Volution MVHR Gen V MODBUS Register Map 2025-02
Sentinel Econiq and Apex

Address	*Default = 2*	
Baud / parity	*Default = 115200/N/1*	
Physical	Half duplex RS485 MODBUS-RTU	
Endianness	Big Endian (as per standard MODBUS)	

No coils   *Function code 1 (read/write bool)*

No Discrete Inputs   *Function code 2 (read only bool)*

Input Register	Address	Description	Unit	*Function code 4 (read only 16-bit)*
30001	0	Run time	uint16 days	
30002	1	Service timer	uint16 months	
30003	2	Filter timer	uint16 months	
30004	3	Faults present h	uint32 bitmask	See faults (e.g. F-01 = 0x0001, F-02 = 0x0002)
30005	4	Faults present l		
30006	5	Warnings present h	uint32 bitmask	See warnings (e.g. W-01 = 0x0001, W-02 = 0x0002)
30007	6	Warnings present l		
30008	7	Notifications present h	uint32 bitmask	See notifications (e.g. N-01 = 0x0001, N-02 = 0x0002)
30009	8	Notifications present l		
30010	9	System power	uint16 W	Combined fans + preheater
30011	10	Current airflow override	MSB source, LSB type	
30012	11	Bypass status	MSB mode, LSB open%	
30013	12	Anti-frost status	uint16 enum	
30014	13	Supply RPM	uint16 RPM	
30015	14	Supply measured flow	uint16 l/s	
30016	15	Extract RPM	uint16 RPM	
30017	16	Extract measured flow	uint16 l/s	
30020	19	Attention Ventilation LED output	bool	Relay output driving sources
30021	20	Cooling enable output	bool	
30022	21	Preheater enable output	bool	
30023	22	Controlled cooling output	bool	
30024	23	Controlled heating output	bool	
30025	24	Mechanical ventilation active	bool	
30100	99	Intake duct temperature T1	int16 °C x10	Outside
30101	100	Intake duct RH	uint16 %	
30102	101	Intake duct CO2	uint16 PPM	
30110	109	Supply duct temperature T2	int16 °C x10	
30120	119	Extract duct temperature T3	int16 °C x10	Inside
30121	120	Extract duct RH	uint16 %	
30122	121	Extract duct CO2	uint16 PPM	
30130	129	Exhaust duct temperature T4	int16 °C x10	
30200	199	Zone 0 Temperature	int16 °C x10	All sensors (inc extract) zoned here by default
30201	200	Zone 0 RH	uint16 %	Data is aggregated - average T, highest RH/CO2
30202	201	Zone 0 CO2	uint16 PPM	
30203	202	Zone 0 VOC	uint16 (TBC)	
30210	209	Zone 1...		Repeated as zone 0
30220	219	Zone 2...		
30230	229	Zone 3...		
30240	239	Zone 4...		
30250	249	Zone 5...		
30260	259	Zone 6...		

30270	269	Zone 7...	
30280	279	Zone 8...	
30290	289	Zone 9...	
30300	299	Zone 10...	
30310	309	Zone 11...	
30320	319	Zone 12...	
30330	329	Zone 13...	
30340	339	Zone 14...	
30350	349	Zone 15...	

Holding Register	Address	Description	Unit	*Function codes 3/6/16/23 (read/write 16-bit)*
40001	0	Virtual Input 1		Virtual inputs, shutdown and bypass override
40002	1	Virtual Input 2		will only remain active if there are regular
40003	2	Virtual Input 3		writes to the holding registers (within 60
40004	3	Virtual Input 4		seconds).
40005	4	Virtual Input 5		
40006	5	Virtual Input 6		
40007	6	Virtual Input 7		
40008	7	Virtual Input 8		
40009	8	Virtual Input 9		
40010	9	Virtual Input 10		
40020	19	BMS Shutdown	0=inactive, 1=shutdown	BMS must be online to remain active
40021	20	BMS Bypass override	0=auto, 1=open, 2=closed	Must be written < every 60 sec to stay active
40030	29	User Override	MSB=preset, LSB=minutes	e.g. 0x030f for a 15 minute boost (mode 3)
40031	30	SBP external comfort threshold	int16 x10	Temporary override (does not update flash)
40032	31	SBP internal comfort threshold	int16 x10	Temporary override (does not update flash)
40033	32	Zone 0 RH threshold	uint16 %	Temporary override (does not update flash)
40034	33	Zone 0 CO2 lower threshold	uint16 PPM	Temporary override (does not update flash)
40035	34	Zone 0 CO2 upper threshold	uint16 PPM	Temporary override (does not update flash)
40040	39	Machine Date - Year	uint16	
40041	40	Machine Date - Month/Day	MSB=month, LSB=day	
40042	41	Machine Time - hh:mm	MSB=hour, LSB=minute	