Simatic field pg m5 manual

1 Overview Preface 1 SIMATIC Programming Device Security Note Install and connect device 3 Device accreditation of devices 4 Notes on operation and software 5 Expanding device maintenance devices and repairs 7 Technical Specifications 8 Technical Support B Abbreviation 03/2016 A5E AA 2 Notice notice manual and to prevent damage to property. Notices referring to your personal safety are highlighted in manual by security alert symbols, notices referring only to property damage have no security alert symbols. These notices are shown below are credited according to dangerous levels. HAZARDS indicate that death or severe personal injury will result if proper precautions are not taken. WARNING indicates that death or severe personal injury can result if proper precautions are not taken. WARNINGs indicate that minor personal injuries can result if proper precautions are not taken. NOTICE indicates that property damage can result in if proper precautions are not taken. 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Siemens AG Digital Parts Postfach NÜRNBERG GERMANY A5E AA P 02/2016 Subject to changes in Copyright Siemens AG All rights reserved 3 Purposes Preface this Manual contains all the information you need for commission and use. It is intended for programming and testing/debugging personnel who commission devices and link them to other units (automation systems, further programming devices), as well as for service personnel and maintenance that install expansion or conduct error/error analysis. The validity of this documentation This documentation applies to all available versions, and describes the versions sent to the Mac Position in this operating Instructions information scheme available on manual DVDs and Drivers accrypted with your product. For additional instructions on how to operate the software, please refer to the corresponding manual. The PG abbreviation convention or device term is also used in this documentation rather than setting. History Now released this manual version of operation: Comment Issue 03/2016 First edition Operation Instructions, 03/2016, A5E AA 3 4 Preface Operation Instructions 4, 03/2016, A5E AA 5 Table content Preface Overview Product Overview Application Area Highlights External Design Of Device Control Device On/off Clickpad Keyboard Status button displays Security Notes Security Accessories general security instructions for transportation Installation and connecting Device Preparation Checking device identification data Positioning device That Connects devices Connecting connecting connecting power supply devices Connecting Connecting devices to systems and networks That Connect General Information device accreditation permission devices about Switch accreditation on Rechargeable Battery units Using OperationAl Command Battery Operation mode, 03/2016 , A5E AA 5 6 Table of content 5 Notes about the operation and notes of software operating HDD and SSD Optical drive USB sockets with SIM CARD card charging functionTIK card reader for SMC Edit card reader , SD cards and multimedia cards Modify SIMATIK Micro Memory Card EditING SIMATIC Memory Card Using ExpressCard Type Editing wLAN and Bluetooth General Information on WLAN and Bluetooth Security Notices for WLAN and Bluetooth Operation Notes on SIMATIC software Intel Active Management Technology Reliable Platform Module (TPM) Expands the Removal and installation of device maintenance memory module and repairs Installation Maintenance and removes hard drive hard drive kits hardware and SSD kits Replacing hard disk installation and SSD assembly Replaces backup battery Reinstall Software and drivers for devices Shipping conditions operating system Installing drivers and software Installing drivers Installing SIMATIC software Installing Windows Provides language selection using the Multilanguage User interface (MUI) Data Backup / subsequent modifications partition Hardware supported Creating image Customize partition Cycle and Disposal Operation Directive, 03/2016, A5E AA 7 Content schedule 8 Technical specifications Certificate and approval Instructions and declaration of Notes on CE marker ESD Guidelines Technical Specifications Interface external interface External interface Connect cable Bios source system description Overall opening menu BIOS Selection Menu BioS Inventory Exit menu Inventory Bios Inventory error and message system Technology Active Management (AMT) Overall Overview of AMT Recognition Enables Intel AMT / Intel AMT base configuration to default settings with Un-configured Specify network address Determines user consent A.1 Service and supports A.2 Troubleshooting A.2.1 Common Issues A.2.2 Issues with WLAN Glossary Index Operation Directive B , 03/2016, A5E AA 7 8 Content Schedule 8 Operation Directive, 03/2016, Product Overview AA 9 A5E Product Overview Overall Product Is a robust and key exchange tool for solid SIMATIK industrial automation application components designed for use in the field, for example for: configuring, programming and simulating automation solutions in office maintenance, maintenance and completion of on-site service automation in modern office application usage factories in the office or during robust design trips making field PG M5 perfect for a harsh industrial environment. This is evidenced by housing made from impact-resistant magnesium alloys and torsionalrigids and generously sized bumpers in residential corners, among other design features. Operation Directive, 03/2016, A5E AA 9 10 Overall Overview 1.1 Product Lighting Highlights the largest mobiliti possible guaranteed availability of optimum Notebook Industrial Availability Systems (dimensions, weight) for use in narrow spaces in refineries as well as when travelling high-value lithium-ion batteries with a 97 Wh capacity for continued housings made of magnesium alloy housings with soft plastic angles provide good protection for electronics inside the powerful graph guard with a three-head high resolution function, Anti-reflective display, 15.6 in full HD 16:9 ensures ergonomics working in the PROFIBUS DP/MPI Integrated Portal TIA interface that supports the operation of the RS232/TTY (COM1) interface of the COM interface with RS232 functions are integrated in each device by default. Additional TTY options function, which depends on the selected hardware. Integrated card reader for SIMATIC: SIMATIC Memory Card for S7-300/400 SMC (SIMATIC Memory Card for S7-1x00) SIMATIC Micro Memory Card for programming interface S7-300/C7/ET200 for SIMATIC Memory Card, SMC, SIMATIC Micro Memory Card programming interface for EPROM S5 module (depending on configuration) Multi-media card readers integrated for: SD cards (including UHS-II SD) Multi-Media Integrated Card Reader (MMC) for smart card Connections to the company's network and WLAN without additional hardware because two fully independent and integrated Gigabit