ 127 °C	R	0x03, 0x04
180	Buffer tank: Water temperature	- 127 °C ~ 127 °C	R	0x03, 0x04
181	Solar: Water temperature	- 127 °C ~ 127 °C	R	0x03, 0x04
182	Pool: Water temperature	- 127 °C ~ 127 °C	R	0x03, 0x04
184	Compressor total On time (MSB)	0 ~ 16.777.214 hours	R	0x03, 0x04
185	Compressor total On time (LSB)			
187	Tank mode energy generation	0 ~ 65.534 W	R	0x03, 0x04
188	Heat mode energy generation	0 ~ 65.534 W	R	0x03, 0x04
189	[Cool mode / Heat recovery mode] energy generation	0 ~ 65.534 W	R	0x03, 0x04
197	Powerful	1 → Off 2 → On 30 mins 3 → On 60 mins 4 → On 90 mins	R & W	0x03, 0x04, 0x06, 0x10, 0x16
198	Quiet	1 → Off 2 → Level 1 3 → Level 2 4 → Level 3	R & W	0x03, 0x04, 0x06, 0x10, 0x16
199	Quiet timer	1 → Cancel 2 → Set	R & W	0x03, 0x04, 0x06, 0x10, 0x16
200	System reset request	0 → No request 1 → Request	W	0x06, 0x10, 0x16
202	Sterilization request	0 → No request 1 → Request	W	0x06, 0x10, 0x16

Registers	Description	Values	Read (R) Write (W)	Operations
208	Opcional PCB connection	0 → No 1 → Yes	R & W	0x03, 0x04, 0x06, 0x10, 0x16
212	Buffer tank connection	0 → No 1 → Yes	R & W	0x03, 0x04, 0x06, 0x10, 0x16
213	Heater capacity	If NOT Big-A2W: 3 kW 6 kW 9 kW	R & W	0x03, 0x04, 0x06, 0x10, 0x16
		If Big-A2W and Big-A2W heater capacity ≤ 18kW: 6 kW 12 kW 18 kW	R & W	0x03, 0x04, 0x06, 0x10, 0x16
		If Big-A2W and Big-A2W heater capacity > 18 kW: 1 htr 2 htr 3 htr	R & W	0x03, 0x04, 0x06, 0x10, 0x16
217	Bivalent heat mode	0 → No 1 → Yes	R & W	0x03, 0x04, 0x06, 0x10, 0x16
218	Bivalent DHW mode	0 → No 1 → Yes	R & W	0x03, 0x04, 0x06, 0x10, 0x16
219	Demand control	0 → No 1 → Yes	R & W	0x03, 0x04, 0x06, 0x10, 0x16
222	Defrost signal	If J Series onwards: 0 → No 1 → Yes	R & W	0x03, 0x04, 0x06, 0x10, 0x16
226	Zone 1: [Water shift/water/room/pool] set temperature for heat mode	Range water shift: [- 5 °C ~ 5 °C] Range water: [20 °C ~ 75 °C[1]] Range room: [10 °C ~ 30 °C] Range pool: [15 °C ~ 35 °C]	R & W	0x03, 0x04, 0x06, 0x10, 0x16
227	Zone 1: [Water shift/water/room] set temperature for cool mode	Range water shift: [- 5 °C ~ 5 °C] Range water: [5 °C ~ 20 °C] Range room: [18 °C ~ 35 °C]	R & W	0x03, 0x04, 0x06, 0x10, 0x16

[1] *Værdierne kan variere afhængigt af indendørsenhedens model. Den maksimale værdi er angivet i Register 36.*

