

SINUMERIK MCU 1720

CNC software 1.24

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This document is used as instructions for the SINUMERIK MCU1720 CNC software 1.24.

Please read the documents carefully because they contain important information for installing and using the software.

Siemens observes standard data protection principles, in particular the principle of privacy by design. For this product, this means:

The product does not process or store any personal data, only technical function data (e.g. time stamps). If the user links this data with other data (e.g. shift schedules) or if he/she stores personal data on the same medium (e.g. hard disk), thus personalizing it, he/she has to ensure compliance with the applicable data protection stipulations.

Cybersecurity information

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial cybersecurity concept. Siemens' products and solutions constitute one element of such a concept. For more information about industrial cybersecurity, please visit

www.siemens.com/cybersecurity-industry.

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1 SOFTWARE COMPONENTS

CNC software 1.24 (internal version 01.24.00.00.028) contains the following components:

Component	Version
PLC	06.24.01.01.010
NCK-Adapter	01.10.006
smted	06.24.00.00.011
Cycles	06.24.00.00.015
NCK	146.02.00
SINUMERIK Security Host	01.02.00.00.000122
SINUMERIK Logical Drives Deamon	07.01.0004
HMIARC tool	04.09.00.01.001
CP15431	02.00.09.02
Hypervisor	01.30.01.00
SINUMERIK Diagnosis Data Collector	02.09.02.00
COS	03.00.07.00
ComProxy	01.02.09
ComPH_S7	01.02.12
CM15425	02.00.10.03
Sinumerik ComServer	01.10.02
DiagSrv Application	01.22.01
SINUMERIK_DRM	01.00.00.03
NCKFSDRV	04.07.01.09.001
SINUMERIK Machining Technology Extension Framework	06.24.00.00.009
LinuxBase (NCU)	065.00.00.0026

2 FUNCTIONS and OPTIONS

2.1 Functions

SW 1.24

- TIA Portal SINUMERIK STEP 7 Toolbox V19 SP1
see Online Help “Configuring and programming SINUMERIK” - “What’s new in V19 SP1”.
- SINUMERIK Operate /PCU modular for MC V1.24
- OPC-UA V4.2

SW 1.23 HF1

- none

SW 1.23

- Security Local User Management can be activated.
- Security Trust relation between IPC and NCU.
- TIA Portal SINUMERIK STEP 7 Toolbox V19
see Online Help “Planning and programming” - “What’s new in V19”.
- SINUMERIK Operate /PCU modular for MC V1.23
- OPC-UA V4.1SP1

SW 1.22 HF1

- none

SW 1.22

- TIA Portal Toolbox V18 SP1
- SINUMERIK Operate /PCU modular for MC V1.22
- HT2/HT10 functionality
- OPC-UA

SW 1.21 HF1

- none

SW 1.21

- none

SW 1.20 HF2

- none

SW 1.20 HF1

- none

SW 1.20

- none

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SW 1.15 SP3

- none

SW 1.15 SP2 HF2

- none

SW 1.15 SP2

- none

SW 1.15 SP1

- none

SW 1.15 HF1

- none

SW 1.15

- none

Functions:

- CU320-2PN can be used as NC axes

2.2 OptionenSW 1.24

- none

SW 1.23

- none

SW 1.22 HF1

- none

SW 1.22

- SINUMERIK MC - SINUMERIK INTEGRATE LOCK MYCYCLES
6FC5800-0CP54-0YB0
- SINUMERIK MC - LAGESOLLWERTFILTER (erweitert)
6FC5800-0CS38-0YB0
- SINUMERIK MC - Bahnsteuerbetrieb (G64) erweitert
6FC5800-0CS37-0YB0
- SINUMERIK MC - SINUMERIK Operate /PCU Modular
6FC5800-0CQ11-0YB0
- SINUMERIK MC - Access MyMachine /OPC UA
6FC5800-0CP67-0YB0
- SINUMERIK MC - Access MyMachine /OPC UA - OEM
6FC5800-0CP83-0YB0

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- SINUMERIK PCU-Basesoftware /IPC (>=V15)
6FC5800-0CP83-0YB0

SW 1.21 HF1

- none

SW 1.21

- none

SW 1.20 HF2

- none

SW 1.20 HF1

- none

SW 1.20

- none

SW 1.15 SP3

- Archiving NC-data in Punch tape format
- Start-Stop PLC via HMI-OA Interface

SW 1.15 SP2 HF2

- none

SW 1.15 SP2

- none

SW 1.15 SP1

- none

SW 1.15 HF1

- none

SW 1.15

- 6FC5800-0CE00-0YB0 Protect MyMachine /3D Primitives, 1 ADD. CHANNEL

SW 1.14 HF3

- none

SW 1.14

- 6FC5800-0CM11-0YB0 SINUMERIK MC Fast INTERPOLATION CYCLE (IPO)
- 6FC5800-0CP86-0YB0 SINUMERIK PCU-BASESOFTWARE
- 6FC5800-0CW64-0YB0 SINUMERIK MC Fabrication ADVANCED package
- 6FC5800-0CW65-0YB0 SINUMERIK MC Fabrication PERFORMANCE package