Ethernet interfaces correspond to IEEE ac Bluetooth Integrated according to standard 4.0 Fast, easy to replace SATA hard drive 4 USB-3.0-port, one of them is a USB port with charging functions for smartphones (on the side, bottom) of the HDA (High Definition Audio) interface for Sound Trusted Platform Module to TPM 2.0 standard Image &amp; Partition Data backup software Software 10 OperationAl Instructions , 03/2016, A5E AA 11 Overview 1.1 Product Description Types Of Construction Of Intel Core Processor i processor RAM Expands to 32 GB DDR4 SODIMM Graphics Graphics Controller: Intel H Graphics memory graphics 530 Graphics graphics: part of the graphics memory is dynamically shared in resolution/frequency/color memory system: according to the power drive graphics setting option and HDD/SSD storage media 100 to 240 V, 2.5 SATA for information on HDD capacity, refer to the RS232/TTY (COM1) DVD+-R/+-RW 25-pin socket message document, no galvanized isolation of the RS232 interface integrated into each device by default. The TTY (20mA) interface depends on the configuration and cannot be re-dropped. The DVI-I DPP displays a Standard USB 3.0 port for the S5 equipment variant, active for up to 100 m. Interface for external monitors (VGA monitors can be operated with maximum DVI/VGA adapter) DVI resolution: 1920 x 1200 pixel Interface for maximum external monitor PPP resolution: 4096 x Hz 4 interface (1x Type C and 3 x Type A), SuperSpeed, 1x with charging functionality 1.5 A PROFIBUS/MPI interface 9-pin sub-socket delivery rate: 9.6 kbaud to 12 Mbaud, can be projected with Ethernet Keyboard Status display software on device (LEDs) 2 x Gigabit Ethernet (RJ45) Standard Notebook Access Battery Status status device to HDD/DVD Access to SD/MMC MPI/DP S5 and S7 Module/Card Reader (except Smart Card Reader) Num Lock Caps Lock WLAN active operational instructions, 03/2016, A5E AA 11 12 Overview 1.2 Design system Operations Software device : Installed: Windows 7 Ultimate 64-bit, 6 German, English, French, Spanish, Italian, Chinese Ready for Windows 10 (can in the shipping stage later) 1.2 1.2 the device's External design display with closed display display status display display trace device display operates 12 Operating Instructions, 03/2016, A5E AA 13 Overview 1.2 Device's Front display design with an open display of the Stereo Speakers plural Display On/off button (power) Touchpad Mouse Keyboard Button View from the Rear Display port (DPP) 2 x Ethernet USB 3.0 Type MPI/DP DVI-I RS232/TTY (TTY function), depending on the HW configuration variant) of the ventilation air branch operations, 03/2016, A5E AA 13 14 Overview 1.2 Display design of the left-hand device Opening for Kensington lock ventilation air socket inlet for connection to power supply: DC IN 19 V Audio jack: UAJ connection for USB audio device 3.0 Type C Multimedia Card Reader for : SD Card (including SD UHS-II) MMC SMC (SIMATIC MC) ExpressCard Reader for: ExpressCard Type 34 View right-hand Smart Card Reader for: Smart card according to ISO/IEC 7816 Smart Card Interface Optical Drive Card reader for: SIM Micro Memory Card Convertible Hard disk card reader for: Sim Card SIMATIC 2 with the Top port covering: USB 3.0 Type Bottom port: USB 3.0 Type A with charging function 14 OperationAl Instructions, 03/2016, A5E AA 15 Overview 1.2 Device Design View from under Protection for memory module The rechargeable plate operator control On/off button 1 On/off button 1 On/off button (power) has the following functions: Turn off PG (hold the PG (hold the button down for about 1 second; response depends on windows power option settings) , 03/2016, A5E AA 15 16 Overview 1.2 Clickpad Device design The Field PG has a pad click with an integrated mouse button. It can be used in many programs (with mouse operation) as an input device to control the cursor and choose the Clickpad menu to move the cursor and to move the left mouse button object, with a mechanical pressure point of the right mouse button, with a mechanical pressure point Different from the touchpad with a different left and right mouse buttons, the mouse button at this point in the click in place In this case, the left or right function of the mouse has been moved to two integrated mouse buttons Pressing lightly on the click of the pad at the bottom of the selected area starting the left or right mouse click. Haptically click the pad provides a significant pressure point. When you only use click the pad to move the cursor, the entire area (including the mouse button) is available. Pressing the left mouse button selects the object. The response to the right mouse button depends on the user's program. Clickpad Function Moves the click of the cursor mouse, left-click the Mouse, Right Click Double-Click, Drag after left (Drag&drop) Triggered by Swipe across the click of the pad with one Taps easy throughout the clickpad area. Briefly presses the left mechanical mouse button. Briefly press the right mouse button. Quickly double-tap the entire click area. Quick double-pressing the left mouse button. Pressing the left mouse button while swipe across the click of the pad with another finger at the same time. 16 OperationAl Instructions, 03/2016, Overview of A5E AA 17 1.2 Design of Note devices Using clicks may require some practice. The clickpad function can be enabled and disabled with hotkey Fn + F4. You can configure the advanced click function under Mouse in Windows Control Panel. The technical principle used means that it is possible to create an uninformed mouse click by clicking the pad when it is used in an environment with EMC disorders. In such an environment, it is a good idea to use an external mouse. Note the information on electromagnetic compatibility in the Technical Specifications section (Page 81). Problems during operation in the environment with EMC disruption high levels of ambient disruption around the M5 PG Field can, in rare cases, cause integrated click damage. The damage manicifies himself in triggering an accidental lock click or delay in the cursor movement. In such cases, we recommend eliminating the cause of the disorder or creating a greater distance to the source of the disorder. If working in an environment exposed to disruption is inevitable, turn off the functionality of the pipe (mouse button emulation) using a padded click drive. After that use the clickpad key below click for the operation of the Keyboard Keyboard arrangement divided into the following functions group: The alphanumeric keyboard field with the hotkeys Control function Repeat function All keys are equipped with repeat functions, i.e. characters repeated as long as the keys are pressed. Operation Command, 03/2016, A5E AA 17 18 Overview 1.2 Design of the device keyboard labeling the keyboard come with international and German labeling. The largest Block alphabet keyboard field is the alphanumeric keyboard with all keys for letters, numerals and special characters. The character arrangement basically matches the regular keyboard. The Caps Lock Keys function activates the upper mode. All characters are later released as capital letters. With multiple keys labeled, the top-left characters are displayed. You can turn off the hat lock by pressing the shift key. Key Num Lock This toggle the numeric keypad emulated between the alphanumeric keys and the number keys. The LED display lights up. Scroll Lock Use this key to decide whether the cursor key should move the cursor or part of the screen (this function is not supported by program). Start the (below Windows) key starts calling the Windows Start menu. Menu key (below Windows) The menu key calls the menu for the selected object. 