

All other shutdown faults are non-critical shutdown faults. The PCC still provides the usual indications that a shutdown fault has occurred, even if it overrides a non-critical shutdown fault.

6.7 Fault Codes

This table identifies the faults codes and events that the PCC can generate depending on it's configuration.

NOTICE

InPower can be used to raise the response/severity of an event or fault. For example, an event can be changed to a warning fault or a warning fault to a shutdown fault. The response/severity of an event or fault (except event/fault 1452 (Genset Breaker Fail to Close)) cannot be set lower than its default value, and the severity cannot be changed of any fault or event with an asterisk ().**

Codes marked with * are generator related fault codes. For all other codes for the possible cause, failure and diagnosis refer to the relevant engine service manual.

TABLE 4. FAULT CODES

Code	Event/Lamp	Displayed Message
111	Shutdown	Internal ECM Failure
115	Shutdown	Eng Crank Sensor Error
118	Warning	Fuel Pressure OOR High
119	Warning	Fuel Pressure Sensor OOR Low
121	Shutdown	Loss of Speed Sense
122	Warning	Manifold 1 Press High
123	Warning	Manifold 1 Press Low
124	Warning	Manifold 1 Press High
135	Warning	High Oil Rifle 1 Pressure
141	Warning	Low Oil Rifle 1 Pressure
143	Warning	Low Oil Rifle Pressure
144	Warning	High Coolant 1 Temp
145	Warning	Low Coolant 1 Temp
146	Derate	Pre-High Engine Coolant Temperature
151	Shutdown	High Coolant Temp
153	Warning	High Intake Manf 1 Temp
154	Warning	low Intake Manf 1 Temp
155	Shutdown	High Intake Manf 1 Temp
187	Warning	Sensor Supply 2 Low
195	Warning	High Coolant 1 Level
196	Warning	Low Coolant 1 Level
197*	Warning	Low Coolant Level
212	Warning	High Oil 1 Temperature
213	Warning	Low Oil 1 Temperature

Code	Event/Lamp	Displayed Message
214	Shutdown	High Oil 1 Temp
219	Warning	Eng Oil Level Remote Reservoir: Least Severe Level
221	Warning	Air Pressure Sensor High
222	Warning	Air Pressure Sensor Low
223	Warning	Oil Burn Valve Sol Low
224	Warning	Oil Burn Valve Sol High
227	Warning	Sensor Supply 2 Low
228	Shutdown	Low Coolant Pressure
231	Warning	High Coolant Pressure
232	Warning	Low Coolant Pressure
233	Warning	HT Coolant Pressure Moderate Low
234*	Shutdown	Crankshaft Speed High
235*	Shutdown	Low Coolant Level
236*	Shutdown	Both Engine Speed Signals Lost
238	Warning	Sensor Supply 3 Low
239	Warning	Main Supply High
245	Warning	Fan Control Low
254	Shutdown	FSO PWM High Control Error
255	Warning	FSO PWM Low Control Error
259	Warning	Engine Fuel Shutoff Valve Stuck Open
261	Warning	High Fuel Temperature
263	Warning	High Fuel 1 Temperature
265	Warning	Low Fuel 1 Temperature
266	Shutdown	High Fuel Temperature
271	Warning	Low Fuel Pump Press
272	Warning	High Fuel Pump Press
277		Fuel Control Valve Out of Adj
281	Warning	Cylinder Press Imbalance
284	Warning	Eng Speed/Position Sensor: Voltage Below Normal
285	Warning	CAN Mux PGN Rate Error
286	Warning	CAN Mux Calibration Error
287	Warning	CAN Mux Accel Data Error
295	Warning	Key On Air Pressure Error
311	Warning	ACT1 FF Shorted HS TO LS Error
312	Warning	ACT5 Shorted HS TO LS Error
313	Warning	ACT3 RF Shorted HS TO LS Error
314	Warning	ACT6 Shorted HS TO LS Error
315	Warning	ACT2 FT Shorted HS TO LS Error
319	Warning	RTC PWR Intr: Data Erratic Intermittent or Wrong
321	Warning	ACT4 RT Shorted HS TO LS Error
322	Warning	Inj 1 Solenoid Low Curr

