



**SlimFit**<sup>®</sup>

## Series 3

Models 550 and 750 MBH

Commercial Condensing

Gas-fired water boilers

# Modbus Supplement

Software Interface Specification - SlimFit<sup>®</sup> Modbus Interface



### **⚠ WARNING**

This specification interface manual must only be used by a qualified heating installer/service technician. Read all instructions, including this manual and all other information shipped with the boiler, before installing. Perform steps in the order given. Failure to comply could result in severe personal injury, death or substantial property damage.



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**⚠ WARNING** Follow all instructions for installation, start-up and servicing in the **SlimFit® Boiler Manual and the Advanced Control Manual.**

## HAZARD DEFINITIONS

The following defined terms are used throughout this manual to bring attention to the presence of hazards of various risk levels or to important information concerning the life of the product.

**⚠ DANGER** Indicates presence of hazards that will cause severe personal injury, death or substantial property damage.

**⚠ WARNING** Indicates presence of hazards that can cause severe personal injury, death or substantial property damage.

**⚠ CAUTION** Indicates presence of hazards that will or can cause minor personal injury or property damage.

**NOTICE** Indicates special instructions on installation, operation or maintenance that are important but not related to personal injury or property damage.

**⚠ WARNING** **To the installer:**  
These instructions must only be used by a qualified installer/service technician. Read all Instructions completely before beginning the installation. This manual is to be used in conjunction with the **SlimFit®** Boiler Installation Manual and the User’s Information Manual. Follow the boiler manual, startup and maintenance procedures, before finalizing installation. Failure to follow all instructions can cause severe personal injury, death or substantial property damage.

# Software Interface Specification



**Enable** YES or NO  
0-255

**Modbus Address** (This is the address that this boiler will show up as on the BMS modbus network.)

**Parity Bits** EVEN, ODD, or NONE

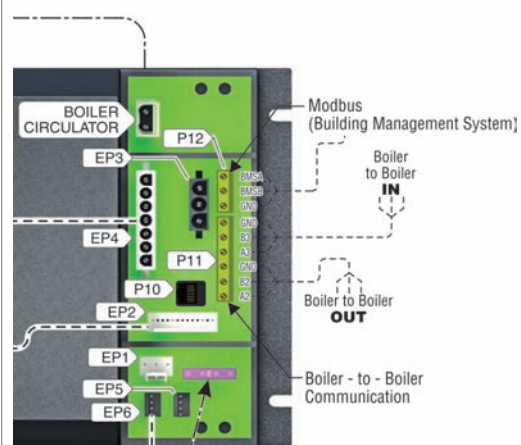
**Baud Rate** 4,800 or 9,600 or 19,200 BPS (Match this rate to the BMS Baud Rate)

**Stop Bit** 1 or 2

## A. Multiple Boiler and BMS Connections

### Terminal Strips P11 and P12 on Expansion Module (control tray, left side)

1. The boiler control is capable of multiple boiler communication and control of up to eight **SlimFit** boilers in one installation.
2. The expansion module is capable of BMS (Building Management System) communication.
3. See wiring at right and in the wiring diagram (Figure 18, page 32 of **SlimFit** boiler manual).
4. Use shielded 3-wire cable. Do not exceed 1,000 feet wire length.
5. Boiler to Boiler wiring connections
  - a. Connect 3-wire cable between Boiler-to-Boiler OUT (P11-GND,B2,A2) on one boiler to Boiler-to-Boiler IN (P12-GND,B3,A3) on the next boiler.
  - b. Continue this wiring until all boilers are interconnected.
6. MODBUS to BMS (Building Management System)
  - a. The control is equipped with MODBUS communication to communicate with a BMS.
  - b. Use terminal P12 (P12-BMSA,BMSB,GND) to wire to the BMS control.
  - c. If the BMS uses BACnet protocol, install a BACnet converter between the BMS and the SlimFit MODBUS-to-BMS terminals (P12).



See Figure 18, page 32 of **SlimFit** boiler manual for details.

