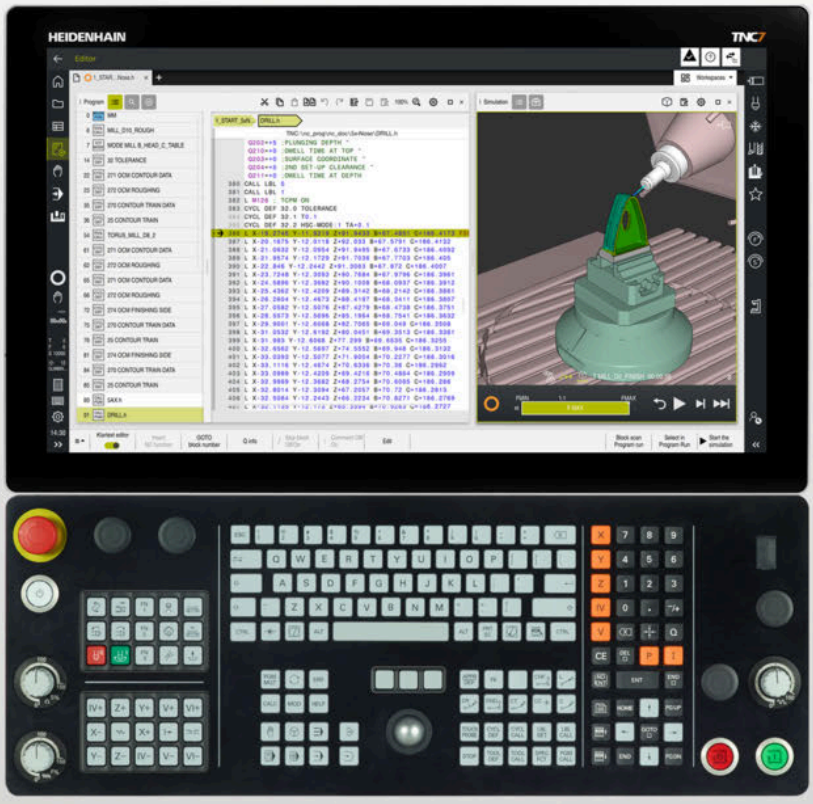
HEIDENHAIN



TNC7 series

Overview of the Machine Parameters, Error Numbers and System Data

NC Software
81762x-19

English (en)
09/2024

Contents

1 About this document

This document provides an overview of the following functions of the TNC7 series:

- Machine parameters of the **MPs for setters** application
- Preassigned error numbers of the **FN 14: ERROR** NC function (ISO: **D14**)
- System data readable with the **FN 18: SYSREAD** (ISO: **D18**) and **SYSSTR** NC functions

Have you found any errors or would you like to suggest changes?

We are continuously striving to improve our documentation for you. Please help us by sending your suggestions to the following e-mail address:

tnc-userdoc@heidenhain.de

2 Machine parameters

The following list shows the machine parameters that you can edit with the code number 123.

2.1 List of user parameters

Refer to your machine manual.

- The machine manufacturer can make additional machine-specific parameters available as user parameters, so that you can configure the functions that are available.
- The machine manufacturer can adapt the structure and contents of the user parameters. The display on your machine may be different.

Depiction in the configuration editor	MP number
DisplaySettings	
CfgDisplayData Settings for screen displays	100800
axisDisplay Display sequence and display rules for axes	100810
x	
axisKey Key name of an object in CfgAxis	100810. [Index].01501
name Axis designation	100810. [Index].01502
rule Display rule for the axis	100810. [Index].01503
axisDisplayRef Display sequence and rules for REF display	100811
x	
axisKey Key name of an object in CfgAxis	100811. [Index].01501
name Axis designation	100811. [Index].01502
rule Display rule for the axis	100811. [Index].01503
positionWinDisplay Type of position display in the position window	100803
statusWinDisplay Type of position display in the status display	100804
axisFeedDisplay Feed rate display in the Manual operation / Electronic handwheel operating mode	100806

Depiction in the configuration editor	MP number
spindleDisplay Display of spindle position in the position display	100807
hidePresetTable Disable the PRESET MANAGEMENT soft key	100808
displayFont Font size for program display	100812
iconPrioList Sequence of icons in the display	100813
compatibilityBits Settings for display behavior	100815
axesGridDisplay Axes as list or group in the position display.	100806
dashbrdWinDisplay Type of position display in the status overview of the TNC bar	100817
CfgPosDisplayPace Display step for the individual axes	101000
xx	
displayPace Display step for position display in [mm] or [°]	101001
displayPaceInch Display step for position display in [inch]	101002
CfgUnitOfMeasure Definition of unit of measure in effect for display	101100
unitOfMeasure Unit of measure for display and user interface	101101
CfgProgramMode Format of the NC programs and cycle display	101200
programInputMode MDI: Program entry in HEIDENHAIN Klartext format or ISO format	101201
CfgDisplayLanguage Definition of the NC and PLC conversational language	101300
ncLanguage NC conversational language	101301
applyCfgLanguage Load the language of the NC control	101305
plcDialogLanguage PLC conversational language	101302
plcErrorLanguage PLC error message language	101303

Depiction in the configuration editor	MP number
helpLanguage Language for online help	101304
CfgStartupData Behavior during control startup	101500
powerInterruptMsg Acknowledge the Power interrupted message	101501
opMode Operating mode that is switched to when the control has fully booted	101503
subOpMode Submode to be activated for the operating mode entered in 'opMode'	101504
CfgClockView Display mode for time of day	120600
displayMode Selection of a display mode for the time of day	120601
timeFormat Time format of digital clock	120602
CfgInfoLine Link row on/off	120700
infoLineEnabled Display settings for link row	120701
CfgGraphics Settings for 3D simulation graphics	124200
modelType Model type of the 3D simulation graphics	124201
modelQuality Model quality of the 3D simulation graphics	124202
clearPathAtBlk Reset tool paths for new BLK FORM	124203
extendedDiagnosis Write graphics journal files after restart	124204
CfgPositionDisplay Settings for the digital readout	124500
progToolCallDL Position display with TOOL CALL DL	124501
CfgTableEditor Table editor configuration	125300
deleteLoadedTool Behavior when deleting tools from the pocket table	125301
indexToolDelete Behavior when deleting a tool's index entries	125302

Depiction in the configuration editor	MP number
CfgDisplayCoordSys Setting the coordinate systems for the display	127500
transDatumCoordSys Coordinate system for the datum shift	127501
CfgGlobalSettings GPS display settings	128700
enableOffset Offset can/can't be selected in GPS dialog	128702
enableBasicRot Additive basic rotation can/can't be selected in GPS dialog	128703
enableShiftWCS Shift of W-CS can/can't be selected in GPS dialog	128704
enableMirror Mirroring can/can't be selected in GPS dialog	128712
enableShiftMWCS Shift of mW-CS can/can't be selected in GPS dialog	128711
enableRotation Rotation can/can't be selected in GPS dialog	128707
enableFeed Feed rate can/can't be selected in GPS dialog	128708
enableHwMCS Show/Hide M-CS coordinate system	128709
enableHwWCS Show/Hide W-CS coordinate system	128710
enableHwMWCS Show/Hide mW-CS coordinate system	128711
enableHwWPLCS Show/Hide WPL-CS coordinate system	128712
enableHwAxisU U axis can/can't be selected in GPS dialog	128709
enableHwAxisV V axis can/can't be selected in GPS dialog	128709
enableHwAxisW W axis can/can't be selected in GPS dialog	128709
CfgRemoteDesktop Settings for Remote Desktop connections	100800
connections List of Remote Desktop connections to be displayed	133501
autoConnect Start connection automatically	133505

Depiction in the configuration editor	MP number
title Name of the OEM operating mode	133502
dialogRes Name of a text	133502.00501
text Language-sensitive text	00502
icon Path/name for optional icon graphic file	133503
locations List with positions where this Remote Desktop connection is displayed	133504
x	
opMode Operating mode	133504. [Index].133401
subOpMode Optional submode for the operating mode specified in 'opMode'	133504. [Index].133402
PalletSettings	
CfgPalletBehaviour Behavior of the pallet control cycle	202100
failedCheckReact Activate reaction to program check and tool check	202106
failedCheckImpact Effect of program check or tool check	202107
ProbeSettings	
CfgTT Configuration of the tool calibration	122700
TT140_x	
spindleOrientMode M function for spindle orientation	122704
probingRoutine Probing routine	122705
probingDirRadial Probing direction for tool radius measurement	122706
offsetToolAxis Distance from lower edge of tool to upper edge of stylus	122707
rapidFeed Rapid traverse in probing cycle for TT tool touch probe	122708

Depiction in the configuration editor	MP number
probingFeed Probing feed rate during tool measurement	122709
probingFeedCalc Calculation of the probing feed rate	122710
spindleSpeedCalc Speed determination method	122711
maxPeriphSpeedMeas Maximum permissible surface speed on the tool cutting edge	122712
maxSpeed Maximum permissible speed during tool measurement	122714
measureTolerance1 Maximum permissible measurement error during tool measurement	122715
measureTolerance2 Maximum permissible measurement error during tool measurement	122716
stopOnCheck NC stop during tool check	122717
stopOnMeasurement NC stop during tool measurement	122718
adaptToolTable Change the tool table during tool check and tool measurement	122719
CfgTTRoundStylus Configuration of a round stylus	114200
TT140_x	
centerPos Coordinates of the probe-contact center point	114201
safetyDistToolAx Set-up clearance above the stylus for pre-positioning	114203
safetyDistStylus Safety zone around the stylus for pre-positioning	114204
CfgTTRectStylus Configuration of a rectangular stylus	114300
TT140_x	
centerPos Coordinates of the probe-contact center point	114313

Depiction in the configuration editor	MP number
safetyDistToolAx Set-up clearance above the stylus for pre-positioning	114317
safetyDistStylus Safety zone around the stylus for pre-positioning	114318
ChannelSettings	
CH_xx	
CfgActivateKinem Active kinematics	204000
kinemToActivate Kinematics to be activated	204001
kinemAtStartup The kinematics to be activated during control start-up	204002
CfgNcPgmBehaviour Specify the behavior of the NC program.	200800
operatingTimeReset Reset the machining time when program starts.	200801
plcSignalCycle PLC signal for the number of the pending machining cycle	200803
plcSignalCycState PLC signal for type of current cycle execution	200805
CfgGeoTolerance Geometry tolerances	200900
circleDeviation Permissible deviation of the radius	200901
threadTolerance Permissible deviation in successive threads	200902
moveBack Reserve for retraction movements	200903
CfgGeoCycle Configuration of the fixed cycles	201000
pocketOverlap Overlap factor for pocket milling	201001
posAfterContPocket Traverse after machining the contour pocket	201007
displaySpindleErr Display the Spindle? error message if M3/M4 is not active	201002

Depiction in the configuration editor	MP number
displayDepthErr Display the Enter depth as negative error message	201003
apprDepCylWall Behavior when moving to wall of slot in the cylinder surface	201004
mStrobeOrient M function for spindle orientation in the machining cycles	201005
suppressPlungeErr Do not show 'Plunging type is not possible' error message	201006
restoreCoolant Behavior of M7 and M8 with Cycles 202 and 204	201008
facMinFeedTurnSMAX Automatic feed rate reduction after attaining SMAX	201009
suppressResMatlWar Do not show "Residual material" warning	201010
CfgThreadSpindle Special spindle parameters for threads	113600
sourceOverride Potentiometer for feed rate during thread cutting	113603
thrdWaitingTime Waiting time at reversal point in thread base	113601
thrdPreSwitchTime Advanced switching time of spindle	113602
limitSpindleSpeed Limit of spindle speed with Cycles 17, 207, and 18	113604
CfgEditorSettings Settings for the NC editor	105400
createBackup Generate backup file	105401
deleteBack Behavior of the cursor after deletion of lines	105402
lineBreak Line break on NC blocks with more than one line	105404
stdTNChelp Activate help graphics when entering cycle data	105405
warningAtDEL Confirmation prompt when deleting a block	105407

Depiction in the configuration editor	MP number
maxLineGeoSearch Line number up to which a test of the NC program is to be run	105408
blockIncrement ISO programming: Block number increment	105409
useProgAxes Specify programmable axes	105410
enableStraightCut Behavior of paraxial positioning blocks	105411
noParaxMode Hide FUNCTION PARAXCOMP/PARAXMODE	105413
quotePaths Put all path information in quotation marks	105414
CfgPgmMgt Settings for the file management	122100
dependentFiles Display of dependent files	122101
CfgProgramCheck Settings for tool-usage files	129800
autoCheckTimeOut Timeout for creation of tool-usage files	129803
autoCheckPrg Create tool-usage file for NC program	129801
autoCheckPal Create pallet-usage files	129802
CfgUserPath Paths for the end user	102200
ncDir List of drives and/or directories	102201
fn16DefaultPath FN 16-Ausgabepfad for execution	102202
fn16DefaultPathSim FN 16 output path for the Programming and Test Run operating modes	102203
serialInterfaceRS232	
CfgSerialPorts Data record belonging to the serial port	106600
activeRs232 Enable the RS-232 interface in the program manager	106601
baudRateLsv2 Data transfer rate for LSV2 communication in baud	106606
CfgSerialInterface Definition of data records for the serial ports	106700

Depiction in the configuration editor	MP number
RSxxx	
baudRate Data transfer rate in baud	106701
protocol Communications protocol	106702
dataBits Data bits in each transferred character	106703
parity Type of parity checking	106704
stopBits Number of stop bits	106705
flowControl Specify type of handshake	106706
fileSystem File system for file operation via serial interface	106707
bccAvoidCtrlChar No control character in Block Check Character (BCC)	106708
rtsLow Idle state of the RTS line	106709
noEotAfterEtx Behavior after reception of an ETX	106710
Monitoring	
CfgCompMonUser User settings for component monitoring	129400
enforceReaction The configured error reactions are enforced	129401
showWarning Display warnings of monitoring tasks	129402
CfgProcMonUser User settings for process monitoring	141600
permitAutoExport Automatic export allowed	141601
CfgProcMonSnaps Monitoring task templates	140600
snapshots List of monitoring task templates	140601
x	
alias Name of the monitoring task template	...000.140402

Depiction in the configuration editor		MP number
	task Key of monitoring task	...000.140401
	useAsDefault Use as default for new monitoring sections	...000.140405
	parameters Monitoring task parameters	...000.140403
	x	
	name Parameter name	...000.05101
	value Parameter value	...000.05102
	reactions Monitoring task reactions	...000.140404
	x	
	reactionKey Key of the reaction	...000.05201
	enabled	...000.05202
CfgMachineInfo General information of the machine operator		131700
machineNickname Custom name (nickname) of the machine		131701
inventoryNumber Inventory number or ID		131702
image Photo or image of the machine		131703
location Machine location		131704
department Department or division		131705
responsibility Responsible for the machine		131706
contactEmail Contact email address		131707
contactPhoneNumber Contact phone number		131708

2.2 Details about the user parameters

Explanations about the detailed view of user parameters:

- The indicated path corresponds to the machine parameter structure that you see after entering the machine manufacturer code number. With this information you can also find the desired machine parameter in the alternative structure. With the machine parameter numbers you can search for the machine parameters independently of the structure.
- Data objects are not intended for configuration; instead, they structure or group the machine parameters.
- The entry after iTNC shows the machine parameter number on the iTNC 530.

2.2.1 DisplaySettings

CfgDisplayData 100800

Settings for screen displays

Path:	System ▶ DisplaySettings ▶ CfgDisplayData
Data object:	

axisDisplay 100810

Display sequence and display rules for axes

Path:	System ▶ DisplaySettings ▶ CfgDisplayData ▶ axisDisplay
Input:	Specifies the sequence and the rules for the display of axes. The top-most entry corresponds to the top-most position.

axisKey 100810.[Index].01501

Key name of an object in CfgAxis

Path:	System ▶ DisplaySettings ▶ CfgDisplayData ▶ axisDisplay ▶ [Index] ▶ axisKey
Input:	Specifies the key name of an object under CfgAxis whose position is to be displayed.

name 100810.[Index].01502

Axis designation

Path: System ▶ DisplaySettings ▶ CfgDisplayData ▶ axisDisplay ▶ [Index] ▶ name

Input: max. 2 Characters

Specifies the axis designation that is to appear instead of the key of the axis in the display. The alternative is the key of the axis.

rule 100810.[Index].01503

Display rule for the axis

Path: System ▶ DisplaySettings ▶ CfgDisplayData ▶ axisDisplay ▶ [Index] ▶ rule

Input: Defines the condition under which the axis is displayed.

ShowAlways

Axis is always shown. The display location remains reserved even if no values for the axis can be displayed, for example if the axis is not contained in the current kinematic model.

IfKinem

Axis is shown only if it is used as an axis or a spindle in the active kinematic model.

IfKinemAxis

Axis only shown if used as axis in the active kinematics model.

IfNotKinemAxis

The axis is only shown if it is not used as an axis in the active kinematics model (e.g. as spindle).

Never

The axis is not shown.

axisDisplayRef 100811

Display sequence and rules for REF display

Path: System ▶ DisplaySettings ▶ CfgDisplayData ▶ axisDisplayRef

Input: Specifies the sequence and the rules for the display of axes if the position display is set to REF values (also applies when traversing the reference points). If this list is empty, the entries from the machine parameter **axisDisplay** will be used. The top-most entry corresponds to the top-most position.

axisKey 100811.[Index].01501

Key name of an object in CfgAxis

Path: System ▶ DisplaySettings ▶ CfgDisplayData ▶ axisDisplayRef ▶ [Index] ▶ axisKey

Input: Specifies the key name of an object under CfgAxis whose position is to be displayed.

name 100811.[Index].01502

Axis designation

Path: System ▶ DisplaySettings ▶ CfgDisplayData ▶ axisDisplayRef ▶ [Index] ▶ name

Input: max. 2 Characters

Specifies the axis designation that is to appear instead of the key of the axis in the display. The alternative is the key of the axis.

rule 100811.[Index].01503

Display rule for the axis

Path: System ▶ DisplaySettings ▶ CfgDisplayData ▶ axisDisplayRef ▶ [Index] ▶ rule

Input: Specifies the condition for displaying the axis.

ShowAlways

Axis is always shown. The display location remains reserved even if no values for the axis can be displayed, for example if the axis is not contained in the current kinematic model.

IfKinem

Axis is shown only if it is used as an axis or a spindle in the active kinematic model.

IfKinemAxis

Axis only shown if used as axis in the active kinematics model.

IfNotKinemAxis

The axis is only shown if it is not used as an axis in the active kinematics model (e.g. as spindle).

