

H-100 Fault Parameters

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1.1 INTRODUCTION

This document describes the Internal Alarms of the H Panel based on firmware version 3.8A and the conditions resulting in them being set or cleared.

2.1 DEFINITIONS

- A/D – Analog to Digital convertor – converts 0-5 volts DC to 0-1023 counts
- AI – Alarm
- CAN – Control Area Network CAN 2.0
- CPU – Central Processing Unit (or μ C – Micro Controller)
- DOF – Digital Output Function – 1 or 0 reflecting a particular H Panel function state
- DT – Emissions DTC
- DTC – OBD Diagnostic Trouble Code
- ECU – Engine Control Unit (or ECM – Engine Control Module)
- HTS – H Panel Transfer Switch
- HUIO – H Panel digital I/O expansion module
- ILC – H Panel Integrated Logic Controller (uses PLC ladder logic)
- J1939 – SAE-J1939 CAN bus protocol
- MCB – Master Circuit Breaker
- OBD – On Board Diagnostics
- SD – Shutdown Alarm
- TDN – Time Delay Neutral
- Wr – Warning

3.1 ASSOCIATED DOCUMENTS

- CAN 2.0 – Bosch CAN Specification
- Part 1048 – Control of Emissions from New, Large Nonroad Spark-Ignited Engines
- SAE J1979 – Recommended Practice for a Communications Vehicle Network
- SAE J2012 – Diagnostic Trouble Code Definitions

H-panel Internal Alarms

4.1 H-PANEL INTERNAL ALARMS

	Alarm Display Text	Alarm Description
1	AI Internal Fault	Internal fault is invalid
2	AI Comm Faults	Unused
3	Wr Strt Inhib:Oil	Starter inhibited due to high oil pressure
4	SD Overcrank	Tried to start too many times without success
5	Wr Maint,Oil Life	Oil Life maintenance thresholds exceeded
6	Wr Maint,Oil Filt	Oil Filter maintenance thresholds exceeded
7	Wr Maint,Sprk Plg	Spark Plugs maintenance thresholds exceeded
8	Wr Maint,Air Filt	Air Filter maintenance thresholds exceeded
9	Wr Maint,Battery	Battery maintenance thresholds exceeded
10	Wr Maint,General	General maintenance thresholds exceeded
11	Wr Maint,U Xfr Sw	Utility Transfer Switch maintenance thresholds exceeded
12	Wr Maint,G Xfr Sw	Generator Transfer Switch maintenance thresholds exceeded
13	AI OIL TEMP Sn	Analog #1 Sensor Fault – Normally Oil Temperature
14	AI COOLANT TEMP Sn	Analog #2 Sensor Fault – Normally Coolant Temperature
15	AI OIL PRESSURE Sn	Analog #3 Sensor Fault – Normally Oil Pressure
16	AI COOLANT LEVEL Sn	Analog #4 Sensor Fault – Normally Coolant Level
17	AI FUEL LEVEL Sn	Analog #5 Sensor Fault – Normally Fuel Level
18	AI USER CFG 06 Sn	Analog #6 Sensor Fault – Normally Spare
19	AI THROT POS Sn	Analog #7 Sensor Fault – Normally Throttle Position
20	AI O2 SENSOR Sn	Analog #8 Sensor Fault – Normally Oxygen Sensor
21	AI BAT CHARGE CUR Sn	Analog #9 Sensor Fault – Normally Battery Charge Current
22	SD OIL TEMP Sn	Analog #1 Sensor Shutdown – Normally Oil Temperature
23	SD COOLANT TEMP Sn	Analog #2 Sensor Shutdown – Normally Coolant Temperature
24	SD OIL PRESSURE Sn	Analog #3 Sensor Shutdown – Normally Oil Pressure
25	SD COOLANT LEVEL Sn	Analog #4 Sensor Shutdown – Normally Coolant Level
26	SD FUEL LEVEL Sn	Analog #5 Sensor Shutdown – Normally Fuel Level
27	SD USER CFG 06 Sn	Analog #6 Sensor Shutdown – Normally Spare
28	SD THROT POS Sn	Analog #7 Sensor Shutdown – Normally Throttle Position
29	SD O2 SENSOR Sn	Analog #8 Sensor Shutdown – Normally Oxygen Sensor
30	SD BAT CHARGE CUR Sn	Analog #9 Sensor Shutdown – Normally Battery Charge Current
31	AI Gen Freq Fail Sn	Generator Frequency Sensor Fault
32	SD Gen Freq Fail Sn	Generator Frequency Sensor Shutdown
33	AI No Crank RPM Sn	No RPM during Crank Fault
34	SD No Crank RPM Sn	No RPM during Crank Shutdown
35	SD Mult Def DigtI	Multiply Defined Digital Output
36	SD Mult Def Analg	Multiply Defined Analog Output – Not Implemented
37	SD WatchDog Fail	Software Watchdog timed out
38	SD HW Overspeed	Hardware Overspeed circuit tripped – Not Implemented
39	SD WatchDog Reset	CPU Watchdog Reset tripped – Not Implemented
40	SD CheckStp Reset	CPU Check Stop Reset tripped

