



# Modbus Register Map: EcoBreeze™ 50/60HZ

Part number: 990-3985E

**Notes:**

- The EcoBreeze requires two MODBUS addresses. The address of the active controller is user selectable. The second MODBUS address is reserved by the EcoBreeze and is one greater than the user selected address.
- 16-bit registers are transmitted MSB first (i.e. big-endian).
- INT32 and UINT32 are least-significant word in n+0, most significant word in n+1 (i.e. little-endian).
- Function codes 3, 4, 6 and 16 are supported
- Modbus serial RTU is supported.
- Signed numbers are two's-complement
- Status bits are atomic within a single Modbus register. User should not look for consistency across multiple registers, only within a single register.
- ASCII strings are not null terminated.
- Single-register reads of reserved or undefined registers or block reads which contain reserved or undefined registers will return an error.
- Strings are two characters per register. Printable ASCII only.
- Bit #0 is least significant bit.
- Data Type column: "INT16"=signed 16-bit integer, "UINT16" = unsigned 16-bit integer, "INT32" = signed 32-bit integer, "UINT32" = unsigned 32-bit integer, "ENUM" is a UINT16 value which maps to a defined list of states, "ASCII" = the printable ASCII subset from 0x20 - 0x7E. BOOLEAN= a single bit, 0 or 1.
- "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.

For detailed modbus configuration settings, please refer to the EcoBreeze Operation and Maintenance manual (P/N 990-3999).

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale		R/W	Valid Response
							Multiply Reading By:	Divide Reading By:		
<b>Status Data</b>										
40001	0000	0		Status	1	BOOLEAN			R	
			0	Operating Mode		BOOLEAN				1 = On
			1	Basin Drain		BOOLEAN				1 = Draining
			2			BOOLEAN				
			3			BOOLEAN				
			4			BOOLEAN				
			5			BOOLEAN				
			6			BOOLEAN				
			7			BOOLEAN				
			8			BOOLEAN				
			9			BOOLEAN				
			10	Intelligence Module failure		BOOLEAN				1=Intelligence Module failure
			11			BOOLEAN				
			12			BOOLEAN				
			13			BOOLEAN				
			14	Warning alarm present		BOOLEAN				1=Warning alarm present
			15	Critical alarm present		BOOLEAN				1=Critical alarm present
40002	0001	1		Frame Alarm Register 1	1				R	
			0	Data Center Airflow Control Differential Pressure High		BOOLEAN				
			1	Data Center Airflow Control Differential Pressure Low		BOOLEAN				
			2	Supply Basin Water Conductivity High		BOOLEAN				
			3	Water Treatment System Maintenance Required		BOOLEAN				
			4	Basin Water Level High		BOOLEAN				
			5	Basin Water Level Low		BOOLEAN				
			6	High Return Temperature		BOOLEAN				
			7	Low Return Temperature		BOOLEAN				
			8	High Supply Temperature		BOOLEAN				
			9	Low Supply Temperature		BOOLEAN				
			10	Primary Water Supply Loss		BOOLEAN				
			11	Secondary Water Supply Loss		BOOLEAN				
			12	Unable To Drain Basin		BOOLEAN				
			13	Conductivity Sensors not Calibrated		BOOLEAN				
			14	In Maintenance		BOOLEAN				
			15	Reserved		BOOLEAN				
40003	0002	2		Frame Alarm Register 2	1				R	
			0	Motorized Damper Fault		BOOLEAN				
			1	Water Treatment System Error		BOOLEAN				
			2	Differential Pressure Sensor Fault		BOOLEAN				
			3	Water Pump A Fault		BOOLEAN				
			4	Water Pump B Fault		BOOLEAN				
			5	MIM Air Pump Fault		BOOLEAN				
			6	RIM Air Pump Fault		BOOLEAN				
			7	Loss of Water Management Power Circuit		BOOLEAN				
			8	Conductivity Sensor Fault, MIM		BOOLEAN				
			9	Ambient Temperature Sensor Fault, MIM		BOOLEAN				
			10	Ambient Humidity Sensor Fault, MIM		BOOLEAN				
			11	Water Level Sensor Fault, MIM		BOOLEAN				

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale			Valid Response
							Multiply Reading By:	Divide Reading By:	R/W	
			12	Conductivity Sensor Fault, RIM		BOOLEAN				
			13	Ambient Temperature Sensor Fault, RIM		BOOLEAN				
			14	Ambient Humidity Sensor Fault, RIM		BOOLEAN				
			15	Water Level Sensor Fault, RIM		BOOLEAN				
40004	0003	3		Frame Alarm Register 3	1				R	
			0	MIM Fault		BOOLEAN				
			1	RIM Fault		BOOLEAN				
			2	UI Expansion IO Not Responding		BOOLEAN				
			3	AFC Sensor Fault		BOOLEAN				
			4	AFC Door Open		BOOLEAN				
			5	AFC Red LED Enable		BOOLEAN				
			6	AFC CAN Communication Error		BOOLEAN				
			7	AFC Modbus Communication Error		BOOLEAN				
			8	Module 1 Not Responding		BOOLEAN				
			9	Module 2 Not Responding		BOOLEAN				
			10	Module 3 Not Responding		BOOLEAN				
			11	Module 4 Not Responding		BOOLEAN				
			12	Module 5 Not Responding		BOOLEAN				
			13	Module 6 Not Responding		BOOLEAN				
			14	Module 7 Not Responding		BOOLEAN				
			15	Module 8 Not Responding		BOOLEAN				
40005	0004	4		Frame Alarm Register 4	1				R	Deprecated
			0	Module 1 DX Not Available		BOOLEAN				
			1	Module 2 DX Not Available		BOOLEAN				
			2	Module 3 DX Not Available		BOOLEAN				
			3	Module 4 DX Not Available		BOOLEAN				
			4	Module 5 DX Not Available		BOOLEAN				
			5	Module 6 DX Not Available		BOOLEAN				
			6	Module 7 DX Not Available		BOOLEAN				
			7	Module 8 DX Not Available		BOOLEAN				
			8	Module 1 Inoperable		BOOLEAN				
			9	Module 2 Inoperable		BOOLEAN				
			10	Module 3 Inoperable		BOOLEAN				
			11	Module 4 Inoperable		BOOLEAN				
			12	Module 5 Inoperable		BOOLEAN				
			13	Module 6 Inoperable		BOOLEAN				
			14	Module 7 Inoperable		BOOLEAN				
			15	Module 8 Inoperable		BOOLEAN				
40006	0005	5		Module 1 Alarm Register 1	1				R	
			0	Return Humidity Sensor Fault		BOOLEAN				
			1	Supply Humidity Sensor Fault		BOOLEAN				
			2	Return Temperature Sensor Fault		BOOLEAN				
			3	Supply Temperature Sensor Fault		BOOLEAN				
			4	Filter Differential Pressure Sensor Fault		BOOLEAN				
			5	Discharge Pressure Sensor Fault		BOOLEAN				
			6	Discharge Temperature Sensor Fault		BOOLEAN				
			7	Liquid Temperature Sensor Fault		BOOLEAN				
			8	IEC Temperature Sensor Fault		BOOLEAN				
			9	IEC Spray Water Loss		BOOLEAN				
			10	IT Fan Access Door Open Alarm		BOOLEAN				
			11	Filter Access Door Open Alarm		BOOLEAN				
			12	High Head Pressure		BOOLEAN				
			13	Low Suction Pressure		BOOLEAN				
			14	Low Suction Pressure Lockout		BOOLEAN				
			15	Compressor Start Failure		BOOLEAN				
40007	0006	6		Module 1 Alarm Register 2	1				R	
			0	Capacitor pre-charge fault or Motor overload or Motor over speed		BOOLEAN				
			1	Compressor Overcurrent		BOOLEAN				
			2	Compressor Impending Short-circuit		BOOLEAN				
			3	Compressor Short to Earth		BOOLEAN				
			4	Compressor phase to phase short		BOOLEAN				
			5	Mains Overvoltage		BOOLEAN				
			6	Mains Undervoltage		BOOLEAN				
			7	Mains Phase Loss		BOOLEAN				
			8	DC Bus Overvoltage or Compressor Phase Loss		BOOLEAN				
			9	VFD Overheating		BOOLEAN				
			10	VFD EEPROM Memory Fault		BOOLEAN				
			11	VFD Internal Fault		BOOLEAN				
			12	VFD Configuration Incorrect or Invalid		BOOLEAN				
			13	VFD External Fault		BOOLEAN				
			14	VFD Auto-tuning Fault		BOOLEAN				
			15	VFD Brake Control Fault		BOOLEAN				