SW 1.13 HF6

- none

SW 1.13 HF2

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- 6FC5800-OCA00-0YB0 ADDITIONAL 1 AXIS/SPINDLE
- 6FC5800-OCC10-0YB0 ADDITIONAL 1 CHANNEL
- 6FC5800-OCM02-0YB0 SYNCHRONOUS AXIS PAIR (GANTRY AXES)
- 6FC5800-OCM06-0YB0 TANGENTIAL CONTROL
- 6FC5800-OCM07-0YB0 POS.SWITCHING SIGNALS CAM-OPERATED SWITCHGROUP
- 6FC5800-OCM08-0YB0 CONTUR HANDWHEEL
- 6FC5800-OCM15-0YB0 MULTIPLE-AXIS INTERPOLATION
- 6FC5800-OCM18-0YB0 POLYNORMAL INTERPLOATION
- 6FC5800-OCM20-0YB0 ADMITTANCE LINKING AND CURVE TABLES
- 6FC5800-OCM27-0YB0 TRANSMIT AND PERIPHERAL SURFACE TRANSFORMING
- 6FC5800-OCM30-0YB0 MACHINING PACKAGE 5 AXES
- 6FC5800-OCM37-0YB0 OSCILLATION FUNCTION, BLOCK RELATED AND MODAL
- 6FC5800-OCM36-0YB0 SYNCHRONIZED ACTION STAGE 2
- 6FC5800-OCM37-0YB0 PATH VELOCITY-DEPENDENT ANALOG VALUE
- 6FC5800-OCM41-0YB0 ANALYSIS OF INTERNAL DRIVE VALUES
- 6FC5800-OCM43-0YB0 MULTIMODE ACTION
- 6FC5800-OCM48-0YB0 3D-TOOL RADIUS COMPENSATION
- 6FC5800-OCM54-0YB0 BIDIRECTIONAL COMPENSATION
- 6FC5800-OCM55-0YB0 SAG COMPENSATION, MULTI-DIMENSIONAL
- 6FC5800-OCM72-0YB0 GENERIC COUPLING CP-BASIC
- 6FC5800-OCM73-0YB0 GENERIC COUPLING CP-COMFORT
- 6FC5800-OCP18-0YB0 MESUREMENT OF MACHINE KINEMATIC
- 6FC5800-OCP28-0YB0 MEASURING CYCLES
- 6FC5800-OCP60-0YB0 RUN MYHMI /3GL
- 6FC5800-OCP61-0YB0 RUN MYHMI /WINCC
- 6FC5800-OCP75-0YB0 EXECUTE FROM EXTERNAL STORAGE (EES)
- 6FC5800-OCS03-0YB0 PROTECT MyMachine /3D PRIMITIVES
- 6FC5800-OCS07-0YB0 ADVANCED SURFACE
- 6FC5800-OCS16-0YB0 SPLINE-INTERPLOATION
- 6FC5800-OCS60-0YB0 SAFETY INTEGRATED /SI Logic
- 6FC5800-OCW61-0YB0 SINUMERIK MC ECO PACKAGE
- 6FC5800-OCW61-0YB0 SINUMERIK MC ADVANCED PACKAGE
- 6FC5800-OCW62-0YB0 SINUMERIK MC PERFORMANCE PACKAGE
- 6FC5800-OCW63-0YB0 SINUMERIK MC TECHNOLOGY PACKAGE
(Content: spline interpolation, multi-axis interpolation, TRANSMIT, measuring cycles, 5-axis machining package, tool radius correction 3D)

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3 PRECONDITION**3.1 Software**

- SINUMERIK Service System >= V06.50.00.00 (internal V065.00.00.0026)
Note: The internal version is currently displayed in the SINUMERIK Service System.
- Onboard SW (InitNCU) Image >=V06.00.38.00
- SINUMERIK ONE Commissioning auf MCU 1720 / IPC V6.24
- SINUMERIK Operate /PCU Modular for MC V1.24

3.2 Hardware

- SINUMERIK MCU1720 CNC-Software 1.24 may only be used on a SINUMERIK MCU 1720.

3.3 Storage media

- SD-Card 8GB - 6FC5822-1_G46-3YA_

3.4 Software Tools

- TIA Portal V19 Update (latest, not mandatory)
STEP 7 Professional, WinCC Advanced, STEP 7 Safety
- SINUMERIK STEP 7 Toolbox V19 SP1
- SINUMERIK Integrate Create MyHMI /WinCC V19
- Kombinationen TIA Portal / SINUMERIK STEP7 Toolboxes

SIMATIC TIA Portal	SINUMERIK STEP7 Toolbox	SINUMERIK Integrate Create MyHMI /WinCC
V17 Update 5	V17 Update 12	V17
V18	V18 Update 1	V18
V18 Update 2	V18 SP1 Update 1	V18 Update 2
V19	V19	V19
V19	V19 SP1	V19

- TIA Portal Startdrive V19
- SINUMERIK Integrate Create MyHMI /3GL V6.24
- SINUMERIK ONE Commissioning V6.24
- SINUMERIK Operate /PCU Modular for MC V1.24
- AccessMyMachine /P2P from V4.9 SP3
- Lock MyCycles (Option 6FC5800-0BP54-0YB0), Protector V2.11.0

