

Maxum Alarm Code Beschreibung Rev 1.0

alarm #	Message	Description	Suggested actions
301	? External Message: send failure	A message was received from itself or source of message can't be identified or Gateway is too busy or communication was disrupted between the	Reset Gateway or Syscon
302	? External Message: server lost	doesn't occur	
303	+ External Message: B4 invalid communication from unit %3	Message was received from ADH unit that had previously broadcast with no slots or slot is out of range.	Reset ADH unit.
304	+ External Message: Orphan message received from %3	A external PANDSP was received with no matching PANKEY, or an ATTACH was received with no matching RATCH, or an internal timeout was generated for non-existent message.	Ignore or reset Syscon
305	? External Message: Invalid Message Length for %3	Results, print, HAE, or Service Panel messages received from database that have no length.	Check database set up for these messages.
306	+ External Message: Send invalid communication to unit %3	Message from database is directed to an ADH unit that has no slots, an invalid range of slots, or no UID has ever been received.	Check ADH unit.
307	! External Message: Duplicate anlz_id %3 detected ; setting to zero	A ZIP message was received from another ADH unit, or another Maxum has broadcast with the same analyzer #.	Check other units on network
308	! External Message: Duplicate UNIT %3 detected; setting loop/unit to zero	A SLEP message has been received. Another ADH unit has broadcast with the same loop/unit	Check other units on ADH
309	? External Message: RUD:Unit does not respond; loop/unit %3	Occurs when loop/unit does not respond to a RUD message - originates from I/O, Host, or Printer table in database	Remove extraneous references to non-existent units. Check ADH connection.
310	? External Message: Unit not known for %3	Message was received from database to send to an unknown unit.	Unit has not broadcast its presence on the ADH.
311	? External Message: Error for Activation of EVT on %	Bad HAE message was sent by database	check procedure

alarm #	Message	Description	Suggested actions
312	? External Message: Send error for %3	Send failure for UDP outgoing message sequences	This is a general failure that would indicate trouble on the network.
313	? External Message: Invalid TOR sequence on %3	A SEND message was received from external unit when there are no results to send	Check result transmit, # of results.
314	? External Message: Anlz: %3 & Anlz: %4 have L/U conflict	doesn't occur	
315	? External Message: Anlz id exceeds allowable limit for ADH	FUNCT 88 Alarm message received from HCI-H - or database attempted a broadcast with an analyzer_id > 255	Check analyzer ID
316	? External Message: Host: Anlz 1 to 50 conflict	FUNCT 89 Alarm message received from HCI-H	check # results and # streams
317	? External Message: Host: anlz 51-254 - >1 stream or >9 components	FUNCT 90 Alarm message received from HCI-H	check # results and # streams
319	? External Message: Host: invalid data received from anlz	no results are marked for transmission	check trtval in result table
320	? External Message: %3 Timeout for %4	message timeout for ADREQ, REXD, results, HAE, Print, FUNCT	reset syscon
321	+ External Message connection opened on: %3	Normal message from reset	nothing
322	? no ADH connection detected %3 failed	no message handler	reset Syscon check boot options
323	? External Message: Invalid LOOP %3 detected ; setting loop/unit to zero	A WRLP message has been received from ADH.	Check Loop
332	! Run Method: No module found for detr: %3	can't locate sne module for pressure/temperature	check app_tempctl, app_pressctl for hrdwr_id
333	! Run Method: No Detr found or bad status for method.channel: %3	realtime chrom attempt on invalid detector, or bad status on detector	check hrdwr_id, module for app_detector
334	! Run Method: No Channel found for method: %3	No channels are present or can't find detector for channel	check app_detector, EZChrom method
336	! SNE connection closed on %3 error: %4	sne connection closed due to timeout or error	Check SNE

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338	? SNE %3 Method %4 Can not Store Chrom	results received from SNE for unknown stream	check stream table
339	? SNE %3 Method %4 Application %1 not found	can't find application or method to match SNE results	nothing
340	! SNE %3 Method %4 Load - Invalid Method	invalid method detected by SNE	download method from EZChrom
341	! SNE %3 Method %4 Inactive	SNE sent message that method is inactive	restart application
342	! SNE %3 Method %4 Load - Max Method exceeded	SNE sent message that maximum methods has been exceeded	reduce number of methods, reset Syscon
343	! SNE %3 Method %4 Load - Invalid Mode	Invalid run/hold sent to SNE	reset Sycon or try again
344	! SNE %3 Method %4 status - unknown error %5	unknown error from SNE methodstatus	reset SNE/Syscon
345	! Stream Valve does not exist	can't find appdo or sys_do for DO set in cycle_events	check DO id in cycle_enents
346	! SNE %3 Write IO %4 does not exist %5	doesn't occur from database	
347	! SNE %3 Read IO %4 does not exist	IO read was sent to SNE that doesn't exist	reset SNE/Syscon
348	! SNE %3 RT chrom %4 does not exist	realtime chrom request to non-existent SNE	reset SNE/Syscon
349	349 ! SNE %3 Method %4 - Write attempted on active method	not used	
350	! SNE Module I/O error 0x %3 on %4	An operation attempted on an attached SNE module failed	Report the error number %3 and the module %4 to Customer Support
351	! SNE pSOS error 0x %3 on %4	System Software Failure	Report System error %3 and module %4 to Customer Support
352	! SNE pSOS Driver error 0x %3 on %4	Driver Software Failure	Report Driver Error %3 and module %4 to Customer Support
353	! SNE AAI Driver error 0x %3 on %4	AAI custom driver failure	Report Driver Error %3 and module %4 to Customer Support

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354	? SNE TFTP load Error on %3 : %4	tftpload failure	Check to see that TFTP server is running and that the correct information for IP address and file location is correct. Then try again
355	? SNE FLASH Driver Error on %3 : %4	Flash Memory Failure	If persistent, replace SNE
356	! SNE %3 Stream/Method %4/%5 does not exist	results received from SNE- can't locate stream/method	check sequence
360	! %3 %4	General SNE Fault	Should not occur, report to Customer Support
361	? %3 %4	General SNE Warning	Should not occur, report to Customer Support
362	+ %3 %4	General SNE Note	Should not occur, report to Customer Support
363	! invalid function request %3 from SYSCON	SYSCON sending corrupt messages or SNE/SYSCON messages are out of sync	Reset System
364	? No realtime buffer exists for detector on DPM %4	Detector data being collected for a detector that wasn't properly enabled.	If received during a load sequence, it is an artifact of the shutdown sequence. Otherwise, record occurrence and %4 and report to Customer Support
365	! Incomplete Analysis on channel %3	EZChrom analysis was not completed on channel	Try modifying integration events in method. Send offending method to Customer Support
366	! Data Corruption Error	Major Data corruption on SNE.	Reset SNE, report error
367	! System Error %3 in File %4 line %5	System Software Failure	Record sequence leading to occurrence and report error with values of %3, %4 and %5 to Customer Support
368	! Unable to find %3 number %4	Hardware specified in Method is not in analyzer	Check method
369	! Unsupported channel type %3	Hardware channel operation requested for an invalid channel type	Inspect for current version of SNE software. May require a reload or rebuild of corrupted SysCon database
370	? No channel %3 on DPM %4 for realtime display	Realtime display requested for a detector channel that doesn't exist	This should not be possible except from a corrupted database.
371	! Invalid channel acquisition overlap on %3	Two channels referencing the same hardware detector are scheduled to acquire at the same time.	If you have multiple application detector channels assigned to the same hardware detector, make their times do not overlap

alarm #	Message	Description	Suggested actions
372	! Scheduling error %3 scanning %4 # %5 channel %6	Unable to schedule all event and polling routines.	May either be a memory or hardware failure problem. If method schedules an inordinate number of events as well as all 18 detectors, try removing some of the events or deleting some of the detectors and resetting the SNE.
373	! Module I/O error %3 on %4 # %5 channel %6	Module %4 number 5 had an error in an operation dealing with channel 6	This error should not occur in up to date analyzers. They are now interpreted by SysCon.
374	! Internal communication error %3	Software modules inside SNE are failing to communicate. Usually happens with out of memory condition resulting from SysCon timeout	Take actions to insure SysCon is not bogged down with excessive processing requirements
375	! End of cycle missed; stopping cycle	The message that coordinates the end of a method around the SNE Tasks was lost	SNE operation is compromised and needs to be reset. Check and see if there is any way to reduce the complexity of the SNE setup or replace SNE
376	+ Adjusting cycle clock master	Not valid for recent versions	
377	! Error %3 scheduling cycle clock master adjustment	Resource for scheduling adjustment of event clock cannot be found	SNE may be overloaded. Try reducing complexity of tasks for SNE. SNE will need to be reset before event clock overflow.
378	+ %3 samples adjusted on chrom from channel %4	An inordinate number of samples had to be adjusted on Chrom	This should only occur in conjunction with some DPM alarms. Replace affected DPM.
379	! Error %3 preparing analysis for channel %4	EZChrom processing error	Check integration events, try to modify any potentially problem events.
380	! Error %3 finding chrom peaks for channel %4	EZChrom processing error	Check integration events and peak table and modify any potential problem areas
381	! Error %3 generating results for channel %4	EZChrom processing error	Check method for any problems that could affect results. For example, a common problem has been setting the threshold value too low such that many peaks are detected in the noise of the chromatogram.