18 Operation Instructions, 03/2016, Overview A5E AA 19 1.2 Design of the device number pad with this Functional Fn key is activated using the Num Lock key. Characters and numbers labeled at the front of the number pad key can be used by simultaneously pressing Fn and one of these keys. The Twelve function keys can be programmed in the top row of the key. The arrangement of this key depends on the software that is loaded. Hotkeys (affiliate keys) Use the Fn key and the 2nd key (e.g. function key) you activate further lock code for specific applications. Key Fn + Home Fn + End Fn + Fn + F1 Fn + Fn + F3 Fn + Fn + Fn + F5 Fn + F6 Fn + Fn + Fn + Fn + F10 Function Cursor at first Cursor at the end of Disabled PG Change speakers on and off Control menu for display/display and turn off the clickpad Switch function (mouse and mouse pointer button) on and off Standby mode (depending on the Power Button configuration in Windows power options) Hibernation mode (depending on the Power Button configuration in Windows Power Options) Reduces the volume Improves the brightness of the Screen Operation Command screen, 03/2016, Overview of A5E AA 19 20 1.2 Device Status Design displays the SYSTEM LEDS System SHOWS the state of battery operation, device, drivers, modules S5 and S7, MPI/DP and card reader interfaces (except Smart Card Readers). LEDs can also be seen when the display is closed. Red ORANGE GREEN LED DESCRIPTION OFF GREEN ORANGE GREEN flashing ORANGE flashes OFF GREEN BATTERIES are charging batteries are charging too low battery capacity (only with battery operations) No Line Operation Battery Line operations, the device is in standby Battery operation, the device is in Standby Device turned off Access to external memory (hard disk, optical drive) Active MPI interface Card Reader (except Smart Card Reader) active 20 OperationAl Instructions, 03/2016, A5E AA 21 Overview 1.3 Keyboard Accessories LEDs Keyboard lock After turning on the device, the key operation display lights up briefly. The keyboard is ready. THE LED description of GREEN OFF's Num Lock turned on num Lock turned off GREEN OFF Caps Lock turned on Caps Lock turned off LED Wireless Terms related to WLAN and to Bluetooth. You can customize both functions in the corresponding application during software installation. A wireless LED located on the right next to the LED keyboard shows an active wireless function. LED symbol ORANGE OFF Wireless is ON Wireless is OFF 1.3 Accessories Accessories that are not included in the scope of delivery available for your device. Information on orderable accessories can be found on the Internet at the following address: Industry Mall (IPC expansion component (Order accessories from SIEMENS Industry Mall 1. Navigate to the Internet Industry Mall URL (2. Sign in with your customer data (log in at the top right). 3. Select the user language. 4. Navigate to programming devices in the product catalog (tree structure on the left): Automation Technology &gt; Automation System &gt; SIMATIC INDUSTRIAL automation system &gt; programming device 5. In the tree structure on the left, click: PG M5 field. 6. Select the Accessories tab in the display area. OperationAl Instructions, 03/2016, A5E AA 21 22 Overview 1.3 Accessories 22 Operational Instructions, 03/2016, A5E AA 23 Security notes General WARNING Safety Instructions Follow safety instructions Please follow the safety instructions behind this documentation protection sheet. You should not expand your device unless you have read the relevant security instructions. This device complies with security measures relevant to IEC, EN, VDE, UL, and CSA. If you have questions about the authenticity of installation in a planned environment, please contact your service representative. Repair Only qualified personnel are allowed to repair the device. WARNING Damage to property and personal injury Unauthorized opening and improper repairs may cause significant damage to property or hazards for consumers. System expansion Only installs system expansion devices designed for this device. Installation of other expansions can damage the system and violate radio interference suppression rules. Contact your technical support team or where you purchased your PC to find out which system expansion devices might be installed securely. NOTICE Warranty If you install or exchange system expansion and damage your device, the warranty becomes invalid. Battery This device is equipped with a lithium battery to power the internal real clock. The battery can only be replaced by qualified personnel. OperationAl Instructions, 03/2016, A5E AA 23 24 Safety Notes 2.1 General safety instructions EXplosive risk when replacing and disposing of batteries There is an explosive risk if the battery is not replaced as directed. Replace only the same type or by the equivalent type recommended by the manufacturer. When disposing of batteries, pay attention to applicable local regulations. WARNING Risk of explosion and emission of harmful substances! Do not dispose of lithium batteries into open fire, do not coat, or open the body of a cell, do not short-circuit, or polar do not heat above 100 C, follow the instructions for disposal, disposal, protect against direct exposure to sunlight, humidity, and condulsion. The ESD guideline module containing electrostatic-sensitive devices (ESD) can be identified by the following labels: Strictly follow the guidelines mentioned below while handling a module that is sensitive to ESD: Always release any static electricity from your body before handling a module sensitive to electrostatic discharge (for example, by touching a grounded object). All devices and tools must be free. Always pull the power transnate connector and disconnect the battery before you install or remove a sensitive module to ESD. Operate the modules installed with ESD by their edges only. Do not touch any wiring posts or conductors on a module that contains ESD. Industrial Security Siemens offers products and solutions with Industrial Security functions that support the operation of safe equipment, solutions, machines, devices and/or networks. They are an important component of a