- SINUMERIK Service System V06.50.00.00

3.5 Other requirements

4 INSTALLATION

4.1 General information on installing the CNC-Software

- The SINUMERIK Service System $\geq$ V06.50.00.00 (internal V065.00.00.0026) on a USB stick is required to install the CNC software. Version.
Note: The internal version is currently displayed in the SINUMERIK Service System.
- A new installation can be carried out using the NCU service system and VNC Viewer (AccessMyMachine /P2P).
- The description of the procedure can be found in the SINUMERIK MC Commissioning manual (Chapter Installation / upgrading) published in SIEMENS Industry Online Support.
- Upgrading with Create MyConfig is not released.
- The MCU1720 must have at least the InitNCU image version 06.00.38.00

4.2 Installing the NCU service system on a USB stick

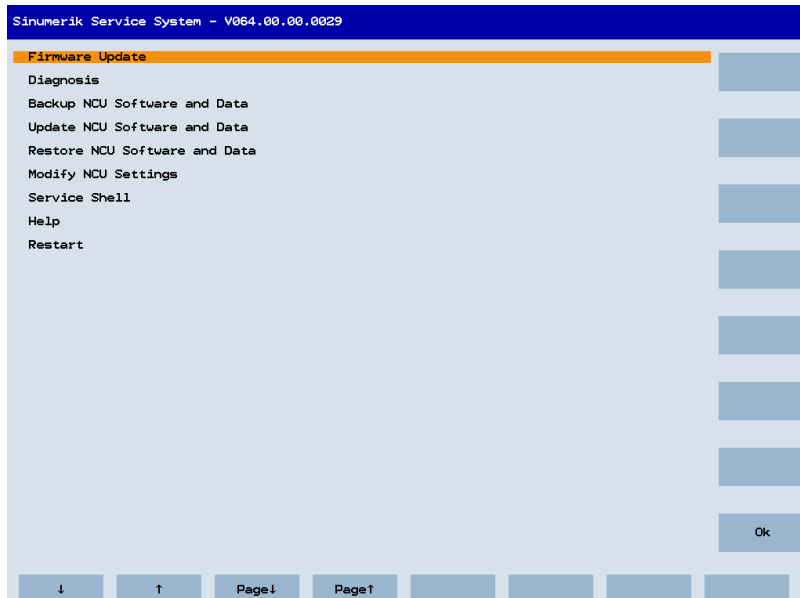
Install the service stick image using tool "AccessMyMachine /P2P" V4.9 and higher using menu item «Tools – write image to CF card».

Installing on MCU1720:

- After the installation has been completed, remove the USB stick from the PG/PC and boot an MCU 1720 one time from this stick. The USB stick can be inserted in one of the two USB ports (X125, X135) of the MCU1720. To do this, the NCK rotary switch of the MCU1720 must be set to ≥ 0 . This boot process takes a little bit longer; a "P" in the 7-segment display of the MCU indicates that the FAT partition of the images on the USB stick is adapted. The 7-segment display goes dark after partitioning has been completed.
- Afterwards, reinsert the stick into the PG/PC. Under Windows, you can now see an empty USB stick. You can see the installed version of the NCU service system in file "Eboot_version.txt". Now copy the required CNC software (file with extension .tgz) to this stick.
- Now insert the USB stick into one of the two USB ports (X125, X135) and switch on the MCU1720 again (NCK rotary switch of the MCU1720 ≥ 0)
- The MCU1720 is now rebooted from this USB stick. This is indicated as the 7-segment display is dark. The NCU service system is called from the PG/PC using program "VNC Viewer AccessMyMachine /P2P" via interface X127. Set the interface properties to "Automatically obtain IP address".

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- USB Stick **6AV6881-0AS42-0AA0** "USB-Flash Drive, 32 GB, USB3.0" is recommended.

4.3 Installing the CNC software

4.3.1 Upgrading the firmware

To do this, at the PG/PC, the files required must be copied to the service stick.

After this, the MCU 1720 is booted from the service stick:



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Select menu item «Firmware Update»:

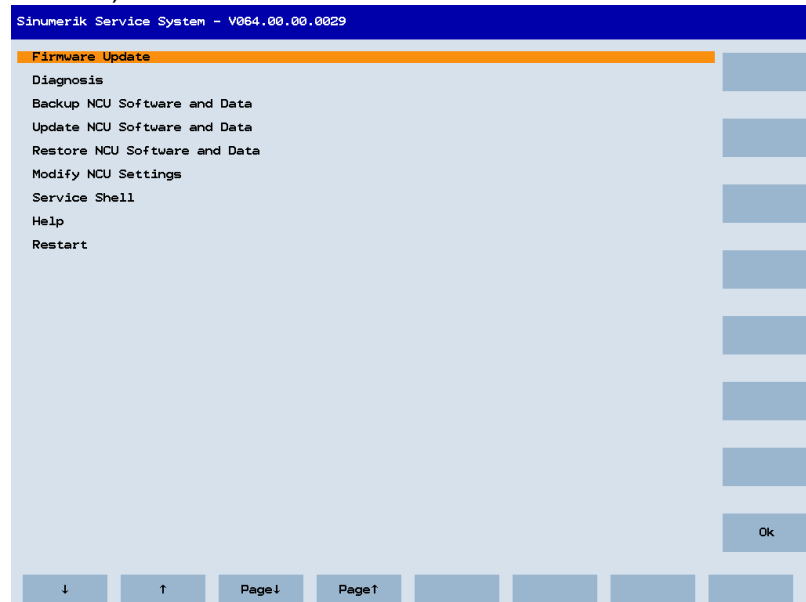


Depending on the firmware update type, acknowledge the corresponding menu item with «OK», and follow the other instructions.

