

Table of Contents

	Page
1 Important Directions for Use.....	1
1.1 Appropriate Use	1
1.1.1 Introduction.....	1
1.1.2 Areas of Use and Application.....	1
1.2 Inappropriate Use.....	2
2 Safety Instructions for Electric Drives and Controls.....	3
2.1 Safety Instructions - General Information.....	3
2.1.1 Using the Safety Instructions and Passing them on to Others.....	3
2.1.2 How to Employ the Safety Instructions.....	3
2.1.3 Explanation of Warning Symbols and Degrees of Hazard Seriousness.....	4
2.1.4 Hazards by Improper Use.....	5
2.2 Instructions with Regard to Specific Dangers.....	6
2.2.1 Protection Against Contact with Electrical Parts and Housings.....	6
2.2.2 Protection Against Electric Shock by Protective Extra-Low Voltage.....	7
2.2.3 Protection Against Dangerous Movements.....	7
2.2.4 Protection Against Magnetic and Electromagnetic Fields During Operation and Mounting.....	10
2.2.5 Protection Against Contact with Hot Parts.....	10
2.2.6 Protection During Handling and Mounting.....	10
2.2.7 Battery Safety.....	11
2.2.8 Protection Against Pressurized Systems.....	11
3 Diagnostic of the IndraMotion MLC.....	13
3.1 Diagnostic Possibilities.....	13
3.2 IndraMotion MLC - Further Documentation.....	13
4 MLC Diagnostic System.....	15
4.1 Setting Up an MLC Diagnostic System.....	15
4.2 Diagnostic Numbers and Texts as a Readout for the L40 Display.....	16
4.3 Diagnostic Numbers and Texts in the "Error/Diagnostic Memory", IndraWorks MLC.....	17
4.4 Diagnostic Numbers in the SPS Program.....	17
4.5 Implementation of the Diagnostic Messages.....	18
4.5.1 IndraDrive Drive Errors.....	18
4.5.2 IndraDrive Drive Warnings.....	19
4.5.3 Virtual Axis, Error Message.....	19
4.5.4 Generic Axis, Error Message.....	20
4.5.5 SERCOS Error Message.....	20
4.5.6 SPS User Modules, Transfer of Diagnostics into Logbook (Projected).....	21
4.6 Diagnostic Parameters.....	21
4.7 MLC_TABLE Diagnostics.....	23
4.7.1 Messages on the Controller Display.....	23
General.....	23
A00B0005, Drive message.....	23

Table of Contents

	Page
A00B0007, ZeroBit, SERCOS driver, Test mode, Zero bit stream.....	23
A00B0008, LightOn, SERCOS driver, Test mode, Continuous light on.....	23
A00B0009, LightOff, SERCOS driver, Test mode, Continuous light off.....	24
A00C0001, BOOT END, boot up of control finished.....	24
A00C0002, ErrClear, Error cleared.....	24
A00D0001, Warning.....	24
A00D0002, Info.....	24
A00D0010, PLC user task watchdog expired.....	24
A00D0011, Wardware Watchdog expired.....	24
A00D0012, Bus error.....	25
A00D0013, Checksum error.....	25
A00D0014, Field bus error.....	25
A00D0015, Error while I/O update.....	25
A00D0016, Cycletime exceeded.....	25
A00D0017, Not enough memory.....	25
A00D0018, Online-Change not possible.....	25
A00D0019, Not enough memory.....	26
A00D001A, Boot project not loaded, retain variables not relocatable.....	26
A00D001B, Boot project not loaded and deleted.....	26
A00D001C, System memory very low (memory leak).....	26
A00D001D, Retain memory corrupt or cannot be mapped.....	26
A00D001E, Boot project that could be loaded but caused a crash later.....	26
A00D001F, Not enough memory for target visu.....	26
A00D0020, Not enough memory for config.....	26
A00D0021, Target of the bootproject doesn't match the current target.....	26
A00D0022, Error at scheduling tasks.....	27
A00D0023, Checksum error at transfer of file.....	27
A00D0024, Retain identity does not match to bootproject identity.....	27
A00D0025, Task could not be created.....	27
A00D0026, Task could not be stopped.....	27
A00D0050, Illegal instruction.....	27
A00D0051, Access violation.....	27
A00D0052, Privileged instruction.....	27
A00D0053, Page fault.....	28
A00D0054, Stack overflow.....	28
A00D0055, Invalid disposition.....	28
A00D0056, Invalid handle.....	28
A00D0057, Access on guarded page.....	28
A00D0058, Double fault.....	28
A00D0059, Invalid Opcode.....	28
A00D0100, Access on odd address.....	28
A00D0101, Array bounds exceeded.....	28
A00D0102, Division by zero.....	29
A00D0103, Overflow.....	29
A00D0104, Non continuable exception.....	29
A00D0150, FPU, Unspecified error.....	29

Table of Contents

	Page
A00D0151, FPU, Denormal operand.....	29
A00D0152, FPU, Division by zero.....	29
A00D0153, FPU, Inexact result.....	29
A00D0154, FPU, Invalid operation.....	30
A00D0155, FPU, Overflow.....	30
A00D0156, FPU, Stack check failed.....	30
A00D0157, FPU, Underflow.....	30
A00D0158, Specific diagnosis of node.....	30
A00D07D0, Fatal error communication.....	30
A00D07D1, Fatal error semaphores.....	30
A00D07D2, Fatal error memory managment.....	30
A00D07D3, Rexroth-Inline configuration mismatch from node.....	30
A00D07D4, File not written ().....	31
A00D07E3, PLC can not be started with pending error - RESET.....	31
A00D07E4, Array lower bounds violation - RESET.....	31
A00D07E5, Array upper bounds violation - RESET.....	32
A00D07E6, Division (8bit) by zero - RESET.....	32
A00D07E7, Division (16bit) by zero - RESET.....	32
A00D07E8, Division (32bit) by zero - RESET.....	33
A00D07E9, Division (REAL) by zero - RESET.....	33
A00D07EA, Lower range bounds (unsigned) violation - RESET.....	33
A00D07EB, Upper range bounds (unsigned) violation - RESET.....	33
A00D07EC, Lower range bounds (signed) violation - RESET.....	34
A00D07ED, Upper range bounds (signed) violation - RESET.....	34
A00D07EE, Division (LREAL) by zero - RESET.....	35
A00D07EF, Invalid pointer access (address), - RESET.....	35
A00D07F0, Invalid pointer access (area) - RESET.....	35
A00D07F1, Invalid pointer access (Write access on input) - RESET.....	36
A00D07F2, Invalid pointer access (Alignment) - RESET.....	36
A00D07F7, PLC can not be started with pending error - RESET.....	36
A00D07F8, Array lower bounds violation - Index modified to MIN!.....	37
A00D07F9, Array upper bounds violation - Index modified to MAX!.....	37
A00D07FA, Division (8bit) by zero - Divisor modified to 1!.....	38
A00D07FB, Division (16bit) by zero - Divisor modified to 1!.....	38
A00D07FC, Division (32bit) by zero - Divisor modified to 1!.....	38
A00D07FD, Division (REAL) by zero - Divisor modified to 1.0!.....	38
A00D07FE, Lower range bounds (unsigned) violation - Value to MIN!.....	39
A00D07FF, Upper range bounds (unsigned) violation - Value to MAX!.....	39
A00D0800, Lower range bounds (signed) violation - Value to MIN!.....	40
A00D0801, Upper range bounds (signed) violation - Value to MAX!.....	40
A00D0802, Division (LREAL) by zero - Divisor modified to 1.0!.....	40
A00D0803, Invalid pointer access (address) - Pointer to a dummy!.....	41
A00D0804, Invalid pointer access (area) - Pointer to a dummy!.....	41
A00D0805, Invalid pointer access (Write on input)- Pointer to a dummy!.....	41
A00D0806, Invalid pointer access (alignment) - Pointer to a dummy!.....	42
A00D1200, WriteParameter, inputs do not fit to attribute of parameter.....	42

