

smartPX

6-Axis Drive

Warnings and Faults

Updated: 12 February 2024

Warnings

Warning Code	Message	Description	Likely Cause/s	Action Required
0x00400402	Velocity loop parameter changed. Vel.execute is required.	The vel.execute command is required after the value of a velocity loop parameter is modified	One or more velocity control loop parameters was changed	• Set vel.execute<axis>=1
0x00400701	Brake release taking too long	Brake release time exceeds the defined timeout value	Took too much time to release the brake.	• Check brake timeout parameter (brake.release.timeout)
0x00400f04	Motor position feedback device reports an internal warning.	Warning from feedback device. The warning varies, depending on the specific feedback device.	Error status reported from feedback device.	• Contact Technical Support.
0x00400f05	Motor position feedback device not responding on time warning	Problem receiving data from feedback device (sensAR)	Incorrect configuration of encoder type	• Check feedback type configuration (mfb.type) • Contact Technical Support.
0x00401205	Interpolation error. Check Feedback Position Resolution.	10% of interpolation results are incorrect	Problem with feedback device	• Check feedback device type • Validate actual position value (pfb)
0x00401603	Position loop parameter changed. Pos.execute is required.	The pos.execute command is required after the value of a position loop parameter is modified	One or more position control loop parameters was changed	• Set pos.execute<axis>=1
0x00401a13	Default drive configuration	Cannot load parameters. Default configuration used.	• New drive in use • The parameter file (servo.dat) was deleted from the drive	• Create/ load parameters file
0x00401c02	Phase A Current Sensor Out Of Range	Current sensor reported value out of range	Current sensor configuration not within range	• Check current sensor configuration • If the warning persists, contact Technical Support.
0x00401c04	Phase C Current Sensor Out Of Range	Current sensor reported value out of range	Current sensor configuration not within range	• Check current sensor configuration • If the warning persists, contact Technical Support
0x00401f01	Gainset parameters changed. Vargains.execute is required.	The vargains.execute command is required after the value of a gainset parameter is modified	Gainset configuration parameter was changed	• Set vargains.execute<axis>=1
0x00401f02	Could not find suitable Gainset	Gainset not found in the current variable gains configuration	Variable gains is active and current position is incompatible with configured gainset	• Check variable gainset configuration • Check axis position • If required, disable variable gains function
0x00401f03	Gainset is not in use or cannot be activated	Suitable gainset not in use (configured gainset) or cannot be used (problem setting gainset)	Gainset configured with inuse set to zero	• Check parameter vargains.active and vargains.inuse • Check gainset configuration

Warning Code	Message	Description	Likely Cause/s	Action Required
0x00402507	Phase Find current command is insufficient	Actual current command is less than phase find current command, but not equal to zero	Ilim value is less than the phase find current set by the user (phasefind.icmd).	• Reduce phase find current command • Increase Ilim, if defined by the user
0x00402508	Phase Find auto is on – if axis is enabled, phase find will start	Warning after activation of Phase Find	Phasefind.auto is 1, and the axis has not been enabled yet after power-up	• If Automatic Phase Find after drive power up is desired, no action is required. After the axis is enabled, phase find will start and the warning will disappear • If Automatic Phase Find is not desired, disable it (phasefind.auto=0)
0x00402701	uwSwap was executed. Zeroing is required.	When uwSwap is active, zeroing is required.	Phase Swap was performed	• Execute the zeroing process
0x00402801	Field-Weakening config failed	Field-weakening not compatible with motor parameters	Field-weakening is not possible for the defined motor parameters.	• Make sure motor parameters (peak current, poles, kt, inductance, resistance) are all correct.
0x00409804	Motor position feedback device reports counter overflow	Warning from multiturn feedback device	Error status reported from feedback device.	• Contact Technical Support
0x00409808	Motor position feedback device reports battery alarm	Warning from multiturn feedback device	• Low supply battery voltage • The battery does not exist	• Check/ change battery feedback device • If the warning persists, contact Technical Support
0x0040d403	Vact configuration changed. Vel.execute is required.	The vel.execute command is required after the value of a velocity loop parameter is modified	One or more velocity control loop parameters was changed	• Set vel.execute<axis>=1
0x0040d405	Cannot calculate MVE – no Vact signal	No velocity feedback signal (Vact) received for Model Velocity Error calculation	Velocity feedback is disabled. This is extremely unusual, unless velocity feedback was deliberately disabled.	• Enable Velocity feedback, or change opmode such that it is enabled (for example, switch to position opmode). Make sure the internal opmode matches the opmode (that is, not in phase find/ homing/ other).
0x0040d406	Cannot calculate MVE – no Vobs signal	No Velocity feedback signal (Vobs) received for Model Velocity Error calculation	Velocity observer is disabled	• Design and enable a velocity observer using the GUI. To validate, make sure that vact.Kalman.L.execute= 1 after design.
0x0040d407	Collision detection mode is disabled	collision.response is not zero but collision.detect.mode is zero (not configured)	Collision.response is not 0, but collision.detect.mode is 0	• Enable collision detection; set collision.detect.mode to a non-zero value
0x0040dc03	Regen Resistor Overload Warning	Regen resistor has been activated excessively within the last 5 seconds. It exceeds the maximum average power dissipated.	The regen resistor is overloaded	• Check regen resistor configuration • Check appropriation regen resistor for the setup