comprehensive Industrial Safety concept. As a result, products and solutions from Siemens are constantly evolving. Siemens recommends getting regular information about product updates. For safe operation of Siemens products and solutions appropriate protective measures (for example, cell protection concepts) must be taken and each component must be integrated in the concept of comprehensive Industrial Security, which matches the current technological situation. Other manufacturers should be taken into account if they are also used. You can find additional information about Industrial Safety below (Sign up for our product-specific newsletter to receive the latest information about product updates. For more information, see below (24 Operating Instructions, 03/2016, A5E AA 25 Safety notes 2.2 Safety Guidelines for Transport Disclaimer for third-party software updates This Product includes third-party software. Siemens AG only provides guarantees for third-party software updates/patches, if this has been distributed as part of the Siemens software update service contract or officially released by Siemens AG. Otherwise, updates/patches are done at your own risk. You can find more information about our Software Update Service offerings on the Internet on the Software Update Service (Note to protect User administrator accounts with administrator privileges having extensive access and manipulation options in the system. Therefore, make sure there is enough protection to protect administrator accounts to prevent unauthorized changes. To do this, use a secure password and a standard user account for normal operation. Steps such as the use of security policies, should be applied as needed. 2.2 Safety guidelines for transportation Before you stop observing the following information when you travel with PG: Back up important data from hard or SSD. For security reasons, turn off the radio component (WLAN) if you can't be sure that the radio waves transmitted won't interfere with any of the surrounding electrical or electronic appliances. If you wish to use your PG during the flight, first request the airline if you are allowed to do so. When traveling abroad, make sure that the power adapter can be used with the local mains voltage. If this doesn't happen, you must acquire a suitable adapter for your PG. Don't use any other voltage variables! Note Using PG Fields in different countries Confirms local maingate compatibility and compatible power cable specifications when using PG overseas. If this is not the case, buy a power cable that complies with local conditions. Do not use the connection adapter for electrical appliances to connect PG to them. OperationAl Instructions, 03/2016, A5E AA 25 26 Safety Notes 2.2 Safety Guidelines for Transportation Despite the fact that the device is a rooted design, its interior components are sensitive to severe vibrations or shocks. With just a few simple transport precautions, you can help to create problem-free operations. Make sure the PG no longer accesss the driver, and removes all data media (such as CDs) from the drive. Turn off PG (see On/Off Section Button (Page 15)). Disconnect the percision device from PG. Close the display and the interface covers behind the device. Use integrated handles for simple transportation. For longer transportation, place the PG with all accessories into the backpack provided. You should always use the original packaging for shipping and transporting devices. NOTICE The risk of damage to the device! If you transport A PG in extreme weather conditions with huge temperature fluctuations, care must be taken to ensure that there is no form of humidity on or in the device (abuse). If you see any mapping, wait around 12 hours before you turn on the device. 26 Operating Instructions, 03/2016, A5E AA 27 Installing and connecting The provision of devices Checking delivery Disassemble devices The following when you disassemble the units It is advisable not to dispose of the original packaging material. Save if you need to transport the unit again. Please keep documentation in a safe place. It is required for initial accreditation and is part of the device. Check the shipping unit for any visible transportation damage. Check your ordered shipping and accessories against the packaging list to make sure nothing is missing. Please inform your local merchant of any disagreements or device identity data cord device Devices can be clearly identified with the help of identification data in the event of repairs or losses. The figures below are examples. Your device data may differ from data Example. The rating plate of the rating plate is located at the bottom of the device. Example: Operation Instructions, 03/2016, A5E AA 27 28 Installing and connecting device 3.1 CoA label preparation is located at the bottom of the device. Example: Write the introduction date of identification data Source Value Number Plate 6ES ... Serial number Rating plate S VP ... Ethernet Address Microsoft Windows Product Key Address 1 Ethernet address 2 Coa-label BIOS Setup: Advanced Menu &gt; Peripheral Configuration 1. Enter the order number, serial number and withdrawal status in the table above. 2. Enter the Windows Product Key in the table. This is always necessary to reinstall the operating system. 3. Enter the Ethernet address in the table. 28 Operation Instructions, 03/2016, A5E AA 29 Installing and connecting device 3.2 Laying device 3.2 Puts the risk of warning external Housing fire devices made of Magnesium. If it comes into contact with open fire, there is a risk of fire/spreading fire. NOTICE The risk of damage to the device Always sets the PG down at the bottom of it, otherwise there is a risk that it will fall up and damage sensitive components. Place programming devices to ensure comfortable operation and security. Place the programming device with its bottom on the flat surface and at a comfortable height and distance. Make sure power channels are easily accessible near your workplace. Make sure enough space to connect pericition. Do not prevent any ventilation slots when you place the device. Open the display by suddenly locking the display towards the arrow. Flip the display open and adjust it to a simple viewing corner. The display can be adjusted to any angle of tendency between 0 and 150 o. Operation Instructions, 03/2016, A5E AA 29 30 Installing and connecting device 3.3 Connecting devices 3.3 Connecting devices That Connect power supply To note before you connect an external power unit Note device power unit powered to PG Field in major operations with 120 V and 230 V power supply networks. The voltage range is set automatically. WARNING The risk of lightning attacking lightning can enter the main cable and data transmission cable and jump to someone. Death, serious injuries and burns can be caused by lightning strikes. Take the following precautions: Pull out the power plug in good time when the thunderstorm is approaching. Do not touch the main cables and data transmission cables during thunderstorms. Keep enough distance from electrical cables, distributors, systems, etc. WARNING Operations only in targeted power supply systems Devices are designed only for use in targeted power supply systems (TN systems to VDE 0100, part 300, or IEC). It should not be used in unfounded power systems, or (IT system). Warning Warning damage to the device or destruction of the battery Only use the