# MODBUS addressing

| Address (hex) | Address (dec) | Parameter                             | Read/Write | Format          | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|---------------|---------------------------------------|------------|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x9101        | 0001          | Boiler Model                          | Read       | UINT8           | Boiler Model:<br>Value Model<br>0 = EVG 220<br>1 = EVG 220 High Altitude<br>2 = EVG 299<br>3 = EVG 299 High Altitude<br>4 = EVG 399<br>5 = EVG 399 High Altitude<br>64 = EVG 220 LP<br>65 = EVG 220 LP High Altitude<br>66 = EVG 299 LP<br>67 = EVG 299 LP High Altitude<br>68 = EVG 399 LP<br>69 = EVG 399 LP High Altitude<br>128 = SlimFit 550<br>129 = SlimFit 550 High Altitude<br>130 = SlimFit 750<br>131 = SlimFit 750 High Altitude<br>192 = SlimFit 550 LP<br>193 = SlimFit 550 LP High Altitude<br>194 = SlimFit 750 LP<br>195 = SlimFit 750 LP High Altitude |
| 0x9105        | 0005          | Relay Output Status                   | Read       | UINT8 Bitmapped | Bit map:<br>7 (0x80) = Boiler Circulator ON (set)<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = Additional Heat Demand ON (set)<br>3 (0x08) = Circulator 3 ON (set) - tied to input 3<br>2 (0x04) = Circulator 2 ON (set) - tied to input 2<br>1 (0x02) = Circulator 1 ON (set) - tied to input 1<br>0 (0x01) = Gas Valve ON (set)                                                                                                                                                                                                                                   |
| 0x9106        | 0006          | Boiler Out 1 Temperature              | Read       | UINT8           | -20° - 232° (1°F precision)†<br>Special values:<br>233 = No Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 0x9109        | 0009          | Active Target Supply Temperature      | Read       | UINT8           | 50° - 190° (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 0x910C        | 0012          | Boiler Status 2                       | Read       | UINT8 Bitmapped | Bit map:<br>7 (0x80) = Warm Weather Shutdown (WWSD)<br>6 (0x40) = N/A<br>5 (0x20) = Freeze Protection<br>4 (0x10) = Modulation Sensor (1 = system supply sensor, 0 = boiler out sensor)<br>3 (0x08) = Flue Temperature Warning<br>2 (0x04) = N/A<br>1 (0x02) = N/A<br>0 (0x01) = N/A                                                                                                                                                                                                                                                                                     |
| 0x910E        | 0014          | Fan Speed                             | Read       | UINT16          | RPM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 0x910F        | 0015          | Flame Sense Value                     | Read       | UINT8           | Number indicating the presence and quality of the flame                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 0x9112        | 0018          | Outdoor Temp                          | Read       | UINT8           | -20° - 232° (1°F precision)†<br>Special values:<br>233 = No Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 0x9113        | 0019          | System Time (Minutes)                 | Read/Write | UINT8           | 0-59                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 0x9114        | 0020          | System Time (Hours)                   | Read/Write | UINT8           | 0-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 0x9115        | 0021          | System Date (Day)                     | Read/Write | UINT8           | 1-31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 0x9116        | 0022          | System Date (Month)                   | Read/Write | UINT8           | 1-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 0x9117        | 0023          | System Date (Year)                    | Read/Write | UINT8           | 14-99                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x911A        | 0026          | 0-10V Input                           | Read       | UINT8           | Current 0-10VDC Input (0.1V precision)††                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x911D        | 0029          | Circulator Exercise/Freeze Protection | Read/Write | UINT8 Bitmapped | Bit map:<br>7 (0x80) = Freeze Protect Boiler Circulator ON (set)<br>6 (0x40) = Freeze Protect Circulator 3 ON (set)<br>5 (0x20) = Freeze Protect Circulator 2 ON (set)<br>4 (0x10) = Freeze Protect Circulator 1 ON (set)<br>3 (0x08) = Exercise Boiler Circulator ON (set)<br>2 (0x04) = Exercise Circulator 3 ON (set)<br>1 (0x02) = Exercise Circulator 2 ON (set)<br>0 (0x01) = Exercise Circulator 1 ON (set)                                                                                                                                                       |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                                 | Read/Write | Format          | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|---------------|-------------------------------------------|------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x911F        | 0031          | Priority 1 Settings                       | Read       | UINT8 Bitmapped | Bit map:<br>7 (0x80) = Run Boiler Pump setting<br>6 (0x40) = Run Aux Pump/Output setting<br>4-5 (0x30) = Target Adjustment (0 = None, 1 = 0-10V, 2 = ODT)<br>0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom |
| 0x9120        | 0032          | Priority 1 Supply Max Target              | Read/Write | UINT8           | 60° - 190° (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9121        | 0033          | Priority 1 Supply Min Target              | Read/Write | UINT8           | 60° - 190° (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9122        | 0034          | Priority 1 OD Reset/Volts Max             | Read/Write | UINT8           | Outdoor Reset Max: 50° - 100° (1°F precision)†<br>Volts For Max: 5V - 10V (0.1V precision)                                                                                                                                                                                                                                                                                                                                                                  |
| 0x9123        | 0035          | Priority 1 OD Reset/Volts Min             | Read/Write | UINT8           | Outdoor Reset Min: 50° - 100° (1°F precision)†<br>Volts For Min: 0V - 4.9V (0.1V precision)                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9124        | 0036          | Priority 1 Max Boiler Temperature         | Read/Write | UINT8           | 60° - 190° (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9125        | 0037          | P3 Max Rate Volts                         | Read/Write | UINT8           | SlimFit Only – Maximum voltage on setting for 0-10V output for a local priority 2 call                                                                                                                                                                                                                                                                                                                                                                      |
| 0x9127        | 0039          | Active Network Priority's Boiler Off Diff | Read       | UINT8           | 2°F - 10°F (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9128        | 0040          | Priority 1 System On Diff                 | Read/Write | UINT8           | 2°F - 10°F (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9129        | 0041          | Priority 1 Max On Time Setting            | Read/Write | UINT8           | 0 = OFF, 1-240 = Minutes                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x912A        | 0042          | Priority 1 Post Pump Time                 | Read/Write | UINT8           | 0 = OFF, 1-240 = Seconds                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x912B        | 0043          | Priority 1 Boost Time                     | Read/Write | UINT8           | 0 = OFF, 1-240 = Minutes                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x912C        | 0044          | Input 1 Priority                          | Read       | UINT8 Bitmapped | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSO<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF              |
| 0x912D        | 0045          | Priority 1 Pre Pump Time                  | Read/Write | UINT8           | 0 = OFF, 1-240 = Seconds                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x912F        | 0047          | Priority 1 Boiler On Diff                 | Read/Write | UINT8           | 2°F - 20°F (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9130        | 0048          | Priority 1 Boiler Off Diff                | Read/Write | UINT8           | 2°F - 10°F (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9131        | 0049          | Priority 1 Max Rate                       | Read/Write | UINT8           | (Min Rate + 1)% <-> 100%                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9132        | 0050          | Priority 1 Min Rate                       | Read/Write | UINT8           | 20% <-> (Max Rate - 1)                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 0x9133        | 0051          | Active Network Priority's Max BLR Temp    | Read       | UINT8           | 60° <-> (High Limit Temp - 10°) (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                            |
| 0x9134        | 0052          | Active Network Priority's Boiler On Diff  | Read       | UINT8           | 2°F - 10°F (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9136        | 0054          | Priority 2 Setting                        | Read       | UINT8           | Bit map:<br>7 (0x80) = Run Boiler Pump setting<br>6 (0x40) = Run Aux Pump/Output setting<br>4-5 (0x30) = Target Adjustment (0 = None, 1 = 0-10V, 2 = ODT)<br>0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom |
| 0x9137        | 0055          | Priority 2 Supply Max Target              | Read/Write | UINT8           | 60° - 190° (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9138        | 0056          | Priority 2 Supply Min Target              | Read/Write | UINT8           | 60° - 190° (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9139        | 0057          | Priority 2 OD Reset/Volts Max             | Read/Write | UINT8           | Outdoor Reset Max: 50° - 100° (1°F precision)†<br>Volts For Max: 5V - 10V (0.1V precision)                                                                                                                                                                                                                                                                                                                                                                  |
| 0x913A        | 0058          | Priority 2 OD Reset/Volts Min             | Read/Write | UINT8           | Outdoor Reset Min: 50° - 100° (1°F precision)†<br>Volts For Min: 0V - 4.9V (0.1V precision)                                                                                                                                                                                                                                                                                                                                                                 |
| 0x913B        | 0059          | Active Network Prepump Time               | Read       | UINT8           | 0 = OFF, 1-240 = Seconds                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x913D        | 0061          | Priority 2 Min On Time Setting            | Read/Write | UINT8           | 0 = OFF, 1-240 = Minutes                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x913E        | 0062          | Priority 2 Max On Time Setting            | Read/Write | UINT8           | 0 = OFF, 1-240 = Minutes                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x913F        | 0063          | Priority 2 Post Pump Time                 | Read/Write | UINT8           | 0 = OFF, 1-240 = Seconds                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9140        | 0064          | Priority 2 Boost Time                     | Read/Write | UINT8           | 0 = OFF, 1-240 = Minutes                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9141        | 0065          | Boiler Control Type                       | Read       | UINT8           | 0 = Single Boiler, 1 = Master Boiler, 2 = Shadow Boiler                                                                                                                                                                                                                                                                                                                                                                                                     |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                                                                            | Read/Write | Format          | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|---------------|--------------------------------------------------------------------------------------|------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x9142        | 0066          | Priority 1 Pre Pump Time                                                             | Read/Write | UINT8           | 0 = OFF, 1-240 = Seconds                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9143        | 0067          | Priority 2 System Off Diff                                                           | Read/Write | UINT8           | 2°F - 10°F (1 °F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x9144        | 0068          | Network Minimum On Time                                                              | Read       | UINT8           | The minimum amount of time a network call will run before switching to a higher Local Priority call. See register 770 to change value.                                                                                                                                                                                                                                                                                                                      |
| 0x9145        | 0069          | Priority 2 Boiler On Diff                                                            | Read/Write | UINT8           | 2°F - 20°F (1 °F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x9146        | 0070          | Priority 2 Boiler Off Diff                                                           | Read/Write | UINT8           | 2°F - 10°F (1 °F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x9147        | 0071          | Priority 2 Max Rate                                                                  | Read/Write | UINT8           | (Min Rate + 1)% <-> 100%                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9148        | 0072          | Priority 2 Min Rate                                                                  | Read/Write | UINT8           | 20% <-> (Max Rate -1)                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 0x914B        | 0075          | Active Network Priority Post Pump Time                                               | Read/Write | UINT8           | 0 = OFF, 1-240 = Seconds                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x914C        | 0076          | Single Boiler: Priority 3 Setting<br>OR<br>Master Boiler: Network 1 Priority Setting | Read       | UINT8           | Bit map:<br>7 (0x80) = Run Boiler Pump setting<br>6 (0x40) = Run Aux Pump/Output setting<br>4-5 (0x30) = Target Adjustment (0 = None, 1 = 0-10V, 2 = ODT)<br>0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom |
| 0x914D        | 0077          | Priority 3/Net1 Supply Max Target                                                    | Read/Write | UINT8           | 60° - 190° (1 °F precision)†. Can only write a value equal or less than Max Boiler Temp - Boiler OFF Diff                                                                                                                                                                                                                                                                                                                                                   |
| 0x914E        | 0078          | Priority 3/Net1 Supply Min Target                                                    | Read/Write | UINT8           | 60° - 190° (1 °F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x914F        | 0079          | Priority 3/Net1 OD Reset/Volts Max                                                   | Read/Write | UINT8           | Outdoor Reset Max: 50° - 100° (1 °F precision)†<br>Volts For Max: 5V - 10V (0.1V precision)                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9150        | 0080          | Priority 3/Net1 OD Reset/Volts Min                                                   | Read/Write | UINT8           | Outdoor Reset Min: 50° - 100° (1 °F precision)†<br>Volts For Min: 0V - 4.9V (0.1V precision)                                                                                                                                                                                                                                                                                                                                                                |
| 0x9151        | 0081          | Network Max On Time                                                                  | Read       | UINT8           | Max On Time for both Network Priorities (0 = OFF, 1 - 240 min)                                                                                                                                                                                                                                                                                                                                                                                              |
| 0x9152        | 0082          | Priority 3/Net1 System On Diff                                                       | Read/Write | UINT8           | 2°F - 10°F (1 °F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x9153        | 0083          | Priority 3 Min On Time Setting                                                       | Read/Write | UINT8           | 0 = OFF, 1-240 = Minutes (Used only in single boiler priority 3)                                                                                                                                                                                                                                                                                                                                                                                            |
| 0x9154        | 0084          | Priority 3/Net1 System Off Diff                                                      | Read/Write | UINT8           | 2°F - 10°F (1 °F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x9155        | 0085          | Priority 3/Net1 Post Pump Time                                                       | Read/Write | UINT8           | 0 = OFF, 1-240 = Seconds                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9156        | 0086          | Priority 3/Net1 Boost Time                                                           | Read/Write | UINT8           | 0 = OFF, 1-240 = Minutes                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9157        | 0087          | Priority 2 Max Boiler Temperature                                                    | Read/Write | UINT8           | 60° - 190° (1 °F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x9158        | 0088          | Priority 3/Net1 Pre Pump Time                                                        | Read/Write | UINT8           | 0 = OFF, 1-240 = Seconds                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9159        | 0089          | Boiler Status 3                                                                      | Read       | UINT8 Bitmapped | Bit map:<br>7 (0x80) = N/A<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = N/A<br>3 (0x08) = N/A<br>2 (0x04) = Modulation was Reduced because Boiler Out temperature exceeded (MAX_BLR_TEMP - BOILER_ON_DIFF)<br>1 (0x02) = Target was Reduced because 45° Δ between Boiler In & Boiler Out<br>0 (0x01) = Target was Reduced because Flue Temperature exceeded 200 °F                                                                                     |