Table of Contents

	Page
A00D1201, WriteParameter, inputs do not fit to attribute of parameter.....	42
A00D1202, WriteParameter, inputs do not fit to attribute of parameter.....	43
A00D1203, WriteParameter, inputs do not fit to attribute of parameter.....	43
A00D1204, WriteParameter, parameter types are not supported.....	43
A00D2EE4, Module error Inline bus goes.....	44
A00E0001, No entry found in data base.....	44
A00E0002, OK.....	44
A0200001, P0 STOP, reached phase 0, PLC in stop.....	44
A0200002, P1 STOP, reached phase 1, PLC in stop.....	44
A0200003, P2 STOP, reached phase 2, PLC in stop.....	44
A0200004, P3 STOP, reached phase 3, PLC in stop.....	45
A0200005, BB STOP, Motion ready, PLC in stop.....	45
A0200006, P0 RUN, reached phase 0, PLC in run.....	45
A0200007, P1 RUN, reached phase 1, PLC in run.....	45
A0200008, P2 RUN, reached phase 2, PLC in run.....	45
A0200009, P3 RUN, reached phase 3, PLC in run.....	45
A0200010, BB RUN, Motion ready, PLC in run.....	46
A0200011, P0 INIT, reached phase 0, PLC in init.....	46
A0200012, P1 INIT, reached phase 1, PLC in init.....	46
A0200013, P2 INIT, reached phase 2, PLC in init.....	46
A0200014, P3 INIT, reached phase 3, PLC in init.....	46
A0200015, BB INIT, Motion ready, PLC in init.....	47
A0200016, Firmware download successfully finished.....	47
A0200017, Hardware changed; Restoring NVRAM.....	47
A0200018, Restoring NVRAM.....	47
A0200019, New power up.....	48
A0290001, Kinematics has been removed.....	48
A0290002, Kinematics has been created.....	48
4.7.2 Warnings on the Controller Display.....	48
General.....	48
E00B0001, ASIC Error.....	48
E00B0005, Drive warning.....	48
E00C0001, Parameter inconsistent, restorage via C-0-1001.....	49
E00C0002, Running on unsupported hardware.....	49
E00C0003, Running on unsupported hardware revision.....	49
E00D1001, Writeaccess to parameter S-0-0000 of UserCmdDataX.....	49
E00D1002, Unknown PLC system task.....	49
E00D2EE0, Nonconforming Inline IO Configuration.....	50
E00E0026, Version conflict in error logbook, logbook deleted!.....	50
E0110001, Axis in 'PowerOn'.....	50
E0110002, Axis not in 'StandStill'.....	50
E0110029, Positive travel limit exceeded.....	50
E0110030, Negative travel limit exceeded.....	51
E0110050, Axis position is extrapolated.....	51
E0112039, Maximum acceleration exceeded.....	52
E0112047, Velocity of interpolation = 0.....	52

Table of Contents

	Page
E0112048, Acceleration of interpolation = 0.....	52
E0112049, Positioning velocity greater than Limit (A-0-0032/ 33).....	52
E0112055, Feedrate Override A-0-0240=0.....	53
E0112063, Commanded velocity greater than Limit (A-0-0032/ 33).....	53
E0170001, Configured master axis is parking.....	53
E0180005, Warning: Motion kernel exceeded control cycle time.....	53
E0200000, Usable memory (RAM) near minimum.....	54
E0200001, Usable memory (CF) near minimum.....	54
E0200002, Temperature warning.....	54
E0200003, CPU-Load critical.....	54
E0200004, Usable memory (USR) near minimum.....	55
E0200005, Usable memory (SYS) near minimum.....	55
E0200006, Usable memory (OEM) near minimum.....	55
E0200007, Battery of SRAM module low.....	56
E0200013, Error in SYS-partition, check done.....	56
E0200014, Error in OEM-partition, check done.....	56
E0200015, Error in USR-partition, check done.....	57
E02C00B7, Velocity of the axis too high.....	57
E02C00B8, Velocity of the axis too high.....	57
E02C0184, Vector assignment with different components.....	57
E02C085E, SRAM batterie low.....	58
E02C0880, Axis deactivated.....	58
E02C08CF, Resulting path velocity too high.....	58
E02C08D2, Resulting path velocity too high.....	58
E02C08D3, Resulting path velocity too high.....	58
E02C08D4, Resulting path velocity too high.....	58
E02C08D5, Resulting path velocity too high.....	59
E02C08D6, Resulting path velocity too high.....	59
E02C08D7, Resulting path velocity too high.....	59
E02C08DF, No name specified with call of SET_RK_SYSTEM.....	59
E0350154, RCL-Compiler: Character not read.....	59
E0350175, RCL-Compiler: Symbols will be ignored up to end of file.....	59
E0350176, RCL-Compiler: Symbols up to end of file will be ignored.....	59
E0350187, RCL-Compiler: Only EXTERN and GLOBAL permitted.....	59
E035021C, RCL-Compiler: No defined variable as type BINARY declared.....	60
E035021D, RCL-Compiler: No defined variable as type CHAR declared.....	60
E0350236, RCL-Compiler: Implicit point definition.....	60
E0350246, RCL-Compiler: Illegal alignment.....	60
4.7.3 F0 Error, Non-Fatal Error.....	60
F0 Error, Error Reaction.....	60
F0020001 to F0050013, Error RTOS (Real Time Operating System)	60
F0070001, Size of parameter changed.....	60
F00A0001, Parameter write-error during import, see C-0-0114.....	60
F00A0002, Import/Export: file could not be opened.....	61
F00A0003, Import/Export: unknown parameter type.....	61
F00A0004, Import: length of line in import file exceeded maximum.....	61

Table of Contents

	Page
F00A0005, Import/Export: unsupported SERCOS parameter format.....	61
F00B0003, SERCOS bus not closed.....	61
F00B0006, Progression to phase 3 not possible.....	62
F00B0007, Progression to state ready not possible.....	62
F00B0008, Drive not found.....	62
F00B0009, Maximum number of drives exceeded.....	62
F00B0013, MC cycletime too less.....	62
F00B0014, Parameter write protected by password.....	62
F00B0090, RTOS error (Real Time Operating System).....	62
F00B0098, Cannot write on parameter S-0-0015.....	63
F00B0099, Cannot write on parameter S-0-0016.....	63
F00B0100, Cannot write on parameter S-0-0024.....	63
F00B0101, Cannot write on parameter S-0-0007.....	63
F00B0102, Cannot read time slot parameter.....	63
F00B0103, Cannot read time slot parameter.....	63
F00B0104, Cannot write on time slot parameter.....	64
F00B0105, Cannot write on time slot parameter.....	64
F00B7010, Command already set.....	64
F00C0001, Error while setting module references.....	64
F00C0003, Error in power up delay.....	64
F00C0004, Error while switching to power up target mode.....	65
F00C0005, Error remanent data; data cleared.....	65
F00C0006, Error remanent data; restored last backup.....	65
F00D0300, Output shorted.....	65
F00D0301, Voltage supply dropped.....	66
F00D0302, Watchdog error.....	66
F00D0303, Module removed.....	66
F00D0304, Fault repaired.....	66
F00D0305, Multiple error, fast IOs.....	66
F00D1002, Cyclic position channel already open.....	66
F00D1003, Cyclic force channel already open.....	67
F00D1004, Cyclic velocity channel already open.....	67
F00D1005, Cyclic analog channel already open.....	67
F00D100A, Error while reading C-0-0483.....	67
F00D100B, Error while reading C-0-0484.....	67
F00D100C, Error while opening cyclic channel.....	67
F00D100D, Error while opening cyclic channel.....	68
F00D1014, No reference for opening cyclic channel available.....	68
F00D1016, Wrong #-address of axis data.....	68
F00D1017, Wrong #-address of axis data.....	68
F00D1018, Wrong #-address of axis data.....	68
F00D1019, Error while closing cyclic channel.....	68
F00D1027, Error closing cyclic channel.....	69
F00D102A, ListParameter requested, ReadParameter.....	69
F00D1030, Error closing cyclic channel.....	69
F00D103B, Invalid control number.....	69

Table of Contents

	Page
F00D103C, Invalid axis number.....	69
F00D1205, Error, cannot handle a single parameter.....	69
F00D1207, Error, data greater 64KBytes.....	69
F00D1210, Error, cannot handle a single parameter.....	70
F00D1211, Error ReadSERCOSDataStatus, no memory available.....	70
F00D1218, Error, no memory available.....	70
F00D1219, Error, cannot handle a single parameter.....	70
F00D1222, Too many data to transmit.....	70
F00D1224, Error, no memory available.....	71
F00D1225, Error, cannot handle a single parameter.....	71
F00D1227, Error writing date.....	71
F00D1230, Error ReadSERCOSAttribute, no memory available.....	71
F00D2001, Access error, axis 1.....	71
F00D2002, Access error, axis 2.....	72
F00D2003, Access error, axis 3.....	72
F00D2004, Access error, axis 4.....	72
F00D2005, Access error, axis 5.....	72
F00D2006, Access error, axis 6.....	73
F00D2007, Access error, axis 7.....	73
F00D2008, Access error, axis 8.....	73
F00D2009, Access error, axis 9.....	74
F00D200A, Access error, axis 10.....	74
F00D200B, Access error, axis 11.....	74
F00D200C, Access error, axis 12.....	75
F00D200D, Access error, axis 13.....	75
F00D200E, Access error, axis 14.....	75
F00D200F, Access error, axis 15.....	76
F00D2010, Access error, axis 16.....	76
F00D2064, Axis not configured.....	76
F00D2EE1, Fatal error at Inline IOs.....	77
F00D2EE2, An untreated Inlinebus error has occurred.....	77
F00D2EE3, Reset on Inlinebus occured.....	77
F00D2EE5, Module error Inline bus comes.....	78
F00F0001 to F00F0006, Error RTOS (Real Time Operating System).....	78
F0110001, No power turned.....	78
F0110010, Error while synchronization of system time of the drive.....	78
F0140001, Error in drive configuration.....	79
F0160001 to F0160002, Error RTOS (Real Time Operating System).....	79
F0160003, Error while changing to P0.....	79
F0160004, Error while changing to P0.....	79
F0160005, Error while changing to P2.....	80
F0160006, Error while changing to P2.....	80
F0160008, Error while changing to P3.....	80
F0160009, Error while changing to P3.....	80
F0160010, Error while changing to P3.....	80
F0160011, Error during preparation for changing to P2.....	81