supplied battery or the original spare part. Information about the original spare parts for PG Fields can be found in the Accessories section (Page 21). 30 Operation Instructions, 03/2016, A5E AA 31 Installing and connecting devices 3.3 Connecting the risk of fire device warning and electric shock On/Off Buttons do not completely isolate the device from the power supply. If the device is turned off with the On/Off button, there is still a risk of electrical shock and fire, for example, if the device or connector cable is damaged or in the event of improper use. When working on a device or if the device is not used for a pro long period of time, always disconnect it completely from the power supply. Close the operating system and if you use the device in the main operation, pull out the power plug. Local information For the United States and Canada For the United States and Canada, the CSA or the UL-listed power cord must be used. Connectors must comply with NEMA 1-15P. 120 V/240 V flexible Cable supply voltage with UL approval and CSA marking must be used. In addition, the cable must exhibit the following properties: SPT-2 or SVT with three wires At least 18 AWG conductors cross section of Max. length 4.5 m Connector 15 A, min. 125 V For countries other than the U.S. and Canadian supply voltage 230 V This device is equipped with security-tested power. If you choose not to use this cable, you must use the following types flexible cables: At least 18 AWG (0.82 mm 2) of the cross-sectional conductor and connector 15 A/250 V. Cable set must comply with the national security rules in which the device is installed, and bear the mark specified in each case. Operation Command, 03/2016, A5E AA 31 32 Installing and connecting device 3.3 Connecting Device Procedures 1. Power supply cable ants supplied into external power supply. 2. Insert a low voltage connector into a suitable socket for connection to power supply 1 on the left side of the device. 3. Plug the external power supply into the socket with the targeted protective conductor Connect SIMATIC S7 or PROFIBUS You can connect the PG to the SIMATIC S7 automation system or PROFIBUS network through the isolated interface*) MPI/DP. The MPI connector cable (5 m) to connect to the SIMATIC S7-CPU (order number: 6ES7901-0BF00-0AA0) is supplied as standard. Shipping rates are no more than Kbps possible with this cable. To achieve a higher voucher rate than 1.5 Mbps, you need a 12 Mbps PROFIBUS connector cable (order number 6ES7901-4BD00-0XA0). Connecting PG Field to automation system S7 1. Switch off your device. 2. Plug the cable into the MPI/DP Screw interface to its place. 4. Cable ants into on the CPU. In Deep Environment: Bus connector 6ES7972-0BB10-0XA0 or 6ES7972-0BB20-0XA0 6ES7901-0BF00 -0AA0 (5m long) *) Electric isolated in additional security voltage circuit (SELV) NOTICE The risk of damage to your device may damage the port on the Field PG if you use the wrong connection cable. 32 Operation Instructions, 03/2016, A5E AA 33 Installing and connecting devices 3.3 Connecting devices that Connect devices to the following options systems and networks are available for device in the existing or planned system environment/network: Integrated Ethernet Interface Ethernet (10/100/100 MBps) can be used for communication and data PROFIBUS/MPI The potentially independent Profibus Interface (12 Mbps) can be used to connect distributed field devices or to be linked to SIMATIC S7. The PROFIBUS software package is required to link to the S7 automation system. RS232/TTY (COM1) interface You can connect PG Fields to the S5 simatic program controller via the TTY interface of choice. You will need SIMATIC STEP 5 V7.23 software to be linked to an S5 drug-proddable controller. WLAN You can connect PG Fields to an Industrial Wireless LAN network using an integrated WLAN interface. Information on Industrial Wireless LAN can be found at SIMATIC NET (More information Additional information can be found in the catalog and online messaging system Automation Industry and Drive Technologies Homepage (Operational Instructions, 03/2016, A5E AA 33 34 Installing and connecting device 3.3 Connecting devices Connect persition devices To note before you connect a NOTICE Perisian device that is not capable of installing hot perisisation devices that cannot install hot may only be connected after the device is disconnected. NOTICE Note the documentation of your I/O device complies with specifications for pericition equipment. WARNING Equipotential tie-up signal armor When you connect a long signal cable (especially with a connection between buildings), make sure that the signal cable is always integrated into the local equipotential bonding system (connecting the cable shield to the protective conductor). Connecting monitors You can also connect monitors with other interfaces that correspond to connections to display ports and DVI-I with the appropriate adapter. Connecting devices to Connect socket USB devices such as drives, mouse, keyboards, printers and USB title tools to USB sockets. Connecting an audio device to the UAJ Socket Audio socket on the left of the device is a UAJ connection called (Universal Audio Jack) for a 3.5mm jack. Depending on the function, the UAJ connector has 2 to 4 contact areas. Depending on their position, they are commonly referred to as Tips, Rings 1, Rings 2 and Depending on the function or standard, contacts are given differently. PG Field audio controller recognizes the UAJ connector contact assignment depending on the connected audio device and configured automatically. 34 Operation Instructions, 03/2016, A5E AA 35 Installing and connecting devices 3.3 Connecting devices You can connect the following audio devices to the UAJ connection: Audio devices with audio-out devices with line Microphone Headset (with headphones and microphones) with the following standards: OMTP: Standard for audio devices, Standard for audio devices CTIA: Standard for audio devices from Apple Note Microphone connection and headphones with two 3.5mm Adapter jacks are required to connect microphones and headphones simultaneously to 3.5-mm-jack. See also Technical Specifications (Page 81) Operating Instructions, 03/2016, A5E AA 35 36 Installation and linking device 3.3 Connecting device 36 Operational Instructions, 03/2016, A5E AA 37 Commissioning of General Information devices on having NOTICE commissioning risk damage to devices! Create sufficient allowance for the device to heat the room temperature before you insert it into use. If the loading develops, wait at least 12 hours before turning on the device. The need for commissioning power supply is connected or the battery is fully charged. 