

3.11.2.46 LECO-901 PM T latched alarm (hi:%d^1,lo:%d^2,wp:%d^3)

Cause:The welding time (arc time) is outside the Production Monitoring weld profile limits. The welding time was less than the Time Low Limit or was greater than the Time High Limit.

Remedy:Verify the weld was made at the proper travel speed and for the correct amount of time. Verify the time limits for the weld profile.

3.11.3 LNTK Alarm Code**3.11.3.1 LNTK-000 Unknown error (LN00)**

Cause: System internal error

Remedy: Perform a COLD start of the system. (Cycle power.) Notify FANUC America Corporation if problem persists.

3.11.3.2 LNTK-001 No global variables

Cause: The Line Track global variables have NOT been properly loaded.

Remedy: Check the application installation manual for the proper installation procedure for the Line Track system.

3.11.3.3 LNTK-002 Motion data missing

Cause: The Line Track internal motion data was NOT found.

Remedy: Perform a COLD start of the system. (Cycle power.) Notify FANUC America Corporation if problem persists.

3.11.3.4 LNTK-003 Error allocating data memory

Cause: The Line track internal memory allocation failed.

Remedy: Check Memory usage and Line Track installation.

3.11.3.5 LNTK-004 No system variables

Cause: The Line Track system variables (eg. \$LNSCH[], \$LNSNRSCH[]) were not found.

Remedy: Check the application installation manual for the proper installation procedure for the Line Track system.

3.11.3.6 LNTK-005 Illegal schedule number

Cause: An invalid Line Track schedule (track or frame) number was used within a program instruction (eg. TRK[59]) or program header data (eg. FRAME = 59).

Remedy: Check all schedule numbers (TRK[] or FRAME usages) used within the specified program to verify that they are within the allowable range specified for the \$LNSCH[] system variable.

3.11.3.7 LNTK-006 Illegal tracking type

Cause: An invalid tracking type was specified within the tracking schedule (i.e. \$LNSCH[]) associated with the specified program.

Remedy: Check the value of \$LNSCH[i].STRK_TYPE (where 'i' is the FRAME number specified within the DETAIL screen for the specified program) to make sure that it is one of the valid values listed under the description for this system variable.

3.11.3.8 LNTK-007 Illegal encoder number

Cause: An invalid sensor(encoder) number was used within the specified tracking program instruction or within the program's associated schedule \$LNSCH[i].STRK_ENC_NUM value (where 'i' is the FRAME number used within the DETAIL screen for the specified program).

Remedy: Check the value of the specified program instruction's LINE[] parameter and the program's associated schedule \$LNSCH[i].STRK_ENC_NUM value to make sure that it is one of the valid values listed under the description for the \$ENC_STAT[] system variable.

3.11.3.9 LNTK-008 Invalid nominal position

Cause: An invalid or uninitialized nominal tracking frame position was used within the tracking schedule (i.e. \$LNSCH[]) associated with the specified program.

Remedy: Check the value of \$LNSCH[i].\$TRK_FRAME (where 'i' is the FRAME number specified within the DETAIL screen for the specified program) to make sure that it is a properly initialized, valid position.

3.11.3.10 LNTK-009 Illegal position type

Cause: The position type or representation used within the specified program is not valid. (LINE and CIRC tracking programs MUST store all positions in Cartesian representation. Joint representation is not allowed.)

Remedy: Check the KAREL or TPE user manual for valid position types. Check the position representation used to store the positions within the tracking program to make sure that Cartesian representation is being used.

3.11.3.11 LNTK-010 Illegal encoder schedule num

Cause: An invalid sensor(encoder) schedule number was used within the specified tracking program instruction's SCH[] parameter.

Remedy: Check the \$LNSNRSCH[] system variable description for the range of valid sensor schedule numbers.

3.11.3.12 LNTK-011 Illegal boundary set number

Cause: An illegal value was used within the specified tracking program instruction or within the program's associated schedule \$LNSCH[i].\$SEL_BOUND value (where 'i' is the FRAME number used within the DETAIL screen for the specified program).

Remedy: Check the value of the specified program instruction's BOUND[] parameter and the program's associated schedule \$LNSCH[i].\$SEL_BOUND value to make sure that they are one of the valid values listed under the description for this system variable.

3.11.3.13 LNTK-012 Invalid input position

Cause: An invalid or uninitialized position was used within the specified tracking program instruction.

Remedy: Check the position (or position register) value for the specified tracking program instruction to make sure that it is a properly initialized, valid position.

3.11.3.14 LNTK-013 Invalid trigger input value

Cause: An invalid or uninitialized value was used for the specified tracking program instruction's trigger value.

Remedy: Check the value of the program register used by the specified tracking program instruction.

3.11.3.15 LNTK-014 Encoder/sensor not enabled

Cause: The tracking sensor(encoder) associated with the specified program (specified by \$LNSCH[i].\$TRK_ENC_NUM, where 'i' is the FRAME number used within the DETAIL screen for the specified program) must be enabled to perform this program instruction.

Remedy: Use the LINE enable instruction to enable the proper tracking sensor(encoder).