Table of Contents

	Page
F0160012, Error while changing to BB.....	81
F0160013, Error while changing to BB.....	81
F0160014, Error while changing to BB.....	81
F0160015 to F0160023, Error RTOS (Real Time Operating System)	81
F0160024, Error in cross-check C parameters.....	82
F0160025, Error in cross-check A parameters.....	82
F0160026 to F0160029, Error RTOS (Real Time Operating System)	82
F0160032, Error while changing to P2.....	82
F0160033, Error while changing to P2.....	82
F0160034, Error while changing to P3.....	82
F0160035, Error during configuration of link communication.....	83
F0160036, Error during configuration of link communication.....	83
F0160037, Error during configuration of link communication.....	84
F0160038, Unable to deactivate link axes.....	84
F0160040, Error in cross-check K parameters.....	84
F01B0000 to F01D0014, Error RTOS (Real Time Operating System)	84
F0200001, Firmware download failed.....	84
F0200002, Firmware download failed.....	84
F0200003, Firmware download failed.....	85
F0200004, Firmware download failed.....	85
F0200005, Firmware download failed.....	85
F0200006, Firmware download failed.....	85
F0200007, Firmware download failed.....	85
F0200008, Firmware download failed.....	85
F0200009, Firmware download failed.....	85
F0200011 to F0200022, Error RTOS (Real Time Operating System)	86
F0200024, Firmware download failed.....	86
F0200025, Firmware download failed.....	86
F0200026, Firmware download failed.....	86
F0200027, Firmware download failed.....	86
F0200028, Firmware download failed.....	86
F0200029, Firmware download failed.....	86
F0200030, error deleting files in SYSTEM partition.....	87
F0200031, error deleting files in OEM partition.....	87
F0200032, error deleting files in USER partition.....	87
F0200033, storage of remanent data impossible.....	87
F0220200, General drive error.....	87
F0220201, Invalid control number.....	87
F0220202, Invalid axis number.....	88
F0220203, Invalid command type.....	88
F0220204, Command not supported by axis.....	88
F0220205, Command rejected no power.....	88
F0220206, Command rejected while 'Stopping'.....	88
F0220207, Command rejected while 'Homing'.....	89
F0220208, Invalid command number.....	89
F0220210, Reset still 'Errorstop'.....	89

Table of Contents

	Page
F0220211, Command rejected while 'Diskrete Motion'.....	89
F0220212, Command rejected while 'Continuous Motion'.....	89
F0220213, Command rejected while 'Synchronized Motion'.....	90
F0220214, Command rejected while 'ErrorStop'.....	90
F0220216, No power available.....	90
F0220217, Command rejected, while 'Standstill' and 'PowerOn'.....	90
F0220218, Command rejected, while standstill.....	90
F0220223, Velocity below minimum.....	91
F0220224, Velocity above maximum.....	91
F0220225, Acceleration below minimum.....	91
F0220226, Acceleration above maximum.....	91
F0220227, Deceleration below minimum.....	92
F0220228, Deceleration above maximum.....	92
F0220232, Invalid master control number.....	92
F0220233, Invalid master axis number.....	92
F0220234, Invalid CamTableID.....	92
F0220263, RatioNumerator below minimum.....	92
F0220264, RatioNumerator above maximum.....	93
F0220265, RatioDenominator below minimum.....	93
F0220266, RatioDenominator above maximum.....	93
F0220267, MasterFineAdjust below minimum.....	93
F0220268, MasterFineAdjust above maximum.....	94
F0220269, Invalid SyncMode.....	94
F0220270, Invalid StartMode.....	94
F0220271, CamShaftDistance below minimum.....	94
F0220272, CamShaftDistance above maximum.....	94
F0220273, Command rejected while parameter mode.....	95
F0220274, Axis not referenced.....	95
F0220275, Command aborted.....	95
F0220276, Control error.....	95
F0220277, Direct master axis change.....	95
F0220278, Disabled axis.....	96
F0220279, Command 'parking axis' active.....	96
F0220280, Command rejected while coordinated motion.....	96
F0220281, Invalid float data.....	96
F0220282, Selection motion profile below min.....	96
F0220283, Selection motion profile above max.....	97
F0220287, Unreferenced cam table object.....	97
F0220288, ChangeCamTable, value above.....	97
F0220289, ChangeCamTable, value below.....	97
F0220290, ChangeCamTable, invalid ID.....	97
F0220291, Unreferenced motion profile object.....	97
F0220292, ChangeMotionProfile, value below.....	98
F0220293, ChangeMotionProfile, SetNumber above maximum.....	98
F0220294, ChangeMotionProfile, set write protected.....	98
F0220295, ChangeMotionProfile, invalid StepNumber.....	98

Table of Contents

	Page
F0220300, Invalid command channel.....	98
F0220301, Command rejected while controlled motion.....	98
F0220316, ChangeFlexProfile, Length of FlexProfile lists inconsist.....	99
F0220317, ChangeFlexProfile, No steps in profile.....	100
F0220318, ChangeFlexProfile, Unknown master.....	101
F0220319, ChangeFlexProfile, Motion law unknown.....	101
F0220320, ChangeFlexProfile, Step mode unknown.....	101
F0220321, ChangeFlexProfile, Step range 0 or negative.....	102
F0220322, ChangeFlexProfile, Invalid comb. of boundary value types.....	102
F0220323, ChangeFlexProfile, Invalid boundary values.....	102
F0220324, ChangeFlexProfile, Invalid Hub.....	103
F0220325, ChangeFlexProfile, Invalid value for turnaround point disp.....	103
F0220326, ChangeFlexProfile, Invalid slope.....	104
F0220327, ChangeFlexProfile, Invalid Cam-Table.....	104
F0220328, ChangeFlexProfile, Motion law + selected step mode.....	104
F0220329, ChangeFlexProfile, Velocity jump in profile.....	105
F0220330, ChangeFlexProfile, Acceleration jump in profile.....	105
F0220331, ChangeFlexProfile, Jerk jump in profile.....	106
F0220332, ChangeFlexProfile, Velocity limit invalid.....	106
F0220333, ChangeFlexProfile, Acceleration limit invalid.....	106
F0220334, Unreferenced FlexProfile object.....	107
F0220335, FlexProfile set is write protected.....	107
F0220341, FlexEvent set is write protected.....	107
F0220343, ChangeFlexEvent, Length of FlexProfile lists inconsistent.....	107
F0220344, ChangeFlexEvent, Step Number assignment is invalid.....	108
F0220345, ChangeFlexEvent, Trigger-Mode is invalid.....	108
F0220346, ChangeFlexEvent, Action-Mode is invalid.....	108
F0220349, ChangeFlexProfile, Jerk limit invalid.....	109
F0220350, ChangeFlexProfile, Limit too low.....	109
F0220355, ChangeFlexProfile, Invalid sequence of Flex-Steps.....	110
F0220501, Wrong data type.....	110
F0220502, ProbeModule is not in valid range.....	110
F0220503, ProbeInput is not in valid range.....	111
F0220504, ExpectWindowPosEdgeMode is not in valid range.....	111
F0220505, ExpectWindowNegEdgeMode is not in valid range.....	111
F0220506, ExpectWindowPosEdgeStart is not in valid range.....	111
F0220507, ExpectWindowPosEdgeEnd is not in valid range.....	111
F0220508, ExpectWindowNegEdgeStart is not in valid range.....	112
F0220509, ExpectWindowNegEdgeEnd is not in valid range.....	112
F0220510, ExpectWindowPosEdgeSetPoint is not in valid range.....	112
F0220511, ExpectWindowNegEdgeSetPoint is not in valid range.....	112
F0220512, MarkerFailureEnable is not in valid range.....	112
F0220513, MaxNumberOfMarkerFailure is not in valid range.....	112
F0220514, Interpolation is not in valid range.....	113
F0220515, TimeStampEnable is not in valid range.....	113
F0220516, DeadTimePosEdge is not in valid range.....	113