4.3.2 Upgrading the NCU system software

To do this, at the PG/PC, the files required must be copied to the service stick.

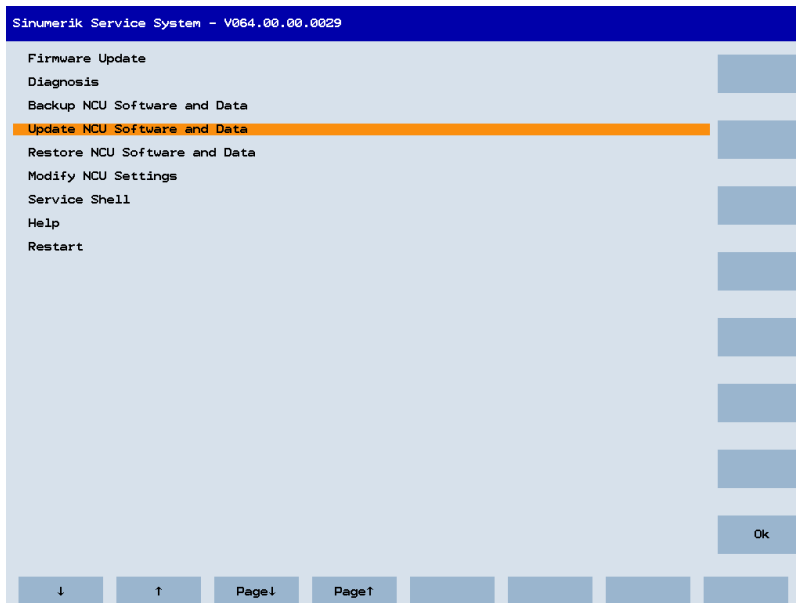
After this, the MCU 1720 is booted from the service stick:



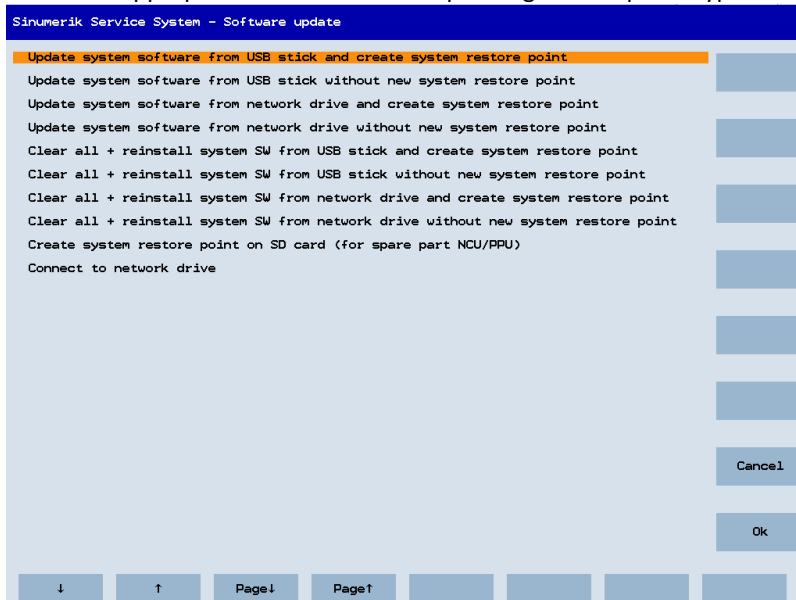
Select menu item «Update NCU Software and Data»:

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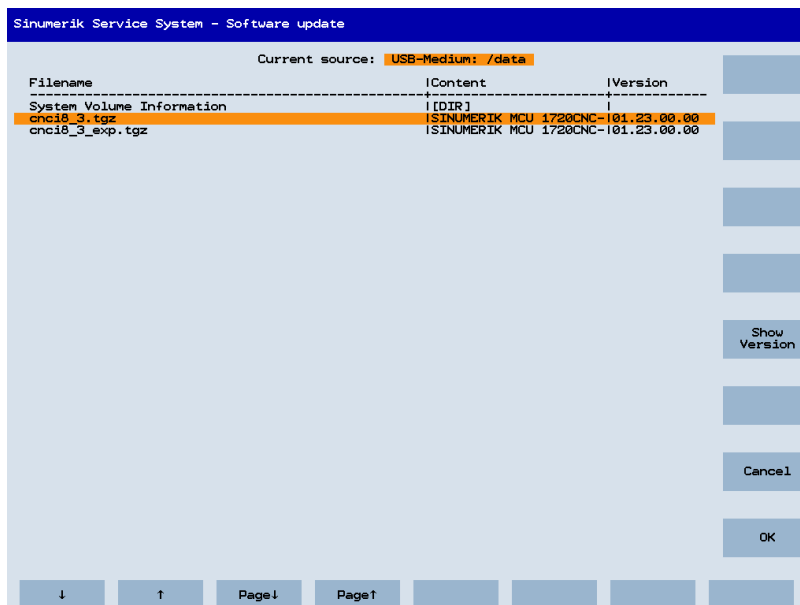
Select the appropriate menu item corresponding to the update type:



Select the desired SW package (.tgz) and confirm with «OK».