Code	Event/Lamp	Displayed Message
323	Warning	Inj 5 Solenoid Low Curr
324	Warning	Inj 3 Solenoid Low Curr
325	Warning	Inj 6 Solenoid Low Curr
331	Warning	Inj 2 Solenoid Low Curr
332	Warning	Inj 4 Solenoid Low Curr
341	Warning	Engine Control Module Data Lost
342	Shutdown	Calibration Code Fail
343	Warning	ECM Hardware Failure
351	Warning	Injector Supply Failure
352	Warning	Sensor Supply 1 Low
359*	Shutdown	Fail to Start
378	Warning	Elect Fuel Inj Cntrl Valve Ckt: Curr Below Normal
379	Warning	Elect Fuel Inj Cntrl Valve Ckt: Curr Above Normal
386	Warning	Sensor Supply 1 High
394	Warning	Eng Timing Actuator Driver: Curr Below Normal
395	Warning	Eng Timing Actuator Driver: Curr Above Normal
396	Warning	Fuel Cntl Valve Solenoid Driver 2 Sensor Ckt: OC
397	Warning	Fuel Cntl Valve Solenoid Driver 2 -
398	Warning	Eng Timing Actuator Driver 2 Circuit: OC
399	Warning	Eng Timing Actuator Driver 2: Grounded Ckt
415	Shutdown	Low Oil Rifle Press
418	Warning	High H2O in Fuel
419	Warning	Intake Manifold Pres Bank Imbalance: Data Erratic
421*	Derate	High Oil Temperature
422	Warning	Coolant Level Data Error
425	Warning	Oil Temperature Error
426*	Event	J1939 Datalink: Data Erratic/Intermittent/Wrong
427*	Warning	CAN Data Link Degraded
433	Warning	Intake Manifold Press Sensor Ckt: Data Erratic
435	Warning	Oil Pressure Switch Error
441*	Warning	Low Battery 1 Voltage
442*	Warning	High Battery 1 Voltage
449	Shutdown	Inj Metering 1 Press High
451	Warning	Inj Metering 1 Press High
452	Warning	Inj Metering 1 Press Low
482	Warning	Fuel Press Low: Valid But Below Normal: Mod Severe
488*	Derate	High Intake Manf 1 Temp
496	Warning	Eng Speed Sensor 2 Supply Volt: Root Cause Unknown
546	Warning	Fuel Delivery Press High
547	Warning	Fuel Delivery Press Low
553	Warning	APC Pressure High

Code	Event/Lamp	Displayed Message
554	Warning	APC Pressure Error
556	Shutdown	Crankcase Pressure High
559	Warning	Inj Metering 1 Press Low
611*	Warning	Engine Hot Shut Down
686	Warning	Turbo 1 Speed Incorrect
689	Warning	Crankshaft Speed Error
697	Warning	ECM Temperature High
698	Warning	ECM Temperature Low
731	Warning	Crankshaft Mech Misalign
757	Warning	All Persistent Data Lost Error
778	Warning	EPS Backup Lost Sync Error
781*	Shutdown	CAN Data Link Failure
782	Warning	SAE J1939 Data Link 2 Engine Network No Data Received – Condition Exists
783	Shutdown	Intake Manf 1 Rate Error
1117	Warning	Power Lost With Ignition On
1121*	Warning	Fail To Disconnect
1122*	Event	Rated To Idle Delay
1123*	Shutdown	Shutdown After Battle Short (Shutdown)
1124*	Warning	Delayed Shutdown
1131*	Warning	Battle Short Active
1132*	Warning	Controlled Shutdown
1139	Warning	UFD Injector 1 Error
1141	Warning	UFD Injector 2 Error
1142	Warning	UFD Injector 3 Error
1143	Warning	UFD Injector 4 Error
1144	Warning	UFD Injector 5 Error
1145	Warning	UFD Injector 6 Error
1219*	Warning	Utility Breaker Tripped
1223*	Warning	Utility Frequency
1224*	Warning	Genset Overvoltage
1225*	Warning	Genset Undervoltage
1226*	Warning	Genset Frequency
1243*	Derate	Engine Derated
1244*	Shutdown	Engine Normal Shutdown
1245*	Shutdown	Engine Shutdown Fault
1246*	Warning	Unknown Engine Fault
1247*	Shutdown	Unannounced Engine Shutdown
1248*	Warning	Engine Warning
1256	Warning	Ctrl Mod ID In State Error
1257	Shutdown	Ctrl Mod ID In State Fail