| 0x915B        | 0091          | Priority 3/Net1 Boiler On Diff                                                       | Read/Write | UINT8           | 2°F - 20°F (1 °F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x915C        | 0092          | Priority 3/Net1 Boiler Off Diff                                                      | Read/Write | UINT8           | 2°F - 10°F (1 °F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x915D        | 0093          | Priority 3 Max Rate (for single)                                                     | Read/Write | UINT8           | (Min Rate + 1)% <-> 100%                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x915E        | 0094          | Priority 3 Min Rate (for single)                                                     | Read/Write | UINT8           | 20% <-> (Max Rate -1)                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 0x915F        | 0095          | P3 Max Boiler Temp                                                                   | Read/Write | UINT8           | 60° - 190° (1 °F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x9160        | 0096          | Network Run Pumps                                                                    | Read       | UINT8 Bitmapped | Bit map:<br>7 (0x80) - Run Boiler Pump<br>6 (0x40) - Run Circulator 3<br>5 (0x20) - Run Circulator 2<br>4 (0x10) - Run Circulator 1<br>3 (0x08) - Turn on Additional Heat Contact                                                                                                                                                                                                                                                                           |
| 0x9161        | 0097          | High Limit Temp                                                                      | Read/Write | UINT8           | Manual Reset High Limit Temp (50°F - 200°F)                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9162        | 0098          | WWSD Temp                                                                            | Read/Write | UINT8           | Warm Weather Shutdown Temp (OFF - 100°F)                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9163        | 0099          | P1 More Settings                                                                     | Read/Write | UINT8 Bitmapped | Bit Map:<br>4-5 (0x30) - SlimFit ONLY - Additional Heat Below Setpoint setting (1 = 1st, 2 = 2nd)<br>3 (0x08) - SlimFit ONLY - Additional Heat temperature dependent.<br>2 (0x04) - Priority 1's target ModSensor (0 = Boiler out, 1 = System)<br>0-1 (0x03) - Priority 1's activate Contact Setting (0 = off, 1 = 1st, 2 = 2nd)                                                                                                                            |
| 0x9164        | 0100          | P1 Min Rate Volts                                                                    | Read/Write | UINT8           | SlimFit ONLY - Minimum voltage on setting for 0-10v output for a local priority 1 call.                                                                                                                                                                                                                                                                                                                                                                     |
| 0x9165        | 0101          | P2 More Settings                                                                     | Read/Write | UINT8           | Bit Map:<br>4-5 (0x30) - SlimFit ONLY - Additional Heat Below Setpoint setting (1 = 1st, 2 = 2nd)<br>3 (0x08) - SlimFit ONLY - Additional Heat temperature dependent.<br>2 (0x04) - Priority 1's target ModSensor (0 = Boiler out, 1 = System)<br>0-1 (0x03) - Priority 1's activate Contact Setting (0 = off, 1 = 1st, 2 = 2nd)                                                                                                                            |
| 0x9166        | 0102          | Outdoor Temp Correction                                                              | Read/Write | SINT8           | ODT Sensor Calibration (-10°F - 10°F)                                                                                                                                                                                                                                                                                                                                                                                                                       |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter             | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|---------------|-----------------------|------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x9167        | 0103          | P3 More Settings      | Read/Write | UINT8  | Bit Map:<br>4-5 (0x30) - SlimFit ONLY - Additional Heat Below Setpoint setting (1 = 1st, 2 = 2nd)<br>3 (0x08) - SlimFit ONLY - Additional Heat temperature dependent.<br>2 (0x04) - Priority 1's target ModSensor (0 = Boiler out, 1 = System)<br>0-1 (0x03) - Priority 1's activate Contact Setting (0 = off, 1 = 1st, 2 = 2nd)                                                                                                               |
| 0x9169        | 0105          | P1 System Off Diff    | Read/Write | UINT8  | This is the System Off Diff if Target Mod Sensor is set to System Sensor. If Target Mod Sensor is Boiler Out then this is the Priority 1's Boiler Off Diff                                                                                                                                                                                                                                                                                     |
| 0x916B        | 0107          | P2 Min Rate Volts     | Read/Write | UINT8  | SlimFit ONLY - Minimum voltage on setting for 0-10v output for a local priority 2 call.                                                                                                                                                                                                                                                                                                                                                        |
| 0x916C        | 0108          | Boiler Model Number   | Read       | UINT8  | Bit fields:<br>0x01 - High Altitude (>= 5500 ft)<br>0x3E = 0 - Evergreen Model 220 or SlimFit Model 550 (Commercial bit set)<br>1 - Evergreen Model 299 or SlimFit Model 750 (Commercial bit set)<br>2 - Evergreen Model 399<br>0x40 - LP Gas<br>0x80 - Commercial Boiler (550 or greater)                                                                                                                                                     |
| 0x916D        | 0109          | P3 Min rate Volts     | Read/Write | UINT8  | SlimFit ONLY - Minimum voltage on setting for 0-10v output for a local priority 3 call.                                                                                                                                                                                                                                                                                                                                                        |
| 0x9172        | 0114          | P2 System On Diff     | Read/Write | UINT8  | 2°F - 10°F (1 °F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 0x9173        | 0115          | P1 Response Time      | Read/Write | UINT8  | Priority 1's Activate Contact Response Time in Minutes                                                                                                                                                                                                                                                                                                                                                                                         |
| 0x9174        | 0116          | P2 Response Time      | Read/Write | UINT8  | Priority 2's Activate Contact Response Time in Minutes                                                                                                                                                                                                                                                                                                                                                                                         |
| 0x9175        | 0117          | P3 Response Time      | Read/Write | UINT8  | Priority 3's Activate Contact Response Time in Minutes                                                                                                                                                                                                                                                                                                                                                                                         |
| 0x9178        | 0120          | Input 2 Priority      | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x9179        | 0121          | Input 3 Priority      | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x917B        | 0123          | Burner Hours          | Read       | UINT16 | Number of hours the burner has been on. (This register has to be multiplied by two to get the correct amount of burner hours)                                                                                                                                                                                                                                                                                                                  |
| 0x9180        | 0128          | Boiler Out 1          | Read       | UINT8  | This register will show the Boiler Out Temperature 1 of the Local Boiler<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                             |
| 0x9183        | 0131          | Boiler Out 2          | Read       | UINT8  | This register will show the Boiler Out Temperature 2 of the Local Boiler<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                             |
| 0x9187        | 0135          | Available to run      | Read       | UINT8  | Bit Mapped:<br>1 (0x01) - Set when the timer has expired for the currently active running input.                                                                                                                                                                                                                                                                                                                                               |
| 0x9188        | 0136          | Boiler In Temperature | Read       | UINT8  | This register will show the Boiler In Temperature of the Local Boiler<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                                   | Read/Write | Format             | Note                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|---------------|---------------------------------------------|------------|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x9189        | 0137          | Boiler Status                               | Read       | UINT8<br>Bitmapped | Bit map:<br>7 (0x80): Local Priority 3 running (Single Boiler) or<br>Network priority running (Master or Shadow)<br>6 (0x40): Local Priority 2 running<br>5 (0x20): Local Priority 1 running<br>4 (0x10): Running DHW (Domestic Hot Water)<br>0-3 (0x07): 7: Lockout<br>6: Post Purge<br>3 - 5: Heating<br>2: Ignition<br>1: Pre Purge<br>0: Standby                                        |
| 0x918B        | 0139          | Input Status                                | Read       | UINT8<br>Bitmapped | Bit map:<br>7 (0x80) = Flow Switch Open (clear) Closed (set)<br>6 (0x40) = Air P-Switch Open (clear) Closed (set)<br>5 (0x20) = Low Water Cutoff Open (clear) Closed (set)<br>4 (0x10) = Auto Limit Open (clear) Closed (set)<br>3 (0x08) = Manual Limit Open (clear) Closed (set)<br>2 (0x04) = Input 3 active (set)<br>1 (0x02) = Input 2 active (set)<br>0 (0x01) = Input 1 active (set) |
| 0x918C        | 0140          | Flue Temperature 1                          | Read       | UINT8              | This register will show the Flue Temperature 1 of the Local Boiler if a sensor is connected<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                      |
| 0x918D        | 0141          | Local Supply Temp                           | Read       | UINT8              | This register will show the Supply Temperature of the Local Boiler if a sensor is connected<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                       |
| 0x918E        | 0142          | Flue Temperature 2                          | Read       | UINT8              | This register will show the Flue Temperature 2 of the Local Boiler if a sensor is connected<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                      |
| 0x918F        | 0143          | P1 Max Rate Volts                           | Read       | UINT8              | SlimFit ONLY - Maximum voltage on setting for 0-10v output for a local priority 1 call.                                                                                                                                                                                                                                                                                                     |
| 0x9191        | 0145          | Local Outdoor Temperature                   | Read       | SINT8              | This register will show the Outdoor Temperature of the Local Boiler if a sensor is connected<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                     |
| 0x9193        | 0147          | Network Outdoor Temperature                 | Read       | SINT8              | This register will show the Outdoor Temperature of the Network if a sensor is connected<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                          |
| 0x9194        | 0148          | Network Supply Temperature                  | Read       | UINT8              | This register will show the Supply Temperature of the Network if a sensor is connected<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                           |
| 0x9195        | 0149          | Local Supply Temperature                    | Read       | UINT8              | The supply temperature of the boiler from the local sensor<br>-20° - 232° (1° F precision)                                                                                                                                                                                                                                                                                                  |
| 0x9196        | 0150          | Local Return Temperature                    | Read       | UINT8              | The return temperature of the boiler from the local sensor<br>-20° - 232° (1° F precision)                                                                                                                                                                                                                                                                                                  |
| 0x9199        | 0153          | Bad EEPROM Count                            | Read       | UINT16             | This register as well as Bad RAM Count(0154) and Default Count(0155) add up to be what is displayed as Control Faults in the Past Errors Screen.                                                                                                                                                                                                                                            |
| 0x919A        | 0154          | Bad Ram Count                               | Read       | UINT16             | This register as well as Bad EEPROM Count and Default Count add up to be what is displayed as Control Faults in the Past Errors Screen.                                                                                                                                                                                                                                                     |
| 0x919B        | 0155          | Default Count                               | Read       | UINT16             | This register as well as Bad EEPROM Count and Bad RAM Count add up to be what is displayed as Control Faults in the Past Errors Screen.                                                                                                                                                                                                                                                     |
| 0x919C        | 0156          | Ignition Retries                            | Read       | UINT16             | This register shows the number of times the boiler has tried to ignite but has failed                                                                                                                                                                                                                                                                                                       |
| 0x919D        | 0157          | Lockout History 1<br>Expansion Board Errors | Read       | UINT8<br>Bitmapped | SlimFit ONLY – When Lockout History 1 Hard Lockout Errors or Lockout History 1 Soft Lockout Errors bit 0x1000 is set, the following have meaning:<br>0x40: Communications Fault with Expansion Board<br>0x10: Gas Valve Fault in Expansion Board<br>0x08: Hardware Fault in Expansion Board                                                                                                 |
| 0x919E        | 0158          | Manual Lockout Count                        | Read       | UINT8              | Number of Manual Lockouts                                                                                                                                                                                                                                                                                                                                                                   |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                             | Read/Write | Format           | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------|---------------|---------------------------------------|------------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x919F        | 0159          | Sensor Warnings                       | Read       | UINT8 Bitmapped  | Bit Mapped:<br>8 (0x80): Gas Valve Fault 4 when Lockout History 1 Hard Lockout Errors(0x91A1) or Lockout History 1 Soft Lockout Errors (0x91A2) bit 0x2000 set.<br>7 (0x40): Gas Valve Fault 3 when Lockout History 1 Hard Lockout Errors(0x91A1) or Lockout History 1 Soft Lockout Errors (0x91A2) bit 0x2000 set.<br>6 (0x20): Gas Valve Fault 2 when Lockout History 1 Hard Lockout Errors(0x91A1) or Lockout History 1 Soft Lockout Errors (0x91A2) bit 0x2000 set.<br>5 (0x10): Gas Valve Fault 1 when Lockout History 1 Hard Lockout Errors(0x91A1) or Lockout History 1 Soft Lockout Errors (0x91A2) bit 0x2000 set.<br>DHW (Domestic Hot Water) Disabled when bit 0x2000 clear.<br>4 (0x08): Not Configured<br>3 (0x04): Outdoor Temperature Sensor Error<br>2 (0x02): Return Sensor Error<br>1 (0x01): Supply Sensor Error |
| 0x91A0        | 0160          | Auto Lockout Count                    | Read       | UINT8            | Number of Auto Lockouts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x91A1        | 0161          | Lockout History 1 Hard Lockout Errors | Read       | UINT16 Bitmapped | Bit Mapped: (256 = Manual Reset Limit Open)<br>16 (0x4000): Low Water Cutoff<br>15 (0x2000): Gas Valve Fault - see Sensor Warnings (0x919F)<br>14 (0x1800): Air Pressure Switch Fault<br>13 (0x1000): Expansion Board Fault - see Lockout History 1 Expansion Board Errors (0x919D) or if Lockout History 1 Expansion Board Errors is 0, Hardware Fault.<br>12 (0x0800): Blower Fault<br>11 (0x0400): High Temp Limit<br>10 (0x0200): Ignition Fault<br>9 (0x0100): Flame Fault<br>8 (0x0080): Flue Temp Too High<br>7 (0x0040): Temperature Sensor<br>6 (0x0020): Supply 58F > Return<br>5 (0x0010): Temp Rise Too Quickly<br>4 (0x0008): Return > Supply Temp<br>3 (0x0004): Return Water Temp High<br>2 (0x0002): Flow Switch Fault (if Flow Switch Open) or System Temp High Fault<br>1 (0x0001): Limit Open                    |
| 0x91A2        | 0162          | Lockout History 1 Soft Lockout Errors | Read       | UINT16 Bitmapped | Bit Mapped:<br>16 (0x4000): Low Water Cutoff<br>15 (0x2000): Gas Valve Fault - see Sensor Warnings (0x919F)<br>14 (0x1800): Air Pressure Switch Fault<br>13 (0x1000): Expansion Board Fault - see Lockout History 1 Expansion Board Errors (0x919D) or if Lockout History 1 Expansion Board Errors is 0, Hardware Fault.<br>12 (0x0800): Blower Fault<br>11 (0x0400): High Temp Limit<br>10 (0x0200): Ignition Fault<br>9 (0x0100): Flame Fault<br>8 (0x0080): Flue Temp Too High<br>7 (0x0040): Temperature Sensor<br>6 (0x0020): Supply 58F > Return<br>5 (0x0010): Temp Rise Too Quickly<br>4 (0x0008): Return > Supply Temp<br>3 (0x0004): Return Water Temp High<br>2 (0x0002): Flow Switch Fault (if Flow Switch Open) or System Temp High Fault<br>1 (0x0001): Limit Open                                                    |