Table of Contents

	Page
F0220517, DeadTimeNegEdge is not in valid range.....	113
F0220518, ProbeData is not in valid range.....	113
F0220519, PositionEvalMode is not in valid range.....	113
F0220520, DiffEvalMode is not in valid range.....	114
F0220521, TOUCHPROBE_REF is not valid or wrong configuration.....	114
F0220522, AXIS_REF is not valid or wrong configuration of axis.....	114
F0220600, Path / file name unknown.....	114
F0220601, Unsupported file system.....	114
F0220602, Input 'StartIdx' has an invalid value.....	114
F0220603, Invalid state of state machine.....	115
F0220604, Error in file structure.....	115
F0220605, Input 'ArrayDimension' has an invalid value.....	115
F0220606, Point not found.....	115
F0220607, Wrong number of coordinates per point.....	115
F0220608, Wrong number of kinematics.....	115
F0220609, Wrong point type, point in world or joint coordinates.....	116
F0260001, MC_DigitalCamSwitch, Unable to acquire APS reference.....	116
F0260002, MC_DigitalCamSwitch, Unable to open cyclic channel.....	116
F0260003, MC_DigitalCamSwitch, Unable to allocate memory.....	116
F0260004, MC_DigitalCamSwitch, Unable to read parameter.....	116
F0260005, MC_DigitalCamSwitch, Invalid combination of units.....	116
F0260006, MC_DigitalCamSwitch, On-/Off compensation time longer 16sec.....	117
F0260007, MC_DigitalCamSwitch, Invalid state of state machine.....	117
F0260010, ML_PIDType01, Low limit is higher than High limit.....	117
F0260011, ML_PIDType01, Invalid state of state machine.....	117
F0260012, ML_PIDType01, Selected controller type not supported.....	117
F0260030, Inputs have invalid values.....	117
F0260031, Invalid state of state machine.....	118
F0260032, Calculations resulted in invalid values.....	118
F0260040, Reference to base system was not found.....	118
F0260041, Function block could not be instantiated.....	118
F0260042, Function block may not be located in RETAIN data area.....	118
F0280004, Link ring broken.....	118
F0280005, Link ring - masterposition incorrect MDT.....	119
F0280006, Link ring - masterposition incorrect AT.....	119
F0280020, C2C XML File not available.....	119
F0280021, C2C XML File format error.....	119
F0280022, C2C XML File format invalid.....	119
F0280023, C2C XML File Unknown parser error.....	120
F0280024, C2C Ring not closed.....	120
F0280025, C2C Conciguration not consistent.....	120
F0280026, C2C Error switching phase 1.....	120
F0280027, C2C Error device not found.....	121
F0280028, C2C Error switching phase 2.....	121
F0280029, C2C Error switching phase 3.....	121
F0280030, C2C Error command S-0-0127, P3 transition check.....	121

Table of Contents

	Page
F0280031, C2C Error switching phase 4.....	121
F0280032, C2C Error command S-0-0128, P4 transition check.....	122
F0280033, C2C Connection not found.....	122
F0280034, C2C Wrong ring address.....	122
F0280035, C2C Error phase chance start Phase 3.....	122
F0280036, C2C Error phase chance start Phase 4.....	122
F0280037, C2C Ring Configuration ID not constant.....	122
F0280038, C2C Version not constant.....	122
F0280039, C2C Wrong ring delay.....	122
F0280040, C2C Wrong Synchronization delay.....	122
F0280041, C2C SERCOS Cycle time not possible.....	123
F0280042, C2C Offset AT invalid.....	123
F0280043, C2C Unknown producer data.....	123
F0280044, C2C Unable to produce data.....	123
F0280045, C2C Unable to consume data.....	123
F0280046, C2C Producer cycle time not supported.....	123
F0280047, C2C Producer cycle time less than SERCOS cycle time.....	123
F0280048, C2C Producer cycle time no multiple of SERCOS cycle time.....	123
F0280049, C2C Connection names not unique.....	123
F0280050, C2C Maximal number of connections exceeded.....	123
F0280051, C2C Configuration information incomplete.....	123
F0280052, C2C Invalid ring configuration ID.....	124
F0280053, C2C Cannot operate as master.....	124
F0280054, C2C Cannot operate as slave.....	124
F0280055, C2C Consumer data field length not corresponding.....	124
F0280056, C2C Further master on port 1 detected.....	124
F0280057, C2C Further master on port 2 detected.....	124
F0280058, C2C Error switching phase 0.....	124
F0290400, General kinematics error.....	124
F0290401, Invalid control number.....	124
F0290402, Invalid kinematics number.....	124
F0290403, Invalid command type.....	124
F0290404, Command not supported by kinematics.....	124
F0290405, Command rejected, kinematics incomplete.....	124
F0290406, Command rejected while 'Kinematics-Stopping'.....	125
F0290407, Command rejected while 'Stand Still'.....	125
F0290408, Invalid command number.....	125
F0290409, Command not supported in this state.....	125
F0290410, Reset still 'Errorstop'.....	125
F0290411, Command rejected while 'Programmed Motion'.....	125
F0290412, Error while RCL-program select.....	125
F0290413, Command rejected while 'Parameter Mode'.....	125
F0290414, Command rejected while 'ErrorStop'.....	125
F0290415, Command aborted.....	125
F0290416, not ready switching to state 'Stand Still'.....	125
F0290417, RCL-process does not exist.....	125

Table of Contents

	Page
F02B0004, Axis not part of kinematics.....	126
F02C0066, Axislist in K8 not complete.....	126
F02C00B7, Axis velocity reduced.....	126
F02C0173, Illegal jump instruction.....	126
F02C0177, Error in exclusive statement, EXCLUSIVE_END expected.....	126
F02C017B, Subprogram nesting depth exceeded.....	126
F02C017D, Illegal relational operator.....	126
F02C017F, Beltype expected.....	126
F02C0182, Jump statement not permitted.....	126
F02C0183, Circle with one Axis not possible.....	126
F02C033F, Illegal program name.....	127
F02C0340, Program name too long.....	127
F02C0342, Illegal file name extension.....	127
F02C0489, IOL-on: Time offset too long.....	127
F02C048A, IOL-off: Time offset too long.....	127
F02C048B, PPO: Time offset too long.....	127
F02C048C, IOL-on: Function in use.....	127
F02C048D, IOL-off: Function in use.....	127
F02C048E, PPO: Function in use.....	127
F02C0491, PPO: Velocity greater than max. velocity.....	127
F02C0877, Hand axis traversing range exceeded.....	128
F02C0878, Orientation axis traversing range exceeded.....	128
F02C0879, Mathematical workspace exceeded.....	128
F02C087A, Singularity of kinematics.....	128
F02C087B, Mathematical workspace exceeded.....	128
F02C087C, Iteration divergent.....	128
F02C087D, COS singular.....	128
F02C0895, Data transfer error.....	128
F02C0898, Data transfer error.....	128
F02C089C, Data transfer error.....	128
F02C089D, Data transfer error.....	128
F02C08A7, Data transfer error.....	128
F02C08BA, Data transfer error.....	129
F02C08C7, Switch to manual operation not permitted.....	129
F02C08D0, Data transfer error.....	129
F02C0E10, rFkt: invalid length.....	129
F02C0E11, rFkt:Client disconnected (1).....	129
F02C0E12, rFkt:malloc error.....	129
F02C0E13, rFkt:Client disconnected (2).....	129
F02C0E14, rFkt: wrong channel.....	129
F02C0E15, rFkt: READ error.....	129
F02C0E16, rFkt: WRITE error.....	129
F02C0E17, rFkt: CONNECT error.....	130
F02C0E44, Socket error PCL.....	130
F02C0E45, Unknown server PCL.....	130
F02C0E46, No connect PCL.....	130

Table of Contents

	Page
F02C0E47, Socket error.....	130
F02C0E48, Bind error.....	130
F02C0E49, List error.....	130
F02C0E4A, Accept error.....	130
F02C0E52, Seriell writing is not possible.....	130
F02C0ECE, Shutdown error.....	130
F02C0ECF, Shutdown error.....	131
F02C0F1E, End of file.....	131
F02C0F1F, File opened for write.....	131
F02C0F20, No compressing.....	131
F02C0F21, File does not exist.....	131
F02C0F22, Memory (user) overflow.....	131
F02C0F23, File too many opened.....	131
F02C0F24, File still opened.....	131
F02C0F25, File opened for write.....	131
F02C0F26, File already exists.....	131
F02C0F27, No reserved block empty.....	132
F02C0F28, File not found.....	132
F02C0F3B, Not enough heap.....	132
F02C0F3F, Read error PKT file.....	132
F02C0F40 to F02C0F57, Access denied	132
F0308001, Over-temperature.....	132
F0308002, Power failure.....	132
F03500FA, RCL-Compiler: Timeconstant value too high.....	133
F03500FB, RCL-Compiler: Variable longer than 12 characters.....	133
F03500FD, RCL-Compiler: Unexpected line end.....	133
F03500FF, RCL-Compiler: Syntaxerror, Number expected.....	133
F0350101, RCL-Compiler: Doublepoint expected.....	133
F0350102, RCL-Compiler: Squared bracket open expected.....	133
F0350103, RCL-Compiler: Squared bracket close expected.....	133
F0350104, RCL-Compiler: END expected.....	133
F0350105, RCL-Compiler: EXACT or CIRCA expected.....	133
F0350106, RCL-Compiler: Integer constant expected.....	133
F0350107, RCL-Compiler: Equality character expected.....	134
F0350108, RCL-Compiler: Bracket open expected.....	134
F0350109, RCL-Compiler: Bracket close expected.....	134
F035010A, RCL-Compiler: Smaller or bigger expected.....	134
F035010B, RCL-Compiler: Line- or Fileend or doublepoint expected.....	134
F035010C, RCL-Compiler: Multiplication expected.....	134
F035010D, RCL-Compiler: TO or VIA expected.....	134
F035010E, RCL-Compiler: Variable expected.....	134
F035010F, RCL-Compiler: Keyword PROGRAM expected.....	134
F0350110, RCL-Compiler: FILE expected.....	134
F0350111, RCL-Compiler: SUBROUTINE expected.....	134
F0350112, RCL-Compiler: REPEAT_END expected.....	134
F0350113, RCL-Compiler: Type not defined.....	134