Warning Code	Message	Description	Likely Cause/s	Action Required
0x0040dd01	IPM OT	The actual temperature value is higher than the minimum (warning) threshold.	The actual IPM temperature value is greater than minimum threshold (temp.ipm.flt.low)	• Check device temperature • Check threshold parameter • Check actual temperature parameter (temp.ipm)
0x0040dd03	Motor OT	The actual temperature value is higher than the minimum (warning) threshold.	The motor temperature value is greater than minimum threshold (temp.motor.flt.low)	• Check motor temperature • Check threshold parameter • Check actual temperature parameter (temp.motor)
0x0040de01	Ambient OT	The actual temperature value is higher than the minimum (warning) threshold.	Power/ ambient device temperature is too high	• Check ambient temperature • Check cooling device, if exists
0x0040de03	Device MPU OT	The actual temperature value is higher than the minimum (warning) threshold.	• Device core temperature too high • Incorrect threshold configuration • Problem reading device sensor	• Check device temperature • Check threshold parameter • Check actual temperature parameter (temp.cpu.mpu)
0x0040de05	Device CORE OT	The actual temperature value is higher than the minimum (warning) threshold.	• Device core temperature too high • Incorrect threshold configuration • Problem reading device sensor	• Check device temperature • Check threshold parameter • Check actual temperature parameter (temp.cpu.core)
0x0040de07	Device IVA OT	The actual temperature value is higher than the minimum (warning) threshold.	• Device core temperature too high • Incorrect threshold configuration • Problem reading device sensor	• Check device temperature • Check threshold parameter • Check actual temperature parameter (temp.cpu.iva)
0x0040de09	Device DSP OT	The actual temperature value is higher than the minimum (warning) threshold.	• Device core temperature too high • Incorrect threshold configuration • Problem reading device sensor	• Check device temperature • Check threshold parameter • Check actual temperature parameter (temp.cpu.dsp)
0x0040de0b	Device GPU OT	The actual temperature value is higher than the minimum (warning) threshold.	• Device core temperature too high • Incorrect threshold configuration • Problem reading device sensor	• Check device temperature • Check threshold parameter • Check actual temperature parameter (temp.cpu.gpu)
0x00541601	Position loop design failed – MKT is zero	Motor constant parameter value is zero	Motor constant parameter is set to zero value	• Configure motor constant parameter (motor.kt)
0x00541a03	IPM Warning	IPM fault was reported. Enable command required to release latch	IPM fault was reported	• Set enable command, if possible
0x00541a12	15ISO out of range	The actual 15ISO value is greater than the maximum threshold or lower than the minimum threshold.	Problem reading device power board	• Power cycle the drive • If the error persists, contact Technical Support.