| 0x91A3        | 0163          | Lockout History 1 Minutes             | Read       | UINT8            | 0-59                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x91A4        | 0164          | Lockout History 1 Hours               | Read       | UINT8            | 0-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x91A5        | 0165          | Lockout History 1 Day                 | Read       | UINT8            | 1-31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x91A6        | 0166          | Lockout History 1 Month               | Read       | UINT8            | 1-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x91A7        | 0167          | Lockout History 1 Year                | Read       | UINT8            | 14-99                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x91A9        | 0169          | Lockout History 1 Input Status        | Read       | UINT8            | Bit map:<br>7 (0x80) = Flow Switch Open (clear) Closed (set)<br>6 (0x40) = Air P-Switch Open (clear) Closed (set)<br>5 (0x20) = Low Water Cutoff Open (clear) Closed (set)<br>4 (0x10) = Auto Limit Open (clear) Closed (set)<br>3 (0x08) = Manual Limit Open (clear) Closed (set)<br>2 (0x04) = Input 3 active (set)<br>1 (0x02) = Input 2 active (set)<br>0 (0x01) = Input 1 active (set)                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 0x91AA        | 0170          | Lockout History 1 Relay Output Status | Read       | UINT8            | Bit map:<br>7 (0x80) = Boiler Circulator ON (set)<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = Additional Heat Demand ON (set)<br>3 (0x08) = Circulator 3 ON (set) - tied to input 3<br>2 (0x04) = Circulator 2 ON (set) - tied to input 2<br>1 (0x02) = Circulator 1 ON (set) - tied to input 1<br>0 (0x01) = Gas Valve ON (set)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                               | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------|---------------|-----------------------------------------|------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x91AB        | 0171          | Lockout History 1 Flame Signal MSB      | Read       | UINT8  | Number indicating the presence and quality of the flame                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 0x91AC        | 0172          | Lockout History 1 Flame Signal LSB      | Read       | UINT8  | Number indicating the presence and quality of the flame                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 0x91AD        | 0173          | Lockout History 1 Outdoor Temperature   | Read       | SINT8  | This register will show the Outdoor Temperature of the Network if a sensor is connected<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x91AE        | 0174          | Lockout History 1 Flue Temperature 2    | Read       | UINT8  | This register will show the Flue Temperature 2 of the Local Boiler if a sensor is connected<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 0x91AF        | 0175          | Lockout History 1 Boiler Out Temp 2     | Read       | UINT8  | This register will show the Boiler Out Temperature 2 of the Local Boiler<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x91B2        | 0178          | Lockout History 1 Flue Temperature 1    | Read       | UINT8  | This register will show the Flue Temperature 1 of the Local Boiler if a sensor is connected<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 0x91B3        | 0179          | Lockout History 1 Boiler Out Temp 1     | Read       | UINT8  | This register will show the Boiler Out Temperature 1 of the Local Boiler<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x91B4        | 0180          | Lockout History 1 Heat Exchanger Temp 1 | Read       | UINT8  | SlimFit ONLY - This register will show the Boiler InTemperature of the Local Boiler<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x91B5        | 0181          | Lockout History 1 Supply Temperature    | Read       | UINT8  | This register will show the Supply Temperature of the Network if a sensor is connected.<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x91B6        | 0182          | Lockout History 1 Return Temperature    | Read       | UINT8  | This register will show the Return Temperature of the Network if a sensor is connected.<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x91B7        | 0183          | Lockout History 1 Boiler In Temperature | Read       | UINT8  | This register will show the Boiler InTemperature of the Local Boiler<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 0x91B8        | 0184          | Lockout History 1 0-10V Output          | Read       | UINT8  | SlimFit ONLY - The 0-10V output value when the Last Error Occurred                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x91B9        | 0185          | Lockout History 1 Blower Speed (RPM)    | Read       | UINT16 | RPM (Speed of the blower motor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 0x91BA        | 0186          | Lockout History 2 Hard Lockout Errors   | Read       | UINT16 | Bit Mapped:<br>16 (0x4000): Low Water Cutoff<br>15 (0x2000): Gas Valve Fault - see Sensor Warnings (0x919F)<br>14 (0x1800): Air Pressure Switch Fault<br>13 (0x1000): Expansion Board Fault - see Lockout History 2 Expansion Board Errors (0x919D) or if Lockout History 2 Expansion Board Errors is 0, Hardware Fault.<br>12 (0x0800): Blower Fault<br>11 (0x0400): High Temp Limit<br>10 (0x0200): Ignition Fault<br>9 (0x0100): Flame Fault<br>8 (0x0080): Flue Temp Too High<br>7 (0x0040): Temperature Sensor<br>6 (0x0020): Supply 58F > Return<br>5 (0x0010): Temp Rise Too Quickly<br>4 (0x0008): Return > Supply Temp<br>3 (0x0004): Return Water Temp High<br>2 (0x0002): Flow Switch Fault (if Flow Switch Open) or System Temp High Fault<br>1 (0x0001): Limit Open |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                             | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------|---------------|---------------------------------------|------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x91BB        | 0187          | Lockout History 2 Soft Lockout Errors | Read       | UINT16 | Bit Mapped:<br>16 (0x4000): Low Water Cutoff<br>15 (0x2000): Gas Valve Fault - see Sensor Warnings (0x919F)<br>14 (0x1800): Air Pressure Switch Fault<br>13 (0x1000): Expansion Board Fault - see Lockout History 2 Expansion Board Errors (0x919D) or if Lockout History 2 Expansion Board Errors is 0, Hardware Fault.<br>12 (0x0800): Blower Fault<br>11 (0x0400): High Temp Limit<br>10 (0x0200): Ignition Fault<br>9 (0x0100): Flame Fault<br>8 (0x0080): Flue Temp Too High<br>7 (0x0040): Temperature Sensor<br>6 (0x0020): Supply 58F > Return<br>5 (0x0010): Temp Rise Too Quickly<br>4 (0x0008): Return > Supply Temp<br>3 (0x0004): Return Water Temp High<br>2 (0x0002): Flow Switch Fault (if Flow Switch Open) or System Temp High Fault<br>1 (0x0001): Limit Open |
| 0x91BC        | 0188          | Lockout History 2 Minutes             | Read       | UINT8  | 0-59                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x91BD        | 0189          | Lockout History 2 Hours               | Read       | UINT8  | 0-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x91BE        | 0190          | Lockout History 2 Day                 | Read       | UINT8  | 1-31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x91BF        | 0191          | Lockout History 2 Month               | Read       | UINT8  | 1-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x91C0        | 0192          | Lockout History 2 Year                | Read       | UINT8  | 14-99                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 0x91C2        | 0194          | Lockout History 2 Input Status        | Read       | UINT8  | Bit map:<br>7 (0x80) = Flow Switch Open (clear) Closed (set)<br>6 (0x40) = Air P-Switch Open (clear) Closed (set)<br>5 (0x20) = Low Water Cutoff Open (clear) Closed (set)<br>4 (0x10) = Auto Limit Open (clear) Closed (set)<br>3 (0x08) = Manual Limit Open (clear) Closed (set)<br>2 (0x04) = Input 3 active (set)<br>1 (0x02) = Input 2 active (set)<br>0 (0x01) = Input 1 active (set)                                                                                                                                                                                                                                                                                                                                                                                      |
| 0x91C3        | 0195          | Lockout History 2 Relay Output Status | Read       | UINT8  | Bit map:<br>7 (0x80) = Boiler Circulator ON (set)<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = Additional Heat Demand ON (set)<br>3 (0x08) = Circulator 3 ON (set) - tied to input 3<br>2 (0x04) = Circulator 2 ON (set) - tied to input 2<br>1 (0x02) = Circulator 1 ON (set) - tied to input 1<br>0 (0x01) = Gas Valve ON (set)                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 0x91C4        | 0196          | Lockout History 2 Flame Signal MSB    | Read       | UINT8  | Number indicating the presence and quality of the flame                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 0x91C5        | 0197          | Lockout History 2 Flame Signal LSB    | Read       | UINT8  | Number indicating the presence and quality of the flame                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 0x91C6        | 0198          | Lockout History 2 Outdoor Temperature | Read       | SINT8  | This register will show the Outdoor Temperature of the Network if a sensor is connected<br>-20° - 232° (1°F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x91C7        | 0199          | Lockout History 2 Flue Temperature 2  | Read       | UINT8  | This register will show the Flue Temperature 2 of the Local Boiler if a sensor is connected<br>-20° - 232° (1°F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 0x91C8        | 0200          | Lockout History 2 Boiler Out Temp 2   | Read       | UINT8  | This register will show the Boiler Out Temperature 2 of the Local Boiler<br>-20° - 232° (1°F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x91CB        | 0203          | Lockout History 2 Flue Temperature 1  | Read       | UINT8  | This register will show the Flue Temperature 1 of the Local Boiler if a sensor is connected<br>-20° - 232° (1°F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 0x91CC        | 0204          | Lockout History 2 Boiler Out Temp 1   | Read       | UINT8  | This register will show the Boiler Out Temperature 1 of the Local Boiler<br>-20° - 232° (1°F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                               | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|---------------|---------------|-----------------------------------------|------------|--------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x91CD        | 0205          | Lockout History 2 Heat Exchanger Temp 1 | Read       | UINT8  | SlimFit ONLY - This register will show the Boiler InTemperature of the Local Boiler<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x91CE        | 0206          | Lockout History 2 Supply Temperature    | Read       | UINT8  | This register will show the Supply Temperature of the Network if a sensor is connected.<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x91CF        | 0207          | Lockout History 2 Return Temperature    | Read       | UINT8  | This register will show the Return Temperature of the Network if a sensor is connected.<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x91D0        | 208           | Lockout History 2 Boiler In Temp 1      | Read       | UINT8  | This register will show the Boiler InTemperature of the Local Boiler<br>-20° - 232° (1 °F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 0x91D1        | 0209          | Lockout History 2 0-10V Output          | Read       | UINT8  | SlimFit ONLY - The 0-10V output value when the Previous Error Occurred                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| 0x91D2        | 0210          | Lockout History 2 Blower Speed (RPM)    | Read       | UINT16 | RPM (Speed of the blower motor)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| 0x91D3        | 0211          | Lockout History 3 Hard Lockout Errors   | Read       | UINT16 | Bit Mapped:<br>16 (0x4000): Low Water Cutoff<br>15 (0x2000): Gas Valve Fault - see Sensor Warnings (0x919F)<br>14 (0x1800): Air Pressure Switch Fault<br>13 (0x1000): Expansion Board Fault - see Lockout History 3 Expansion Board Errors (0x919D) or if Lockout History 3 Expansion Board Errors is 0, Hardware Fault.<br>12 (0x0800): Blower Fault<br>11 (0x0400): High Temp Limit<br>10 (0x0200): Ignition Fault<br>9 (0x0100): Flame Fault<br>8 (0x0080): Flue Temp Too High<br>7 (0x0040): Temperature Sensor<br>6 (0x0020): Supply 58F > Return<br>5 (0x0010): Temp Rise Too Quickly<br>4 (0x0008): Return > Supply Temp<br>3 (0x0004): Return Water Temp High<br>2 (0x0002): Flow Switch Fault (if Flow Switch Open) or System Temp High Fault<br>1 (0x0001): Limit Open |
| 0x91D4        | 0212          | Lockout History 3 Soft Lockout Errors   | Read       | UINT16 | Bit Mapped:<br>16 (0x4000): Low Water Cutoff<br>15 (0x2000): Gas Valve Fault - see Sensor Warnings (0x919F)<br>14 (0x1800): Air Pressure Switch Fault<br>13 (0x1000): Expansion Board Fault - see Lockout History 3 Expansion Board Errors (0x919D) or if Lockout History 3 Expansion Board Errors is 0, Hardware Fault.<br>12 (0x0800): Blower Fault<br>11 (0x0400): High Temp Limit<br>10 (0x0200): Ignition Fault<br>9 (0x0100): Flame Fault<br>8 (0x0080): Flue Temp Too High<br>7 (0x0040): Temperature Sensor<br>6 (0x0020): Supply 58F > Return<br>5 (0x0010): Temp Rise Too Quickly<br>4 (0x0008): Return > Supply Temp<br>3 (0x0004): Return Water Temp High<br>2 (0x0002): Flow Switch Fault (if Flow Switch Open) or System Temp High Fault<br>1 (0x0001): Limit Open |
| 0x91D5        | 0213          | Lockout History 3 Minutes               | Read       | UINT8  | 0-59                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x91D6        | 0214          | Lockout History 3 Hours                 | Read       | UINT8  | 0-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x91D7        | 0215          | Lockout History 3 Day                   | Read       | UINT8  | 1-31                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x91D8        | 0216          | Lockout History 3 Month                 | Read       | UINT8  | 1-12                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x91D9        | 0217          | Lockout History 3 Year                  | Read       | UINT8  | 14-99                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                               | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|---------------|-----------------------------------------|------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x91DB        | 0219          | Lockout History 3 Input Status          | Read       | UINT8  | Bit map:<br>7 (0x80) = Flow Switch Open (clear) Closed (set)<br>6 (0x40) = Air P-Switch Open (clear) Closed (set)<br>5 (0x20) = Low Water Cutoff Open (clear) Closed (set)<br>4 (0x10) = Auto Limit Open (clear) Closed (set)<br>3 (0x08) = Manual Limit Open (clear) Closed (set)<br>2 (0x04) = Input 3 active (set)<br>1 (0x02) = Input 2 active (set)<br>0 (0x01) = Input 1 active (set) |
| 0x91DC        | 0220          | Lockout History 3 Relay Output Status   | Read       | UINT8  | Bit map:<br>7 (0x80) = Boiler Circulator ON (set)<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = Additional Heat Demand ON (set)<br>3 (0x08) = Circulator 3 ON (set) - tied to input 3<br>2 (0x04) = Circulator 2 ON (set) - tied to input 2<br>1 (0x02) = Circulator 1 ON (set) - tied to input 1<br>0 (0x01) = Gas Valve ON (set)                                                      |
| 0x91DD        | 0221          | Lockout History 3 Flame Signal MSB      | Read       | UINT8  | Number indicating the presence and quality of the flame                                                                                                                                                                                                                                                                                                                                     |
| 0x91DE        | 0222          | Lockout History 3 Flame Signal LSB      | Read       | UINT8  | Number indicating the presence and quality of the flame                                                                                                                                                                                                                                                                                                                                     |
| 0x91DF        | 0223          | Lockout History 3 Outdoor Temperature   | Read       | SINT8  | This register will show the Outdoor Temperature of the Network if a sensor is connected<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                          |
| 0x91E0        | 0224          | Lockout History 3 Flue Temperature 2    | Read       | UINT8  | This register will show the Flue Temperature 2 of the Local Boiler if a sensor is connected<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                      |
| 0x91E1        | 0225          | Lockout History 3 Boiler Out Temp 2     | Read       | UINT8  | This register will show the Boiler Out Temperature 2 of the Local Boiler<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                          |
| 0x91E4        | 0228          | Lockout History 3 Flue Temperature 1    | Read       | UINT8  | This register will show the Flue Temperature 1 of the Local Boiler if a sensor is connected<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                      |
| 0x91E5        | 0229          | Lockout History 3 Boiler Out Temp 1     | Read       | UINT8  | This register will show the Boiler Out Temperature 1 of the Local Boiler<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                          |
| 0x91E6        | 0230          | Lockout History 3 Heat Exchanger Temp 1 | Read       | UINT8  | SlimFit ONLY - This register will show the Boiler InTemperature of the Local Boiler<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                               |
| 0x91E7        | 0231          | Lockout History 3 Supply Temperature    | Read       | UINT8  | This register will show the Supply Temperature of the Network if a sensor is connected.<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                          |
| 0x91E8        | 0232          | Lockout History 3 Return Temperature    | Read       | UINT8  | This register will show the Return Temperature of the Network if a sensor is connected.<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Outdoor Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                          |
| 0x91E9        | 0233          | Lockout History 3 Boiler In Temp 1      | Read       | UINT8  | This register will show the Boiler InTemperature of the Local Boiler<br>-20° - 232° (1° F precision)<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                              |
| 0x91EA        | 0234          | Lockout History 3 0-10V Output          | Read       | UINT8  | SlimFit ONLY - The 0-10V Output Value when 3 errors ago occurred                                                                                                                                                                                                                                                                                                                            |
| 0x91EB        | 0235          | Lockout History 3 Blower Speed (RPM)    | Read       | UINT16 | RPM (Speed of the blower motor)                                                                                                                                                                                                                                                                                                                                                             |
| 0x91EC        | 0236          | P2 Max Rate Volts                       | Read       | UINT8  | SlimFit ONLY - Maximum voltage on setting for 0-10v output for a local priority 2 call                                                                                                                                                                                                                                                                                                      |

