



Register Map: Ecoflair™ Indirect Air Economizer

Part Numbers:
990-5959
06MC0148@00B0100

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 code 6 to registers with length 1.
4. Modbus serial RTU and Modbus over TCP is supported.
5. Signed numbers (INT16, INT32, ENUM) are two's-complement
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 (6 digit) Register Number	Absolute Starting Register Number (Hexadecimal)	Absolute Starting Register Number (Decimal)	Data Point	R/W	Register Length (1 = 2 bytes)	Data Type	Scale	Units	Valid Response
Unit Identification									
400001	0000	0	Model Number	R	10	ASCII	0		
400011	000A	10	Serial Number	R	10	ASCII	0		
400021	0014	20	Unit Number	R/W	1	UINT16	0		0 (Undefined), 1 - 32
400022	0015	21	Unit Capacity	R	1	ENUM	0		0 = 250 kW, 1 = 500 kW
400023	0016	22	Firmware Revision	R	10	ASCII	0		
400033	0020	32	PIC1 Firmware Revision	R	10	ASCII	0		
400043	002A	42	PIC2 Firmware Revision	R	10	ASCII	0		
400053	0034	52	Hardware Revision	R	10	ASCII	0		
Main Module Identification									
400201	00C8	200	Model Number	R	10	ASCII	0		
400211	00D2	210	Serial Number	R	10	ASCII	0		
400221	00DC	220	Unit Number	R/W	1	UINT16	0		0 (Undefined), 1 - 32
400222	00DD	221	Application FW Revision	R	10	ASCII	0		"x.x.x"
400232	00E7	231	PIC1 FW Revision	R	10	ASCII	0		"x.x.x"
400242	00F1	241	PIC2 FW Revision	R	10	ASCII	0		"x.x.x"
400252	00FB	251	Hardware Revision	R	10	ASCII	0		"HWxx"
Expansion Module Identification									
400401	0190	400	Same as Main Module Identification but starts at address 400						

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Unit (Main & Expansion combined) Data (US)									
401001	03E8	1000	Cooling Mode	R	1	ENUM	0		0 = Off, 1 = Remote Off, 2 = Maintenance, 3 = Dry Cooling, 4 = Wet Cooling, 5 = Dry and Trim Cooling, 6 = Wet and Trim Cooling
401002	03E9	1001	Outdoor Air Temperature	R	1	INT16	1	°F	
401003	03EA	1002	Outdoor Air Humidity	R	1	UINT16	1	%RH	
401004	03EB	1003	Outdoor Dewpoint (not supported)	R	1				
401005	03EC	1004	Supply Air Temperature	R	1	INT16	1	°F	
401006	03ED	1005	Supply Air Humidity (not supported)	R	1				
401007	03EE	1006	Return Air Temperature	R	1	INT16	1	°F	
401008	03EF	1007	Return Air Humidity	R	1	UINT16	1	%RH	
401009	03F0	1008	IT Fan Air Flow	R	2	UINT32	0	CFM	
401011	03F2	1010	Command Fan Speed	R	1	UINT16	0	%	
401012	03F3	1011	Reserved		1	INT16			
401013	03F4	1012	Total Compressor Power	R	2	UINT32	3	kW	
401015	03F6	1014	Number of Compressors On	R	1	UINT16	0		
401016	03F7	1015	Dry Operation Drain Time	R/W	1	UINT16	0	Hrs	
401017	03F8	1016	Return Temperature High Threshold	R/W	1	INT16	1	°F	
401018	03F9	1017	Return Temperature Low Threshold	R/W	1	INT16	1	°F	
401019	03FA	1018	Supply Temperature High Threshold	R/W	1	INT16	1	°F	
401020	03FB	1019	Supply Temperature Low Threshold	R/W	1	INT16	1	°F	
401021	03FC	1020	Basin Water Conductivity Setpoint	R/W	1	UINT16	0	uS/cm	
401022	03FD	1021	Basin Water Conductivity Deadband	R/W	1	UINT16	0	uS/cm	
401023	03FE	1022	Supply Air Temperature Setpoint	R/W	1	INT16	1	°F	
401024	03FF	1023	IT Fan Mode	R/W	1	ENUM	0		0 = Auto, 1 = Manual
401025	0400	1024	Manual IT Fan Speed	R/W	1	UINT16	0	%	
401026	0401	1025	Wet Operate Temperature Setpoint	R/W	1	UINT16	1	°F	
401027	0402	1026	Lead Pump	R/W	1	ENUM	0		0 = Pump #1, 1 = Pump #2
401028	0403	1027	Pump Rotation Interval	R/W	1	UINT16	1	days	
401029	0404	1028	Water Saver	R/W	1	ENUM	0		0 = Disabled, 1 = Enabled
401030	0405	1029	Altitude	R/W	1	UINT16	1	ft	
401031	0406	1030	Operate System	R/W	1	ENUM	0		0 = Off, 1 = On
401032	0407	1031	Reserve Water Time	R/W	1	UINT16	0	Mins	
401033	0408	1032	Cycles of Concentration	R/W	1	UINT16	0		
401034	0409	1033	Containment Type	R/W	1	UINT16	0		0 = Eco Aile, 1 = Under Floor
401035	040A	1034	DP Set Point	R/W	1	UINT16	0		0 = Positive, 1 = Slightly Positive, 2 = Zero, 3 = Slightly Negative, 4 = Negative
401036	040B	1035	Number of AFCs	R/W	1	UINT16	0		
401037	040C	1036	Eco Aile Air Pressure Measurement Source	R/W	1	UINT16	0		0 = RACS, 1 = HACS, 2 = CACS
401038	040D	1037	Under Floor Air Pressure Measurement Source	R/W	1	UINT16	0		0 = Average, 1 = Minimum
401039	040E	1038	Under Floor Set Point	R/W	1	UINT16	2	"WC	
401040	040F	1039	IT Fan Speed When AFC not Available	R/W	1	UINT16	0	%	
Unit (Main & Expansion combined) Data (Metric)									