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382	! EZchrom server failed	Resource problem on SNE	Attempt to reduce SNE workload or replace SNE
383	? Software Watchdog Timeout	SNE is running out of processing throughput	See if SNE workload can be reduced
384	! Method Modification Failed	An attempt to modify a running method failed	Most probably was fed invalid data. Please check that modification was valid.
385	? Event Occured before modification request	Before a modification of a running method was completed, the event occurred	
386	! Invalid Cycle Length %3	A cycle length larger than the maximum size was specified in a method	Most likely a corrupt method, since the maximum cycle length is approximately 2 days.
387	! Invalid Sample Rate %3 on channel %4	Invalid sample rate value chosen for channel in method	
388	! Acquisition time greater than cycle length on channel %3	Start and stop acquisition times for a detector exceeded the method cycle length	Decrease acquisition time or increase cycle method time
389	! Invalid Event Type %3 for event %4	Invalid event downloaded with method	Check for proper SNE version or rebuild method
390	! Invalid Start Time %3 for event %4	Event time specified that is not within the cycle start and stop times	
391	? %3 messages not sent to Syscon from SNE	Some messages that the SNE attempted to send to SysCon were lost. Results may be unpredictable	
392	? %3 Detector underflows detected on channel %4 of module %5	Detector is reading a raw value of 0. It is potentially clipping the signal at the low value	
393	? %3 Detector opens detected on channel %4 of module %5	Detector channel is not connected	
394	? %3 Unexpected Calibration points on channel %4 of module %5	Detector channel went unexpectedly into calibration mode	Replace DPM if persistent
395	? %3 Detector overflows on channel %4 of module %5	Detector is reading above its maximum value and the signal is being clipped	
396	! SNE out of memory at %3 line %4		Try to alleviate SNE workload. Please report %3 and %4 values to Customer Support

alarm #	Message	Description	Suggested actions
397	! Invalid Trace from channel %3	No longer used	
398	! Invalid Number of Temperature Program Segments	The number of temperature program setpoints was different from the number sent	Try to rebuild temperature program for method
399	+ Results not calculated for Channel %3	No longer used	
400	! Sync Bus Failure %3	Sync Bus Test failed	Replace SNE
402	+ SNE reset requested	SysCon requested a reset from the SNE.	Usually means that the communications between the SNE and SysCon timed out. This is can happen when SysCon is overloaded
403	! Configured Detector %3 Balance Failure	Balance Failure from an Advance+ detector	Check detector elements
404	? All Methods must be in Hold before Configuring Detectors	All methods must be in hold while describing any configured detectors	
511	! Program Failed event # %3 %4	error running MaxBasic program called from an external source	check message and program
512	? Program execution cancelled: event # %3	doesn't occur	
513	! Program Failed: Run requested on running event # %3	doesn't occur	
514	! Program Invalid frequency; disabling event # %3	invalid program frequency	check freq_unit
561	+ Ezchrom download	doesn't occur	
562	+ Ezchrom upload for app %1 method %3	doesn't occur	
671	! Database: Failure: %3	1. can't find method; 2.can't find MaxBasic program 3. Invalid stream for program 4. Bad status on external result	1. check methods, sequences 2. Check program table 3. Check program streamcontext 4. Verify extresult table entries

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672	! Database: Remote Service lost on %3	doesn't occur	
673	! Database:value > limit: %3	limit exceeded	defined in limit and alarmhandler tables
674	! Database value < limit: %3	limit exceeded	defined in limit and alarmhandler tables
675	! Database: No Stream at cycle start on applicaton %1	can't locate stream to start	check sequence; make sure that the entries are enabled
676	! Database: delay limit exceeded on stream %3	temperature or pressure wait has been exceeded	check temp or press controller
677	! Next Stream Error	can't locate next stream in sequence	check sequence
678	! End of Cycle ocured before events complete	entry in program execution table at the end of cycle	probably bogus - removed in Version 3.1
679	! Application is out of service	attempt was made to move results for an out of service application	put application in service
680	? print job failed: %3 for Printer: %4	print failure	print again
681	! Application is disabled	attempt was made to set disabled application to run	enable application
682	! Database: i/o failure: %3	bad status on AO, DO write	check l/o channels
683	! Database: no normal sequence for application: %3	no active sequence	check sequences
684	! Database: no enabled entries in sequence	can't find enabled entry in sequence	check sequence
685	? Printer: TCP connection or queue failed	Printer connection failed	check address in printer table
686	? Printer: TCP Print failed	communication failure with TCP printer	try again
687	! Results for cycle %3 lost due to SNE reset		automatically repaired - no action necessary
688	! method is corrupt: %3 reload from EZChrom	method is corrupt	download method from EZChrom
691	? Database: Warning: %3	doesn't occur	
692	! Database: Divide by zero in %3	peak measured value is zero	check method
693	? Database: i/o warning: %3	doesn't occur	

alarm #	Message	Description	Suggested actions
694	? Database:value > limit: %3	limit exceeded	
695	? Database value < limit: %3	limit exceeded	
696	? DB: Screen access denied	doesn't occur	
697	! DB: Run requested on disabled program: %3	doesn't occur	
698	? MODBUS: NAU %3 not available to receive results	1. No analyzer reference in host table for Maxum Modbus 2. Can't open remote analyzer for Maxum Modbus	1. Check host table anlzref 2. Check network+D15
699	? MODBUS: result is not in address map %3	can't find address in map for result or analyzerstatus that came from an analyzer	check modbus_addmap
700	? MODBUS: Analyzer %3 not available to receive host commands	analyzer can't be opened from NAU	check network, reset Syscon
701	? MODBUS: scale factor or euhi absent for %3	doesn't occur	
702	? MODBUS: host command for %3 invalid; undefined database location	doesn't occur	
703	? MODBUS: host command for undefined address: %3	host message received that is for an unknown address	check modbus_addmap
704	? MODBUS: host can't write to this address: %3	The address is not defined with a value_type that the host can send messages to	check value_type of address im modbus_addmap
705	? MODBUS: host command can't be processed: %3	1. Invalid host command was sent to an optichrom 2. EUHI, calibrate, stream select, skip stream, run/hold, doset set from host that can't be located in analyzer table	1. Can't clear alarms on optichrom 2. Check analyzer
706	? MODBUS: can't locate euhi %3	can't find euhi for result	check euhi address in modbus_addmap_result table
707	? Calibration rejected: margin exceeded for %3	peak margins exceeded on auto calibration	check peak margins in EZChrom

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708	? MODBUS: Data type failure for address: %3	data_type mismatch with value_type	check modbus_addmap. This is usually self-correcting, but changes should be checked.
711	+ Database: %3	doesn't occur	
712	! System Startup Ver: %3 - %4 on %5	Syscon has been reset	normal
713	+ System backed up	doesn't occur	
714	+ All alarms cleared	doesn't occur	
900-996	custom alarms from alarmhandler table	text as in alarmhandler table	
715	+ Database Build	doesn't occur	
997	3%	general alarm - may originate from MaxBasic	nothing
998	? %3	general alarm - may originate from MaxBasic or be a general DB runtime error	runtime errors should be reported immediately to SAAI customer support - please make careful note of the alarm message.
999	! %3	general fault alarm - may originate from MaxBasic, or may be software problem	runtime errors should be reported immediately to SAAI customer support - please make careful note of the alarm message.
1002	Id Key Not Connected on %4	All PICs: The module location id connector is disconnected or set to 0. This is an abnormal condition and the module is not guaranteed to be operational	Verify that the location id connector is in good condition and connected properly.
1003	Id Key Change on %4	All PICs: The module location id value was changed while the module was operating. This is a transient error. When it happens, the module automatically resets and can then be addressed at the new location id. The module is operational at the new address.	Verify that the location id connector is in good condition and tightly connected. Check for intermittent connection.

alarm #	Message	Description	Suggested actions
1004	EEPROM Bad Checksum on %4	All PICs: A checksum error was detected in the module EEPROM. The firmware will still use all the information that it can read from the EEPROM, however the module may not operate normally.	Cycle power and if it happens again replace the module
1005	Temp Diag Error on %4	All PICs: The on-board temperature sensor (LM-75) diagnostic failed. The alarm generation in case of a module overheat (alarm #1044) may not happen. This alarm is in no way related to and should not be confused with the Overtemp Shutdown on a temperature controller. This alarm is known to happen occasionally, on fully functional board, following a board reset.	Nothing should be done unless it happens systematically. If it does, replace the module
1007	Firmware Fault on %4	All PICs: A "run-time" error was detected in the PIC firmware. For example, a timer is turned off at a point where the firmware expects it to be on. The firmware will attempt to recover. Usually an additional specific flag will be set to provide more information about the cause of the fault	Report to AAI for further investigation
1008	EEPROM Bad Value on %4	All PICs: A value read from EEPROM is out-of-range or invalid. This may happen if a board's EEPROM was incorrectly initialized during manufacturing. It may also happen if the EEPROM was not at all initialized and is then set together with the EEPROM_BAD_CHECKSUM flag	Cycle power and if it happens again replace the module

