## Systems Integration

# LONWORKS® Solution for Onicon: BTU Meter 8504

**Table 1. BTU Meter APOGEE Points, Application Number: 8504, Program 9F:FF:8D:05:01:04:04:00.**

| Point | Type | Description | Range/Units[a b c] |
|---|---|---|---|
| 1 | LAO | Boiler Enable Input Value | % |
| 2 | LAO | Boiler Enable Input State | – |
| 3 | LAI | Boiler State Output Value | % |
| 4 | LDI | Boiler State Output State | Off/On |
| 5 | LAI | Effective Set Point Output | °F<br>°C |
| 6 | LENUM | Application Mode Input | Available Modes:<br>O = HVAC_Auto<br>1 = HVAC_Heat<br>6 = HVAC_Off |
| 10 | LAO | Outdoor Air Temperature Input | °F<br>°C |
| 12 | LAO | Temperature Set Point Input | °F<br>°C |
| 13 | LAO | Boiler Command Input Value | % |
| 14 | LAO | Boiler Command Input State | – |
| 15 | LAI | Boiler Load Output | % |
| 16 | LAI | Supply Temperature Output | °F<br>°C |
| 18 | LAI | Return Temperature Output | °F<br>°C |
| 20 | LAI | Pump Speed Output Value | % |
| 21 | LDI | Pump Speed Output State | Off/On |
| 22 | LAI | Bypass Valve Output | % |
| 23 | LAI | Outdoor Air Temperature Output | °F<br>°C |

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**Table 1. BTU Meter APOGEE Points, Application Number: 8504, Program 9F:FF:8D:05:01:04:04:00.** ***(continued)***

| Point | Type | Description | Range/Units[a b c] |
|---|---|---|---|
| 24 | LENUM | Mode Reports the Current Status of the Boiler Object | Available Modes:<br>O = HVAC_Auto<br>1 = HVAC_Heat<br>6 = HVAC_Off |
| 25 | LAI | Unit Status Output Primary Heat | % |
| 30 | LDI | Unit Status Output Alarm | Normal/Alarm |
| 31 | LDI | Blocked Drain Alarm | Normal/Fail |
| 32 | LDI | Low Air Pressure Alarm | Normal/Fail |
| 33 | LDI | Low Water Flow Alarm | Normal/Fail |
| 34 | LDI | Sensor Fault | Normal/Fail |
| 35 | LDI | Node Disabled | Normal/Fail |
| 36 | LDI | Communication Failed | Normal/Fail |
| 37 | LDI | Boiler Not Operational | Normal/Fail |
| 38 | LDI | Heat Mode Failure | Normal/Fail |
| 39 | LDI | Soft Lock Out Mode | Inactive/Active |
| 40 | LDI | Flame Failure | Normal/Fail |
| 41 | LDI | Low Gas Pressure Alarm | Normal/Fail |
| 42 | LAI | Boiler Total Run Time Hours | hrs |
| 43 | LAI | Reports the outlet water temperature minus inlet water temperature. If the BIC is a sequencer, the temperature reported is the supply water temperature minus the return water temperature. | °F<br>*°C* |
| 44 | LAI | Reports the temperature of the water entering the primary heat exchanger. Applies only to a unit (boiler or water heater). If the BIC is a sequencer, this sensor is replaced with a resistor and does not control or report anything meaningful. | °F<br>*°C* |
| 45 | LAI | Reports VFD Fan Speed | % |
| 49 | LDI | The corresponding sensor is configured and has failed. | Normal/Fail |
| 50 | LDI | The corresponding sensor is configured and has failed. | Normal/Fail |
| 51 | LDI | The corresponding sensor is configured and has failed. | Normal/Fail |
| 52 | LDI | The corresponding sensor is configured and has failed. | Normal/Fail |
| 53 | LDI | Low Water Mode | Normal/Fail |
| 54 | LDI | Low Pressure Mode | Normal/Fail |
| 55 | LDI | Block Drain Mode | Normal/Fail |
| 56 | LDI | Low Gas Pressure Mode | Normal/Fail |
| 58 | LDI | Flame Failure Mode | Normal/Fail |
| 60 | LDI | Heat Mode Failure | Normal/Fail |