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale			Valid Response
							Multiply Reading By:	Divide Reading By:	R/W	
40008	0007	7		Module 1 Alarm Register 3	1					R
			0	EEV Communication Fault		BOOLEAN				
			1	Low Superheat		BOOLEAN				
			2	High Superheat		BOOLEAN				
			3	EEV Pressure Sensor Fault		BOOLEAN				
			4	EEV Temperature Sensor Fault		BOOLEAN				
			5	EEV Motor Fault		BOOLEAN				
			6	VFD Communication Fault		BOOLEAN				
			7	IT Fan #1 Communication Fault		BOOLEAN				
			8	IT Fan #2 Communication Fault		BOOLEAN				
			9	OA Fan Communication Fault		BOOLEAN				
			10	IT Fan #1 Fault		BOOLEAN				
			11	IT Fan #2 Fault		BOOLEAN				
			12	OA Fan Fault		BOOLEAN				
			13	Replace Filter		BOOLEAN				
			14	IEC Reduced Efficiency		BOOLEAN				
			15	Condenser Coil De-ice Active		BOOLEAN				
40009	0008	8		Module 1 Alarm Register 4	1					R
			0	IT Fan Access Door Open Warning		BOOLEAN				
			1	Filter Access Door Open Warning		BOOLEAN				
			2	Frequent VFD Faults		BOOLEAN				
			3	IT Fan 1 Abnormal Speed		BOOLEAN				
			4	IT Fan 2 Abnormal Speed		BOOLEAN				
			5	OA Fan Abnormal Speed		BOOLEAN				
			6	In Maintenance		BOOLEAN				
			7	Reserved		BOOLEAN				
			8	Reserved		BOOLEAN				
			9	Reserved		BOOLEAN				
			10	Reserved		BOOLEAN				
			11	Reserved		BOOLEAN				
			12	Reserved		BOOLEAN				
			13	Reserved		BOOLEAN				
			14	Reserved		BOOLEAN				
			15	Reserved		BOOLEAN				
40010	0009	9		Module 2 Alarm Register 1	1					R
			0	Return Humidity Sensor Fault		BOOLEAN				
			1	Supply Humidity Sensor Fault		BOOLEAN				
			2	Return Temperature Sensor Fault		BOOLEAN				
			3	Supply Temperature Sensor Fault		BOOLEAN				
			4	Filter Differential Pressure Sensor Fault		BOOLEAN				
			5	Discharge Pressure Sensor Fault		BOOLEAN				
			6	Discharge Temperature Sensor Fault		BOOLEAN				
			7	Liquid Temperature Sensor Fault		BOOLEAN				
			8	IEC Temperature Sensor Fault		BOOLEAN				
			9	IEC Spray Water Loss		BOOLEAN				
			10	IT Fan Access Door Open Alarm		BOOLEAN				
			11	Filter Access Door Open Alarm		BOOLEAN				
			12	High Head Pressure		BOOLEAN				
			13	Low Suction Pressure		BOOLEAN				
			14	Low Suction Pressure Lockout		BOOLEAN				
			15	Compressor Start Failure		BOOLEAN				
40011	000A	10		Module 2 Alarm Register 2	1					R
			0	Capacitor pre-charge fault or Motor overload or Motor over speed		BOOLEAN				
			1	Compressor Overcurrent		BOOLEAN				
			2	Compressor Impending Short-circuit		BOOLEAN				
			3	Compressor Short to Earth		BOOLEAN				
			4	Compressor phase to phase short		BOOLEAN				
			5	Mains Overvoltage		BOOLEAN				
			6	Mains Undervoltage		BOOLEAN				
			7	Mains Phase Loss		BOOLEAN				
			8	DC Bus Overvoltage or Compressor Phase Loss		BOOLEAN				
			9	VFD Overheating		BOOLEAN				
			10	VFD EEPROM Memory Fault		BOOLEAN				
			11	VFD Internal Fault		BOOLEAN				
			12	VFD Configuration Incorrect or Invalid		BOOLEAN				
			13	VFD External Fault		BOOLEAN				
			14	VFD Auto-tuning Fault		BOOLEAN				
			15	VFD Brake Control Fault		BOOLEAN				
40012	000B	11		Module 2 Alarm Register 3	1					R
			0	EEV Communication Fault		BOOLEAN				
			1	Low Superheat		BOOLEAN				
			2	High Superheat		BOOLEAN				

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale			Valid Response
							Multiply Reading By:	Divide Reading By:	R/W	
			3	EEV Pressure Sensor Fault		BOOLEAN				
			4	EEV Temperature Sensor Fault		BOOLEAN				
			5	EEV Motor Fault		BOOLEAN				
			6	VFD Communication Fault		BOOLEAN				
			7	IT Fan #1 Communication Fault		BOOLEAN				
			8	IT Fan #2 Communication Fault		BOOLEAN				
			9	OA Fan Communication Fault		BOOLEAN				
			10	IT Fan #1 Fault		BOOLEAN				
			11	IT Fan #2 Fault		BOOLEAN				
			12	OA Fan Fault		BOOLEAN				
			13	Replace Filter		BOOLEAN				
			14	IEC Reduced Efficiency		BOOLEAN				
			15	Condenser Coil De-ice Active		BOOLEAN				
40013	000C	12		Module 2 Alarm Register 4	1				R	
			0	IT Fan Access Door Open Warning		BOOLEAN				
			1	Filter Access Door Open Warning		BOOLEAN				
			2	Frequent VFD Faults		BOOLEAN				
			3	IT Fan 1 Abnormal Speed		BOOLEAN				
			4	IT Fan 2 Abnormal Speed		BOOLEAN				
			5	OA Fan Abnormal Speed		BOOLEAN				
			6	In Maintenance		BOOLEAN				
			7	Reserved		BOOLEAN				
			8	Reserved		BOOLEAN				
			9	Reserved		BOOLEAN				
			10	Reserved		BOOLEAN				
			11	Reserved		BOOLEAN				
			12	Reserved		BOOLEAN				
			13	Reserved		BOOLEAN				
			14	Reserved		BOOLEAN				
			15	Reserved		BOOLEAN				
40014	000D	13		Module 3 Alarm Register 1	1				R	
			0	Return Humidity Sensor Fault		BOOLEAN				
			1	Supply Humidity Sensor Fault		BOOLEAN				
			2	Return Temperature Sensor Fault		BOOLEAN				
			3	Supply Temperature Sensor Fault		BOOLEAN				
			4	Filter Differential Pressure Sensor Fault		BOOLEAN				
			5	Discharge Pressure Sensor Fault		BOOLEAN				
			6	Discharge Temperature Sensor Fault		BOOLEAN				
			7	Liquid Temperature Sensor Fault		BOOLEAN				
			8	IEC Temperature Sensor Fault		BOOLEAN				
			9	IEC Spray Water Loss		BOOLEAN				
			10	IT Fan Access Door Open Alarm		BOOLEAN				
			11	Filter Access Door Open Alarm		BOOLEAN				
			12	High Head Pressure		BOOLEAN				
			13	Low Suction Pressure		BOOLEAN				
			14	Low Suction Pressure Lockout		BOOLEAN				
			15	Compressor Start Failure		BOOLEAN				
40015	000E	14		Module 3 Alarm Register 2	1				R	
			0	Capacitor pre-charge fault or Motor overload or Motor over speed		BOOLEAN				
			1	Compressor Overcurrent		BOOLEAN				
			2	Compressor Impending Short-circuit		BOOLEAN				
			3	Compressor Short to Earth		BOOLEAN				
			4	Compressor phase to phase short		BOOLEAN				
			5	Mains Overvoltage		BOOLEAN				
			6	Mains Undervoltage		BOOLEAN				
			7	Mains Phase Loss		BOOLEAN				
			8	DC Bus Overvoltage or Compressor Phase Loss		BOOLEAN				
			9	VFD Overheating		BOOLEAN				
			10	VFD EEPROM Memory Fault		BOOLEAN				
			11	VFD Internal Fault		BOOLEAN				
			12	VFD Configuration Incorrect or Invalid		BOOLEAN				
			13	VFD External Fault		BOOLEAN				
			14	VFD Auto-tuning Fault		BOOLEAN				
			15	VFD Brake Control Fault		BOOLEAN				
40016	000F	15		Module 3 Alarm Register 3	1				R	
			0	EEV Communication Fault		BOOLEAN				
			1	Low Superheat		BOOLEAN				
			2	High Superheat		BOOLEAN				
			3	EEV Pressure Sensor Fault		BOOLEAN				
			4	EEV Temperature Sensor Fault		BOOLEAN				
			5	EEV Motor Fault		BOOLEAN				
			6	VFD Communication Fault		BOOLEAN				