alarm #	Message	Description	Suggested actions
1009	Local I2C error on %4	All PICs: A fatal error was detected while accessing the internal, on-board I2C bus (not to be confused with the private bus between a SNE and a DPM). The communication with the on-board EEPROM or the LM75 (on board temperature sensor) is not working normally.	Cycle power and if it happens again replace the module
1010	Fatal error on %4	All PICs: An error or an invalid operational condition was detected by the PIC firmware. The board is shutdown to a failsafe mode.	Report to AAI for further investigation
1041	AO Out Of Range on %4	All PICs: An AO was set to a value outside of the allowed range. The value was clipped to the allowed range. For example an EPC has a 0 to 100 psi nominal range for the pressure setpoint. An attempt to set the setpoint to 150 psi results in an "AO out of range" and the setpoint is clipped to remain within the allowed range (100 psi).	Locate the problematic AO and change the AO value to a value within the proper range.
1042	Invalid Group Channel on %4	All PICs: The hardware I/O channel(s) requested does not exist on the module.	Check the "Sys Hardware" table for invalid entries. Check that only detector channels are specified in the detector I/O table. Check that only EPC are defined in the pressure controller table. Check that only temperature controllers are defined in the temperature controller table.
1043	Invalid EEPROM Address on %4	All PICs: The on-board EEPROM addresses requested do not exist or cannot be accessed within a single command. Should happen only during board manufacturing.	Report to AAI for further investigation

alarm #	Message	Description	Suggested actions
1044	Board over-heating on %4	<p>All PICs: The module temperature is greater than the defined maximum operating temperature (default 65 DegC) and there is now a possibility that the module life expectancy will be reduced because of overheating. This alarm is in no way related to and should not be confused with the Overtemp Shutdown on a temperature controller. An over-heating condition can cause permanent damages to the analyzer electronic and should be dealt with as soon as possible.</p> <p>Note: This alarm can show together with an alarm 1005 (Temp Diag Error) in which case the board may not be really overheating.</p>	<p>If the overheating condition is real, determine and fix the cause of high operating temperature. Look for:</p> <ul style="list-style-type: none"> <li>Ambient temperature higher than specification</li> <li>Inoperative fan in the EC (restricted air flow inside the EC)</li> </ul>
1045	Output Locked on %4	<p>All PICs: The state of the DO or the value of the AO are locked and cannot be changed. The AO or DO command was ignored. Some DO and AO are locked during a board self-test.</p>	<p>When performing a board self-test, all other operation affecting the board should be suspended.</p>
1081	Data Not Ready on %4	<p>All PICs: The data requested is not available. Should happen only during board manufacturing.</p>	<p>Report to AAI for further investigation</p>
1082	Reset Detect on %4 %5	<p>All PICs: A reset was detected. Normal indication that the PIC was reset</p>	<p>Ignore</p>
1083	Power Up on %4 %5	<p>All PICs: A power-up cycle was detected. Normal indication that the PIC was just powered-up</p>	<p>Ignore</p>

alarm #	Message	Description	Suggested actions
1084	I2C Timeout on %4	All PICs: An I2C communication timeout timer has expired. The timer is reset after each successful character processed. Only an addressed module may get a timeout. The timeout is checked on character going in as well as character going out	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
1085	I2C Read Past End on %4	All PICs: The I2C communication master did not stop reading after the complete response had been sent.	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
1086	I2C Buffer Overflow on %4	All PICs: The combination of the transmit and receive I2C message was too big causing a buffer overflow. (With kernel rev 1: SSP_READ_UNEXPECTED_STOP, a stop condition occurred before the end of the response)	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
1087	I2C Write Past End on %4	All PICs: In an I2C message, more than the number of bytes specified by the length was written. The extra bytes are ignored.	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
1088	I2C Resync Error on %4	All PICs: Severe I2C error, causing the current message to be dropped. It will re-synchronize after the next START or STOP condition. Most of the time this is associated with an alarm 1092.	I2C communication error, refer to "I2C Communications Troubleshooting.doc"

alarm #	Message	Description	Suggested actions
1089	I2C Write Unexpected Stop on %4	All PICs: A new I2C message was received in the middle of a write. The old message was discarded and the new message is served (this message may be out of sequence and therefore cause other flags to be set). (With kernel rev 1: SSP_WRITE_UNEXPECTED_STOP, During a slave write, a stop condition occurred before the message was completed. The message is ignored )	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
1090	I2C Write Unexpected Strt on %4	All PICs: A new I2C message was received in the middle of a read. The old message was discarded and the new message is served (this message may be out of sequence and therefore cause other flags to be set). (With kernel rev 1: SSP_WRITE_UNEXPECTED_START, During a slave write a Start or Repeat Start (RS) condition was detected before the entire message was received (according to the length field). The message is ignored and processing resumes following the Start or Repeat Start )	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
1091	I2C Write Before Read on %4	All PICs: An attempt was made to write an I2C message before reading the response from a previous message. This means that an attempt was made to do a Slave Write - RepeatStart - Slave Write combination	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
1092	I2C Read Unexpected on %4	All PICs: An I2C read from the peripheral was attempted before a slave write loaded a command	I2C communication error, refer to "I2C Communications Troubleshooting.doc"

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1093	I2C Invalid Checksum on %4	All PICs: An I2C message with an invalid checksum was received. The message was ignored	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
1094	Data not available on %4	All PICs: Some data was lost and is no longer available. For a detector channel it means that a "Detector Read" command was received with an invalid index. This can happen when a request to retransmit detector data came too late when the data was already gone from the buffer. This situation may also happen while accessing the I/O related to the LM75 (BOARD_TEMPERATURE and OVERTEMP_SETPOINT). It indicates that the local I2C bus was not available to perform the desired action.	Cycle power and if it happens again replace the module or the SNECON
1095	Invalid Message on %4	All PICs: An I2C message with a valid checksum was not recognized or had an invalid op-code	Cycle power and if it happens again replace the module and/or the SNECON
1121	Firmware Math error on %4	All PICs: An unexpected math operation error was detected by the PIC. It can be an un-handled overflow, underflow, etc... This flag is always associated with a FIRMWARE_FAULT flag.	Cycle power and if it happens again replace the module
1122	Firmware Mem error on %4	All PICs: A jump or a call was made to an invalid PIC memory location causing the PIC to be reset. This flag is always associated with a FIRMWARE_FAULT flag.	Cycle power and if it happens again replace the module

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1123	Firmware Table error on %4	All PICs: An error was detected when addressing an internal PIC firmware table. The index in the table is likely to be invalid. This flag is always associated with a FIRMWARE_FAULT flag.	Cycle power and if it happens again replace the module
1124	Firmware Watchdog on %4	All PICs: The PIC watch dog timer has expired causing a module reset. This flag is always associated with a FIRMWARE_FAULT flag. It can be an indication that the I2C clock or data line was held low for more than the timeout duration (nominally 30 ms). It can also indicate that the PIC oscillator is not working normally	Cycle power and if it happens again replace the module
1125	Firmware System Monitor on %4	All PICs: The background system monitoring task has discovered a problem causing the PIC to be reset. It can be that the interrupt or timer were disabled when they should have been enabled, and the like. This flag is always associated with a FIRMWARE_FAULT flag.	Cycle power and if it happens again replace the module
1126	Firmware Application on %4	All PICs: A general PIC firmware error was encountered causing a board reset.	Cycle power and if it happens again replace the module
1317	Valve Switch Error on %4	SVCM PIC: The SVCM firmware has detected an invalid condition in the circuit driving the solenoid valves. One or more valve is likely to be malfunctioning	Replace the module
1318	J10 Disconnected on %4	SVCM PIC: The SVCM J10 connector is not properly connected and the corresponding bank of solenoid may not work	Check the corresponding connection
1319	J11 Disconnected on %4	SVCM PIC: The SVCM J11 connector is not properly connected and the corresponding bank of solenoid may not work	Check the corresponding connection

alarm #	Message	Description	Suggested actions
1617	LWH1 Output Fault on %4	PECM PIC: On-board diagnostic indicating that LWH1 is not working correctly. This diagnostic is active only when a SSR output is configured for PECM self control, when the loop-back connector is present. The diagnostic is not active when the control is from a temperature controller.	If associated with an "Invalid configuration alarm" (1659), then check the corresponding connection on J3 on PECM. Otherwise, replace the PECM
1618	Lwh2 Output Fault on %4	PECM PIC: On-board diagnostic indicating that LWH2 is not working correctly. See 1617 for more details	Check J4 on PECM ... See 1617
1619	Lwh3 Output Fault on %4	PECM PIC: On-board diagnostic indicating that LWH3 is not working correctly. See 1617 for more details	Check J5 on PECM ... See 1617
1620	Lwh4 Output Fault on %4	PECM PIC: On-board diagnostic indicating that LWH4 is not working correctly. See 1617 for more details	Check J6 on PECM ... See 1617
1621	Lwh5a Output Fault on %4	Not implemented...	
1622	Lwh5b Output Fault on %4	PECM PIC: On-board diagnostic indicating that LWH5B is not working correctly. See 1617 for more details	Check J7 on PECM ... See 1617
1623	Lwh6a Output Fault on %4	Not implemented...	
1624	Lwh6b Output Fault on %4	PECM PIC: On-board diagnostic indicating that LWH6B is not working correctly. See 1617 for more details	Check J8 on PECM ... See 1617
1625	ABH1 Output Fault on %4	PECM PIC: On-board diagnostic indicating that ABH1 is not working correctly. See 1617 for more details	Check J91 on PECM ... See 1617
1626	ABH2 Output Fault on %4	PECM PIC: On-board diagnostic indicating that ABH2 is not working correctly. See 1617 for more details	Check J92 on PECM ... See 1617