Never

The axis is not shown.

positionWinDisplay 100803

Type of position display in the position window

Path:	System ▶ DisplaySettings ▶ CfgDisplayData ▶ positionWinDisplay
Input:	Position display in the position window (positions display 1): **NOML.** Nominal position **ACTL** Actual position **REF ACTL** Actual position referenced to the machine datum **REF NOML** Nominal position referenced to the machine datum **LAG** Following error (servo lag) **ACTDST** Distance-to-go in the input system **REFDST** Distance-to-go in the machine system **M118** Traverse paths that were carried out with handwheel superimpositioning (M118)

statusWinDisplay 100804

Type of position display in the status display

Path:	System ▶ DisplaySettings ▶ CfgDisplayData ▶ statusWinDisplay
Input:	Position display in the status window (position display 2) **NOML.** **ACTL** **REF ACTL** **REF NOML** **LAG** **ACTDST** **REFDST** **M118**

axisFeedDisplay 100806

Feed rate display in the Manual operation / Electronic handwheel operating mode

Path:	System ▶ DisplaySettings ▶ CfgDisplayData ▶ axisFeedDisplay
Input:	**At axis key:** Display of axis feed rate through pressing an axis direction key (axis-specific feed rate from MP_CfgFeedLimits/**manualFeed.** **always minimum:** Display of the feed rate for all axes, including before an axis direction key is pressed (lowest value from MP_CfgFeedLimits/**manualFeed**).
iTNC 530:	7270

spindleDisplay 100807

Display of spindle position in the position display

Path:	System ▶ DisplaySettings ▶ CfgDisplayData ▶ spindleDisplay
Input:	**during closed loop** Display of spindle position only if the spindle is servo-controlled **during closed loop and M5** Display of spindle position if the spindle is servo-controlled and an M5 is pending **during closed loop or M5 or tapping** Display of spindle position if the spindle is servo-controlled or if an M5 is pending, or during a tapping operation

hidePresetTable 100808

Disable the **PRESET MANAGEMENT** soft key

Path:	System ▶ DisplaySettings ▶ CfgDisplayData ▶ hidePresetTable
Input:	**TRUE** Access to the preset table is locked; the soft key is dimmed **FALSE** The preset table can be accessed via soft key

displayFont 100812

Font size for program display

Path:	System ▶ DisplaySettings ▶ CfgDisplayData ▶ displayFont
Input:	**FONT_APPLICATION_SMALL** Small font size. **FONT_APPLICATION_MEDIUM** Big font size.

iconPrioList 100813

Sequence of icons in the display

Path:	System ▶ DisplaySettings ▶ CfgDisplayData ▶ iconPrioList
Input:	**BASIC_ROT** **ROT_3D** **TCPM** **ACC** **TURNING** **AFC** **S_PULSE** **MIRROR** **GPS** **RADCORR** **PARAXCOMP** **MON_FS_OVR**

compatibilityBits 100815

Settings for display behavior

Path:	System ▶ DisplaySettings ▶ CfgDisplayData ▶ compatibilityBits
Input:	Bit

axesGridDisplay 100816

Axes as list or group in the position display.

Path:	System ▶ DisplaySettings ▶ CfgDisplayData ▶ axesGridDisplay
Input:	The parameter specifies whether the axes in the position display are shown as a list or as a two-column grid. Possible settings: 0 to **0** Axis display as list (default) **Quantity (n)** Axis display as two-column grid with groups of n x 2 axes
iTNC 530:	7270

dashbrdWinDisplay 100817

Type of position display in the status overview of the TNC bar

Path:	System ▶ DisplaySettings ▶ CfgDisplayData ▶ dashbrdWinDisplay
Input:	**NOML** **ACTL** **REF ACTL** **REF NOML** **LAG** **ACTDST** **REFDST** **M118**

CfgPosDisplayPace 101000

Display step for the individual axes

Path:	System ▶ DisplaySettings ▶ CfgPosDisplayPace
Data object:	

displayPace 101001

Display step for position display in [mm] or [°]

Path:	System ▶ DisplaySettings ▶ CfgPosDisplayPace ▶ [Key name of the axis] ▶ displayPace
Input:	**0.1** **0.05** **0.01** **0.005** **0.001** **0.0005** **0.0001** **0.00005** **0.00001** **0.000005** **0.000001**
iTNC 530:	7290.0-8

displayPaceInch 101002

Display step for position display in [inch]

Path:	System ▶ DisplaySettings ▶ CfgPosDisplayPace ▶ [Key name of the axis] ▶ displayPaceInch
Input:	**0.005** **0.001** **0.0005** **0.0001** **0.00005** **0.00001** **0.000005** **0.000001**
iTNC 530:	7290.0-8

CfgUnitOfMeasure 101100

Definition of unit of measure in effect for display

Path:	System ▶ DisplaySettings ▶ CfgUnitOfMeasure
Data object:	

unitOfMeasure 101101

Unit of measure for display and user interface

Path: System ▶ DisplaySettings ▶ CfgUnitOfMeasure ▶ unitOfMeasure

Input: **metric**
Metric measurement system
inch
Inches

CfgProgramMode 101200

Format of the NC programs and cycle display

Path: System ▶ DisplaySettings ▶ CfgProgramMode

Data object:

programInputMode 101201

MDI: Program entry in HEIDENHAIN Klartext format or ISO format

Path: System ▶ DisplaySettings ▶ CfgProgramMode ▶ programInputMode

Input: **HEIDENHAIN**
Program entry with HEIDENHAIN Klartext
ISO
Program entry according to ISO

CfgDisplayLanguage 101300

Definition of the NC and PLC conversational language

Path: System ▶ DisplaySettings ▶ CfgDisplayLanguage

Data object:

ncLanguage 101301

NC conversational language

Path:	System ▶ DisplaySettings ▶ CfgDisplayLanguage ▶ ncLanguage
Input:	**ENGLISH** **GERMAN** **CZECH** **FRENCH** **ITALIAN** **SPANISH** **PORTUGUESE** **SWEDISH** **DANISH** **FINNISH** **DUTCH** **POLISH** **HUNGARIAN** **JAPANESE** **RUSSIAN** **CHINESE** **CHINESE_TRAD** **SLOVENIAN** **KOREAN** **NORWEGIAN** **ROMANIAN** **SLOVAK** **TURKISH**
iTNC 530:	7230.0

applyCfgLanguage 101305

Load the language of the NC control

Path:	System ▶ DisplaySettings ▶ CfgDisplayLanguage ▶ applyCfgLanguage
Input:	When booting, the control checks whether the language settings of the operating system and the NC are the same. If the settings differ, the NC applies the language setting of the operating system. If the language defined in the machine parameters of the NC is to be used, then you must the set the parameter applyCfgLanguage to TRUE.

noRebootDialog 101306

Suppress the Restart dialog

Path:	System ▶ DisplaySettings ▶ CfgDisplayLanguage ▶ noRebootDialog
Input:	If this attribute is set to TRUE, the Restart dialog will not appear after changing the language.

plcDialogLanguage 101302

PLC conversational language

Path:	System ▶ DisplaySettings ▶ CfgDisplayLanguage ▶ plcDialogLanguage
Input:	**ENGLISH** **GERMAN** **CZECH** **FRENCH** **ITALIAN** **SPANISH** **PORTUGUESE** **SWEDISH** **DANISH** **FINNISH** **DUTCH** **POLISH** **HUNGARIAN** **JAPANESE** **RUSSIAN** **CHINESE** **CHINESE_TRAD** **SLOVENIAN** **KOREAN** **NORWEGIAN** **ROMANIAN** **SLOVAK** **TURKISH**
iTNC 530:	7230.1

plcErrorLanguage	101303
PLC error message language	
Path:	System ▶ DisplaySettings ▶ CfgDisplayLanguage ▶ plcErrorLanguage
Input:	**ENGLISH** **GERMAN** **CZECH** **FRENCH** **ITALIAN** **SPANISH** **PORTUGUESE** **SWEDISH** **DANISH** **FINNISH** **DUTCH** **POLISH** **HUNGARIAN** **JAPANESE** **RUSSIAN** **CHINESE** **CHINESE_TRAD** **SLOVENIAN** **KOREAN** **NORWEGIAN** **ROMANIAN** **SLOVAK** **TURKISH**
iTNC 530:	7230.2

helpLanguage	101304
Language for online help	
Path:	System ▶ DisplaySettings ▶ CfgDisplayLanguage ▶ helpLanguage
Input:	**ENGLISH** **GERMAN** **CZECH** **FRENCH** **ITALIAN** **SPANISH** **PORTUGUESE** **SWEDISH** **DANISH** **FINNISH** **DUTCH** **POLISH** **HUNGARIAN** **JAPANESE** **RUSSIAN** **CHINESE** **CHINESE_TRAD** **SLOVENIAN** **KOREAN** **NORWEGIAN** **ROMANIAN** **SLOVAK** **TURKISH**
iTNC 530:	7230.3

CfgStartupData	101500
Behavior during control startup	
Path:	System ▶ DisplaySettings ▶ CfgStartupData
Data object:	

powerInterruptMsg 101501

Acknowledge the **Power interrupted** message

Path: System ▶ DisplaySettings ▶ CfgStartupData ▶ powerInterruptMsg

Input: **TRUE**

Start-up is only continued after the message has been acknowledged.

FALSE

The **Power interrupted** message does not appear

opMode 101503

Operating mode that is switched to when the control has fully booted

Path: System ▶ DisplaySettings ▶ CfgStartupData ▶ opMode

Input: Enter here the GUI designator of the desired operating mode. See the Technical Manual for an overview of the permissible GUI designators. max. 500 Characters

subOpMode 101504

Submode to be activated for the operating mode entered in 'opMode'

Path: System ▶ DisplaySettings ▶ CfgStartupData ▶ subOpMode

Input: Enter here the GUI designator of the desired operating submode. See the Technical Manual for an overview of the permissible GUI designators. max. 500 Characters

CfgClockView 120600

Display mode for time of day

Path: System ▶ DisplaySettings ▶ CfgClockView

Data object:

displayMode 120601

Display mode for time of day on the screen

Path: System ▶ DisplaySettings ▶ CfgClockView ▶ displayMode

Input:
Analog
Analog clock
Digital
Digital clock
Logo
OEM logo
Analog and logo
Analog clock and OEM logo
Digital and logo
Digital clock and OEM logo
Analog on logo
Analog clock that superimposes the OEM logo
Digital on logo
Digital clock that superimposes the OEM logo

timeFormat 120602

Time format of digital clock

Path: System ▶ DisplaySettings ▶ CfgClockView ▶ timeFormat

Input:
Possible settings:
12 h format
Time in 12 hours format
24 h format
Time in 24 hours format

CfgInfoLine 120700

Link row on/off

Path: System ▶ DisplaySettings ▶ CfgInfoLine

Data object:

infoLineEnabled 120701

Enable/disable info line

Path: System ▶ DisplaySettings ▶ CfgInfoLine ▶ infoLineEnabled

Input:
OFF
The info line is disabled
ON
The info line below the operating mode display is enabled

CfgGraphics 124200

Settings for 3D simulation graphics

Path: System ▶ DisplaySettings ▶ CfgGraphics

Data object:

modelType 124201

Model type of the 3D simulation graphics

Path: System ▶ DisplaySettings ▶ CfgGraphics ▶ modelType

Input:

No Model

The model depiction is deactivated. Only the 3D line graphics are shown (lowest processor load, e.g. for fast testing of the NC program and ascertainment of program run times)

3D

Model depiction for complex operations (highest processor load, e.g. for turning or undercuts)

2.5D

Model depiction for 3-axis operations (medium processor load)

modelQuality 124202

Model quality of the 3D simulation graphics

Path: System ▶ DisplaySettings ▶ CfgGraphics ▶ modelQuality

Input:

very high

Very high model quality, the production result can be precisely judged. This setting requires the highest computing power.

Block numbers and block end points can only be displayed in the 3D line graphics with this setting.

high

High model quality

medium

Medium model quality

low

Low model quality

clearPathAtBlk 124203

Reset tool paths for new BLK FORM

Path: System ▶ DisplaySettings ▶ CfgGraphics ▶ clearPathAtBlk

Input: **ON**

With a new BLK FORM in the Test Run graphic, the tool paths are reset

OFF

With a new BLK FORM in the Test Run graphic, the tool paths are not reset

extendedDiagnosis 124204

Write graphics journal files after restart

Path: System ▶ DisplaySettings ▶ CfgGraphics ▶ modelType

Input: Activate diagnostic information for HEIDENHAIN (journal files) for the analysis of graphics problems.

OFF

Do not create journal files (default).

ON

Create journal files.

CfgPositionDisplay 124500

Settings for the digital readout

Path: System ▶ DisplaySettings ▶ CfgPositionDisplay

Data object:

progToolCallDL 124501

Position display with TOOL CALL DL

Path: System ▶ DisplaySettings ▶ CfgPositionDisplay ▶ progToolCallDL

Input: **As Tool Length**

The oversize DL programmed in the TOOL CALL block is taken into account as part of the tool length in the nominal position display.

As Workpiece Oversize

The programmed oversize DL in the TOOL CALL block is not taken into account in the nominal position display. It therefore has the effect of a workpiece oversize.

CfgTableEditor 125300

Table editor configuration

Path:	System ▶ TableSettings ▶ CfgTableEditor
Data object:	Specifies properties and settings for the table editor.

deleteLoadedTool 125301

Behavior when deleting tools from the pocket table

Path:	System ▶ TableSettings ▶ CfgTableEditor ▶ deleteLoadedTool
Input:	Possible settings: **DISABLED** Tool deletion is not possible **WITH_WARNING** Tool deletion is possible; Note must be confirmed **WITHOUT_WARNING** Tool deletion is possible without confirmation
iTNC 530:	7263 Bit4, 7263 Bit5

indexToolDelete 125302

Behavior when deleting a tool's index entries

Path:	System ▶ TableSettings ▶ CfgTableEditor ▶ indexToolDelete
Input:	Possible settings: **ALWAYS_ALLOWED** Deletion of index entries is always possible **TOOL_RULES** Behavior depends on the setting of the parameter delete-LoadedTool
iTNC 530:	7263 Bit6

CfgDisplayCoordSys 127500

Setting the coordinate systems for the display

Path:	System ▶ DisplaySettings ▶ CfgDisplayCoordSys
Data object:	

transDatumCoordSys 127501

Coordinate system for the datum shift

Path: System ▶ DisplaySettings ▶ CfgDisplayCoordSys ▶ transDatumCoordSys

Input: The parameter specifies the coordinate system in which the datum shift is displayed.

WorkplaneSystem

Datum is displayed in the system of the tilted plane (WPL-CS)

WorkpieceSystem

Datum is displayed in the workpiece coordinate system (W-CS)

CfgGlobalSettings 128700

GPS display settings

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings

Data object:

enableOffset 128702

Offset can/can't be selected in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableOffset

Input: **OFF**

Offset can't be selected (grayed out)

ON

Offset can be selected

enableBasicRot 128703

Additive basic rotation can/can't be selected in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableBasicRot

Input: **OFF**

Additive basic rotation can't be selected (grayed out)

ON

Additive basic rotation can be selected

enableShiftWCS 128704

Shift of W-CS can/can't be selected in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableShiftWCS

Input:
OFF
Shift of W-CS (workpiece coordinate system) can't be selected (grayed out)
ON
Shift of W-CS (workpiece coordinate system) can be selected

enableMirror 128705

Mirroring can/can't be selected in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableMirror

Input:
OFF
Mirroring can't be selected (grayed out)
ON
Mirroring can be selected

enableShiftMWCS 128706

Shift of mW-CS can/can't be selected in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableShiftMWCS

Input:
OFF
Shift of mW-CS (modified workpiece coordinate system) can't be selected (grayed out)
ON
Shift of mW-CS (modified workpiece coordinate system) can be selected

enableRotation 128707

Rotation can/can't be selected in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableRotation

Input:
OFF
Rotation can't be selected (grayed out)
ON
Rotation can be selected

enableFeed 128708

Feed rate can/can't be selected in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableFeed

Input:
OFF
Feed rate can't be selected (grayed out)
ON
Feed rate can be selected

enableHwMCS 128709

Show/hide M-CS coordinate system in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableHwMCS

Input:
OFF
M-CS coordinate system (machine coordinate system) is not shown
ON
M-CS coordinate system (machine coordinate system) is shown

enableHwWCS 128710

Show/hide W-CS coordinate system in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableHwWCS

Input:
OFF
W-CS coordinate system (workpiece coordinate system) is not shown
ON
W-CS coordinate system (workpiece coordinate system) is shown

enableHwMWCS 128711

Show/hide mW-CS coordinate system in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableHwMWCS

Input:
OFF
mW-CS coordinate system (modified workpiece coordinate system) is not shown
ON
mW-CS coordinate system (modified workpiece coordinate system) is shown

enableHwWPLCS 128712

Show/hide WPL-CS coordinate system in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableHwWPLCS

Input:

OFF

WPL-CS coordinate system (working plane coordinate system) is not shown

ON

WPL-CS coordinate system (working plane coordinate system) is shown

enableHwAxisU 128713

U axis can/can't be selected in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableHwAxisU

Input:

OFF

U axis cannot be selected (grayed out)

ON

U axis can be selected

enableHwAxisV 128714

V axis can/can't be selected in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableHwAxisV

Input:

OFF

V axis cannot be selected (grayed out)

ON

V axis can be selected

enableHwAxisW 128715

W axis can/can't be selected in GPS dialog

Path: System ▶ DisplaySettings ▶ CfgGlobalSettings ▶ enableHwAxisW

Input:

OFF

W axis cannot be selected (grayed out)

ON

W axis can be selected

CfgRemoteDesktop 133500

Settings for Remote Desktop connections

Path: System ▶ DisplaySettings ▶ CfgRemoteDesktop

Data object:

connections 133501

List of Remote Desktop connections to be displayed

Path:	System ▶ DisplaySettings ▶ CfgRemoteDesktop ▶ connections
Input:	Enter here the name of a RemoteFX connection from Remote Desktop Manager. max. 80 Characters

autoConnect 133505

Start connection automatically

Path:	System ▶ DisplaySettings ▶ CfgRemoteDesktop ▶ autoConnect
Input:	**TRUE** Automatically connect when control boots **FALSE** Do not start connection automatically.

title 133502

Name of the OEM operating mode

Path:	System ▶ DisplaySettings ▶ CfgRemoteDesktop ▶ title
Input:	Specifies the name of the OEM operating mode for display on the TNC and in the information bar.

dialogRes 133502.00501

Name of a text

Path:	System ▶ DisplaySettings ▶ CfgRemoteDesktop ▶ title ▶ dialogRes
Input:	max. 64 Characters The text must be available with this name in a text resource file. If the text is not intended to be language-sensitive, leave machine parameter **dialogRes** (00501) empty. Then enter the text in the machine parameter **text** (00502). Starting with software -17: If the text comes from a *.po file, the machine parameter **poDomain** (00504) must also be filled in.

text 00502

Language-sensitive text

Path:	System ▶ DisplaySettings ▶ CfgRemoteDesktop ▶ title ▶ text
Input:	max. 60 Characters This text is loaded from a text resource file and should not be changed here. If the text is not language-specific, enter it here directly. In this case, do not enter anything in the machine parameter **dialogRes** (606202).

icon 133503

Path/name for optional icon graphic file

Path:	System ▶ DisplaySettings ▶ CfgRemoteDesktop ▶ icon
Input:	max. 260 Characters

locations 133504

List with positions where this Remote Desktop connection is displayed

Path:	System ▶ DisplaySettings ▶ CfgRemoteDesktop ▶ locations
Input:	

opMode 133504.[Index].133401

Operating mode

Path:	System ▶ DisplaySettings ▶ CfgRemoteDesktop ▶ locations ▶ [Index] ▶ opMode
Input:	max. 80 Characters

subOpMode 133504.[Index].133402

Optional submode for the operating mode specified in 'opMode'

Path:	System ▶ DisplaySettings ▶ CfgRemoteDesktop ▶ locations ▶ [Index] ▶ subOpMode
Input:	max. 80 Characters

2.2.2 PalletSettings

CfgPalletBehaviour 202100

Behavior of the pallet control cycle

Path: System ▶ PalletSettings ▶ CfgPalletBehaviour

Data object:

failedCheckReact 202106

Specify reaction to program check and tool check

Path: System ▶ PalletSettings ▶ CfgPalletBehaviour ▶ failedCheckReact

Input:

Never

No checking for faulty program or tool calls.