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale			Valid Response
							Multiply Reading By:	Divide Reading By:	R/W	
			7	IT Fan #1 Communication Fault		BOOLEAN				
			8	IT Fan #2 Communication Fault		BOOLEAN				
			9	OA Fan Communication Fault		BOOLEAN				
			10	IT Fan #1 Fault		BOOLEAN				
			11	IT Fan #2 Fault		BOOLEAN				
			12	OA Fan Fault		BOOLEAN				
			13	Replace Filter		BOOLEAN				
			14	IEC Reduced Efficiency		BOOLEAN				
			15	Condenser Coil De-ice Active		BOOLEAN				
40017	0010	16		Module 3 Alarm Register 4	1				R	
			0	IT Fan Access Door Open Warning		BOOLEAN				
			1	Filter Access Door Open Warning		BOOLEAN				
			2	Frequent VFD Faults		BOOLEAN				
			3	IT Fan 1 Abnormal Speed		BOOLEAN				
			4	IT Fan 2 Abnormal Speed		BOOLEAN				
			5	OA Fan Abnormal Speed		BOOLEAN				
			6	In Maintenance		BOOLEAN				
			7	Reserved		BOOLEAN				
			8	Reserved		BOOLEAN				
			9	Reserved		BOOLEAN				
			10	Reserved		BOOLEAN				
			11	Reserved		BOOLEAN				
			12	Reserved		BOOLEAN				
			13	Reserved		BOOLEAN				
			14	Reserved		BOOLEAN				
			15	Reserved		BOOLEAN				
40018	0011	17		Module 4 Alarm Register 1	1				R	
			0	Return Humidity Sensor Fault		BOOLEAN				
			1	Supply Humidity Sensor Fault		BOOLEAN				
			2	Return Temperature Sensor Fault		BOOLEAN				
			3	Supply Temperature Sensor Fault		BOOLEAN				
			4	Filter Differential Pressure Sensor Fault		BOOLEAN				
			5	Discharge Pressure Sensor Fault		BOOLEAN				
			6	Discharge Temperature Sensor Fault		BOOLEAN				
			7	Liquid Temperature Sensor Fault		BOOLEAN				
			8	IEC Temperature Sensor Fault		BOOLEAN				
			9	IEC Spray Water Loss		BOOLEAN				
			10	IT Fan Access Door Open Alarm		BOOLEAN				
			11	Filter Access Door Open Alarm		BOOLEAN				
			12	High Head Pressure		BOOLEAN				
			13	Low Suction Pressure		BOOLEAN				
			14	Low Suction Pressure Lockout		BOOLEAN				
			15	Compressor Start Failure		BOOLEAN				
40019	0012	18		Module 4 Alarm Register 2	1				R	
			0	Capacitor pre-charge fault or Motor overload or Motor over speed		BOOLEAN				
			1	Compressor Overcurrent		BOOLEAN				
			2	Compressor Impending Short-circuit		BOOLEAN				
			3	Compressor Short to Earth		BOOLEAN				
			4	Compressor phase to phase short		BOOLEAN				
			5	Mains Overvoltage		BOOLEAN				
			6	Mains Undervoltage		BOOLEAN				
			7	Mains Phase Loss		BOOLEAN				
			8	DC Bus Overvoltage or Compressor Phase Loss		BOOLEAN				
			9	VFD Overheating		BOOLEAN				
			10	VFD EEPROM Memory Fault		BOOLEAN				
			11	VFD Internal Fault		BOOLEAN				
			12	VFD Configuration Incorrect or Invalid		BOOLEAN				
			13	VFD External Fault		BOOLEAN				
			14	VFD Auto-tuning Fault		BOOLEAN				
			15	VFD Brake Control Fault		BOOLEAN				
40020	0013	19		Module 4 Alarm Register 3	1				R	
			0	EEV Communication Fault		BOOLEAN				
			1	Low Superheat		BOOLEAN				
			2	High Superheat		BOOLEAN				
			3	EEV Pressure Sensor Fault		BOOLEAN				
			4	EEV Temperature Sensor Fault		BOOLEAN				
			5	EEV Motor Fault		BOOLEAN				
			6	VFD Communication Fault		BOOLEAN				
			7	IT Fan #1 Communication Fault		BOOLEAN				
			8	IT Fan #2 Communication Fault		BOOLEAN				
			9	OA Fan Communication Fault		BOOLEAN				
			10	IT Fan #1 Fault		BOOLEAN				

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale			Valid Response
							Multiply Reading By:	Divide Reading By:	R/W	
			11	IT Fan #2 Fault		BOOLEAN				
			12	OA Fan Fault		BOOLEAN				
			13	Replace Filter		BOOLEAN				
			14	IEC Reduced Efficiency		BOOLEAN				
			15	Condenser Coil De-ice Active		BOOLEAN				
40021	0014	20		Module 4 Alarm Register 4	1				R	
			0	IT Fan Access Door Open Warning		BOOLEAN				
			1	Filter Access Door Open Warning		BOOLEAN				
			2	Frequent VFD Faults		BOOLEAN				
			3	IT Fan 1 Abnormal Speed		BOOLEAN				
			4	IT Fan 2 Abnormal Speed		BOOLEAN				
			5	OA Fan Abnormal Speed		BOOLEAN				
			6	In Maintenance		BOOLEAN				
			7	Reserved		BOOLEAN				
			8	Reserved		BOOLEAN				
			9	Reserved		BOOLEAN				
			10	Reserved		BOOLEAN				
			11	Reserved		BOOLEAN				
			12	Reserved		BOOLEAN				
			13	Reserved		BOOLEAN				
			14	Reserved		BOOLEAN				
			15	Reserved		BOOLEAN				
40022	0015	21		Module 5 Alarm Register 1	1				R	
			0	Return Humidity Sensor Fault		BOOLEAN				
			1	Supply Humidity Sensor Fault		BOOLEAN				
			2	Return Temperature Sensor Fault		BOOLEAN				
			3	Supply Temperature Sensor Fault		BOOLEAN				
			4	Filter Differential Pressure Sensor Fault		BOOLEAN				
			5	Discharge Pressure Sensor Fault		BOOLEAN				
			6	Discharge Temperature Sensor Fault		BOOLEAN				
			7	Liquid Temperature Sensor Fault		BOOLEAN				
			8	IEC Temperature Sensor Fault		BOOLEAN				
			9	IEC Spray Water Loss		BOOLEAN				
			10	IT Fan Access Door Open Alarm		BOOLEAN				
			11	Filter Access Door Open Alarm		BOOLEAN				
			12	High Head Pressure		BOOLEAN				
			13	Low Suction Pressure		BOOLEAN				
			14	Low Suction Pressure Lockout		BOOLEAN				
			15	Compressor Start Failure		BOOLEAN				
40023	0016	22		Module 5 Alarm Register 2	1				R	
			0	Capacitor pre-charge fault or Motor overload or Motor over speed		BOOLEAN				
			1	Compressor Overcurrent		BOOLEAN				
			2	Compressor Impending Short-circuit		BOOLEAN				
			3	Compressor Short to Earth		BOOLEAN				
			4	Compressor phase to phase short		BOOLEAN				
			5	Mains Overvoltage		BOOLEAN				
			6	Mains Undervoltage		BOOLEAN				
			7	Mains Phase Loss		BOOLEAN				
			8	DC Bus Overvoltage or Compressor Phase Loss		BOOLEAN				
			9	VFD Overheating		BOOLEAN				
			10	VFD EEPROM Memory Fault		BOOLEAN				
			11	VFD Internal Fault		BOOLEAN				
			12	VFD Configuration Incorrect or Invalid		BOOLEAN				
			13	VFD External Fault		BOOLEAN				
			14	VFD Auto-tuning Fault		BOOLEAN				
			15	VFD Brake Control Fault		BOOLEAN				
40024	0017	23		Module 5 Alarm Register 3	1				R	
			0	EEV Communication Fault		BOOLEAN				
			1	Low Superheat		BOOLEAN				
			2	High Superheat		BOOLEAN				
			3	EEV Pressure Sensor Fault		BOOLEAN				
			4	EEV Temperature Sensor Fault		BOOLEAN				
			5	EEV Motor Fault		BOOLEAN				
			6	VFD Communication Fault		BOOLEAN				
			7	IT Fan #1 Communication Fault		BOOLEAN				
			8	IT Fan #2 Communication Fault		BOOLEAN				
			9	OA Fan Communication Fault		BOOLEAN				
			10	IT Fan #1 Fault		BOOLEAN				
			11	IT Fan #2 Fault		BOOLEAN				
			12	OA Fan Fault		BOOLEAN				
			13	Replace Filter		BOOLEAN				
			14	IEC Reduced Efficiency		BOOLEAN				

