



Entegris Alarms Document

*Generated at Fri Sep 24 09:51:18 2021
For firmware version S1004.860*

DESCRIPTION:

This document describes the Alarm Event Log codes for the GV148 Concentration Monitoring System.

This document is auto generated directly from the source code of HMI/FIRMWARE.

Entegris Confidential Not For Commercial Use

| | |
|---------------------------------|----------|
| Entegris Alarms Document | 1 |
| Alarms Index | 3 |
| Alarm Descriptions | 6 |

Alarms Index

| Alarm | Code |
|---------------------------------------|------|
| Power ON | 20 |
| Testing (shorts) | 21 |
| Testing (ushorts) | 22 |
| Testing (Pressure) | 23 |
| Testing (ml) | 24 |
| Testing (bytes) | 25 |
| Testing (time) | 26 |
| Testing (long) | 27 |
| Clock Set | 28 |
| System Reset -Serial | 29 |
| Firmware | 30 |
| Alarms Cleared (re-init) | 31 |
| Alarms Cleared | 32 |
| User Requested Reinit | 34 |
| Unknowwn New Module | 35 |
| Maintenance Timeout | 36 |
| New Major Version | 41 |
| New Minor Version | 42 |
| New Product | 43 |
| Invalid Product | 44 |
| New Module | 45 |
| Clock Error | 46 |
| PLL Limp Error Event | 49 |
| PLL Wrong Error Event | 50 |
| Module Errors | 60 |
| Module Remote Errors | 61 |
| Module Syncs | 62 |
| Module Communications | 63 |
| Note Saved | 65 |
| Cycle Counters Erase | 70 |
| Cycle Counters Write | 71 |
| Cycle Counters Read | 72 |
| Initialize System Parameters | 200 |
| Initialize System Names | 201 |
| Initialize Firmware Info | 203 |
| Initialize Version | 205 |
| Initialize Cycle Counters | 207 |
| Initialize Serial Numbers | 210 |
| Initialize Cycle Information | 212 |
| Initialize Factory Sensor Calibration | 217 |
| Initialize Concentration Calibration | 218 |

| | |
|---|-----|
| Initialize Analog Calibration Input Minimums | 220 |
| Initialize Analog Calibration Input Maximums | 221 |
| Initialize Analog Calibration Output Minimums | 222 |
| Initialize Analog Calibration Output Maximums | 223 |
| Initialize Serial Numbers | 224 |
| Initialize Sensor Serial Number | 227 |
| Initialize Sensor Serial Number | 228 |
| Initialize baudrate | 230 |
| Initialize Model | 231 |
| Initialize Analog Parameters | 232 |
| Fixing System Parameters | 300 |
| Fixing System Names | 301 |
| Fixing Firmware information | 302 |
| Fixing Concentration Calibration | 303 |
| Fixing Serial Numbers | 304 |
| Fixing engineering parameters information | 306 |
| Fixing RI TempComp Calibration | 308 |
| Fixing Sensor Calibration | 309 |
| Fixing Sensor Serial Numbers | 310 |
| Fixing Serial Numbers | 311 |
| Fixing Model Strings | 312 |
| Fixing Analog Parameters | 313 |
| Trigger Held | 600 |
| Trigger while Busy | 601 |
| Saved Cycle Reference | 625 |
| Counters reset | 626 |
| Sensor Disconnect | 650 |
| Sensor Unresponsive | 651 |
| Sensor Busy Line | 652 |
| Air Reference Error | 653 |
| Invalid RI Calibration | 654 |
| Sensor Error Window | 655 |
| Sensor Error PCB | 656 |
| Sensor Error Potting | 657 |
| Dark Reading Error | 675 |
| Dark Reading Error Automatically Cleared | 676 |
| Sensor in Air | 677 |
| Sensor in Air Automatically Cleared | 678 |
| Sensor Temperature Measurement Error | 679 |
| Sensor Temperature Measurement Error | 680 |
| Pixel Calculation Error | 681 |
| Pixel Calculation Error Automatically Cleared | 682 |
| Dark Reading Error | 683 |
| Dark Reading Error Automatically Cleared | 684 |
| Pixel Position Threshold Error | 685 |