OnFailedPgmCheck

Check for faulty program calls.

OnFailedToolCheck

Check for faulty tool calls.

failedCheckImpact 202107

Specify effect of program check or tool check

Path: System ▶ PalletSettings ▶ CfgPalletBehaviour ▶ failedCheckImpact

Input:

SkipPGM

Skip faulty programs.

SkipFIX

Skip fixture setups that contain faulty programs.

SkipPAL

Skip pallets that contain faulty programs.

2.2.3 ProbeSettings

CfgTT 122700

Configuration of the tool calibration

Path:	System ▶ ProbeSettings ▶ CfgTT
Data object:	

spindleOrientMode 122704

M function for spindle orientation

Path:	System ▶ ProbeSettings ▶ CfgTT ▶ [Key name of the TT] ▶ spindleOrientMode
Input:	-1 to 999 ■ **-1** Spindle orientation directly by NC ■ **0** Function inactive ■ **1 to 999** Number of the M function for spindle orientation by the PLC
iTNC 530:	MP6560

probingRoutine 122705

Probing routine

Path:	System ▶ ProbeSettings ▶ CfgTT ▶ [Key name of the TT] ▶ probingRoutine
Input:	**MultiDirections** The probe contact is probed from several directions. **SingleDirection** The probe contact is probed from one direction.
iTNC 530:	6500 Bit 8

probingDirRadial 122706

Probing direction for tool-radius measurement

Path:	System ▶ ProbeSettings ▶ CfgTT ▶ [Key name of the TT] ▶ probingDirRadial
Input:	**X_Positive** **Y_Positive** **X_Negative** **Y_Negative** **Z_Positive** **Z_Negative**
iTNC 530:	MP6505

offsetToolAxis 122707

Distance from lower edge of tool to upper edge of stylus

Path:	System ▶ ProbeSettings ▶ CfgTT ▶ [Key name of the TT] ▶ offsetToolAxis
Input:	0.001 to 99.9999, max. 4 decimal places
iTNC 530:	MP6530

rapidFeed 122708

Rapid traverse in probing cycle for TT tool touch probe

Path:	System ▶ ProbeSettings ▶ CfgTT ▶ [Key name of the TT] ▶ rapidFeed
Input:	10 to 300000
iTNC 530:	MP6550

probingFeed 122709

Probing feed rate for tool measurement with non-rotating tool

Path:	System ▶ ProbeSettings ▶ CfgTT ▶ [Key name of the TT] ▶ probingFeed
Input:	1 to 3000
iTNC 530:	6520

probingFeedCalc 122710

Calculation of the probing feed rate

Path:	System ▶ ProbeSettings ▶ CfgTT ▶ [Key name of the TT] ▶ probingFeedCalc
Input:	**ConstantTolerance** Calculation of the probing feed rate with constant tolerance **VariableTolerance** Calculation of the probing feed rate with variable tolerance **ConstantFeed** Constant probing feed rate
iTNC 530:	6507

spindleSpeedCalc 122711

Speed determination method

Path:	System ▶ ProbeSettings ▶ CfgTT ▶ [Key name of the TT] ▶ spindleSpeedCalc
Input:	**Automatic** Automatically determine speed **MinSpindleSpeed** Always use minimum spindle speed
iTNC 530:	6500 Bit4

maxPeriphSpeedMeas 122712

Maximum permissible surface speed of the cutting edge for radius measurement

Path:	System ▶ ProbeSettings ▶ CfgTT ▶ [Key name of the TT] ▶ maxPeriphSpeedMeas
Input:	1 to 129, max. 4 decimal places
iTNC 530:	6570

maxSpeed 122714

Maximum permissible speed during tool measurement

Path:	System ▶ ProbeSettings ▶ CfgTT ▶ [Key name of the TT] ▶ maxSpeed
Input:	0 to 1000
iTNC 530:	6572

measureTolerance1 122715

Maximum permissible measuring error for tool measurement with rotating tool (first measuring error)

Path:	System ► ProbeSettings ► CfgTT ► [Key name of the TT] ► measureTolerance1
Input:	0.001 to 0.999, max. 3 decimal places
iTNC 530:	6510.0

measureTolerance2 122716

Maximum permissible measuring error for tool measurement with rotating tool (second measuring error)

Path:	System ► ProbeSettings ► CfgTT ► [Key name of the TT] ► measureTolerance2
Input:	0.001 to 0.999, max. 3 decimal places
iTNC 530:	6510.1

stopOnCheck 122717

NC Stop during "tool check"

Path:	System ► ProbeSettings ► CfgTT ► [Key name of the TT] ► stopOnCheck
Input:	**TRUE** If the breakage tolerance is exceeded, the NC program stops and the error message **Tool broken** is displayed. **FALSE** The NC program does not stop if the breakage tolerance is exceeded.
iTNC 530:	6500 Bit5

stopOnMeasurement 122718

NC stop during tool measurement

Path:	System ► ProbeSettings ► CfgTT ► [Key name of the TT] ► stopOnMeasurement
Input:	**TRUE** If the breakage tolerance is exceeded, the NC program stops and the error message **Touch point inaccessible** is displayed. **FALSE** The NC program does not stop if the breakage tolerance is exceeded.
iTNC 530:	6500 Bit6

adaptToolTable 122719

Change the tool table during tool check and tool measurement

Path:	System ▶ ProbeSettings ▶ CfgTT ▶ [Key name of the TT] ▶ adaptToolTable
Input:	**AdaptNever** The tool table is not changed after tool check and tool measurement. **AdaptOnBoth** The tool table is changed after tool check and tool measurement. **AdaptOnMeasure** The tool table is changed after tool measurement.
iTNC 530:	6500 Bit11

CfgTTRoundStylus 114200

Configuration of a round stylus

Path:	System ▶ ProbeSettings ▶ CfgTTRoundStylus
Data object:	

centerPos 114201

Coordinates of the probe-contact center point

Path:	System ▶ ProbeSettings ▶ CfgTTRoundStylus ▶ [Key name of the TT] ▶ centerPos
Input:	-99999.9999 to 99999.9999 [mm], max. 4 decimal places Coordinates of the probe-contact center with respect to the machine datum. ■ [0]: X coordinate ■ [1]: Y coordinate ■ [2]: Z coordinate
iTNC 530:	6580, 6581, 6582

safetyDistToolAx 114203

Safety clearance around the probe contact of the TT tool touch probe for pre-positioning in the tool-axis direction

Path:	System ▶ ProbeSettings ▶ CfgTTRoundStylus ▶ [Key name of the TT] ▶ safetyDistToolAx
Input:	0.001 to 99999.9999, max. 4 decimal places
iTNC 530:	6540.0

safetyDistStylus 114204

Safety zone around the stylus for pre-positioning

Path:	System ▶ ProbeSettings ▶ CfgTTRoundStylus ▶ [Key name of the TT] ▶ safetyDistStylus
Input:	0.001 to 99999.9999 [mm], max. 4 decimal places Safety clearance in the plane perpendicular to the tool axis
iTNC 530:	6540.1

CfgTTRectStylus 114300

Configuration of a rectangular stylus

Path:	System ▶ ProbeSettings ▶ CfgTTRectStylus
Data object:	

centerPos 114313

Coordinates of the stylus center

Path:	System ▶ ProbeSettings ▶ CfgTTRectStylus ▶ [Key name of the TT] ▶ centerPos
Input:	Coordinates of the stylus center with respect to the machine datum -99999.9999 to 99999.9999 [mm], max. 4 decimal places
iTNC 530:	6580, 6581, 6582

safetyDistToolAx 114317

Set-up clearance above the stylus for pre-positioning

Path:	System ▶ ProbeSettings ▶ CfgTTRectStylus ▶ [Key name of the TT] ▶ safetyDistToolAx
Input:	0.001 to 99999.9999 [mm], max. 4 decimal places Safety clearance in tool axis direction
iTNC 530:	6540.0

safetyDistStylus 114318

Safety zone around the stylus for pre-positioning

Path:	System ▶ ProbeSettings ▶ CfgTTRectStylus ▶ [Key name of the TT] ▶ safetyDistStylus
Input:	0.001 to 99999.9999 [mm], max. 4 decimal places
iTNC 530:	6540.1

2.2.4 ChannelSettings

CfgActivateKinem 204000

Active kinematics

Path:	Channels ▶ ChannelSettings ▶ CfgActivateKinem
Data object:	

kinemToActivate 204001

Kinematics to be activated / active kinematics

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgActivateKinem ▶ kinemToActivate
Input:	max. 18 Characters Key names from channels/kinematics/**CfgKinComposModel**. Select the key name of the kinematic model to be activated. You can also read the currently active kinematic model from this machine parameter.

kinemAtStartup 204002

The kinematics to be activated during control start-up

Path:	Channels ▶ ChannelSettings ▶ CfgActivateKinem ▶ [Key name of the machining channel] ▶ kinemAtStartup
Input:	max. 18 Characters Enter here the key name of a default kinematic model (from **CfgKinComposModel**), that is activated during every control start-up (independently of which key name is entered in the machine parameter **kinemToActivate** (204001)).
iTNC 530:	7506

CfgNcPgmBehaviour 200800

Specify the behavior of the NC program.

Path:	Channels ▶ ChannelSettings ▶ CfgNcPgmBehaviour
Data object:	

operatingTimeReset 200801

Reset the machining time when program starts.

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgNcPgmBehaviour ▶ operatingTimeReset
Input:	**TRUE** The machining time is reset at each program start. **FALSE** The machining time is totaled.

plcSignalCycle 200803

PLC signal for the number of the pending machining cycle

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgNcPgmBehaviour ▶ plcSignalCycle
Input:	max. 500 Characters Name or number of a PLC word marker

plcSignalCycState 200805

PLC signal for type of current cycle execution

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgNcPgmBehaviour ▶ plcSignalCycState
Input:	The following value is written to the configured operand: ■ 0: No machining cycle is being executed ■ 1: Pre-positioning ■ 2: Machining

CfgGeoTolerance 200900

Geometry tolerances

Path:	Channels ▶ ChannelSettings ▶ CfgGeoTolerance
Data object:	

circleDeviation 200901

Permissible deviation of the radius

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgGeoTolerance ▶ circleDeviation
Input:	0.0001 to 0.016 [mm], max. 4 decimal places Enter the permissible deviation of the radius between the end point and starting point of the arc.
iTNC 530:	7431

threadTolerance 200902

Permissible deviation in successive threads

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgGeoTolerance ▶ threadTolerance
Input:	0.0001 to 999.9999 [mm], max. 9 decimal places Permissible deviation of the dynamically smoothed contour from the programmed thread contour.

moveBack 200903

Reserve for retraction movements

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgGeoTolerance ▶ moveBack
Input:	0.0001 to 10 [mm], max. 9 decimal places With this parameter you specify how far before a limit switch or a collision object a retraction movement should end.

CfgGeoCycle 201000

Configuration of the fixed cycles

Path:	Channels ▶ ChannelSettings ▶ CfgGeoCycle
Data object:	

pocketOverlap 201001

Overlap factor for pocket milling

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgGeoCycle ▶ pocketOverlap
Input:	0.001 to 1.414, max. 3 decimal places
iTNC 530:	7430

posAfterContPocket 201007

Traverse after machining the contour pocket

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgGeoCycle ▶ posAfterContPocket
Input:	**PosBeforeMachining** Move to the position from which the SL cycle was started. **ToolAxClearanceHeight** Move the tool axis to clearance height.
iTNC 530:	7420 Bit 4

displaySpindleErr 201002

Display the **Spindle is not rotating** error message if M3/M4 is not active

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgGeoCycle ▶ displaySpindleErr
Input:	**on** The error message is displayed **off** The error message is not displayed
iTNC 530:	7441

displayDepthErr 201003

Display the **Check the depth sign** error message

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgGeoCycle ▶ displayDepthErr
Input:	**on** Error message is displayed **off** Error message is not displayed
iTNC 530:	7441

apprDepCylWall 201004

Behavior when moving to wall of slot in the cylinder surface

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgGeoCycle ▶ apprDepCylWall
Input:	Defines the behavior for cutter movements to the wall of a slot in the cylinder surface when machining the slot with a milling cutter whose diameter is less than the slot diameter (e.g. Cycle 28). **LineNormal** The slot wall is approached and departed linearly. **CircleTangential** The slot wall is approached and departed tangentially; at the beginning and end of the slot a rounding arc with a diameter equal to the slot width is inserted.
iTNC 530:	7680 Bit 12

mStrobeOrient 201005

M function for spindle orientation in machining cycles

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgGeoCycle ▶ mStrobeOrient
Input:	-1 to 999 -1: Spindle orientation directly through the NC 0: Function not active 1 to 999: Number of the M function for spindle orientation through the PLC.
iTNC 530:	7442

suppressPlungeErr 201006

Do not show 'Plunging type is not possible' error message

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgGeoCycle ▶ suppressPlungeErr
Input:	**on** Error message is not displayed **off** Error message is displayed

restoreCoolant 201008

Behavior of M7 and M8 with Cycles 202 and 204

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgGeoCycle ▶ restoreCoolant
Input:	**TRUE** At the end of Cycles 202 and 204, the status of M7 and M8 is restored to that before the cycle call. **FALSE** At the end of Cycles 202 and 204, the status of M7 and M8 is not restored automatically.
iTNC 530:	7682

facMinFeedTurnSMAX 201009

Automatic feed rate reduction after attaining SMAX

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgGeoCycle ▶ facMinFeedTurnSMAX
Input:	1 to 100 [%], max. 1 decimal places If the maximum spindle speed SMAX is reached, the turning operation can no longer maintain the constant cutting speed (VCONST:ON). The machine parameter specifies whether the feed rate should be automatically reduced from this point up to the center of rotation. Settings options: ■ Factor = 100% (default value): Feed rate reduction deactivated. The feed rate from the turning cycle is used. ■ 0 < factor < 100%: Feed rate reduction is activated. The minimum feed rate F_{min} is: F_{min} = feed rate from turning cycle * factor

suppressResMatlWar 201010

Do not show "Residual material" warning

Path:	Channels ▶ ChannelSettings ▶ [Key name of the machining channel] ▶ CfgGeoCycle ▶ suppressResMatlWar
Input:	**Never** The "Residual material due to cutter geometry" warning is never suppressed **NCOnly** The “Residual material due to cutter geometry” warning is suppressed only in the Machine operating modes. **Always** The "Residual material due to cutter geometry" warning is always suppressed.

CfgThreadSpindle 113600

Special spindle parameters for threads

Path:	Channels ▶ ChannelSettings ▶ CfgThreadSpindle
Data object:	

sourceOverride 113603

Effective override potentiometer for feed rate during thread cutting

Path:	Channels ▶ ChannelSettings ▶ [Key name of machining channel] ▶ CfgThreadSpindle ▶ sourceOverride
Input:	The adjusted potentiometer is effective during thread cutting for shaft speed and feed rate. **FeedPotentiometer** (previous behavior of the TNC 640) During thread cutting, the potentiometer is effective for the feed rate knob. The potentiometer for the spindle speed knob is not active. **SpindlePotentiometer** (iTNC 530-compatible setting) During thread cutting, the potentiometer is effective for the spindle speed knob. The potentiometer for the feed rate override is disabled.

thrdWaitingTime 113601

Waiting time at reversal point in thread base

Path:	Channels ▶ ChannelSettings ▶ [Key name of machining channel] ▶ CfgThreadSpindle ▶ thrdWaitingTime
Input:	0 to 1 000 [s], max. 9 decimal places The spindle stops for this time at the bottom of the thread before starting again in the opposite direction of rotation.
iTNC 530:	7120.0

thrdPreSwitchTime 113602

Advanced switching time of spindle

Path:	Channels ▶ ChannelSettings ▶ [Key name of machining channel] ▶ CfgThreadSpindle ▶ thrdPreSwitchTime
Input:	0 to 1 000 [s], max. 9 decimal places The spindle is stopped at this time before reaching the bottom of the thread.
iTNC 530:	7120.1

limitSpindleSpeed	113604
Limit of spindle speed with Cycles 17, 207 and 18	
Path:	Channels ▶ ChannelSettings ▶ [Key name of machining channel] ▶ CfgThreadSpindle ▶ limitSpindleSpeed
Input:	**TRUE** Spindle speed is limited so that it runs with constant speed approx. 1/3 of the time **FALSE** Limit not active
iTNC 530:	7160, Bit1

CfgEditorSettings

CfgEditorSettings 105400

Settings for the NC editor

Path: System ▶ EditorSettings ▶ CfgEditorSettings

Data object:

createBackup 105401

Generate a backup file *.bak

Path: System ▶ EditorSettings ▶ CfgEditorSettings ▶ createBackup

Input: **TRUE**

After you have edited a file, a backup file *.bak is automatically created before you save the file and exit the NC editor.