3.11.3.16 LNTK-015 Invalid encoder trigger value

Cause: An invalid or uninitialized sensor(encoder) trigger value (specified by \$LNSCH[i].\$TRIG_VALUE, where 'i' is the FRAME number used within the DETAIL screen for the specified program) was found.

Remedy: Make sure that this value is properly set prior to either teaching path positions, or issuing programmed robot motion instructions.

3.11.3.17 LNTK-016 Invalid input time

Cause: An invalid or uninitialized prediction time was used within the specified tracking program instruction.

Remedy: Check the prediction time being used for proper initialization.

3.11.3.18 LNTK-017 Invalid input pointer

Cause: An invalid internal position input pointer was specified.

Remedy: Perform a COLD start of the system. (Cycle power.) Notify FANUC America Corporation if problem persists.

3.11.3.19 LNTK-018 Invalid teach distance

Cause: An invalid or uninitialized teach distance value (specified by \$LNSCH[i].\$TEACH_DIST, where 'i' is the FRAME number used within the DETAIL screen for the specified program) was found.

Remedy: Make sure that this value is properly set prior to either teaching path positions, or issuing programmed robot motion instructions.

3.11.3.20 LNTK-019 Invalid scale factor

Cause: An invalid or uninitialized scale factor value (specified by \$LNSCH[i].\$SCALE, where 'i' is the FRAME number used within the DETAIL screen for the specified program) was found.

Remedy: Make sure that this value is properly set prior to either teaching path positions, or issuing programmed robot motion instructions. NOTE: This value may NOT be equal to 0.0

3.11.3.21 LNTK-020 Invalid extreme position

Cause: An invalid or uninitialized extreme position value (specified by \$LNSCH[i].\$TCP_EXTRM, where 'i' is the FRAME number used within the DETAIL screen for the specified program) was found.

Remedy: Make sure that this value is properly set prior to either teaching path positions, or issuing programmed robot motion instructions. NOTE: A value of 1,000,000 (1.0e6) may be set to disable TCP extreme position checking.

3.11.3.22 LNTK-021 Invalid track axis number

Cause: An invalid or uninitialized track axis number (specified by \$LNSCH[i].\$TRK_AXIS_NUM, where 'i' is the FRAME number used within the DETAIL screen for the specified program) was found.

Remedy: Make sure that this value is properly set to one of the valid values listed under the description for this system variable.

3.11.3.23 LNTK-022 No tracking hardware

Cause: No tracking sensor hardware interface or improperly initialized system variables

Remedy: Check tracking hardware setup and the values of \$SCR.\$ENC_TYPE and \$SCR.\$ENC_AXIS

3.11.3.24 LNTK-023 Bad tracking hardware

Cause: Bad tracking sensor hardware interface

Remedy: Check all sensor hardware, cables, and connections

3.11.3.25 LNTK-024 Illegal encoder average

Cause: Illegal encoder average number

Remedy: Use a valid encoder average number

3.11.3.26 LNTK-025 Illegal encoder multiplier

Cause: Illegal encoder multiplier number

Remedy: Use a valid encoder multiplier number

3.11.3.27 LNTK-026 Encoder not enabled

Cause: Tracking encoder is not enabled

Remedy: Enable the tracking encoder before reading its COUNT or RATE within the program

3.11.3.28 LNTK-027 Invalid data on LNTK stack

Cause: Invalid data was found on the tracking stack.

Remedy: Perform a COLD start of the system. (Cycle power.) Notify FANUC America Corporation if problem persists.

3.11.3.29 LNTK-028 LNTK stack underflow

Cause: The tracking stack attempted to read more data than was present.

Remedy: Perform a COLD start of the system. (Cycle power.) Notify FANUC America Corporation if problem persists.

3.11.3.30 LNTK-029 LNTK stack overflow

Cause: Too many tracking subprocesses are present. There is a limit to the number of tracking processes that can be called from other programs.

Remedy: Check to ensure sub-processes are not being called erroneously. Consider rewriting procedures so that fewer sub-processes are used.

3.11.3.31 LNTK-030 Stack / header mismatch

Cause: The schedule number on the tracking stack did not match the schedule of the program it corresponds to.

Remedy: Perform a COLD start of the system. (Cycle power.) Notify FANUC America Corporation if problem persists.

3.11.3.32 LNTK-031 UFRAME must be zero

Cause: User frames cannot be used when tracking.

Remedy: Set \$MNUFRAMENUM[] to zero.

3.11.3.33 LNTK-032 Conveyor resync failed

Cause: The conveyor was not resynchronized properly.

Remedy: Make sure the Tracking Schedule is properly initialized, the encoder is active, and all hardware is functioning properly.

3.11.3.34 LNTK-033 Failed to send a packet

Cause: Failed to send a packet including trigger value.

Remedy: Perform a COLD start of the system. (Cycle power.) Notify FANUC America Corporation if problem persists.

3.11.3.35 LNTK-034 Failed to make a packet

Cause: Failed to make a packet including trigger value.

Remedy: Perform a COLD start of the system. (Cycle power.) Notify FANUC America Corporation if problem persists.