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402001	07D0	2000	Cooling Mode	R	1	ENUM	0		0 = Off, 1 = Remote Off, 2 = Maintenance, 3 = Dry, 4 = Wet, 5 = Dry + Trim, 6 = Wet + Trim
402002	07D1	2001	Outdoor Air Temperature	R	1	INT16	1	°C	
402003	07D2	2002	Outdoor Air Humidity	R	1	UINT16	1	%RH	
402004	07D3	2003	Outdoor Dewpoint (not supported)	R	1				
402005	07D4	2004	Supply Air Temperature	R	1	INT16	1	°C	
402006	07D5	2005	Supply Air Humidity (not supported)	R	1				
402007	07D6	2006	Return Air Temperature	R	1	INT16	1	°C	
402008	07D7	2007	Return Air Humidity	R	1	UINT16	1	%RH	
402009	07D8	2008	IT Fan Air Flow	R	2	UINT32	0	L/s	
402011	07DA	2010	Command Fan Speed	R	1	UINT16	0	%	
402012	07DB	2011	Reserved		1	INT16			
402013	07DC	2012	Total Compressor Power	R	2	UINT32	3	kW	
402015	07DE	2014	Number of Compressors On	R	1	UINT16	0		
402016	07DF	2015	Dry Operation Drain Time	R/W	1	UINT16	0	Hrs	
402017	07E0	2016	Return Temperature High Threshold	R/W	1	INT16	1	°C	
402018	07E1	2017	Return Temperature Low Threshold	R/W	1	INT16	1	°C	
402019	07E2	2018	Supply Temperature High Threshold	R/W	1	INT16	1	°C	
402020	07E3	2019	Supply Temperature Low Threshold	R/W	1	INT16	1	°C	
402021	07E4	2020	Basin Water Conductivity Setpoint	R/W	1	UINT16	0	uS/cm	
402022	07E5	2021	Basin Water Conductivity Deadband	R/W	1	UINT16	0	uS/cm	
402023	07E6	2022	Supply Air Temperature Setpoint	R/W	1	INT16	1	°C	
402024	07E7	2023	IT Fan Mode	R/W	1	ENUM	0		0 = Auto, 1 = Manual
402025	07E8	2024	Manual IT Fan Speed	R/W	1	UINT16	0	%	
402026	07E9	2025	Wet Operate Temperature Setpoint	R/W	1	UINT16	1	°C	
402027	07EA	2026	Lead Pump	R/W	1	ENUM	0		0 = Pump #1, 1 = Pump #2
402028	07EB	2027	Pump Rotation Interval	R/W	1	UINT16	1	days	
402029	07EC	2028	Water Saver	R/W	1	ENUM	0		0 = Disabled, 1 = Enabled
402030	07ED	2029	Altitude	R/W	1	UINT16	1	m	
402031	07EE	2030	Operate System	R/W	1	ENUM	0		0 = Off, 1 = On
402032	07EF	2031	Reserve Water Time	R/W	1	UINT16	0	Mins	
402033	07F0	2032	Cycles of Concentration	R/W	1	UINT16	0		
402034	07F1	2033	Containment Type	R/W	1	UINT16	0		0 = Eco Aile, 1 = Under Floor
402035	07F2	2034	DP Set Point	R/W	1	UINT16	0		0 = Positive, 1 = Slightly Positive, 2 = Zero, 3 = Slightly Negative, 4 = Negative
402036	07F3	2035	Number of AFCs	R/W	1	UINT16	0		
402037	07F4	2036	Eco Aile Air Pressure Measurement Source	R/W	1	UINT16	0		0 = RACS, 1 = HACS, 2 = CACS
402038	07F5	2037	Under Floor Air Pressure Measurement Source	R/W	1	UINT16	0		0 = Average, 1 = Minimum
402039	07F6	2038	Under Floor Set Point	R/W	1	UINT16	2	Pa	
402040	07F7	2039	IT Fan Speed When AFC not Available	R/W	1	UINT16	0	%	
Unit Alarms									
403001	0BB8	3000	Overall Status	R	1	ENUM	0		0 = OK State, 1 = Info State, 2 = Warning State, 3 = Critical State
403002	0BB9	3001	Number of Critical Alarms	R	1	UINT16	0		