| | |
|--|------|
| Pixel Position Error Automatically Cleared | 686 |
| Module Memory Corrupt | 700 |
| Sensor Initialization Start | 725 |
| Sensor Initialization | 726 |
| Sensor Initialization Failed Air Ref | 727 |
| Sensor Initialization Failed Dark | 728 |
| Sensor Initialization Failed Write | 729 |
| Sensor Initialization Failed Max Current | 730 |
| Sensor Initialization Failed Timeout | 731 |
| Sensor Initialization Failed Light | 732 |
| Sensor Initialization Start | 733 |
| Sensor LED Initialization | 734 |
| Temperature Rezero Cleared | 750 |
| Refractive Index Rezero Cleared | 751 |
| Factory Configuration Saved | 800 |
| Factory Configuration Restored | 801 |
| Factory Restore Error | 802 |
| Factory Restore Error | 803 |
| Factory Restore Warning | 804 |
| Factory Save Warning | 805 |
| 40C Fluid Temperature Warning | 825 |
| 40C Fluid Temperature Warning Cleared | 826 |
| 20C Fluid Temperature Warning | 827 |
| 20C Fluid Temperature Warning Cleared | 828 |
| Refractive Index Rezero Test Started | 1130 |
| Refractive Index Rezero Test Passed | 1131 |
| Refractive Index Rezero Test Failed | 1132 |
| Refractive Index Rezero Test Incomplete | 1133 |
| Refractive Index Rezero Test Results A | 1134 |
| Refractive Index Rezero Test Results B | 1135 |
| Refractive Index Rezero Test Results C | 1136 |
| Refractive Index Rezero Test Results D | 1137 |
| Refractive Index Rezero Test STDEV | 1138 |
| Analog Outputs Test Started | 1170 |
| Analog Outputs Test Passed | 1171 |
| Analog Outputs Test Failed | 1172 |
| Analog Outputs Test Incomplete | 1173 |
| Analog Output Override Concentration | 1174 |
| Analog Output Override Temperature | 1175 |
| Analog Output Override RI | 1176 |

Alarm Descriptions

| Alarm 20 | Power ON | Info |
|--------------------|--|------|
| Message | System power on. Total power ons: \$LONG | |
| Description | Information: The unit was powered on or reset (#) times. | |
| Possible Solutions | | |

| Alarm 21 | Testing (shorts) | Info |
|--------------------|-------------------------------------|------|
| Message | short0 = \$SHORT0 short1 = \$SHORT1 | |
| Description | Used for internal testing | |
| Possible Solutions | | |

| Alarm 22 | Testing (ushorts) | Info |
|--------------------|---------------------------------------|------|
| Message | short0 = \$USHORT0 short1 = \$USHORT1 | |
| Description | Used for internal testing | |
| Possible Solutions | | |

| Alarm 23 | Testing (Pressure) | Info |
|--------------------|---|------|
| Message | pressure0 = \$PRESSURE0 pressure1 = \$PRESSURE1 | |
| Description | Used for internal testing | |
| Possible Solutions | | |

| Alarm 24 | Testing (ml) | Info |
|--------------------|---------------------------|------|
| Message | ml0 = \$ML_0 ml1 = \$ML_1 | |
| Description | Used for internal testing | |
| Possible Solutions | | |

| Alarm 25 | Testing (bytes) | Info |
|--------------------|---|------|
| Message | byte0=\$BYTE0 byte1=\$BYTE1 byte2=\$BYTE2 byte3=\$BYTE3 | |
| Description | Used for internal testing | |
| Possible Solutions | | |

| Alarm 26 | Testing (time) | Info |
|--------------------|---------------------------|------|
| Message | time = \$TIME | |
| Description | Used for internal testing | |
| Possible Solutions | | |

| Alarm 27 | Testing (long) | Info |
|--------------------|---------------------------|------|
| Message | long = \$LONG | |
| Description | Used for internal testing | |
| Possible Solutions | | |

| Alarm 28 | Clock Set | Info |
|--------------------|---|------|
| Message | Clock time set (was \$TIME) | |
| Description | The time was set in the real time clock. The previous value is shown for reference. | |
| Possible Solutions | The real time clock should only need to be set infrequently. If this is a frequent event, call an Entegris representative for more information. | |

| Alarm 29 | System Reset -Serial | Info |
|--------------------|---------------------------------|------|
| Message | Software reset | |
| Description | A software reset was performed. | |
| Possible Solutions | | |

| Alarm 30 | Firmware | Info |
|--------------------|---|------|
| Message | Flashing firmware: Past Firmware Version: \$USHORT1 | |
| Description | New firmware was installed. | |
| Possible Solutions | | |

| Alarm 31 | Alarms Cleared (re-init) | Info |
|--------------------|--|------|
| Message | \$SHORT1 alarms were cleared by the user - Re init was required | |
| Description | (#) alarms were cleared and system required a re-initialization. | |
| Possible Solutions | | |

| Alarm 32 | Alarms Cleared | Info |
|--------------------|---|------|
| Message | \$SHORT1 alarms were cleared by the user | |
| Description | (#) alarms were cleared and system did not require a re-initialization. | |
| Possible Solutions | | |

| Alarm 34 | User Requested Reinit | Info |
|--------------------|---|------|
| Message | The re-init hardware line was activated | |
| Description | A signal from the track to reinitialize was received. | |
| Possible Solutions | | |

| Alarm 35 | Unknowwn New Module | Info |
|--------------------|--|------|
| Message | New unknown module type: \$LONG | |
| Description | The system does not recognize the module type. | |
| Possible Solutions | Confirm the module type is correct. Possible outdated firmware or communication problem. | |

| Alarm 36 | Maintenance Timeout | Info |
|--------------------|---|------|
| Message | Maintenance mode was started with a timeout of \$LONG minutes | |
| Description | Maintenance mode was started with a timeout. | |
| Possible Solutions | | |

| Alarm 41 | New Major Version | Info |
|--------------------|---|------|
| Message | New Major Version (\$SHORT1->\$SHORT0) | |
| Description | Displays the major version of the system after an upgrade | |
| Possible Solutions | | |