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale			Valid Response
							Multiply Reading By:	Divide Reading By:	R/W	
40025	0018	24	15	Condenser Coil De-ice Active	1	BOOLEAN				R
			0	IT Fan Access Door Open Warning		BOOLEAN				
			1	Filter Access Door Open Warning		BOOLEAN				
			2	Frequent VFD Faults		BOOLEAN				
			3	IT Fan 1 Abnormal Speed		BOOLEAN				
			4	IT Fan 2 Abnormal Speed		BOOLEAN				
			5	OA Fan Abnormal Speed		BOOLEAN				
			6	In Maintenance		BOOLEAN				
			7	Reserved		BOOLEAN				
			8	Reserved		BOOLEAN				
			9	Reserved		BOOLEAN				
			10	Reserved		BOOLEAN				
			11	Reserved		BOOLEAN				
			12	Reserved		BOOLEAN				
			13	Reserved		BOOLEAN				
40026	0019	25	15	Reserved	1	BOOLEAN				R
			0	Return Humidity Sensor Fault		BOOLEAN				
			1	Supply Humidity Sensor Fault		BOOLEAN				
			2	Return Temperature Sensor Fault		BOOLEAN				
			3	Supply Temperature Sensor Fault		BOOLEAN				
			4	Filter Differential Pressure Sensor Fault		BOOLEAN				
			5	Discharge Pressure Sensor Fault		BOOLEAN				
			6	Discharge Temperature Sensor Fault		BOOLEAN				
			7	Liquid Temperature Sensor Fault		BOOLEAN				
			8	IEC Temperature Sensor Fault		BOOLEAN				
			9	IEC Spray Water Loss		BOOLEAN				
			10	IT Fan Access Door Open Alarm		BOOLEAN				
			11	Filter Access Door Open Alarm		BOOLEAN				
			12	High Head Pressure		BOOLEAN				
			13	Low Suction Pressure		BOOLEAN				
40027	001A	26	15	Compressor Start Failure	1	BOOLEAN				R
			0	Capacitor pre-charge fault or Motor overload or Motor over speed		BOOLEAN				
			1	Compressor Overcurrent		BOOLEAN				
			2	Compressor Impending Short-circuit		BOOLEAN				
			3	Compressor Short to Earth		BOOLEAN				
			4	Compressor phase to phase short		BOOLEAN				
			5	Mains Overvoltage		BOOLEAN				
			6	Mains Undervoltage		BOOLEAN				
			7	Mains Phase Loss		BOOLEAN				
			8	DC Bus Overvoltage or Compressor Phase Loss		BOOLEAN				
			9	VFD Overheating		BOOLEAN				
			10	VFD EEPROM Memory Fault		BOOLEAN				
			11	VFD Internal Fault		BOOLEAN				
			12	VFD Configuration Incorrect or Invalid		BOOLEAN				
			13	VFD External Fault		BOOLEAN				
14	VFD Auto-tuning Fault	BOOLEAN								
40028	001B	27	15	VFD Brake Control Fault	1	BOOLEAN				R
			0	Module 6 Alarm Register 3		BOOLEAN				
			1	EEV Communication Fault		BOOLEAN				
			2	Low Superheat		BOOLEAN				
			3	High Superheat		BOOLEAN				
			4	EEV Pressure Sensor Fault		BOOLEAN				
			5	EEV Temperature Sensor Fault		BOOLEAN				
			6	EEV Motor Fault		BOOLEAN				
			7	VFD Communication Fault		BOOLEAN				
			8	IT Fan #1 Communication Fault		BOOLEAN				
			9	IT Fan #2 Communication Fault		BOOLEAN				
			10	OA Fan Communication Fault		BOOLEAN				
			11	IT Fan #1 Fault		BOOLEAN				
			12	IT Fan #2 Fault		BOOLEAN				
			13	OA Fan Fault		BOOLEAN				
40029	001C	28	14	Replace Filter	1	BOOLEAN				R
			15	IEC Reduced Efficiency		BOOLEAN				
			0	Condenser Coil De-ice Active		BOOLEAN				
			15	Module 6 Alarm Register 4	1	BOOLEAN				R
			0	IT Fan Access Door Open Warning		BOOLEAN				
			1	Filter Access Door Open Warning		BOOLEAN				

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale			Valid Response
							Multiply Reading By:	Divide Reading By:	R/W	
			2	Frequent VFD Faults		BOOLEAN				
			3	IT Fan 1 Abnormal Speed		BOOLEAN				
			4	IT Fan 2 Abnormal Speed		BOOLEAN				
			5	OA Fan Abnormal Speed		BOOLEAN				
			6	In Maintenance		BOOLEAN				
			7	Reserved		BOOLEAN				
			8	Reserved		BOOLEAN				
			9	Reserved		BOOLEAN				
			10	Reserved		BOOLEAN				
			11	Reserved		BOOLEAN				
			12	Reserved		BOOLEAN				
			13	Reserved		BOOLEAN				
			14	Reserved		BOOLEAN				
			15	Reserved		BOOLEAN				
40030	001D	29		Module 7 Alarm Register 1	1				R	
			0	Return Humidity Sensor Fault		BOOLEAN				
			1	Supply Humidity Sensor Fault		BOOLEAN				
			2	Return Temperature Sensor Fault		BOOLEAN				
			3	Supply Temperature Sensor Fault		BOOLEAN				
			4	Filter Differential Pressure Sensor Fault		BOOLEAN				
			5	Discharge Pressure Sensor Fault		BOOLEAN				
			6	Discharge Temperature Sensor Fault		BOOLEAN				
			7	Liquid Temperature Sensor Fault		BOOLEAN				
			8	IEC Temperature Sensor Fault		BOOLEAN				
			9	IEC Spray Water Loss		BOOLEAN				
			10	IT Fan Access Door Open Alarm		BOOLEAN				
			11	Filter Access Door Open Alarm		BOOLEAN				
			12	High Head Pressure		BOOLEAN				
			13	Low Suction Pressure		BOOLEAN				
			14	Low Suction Pressure Lockout		BOOLEAN				
			15	Compressor Start Failure		BOOLEAN				
40031	001E	30		Module 7 Alarm Register 2	1				R	
			0	Capacitor pre-charge fault or Motor overload or Motor over speed		BOOLEAN				
			1	Compressor Overcurrent		BOOLEAN				
			2	Compressor Impending Short-circuit		BOOLEAN				
			3	Compressor Short to Earth		BOOLEAN				
			4	Compressor phase to phase short		BOOLEAN				
			5	Mains Overvoltage		BOOLEAN				
			6	Mains Undervoltage		BOOLEAN				
			7	Mains Phase Loss		BOOLEAN				
			8	DC Bus Overvoltage or Compressor Phase Loss		BOOLEAN				
			9	VFD Overheating		BOOLEAN				
			10	VFD EEPROM Memory Fault		BOOLEAN				
			11	VFD Internal Fault		BOOLEAN				
			12	VFD Configuration Incorrect or Invalid		BOOLEAN				
			13	VFD External Fault		BOOLEAN				
			14	VFD Auto-tuning Fault		BOOLEAN				
			15	VFD Brake Control Fault		BOOLEAN				
40032	001F	31		Module 7 Alarm Register 3	1				R	
			0	EEV Communication Fault		BOOLEAN				
			1	Low Superheat		BOOLEAN				
			2	High Superheat		BOOLEAN				
			3	EEV Pressure Sensor Fault		BOOLEAN				
			4	EEV Temperature Sensor Fault		BOOLEAN				
			5	EEV Motor Fault		BOOLEAN				
			6	VFD Communication Fault		BOOLEAN				
			7	IT Fan #1 Communication Fault		BOOLEAN				
			8	IT Fan #2 Communication Fault		BOOLEAN				
			9	OA Fan Communication Fault		BOOLEAN				
			10	IT Fan #1 Fault		BOOLEAN				
			11	IT Fan #2 Fault		BOOLEAN				
			12	OA Fan Fault		BOOLEAN				
			13	Replace Filter		BOOLEAN				
			14	IEC Reduced Efficiency		BOOLEAN				
			15	Condenser Coil De-ice Active		BOOLEAN				
40033	0020	32		Module 7 Alarm Register 4	1				R	
			0	IT Fan Access Door Open Warning		BOOLEAN				
			1	Filter Access Door Open Warning		BOOLEAN				
			2	Frequent VFD Faults		BOOLEAN				
			3	IT Fan 1 Abnormal Speed		BOOLEAN				
			4	IT Fan 2 Abnormal Speed		BOOLEAN				
			5	OA Fan Abnormal Speed		BOOLEAN				



Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale		R/W	Valid Response
							Multiply Reading By:	Divide Reading By:		
			6	In Maintenance		BOOLEAN				
			7	Reserved		BOOLEAN				
			8	Reserved		BOOLEAN				
			9	Reserved		BOOLEAN				
			10	Reserved		BOOLEAN				
			11	Reserved		BOOLEAN				
			12	Reserved		BOOLEAN				
			13	Reserved		BOOLEAN				
			14	Reserved		BOOLEAN				
			15	Reserved		BOOLEAN				
40034	0021	33		Module 8 Alarm Register 1	1				R	
			0	Return Humidity Sensor Fault		BOOLEAN				
			1	Supply Humidity Sensor Fault		BOOLEAN				
			2	Return Temperature Sensor Fault		BOOLEAN				
			3	Supply Temperature Sensor Fault		BOOLEAN				
			4	Filter Differential Pressure Sensor Fault		BOOLEAN				
			5	Discharge Pressure Sensor Fault		BOOLEAN				
			6	Discharge Temperature Sensor Fault		BOOLEAN				
			7	Liquid Temperature Sensor Fault		BOOLEAN				
			8	IEC Temperature Sensor Fault		BOOLEAN				
			9	IEC Spray Water Loss		BOOLEAN				
			10	IT Fan Access Door Open Alarm		BOOLEAN				
			11	Filter Access Door Open Alarm		BOOLEAN				
			12	High Head Pressure		BOOLEAN				
			13	Low Suction Pressure		BOOLEAN				
			14	Low Suction Pressure Lockout		BOOLEAN				
			15	Compressor Start Failure		BOOLEAN				
40035	0022	34		Module 8 Alarm Register 2	1				R	
			0	Capacitor pre-charge fault or Motor overload or Motor over speed		BOOLEAN				
			1	Compressor Overcurrent		BOOLEAN				
			2	Compressor Impending Short-circuit		BOOLEAN				
			3	Compressor Short to Earth		BOOLEAN				
			4	Compressor phase to phase short		BOOLEAN				
			5	Mains Overvoltage		BOOLEAN				
			6	Mains Undervoltage		BOOLEAN				
			7	Mains Phase Loss		BOOLEAN				
			8	DC Bus Overvoltage or Compressor Phase Loss		BOOLEAN				
			9	VFD Overheating		BOOLEAN				
			10	VFD EEPROM Memory Fault		BOOLEAN				
			11	VFD Internal Fault		BOOLEAN				
			12	VFD Configuration Incorrect or Invalid		BOOLEAN				
			13	VFD External Fault		BOOLEAN				
			14	VFD Auto-tuning Fault		BOOLEAN				
			15	VFD Brake Control Fault		BOOLEAN				
40036	0023	35		Module 8 Alarm Register 3	1				R	
			0	EEV Communication Fault		BOOLEAN				
			1	Low Superheat		BOOLEAN				
			2	High Superheat		BOOLEAN				
			3	EEV Pressure Sensor Fault		BOOLEAN				
			4	EEV Temperature Sensor Fault		BOOLEAN				
			5	EEV Motor Fault		BOOLEAN				
			6	VFD Communication Fault		BOOLEAN				
			7	IT Fan #1 Communication Fault		BOOLEAN				
			8	IT Fan #2 Communication Fault		BOOLEAN				
			9	OA Fan Communication Fault		BOOLEAN				
			10	IT Fan #1 Fault		BOOLEAN				
			11	IT Fan #2 Fault		BOOLEAN				
			12	OA Fan Fault		BOOLEAN				
			13	Replace Filter		BOOLEAN				
			14	IEC Reduced Efficiency		BOOLEAN				
			15	Condenser Coil De-ice Active		BOOLEAN				
40037	0024	36		Module 8 Alarm Register 4	1				R	
			0	IT Fan Access Door Open Warning		BOOLEAN				
			1	Filter Access Door Open Warning		BOOLEAN				
			2	Frequent VFD Faults		BOOLEAN				
			3	IT Fan 1 Abnormal Speed		BOOLEAN				
			4	IT Fan 2 Abnormal Speed		BOOLEAN				
			5	OA Fan Abnormal Speed		BOOLEAN				
			6	In Maintenance		BOOLEAN				
			7	Reserved		BOOLEAN				
			8	Reserved		BOOLEAN				
			9	Reserved		BOOLEAN				

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale		R/W	Valid Response
							Multiply Reading By:	Divide Reading By:		
			10	Reserved		BOOLEAN				
			11	Reserved		BOOLEAN				
			12	Reserved		BOOLEAN				
			13	Reserved		BOOLEAN				
			14	Reserved		BOOLEAN				
			15	Reserved		BOOLEAN				
<b>Static Data</b>										
40050	0031	49		MIM Major Firmware Revision	1	UINT16			R	
40051	0032	50		MIM Minor Firmware Revision	1	UINT16			R	
40052	0033	51		MIM Derivative Firmware Revision	1	UINT16			R	
40053	0034	52		RIM Major Firmware Revision	1	UINT16			R	
40054	0035	53		RIM Minor Firmware Revision	1	UINT16			R	
40055	0036	54		RIM Derivative Firmware Revision	1	UINT16			R	
40056	0037	55		Module 1 Major Firmware Revision	1	UINT16			R	
40057	0038	56		Module 1 Minor Firmware Revision	1	UINT16			R	
40058	0039	57		Module 1 Derivative Firmware Revision	1	UINT16			R	
40059	003A	58		Module 2 Major Firmware Revision	1	UINT16			R	
40060	003B	59		Module 2 Minor Firmware Revision	1	UINT16			R	
40061	003C	60		Module 2 Derivative Firmware Revision	1	UINT16			R	
40062	003D	61		Module 3 Major Firmware Revision	1	UINT16			R	
40063	003E	62		Module 3 Minor Firmware Revision	1	UINT16			R	
40064	003F	63		Module 3 Derivative Firmware Revision	1	UINT16			R	
40065	0040	64		Module 4 Major Firmware Revision	1	UINT16			R	
40066	0041	65		Module 4 Minor Firmware Revision	1	UINT16			R	
40067	0042	66		Module 4 Derivative Firmware Revision	1	UINT16			R	
40068	0043	67		Module 5 Major Firmware Revision	1	UINT16			R	
40069	0044	68		Module 5 Minor Firmware Revision	1	UINT16			R	
40070	0045	69		Module 5 Derivative Firmware Revision	1	UINT16			R	
40071	0046	70		Module 6 Major Firmware Revision	1	UINT16			R	
40072	0047	71		Module 6 Minor Firmware Revision	1	UINT16			R	
40073	0048	72		Module 6 Derivative Firmware Revision	1	UINT16			R	
40074	0049	73		Module 7 Major Firmware Revision	1	UINT16			R	
40075	004A	74		Module 7 Minor Firmware Revision	1	UINT16			R	
40076	004B	75		Module 7 Derivative Firmware Revision	1	UINT16			R	
40077	004C	76		Module 8 Major Firmware Revision	1	UINT16			R	
40078	004D	77		Module 8 Minor Firmware Revision	1	UINT16			R	
40079	004E	78		Module 8 Derivative Firmware Revision	1	UINT16			R	
<b>Dynamic Data</b>										
40125	007C	124		Outdoor Air Temperature	1	INT16		10	R	*F
40126	007D	125		Outdoor Humidity	1	INT16		10	R	% R.H.
40127	007E	126		Supply Air Temperature	1	INT16		10	R	*F
40128	007F	127		Return Air Temperature	1	INT16		10	R	*F
40129	0080	128		I/E Air Temperature	1	INT16		10	R	*F
40130	0081	129		Containment Differential Pressure	1	INT16		10	R	Pa
40131	0082	130		Total Compressor Power	1	INT16		10	R	kW
40132	0083	131		IT Air Flow	1	UINT16		1	R	CFM
40133	0084	132		Basin Water Level	1	INT16		10	R	in
40134	0085	133		Basin Water Conductivity	1	INT16		1	R	µS/cm
40135	0086	134		Pump A Run Hours	2	INT32		1	R	hr
40137	0088	136		Pump B Run Hours	2	INT32		1	R	hr
40139	008A	138		Water Treatment Run Hours	2	INT32		1	R	hr
40141	008C	140		Frame Digital I/O	1					
			0	Remote Run/Stop		BOOLEAN				1 = Stop
			1	Alarm Output		BOOLEAN				1 = Active
			2	Isolation Damper Status		BOOLEAN				1 = Open
			3	Isolation Damper Command		BOOLEAN				1 = Open
			4	Reserved		BOOLEAN				
			5	Reserved		BOOLEAN				
			6	Reserved		BOOLEAN				
			7	Reserved		BOOLEAN				
			8	Reserved		BOOLEAN				
			9	Reserved		BOOLEAN				
			10	Reserved		BOOLEAN				
			11	Reserved		BOOLEAN				
			12	Reserved		BOOLEAN				
			13	Reserved		BOOLEAN				
			14	Reserved		BOOLEAN				
			15	Reserved		BOOLEAN				
	<b>Module 1</b>									
40160	009F	159		Supply Air Temperature	1	INT16		10	R	*F