# MODBUS addressing *(continued)*

| Address (hex)   | Address (dec) | Parameter                                | Read/Write | Format    | Note                                                                                                                                                                                                                                                                                        |
|-----------------|---------------|------------------------------------------|------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x91EE - 0x91FC | 0238-0252     | Installer Name                           | Read       | UINT8[15] | 15 Characters available to enter the Installer's Name                                                                                                                                                                                                                                       |
| 0x91FE - 0x9203 | 0254-0259     | Installer Phone                          | Read       | UINT8[6]  | 10 Digit phone number of the Installer                                                                                                                                                                                                                                                      |
| 0x9204          | 0260          | Last Maintenance Reminder Month          | Read       | UINT8     | 1-12                                                                                                                                                                                                                                                                                        |
| 0x9205          | 0261          | Last Maintenance Reminder Day            | Read       | UINT8     | 1-31                                                                                                                                                                                                                                                                                        |
| 0x9206          | 0262          | Last Maintenance Reminder Year           | Read       | UINT8     | 14-99                                                                                                                                                                                                                                                                                       |
| 0x9207          | 0263          | Maintenance Reminder Interval            | Read/Write | UINT8     | Number of months between Maintenance Reminders (OFF - 36)                                                                                                                                                                                                                                   |
| 0x9208          | 0264          | Installation Month                       | Read       | UINT8     | 1-12                                                                                                                                                                                                                                                                                        |
| 0x9209          | 0265          | Installation Day                         | Read       | UINT8     | 1-31                                                                                                                                                                                                                                                                                        |
| 0x920A          | 0266          | Installation Year                        | Read       | UINT8     | 14-99                                                                                                                                                                                                                                                                                       |
| 0x920B          | 0267          | Last Maintenance Performed Month         | Read       | UINT8     | 1-12                                                                                                                                                                                                                                                                                        |
| 0x920C          | 0268          | Last Maintenance Performed Day           | Read       | UINT8     | 1-31                                                                                                                                                                                                                                                                                        |
| 0x920D          | 0269          | Last Maintenance Performed Year          | Read       | UINT8     | 14-99                                                                                                                                                                                                                                                                                       |
| 0x920E - 0x9214 | 0270-0276     | Boiler CP Number                         | Read       | UINT8[7]  | Boiler CP Number                                                                                                                                                                                                                                                                            |
| 0x921C          | 0284          | Lockout History 2 Expansion Board Errors | Read       | UINT8     | SlimFit ONLY – When Lockout History 2 Hard Lockout Errors or Lockout History 2 Soft Lockout Errors bit 0x1000 is set, the following have meaning:<br>0x40: Communications Fault with Expansion Board<br>0x10: Gas Valve Fault in Expansion Board<br>0x08: Hardware Fault in Expansion Board |
| 0x921D          | 0285          | Lockout History 3 Expansion Board Errors | Read       | UINT8     | SlimFit ONLY – When Lockout History 3 Hard Lockout Errors or Lockout History 3 Soft Lockout Errors bit 0x1000 is set, the following have meaning:<br>0x40: Communications Fault with Expansion Board<br>0x10: Gas Valve Fault in Expansion Board<br>0x08: Hardware Fault in Expansion Board |
| 0x921E          | 0286          | Lockout History 1 Boiler Status 2        | Read       | UINT8     | Bit map:<br>7 (0x80) = Warm Weather Shutdown (WWSD)<br>6 (0x40) = N/A<br>5 (0x20) = Freeze Protection<br>4 (0x10) = Modulation Sensor (1 = system supply sensor, 0 = boiler out sensor)<br>3 (0x08) = Flue Temperature Warning<br>2 (0x04) = N/A<br>1 (0x02) = N/A<br>0 (0x01) = N/A        |
| 0x921F          | 0287          | Lockout History 2 Boiler Status 2        | Read       | UINT8     | Bit map:<br>7 (0x80) = Warm Weather Shutdown (WWSD)<br>6 (0x40) = N/A<br>5 (0x20) = Freeze Protection<br>4 (0x10) = Modulation Sensor (1 = system supply sensor, 0 = boiler out sensor)<br>3 (0x08) = Flue Temperature Warning<br>2 (0x04) = N/A<br>1 (0x02) = N/A<br>0 (0x01) = N/A        |
| 0x9220          | 0288          | Lockout History 3 Boiler Status 2        | Read       | UINT8     | Bit map:<br>7 (0x80) = Warm Weather Shutdown (WWSD)<br>6 (0x40) = N/A<br>5 (0x20) = Freeze Protection<br>4 (0x10) = Modulation Sensor (1 = system supply sensor, 0 = boiler out sensor)<br>3 (0x08) = Flue Temperature Warning<br>2 (0x04) = N/A<br>1 (0x02) = N/A<br>0 (0x01) = N/A        |
| 0x9221          | 0289          | Lockout History 1 10 Volt Input          | Read       | UINT8     | 0-10VDC Input (0.1V precision)†† for Lockout History 1                                                                                                                                                                                                                                      |
| 0x9222          | 0290          | Lockout History 2 10 Volt Input          | Read       | UINT8     | 0-10VDC Input (0.1V precision)†† for Lockout History 2                                                                                                                                                                                                                                      |
| 0x9223          | 0291          | Lockout History 3 10 Volt Input          | Read       | UINT8     | 0-10VDC Input (0.1V precision)†† for Lockout History 3                                                                                                                                                                                                                                      |
| 0x9226          | 0294          | Ignore Flame Signal Shutdown             | Read       | UINT8     | When a 0x01 is written to this register, the boiler will ignore Flame Signal Shutdown                                                                                                                                                                                                       |
| 0x9227          | 0295          | P1 ODT Setpoint                          | Read       | UINT8     | SlimFit ONLY – 0°F - 50°F                                                                                                                                                                                                                                                                   |
| 0x9229          | 0297          | Number of Failed Ignitions               | Read       | UINT8     | Number of failed ignition attempts                                                                                                                                                                                                                                                          |
| 0x9230          | 0304          | P3 ODT Setpoint                          | Read       | UINT8     | SlimFit ONLY – 0°F - 50°F                                                                                                                                                                                                                                                                   |
| 0x9231          | 0305          | P2 ODT Setpoint                          | Read       | UINT8     | SlimFit ONLY – 0°F - 50°F                                                                                                                                                                                                                                                                   |
| 0x9232          | 0306          | Boiler Modulation Rate                   | Read       | UINT8     | 20% - 100%                                                                                                                                                                                                                                                                                  |
| 0x9400          | 0768          | Shadow Number                            | Read       | UINT8     | The number of the Shadow Boiler in the Network. This is set to 1 for a Master Boiler                                                                                                                                                                                                        |
| 0x9401          | 0769          | Max Time Network                         | Read/Write | UINT8     | The maximum amount of time a network call will run before switching to a lower priority local call (OFF - 240)                                                                                                                                                                              |
| 0x9402          | 0770          | Min Time Network                         | Read/Write | UINT8     | The minimum amount of time a network call will run before switching to a higher Local Priority call. (0 = OFF, 1 - 240 mins)                                                                                                                                                                |
| 0x9403          | 0771          | Max Rate Network                         | Read/Write | UINT8     | (Min Rate + 1)% <-> 100%                                                                                                                                                                                                                                                                    |
| 0x9404          | 0772          | Min Rate Network                         | Read/Write | UINT8     | 20% <-> (Max Rate - 1)                                                                                                                                                                                                                                                                      |
| 0x9405          | 0773          | High Temp Limit                          | Read/Write | UINT8     | Manual Reset High Limit Temp (50°F - 200°F)                                                                                                                                                                                                                                                 |
| 0x9406          | 0774          | Days Passed                              | Read       | UINT16    | Number of days that have elapsed since the last time the boiler order has changed.                                                                                                                                                                                                          |
| 0x9407          | 0775          | Base Rate High                           | Read/Write | UINT8     | The Base Rate High modulation rate a boiler will run when turning boilers on/off of a network                                                                                                                                                                                               |

# MODBUS addressing *(continued)*

| Address (hex)   | Address (dec) | Parameter                                     | Read/Write | Format   | Note                                                                                                                                                                                                                                                                                                       |
|-----------------|---------------|-----------------------------------------------|------------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x9408          | 0776          | Base Rate Low                                 | Read/Write | UINT8    | The Base Rate Low modulation rate a boiler will run when turning boilers on/off of a network                                                                                                                                                                                                               |
| 0x9409          | 0777          | Sequence Type                                 | Read       | UINT8    | Bit Mapped:<br>(0x03) 2 = Series<br>1 = Parallel<br>0 = Smart                                                                                                                                                                                                                                              |
| 0x940A          | 0778          | Boiler Rotation Method                        | Read/Write | UINT8    | Bit Mapped:<br>(0x03) 3 = Incremental Hours<br>2 = Total Hours<br>1 = by Boiler ID<br>0 = Off                                                                                                                                                                                                              |
| 0x940B          | 0779          | Force Lead Rotate                             | Read/Write | UINT8    | When a 0x01 is written to this register, Force Lead Boiler Rotation is set to On.                                                                                                                                                                                                                          |
| 0x940C          | 0780          | User Mode                                     | Read       | UINT8    | When a 0x00 is written to this register, the boiler will be put into Basic mode. When a 0x01 is written to this register, the boiler will be put into Advanced mode.                                                                                                                                       |
| 0x9416          | 0790          | Net1 Priority, System Add Boiler Diff         | Read/Write | UINT8    | (2-9)<br>Minimum degree differential between target and system temp in order to add a boiler.                                                                                                                                                                                                              |
| 0x9417          | 0791          | Net1 Priority, System Drop Boiler Diff        | Read/Write | UINT8    | (2-9)<br>Minimum degree differential between target and system temp in order to drop a boiler.                                                                                                                                                                                                             |
| 0x9418          | 0792          | Net1 Priority, Mod Delay Time                 | Read/Write | UINT8    | (1-15)<br>Time in minutes to wait for the system to stabilize after adding a boiler.                                                                                                                                                                                                                       |
| 0x9419          | 0793          | Net1 Priority, Stabilization Time             | Read/Write | UINT8    | (1-30)<br>Time in minutes to allow the boilers to use the PID loop before considering adding or dropping a boiler                                                                                                                                                                                          |
| 0x941A          | 0794          | Net1 Priority, Drop Delay Time                | Read/Write | UINT8    | (30-240)<br>Time in minutes to wait for the system to stabilize after dropping a boiler.                                                                                                                                                                                                                   |
| 0x941B          | 0795          | Net1 Priority, Max Sys Rate                   | Read       | UINT8    | The maximum amount of BTU's the system can produce. (OFF - 3,200,000)                                                                                                                                                                                                                                      |
| 0x941C          | 0796          | Net1 Priority, Min Boilers                    | Read       | UINT8    | (1-8)<br>Minimum number of Boilers to run on network 1 call                                                                                                                                                                                                                                                |
| 0x941D          | 0797          | Net1 Priority, Max On Time                    | Read/Write | UINT8    | (0 = OFF, 1-240 = Minutes)<br>Maximum on time in minutes for switching from a Network 1 Priority call to a Network 2 Priority Call                                                                                                                                                                         |
| 0x941E          | 0798          | Rotation Frequency                            | Read/Write | UINT16   | (1-365)<br>Number of days to run before rotating the boilers.                                                                                                                                                                                                                                              |
| 0x941F - 0x9426 | 0799-0806     | Boiler Order                                  | Read       | UINT8[8] | Each register will have it's own Boiler ID. There are 1-8 available Boiler ID's depending on the number of boilers in the Network. These registers will also show the Current Boiler Rotation Order.                                                                                                       |
| 0x9427          | 0807          | Net2 Priority, System Type                    | Read/Write | UINT8    | Bit map:<br>0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom |
| 0x9428          | 0808          | Net2 Priority, target Mod Sensor              | Read       | UINT8    | Target Mod Sensor for Network 2 (0 = Boiler out, 1 = System)                                                                                                                                                                                                                                               |
| 0x9429          | 0809          | Net2 Priority, target Adjust                  | Read/Write | UINT8    | Target Adjust to Network 2 (0 = None, 1 = 0-10V, 2 = ODT)                                                                                                                                                                                                                                                  |
| 0x942A          | 0810          | Net2 Priority, supply Max                     | Read/Write | UINT8    | 60° - 190° (1°F precision)†                                                                                                                                                                                                                                                                                |
| 0x942B          | 0811          | Net2 Priority, supply Min                     | Read/Write | UINT8    | 60° - 190° (1°F precision)†                                                                                                                                                                                                                                                                                |
| 0x942C          | 0812          | Net2 Priority, Outdoor Reset Max              | Read/Write | UINT8    | Outdoor Reset Max: 50° - 100° (1°F precision)†                                                                                                                                                                                                                                                             |
| 0x942D          | 0813          | Net2 Priority, Outdoor Reset Min              | Read/Write | UINT8    | Outdoor Reset Min: 50° - 100° (1°F precision)†                                                                                                                                                                                                                                                             |
| 0x942E          | 0814          | Net2 Priority, Volts Max                      | Read/Write | UINT8    | Volts For Max: 5V - 10V (0.1V percision)                                                                                                                                                                                                                                                                   |
| 0x942F          | 0815          | Net2 Priority, Volts Min                      | Read/Write | UINT8    | Volts For Min: 0V - 4.9V (0.1V percision)                                                                                                                                                                                                                                                                  |
| 0x9430          | 0816          | Net2 Priority, Boost Time                     | Read/Write | UINT8    | 0 = OFF, 1-240 = Minutes                                                                                                                                                                                                                                                                                   |
| 0x9431          | 0817          | Net2 Priority, System Off Differential        | Read/Write | UINT8    | 2°F - 10°F (1°F precision)†                                                                                                                                                                                                                                                                                |
| 0x9432          | 0818          | Net2 Priority, System On Differential         | Read/Write | UINT8    | 2°F - 10°F (1°F precision)†                                                                                                                                                                                                                                                                                |
| 0x9433          | 0819          | Net2 Priority, System Add Boiler Differential | Read/Write | UINT8    | 2°F - 9°F<br>Minimum degree differential between target and system temp in order to add a boiler.                                                                                                                                                                                                          |
| 0x9434          | 0820          | Net2 Priority, System Drop Boiler Diff        | Read/Write | UINT8    | 2°F - 9°F<br>Minimum degree differential between target and system temp in order to drop a boiler.                                                                                                                                                                                                         |
| 0x9435          | 0821          | Net2 Priority, Mod Delay Time                 | Read/Write | UINT8    | (1-15 Min)<br>Time in minutes to wait for the system to stabilize after adding a boiler.                                                                                                                                                                                                                   |
| 0x9436          | 0822          | Net2 Priority, Stabilization Time             | Read/Write | UINT8    | (3-30 Min)<br>Time in minutes to allow the boilers to use the PID loop before considering adding or dropping a boiler                                                                                                                                                                                      |
| 0x9437          | 0823          | Net2 Priority, Drop Delay Time                | Read/Write | UINT8    | (30-240 Sec)<br>Time in minutes to wait for the system to stabilize after dropping a boiler.                                                                                                                                                                                                               |
| 0x9438          | 0824          | Net2 Priority, Max Boiler Temp                | Read/Write | UINT8    | 60° - 190° (1°F precision)†                                                                                                                                                                                                                                                                                |
| 0x9439          | 0825          | Net2 Priority, Boiler On Diff                 | Read/Write | UINT8    | 2°F - 20°F (1°F precision)†                                                                                                                                                                                                                                                                                |
| 0x943A          | 0826          | Net2 Priority, Boiler Off Diff                | Read/Write | UINT8    | 2°F - 10°F (1°F precision)†                                                                                                                                                                                                                                                                                |
| 0x943C          | 0828          | Net2 Priority, Min On Time                    | Read/Write | UINT8    | 0 = OFF, 1-240 = Minutes<br>Minimum Time in Minutes to run a Network Priority 2 call before switching back to a Network Priority 1 call.                                                                                                                                                                   |
| 0x943D          | 0829          | Net2 Priority, Run Boiler Pump                | Read       | UINT8    | Writing a 0x01 to this register will set the Run Boiler Pump to On                                                                                                                                                                                                                                         |
| 0x943F          | 0831          | Net2 Priority, Pre Pump Time                  | Read/Write | UINT8    | 0 = OFF, 1-240 = Minutes                                                                                                                                                                                                                                                                                   |