alarm #	Message	Description	Suggested actions
1627	ABH Ctrl Plug Missing on %4	PECM PIC: The air bath heater control cable is missing in J9 and at least one of the air-bath heaters is non-disabled. If the cable is missing, the NO_AIR_ABH_x flag will also be set on the non-disabled air-bath heater channels	If the air bath heater is not used, then disconnect J91 and J92 on PECM in order to eliminate the alarm. Otherwise check J9.
1628	ABH Air Plug Missing on %4	PECM PIC: The air-bath heater air-sensor connector is missing and at least one of the air bath heaters is non-disabled.	Check J10 on PECM.
1629	Purge Indicator not available on %4	PECM PIC: Neither the SYSCON nor the MMI level 1 LED panel is connected. It indicates that there is no purge indicator connected, the PECM has nowhere to report the purge information.	Check J1302 and J101 on PECM. Verify the cable connected into J1302.
1657	ABH1 No Air on %4	PECM PIC: The air bath heater #1 is turned off, as the air pressure is too low for a safe operation of the heater. This flag is set only if the corresponding air bath heater is in-use. The PECM considers the air bath heater in-use if a loop-back connector or a cable from a temperature controller is connected.	<p>If the channel is not in-use, disconnect the loop-back connector or temperature controller cable.</p> <p>Check the air pressure on the corresponding air bath heater. Make sure that it is 10 psi or above.</p> <p>Electrically disconnect the pressure switch and verify that it operates normally by measuring the contact resistance with a multimeter at 0 and 10 psi. Verify that with the multimeter that there is no continuity to ground. Verify the harness with the multimeter.</p> <p>Replace the PECM</p>

alarm #	Message	Description	Suggested actions
1658	ABH2 No Air on %4	PECM PIC: The air bath heater #2 is turned off, as the air pressure is too low for a safe operation of the heater. This flag is set only if the corresponding air bath heater is in-use. The PECM considers the air bath heater in-use if a loop-back connector or a cable from a temperature controller is connected.	<p>If the channel is not in-use, disconnect the loop-back connector or temperature controller cable.</p> <p>Check the air pressure on the corresponding air bath heater. Make sure that it is 10 psi or above.</p> <p>Electrically disconnect the pressure switch and verify that it operates normally by measuring the contact resistance with a multimeter at 0 and 10 psi. Verify that with the multimeter that there is no continuity to ground. Verify the harness with the multimeter.</p> <p>Replace the PECM</p>
1659	Invalid Configuration on %4	PECM PIC: An attempt is made to control a heater output with a DO command and the corresponding loop-back cable is not installed	Install or verify the corresponding PECM loopback plug
1697	Purge Loss on %4	PECM PIC: Purge failure in the EC enclosure. The pressure differential between the interior and exterior of the EC is not high enough.	Depending of the environment classification where the analyzer is used, this may be an alarm that requires immediate action to correct the situation or an alarm that can be totally ignored
1917	Balance Hardware Failure TCD L %5 on %4	Not implemented...	Not implemented...
1918	Balance Hardware Failure TCD U %5 on %4	Not implemented...	Not implemented...

alarm #	Message	Description	Suggested actions
1919	A/D Failure TCD L %5 on %4	<p>TCD DPM Detector PIC: Set when the corresponding Analog to Digital Converter hardware does not work properly. The flag will be set if the A/D internal calibration cycle is not completed within a pre-determined period of time or the A/D does not report any valid data within a pre-defined timeout period.</p> <p>Note: A firmware problem affecting the version 1.000 of the TCD detector PIC may cause an A/D failure flag to show-up occasionally following a PIC reset. This is not a sign of a defective A/D converter.</p>	Cycle power and if it happens again consistently then replace the module
1920	A/D Failure TCD U %5 on %4	<p>TCD DPM Detector PIC: Set when the corresponding Analog to Digital Converter hardware does not work properly. The flag will be set if the A/D internal calibration cycle is not completed within a pre-determined period of time or the A/D does not report any valid data within a pre-defined timeout period.</p> <p>Note: A firmware problem affecting the version 1.000 of the TCD detector PIC may cause an A/D failure flag to show-up occasionally following a PIC reset. This is not a sign of a defective A/D converter.</p>	Cycle power and if it happens again consistently then replace the module
1921	PIC Timeout on %4	Not implemented...	Not implemented...
1922	Incompatible Hardware on %4	TCD DPM Detector PIC: The PIC firmware is not compatible with the DPM board	Replace the module
1925	Glow Plug Bad on %4	See alarm 2225	See alarm 2225

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alarm #	Message	Description	Suggested actions
1926	Invalid PIC index on %4	DPM Detector PIC: The PIC index is not valid, the DPM board is not working normally	Replace the module
1927	Mezzanine disconnected on %4	See alarm 2227	See alarm 2227
1928	Mezzanine ID changed on %4	See alarm 2228	See alarm 2228
1929	Mezzanine ID invalid on %4	See alarm 2229	See alarm 2229
1930	Mezzanine ID reserved	See alarm 2230	See alarm 2230
1957	Balance Failure TCD L %5 on %4	<p>TCD DPM Detector PIC:</p> <p><i>Rev 1 TCD DPM :</i></p> <p>A detector balance sequence failed because of a hardware failure or because of an improper configuration or sequence of events. Some possible causes are:</p> <ul style="list-style-type: none"> <li>The detector beads are too unbalanced to be "balance-able".</li> <li>The detector signal is not stable enough and proper balance could not be obtained before the maximum number of iterations was reached.</li> <li>The A/D or D/A do not work properly</li> <li>The detector is not configured for acquisition or turned off.</li> <li>SIMULATE_TCD_x is set to '1', the balance cannot be done in detector simulation mode.</li> <li>The balance is disabled (DISABLE_BALANCE_TCD_x is set to '1').</li> <li>The sampling period was changed during the balance sequence.</li> </ul> <p><i>Rev 2 TCD DPM :</i></p> <p>Not implemented...</p>	Refer to a separate procedure

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alarm #	Message	Description	Suggested actions
1958	Balance Failure TCD U %5 on %4	TCD DPM Detector PIC: Same as alarm 1957 for upper channel	Refer to "Detector Balance Troubleshooting.doc"
1959	Balance Out Of Limit TCD L %5 on %4	TCD DPM Detector PIC: <b>Rev 1 TCD DPM:</b> A detector balance value is above the normal limits. The balance may still work as this is an early warning. <b>Rev 2 TCD DPM or FID DPM:</b> Not implemented	If associated with a balance failure (alarm 1957), then the source of the balance failure must be corrected. If not associated with a balance failure and the balance limits are normal (>9 Volts or 90%) then maintenance should be scheduled to replace the detector beads.
1960	Balance Out Of Limit TCD U %5 on %4	TCD DPM Detector PIC: <b>Rev 1 TCD DPM:</b> A detector balance value is above the normal limits. The balance may still work as this is an early warning. <b>Rev 2 TCD DPM or FID DPM:</b> Not implemented	If associated with a balance failure (alarm 1958), then the source of the balance failure must be corrected. If not associated with a balance failure and the balance limits are normal (>9 Volts or 90%) then maintenance should be scheduled to replace the detector beads.
1965	Flame Ignition failure on %4	See alarm 2265	See alarm 2265
1966	Gain Override on %4	See alarm 2266	See alarm 2266
1967	Gain Select not supported on %4	See alarm 2267	See alarm 2267
1968	Igniter type changed on %4	See alarm 2268	See alarm 2268
1997	Buffer Overflow TCD L %5 on %4	DPM Detector PIC: The PIC detector data buffer filled-up before an I2C command was received to retrieve the data. Some data was lost. The SNECON was not fast enough to come to retrieve the points or that the SNECON stopped polling without turning off the corresponding detector channel. This may happen with a combination of a very high speed detector with a large burst of I/O commands	Staggering the balance events and valve switching events by maybe 10-20 ms will distribute the load on the I2c bus and may fix the problem. Disconnect the SNECON debug cable (if connected) and reset. Reload SNE-OS and APP software.D155

alarm #	Message	Description	Suggested actions
1998	Buffer Overflow TCD U %5 on %4	DPM Detector PIC: Same as alarm 1997 but for the upper channel	Same as alarm 1997 but for the upper channel
1999	Detector Disabled on %4	DPM Detector PIC: An attempt was made to read detector information from a disabled detector.	Cycle power and if it happens again replace the module
2005	Flame Out on %4	See alarm 2305	See alarm 2305
2006	Bias Off on %4	See alarm 2306	See alarm 2306
2217	Balance Hardware Failure FID on %4	Not implemented...	Not implemented...
2218	Balance Hardware Failure TCD on %4	Not implemented...	Not implemented...
2219	A/D Failure FID %5 on %4	FID DPM Detector PIC: Set when the corresponding Analog to Digital Converter hardware does not work properly. The flag will be set if the A/D internal calibration cycle is not completed within a pre-determined period of time or the A/D does not report any valid data within a pre-defined timeout period.	Cycle power and if it happens again consistently then replace the module
2220	A/D Failure TCD %5 on %4	FID DPM Detector PIC: Set when the corresponding Analog to Digital Converter hardware does not work properly. The flag will be set if the A/D internal calibration cycle is not completed within a pre-determined period of time or the A/D does not report any valid data within a pre-defined timeout period.	Cycle power and if it happens again consistently then replace the module
2221	PIC Timeout on %4	Not implemented...	Not implemented...