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale		R/W	Valid Response
							Multiply Reading By:	Divide Reading By:		
40161	00A0	160		Supply Air Humidity	1	UINT16		10	R	% R.H.
40162	00A1	161		Return Air Temperature	1	INT16		10	R	°F
40163	00A2	162		Return Air Humidity	1	UINT16		10	R	% R.H.
40164	00A3	163		IT Air Flow	1	UINT16		1	R	CFM
40165	00A4	164		IT Fan Power	1	UINT16		1	R	W
40166	00A5	165		OA Fan Air Flow	1	UINT16		1	R	CFM
40167	00A6	166		OA Fan Power	1	UINT16		1	R	W
40168	00A7	167		Compressor Discharge Pressure	1	UINT16		10	R	psig
40169	00A8	168		Compressor Discharge Temperature	1	UINT16		10	R	°F
40170	00A9	169		Compressor Suction Pressure	1	INT16		10	R	psig
40171	00AA	170		Compressor Suction Temperature	1	INT16		10	R	°F
40172	00AB	171		Compressor Power	1	UINT16		1000	R	kW
40173	00AC	172		Compressor Superheat Temperature	1	INT16		10	R	°F
40174	00AD	173		VFD Frequency	1	UINT16		10	R	Hz
40175	00AE	174		EEV Position	1	UINT16		10	R	%
40176	00AF	175		Liquid Line Temperature	1	INT16		10	R	°F
40177	00B0	176		IEC Air Temperature	1	INT16		10	R	°F
40178	00B1	177		Filter Differential Pressure	1	INT16		10	R	Pa
40179	00B2	178		Compressor Run Hours	1	UINT16		1	R	hr
40180	00B3	179		IT Fan 1 Run Hours	1	UINT16		1	R	hr
40181	00B4	180		IT Fan 2 Run Hours	1	UINT16		1	R	hr
40182	00B5	181		OA Fan Run Hours	1	UINT16		1	R	hr
	<b>Module 2</b>									
40200	00C7	199		Supply Air Temperature	1	INT16		10	R	°F
40201	00C8	200		Supply Air Humidity	1	UINT16		10	R	% R.H.
40202	00C9	201		Return Air Temperature	1	INT16		10	R	°F
40203	00CA	202		Return Air Humidity	1	UINT16		10	R	% R.H.
40204	00CB	203		IT Air Flow	1	UINT16		1	R	CFM
40205	00CC	204		IT Fan Power	1	UINT16		1	R	W
40206	00CD	205		OA Fan Air Flow	1	UINT16		1	R	CFM
40207	00CE	206		OA Fan Power	1	UINT16		1	R	W
40208	00CF	207		Compressor Discharge Pressure	1	UINT16		10	R	psig
40209	00D0	208		Compressor Discharge Temperature	1	UINT16		10	R	°F
40210	00D1	209		Compressor Suction Pressure	1	INT16		10	R	psig
40211	00D2	210		Compressor Suction Temperature	1	INT16		10	R	°F
40212	00D3	211		Compressor Power	1	UINT16		1000	R	kW
40213	00D4	212		Compressor Superheat Temperature	1	INT16		10	R	°F
40214	00D5	213		VFD Frequency	1	UINT16		10	R	Hz
40215	00D6	214		EEV Position	1	UINT16		10	R	%
40216	00D7	215		Liquid Line Temperature	1	INT16		10	R	°F
40217	00D8	216		IEC Air Temperature	1	INT16		10	R	°F
40218	00D9	217		Filter Differential Pressure	1	INT16		10	R	Pa
40219	00DA	218		Compressor Run Hours	1	UINT16		1	R	hr
40220	00DB	219		IT Fan 1 Run Hours	1	UINT16		1	R	hr
40221	00DC	220		IT Fan 2 Run Hours	1	UINT16		1	R	hr
40222	00DD	221		OA Fan Run Hours	1	UINT16		1	R	hr
	<b>Module 3</b>									
40240	00EF	239		Supply Air Temperature	1	INT16		10	R	°F
40241	00F0	240		Supply Air Humidity	1	UINT16		10	R	% R.H.
40242	00F1	241		Return Air Temperature	1	INT16		10	R	°F
40243	00F2	242		Return Air Humidity	1	UINT16		10	R	% R.H.
40244	00F3	243		IT Air Flow	1	UINT16		1	R	CFM
40245	00F4	244		IT Fan Power	1	UINT16		1	R	W
40246	00F5	245		OA Fan Air Flow	1	UINT16		1	R	CFM
40247	00F6	246		OA Fan Power	1	UINT16		1	R	W
40248	00F7	247		Compressor Discharge Pressure	1	UINT16		10	R	psig
40249	00F8	248		Compressor Discharge Temperature	1	UINT16		10	R	°F
40250	00F9	249		Compressor Suction Pressure	1	INT16		10	R	psig
40251	00FA	250		Compressor Suction Temperature	1	INT16		10	R	°F
40252	00FB	251		Compressor Power	1	UINT16		1000	R	kW
40253	00FC	252		Compressor Superheat Temperature	1	INT16		10	R	°F
40254	00FD	253		VFD Frequency	1	UINT16		10	R	Hz
40255	00FE	254		EEV Position	1	UINT16		10	R	%
40256	00FF	255		Liquid Line Temperature	1	INT16		10	R	°F
40257	0100	256		IEC Air Temperature	1	INT16		10	R	°F
40258	0101	257		Filter Differential Pressure	1	INT16		10	R	Pa
40259	0102	258		Compressor Run Hours	1	UINT16		1	R	hr
40260	0103	259		IT Fan 1 Run Hours	1	UINT16		1	R	hr
40261	0104	260		IT Fan 2 Run Hours	1	UINT16		1	R	hr
40262	0105	261		OA Fan Run Hours	1	UINT16		1	R	hr
	<b>Module 4</b>									
40280	0117	279		Supply Air Temperature	1	INT16		10	R	°F

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale		R/W	Valid Response
							Multiply Reading By:	Divide Reading By:		
40281	0118	280		Supply Air Humidity	1	UINT16		10	R	% R.H.
40282	0119	281		Return Air Temperature	1	INT16		10	R	°F
40283	011A	282		Return Air Humidity	1	UINT16		10	R	% R.H.
40284	011B	283		IT Air Flow	1	UINT16		1	R	CFM
40285	011C	284		IT Fan Power	1	UINT16		1	R	W
40286	011D	285		OA Fan Air Flow	1	UINT16		1	R	CFM
40287	011E	286		OA Fan Power	1	UINT16		1	R	W
40288	011F	287		Compressor Discharge Pressure	1	UINT16		10	R	psig
40289	0120	288		Compressor Discharge Temperature	1	UINT16		10	R	°F
40290	0121	289		Compressor Suction Pressure	1	INT16		10	R	psig
40291	0122	290		Compressor Suction Temperature	1	INT16		10	R	°F
40292	0123	291		Compressor Power	1	UINT16		1000	R	kW
40293	0124	292		Compressor Superheat Temperature	1	INT16		10	R	°F
40294	0125	293		VFD Frequency	1	UINT16		10	R	Hz
40295	0126	294		EEV Position	1	UINT16		10	R	%
40296	0127	295		Liquid Line Temperature	1	INT16		10	R	°F
40297	0128	296		IEC Air Temperature	1	INT16		10	R	°F
40298	0129	297		Filter Differential Pressure	1	INT16		10	R	Pa
40299	012A	298		Compressor Run Hours	1	UINT16		1	R	hr
40300	012B	299		IT Fan 1 Run Hours	1	UINT16		1	R	hr
40301	012C	300		IT Fan 2 Run Hours	1	UINT16		1	R	hr
40302	012D	301		OA Fan Run Hours	1	UINT16		1	R	hr
	<b>Module 5</b>									
40320	013F	319		Supply Air Temperature	1	INT16		10	R	°F
40321	0140	320		Supply Air Humidity	1	UINT16		10	R	% R.H.
40322	0141	321		Return Air Temperature	1	INT16		10	R	°F
40323	0142	322		Return Air Humidity	1	UINT16		10	R	% R.H.
40324	0143	323		IT Air Flow	1	UINT16		1	R	CFM
40325	0144	324		IT Fan Power	1	UINT16		1	R	W
40326	0145	325		OA Fan Air Flow	1	UINT16		1	R	CFM
40327	0146	326		OA Fan Power	1	UINT16		1	R	W
40328	0147	327		Compressor Discharge Pressure	1	UINT16		10	R	psig
40329	0148	328		Compressor Discharge Temperature	1	UINT16		10	R	°F
40330	0149	329		Compressor Suction Pressure	1	INT16		10	R	psig
40331	014A	330		Compressor Suction Temperature	1	INT16		10	R	°F
40332	014B	331		Compressor Power	1	UINT16		1000	R	kW
40333	014C	332		Compressor Superheat Temperature	1	INT16		10	R	°F
40334	014D	333		VFD Frequency	1	UINT16		10	R	Hz
40335	014E	334		EEV Position	1	UINT16		10	R	%
40336	014F	335		Liquid Line Temperature	1	INT16		10	R	°F
40337	0150	336		IEC Air Temperature	1	INT16		10	R	°F
40338	0151	337		Filter Differential Pressure	1	INT16		10	R	Pa
40339	0152	338		Compressor Run Hours	1	UINT16		1	R	hr
40340	0153	339		IT Fan 1 Run Hours	1	UINT16		1	R	hr
40341	0154	340		IT Fan 2 Run Hours	1	UINT16		1	R	hr
40342	0155	341		OA Fan Run Hours	1	UINT16		1	R	hr
	<b>Module 6</b>									
40360	0167	359		Supply Air Temperature	1	INT16		10	R	°F
40361	0168	360		Supply Air Humidity	1	UINT16		10	R	% R.H.
40362	0169	361		Return Air Temperature	1	INT16		10	R	°F
40363	016A	362		Return Air Humidity	1	UINT16		10	R	% R.H.
40364	016B	363		IT Air Flow	1	UINT16		1	R	CFM
40365	016C	364		IT Fan Power	1	UINT16		1	R	W
40366	016D	365		OA Fan Air Flow	1	UINT16		1	R	CFM
40367	016E	366		OA Fan Power	1	UINT16		1	R	W
40368	016F	367		Compressor Discharge Pressure	1	UINT16		10	R	psig
40369	0170	368		Compressor Discharge Temperature	1	UINT16		10	R	°F
40370	0171	369		Compressor Suction Pressure	1	INT16		10	R	psig
40371	0172	370		Compressor Suction Temperature	1	INT16		10	R	°F
40372	0173	371		Compressor Power	1	UINT16		1000	R	kW
40373	0174	372		Compressor Superheat Temperature	1	INT16		10	R	°F
40374	0175	373		VFD Frequency	1	UINT16		10	R	Hz
40375	0176	374		EEV Position	1	UINT16		10	R	%
40376	0177	375		Liquid Line Temperature	1	INT16		10	R	°F
40377	0178	376		IEC Air Temperature	1	INT16		10	R	°F
40378	0179	377		Filter Differential Pressure	1	INT16		10	R	Pa
40379	017A	378		Compressor Run Hours	1	UINT16		1	R	hr
40380	017B	379		IT Fan 1 Run Hours	1	UINT16		1	R	hr
40381	017C	380		IT Fan 2 Run Hours	1	UINT16		1	R	hr
40382	017D	381		OA Fan Run Hours	1	UINT16		1	R	hr
	<b>Module 7</b>									
40400	018F	399		Supply Air Temperature	1	INT16		10	R	°F