4.2 Turning on operating system units and system software your device is installed on a hard disk. Following the initial switch, the operating system is set up automatically on the device. NOTICE Installation is damaged If you change the default value in the BIOS setup or if you turn off the device during installation, you interfere with the installation and the operating system is not properly installed. Operational security of devices and risky plants. Do not switch the device off during the entire installation process. Do not change the default value in BIOS setup. Early power at 1. Press the ON/OFF button for about 1 second. THE GREEN LED ON lights up. The device performs a self-test. The following message is output during a standalone test: Press Esc for boot option 2. Wait for the missing message. The operating system started. Operation Command, 03/2016, A5E AA 37 38 Accreditation device 4.2 Turns on unit 3. Follow the onscreen instructions. 4. Type the Product Key as required. The product key is available on the COA label, see the Device identification data section (Page 27). Specify the language, region, and format for user accounts menus, dialogs and keyboard layouts are provided in English under Windows. Use Control Panel to switch to another language and keyboard layout. Select: Start &gt; Control Panel &gt; Clock, Language and &gt; Regional and Language Options. You can make you needed for user accounts in the Format, Location Board and Languages and Languages tabs. You can make changes to the default account in the Administrative tab. You copy settings by clicking each other's buttons. Read also the information provided in the Establish language selection section using the Multilingual User Interface (MUI) (Page 74) and Install Windows (Page 70). Device results are automatically restarted and the user interface of their respective operating systems is displayed. From now on, after you turn on the PC, the operating system user interface opens automatically when the startup routine is complete. A product-specific license key (user permission) is required to use STEP 7 and WinCC flexible programming software. These protected software can only be used with relevant permissions. The License key for your SIMATIC software is stored on the acryption USB memory stick. Remove the cap from the USB stick and insert the stick into your computer's free USB port to access the License Key. After a short time the drive is License_Key longer appear in Windows Explorer. During the new installation, you will be notified by the Setup program if the corresponding license key is not installed on your computer. You can then choose to install a license Setup program or install a license later with the Automation License Manager that you will install. 38 Operating Instructions, 03/2016, A5E AA 39 ACCreditation of devices 4.3 Rechargeable Batteries If you wish to transfer the license key later, follow these steps: 1. Close the Automation License Manager. Find the named driver License_Key in the left pane. 2. Click the driver named License_Key. This displays an overview of the license keys available on the license stick. 3. Use drag-and-drop operations to move the desired license key to one of your drivers. 4. After the transfer, the license key is located on the corresponding drive and you can now use the activated software. Before removing license sticks, make sure you give notice according to Windows specifications (Securely remove hardware). You can also use USB License Wood to transfer the License Key to another computer, or for mid-license key storage. Note The software installed on the PG that has no license key within the scope of the shipment cannot be used or will only run in Trial mode. 4.3 Hazards of rechargeable batteries notice WARNING Risk of personal injury or property damage due to incorrect battery handling of the Battery may cause burns, it may explode or release toxic substances. Do not open or damage the battery. Do not expose the battery to heat or fire. Keep the battery away from children. WARNING Hazard damage to devices or destruction Only use the supplied battery or the original spare parts. Information about Spare parts for PG Fields are available in the Accessories section (Page 21). OperationAl Instructions, 03/2016, A5E AA 39 40 Accreditation device 4.3 Rechargeable Lithium Disposal Battery can be recycled. Their components can be used as raw materials for new batteries or other products. The need for effective recycling is a collection of batteries used. NOTICE Of Fire Risk - Dangerous to people and the environment Unjustified disposal of batteries can cause fire. Note the local regulations for the disposal of recyclable materials. Dispose of the battery properly. Battery battery operation (lithium ion) allows the use of portable devices, independently of external power supply. It also protects against data loss despite power failure. Once the external power supply is connected, the battery will begin to be charged. In doing so, the following conditions are important: When the device is switched off from the charging process takes about 3 hours. When the device is on, the charging process takes between 3 and 6 hours (depending on the system load). The charging process is terminated once the battery is fully charged. The charged battery will be released on its own during storage (depending on the temperature, and whether it is installed or not) within a few months. It will then need to be recharged. Battery charging is terminated when the battery is fully charged or if, for example, the upper temperature limit for charging exceeds. You can check the battery charge level in Windows. If, with connected power supply, the BATTERY LED lights green, the battery is full and will no longer be charged. 