

PANASONIC PAW-AW-MBS-H QUICK START GUIDE - V01

Planet Devices Ltd

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VERSION HISTORY

Version	Date	Author	Notes
V01	2024-05-01	JD	Initial release

PREFACE

Atmo (RS-485 Modbus RTU) [P/N 386363-249] requires a Modbus interface in order to communicate with heat pump systems.

For Panasonic Aquarea systems, this necessitates the installation of a PAW-AW-MBS-H Modbus interface.

PURPOSE OF THIS DOCUMENT

Modbus interfaces must be configured to match the serial settings of the Atmo device, or vice versa.

This document serves as a “quick start” guide only. Please refer to the documentation provided with the heat pump system for more information.

INSTALLATION INSTRUCTIONS

1. Disconnect power from the Panasonic Aquarea system (including the Hydro unit)
2. Open the front cover of the Hydro unit
3. Locate the CN-CNT connector socket
4. Use the cable provided with the Modbus interface to connect K1 (PAW-AW-MBS-H) and CN-CNT (Hydro unit) together
5. Connect the RS-485 A and B signal lines according to the following table:

BUS1	↔	A+
BUS2	↔	B-

6. Close the front cover of the Hydro unit
7. On the PAW-AW-MBS-H, set the DIP switches according to the following table:

SW1-P1	SW1-P2 (Reserved)	SW1-P3 (Reserved)	SW1-P4 (Reserved)
OFF ↓	OFF ↓	OFF ↓	OFF ↓

SW3-P1	SW3-P2	SW3-P3	SW3-P4	SW3-P5	SW3-P6	SW3-P7	SW3-P8
ON ↑	OFF ↓	OFF ↓	OFF ↓	OFF ↓	OFF ↓	OFF ↓	ON ↑

SW4-P1	SW4-P2	SW4-P3	SW4-P4
ON ↑	OFF ↓	OFF ↓	OFF ↓

See *Appendix A – DIP Switch Setting Summary* for a summary of the changes made by these DIP switches.

If the RS-485 main cable exceeds 50 metres (around 160 feet) in length, SW4-P4 must be toggled ON. In addition, a 120Ω termination resistor must be applied to the opposite end of the main cable.

If you wish to use a different Modbus Worker address (see *Appendix A – DIP Switch Setting Summary*), this change must be reflected in Sphere → Manage Devices → Address. Failure to update the Address will result in an **ERROR** state, where the Atmo device is unable to monitor or control the Panasonic Aquarea system.

8. Turn on the Panasonic Aquarea system (including the Hydro unit)

The Atmo device should now be able to communicate with the Panasonic Aquarea system. Please refer to the *Atmo Installation Manual* for further steps.

TECHNICAL SUPPORT

If you are unable to use your Atmo device as intended after following the steps in this guide – and the Atmo Installation Manual – please contact our Support team.

Planet Devices operate Monday to Friday, between the hours of 09:00 and 17:30 (UTC/GMT/BST):

Email Address	support@planetdevices.com
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APPENDIX A – DIP SWITCH SETTING SUMMARY

- SW1-P1 OFF configures the Modbus interface to use the set point limits defined by the configuration of the heat pump; SW1-P1 ON uses Panasonic’s absolute maximum set point limits
- SW3-P1 to SW3-P6 sets the Modbus Worker Address to 1 using reverse binary notation (1 + 0 + 0 + 0 + 0 + 0)
- SW3-P7 OFF, SW3-P8 ON and SW4-P3 OFF instructs the Modbus interface to communicate at a baud rate of 9600bps
- SW4-P1 ON instructs the Modbus interface to report temperature values in decidegrees (i.e. to one decimal place)
- SW4-P2 OFF instructs the Modbus interface to report temperature values in degrees Celsius (°C)
- SW4-P4 toggles the internal 120Ω termination resistor

APPENDIX B – SERIAL SETTINGS AND WORKER ADDRESS

The PAW-AW-MBS-H Modbus interface communicates using the following parameters:

- Baud rate between 2400bps and 115200bps
See SW3-P7, SW3-P8, and SW4-P3 in *Appendix A – DIP Switch Setting Summary*.
- No parity bits (immutable)
- 8 data bits (immutable)
- 1 or 2 stop bits
- Worker address between 1 and 63
See SW3-P1 to SW3-P6 in *Appendix A – DIP Switch Setting Summary*.
 - Setting the address to 0 will render the Modbus interface non-communicative