| Alarm 42 | New Minor Version | Info |
|--------------------|---|------|
| Message | New Minor Version (\$SHORT1->\$SHORT0) | |
| Description | Displays the minor version of the system after an upgrade | |
| Possible Solutions | | |

| Alarm 43 | New Product | Info |
|--------------------|--|------|
| Message | New Product ID detected (\$SHORT0->\$SHORT1) | |
| Description | The Product ID is set by a dip switch setting on the Internal PCB. This alarm will typically happen on the first power-up and never happen again. It could mean that the hardware switches were set incorrectly for the hardware. It could also mean that the Internal or Main PCB has failed. | |
| Possible Solutions | | |

| Alarm 44 | Invalid Product | Error |
|--------------------|---|-------|
| Message | Product ID invalid. Product ID was defaulted (\$SHORT0->\$SHORT1) | |
| Description | The Product ID that was set by the hardware is invalid. The product ID was default to 0 | |
| Possible Solutions | | |

| Alarm 45 | New Module | Info |
|--------------------|----------------------|------|
| Message | New Module: \$MODULE | |
| Description | | |
| Possible Solutions | | |

| Alarm 46 | Clock Error | Warning |
|--------------------|---|---------|
| Message | The RTC time is off by \$LONG seconds | |
| Description | The software RTC and the hardware RTC are out of sync. Solution: Contact Entegris Support if the problem persists | |
| Possible Solutions | | |

| Alarm 49 | PLL Limp Error Event | Error |
|--------------------|---|-------|
| Message | PLL Limp Mode: DIV=\$USHORT1 DIVSEL=\$USHORT0 | |
| Description | PLL Limp Mode - OSCCLK is removed or absent from the system | |
| Possible Solutions | This alarm should not occur in normal operation. Power down to re-initialize the system. If problem continues, please contact an Entegris customer representative for more information. | |

| Alarm 50 | PLL Wrong Error Event | Warning |
|--------------------|---|----------------|
| Message | PLL changed: DIV=\$USHORT1 DIVSEL=\$USHORT0 | |
| Description | PLL Corrected | |
| Possible Solutions | This alarm should not occur in normal operation. Power down to re-initialize the system. If problem continues, please contact an Entegris customer representative for more information. | |

| Alarm 60 | Module Errors | Error |
|--------------------|---|--------------|
| Message | Too many errors with interface module: \$ULONG | |
| Description | The connection to the interface module has errors. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 61 | Module Remote Errors | Error |
|--------------------|---|--------------|
| Message | Too many errors reported by interface module: \$ULONG | |
| Description | The connection to the interface module has errors. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 62 | Module Syncs | Error |
|--------------------|---|--------------|
| Message | Synchronization Error with interface module (Syncs=\$LONG) | |
| Description | The connection to the interface module has errors. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 63 | Module Communications | Error |
|--------------------|---|--------------|
| Message | Lost communication with the interface module (Syncs=\$LONG) | |
| Description | The connection to the interface module has errors. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 65 | Note Saved | Info |
|--------------------|---|------|
| Message | User note saved at record: \$ULONG | |
| Description | A note was saved to the log | |
| Possible Solutions | Alarm indication that a note was saved to the log | |

| Alarm 70 | Cycle Counters Erase | Warning |
|--------------------|---|---------|
| Message | Cycle counters fail (lb=\$USHORT0) | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 71 | Cycle Counters Write | Warning |
|--------------------|---|---------|
| Message | Cycle counters fail (lb=\$USHORT0, ptr=\$USHORT1) | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 72 | Cycle Counters Read | Warning |
|--------------------|---|---------|
| Message | Cycle counters fail (lb=\$USHORT0, ptr=\$USHORT1) | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 200 | Initialize System Parameters | Warning |
|--------------------|---|---------|
| Message | Writing System Parameters: On flash memory page \$SHORT1 | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 201 | Initialize System Names | Warning |
|--------------------|---|---------|
| Message | Writing System Names: On flash memory page \$SHORT1 | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 203 | Initialize Firmware Info | Warning |
|--------------------|---|----------------|
| Message | Writing Firmware Info: On flash memory page \$SHORT1 | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 205 | Initialize Version | Warning |
|--------------------|---|----------------|
| Message | Writing Version: (\$SHORT1) | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 207 | Initialize Cycle Counters | Warning |
|--------------------|---|----------------|
| Message | Cycle counters fail (lb=\$USHORT0, ptr=\$USHORT1) | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 210 | Initialize Serial Numbers | Warning |
|--------------------|---|----------------|
| Message | Writing Serial Numbers (\$SHORT1) | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 212 | Initialize Cycle Information | Warning |
|--------------------|---|----------------|
| Message | Writing Cycle Info Reference (\$SHORT1) | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 217 | Initialize Factory Sensor Calibration | Warning |
|--------------------|---|----------------|
| Message | Writing Sensor Calibration (\$SHORT1) | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 218 | Initialize Concentration Calibration | Warning |
|--------------------|---|----------------|
| Message | Writing Concentration Calibration (\$SHORT1) | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 220 | Initialize Analog Calibration Input Minimums | Warning |
|--------------------|---|----------------|
| Message | Writing Analog Input Minimum Calibration | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 221 | Initialize Analog Calibration Input Maximums | Warning |
|--------------------|---|----------------|
| Message | Writing Analog Input Maximum Calibration | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 222 | Initialize Analog Calibration Output Minimums | Warning |
|--------------------|---|----------------|
| Message | Writing Analog Output Minimum Calibration | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 223 | Initialize Analog Calibration Output Maximums | Warning |
|--------------------|---|---------|
| Message | Writing Analog Output Maximum Calibration | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 224 | Initialize Serial Numbers | Warning |
|--------------------|---|---------|
| Message | Writing Test Information (\$SHORT1) | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 227 | Initialize Sensor Serial Number | Warning |
|--------------------|---|---------|
| Message | Writing Sensor Serial Number (\$SHORT1) | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 228 | Initialize Sensor Serial Number | Warning |
|--------------------|---|---------|
| Message | Writing RI Temperature Compensation (\$SHORT1) | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 230 | Initialize baudrate | Info |
|--------------------|-------------------------------------|------|
| Message | Communications baudrate (\$USHORT1) | |
| Description | Baudrate of communication set | |
| Possible Solutions | | |