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403003	OBBA	3002	Number of Warning Alarms	R	1	UINT16	0		
403004	OB BB	3003	Number of Informational Alarms	R	1	UINT16	0		
Main Module Alarms									
404001	OFA0	4000	Overall Status	R	1	ENUM	0		0 = OK State, 1 = Info State, 2 = Warning State, 3 = Critical State
404002	OFA1	4001	Number of Critical Alarms	R	1	UINT16	0		
404003	OFA2	4002	Number of Warning Alarms	R	1	UINT16	0		
404004	OFA3	4003	Number of Informational Alarms	R	1	UINT16	0		
404005	OFA4	4004	Alarm 1	R	1	ENUM	0		0 = No Alarm, 1 = Alarm
404006	OFA5	4005	Alarm TBD	R	1	ENUM	0		0 = No Alarm, 1 = Alarm
404007	OFA6	4006	Alarm TBD	R	1	ENUM	0		0 = No Alarm, 1 = Alarm
404008	OFA7	4007	Alarm TBD	R	1	ENUM	0		0 = No Alarm, 1 = Alarm
404009	OFA8	4008	Alarm TBD	R	1	ENUM	0		0 = No Alarm, 1 = Alarm
404010	OFA9	4009	Alarm TBD	R	1	ENUM	0		0 = No Alarm, 1 = Alarm
404011	OFAA	4010	Alarm TBD	R	1	ENUM	0		0 = No Alarm, 1 = Alarm
404012	OFA B	4011	Alarm TBD	R	1	ENUM	0		0 = No Alarm, 1 = Alarm
404013	OFA C	4012	Alarm TBD	R	1	ENUM	0		0 = No Alarm, 1 = Alarm
404014	OFA D	4013	Alarm TBD	R	1	ENUM	0		0 = No Alarm, 1 = Alarm
Expansion Module (if present) Alarms									
405001	1388	5000	Same as Main Module but starts at address 5000						
Main Module Data (US)									
406001	1770	6000	Cooling Mode	R	1	ENUM	0		0 = Off, 1 = Remote Off, 2 = Maintenance, 3 = Dry, 4 = Wet, 5 = Dry + Trim, 6 = Wet + Trim
406002	1771	6001	Reserved	R	1				
406003	1772	6002	Outdoor Air Temperature	R	1	INT16	1	°F	
406004	1773	6003	Outdoor Air Humidity	R	1	UINT16	1	%RH	
406005	1774	6004	Outdoor Dewpoint (not supported)	R	1				
406006	1775	6005	Average IEC Supply Air Temperature	R	1	INT16	1	°F	
406007	1776	6006	IEC Supply Air Temperature #1	R	1	INT16	1	°F	
406008	1777	6007	IEC Supply Air Temperature #2	R	1	INT16	1	°F	
406009	1778	6008	Supply Air Humidity (not supported)	R	1				
406010	1779	6009	Return Air Temperature	R	1	INT16	1	°F	
406011	177A	6010	Return Air Humidity	R	1	UINT16	1	%RH	
406012	177B	6011	IT Fan #1 Air Flow	R	1	UINT16	0	CFM	
406013	177C	6012	IT Fan #2 Air Flow	R	1	UINT16	0	CFM	
406014	177D	6013	IT Fan #3 Air Flow	R	1	UINT16	0	CFM	
406015	177E	6014	IT Fan #4 Air Flow	R	1	UINT16	0	CFM	
406016	177F	6015	Basin Water Level	R	1	UINT16	1	Inches	
406017	1780	6016	Basin Water Conductivity	R	1	UINT16	0	uS/cm	
406018	1781	6017	Basin Status	R	1	ENUM	0		0 = Idle, 1 = Drain, 2 = Fill, 3 = Blow Down, 4 = Debris Flush
406019	1782	6018	Pump #1 Status	R	1	ENUM	0		0 = Off, 1 = On
406020	1783	6019	Pump #2 Status	R	1	ENUM	0		0 = Off, 1 = On