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Updated completed:



5 NOTES AND RESTRICTIONS

5.1 General notes/restrictions

- Only an HMI base can be started on the MCU1720. This means that an HMI 3GL application and the SINUMERIK ONE Commissioning Tool cannot be simultaneously started.
- Distributed NCK I/O connected to PROFINET
Distributed NCK I/O (IOs, drives) are only supported at the X150. This means
 - Isochronous NCK drives such as CU320-2 PN can only be operated at the PROFINET PN1 interface (X150).
 - NCK I/O such as ET200SP PN can only be operated at the PROFINET PN1 interface (X150).Access from NCK to PROFINET I/O/drives is only supported up to PROFINET device number 126.
- Control loop optimization (tuning) S210 must be performed manually without SINUMERIK ONE Commissioning Tool support
- PLC setup archive
If a PLC setup user archive is imported, this corresponds to transferring the CPU folder with all run-relevant objects and the hardware configuration.
The CPU compares the content of the configuration on the SIMATIC memory card with the backed-up retentive data. If the backed-up retentive data matches the data of the configuration on the SIMATIC memory card, then the retentive data is retained.
If this data differs, the CPU automatically triggers a general reset (i.e. the retentive data is deleted).
- TIA Portal functionality web server
Access to the PLC web server via interfaces X127/X130 is not possible using the HTTPS protocol. Only HTTP is supported.
Use interfaces X150/X160 when using HTTPS.
- CA Eco (Protect MyMachine /3D Primitives and Protect MyMachine /3D Primitives, 1 add. channel)
The CA Eco function together with an IPO clock of 2ms is currently not supported.
When activating the options "Protect MyMachine /3D Primitives - 6FC5800-0CS03-0Yx0 / Protect MyMachine /3D Primitives, zus. 1 channel - 6FC5800-0CE00-0Yx0" a new CA algorithm is automatically activated.
The IPO load will be higher due to the new CA algorithm.
Collision avoidance is a computationally intensive function and is therefore not released with the "Fast Interpolation Cycle" option.
Depending on the collision model used and computationally intensive NC functions, it may happen that the collision checks cannot be completed in time. In this case, the collision protection is limited and alarm 26303 "Collision check incomplete" is issued. This alarm can be suppressed by the machine manufacturer (MD11415 \$MN_SUPPRESS_ALARM_MASK_2 bit 29).
Technology G-code groups 59 must be set correctly (DYNNORM, DYNPOS, DYNROUGH, DYNSEMFIN, DYNFINISH, DYNPREC).

Collision avoidance uses the emergency brake ramp in exceptional cases (alarm 26285). The following machine data must be checked and set sensibly:

MD36610 \$MA_AX_EMERGENCY_STOP_TIME

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MD36620 \$MA_SERVO_DISABLE_DELAY_TIME

Depending on the machine and control configuration (low axis dynamics, small IPO cycle), the following machine data may have to be increased:

MD18951 \$MN_MM_COLLISION_PREVIEW_LEN

MD18952 \$MN_MM_COLLISION_BRAKEPATH_LE

If alarm 26285 occurs, it may happen that you have to switch off collision avoidance for free driving via the HMI Operate.

In the case of alarm 26280 in the JOG, reset must be activated before free driving.

- Program lists
Processing of program lists via PLC-NC interface (DB19) with Commissioning Tool is currently not supported.
- Manual reading of a data backup created in V1.14 using TEA file
When manually importing a data backup created in V1.14 using TEA files, the following reset alarm occurs: "1 error in GUD, macro or INI file".
After charging, the operator is also prompted to trigger an NCK reset and after this the alarm is gone and the controller is back to normal.
The general reading of the data backup and the adjustment of the remaining MDs is not affected.
When loading the archive, the alarm is also not noticeable, as a reset is triggered when the NCK is loaded anyway.
- General recommendation for the use of USB sticks at SINUMERIK-Operate/ SINUMERIK ONE Commissioning Tool
After data has been copied to the stick or changes have been made to files on the stick, a short waiting time (about 20 seconds) should be observed before the stick is removed.
- SINUMERIK Tuning Center
SINUMERIK ONE Operate / SINUMERIK ONE Commissioning is not supported.

5.2 Security changes

5.2.1 CNC-Software

SW 1.24

- OpenSSL Upgrade to V3.1.3

SW 1.23 HF1

- None

SW 1.23

- OpenSSL Upgrade to V3.1.3

SW 1.22 HF1

- None

SW 1.22

- SMT - Secure Machine Tool (only PLC/HMI-Security)

SW 1.21 HF1

- None

SW 1.21

- OpenSSL Upgrade auf V3.0.7

5.2.2 TIA Portal Webserver

Safety-relevant notes for the TIA Portal web server

- Activating the web server in STEP 7

Activating the web server reduces the level of protection against unauthorized access to functions and data of this device from the outside and via the network.