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41	SD System Reset	CPU System Reset tripped
42	Wr ILC Disab Gen	ILC has disabled Generator
43	Wr Modem Port Off	Not Implemented
44	SD Over Current	i2t Alternator Temperature Limits Exceeded
45	SD 300% Rated Cur	300% rated current exceeded too long – Not Implemented
46	Wr Eng Stall RPM	RPM lost while engine running
47	AI Crank Circuit	Crank Circuit suspect
48	SD Throttle Stuck	Bosch Throttle did not move as expected
49	Wr No HUIO 1 Comm	Lost communications with HUIO #1
50	Wr No HUIO 2 Comm	Lost communications with HUIO #2
51	Wr No HUIO 3 Comm	Lost communications with HUIO #3
52	Wr No HUIO 4 Comm	Lost communications with HUIO #4
53	Wr No HTS 1 Comms	Lost communications with HTS #1
54	Wr No HTS 2 Comms	Lost communications with HTS #2
55	Wr No HTS 3 Comms	Lost communications with HTS #3
56	Wr No HTS 4 Comms	Lost communications with HTS #4
57	AI HTS 1 SW Fault	HTS #1 reports a switch fault
58	AI HTS 2 SW Fault	HTS #2 reports a switch fault
59	AI HTS 3 SW Fault	HTS #3 reports a switch fault
60	AI HTS 4 SW Fault	HTS #4 reports a switch fault
61	Wr HTS 1 Not Sync	HTS #1 reports unable to synchronize
62	Wr HTS 2 Not Sync	HTS #2 reports unable to synchronize
63	Wr HTS 3 Not Sync	HTS #3 reports unable to synchronize
64	Wr HTS 4 Not Sync	HTS #4 reports unable to synchronize
65	Wr HTS 1 Batt Low	HTS #1 backup battery voltage is low
66	Wr HTS 2 Batt Low	HTS #2 backup battery voltage is low
67	Wr HTS 3 Batt Low	HTS #3 backup battery voltage is low
68	Wr HTS 4 Batt Low	HTS #4 backup battery voltage is low
69	Wr No HTS 1 Batt	HTS #1 backup battery assumed missing or disconnected
70	Wr No HTS 2 Batt	HTS #2 backup battery assumed missing or disconnected
71	Wr No HTS 3 Batt	HTS #3 backup battery assumed missing or disconnected
72	Wr No HTS 4 Batt	HTS #4 backup battery assumed missing or disconnected
73	Wr HTS1 Gen Volts	HTS #1 Generator voltage does not match Generator Voltage
74	Wr HTS2 Gen Volts	HTS #2 Generator voltage does not match Generator Voltage
75	Wr HTS3 Gen Volts	HTS #3 Generator voltage does not match Generator Voltage
76	Wr HTS4 Gen Volts	HTS #4 Generator voltage does not match Generator Voltage
77	AI No ECU Comms	Lost communications with Engine Controller (ECU)
78	Wr Wait to Start	ECU has turned on the “Wait to Start” light
79	Wr ECU Prot Lt On	ECU has turned on the “Engine Protection” light
80	Wr ECU Warn Lt On	ECU has turned on the “Engine Warning” light
81	AI ECU Check Eng	ECU has turned on the MIL or “Check Engine” light
82	SD ECU Stop Lt On	ECU has turned on the “Engine Stop” light

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83	SD ECU Shutdown	ECU is shutting down the engine
84	SD Mult Def HUIO	Multiply defined HUIO Digital Outputs
85	SD MulDef OF HUIO	Multiply defined HUIO Output Function
86	SD MulDf ILC HUIO	Unused
87	SD Volt ZC Lost	One or more phases are shorted or sense disconnected
88	Wr DTCs Disabled	Emissionized unit requires OBD, but OBD is disabled.
89	DT Check Engine	At least one emissions related DTC is active.
90	DT P0134-O2 Sense	O2 Sensor has not toggled as expected for the last 3 run cycles.
91	AI Bad A/F Params	Air/Fuel ratio control settings are inconsistent or invalid.
92	AI ECU Overspeed	Iveco ECU detects engine over speed.
93	Wr ECU Over Temp	Unused
94	AI ECU Over Temp	Iveco ECU detects engine over temperature.
95	AI ECU Oil Press	Iveco ECU detects oil pressure too low.
96	AI ECU Oil Temp	Iveco ECU detects oil over temperature.
97	Wr ECU Pwr Derate	Unused

4.1.1 INTERNAL FAULT ALARM

This fault indicates that there is a problem in the fault logic. This fault should never occur in the field. Its primary purpose is to assist in firmware development.

Conditions to Set

This fault is set when a request to set an Internal Fault requests an Internal Fault that is not in the Internal Fault table.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.2.1 COMM FAULTS ALARM – NOT IMPLEMENTED

4.3.1 STRT INHIB:OIL WARNING

This fault indicates that the oil pressure is too high for a stopped engine when cranking is requested. When this fault is active, the starter is inhibited to prevent the attempted engagement of a starter into a rotating engine.

Conditions to Set

This fault is set if the oil pressure is greater than 32 PSI when the engine is expected to be stopped and is being requested to start via a start command while the keyswitch is in AUTO position or the keyswitch being in the MAN position.

Conditions to Clear

This fault is cleared when the oil pressure is less than 30 PSI.

4.4.1 OVERCRANK SHUTDOWN ALARM

This fault indicates the engine has attempted to start the number of times specified on the GenLink “Engine Settings” page, but has not succeeded in starting. This is a Shutdown Alarm and prevents further start attempts until it is cleared. This prevents excessive heating of the starter. The start attempts counter is cleared when the keyswitch is in OFF, the keyswitch is in AUTO and there is no start command, or the generator reaches “Ready for Load” status.