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406021	1784	6020	Damper Position	R	1	ENUM	0		0 = Open, 1 = Closed
406022	1785	6021	Filter Differential Pressure	R	1	INT16	2	"WC	
406023	1786	6022	DX Supply Air Temperature #1	R	1	INT16	1	°F	
406024	1787	6023	DX Supply Air Temperature #2	R	1	INT16	1	°F	
406025	1788	6024	Compressor #1 Discharge Pressure	R	1	UINT16	1	PSI	
406026	1789	6025	Compressor #2 Discharge Pressure	R	1	UINT16	1	PSI	
406027	178A	6026	Compressor #1 Discharge Temperature (not supported)	R	1	INT16	1	°F	
406028	178B	6027	Compressor #2 Discharge Temperature (not supported)	R	1	INT16	1	°F	
406029	178C	6028	Compressor #1 Suction Pressure	R	1	UINT16	1	PSI	
406030	178D	6029	Compressor #2 Suction Pressure	R	1	UINT16	1	PSI	
406031	178E	6030	Compressor #1 Suction Temperature	R	1	INT16	1	°F	
406032	178F	6031	Compressor #2 Suction Temperature	R	1	INT16	1	°F	
406033	1790	6032	Compressor #1 Power	R	2	UINT32	3	kW	
406035	1792	6034	Compressor #2 Power	R	2	UINT32	3	KW	
406037	1794	6036	Compressor #1 Super Heat Temperature	R	1	INT16	1	°F	
406038	1795	6037	Compressor #2 Super Heat Temperature	R	1	INT16	1	°F	
406039	1796	6038	Compressor #1 VFD Frequency	R	1	UINT16	1	Hz	
406040	1797	6039	Compressor #2 VFD Frequency	R	1	UINT16	1	Hz	
406041	1798	6040	Compressor #1 EEV Position	R	1	UINT16	1	%	
406042	1799	6041	Compressor #2 EEV Position	R	1	UINT16	1	%	
406043	179A	6042	Compressor #1 Liquid Line Temperature (not supported)	R	1	INT16	1	°F	
406044	179B	6043	Compressor #2 Liquid Line Temperature (not supported)	R	1	INT16	1	°F	
406045	179C	6044	Compressors #1 State	R	1	ENUM	0		0 = Off, 1 = On
406046	179D	6045	Compressors #2 State	R	1	ENUM	0		0 = Off, 1 = On
406047	179E	6046	Operate System	R	1	ENUM	0		0 = Off, 1 = On
406048	179F	6047	Maintenance Mode	R	1	ENUM	0		0 = No, 1 = Yes
406049	17A0	6048	Command IT Fan Speed	R	1	UINT16	0	%	
406050	17A1	6049	Supply Air Temperature Setpoint	R	1	INT16	1	°F	
406051	17A2	6050	Basin Water Conductivity Setpoint	R	1	UINT16	0	uS/cm	
406052	17A3	6051	Basin Water Conductivity Deadband	R	1	UINT16	0	uS/cm	
406053	17A4	6052	IT Fan Mode	R	1	ENUM	0		0 = Auto, 1 = Manual
406054	17A5	6053	Manual IT Fan Speed	R	1	UINT16	0	%	
406055	17A6	6054	Maintenance Fan Speed	R	1	UINT16	0	%	
406056	17A7	6055	Water Saver	R	1	ENUM	0		0 = No, 1 = Yes
406057	17A8	6056	Damper Open Position	R	1	ENUM	0		0 = Open, 1 = Closed
406058	17A9	6057	Dry Operation Drain Time	R	1	UINT16	0	Hrs	
406059	17AA	6058	Reserved	R	1	UINT16	0		
406060	17AB	6059	Return Temperature High Threshold	R	1	INT16	1	°F	
406061	17AC	6060	Return Temperature Low Threshold	R	1	INT16	1	°F	
406062	17AD	6061	Supply Temperature High Threshold	R	1	INT16	1	°F	
406063	17AE	6062	Supply Temperature Low Threshold	R	1	INT16	1	°F	