| Alarm 231 | Initialize Model | Warning |
|--------------------|---|---------|
| Message | Writing Model Information (\$SHORT1) | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 232 | Initialize Analog Parameters | Warning |
|--------------------|---|----------------|
| Message | Writing Analog Parameters: On flash memory page \$SHORT1 | |
| Description | Saved structure in memory is corrupted. | |
| Possible Solutions | Power down to re-initialize system. If problem continues, call an Entegris representative for more information. | |

| Alarm 300 | Fixing System Parameters | Warning |
|--------------------|---|----------------|
| Message | Fixing System Parameters LB \$SHORT1 | |
| Description | All fields were initialized to defaults. | |
| Possible Solutions | Verify all settings for accuracy. This was most likely the result of a firmware upgrade and is most likely normal. If this was an intentional action by the user, no other action is required. If this alarm occurred outside of that condition, please contact an Entegris customer representative for more information. | |

| Alarm 301 | Fixing System Names | Warning |
|--------------------|---|----------------|
| Message | Fixing System Names LB \$SHORT1 | |
| Description | All fields were initialized to defaults. | |
| Possible Solutions | Verify all settings for accuracy. This was most likely the result of a firmware upgrade and is most likely normal. If this was an intentional action by the user, no other action is required. If this alarm occurred outside of that condition, please contact an Entegris customer representative for more information. | |

| Alarm 302 | Fixing Firmware information | Warning |
|--------------------|---|----------------|
| Message | Fixing Firmware Info LB \$SHORT1 | |
| Description | All fields were initialized to defaults. | |
| Possible Solutions | Verify all settings for accuracy. This was most likely the result of a firmware upgrade and is most likely normal. If this was an intentional action by the user, no other action is required. If this alarm occurred outside of that condition, please contact an Entegris customer representative for more information. | |

| Alarm 303 | Fixing Concentration Calibration | Warning |
|--------------------|---|----------------|
| Message | Fixing Concentration Calibration LB \$SHORT1 | |
| Description | All fields were initialized to defaults. | |
| Possible Solutions | Verify all settings for accuracy. This was most likely the result of a firmware upgrade and is most likely normal. If this was an intentional action by the user, no other action is required. If this alarm occurred outside of that condition, please contact an Entegris customer representative for more information. | |

| Alarm 304 | Fixing Serial Numbers | Warning |
|--------------------|---|----------------|
| Message | Fixing Serial Numbers LB \$SHORT1 | |
| Description | All fields were initialized to defaults. | |
| Possible Solutions | Verify all settings for accuracy. This was most likely the result of a firmware upgrade and is most likely normal. If this was an intentional action by the user, no other action is required. If this alarm occurred outside of that condition, please contact an Entegris customer representative for more information. | |

| Alarm 306 | Fixing engineering parameters information | Warning |
|--------------------|---|----------------|
| Message | Fixing Engineering Parameters info LB \$SHORT1 | |
| Description | All fields were initialized to defaults. | |
| Possible Solutions | Verify all settings for accuracy. This was most likely the result of a firmware upgrade and is most likely normal. If this was an intentional action by the user, no other action is required. If this alarm occurred outside of that condition, please contact an Entegris customer representative for more information. | |

| Alarm 308 | Fixing RI TempComp Calibration | Warning |
|--------------------|---|----------------|
| Message | Fixing RITempComp calibration LB \$SHORT1 | |
| Description | All fields were initialized to defaults. | |
| Possible Solutions | Verify all settings for accuracy. This was most likely the result of a firmware upgrade and is most likely normal. If this was an intentional action by the user, no other action is required. If this alarm occurred outside of that condition, please contact an Entegris customer representative for more information. | |

| Alarm 309 | Fixing Sensor Calibration | Warning |
|--------------------|---|----------------|
| Message | Fixing Sensor Calibration parameters LB \$SHORT1 | |
| Description | All fields were initialized to defaults. | |
| Possible Solutions | Verify all settings for accuracy. This was most likely the result of a firmware upgrade and is most likely normal. If this was an intentional action by the user, no other action is required. If this alarm occurred outside of that condition, please contact an Entegris customer representative for more information. | |