40 Operation Instructions, 03/2016, A5E AA 41 AA 41 Application of devices 4.3 Usage during rechargeable battery in battery operations You can reduce the use of your device's overseas battery power to a minimum by disabling the intel AMT and USB charging functions in BIOS. You should remove the battery from the PG Field if you plan not to operate the device for several months. Ideal storage conditions for battery packs: Ambient temperature of approximately 20 C and battery charging conditions of about 50%. Note The battery pack can be fully or partially discharged (e.g. due to self-release) during commissioning. Before the discharge is complete, when the residual charge simply exists, the LED battery in the battery operation lights up red as a warning. End your work and save your data. There are now only a few minutes of battery walking time left. Please note that for complete dedent from the main connector must be removed. Battery service life Due to the technology used, the lithium ion battery capacity used in the PG reduces with each charge/emission process. Gradual reduction of capacity as well if saved also or temperatures that are too low. The operating time of a battery in a network-free operation can gradually reduce over time. The battery has a normal lifetime of c. 300 charges and is therefore designed in such a way that with standard handling within six months of your PG purchase, it can still be charged and released. Losing capacity over time is dependent on technology and, like all comparable device manufacturers, it is excluded from guarantee. In case of a significant decrease in efficiency we recommend that you replace the battery. Use only the original spare parts of Siemens. You should note the following with respect to battery life: If possible, the battery should always be completely discharged/charged. Frequency of use: The more frequent the battery is used, the sooner it reaches the end of its effective lifespan. Lithium ion batteries have a typical life of around 300 charge cycles. If you run a computer primarily on the mains voltage, you need to charge the battery pack to about 50% and then remove it from the computer for separate storage. Operation Instructions, 03/2016, A5E AA 41 42 Accreditation device 4.4 Using a battery warning Observes the danger notice Read notes and information about the correct use and proper disposal of batteries in the rechargeable Battery section (Page 39). Device Requirements are completely isolated from the line voltage. Procedure 1. Turn on the device so that it is lying on a stable surface with its display unit closed. 2. Release 1 battery cover 2 at the bottom of the device. 3. Open the battery cover towards the arrow and, if necessary, remove the old battery. New battery ants. 4. Close the cover and switch on the device again. 42 Operating Instructions, 03/2016, A5E AA 43 Device accreditation 4.5 Operating Mode 4.5 Operating Mode In accordance with settings in Windows Power Options, PG Field supports different operating conditions. You can be manually or automatically, after a certain interval, place the device in the following operating conditions: Standby mode (Save to RAM) Hibernation (Hibernate, save to disk) Turn on possible device operating mode parameterize mode to the following actions in power options: Handles the on/off button Shut down the operating system (Windows) Opening and closes the display lid In Keyboard Keys and mouse Reactivates the device after the standby mode or hibernation In the corresponding system-led standby mode, and in the hybernation of all displays To reactivate the PG Fields after both modes of operation, press the on/off button briefly. Change parameters to different operating conditions In Windows you can set the parameters for intervals and actions for changes to the operating mode power options. Select: Control Panel\All Control Panel Items\Power Options. Before changing the power options, make a note of the factory settings, if necessary. Note Turning off hibernation or Standby mode By changing power settings, and by adding additional hardware (such as USB components) or software to the device, you can modify operating modes so that the device can't switch to hibernation or Standby mode. Despite the dark screen display, associated users remain turned on in the device. Operating Instructions, 03/2016, A5E AA 43 44 Accreditation device 4.5 Operating Mode during device transport Please remember to always close the Field PG or set it to Hibernation before transporting it in the backpack. You will recognize these states after removing the power supply, all device status-leds are turned off. This way you can make sure the device is not turned on and the battery is not accidentally released during transportation. 44 Operation Instructions, 03/2016, A5E AA 45 Notes on the operations and notes of software operating HDD and SSD Drives, HDD and SSD with different capacities can be used. Note Please use only drivers recommended by Siemens. Order data for removable hard drives can be found in the catalog. Each system's LED shows access to the drive. View section clippings view (Page 20). WARNING The risk of damage to the drive Is sensitive to unacceptable vibrations. Shock during operation can lead to data loss or damage to this drive or carrier of Optical Drive data this drive allows you, for example, to read the operating instructions on the supplied DVD Manuales and Drivers. Information about data storage media burning (CD-RW or DVD±RW) NOTICE Hazard loss data! Burning is allowed only in uninterested environments, i.e. shock and vibration pressure must be avoided. Because of heavy volatility in CD-Rs quality, data may be damaged in the burning session, although no error messages were initially displayed. Written data can only be verified by comparing them to sources. To be on the safe side, data needs to be verified after each burning session. Operation Instructions, 03/2016, A5E AA 45 46 Notes on operation and software 5.1 Notes on the operation of the emergency unlock mechanism if the driver drawer is not open, you can unlock it using an emergency unlocking mechanism: 1. Completely disconnect the device from the power supply. 2. Long and thin guide through a small hole (diameter approximately 1mm) in the drawer. You can use thin needles or paper clips that are straightened for this. Push it approximately 2-3 mm into the hole. The drive drawer will open. Sow or remove data storage media To prevent excessiveness from acting on advanced drive, hold it on the front panel while sowing or data storage media. After closing the drawer, the data storage medium was initially tested and then the access display on the drive began to flash. Flashing view: Medium of data storage that is hard to read but still readable is in the drive. The display flashes initially and then continues to be ignited: The data storage medium entered is unreadable and damaged USB sockets with the charging function You can use the bottom USB socket under the cover on the side of the device 1 to charge the USB device (e.g. smartphone) on currents up to 1.5 A, even when the Field PG is turned off. The circuit complies with USB standard BC1.2 and also supports charging Apple devices based on so-called divider mode methods. Devices charged in divider mode will only reach maximum current in the state of closure. If you also want to use the charging function in wireless operating mode while the device is closed, turn on the corresponding functionality in the Power BIOS Setup &gt; USB Charger dialog. Note Disable this function again to maintain a minimum discharge rate of the battery pack. 46 Operation Instructions, 03/2016, A5E AA 47 Notes on operation and software 5.1 Notes