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406064	17AF	6063	Wet Operate Temperature Setpoint	R	1	INT16	1	°F	
406065	17B0	6064	Lead Pump	R	1	ENUM	0		0 = Pump #1, 1 = Pump #2
406066	17B1	6065	Pump Rotation Interval	R	1	UINT16	0	Days	
406067	17B2	6066	Water Inlet Temperature	R	1	INT16	1	°F	
406068	17B3	6067	Altitude	R	1	INT16	0	ft	
406069	17B4	6068	IT Fan #1 Run Hours	R	2	UINT32	0	Hrs	
406071	17B6	6070	IT Fan #2 Run Hours	R	2	UINT32	0	Hrs	
406073	17B8	6072	IT Fan #3 Run Hours	R	2	UINT32	0	Hrs	
406075	17BA	6074	IT Fan #4 Run Hours	R	2	UINT32	0	Hrs	
406077	17BC	6076	OA Fan #1 Run Hours	R	2	UINT32	0	Hrs	
406079	17BE	6078	OA Fan #2 Run Hours	R	2	UINT32	0	Hrs	
406081	17C0	6080	OA Fan #3 Run Hours	R	2	UINT32	0	Hrs	
406083	17C2	6082	OA Fan #4 Run Hours	R	2	UINT32	0	Hrs	
406085	17C4	6084	OA Fan #5 Run Hours (not supported)	R	2	UINT32	0	Hrs	
406087	17C6	6086	OA Fan #6 Run Hours (not supported)	R	2	UINT32	0	Hrs	
406089	17C8	6088	OA Fan #7 Run Hours (not supported)	R	2	UINT32	0	Hrs	
406091	17CA	6090	OA Fan #8 Run Hours (not supported)	R	2	UINT32	0	Hrs	
406093	17CC	6092	Water Pump #1 Run Hours	R	2	UINT32	0	Hrs	
406095	17CE	6094	Water Pump #2 Run Hours	R	2	UINT32	0	Hrs	
406097	17D0	6096	Compressor #1 Run Hours	R	2	UINT32	0	Hrs	
406099	17D2	6098	Compressor #2 Run Hours	R	2	UINT32	0	Hrs	
406101	17D4	6100	Water Treatment Device Run Hours	R	2	UINT32	0	Hrs	
406103	17D6	6102	OA Fan #1 Air Flow	R	1	UINT16	0	CFM	
406104	17D7	6103	OA Fan #2 Air Flow	R	1	UINT16	0	CFM	
406105	17D8	6104	OA Fan #3 Air Flow	R	1	UINT16	0	CFM	
406106	17D9	6105	OA Fan #4 Air Flow	R	1	UINT16	0	CFM	
406107	17DA	6106	L1 L2 Voltage	R	1	UINT32	1	Volt	
406108	17DB	6107	L2 L3 Voltage	R	1	UINT32	1	Volt	
406109	17DC	6108	L3 L1 Voltage	R	1	UINT32	1	Volt	
406110	17DD	6109	Average LL Voltage	R	1	UINT32	1	Volt	
406111	17DE	6110	Phase A Current	R	1	UINT32	3	Amp	
406112	17DF	6111	Phase B Current	R	1	UINT32	3	Amp	
406113	17E0	6112	Phase C Current	R	1	UINT32	3	Amp	
406114	17E1	6113	Average Current	R	1	UINT32	3	Amp	
406115	17E2	6114	Active Power	R	1	UINT32	3	kW	
406116	17E3	6115	Reactive Power	R	1	UINT32	3	kVA	
406117	17E4	6116	Active Energy	R	2	UINT32	0	kWh	
406119	17E6	6118	Reactive Energy	R	2	UINT32	0	kVArh	
406121	17E8	6120	Power Factor	R	1	UINT16	3		
406122	17E9	6121	System Frequency	R	1	UINT16	2	Hz	
406123	17EA	6122	Active Load Source	R	1	UINT16	0		0 = Primary; 1 = Secondary
406124	17EB	6123	Primary L1 L2 Voltage	R	1	UINT32	1	Volt	
406125	17EC	6124	Primary L2 L3 Voltage	R	1	UINT32	1	Volt	
406126	17ED	6125	Primary L3 L1 Voltage	R	1	UINT32	1	Volt	
406127	17EE	6126	Secondary L1 L2 Voltage	R	1	UINT32	1	Volt	
406128	17EF	6127	Secondary L2 L3 Voltage	R	1	UINT32	1	Volt	
406129	17F0	6128	Secondary L3 L1 Voltage	R	1	UINT32	1	Volt	