Conditions to Set

This fault is set if the consecutive number of start attempts reached the specified number and the engine has not been able to start or stay running long enough to achieve the “Ready for Load” state.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF.

4.5.1 MAINT,OIL LIFE WARNING

This fault indicates the conditions for end of oil life specified on the GenLink "Maintenance" page have been met. This fault is to remind the operator to have the system serviced for changing the oil.

Conditions to Set

This fault is set when the date or engine hours exceed the GenLink specified limits for oil life.

Conditions to Clear

This fault is cleared by clearing the oil life maintenance limits or changing them to a future limit.

4.6.1 MAINT,OIL FILT WARNING

This fault indicates the conditions for end of oil filter life specified on the GenLink "Maintenance" page have been met. This fault is to remind the operator to have the system serviced for changing the oil filter.

Conditions to Set

This fault is set when the date or engine hours exceed the GenLink specified limits for oil filter life.

Conditions to Clear

This fault is cleared by clearing the oil filter life maintenance limits or changing them to a future limit.

4.7.1 MAINT,SPRK PLGWARNING

This fault indicates the conditions for end of spark plug life specified on the GenLink "Maintenance" page have been met. This fault is to remind the operator to have the system serviced for checking/replacing the spark plugs. NOTE: This could be used for injectors on a diesel.

Conditions to Set

This fault is set when the date or engine hours exceed the GenLink specified limits for spark plug life.

Conditions to Clear

This fault is cleared by clearing the spark plug life maintenance limits or changing them to a future limit.

4.8.1 MAINT,AIR FILT WARNING

This fault indicates the conditions for end of air filter life specified on the GenLink "Maintenance" page have been met. This fault is to remind the operator to have the system serviced for replacing the air filter.

Conditions to Set

This fault is set when the date or engine hours exceed the GenLink specified limits for air filter life.

Conditions to Clear

This fault is cleared by clearing the air filter life maintenance limits or changing them to a future limit.

4.9.1 MAINT,BATTERY WARNING

This fault indicates the conditions for end of battery life specified on the GenLink "Maintenance" page have been met. This fault is to remind the operator to have the system serviced for checking/replacing the battery.

Conditions to Set

This fault is set when the date, number of crank cycles, or engine hours exceed the GenLink specified limits for battery life.

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Conditions to Clear

This fault is cleared by clearing the battery life maintenance limits or changing them to a future limit.

4.10.1 MAINT,GENERAL WARNING

This fault indicates the conditions for general service specified on the GenLink “Maintenance” page have been met. This fault is to remind the operator to have the system serviced.

Conditions to Set

This fault is set when the date or engine hours exceed the GenLink specified limits for general service.

Conditions to Clear

This fault is cleared by clearing the general service maintenance limits or changing them to a future limit.

4.11.1 MAINT,U XFR SW WARNING

This fault indicates the conditions for end of utility (line) transfer switch life specified on the GenLink “Maintenance” page have been met. This fault is to remind the operator to have the system serviced for checking/replacing the utility (line) transfer switches.

Conditions to Set

This fault is set when the date, number of transfers to utility (line), or engine hours exceed the GenLink specified limits for the utility (line) transfer switches life.

Conditions to Clear

This fault is cleared by clearing the utility (line) transfer switch life maintenance limits or changing them to a future limit.

4.12.1 MAINT,G XFR SW WARNING

This fault indicates the conditions for end of generator (emergency) transfer switch life specified on the GenLink “Maintenance” page have been met. This fault is to remind the operator to have the system serviced for checking/replacing the generator (emergency) transfer switches.

Conditions to Set

This fault is set when the date, number of transfers to generator (emergency), or engine hours exceed the GenLink specified limits for the generator (emergency) transfer switches life.

Conditions to Clear

This fault is cleared by clearing the generator (emergency) transfer switch life maintenance limits or changing them to a future limit.

4.13.1 MAINT,BIFUEL WARNING – NOT IMPLEMENTED ON H PANEL

4.14.1 OIL TEMP SN ALARM

This fault indicates the oil temperature sensor is reading a value outside of the expected sensor limits.

Conditions to Set

This fault is set if the oil temperature sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the parameter is not received from the ECU in the allotted time or the parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.15.1 COOLANT TEMP SN ALARM

This fault indicates the coolant temperature sensor is reading a value outside of the expected sensor limits.

Conditions to Set

This fault is set if the coolant temperature sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the parameter is not received from the ECU in the allotted time or the parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.16.1 OIL PRESSURE SN ALARM

This fault indicates the oil pressure sensor is reading a value outside of the expected sensor limits.

Conditions to Set

This fault is set if the oil pressure sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the parameter is not received from the ECU in the allotted time or the parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.17.1 COOLANT LEVEL SN ALARM

This fault indicates the coolant level sensor is reading a value outside of the expected sensor limits.

Conditions to Set

This fault is set if the coolant level sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the parameter is not received from the ECU in the allotted time or the parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.18.1 FUEL LEVEL SN ALARM

This fault indicates the fuel level sensor is reading a value outside of the expected sensor limits.

Conditions to Set

This fault is set if the fuel level sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the parameter is not received from the ECU in the allotted time or the parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

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This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.19.1 USER CFG 06 SN ALARM

This fault indicates the analog sensor is reading a value outside of the expected sensor limits.

