Part number: 990-91589

Modbus Register Map:
Uniflair Rack Mounted Room Cooling ACRMD4Kxxx

Notes:
1. 16-bit registers (INT16, UINT16, ENUM) are transmitted MSB first (i.e., big-endian).
2. INT32 and UINT32 are most-significant word in n+0, least significant word in n+1 (i.e. big-endian).
3. Reads can be performed with function codes 3, or 4. Writes can be performed with function code 16, or with function code6 to registers with length 1.
4. Modbus serial RTU and Modbus over TCP is supported.
5. Signed numbers (INT16, INT32, ENUM) are twos-compliment
6. Status bits are atomic within a single Modbus register. User should not look for consistency across multiple registers, only within a single register.
7. Strings are two characters per register, first character in high-order byte, second character in low-order byte. Printable ASCII only.
8. When writing an ASCII string the null terminator must be included.
9. Single-register reads of reserved or undefined registers will return an error. Block reads which begin with a valid register will not return an error but will return zeros for undefined registers.
10. Data Type column:
    "INT16" = signed 16-bit integer,
    "UINT16" = unsigned 16-bit integer,
    "INT32" = signed 32-bit integer,
    "UINT32" = unsigned 32-bit integer,
    "ENUM" = signed 16-bit integer which maps to a defined list of states,
    "ASCII" = the printable ASCII subset from 0x20 - 0x7E,
    "STREAM" = raw data ranging from 0x00 - 0xFF.
11. "Absolute Starting Register Address" = 0 (the column heading used in this table) is equivalent to "Register 40001" in Modicon terminology, which is address zero when transmitted over the wire.
12. Accesses to items before data is available will result in an invalid address error.
13. Response Timeout Guide: A single register response is typically less than 100 ms; however, reading a large number of registers may take 2 seconds or more.

Modicon Standard Register Number	Absolute Register Number (Hex)	Absolute Register Number (Dec)	Data Point	R/W	Length	Data Type	Scale	Units	Valid Response
Holding register									
40101	0x0064	100	Condensation pump alarm mode	R/W	1	INT16			(0-Unit off , 1-alarm only)
40121	0x0078	120	Air return temperature setting	R/W	1	INT16	160-420	0.1℃	(16.0℃-42.0℃)
40122	0x0079	121	Air outlet temperature setting	R/W	1	INT16	130-270	0.1℃	(13.0℃-27.0℃)
40123	0x007A	122	Min. humidify setting	R/W	1	INT16	0-950	0.1%	(0%-95%)
40124	0x007B	123	Max. humidify setting	R/W	1	INT16	0-1000	0.1%	(0%-100%)
40183	0x00B6	182	PTC heater function	R/W	1	BOOL			BIT10：0-YES, 1-NO
			Condensation pump function	R/W	1	BOOL			BIT11：0-YES, 1-NO
40201	0x00C8	200	High air return temperature alarm value setting	R/W	1	INT16		0.1℃	
40204	0x00CB	203	Low outlet air temperature alarm value setting	R/W	1	INT16		0.1℃	
40205	0x00CC	204	High outlet air temperature alarm value setting	R/W	1	INT16		0.1℃	
40216	0x00D7	215	Modbus address	R/W	1	INT16			
40217	0x00D8	216	Comm. Speed	R/W	1	INT16			(0-2400；1-4800；2-9600；3-19200)
40219	0x00DA	218	Max.speed of EC/DC fan	R/W	1	INT16		%	
40220	0x00DB	219	Min.speed of EC/DC fan	R/W	1	INT16		%	
Input register									
30002	0x0001	1	Air return temperature （Magnify 10 times，e.g.：219 FOR 21.9℃)	R	1	INT16		0.1℃	
30003	0x0002	2	Air outlet temperature （Magnify 10 times，e.g.：219 FOR 21.9℃)	R	1	INT16		0.1℃	
30014	0x000D	13	Air return humidity （Magnify 10 times，e.g.：219 FOR 21.9℃)	R	1	INT16		0.1℃	
30035	0x0022	34	IDU DC fan voltage （Magnify 10 times，	R	1	INT16		0.1V	