Faults

Fault Code	CAN Error Code	Disable Action	Message	Description	Likely Cause/s	Action Required
0x00040302	0x8381	StopOnPath	High IQ Current Detected	Actual Iq current exceeds the defined threshold Iq current is greater than user current limit (curr.lim.user) + drives peak current (drive.ipeak)*0.2 for more than 1[ms]	• Unstable control loop • Not correct motor parameters, limits	• Check limits and setup configuration • Check control loops tuning
0x00040401	0x8482	StopOnPath	Velocity Error Deviation Exceeded	The difference between velocity command and actual velocity is greater than maximum velocity error	• Incorrect motor parameters configuration • Incorrect control gains • Limit configuration too low	• Check the drive limits (position, velocity, current) • Check control gains
0x00040d00	0x2310	StopOnPath	Motor foldback value is less than threshold value	Motor fold current dropped below the motor fold current fault threshold	• Incorrect motion profile for the application • Control gains, loads for axis • Incorrect motor parameters configuration	• If excessive load during motion: reduce payload, change motion profile (acc/dec) • Check control gains, loads • Check motor parameters • Check brakes release, if exists • Check foldback threshold parameter (motor.foldback.flt.thresh)
0x00040e00	0x2311	StopOnPath	Drive foldback value is less than threshold value	Drive fold current dropped below the drive fold current fault threshold	• Excessive load, acceleration/ deceleration in the motion profile for the application • Incorrect drive configuration parameters	• If excessive load during motion: reduce payload, change motion profile • Check control gains, loads • Check drive parameters • Check foldback threshold parameter (drive.foldback.flt.thresh) • If the error persists, contact Technical Support
0x00041202	0x8480	StopOnPath	Generated Vcmd exceeded velocity limit	Generated velocity command exceeded velocity limit	Configuration parameter vlim is less than maximum than maximum velocity limit it motion controller.	Check velocity limit in the motion controller and drive. Limit must be equal in both or higher in the drive.
0x00041203	0x8483	StopOnPath	Generated Acmd exceeded acceleration limit	Generated acceleration command exceeded acceleration limit	Configuration parameter uint.acc.max is less than maximum acceleration limit in motion controller.	Check acceleration limit in the motion controller and drive. Limit must be equal in both or higher in the drive.

Fault Code	CAN Error Code	Disable Action	Message	Description	Likely Cause/s	Action Required
0x00041204	0x8580	StopOnPath	Excessive number of extrapolations	The number of extrapolations performed exceeds the maximum threshold	Drive did not receive a motion command from motion controller more than 10 times.	• Verify the EtherCAT messages transmission rate • Verify an EtherCAT connection
0x00041602	0x8611	StopOnPath	Excessive deviation in position error	The difference between the position command and the actual position exceeds the maximum position error	• Control gains not acceptable for axis • Incorrect motor parameters configuration • Position error deviation threshold configuration	• Check control gains, loads • Check brakes release, if exists • Check position error deviation threshold configuration (pos.err.max)
0x00041a0c	0x2386	StopOnPath	Deadtime phase U fault	The delay time between high and low PWM signals is less than the deadtime value calculated by the FPGA.	Incorrect configuration/ functionality deadtime for phase U	• Check the deadtime setting parameter (drive.deadtime.watchdog) • If the error persists, contact Technical Support
0x00041a0d	0x2387	StopOnPath	Deadtime phase V fault	The delay time between high and low PWM signals is less than the deadtime value calculated by the FPGA.	Incorrect configuration/ functionality deadtime for phase V	• Check the deadtime setting parameter (drive.deadtime.watchdog) • If the error persists, contact Technical Support
0x00041a0e	0x2388	StopOnPath	Deadtime phase W fault	The delay time between high and low PWM signals is less than the deadtime value calculated by the FPGA.	Incorrect configuration/ functionality deadtime for phase W	• Check the deadtime setting parameter (drive.deadtime.watchdog) • If the error persists, contact Technical Support
0x00041b01	0x7386	StopOnPath	EtherCAT SYNC Jitter too high	SYNC signal jitter greater than the threshold	The actual SYNC jitter is greater than the EtherCAT SYNC0 jitter limit (fb.sync.jitter.limit).	• Check cable/ connector EtherCAT • Check SYNC0 jitter limit (fb.sync.jitter.limit)
0x00041b02	0x818d	StopOnPath	Packet lost	Consecutive count for packet loss is greater than the maximum threshold	Issue in EtherCAT line communication	Check EtherCAT cable master/ slave
0x00041b03	0xf080	StopOnPath	Fieldbus - Drive is active but not in Operational	Drive in Enabled state but communication state changed from OP to PREOP/ SAFEOP	Communication is down but drive remains in Enabled state	• Change motion controller communication state to OP
0x00042102	0x7091	StopOnPath	Emergency Stop Issued	Emergency Stop digital input is activated	Emergency Stop button is in active state	• Release the E-stop button • Change, if require, digital input mode
0x00042602	0x0000	StopOnPath	Hardware positive limit switch is open	Positive hardware limit switch was activated	Active state of input configured as positive limit switch	• Change position of motor against the sensor • Deactivate digital input • Change, if require, digital input mode