Conditions to Set

This fault is set if the analog sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the parameter is not received from the ECU in the allotted time or the parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.20.1 THROT POS SN ALARM

This fault indicates the Bosch throttle position sensor is reading a value outside of the expected sensor limits.

Conditions to Set

This fault is set if the Bosch throttle position sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the “throttle” parameter is not received from the ECU in the allotted time or the “throttle” parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.21.1 O2 SENSOR SN ALARM

This fault indicates the oxygen sensor is reading a value outside of the expected sensor limits.

Conditions to Set

This fault is set if the oxygen sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.22.1 BAT CHARGE CUR SN ALARM

This fault indicates the battery charger charge current sensor is reading a value outside of the expected sensor limits.

Conditions to Set

This fault is set if the battery charger charge current sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.23.1 OIL TEMP SN SHUTDOWN ALARM

This fault indicates the oil temperature sensor is reading a value outside of the expected sensor limits and then shuts the generator down.

Conditions to Set

This fault is set if the oil temperature sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the parameter is not received from the ECU in the allotted time or the parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox and the “Shutdown on Sensor Failure” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared turning the keyswitch to OFF when the fault condition no longer.

4.24.1 COOLANT TEMP SN SHUTDOWN ALARM

This fault indicates the coolant temperature sensor is reading a value outside of the expected sensor limits and then shuts the generator down.

Conditions to Set

This fault is set if the coolant temperature sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the parameter is not received from the ECU in the allotted time or the parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox and the “Shutdown on Sensor Failure” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.25.1 OIL PRESSURE SN SHUTDOWN ALARM

This fault indicates the oil pressure sensor is reading a value outside of the expected sensor limits and then shuts the generator down.

Conditions to Set

This fault is set if the oil pressure sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the parameter is not received from the ECU in the allotted time or the parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox and the “Shutdown on Sensor Failure” checkbox on the Analog Input Channels configuration page for this analog input.

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Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.26.1 COOLANT LEVEL SN SHUTDOWN ALARM

This fault indicates the coolant level sensor is reading a value outside of the expected sensor limits and then shuts the generator down.

Conditions to Set

This fault is set if the coolant level sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the parameter is not received from the ECU in the allotted time or the parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox and the “Shutdown on Sensor Failure” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.27.1 FUEL LEVEL SN SHUTDOWN ALARM

This fault indicates the fuel level sensor is reading a value outside of the expected sensor limits and then shuts the generator down.

Conditions to Set

This fault is set if the fuel level sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the parameter is not received from the ECU in the allotted time or the parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox and the “Shutdown on Sensor Failure” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.28.1 USER CFG 06 SN SHUTDOWN ALARM

This fault indicates the analog sensor is reading a value outside of the expected sensor limits and then shuts the generator down.

Conditions to Set

This fault is set if the analog sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the parameter is not received from the ECU in the allotted time or the parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox and the “Shutdown on Sensor Failure” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.29.1 THROT POS SN SHUTDOWN ALARM

This fault indicates the Bosch throttle position sensor is reading a value outside of the expected sensor limits and then shuts the generator down.

Conditions to Set

This fault is set if the Bosch throttle position sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel. On generators with CAN bus ECUs, This fault is set if the “throttle” parameter is not received from the ECU in the allotted time or the “throttle” parameter is marked as invalid by the ECU.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox and the “Shutdown on Sensor Failure” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.30.1 O2 SENSOR SN SHUTDOWN ALARM

This fault indicates the oxygen sensor is reading a value outside of the expected sensor limits and then shuts the generator down.

Conditions to Set

This fault is set if the oxygen sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox and the “Shutdown on Sensor Failure” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.31.1 BAT CHARGE CUR SN SHUTDOWN ALARM

This fault indicates the battery charger charge current sensor is reading a value outside of the expected sensor limits and then shuts the generator down.

Conditions to Set

This fault is set if the battery charger charge current sensor is reading a raw value less than 50 A/D counts or more than 973 A/D counts when it is an analog sensor connected to the H Panel.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox and the “Shutdown on Sensor Failure” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.32.1 GEN FREQ FAIL SN ALARM

This fault indicates the generator frequency value is not compatible with the engine speed value or the generator mode of operation.

Conditions to Set

This fault is set if the generator frequency is less than 20 Hz while the engine speed is greater than engine speed equivalent to 37.5 Hz and the generator is not in a stopped or stopping mode.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

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4.33.1 GEN FREQ FAIL SN SHUTDOWN ALARM

This fault indicates the generator frequency value is not compatible with the engine speed value or the generator mode of operation and then shuts the generator down.

Conditions to Set

This fault is set if the generator frequency is less than 20 Hz while the engine speed is greater than engine speed equivalent to 37.5 Hz and the generator is not in a stopped or stopping mode.

The fault condition must be true for at least 1 second for the fault to set.

This fault does not set unless enabled via GenLink by checking the “Sensor Failure Check” checkbox and the “Shutdown on Sensor Failure” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.34.1 NO CRANK RPM SN ALARM

This fault indicates there is no engine RPM while the engine is cranking.

Conditions to Set

This fault is set if the engine RPM is less than 5 while the engine is cranking.

The fault condition must be true for at least 3 seconds for each crank cycle for all the crank cycles for the fault to set.

This fault is always enabled regardless of the “Sensor Failure Check” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF.