Table of Contents

	Page
F0350114, RCL-Compiler: Constant, symbol or Expression as factor expected.....	135
F0350115, RCL-Compiler: File end expected.....	135
F0350116, RCL-Compiler: Incorrect symbol.....	135
F0350117, RCL-Compiler: Instruction expected.....	135
F0350118, RCL-Compiler: Output variable expected.....	135
F0350119, RCL-Compiler: Output not permitted.....	135
F035011A, RCL-Compiler: BINARY expected.....	135
F035011B, RCL-Compiler: REAL expected.....	135
F035011C, RCL-Compiler: Inputvariable expected.....	135
F035011D, RCL-Compiler: Input not permitted.....	135
F035011E, RCL-Compiler: Program and file name not equal.....	135
F035011F, RCL-Compiler: Element count incorrect.....	135
F0350120, RCL-Compiler: Field variable expected.....	136
F0350121, RCL-Compiler: Funktionname expected.....	136
F0350122, RCL-Compiler: INTEGER expected.....	136
F0350123, RCL-Compiler: INTEGER too big.....	136
F0350124, RCL-Compiler: Readaccess not permitted.....	136
F0350125, RCL-Compiler: Label already defined.....	136
F0350126, RCL-Compiler: Label expected.....	136
F0350127, RCL-Compiler: Label not defined.....	136
F0350128, RCL-Compiler: JC-Point expected.....	136
F0350129, RCL-Compiler: @ - character not permitted.....	136
F035012A, RCL-Compiler: @ - character expected.....	136
F035012B, RCL-Compiler: Symbol already exists.....	136
F035012C, RCL-Compiler: Label for structure element expected.....	136
F035012D, RCL-Compiler: Name not defined.....	137
F035012E, RCL-Compiler: Point or point variable expected.....	137
F035012F, RCL-Compiler: Two points expected.....	137
F0350130, RCL-Compiler: Jump back only permitted in subroutine.....	137
F0350131, RCL-Compiler: Writeaccess not permitted.....	137
F0350132, RCL-Compiler: Jump not permitted.....	137
F0350134, RCL-Compiler: Type conflict.....	137
F0350135, RCL-Compiler: Lower limit exceeds upper limit.....	137
F0350136, RCL-Compiler: Type incorrect.....	137
F0350137, RCL-Compiler: Axis number incorrect.....	137
F0350138, RCL-Compiler: Name for subroutine expected.....	137
F0350139, RCL-Compiler: Variable expected.....	137
F035013A, RCL-Compiler: Record variable expected.....	138
F035013B, RCL-Compiler: Point expected.....	138
F035013C, RCL-Compiler: Extension incorrect.....	138
F035013D, RCL-Compiler: Too many arguments.....	138
F035013E, RCL-Compiler: Too less arguments.....	138
F035013F, RCL-Compiler: Not implemented.....	138
F0350140, RCL-Compiler: Compiler error.....	138
F0350142, RCL-Compiler: QLL - file not present.....	138
F0350143, RCL-Compiler: Error - file not present.....	138

Table of Contents

	Page
F0350144, RCL-Compiler: File only accepted in main program.....	138
F0350146, RCL-Compiler: Error during compilation.....	138
F0350147, RCL-Compiler: Out of memory.....	138
F0350148, RCL-Compiler: IRD - File error.....	138
F0350149, RCL-Compiler: Symbol file error.....	139
F035014A, RCL-Compiler: Point file error.....	139
F035014B, RCL-Compiler: Error in error file.....	139
F035014D, RCL-Compiler: Keyword DEF incorrect.....	139
F035014E, RCL-Compiler: Include file not present.....	139
F0350150, RCL-Compiler: Axis name incorrect.....	139
F0350151, RCL-Compiler: Indexerror.....	139
F0350152, RCL-Compiler: Incorrect program parameter.....	139
F0350153, RCL-Compiler: Keyword instead of label.....	139
F0350155, RCL-Compiler: Comma expected.....	139
F0350156, RCL-Compiler: SUB_END expected.....	139
F0350157, RCL-Compiler: PROGRAM_END expected.....	139
F0350158, RCL-Compiler: Maximum axis count reached.....	140
F035015A, RCL-Compiler: Number double.....	140
F035015B, RCL-Compiler: Point can't added to kinematics.....	140
F035015C, RCL-Compiler: Kinematics name expected.....	140
F035015D, RCL-Compiler: Belt can't added to kinematics.....	140
F035015E, RCL-Compiler: External program expected.....	140
F035015F, RCL-Compiler: Input/Output in program head only.....	140
F0350160, RCL-Compiler: Adress for Input/Output expected.....	140
F0350161, RCL-Compiler: Fieldlimit exeeded.....	140
F0350162, RCL-Compiler: Wrong type in array.....	140
F0350163, RCL-Compiler: Input/Output.....	140
F0350164, RCL-Compiler: Channel adress incorrect.....	140
F0350165, RCL-Compiler: Coordinate expected.....	140
F0350166, RCL-Compiler: Kinamatic instruction incorrect.....	141
F0350167, RCL-Compiler: BEGIN expected.....	141
F0350168, RCL-Compiler: Keyword conflict.....	141
F035016F, RCL-Compiler: PKT - file read / write error.....	141
F0350179, RCL-Compiler: Wrong compiler version.....	141
F035017C, RCL-Compiler: Maximum table entry exceeded.....	141
F035017E, RCL-Compiler: Maximum error count reached.....	141
F0350185, RCL-Compiler: Double INCLUDE - statement.....	141
F0350186, RCL-Compiler: EXTERN only permitted in main program.....	141
F0350188, RCL-Compiler: Only one EXPORT program permitted.....	141
F0350189, RCL-Compiler: Pointvariable not found.....	141
F035018A, RCL-Compiler: Different CID.....	141
F035018C, RCL-Compiler: No EXPORT - Variable found.....	142
F035018D, RCL-Compiler: Different axis count of the kinematics.....	142
F035018E, RCL-Compiler: Not defined kinematics.....	142
F03501AC, RCL-Compiler: Identifier expected.....	142
F03501AD, RCL-Compiler: Type expected.....	142

Table of Contents

	Page
F03501AE, RCL-Compiler: RECORD expected.....	142
F03501AF, RCL-Compiler: RECORD_END expected.....	142
F03501B0, RCL-Compiler: IF expected.....	142
F0350200, RCL-Compiler: Filename too long.....	142
F0350212, RCL-Compiler: Typename expected.....	142
F0350213, RCL-Compiler: Identifier already defined.....	142
F0350214, RCL-Compiler: Keyword here not permitted.....	142
F0350216, RCL-Compiler: Recursive data types not permitted.....	142
F0350217, RCL-Compiler: Write/Read from this data type not possible.....	143
F0350218, RCL-Compiler: Compare operator expected.....	143
F0350219, RCL-Compiler: Illegal INPUT type.....	143
F035021A, RCL-Compiler: Illegal OUTPUT type.....	143
F035021B, RCL-Compiler: Illegal CASE konstant.....	143
F035021E, RCL-Compiler: Illegal INPUT ARRAY.....	143
F035021F, RCL-Compiler: Illegal OUTPUT ARRAY.....	143
F0350220, RCL-Compiler: Wrong type during parameter transfer.....	143
F0350221, RCL-Compiler: File only in main program permitted.....	143
F0350222, RCL-Compiler: INPUT/OUTPUT only permitted in main program.....	143
F0350223, RCL-Compiler: Data type FILE in RECORD not permitted.....	143
F0350224, RCL-Compiler: Kinematics konflikt.....	143
F0350227, RCL-Compiler: Wrong format for exportfile.....	144
F0350228, RCL-Compiler: No Values assumed.....	144
F035022B, RCL-Compiler: Equal or greater than expected.....	144
F035022C, RCL-Compiler: Constant expected.....	144
F035022D, RCL-Compiler: IF_END expected.....	144
F035022E, RCL-Compiler: Two points expected.....	144
F035022F, RCL-Compiler: LABEL incompatible.....	144
F0350230, RCL-Compiler: Wrong data type in CASE structure.....	144
F0350232, RCL-Compiler: Multiple LABEL definition.....	144
F0350233, RCL-Compiler: CASE table overflow.....	144
F0350234, RCL-Compiler: Division by zero.....	144
F0350235, RCL-Compiler: Positive digit expected.....	144
F035023A, RCL-Compiler: Translation aborted.....	144
F035023B, RCL-Compiler: Error during memory approval.....	145
F035023C, RCL-Compiler: End of PKT-file reached.....	145
F035023D, RCL-Compiler: Error, can't create point in PKT-File.....	145
F035023F, RCL-Compiler: Keyword T expected.....	145
F0350242, RCL-Compiler: Variable or expression expected.....	145
F0350243, RCL-Compiler: Program name expected.....	145
F0350244, RCL-Compiler: Program start expected.....	145
F0350245, RCL-Compiler: Illegal program name.....	145
F0350247, RCL-Compiler: Alignment not four.....	145
F0350249, RCL-Compiler: Illegal kinematics name.....	145
F0350484, RCL-Compiler: Illegal kinematics number.....	146
4.7.4 F1 Error, Axis Group Error.....	146
F1 Error, Error Reaction.....	146