When accepting projects from suppliers, in which the web server is already activated and configured on the board, this safety note is not displayed.

- Setting up the user administration

In STEP 7, in the area "Web server > User administration" you must extend the user list.

The user list offers you the following options:

- Create users
- Define access rights
- Assign passwords

Newly created users only have options available to them where the access rights have been specifically assigned.

If you are user that has not logged in, then you access the web server as user "Anyone". User rights should not be assigned to user "Anyone".

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5.3 References to other documents

Content	File name	Comment
Resolved feature limitations	Resolved_feature_limitations_1.24_EN	
Restrictions	In this document, chapter 5	
SINUMERIK Service System	SINUMERIK_Service_System_<xy>_DE/EN	
SINUMERIK STEP7 Toolbox - PLC Basic Program	Path...\Documents\Readme\English ReadMe_PLCBP_en ReadMe_PLCBPPlus_en	

5.4 Restrictions Industrial Cybersecurity

- Security configuration data
Security configuration data (PLC Access Level Password, Protection of confidential PLC Data password, Security Archive password) gets deleted, when encryption key for security configuration data cannot be found after startup. This happens, when you put a SD Card into another NCU and reboot, since it is stored in the NCU hardware! In this case you must read in the security archive to restore security configuration data.
- User Management
 - Configuration of User Management requires mouse and keyboard on non-touch displays.
 - User Lock does not work. If the user gets locked in the user management user can still log on.
- PLC Security
 - The configuration of PLC Access Level Password in Operate requires a manual restart of Operate at the end. Valid for: SINUMERIK MC and PLC S7-1500 standalone.
 - Configuration of protection of confidential PLC data Password in Operate requires at the end a manually reboot from Operate. Valid for: SINUMERIK MC and PLC S7-1500 standalone.
- Security Archives
 - Security Archives taken from software V1.21 cannot be used.
- Security Event Log is not available for external SINUMERIK Operate /PCU modular for MC.

5.5 Notes regarding the CNC software

SW 1.24

- none

SW 1.23 HF1

- none

SW 1.23

- OPC UA 4.1 SP1
To receive SINUMERIK alarms from a node of a Customer Specific Object Model the SINUMERIK node must be mapped.
- Higher protection levels of default directories are implemented for all systems which support DSF-archives. Possible consequences are that certain procedures which are affected by higher protection levels (like trying to write in the CST-directory without needed rights) must be changed. All protection levels from DSF-archives overwrite the current protection levels, even the new introduced levels. The new protection levels are the following:

Directory	Read	Write	Execute	Show	Delete
/_N_MPF_DIR	7	7	0	7	0
/_N_SPF_DIR	7	7	0	7	0
/_N_WKS_DIR	7	4	0	7	0
/_N_CST_DIR	7	0	0	7	0
/_N_CMA_DIR	7	2	0	7	0
/_N_CUS_DIR	7	3	0	7	0
/_N_DEF_DIR	7	3	0	7	0
/_N_SYF_DIR	7	7	0	3	0
/_N_COM_DIR	7	7	0	7	0

SW 1.22 HF1

- None

SW 1.22

- None

SW 1.20

- For the MD10619 \$MN_COLLISION_TOLERANCE, the minimum input value has been changed from 0.001mm to 0.1mm. For upgrades where the original value was less than 0.1mm, the default value of 1mm is now automatically entered. If protected areas come very close (< 1 mm), it may happen that the collision check reports a collision that has not been

reported with a smaller tolerance. The FUNCTION PROTD (Measure distance between two protected areas) may provide a slightly different value.

Password guidelines:

When an NC password is changed, the password for the respective Linux account is also changed.

i.e. when the manufacturer's password is changed, the password for the Linux account "manufact" is also changed.

IMPORTANT: After one of the existing NC passwords (e.g. SUNRISE) has been changed, it is no longer possible to change back to the old password, as it does not correspond to the new guidelines (minimum length 8 characters, uppercase letter, lowercase letter, number).

Notice:

If an access level in NCK is to be set by the PLC via FB4 (PI-Service_N_LOGIN), a password that is used for the NCK (and simultaneously for Linux) must be precisely 8 characters long.

This scenario must be taken into consideration when assigning new passwords. Otherwise, passwords can be 8 - 32 characters long.

The passwords for the NCK and the corresponding Linux accounts of the NCU basic system are now changed with the "Change password" SINUMERIK ONE Commissioning Tool dialog.

5.6 Notes regarding SINUMERIK STEP7 Toolbox

SINUMERIK STEP 7 Toolbox V19 must be used.

This toolbox can be used to engineer SINUMERIK MC hardware.

The software is an option package for SIMATIC TIA Portal V19

The following hardware is supported:

- MCU1720 V1.15, 1.20, 1.21, 1.22, 1.23, 1.24

Supported functions:

- Creating a hardware configuration
- Configuring the S7-1500 PLC
- Support of Safety Integrated
- SINUMERIK DSF archive hardware/software with alarm texts
- Creating NC tags via NC tag access

Unsupported functions:

- Function "Restore factory settings" via SIMATIC TIA Portal V18 is not supported.
- Uploading the PLC project from the MCU1720 is not supported.