3.11.3.36 LNTK-035 Invalid INTR function pointer

Cause: An invalid internal function pointer was encountered.

Remedy: Perform a COLD start of the system. (Cycle power.) Notify FANUC America Corporation if problem persists.

3.11.3.37 LNTK-036 Invalid tracking group

Cause: This group does not support tracking

Remedy: Modify \$LNCFG.\$GROUP_MSK to enable this group for tracking. Cold start afterwards. Notify FANUC America Corporation if problem persists.

3.11.3.38 LNTK-037 Rotation diff exceeds limit

Cause:Run time part Rotation diff exceeds limit

Remedy:Reteach the tracking uframe for this application.

3.11.3.39 LNTK-038 CIRCLE tracking not supported

Cause: CIRCLE tracking not supported

Remedy:Can not use tracking uframe for circular tracking

3.11.3.40 LNTK-039 Use track uframe is not YES

Cause: Use track uframe is not YES

Remedy:Set \$lnsch[.].\$use_trk_ufr is set to TRUE so that the instruction can function

3.11.3.41 LNTK-040 No line tracking task found

Cause: No line tracking task found

Remedy: Internal Error. Notify FANUC for this condition

3.11.3.42 LNTK-041 Encoder is moved in T1 mode.

Cause: The 250 mm/s speed limitation of T1 mode cannot be guaranteed for tracking motion. Therefore, robot motion is not allowed in T1 mode as long as the conveyor is moving.

Remedy:

- To execute tracking motion in T1 mode, make sure the conveyor is stopped.
- To execute tracking motion with a moving conveyor, put the controller in T2 or AUTO mode.

3.11.3.43 LNTK-042 Skip outbound move LN:%d

Cause: The robot can not reach the destination before it gets out of the specified boundary. Skip this motion to prevent pausing of program execution.

Remedy: Program at a faster speed or extend the boundary.

3.11.3.44 LNTK-043 Multiple group not supported

Cause: Tracking programs do not support multiple group motion.

Remedy: Change the program to a single group program.

3.11.3.45 LNTK-044 Invalid DOUT %d^3 in Sched %d^2

Cause: The Digital output specified in the indicated schedule is not a valid DOUT.

Remedy: Change the variable for Outbound DOUT to represent a valid, correctly mapped digital output.

3.11.3.46 LNTK-045 Gp %d^2 near downstrm bound %d^3

Cause: The robot is approaching the downstream boundary that is currently in use.

Remedy: This is a warning to indicate that a Track Destination Gone error could be imminent. It can be avoided by stopping the conveyor, changing the boundary or touching up the path to improve cycle time.

3.11.3.47 LNTK-046 Cont_Turn permit key Not on

Cause: Continuous turn option is loaded without turn on permission key

Remedy: Continuous turn greoup can not be line tracking group. \$scr.\$update_map1 bit 0x400000 needs to turn on

3.11.3.48 LNTK-047 Limit Checking verification fail

Cause: Change Fee is needed to avoid limit error. However new fee verification fail. Typically it is because boundary setting cause new fee delay tracking move that robot will go to un-reachalbe position such as dead zone

Remedy: Re-teach the position or adjust tracking boundary

3.11.3.49 LNTK-048 Tracking environment mismatch

Cause: Try to run a tracking move in a none-tracking environment or try to run a none-tracking move in a tracking environment

Remedy: Abort the program. Then make the move

3.11.3.50 LNTK-049 FEE Change to avoid limit LN:%d

Cause: System change robot last axis moving direction for this motion line to avoid limit error

Remedy: This is a warning to indicate that System change robot last axis moving direction for this motion line to avoid limit error

3.11.3.51 LNTK-050 No Cont_Turn in tracking group

Cause: Line tracking group also is continuous turn gorup

Remedy: Line tracking group can not support continuous turn in same group

3.11.3.52 LNTK-051 \$LNCFG.\$SLC_PT_TRIG not set

Cause: Use accutrig without setting \$lncfg.\$slc_pt_trig

Remedy: Set \$lncfg.\$slc_pt_trig to true then cycle power

3.11.3.53 LNTK-052 Run Servo Conveyer filter (G:%d^2)

Cause: System run servo conveyer filter to protect robot mechanic

Remedy: This is a warning to indicate that system run servo conveyer filter within time that specified by \$lnsch[.].\$trk_ftr_ln

3.11.3.54 LNTK-053 Ethernet Encoder NOT ready

Cause: Ethernet Encoder is not ready either because of Master Encoder DAL or did not get master encoder value for the time out period

Remedy: If it is master DAL alarm, correct master DAL alarm If not getting master encoder value: Check Ethernet Cable for this controller and master. Sometimes it maybe due to timeout value too small.

3.11.3.55 LNTK-054 Not a line tracking encoder

Cause: Line Tracking does not support Encoder number above 8

Remedy: Change Tracking schedule to use encoder 1-8

3.11.3.56 LNTK-055 Ethernet Master DAL (Enc:%d)

Cause: Ethernet Master Encoder has DAL Alarm

Remedy: Fix Master's DAL alram