Table of Contents

	Page
F10B0001, External synchron clock failed.....	146
F12C0062, Passing factor (R_PTP) out of range.....	146
F12C0074, Machine limit switch.....	146
F12C007A, Tensor-Interpolation: Angles not in main area.....	146
F12C007B, Tensor-Interpolation: Angles not calculably.....	146
F12C007E, WC move not possible without reference points.....	146
F12C007F, No feed-allow-signal within belt synchronisation.....	147
F12C008A, Number of axes too small for the current robot type.....	147
F12C008B, Transformation error: system of equation is singular.....	147
F12C008C, MODE does not turn to -1.....	147
F12C0099, Beltsync: Endpoint not reachable.....	147
F12C009A, Beltsync: Limit of beltcounter (SPC_FCT 53) exceeded.....	147
F12C00A6, Watchdog expired.....	148
F12C00AA, Beltsync: Kinematics in singular position.....	148
F12C00AB, Kinematics in singular position.....	148
F12C00AD, Travel range limit JC reached.....	148
F12C00AE, Beltsync.: Travel block activated too late.....	148
F12C00AF, Limit of axis velocity exceeded.....	148
F12C00B0, Ambiguity with beltsynchronisation.....	148
F12C00B1, Interpolation in wrong direction.....	149
F12C00B2, AUTO/MANUAL change not allowed.....	149
F12C00B4, Beltsync.: 1. BS-Travel block activated too late.....	149
F12C00B6, Beltsync.: Block end reached too late.....	149
F12C0316, File open for read.....	149
F12C0317, File open for write.....	149
F12C031A, Block not initialized.....	149
F12C031D, Block not connected.....	150
F12C0406, Invalid SPC_FCT.....	150
F12C0407, SPC_FCT 53 was called with wrong parameters.....	150
F12C0408, Error at the last beltsynchronous movement block.....	150
F12C041A, Process error.....	150
F12C041B, Process already exists.....	150
F12C041C, Travel time not allowed.....	150
F12C041D, Velocity not allowed.....	150
F12C041F, User memory overflow.....	150
F12C0420, WRITE_BEGIN expected.....	151
F12C0421, File repeatedly opened.....	151
F12C0422, File already opened.....	151
F12C0423, Invalid file name.....	151
F12C0424, File end reached while READ.....	151
F12C0426, Missing DAT-File.....	151
F12C0427, Read access to a file which is opened for write.....	151
F12C0428, READ_BEGIN expected.....	151
F12C042A, Missing WCSYS/TOOLS.DAT.....	152
F12C042B, Wcsys/tool name missing.....	152
F12C042D, Wrong parameters for external subroutine.....	152

Table of Contents

	Page
F12C042E, Wrong number of parameters for external subroutine.....	152
F12C042F, Wrong type of parameters for external subroutine.....	152
F12C0430, Wrong declaration of parameters for ext. subroutine.....	152
F12C0431, Program includes parameters.....	152
F12C0432, INTEGER overflow.....	152
F12C0433, Workspace violation.....	152
F12C0435, Illegal parameter for external subroutine.....	153
F12C0436, Format error in DAT-file.....	153
F12C0437, SUB-Process stops its own mainprocess.....	153
F12C0438, Division by zero in RCL program.....	153
F12C0439, Square root with negative argument in RCL program.....	153
F12C043A, PTP within belt synchronous movement.....	153
F12C043C, Point not reachable.....	153
F12C043D, Wrong PKT-file.....	153
F12C043F, Invalid output.....	154
F12C0440, Invalid input.....	154
F12C0441, REF_PNT: Invalid axis.....	154
F12C0442, Transformation of this point is not possible.....	154
F12C0444, File does not exist.....	154
F12C0445, Negative delaytime.....	154
F12C0447, Error in IRD program.....	154
F12C0448, IRD stack overflow.....	154
F12C0449, IRD-Stack underflow.....	154
F12C044A, Inadmissible number of axes.....	154
F12C044B, Array index out of range.....	155
F12C044C, Program name too long.....	155
F12C044D, IRD option not activ.....	155
F12C044E, Missing PKT file.....	155
F12C044F, Point is not defined.....	155
F12C0451, No points in PKT file.....	155
F12C0453, Braekpoint not allowed because of beltsynchr.....	155
F12C0454, Beltcounter out of range.....	155
F12C0455, Beltsynchronisation can not be activated.....	156
F12C0457, Invalid float value.....	156
F12C0458, File sequentialisation not possible.....	156
F12C045A, Wrong version of the RCL compiler.....	156
F12C045C, Startpoint too near the intermediate point.....	156
F12C045D, Startpoint too near the endpoint.....	156
F12C045F, Only positive velocity allowed.....	156
F12C0460, No Belt option.....	156
F12C0462, intermediate poin too near the endpoint.....	156
F12C0463, Start, intermediate and end point on a straight line.....	157
F12C0464, Start, intermediate and end point too close.....	157
F12C0466, Invalid number of kinematics.....	157
F12C0467, GLOBAL-File does not exist.....	157
F12C0468, GLOBAL COMMON ID.....	157

Table of Contents

	Page
F12C0469, Two GLOBAL-Files.....	157
F12C046A, BNR-File does not exist.....	157
F12C046C, Option GLOBAL-File is not active.....	157
F12C046D, MOVE FILE: wrong version.....	157
F12C046E, MOVE FILE: wrong number of axes.....	158
F12C046F, MOVE FILE: reading pointer.....	158
F12C0470, MOVE FILE: time base.....	158
F12C0471, MOVE FILE: IP-LR base.....	158
F12C0472, MOVE FILE: format fault.....	158
F12C0473, MOVE FILE: MODULO_FLAG not occupied.....	158
F12C0474, MOVE FILE: no endless axis.....	158
F12C0475, WC system: No position offset.....	158
F12C0476, WC system: Too many angles.....	159
F12C0477, WC system: invalid value.....	159
F12C0478, Raised/extended arm.....	159
F12C0479, WC zero position is singular.....	159
F12C047A, Too close on stand.....	159
F12C047C, Invalid TOOL value.....	159
F12C047D, Wrong belt direction programed.....	159
F12C047E, Invalid kind of belt/tolerance of belt.....	159
F12C047F, Belt distance is zero.....	159
F12C0480, Invalid point.....	160
F12C0481, Invalid measuring system.....	160
F12C0482, Invalid belt number.....	160
F12C0483, In WC not allowed.....	160
F12C0484, Invalid kinematics number.....	160
F12C0485, PPO/IOL: Invalid function number.....	160
F12C0486, PPO/IOL: Invalid kinematics number.....	160
F12C0487, PPO/IOL: Invalid coordinate.....	160
F12C0488, PPO: Invalid parameter value.....	161
F12C048F, PPO/IOL: Invalid function number.....	161
F12C0490, function number.....	161
F12C0492, Invalid SPS process number.....	161
F12C0493, Invalid time value.....	161
F12C0494, Min. value greater than max. value.....	161
F12C0495, Error by exception process start.....	161
F12C0497, Workspace number.....	162
F12C0881, Illegal Drives ON.....	162
F12C0883, Kinematics axis lost power.....	162
F12C0885, Workspace out of range.....	162
F12C0EB4, Memory dump error.....	162
F12C0EB5, Memory dump error.....	162
F12C0EB6, Memory dump error.....	162
F12C0EB7, Memory dump error.....	162
F12C0EB8, Memory dump error.....	162
F12C0EB9, Memory dump error.....	163