New in SW-Version 19 SP1:

- see Online Help "Configuring and programming SINUMERIK" - "What's new in V19 SP1".

New in SW-Version 19:

- When a security program is loaded into the F-CPU, the serial number is read. The automatically read serial number does not correspond to the serial number of the MCU1720 nameplate. To ensure a clear assignment, the serial number of the F-PLC must be read out during commissioning.

There are two ways to determine the serial number:

- Read via Service Stick
Menu item - Show Status, section Mainboard/SerialNo
- Read via SINUMERIK ONE Commissioning Tool or SINUMERIK Operate /PCU modular for MC
Menu item - Diagnose/Version/Hardware

New in SW-Version 18 SP1:

- Installation precondition SIMATIC TIA Portal V18 Update 2
- Support MCU-Firmware NCU-Firmware for SINUMERIK ONE (V6.22) and SINUMERIK MC (V1.22)
- Support of HT2 and HT10 for SINUMERIK MC
- Online & Diagnose Editor for SINUMERIK NCU and SINUMERIK MCU with information on CNC-Software (from V6.22/V1.22)

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- Configuration of WinCC Unified with NCU 1750 or NCU 1760 from V6.21 (option package Create MyHMI /WinCC Unified must be installed)
- New version of the system library for SINUMERIK ONE PLC Basic Program plus (V12.0) with handwheel selection via HMI
- Ctrl-E analysis as part of SINUMERIK ONE PLC Basic Program
- Release of Openness Clients for Windows Server Version (Windows Server 2022 Standard Version 21H2 (64Bit))
- Improved support of terminal modules and free telegrams in the Openness Client for axle drive assignment
- Optimized behavior of the command line parameters /pid and /dev for all Openness clients

New in SW-Version 18:

- Installation precondition SIMATIC TIA Portal V18
- SINUMERIK MC STEP7 Toolbox has been integrated into the SINUMERIK STEP7 Toolbox
- Support MCU-Firmware for V1.15, V1.20, V1.21. SW versions V1.13, V1.14 are no longer supported. Projects with these firmware versions can be upgraded to V18 and continue to be used.
- Support for View-of-Things (VoT) für SINUMERIK MC PLCs
- Support for User Management and Access Control (UMAC) for SINUMERIK and SINUMERIK Openness
- Integration of the Openness Clients for the Engineering Workflow into the Toolbox Setup
- Openness clients for engineering workflow are additionally provided with programming interface via DLL
- Enhancement of the Openness API for importing SINUMERIK alarm texts

5.7 Notes on compatibility SINUMERIK STEP7 Toolbox / PLC Basic program

The PLC Basic program and the projected NCU device are basically backwards compatible up to CNC-SW 6.15.

In the case that no new functions or functional improvements are required from higher versions of NCU devices (HW configuration) and PLC Basic program, the PLC program does not need to be updated.

5.8 Information regarding TIA Portal Startdrive

TIA Portal Startdrive V19 must be used.

5.9 Information regarding SINUMERIK BaseSoftware

The following versions are available:

- SINUMERIK BaseSoftware V14 SP1 HF5
- SINUMERIK BaseSoftware V15
- SINUMERIK BaseSoftware V15 SP1
- SINUMERIK BaseSoftware V15 SP2
- SINUMERIK BaseSoftware V15 SP3

Notes regarding SINUMERIK BaseSoftware V15 SP3:

- none

Notes regarding SINUMERIK BaseSoftware V15 SP2:

- Upgrade from SINUMERIK BaseSoftware V14 SP2 to SINUMERIK BaseSoftware V15 SP2 is possible.

Notes regarding SINUMERIK BaseSoftware V15 SP1:

- SINUMERIK BaseSoftware V15 SP1 is required to operate H2 / HT10.
- Upgrade from SINUMERIK BaseSoftware V15 to SINUMERIK BaseSoftware V15 SP1 is possible.

Note regarding SINUMERIK BaseSoftware V15:

- It is not possible to upgrade from SINUMERIK BaseSoftware V14 SP1 HF5 to SINUMERIK BaseSoftware V15. The ICP must be reinstalled.

By installing SINUMERIK Base Software, the IP address of the internal "Intel® I210 Gigabit Backplane Connection" interface is set to the default value.

5.10 Hinweise zu SINUMERIK Operate /PCU Modular for MC

SINUMERIK Operate /PCU Modular for MC V1.24 must be used.

Note:

In addition, when using SINUMERIK Operate /PCU Modular for MC, the corresponding upgrade instructions must be followed.

SW 1.24

- none

SW 1.23 HF1

- none

SW 1.23

- none

SW 1.22 HF1

- none

SW 6.22

- new Product

Notes:

Program Editor is not part of SINUMERIK Operate /PCU Modular, i.e., no files can be opened in the editor. For SINUMERIK Operate /PCU Modular, only the "Diagnosis" and "Setup" areas are available.

5.11 Information regarding SINUMERIK ONE Commissioning

SINUMERIK ONE Commissioning V6.24 must be used.

Note:

In addition, when using SINUMERIK ONE Commissioning, the corresponding upgrade instructions must be followed.