Registers	Description	Values	Read (R) Write (W)	Operations
228	Zone 2: [Water shift/water/ room/pool] set temperature for heat mode	Range water shift: [- 5 °C ~ 5 °C] Range water: [20 °C ~ 75 °C[1]] Range room: [10 °C ~ 30 °C] Range pool: [15 °C ~ 35 °C]	R & W	0x03, 0x04, 0x06, 0x10, 0x16
229	Zone 2: [Water shift/water/ room] set temperature for cool mode	Range water shift: [- 5 °C ~ 5 °C] Range water: [5 °C ~ 20 °C] Range room: [18 °C ~ 35 °C]	R & W	0x03, 0x04, 0x06, 0x10, 0x16
235	Current Lv	0 ~ 20 Lv	R & W	0x03, 0x04, 0x06, 0x10, 0x16
248	SG ready: DHW capacity up (2-0)	50 % ~ 150 % Resolution: ± 5 %	R & W	0x03, 0x04, 0x06, 0x10, 0x16
249	SG ready: Heat capacity up (2-1)	50 % ~ 150 % Resolution: ± 5 %	R & W	0x03, 0x04, 0x06, 0x10, 0x16
256	Tank: Floor operation time (maximum)	0 ~ 600 min Resolution: ± 30 min	R & W	0x03, 0x04, 0x06, 0x10, 0x16
257	Tank: Heat up time (maximum)	5 min ~ 240 min Resolution: ± 5 min	R & W	0x03, 0x04, 0x06, 0x10, 0x16
258	Tank: Re-heat temperature	- 12 °C ~ - 2 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
259	Tank: Sterilization boiling temperature	55 °C ~ 75 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
260	Tank: Sterilization operation time (maximum)	If J Series onwards: 10 min ~ 60 min Resolution: ± 10 min	R & W	0x03, 0x04, 0x06, 0x10, 0x16
261	SG ready: Cool capacity up (1-2)	If J Series onwards: - 15 °C ~ 0 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
262	SG ready: Cool capacity up (2-2)	If J Series onwards: - 15 °C ~ 0 °C	R & W	0x03, 0x04, 0x06, 0x10, 0x16
267	External SW	1 → Close 2 → Open	R	0x03, 0x04
268	Heat / Cool SW	1 → Heat 2 → Cool	R	0x03, 0x04

[1] Værdierne kan variere afhængigt af indendørsenhedens model. Den maksimale værdi er angivet i Register 36.

Registers	Description	Values	Read (R) Write (W)	Operations
269	Powerful (actual)	0 → Off 1 → On	R	0x03, 0x04
270	Quiet (actual)	0 → Off 1 → On	R	0x03, 0x04
271	Heat mode water set temperature range	1 → Range 1 2 → Range 2 3 → Range 3	R	0x03, 0x04
273	Room heater (actual)	0 → Off 1 → On	R	0x03, 0x04
274	Tank heater (actual)	0 → Off 1 → On	R	0x03, 0x04
275	Bivalent (actual)	0 → Off 1 → On	R	0x03, 0x04
276	Last error number (x1)	10 → No error 0 ~ 9	R	0x03, 0x04
277	Last error number (x2)	10 → No error 0 ~ 9	R	0x03, 0x04
278	Last error number (x3)	10 → No error 0 ~ 9	R	0x03, 0x04
280	Last error character	0 → No error 1 → U 2 → H 3 → F	R	0x03, 0x04
289	Sterilization status	0 → Off 1 → On	R	0x03, 0x04
305	Indoor unit model reference	To be read as hex. value (Example: 0x8170)	R	0x03, 0x04
314	Outdoor unit model reference	To be read as hex. value (Example: 0x8191)	R	0x03, 0x04
351	Capacity rank	0 ~ 30 kW	R	0x03, 0x04
352	Electricity meter HP	1 → No error 2 → Error	R	0x03, 0x04
353	Heat / Cool meter	1 → No error 2 → Error	R	0x03, 0x04
354	Tank meter	1 → No error 2 → Error	R	0x03, 0x04