alarm #	Message	Description	Suggested actions
2225	Glow Plug Bad on %4	FID DPM Detector PIC: The glow plug is not working correctly. The diagnostic is performed when the board is reset or when an attempt is made to light the flame. The hardware diagnostic verifies that a minimum current and voltage is present, checking for a short and open glow plug. This may also indicate that a spark igniter that is not connected properly.	Confirm that the glow plug or spark igniter cable is securely inserted in the corresponding connector. Replace the glow plug. Replace the DPM
2226	Invalid PIC index on %4	FID DPM Detector PIC: The PIC index is not valid, the DPM board is not working normally	Replace the module
2227	Mezzanine disconnected on %4	FID DPM Detector PIC: The mezzanine id value is 0 or 15 indicating the no mezzanine is present or a malfunction	Verify that the mezzanine is properly connected. Replace the mezzanine. Replace the DPM
2228	Mezzanine ID changed on %4	FID DPM Detector PIC: The mezzanine id value is not stable and has changed since the last time the board was reset. There might be a bad contact or a bad component	Same as alarm 2227
2229	Mezzanine ID invalid on %4	FID DPM Detector PIC: The mezzanine ID value is not supported by this DPM board. More specifically, the mezzanine value is pointing to a non-initialized EEPROM region on the DPM. This may indicate an invalid mezzanine board or an older rev of the DPM that was manufactured before the mezzanine board was defined.	Verify the DPM rev level and replace as needed. Replace the mezzanine.
2230	Mezzanine ID reserved	FID DPM Detector PIC: The mezzanine ID value is set to a value reserved for future expansion	Same as alarm 2229

alarm #	Message	Description	Suggested actions
2257	Balance Failure FID on %4	<p>FID DPM Detector PIC: A detector balance sequence failed because of a hardware failure or because of an improper configuration or sequence of events. Some possible causes are:</p> <ol style="list-style-type: none"> <li>1) The detector signal is not stable enough and proper balance could not be obtained before the maximum number of iterations was reached.</li> <li>2) The A/D or D/A do not work properly.</li> <li>3) The detector is not configured for acquisition or turned off.</li> <li>4) SIMULATE_FID is set to '1', the balance cannot be done in detector simulation mode.</li> <li>5) The balance is disabled (DISABLE_BALANCE_FID is set to '1').</li> <li>6) The sampling period was changed during the balance sequence.</li> </ol>	Refer to "Detector Balance Troubleshooting.doc"

alarm #	Message	Description	Suggested actions
2258	Balance Failure TCD on %4	<p>FID DPM Detector PIC: A detector balance sequence failed because of a hardware failure or because of an improper configuration or sequence of events. Some possible causes are:</p> <ol style="list-style-type: none"> <li>1) The detector beads are too unbalanced to be balanced corrected.</li> <li>2) The detector signal is not stable enough and proper balance could not be obtained before the maximum number of iterations was reached.</li> <li>3) The A/D or D/A do not work properly.</li> <li>4) The detector is not configured for acquisition or turned off.</li> <li>5) SIMULATE_TCD is set to '1', the balance cannot be done in detector simulation mode.</li> <li>6) The balance is disabled (DISABLE_BALANCE_TCD is set to '1').</li> <li>7) The sampling period was changed during the balance sequence.</li> </ol>	Refer to "Detector Balance Troubleshooting.doc".
2259	Balance Out Of Limit FID on %4	FID DPM Detector PIC: A detector balance value is above the normal limits. The balance may still work as this is an early warning	If associated with a balance failure (alarm 2257), then the source of the balance failure must be corrected. If not associated with a balance failure and the balance limits are normal (>9 Volts or 90%) then maintenance should be scheduled to clean or replace the FID detector.

alarm #	Message	Description	Suggested actions
2260	Balance Out Of Limit TCD on %4	FID DPM Detector PIC: A detector balance value is above the normal limits. The balance may still work as this is an early warning	If associated with a balance failure (alarm 2258), then the source of the balance failure must be corrected. If not associated with a balance failure and the balance limits are normal (>9 Volts or 90%) then maintenance should be scheduled to replace the detector beads.
2265	Flame Ignition Failure on %4	FID DPM Detector PIC: The FID flame could not be lit within the predefined delay (25 or 60 sec). No other attempt will be made to automatically light the flame until the MANUAL IGNITION DO is activated.	<p>If associated with an alarm 2225 (Glow plug failure), then diagnose and fix this other alarm first.</p> <p>If a BASIC program is used to control the electronic pressure controller (EPC) to adjust the gas mixture for proper ignition, confirm that the poll rate of the "IGNITE" DI is set to 2 sec.</p> <p>Check that the gas supply pressure is adequate. Verify the proper operation of the EPC.</p>
2266	Gain Override on %4	FID DPM Detector PIC: An external signal is applied to the DPM, overriding the DPM gain control. This is a normal situation if a signal is connected to the external gain select connector.	If no signal is connected, replace the DPM
2267	Gain Select not supported on %4	FID DPM Detector PIC: An attempt was made to change the gain on a particular configuration that does not support the dual gain feature. The request was ignored.	Remove any access to the GAIN_ALT_SELECT DO
2268	Igniter type changed on %4	FID DPM Detector PIC: The spark igniter was connected or disconnected during an ignition sequence, causing the ignition sequence to be aborted.	Verify that the igniter is properly connected. Replace the igniter. Replace the DPM

alarm #	Message	Description	Suggested actions
2297	Buffer Overflow FID on %4	FID DPM Detector PIC: The PIC detector data buffer filled-up before an I2C command was received to retrieve the data. Some data was lost. The SNECON was not fast enough to come to retrieve the points or that the SNECON stopped polling without turning off the corresponding detector channel. This may happen with a combination of a very high speed detector with a large burst of I/O commands	Staggering the balance events and valve switching events by maybe 10-20 ms will distribute the load on the I2c bus and may fix the problem. Disconnect the SNECON debug cable (if connected) and reset. Reload SNE-OS and APP software.
2298	Buffer Overflow TCD on %4	FID DPM Detector PIC: Same as 1997 but for the TCD channel	Same as 1997 but for the TCD channel
2299	Detector Disabled on %4	FID DPM Detector PIC: An attempt was made to read detector information from a disabled detector.	Cycle power and if it happens again replace the module
2305	Flame Out on %4	FID DPM Detector PIC: The flame is out, the data generated on FID channel is probably not valid.	Check that the flame gas supply is adequate. Verify the operation of any associated EPC.
2306	FID Bias Off on %4	FID DPM Detector PIC: The detector is used while the 300 Volts bias is disabled. The data validity is unknown.	Set the "disable bias" DO to '0'
2500	I2C Premature Stop on %4	SNECON I2C driver: A stop condition was detected in the middle of a transfer (SNECON hardware rev 2.x)	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
2501	I2C No Acknowledge (Module Disconnected?) on %4	SNECON I2C driver: No module responding to the I2C address. A module was disconnected or is no longer responding	Reset the analyzer
2502	I2C NS486 Timeout Overflow on %4	SNECON I2C driver: An I2C communication timeout condition was detected (SNECON hardware rev 2.x)	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
2503	I2C Address is Odd on %4	SNECON I2C driver: Illegal I2C address	Reset the analyzer. Reload SNE OS

alarm #	Message	Description	Suggested actions
2505	I2C Driver Not Initialized	SNECON I2C driver: An attempt was made to communicate to the I2C driver before it's initialized	Reset the analyzer. Reload SNE OS and APP
2508	I2C Improper Acknowledge on %4	SNECON I2C driver: No module responding to the I2C address. A module was disconnected or is no longer responding (SNECON hardware rev 2.x)	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
2509	I2C Invalid Message Checksum Received on %4	SNECON I2C driver: A message was received with an invalid checksum	(SNECON hardware rev 2.x): I2C communication error, refer to "I2C Communications Troubleshooting.doc". Verify that the application does not use an hardware address that does not exist.
2510	I2C Module Not Found: %4	SNECON I2C driver: No module of this "module type" and "location id" is listed in the address table	Reset the analyzer. Verify that the application does not use an hardware address that does not exist.
2511	I2C Invalid Opcode Received from %4	SNECON I2C driver: The message received corresponds to an unrecognized opcode	Reset the analyzer. Reload SNE OS and APP. Replace the SNECON
2512	I2C Error Reading ISR Queue	SNECON I2C driver: An error was detected reading a communication queue (SNECON hardware rev 2.x)	Reset the analyzer.
2513	I2C Message Too Big on %4	SNECON I2C driver: The I2C message received is too big and is not valid	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
2515	I2C Address Table Full	SNECON I2C driver: No free addresses on the I2C bus. There is a limit of 120 addresses per bus, each PIC is taking up one address	Reset the analyzer.
2516	I2C Invalid Bus on %4	SNECON I2C driver: Invalid I2C bus identification number	Reset the analyzer.
2518	I2C Unknown Address Received on %4	SNECON I2C driver: SNECON firmware internal error	Reset the analyzer.
2519	I2C Invalid Data Type on %4	SNECON I2C driver: SNECON firmware internal error	Reset the analyzer.