SW 6.24

- none

SW 6.23 HF1

- none

SW 6.23

- none

SW 6.22 HF1

- none

SW 6.22

- none

SW 6.21

- Fixed: Absolute PLC address with string length makes other addresses in NC/PLC variables table unreadable
- Security functions (Softkey Setup >> Security) are currently not supported.

SW 1.20

- Commissioning tool not operable
If the connection to the NC/PLC is not configured, the commissioning tool cannot be operated.

Workaround:

Connecting to NC/PLC

- Absolute PLC address with string length makes other addresses in NC/PLC variables table unreadable
If a subscription with an array is made for a SINUMERIK MC and then more variables are added, these variables are no longer resolved after the array.

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Workaround:

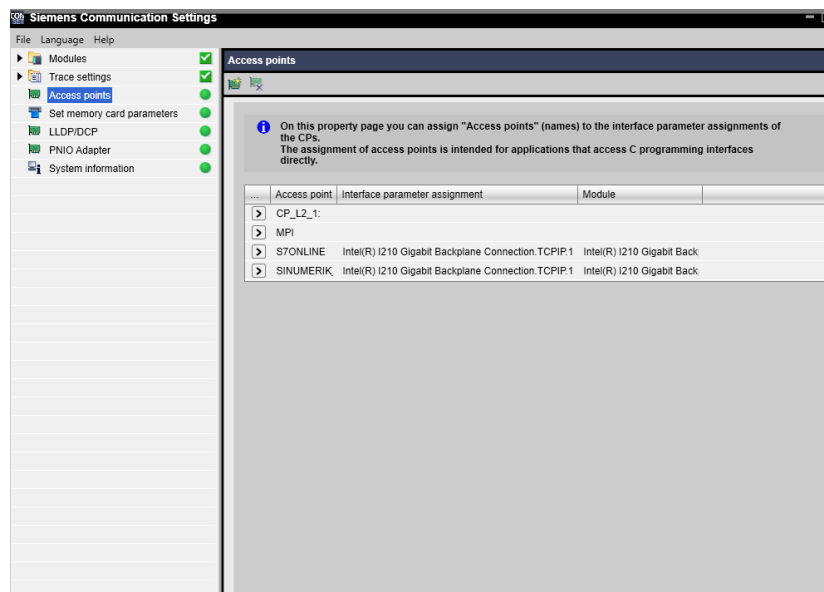
Put array at the end of the variable Set Screen. Or deduct OA as your own subscription for HMI.

Existing SW-Versions:

- Connection to the NC/PLC

In order that in "SINUMERIK ONE Commissioning" a connection can be established to the NC/PLC, a correct network adapter (Gigabit Backplane Connection TCPIP.1) must be manually set in access point S7ONLINE and SINUMERIK.

Otherwise, alarm 150202 is displayed at the HMI. This can be done using the "Siemens Communication Settings" tool.



- Manufacturer, PLC alarms

It is not possible to edit/create manufacturer PLC alarms using the "Edit alarm texts" screen form.

Workaround: Create alarm and message texts using alarm text files. Refer to the "SINUMERIK Operate" IM9 Commissioning Manual, Chapter 13

- Areas/softkeys

For the MCU1720, the following areas/softkeys were removed/disabled:

- Diagnostics >> ">" >> TCP/IP Diag. >> SK "MCP"
- Diagnostics >> ">" >> TCP/IP Diag. >> SK "TCU"
- Commissioning >> HMI >> SK "Ctrl-Energy"
- Commissioning >> ">" >> Networks >> SK "OPC-UA"
- Diagnostics >> SK "Remote Diag"
- Commissioning >> NC >> PROFIBUS >> SK "DP Integrated"
- Commissioning >> NC >> PROFIBUS >> SK "DP X126"
- Commissioning >> NC >> PROFIBUS >> SK "DP X136"

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- Program lists
Processing of program lists via PLC-NC interface (DB19) with Commissioning Tool is currently not supported.
- IBN-archive factory setting of this machine
Creating an IBN archive "Factory setting of this machine" is currently not supported with the Commissioning Tool.
- Machine registration
The registration of the machine via the SINUMERIK ONE Commissioning Tool is currently not supported.

5.12 Information regarding SINUMERIK Integrate Create MyHMI /3GL

SINUMERIK Integrate Create MyHMI /3GL V6.24 must be used.

Existing SW-Versions:

- The HMI base of SINUMERIK ONE, included in "SINUMERIK Integrate Create MyHMI /3GL", should be used for the MCU1720.
- The ToolManagment service has not been released.
- The infrastructure service has not been released.

For additional information, see the manual for the "SINUMERIK Integrate Create MyHMI /3GL" programming package.

5.13 Drive ,NC Extend' for EES**Preparation**

1. On the IPC in Windows (Explorer) set up drive sharing for directory
C:/Programme(x86)/Siemens/SinumerikCommissioning/user/sinumerik/data/prog. The shared drive name must be LOCAL_DRIVE.
2. Start SINUMERIK ONE Commissioning on MCU1720
Set the option P75 under "Commissioning/Licenses/All Options".
Perform NCK-Reset and restart Commissioning-Tool.