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale		R/W	Valid Response
							Multiply Reading By:	Divide Reading By:		
40401	0190	400		Supply Air Humidity	1	UINT16		10	R	% R.H.
40402	0191	401		Return Air Temperature	1	INT16		10	R	°F
40403	0192	402		Return Air Humidity	1	UINT16		10	R	% R.H.
40404	0193	403		IT Air Flow	1	UINT16		1	R	CFM
40405	0194	404		IT Fan Power	1	UINT16		1	R	W
40406	0195	405		OA Fan Air Flow	1	UINT16		1	R	CFM
40407	0196	406		OA Fan Power	1	UINT16		1	R	W
40408	0197	407		Compressor Discharge Pressure	1	UINT16		10	R	psig
40409	0198	408		Compressor Discharge Temperature	1	UINT16		10	R	°F
40410	0199	409		Compressor Suction Pressure	1	INT16		10	R	psig
40411	019A	410		Compressor Suction Temperature	1	INT16		10	R	°F
40412	019B	411		Compressor Power	1	UINT16		1000	R	kW
40413	019C	412		Compressor Superheat Temperature	1	INT16		10	R	°F
40414	019D	413		VFD Frequency	1	UINT16		10	R	Hz
40415	019E	414		EEV Position	1	UINT16		10	R	%
40416	019F	415		Liquid Line Temperature	1	INT16		10	R	°F
40417	01A0	416		I/E Air Temperature	1	INT16		10	R	°F
40418	01A1	417		Filter Differential Pressure	1	INT16		10	R	Pa
40419	01A2	418		Compressor Run Hours	1	UINT16		1	R	hr
40420	01A3	419		IT Fan 1 Run Hours	1	UINT16		1	R	hr
40421	01A4	420		IT Fan 2 Run Hours	1	UINT16		1	R	hr
40422	01A5	421		OA Fan Run Hours	1	UINT16		1	R	hr
	<b>Module 8</b>									
40440	01B7	439		Supply Air Temperature	1	INT16		10	R	°F
40441	01B8	440		Supply Air Humidity	1	UINT16		10	R	% R.H.
40442	01B9	441		Return Air Temperature	1	INT16		10	R	°F
40443	01BA	442		Return Air Humidity	1	UINT16		10	R	% R.H.
40444	01BB	443		IT Air Flow	1	UINT16		1	R	CFM
40445	01BC	444		IT Fan Power	1	UINT16		1	R	W
40446	01BD	445		OA Fan Air Flow	1	UINT16		1	R	CFM
40447	01BE	446		OA Fan Power	1	UINT16		1	R	W
40448	01BF	447		Compressor Discharge Pressure	1	UINT16		10	R	psig
40449	01C0	448		Compressor Discharge Temperature	1	UINT16		10	R	°F
40450	01C1	449		Compressor Suction Pressure	1	INT16		10	R	psig
40451	01C2	450		Compressor Suction Temperature	1	INT16		10	R	°F
40452	01C3	451		Compressor Power	1	UINT16		1000	R	kW
40453	01C4	452		Compressor Superheat Temperature	1	INT16		10	R	°F
40454	01C5	453		VFD Frequency	1	UINT16		10	R	Hz
40455	01C6	454		EEV Position	1	UINT16		10	R	%
40456	01C7	455		Liquid Line Temperature	1	INT16		10	R	°F
40457	01C8	456		I/E Air Temperature	1	INT16		10	R	°F
40458	01C9	457		Filter Differential Pressure	1	INT16		10	R	Pa
40459	01CA	458		Compressor Run Hours	1	UINT16		1	R	hr
40460	01CB	459		IT Fan 1 Run Hours	1	UINT16		1	R	hr
40461	01CC	460		IT Fan 2 Run Hours	1	UINT16		1	R	hr
40462	01CD	461		OA Fan Run Hours	1	UINT16		1	R	hr
	<b>Control Data</b>									
40480	01DF	479		Operate System	1	ENUM			R/W	0 = Off, 1 = On
40481	01E0	480		Commanded IT Fan Speed	1	UINT16	1	1	R/W	% of full scale; 20 to 100
40482	01E1	481		Drain Basin	1	ENUM			R/W	0 = No, 1 = Yes
40483	01E2	482		Reset Pump A Run Hours	1	UINT16	1	1	R/W	1 = Reset Run Hours
40484	01E3	483		Reset Pump B Run Hours	1	UINT16	1	1	R/W	1 = Reset Run Hours
40485	01E4	484		Reset Water Treatment Run Hours	1	UINT16	1	1	R/W	1 = Reset Run Hours
40486	01E5	485		Reset Alarms	1	UINT16	1	1	R/W	1 = Reset Alarms
40487	01E6	486		Reset Pump A Fault	1	UINT16	1	1	R/W	1 = Reset Fault
40488	01E7	487		Reset Pump B Fault	1	UINT16	1	1	R/W	1 = Reset Fault
40489	01E8	488		Reset Air Pump Fault	1	UINT16	1	1	R/W	1 = Reset Fault
40490	01E9	489		MaxCooling	1	UINT16	1	1	W	0 = Disable, 1 = Enable
	<b>Module 1</b>									
40500	01F3	499		Operate	1	ENUM			R	0 = Off, 1 = On
40501	01F4	500		Reset Compressor Run Hours	1	ENUM			R/W	1 = Reset Run Hours
40502	01F5	501		Reset Module Faults	1	ENUM			R/W	1 = Reset Fault
	<b>Module 2</b>									
40510	01FD	509		Operate	1	ENUM			R	0 = Off, 1 = On
40511	01FE	510		Reset Compressor Run Hours	1	ENUM			R/W	1 = Reset Run Hours
40512	01FF	511		Reset Module Faults	1	ENUM			R/W	1 = Reset Fault
	<b>Module 3</b>									
40520	0207	519		Operate	1	ENUM			R	0 = Off, 1 = On
40521	0208	520		Reset Compressor Run Hours	1	ENUM			R/W	1 = Reset Run Hours
40522	0209	521		Reset Module Faults	1	ENUM			R/W	1 = Reset Fault