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alarm #	Message	Description	Suggested actions
2520	I2C Invalid Number of I/O Channels on %4	SNECON I2C driver: SNECON firmware internal error	Reset the analyzer.
2521	I2C Bus Conflict; Lost Arbitration on %4	SNECON I2C driver: An I2C communication error was detected (SNECON hardware rev 2.x)	Confirm that only 1 SNECON is present on the bus as a rev 2 SNECON cannot share the I2C bus. Refer to the I2C communication troubleshooting.
2522	I2C Using a Free Message Buffer on %4	SNECON I2C driver: SNECON firmware internal error	Reset the analyzer.
2523	I2C NS486SXF-C0 Patch Timeout on %4	SNECON I2C driver: SNECON firmware internal error	Reset the analyzer. Replace the SNECON
2525	I2C Invalid Driver Control Command on %4	SNECON I2C driver: SNECON firmware internal error	Reset the analyzer. Reload the OS and APP. Replace the SNECON
2526	I2C Capability Information Too Big on %4	SNECON I2C driver: SNECON firmware internal error	Reset the analyzer.
2527	I2C Message Lost in a Controller Reset: %4	SNECON I2C driver: A pending I2C message could not be sent and was lost as a result of a reset of the I2C interface. The cause of the reset is usually a re-occurring communication error	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
2529	I2C Invalid Capability Version; Incompatible Firmware on %4	SNECON I2C driver: An I2C module has provided an invalid device capability information message. The associated "Sys_Hardware" table may be invalid	Replace the module. Reload a newer SNE OS and APP
2530	I2C Internal Error; Invalid Daemon Function on %4	Not implemented...	Not implemented...
2531	I2C Internal Error; Invalid Info on %4	SNECON I2C driver: SNECON firmware internal error	Reset the analyzer.

alarm #	Message	Description	Suggested actions
2532	I2C Invalid Device ID Version; Incompatible Firmware on %4	SNECON I2C driver: An I2C module has provided an invalid device id information message. The module type and location id information may be invalid	Replace the module. Reload a newer SNE OS and APP
2534	I2C Internal Error; Bus Manager Invalid Command on %4	Not implemented...	Not implemented...
2537	I2C Address Table not initialized on %4	SNECON I2C driver: SNECON firmware internal error	Reset the analyzer.
2538	I2C ISR Lockup	SNECON I2C driver: The SNECON message receive indicator is stuck (SNECON rev 3.0 hardware only)	Reset the analyzer. Replace the SNECON
2539	I2C Invalid Message Status Size on %4	SNECON I2C driver: SNECON firmware internal error	Reset the analyzer. Replace the SNECON
2540	I2C Message Too Short on %4	SNECON I2C driver: An I2C message received by the SNECON in too short to be valid	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
2541	I2C FPGA Queue Full on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Replace the SNECON
2542	I2C FPGA Write Before End on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Replace the SNECON
2543	I2C FPGA Write After End on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Replace the SNECON
2544	I2C FPGA Message Too Short on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Replace the SNECON
2545	I2C FPGA Invalid Checksum on %4	SNECON I2C driver: SNECON on-board communication error. Is known to happen very infrequently with SNECON I2C FPGA rev 23 or lower (SNECON rev 3.0 hardware only)	Ignore the alarm. If happening too frequently, replace the SNECON
2546	I2C FPGA Invalid Size on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software. Replace the SNECON

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alarm #	Message	Description	Suggested actions
2547	I2C Heartbeat Timeout Expired; Resetting Controller	SNECON I2C driver: A SNECON PIC was not responding and was reset (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software. Replace the SNECON
2549	I2C Heartbeat Counter Mismatch on %4	SNECON I2C driver: One or more messages were lost on the on-board communication (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software. Replace the SNECON
2550	I2C Invalid Message Status on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software. Replace the SNECON
2551	I2C Internal Error; Invalid Block Structure ID on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software
2552	I2C Internal Error; Invalid Block Offset on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software
2553	I2C Internal Error; Invalid Block ID on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software
2554	I2C Internal Error; New Block Offset Non-Zero on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software
2555	I2C Internal Error; Block Table full	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software
2556	I2C Not Enough Memory	SNECON I2C driver: SNECON firmware internal error	Reset the analyzer. Reload the SNECON OS software
2557	I2C Internal Error; Block Too Big on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software
2558	I2C Internal Error; Block Not Found on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software
2559	I2C Internal Error; Invalid Block Size on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software
2560	I2C Driver OS and Application version mismatch	SNECON I2C driver: The version number of the SNECON OS is incompatible with the SNECON APP version	Reload the OS and APP
2562	I2C Internal Error; Bad state on %4	SNECON I2C driver: SNECON firmware internal error	Reset the analyzer. Reload the SNECON OS software

alarm #	Message	Description	Suggested actions
2563	I2C FPGA bad version	SNECON I2C driver: The SNECON I2C FPGA is incompatible or broken	Reload the OS with the newest version. Replace the SNECON
2564	I2C Temperature Block Version Invalid	SNECON I2C driver: The temperature controller PID parameter data block supplied by the SYSCON is incompatible	Reload the SNECON OS and APP to the corresponding SYSCON version
2565	I2C Opcode not expected in current state on %4	SNECON I2C driver: Unexpected I2C message opcode received by the SNECON from a module	I2C communication error, refer to "I2C Communications Troubleshooting.doc"
2566	I2C Modules were reset following multiple errors	SNECON I2C driver: A fatal error or multiple consecutive retries have forced the I2C controller to reset	Usually indicates a severe I2C communication error, refer to "I2C Communications Troubleshooting.doc"
2567	I2C Header Index Mismatch; Message Lost	Not implemented	Not implemented...
2568	I2C Internal Error; Invalid Block Index on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software
2569	I2C FPGA Queue Full on %4	SNECON I2C driver: The SNECON I2C FPGA queue is full, the PIC is no longer processing I2C message	Reset the analyzer. Replace the SNECON
2570	I2C FPGA Packet Too Big on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software. Replace the SNECON
2571	I2C FPGA Recovery Failed on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software. Replace the SNECON
2572	I2C FPGA Read in progress not set after header on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software. Replace the SNECON
2573	I2C Not enough memory in ISR on %4	SNECON I2C driver: SNECON firmware internal error (SNECON rev 3.0 hardware only)	Reset the analyzer. Reload the SNECON OS software. Replace the SNECON
2574	I2C Pic Reset Detected on %4	SNECON I2C driver: A problem was detected by a SNECON PIC and it went through a reset	If happening frequently, replace the SNECON. Can also be caused by an I2C communication error.

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alarm #	Message	Description	Suggested actions
2575	I2C General AO error	SNECON I2C driver: A channel specific error was detected while an AO command was processed (Example AO out of range) . A more specific alarm will be reported by the module on the next poll.	Provides the channel information for an alarm reported on the same module.
2576	I2C General DO error	SNECON I2C driver: A channel specific error was detected while a DO command was processed (Example DO locked). A more specific alarm will be reported by the module on the next poll.	Provides the channel information for an alarm reported on the same module.
2817	12V Error on %4	Temperature controller PIC: The 12 volts supply is not working normally.	Disconnect the RTDs and feedthrough connector. If the error does not go away then replace the DPM. If the error goes away, confirm that there is no continuity between any RTD lead and ground
2818	Setpoint Board Missing on %4	Temperature controller PIC: The OTS and temperature limit configuration board (t-rating configurator) is not detected on J10. The temperature controller is non-functional	Install or replace the TLIM-OTS T-rating configuration board
2819	RTD Failure 1 on %4	Temperature controller PIC: An attempt was made use a temperature channel that has an invalid RTD signal. The RTD is shorted or open circuit. The temperature controller cannot function.	Verify the 4-wires temperature sense RTD on channel #1. The RTD resistance must be between 81 and 269 ohms. Confirm that none of the lead has any continuity with ground.
2820	Rtd Failure 2 on %4	Temperature controller PIC: Same as alarm 2819 but on channel #2	Same as alarm 2819 but on channel #2
2823	SSR Cable 1 Missing on %4	Not implemented...	Not implemented...
2824	SSR Cable 2 Missing on %4	Not implemented...	Not implemented...

alarm #	Message	Description	Suggested actions
2825	A/D Failure on %4	<p>Temperature controller PIC: An Analog to Digital Converter chip does not work properly. The flag will be set if the A/D internal calibration cycle is not completed within a pre-determined period of time or the A/D does not report any valid data within a pre-defined timeout period.</p> <p>Note: A firmware problem affecting the version 1.002 of the Temperature controller PIC may cause an A/D failure flag to show-up occasionally following a PIC reset. This is not a sign of a defective A/D converter.</p>	<p>Cycle power and if it happens consistently then replace the module</p>
2899	Over Temp Shutdown 1 on %4	<p>Temperature controller PIC: The Over-Temp Shutdown function is active on channel #1, the heater cannot be turned-on.</p>	<p>The overtemp shutdown condition indicates that the temperature reached the absolute limit. The cause can be:</p> <ul style="list-style-type: none"> <li>A disconnected TLIM-OTS configuration board.</li> <li>A temperature setpoint too high for the allowed T-rating.</li> <li>A defective OTS or T-limit temperature probe.</li> <li>A defective DPM</li> <li>A defective (shorted) SSR.</li> </ul>
2900	Over Temp Shutdown 2 on %4	<p>Temperature controller PIC: The Over-Temp Shutdown function is active on channel #2, the heater cannot be turned-on.</p>	<p>See alarm 2899</p>

alarm #	Message	Description	Suggested actions
2901	Deviation 1 Exceeded on %4	Temperature controller PIC: The measured temperature deviation (TEMP_DEVIATION) has exceeded the corresponding MAX_DEVIATION value. The PID control was not successful to control the heater with the desired precision on channel #1.	<p>A large deviation is normal on power-up and immediately following a change in the temperature setpoint. The cause for temperature instability can be:</p> <ul style="list-style-type: none"> <li>Improper controller type "temptype" selected in the "App_tempctl" table in Advance System Manager. The PID parameters are not optimal.</li> <li>Fast variation in the ambient temperature, airflow or line voltage.</li> <li>Insufficient air flow. For an air bath heater with 1/8" spargers, 3 cfm is adequate for up to 100 DegC and then 4 cfm should be used.</li> <li>A temperature setpoint too high for the allowed T-rating.</li> <li>An Air pressure switch that works intermittently.</li> <li>A defective DPM.</li> <li>A defective PECM.</li> <li>A defective Solid State relay.</li> </ul>
2902	Deviation 2 Exceeded on %4	Temperature controller PIC: Same as alarm 2901 on channel #2	Same as alarm 2901 on channel #2
2903	Ramp has no origin 1 on %4	Temperature controller PIC: A ramp rate was set without a prior temperature setpoint on channel #1. A ramp must have an initial temperature defined by the previous setpoint value	Set the power-up default ramp value to 0.