Fault Code	CAN Error Code	Disable Action	Message	Description	Likely Cause/s	Action Required
0x00042603	0x0000	StopOnPath	Hardware negative limit switch is open	Negative hardware limit switch was activated	Active state of input configured as negative limit switch	• Change position of motor against the sensor • Deactivate digital input • Change, if require, digital input mode
0x0004d402	0x8481	StopOnPath	Velocity over speed	Actual velocity exceeded 125% of maximum velocity on 4 consecutive samplings	• Incorrect motor parameters configuration • Incorrect control gains • Limit configuration too low	• Check the drive limits (position, velocity, current) • Check control gains
0x0004dc01	0x3120	StopOnPath	Under Voltage Fault	The bus voltage is below the minimum value	• Power supply loss, poor power supply • Excessive load during motion	• Check mains voltage • If excessive load during motion: reduce payload, change motion profile (acc/dec) • If the error persists, contact Technical Support
0x0004dd02	0x4080	StopOnPath	IPM over-temperature	Actual temperature greater than the maximum threshold	The actual IPM temperature value is greater than the maximum threshold (temp.ipm.flt.high)	• Check device temperature • Check threshold parameter • Check actual temperature parameter (temp.ipm)
0x0004dd04	0x4410	StopOnPath	Motor over-temperature	Actual temperature greater than the maximum threshold	The actual motor temperature value is greater than the maximum threshold (temp.motor.flt.high)	• Check motor temperature • Check threshold parameter • Check actual temperature parameter (temp.motor)
0x0004de02	0x4310	StopOnPath	Ambient OT	The actual ambient temperature value is higher than the maximum threshold	Power/ ambient device temperature too high	• Check ambient temperature • Check cooling device, if exists
0x0004de04	0x4081	StopOnPath	Device MPU over-temperature	The actual temperature value is greater than maximum threshold	• Device MPU temperature too high • Incorrect threshold configuration • Problem reading device sensor	• Check device temperature • Check threshold parameter • Check cooling device, if exists • Check actual temperature parameter (temp.cpu.mpu)
0x0004de06	0x4081	StopOnPath	Device CORE over-temperature	The actual temperature value is greater than the maximum threshold	• Device core temperature too high • Incorrect threshold configuration • Problem reading device sensor	• Check device temperature • Check threshold parameter • Check cooling device, if exists • Check actual temperature parameter (temp.cpu.core)
0x0004de08	0x4081	StopOnPath	Device IVA over-temperature	The actual temperature value is greater than maximum threshold	• Device IVA temperature too high • Incorrect threshold configuration • Problem reading device sensor	• Check device temperature • Check threshold parameter • Check cooling device, if exists • Check actual temperature parameter (temp.cpu.iva)