| Alarm 310 | Fixing Sensor Serial Numbers | Warning |
|--------------------|---|----------------|
| Message | Fixing Sensor Serial Numbers LB \$SHORT1 | |
| Description | All fields were initialized to defaults. | |
| Possible Solutions | Verify all settings for accuracy. This was most likely the result of a firmware upgrade and is most likely normal. If this was an intentional action by the user, no other action is required. If this alarm occurred outside of that condition, please contact an Entegris customer representative for more information. | |

| Alarm 311 | Fixing Serial Numbers | Warning |
|--------------------|---|----------------|
| Message | Fixing Test Information LB \$SHORT1 | |
| Description | All fields were initialized to defaults. | |
| Possible Solutions | Verify all settings for accuracy. This was most likely the result of a firmware upgrade and is most likely normal. If this was an intentional action by the user, no other action is required. If this alarm occurred outside of that condition, please contact an Entegris customer representative for more information. | |

| Alarm 312 | Fixing Model Strings | Warning |
|--------------------|---|----------------|
| Message | Fixing Model Strings LB \$SHORT1 | |
| Description | All fields were initialized to defaults. | |
| Possible Solutions | Verify all settings for accuracy. This was most likely the result of a firmware upgrade and is most likely normal. If this was an intentional action by the user, no other action is required. If this alarm occurred outside of that condition, please contact an Entegris customer representative for more information. | |

| Alarm 313 | Fixing Analog Parameters | Warning |
|--------------------|---|----------------|
| Message | Fixing Analog Parameters LB \$SHORT1 | |
| Description | All fields were initialized to defaults. | |
| Possible Solutions | Verify all settings for accuracy. This was most likely the result of a firmware upgrade and is most likely normal. If this was an intentional action by the user, no other action is required. If this alarm occurred outside of that condition, please contact an Entegris customer representative for more information. | |

| Alarm 600 | Trigger Held | Error |
|--------------------|---|--------------|
| Message | Trigger held active | |
| Description | Trigger was already active when system reached ready state. | |
| Possible Solutions | Possible trigger line broken or connection. | |

| Alarm 601 | Trigger while Busy | Error |
|--------------------|--|--------------|
| Message | A trigger line was asserted while the system was not ready | |
| Description | A digital input was triggered while system was busy. | |
| Possible Solutions | Input trigger held active while system was busy. | |

| Alarm 625 | Saved Cycle Reference | Info |
|--------------------|---|-------------|
| Message | Cycle reference saved for Recipe \$SHORT1 | |
| Description | A new reference profile was saved. | |
| Possible Solutions | | |

| Alarm 626 | Counters reset | Info |
|--------------------|-------------------------------------|-------------|
| Message | Counter \$LONG was reset (0=A, 1=B) | |
| Description | The resettable counter was reset. | |
| Possible Solutions | | |

| Alarm 650 | Sensor Disconnect | Critical |
|--------------------|---|-----------------|
| Message | Refractive index sensor not connected | |
| Description | The refractive index sensor is not responding. The sensor may be malfunctioning or has become disconnected. | |
| Possible Solutions | Confirm the unit does not have signs of damage. If problem continues, call an Entegris representative for more information. | |

| Alarm 651 | Sensor Unresponsive | Critical |
|--------------------|---|-----------------|
| Message | The refractive index sensor memory is not functioning | |
| Description | Memory on the sensor not responding correctly. | |
| Possible Solutions | Confirm the unit does not have signs of damage. If problem continues, call an Entegris representative for more information. | |

| Alarm 652 | Sensor Busy Line | Critical |
|--------------------|---|-----------------|
| Message | The refractive index sensor busy line is not functioning | |
| Description | Busy line from sensor not responding correctly. | |
| Possible Solutions | Confirm the unit does not have signs of damage. If problem continues, call an Entegris representative for more information. | |

| Alarm 653 | Air Reference Error | Critical |
|--------------------|---|-----------------|
| Message | The refractive index sensor requires Sensor Initialization | |
| Description | The refractive index sensor requires Sensor Initialization. | |
| Possible Solutions | Execute the Sensor Initialization command. | |

| Alarm 654 | Invalid RI Calibration | Critical |
|--------------------|---|-----------------|
| Message | The refractive index sensor requires calibration | |
| Description | The refractive index sensor requires calibration. | |
| Possible Solutions | Try restoring factory configuration. | |

| Alarm 655 | Sensor Error Window | Critical |
|--------------------|---|----------|
| Message | The refractive index sensor cannot obtain valid sensor temperature measurement | |
| Description | The sensor has stopped measuring valid sensor temperature, it may have open or short circuited. | |
| Possible Solutions | Clear alarms and try again. Attempt power cycling the unit. | |

| Alarm 656 | Sensor Error PCB | Critical |
|--------------------|---|----------|
| Message | The refractive index sensor cannot obtain valid sensor temperature measurement | |
| Description | The sensor has stopped measuring valid sensor temperature, it may have open or short circuited. | |
| Possible Solutions | Clear alarms and try again. Attempt power cycling the unit. | |