Modicon Standard Register Number	Absolute Starting Register Address, (Hexa-decimal)	Absolute Starting Register Address, (Decimal)	Bit	Data Point	Length # registers	Data Type	Scale		R/W	Valid Response
							Multiply Reading By:	Divide Reading By:		
	<b>Module 4</b>									
40530	0211	529		Operate	1	ENUM			R	0 = Off, 1 = On
40531	0212	530		Reset Compressor Run Hours	1	ENUM			R/W	1 = Reset Run Hours
40532	0213	531		Reset Module Faults	1	ENUM			R/W	1 = Reset Fault
	<b>Module 5</b>									
40540	021B	539		Operate	1	ENUM			R	0 = Off, 1 = On
40541	021C	540		Reset Compressor Run Hours	1	ENUM			R/W	1 = Reset Run Hours
40542	021D	541		Reset Module Faults	1	ENUM			R/W	1 = Reset Fault
	<b>Module 6</b>									
40550	0225	549		Operate	1	ENUM			R	0 = Off, 1 = On
40551	0226	550		Reset Compressor Run Hours	1	ENUM			R/W	1 = Reset Run Hours
40552	0227	551		Reset Module Faults	1	ENUM			R/W	1 = Reset Fault
	<b>Module 7</b>									
40560	022F	559		Operate	1	ENUM			R	0 = Off, 1 = On
40561	0230	560		Reset Compressor Run Hours	1	ENUM			R/W	1 = Reset Run Hours
40562	0231	561		Reset Module Faults	1	ENUM			R/W	1 = Reset Fault
	<b>Module 8</b>									
40570	0239	569		Operate	1	ENUM			R	0 = Off, 1 = On
40571	023A	570		Reset Compressor Run Hours	1	ENUM			R/W	1 = Reset Run Hours
40572	023B	571		Reset Module Faults	1	ENUM			R/W	1 = Reset Fault
	<b>Configuration Data</b>									
40580	0243	579		Name	11	ASCII			R/W	
40591	024E	590		Reserved	10					
40601	0258	600		Supply Air Temperature Setpoint	1	INT16	100	100	R/W	°F: 68.00 to 90.00
40602	0259	601		Containment Setpoint	1	INT16	10	10	R/W	Pa: -249.0 to 249.0
40603	025A	602		Manual IT Fan Speed	1	UINT16	1	1	R/W	%: 20 to 100
40604	025B	603		Basin Water Conductivity Setpoint	1	UINT16	1	1	R/W	uS/cm: 500 - 15000
40605	025C	604		Basin Water Conductivity Deadband	1	UINT16	1	1	R/W	uS/cm: 50 - 15000
40606	025D	605		Lead Pump	1	ENUM			R/W	0 = A, 1 = B
40607	025E	606		Primary Water Source	1	ENUM			R/W	0 = A, 1 = B
40608	025F	607		IT Fan Mode	1	ENUM			R/W	0 = Auto, 1 = Manual
40609	0260	608		Isolation Damper Present	1	ENUM			R/W	0 = No, 1 = Yes
40610	0261	609		Containment Controller Gain	1	UINT16	10	10	R/W	% / Pa.; 0 to 100
40611	0262	610		Containment Controller Reset	1	UINT16	1	1	R/W	sec: 1 to 999
40612	0263	611		DP Sensor Select	1	ENUM			R/W	0 = None, 1 = 4-20mA, 2 = 0-10VDC, 3 = BMS, 4 = AFC
40613	0264	612		DP Sensor Minimum Value	1	INT16	10	10	R/W	Pa: -2491.0 to 2491.0
40614	0265	613		DP Sensor Maximum Value	1	INT16	10	10	R/W	Pa: -2491.0 to 2491.0
40615	0266	614		Pump Rotation Interval	1	INT16	1	1	R/W	days: 0 to 15
40616	0267	615		Water Saver	1	ENUM			R/W	0 = No, 1 = Yes
40617	0268	616		Dry Operation Drain Time	1	INT16	1	1	R/W	hrs: 10 to 72
40618	0269	617		Conductivity Sensor Range	1	ENUM			R/W	0 = 500 - 2500 uS/cm, 1 = 2500 - 15000 uS/cm
40619	026A	618		Remote Run/Stop Normal State	1	ENUM			R/W	0 = Normally Open, 1 = Normally Closed
40620	026B	619		Isolation Damper Normal State	1	ENUM			R/W	0 = Normally Open, 1 = Normally Closed
40621	026C	620		Output Contact Normal State	1	ENUM			R/W	0 = Normally Open, 1 = Normally Closed
40622	026D	621		Alarm Output Source	1	ENUM			R/W	0 = Any Alarm, 1 = Critical Alarms
40623	026E	622		Containment Differential Pressure High Threshold	1	INT16	10	10	R/W	Pa; Containment Setpoint to DP Sensor Maximum Value
40624	026F	623		Containment Differential Pressure Low Threshold	1	INT16	10	10	R/W	Pa; DP Sensor Minimum Value to Containment Setpoint
40625	0270	624		Return Temperature High Threshold	1	INT16	100	100	R/W	°F: -40.0 to 212.0
40626	0271	625		Return Temperature Low Threshold	1	INT16	100	100	R/W	°F: -40.0 to 212.0
40627	0272	626		Supply Temperature High Threshold	1	INT16	100	100	R/W	°F; Supply Air Temperature Setpoint to 212.0
40628	0273	627		Supply Temperature Low Threshold	1	INT16	100	100	R/W	°F; -40.0 to Supply Air Temperature Setpoint
40629	0274	628		Module 1 Present	1	ENUM			R/W	0 = Not Present, 1 = Present
40630	0275	629		Module 2 Present	1	ENUM			R/W	0 = Not Present, 1 = Present
40631	0276	630		Module 3 Present	1	ENUM			R/W	0 = Not Present, 1 = Present
40632	0277	631		Module 4 Present	1	ENUM			R/W	0 = Not Present, 1 = Present
40633	0278	632		Module 5 Present	1	ENUM			R/W	0 = Not Present, 1 = Present
40634	0279	633		Module 6 Present	1	ENUM			R/W	0 = Not Present, 1 = Present
40635	027A	634		Module 7 Present	1	ENUM			R/W	0 = Not Present, 1 = Present
40636	027B	635		Module 8 Present	1	ENUM			R/W	0 = Not Present, 1 = Present
40637	027C	636		DP Sensor Filter Coefficient	1	INT16	100	100	R/W	0.00 to 1.00
40638	027D	637		Elevation/Altitude	1	INT16	1	1	R/W	ftx10; -1500/10 to 30000/10

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							Multiply Reading By:	Divide Reading By:		
40639	027E	638		Wet Operate Temperature Threshold	1	INT16	100	100	R/W	°F: 45.00 to 100.00
40640	027F	639		DX Mode	1	ENUM			R/W	0 = Equal Temp, 1 = Energy Save
40641	0280	640		Sensor Control Mode	1	ENUM			R/W	0 = DP, 1 = Direct
40642	0281	641		Data Center Heat Load at EcoBreeze Start Up	1	UINT16	10	10	R/W	kW: 0.0 to 6553.5
<b>EB Frame Factory Test Data</b>										
42001	07D0	2000		Reserved						
...	...	...		Reserved						
42100	0833	2099		Reserved						
<b>AFC Data</b>										
80001	9C40	40000		Apply New AFC Config	1	ENUM			R/W	0 = No, 1 = Yes
80002	9C41	40001		HACS/CACS Selection	1	ENUM			R	0 = HACS, 1 = CACS
80003	9C42	40002		AFC Setpoint	1	ENUM			R	0 = Negative, 1 = Slightly Negative, 2 = Zero, 3 = Slightly Positive, 4 = Positive
80004	9C43	40003		AFC PID Gain	1	UINT16	10	10	R	0.0 to 6553.5
80005	9C44	40004		AFC PID Integral	1	UINT16	10	10	R	0.0 to 6553.5
80006	9C45	40005		AFC PID Derivative	1	UINT16	10	10	R	0.0 to 6553.5
80007	9C46	40006		Current IT Fan Speed	1	UINT16	1	1	R	%: 0 to 100
80008	9C47	40007		Number of AFCs	1	UINT16	1	1	R	1 to 40
80009	9C48	40008		AFC Commanded IT Fan Speed	1	UINT16	1	1	R	%: 20 to 100
80010	9C49	40009		AFC Alarm Status	1				R	
			0	Sensor Status		BOOLEAN				0 = OK, 1 = Sensor Failed
			1	Doors Status		BOOLEAN				0 = Doors Closed, 1 = At Least One Door Open
			2	Red LED Enable		BOOLEAN				0 = No, 1 = Yes
			3	CAN Communication Error		BOOLEAN				0 = No, 1 = Yes
			4	Reserved		BOOLEAN				
			5	Reserved		BOOLEAN				
			6	Reserved		BOOLEAN				
			7	Reserved		BOOLEAN				
			8	Reserved		BOOLEAN				
			9	Reserved		BOOLEAN				
			10	Reserved		BOOLEAN				
			11	Reserved		BOOLEAN				
			12	Reserved		BOOLEAN				
			13	Reserved		BOOLEAN				
			14	Reserved		BOOLEAN				
			15	AFC modbus heart beat		BOOLEAN				toggle
80011	9C4A	40010		AFC Altitude	1	INT16	1	1	R	m: 0 to 5000
80012	9C4B	40011		AFC Lamp Test Enable	1	ENUM			R	0 = No, 1 = Yes
80013	9C4C	40012		AFC Airflow Status	1	ENUM			R	0 = Under, 1 = Good, 2 = Over
80014	9C4D	40013		Edit HACS/CACS Selection	1	ENUM			R/W	0 = HACS, 1 = CACS
80015	9C4E	40014		Edit Setpoint	1	ENUM			R/W	0 = Negative, 1 = Slightly Negative, 2 = Zero, 3 = Slightly Positive, 4 = Positive
80016	9C4F	40015		Edit Number of AFCs	1	UINT16	1	1	R/W	1 to 40
80017	9C50	40016		Edit Lamp Test Enable	1	ENUM			R/W	0 = No, 1 = Yes
80018	9C51	40017		Reserved	1	INT16	1	1	R/W	
80019	9C52	40018		Edit PID Gain	1	UINT16	10	10	R/W	0.0 to 6553.5
80020	9C53	40019		Edit PID Reset time	1	UINT16	10	10	R/W	0.0 to 6553.5
80021	9C54	40020		Edit PID Derivative	1	UINT16	10	10	R/W	0.0 to 6553.5
80022	9C55	40021		Minimum Group DP Reading	1	INT16	1000	1000	R	inWC: -1000/1000 to 1000/1000
80023	9C56	40022		Maximum Group DP Reading	1	INT16	1000	1000	R	inWC: -1000/1000 to 1000/1000
END OF MAP										
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