Code	Event/Lamp	Displayed Message
1312*	Event	Configurable Input # 2
1317*	Event	Configurable Input # 13
1318*	Event	Configurable Input # 14
1322*	Warning	kW Load Setpoint OOR High
1323*	Warning	kW Load Setpoint OOR Low
1324*	Warning	kVAR Load Setpoint OOR High
1325*	Warning	kVAR Load Setpoint OOR Low
1328*	Warning	Genset Breaker Tripped
1336*	Shutdown	Cooldown Complete
1357	Warning	Oil Remote Level Low
1363	Warning	Intake Manf 1 Press Low
1367	Warning	High Prefilter Oil Press
1368	Warning	Low Prefilter Oil Press
1376	Warning	Camshaft Speed Error
1411	Warning	High Out Freq Adjust Pot
1412	Warning	High Droop Adjust Pot
1416*	Warning	Fail To Shutdown
1417*	Warning	Power Down Failure
1418	Warning	High Gain Adjust Pot
1427	Warning	Overspeed Relay Error
1428	Warning	LOP Relay Error
1429	Warning	HET Relay Error
1431	Warning	Pre-LOP Relay Error
1432	Warning	Pre-HET Relay Error
1433*	Shutdown	Local Emergency Stop
1434*	Shutdown	Remote Emergency Stop
1435*	Warning	Low Coolant Temperature
1438*	Shutdown	Fail To Crank
1439*	Warning	Low Day Tank Fuel Switch
1441*	Warning	Low Fuel Level
1442*	Warning	Weak Battery
1443*	Shutdown	Dead Battery
1444*	Warning	Overload
1445*	Shutdown	Short Circuit
1446*	Shutdown	High AC Voltage
1447*	Shutdown	Low AC Voltage
1448*	Shutdown	Under Frequency
1449*	Warning	Over Frequency
1451*	Warning	Gen/Bus Voltages Out of Calibration
1452*	Warning	Genset Breaker Fail To Close
1453*	Warning	Genset Breaker Fail To Open

Code	Event/Lamp	Displayed Message
1454*	Warning	Genset Breaker Position Contact
1455*	Warning	Utility Breaker Position Contact
1456*	Warning	Bus Out Of Synchronizer Range
1457*	Warning	Fail To Synchronize
1458*	Warning	Sync Phase Rotation Mismatch Overfrequency
1459*	Shutdown	Reverse Power
1461*	Shutdown	Loss of Field (Reverse kVAR)
1463**	Event	Not In Auto
1464**	Warning	Load Dump Fault
1465**	Event	Ready To Load
1469*	Warning	Speed/Hz Mismatch
1471*	Warning	Over Current
1472*	Shutdown	Over Current
1475*	Warning	First Start Backup
1483*	Event	Common Alarm
1517	Shutdown	Failed Module Shutdown
1518	Warning	Failed Module Warning
1519	Warning	At Least One Module Has: Least Severe Fault
1540*	Event	Common Warning
1541*	Event	Common Shutdown
1548	Warning	Inj 7 Solenoid Low Curr
1549	Warning	Inj 8 Solenoid Low Curr
1551	Warning	Inj 7 Solenoid Low Curr
1552	Warning	Inj 7 Solenoid Low Curr
1553	Warning	Inj 7 Solenoid Low Curr
1554	Warning	Inj 7 Solenoid Low Curr
1555	Warning	Inj 7 Solenoid Low Curr
1556	Warning	Inj 7 Solenoid Low Curr
1557	Warning	Inj 7 Solenoid Low Curr
1573*	Event	Configurable Input #1
1597	Warning	ECM Device/Component
1622	Warning	Inj 9 Solenoid Low Curr
1689*	Warning	Real Time Clock Power
1695	Warning	Sensor Supply 5 High
1696	Warning	Sensor Supply 5 Low
1794*	Shutdown with Cooldown	Fire Detected
1843	Warning	Crankcase Press High
1844	Warning	Crankcase Press Low
1845	Warning	H2O In Fuel Sens High
1846	Warning	H2O In Fuel Sens Low