| Alarm 657 | Sensor Error Potting | Critical |
|--------------------|---|----------|
| Message | The refractive index sensor cannot obtain valid sensor temperature measurement | |
| Description | The sensor has stopped measuring valid sensor temperature, it may have open or short circuited. | |
| Possible Solutions | Clear alarms and try again. Attempt power cycling the unit. | |

| Alarm 675 | Dark Reading Error | Warning |
|--------------------|---|---------|
| Message | Background light in dark read is too high for sensor to obtain valid measurement | |
| Description | The background light is too high for the sensor to read properly. Please reduce background light and try again. | |
| Possible Solutions | Reduce light exposed to GV148 sensor. | |

| Alarm 676 | Dark Reading Error Automatically Cleared | Warning |
|--------------------|--|---------|
| Message | Background light in dark read has been sufficiently reduced for sensor to resume obtaining valid measurements | |
| Description | The background light has been sufficiently reduced for sensor to resume obtaining valid measurements, no action is required. | |
| Possible Solutions | | |

| Alarm 677 | Sensor in Air | Warning |
|--------------------|--|---------|
| Message | The sensor does not have sufficient chemistry to obtain valid measurement | |
| Description | The sensor may be exposed to air, ensure chemistry is sufficiently being supplied to sensor. | |
| Possible Solutions | Make sure chemistry is applied to sensor. | |

| Alarm 678 | Sensor in Air Automatically Cleared | Warning |
|--------------------|--|---------|
| Message | The sensor is now being supplied with sufficient chemistry for the sensor to resume obtaining valid measurements | |
| Description | Sufficient chemistry is now being supplied for the sensor to resume obtaining valid measurements, no action is required. | |
| Possible Solutions | | |

| Alarm 679 | Sensor Temperature Measurement Error | Warning |
|--------------------|---|---------|
| Message | The sensor fluid temperature measurement is too extreme to make a valid measurement | |
| Description | Extreme or invalid temperatures are being measured. Please ensure sensor is not in extreme environment, a temperature rezero may be required. | |
| Possible Solutions | Reduce sensor temperature, attempt a temperature rezero. | |

| Alarm 680 | Sensor Temperature Measurement Error | Warning |
|--------------------|--|---------|
| Message | The sensor fluid temperature measurement is now within normal limitations required for valid measurement | |
| Description | The sensor fluid temperature measurement is now within normal limitations required for valid measurement, no action is required. | |
| Possible Solutions | | |

| Alarm 681 | Pixel Calculation Error | Warning |
|--------------------|---|---------|
| Message | The sensor cannot obtain a valid measurement | |
| Description | The sensor cannot obtain a valid measurement. | |
| Possible Solutions | Power cycle unit and try again. | |

| Alarm 682 | Pixel Calculation Error Automatically Cleared | Warning |
|--------------------|---|---------|
| Message | The sensor has resumed obtaining valid measurements | |
| Description | The sensor has resumed obtaining valid measurements, no action is required. | |
| Possible Solutions | | |

| Alarm 683 | Dark Reading Error | Warning |
|--------------------|---|---------|
| Message | Background light in light read is too high for sensor to obtain valid measurement | |
| Description | The background light is too high for the sensor to read properly. Please reduce background light and try again. | |
| Possible Solutions | Reduce light exposed to GV148 sensor. | |

| Alarm 684 | Dark Reading Error Automatically Cleared | Warning |
|--------------------|--|---------|
| Message | Background light in light read has been sufficiently reduced for sensor to resume obtaining valid measurements | |
| Description | The background light has been sufficiently reduced for sensor to resume obtaining valid measurements, no action is required. | |
| Possible Solutions | | |

| Alarm 685 | Pixel Position Threshold Error | Warning |
|--------------------|--|---------|
| Message | The sensor cannot obtain a valid measurement, the pixel edge detected is = \$USHORT0 | |
| Description | The sensor cannot obtain a valid measurement. The chemistry applied to the sensor is measuring at the edge of it's capability. | |
| Possible Solutions | Adjust refractive index of chemistry applied to sensor. | |

| Alarm 686 | Pixel Position Error Automatically Cleared | Warning |
|--------------------|---|---------|
| Message | The sensor has resumed obtaining valid measurements | |
| Description | The sensor has resumed obtaining valid measurements, no action is required. | |
| Possible Solutions | | |

| Alarm 700 | Module Memory Corrupt | Error |
|--------------------|---|-------|
| Message | The interface module is not responding | |
| Description | The interface module is not responding correctly. | |
| Possible Solutions | Power cycle unit and try again. | |

| Alarm 725 | Sensor Initialization Start | Info |
|--------------------|--|------|
| Message | Sensor Initialization (LED + Air Reference) has started | |
| Description | Sensor Initialization (LED + Air Reference) has started. | |
| Possible Solutions | | |

| Alarm 726 | Sensor Initialization | Info |
|--------------------|---|------|
| Message | Air Reference has been updated and sensor LED has been successfully initialized with Intensity = \$CPERC1 | |
| Description | Sensor initialization (LED + Air Reference) has successfully completed. | |
| Possible Solutions | | |