# MODBUS addressing *(continued)*

| Address (hex)   | Address (dec) | Parameter                                   | Read/Write | Format    | Note                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------|---------------|---------------------------------------------|------------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x9440          | 0832          | Net2 Priority, Post Pump Time               | Read/Write | UINT8     | 0 = OFF, 1-240 = Minutes                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 0x9441          | 0833          | Net2 Priority, Max Rate                     | Read/Write | UINT8     | (Min Rate + 1)% <-> 100%                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 0x9442          | 0834          | Net2 Priority, Min Rate                     | Read/Write | UINT8     | 20% <-> (Max Rate - 1)                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 0x9443          | 0835          | Net2 Priority, Max Sys Rate                 | Read/Write | UINT8     | The maximum amount of BTU's the system can produce. (OFF - 3,200,000)                                                                                                                                                                                                                                                                                                                                                                          |
| 0x9444          | 0836          | Net2 Priority, Min Boilers                  | Read       | UINT8     | (1-8)<br>Minimum number of Boilers to run on network 2 call                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9445          | 0837          | Net2 Priority, Activate Contact Setting     | Read/Write | UINT8     | 0-1 (0x03) - Priority 1's activate Contact Setting (0 = off, 1 = 1st, 2 = 2nd)                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9446          | 0838          | Net2 Priority, Response Time                | Read/Write | UINT8     | Network 2's Activate Contact Response Time in Minutes                                                                                                                                                                                                                                                                                                                                                                                          |
| 0x9447 - 0x9453 | 0839-0851     | Custom Type String                          | Read       | UINT8[13] | (1-13 available ASCII letters, one for each register)<br>Name of Custom System Type for Local Priority 1 spelled in ASCII letters.                                                                                                                                                                                                                                                                                                             |
| 0x945B - 0x9461 | 0859-0865     | Master Boiler Commanded Modulation Rates    | Read       | UINT8[7]  | Each byte is a modulation rate for each shadow boiler to run at.                                                                                                                                                                                                                                                                                                                                                                               |
| 0x9462          | 0866          | Master Boiler, Net1 or Net2                 | Read       | UINT8     | If this register displays a 1 then a Network 1 call is currently running<br>If this register displays a 2 then a Network 2 call is currently running                                                                                                                                                                                                                                                                                           |
| 0x9463          | 0867          | Master Boiler Max Boiler Temp               | Read       | UINT8     | 60° - 190° (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9464          | 0868          | Master Boiler, Boiler On Diff               | Read       | UINT8     | 2°F - 20°F (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9465          | 0869          | Master Boiler, Boiler Off Diff              | Read       | UINT8     | 2°F - 10°F (1°F precision)†                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9466          | 0870          | Master Boiler, Pre Pump Time                | Read       | UINT8     | 0 = OFF, 1-240 = Minutes                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 0x9467          | 0871          | Master Boiler, Post Pump Time               | Read       | UINT8     | 0 = OFF, 1-240 = Minutes                                                                                                                                                                                                                                                                                                                                                                                                                       |
| 0x9468          | 0872          | Master Boiler, Number of Boilers on Network | Read       | UINT8     | Number of shadow boilers on the network (1 - 7)                                                                                                                                                                                                                                                                                                                                                                                                |
| 0x9469          | 0873          | Master Boiler, Supply Temp                  | Read       | UINT8     | The Supply Temperature read from the Network sensor.<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                 |
| 0x946A          | 0874          | Master Boiler, Return Temp                  | Read       | UINT8     | The Return Temperature read from the Network sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                  |
| 0x946B          | 0875          | Master Boiler, Outdoor Temp                 | Read       | UINT8     | The Outdoor Temperature read from the Network sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                 |
| 0x946C          | 0876          | Master Boiler, System Types                 | Read       | UINT8     | Bit map:<br>The Upper Nibble is used for Net 1 and the Lower Nibble is used for Net 2<br>0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                        |
| 0x946D          | 0877          | Shadow 2, Input 1 Priority                  | Read       | UINT8     | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSO<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x946E          | 0878          | Shadow 2, Input 1 System Type               | Read       | UINT8     | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|---------------|-------------------------------|------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x946F        | 0879          | Shadow 2, Input 2 Priority    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x9470        | 0880          | Shadow 2, Input 2 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x9471        | 0881          | Shadow 2, Input 3 Priority    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x9472        | 0882          | Shadow 2, Input 3 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x9473        | 0883          | Shadow 2 Input Status         | Read       | UINT8  | Bit map:<br>7 (0x80) = Flow Switch Open (clear) Closed (set)<br>6 (0x40) = Air P-Switch Open (clear) Closed (set)<br>5 (0x20) = Low Water Cutoff Open (clear) Closed (set)<br>4 (0x10) = Auto Limit Open (clear) Closed (set)<br>3 (0x08) = Manual Limit Open (clear) Closed (set)<br>2 (0x04) = Input 3 active (set)<br>1 (0x02) = Input 2 active (set)<br>0 (0x01) = Input 1 active (set)                                                    |
| 0x9474        | 0884          | Shadow 2 Boiler Status        | Read       | UINT8  | Bit map:<br>7 (0x80): Local Priority 3 running (Single Boiler) or<br>Network priority running (Master or Shadow)<br>6 (0x40): Local Priority 2 running<br>5 (0x20): Local Priority 1 running<br>4 (0x10): Running DHW (Domestic Hot Water)<br>0-3 (0x07): 7: Lockout<br>6: Post Purge<br>3 - 5: Heating<br>2: Ignition<br>1: Pre Purge<br>0: Standby                                                                                           |
| 0x9475        | 0885          | Shadow 2 Supply Temp (local)  | Read       | UINT8  | The Supply Temperature read from the local sensor.<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                   |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|---------------|-----------------------------------------------|------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x9476        | 0886          | Shadow 2 Return Temp (local)                  | Read       | UINT8  | The Return Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 0x9477        | 0887          | Shadow 2 Outdoor Temp (local)                 | Read       | UINT8  | The Outdoor Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x9478        | 0888          | Shadow 2 Boiler 1 Out Temp                    | Read       | UINT8  | -20° - 232° (1°F precision)†<br>Special values:<br>233 = No Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 0x9479        | 0889          | Shadow 2 Relay Output Status                  | Read       | UINT8  | Bit map:<br>7 (0x80) = Boiler pump on (set)<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = Additional Heat Demand on (set)<br>3 (0x08) = Circulator Pump 3 on (set) - tied to input 3<br>2 (0x04) = Circulator Pump 2 on (set) - tied to input 2<br>1 (0x02) = Circulator Pump 1 on (set) - tied to input 1<br>0 (0x01) = Gas Valve                                                                                                                                                                                                                                   |
| 0x947A        | 0890          | Shadow 2 Model Number                         | Read       | UINT8  | Boiler Model:<br>Value Model<br>0 = EVG 220<br>1 = EVG 220 High Altitude<br>2 = EVG 299<br>3 = EVG 299 High Altitude<br>4 = EVG 399<br>5 = EVG 399 High Altitude<br>64 = EVG 220 LP<br>65 = EVG 220 LP High Altitude<br>66 = EVG 299 LP<br>67 = EVG 299 LP High Altitude<br>68 = EVG 399 LP<br>69 = EVG 399 LP High Altitude<br>128 = SlimFit 550<br>129 = SlimFit 550 High Altitude<br>130 = SlimFit 750<br>131 = SlimFit 750 High Altitude<br>192 = SlimFit 550 LP<br>193 = SlimFit 550 LP High Altitude<br>194 = SlimFit 750 LP<br>195 = SlimFit 750 LP High Altitude |
| 0x947B        | 0891          | Shadow 2 Burner Hours                         | Read       | UINT16 | Number of Burner Hours for Shadow 2 Boiler (multiply by 2)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x947C        | 0892          | Shadow 2 Min Rate                             | Read       | UINT8  | (Min Rate + 1)% <-> 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x947D        | 0893          | Shadow 2 Max Rate                             | Read       | UINT8  | 20% <-> (Max Rate - 1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 0x947E        | 0894          | Shadow 2 Modulation Rate                      | Read       | UINT8  | 20% - 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x947F        | 0895          | Shadow 2 Boiler Status 3 and Available Status | Read       | UINT8  | Bit map:<br>7 (0x80) = N/A<br>6 (0x40) = Modulation was Reduced because Boiler Out temperature exceeded (MAX_BLR_TEMP - BOILER_ON_DIFF)<br>5 (0x20) = Target was Reduced because 45°Δ between Boiler In & Boiler Out<br>4 (0x10) = Target was Reduced because Flue Temperature exceeded 200°F<br>3 (0x08) = N/A<br>2 (0x04) = N/A<br>1 (0x02) = N/A<br>0 (0x01) = Set when the timer has expired for the currently active running input                                                                                                                                  |
| 0x9480        | 0896          | Shadow 3, Input 1 Priority                    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSO<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF                                                                                                                           |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|---------------|-------------------------------|------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x9481        | 0897          | Shadow 3, Input 1 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x9482        | 0898          | Shadow 3, Input 2 Priority    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x9483        | 0899          | Shadow 3, Input 2 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x9484        | 0900          | Shadow 3, Input 3 Priority    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x9485        | 0901          | Shadow 3, Input 3 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x9486        | 0902          | Shadow 3 Input Status         | Read       | UINT8  | Bit map:<br>7 (0x80) = Flow Switch Open (clear) Closed (set)<br>6 (0x40) = Air P-Switch Open (clear) Closed (set)<br>5 (0x20) = Low Water Cutoff Open (clear) Closed (set)<br>4 (0x10) = Auto Limit Open (clear) Closed (set)<br>3 (0x08) = Manual Limit Open (clear) Closed (set)<br>2 (0x04) = Input 3 active (set)<br>1 (0x02) = Input 2 active (set)<br>0 (0x01) = Input 1 active (set)                                                    |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|---------------|-----------------------------------------------|------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x9487        | 0903          | Shadow 3 Boiler Status                        | Read       | UINT8  | Bit map:<br>7 (0x80): Local Priority 3 running (Single Boiler) or Network priority running (Master or Shadow)<br>6 (0x40): Local Priority 2 running<br>5 (0x20): Local Priority 1 running<br>4 (0x10): Running DHW (Domestic Hot Water)<br>0-3 (0x07): 7: Lockout<br>6: Post Purge<br>3 - 5: Heating<br>2: Ignition<br>1: Pre Purge<br>0: Standby                                                                                                                                                                                                                        |
| 0x9488        | 0904          | Shadow 3 Supply Temp (local)                  | Read       | UINT8  | The Supply Temperature read from the local sensor.<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x9489        | 0905          | Shadow 3 Return Temp (local)                  | Read       | UINT8  | The Return Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 0x948A        | 0906          | Shadow 3 Outdoor Temp (local)                 | Read       | UINT8  | The Outdoor Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x948B        | 0907          | Shadow 3 Boiler 1 Out Temp                    | Read       | UINT8  | -20° - 232° (1 °F precision)†<br>Special values:<br>233 = No Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 0x948C        | 0908          | Shadow 3 Relay Output Status                  | Read       | UINT8  | Bit map:<br>7 (0x80) = Boiler pump on (set)<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = Additional Heat Demand on (set)<br>3 (0x08) = Circulator Pump 3 on (set) - tied to input 3<br>2 (0x04) = Circulator Pump 2 on (set) - tied to input 2<br>1 (0x02) = Circulator Pump 1 on (set) - tied to input 1<br>0 (0x01) = Gas Valve                                                                                                                                                                                                                                   |
| 0x948D        | 0909          | Shadow 3 Model Number                         | Read       | UINT8  | Boiler Model:<br>Value Model<br>0 = EVG 220<br>1 = EVG 220 High Altitude<br>2 = EVG 299<br>3 = EVG 299 High Altitude<br>4 = EVG 399<br>5 = EVG 399 High Altitude<br>64 = EVG 220 LP<br>65 = EVG 220 LP High Altitude<br>66 = EVG 299 LP<br>67 = EVG 299 LP High Altitude<br>68 = EVG 399 LP<br>69 = EVG 399 LP High Altitude<br>128 = SlimFit 550<br>129 = SlimFit 550 High Altitude<br>130 = SlimFit 750<br>131 = SlimFit 750 High Altitude<br>192 = SlimFit 550 LP<br>193 = SlimFit 550 LP High Altitude<br>194 = SlimFit 750 LP<br>195 = SlimFit 750 LP High Altitude |
| 0x948E        | 0910          | Shadow 3 Burner Hours                         | Read       | UINT16 | Number of Burner Hours for Shadow 3 Boiler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x948F        | 0911          | Shadow 3 Min Rate                             | Read       | UINT8  | (Min Rate + 1)% <-> 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x9490        | 0912          | Shadow 3 Max Rate                             | Read       | UINT8  | 20% <-> (Max Rate -1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x9491        | 0913          | Shadow 3 Modulation Rate                      | Read       | UINT8  | 20% - 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x9492        | 0914          | Shadow 3 Boiler Status 3 and Available Status | Read       | UINT8  | Bit map:<br>7 (0x80) = N/A<br>6 (0x40) = Modulation was Reduced because Boiler Out temperature exceeded (MAX_BLR_TEMP - BOILER_ON_DIFF)<br>5 (0x20) = Target was Reduced because 45° Δ between Boiler In & Boiler Out<br>4 (0x10) = Target was Reduced because Flue Temperature exceeded 200° F<br>3 (0x08) = N/A<br>2 (0x04) = N/A<br>1 (0x02) = N/A<br>0 (0x01) = Set when the timer has expired for the currently active running input                                                                                                                                |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|---------------|-------------------------------|------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x9493        | 0915          | Shadow 4, Input 1 Priority    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x9494        | 0916          | Shadow 4, Input 1 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x9495        | 0917          | Shadow 4, Input 2 Priority    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x9496        | 0918          | Shadow 4, Input 2 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x9497        | 0919          | Shadow 4, Input 3 Priority    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x9498        | 0920          | Shadow 4, Input 3 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|---------------|-------------------------------|------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x9499        | 0921          | Shadow 4 Input Status         | Read       | UINT8  | Bit map:<br>7 (0x80) = Flow Switch Open (clear) Closed (set)<br>6 (0x40) = Air P-Switch Open (clear) Closed (set)<br>5 (0x20) = Low Water Cutoff Open (clear) Closed (set)<br>4 (0x10) = Auto Limit Open (clear) Closed (set)<br>3 (0x08) = Manual Limit Open (clear) Closed (set)<br>2 (0x04) = Input 3 active (set)<br>1 (0x02) = Input 2 active (set)<br>0 (0x01) = Input 1 active (set)                                                                                                                                                                              |
| 0x949A        | 0922          | Shadow 4 Boiler Status        | Read       | UINT8  | Bit map:<br>7 (0x80): Local Priority 3 running (Single Boiler) or Network priority running (Master or Shadow)<br>6 (0x40): Local Priority 2 running<br>5 (0x20): Local Priority 1 running<br>4 (0x10): Running DHW (Domestic Hot Water)<br>0-3 (0x07): 7: Lockout<br>6: Post Purge<br>3 - 5: Heating<br>2: Ignition<br>1: Pre Purge<br>0: Standby                                                                                                                                                                                                                        |
