



SEVCON Fault Code Meanings

<u>Message</u>	<u>Description</u>
Fan Fault	No speed feedback from external heat-sink fans
BDI Warning	BDI remaining charge (0x2790,1) is less than BDI Warning level (0x2C30,5)
BDI Cutout	BDI remaining charge (0x2790,1) is less than BDI Cutout level (0x2C30,4)
Low Battery Cut	Battery voltage (0x5100,1) is less than Under Voltage limit (0x2C02,2) for longer than the protection delay (0x2C03,0)
High Battery Cut	Battery voltage (0x5100,1) is greater than Over Voltage limit (0x2C01,2) for longer than the protection delay (0x2C03,0)
High Capacitor Cut	Capacitor voltage (0x5100,3) is greater than Over Voltage limit (0x2C01,2) for longer than the protection delay (0x2C03,0)
Device too cold	Low heat-sink temperature (0x5100,4) has reduced power to motor
Device too hot	High heat-sink temperature (0x5100,4) has reduced power to motor
Motor in thermal cutback	High measured (0x4600,3) or estimated (0x4602,8) motor temperature has reduced power to motor
Motor too cold	Low Measured temperature has reached -30 deg F
Unit in preoperational	Controller is in pre-operational state
IO can not init	Controller has not received all configured RPDOs at power up
Vehicle Service Required	Vehicle service next due time (0x2850,5) has expired. If supported Service driveability profile (0x2925) will activate.
SRO Fault	FS1 active for user configurable delay (0x2914,2) without a direction selected.
Sequence Fault	Any drive switch active at power up
FS1 Recycle Fault	FS1 active after a direction change and FS1 recycle function enabled (0x2914,1 bit 1)
Inch Fault	Inch switch active along with any drive switch active (excluding inch switches), seat switch indicating operator present or handbrake switch active.

Message	Description
Overload Fault	Overload Fault - Vehicle overloaded
Throttle Fault	Throttle value (0x2620,0) is greater than 20% at power up.
Slope Current Cutback Fault	Motor model current limit has cutback back below level allowed by cutback table (0x3805) on slope
Entering Cutback	Controller has entered thermal or voltage cutback region
Cutback	Thermal or voltage cutback factors have reduced below user defined levels
RPDO Timeout (drive inhibit)	One or more configured RPDOs not received with 3s at start-up or 500ms during normal operation.
CAN off bus (drive inhibit)	CAN bus off fault condition detected on multi-node system.
CAN open an on EMCY level 2	EMCY message received from non-Sevcon node and anonymous EMCY level (0x2830,0) is set to 2.
Motor Isolation Fault	Motor isolation contactor is open circuit
Motor Open Circuit Fault	Motor terminal is open circuit or disconnected from controller
Power Supply Critical	Battery voltage has dropped below critical level
RPDO Timeout (severe)	One or more configured RPDOs not received with 3s at start-up or 500ms during normal operation.
Internal Fault	Internal software fault
General DSP error	Unknown error raised by motor model code
Timer Failed	Unable to allocate timer
Queue Error	Unable to post message to queue
Scheduler Error	Unable to create task in scheduler
DSP Heartbeat Error	Communication lost between host and DSP processors
I / O SS Error	Internal software fault
GIO SS Error	Internal software fault
LCM SS Error	Internal software fault
LCP SS Error	Internal software fault
OBD SS Error	Internal software fault
VA SS Error	Internal software fault
DMC SS Error	Internal software fault

Message	Description
TracApp SS Error	Internal software fault
DSP Not Detected	Communication lost between host and DSP processors
DSP Comms Error	Communication lost between host and DSP processors
Auto-configuration Fault	Unable to automatically configure I / O and vehicle setup
Line Contactor o / c	Line contactor did not close when coil is energized
Line Contactor welded	Line contactor closed when coil is de-energized
Digital Input Wire Off	Digital input wire-off
Analogue Output Short Circuit	Contactor driver MOSFET short circuit detected
Capacitor Precharge Failure	Capacitor voltage (0x5100,3) did not rise above 5V at power-up
Heatsink overtemp	Controller heat sink has reached critical high temperature, and has shut down.
DSP Encoder Fault	Encoder input wire-off is detected
DSP Overcurrent Fault	Motor current exceeded controller rated maximum
DSP Control Fault	Motor controller unable to maintain control of motor
Motor Overspeed Fault	Motor control tripped due to motor over-speed
CANBUS Fault	CAN bus fault condition detected on multinode system.
HPTX queue overrun	CAN bus fault condition detected on multinode system.
CAN overrun	CAN bus fault condition detected on multinode system.
CAN off bus	CAN bus fault condition detected on multinode system.
OSC Watchdog Fault	Internal hardware fault
Fault List Overflow	Attempting to set too many faults.
DSP SPI Comms Fault	Communication error between host and DSP processors
Calibration Fault	Calibration settings in controller are out of range
DSP Overvoltage	Voltage on B + terminal exceeds rated maximum for controller
DSP Powerframe Fault	Motor current exceeded controller rated maximum
MOSFET s / c M1> B +	MOSFET s / c detection on M1 top devices
MOSFET s / c M1> B-	MOSFET s / c detection on M1 bottom devices
MOSFET s / c M2> B +	MOSFET s / c detection on M2 top devices
MOSFET s / c M2> B-	MOSFET s / c detection on M2 bottom devices
MOSFET s / c M3> B +	MOSFET s / c detection on M3 top devices
MOSFET s / c M3> B-	MOSFET s / c detection on M3 bottom devices

<u>Message</u>	<u>Description</u>
Throttle Fault	Check Throttle Pedal
MOSFET s / c checks incomplete	Unable to complete MOSFET s / c tests at power-up
Reverse will not engage	Check Reverse Buzzer
BDI Cut	Low Battery
Motor in Thermal Cutback	Check wires on the motor or car got too hot
SRO Faults	Check wires at the motor