| Alarm 727 | Sensor Initialization Failed Air Ref | Error |
|--------------------|--|-------|
| Message | Sensor initialization failed due to an invalid air reference obtained | |
| Description | Sensor initialization failed due to an invalid air reference obtained. | |
| Possible Solutions | Retry sensor initialization | |

| Alarm 728 | Sensor Initialization Failed Dark | Error |
|--------------------|---|-------|
| Message | Sensor initialization failed due to too much ambient light | |
| Description | Sensor initialization failed due to too much ambient light. | |
| Possible Solutions | Remove ambient light on GV148 and retry sensor initialization | |

| Alarm 729 | Sensor Initialization Failed Write | Error |
|--------------------|--|-------|
| Message | Sensor initialization failed due to write to memory | |
| Description | Sensor initialization failed because the collected information could not be written to memory correctly. | |
| Possible Solutions | Power cycle unit and try again. | |

| Alarm 730 | Sensor Initialization Failed Max Current | Error |
|--------------------|--|-------|
| Message | Sensor initialization failed due to the sensor reaching it's maximum recommended current = \$CPERC1 | |
| Description | Sensor initialization failed because the LED on the sensor has exceeded recommended maximum current specification. | |
| Possible Solutions | Retry sensor initialization | |

| Alarm 731 | Sensor Initialization Failed Timeout | Error |
|--------------------|---|-------|
| Message | Sensor initialization failed due to timeout | |
| Description | Sensor initialization failed because the operation took too long to complete and terminated before it finished. | |
| Possible Solutions | Retry sensor initialization | |

| Alarm 732 | Sensor Initialization Failed Light | Error |
|--------------------|---|-------|
| Message | Sensor initialization failed due to too much ambient light | |
| Description | Sensor initialization failed due to too much ambient light. | |
| Possible Solutions | Remove ambient light on GV148 and retry sensor initialization | |

| Alarm 733 | Sensor Initialization Start | Info |
|--------------------|---|------|
| Message | Sensor Initialization (LED only) has started | |
| Description | Sensor Initialization (LED only) has started. | |
| Possible Solutions | | |

| Alarm 734 | Sensor LED Initialization | Info |
|--------------------|--|------|
| Message | Sensor LED has been successfully initialized with Intensity = \$CPERC1 | |
| Description | Sensor initialization (LED only) has successfully completed. | |
| Possible Solutions | | |

| Alarm 750 | Temperature Rezero Cleared | Info |
|--------------------|-------------------------------------|------|
| Message | Temperature rezero has been cleared | |
| Description | Temperature rezero has been cleared | |
| Possible Solutions | | |

| Alarm 751 | Refractive Index Rezero Cleared | Info |
|--------------------|--|------|
| Message | Refractive Index rezero has been cleared | |
| Description | Refractive Index rezero has been cleared | |
| Possible Solutions | | |

| Alarm 800 | Factory Configuration Saved | Info |
|--------------------|---|------|
| Message | The Factory Configuration has been saved | |
| Description | The Factory Configuration has been saved by the factory | |
| Possible Solutions | | |

| Alarm 801 | Factory Configuration Restored | Info |
|--------------------|---|------|
| Message | The Factory Configuration has been restored | |
| Description | The user has restored the unit to factory settings. | |
| Possible Solutions | | |

| Alarm 802 | Factory Restore Error | Error |
|--------------------|--|-------|
| Message | Factory Restore failed do to bad CRC, No CONFIG saved? | |
| Description | Factory Restore failed do to bad CRC, No CONFIG saved? | |
| Possible Solutions | Perform a Factory Save. | |

| Alarm 803 | Factory Restore Error | Error |
|--------------------|---|-------|
| Message | Factory Restore failed do to old version | |
| Description | Factory Restore Image is from a newer version of firmware than the current firmware | |
| Possible Solutions | Install newer version of firmware | |

| Alarm 804 | Factory Restore Warning | Warning |
|--------------------|---|---------|
| Message | Factory Restore partially failed. One or more structures were not restored. | |
| Description | Factory Restore partially failed. One or more structures were not restored. | |
| Possible Solutions | Power cycle unit and try again. | |

| Alarm 805 | Factory Save Warning | Error |
|--------------------|---|-------|
| Message | The Factory Configuration save has failed. | |
| Description | Failed to save the Factory Configuration data to NV ram | |
| Possible Solutions | Power cycle unit and try again. | |

| Alarm 825 | 40C Fluid Temperature Warning | Info |
|--------------------|--|------|
| Message | The UUT Fluid Temperature has reached a temperature above the maximum recommended operating temperature (\$CTEMP1) | |
| Description | The UUT Fluid Temperature has reached a temperature above the maximum recommended operating temperature. | |
| Possible Solutions | Reduce fluid temperature. | |

| Alarm 826 | 40C Fluid Temperature Warning Cleared | Info |
|--------------------|---|------|
| Message | The UUT Fluid Temperature has resumed operation within temperature specification (\$CTEMP1) | |
| Description | The UUT Fluid Temperature has resumed operation within temperature specification. | |
| Possible Solutions | | |

