

REFLEX+ Serial #1050+ when loaded w/ firmware OLDER than v44 will show NO FAULTs & not run the PI.

The REFLEX reports errors to EcuTek over CANBUS. (This requires EcuTek Firmware v1.05+)

The live data parameter "CAN ERROR CODE" is the generated error from the REFLEX (Latest RaceRom)

The live data parameter "CAN INPUT STATUS" is the generated error from the REFLEX. (Older RaceRom)

Anything above a value of 0 will put the car into a failsafe mode which limits cylinder fill. (Default is 100)

The byte of information that is sent to EcuTek over CANBUS for ERRORS has 8 bits.

EcuTek displays the bits in the error byte in a decimal format.

Error Bit (Binary)	Fault Error
00000000	No Error
00000001	Injector #1 Unplugged
00000010	Injector #2 Unplugged
00000100	Injector #3 Unplugged
00001000	Injector #4 Unplugged
00010000	Injector #5 Unplugged
00100000	Injector #6 Unplugged
01000000	NO CAM SENSOR SYNC
10000000	NO CRANK SENSOR SYNC

This table was generated to make things easier; it does not show every type of error.

Error Bit (Binary)	CAN INPUT STATUS (DECIMAL)	Fault Error	Description
00000000	0	No Error	Engine Running
11000000	192	NO CAM OR CRANK SYNC	OK - IF ENGINE IS NOT RUNNING
10000000	128	No Crank Sync	NOT OK - IF ENGINE IS RUNNING
01000000	64	No CAM Sync	NOT OK - IF ENGINE IS RUNNING
00111111	63	Injector #1-6	unplugged
00000001	1	Injector #1	unplugged
00000010	2	Injector #2	unplugged
00000100	4	Injector #3	unplugged
00001000	8	Injector #4	unplugged
00010000	16	Injector #5	unplugged
00100000	32	Injector #6	unplugged
00100010	34	Injector #2 & #6	unplugged
11111111	255	Injector #1-6 & CAM+CRANK	unplugged
1111111111111111	65535	NO DATA	-REFLEX HAS NO POWER- -WRONG CANBUS CHANNEL- -CANBUS NOT CONNECTED- *CHECK FLEXFUEL SUBHARNES PLUG*

Single faults can be looked up in the table. If you have multiple faults, you'll need to convert the decimal value into binary and decode it. Example CAN INPUT STATUS 7 = 00000111 = Injector 1, 2, 3.

If you have a CAN INPUT STATUS VALUE that is not shown in this table, convert the value to binary.

<https://www.rapidtables.com/convert/number/decimal-to-binary.html>

65535 means EcuTek RaceRom is not receiving any data over the CANBUS channel the REFLEX uses.

65535 will appear if you turn off the car while you're still logging, this happens because the REFLEX powers off when the ignition is OFF, the ECU has a delayed power shutdown.

192 means the CAM and Crank Sensor have no sync, it's normal to see this when the key is ON and engine is not running.

The Fuel Pressure & Flex Fuel Sensor do not generate any CAN INPUT STATUS values but will put the car in limp mode when unplugged or during a sensor fault.

The live data parameter “PI Diagnostic Flags” is a Hexadecimal value displayed in Decimal.

PI diagnostic flags above 0 aren't bad, they provide useful information during troubleshooting.

Use this link to convert the Decimal values into HEX

<https://www.rapidtables.com/convert/number/decimal-to-hex.html>

EXAMPLES:

1048576 PI Diagnostic Flag

Converted to HEX is 100000 remember it's an 8-digit value, add 2 zeros to the front of it - 00100000.
(PI Effective Pulsewidth Target is less than minimum allowed)

1048580 PI Diagnostic Flag, converted to HEX is 100004 - 00100004

(PI Effective Pulsewidth Target is less than minimum allowed) & (Engine Load below activation threshold)

4 PI Diagnostic Flag, converted to HEX is 4 - 00000004

(Engine Load below activation threshold)

HEX VALUE	MEANING
00000001	PI System not Enabled in this Map switch mode
00000002	Incoming CAN packet not valid
00000004	Engine Load below activation threshold
00000008	Incoming Fuel Pressure not valid
00000010	Fuel Cut in progress
00000020	Pulsewidth Actual is less than Lag Time
00000040	Pulsewidth Actual and Pulsewidth Target diff by more than tolerance amount
00000100	Pulsewidth Target is less than maximum allowed
00000200	Pulsewidth Target is more than maximum allowed
00000400	Pulsewidth Actual is less than minimum allowed
00000800	Pulsewidth Actual is more than maximum allowed
00001000	PI Mass Actual is more than Mass Total
00002000	PI Mass Target is more than Mass Total
00004000	PI Percentage Actual is more than maximum allowed
00008000	PI Percentage Target is more than the maximum allowed
00010000	PI Injector Duty Target is more than maximum allowed
00020000	PI Injector Duty Target is less than minimum allowed
00040000	PI Injector Duty Actual is less than minimum allowed
00080000	PI Injector Duty Actual is more than maximum allowed
00400000	PI DI Fuel Mass Maximum 2D Map Value has been exceed - RaceRom is adding PI
00100000	PI Effective Pulsewidth Target is less than minimum allowed
00200000	PI Effective Pulsewidth Actual is less than minimum allowed