Fault Code	CAN Error Code	Disable Action	Message	Description	Likely Cause/s	Action Required
0x0004de0a	0x4081	StopOnPath	Device DSP over-temperature	The actual temperature value is greater than the maximum threshold	• Device DSP temperature too high • Incorrect threshold configuration • Problem reading device sensor	• Check device temperature • Check threshold parameter • Check cooling device, if exists • Check actual temperature parameter (temp.cpu.dsp)
0x0004de0c	0x4081	StopOnPath	Device GPU over-temperature	The actual temperature value is greater than the maximum threshold	• Device GPU temperature too high • Incorrect threshold configuration • Problem reading device sensor	• Check device temperature • Check threshold parameter • Check cooling device, if exists • Check actual temperature parameter (temp.cpu.gpu)
0x000c0f01	0x73a0	Dynamic Brake Time	Motor position feedback communication error: response timeout CRC error in response HAL failure.	Error message from feedback device. The fault is active when the status counter becomes equal to or greater than status error threshold.	• Cable of feedback device disconnected • Incorrect configuration of feedback type • Feedback cable not shielded	• Check feedback cable: connection, supply • Check feedback type configuration (mfb.type) • If the error persists, contact Technical Support.
0x000c2401	0xff08	Dynamic Brake Time	Runaway Detected	Uncontrolled motor motion	• Incorrect motor parameters configuration • Incorrect motor phases connection order	• Check motor parameters • Check motor phases connection
0x000cd401	0x8484	Dynamic Brake Time	Extreme Velocity Over Speed	Actual velocity exceeded 150% of maximum velocity on 4 consecutive samplings	• Motion command from master greater than drive velocity limit • Motor runaway due to opposite phase angle or motion in opposite direction, or mismatched UVW • Controller is unstable and vlim is too small.	• Check velocity limit parameter in drive (vlim) • Check gains control loop • Check motor phases, phase angle
0x00140301	0x8380	Disable	Unstable Current Loop	Actual current on any one of the phases exceeds 125% of drive's peak current for 10 consecutive RT cycles	• Incorrect motor parameters configuration • Incorrect motor phases order • Incorrect control gains	• Check the motor parameters • If the error persists, contact Technical Support
0x00140303	0x2383	Disable	Invalid Phase A Current Sensing Offset	Actual Ia current exceeds the defined threshold. Fault prevents zero current reading while PWM is active Phase A current exceeds 5% of drive peak current (drive.ipeak)	• Unstable current control loop • Incorrect motor/ drive parameters • Short circuit motor phases	• Check current control loop gains • Check limits and setup configuration • Check motor phases • If the error persists, contact Technical Support

Fault Code	CAN Error Code	Disable Action	Message	Description	Likely Cause/s	Action Required
0x00140304	0x2384	Disable	Invalid Phase C Current Sensing Offset	Actual I _c current exceeds the defined threshold. Fault prevents zero current reading while PWM is active Phase C current exceeds 5% of drive peak current (drive.ipeak)	• Unstable current control loop • Incorrect motor/ drive parameters • Short circuit motor phases	• Check current control loop gains • Check limits and setup configuration • Check motor phases • If the error persists, contact Technical Support
0x00140700	0x7180	Disable	Unexpected brake engage	The axis received brake engaged indication without request	• Motors brake cable disconnected • Motors brake cable short circuit	• Check motors brake cable connection • Check voltage brake measure • Check motor
0x00140702	0x7181	Disable	Brake Status Overload Fault	The FPGA reports an overload	• Short to ground • Thermal shutdown • Thermal swing brakes status fault	• Check brakes power supply • If brakes not supported, disable brakes configuration
0x00140703	0x7182	Disable	Brake status open load, short to battery, reverse polarity fault	The FPGA reports a fault in brakes status	• Brakes configured but not supported • Brakes cable not connected to brakes • Brakes short circuit • Reverse polarity	• Check brakes power supply • If brakes not supported, disable brakes configuration
0x00140f03	0x73a1	Disable	Motor position feedback device reports an internal fault.	Error message from feedback device. Message varies, depending on the specific feedback device.	Error status reported from feedback device.	• Contact Technical Support
0x00141201	0x6380	Disable	Interpolation Design Failed	Error in interpolation	Problem with EtherCAT cycle time or configuration/ sync	• Check interpolation configuration • Check cycle time configuration • If the error persists, contact Technical Support.
0x00141a01	0x2214	Disable	Axis Over Current	Short circuit on the motor connection; excessive overshoot in the current loop	• Short circuit IPM • Power device temperature too high	• Check motor phases cable • Check trace recording axis current • Check brakes • If the error persists, contact Technical Support
0x00141a02	0x2218	Disable	IPM Fault	FPGA reports IPM fault	• Short circuit on the motor phases • IMP under voltage fault • IPM over temperature fault	• Check phases of the motor connection • Check STO connector • Check IPM temperature • If the error persists, contact Technical Support