Registers	Description	Values	Read (R) Write (W)	Operations
358	Modbus meter gateway	1 → No error 2 → Error 3 → Comm. not yet establish	R	0x03, 0x04
360[2]	Heat mode energy consumption	If K Series onwards: 0 ~ 65.534 W	R	0x03, 0x04
361[3]	[Cool mode / Heat recovery mode] energy consumption	If K Series onwards: 0 ~ 65.534 W	R	0x03, 0x04
362[4]	Tank mode energy consumption	If K Series onwards: 0 ~ 65.534 W	R	0x03, 0x04
363[5]	Heat mode energy generation	If K Series onwards: 0 ~ 65.534 W	R	0x03, 0x04
364[6]	[Cool mode / Heat recovery mode] energy generation	If K Series onwards: 0 ~ 65.534 W	R	0x03, 0x04
365[7]	Tank mode energy generation	If K Series onwards: 0 ~ 65.534 W	R	0x03, 0x04
366[8]	Total energy consumption	If K Series onwards: 0 ~ 4.294.967.294 Wh	R	0x03, 0x04
367[8]				
368[8]	Total heat mode energy generation	If K Series onwards: 0 ~ 4.294.967.294 Wh	R	0x03, 0x04
369[8]				
370[8]	Total [cool mode / heat recovery mode] energy generation	If K Series onwards: 0 ~ 4.294.967.294 Wh	R	0x03, 0x04
371[8]				
372[8]	Total tank mode energy generation	If K Series onwards: 0 ~ 4.294.967.294 Wh	R	0x03, 0x04
373[8]				
378	Consumption reset	0 → No request 1337 → Request to clear	W	0x06, 0x10, 0x16
417	SG ready: Power consumption (1-0): DHW	If M Series: 500 W to 10000 W Resolution: 100W	R & W	0x03, 0x04, 0x06, 0x10, 0x16
418	SG ready: Power consumption (1-1): Heat	If M Series: 500 W to 10000 W Resolution: 100W	R & W	0x03, 0x04, 0x06, 0x10, 0x16
419	SG ready: Power consumption (1-2): Cool	If M Series: 500 W to 10000 W Resolution: 100W	R & W	0x03, 0x04, 0x06, 0x10, 0x16

[2] Fra generation K og fremefter er dette register duplikeret i Register 46.
[3] Fra generation K og fremefter er dette register duplikeret i Register 47.
[4] Fra generation K og fremefter er dette register duplikeret i Register 45.
[5] Fra generation K og fremefter er dette register duplikeret i Register 188.
[6] Fra generation K og fremefter er dette register duplikeret i Register 189.
[7] Fra generation K og fremefter er dette register duplikeret i Register 187.
[8] Kun tilgængelig, hvis der er installeret en Måler-Gateway med en ekstern måler.

Registers	Description	Values	Read (R) Write (W)	Operations
420	SG ready: Power consumption (2-0): DHW	If M Series: 500 W to 10000 W Resolution: 100W	R & W	0x03, 0x04, 0x06, 0x10, 0x16
421	SG ready: Power consumption (2-1): Heat	If M Series: 500 W to 10000 W Resolution: 100W	R & W	0x03, 0x04, 0x06, 0x10, 0x16
422	SG ready: Power consumption (2-2): Cool	If M Series: 500 W to 10000 W Resolution: 100W	R & W	0x03, 0x04, 0x06, 0x10, 0x16
423	SG ready: HPU Stop consumption	If M Series: 500 W to 10000 W Resolution: 100W	R & W	0x03, 0x04, 0x06, 0x10, 0x16
426	Anti-stick mode	If M Series: 0 → Disable 1 → Enable	R	0x03, 0x04
427	DHW circulation	If M Series: 0 → Off 1 → On	R	0x03, 0x04
428	SG ready power consumption: Minimum range	If M Series: 1 → 0.5 Kw 2 → 1.0 Kw 3 → 1.5 Kw 4 → 2.0 Kw 5 → 2.5 Kw 6 → 3.0 Kw 7 → 3.5 Kw 8 → 4.0 Kw 9 → 5.0 Kw 10 → 6.0 Kw 11 → 7.0 Kw 12 → 8.0 Kw 13 → 9.0 Kw 14 → 10.0 Kw 15 → Not yet receive data from outdoor unit	R	0x03, 0x04