| 0x949B        | 0923          | Shadow 4 Supply Temp (local)  | Read       | UINT8  | The Supply Temperature read from the local sensor.<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x949C        | 0924          | Shadow 4 Return Temp (local)  | Read       | UINT8  | The Return Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 0x949D        | 0925          | Shadow 4 Outdoor Temp (local) | Read       | UINT8  | The Outdoor Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x949E        | 0926          | Shadow 4 Boiler 1 Out Temp    | Read       | UINT8  | -20° - 232° (1°F precision)†<br>Special values:<br>233 = No Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 0x949F        | 0927          | Shadow 4 Relay Output Status  | Read       | UINT8  | Bit map:<br>7 (0x80) = Boiler pump on (set)<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = Additional Heat Demand on (set)<br>3 (0x08) = Circulator Pump 3 on (set) - tied to input 3<br>2 (0x04) = Circulator Pump 2 on (set) - tied to input 2<br>1 (0x02) = Circulator Pump 1 on (set) - tied to input 1<br>0 (0x01) = Gas Valve                                                                                                                                                                                                                                   |
| 0x94A0        | 0928          | Shadow 4 Model Number         | Read       | UINT8  | Boiler Model:<br>Value Model<br>0 = EVG 220<br>1 = EVG 220 High Altitude<br>2 = EVG 299<br>3 = EVG 299 High Altitude<br>4 = EVG 399<br>5 = EVG 399 High Altitude<br>64 = EVG 220 LP<br>65 = EVG 220 LP High Altitude<br>66 = EVG 299 LP<br>67 = EVG 299 LP High Altitude<br>68 = EVG 399 LP<br>69 = EVG 399 LP High Altitude<br>128 = SlimFit 550<br>129 = SlimFit 550 High Altitude<br>130 = SlimFit 750<br>131 = SlimFit 750 High Altitude<br>192 = SlimFit 550 LP<br>193 = SlimFit 550 LP High Altitude<br>194 = SlimFit 750 LP<br>195 = SlimFit 750 LP High Altitude |
| 0x94A1        | 0929          | Shadow 4 Burner Hours         | Read       | UINT16 | Number of Burner Hours for Shadow 4 Boiler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x94A2        | 0930          | Shadow 4 Min Rate             | Read       | UINT8  | (Min Rate + 1)% <-> 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x94A3        | 0931          | Shadow 4 Max Rate             | Read       | UINT8  | 20% <-> (Max Rate - 1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 0x94A4        | 0932          | Shadow 4 Modulation Rate      | Read       | UINT8  | 20% - 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|---------------|-----------------------------------------------|------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x94A5        | 0933          | Shadow 4 Boiler Status 3 and Available Status | Read       | UINT8  | Bit map:<br>7 (0x80) = N/A<br>6 (0x40) = Modulation was Reduced because Boiler Out temperature exceeded (MAX_BLR_TEMP - BOILER_ON_DIFF)<br>5 (0x20) = Target was Reduced because 45°Δ between Boiler In & Boiler Out<br>4 (0x10) = Target was Reduced because Flue Temperature exceeded 200°F<br>3 (0x08) = N/A<br>2 (0x04) = N/A<br>1 (0x02) = N/A<br>0 (0x01) = Set when the timer has expired for the currently active running input        |
| 0x94A6        | 0934          | Shadow 5, Input 1 Priority                    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x94A7        | 0935          | Shadow 5, Input 1 System Type                 | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x94A8        | 0936          | Shadow 5, Input 2 Priority                    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x94A9        | 0937          | Shadow 5, Input 2 System Type                 | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x94AA        | 0938          | Shadow 5, Input 3 Priority                    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                        |
|---------------|---------------|-------------------------------|------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x94AB        | 0939          | Shadow 5, Input 3 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                              |
| 0x94AC        | 0940          | Shadow 5 Input Status         | Read       | UINT8  | Bit map:<br>7 (0x80) = Flow Switch Open (clear) Closed (set)<br>6 (0x40) = Air P-Switch Open (clear) Closed (set)<br>5 (0x20) = Low Water Cutoff Open (clear) Closed (set)<br>4 (0x10) = Auto Limit Open (clear) Closed (set)<br>3 (0x08) = Manual Limit Open (clear) Closed (set)<br>2 (0x04) = Input 3 active (set)<br>1 (0x02) = Input 2 active (set)<br>0 (0x01) = Input 1 active (set) |
| 0x94AD        | 0941          | Shadow 5 Boiler Status        | Read       | UINT8  | Bit map:<br>7 (0x80): Local Priority 3 running (Single Boiler) or<br>Network priority running (Master or Shadow)<br>6 (0x40): Local Priority 2 running<br>5 (0x20): Local Priority 1 running<br>4 (0x10): Running DHW (Domestic Hot Water)<br>0-3 (0x07): 7: Lockout<br>6: Post Purge<br>3 - 5: Heating<br>2: Ignition<br>1: Pre Purge<br>0: Standby                                        |
| 0x94AE        | 0942          | Shadow 5 Supply Temp (local)  | Read       | UINT8  | The Supply Temperature read from the local sensor.<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                |
| 0x94AF        | 0943          | Shadow 5 Return Temp (local)  | Read       | UINT8  | The Return Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                 |
| 0x94B0        | 0944          | Shadow 5 Outdoor Temp (local) | Read       | UINT8  | The Outdoor Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                |
| 0x94B1        | 0945          | Shadow 5 Boiler 1 Out Temp    | Read       | UINT8  | -20° - 232° (1 °F precision)†<br>Special values:<br>233 = No Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                            |
| 0x94B2        | 0946          | Shadow 5 Relay Output Status  | Read       | UINT8  | Bit map:<br>7 (0x80) = Boiler pump on (set)<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = Additional Heat Demand on (set)<br>3 (0x08) = Circulator Pump 3 on (set) - tied to input 3<br>2 (0x04) = Circulator Pump 2 on (set) - tied to input 2<br>1 (0x02) = Circulator Pump 1 on (set) - tied to input 1<br>0 (0x01) = Gas Valve                                                      |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|---------------|-----------------------------------------------|------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x94B3        | 0947          | Shadow 5 Model Number                         | Read       | UINT8  | Boiler Model:<br>Value Model<br>0 = EVG 220<br>1 = EVG 220 High Altitude<br>2 = EVG 299<br>3 = EVG 299 High Altitude<br>4 = EVG 399<br>5 = EVG 399 High Altitude<br>64 = EVG 220 LP<br>65 = EVG 220 LP High Altitude<br>66 = EVG 299 LP<br>67 = EVG 299 LP High Altitude<br>68 = EVG 399 LP<br>69 = EVG 399 LP High Altitude<br>128 = SlimFit 550<br>129 = SlimFit 550 High Altitude<br>130 = SlimFit 750<br>131 = SlimFit 750 High Altitude<br>192 = SlimFit 550 LP<br>193 = SlimFit 550 LP High Altitude<br>194 = SlimFit 750 LP<br>195 = SlimFit 750 LP High Altitude |
| 0x94B4        | 0948          | Shadow 5 Burner Hours                         | Read       | UINT16 | Number of Burner Hours for Shadow 5 Boiler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x94B5        | 0949          | Shadow 5 Min Rate                             | Read       | UINT8  | (Min Rate + 1)% <-> 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x94B6        | 0950          | Shadow 5 Max Rate                             | Read       | UINT8  | 20% <-> (Max Rate -1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x94B7        | 0951          | Shadow 5 Modulation Rate                      | Read       | UINT8  | 20% - 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x94B8        | 0952          | Shadow 5 Boiler Status 3 and Available Status | Read       | UINT8  | Bit map:<br>7 (0x80) = N/A<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = N/A<br>3 (0x08) = N/A<br>2 (0x04) = Modulation was Reduced because Boiler Out temperature exceeded (MAX_BLR_TEMP - BOILER_ON_DIFF)<br>1 (0x02) = Target was Reduced because 45° Δ between Boiler In & Boiler Out<br>0 (0x01) = Target was Reduced because Flue Temperature exceeded 200°F                                                                                                                                                                                                   |
| 0x94B9        | 0953          | Shadow 6, Input 1 Priority                    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSO<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF                                                                                                                           |
| 0x94BA        | 0954          | Shadow 6, Input 1 System Type                 | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                                                                                                                                           |
| 0x94BB        | 0955          | Shadow 6, Input 2 Priority                    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSO<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF                                                                                                                           |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|---------------|-------------------------------|------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x94BC        | 0956          | Shadow 6, Input 2 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x94BD        | 0957          | Shadow 6, Input 3 Priority    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x94BE        | 0958          | Shadow 6, Input 3 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x94BF        | 0959          | Shadow 6 Input Status         | Read       | UINT8  | Bit map:<br>7 (0x80) = Flow Switch Open (clear) Closed (set)<br>6 (0x40) = Air P-Switch Open (clear) Closed (set)<br>5 (0x20) = Low Water Cutoff Open (clear) Closed (set)<br>4 (0x10) = Auto Limit Open (clear) Closed (set)<br>3 (0x08) = Manual Limit Open (clear) Closed (set)<br>2 (0x04) = Input 3 active (set)<br>1 (0x02) = Input 2 active (set)<br>0 (0x01) = Input 1 active (set)                                                    |
| 0x94C0        | 0960          | Shadow 6 Boiler Status        | Read       | UINT8  | Bit map:<br>7 (0x80): Local Priority 3 running (Single Boiler) or<br>Network priority running (Master or Shadow)<br>6 (0x40): Local Priority 2 running<br>5 (0x20): Local Priority 1 running<br>4 (0x10): Running DHW (Domestic Hot Water)<br>0-3 (0x07): 7: Lockout<br>6: Post Purge<br>3 - 5: Heating<br>2: Ignition<br>1: Pre Purge<br>0: Standby                                                                                           |
| 0x94C1        | 0961          | Shadow 6 Supply Temp (local)  | Read       | UINT8  | The Supply Temperature read from the local sensor.<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                   |
| 0x94C2        | 0962          | Shadow 6 Return Temp (local)  | Read       | UINT8  | The Return Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                    |
| 0x94C3        | 0963          | Shadow 6 Outdoor Temp (local) | Read       | UINT8  | The Outdoor Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                   |
| 0x94C4        | 0964          | Shadow 6 Boiler 1 Out Temp    | Read       | UINT8  | -20° - 232° (1°F precision)†<br>Special values:<br>233 = No Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|---------------|-----------------------------------------------|------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x94C5        | 0965          | Shadow 6 Relay Output Status                  | Read       | UINT8  | Bit map:<br>7 (0x80) = Boiler pump on (set)<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = Additional Heat Demand on (set)<br>3 (0x08) = Circulator Pump 3 on (set) - tied to input 3<br>2 (0x04) = Circulator Pump 2 on (set) - tied to input 2<br>1 (0x02) = Circulator Pump 1 on (set) - tied to input 1<br>0 (0x01) = Gas Valve                                                                                                                                                                                                                                   |
| 0x94C6        | 0966          | Shadow 6 Model Number                         | Read       | UINT8  | Boiler Model:<br>Value Model<br>0 = EVG 220<br>1 = EVG 220 High Altitude<br>2 = EVG 299<br>3 = EVG 299 High Altitude<br>4 = EVG 399<br>5 = EVG 399 High Altitude<br>64 = EVG 220 LP<br>65 = EVG 220 LP High Altitude<br>66 = EVG 299 LP<br>67 = EVG 299 LP High Altitude<br>68 = EVG 399 LP<br>69 = EVG 399 LP High Altitude<br>128 = SlimFit 550<br>129 = SlimFit 550 High Altitude<br>130 = SlimFit 750<br>131 = SlimFit 750 High Altitude<br>192 = SlimFit 550 LP<br>193 = SlimFit 550 LP High Altitude<br>194 = SlimFit 750 LP<br>195 = SlimFit 750 LP High Altitude |
| 0x94C7        | 0967          | Shadow 6 Burner Hours                         | Read       | UINT16 | Number of Burner Hours for Shadow 6 Boiler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x94C8        | 0968          | Shadow 6 Min Rate                             | Read       | UINT8  | (Min Rate + 1)% <-> 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x94C9        | 0969          | Shadow 6 Max Rate                             | Read       | UINT8  | 20% <-> (Max Rate - 1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 0x94CA        | 0970          | Shadow 6 Modulation Rate                      | Read       | UINT8  | 20% - 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x94CB        | 0971          | Shadow 6 Boiler Status 3 and Available Status | Read       | UINT8  | Bit map:<br>7 (0x80) = N/A<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = N/A<br>3 (0x08) = N/A<br>2 (0x04) = Modulation was Reduced because Boiler Out temperature exceeded (MAX_BLR_TEMP - BOILER_ON_DIFF)<br>1 (0x02) = Target was Reduced because 45°Δ between Boiler In & Boiler Out<br>0 (0x01) = Target was Reduced because Flue Temperature exceeded 200°F                                                                                                                                                                                                    |
| 0x94CC        | 0972          | Shadow 7, Input 1 Priority                    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF                                                                                                                           |
| 0x94CD        | 0973          | Shadow 7, Input 1 System Type                 | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                                                                                                                                           |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|---------------|-------------------------------|------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x94CE        | 0974          | Shadow 7, Input 2 Priority    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x94CF        | 0975          | Shadow 7, Input 2 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x94D0        | 0976          | Shadow 7, Input 3 Priority    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x94D1        | 0977          | Shadow 7, Input 3 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x94D2        | 0978          | Shadow 7 Input Status         | Read       | UINT8  | Bit map:<br>7 (0x80) = Flow Switch Open (clear) Closed (set)<br>6 (0x40) = Air P-Switch Open (clear) Closed (set)<br>5 (0x20) = Low Water Cutoff Open (clear) Closed (set)<br>4 (0x10) = Auto Limit Open (clear) Closed (set)<br>3 (0x08) = Manual Limit Open (clear) Closed (set)<br>2 (0x04) = Input 3 active (set)<br>1 (0x02) = Input 2 active (set)<br>0 (0x01) = Input 1 active (set)                                                    |
| 0x94D3        | 0979          | Shadow 7 Boiler Status        | Read       | UINT8  | Bit map:<br>7 (0x80): Local Priority 3 running (Single Boiler) or<br>Network priority running (Master or Shadow)<br>6 (0x40): Local Priority 2 running<br>5 (0x20): Local Priority 1 running<br>4 (0x10): Running DHW (Domestic Hot Water)<br>0-3 (0x07): 7: Lockout<br>6: Post Purge<br>3 - 5: Heating<br>2: Ignition<br>1: Pre Purge<br>0: Standby                                                                                           |
| 0x94D4        | 0980          | Shadow 7 Supply Temp (local)  | Read       | UINT8  | The Supply Temperature read from the local sensor.<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                   |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|---------------|---------------|-----------------------------------------------|------------|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x94D5        | 0981          | Shadow 7 Return Temp (local)                  | Read       | UINT8  | The Return Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 0x94D6        | 0982          | Shadow 7 Outdoor Temp (local)                 | Read       | UINT8  | The Outdoor Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x94D7        | 0983          | Shadow 7 Boiler 1 Out Temp                    | Read       | UINT8  | -20° - 232° (1°F precision)†<br>Special values:<br>233 = No Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| 0x94D8        | 0984          | Shadow 7 Relay Output Status                  | Read       | UINT8  | Bit map:<br>7 (0x80) = Boiler pump on (set)<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = Additional Heat Demand on (set)<br>3 (0x08) = Circulator Pump 3 on (set) - tied to input 3<br>2 (0x04) = Circulator Pump 2 on (set) - tied to input 2<br>1 (0x02) = Circulator Pump 1 on (set) - tied to input 1<br>0 (0x01) = Gas Valve                                                                                                                                                                                                                                   |
| 0x94D9        | 0985          | Shadow 7 Model Number                         | Read       | UINT8  | Boiler Model:<br>Value Model<br>0 = EVG 220<br>1 = EVG 220 High Altitude<br>2 = EVG 299<br>3 = EVG 299 High Altitude<br>4 = EVG 399<br>5 = EVG 399 High Altitude<br>64 = EVG 220 LP<br>65 = EVG 220 LP High Altitude<br>66 = EVG 299 LP<br>67 = EVG 299 LP High Altitude<br>68 = EVG 399 LP<br>69 = EVG 399 LP High Altitude<br>128 = SlimFit 550<br>129 = SlimFit 550 High Altitude<br>130 = SlimFit 750<br>131 = SlimFit 750 High Altitude<br>192 = SlimFit 550 LP<br>193 = SlimFit 550 LP High Altitude<br>194 = SlimFit 750 LP<br>195 = SlimFit 750 LP High Altitude |
| 0x94DA        | 0986          | Shadow 7 Burner Hours                         | Read       | UINT16 | Number of Burner Hours for Shadow 7 Boiler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x94DB        | 0987          | Shadow 7 Min Rate                             | Read       | UINT8  | (Min Rate + 1)% <-> 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x94DC        | 0988          | Shadow 7 Max Rate                             | Read       | UINT8  | 20% <-> (Max Rate - 1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 0x94DD        | 0989          | Shadow 7 Modulation Rate                      | Read       | UINT8  | 20% - 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x94DE        | 0990          | Shadow 7 Boiler Status 3 and Available Status | Read       | UINT8  | Bit map:<br>7 (0x80) = N/A<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = N/A<br>3 (0x08) = N/A<br>2 (0x04) = Modulation was Reduced because Boiler Out temperature exceeded (MAX_BLR_TEMP - BOILER_ON_DIFF)<br>1 (0x02) = Target was Reduced because 45°Δ between Boiler In & Boiler Out<br>0 (0x01) = Target was Reduced because Flue Temperature exceeded 200°F                                                                                                                                                                                                    |
| 0x94DF        | 0991          | Shadow 8, Input 1 Priority                    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF                                                                                                                           |