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406130	17F1	6129	IT Return Air Temperature #1	R	1	INT16	1	°F	
406131	17F2	6130	IT Return Air Temperature #2	R	1	INT16	1	°F	
406132	17F3	6131	IT Return Air Humidity #1	R	1	UINT16	1	%RH	
406133	17F4	6132	IT Return Air Humidity #2	R	1	UINT16	1	%RH	
406134	17F5	6133	Filter Differential Pressure	R	1	INT16	2	"WC	
406135	17F6	6134	Basin Drain Valve Position	R	1	UINT16	1	%	
406136	17F7	6135	Ultracap 1 Capacity	R	1	UINT16	0	%	
406137	17F8	6136	Ultracap 2 Capacity	R	1	UINT16	0	%	
406138	17F9	6137	Reserve Water Time	R	1	UINT16	0	Mins	
406139	17FA	6138	Cycles of Concentration	R	1	UINT16	0		
406140	17FB	6139	Conductivity Sensor Minimum Reading	R	1	INT16	0	uS/cm	0 - 29000 uS/cm
406141	17FC	6140	Conductivity Sensor Maximum Reading	R	1	INT16	0	uS/cm	1000 - 30000 uS/cm
406142	17FD	6141	Containment Type	R	1	UINT16	0		0 = EcoAisle, 1 = Under Floor
406143	17FE	6142	DP Set Point	R	1	UINT16	0		0 = Positive, 1 = Slightly Positive, 2 = Zero, 3 = Slightly Negative, 4 = Negative
406144	17FF	6143	Number of AFCs	R	1	UINT16	0		
406145	1800	6144	Containment DP	R	1	UINT16	2	"WC	
406146	1801	6145	AFC Air Flow Status	R	1	UINT16	0		0 = Under, 1 = Okay, 2 = Over, 3 = N/A, 4 = AFC not Available
406147	1802	6146	Eco Aisle Air Pressure Measurement Source	R	1	UINT16	0		0 = RACS, 1 = HACS, 2 = CACS
406148	1803	6147	Under Floor Air Pressure Measurement Source	R	1	UINT16	0		0 = Average, 1 = Minimum
406149	1804	6148	Under Floor Set Point	R	1	UINT16	2	"WC	
406150	1805	6149	IT Fan Speed When AFC not Available	R	1	UINT16	0	%	
Expansion Module Data (US)									
408001	1F40	8000	Same as Main Module Data (US) but starts at address 8000						
Main Module Data (Metric)									
410001	2710	10000	Cooling Mode	R	1	ENUM	0		0 = Off, 1 = Remote Off, 2 = Maintenance, 3 = Dry, 4 = Wet, 5 = Dry + Trim, 6 = Wet + Trim
410002	2711	10001	Reserved	R	1				
410003	2712	10002	Outdoor Air Temperature	R	1	INT16	1	°C	
410004	2713	10003	Outdoor Air Humidity	R	1	UINT16	1	%RH	
410005	2714	10004	Outdoor Dewpoint (not supported)	R	1				
410006	2715	10005	Average IEC Supply Air Temperature	R	1	INT16	1	°C	
410007	2716	10006	IEC Supply Air Temperature #1	R	1	INT16	1	°C	
410008	2717	10007	IEC Supply Air Temperature #2	R	1	INT16	1	°C	
410009	2718	10008	Supply Air Humidity (not supported)	R	1				
410010	2719	10009	Return Air Temperature	R	1	INT16	1	°C	
410011	271A	10010	Return Air Humidity	R	1	UINT16	1	%RH	
410012	271B	10011	IT Fan #1 Air Flow	R	1	UINT16	0	m³/h	
410013	271C	10012	IT Fan #2 Air Flow	R	1	UINT16	0	m³/h	
410014	271D	10013	IT Fan #3 Air Flow	R	1	UINT16	0	m³/h	