Fault Code	CAN Error Code	Disable Action	Message	Description	Likely Cause/s	Action Required
0x00141a06	0x2385	Disable	Encoder Over Current	Short circuit on encoder supply; Overload supply	Encoder unit reports over-current	• Check motor encoder cable • Check motor encoder voltage supply • If the error persists, contact Technical Support
0x00141a07	0x8481	Disable	Watchdog expired	FPGA reports watchdog	Drive firmware is overloaded	Contact Technical Support.
0x00141a09	0x7090	Disable	FPGA Version Mismatch	Current FPGA version incompatible with supported FPGA version	FPGA version of software application does not match actual FPGA version	• Contact Technical Support
0x00141a0b	0x3181	Disable	STO fault	FPGA reports STO error indication	The STO signal is not connected when drive enabled	• Check STO connector • If the error persists, contact Technical Support.
0x00141a0f	0x2389	Disable	Regen Over Current	FPGA reports over current on regen resistor	• Short circuit regen resistor	• Check regen resistor • If the error persists, contact Technical Support.
0x00141a11	0x8802	Disable	RT Overload	Realtime overload	• Drive firmware is overloaded	• Contact Technical Support.
0x00141c01	0x2215	Disable	Phase A Current Sensor Power Fail	Current sensor A is shut down	FPGA reports current sensor supply is down	Contact Technical Support
0x00141c03	0x2217	Disable	Phase C Current Sensor Power Fail	Current sensor C is shut down	FPGA reports current sensor supply is down	Contact Technical Support
0x00142200	0x8180	Disable	Drive Locked	Security code and key do not match	• Eeproms were changed • New drive	• Contact Technical Support for security key.
0x00142500	0x0000	Disable	Zeroing process failed to calculate feedback noise limits	Velocity feedback value is too high/ low in idle state. Expects value to be close to zero.	• Motor encoder is incorrectly defined • Feedback is too noisy or the motor is moving	• Check the motor parameters • Make sure motor is not moved by outside disturbances.
0x00142501	0x0000	Disable	Zeroing process cannot perform sufficient movement	Motor did not settle after motion for more than 30 seconds	• Zeroing current amplitude is too high • Motor parameters are wrong (usually an encoder bit)	• Reduce current • Check the motor parameters
0x00142502	0x0000	Disable	Zeroing process cannot perform sufficient movement	Motor did not sufficiently move during zeroing process	• Zeroing current amplitude is too low • Motor parameters are wrong (usually number of poles or encoder bit) • The motor is physically held in place	• Increase current • Validate motor parameters • Remove physical hold
0x00142503	0x0000	Disable	lim current is zero	Actual limit current is less than zero	Incorrect configuration of parameter curr.lim.user	• Check parameters curr.lim.user and curr.lim.act

Fault Code	CAN Error Code	Disable Action	Message	Description	Likely Cause/s	Action Required
0x00142504	0x0000	Disable	Phase Find process exceeded timeout	After motion, the motor did not settle within the user-defined duration	• Configuration of parameters phasefind.settling.over time or phasefind.standstill.velocity.threshold is too low • Wake and Shake PI gains are not stable • Phasefind current is too high	• Change settling overtime or velocity threshold value • Change PI gains (usually, reduce kp) • Reduce current amplitude
0x00142505	0x0000	Disable	Phase Find process did not perform sufficient movement during validation	After finding Mphase, attempted motion failed	• Phase find process did not find the right Mphase • Motor parameters are wrong (usually number of poles or encoder bit) • The motor is physically held in place	• Repeat phase find process • Validate motor parameters • Remove physical obstacle
0x00142506	0x0000	Disable	Phase Find current command is zero	Cannot perform phase find if the current command is zero	User set the phase find current to zero	Set phase find current to a non-zero value
0x00142509	0x0000	Disable	Directional Phase Find failed to initialize Mphase – no movement detected	No motion was detected while attempting to initialize directional phase find	• Phase find current too low • Axis is physically held in place • Incorrect motor parameters	• Increase phase find current • Remove physical hold on axis • Validate motor parameters
0x00142900	0x0000	Disable	Timeout occurred while waiting for stopping profile to be completed	Timeout in homing process occurred motion segment not completed.	Trigger required in homing mode was not executed in time	• Check trigger segment configuration (home switch, limit switches, index) • Check homing motion profile configuration • If the error persists, contact Technical Support
0x00149801	0x73a6	Disable	Motor position feedback device reports over speed	The shaft rotation exceeds the speed specified in the <i>Electrical Specifications for Multi-turn Signal</i> .	• Attempted to connect encoder cables while drive power on	• Power cycle the drive with encoder cables plugged in • If the error persists, contact Technical Support.