4.35.1 NO CRANK RPM SN SHUTDOWN ALARM

This fault indicates there is no engine RPM while the engine is cranking and then shuts the generator down.

Conditions to Set

This fault is set if the engine RPM is less than 5 while the engine is cranking.

The fault condition must be true for at least 3 seconds for each crank cycle for all the crank cycles for the fault to set.

This fault is always enabled regardless of the “Sensor Failure Check” checkbox and the “Shutdown on Sensor Failure” checkbox on the Analog Input Channels configuration page for this analog input.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF.

4.36.1 MULT DEF DIGTL SHUTDOWN ALARM

This fault indicates there are two or more functions trying to control the same digital output channel. This could be a combination of reserved digital output channels, Digital Output Functions mapped to outputs, or ILC rung outputs. This fault will shut down the generator.

Conditions to Set

This fault is set for any of the following:

A DOF maps to an output channel that is reserved by the firmware,

More than one DOF maps to the same output channel,

An ILC rung controls an output channel reserved by the firmware,

An ILC rung controls an output channel that a DOF is mapped to.

This fault is always enabled.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.37.1 MULT DEF ANALG SHUTDOWN ALARM – NOT IMPLEMENTED

4.38.1 WATCHDOG FAIL SHUTDOWN ALARM

This fault indicates that one or more functions in the firmware are not completing their tasks in a timely manner if at all. This fault will shutdown the generator.

Conditions to Set

This fault indicates that there is too much electrical noise coming into the controller, there are too many external interrupts, the firmware has an error, or the processor has failed.

This fault is always enabled.

Conditions to Clear

This fault is only cleared by power cycling the controller.

4.39.1 HW OVERSPEED SHUTDOWN ALARM – NOT IMPLEMENTED

4.40.1 WATCHDOG RESET SHUTDOWN ALARM

This fault indicates the firmware is not completing the task in a timely manner, if at all, that resets the WatchDog timer in the microprocessor. This fault will shut down the generator.

Conditions to Set

This fault indicates that there is too much electrical noise coming into the controller, there are too many external interrupts, the firmware has an error, or the processor has failed.

This fault is always enabled.

Conditions to Clear

This fault is only cleared by power cycling the controller.

4.41.1 CHECKSTP RESET SHUTDOWN ALARM

This fault indicates the microprocessor has had an internal bus fault. This fault will shut down the generator.

Conditions to Set

This fault indicates that there is too much electrical noise coming into the controller or the processor has failed.

This fault is always enabled.

Conditions to Clear

This fault is only cleared by power cycling the controller.

4.42.1 SYSTEM RESET SHUTDOWN ALARM

This fault indicates the microprocessor has had an internal fault. This fault will shut down the generator.

Conditions to Set

This fault indicates that there is too much electrical noise coming into the controller or the processor has failed.

This fault is always enabled.

Conditions to Clear

This fault is only cleared by power cycling the controller.

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4.43.1 ILC DISAB GEN WARNING

This fault indicates the ILC program has overridden the Keyswitch position to indicate OFF.

Conditions to Set

This fault is set when an ILC rung outputs the Keyswitch override hook to say OFF.

This fault is always enabled.

Conditions to Clear

This fault is cleared when no ILC rung outputs the Keyswitch override hook to say OFF.

4.44.1 MODEM PORT OFF WARNING – NOT IMPLEMENTED

4.45.1 OVER CURRENT SHUTDOWN ALARM

This fault indicates that either the I2T algorithm or 300% current limiting have exceeded their fault thresholds. This is likely caused by one or more shorted phases. This results in the generator shutting down.

Conditions to Set

This fault is set when either the I2T algorithm threshold of 90 is exceeded or the 300% current limiting algorithm has limited current for over 10 seconds.

This fault is always enabled.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault conditions no longer exist.

4.46.1 300% RATED CUR SHUTDOWN ALARM – NOT IMPLEMENTED

4.47.1 ENG STALL RPM WARNING

This fault indicates the engine speed sensor has fallen below 400 RPM while the engine was running. This can be the result of a loss of fuel, ignition, compression, RPM sensor, or anything that may cause the RPM sensed to be less than 400. Although it is a warning, it shuts the engine down and attempts to restart it. If it is a failed RPM sensor, then the restarts will detect it and set an alarm.

Conditions to Set

This fault is set when engine speed falls below 400 RPM while the engine speed is expected to be above its start RPM setting.

This fault is always enabled.

Conditions to Clear

This fault is cleared every time the restart occurs.

4.48.1 CRANK CIRCUIT ALARM

This fault indicates that the starter was commanded to engage, but the battery voltage profile did not indicate that the starter actually engaged. This could be the result of the starter not meshing with the ring gear, the starter solenoid failing, the starter relay failing, etc.

Conditions to Set

This fault is set when the battery voltage does not dip at least 2 volts while cranking.

This fault is only enabled while cranking is commanded.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button while not cranking or by turning the keyswitch to OFF.

4.49.1 THROTTLE STUCK SHUTDOWN ALARM

This fault indicates that the Bosch throttle plate on gaseous units is not moving to the commanded position when powered or is not resting in the expected position when not powered. This could be the result of the throttle being jammed, the throttle motor weakening, the actuator driver module faulting, etc. This results in the generator shutting down.

Conditions to Set

This shutdown fault is set when the throttle position is more than 236 counts when unpowered or more than 100 counts away from the target position when powered and not moving at a rate of at least 2 counts per millisecond.