FALSE

No backup file *.bak is created. Select this setting if you do not need any backup files and want to save memory space.

deleteBack 105402

Behavior of the cursor after deletion of lines

Path: System ▶ EditorSettings ▶ CfgEditorSettings ▶ deleteBack

Input: **TRUE**

Behavior as with iTNC 530, the cursor is on the previous line

FALSE

The cursor is on the next line

lineBreak 105404

Line break on NC blocks with more than one line

Path: System ▶ EditorSettings ▶ CfgEditorSettings ▶ lineBreak

Input: **ALL**

Always break and display lines completely (multiline)

ACT

Only display the selected NC block completely (multiline)

NO

Only display all lines when the selected NC block is edited

iTNC 530: 7281.0

stdTNChelp 105405

Activate help graphics when entering cycle data

Path:	System ▶ EditorSettings ▶ CfgEditorSettings ▶ stdTNChelp
Input:	**TRUE** Behavior as with iTNC 530: the help graphics are displayed automatically during cycle entry. **FALSE** The help graphics have to be called via the **CYCLE HELP ON/OFF** soft key.

warningAtDEL 105407

Confirmation request when deleting an NC block.

Path:	System ▶ EditorSettings ▶ CfgEditorSettings ▶ warningAtDEL
Input:	**TRUE** The confirmation request is displayed and must be confirmed by pressing DEL again. **FALSE** The NC block is deleted without a confirmation prompt.
iTNC 530:	7246

blockIncrement 105409

ISO programming: Block number increment

Path:	System ▶ EditorSettings ▶ CfgEditorSettings ▶ blockIncrement
Input:	0 to 250
iTNC 530:	7220

useProgAxes 105410

Specify programmable axes

Path:	System ▶ EditorSettings ▶ CfgEditorSettings ▶ useProgAxes
Input:	**TRUE** Use the axis configuration defined in the CfgChannelAxes/**progAxis** parameter (200301). On machines with traverse range switchover, the editor offers all axes that are included in at least one kinematic model of the machine. **FALSE** Use the default axis configuration XYZABCUVW.

enableStraightCut 105411

Allow or lock paraxial positioning blocks

Path:	System ▶ EditorSettings ▶ CfgEditorSettings ▶ enableStraightCut
Input:	**TRUE** Paraxial positioning blocks are allowed. When an orange axis key is pressed, and in ISO when G07 is programmed, a paraxial positioning block is generated. **FALSE** Paraxial positioning blocks are locked. When an orange axis key is pressed, the TNC7 generates a straight-line interpolation (L block) instead of a paraxial positioning block.
iTNC 530:	7246

noParaxMode 105413

Hide **FUNCTION PARAXCOMP/PARAXMODE**

Path:	System ▶ EditorSettings ▶ CfgEditorSettings ▶ noParaxMode
Input:	Use **noParaxMode** (105413) to hide the **FUNCTION PARAXCOMP** and **FUNCTION PARAXMODE** functions. **FALSE** The functions are displayed **TRUE** The functions are not displayed If the optional machine parameter does not exist in the configuration, the system behaves as if it were set to **FALSE**.

quotePaths 105414

Put all path information in quotation marks

Path:	System ▶ EditorSettings ▶ CfgEditorSettings ▶ quotePaths
Input:	**TRUE** Path information is enclosed in quotation marks. **FALSE** Path information is not enclosed in quotation marks.

actPosAxes 105415

Axes for actual position capture

Path:	System ▶ EditorSettings ▶ CfgEditorSettings ▶ actPosAxes
Input:	max. 800 Characters Use this parameter to specify which axes will be considered for actual position capture.

CfgProgramCheck

CfgProgramCheck 129800

Settings for tool-usage files

Path: System ▶ ToolSettings ▶ CfgProgramCheck

Data object:

autoCheckTimeOut 129803

Timeout for creation of tool-usage files

Path: System ▶ ToolSettings ▶ CfgProgramCheck ▶ autoCheckTimeOut

Input: Automatic creation of the tool-usage file is aborted if this time is exceeded. 1 to 500

autoCheckPrg 129801

Create tool-usage file for NC program

Path: System ▶ ToolSettings ▶ CfgProgramCheck ▶ autoCheckPrg

Input:

NoAutoCreate

No tool-usage list will be generated upon selection of a program.

OnProgSelectionIfNotExist

A tool-usage list will be generated upon program selection if the list does not already exist.

OnProgSelectionIfNecessary

A tool-usage list will be generated upon program selection if the list does not already exist or if it contains obsolete data.

OnProgSelectionAndModify

A tool-usage list will be generated upon program selection if the list does not already exist, if it contains obsolete data, or if the NC program is modified afterwards by using an editor.

autoCheckPal 129802

Create pallet-usage files

Path: System ▶ ToolSettings ▶ CfgProgramCheck ▶ autoCheckPal

Input:

NoAutoCreate

No tool-usage files will be generated upon pallet selection.

OnProgSelectionIfNotExist

Upon pallet selection, tool-usage lists that do not already exist will be generated.

OnProgSelectionIfNecessary

Upon pallet selection, tool-usage lists that do not already exist or that contain obsolete data will be generated.

OnProgSelectionAndModify

Upon pallet selection, tool-usage lists will be generated that do not already exist, that contain obsolete data, or whose NC programs are modified using an editor.

CfgUserPath

CfgUserPath 102200

Paths for the end user

Path: System ▶ Paths ▶ CfgUserPath

Data object:

fn16DefaultPath 102202

Default output path for the **FN 16: F-PRINT** function in the Program Run operating modes

Path: System ▶ Paths ▶ CfgUserPath ▶ fn16DefaultPath

Input: max. 260 Characters

Select the folder in the dialog window and confirm it with the **SELECT** soft key

Default path for output with **FN 16: F-PRINT**. If no path is defined for the FN 16 function in the NC program, the output destination is in the directory specified here.

fn16DefaultPathSim 102203

Default output path for the **FN 16: F-PRINT** function in the Programming and Test Run operating modes

Path: System ▶ Paths ▶ CfgUserPath ▶ fn16DefaultPathSim

Input: max. 260 Characters

Select the folder in the dialog window and confirm it with the **SELECT** soft key

Default path for output with **FN 16: F-PRINT**. If no path is defined for the **FN 16** function in the NC program, the output lands in the directory specified here.

2.2.5 serialInterfaceRS232

CfgSerialPorts 106600

Data record belonging to the serial port

Path: System ▶ Network ▶ Serial ▶ CfgSerialPorts

Data object:

baudRateLsv2 106606

Data transfer rate for LSV2 communication in baud

Path: System ▶ Network ▶ Serial ▶ CfgSerialPorts ▶ baudRateLsv2

Input: Use a selection menu to define the transfer rate for the LSV2 communication. Minimum value is 110 baud, maximum value 115200 baud.

BAUD_110

BAUD_150

BAUD_300

BAUD_600

BAUD_1200

BAUD_2400

BAUD_4800

BAUD_9600

BAUD_19200

BAUD_38400

BAUD_57600

BAUD_115200

CfgSerialInterface 106700

Definition of data records for the serial ports

Path: System ▶ Network ▶ Serial ▶ CfgSerialInterface

Data object:

baudRate 106701

Data transfer rate for communication in baud

Path:	System ▶ Network ▶ Serial ▶ CfgSerialInterface ▶ [Key names of the interface parameters] ▶ baudRate
Input:	Use a selection menu to define the transfer rate for the data transmission. Minimum value is 110 baud, maximum value 115200 baud. **BAUD_110** **BAUD_150** **BAUD_300** **BAUD_600** **BAUD_1200** **BAUD_2400** **BAUD_4800** **BAUD_9600** **BAUD_19200** **BAUD_38400** **BAUD_57600** **BAUD_115200**
iTNC 530:	5040

protocol 106702

Communications protocol

Path:	System ▶ Network ▶ Serial ▶ CfgSerialInterface ▶ [Key names of the interface parameters] ▶ protocol
Input:	**STANDARD** Standard data transfer. Data transferred line-by-line. **BLOCKWISE** Packet-based data transfer, ACK/NAK protocol. The control characters ACK (Acknowledge) and NAK (not Acknowledge) are used to control block-wise data transfer. **RAW_DATA** Data transferred without protocol. Transfer of characters without control characters. Protocol intended for transfer of data of the PLC.
iTNC 530:	5030

dataBits 106703

Data bits in each transferred character

Path:	System ▶ Network ▶ Serial ▶ CfgSerialInterface ▶ [Key names of the interface parameters] ▶ dataBits
Input:	**7 bits** 7 data bits are transferred for each character transferred. **8 bits** 8 data bits are transferred for each character transferred.
iTNC 530:	5020 Bit0

parity 106704

Type of parity checking

Path:	System ▶ Network ▶ Serial ▶ CfgSerialInterface ▶ [Key names of the interface parameters] ▶ parity
Input:	**NONE** No parity **EVEN** Even parity **ODD** Odd parity
iTNC 530:	5020 Bit4/5

stopBits 106705

Number of stop bits

Path:	System ▶ Network ▶ Serial ▶ CfgSerialInterface ▶ [Key names of the interface parameters] ▶ stopBits
Input:	**1 stop bit** 1 stop bit is appended after each transferred character. **2 stop bits** 2 stop bits are appended after each transferred character.
iTNC 530:	5020 Bit6/7

flowControl 106706

Type of data-flow checking

Path:	System ▶ Network ▶ Serial ▶ CfgSerialInterface ▶ [Key names of the interface parameters] ▶ flowControl
Input:	Configure here whether there is to be a data-flow check (handshake). **NONE** No data-flow check; handshake not active **RTS_CTS** Hardware handshake. Transmission stop through RTS active **XON_XOFF** Software handshake; Transfer stop by DC3 (XOFF) active
iTNC 530:	5020 Bit2/3

fileSystem 106707

File system for file operation via serial interface

Path:	System ▶ Network ▶ Serial ▶ CfgSerialInterface ▶ [Key names of the interface parameters] ▶ fileSystem
Input:	**EXT** Minimum file system for external devices. Corresponds to the EXT1 and EXT2 modes of earlier TNC controls. Use these settings if you are using printers, punches, or non-HEIDENHAIN data transfer software. **FE1** Use this setting for communication with the external HEIDENHAIN FE 401 B or FE 401 floppy disk unit as of software 230626-03, or for communication with the "TNCserver" PC software from HEIDENHAIN.

bccAvoidCtrlChar 106708

Avoid control characters in the block check character (BCC)

Path:	System ▶ Network ▶ Serial ▶ CfgSerialInterface ▶ [Key names of the interface parameters] ▶ bccAvoidCtrlChar
Input:	**TRUE** Ensures that the check sum does not correspond to a control character **FALSE** Function not active
iTNC 530:	5020 Bit1

rtsLow	106709
Idle state of the RTS line	
Path:	System ▶ Network ▶ Serial ▶ CfgSerialInterface ▶ [Key names of the interface parameters] ▶ rtsLow
Input:	**TRUE** The idle state of the RTS line is logical LOW **FALSE** The idle state of the RTS line is at logical HIGH
iTNC 530:	5020 Bit8

noEotAfterEtx	106710
Behavior after reception of an ETX control character	
Path:	System ▶ Network ▶ Serial ▶ CfgSerialInterface ▶ [Key names of the interface parameters] ▶ noEotAfterEtx
Input:	**TRUE** No EOT control character is sent after reception of an ETX control character. **FALSE** The control sends an EOT control character after reception of an ETX control character.
iTNC 530:	5020 Bit9

2.2.6 Monitoring

CfgCompMonUser 129400

User settings for component monitoring

Path: System ▶ Monitoring ▶ CfgCompMonUser

Data object:

enforcedReactions 129403

Permissible component monitoring reactions

Path: System ▶ Monitoring ▶ CfgCompMonUser ▶ enforcedReactions

Input: **Do not permit reactions**

Do not permit stop reactions

Permit all reactions

CfgProcMonUser 141600

User settings for process monitoring

Path: System ▶ Monitoring ▶ CfgProcMonUser

Data object:

permitAutoExport 141601

Automatic export allowed

Path: System ▶ Monitoring ▶ CfgProcMonUser ▶ CfgProcMonUser

Input: **TRUE**

FALSE

autoExportType 141602

File format for automatic export

Path: System ▶ Monitoring ▶ CfgProcMonUser ▶ CfgProcMonUser

Input: max. 32 Characters

If an output format is defined, an export file is automatically generated in the folder of the NC program after each program run.

Permissible values: HTML, CSV

CfgMachineInfo

CfgMachineInfo 131700

General information of the machine operator

Path:	System ▶ CfgMachineInfo
Data object:	Defines general information about this machine: ■ Settable by the user of the machine ■ Can be queried (e.g., via the OPC UA NC Server)

machineNickname 131701

Custom name (nickname) of the machine

Path:	System ▶ CfgMachineInfo ▶ machineNickname
Input:	max. 64 Characters Machine designation freely selectable by the user.

inventoryNumber 131702

Inventory number or ID

Path:	System ▶ CfgMachineInfo ▶ inventoryNumber
Input:	max. 64 Characters Internal inventory number of the operator's machine.

image 131703

Photo or image of the machine

Path:	System ▶ CfgMachineInfo ▶ image
Input:	max. 260 Characters Path to an image file (*.jpg or *.png).

location 131704

Machine location

Path:	System ▶ CfgMachineInfo ▶ location
Input:	max. 64 Characters

department 131705

Department or division

Path:	System ▶ CfgMachineInfo ▶ department
Input:	max. 64 Characters

responsibility 131706

Responsible for the machine

Path:	System ▶ CfgMachineInfo ▶ responsibility
Input:	max. 64 Characters Contact partner responsible for the machine, can be a person or a department.

contactEmail 131707

Contact email address

Path:	System ▶ CfgMachineInfo ▶ contactEmail
Input:	max. 64 Characters E-mail address of the responsible person or department.

contactPhoneNumber 131708

Contact phone number

Path:	System ▶ CfgMachineInfo ▶ contactPhoneNumber
Input:	max. 32 Characters Telephone number of the responsible person or department.

3 Preassigned error numbers for FN 14: ERROR

With the **FN 14** function you can issue error messages in the NC program.

Refer to your machine manual.
The error numbers from 0 to 999 as well as those from 3000 to 9999 are defined by the machine manufacturer.

The following error messages are preassigned by HEIDENHAIN:

Fehlernummer	Text
1000	Spindle must be turning
1001	Tool axis is missing
1002	Tool radius too small
1003	Tool radius too large
1004	Range exceeded
1005	Start position incorrect
1006	Rotation not permitted
1007	Scaling factor not permitted
1008	Mirroring not permitted
1009	Datum shift not permitted
1010	Feed rate is missing
1011	Entry value incorrect
1012	Wrong sign programmed
1013	Entered angle not permitted
1014	Touch point inaccessible
1015	Too many points
1016	Contradictory entry
1017	CYCL DEF incomplete
1018	Plane wrongly defined
1019	Wrong axis programmed
1020	Wrong rpm
1021	Radius comp. undefined
1022	Rounding-off not permitted
1023	Rounding radius too large
1024	Program start undefined
1025	Excessive subprogramming
1026	Angle reference missing
1027	No fixed cycle defined
1028	Insufficient slot width
1029	Pocket too small
1030	Q202 not defined
1031	Q205 not defined

Fehlernummer	Text
1032	Q218 must be greater than Q219
1033	Fixed cycle not allowed
1034	CYCL 211 not permitted
1035	Q220 too large
1036	Q222 must be greater than Q223
1037	Q244 must be greater than 0
1038	Q245 must not equal Q246
1039	Angle range must be under 360°
1040	Q223 must be greater than Q222
1041	Q214: 0 not permitted
1042	Traverse direction not defined
1043	No datum table active
1044	Position error: center in axis 1
1045	Position error: center in axis 2
1046	Hole diameter too small
1047	Hole diameter too large
1048	Stud diameter too small
1049	Stud diameter too large
1050	Pocket too small: rework axis 1
1051	Pocket too small: rework axis 2
1052	Pocket too large: scrap axis 1
1053	Pocket too large: scrap axis 2
1054	Stud too small: scrap axis 1
1055	Stud too small: scrap axis 2
1056	Stud too large: rework axis 1
1057	Stud too large: rework axis 2
1058	Meas. cycle: length exceeds max
1059	Meas. cycle: length below min
1060	TCHPROBE 426: length exceeds max
1061	TCHPROBE 426: length below min
1062	TCHPROBE 430: diameter too large
1063	TCHPROBE 430: diameter too small
1064	No measuring axis defined
1065	Tool breakage tolerance exceeded
1066	Enter Q247 unequal 0
1067	Enter Q247 greater than 5
1068	Datum table?
1069	Enter direction Q351 unequal 0
1070	Thread depth too large

Fehlernummer	Text
1071	Missing calibration data
1072	Tolerance exceeded
1073	Mid-program startup active
1074	ORIENTATION not permitted
1075	3-D ROT not permitted
1076	Activate 3DROT
1077	Check the depth sign
1078	Q303 in meas. cycle undefined!
1079	Tool axis not allowed
1080	Calculated values incorrect
1081	Contradictory measuring points
1082	Incorrect clearance height!
1083	Contradictory plunge type!
1084	This fixed cycle not allowed
1085	Line is write-protected
1086	Oversize greater than depth
1087	No point angle defined
1088	Contradictory data
1089	Slot position 0 not allowed!
1090	Enter an infeed not equal to 0
1091	Switchover of Q399 not allowed
1092	Tool not defined
1093	Tool number not allowed
1094	Tool name not allowed
1095	Software option not active
1096	Kinematics cannot be restored
1097	Function not permitted
1098	Contradictory workpc. blank dim.
1099	Measuring position not allowed
1100	Kinematic access not possible
1101	Meas. pos. not in traverse range
1102	Preset compensation not possible
1103	Tool radius too large
1104	Plunging type is not possible
1105	Plunge angle incorrectly defined
1106	Angular length is undefined
1107	Slot width is too large
1108	Scaling factors not equal
1109	Tool data inconsistent

Fehlernummer	Text
1110	MOVE not possible
1111	Presetting not allowed!
1112	Thread angle too small!
1113	3-D ROT status is contradictory!
1114	Configuration is incomplete
1115	No turning tool is active
1116	Tool orientation is inconsistent
1117	Angle not possible!
1118	Radius too small!
1119	Thread runout too short!
1120	Contradictory meas. points
1121	Too many limits
1122	Machining strategy with limits not possible
1123	Machining direction not possible
1124	Check the thread pitch!
1125	Angle cannot be calculated
1126	Eccentric turning not possible
1127	No milling tool is active
1128	Insufficient length of cutting edge
1129	Gear definition is inconsistent or incomplete
1130	No finishing allowance provided
1131	Line does not exist in table
1132	Probing process not possible
1133	Coupling function not possible
1134	Fixed cycle is not supported by this NC software
1135	Touch probe cycle is not supported by this NC software
1136	NC program aborted
1137	Touch probe data incomplete
1138	LAC function not possible
1139	Rounding radius or chamfer is too large!
1140	Axis angle not equal to tilt angle
1141	Character height not defined
1142	Excessive character height
1143	Tolerance error: Workpiece rework
1144	Tolerance error: Workpiece scrap
1145	Faulty dimension definition
1146	Illegal entry in compensation table
1147	Transformation not possible
1148	Tool spindle incorrectly configured