Code	Event/Lamp	Displayed Message
1847*	Shutdown w/Cooldown	Eng Coolant Temp - Shutdown w/Cool
1852*	Warning	Pre-High H2O In Fuel
1853*	Warning	Annunciator Input 1 Fault
1854*	Warning	Annunciator Input 2 Fault
1855*	Warning	Annunciator Input 3 Fault
1866	Warning	EGR DP Autozero Error
1891	Warning	Change Oil
1893	Warning	CAN EGR Valve Comm
1894	Warning	CAN VGT Comm Error
1895	Warning	EGA DL Mismatch Error
1896	Warning	EGR DL Valve Stuck
1899	Warning	Low EGR Dif Pressure
1911	Warning	Inj Metering 1 Press High
1912*	Warning	Utility Loss Of Phase
1913*	Warning	Genset Loss Of Phase
1914*	Warning	Utility Phase Rotation
1915*	Warning	Genset Phase Rotation
1916*	Event	Sync Check OK
1917*	Warning	Fuel Level High
1918*	Shutdown	Fuel Level Low
1933	Warning	High EGR Data Link Volt
1934	Warning	Low EGR Data Link Volt
1935	Warning	EGR DL Cmd Source Err
1942	Warning	THD AZ Error
1944*	Warning	HMI 113 Out Config Error
1961	Warning	High EGR DL EDU Temp
1974	Warning	Crankcase Press High
1978*	Warning	Speed Bias OOR Hi
1979*	Warning	Speed Bias OOR Lo
1992*	Shutdown	Crankcase Sensor High
1999*	Warning	Maximum Parallel Time
2185	Warning	Sensor Supply 4 High
2186	Warning	Sensor Supply 4 Low
2215	Warning	Fuel Pump Press Low
2249	Warning	APC 2 Pressure Low
2261	Warning	Fuel Pump Press High
2262	Warning	Fuel Pump Press Low
2265	Warning	High Fuel Lift Pump Volt
2266	Warning	Low Fuel Lift Pump Volt
2272	Warning	EGR DL POS Sensor Error

Code	Event/Lamp	Displayed Message
2273	Warning	EGR Delta P OOR High Error
2274	Warning	EGR Delta P OOR Low Error
2292	Warning	APC Flow high
2293	Warning	APC Flow Low
2311	Warning	EFI Control Valve Fail
2328*	Event	Utility Available
2331*	Warning	Utility Undervoltage
2332*	Event	Utility Connected
2333*	Event	Genset Connected
2335*	Shutdown	AC Voltage Sensing Lost (Excitation Fault)
2336*	Shutdown	Bad Checksum
2342*	Warning	Too Long In Idle
2349	Warning	EGR DL Motor Open Error
2351	Warning	EGR DL Motor Short Error
2357	Warning	EGR DL Motor Lock Error
2358*	Warning	Utility Overvoltage
2359	Warning	EGR Delta P IR High Error
2375	Warning	EGR Orifice TMPTR OOR High Error
2376	Warning	EGR Orifice TMPTR OOR Low Error
2377	Warning	High Fan Control Voltage
2396*	Warning	Utility Breaker Fail To Close
2397*	Warning	Utility Breaker Fail To Open
2448	Warning	Coolant Level Moderately Low
2539*	Warning	High Voltage Bias
2541*	Warning	Low Voltage Bias
2544	Shutdownw/Cooldown	Over Temperature (ECM Internal temperature Data valid but above normal operational range Most severe level)
2545*	Warning	Keysw Reset Required
2555	Warning	Low GHC 1 Voltage
2556	Warning	High GHC 1 Voltage
2619*	Warning	Aux101 0 Input 1 Fault
2621*	Warning	Aux101 0 Input 2 Fault
2622*	Warning	Aux101 0 Input 3 Fault
2623*	Warning	Aux101 0 Input 4 Fault
2624*	Warning	Aux101 0 Input 5 Fault
2625*	Warning	Aux101 0 Input 6 Fault
2626*	Warning	Aux101 0 Input 7 Fault
2627*	Warning	Aux101 0 Input 8 Fault
2628	Warning	Aux102 0 Expansion Input 9 Fault
2629	Warning	Aux102 0 Expansion Input 10 Fault
2631	Warning	Aux102 0 Expansion Input 11 Fault