Internal

			e.g.：80 FOR 8V）						
30037	0x0024	36	Discharge pressure （Magnify 10 times，e.g.：219 FOR 21.9℃）	R	1	INT16		0.1℃	
30038	0x0025	37	Suction pressure （Magnify 10 times，e.g.：219 FOR 21.9℃）	R	1	INT16		0.1℃	
30039	0x0026	38	Target frequency （e.g.：90 FOR 90Hz）	R	1	INT16		Hz	
30040	0x0027	39	Running frequency （e.g.：90 FOR 90Hz）	R	1	INT16		Hz	
30041	0x0028	40	Target evaporation temperature （Magnify 10 times，e.g.：219 FOR 21.9℃）	R	1	INT16		0.1℃	
30042	0x0029	41	Discharge temperature （Magnify 10 times，e.g.：219 FOR 21.9℃）	R	1	INT16		0.1℃	
30043	0x002A	42	Evaporation temperature （Magnify 10 times，e.g.：219 FOR 21.9℃）	R	1	INT16		0.1℃	
30044	0x002B	43	In-coil temperature （Magnify 10 times，e.g.：219 FOR 21.9℃）	R	1	INT16		0.1℃	
30045	0x002C	44	Out-coil temperature （Magnify 10 times，e.g.：219 FOR 21.9℃）	R	1	INT16		0.1℃	
30047	0x002E	46	IDU valve steps（e.g.：90 FOR 90 steps）	R	1	INT16			
30176	0x00AF	175	Operation mode (0-Refrigeration/Cooling 1-Dehumidification 2-BMS shutdown 3-HMI shutdown 4-Fault shutdown）	R	1	INT16			
Input status									
10002	0x0001	1	Serious alarm output	R	1	BOOL			0-Without output，1-With output
10003	0x0002	2	Common alarm output	R	1	BOOL			0-Without output，1-With output
10004	0x0003	3	Condensation pump output	R	1	BOOL			0-Without output，1-With output
10007	0x0006	6	PTC Heater output	R	1	BOOL			0-Without output，1-With output
10010	0x0009	9	IDU fan output	R	1	BOOL			0-Without output，1-With output
10011	0x000A	10	SV for low temp kit output	R	1	BOOL			0-Without output，1-With output
10049	0x0030	48	AL49 Fire/smoke alarm (serious)	R	1	BOOL			0-NO ALARM，1-ALARM
10050	0x0031	49	AL50 High air return temperature (common)	R	1	BOOL			0-NO ALARM，1-ALARM
10051	0x0032	50	AL51 High air outlet temperature (common)	R	1	BOOL			0-NO ALARM，1-ALARM
10052	0x0033	51	AL52 Low air outlet temperature (common)	R	1	BOOL			0-NO ALARM，1-ALARM
10053	0x0034	52	AL53 Condensation pump failure	R	1	BOOL			0-NO ALARM，1-ALARM
10054	0x0035	53	AL54 EEPROM failure	R	1	BOOL			0-NO ALARM，1-ALARM
10055	0x0036	54	AL55 Water on floor	R	1	BOOL			0-NO ALARM，1-ALARM
10056	0x0037	55	AL56 Maintenance alarm for IDU fan	R	1	BOOL			0-NO ALARM，1-ALARM
10068	0x0043	67	AL68 Air return humidity probe failure	R	1	BOOL			0-NO ALARM，1-ALARM
10069	0x0044	68	AL69 Air return temperature probe failure	R	1	BOOL			0-NO ALARM，1-ALARM
10074	0x0049	73	AL74 Air outlet temperature probe failure	R	1	BOOL			0-NO ALARM，1-ALARM
10086	0x0055	85	AL86 High air return humidity (common)	R	1	BOOL			0-NO ALARM，1-ALARM
10087	0x0056	86	AL87 Low air return humidity (common)	R	1	BOOL			0-NO ALARM，1-ALARM
10101	0x0064	100	AL101 IDU & ODU communication failure	R	1	BOOL			0-NO ALARM，1-ALARM
10113	0x0070	112	AL113 Coil inlet temperature probe	R	1	BOOL			0-NO ALARM，1-ALARM