Registers	Description	Values	Read (R) Write (W)	Operations
429	SG ready power consumption: Maximum range	If M Series: 1 → 0.5 Kw 2 → 1.0 Kw 3 → 1.5 Kw 4 → 2.0 Kw 5 → 2.5 Kw 6 → 3.0 Kw 7 → 3.5 Kw 8 → 4.0 Kw 9 → 5.0 Kw 10 → 6.0 Kw 11 → 7.0 Kw 12 → 8.0 Kw 13 → 9.0 Kw 14 → 10.0 Kw 15 → Not yet receive data from outdoor unit	R	0x03, 0x04
432	Electrical anode (actual)	If M Series: 0 → Off 1 → On	R	0x03, 0x04
437	Big-A2W heater capacity	If Big-A2W: 0 → ≤ 18kW 1 → > 18kW	R & W	0x03, 0x04, 0x06, 0x10, 0x16
438	Big-A2W	If M Series: 0 → No 1 → Yes	R	0x03, 0x04

Fejlkoder

AIDOO PRO MODBUS PANASONIC AQUAREA M (PAW-AZAW-MBS-M [AZAI6WSPPN9])

Diagnosis display	Abnormality / Protection control	Abnormality judgement	Primary location to verify
H00	No abnormality detected	-	-
H12	Indoor / Outdoor capacity unmatched	90s after power supply	· Indoor / Outdoor connection wire · Indoor / Outdoor PCB · Specification and combination table in catalogue
H15	Outdoor compressor temperature sensor abnormality	Continue for 5s	· Compressor temperature sensor (defective or disconnected)
H20	Water pump abnormality	Continue for 10s	· Indoor PCB · Water pump (malfunction)
H23	Indoor refrigerant liquid temperature sensor abnormality	Continue for 5s	· Refrigerant liquid temperature sensor (defective or disconnected)
H27	Service valve error	Continue for 5 minutes	· High pressure sensor (defective or disconnected)
H28	Abnormal solar sensor	Continue for 5s	· Solar temperature sensor (defective or disconnected)
H31	Abnormal swimming pool sensor	Continue for 5s	· Pool temperature sensor (defective or disconnected)
H36	Abnormal buffer tank sensor	Continue for 5s	· Buffer tank sensor (defective or disconnected)
H38	Brand code not match	When indoor and outdoor brand code not same	-
H42	Compressor low pressure abnormality	-	· Outdoor pipe temperature sensor · Clogged expansion valve or strainer · Insufficient refrigerant · Outdoor PCB · Compressor
H43	Abnormal Zone 1 sensor	Continue for 5s	· Water temperature Zone 1 sensor
H44	Abnormal Zone 2 sensor	Continue for 5s	· Water temperature Zone 2 sensor
H62	Water flow switch abnormality	Continue for 1 minute	· Water flow switch

Diagnosis display	Abnormality / Protection control	Abnormality judgement	Primary location to verify
H63	Refrigerant low pressure abnormality	Continue for 5s	· Outdoor low pressure sensor (defective or disconnected)
H64	Refrigerant high pressure abnormality	Continue for 5s	· Outdoor high pressure sensor (defective or disconnected)
H65	Deice circulation error	Continue for 10s	· Water flow switch sensor (defective or disconnected) · Water pump malfunction · Buffer tank (is used)
H67	Abnormal external thermistor 1	Continue for 5s	· Room temperature Zone 1 sensor
H68	Abnormal external thermistor 2	Continue for 5s	· Room temperature Zone 2 sensor
H70	Back-up heater OLP abnormality	Continue for 60s	· Back-up heater OLP (disconnection or activated)
H72	Tank sensor abnormal	Continue for 5s	· Tank sensor
H74	PCB communication error	Communication or transfer error	· Indoor main PCB and Sub PCB
H75	Low water temperature control	Room heater disable and deice request to operate under low water temperature	· Heater operation must enable to increase water temperature
H76	Indoor - control panel communication abnormality	-	· Indoor - control panel (defective or disconnected)
H90	Indoor / Outdoor abnormal communication	> 1 minute after starting operation	· Internal / External cable connections · Indoor / Outdoor PCB
H91	Tank heater OLP abnormality	Continue for 60s	· Tank heater OLP (disconnection or activated)
H95	Indoor / Outdoor wrong connection	-	· Indoor / Outdoor supply voltage
H98	Outdoor high pressure overload protection	-	· Outdoor high pressure sensor · Water pump or water leakage · Clogged expansion valve or strainer · Excess refrigerant · Outdoor PCB
H99	Indoor heat exchanger freeze prevention	-	· Indoor heat exchanger · Refrigerant shortage
F12	Pressure switch active	4 times occurrence within 20 minutes	· Pressure switch
F14	Outdoor compressor abnormal revolution	4 times occurrence within 20 minutes	· Outdoor compressor