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**Table 1. BTU Meter APOGEE Points, Application Number: 8504, Program 9F:FF:8D:05:01:04:04:00.** ***(continued)***

| Point | Type | Description | Range/Units[a b c] |
|---|---|---|---|
| 62 | LDI | High Temperature Alarm Mode | Normal/Fail |
| 65 | LENUM | Boiler/Sequencer Mode. For available modes and their meaning see . | See |
| 200 | LAI | Receive Heartbeat CP Input | sec |
| 201 | LAI | Power Up Enable Value CP Input | % |
| 202 | LAI | Power Up Enable State CP Input | -1 to 1 |
| 203 | LAI | Heat Set Point CP Input | °F<br>°C |
| 204 | LAI | Off Delay Time CP Input | sec |
| 205 | LAI | DiffBoilerOnTemp (SNVT_temp_p) specifies how much heat rise the heater must have before the HEAT mode is reported. | °F<br>°C |
| 206 | LAI | BypassSetpointTemp is the desired set point for the bypass temperature. | °F<br>°C |
| 207 | LAI | ubStageOnDelayS2 is the number of seconds between adding stages. Removing stages takes half as long as adding stages. The stager applies only to a sequencer of more than two heaters. | sec |
| 208 | LAI | IgnitVFDSpeed is the firing rate when the gas valve opens. | % |
| 209 | LAI | FreezeProtectTemp is the freeze protect temperature. If any of the sensors sense a temperature lower than FreezeProtectTemp, the unit goes into the freeze protect mode. | °F<br>°C |
| 210 | LAI | Max Set Point CP Input | °F<br>°C |
| 211 | LAI | Control point during the unoccupied mode. | °F<br>°C |
| 212 | LAI | In a single boiler unit or boiler sequencer when the mode is occupied and the outdoor temperature is nciOAReset.OaMaxSetpoint or higher, then the control point is set to nciOAReset.Setpoint. | °F<br>°C |
| 214 | LAI | In a single boiler unit or boiler sequencer when the mode is occupied and the outdoor temperature is nciOAReset.OaMinSetpoint or lower, then the control point is set to nciOAReset.MaxSetpoint. | °F<br>°C |
| 215 | LAI | In a single boiler unit or boiler sequencer when the mode is occupied and the outdoor temperature is nciOAReset.OaMaxSetpoint or higher, then the control point is set to nciOAReset.Setpoint. | °F<br>°C |
| 216 | LAI | In a single boiler unit or a boiler sequencer, if the outdoor temperature, is greater than nciOAReset.OaHtgLockout, heating will be turned off. | °F<br>°C |

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**Table 1. BTU Meter APOGEE Points, Application Number: 8504, Program 9F:FF:8D:05:01:04:04:00.** ***(continued)***

| Point | Type | Description | Range/Units[a] [b] [c] |
|---|---|---|---|
| 217 | LAI | The control point is never allowed to go above nciOAReset.AbsMaxSetp. If the measured inlet, outlet, or bypass temperature exceeds nciOAReset.AbsMaxSetp, then BIC enters the HIGH_TEMP_MODE and the heat is shut off and a post purge operation is performed. | °F<br>*°C* |
| 218 | LAI | The control point is never allowed to go below nciOAReset.AbsMinSetp. | °F<br>*°C* |
| 219 | LAI | Control point during the unoccupied mode. | °F<br>*°C* |

[a] Values noted for LDIs and LDOs are in the following format: OFF text/ON text.

[b] This column indicates the value/range or engineering units or both if known.

[c] The default English value is not italicized. An italicized entry indicates an SI value.

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