# MODBUS addressing *(continued)*

| Address (hex) | Address (dec) | Parameter                     | Read/Write | Format | Note                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------|---------------|-------------------------------|------------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x94E0        | 0992          | Shadow 8, Input 1 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x94E1        | 0993          | Shadow 8, Input 2 Priority    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x94E2        | 0994          | Shadow 8, Input 2 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x94E3        | 0995          | Shadow 8, Input 3 Priority    | Read       | UINT8  | Bit map:<br>7 (0x80) = Source is set to 0-10V<br>3-6 (0x78) = Value Aux Pump/Output Type<br>0 - Always ON<br>1 - External Switch<br>2 - Outdoor Below WWSD<br>3 - Any TT Input<br>4 - Any TT Input by Priority Setting<br>5 - Any Burner Demand<br>0-2 (0x07) = Single Boiler<br>0 = Priority 1, 1 = Priority 2, 2 = Priority 3, 3 = Aux, 4 = OFF<br>Master or Shadow Boiler<br>0 = Local 1, 1 = Net1, 2 = Net2, 3 = Local 2, 4 = Aux, 5 = OFF |
| 0x94E4        | 0996          | Shadow 8, Input 3 System Type | Read       | UINT8  | 0-3 (0x0F) = Value System Type<br>0 - Fan Coil<br>1 - Finned Tube Baseboard<br>2 - Cast Iron Baseboard<br>3 - Cast Iron Radiator<br>4 - Radiant-Slab on grade<br>5 - Radiant-Thin Slab<br>6 - Radiant - Below Floor<br>7 - Radiant - Above Floor<br>8 - DHW (Domestic Hot Water)<br>9 - Custom                                                                                                                                                 |
| 0x94E5        | 0997          | Shadow 8 Input Status         | Read       | UINT8  | Bit map:<br>7 (0x80) = Flow Switch Open (clear) Closed (set)<br>6 (0x40) = Air P-Switch Open (clear) Closed (set)<br>5 (0x20) = Low Water Cutoff Open (clear) Closed (set)<br>4 (0x10) = Auto Limit Open (clear) Closed (set)<br>3 (0x08) = Manual Limit Open (clear) Closed (set)<br>2 (0x04) = Input 3 active (set)<br>1 (0x02) = Input 2 active (set)<br>0 (0x01) = Input 1 active (set)                                                    |
| 0x94E6        | 0998          | Shadow 8 Boiler Status        | Read       | UINT8  | Bit map:<br>7 (0x80): Local Priority 3 running (Single Boiler) or<br>Network priority running (Master or Shadow)<br>6 (0x40): Local Priority 2 running<br>5 (0x20): Local Priority 1 running<br>4 (0x10): Running DHW (Domestic Hot Water)<br>0-3 (0x07): 7: Lockout<br>6: Post Purge<br>3 - 5: Heating<br>2: Ignition<br>1: Pre Purge<br>0: Standby                                                                                           |

# MODBUS addressing *(continued)*

| Address (hex)   | Address (dec) | Parameter                                     | Read/Write | Format    | Note                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-----------------|---------------|-----------------------------------------------|------------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0x94E7          | 0999          | Shadow 8 Supply Temp (local)                  | Read       | UINT8     | The Supply Temperature read from the local sensor.<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x94E8          | 1000          | Shadow 8 Return Temp (local)                  | Read       | UINT8     | The Return Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 0x94E9          | 1001          | Shadow 8 Outdoor Temp (local)                 | Read       | UINT8     | The Outdoor Temperature read from the local sensor<br>Special values:<br>233 = No Supply Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                             |
| 0x94EA          | 1002          | Shadow 8 Boiler 1 Out Temp                    | Read       | UINT8     | -20° - 232° (1 °F precision)†<br>Special values:<br>233 = No Sensor<br>234 = Shorted Sensor<br>235 = Open Sensor                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| 0x94EB          | 1003          | Shadow 8 Relay Output Status                  | Read       | UINT8     | Bit map:<br>7 (0x80) = Boiler pump on (set)<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = Additional Heat Demand on (set)<br>3 (0x08) = Circulator Pump 3 on (set) - tied to input 3<br>2 (0x04) = Circulator Pump 2 on (set) - tied to input 2<br>1 (0x02) = Circulator Pump 1 on (set) - tied to input 1<br>0 (0x01) = Gas Valve                                                                                                                                                                                                                                   |
| 0x94EC          | 1004          | Shadow 8 Model Number                         | Read       | UINT8     | Boiler Model:<br>Value Model<br>0 = EVG 220<br>1 = EVG 220 High Altitude<br>2 = EVG 299<br>3 = EVG 299 High Altitude<br>4 = EVG 399<br>5 = EVG 399 High Altitude<br>64 = EVG 220 LP<br>65 = EVG 220 LP High Altitude<br>66 = EVG 299 LP<br>67 = EVG 299 LP High Altitude<br>68 = EVG 399 LP<br>69 = EVG 399 LP High Altitude<br>128 = SlimFit 550<br>129 = SlimFit 550 High Altitude<br>130 = SlimFit 750<br>131 = SlimFit 750 High Altitude<br>192 = SlimFit 550 LP<br>193 = SlimFit 550 LP High Altitude<br>194 = SlimFit 750 LP<br>195 = SlimFit 750 LP High Altitude |
| 0x94ED          | 1005          | Shadow 8 Burner Hours                         | Read       | UINT16    | Number of Burner Hours for Shadow 8 Boiler                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x94EE          | 1006          | Shadow 8 Min Rate                             | Read       | UINT8     | (Min Rate + 1)% <-> 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x94EF          | 1007          | Shadow 8 Max Rate                             | Read       | UINT8     | 20% <-> (Max Rate -1)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 0x94F0          | 1008          | Shadow 8 Modulation Rate                      | Read       | UINT8     | 20% - 100%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 0x94F1          | 1009          | Shadow 8 Boiler Status 3 and Available Status | Read       | UINT8     | Bit map:<br>7 (0x80) = N/A<br>6 (0x40) = N/A<br>5 (0x20) = N/A<br>4 (0x10) = N/A<br>3 (0x08) = N/A<br>2 (0x04) = Modulation was Reduced because Boiler Out temperature exceeded (MAX_BLR_TEMP - BOILER_ON_DIFF)<br>1 (0x02) = Target was Reduced because 45°Δ between Boiler In & Boiler Out<br>0 (0x01) = Target was Reduced because Flue Temperature exceeded 200° F                                                                                                                                                                                                   |
| 0x94F2 - 0x94FE | 1010-1026     | Custom Type String 2                          | Read       | UINT8[13] | (1-13 available ASCII letters, one for each register)<br>Name of Custom System Type for Local Priority 2 or Network Priority 1 spelled in ASCII letters.                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x94FF - 0x950B | 1027-1039     | Custom Type String 3                          | Read       | UINT8[13] | (1-13 available ASCII letters, one for each register)<br>Name of Custom System Type for Local Priority 3 or Network Priority 2 spelled in ASCII letters.                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 0x950C - 0x9518 | 1040-1052     | Custom Type String 4                          | Read       | UINT8[13] | (1-13 available ASCII letters, one for each register)<br>Name of Custom System Type for Local Priority 2 (MASTER) spelled in ASCII letters.                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 0x9519          | 1053          | Net Priority 1 Add Boiler Delay               | Read/Write | UINT8     | (30-240 Sec)<br>Time in minutes to wait for the system to stabilize after adding a boiler to Network 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 0x951A          | 1054          | Net Priority 2 Add Boiler Delay               | Read/Write | UINT8     | (30-240 Sec)<br>Time in minutes to wait for the system to stabilize after adding a boiler to Network 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