Diagnosis display	Abnormality / Protection control	Abnormality judgement	Primary location to verify
F15	Outdoor fan motor lock abnormality	2 times occurrence within 30 minutes	· Compressor tank temperature sensor · Clogged expansion valve or strainer · Insufficient refrigerant · Outdoor PCB · Compressor
F16	Total running current protection	3 times occurrence within 20 minutes	· Excess refrigerant · Outdoor PCB
F20	Outdoor compressor overheating protection	4 times occurrence within 30 minutes	· Compressor tank temperature sensor · Clogged expansion valve or strainer · Insufficient refrigerant · Outdoor PCB · Compressor
F22	IPM (power transistor) overheating protection	3 times occurrence within 30 minutes	· Improper heat exchange · IPM (power transistor)
F23	Outdoor direct current (DC) peak detection	7 times occurrence continuously	· Outdoor PCB · Compressor
F24	Refrigeration cycle abnormality	2 times occurrence within 20 minutes	· Insufficient refrigerant · Outdoor PCB · Compressor low compression
F25	Cooling / Heating cycle changeover abnormality	4 times occurrence within 30 minutes	· 4-way valve · V-coil
F27	Pressure switch abnormality	Continue for 1 minute	· Pressure switch
F29	Low discharge superheat	1 time occurrence within 2550 minutes	· Discharge temperature sensor · Discharge pressure sensor · Pressure switch · Outdoor PCB
F30	Water outlet sensor 2 abnormality	Continue for 5s	· Water outlet sensor 2 (defective or disconnected)
F32	Abnormal internal thermostat	Continue for 5s	· Control panel PCB thermostat
F36	Outdoor air temperature sensor abnormality	Continue for 5s	· Outdoor air temperature sensor (defective or disconnected)
F37	Indoor water inlet temperature sensor abnormality	Continue for 5s	· Water inlet temperature sensor (defective or disconnected)
F40	Outdoor discharge pipe temperature sensor abnormality	Continue for 5s	· Outdoor discharge pipe temperature sensor (defective or disconnected)
F41	PFC control	4 times occurrence within 10 minutes	· Voltage at PFC

Diagnosis display	Abnormality / Protection control	Abnormality judgement	Primary location to verify
F42	Outdoor heat exchanger temperature sensor abnormality	Continue for 5s	· Outdoor heat exchanger temperature sensor (defective or disconnected)
F43	Outdoor defrost sensor abnormality	Continue for 5s	· Outdoor defrost sensor (defective or disconnected)
F45	Indoor water outlet temperature sensor abnormality	Continue for 5s	· Water outlet temperature sensor (defective or disconnected)
F46	Outdoor current transformer (CT) open circuit	-	· Insufficient refrigerant · Outdoor PCB · Compressor low
F48	Outdoor EVA outlet temperature sensor abnormality	Continue for 5s	· Outdoor EVA outlet temperature sensor (defective or disconnected)
F49	Outdoor bypass outlet temperature sensor abnormality	Continue for 5s	· Outdoor bypass outlet temperature sensor (defective or disconnected)
F95	Cooling high pressure overload protection	-	· Outdoor high pressure sensor · Water pump or water leakage · Clogged expansion valve or strainer · Excess refrigerant · Outdoor PCB

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