Fehlernummer	Text
1149	Offset of the turning spindle unknown
1150	Global program settings are active
1151	Faulty configuration of OEM macros
1152	The combination of programmed oversizes is not possible
1153	Measured value not captured
1154	Check the monitoring of the tolerance
1155	Hole is smaller than the stylus tip
1156	Preset cannot be set
1157	Alignment of a rotary table is not possible
1158	Alignment of rotary axes is not possible
1159	Infeed limited to length of cutting edge
1160	Machining depth defined as 0
1161	Tool type is unsuitable
1162	Finishing allowance not defined
1163	Machine datum could not be written
1164	Spindle for synchronization could not be ascertained
1165	Function is not possible in the active operating mode
1166	Oversize defined too large
1167	Number of teeth not defined
1168	Machining depth does not increase monotonously
1169	Infeed does not decrease monotonously
1170	Tool radius not defined correctly
1171	Mode for retraction to clearance height not possible
1172	Gear wheel definition incorrect
1173	Probing object contains different types of dimension definition
1174	Dimension definition contains impermissible characters
1175	Actual value in dimension definition faulty
1176	Starting point of hole too deep
1177	Dimension def.: Nominal value missing for manual pre-positioning
1178	A replacement tool is not available
1179	OEM macro is not defined
1180	Measurement not possible with auxiliary axis
1181	Start position not possible with modulo axis
1182	Function only possible if door is closed
1183	Number of possible records exceeded
1184	Inconsistent machining plane due to axis angle with basic rot.
1185	Transfer parameter contains an impermissible value
1186	Tooth width RCUTS is defined too large
1187	Usable length LU of the tool is too small

Fehlernummer	Text
1188	The defined chamfer is too large
1189	Chamfer angle cannot be machined with the active tool
1190	The allowances do not define any stock removal
1191	Spindle angle not unique
1192	Internal software error: wrong or faulty command
1193	Probing procedure is not possible
1194	Type of the object to be probed is not possible
1195	Input value not permitted
1196	No data available for processing
1197	Object to be probed cannot be repeated
1198	Limitation for island missing
1199	Cannot process the data
1200	Rotation of the tool coordinate system not permitted
1201	NC Start was ignored
1202	Circle cannot be calculated
1203	Probing of an extrusion not possible
1204	Nominal position not defined correctly
1205	Retraction behavior not possible with multiple plunging
1206	Basic rotation will be rescinded
1207	Repeat last measurement?
1208	Continue with next measurement?
1209	File not found
1210	The entire plunging depth is greater than the tooth height
1211	The entire plunging depth is less than the tooth height
1212	File cannot be opened
1213	Insertion point for fixtures missing
1214	Probing direction is not permitted
1215	Status of transformations for simultaneous turning is not correct
1216	Preset cannot be modified after probe objects have been probed
1217	Tolerance does not match probing direction
1218	Offset in pallet reference point not permitted
1219	Global program settings are active
1220	Global program settings are active
1221	Cycle can be executed only in the Testing mode
1222	Bezugspunkt mit Offset aktiv
1223	Tool carrier can't be monitored correctly
1224	Probing function doesn't support stylus type
1225	Slot smaller than stylus tip
1226	Determination of machine datum with inclination angle not 0

Fehlernummer	Text
1227	Feed-rate potentiometer is effective for L stylus!
1228	Spindle orientation not possible
1229	Touch point not reached
1230	Probe cycle started with stylus already deflected
1231	Not a valid row for a preset
1232	Offset of a rotary axis differs
1233	Couldn't start Python process
1234	TCPM not possible with selected function
1500	Error in pallet management
1501	Error in pocket table
1502	Fixture not activated
1503	Wrong pallet
1504	Pallet line locked!
1505	Datum table missing
1506	Measuring probe not defined
1507	Incorrect tool data
1508	Tool number 0 not permitted
1509	Tool not defined
1510	No appropriate tool found
1511	Calculated tool number too large
1512	Tool definition is missing
1513	Tool number already assigned
1514	Tool definition not permitted
1515	TOOL DEF w/o length or radius
1516	Max. tool age expired
1517	Tool locked
1518	Tool table is missing
1519	FN14_1519
1520	Helical plunging not possible
1521	FN14_1521
1522	No touch probe data
1523	SQL command failed
1524	FN14_1524
1525	FN14_1525
1526	FN14_1526
1527	Error in pallet management
1528	Error in preset table
1529	Incorrect datum table
1530	Tool change during mid-program startup not possible

Fehlernummer	Text
1531	Calibrate touch probe
1532	Tool axis is missing
1533	CYCL DEF incomplete
1534	TOOL.T: Enter number of teeth
1535	Enter tool radius greater than 0
1536	Tolerance in the parameter measureTolerance[1;2] is too low
1537	Tool locked
1538	Error in tool measurement configuration
1539	Tool measurement locked
1540	Tool measurement: Functionality not yet implemented
1541	Orientation not configured
1542	Arithmetical error
1543	Cycle error
1544	Tool broken
1545	Calibrate TT in tilted plane
1546	Calibrate TT in non-tilted plane
1547	TT not parallel to tool axis
1548	Tool index not allowed
1549	Turning tool incompletely defined
1550	Probing direction not in probe plane
1551	Unbalance detection failed
1552	Excessive unbalance
1553	Configuration for unbalance detection wrong
1554	Radius of replacement tool not suitable
1555	Invalid tool axis programmed
1556	Tool table locked
1557	Unbalance calculation failed
1558	Tool must not be altered
1559	Traverse mode for retraction not possible
1560	Tool life expired
1561	Tool life expired
1562	Feed rate limiting has been canceled
1563	Pallet line with completed part
1564	Access to pallet preset table failed
1565	Automatic continuation of pallet machining not possible
1566	Strategy for continuing the pallet machining is not supported
1567	Thread-cutting process was interrupted
1568	Pallet table locked
1569	Tool not defined completely

Fehlernummer	Text
1570	Row does not exist in preset table
1571	Row does not exist in pallet preset table
1572	Preset table not found
1700	Camera not reacting
1701	Camera not responding
1702	File for camera position does not exist
1703	Line does not exist in the position table
1704	Communication with camera not possible
1705	Camera provides no images
1706	A name for the monitoring point is missing
1707	Not allowed to call an unbalance cycle in milling mode
2000	Invalid error consequence
2001	No space released
2002	No valid physical space
2003	Space not released
2004	Tool is already inserted
2005	No space released
2006	No identical space
2007	No further tool found
2008	No further tool found
2009	Invalid tool type
2010	Tool type not allowed
2011	Data not loaded
2012	No entry in table
2013	Invalid parameter value
2014	Invalid command
2015	Error in table access
2016	No grinding wheel
2017	Invalid tool number
2018	Invalid alignment
2019	No dresser defined
2020	Dresser not defined
2021	Not a valid wheel type
2022	Ref. of dresser to wheel edge
2023	Relieved wheel not possible
2024	Chamfer width missing
2025	Chamfer greater than side len. X
2026	Angle of the relief is incorrect
2027	Selected grinding wheel face not permitted

Fehlernummer	Text
2028	Selection of grinding wheel face required
2029	Selection of grinding wheel face contradictory
2030	Dressing strategy: corner radius not permitted
2031	Dressing strategy: wheel edge not supported
2032	Selected dressing strategy is not supported
2033	Dressing mode already active, tool not allowed
2034	Type of grinding wheel not allowed, not approved
2035	Tool is not a dressing wheel or roll
2040	Calculation of wear on dressing tool not possible
2041	Wear on dressing tool exceeds breakage tolerance
2050	Error in definition of the direction for the reciprocating stroke
2051	Axes not configured for reciprocating stroke
2052	Configuration of dynamics of axes for reciprocating stroke faulty
2053	M136 is not supported in cylindrical grinding cycles
2054	Tool alignment not appropriate for automatic approaching
2100	Infeed not defined
2101	Infeed direction not defined
2102	Undersize
2103	FN14_2103
2104	Oversize
2105	FN14_2105
2106	Signal already active at start
2107	FN14_2107
2108	Signal has not responded
2109	FN14_2109
2110	B axis in wrong position
2111	No grinding wheel
2112	Dressing location not released
2113	Wheel edges not released
2114	Wheel location not occupied
2115	Wheel location not released
2116	Dressing location not occupied
2117	T-call parameter invalid
2118	Wheel settings not defined
2119	Wheel data not defined
2120	Wheel not inserted
2121	Wheel location changed
2122	Dressing location changed
2124	Feed rate not programmed

Fehlernummer	Text
2125	Wheel missing
2126	No valid tool selected
2127	Invalid position
2128	Not a valid dresser type
2130	No event programmed
2131	Invalid event programmed
2132	FN14_2132
2133	Event happened before movement
2134	FN14_2134
2135	FN14_2135
2136	Event did not happen
2137	No reciprocating stroke calculated
2138	No swing stroke
2139	Jig grinding, reciprocating stroke: tool axis not allowed
2140	Jig grinding: reciprocating stroke already stopped
2141	Jig grinding: reciprocating stroke already defined
2142	Immediate stop only permitted if reciprocation def. gets deleted
2143	Infeed direction and taper angle are contradictory
2144	Invalid position for reciprocation
2145	Reciprocating stroke already active
2146	Infeed already active
2147	Feed rate not defined for infeed
2148	Feed rate not defined for sensor
2149	No infeed, or infeed is contradictory
2150	Wrong axis programmed
2151	No axis programmed
2152	M command not allowed
2153	Incorrect machining mode
2154	Tool orientation is not supported
2155	A 104x definition cycle needs to be the first grinding cycle
2156	Sequence of cycles is faulty or not supported
2157	Inclination angle cannot be determined
2160	Pitch <= 0
2161	Rotational speed = 0
2162	Cutting length = 0
2163	Velocity = 0
2164	Signs differ
2165	Pitch = 0
2180	Block scan over probe functions not allowed

Fehlernummer	Text
2181	Command not allowed during block scan
2182	Command not executed due to block scan
2183	Measuring function not executed due to block scan
2184	Elimination of air grinding was not executed due to block scan
2185	Block scan is not possible on this block
2190	Command not allowed in the simulation
2200	No safety clearance at diameter
2201	No safety clearance on the outside
2202	No safety clearance on the inside
2203	Dresser too wide
2204	Insufficient diameter
2205	Insufficient width
2206	Outer side of wheel incorrect
2207	Inner side of wheel incorrect
2208	Dressing roller violates retraction amounts
2209	Overlapping not possible
2210	Intermed. dressing not allowed
2220	Wheel edge geometry not supported
2221	Invalid shape of grinding wheel on the outer side
2222	Invalid shape of grinding wheel on the inner side
2223	Depth of grinding wheel too large
2224	Dimension of grinding wheel negative
2225	Minimum value of grinding wheel radius not reached
2300	FN22 command faulty
2301	Parameter block does not exist
2302	Command not allowed
2303	Command not allowed at this point
2327	Non-circular channel not active
2328	Non-circ. channel still active
2329	Command only allowed in non-circular channel
2330	Incorrect contour command
2331	Error in contour machining
2332	Contour program faulty
2333	Deselect the tilted state
2334	Tool axis must be Z
2335	No touch probe in the spindle
2336	Camera not calibrated
2337	Number not permitted for corner
2338	Unknown number of teeth

Fehlernummer	Text
2339	Incorrect table version
2340	Job name missing
2341	Value not in permitted range
2342	Value not in permitted range
2343	Breakage tolerance exceeded
2344	Error in table VTC-TOOLS.TAB
2345	Error in table VTC-TOOLS.TAB
2346	Error in table VTC-TOOLS.TAB
2347	Error in configuration table
2348	Error in configuration table
2349	VTC cycle error
2350	Excessive length offset for tool
2351	Tool axis X, Y, Z permitted
2352	Starting spindle angle missing
2353	Max. tilt angle exceeded
2354	Spindle speed not possible
2355	Spindle speed not possible
2356	Camera data faulty
2357	Spindle angle unknown
2358	Option for panorama image is missing
2359	Spindle name?
2360	Error in VTC.TAB
2362	Excessive number of teeth
2363	Incorrect VTC API version
2364	Impermissible character in job name
2365	Tool radius too large
2366	Incorrect value for contact angle at R2
2367	Radius R2 greater than radius R
2368	Contact angle of 0 degrees is not permitted
2369	Cycle cannot be used with drilling tools
2373	Tool contact angle Q629 doesn't equal 0
2374	Selection of view in Q622 doesn't equal 0
2389	Tool contact angle Q629 equals 0
2390	Dispersion tolerance exceeded
2391	Vision system not calibrated for measurement
2392	Faulty entry: R-OFFS
2393	Faulty entry: L-OFFS
2394	Faulty entry in VTC.tab
2395	Faulty entry: measuring length

Fehlernummer	Text
2396	Faulty entry: measuring length
2397	Incorrect tool data
2398	Faulty entry: measuring angle
2399	Maximum measuring length exceeded
2400	Maximum measuring radius exceeded
2401	Error while measuring with length zero
2402	Tool outside of measuring range
2403	Faulty entry: R-OFFS
2404	No temperature compensation reference
2405	Faulty entry: tool length
2406	Incorrect tool type
2407	Faulty entry: tolerance
2408	Incorrect tool data
2409	Faulty cycle data
2410	Faulty tool data
2411	Wear tolerance exceeded
2412	Calibration failed
2413	Faulty entry: R-OFFS

4 System data

4.1 List of FN functions

The **FN 18: SYSREAD** (ISO: **D18**) function can be used to read numeric system data and save the values in numeric parameters (e.g., **FN 18: SYSREAD Q25 = ID210 NR4 IDX3**).

> The control always outputs system data in the metric system with **FN 18: SYSREAD**, regardless of the unit of the NC program.

The **SYSSTR** function can be used to read alphanumeric system data and save the values in string parameters (e.g., **QS25 = SYSSTR(ID 10950 NR1)**).

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Program information				
	10	3	-	Number of the active machining cycle
		6	-	Number of the most recently executed touch probe cycle –1 = None
		7	-	Type of calling NC program: –1 = None 0 = Visible NC program 1 = Cycle/macro, main program is visible 2 = Cycle/macro, there is no visible main program
		8	1	Unit of measure of the directly calling NC program (may also be a cycle). Return codes: 0 = mm 1 = inch –1 = there is no corresponding program
			2	Unit of measure of the NC program visible in the block display from which the current cycle was called directly or indirectly. Return codes: 0 = mm 1 = inch –1 = there is no corresponding program
		9	-	Within an M function macro: Number of the M function. Otherwise –1
			-	Within an M function macro: Number of the M function. Otherwise –1
		10	-	Repeat counter: Indicates the number of times the current code has been executed since the current NC program call
		103	Q parameter number	Relevant within NC cycles; for inquiry as to whether the Q parameter given under IDX was explicitly stated in the associated CYCLE DEF.
		110	QS parameter no.	Is there a file with the name QS(IDX)? 0 = No, 1 = Yes This function resolves relative file paths.
		111	QS parameter no.	Is there a directory with the name QS(IDX)? 0 = no, 1 = Yes Only absolute directory paths are possible.

Group name	Group number ID...	System data number NO....	Index IDX...	Description
System jump addresses				
	13	1	-	Label number or label name (string or QS) jumped to during M2/M30 instead of ending the current NC program. Value = 0: M2/M30 have the normal effect
		2	-	Number or name (string or QS) of the label to which the NC program will jump if **FN 14: ERROR** has been programmed with the NC CANCEL reaction, instead of aborting the NC program with an error message. The error number programmed in the **FN 14** command can be read under ID992 NR14. Value = 0: **FN 14** has a normal effect.
		3	-	Label number or label name (string or QS) jumped to in the event of an internal server error (SQL, PLC, CFG) or with erroneous file operations (FUNCTION FILECOPY, FUNCTION FILEMOVE, or FUNCTION FILEDELETE) instead of aborting the NC program with an error message. Value = 0: Error has the normal effect.
Indexed access to Q parameters				
	15	11	Q parameter number	Reads Q(IDX)
		12	QL parameter no.	Reads QL(IDX)
		13	QR parameter no.	Reads QR(IDX)
Machine status				
	20	1	-	Active tool number
		2	-	Prepared tool number
		3	-	Active tool axis 0 = X 6 = U 1 = Y 7 = V 2 = Z 8 = W
		4	-	Programmed spindle speed
		5	-	Active spindle condition -1 = spindle condition not defined 0 = M3 active 1 = M4 active 2 = M5 active after M3 3 = M5 active after M4
		7	-	Active gear range
		8	-	Active coolant status 0 = off, 1 = on

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		9	-	Active feed rate
		10	-	Index of prepared tool
		11	-	Index of active tool
		14	-	Number of active spindle
		20	-	Programmed cutting speed in turning operation
		21	-	Spindle mode in turning mode: 0 = constant speed 1 = constant cutting speed
		22	-	Coolant status M7: 0 = inactive, 1 = active
		23	-	Coolant status M8: 0 = inactive, 1 = active

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Channel data				
	25	1	-	Channel number
Cycle parameters				
	30	1	-	Set-up clearance
		2	-	Hole depth / milling depth
		3	-	Plunging depth
		4	-	Feed rate for plunging
		5	-	First side length of pocket
		6	-	Second side length of pocket
		7	-	First side length of slot
		8	-	Second side length of slot
		9	-	Radius of circular pocket
		10	-	Feed rate for milling
		11	-	Rotational direction of the milling path
		12	-	Dwell time
		13	-	Thread pitch for Cycles 17 and 18
		14	-	Finishing allowance
		15	-	Roughing angle
		21	-	Probing angle
		22	-	Probing path
		23	-	Probing feed rate
		48	-	Tolerance
		49	-	HSC mode (Cycle 32 Tolerance)
		50	-	Tolerance for rotary axes (Cycle 32 Tolerance)
		52	Q parameter number	Type of transfer parameter for user cycles: –1: Cycle parameter not programmed in CYCL DEF 0: Cycle parameter numerically programmed in CYCL DEF (Q parameter) 1: Cycle parameter programmed as string in CYCL DEF (Q parameter)
		60	-	Clearance height (touch probe cycles 30 to 33)
		61	-	Inspection (touch probe cycles 30 to 33)
		62	-	Cutting edge measurement (touch probe cycles 30 to 33)
		63	-	Q parameter number for the result (touch probe cycles 30 to 33)

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		64	-	Q parameter type for the result (touch probe cycles 30 to 33) 1 = Q, 2 = QL, 3 = QR
		70	-	Multiplier for feed rate (cycles 17 and 18)