| Alarm 827 | 20C Fluid Temperature Warning | Info |
|--------------------|--|------|
| Message | The UUT Fluid Temperature has reached a temperature below the minimum recommended operating temperature (\$CTEMP1) | |
| Description | The UUT Fluid Temperature has reached a temperature below the minimum recommended operating temperature. | |
| Possible Solutions | Increase fluid temperature. | |

| Alarm 828 | 20C Fluid Temperature Warning Cleared | Info |
|--------------------|---|------|
| Message | The UUT Fluid Temperature has resumed operation within temperature specification (\$CTEMP1) | |
| Description | The UUT Fluid Temperature has resumed operation within temperature specification. | |
| Possible Solutions | | |

| Alarm 1130 | Refractive Index Rezero Test Started | Info |
|--------------------|--|------|
| Message | Self Test Started: Refractive Index Rezero | |
| Description | Self Test Started: Refractive Index Rezero | |
| Possible Solutions | | |

| Alarm 1131 | Refractive Index Rezero Test Passed | Info |
|--------------------|---|------|
| Message | Self Test Passed: Refractive Index Rezero | |
| Description | Self Test Passed: Refractive Index Rezero | |
| Possible Solutions | | |

| Alarm 1132 | Refractive Index Rezero Test Failed | Info |
|--------------------|---|------|
| Message | Self Test Failed: Refractive Index Rezero Not Accurate Enough | |
| Description | Self Test Failed: Refractive Index Rezero Not Accurate Enough | |
| Possible Solutions | | |

| Alarm 1133 | Refractive Index Rezero Test Incomplete | Info |
|--------------------|---|------|
| Message | Self Test Incomplete: Refractive Index Rezero Error | |
| Description | Self Test Incomplete: Refractive Index Rezero Error | |
| Possible Solutions | | |

| Alarm 1134 | Refractive Index Rezero Test Results A | Info |
|--------------------|--|------|
| Message | Self Test Input: Target RI = \$SRI | |
| Description | Self Test Results: Target RI = \$SRI | |
| Possible Solutions | | |

| Alarm 1135 | Refractive Index Rezero Test Results B | Info |
|--------------------|---|------|
| Message | Self Test Results: Calculated RI Offset = \$SRI | |
| Description | Self Test Results: Calculated RI Offset = \$SRI | |
| Possible Solutions | | |

| Alarm 1136 | Refractive Index Rezero Test Results C | Info |
|--------------------|---|------|
| Message | Self Test Results: Calculated Offset from Target RI = \$SRI | |
| Description | Self Test Results: Calculated Offset from Target RI = \$SRI | |
| Possible Solutions | | |

| Alarm 1137 | Refractive Index Rezero Test Results D | Info |
|--------------------|--|------|
| Message | Self Test Results: Calculated Stddev during selftest = \$SRI | |
| Description | Self Test Results: Calculated Stddev during selftest = \$SRI | |
| Possible Solutions | | |

| Alarm 1138 | Refractive Index Rezero Test STDEV | Info |
|--------------------|--|------|
| Message | Self Test Failed: Refractive Index not stable enough (\$SRI) | |
| Description | Self Test Failed: Refractive Index not stable enough (\$SRI) | |
| Possible Solutions | | |

| Alarm 1170 | Analog Outputs Test Started | Info |
|--------------------|-----------------------------------|------|
| Message | Self Test Started: Analog Outputs | |
| Description | Self Test Started: Analog Outputs | |
| Possible Solutions | | |

| Alarm 1171 | Analog Outputs Test Passed | Info |
|--------------------|----------------------------------|------|
| Message | Self Test Passed: Analog Outputs | |
| Description | Self Test Passed: Analog Outputs | |
| Possible Solutions | | |

| Alarm 1172 | Analog Outputs Test Failed | Info |
|--------------------|----------------------------------|------|
| Message | Self Test Failed: Analog Outputs | |
| Description | Self Test Failed: Analog Outputs | |
| Possible Solutions | | |

| Alarm 1173 | Analog Outputs Test Incomplete | Info |
|--------------------|---------------------------------------|-------------|
| Message | Self Test Incomplete: Analog Outputs | |
| Description | Self Test Incomplete: Analog Outputs | |
| Possible Solutions | | |

| Alarm 1174 | Analog Output Override Concentration | Info |
|--------------------|--|-------------|
| Message | Self Test Results: Concentration Analog Output Overridden = \$CTEMP1 | |
| Description | Self Test Results: Concentration Analog Output Overridden = \$CTEMP1 | |
| Possible Solutions | | |

| Alarm 1175 | Analog Output Override Temperature | Info |
|--------------------|--|-------------|
| Message | Self Test Results: Temperature Analog Output Overridden = \$CTEMP1 | |
| Description | Self Test Results: Temperature Analog Output Overridden = \$CTEMP1 | |
| Possible Solutions | | |

| Alarm 1176 | Analog Output Override RI | Info |
|--------------------|---|-------------|
| Message | Self Test Results: Refractive Index Analog Output Overridden = \$CTEMP1 | |
| Description | Self Test Results: Refractive Index Analog Output Overridden = \$CTEMP1 | |
| Possible Solutions | | |