Code	Event/Lamp	Displayed Message
2632	Warning	Aux102 0 Expansion Input 12 Fault
2653*	Warning	Exhaust St 2 Temp High
2657*	Warning	Exhaust St 1 Temp High
2661	Shutdown	At Least One Unacknowledged Most Severe Fault 0 Condition Exists
2662	Warning	At Least One acknowledged: Most Severe Fault
2677*	Shutdown	Fail to Stop (Shutdown)
2678*	Warning	Charging Alternator Fail
2727	Warning	Critical CEN Not Accessible Error
2738	Warning	Ether INJ Low CTRL Error
2739	Warning	Ether INJ High CTRL Error
2774	Warning	EGR DP Clogged Tubes Error
2779*	Event	Utility Unloaded Event
2814*	Shutdown	Genset CT Ratio Low
2815*	Warning	Genset CT Ratio High
2816*	Shutdown	Genset PT Ratio Low
2817*	Warning	Genset PT Ratio High
2818*	Warning	Bus PT Ratio Low
2819*	Warning	Bus PT Ratio High
2821*	Warning	Utility PT Ratio Low
2822*	Warning	Utility PT Ratio High
2882*	Warning	Aux101 1 Input 1 Fault
2883*	Warning	Aux101 1 Input 2 Fault
2884*	Warning	Aux101 1 Input 3 Fault
2885*	Warning	Aux101 1 Input 4 Fault
2886*	Warning	Aux101 1 Input 5 Fault
2887*	Warning	Aux101 1 Input 6 Fault
2888*	Warning	Aux101 1 Input 7 Fault
2889*	Warning	Aux101 1 Input 8 Fault
2891*	Warning	Aux102 1 Expansion Input 9 Fault
2892*	Warning	Aux102 1 Expansion Input 10 Fault
2893*	Warning	Aux102 1 Expansion Input 11 Fault
2894*	Warning	Aux102 1 Expansion Input 12 Fault
2895*	Warning	PCCNet Device Failed
2896*	Shutdown	Critical PCCnet Dev Fail
2914*	Shutdown	Genset AC Meter Failed
2915*	Warning	Gen Bus AC Meter Failed
2916*	Warning	Utility AC Meter Failed
2917*	Warning	Gen Bus Voltage OOR Hi
2918*	Warning	Utility Voltage OOR Hi
2919*	Warning	Utility Current OOR Hi

Code	Event/Lamp	Displayed Message
2921*	Warning	Gen Bus Current OOR Hi
2922*	Warning	High Genset Neutral Curr
2923*	Warning	Gen Bus kW OOR Hi
2924*	Warning	Gen Bus kVAR OOR Hi
2925*	Warning	Gen Bus kVA OOR Hi
2926*	Warning	Utility kW OOR Hi
2927*	Warning	Utility kVAR OOR Hi
2928*	Warning	Utility kVA OOR Hi
2931*	Shutdown	Aux101 Device ID Fault
2934*	Warning	High Ambient Temp
2935*	Warning	Low Ambient Temp
2936*	Warning	Fuel Level High
2937*	Warning	Fuel Level Low
2938*	Warning	Earth/Ground Fault
2939*	Warning	Modbus Failure
2941*	Event	Remote Shutdown Fault Reset Occurrence
2942*	Warning	Shutdown Override Fail
2943*	Warning	Manual Sw Config Fail
2944*	Warning	Auto Switch Config Fail
2945*	Warning	Rupture Basin Switch
2946*	Warning	Exhaust St 2 Temp Low
2947*	Warning	Exhaust St 1 Temp Low
2948*	Warning	Exhaust St 2 Temp High
2949*	Warning	Exhaust St 1 Temp High
2951*	Warning	Alternator 1 Temp High
2952*	Warning	Alternator 1 Temp Low
2953*	Warning	Alternator 1 Temp High
2954*	Warning	Alternator 2 Temp High
2955*	Warning	Alternator 2 Temp Low
2956*	Warning	Alternator 2 Temp High
2957*	Warning	Alternator 3 Temp High
2958*	Warning	Alternator 3 Temp Low
2959*	Warning	Alternator 3 Temp High
2962	Warning	EGR RPM Derate Error
2965*	Event	Genset Available
2967*		Governor Fault
2968*		AVR Fault Failure and Diagnosis
2969*		LON Failure failure and Diagnosis
2971*	Warning	Test/Exercise Fault
2972*	Shutdown	Field Overload
2973	Warning	Charge Press IR Error