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Modal status				
	35	1	-	Dimensions: 0 = absolute (G90) 1 = incremental (G91)
		2	-	Radius compensation: 0 = R0 1 = RR/RL 10 = Face milling 11 = Peripheral milling
Data for SQL tables				
	40	1	-	Result code for the last SQL command. If the last result code was 1 (=error), the error code is transferred as the return code.
Data from the tool table				
	50	1	Tool no.	Tool length L
		2	Tool no.	Tool radius R
		3	Tool no.	Tool radius R2
		4	Tool no.	Oversize for tool length DL
		5	Tool no.	Tool radius oversize DR
		6	Tool no.	Tool radius oversize DR2
		7	Tool no.	Tool locked TL 0 = not locked, 1 = locked
		8	Tool no.	Number of the replacement tool RT
		9	Tool no.	Maximum tool age TIME1
		10	Tool no.	Maximum tool age TIME2
		11	Tool no.	Current tool age CUR.TIME
		12	Tool no.	PLC status
		13	Tool no.	Maximum tooth length LCUTS
		14	Tool no.	Maximum plunge angle ANGLE
		15	Tool no.	TT: Number of tool teeth CUT
		16	Tool no.	TT: Wear tolerance for length, LTOL
		17	Tool no.	TT: Wear tolerance for radius, RTOL
		18	Tool no.	TT: Direction of rotation DIRECT 0 = positive, –1 = negative
		19	Tool no.	TT: Offset in plane R-OFFS R = 99999.9999
		20	Tool no.	TT: Offset in length L-OFFS
		21	Tool no.	TT: Breakage tolerance for length, LBREAK
		22	Tool no.	TT: Breakage tolerance for radius, RBREAK

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		28	Tool no.	Maximum speed NMAX
		32	Tool no.	Point angle TANGLE
		34	Tool no.	LIFTOFF allowed (0 = No, 1 = Yes)
		35	Tool no.	Wear tolerance for radius R2TOL
		36	Tool no.	Tool type TYPE (miller = 0, grinder = 1, ... touch probe = 21)
		37	Tool no.	Corresponding line in the touch-probe table
		38	Tool no.	Timestamp of last use
		39	Tool no.	ACC
		40	Tool no.	Pitch for thread cycles
		41	Tool no.	AFC: reference load
		42	Tool no.	AFC: overload early warning
		43	Tool no.	AFC: overload NC stop
		44	Tool no.	Exceeding the tool life
		45	Tool no.	Front-face width of indexable insert (RCUTS)
		46	Tool no.	Usable length of the milling cutter
		47	Tool no.	Neck radius of the milling cutter (RN)

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Data from the pocket table				
	51	1	Pocket number	Tool number
		2	Pocket number	0 = no special tool 1 = special tool
		3	Pocket number	0 = no fixed pocket 1 = fixed pocket
		4	Pocket number	0 = pocket not locked 1 = pocket locked
		5	Pocket number	PLC status
Determine the tool pocket				
	52	1	Tool no.	Pocket number
		2	Tool no.	Tool magazine number
File information				
	56	1	-	Number of lines of the tool table
		2	-	Number of lines of the active datum table
		4	-	Number of rows in a freely definable table that has been opened with **FN 26: TABOPEN**
Tool data for T and S strobes				
	57	1	T code	Tool number IDX0 = T0 strobe (store tool), IDX1 = T1 strobe (load tool), IDX2 = T2 strobe (prepare tool)
		2	T code	Tool index IDX0 = T0 strobe (store tool), IDX1 = T1 strobe (load tool), IDX2 = T2 strobe (prepare tool)
		5	-	Spindle speed IDX0 = T0 strobe (store tool), IDX1 = T1 strobe (load tool), IDX2 = T2 strobe (prepare tool)
Values programmed in TOOL CALL				
	60	1	-	Tool number T
		2	-	Active tool axis 0 = X 1 = Y 2 = Z 6 = U 7 = V 8 = W
		3	-	Spindle speed S
		4	-	Oversize for tool length DL
		5	-	Tool radius oversize DR
		6	-	Automatic TOOL CALL 0 = Yes, 1 = No

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		7	-	Tool radius oversize DR2
		8	-	Tool index
		9	-	Active feed rate
		10	-	Cutting speed [mm/min]
Values programmed in TOOL DEF				
	61	0	Tool no.	Read the number of the tool change sequence: 0 = Tool already in spindle 1 = Change between external tools 2 = Change from internal to external tool 3 = Change from special tool to external tool 4 = Load external tool 5 = Change from external to internal tool 6 = Change from internal to internal tool 7 = Change from special tool to internal tool 8 = Load internal tool 9 = Change from external tool to special tool 10 = Change from special tool to internal tool 11 = Change from special tool to special tool 12 = Load special tool 13 = Unload external tool 14 = Unload internal tool 15 = Unload special tool
		1	-	Tool number T
		2	-	Length
		3	-	Radius
		4	-	Index
		5	-	Tool data programmed in TOOL DEF 1 = Yes, 0 = No

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Values programmed with FUNCTION TURNDATA				
	62	1	-	Tool length oversize DXL
		2	-	Tool length oversize DYL
		3	-	Tool length oversize DZL
		4	-	Cutting radius oversize DRS
Values for LAC and VSC				
	71	0	0	Index of the NC axis for which the LAC weighing run will be performed or was last performed (X to W = 1 to 9)
			2	Total inertia determined by the LAC weighing run in [kgm²] (with A/B/C rotary axes) or total mass in [kg] (with X/Y/Z linear axes)
		1	0	Cycle 957 Retraction from thread
Information about HEIDENHAIN cycles				
	71	20	0	Configuration information for dressing: (**CfgDressSettings**) Maximum search path / set-up clearance
			1	Configuration information for dressing: (**CfgDressSettings**) Search speed (with acoustic emission sensor)
			2	Configuration information for dressing: (**CfgDressSettings**) Feed-rate factor (contact-free motion)
			3	Configuration information for dressing: (**CfgDressSettings**) Feed-rate factor at wheel side
			4	Configuration information for dressing: (**CfgDressSettings**) Feed-rate factor at wheel radius
			5	Tool information for dressing: (**toolgrind.grd**) Retraction amount in Z (inside)
			6	Tool information for dressing: (**toolgrind.grd**) Retraction amount in Z (outside)
			7	Machining information for dressing: Retraction amount in X (diameter)
			8	Machining information for dressing: Ratio of cutting speed
			9	Machining information for dressing: Programmed number of dressing tool
			10	Machining information for dressing: Programmed number of dressing kinematics

Group name	Group number ID...	System data number NO....	Index IDX...	Description
			11	Machining information for dressing: TCPM active/inactive
			12	Machining information for dressing: Programmed position of rotary axis
			13	Machining information for dressing: Cutting speed of the grinding wheel
			14	Machining information for dressing: Rotational speed of dressing spindle
			15	Machining information for dressing: Magazine number of dresser
			16	Machining information for dressing: Pocket number of dresser
		21	0	Configuration information for grinding: (**CfgGrindSettings**) Infeed velocity (synchronous reciprocation)
			1	Configuration information for grinding: (**CfgGrindSettings**) Search speed (with acoustic emission sensor)
			2	Configuration information for grinding: (**CfgGrindSettings**) Relief amount
			3	Configuration information for grinding: (**CfgGrindSettings**) Dimensional control offset
		22	0	Configuration information for behavior when the sensor has not responded. (**CfgGrindEvents/sensorNotReached**) IDX: Sensor
		23	0	Configuration information for behavior when the sensor is already active at the start. (**CfgGrindEvents/sensorActiveAtStart**) IDX: Sensor
		24	1	Configuration information for the event additionally used by a sensor function: (**CfgGrindEvents/sensorSource2**) Sensor function = Infeed with touch probe
			2	Configuration information for the event additionally used by a sensor function: (**CfgGrindEvents/sensorSource2**) Sensor function = Infeed with acoustic emission sensor
			3	Configuration information for the event additionally used by a sensor function: (**CfgGrindEvents/sensorSource2**) Sensor function = Infeed with dimensional control

Group name	Group number ID...	System data number NO....	Index IDX...	Description
			9	Configuration information for the event additionally used by a sensor function: (**CfgGrindEvents/sensorSource2**) Sensor function = OEM-specific interaction 1
			10	Configuration information for the event additionally used by a sensor function: (**CfgGrindEvents/sensorSource2**) Sensor function = OEM-specific interaction 2
			11	Configuration information for the event additionally used by a sensor function: (**CfgGrindEvents/sensorSource2**) Sensor function = Intermediate dressing
			12	Configuration information for the event additionally used by a sensor function: (**CfgGrindEvents/sensorSource2**) Sensor function = Teach button
		25	1	Configuration information for the relief amount of a sensor function (**CfgGrindEvents/sensorReleave**) Sensor function = Infeed with touch probe
			2	Configuration information for the relief amount of a sensor function (**CfgGrindEvents/sensorReleave**) Sensor function = Infeed with acoustic emission sensor
			3	Configuration information for the relief amount of a sensor function (**CfgGrindEvents/sensorReleave**) Sensor function = Infeed with dimensional control
			9	Configuration information for the relief amount of a sensor function (**CfgGrindEvents/sensorReleave**) Sensor function = OEM-specific interaction 1
			10	Configuration information for the relief amount of a sensor function (**CfgGrindEvents/sensorReleave**) Sensor function = OEM-specific interaction 2
			11	Configuration information for the relief amount of a sensor function (**CfgGrindEvents/sensorReleave**) Sensor function = Intermediate dressing
			12	Configuration information for the relief amount of a sensor function (**CfgGrindEvents/sensorReleave**) Sensor function = Teach button

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		26	1	Configuration information for the type of reaction to an event of a sensor function (**CfgGrindEvents/sensorReaction**) Sensor function = Infeed with touch probe
			2	Configuration information for the type of reaction to an event of a sensor function (**CfgGrindEvents/sensorReaction**) Sensor function = Infeed with acoustic emission sensor
			3	Configuration information for the type of reaction to an event of a sensor function (**CfgGrindEvents/sensorReaction**) Sensor function = Infeed with dimensional control
			9	Configuration information for the type of reaction to an event of a sensor function (**CfgGrindEvents/sensorReaction**) Sensor function = OEM-specific interaction 1
			10	Configuration information for the type of reaction to an event of a sensor function (**CfgGrindEvents/sensorReaction**) Sensor function = OEM-specific interaction 2
			11	Configuration information for the type of reaction to an event of a sensor function (**CfgGrindEvents/sensorReaction**) Sensor function = Intermediate dressing
			12	Configuration information for the type of reaction to an event of a sensor function (**CfgGrindEvents/sensorReaction**) Sensor function = Teach button
		27	1	Configuration information for the event additionally used by a sensor function (**CfgGrindEvents/sensorSource**) Sensor function = Infeed with touch probe
			2	Configuration information for the event additionally used by a sensor function (**CfgGrindEvents/sensorSource**) Sensor function = Infeed with acoustic emission sensor
			3	Configuration information for the event additionally used by a sensor function (**CfgGrindEvents/sensorSource**) Sensor function = Infeed with dimensional control

Group name	Group number ID...	System data number NO....	Index IDX...	Description
			9	Configuration information for the event additionally used by a sensor function (**CfgGrindEvents/sensorSource**) Sensor function = OEM-specific interaction 1
			10	Configuration information for the event additionally used by a sensor function: (**CfgGrindEvents/sensorSource**) Sensor function = OEM-specific interaction 2
			11	Configuration information for the event additionally used by a sensor function (**CfgGrindEvents/sensorSource**) Sensor function = Intermediate dressing
			12	Configuration information for the event additionally used by a sensor function (**CfgGrindEvents/sensorSource**) Sensor function = Teach button
		28	0	Configuration information for the assignment of override sources to grinding functions: (**CfgGrindOverrides**) Cylindrical grinding: override source for reciprocating movement
			1	Configuration information for the assignment of override sources to grinding functions: (**CfgGrindOverrides**) Cylindrical grinding: override source for infeed movement
			2	Configuration information for the assignment of override sources to grinding functions: (**CfgGrindOverrides**) Surface grinding: override source for reciprocating movement
			3	Configuration information for the assignment of override sources to grinding functions: (**CfgGrindOverrides**) Surface grinding: override source for infeed movement
			4	Configuration information for the assignment of override sources to grinding functions: (**CfgGrindOverrides**) Special grinding: override source for reciprocating movement
			5	Configuration information for the assignment of override sources to grinding functions:

Group name	Group number ID...	System data number NO....	Index IDX...	Description
				(**CfgGrindOverrides**) Special grinding: override source for infeed movement
			6	Configuration information for the assignment of override sources to grinding functions: (**CfgGrindOverrides**) Jig grinding (reciprocating stroke)
			7	Configuration information for the assignment of override sources to grinding functions: (**CfgGrindOverrides**) General movements in the infeed generator (example: general movement with/without sensor)
			8	Configuration information for the assignment of override sources to grinding functions: (**CfgGrindOverrides**) General movements in the infeed generator (example: movement with acoustic emission sensor)
			9	Configuration information for the assignment of override sources to grinding functions: (**CfgGrindOverrides**) General movements in the infeed generator (example: movement with touch probe)

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Freely available memory area for OEM cycles				
	72	0-39	0 to 30	Freely available memory area for OEM cycles. The values are only reset by the control during a control reboot (= 0). With “Cancel,” the values are not reset to the value that they had at the time of execution. Up to and including 597110-11: only NR 0-9 and IDX 0-9 Starting with 597110-12: NR 0-39 and IDX 0-30
Freely available memory area for user cycles				
	73	0-39	0 to 30	Freely available memory area for user cycles The values are only reset by the control during a control reboot (= 0). With “Cancel,” the values are not reset to the value that they had at the time of execution. Up to and including 597110-11: only NR 0-9 and IDX 0-9 Starting with 597110-12: NR 0-39 and IDX 0-30
Read minimum and maximum spindle speed				
	90	1	Spindle ID	Minimum spindle speed of the lowest gear stage. If no gear stages are configured, CfgFeedLimits/minFeed of the first parameter set of the spindle is evaluated. Index 99 = active spindle
		2	Spindle ID	Maximum spindle speed from the highest gear stage. If no gear stages are configured, CfgFeedLimits/maxFeed of the first parameter set of the spindle is evaluated. Index 99 = active spindle
Tool compensation				
	200	1	1 = without oversize 2 = with oversize 3 = with oversize and oversize from TOOL CALL	Active radius
		2	1 = without oversize 2 = with oversize 3 = with oversize and oversize from TOOL CALL	Active length

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		3	1 = without oversize 2 = with oversize 3 = with oversize and oversize from TOOL CALL	Rounding radius R2
		6	Tool no.	Tool length Index 0= active tool
Coordinate transformations				
	210	1	-	Basic rotation (manual)
		2	-	Programmed rotation
		3	-	Active mirror axis. Bits 0 to 2 and 6 to 8: Axes X, Y, Z and U, V, W
		4	Axis	Active scaling factor Index: 1 to 9 (X, Y, Z, A, B, C, U, V, W)
		5	Rotary axis	3D-ROT Index: 1 to 3 (A, B, C)
		6	-	Tilt working plane in Program Run operating modes 0 = Not active –1 = Active
		7	-	Tilt working plane in Manual operating modes 0 = Not active –1 = Active
		8	QL parameter no.	Angle of misalignment between spindle and tilted coordinate system. Projects the angle specified in the QL parameter from the input coordinate system to the tool coordinate system. If IDX is omitted, the angle 0 is used for projection.
		10	-	Type of definition of the active tilt: 0 = no tilt—is returned if, both in **Manual Operation** and in the automatic modes, no tilt is active. 1 = axial 2 = spatial angle
		11	-	Coordinate system for manual movements: 0 = Machine coordinate system **M-CS** 1 = Working plane coordinate system **WPL-CS** 2 = Tool coordinate system **T-CS** 4 = Workpiece coordinate system **W-CS**

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		12	Axis	Correction in working plane coordinate system **WPL-CS** (FUNCTION TURNDATA CORR WPL or FUNCTION CORRDATA WPL) Index: 1 to 9 (X, Y, Z, A, B, C, U, V, W)

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Active coordinate system				
	211	–	-	1 = input system (default) 2 = REF system 3 = tool change system
Special transformations in turning mode				
	215	1	-	Angle for the precession of the input system in the XY plane in turning mode. To reset the transformation the value 0 must be entered for the angle. This transformation is used in connection with Cycle 800 (parameter Q497).
		3	1-3	Reading out of the spatial angle written with NR2 Index: 1 to 3 (rotA, rotB, rotC)
Current datum shift				
	220	2	Axis	Current datum shift in [mm] Index: 1 to 9 (X, Y, Z, A, B, C, U, V, W)
		3	Axis	Read the difference between reference point and preset. Index: 1 to 9 (X, Y, Z, A, B, C, U, V, W)
		4	Axis	Read OEM offset values.. Index: 1 to 9 (X_OFFS, Y_OFFS, Z_OFFS,...)
Traverse range				
	230	2	Axis	Negative software limit switches Index: 1 to 9 (X, Y, Z, A, B, C, U, V, W)
		3	Axis	Positive software limit switches Index: 1 to 9 (X, Y, Z, A, B, C, U, V, W)
		5	-	Software limit switch on or off: 0 = on, 1 = off For modulo axes, either both the upper and lower limits or no limit at all must be set.
Read the nominal position in the REF system				
	240	1	Axis	Current nominal position in the REF system
Read the nominal position in the REF system, including offsets (handwheel, etc.)				
	241	1	Axis	Current nominal position in the REF system
Nominal positions of the physical axes in the REF system				
	245	1	Axis	Current nominal positions of the physical axes in the REF system
Read the current position in the active coordinate system				
	270	1	Axis	Current nominal position in the input system When called while tool radius compen-

Group name	Group number ID...	System data number NO....	Index IDX...	Description
				sation is active, the function supplies the uncompensated positions for the principal axes X, Y, and Z. If the function is called for a rotary axis and tool radius compensation is active, an error message is issued. Index: 1 to 9 (X, Y, Z, A, B, C, U, V, W)
Read the current position in the active coordinate system, including offsets (handwheel, etc.)				
	271	1	Axis	Current nominal position in the input system
Read information to M128				
	280	1	-	M128 active: –1 = Yes, 0 = No
		3	-	Condition of TCPM after Q No.: Q No. + 0: TCPM active, 0 = no, 1 = yes Q No. + 1: AXIS, 0 = POS, 1 = SPAT Q No. + 2: PATHCTRL, 0 = AXIS, 1 = VECTOR Q No. + 3: Feed rate, 0 = F TCP, 1 = F CONT
Machine kinematics				
	290	5	-	0: Temperature compensation not active 1: Temperature compensation active
		10	-	Index of the machine kinematics from Channels/ChannelSettings/CfgKinList/kinCompositeModels programmed in FUNCTION MODE MILL or FUNCTION MODE TURN –1 = Not programmed.
Read data of the machine kinematics				
	295	1	QS parameter no.	Read the axis names of the active 3-axis kinematics. The axis names are written according to QS(IDX), QS(IDX+1), and QS(IDX+2). 0 = Operation successful
		2	0	Is FACING HEAD POS function active? 1 = Yes, 0 = No
		4	Rotary axis	Read whether the defined rotary axis participates in the kinematic calculation. 1 = Yes, 0 = No (A rotary axis can be excluded from the kinematics calculating using M138.) Index: 4, 5, 6 (A, B, C)
		5	Secondary axis	Read whether the given secondary axis is used in the kinematics model. –1 = Axis not in the kinematics model 0 = Axis is not included in the kinematics calculation:

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		6	Axis	Angle head: Displacement vector in the basic coordinate system B-CS through angle head Index: 1, 2, 3 (X, Y, Z)
		7	Axis	Angle head: Direction vector of the tool in the basic coordinate system B-CS Index: 1, 2, 3 (X, Y, Z)
		10	Axis	Determine programmable axes. Determine the axis ID associated with the specified axis index (index from CfgAxis/axisList). Index: 1 to 9 (X, Y, Z, A, B, C, U, V, W)
		11	Axis ID	Determine programmable axes. Determine the index of the axis (X = 1, Y = 2, ...) for the specified axis ID Index: Axis ID (index from CfgAxis/axisList)

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Modify the geometrical behavior				
	310	20	Axis	Diameter programming: –1 = on, 0 = off
		126	-	M126: –1 = on, 0 = off
Current system time				
	320	1	0	System time in seconds that have elapsed since 01.01.1970, 00:00:00 (real time).
			1	System time in seconds that have elapsed since 01.01.1970, 00:00:00 (look-ahead calculation).
		3	-	Read the processing time of the current NC program.
Formatting of system time				
	321	0	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: DD.MM.YYYY hh:mm:ss
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: DD.MM.YYYY hh:mm:ss
		1	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: D.MM.YYYY h:mm:ss
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: D.MM.YYYY h:mm:ss
		2	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: D.MM.YYYY h:mm
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: D.MM.YYYY h:mm
		3	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: D.MM.YY h:mm
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: D.MM.YY h:mm

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		4	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: YYYY-MM-DD hh:mm:ss
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: YYYY-MM-DD hh:mm:ss
		5	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: YYYY-MM-DD hh:mm
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: YYYY-MM-DD hh:mm
		6	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: YYYY-MM-DD h:mm
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: YYYY-MM-DD h:mm
		7	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: YY-MM-DD h:mm
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: YY-MM-DD h:mm
		8	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: DD.MM.YYYY
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: DD.MM.YYYY
		9	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: D.MM.YYYY
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: D.MM.YYYY

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		10	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: D.MM.YY
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: D.MM.YY
		11	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: YYYY-MM-DD
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: YYYY-MM-DD
		12	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: YY-MM-DD
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: YY-MM-DD
		13	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: hh:mm:ss
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: hh:mm:ss
		14	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: h:mm:ss
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: h:mm:ss
		15	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: h:mm
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: h:mm

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		16	0	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (real time) Format: DD.MM.YYYY hh:mm
			1	Formatting of: System time in seconds that have elapsed since 00:00:00 UTC on January 1, 1970 (look-ahead calculation) Format: DD.MM.YYYY hh:mm
		20	0	The current calendar week number according to ISO 8601 (real time)
			1	The current calendar week number according to ISO 8601 (look-ahead calculation)
Global Program Settings (GPS): Global activation status				
	330	0	-	0 = No Global Program Settings active 1 = Any GPS settings active
Global Program Settings (GPS): Individual activation status				
	331	0	-	0 = No Global Program Settings active 1 = Any GPS settings active
		1	-	GPS: Basic rotation 0 = Off, 1 = On
		3	Axis	GPS: Mirroring 0 = Off, 1 = On Index: 1 - 6 (X, Y, Z, A, B, C)
		4	-	GPS: Shift in the modified workpiece system 0 = Off, 1 = On
		5	-	GPS: Rotation in input system 0 = Off, 1 = On
		6	-	GPS: Feed rate factor 0 = Off, 1 = On
		8	-	GPS: Handwheel superimpositioning 0 = Off, 1 = On
		10	-	GPS: Virtual tool axis VT 0 = Off, 1 = On
		15	-	GPS: Selection of the handwheel coordinate system 0 = Machine coordinate system M-CS 1 = Workpiece coordinate system W-CS 2 = Modified workpiece coordinate system mW-CS 3 = Working plane coordinate system WPL-CS
		16	-	GPS: Shift in the workpiece system 0 = Off, 1 = On
		17	-	GPS: Axis offset 0 = Off, 1 = On

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Global Program Settings (GPS)				
	332	1	-	GPS: Angle of a basic rotation
		3	Axis	GPS: Mirroring 0 = Not mirrored, 1 = Mirrored Index: 1 to 6 (X, Y, Z, A, B, C)
		4	Axis	GPS: Shift in the modified workpiece coordinate system mW-CS Index: 1 to 6 (X, Y, Z, A, B, C)
		5	-	GPS: Angle of rotation in input coordinate system I-CS
		6	-	GPS: Feed rate factor
		8	Axis	GPS: Handwheel superimpositioning Maximum value Index: 1 to 10 (X, Y, Z, A, B, C, U, V, W, VT)
		9	Axis	GPS: Value for handwheel superimpositioning Index: 1 to 10 (X, Y, Z, A, B, C, U, V, W, VT)
		16	Axis	GPS: Shift in the workpiece coordinate system W-CS Index: 1 to 3 (X, Y, Z)
		17	Axis	GPS: Axis offset Index: 4 to 6 (A, B, C)
TS touch trigger probe				
	350	50	1	Touch probe type: 0: TS120, 1: TS220, 2: TS440, 3: TS630, 4: TS632, 5: TS640, 6: TS444, 7: TS740
			2	Line in the touch-probe table
		51	-	Effective length
		52	1	Effective radius of the stylus tip
			2	Rounding radius
		53	1	Center offset (reference axis)
			2	Center offset (minor axis)
		54	-	Spindle-orientation angle in degrees (center offset)
		55	1	Rapid traverse
			2	Measuring feed rate
			3	Feed rate for pre-positioning: FMAX_PROBE or FMAX_MACHINE
		56	1	Maximum measuring range
			2	Set-up clearance
		57	1	Spindle orientation possible 0=No, 1=Yes
			2	Angle of spindle orientation in degrees

Group name	Group number ID...	System data number NO....	Index IDX...	Description
TT tool touch probe for tool measurement				
	350	70	1	TT: Touch probe type
			2	TT: Line in the tool touch probe table
			3	TT: Designation of the active line in the touch-probe table
			4	TT: Touch probe input
		71	1/2/3	TT: Touch probe center (REF system)
		72	-	TT: Touch probe radius
		75	1	TT: Rapid traverse
			2	TT: Measuring feed rate with stationary spindle
			3	TT: Measuring feed rate with rotating spindle
		76	1	TT: Maximum probing path
			2	TT: Safety clearance for linear measurement
			3	TT: Safety clearance for radius measurement
			4	TT: Distance from the lower edge of the cutter to the upper edge of the stylus
		77	-	TT: Spindle speed
		78	-	TT: Probing direction
		79	-	TT: Activate radio transmission
			-	TT: Stop probing movement upon stylus deflection
		100	-	Distance after which the probe is deflected during touch probe simulation

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Preset from touch probe cycle (probing results)				
	360	1	Coordinate	Last preset of a manual touch probe cycle, or last touch point from Cycle 0 (input coordinate system). Compensations: length, radius, and center offset
		2	Axis	Last preset of a manual touch probe cycle, or last touch point from Cycle 0 (machine coordinate system, only axes from the active 3D kinematics are allowed as index). Compensation: only center offset
		3	Coordinate	Result of measurement in the input system of touch probe Cycles 0 and 1. The measurement result is read out in the form of coordinates. Compensation: only center offset
		4	Coordinate	Last preset of a manual touch probe cycle, or last touch point from Cycle 0 (workpiece coordinate system). The measurement result is read in the form of coordinates. Compensation: only center offset
		5	Axis	Axis values, not compensated
		6	Coordinate / axis	Readout of the measurement results in the form of coordinates / axis values in the input system from probing operations. Compensation: only length
		10	-	Oriented spindle stop
		11	-	Error status of probing: 0: Probing was successful –1: Touch point not reached –2: Touch probe already deflected at the start of the probing process

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Settings for touch probe cycles				
	370	2	-	Rapid traverse for measurement
		3	-	Machine rapid traverse as rapid traverse for measurement
		5	-	Angle tracking on/off
		6	-	Automatic measuring cycles: interruption with info about on/off
		7	-	Reaction when the automatic 14xx measuring cycle does not reach the probing point: 0 = Cancellation 1 = Warning 2 = No message In case of values 1 and 2, the measurement result must be evaluated, and a corresponding reaction is required.
Read values from or write values to the active datum table				
	500	Row number	Column	Read values
Read values from or write values to the preset table (basic transformation)				
	507	Row number	1-6	Read values
Read axis offsets from or write axis offsets to the preset table				
	508	Row number	1-9	Read values
Data for pallet machining				
	510	1	-	Active line
		2	-	Current pallet number. Read value of the NAME column of the last PAL-type entry. If the column is empty or does not contain a numerical value, a value of –1 is returned.
		3	-	Active row of the pallet table.
		4	-	Last line of the NC program for the current pallet.
		5	Axis	Tool-oriented editing: Clearance height is programmed: 0 = No, 1 = Yes Index: 1 - 9 (X, Y, Z, A, B, C, U, V, W)
		6	Axis	Tool-oriented editing: Clearance height The value is invalid if ID510 NR5 returns the value 0 with the corresponding IDX. Index: 1 - 9 (X, Y, Z, A, B, C, U, V, W)
		10	-	Row number up to which the pallet table is to be searched during block scan.
		20	-	Type of pallet editing? 0 = Workpiece-oriented 1 = Tool oriented

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		21	-	Automatic continuation after NC error: 0 = Locked 1 = Active 10 = Abort continuation 11 = Continuation with the rows in the pallet table that would have been executed next if not for the NC error 12 = Continuation with the row in the pallet table in which the NC error arose 13 = Continuation with the next pallet

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Read data from the point table				
	520	Row number	10	Read value from active point table.
			11	Read value from active point table.
			1-3 X/Y/Z	Read value from active point table.
Read or write the active preset				
	530	1	-	Number of the active preset in the active preset table.
Active pallet preset				
	540	1	-	Number of the active pallet preset. Returns the number of the active preset. If no pallet preset is active, then the function returns the value -1.
		2	-	Number of the active pallet preset. Same as NO1.
Values for the basic transformation of the pallet preset				
	547	Row number	Axis	Read the basic transformation values from the pallet-preset table.. Index: 1 to 6 (X, Y, Z, SPA, SPB, SPC)
Axis offsets from the pallet preset table				
	548	Row number	Offset	Read the axis-offset values from the pallet preset table.. Index: 1 to 9 (X_OFFS, Y_OFFS, Z_OFFS,...)
OEM offset				
	558	Row number	Offset	Read values for OEM offset.. Index: 4 to 9 (A_OFFS, B_OFFS, C_OFFS,...)
Read and write the machine status				
	590	2	1-30	Freely available; not deleted during program selection.
		3	1-30	Freely available; not deleted during a power failure (persistent storage).
Read/write look-ahead parameter of a single axis (at machine level)				
	610	1	-	Minimum feed rate (**MP_minPathFeed**) in mm/min
		2	-	Minimum feed rate at corners (**MP_minCornerFeed**) in mm/min
		3	-	Feed-rate limit for high speeds (**MP_maxG1Feed**) in mm/min
		4	-	Max. jerk at low speeds (**MP_maxPathJerk**) in m/s^3
		5	-	Max. jerk at high speeds (**MP_maxPathJerkHi**) in m/s^3

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		6	-	Tolerance at low speeds (**MP_pathTolerance**) in mm
		7	-	Tolerance at high speeds (**MP_pathToleranceHi**) in mm
		8	-	Max. derivative of jerk (**MP_maxPathYank**) in m/s^4
		9	-	Tolerance factor for curve machining (**MP_curveTolFactor**)
		10	-	Factor for max. permissible jerk at curvature changes (**MP_curveJerkFactor**)
		11	-	Maximum jerk with probing movements (**MP_pathMeasJerk**)
		12	-	Angle tolerance for machining feed rate (**MP_angleTolerance**)
		13	-	Angle tolerance for rapid traverse (**MP_angleToleranceHi**)
		18	-	Radial acceleration with machining feed rate (**MP_maxTransAcc**)
		19	-	Radial acceleration with rapid traverse (**MP_maxTransAccHi**)
		20	Index of physical axis	Max. feed rate (**MP_maxFeed**) in mm/min
		21	Index of physical axis	Max. acceleration (**MP_maxAcceleration**) in m/s^2
		22	Index of physical axis	Maximum transition jerk of the axis in rapid traverse (**MP_axTransJerkHi**) in m/s^2
		23	Index of physical axis	Maximum transition jerk of the axis during machining free rate (**MP_axTransJerk**) in m/s^3
		24	Index of physical axis	Acceleration feedforward control (**MP_compAcc**)
		25	Index of physical axis	Axis-specific jerk at low speeds (**MP_axPathJerk**) in m/s^3
		26	Index of physical axis	Axis-specific jerk at high speeds (**MP_axPathJerkHi**) in m/s^3
		27	Index of physical axis	More precise tolerance examination in corners (**MP_reduceCornerFeed**) 0 = deactivated, 1 = activated
		28	Index of physical axis	DCM: Maximum tolerance for linear axes in mm (**MP_maxLinearTolerance**)
		29	Index of physical axis	DCM: Maximum angle tolerance in [°] (**MP_maxAngleTolerance**)
		30	Index of physical axis	Tolerance monitoring for successive threads (**MP_threadTolerance**)

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		31	Index of physical axis	Form (**MP_shape**) of the **axisCutterLoc** filter 0: Off 1: Average 2: Triangle 3: HSC 4: Advanced HSC
		32	Index of physical axis	Frequency (**MP_frequency**) of the **axisCutterLoc** filter in Hz
		33	Index of physical axis	Form (**MP_shape**) of the **axisPosition** filter 0: Off 1: Average 2: Triangle 3: HSC 4: Advanced HSC
		34	Index of physical axis	Frequency (**MP_frequency**) of the **axisPosition** filter in Hz
		35	Index of physical axis	Order of the filter for **Manual** operating mode (**MP_manualFilterOrder**)
		36	Index of physical axis	HSC mode (**MP_hscMode**) of the **axisCutterLoc** filter
		37	Index of physical axis	HSC mode (**MP_hscMode**) of the **axisPosition** filter
		38	Index of physical axis	Axis-specific jerk for probing movements (**MP_axMeasJerk**)
		39	Index of physical axis	Weighting of the filter error for calculating filter deviation (**MP_axFilterErrWeight**)
		40	Index of physical axis	Maximum filter length of position filter (**MP_maxHscOrder**)
		41	Index of physical axis	Maximum filter length of CLP filter (**MP_maxHscOrder**)
		42	-	Maximum feed rate of the axis at machining feed rate (**MP_maxWorkFeed**)
		43	-	Maximum path acceleration at machining feed rate (**MP_maxPathAcc**)
		44	-	Maximum path acceleration at rapid traverse (**MP_maxPathAccHi**)
		45	-	Shape of the smoothing filter (**CfgSmoothingFilter/shape**) 0 = Off 1 = Average 2 = Triangle
		46	-	Order of smoothing filter (only odd-numbered values) (**CfgSmoothingFilter/order**)

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		49	-	Filter reduction mode (**CfgPositionFilter/timeGainAtStop**) 0 = Off 1 = NoOvershoot 2 = FullReduction
		51	Index of physical axis	Compensation of following error in the jerk phase (**MP_lpcJerkFact**)
		52	Index of physical axis	kv factor of the position controller in 1/s (**MP_kvFactor**)
		53	Index of physical axis	Radial jerk, normal feed rate (**MP_maxTransJerk**)
		54	Index of physical axis	Radial jerk, high feed rate (**MP_maxTransJerkHi**)
Read or write look-ahead parameters of a single axis (at cycle level)				
	613	see ID610	see ID610	Same as ID610 but is only in effect at the cycle level. Overwrite values from the machine configuration and values at the machine level. **Further information:** "FN functions ID610, ID611, ID613", Page
Measure the maximum utilization of an axis				
	621	0	Index of physical axis	Conclude measurement of the dynamic load and save the result in the specified Q parameter.
Read SIK contents				
	630	0	Option no.	You can explicitly determine whether the SIK option given under **IDX** has been set or not. 1 = option is enabled 0 = option is not enabled
		1	-	You can determine whether a Feature Content Level (for upgrade functions) is set, and which one. –1 = No FCL is set <No.> = FCL that is set
		2	-	Read serial number of the SIK -1 = No valid SIK in the system
		3	-	Read the SIK type (generation) 1 = SIK1 or no SIK 2 = SIK2
		4	Option number (4 digits)	Read the status of a software option (only available with SIK2) 0 = Not enabled 1 or higher = Number of enabled options
		10	-	Define the type of control: 0 = iTNC 530 1 = NCK-based control (TNC7, TNC 640, TNC 620, TNC 320, TNC 128, PNC 610, ...)