This fault is always enabled on gaseous generators only.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.50.1 NO HUIO 1 COMM WARNING

This fault indicates communications between the H Panel and the HUIO module #1 have failed when they are expected to succeed.

Conditions to Set

This fault is set when the communications have failed five consecutive attempts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists (communications returns).

4.51.1 NO HUIO 2 COMM WARNING

This fault indicates communications between the H Panel and the HUIO module #2 have failed when they are expected to succeed.

Conditions to Set

This fault is set when the communications have failed five consecutive attempts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists (communications returns).

4.52.1 NO HUIO 3 COMM WARNING

This fault indicates communications between the H Panel and the HUIO module #3 have failed when they are expected to succeed.

Conditions to Set

This fault is set when the communications have failed five consecutive attempts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists (communications returns).

4.53.1 NO HUIO 4 COMM WARNING

This fault indicates communications between the H Panel and the HUIO module #4 have failed when they are expected to succeed.

Conditions to Set

This fault is set when the communications have failed five consecutive attempts.

This fault is always enabled.

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Conditions to Clear

This fault is cleared when the fault condition no longer exists (communications returns).

4.54.1 NO HTS 1 COMMS WARNING

This fault indicates communications between the H Panel and the HTS #1 have failed when they are expected to succeed.

Conditions to Set

This fault is set when the communications have failed five consecutive attempts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists (communications returns).

4.55.1 NO HTS 2 COMMS WARNING

This fault indicates communications between the H Panel and the HTS #2 have failed when they are expected to succeed.

Conditions to Set

This fault is set when the communications have failed five consecutive attempts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists (communications returns).

4.56.1 NO HTS 3 COMMS WARNING

This fault indicates communications between the H Panel and the HTS #3 have failed when they are expected to succeed.

Conditions to Set

This fault is set when the communications have failed five consecutive attempts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists (communications returns).

4.57.1 NO HTS 4 COMMS WARNING

This fault indicates communications between the H Panel and the HTS #4 have failed when they are expected to succeed.

Conditions to Set

This fault is set when the communications have failed five consecutive attempts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists (communications returns).

4.58.1 HTS 1 SW FAULT ALARM

This fault indicates HTS #1 has a switch fault.

Conditions to Set

This fault is set when HTS #1 sends a message indicating the switch either failed to open, failed to close, or is locked out.

This fault is always enabled.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.59.1 HTS 2 SW FAULT ALARM

This fault indicates HTS #2 has a switch fault.

Conditions to Set

This fault is set when HTS #2 sends a message indicating the switch either failed to open, failed to close, or is locked out.

This fault is always enabled.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.60.1 HTS 3 SW FAULT ALARM

This fault indicates HTS #3 has a switch fault.

Conditions to Set

This fault is set when HTS #3 sends a message indicating the switch either failed to open, failed to close, or is locked out.

This fault is always enabled.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.61.1 HTS 4 SW FAULT ALARM

This fault indicates HTS #4 has a switch fault.

Conditions to Set

This fault is set when HTS #4 sends a message indicating the switch either failed to open, failed to close, or is locked out.

This fault is always enabled.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.62.1 HTS 1 NOT SYNC WARNING

This fault indicates HTS #1 has failed to synchronize the generator with the utility in order to do an in-phase transfer.

Conditions to Set

This fault is set when HTS #1 sends a message indicating that it has been unable to synchronize the generator to the utility within the required period of time when in-phase transfer was required. If selected, a TDN transfer will be attempted instead.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.63.1 HTS 2 NOT SYNC WARNING

This fault indicates HTS #2 has failed to synchronize the generator with the utility in order to do an in-phase transfer.

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Conditions to Set

This fault is set when HTS #2 sends a message indicating that it has been unable to synchronize the generator to the utility within the required period of time when in-phase transfer was required. If selected, a TDN transfer will be attempted instead.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.64.1 HTS 3 NOT SYNC WARNING

This fault indicates HTS #3 has failed to synchronize the generator with the utility in order to do an in-phase transfer.

Conditions to Set

This fault is set when HTS #3 sends a message indicating that it has been unable to synchronize the generator to the utility within the required period of time when in-phase transfer was required. If selected, a TDN transfer will be attempted instead.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.65.1 HTS 4 NOT SYNC WARNING

This fault indicates HTS #4 has failed to synchronize the generator with the utility in order to do an in-phase transfer.

Conditions to Set

This fault is set when HTS #4 sends a message indicating that it has been unable to synchronize the generator to the utility within the required period of time when in-phase transfer was required. If selected, a TDN transfer will be attempted instead.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.66.1 HTS 1 BATT LOW WARNING

This fault indicates HTS #1 has reported its battery voltage to be low.

Conditions to Set

This fault is set when HTS #1 sends a message indicating that its battery voltage is less than 3 Volts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.67.1 HTS 2 BATT LOW WARNING

This fault indicates HTS #2 has reported its battery voltage to be low.

Conditions to Set

This fault is set when HTS #2 sends a message indicating that its battery voltage is less than 3 Volts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.68.1 HTS 3 BATT LOW WARNING

This fault indicates HTS #3 has reported its battery voltage to be low.

Conditions to Set

This fault is set when HTS #3 sends a message indicating that its battery voltage is less than 3 Volts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.69.1 HTS 4 BATT LOW WARNING

This fault indicates HTS #4 has reported its battery voltage to be low.