Internal

			failure						
10115	0x0072	114	AL115 Coil outlet temperature probe failure	R	1	BOOL			0-NO ALARM，1-ALARM
10123	0x007A	122	C123 High discharge pressure	R	1	BOOL			0-NO ALARM，1-ALARM
10124	0x007B	123	C124 High pressure switch protection	R	1	BOOL			0-NO ALARM，1-ALARM
10126	0x007D	125	C126 Low suction pressure	R	1	BOOL			0-NO ALARM，1-ALARM
10128	0x007F	127	C128 High discharge temperature	R	1	BOOL			0-NO ALARM，1-ALARM
10131	0x0082	130	C131 Memory storage failure (ODU)	R	1	BOOL			0-NO ALARM，1-ALARM
10132	0x0083	131	C132 Refrigerant leak	R	1	BOOL			0-NO ALARM，1-ALARM
10133	0x0084	132	C133 Low exhaust pressure	R	1	BOOL			0-NO ALARM，1-ALARM
10134	0x0085	133	C134 Environment temperature out of range	R	1	BOOL			0-NO ALARM，1-ALARM
10135	0x0086	134	C135 High-pressure sensor failure	R	1	BOOL			0-NO ALARM，1-ALARM
10136	0x0087	135	C136 Low-pressure sensor failure	R	1	BOOL			0-NO ALARM，1-ALARM
10137	0x0088	136	C137 TH1 open/short circuit (Discharge temperature 1)	R	1	BOOL			0-NO ALARM，1-ALARM
10138	0x0089	137	C138 TH2 open/short circuit (Discharge temperature 2)	R	1	BOOL			0-NO ALARM，1-ALARM
10139	0x008A	138	C139 TH3 open/short circuit (Suction temperature 1)	R	1	BOOL			0-NO ALARM，1-ALARM
10140	0x008B	139	C140 TH4 open/short circuit (Suction temperature 2)	R	1	BOOL			0-NO ALARM，1-ALARM
10141	0x008C	140	C141 TH5 open/short circuit (Subcool inlet)	R	1	BOOL			0-NO ALARM，1-ALARM
10144	0x008F	143	C144 TH8 open/short circuit (Environment temperature)	R	1	BOOL			0-NO ALARM，1-ALARM
10149	0x0094	148	C149 Suction temperature sensor abnormality	R	1	BOOL			0-NO ALARM，1-ALARM
10150	0x0095	149	C150 Discharge temperature sensor abnormality	R	1	BOOL			0-NO ALARM，1-ALARM
10151	0x0096	150	C151 Low superheat protection	R	1	BOOL			0-NO ALARM，1-ALARM
10153	0x0098	152	C153 Compressor current protection	R	1	BOOL			0-NO ALARM，1-ALARM
10154	0x0099	153	C154 IPM module protection	R	1	BOOL			0-NO ALARM，1-ALARM
10157	0x009C	156	C157 PFC module protection	R	1	BOOL			0-NO ALARM，1-ALARM
10158	0x009D	157	C158 PFC module temperature sensor internal circuit exception	R	1	BOOL			0-NO ALARM，1-ALARM
10159	0x009E	158	C159 PFC module high temperature protection	R	1	BOOL			0-NO ALARM，1-ALARM
10160	0x009F	159	C160 Input power exception failure	R	1	BOOL			0-NO ALARM，1-ALARM
10161	0x00A0	160	C161 Excessive input current protection	R	1	BOOL			0-NO ALARM，1-ALARM
10162	0x00A1	161	C162 VDC high voltage protection	R	1	BOOL			0-NO ALARM，1-ALARM
10163	0x00A2	162	C163 VDC low voltage protection	R	1	BOOL			0-NO ALARM，1-ALARM
10164	0x00A3	163	C164 Drive and module communication failure	R	1	BOOL			0-NO ALARM，1-ALARM
10165	0x00A4	164	C165 Compressor out-of-step during running	R	1	BOOL			0-NO ALARM，1-ALARM
10166	0x00A5	165	C166 Current detection circuit failure	R	1	BOOL			0-NO ALARM，1-ALARM
10167	0x00A6	166	C167 Startup failed	R	1	BOOL			0-NO ALARM，1-ALARM
10168	0x00A7	167	C168 Compressor out-of-phase failure	R	1	BOOL			0-NO ALARM，1-ALARM
10171	0x00AA	170	C171 IPM module temperature sensor internal circuit abnormality	R	1	BOOL			0-NO ALARM，1-ALARM

10172	0x00AB	171	C172 IPM module high temperature protection	R	1	BOOL			0-NO ALARM，1-ALARM
Output Coil									
00001	0x0000	0	ON/OFF UNIT	R/W	1	BOOL			0：OFF 1：ON

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