alarm #	Message	Description	Suggested actions
2904	Ramp has no origin 2 on %4	Temperature controller PIC: A ramp rate was set without a prior temperature setpoint on channel #2. A ramp must have an initial temperature defined by the previous setpoint value	Set the power-up default ramp value to 0.
3117	Pressure 1 Out-Of-Control on %4	EPC (Electronic Pressure Controller) PIC: The measured pressure, on channel #1, has exceeded the absolute maximum allowed pressure and the corresponding channel was shutdown. The pressure controller is no longer working.	Confirm that the flow is greater than the minimum specification. Replace the EPC.
3118	Pressure 2 Out-Of-Control on %4	EPC (Electronic Pressure Controller) PIC: Same as 3117 for channel #2	Confirm that the flow is greater than the minimum specification. Replace the EPC.
3119	A/D 1 Failure on %4	<p>EPC (Electronic Pressure Controller) PIC: The Analog to Digital Converter chip does not work properly. The flag will be set if the A/D internal calibration cycle is not completed within a pre-determined period of time or the A/D does not report any valid data within a pre-defined timeout period.</p> <p>Note: A firmware problem affecting the version 0.250 of the EPC PIC may cause an A/D failure flag to show-up occasionally following a PIC reset. This is not a sign of a defective A/D converter.</p>	Cycle power and if it happens consistently then replace the module

alarm #	Message	Description	Suggested actions
3120	A/D 2 Failure on %4	<p>EPC (Electronic Pressure Controller) PIC: The Analog to Digital Converter chip does not work properly. The flag will be set if the A/D internal calibration cycle is not completed within a pre-determined period of time or the A/D does not report any valid data within a pre-defined timeout period.</p> <p>Note: A firmware problem affecting the version 0.250 of the EPC PIC may cause an A/D failure flag to show-up occasionally following a PIC reset. This is not a sign of a defective A/D converter.</p>	Cycle power and if it happens consistently then replace the module
3157	Low Supply Pressure 1 on %4	EPC (Electronic Pressure Controller) PIC: Set when the contact on the optional supply pressure sensor on J5 is closed indicating that the supply pressure is getting low and that the bottle will have to be changed soon.	Replace the corresponding bottle
3158	Low Supply Pressure 2 on %4	EPC (Electronic Pressure Controller) PIC: Set when the contact on the optional supply pressure sensor on J6 is closed indicating that the supply pressure is getting low and that the bottle will have to be changed soon.	Replace the corresponding bottle
3159	Deviation 1 Exceeded on %4	EPC (Electronic Pressure Controller) PIC: The measured pressure deviation has exceeded the corresponding MAX_DEVIATION value. The PID control was not successful to control the pressure with the desired precision on channel #1.	<p>MAX_DEVIATION_x that is too small.                      An improper setting of                      TIME_LIMIT_DEVIATION_UP_x or                      TIME_LIMIT_DEVIATION_DN_x.                      Insufficient supply pressure.                      Flow too small or too large.                      Defective EPC.</p>

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alarm #	Message	Description	Suggested actions
3160	Deviation 2 Exceeded on %4	EPC (Electronic Pressure Controller) PIC: Same as alarm 3159 on channel #2	Same as alarm 3159 on channel #2
3161	Setpoint1 changed following a change in Max Pressure	EPC (Electronic Pressure Controller) PIC: The SETPOINT_1 AO value was modified internally as a result of the SETPOINT_MAX_1 AO value set to a value lower than the SETPOINT_1 value.	Make sure to set the SETPOINT_MAX_1 value first and then set the setpoint
3162	Setpoint2 changed following a change in Max Pressure	EPC (Electronic Pressure Controller) PIC: Same as alarm 3161 on channel #2	Same as alarm 3161 on channel #2
3401	TFTP Protocol Error	Protocol error detected, such as receipt of a non-DATA packet or lack of an expected message acknowledgment	Most likely the gateway settings on the SNE are wrong. It will be necessary to power up the SNE connected to a serial terminal and change the settings in the startup dialog.
3402	TFTP Timeout	The TFTP client didn't receive any response from the server.	Either the TFTP server is not running on the host computer or the host computer is not connected to the SNE through the network.
3403	TFTP Server out of Sync	The data packets requested by the TFTP client to not match those sent by the TFTP server.	Either the TFTP client or TFTP server is in la-la land. First try resetting the SNE, if that does not help try restarting the TFTP server on the host computer.
3404	TFTP Server out of Sockets	TFTP server can't create a portal from which to communicate	SNE or host computer is low on resources.
3405	TFTP Max Channels is exceeded	Too many TFTP load requests have been commanded.	Only request one TFTP load at a time.
3406	TFTP Driver not initialized	TFTP driver was not successfully initialized.	Usually a problem of resource. Ensure that the SNE has 16Mb of memory or isn't otherwise deficient. Try a reset.
3500	TFTP Client out of memory	Client ran out of memory loading file.	Ensure SNE has 16Mb SIMM. Try reset.
3501	TFTP Client Checksum Error	File loaded had invalid checksum	Check to ensure loadfile is correct and uncorrupted.
3502	TFTP Client Missing End of File	Attempt to load truncated file	Loadfile may be corrupt.

alarm #	Message	Description	Suggested actions
3503	TFTP Client Invalid OS File	Attempt to load OS with invalid address range.	Loadfile may be Application file or corrupt
3504	TFTP Client Invalid App File	Attempt to load App with invalid address range	Loadfile may be OS file or corrupt
3501	Advance Adapter Initialization Failure	Adapter Detected, but responding improperly	Repair or replace adapter
3502	Invalid Channel for Advance Adapter %4	Reference to invalid channel on Advance Adapter	Fix improper database.
3503	Advance Adapter Backplane Timeout on %4	I/O %4 on backplane board did not respond	Try to reseat or replace board corresponding to hardware ID.
3504	Advance Adapter Backplane Error on %4	I/O %4 on backplane responded improperly	Try to reseat or replace board corresponding to hardware ID.
3505	Resource for %4 not available on Advance Adapter	Memory or operating system object not available for hardware access	Ensure SNE has 16Mb SIMM. Try reset.
3516	No Advance Adapter detected	Unused alarm	
3517	Advance Adapter Driver Out of Memory	Driver initialization failure due to lack of memory	Ensure SNE has 16Mb SIMM. Try reset.
3518	Invalid Advance Adapter Driver Command	application requested invalid command from Adapter Driver	Most likely a mismatch between the SNE OS and application. Reload SNE software.
3718	FPGA Error Full on %4	SNECON PICs: The FPGA queue to the NS486 was full and a packet could not be sent. A best attempt is made to continue but one or more packets were lost	Reset the SNECON -or- Replace the SNECON.
3719	FPGA error reset_W on %4	SNECON PICs: A FPGA reset was detected during a packet write from the PIC. The packet and any packet still in the FPGA queues were lost.	Reset the SNECON -or- Replace the SNECON.
3720	FPGA error reset_R on %4	SNECON PICs: A FPGA reset was detected during a packet read by the PIC. The packet and any packet still in the FPGA queues were lost.	Reset the SNECON -or- Replace the SNECON.