Table of Contents

	Page
F1350C12, Negative time calculated in movement preparation.....	163
4.7.5 F2 Error, Axis Error.....	163
F2 Error, Error Reaction.....	163
F20B0005, Drive error.....	163
F20D1015, Error while closing cyclic channel.....	163
F20D1025, Error closing cyclic channel.....	163
F20D1029, Error opening cyclic channel.....	163
F20D102B, Error opening cyclic channel (READ-ACCESS).....	163
F20D102C, Error reading access (DirectReadReal).....	164
F20D102D, Error reading access (DirectReadWord).....	164
F20D102E, Error reading access (DirectReadDword).....	164
F20D1034, Error write access (DirectWriteWord).....	164
F20D1036, Axis has not been found (ML_AXISDATA).....	164
F20D1037, Invalid Write/Read-Access to ML_AXISDATA.....	164
F2110002, Axis is not homed.....	164
F2110003, Drive of axis does not exist.....	165
F2110004, Synchronization A to S/P-Parameter failed (A-0-0014).....	165
F2110005, Loss of encoder axis reference.....	165
F2110006, Invalid axis configuration.....	165
F2110029, Positive travel limit exceeded.....	166
F2110030, Negative travel limit exceeded.....	166
F2112053, Target position out of travel range error.....	167
F2116029, Positive travel limit exceeded.....	167
F2116030, Negative travel limit exceeded.....	167
F2119001, RTOS error, illegal master axis.....	167
F2220356, Invalid filter time constant, additive master position.....	168
F2220357, Invalid filter time constant, angle offset begin of profile.....	168
F2220358, Invalid filter time constant, additive slave position.....	168
F2229200, General drive error.....	168
F2229203, Invalid command type.....	168
F2229204, Command not supported by axis.....	169
F2229205, Command rejected, no power.....	169
F2229206, Command rejected while 'Stopping'.....	169
F2229207, Command rejected while 'Homing'.....	169
F2229208, Invalid command number.....	169
F2229210, Reset still 'Errorstop'.....	170
F2229211, Command rejected while 'Diskrete Motion'.....	170
F2229212, Command rejected while 'Continuous Motion'.....	170
F2229213, Command rejected while 'Synchronized Motion'.....	170
F2229214, Command rejected while 'ErrorStop'.....	170
F2229216, No power available.....	171
F2229217, Command rejected, while 'Standstill' and 'PowerOn'.....	171
F2229218, Command rejected, while standstill.....	171
F2229223, Velocity below minimum.....	171
F2229224, Velocity above maximum.....	171
F2229225, Acceleration below minimum.....	172

Table of Contents

	Page
F2229226, Acceleration above maximum.....	172
F2229227, Deceleration below minimum.....	172
F2229228, Deceleration above maximum.....	172
F2229231, Invalid direction.....	173
F2229232, Invalid master control number.....	173
F2229233, Invalid master axis number.....	173
F2229234, Invalid CamTableID.....	173
F2229235, Error in motion profile.....	173
F2229263, RatioNumerator below minimum.....	175
F2229264, RatioNumerator above maximum.....	175
F2229265, RatioDenominator below minimum.....	175
F2229266, RatioDenominator above maximum.....	175
F2229267, MasterFineAdjust below minimum.....	175
F2229268, MasterFineAdjust above maximum.....	176
F2229269, Invalid SyncMode.....	176
F2229270, Invalid StartMode.....	176
F2229271, CamShaftDistance below minimum.....	176
F2229272, CamShaftDistance above maximum.....	176
F2229273, Command rejected while parameter mode.....	177
F2229274, Axis not referenced.....	177
F2229275, Command aborted.....	177
F2229276, Control error.....	177
F2229277, Direct master axis change.....	177
F2229278, Disabled axis.....	178
F2229279, Command 'parking axis' active.....	178
F2229280, Command rejected while coordinated motion.....	178
F2229281, Invalid float data.....	178
F2229282, Selection motion profile below min.....	178
F2229283, Selection motion profile above max.....	179
F2229284, CAM table already in use.....	179
F2229285, CAM table, usage counter out of range.....	179
F2229286, Choice relative positioning above max_value.....	179
F2229287, Can not assign axis to kinematics.....	179
F2229296, Absolute entry point in FlexProfile not found.....	179
F2229297, Absolute entry in FlexProfile not possible.....	180
F2229298, Master velocity of FlexProfile is negative.....	180
F2229300, Invalid command channel.....	180
F2229301, Command rejected while controlled motion.....	180
F2229310, Error in calculation of FlexProfile step.....	180
F2229311, FlexProfile, Invalid switching position.....	181
F2229312, FlexProfile, Invalid FlexProfile startmode.....	181
F2229313, FlexProfile, Invalid FlexProfile slave axis offset.....	181
F2229314, Sum of distances not 0 or mod. value, cyclic exec. not pos.....	181
F2229315, Invalid FlexProfile: Execution not possible.....	181
F2229335, FlexProfile set is write protected.....	181
F2229336, FlexProfile, invalid step number.....	182

Table of Contents

	Page
F2229337, FlexProfile, set number over max.....	182
F2229338, ChangeFlexProfile, Invalid nominal master velocity.....	182
F2229339, ChangeFlexProfile, invalid operation mode.....	182
F2229341, FlexEvent set is write protected.....	182
F2229342, FlexEvent, set number over max.....	182
F2229347, FlexProfile invalid. Single execution not possible.....	182
F2229348, FlexProfile invalid. Cyclic execution not possible.....	183
F2229351, Synchronisation velocity below minimum.....	183
F2229352, Synchronisation velocity above maximum.....	183
F2229353, Synchronisation acceleration below minimum.....	184
F2229354, Synchronisation acceleration above maximum.....	184
F2229359, FlexProfile, invalid master axis offset.....	184
F2299400, General Kinematics Error.....	184
F2299401, KIS Invalid Control Number.....	184
F2299402, Invalid Kinematics Number.....	184
F2299403, KIS: Invalid Command Type.....	184
F2299404, Command not supported by kinematics.....	184
F2299405, Command rejected while stand still incomplete.....	185
F2299406, KIS: Command rejected while stopping.....	185
F2299407, Command rejected while stand still.....	185
F2299408, KIS: Invalid command number.....	185
F2299409, KIS: Command not supported in this state.....	185
F2299410, KIS: Reset still error stop.....	185
F2299411, Command rejected while Programmed-Motion.....	185
F2299412, Command error while RCL-program selection.....	185
F2299413, Command rejected while Parameter-Mode.....	185
F2299414, KIS: Command rejected while Error-Stop.....	185
F2299415, KIS: Error command aborted.....	185
F2299416, KIS: Not prepared for Stand-Still.....	185
F2299417, RCL-Process does not exist.....	186
F22B0010, Error while internal converting RoCo Parameter.....	186
F22B0011, Error while int. converting RoCo Parameter in conv. phase 0.....	186
F22B0012, Error while int. converting RoCo Parameter in conv. phase 1.....	186
F22B0013, Error while int. converting RoCo Parameter in conv. phase 2.....	186
F22B0014, Error while int. converting RoCo Parameter in conv. phase 3.....	186
F22B0015, Error while int. converting RoCo Parameter in conv. phase 4.....	186
F22B0016, Error while int. converting RoCo Parameter in conv. phase 5.....	187
F22C0041, Protocollength File I/O too long.....	187
F22C0042, Unknown Funktion Data I/O.....	187
F22C006C, RoCo Sys Error No. 3.....	187
F22C0083, RoCo Sys Error No. 5.....	187
F22C0084, RoCo Sys Error No. 7.....	187
F22C0085, RoCo Sys Error No. 9.....	187
F22C0086, RoCo Sys Error No. 11.....	187
F22C0087, RoCo Sys Error No. 13.....	187
F22C0088, RoCo Sys Error No. 15.....	187

Table of Contents

	Page
F22C0089, Axis list is not correct.....	187
F22C009B, Arm lenght is 0.....	187
F22C00A3, Interpolation type not specified.....	188
F22C00B5, RoCo Watchdog 2 - Error.....	188
F22C0100, Sys Error 256 - P2 not running.....	188
F22E0000, Drive error (generic axis).....	188
F2350066, Axislist in K8 not completed.....	188
F2350071, Gantry-Error: Maximum lag reached.....	188
4.7.6 F5 Error, Controller Error.....	188
F5 Error, Error Reaction.....	188
F50B0002, SERCOS communication interrupted.....	188
F50B0010, Hardware failure.....	188
F50B0011, SERCOS device not compatible.....	189
F50D2000, Forced stop activated.....	189
F5180001, Invalid master axes combination.....	189
F5180005, Motion kernel exceeded control cycle time.....	189
F5280007, Link ring - different cycle times detected.....	189
F5280010, Link axis not projectible, C2C is not configured yet.....	190
F5280011, Master axis is not usable (not configured).....	190
F5280012, Internal error, unable to erase old C2C connection.....	190
F5300001, Over-temperature.....	190
F5300002, Power failure.....	191
F5300100, RTOS error on PLS FM.....	191
4.7.7 F8 Error, Fatal Controller Error.....	191
F8 Error, Error Reaction.....	191
F80B0004, Double AT missing.....	191
F8200023, Critical Temperatur reached; processor will stop.....	192
4.7.8 F9 Error, Fatal System Error.....	192
F9 Error, Error Reaction.....	192
F9010001, Default object on wrong address.....	192
F9010002, Memory allocation error, no memory available.....	192
F9010003, Invalid function pointer.....	192
F90B0012, SERCOS interface watch dog occured.....	192
F90B0020 to F90B0120, Error RTOS (Real Time Operating System)	192
F90D1021, Error ReadParameter, no memory available.....	193
F90D1023, Error WriteParameter.....	193
F90D1024, Error WriteParameter, no memory available.....	193
F90D1032, No access to axes (1).....	193
F90D1033, No access to axes (2).....	193
F90D1038, Error getting MessageQueue.....	193
F90D1039, Thread could not be started.....	193
F90D103A, Left endless While-Loop.....	193
F90D1204, Error, no memory available.....	194
F90D1209, Error, no memory available.....	194
F9180002, Maximum number of axes exceeded.....	194
F9180003, Axis registration invalid.....	194