Register Map: Ecoflair Indirect Air Economizer

410015	271E	10014	IT Fan #4 Air Flow	R	1	UINT16	0	m ³ /h	
410016	271F	10015	Basin Water Level	R	1	UINT16	1	cm	
410017	2720	10016	Basin Water Conductivity	R	1	UINT16	0	uS/cm	
410018	2721	10017	Basin Status	R	1	ENUM	0		0 = Idle, 1 = Drain, 2 = Fill, 3 = Blow Down, 4 = Debris Flush
410019	2722	10018	Pump #1 Status	R	1	ENUM	0		0 = Off, 1 = On
410020	2723	10019	Pump #2 Status	R	1	ENUM	0		0 = Off, 1 = On
410021	2724	10020	Damper Position	R	1	ENUM	0		0 = Open, 1 = Closed
410022	2725	10021	Filter Differential Pressure	R	1	INT16	3	Pa	
410023	2726	10022	DX Supply Air Temperature #1	R	1	INT16	1	°C	
410024	2727	10023	DX Supply Air Temperature #2	R	1	INT16	1	°C	
410025	2728	10024	Compressor #1 Discharge Pressure	R	1	UINT16	1	KPa	
410026	2729	10025	Compressor #2 Discharge Pressure	R	1	UINT16	1	KPa	
410027	272A	10026	Compressor #1 Discharge Temperature (not supported)	R	1	INT16	1	°C	
410028	272B	10027	Compressor #2 Discharge Temperature (not supported)	R	1	INT16	1	°C	
410029	272C	10028	Compressor #1 Suction Pressure	R	1	UINT16	1	KPa	
410030	272D	10029	Compressor #2 Suction Pressure	R	1	UINT16	1	KPa	
410031	272E	10030	Compressor #1 Suction Temperature	R	1	INT16	1	°C	
410032	272F	10031	Compressor #2 Suction Temperature	R	1	INT16	1	°C	
410033	2730	10032	Compressor #1 Power	R	2	UINT32	3	kW	
410035	2732	10034	Compressor #2 Power	R	2	UINT32	3	KW	
410037	2734	10036	Compressor #1 Super Heat Temperature	R	1	INT16	1	°C	
410038	2735	10037	Compressor #2 Super Heat Temperature	R	1	INT16	1	°C	
410039	2736	10038	Compressor #1 VFD Frequency	R	1	UINT16	1	Hz	
410040	2737	10039	Compressor #2 VFD Frequency	R	1	UINT16	1	Hz	
410041	2738	10040	Compressor #1 EEV Position	R	1	UINT16	1	%	
410042	2739	10041	Compressor #2 EEV Position	R	1	UINT16	1	%	
410043	273A	10042	Compressor #1 Liquid Line Temperature (not supported)	R	1	INT16	1	°C	
410044	273B	10043	Compressor #2 Liquid Line Temperature (not supported)	R	1	INT16	1	°C	
410045	273C	10044	Compressors #1 State	R	1	ENUM	0		0 = Off, 1 = On
410046	273D	10045	Compressors #2 State	R	1	ENUM	0		0 = Off, 1 = On
410047	273E	10046	Operate System	R	1	ENUM	0		0 = Off, 1 = On
410048	273F	10047	Maintenance Mode	R	1	ENUM	0		0 = No, 1 = Yes
410049	2740	10048	Command IT Fan Speed	R	1	UINT16	0	%	
410050	2741	10049	Supply Air Temperature Setpoint	R	1	INT16	1	°C	
410051	2742	10050	Basin Water Conductivity Setpoint	R	1	UINT16	0	uS/cm	
410052	2743	10051	Basin Water Conductivity Deadband	R	1	UINT16	0	uS/cm	
410053	2744	10052	IT Fan Mode	R	1	ENUM	0		0 = Auto, 1 = Manual
410054	2745	10053	Manual IT Fan Speed	R	1	UINT16	0	%	
410055	2746	10054	Maintenance Fan Speed	R	1	UINT16	0	%	
410056	2747	10055	Water Saver	R	1	ENUM	0		0 = No, 1 = Yes

Register Map: Ecoflair Indirect Air Economizer

410057	2748	10056	Damper Open Position	R	1	ENUM	0		0 = Open, 1 = Closed
410058	2749	10057	Dry Operation Drain Time	R	1	UINT16	0	Hrs	
410059	274A	10058	Reserved	R	1	UINT16	0		
410060	274B	10059	Return Temperature High Threshold	R	1	INT16	1	°C	
410061	274C	10060	Return Temperature Low Threshold	R	1	INT16	1	°C	
410062	274D	10061	Supply Temperature High Threshold	R	1	INT16	1	°C	
410063	274E	10062	Supply Temperature Low Threshold	R	1	INT16	1	°C	
410064	274F	10063	Wet Operate Temperature Setpoint	R	1	INT16	1	°C	
410065	2750	10064	Lead Pump	R	1	ENUM	0		0 = Pump #1, 1 = Pump #2
410066	2751	10065	Pump Rotation Interval	R	1	UINT16	0	Days	
410067	2752	10066	Water Inlet Temperature	R	1	INT16	1	°C	
410068	2753	10067	Altitude	R	1	INT16	0	m	
410069	2754	10068	IT Fan #1 Run Hours	R	2	UINT32	0	Hrs	
410071	2756	10070	IT Fan #2 Run Hours	R	2	UINT32	0	Hrs	
410073	2758	10072	IT Fan #3 Run Hours	R	2	UINT32	0	Hrs	
410075	275A	10074	IT Fan #4 Run Hours	R	2	UINT32	0	Hrs	
410077	275C	10076	OA Fan #1 Run Hours	R	2	UINT32	0	Hrs	
410079	275E	10078	OA Fan #2 Run Hours	R	2	UINT32	0	Hrs	
410081	2760	10080	OA Fan #3 Run Hours	R	2	UINT32	0	Hrs	
410083	2762	10082	OA Fan #4 Run Hours	R	2	UINT32	0	Hrs	
410085	2764	10084	OA Fan #5 Run Hours (not supported)	R	2	UINT32	0	Hrs	
410087	2766	10086	OA Fan #6 Run Hours (not supported)	R	2	UINT32	0	Hrs	
410089	2768	10088	OA Fan #7 Run Hours (not supported)	R	2	UINT32	0	Hrs	
410091	276A	10090	OA Fan #8 Run Hours (not supported)	R	2	UINT32	0	Hrs	
410093	276C	10092	Water Pump #1 Run Hours	R	2	UINT32	0	Hrs	
410095	276E	10094	Water Pump #2 Run Hours	R	2	UINT32	0	Hrs	
410097	2770	10096	Compressor #1 Run Hours	R	2	UINT32	0	Hrs	
410099	2772	10098	Compressor #2 Run Hours	R	2	UINT32	0	Hrs	
410101	2774	10100	Water Treatment Device Run Hours	R	2	UINT32	0	Hrs	
410103	2776	10102	OA Fan #1 Air Flow	R	1	UINT16	0	m³/h	
410104	2777	10103	OA Fan #2 Air Flow	R	1	UINT16	0	m³/h	
410105	2778	10104	OA Fan #3 Air Flow	R	1	UINT16	0	m³/h	
410106	2779	10105	OA Fan #4 Air Flow	R	1	UINT16	0	m³/h	
410107	277A	10106	L1 L2 Voltage	R	1	UINT32	1	Volt	
410108	277B	10107	L2 L3 Voltage	R	1	UINT32	1	Volt	
410109	277C	10108	L3 L1 Voltage	R	1	UINT32	1	Volt	
410110	277D	10109	Average LL Voltage	R	1	UINT32	1	Volt	
410111	277E	10110	Phase A Current	R	1	UINT32	3	Amp	
410112	277F	10111	Phase B Current	R	1	UINT32	3	Amp	
410113	2780	10112	Phase C Current	R	1	UINT32	3	Amp	
410114	2781	10113	Average Current	R	1	UINT32	3	Amp	
410115	2782	10114	Active Power	R	1	UINT32	3	kW	
410116	2783	10115	Reactive Power	R	1	UINT32	3	kVA	
410117	2784	10116	Active Energy	R	2	UINT32	0	kWh	
410119	2786	10118	Reactive Energy	R	2	UINT32	0	kVArh	
410121	2788	10120	Power Factor	R	1	UINT16	3		
410122	2789	10121	System Frequency	R	1	UINT16	2	Hz	