Fault Code	CAN Error Code	Disable Action	Message	Description	Likely Cause/s	Action Required
0x00149803	0x73a4	Disable	Motor Position feedback device reports counting error	When the shaft of Smart-Abs is rotated at 100[rpm] or more, an error is detected every 45° in mechanical angle. The error is automatically released at every 45° when the deviation of one revolution data is reduced to less than ±22.5° (typ.) When the shaft of Smart-Abs is rotated at less than 100 [rpm], an error is always detected. Any deviation of one revolution data is automatically returned to the normal value at detection of error.	Problem reading data from feedback device	• Check configuration of feedback type • Check encoder cable • If the error persists, contact Technical Support
0x00149805	0x73a8	Disable	Motor position feedback device reports over heat	The temperature of the encoder substrate exceeds the overheating detection temperature	• Encoder temperature is too hot • The temperature threshold is too low	• Check encoder temperature • Check encoder temperature threshold
0x00149806	0x73a9	Disable	Motor Position feedback device reports multiturn error	The feedback device reports multiturn signal error during power-on.	• User configured feedback type (mfb.type) does not match relay motor feedback	• Check configuration of feedback type • Check feedback cable
0x00149807	0x73aa	Disable	Motor position feedback device reports battery error	Error message from feedback device. This fault is related to multiturn feedback device.	• Low supply battery voltage • The battery does not exist	• Check/ change battery in feedback device • If the error persists, contact Technical Support.
0x0014d404	0x0000	Disable	Collision detected	Collision MVED exceeded the collision threshold	• Physical collision • Collision detection threshold is too low (collision.MVED.thresh)	• Remove obstacle, disable and reenale collision detection to clear fault • Increase threshold, disable and reenale collision detection to clear fault
0x0014dc02	0x3110	Disable	Over Voltage Fault	The bus voltage exceeds the maximum threshold value	• Incorrect motion profile for the application • Load of axis too high	• Record vbus during motion • Change acceleration/ deceleration of motion profile • Tune/ check control gains and load on axis • If the error persists, contact Technical Support

Fault Code	CAN Error Code	Disable Action	Message	Description	Likely Cause/s	Action Required
0x0014dc04	0x3199	Disable	Regen resistor overload fault	Regen resistor has been activated excessively within the last 5 seconds. It exceeds the maximum average power dissipated.	• Incorrect motion profile for the application • Load of axis too high • Incorrect use or configuration of regen resistor	• Check regen resistor • Check control gains, loads • Check motion application; should be acceptable for the setup (axis) • If the error persists, contact Technical Support
0x04041a08	0x3183	StopOnPath	AC Loss	Power supply was down for duration defined by hw.acloss.filter.time	• Cable main power is disconnected • Faulty power supply	• Check main power • Check parameter hw.acloss.filter.time

Inhibits

Inhibit Code	CAN Error Code	Disable Action	Message	Description	Likely Cause/s	Action Required
0x00801a0a	0x0000	None	STO warning	FPGA reports STO error indication from the power board.	• STO connector is unplugged • No 24V supply to the STO connector	• Check the STO connector • Check the power supply
0x0080dc05	0x0000	None	Inrush open warning	The bus voltage has not reached inrush threshold.	Main power supply is disconnected	• Check the main power supply • Read Vbus value • Make sure inrush.open.thresh value meets specifications • If the error persists, contact Technical Support.