Table of Contents

	Page
F9180004, Invalid mode change requested.....	194
F9200016, PLC watchdog expired.....	194
F9200017, Hardware watchdog expired.....	194
F9200020, MK1 watchdog expired.....	194
F9200021, MK2 watchdog expired.....	195
F9220001, Invalid error reaction.....	195
F9220002, Error in the axis state machine.....	195
F9240001, Exception, Divide Error.....	195
F9240002, Exception, Invalid Opcode.....	195
F9240003, Exception, Stack Fault.....	195
F9240004, Exception, General Protection Fault.....	195
F9240005, Exception, Page Fault.....	195
F9240006, Exception, Coprocessor Error.....	196
F9240007, Exception, Unknown Exception.....	196
F9280001, Wrong number of CrossComm modules.....	196
F9280002, Error during load of CrossComm firmware.....	196
F9280003, Error during initialisation of CrossComm module.....	196
F9280100, C2C Memory allocation failed.....	196
F9280101, C2C HW Init Error.....	196
F9280102, C2C Parameter S-0-xxxx not nicht describable.....	196
F9280103, C2C Parameter S-0-xxxx not nicht describable.....	197
F9280104, C2C Parameter S-0-xxxx not nicht describable.....	197
F9280105, C2C Parameter S-0-xxxx not nicht readable.....	197
F9280106, C2C Parameter S-0-xxxx not nicht readable.....	197
F9280107, C2C Parameter S-0-xxxx not nicht readable.....	197
F9280108, C2C Parameter S-0-xxxx not nicht readable.....	197
F9280109, C2C Error not initialized.....	197
F9280110, C2C Error check actual master tx enabled.....	197
F92C0003, Fatal transformation error.....	198
F92C0007, Inadmissible change of coordinate system.....	198
F92C0023, HEAP-Overflow.....	198
F92C0028, Invalid interpolation type.....	198
F92C0079, Corrupt maschine parameters.....	198
F92C007D, Invalid init mode.....	198
F92C00CC, Error in task suspend.....	198
F92C00CD, Error in usertask suspend.....	198
F92C00D4, Error in PARALLEL_END.....	198
F92C00DD, Device-I/O: Exclusive access could not be secured.....	199
F92C00DE, Device-I/O: Error in exclusive access.....	199
F92C00E0, File chain not sequential.....	199
F92C00E1, Error in file management.....	199
F92C00E2, File management error in file-I/O.....	199
F92C00E3, File management error in organization part.....	199
F92C00E4, File management error in file chain.....	199
F92C00E7, Invalid write access (end of file).....	199
F92C00E8, Invalid write access (destination address too large).....	199

Table of Contents

	Page
F92C00E9, End of file exceeded.....	200
F92C00EB, Invalid file read mode.....	200
F92C00EC, Invalid file open mode.....	200
F92C00ED, Allocation error.....	200
F92C00EE, Wrong file open mode for Allocation.....	200
F92C00F0, Wrong control mode for file list.....	200
F92C00F1, Wrong control mode for file close.....	200
F92C00F4, File chain not sequential.....	200
F92C0314, File management error in organisation block.....	200
F92C0318, Wrong block status of file.....	201
F92C0319, File not sequential.....	201
F92C043E, Wrong absolute address in IRD-programm.....	201
F92C0456, Fatal error in PKT file.....	201
F92C0ED8, Fatal file administration Error: File not open.....	201
F92C0ED9, Fatal file administration Error: File not open.....	201
F92C0EDA, Fatal file administration Error: File not open.....	201
F92C0EDB, Fatal file administration Error: File not open.....	201
F92C0EDC, Fatal file administration Error: File not open.....	202
F92C0EDD, Fatal file administration Error: File not open.....	202
F92C0EDE, Fatal file administration Error: File not open.....	202
F92C0EDF, Fatal file administration Error: File not open.....	202
F92C0EE0, Fatal file administration Error: File compressing.....	202
F92C0EE1, Fatal file administration Error: Search file.....	202
F92C0EE2, Fatal file administration Error: Wrong file attribute.....	202
F92C0EE3, Fatal file administration Error: illegal block.....	202
F92C0EE4, Fatal file administration Error: file search.....	203
F92C0EE5, Fatal file administration Error: file open.....	203
F92C0EE6, Fatal file administration Error: file search.....	203
F92C0EE7, Fatal file administration Error: file read.....	203
F92C0EE8, Fatal file administration Error: file open.....	203
F92C0EE9, Fatal file administration Error.....	203
F9301000, Error while loading the PLS-Firmware.....	203
4.8 Diagnostics of the SERCOS_TABLE.....	203
4.8.1 SERCOS-Errors - General.....	203
4.8.2 F0-Errors, Non Fatal Errors.....	204
F02D0000, SERCOS, No error in the service channel.....	204
F02D0001, SERCOS, Service channel not open.....	204
F02D0009, SERCOS, Invalid access to closing the service channel.....	204
F02D00A0, SERCOS, Parameter service channel is not open.....	204
F02D00B0, SERCOS, Parameter element does not exist.....	204
F02D00C0, SERCOS, Selected drive does not exist.....	204
F02D1001, SERCOS, No IDN.....	205
F02D1009, SERCOS, Invalid access to element 1.....	205
F02D2001, SERCOS, No name.....	205
F02D2002, SERCOS, Name transmission too short.....	205
F02D2003, SERCOS, Name transmission too long.....	205

Table of Contents

	Page
F02D2004, SERCOS, Name cannot be changed (read only).....	205
F02D2005, SERCOS, Name is write-protected at this time.....	205
F02D3002, SERCOS, Attribute transmission too short.....	205
F02D3003, SERCOS, Attribute transmission too long.....	205
F02D3004, SERCOS, Attribute cannot be changed (read only).....	205
F02D3005, SERCOS, Attribute is write-protected at this time.....	205
F02D4001, SERCOS, No units.....	205
F02D4002, SERCOS, Unit transmission too short.....	206
F02D4003, SERCOS, Unit transmission too long.....	206
F02D4004, SERCOS, Unit cannot be changed (read only).....	206
F02D4005, SERCOS, Unit is write-protected at this time.....	206
F02D5001, SERCOS, No minimum input value.....	206
F02D5002, SERCOS, Minimum input value transmission too short.....	206
F02D5003, SERCOS, Minimum input value transmission too long.....	206
F02D5004, SERCOS, Minimum input value cannot be changed (read only).....	206
F02D5005, SERCOS, Minimum input value is write-protected at this time.....	206
F02D6001, SERCOS, No maximum input value.....	206
F02D6002, SERCOS, Maximum input value transmission too short.....	206
F02D6003, SERCOS, Maximum input value transmission too long.....	206
F02D6004, SERCOS, Maximum input value cannot be changed (read only).....	206
F02D6005, SERCOS, Maximum input value is write-protected at this time.....	207
F02D7001, SERCOS, No operation data.....	207
F02D7002, SERCOS, Operation data transmission too short.....	207
F02D7003, SERCOS, Operation data transmission too long.....	207
F02D7004, SERCOS, Operation data cannot be changed (read only).....	207
F02D7005, SERCOS, Operation data is write-protected at this time.....	207
F02D7006, SERCOS, Operation data is smaller than the min input value.....	207
F02D7007, SERCOS, Operation data is greater than the max input value.....	207
F02D7008, SERCOS, Invalid operation data.....	207
F02D7009, SERCOS, Operation data write protected by a password.....	207
F02D700A, SERCOS, Operation data is write protected (cyclically conf).....	207
F02D700B, SERCOS, Invalid indirect addressing, (data container, list).....	207
F02D700C, SERCOS, Operation data is write protected (other settings).....	208
F02D700D, SERCOS, Invalid floating point number.....	208
F02D700E, SERCOS, reserved.....	208
F02D700F, SERCOS, reserved.....	208
F02D7010, SERCOS, Procedure command already active.....	208
F02D7011, SERCOS, Procedure command not interruptible.....	208
F02D7012, SERCOS, Procedure command at this time not executable.....	208
F02D7013, SERCOS, Procedure command not executable.....	208
F02D710C, SERCOS, Data exceed maximal range.....	208
F02D8001, SERCOS, Access temporary not possible.....	208
5 Service and Support.....	209
5.1 Helpdesk.....	209
5.2 Service Hotline.....	209

Table of Contents

	Page
5.3 Addresses.....	209
5.4 Helpful Information.....	209
 Index.....	 211