Conditions to Set

This fault is set when HTS #4 sends a message indicating that its battery voltage is less than 3 Volts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.70.1 NO HTS 1 BATT WARNING

This fault indicates HTS #1 has reported its battery voltage to be high. This means that the charge circuit is unloaded by the batteries and therefore the batteries are not connected.

Conditions to Set

This fault is set when HTS #1 sends a message indicating that its battery voltage is greater than 4.8 Volts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.71.1 NO HTS 2 BATT WARNING

This fault indicates HTS #2 has reported its battery voltage to be high. This means that the charge circuit is unloaded by the batteries and therefore the batteries are not connected.

Conditions to Set

This fault is set when HTS #2 sends a message indicating that its battery voltage is greater than 4.8 Volts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.72.1 NO HTS 3 BATT WARNING

This fault indicates HTS #3 has reported its battery voltage to be high. This means that the charge circuit is unloaded by the batteries and therefore the batteries are not connected.

Conditions to Set

This fault is set when HTS #3 sends a message indicating that its battery voltage is greater than 4.8 Volts.

This fault is always enabled.

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Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.73.1 NO HTS 4 BATT WARNING

This fault indicates HTS #4 has reported its battery voltage to be high. This means that the charge circuit is unloaded by the batteries and therefore the batteries are not connected.

Conditions to Set

This fault is set when HTS #4 sends a message indicating that its battery voltage is greater than 4.8 Volts.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.74.1 HTS 1 GEN VOLTS WARNING

This fault indicates the HTS #1 reported generator voltage is too low compared to the generator measured generator voltage. This could result from the MCB being tripped, the HTS generator voltage sensing not functioning, the HTS generator voltage scaling incorrect, etc.

Conditions to Set

This fault is set when HTS #1 measured generator voltage is less than $\frac{1}{4}$ of the target voltage while the generator measured generator voltage is greater than $\frac{3}{4}$ of the target voltage.

This fault is always enabled, but only effective while the generator is running.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.75.1 HTS 2 GEN VOLTS WARNING

This fault indicates the HTS #2 reported generator voltage is too low compared to the generator measured generator voltage. This could result from the MCB being tripped, the HTS generator voltage sensing not functioning, the HTS generator voltage scaling incorrect, etc.

Conditions to Set

This fault is set when HTS #2 measured generator voltage is less than $\frac{1}{4}$ of the target voltage while the generator measured generator voltage is greater than $\frac{3}{4}$ of the target voltage.

This fault is always enabled, but only effective while the generator is running.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.76.1 HTS 3 GEN VOLTS WARNING

This fault indicates the HTS #3 reported generator voltage is too low compared to the generator measured generator voltage. This could result from the MCB being tripped, the HTS generator voltage sensing not functioning, the HTS generator voltage scaling incorrect, etc.

Conditions to Set

This fault is set when HTS #3 measured generator voltage is less than $\frac{1}{4}$ of the target voltage while the generator measured generator voltage is greater than $\frac{3}{4}$ of the target voltage.

This fault is always enabled, but only effective while the generator is running.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.77.1 HTS 4 GEN VOLTS WARNING

This fault indicates the HTS #4 reported generator voltage is too low compared to the generator measured generator voltage. This could result from the MCB being tripped, the HTS generator voltage sensing not functioning, the HTS generator voltage scaling incorrect, etc.

Conditions to Set

This fault is set when HTS #4 measured generator voltage is less than $\frac{1}{4}$ of the target voltage while the generator measured generator voltage is greater than $\frac{3}{4}$ of the target voltage.

This fault is always enabled, but only effective while the generator is running.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.78.1 NO ECU COMMS ALARM

This fault indicates the ECU has stopped communicating with the H Panel over the J1939 CAN bus. This can result from an open/shorted CAN bus, loss of ECU switched power, E-Stop pushed, ECU fuse, etc.

Conditions to Set

This fault is set when the ECU is expected to communicate to the H Panel, but has failed for a given number of attempts. This fault is normally set within 5 seconds of the communications be lost, but it is dependent on the engine type and expected messages.

This fault is always enabled.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists (communications returned).

4.79.1 WAIT TO START WARNING

This fault indicates the ECU is requesting the system to wait before cranking. This is normally due to glow plug function and such. Since glow plugs are the normal reason and most of the ECU controlled engines do not use glow plugs, this fault is not expected to occur.

Conditions to Set

This fault is set by the ECU and each engine type has different conditions that set this.

This fault is enabled when not cranking or running.

Conditions to Clear

This fault is cleared when the wait condition no longer exists.

4.80.1 ECU PROT LT ON WARNING

This fault indicates the ECU is derating the engine performance in order to protect it from damage. This is normally due to temperatures or pressures being out of the optimal ranges, but each ECU has its own conditions that it uses.

Conditions to Set

This fault is set by the ECU and each engine type has different conditions that set this.

This fault is always enabled, but is only effective when running.

Conditions to Clear

This fault is cleared when the protection condition no longer exists.

4.81.1 ECU WARN LT ON WARNING

This fault indicates the ECU has detected an adverse condition and has likely logged a SPN code. Each ECU has its own conditions that it uses.

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Conditions to Set

This fault is set by the ECU and each engine type has different conditions that set this.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the condition no longer exists.

4.82.1 ECU CHECK ENG ALARM

This fault indicates the ECU has detected a fault condition that adversely affects emissions.