410123	278A	10122	Active Load Source	R	1	UINT16	0		0 = Primary; 1 = Secondary
410124	278B	10123	Primary L1 L2 Voltage	R	1	UINT32	1	Volt	
410125	278C	10124	Primary L2 L3 Voltage	R	1	UINT32	1	Volt	
410126	278D	10125	Primary L3 L1 Voltage	R	1	UINT32	1	Volt	
410127	278E	10126	Secondary L1 L2 Voltage	R	1	UINT32	1	Volt	
410128	278F	10127	Secondary L2 L3 Voltage	R	1	UINT32	1	Volt	
410129	2790	10128	Secondary L3 L1 Voltage	R	1	UINT32	1	Volt	
410130	2791	10129	IT Return Air Temperature #1	R	1	INT16	1	°C	
410131	2792	10130	IT Return Air Temperature #2	R	1	INT16	1	°C	
410132	2793	10131	IT Return Air Humidity #1	R	1	UINT16	1	%RH	
410133	2794	10132	IT Return Air Humidity #2	R	1	UINT16	1	%RH	
410134	2795	10133	Filter Differential Pressure	R	1	INT16	2	Pa	
410135	2796	10134	Basin Drain Valve Position	R	1	UINT16	1	%	
410136	2797	10135	Ultracap 1 Capacity	R	1	UINT16	0	%	
410137	2798	10136	Ultracap 2 Capacity	R	1	UINT16	0	%	
410138	2799	10137	Reserve Water Time	R	1	UINT16	0	Mins	
410139	279A	10138	Cycles of Concentration	R	1	UINT16	0		
410140	279B	10139	Conductivity Sensor Minimum Reading	R	1	INT16	0	uS/cm	0 - 29000 uS/cm
410141	279C	10140	Conductivity Sensor Maximum Reading	R	1	INT16	0	uS/cm	1000 - 30000 uS/cm
410142	279D	10141	Containment Type	R	1	UINT16	0		0 = EcoAisle, 1 = Under Floor
410143	279E	10142	DP Set Point	R	1	UINT16	0		0 = Positive, 1 = Slightly Positive, 2 = Zero, 3 = Slightly Negative, 4 = Negative
410144	279F	10143	Number of AFCs	R	1	UINT16	0		
410145	27A0	10144	Containment DP	R	1	UINT16	2	Pa	
410146	27A1	10145	AFC Air Flow Status	R	1	UINT16	0		0 = Under, 1 = Okay, 2 = Over, 3 = N/A, 4 = AFC not Available
410147	27A2	10146	Eco Aisle Air Pressure Measurement Source	R	1	UINT16	0		0 = RACS, 1 = HACS, 2 = CACS
410148	27A3	10147	Under Floor Air Pressure Measurement Source	R	1	UINT16	0		0 = Average, 1 = Minimum
410149	27A4	10148	Under Floor Set Point	R	1	UINT16	2	Pa	
410150	27A5	10149	IT Fan Speed When AFC not Available	R	1	UINT16	0	%	
Expansion Module Data (Metric)									
412001	2EE0	12000	Same as Main Module Data (Metric) but starts at address 12000						

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