Code	Event/Lamp	Displayed Message
2977*	Warning	Low Coolant Level 2 Sw
2978*	Warning	Low Intake Manf 1 Temp
2979*	Warning	High Alternator Temp Sw
2981*	Warning	High Drive Bearing Temp
2982*	Warning	Low Drive Bearing Temp
2983*	Warning	High Drive Bearing Temp
2984*	Warning	High Free Bearing Temp
2985*	Warning	Low Free Bearing Temp
2986*	Warning	High Free Bearing Temp
2992*	Warning	High Intake Manf 1 Temp
2993*	Warning	Battery Charger Sw Fail
3131*	Shutdown	Secondary Engine Overspeed
3226*	Event	Genset is paralleled to utility in base load operation
3397*	Shutdown	Low Gearbox Oil Pressure – Condition Exists
3398*	Shutdown	High Gearbox Oil Pressure – Condition Exists
3399*	Shutdown	Differential Fault – Condition Exists
3411*	Warning	DC Power Supply Fault – Condition Exists
3412*	Warning	GIB Isolator Open Fault – Condition Exists
3413*	Warning	Radiator Fan Trip Fault – Condition Exists
3414*	Warning	Ventilator Fan Trip Fault – Condition Exists
3415*	Warning	Louvres Closed Fault – Condition Exists
3416*	Warning	Start System Fault – Condition Exists
3417*	Warning	Alternator Heater Trip Fault – Condition Exists
3457*	Warning	Loss of Bus Voltage Sensing
3479*	Warning	Start-Inhibit Warning Fault Event
3481*	Warning	Start-Inhibit Warning Fault Event
3482*	Shutdown	Start-Inhibit Shutdown Fault
3483*	Shutdown	High Alternator Temperature 1 Shutdown Fault
3484*	Shutdown	High Alternator Temperature 2 Shutdown Fault
3485*	Shutdown	High Alternator Temperature 3 Shutdown Fault
3486*	Shutdown	High Drive End Bearing Temperature Shutdown Fault
3487*	Shutdown	High Non-Drive End Bearing Temp Shutdown Fault
3513*	Warning	Negative Sequence Overcurrent
3599*	Warning	Ground Current OOR Warning
3611*	Warning	Custom Overcurrent Fault
3629*	Warning	Device Calibration Update Recommended
3631*	Shutdown	Device Calibration Update Required
3641*	Shutdown	Start Enable1 Shutdown Fault
3642*	Shutdown	Start Enable2 Shutdown Fault
3643*	Warning	Start Enable3 Shutdown Fault
4358*	Warning	SetUp Mode Run Fault

Code	Event/Lamp	Displayed Message
4761*	Warning	Genset Voltage Sensing MCB Protection
4766*	Warning	Customer Gas Valve Close
4767*	Warning	Customer Gas Valve Close
4872*	Warning	System Network Failure
4873*	Warning	Genset Failed to Come Online
4874*	Warning	Load Demand SW Version Incompatibility
4875*	Warning	Genset Ineligible for Load Demand
4876*	Warning	Genset Lost on System Network
4877*	Warning	System Settings not Synchronized
4878*	Warning	Check System Network Installation
4879*	Warning	Load Demand Setup Error
4881*	Warning	System Genset ID Conflict
4882*	Warning	Genset Bus Overload
5135*	Warning	Overload Shutdown Fault
5145*	Warning	Load Demand Genset Bus Failure
9945	Warning	Injector 6 Circuit 2 Error
9946	Warning	Injector 5 Circuit 2 Error
9947	Warning	Injector 4 Circuit 2 Error
9948	Warning	Injector 3 Circuit 2 Error
9949	Warning	Injector 2 Circuit 2 Error
9951	Warning	Injector 1 Circuit 2 Error
9954*	Warning	Differential Fault
9955*	Warning	DC Power Supply Fault
9956*	Warning	GIB Isolator Fault
9957*	Warning	Radiator Dan Trip Fault
9958*	Warning	Vent Fan Trip Fault
9959*	Warning	Louvres Closed Fault
9960*	Warning	Start System Fault
9961*	Warning	Alt Heater Trip Fault
9971*	Warning	ECM Derate Fault
9973*	Warning	Watchdog Reset Fault