Conditions to Set

This fault is set by the ECU and each engine type has different conditions that set this.

This fault is always enabled.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.83.1 ECU STOP LT ON SHUTDOWN ALARM

This shutdown fault indicates the ECU has detected a fault condition that requires the engine to be stopped in order to protect it from damage.

Conditions to Set

This fault is set by the ECU and each engine type has different conditions that set this.

This fault is always enabled.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.84.1 ECU SHUTDOWN SHUTDOWN ALARM

This shutdown fault indicates the ECU has detected a fault condition that requires the engine to shutdown. It then shuts down the engine.

Conditions to Set

This fault is set by the ECU and each engine type has different conditions that set this.

This fault is always enabled.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.85.1 MULT DEF HUIO SHUTDOWN ALARM

This fault indicates there are two or more functions trying to control the same HUIO digital output channel. This could be a combination of reserved digital output channels, Digital Output Functions mapped to outputs, or ILC rung outputs. This fault will shut down the generator.

Conditions to Set

This fault is set for any of the following:

A DOF maps to an HUIO output channel that is reserved by the firmware,

More than one DOF maps to the same HUIO output channel,

A HUIO input or alarm is mapped to a HUIO output channel that is used or reserved,

An ILC rung controls a HUIO output channel reserved by the firmware,

An ILC rung controls a HUIO output channel that a DOF is mapped to.

This fault is always enabled.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.86.1 MULDEF OF HUIO SHUTDOWN ALARM

This fault indicates there are two or Digital Output Functions trying to control the same HUIO digital output channel. This fault will shut down the generator.

Conditions to Set

This fault is set for any of the following:

More than one DOF maps to the same HUIO output channel,

This fault is always enabled.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.87.1 MULDF ILC HUIO SHUTDOWN ALARM – NOT IMPLEMENTED

4.88.1 VOLT ZC LOST SHUTDOWN ALARM

This fault indicates there is at least one voltage phase that is missing its zero crossings. This can be caused by the phase being shorted, the alternator not generating voltage, a voltage sense wire disconnected, etc. This fault will shut down the generator.

Conditions to Set

This fault is set when any one voltage phase has lost its zero crossing for at least 15 seconds.

This fault is only enabled while running.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF when the fault condition no longer exists.

4.89.1 DTCS DISABLED WARNING

This fault indicates this generator is required to have emissions OBD DTCs enabled, but they are not enabled.

Conditions to Set

This fault is set when the generator has a 100 kW or more, LP fueled, emissionized engine and the OBD DTCs are not enabled.

This fault is always enabled.

Conditions to Clear

This fault is cleared when the fault condition no longer exists.

4.90.1 CHECK ENGINE DTC

This fault indicates there are one or more emissions DTCs active. Its primary function is to indicate to the operator that there is a potential emissions fault.

Conditions to Set

This fault is set when any emissions DTC is active.

This fault is always enabled.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

H-panel Internal Alarms

4.91.1 P0134-02 SENSE DTC

This fault indicates the O2 sensor reading is not toggling between rich and lean when expected.

Conditions to Set

This fault is set when the emissions algorithm is running closed loop for more than one minute without the O2 sensor crossing the rich/lean threshold at least once. Each engine type can have different thresholds and different closed loop operation conditions. This fault is repeatedly set until the O2 sensor has operated without error for at least 3 consecutive run cycles.

This fault is always enabled.

Conditions to Clear

This fault is cleared by turning the keyswitch to OFF after the third run cycle when the fault condition no longer exists. It cannot be cleared by cycling power.

4.92.1 BAD A/F PARAMS ALARM

This fault indicates that the parameters for Air/Fuel Ratio control are invalid. They need to be corrected to prevent improper operation of the Air/Fuel Ratio control or nuisance emissions faults. This is normally the result of an incompatibility between older settings and newer firmware.

Conditions to Set

This fault is set when any of the Air/Fuel Ratio settings are out of normal range.

This fault is always enabled.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the fault condition no longer exists.

4.93.1 ECU OVERSPEED ALARM

This fault indicates the ECU has detected an engine overspeed fault condition.

Conditions to Set

This proprietary fault is set by the Iveco ECU.

This fault is always enabled.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the Iveco ECU is no longer indicating the fault condition exists.

4.94.1 ECU OVER TEMP WARNING – NOT IMPLEMENTED

4.95.1 ECU OVER TEMP ALARM

This fault indicates the ECU has detected an engine coolant temperature too high fault condition.

Conditions to Set

This proprietary fault is set by the Iveco ECU.

This fault is always enabled.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the Iveco ECU is no longer indicating the fault condition exists.

4.96.1 ECU OIL PRESS ALARM

This fault indicates the ECU has detected the oil pressure too low fault condition.

Conditions to Set

This proprietary fault is set by the Iveco ECU.

This fault is always enabled.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the Iveco ECU is no longer indicating the fault condition exists.

4.97.1 ECU OIL TEMP ALARM

This fault indicates the ECU has detected an engine oil temperature too high fault condition.

Conditions to Set

This proprietary fault is set by the Iveco ECU.

This fault is always enabled.

Conditions to Clear

This fault is cleared by pressing the Acknowledge button or by turning the keyswitch to OFF when the Iveco ECU is no longer indicating the fault condition exists.

4.98.1 ECU PWR DERATE ALARM – NOT IMPLEMENTED