<b>alarm #</b>	<b>Message</b>	<b>Description</b>	<b>Suggested actions</b>
3721	FPGA error_W on %4	SNECON PICs: An error was detected while writing the packet header or data to the FPGA. A best attempt is made to continue but one or more packets may be lost.	Reset the SNECON -or- Replace the SNECON.
3722	FPGA error_R on %4	SNECON PICs: An error was detected when reading the packet header or data from the FPGA. A best attempt is made to continue but one or more packets may be lost.	Reset the SNECON -or- Replace the SNECON.
3725	Error SCL on %4	SNECON PICs: An abnormal situation was detected on the I2C "Serial Clock" line.	This is an indication that the WDB is broken, a cable harness is broken or one board connected to the I2C bus is malfunctioning, pulling the I2C clock signal to a logical low. Refer to the I2C communication troubleshooting guide
3726	Error SDA on %4	SNECON PICs: An abnormal situation was detected on the I2C "Serial Data" line.	This is an indication that the WDB is broken, a cable harness is broken or one board connected to the I2C bus is malfunctioning, pulling the I2C data signal to a logical low Refer to the I2C communication troubleshooting guide
3727	I2C won't align on %4	SNECON PICs: I2C communication error	Refer to the I2C communication troubleshooting guide
3728	I2C msg not allowed on %4	SNECON PICs: A packet containing an I2C message was received by the PIC (from the NS486 through the FPGA) at a time when it is not allowed but after a valid configuration message was received. The message was discarded.	Reset the SNECON -or- Reload the OS -or- Replace the SNECON.

alarm #	Message	Description	Suggested actions
3757	NACK address on %4	SNECON PICs: An I2C message transaction failed after the required number of retries. A cause of this failure was a non-acknowledged destination address byte (first byte in the message). This may happen if a module was disconnected from the bus after its address has been re-assigned	Reset the analyzer
3758	NACK Byte on %4	SNECON PICs: An I2C message transaction failed after the required number of retries. A cause of this failure was a non-acknowledged byte that is not the first byte in the message (any byte other than the destination address was not acknowledged). This may happen if a module is seriously confused or the I2C signal integrity is a problem (noise, etc...)	I2C communication error, refer to "I2C Communications Troubleshooting.doc".
3759	NACK Message on %4	SNECON PICs: An I2C message transaction failed after the required number of retries. A cause of this failure was a NACK message with a non-zero flag. This may happen if the firmware of the peripheral module is not responding properly.	Reset the analyzer -or- Replace the module being addressed.
3760	Invalid Checksum on %4	SNECON PICs: An I2C message transaction failed after the required number of retries. A cause of this failure was an invalid checksum in the reply message. This may happen if the firmware of the peripheral module is not working properly or the electrical properties of the I2C signals are marginal.	I2C communication error, refer to "I2C Communications Troubleshooting.doc".

<b>alarm #</b>	<b>Message</b>	<b>Description</b>	<b>Suggested actions</b>
3761	Invalid Opcode on %4	SNECON PICs: An invalid private opcode was received from the NS486. The message was ignored. This may happen if the PIC firmware is out-of-date relative to the SNE software	Reload the OS and APP software -or- Replace the SNECON.
3762	Invalid Message on %4	SNECON PICs: An I2C message transaction failed after the required number of retries and a cause of this failure was a reply message that had a valid checksum, valid opcode but was invalid in any other way. This may happen if the firmware of the peripheral module is not working properly of the SNECON software is too old.	Reload the OS and APP software -or- Replace the module being addressed –or- Replace the SNECON.
3763	Arbitration Loss on %4	SNECON PICs: An I2C message transaction failed after the required number of retries and a cause of this failure was that the PIC could not successfully arbitrate its way to the bus. Other bus master capable devices are using all the I2C bus bandwidth	I2C communication error, refer to "I2C Communications Troubleshooting.doc".
3764	Timeout SCL on %4	SNECON PICs: An I2C message transaction failed because the I2C clock was stretched beyond the allowed timeout period specified in the configuration. A module may be malfunctioning.	I2C communication error, refer to "I2C Communications Troubleshooting.doc".
3765	Timeout SDA on %4	SNECON PICs: An I2C message transaction failed because the I2C data line was held beyond the allowed timeout period specified in the configuration. A module may be malfunctioning	I2C communication error, refer to "I2C Communications Troubleshooting.doc".
3766	Bus Not Sync on %4	SNECON PICs: The master mode operation generated a start condition that was not detected by the FPGA.	Reset the SNECON -or- Replace the SNECON.

alarm #	Message	Description	Suggested actions
3767	Timeout Buffer on %4	SNECON PICs: A master mode message has not been processed within a timeout period. This is a catch-all alarm, the PIC will discard the message and attempt to recover	I2C communication error, refer to "I2C Communications Troubleshooting.doc".
3768	Invalid Handle on %4	SNECON PICs: The header handle received was not sequential, one or more I2C message was lost.	Reset the SNECON -or- Replace the SNECON.
3797	Invalid Checksum Slave on %4	SNECON PICs: An unsolicited I2C message was received with a bad checksum. The message was discarded and it is expected that the master will retry the message. This is a communication error that can be ignored if not too frequent	Reset the SNECON -or- Replace the SNECON.
3798	Invalid Message Slave on %4	SNECON PICs: An unsolicited I2C message was received with an invalid message size, invalid opcode or invalid data. The message was discarded. There may be a firmware version conflict	Reload the OS and APP software to all SNECONS
3799	Invalid Status Summary on %4	SNECON PICs: A packet was received by the PIC from the NS486 and the packet had an undefined bit set in the Status_summary field of the packet. The packet was processed normally.	Reload the OS and APP software -or- Replace the SNECON.
3800	Module Not Ready on %4	SNECON PICs: An I2C message transaction failed after the required number of retries and the cause of the failure was a series of consecutive message NACK all with a 0 flag. This may happen if the firmware of the peripheral module is not responding properly.	Reload the OS and APP software -or- Replace the module being addressed -or- Replace the SNECON.

alarm #	Message	Description	Suggested actions
3801	Invalid Status Data on %4	SNECON PICs: The content of the status buffer "Status_data" was invalid and not recognized by the PIC. This may happen if the PIC firmware is out of date relative to the NS486 software	Reload the OS and APP software -or- Replace the SNECON.
3802	Invalid Status Type on %4	SNECON PICs: The value of the status_type was invalid and not recognized by the PIC. This may happen if the PIC firmware is out of date relative to the NS486 software	Reload the OS and APP software -or- Replace the SNECON.
3803	Invalid Msg Size on %4	SNECON PICs: A packet was received with an invalid I2C message size or no I2C message at all. The packet was discarded	Reload the OS and APP software to all SNECONs
3804	Arbitration Loss Slave on %4	SNECON PICs: The PIC lost a slave read arbitration. It indicates that at least another module responded to the same message request	No action to be taken. If happening too frequently, reset the analyzer.
4001	TFTP cannot load with active method %3	Method currently running when software load was commanded	put method on hold and wait for it to complete before loading SNE software.
4022	I/O Channel not found on %4	Hardware resource requested not present	reload and or repair SysCon database
4024	Slope Check failure on Channel %4	Slope check commanded with invalid parameters	Check method for slope check events and review data.
4025	Detector channel underflow occurred on %4	A/D converter for detector reading lowest possible value. This error may also be a secondary error caused by an overflow on a FIDDPM	Check A/D inputs, potentially replace referenced DPM
4026	Detector channel open occurred on %4	Open connection detected on A/D detector input. This error may also be a secondary error caused by an overflow on a FIDDPM	Most detectors can't detect this, probably represents some sort of DPM problem.
4027	Detector channel overflow occurred on %4	A/D converter for detector reading maximum value possible	Check A/D inputs, potentially replace referenced DPM

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alarm #	Message	Description	Suggested actions
4028	Detector channel unknown error occurred on %4	Undeterminable error occurred on detector channel circuit. This error may also be a secondary error caused by an overflow on a FIDDPM	reset, if repeatable replace DPM.
4029	Zero Correction failure on lower channel of %4"	a) If the DPM is a rev 1 TCD or a rev 2 FID: Following the balance correction (done by hardware of the DPM), the detector voltage was still not between +/- 2 Volts (It should be at -1 Volts following the balance correction and the zero correction brings it to 0 volts). In this case, the zero correction failure should be associated with a balance failure b) If the DPM is a rev 2 TCD: The zero correction value exceeded the max allowed value for that particular board. This is a balance failure situation	Eliminate the cause of the balance failure: a) On TCD detector, replace the detector bead or filament b) On FID detector, clean or replace the FID
4030	Zero Correction failure on upper channel of %4"	Same as 4029	Same as 4029
4031	Flame out on %4	Flame out detected on an Advance+ FID or FPD Board	Light flame on unit. If flame is lit, board may be defective.
4525	AD Failure on %4	Advance Adapter Temperature controller PIC: The Advance adapter temperature A/D converter is not generating data point within the prescribed time interval.	Reset the analyzer. Replace the advance adapter
4526	Overtemp Shutdown supply failure	Advance Adapter Temperature controller PIC: The power supply used for overtemp shutdown is not working properly	Replace the advance adapter

alarm #	Message	Description	Suggested actions
4557	Setpoint changed internally	Advance Adapter Temperature controller PIC: The SETPOINT AO value was modified internally as a result of the SETPOINT_MAX AO value set to a value lower than the SETPOINT value.	Make sure to set the SETPOINT_MAX value first and then set the setpoint value
4599	Over Temp Shutdown	Advance Adapter Temperature controller PIC: The Over-Temp Shutdown function is active, the heater cannot be turned-on.	<p>The overtemp shutdown condition indicates that the temperature reached the absolute limit. The cause can be:</p> <ul style="list-style-type: none"> <li>A temperature setpoint too high for the allowed T-rating.</li> <li>A defective temperature probe.</li> <li>A defective Advance adapter.</li> <li>A defective (shorted) SSR.</li> </ul>
4601	Temperature Deviation Exceeded	Advance Adapter Temperature controller PIC: The measured temperature deviation (TEMP_DEVIATION) has exceeded the corresponding MAX_DEVIATION value. The PID control was not successful to control the heater with the desired precision.	<p>A large deviation is normal on power-up and immediately following a change in the temperature setpoint. The cause for temperature instability can be:</p> <ul style="list-style-type: none"> <li>Fast variation in the ambient temperature, airflow or line voltage.</li> <li>Insufficient air flow.</li> <li>A temperature setpoint too high for the allowed T-rating.</li> <li>A defective DPM.</li> <li>A defective Solid State relay.</li> </ul>