Group name	Group number ID...	System data number NO....	Index IDX...	Description
General data of the grinding wheel				
	780	2	-	Width
		3	-	Overhang
		4	-	Alpha angle (optional)
		5	-	Gamma angle (optional)
		6	-	Depth (optional)
		7	-	Rounding radius at the "Further" edge (optional)
		8	-	Rounding radius at the "Nearer" edge (optional)
		9	-	Rounding radius at the "Nearest" edge (optional)
		10	-	Active edge: 1 = Further 2 = Nearer 3 = Nearest 4 = Special 5 = FurtherBack 6 = NearerBack 7 = NearestBack 8 = SpecialBack 9 = FurtherWheelRad 10 = NearerWheelRad
		11	-	Type of grinding wheel (straight / angular)
		12	-	External or internal wheel?
		13	-	Compensation angle of the B axis (with respect to the base angle of the location)
		14	-	Type of angular wheel
		15	-	Total length of the grinding wheel
		16	-	Length of the inner edge of the grinding wheel
		17	-	Minimum wheel diameter (wear limit)
		18	-	Minimum wheel width (wear limit)
		19	-	Tool number
		20	-	Cutting speed
		21	-	Maximum permissible cutting speed
		27	-	Wheel basic type: with relief cut
		28	-	Relief cut on the outside
		29	-	Relief cut on the inside
		30	-	Definition status
		31	-	Radius compensation
		32	-	Compensation of total length
		33	-	Compensation of overhang

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		34	-	Compensation for the length to the inner-most edge
		35	-	Radius of the shaft of the grinding wheel
		36	-	Initial dressing performed?
		37	-	Dresser location for initial dressing
		38	-	Dresser tool for initial dressing
		39	-	Has the grinding wheel been measured?
		51	-	Dresser tool for dressing on the diameter
		52	-	Dresser tool for dressing on the outer edge
		53	-	Dresser tool for dressing on the inner edge
		54	-	Dressing of the diameter according to the number of calls
		55	-	Dressing of the outer edge according to the number of calls
		56	-	Dressing of the inner edge according to the number of calls
		57	-	Dressing counter of the diameter
		58	-	Dressing counter of the outer edge
		59	-	Dressing counter of the inner edge
		60	-	Selection of compensation method
		61	-	Inclination angle of dressing tool
		101	-	Radius of grinding wheel

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Datum shift for the grinding wheel				
	781	1	Axis	Datum shift from calibrating the front edges
		2	Axis	Datum shift from calibrating the rear edges
		3	Axis	Datum shift from setup
		4	Axis	Programmed wheel-specific datum shift
		5-9	Axis	Additional wheel-specific datum shift
Geometry of the grinding wheel				
	782	1	-	Wheel shape
		2	-	Overrun on the outer side
		3	-	Overrun on the inner side
		4	-	Overrun diameter
Detailed geometry (contour) of the grinding wheel				
	783	1	1	Chamfer width of the outer side of the wheel
			2	Chamfer width of the inner side of the wheel
		2	1	Chamfer angle of the outer side of the wheel
			2	Chamfer angle of the inner side of the wheel
		3	1	Corner radius of the outer side of the wheel
			2	Corner radius of the inner side of the wheel
		4	1	Side length of the outer side of the wheel
			2	Side length of the inner side of the wheel
		5	1	Relief length of the outer side of the wheel
			2	Relief length of the inner side of the wheel
		6	1	Relief angle of the outer side of the wheel
			2	Relief angle of the inner side of the wheel
		7	1	Recess length of the outer side of the wheel
			2	Recess length of the inner side of the wheel
		8	1	Departing radius of the outer side of the wheel
			2	Departing radius of the inner side of the wheel
		9	1	Total depth on the outside

Group name	Group number ID...	System data number NO....	Index IDX...	Description
			2	Total depth on the inside
Data for dressing the grinding wheel				
	784	1	-	Number of safety positions
		5	-	Dressing method
		6	-	Number of the dressing program
		7	-	Amount of infeed for dressing
		8	-	Angle of infeed / infeed direction for dressing
		9	-	Number of repetitions for dressing
		10	-	Number of idle strokes for dressing
		11	-	Feed rate for dressing on the diameter
		12	-	Feed rate factor for dressing the side (with respect to NR11)
		13	-	Feed rate factor for dressing radii (with respect to NR11)
		14	-	Feed rate factor for dressing angular wheels (with respect to NR11)
		15	-	Feed rate outside the wheel, for pre-profiling
		16	-	Feed rate factor inside the wheel (with respect to NR15), for pre-profiling
		25	-	Dressing method for intermediate dressing
		26	-	Number of the program for intermediate dressing
		27	-	Amount of infeed for intermediate dressing
		28	-	Angle of infeed / infeed direction for intermediate dressing
		29	-	Number of repetitions for intermediate dressing
		30	-	Number of idle strokes for intermediate dressing
		31	-	Feed rate for intermediate dressing

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Safety positions for the grinding wheel				
	785	1	Axis	Safety position no. 1
		2	Axis	Safety position no. 2
		3	Axis	Safety position no. 3
		4	Axis	Safety position no. 4
Data of the dressing tool for the grinding wheel				
	789	1	-	Type
		2	-	Length L1
		3	-	Length L2
		4	-	Radius
		5	-	Orientation: 1=RadType1, 2=RadType2, 3=RadType3
		10	-	Rotational speed of the dressing spindle

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Read Functional Safety (FS) information				
	820	1	-	FS limitations: 0 = No Functional Safety (FS) 1 = Guard door open (SOM1) 2 = Guard door open (SOM2) 3 = Guard door open (SOM3) 4 = Guard door open (SOM4) 5 = All guard doors closed
Write data for unbalance monitoring				
	850	10	-	Activate and deactivate unbalance monitoring 0 = unbalance monitoring not active 1 = unbalance monitoring active
Counter				
	920	1	-	Planned workpieces. In **Test Run** operating mode the counter generally generates the value 0.
		2	-	Already machined workpieces. In **Test Run** operating mode the counter generally generates the value 0.
		12	-	Workpieces still to be machined. In **Test Run** operating mode the counter generally generates the value 0.
Read and write data of current tool				
	950	1	-	Tool length L
		2	-	Tool radius R
		3	-	Tool radius R2
		4	-	Oversize for tool length DL
		5	-	Tool radius oversize DR
		6	-	Tool radius oversize DR2
		7	-	Tool locked TL 0 = not locked, 1 = locked
		8	-	Number of the replacement tool RT
		9	-	Maximum tool age TIME1
		10	-	Maximum tool age TIME2 at TOOL CALL
		11	-	Current tool age CUR.TIME
		12	-	PLC status
		13	-	Tooth length in the tool axis LCUTS
		14	-	Maximum plunge angle ANGLE
		15	-	TT: Number of tool teeth CUT
		16	-	TT: Wear tolerance for length LTOL
		17	-	TT: Wear tolerance for radius RTOL

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		18	-	TT: Direction of rotation DIRECT 0 = positive, –1 = negative
		19	-	TT: Offset in plane R-OFFS R = 99999.9999
		20	-	TT: Offset in length L-OFFS
		21	-	TT: Break tolerance for length LBREAK
		22	-	TT: Break tolerance for radius RBREAK
		28	-	Maximum spindle speed [rpm] NMAX
		32	-	Point angle TANGLE
		34	-	LIFTOFF allowed (0 = No, 1 = Yes)
		35	-	Wear tolerance for radius R2TOL
		36	-	Tool type TYPE (miller = 0, grinder = 1, ... touch probe = 21)
		37	-	Corresponding line in the touch-probe table
		38	-	Timestamp of last use
		39	-	ACC
		40	-	Pitch for thread cycles
		41	-	AFC: reference load
		42	-	AFC: overload early warning
		43	-	AFC: overload NC stop
		44	-	Exceeding the tool life
		45	-	Front-face width of indexable insert (RCUTS)
		46	-	Usable length of the milling cutter
		47	-	Neck radius of the milling cutter (RN)
		48	-	Radius at the tool tip (R_TIP)

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Read and write data of current turning tool				
	951	1	-	Tool number
		2	-	Tool length XL
		3	-	Tool length YL
		4	-	Tool length ZL
		5	-	Tool length oversize DXL
		6	-	Oversize in tool length DYL
		7	-	Tool length oversize DZL
		8	-	Tooth radius (RS)
		9	-	Tool orientation (TO)
		10	-	Angle of spindle orientation (ORI)
		11	-	Tool angle P_ANGLE
		12	-	Point angle T_ANGLE
		13	-	Recessing width CUT_WIDTH
		14	-	Type (e.g. roughing, finishing, threading, recessing or button tool)
		15	-	Length of cutting edge CUT_LENGTH
		16	-	Compensation of workpiece diameter WPL-DX-DIAM in the working plane coordinate system WPL-CS
		17	-	Compensation of workpiece diameter WPL-DZL in the working plane coordinate system WPL-CS
		18	-	Recessing width oversize
		19	-	Cutting radius oversize
		20	-	Rotation around spatial angle B for offset recessing tools

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Data of the currently active dresser				
	952	1	-	Tool number
		2	-	Tool length XL
		3	-	Tool length YL
		4	-	Tool length ZL
		5	-	Oversize for tool length DXL
		6	-	Oversize for tool length DYL
		7	-	Oversize for tool length DZL
		8	-	Cutter radius
		9	-	Cutting position
		13	-	Cutter width for plate or roll
		14	-	Type (e.g. diamond, plate, spindle, roll)
		19	-	Cutter radius oversize
		20	-	Shaft speed of a dressing spindle or roll
Transformation data for general tools				
	960	1	-	Position within the tool system explicitly defined:
		2	-	Position defined by directions:
		3	-	Shift in X
		4	-	Shift in Y
		5	-	Shift in Z
		6	-	X component of the Z direction
		7	-	Y component of the Z direction
		8	-	Z component of the Z direction
		9	-	X component of the X direction
		10	-	Y component of the X direction
		11	-	Z component of the X direction
		12	-	Type of angle definition:
		13	-	Angle 1
		14	-	Angle 2
		15	-	Angle 3

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Tool usage and tooling				
	975	1	-	Tool usage test for the current NC program: Result –2: Test not possible, function disabled in the configuration Result –1: Test not possible, tool usage file missing Result 0: Test OK, all tools available Result 1: Test not OK
		2	Line	Check availability of the tools required in the pallet from line IDX in the current pallet table. –3 = No pallet is defined in row IDX, or function was called outside of pallet editing –2 / –1 / 0 / 1 see NO1
Touch probe cycles and coordinate transformations				
	990	1	-	Approach behavior: 0 = Standard behavior 1 = Approach probing position without compensation. Effective radius, set-up clearance is zero
		2	16	Automatic / Manual machine operating modes
		4	-	0 = Stylus not deflected 1 = Stylus deflected
		6	-	TT tool touch probe active? 1 = Yes 0 = No
		8	-	Momentary spindle angle in [°]
		10	QS parameter no.	Determine the tool number from the tool name. The return value depends on the rules configured for the search of the replacement tool. If there are multiple tools with the same name, the first tool from the tool table will be selected. If the tool selected by these rules is locked, a replacement tool will be returned. –1: No tool with the specified name found in the tool table or all qualifying tools are locked.
		16	0	0 = Transfer control over the channel spindle to the PLC, 1 = Assume control over the channel spindle
			1	0 = Pass tool spindle control to the PLC, 1 = Take control of the tool spindle

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		19	-	Suppress touch prove movement in cycles: 0 = Movement will be suppressed (CfgMachineSimul/simMode parameter not equal to FullOperation or **Test Run** operating mode is active) 1 = Movement will be performed (CfgMachineSimul/simMode parameter = FullOperation, can be programmed for testing purposes)
		28	-	Read inclination angle of the current tool spindle

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Status of execution				
	992	10	-	Block scan active 1 = yes, 0 = no
		11	-	Block scan—information on block scan: 0 = NC program started without block scan 1 = Iniprog system cycle is run before block scan 2 = Block scan is running 3 = Functions are being updated –1 = Iniprog cycle was canceled before block scan –2 = Cancellation during block scan –3 = Cancellation of the block scan after the search phase, before or during the update of functions –99 = Implicit cancellation
		12	-	Type of canceling for interrogation within the OEM_CANCEL macro: 0 = No cancellation 1 = Cancellation due to error or emergency stop 2 = Explicit cancellation with internal stop after stop in the middle of the block 3 = Explicit cancellation with internal stop after stop at the end of a block
		14	-	Number of the last **FN 14** error
		16	-	Real execution active? 1 = execution, 0 = simulation
		17	-	2D graphics during programming active? 1 = Yes 0 = No
		18	-	Live programming graphics (**AUTO DRAW** soft key) active? 1 = Yes 0 = No
		20	-	Information on combined milling/turning mode of operation: 0 = Milling (after **FUNCTION MODE MILL**) 1 = Turning (after **FUNCTION MODE TURN**) 10 = Execute the operations for the turning-to-milling transition 11 = Execute the operations for the milling-to-turning transition
		21	-	Cancellation during dressing operation for querying within the OEM_CANCEL macro: 0 = Cancellation was not during dressing

Group name	Group number ID...	System data number NO....	Index IDX...	Description
				operation 1 = Cancellation during dressing operation
		30	-	Interpolation of multiple axes permitted? 0 = No (e.g. for straight cut control) 1 = yes
		31	-	R+/R– possible/permitted in MDI mode? 0 = No 1 = Yes
		32	Cycle number	Single cycle enabled: 0 = No 1 = Yes
		33	-	Write-access enabled for DNC (Python scripts) for executed entries in the pallet table: 0 = No 1 = Yes
		40	-	Copy tables in **Test Run** operating mode? Value 1 will be set when a program is selected and when the **RESET+START** soft key is pressed. The **iniprog.h** system cycle will then copy the tables and reset the system datum. 0 = no 1 = yes
		41	50	Read units of measure for system datum ID50 (access to tool table). Default: metric units. 0 = Metric 1 = Unit of the active NC program
			507	Reading of the units of measure for accessing the preset table. Default: metric units. 0 = Metric 1 = Unit of the active NC program
		101	-	M101 active (visible condition)? 0 = no 1 = yes
		136	-	M136 active? 0 = no 1 = yes

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Activate machine parameter subfile				
	1020	13	QS parameter no.	Has a machine parameter subfile with path from QS number (IDX) been loaded? 1 = Yes 0 = No
Configuration settings for cycles				
	1030	1	-	Display the **Spindle is not rotating** error message (CfgGeoCycle/**displaySpindleErr**) 0 = No, 1 = Yes
		2	-	Display the **Check the depth sign** error message (CfgGeoCycle/**displayDepthErr**) 0 = No, 1 = Yes
Data transfer between HEIDENHAIN cycles and OEM macros				
	1031	1	0	Component monitoring: counter of the measurement. Cycle 238 Measure machine data automatically increments this counter.
			1	Component monitoring: Type of measurement –1 = No measurement 0 = Circular interpolation test 1 = Waterfall chart test 2 = Frequency response 3 = Envelope curve spectrum 4 = Advanced frequency response
			2	Component monitoring: Index of the axis from CfgAxes**axisList**
			3 – 9	Component monitoring: further arguments depend on the measurement
		2	3 – 9	Component monitoring: further arguments depend on the measurement
		3	0	KinematicsOpt: Read the current cycle number (450-453)
		100	-	Component monitoring: optional names of the monitoring tasks, as specified in **System\Monitoring\CfgMonComponent**. After completion of the measurement, the monitoring tasks stated here are executed consecutively. When assigning the input parameters, remember to separate the listed monitoring tasks by commas.

Group name	Group number ID...	System data number NO....	Index IDX...	Description
User settings for the user interface				
	1070	1	-	Feed rate limit of soft key FMAX; 0 = FMAX is inactive
Bit test				
	2300	Number	Bit number	This function checks whether a bit has been set in a number. The number to be checked is transferred as NR, the bit to be searched for as IDX, with IDX0 designating the least significant bit. To call this function for large numbers, make sure to transfer NR as a Q parameter. 0 = Bit not set 1 = Bit set
Program information (system string)				
	10010	1	0/1/2/3	IDX0 = Complete path of the current main program of pallet program IDX1 = File path of the directory where the NC program is located IDX2 = Name of the NC program, without the path and file extension IDX3 = File extension of the NC program
		2	0/1/2/3	IDX0 = Complete path of the NC program visible in the block display IDX1 = File path of the directory where the NC program is located IDX2 = Name of the NC program without the path and file extension IDX3 = File extension of the NC program
		3	-	Path of the cycle selected with **SEL CYCLE** or **CYCLE DEF 12 PGM CALL**, or path of the currently active cycle
		10	-	Path of the NC program selected with **SEL PGM "..."**.
Indexed access to QS parameters				
	10015	20	QS parameter no.	Reads QS(IDX)
		30	QS parameter no.	Returns the string that you obtain if you replace anything except for letters and digits in QS(IDX) by '_'.
Read channel data (system string)				
	10025	1	-	Name of machining channel (key)
Read data for SQL tables (system string)				
	10040	1	-	Symbolic name of the preset table.
		2	-	Symbolic name of the datum table.
		3	-	Symbolic name of the pallet preset table.
		10	-	Symbolic name of the tool table.

Group name	Group number ID...	System data number NO....	Index IDX...	Description
		11	-	Symbolic name of the pocket table.
		12	-	Symbolic name of the turning tool table
		13	-	Symbolic name of the grinding tool table
		14	-	Symbolic name of the dressing tool table
		21	-	Symbolic name of the compensation table in the T-CS tool coordinate system
		22	-	Symbolic name of the compensation table in the WPL-CS working plane coordinate system

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Values programmed in the tool call (system string)				
	10060	1	-	Tool name
Read machine kinematics (system strings)				
	10290	10	-	Symbolic name of the machine kinematics from Channels/ChannelSettings/CfgKinList/kinCompositeModels programmed in **FUNCTION MODE MILL** or **FUNCTION MODE TURN**.
Traverse range switchover (system string)				
	10300	1	-	Key name of the last active range of traverse
Read current system time (system string)				
	10321	0 - 16, 20	-	0: DD.MM.YYYY hh:mm:ss 1: D.MM.YYYY h:mm:ss 2: D.MM.YYYY h:mm 3: D.MM.YY h:mm 4: YYYY-MM-D hh:mm:ss 5: YYYY-MM-DD hh:mm 6: YYYY-MM-DD h:mm 7: YY-MM-DD h:mm 8: DD.MM.YYYY 9: D.MM.YYYY 10: D.MM.YY 11: YYYY-MM-DD 12: YY-MM-DD 13: hh:mm:ss 14: h:mm:ss 15: h:mm 16: DD.MM.YYYY hh:mm 20: Calendar week as per ISO 8601 Alternatively, with **DAT** in **SYSSTR(...)**, a system time in seconds can be provided that is to be used for formatting.
Read data of touch probes (TS, TT) (system string)				
	10350	50	-	Type of TS probe from TYPE column of the touch probe table (**tchprobe.tp**)
		51	-	Shape of stylus from column STYLUS in the touch probe table (**tchprobe.tp**).
		70	-	Type of TT tool touch probe from CfgTT/type.
		73	-	Key name of the active tool touch probe TT from **CfgProbes/activeTT**.
		74	-	Serial number of the active tool touch probe TT from **CfgProbes/activeTT**.
Read the data for pallet machining (system string)				
	10510	1	-	Pallet name
		2	-	Path of the selected pallet table.

Group name	Group number ID...	System data number NO....	Index IDX...	Description
Read version ID of the NC software (system string)				
	10630	10	-	The string corresponds to the format of the version ID shown (e.g., **340590 09** or **817601 05 SP1**)
General data of the grinding wheel				
	10780	1	-	Name of wheel
Read information on unbalance cycle (system string)				
	10855	1	-	Path of the unbalance calibration table belonging to the active kinematics
Read data of the current tool (system string)				
	10950	1	-	Current tool name
		2	-	Entry from the DOC column of the active tool
		3	-	AFC control setting
		4	-	Tool-carrier kinematics
		5	-	Entry from the DR2TABLE column – file name of the compensation value table for 3D-ToolComp
		6	-	Entry from the TSHAPE column - file name of the 3D tool shape (*.stl)
Read information from OEM macros and HEIDENHAIN cycles (system string)				
	11031	10	-	Returns the selection of the FUNCTION MODE SET <OEM mode> macro as a string.
		100	-	Cycle 238: list of key names for component monitoring
		101	-	Cycle 238: file names for log file

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