on the SIMATIC card reader Operation card for PG Medan card reader can be found on the left and right side of the device, see the External Designs section (Page 12). You can handle the following SIMATIC cards in the following card readers: SIMATIC SIMATIC Memory Card for SIMATIC Memory Card S7-300/400 for S7-400 (long design) SIMATIC Memory Card for S7-300 (short design) Micro Simatic Memory Card Micro Memory Card for S7-300/C7/ET200 SMC (SIMATIC MC) SIMATIC Memory Card for Operation Instructions S7-1x00, 03/2016, A5E AA 47 48 Notes on operations and software 5.1 SMC Editing operations notes, SD cards and multimedia cards You can read, program or delete the following cards with Multiple Media Card Readers: SMC (SIMATIC MC) SD cards (including MMC-II SD UHS-II) MMC (Multi Media Card) NOTICE The risk of losing data for simaTIC Micro Memory Cards Do not use SIMATIC Micro Memory Card in this case because the card can be damaged by Windows functionality. The slot for SIMATIC Micro Memory Card is located on the right side of the device, see the ModifyIng Micro SIMATIC Memory Card (Page 49). Multi Media Card Reader 1 is located on the left side of the device. Contact area of the card face down. When silent the card, pay attention to the correct position of the card. To remove the card pressing it lightly towards the device. The card is operated by a push-use function. NOTICE Do not silently or remove the card while in use. Sowing or removing the card while it is in use can damage it. The card may not be removed as long as the status indicator is ilirected, see the Display Status section (Page 20). Note the ESD guidelines (Page 79). 48 Instructions, 03/2016, A5E AA 49 Notes about the operation and software 5.1 Notes on the operation of Modifying the SIMATIC Micro Memory Card You can read, program, or delete the SIMATIC Micro Memory Card. Procedure 1. Turn on PG. 2. Start your SIMATIC programming functionality. 3. Use your SIMATIC programming software programming function to read, program, or delete the SIMATIC Micro Memory Card. End your SIMATIC programming software programming functionality. 5. Remove the SIMATIK Micro Memory Card from card reader 1. NOTICE Do not silently or remove the module while it is using Plugging in or removing the module while the module is changed may damage the module. Do not remove the SIMATIC Micro Memory Card if the programming status display of the module is illigoous. Note the ESD Guidelines (Page 79). Operation Instructions, 03/2016, A5E AA 49 50 Notes about the operation and software 5.1 Notes operating Editing SIMATIC Memory Card You can read, program, or delete the SIMATIC Memory Card in the card reader located on the right side of the device. SIMATIC Memory Card is available for SIMATIC S5 and SIMATIC S7-hardware. Procedure 1. Switch on the device. 2. Use your SIMATIC programming software programming function to read, program, or delete the SIMATIC Memory Card. End your SIMATIC programming software programming functionality. 4. Remove the SIMATIK Memory Card from the card reader1. NOTICE Do not silently or remove the card while in use. Sowing or removing the card while it is in use can damage it. The card may not be removed as long as the status indicator is erting. See the Status View section (Page 20). Note the ESD guidelines (Page 79). Note That Simultaneous Breakdown of MPI/DP Online and SIMATIC Memory Card may cause damage. Concurrent usage is not supported. End using the SIMATIC Memory Card before using MPI/DP. 50 Operation Instructions, 03/2016, A5E AA 51 Notes on operations and software 5.1 Notes on operations Using ExpressCard Type 34 In card reader for ExpressCards you can use the following ExpressCards types 34 for system expansion and different interface adaptations: Network memory expansion, for example, through the Gigabit Ethernet Connection persisian device, for example through a USB drive-usb connection or card reader esata for ExpressCards located on the left side of the device. Before you sow the card, make sure the ejector is involved. To remove ExpressCard, press once to unlock it, and then the second time to remove the card. NOTICE Of Insertion and removal of ExpressCard Label ExpressCard must face upwards during insertion. Simply remove the card when data is no longer transferred (risk of data loss and system accidents). If you are trying to fuel the the wrong way around, PG and ExpressCard can be damaged. Note ESD Guidelines (Pages (Pages WARNING Revocation of security approval for ExpressCards that are not listed UL ExpressCard interface does not meet limited power source requirements. To maintain device security approval, please use only ExpressCards or cards listed on UL that meet IEC/EN requirements You can find more information from card vendors. Operation Instructions, 03/2016, A5E AA 51 52 Notes on operation and software 5.1 Notes on smart card Editing operations You can read smart cards with integrated chips, such as plant ID cards, with Smart Card Reader. The Smart Card reader is located on the right side of the device. When silent the card, pay attention to the correct position of the card. Chips must face off over WLAN and Bluetooth General Information about WLAN and Bluetooth The Field PG M5 support Bluetooth to standard 4.0. Field PG comes with a network card for Wireless LAN (WLAN), i.e. you are not assigned to a cable network. With WLAN, just like a cable network, you have access to files, printers, and the Internet. Support is provided for the frequency range of WLAN 2.4 GHz and 5 GHz. Depending on the surrounding conditions, you can make a connection via the wall or at a distance in the open air up to 100 m. On-board network adapters operate based on the following standards: IEEE a: Maximum data rates that are theoretically possible with optimal ambient conditions, and low power consumption is 11 Mbps. IEEE b: Maximum data rates that are theoretically possible with optimal ambient conditions, and low power consumption is 11 Mbps. IEEE g: Maximum data rates that are theoretically possible with ambient conditions and low power consumption is 54 Mbps. IEEE n: Maximum data rates that are theoretically possible with optimal ambient conditions and low power consumption are 300 Mbps. IEEE ac: Maximum data rates that are theoretically possible with optimal ambient conditions and low power consumption are 866 Mbps. IEEE Standard offers two modes of operation, hoc mode 52 Operation Instructions, 03/2016, A5E AA 53 Notes on operations and software 5.1 Notes on Ad hoc Mode Operations Ad hoc Network refers to a wireless network established directly between several computers, where all computers must have WLAN facilities. No additional devices are required. Infrastructure mode Infrastructure networks use access points to connect computers to wired networks with the help of WLAN. This can be a local network (e.g. a network of companies) or a global network (e.g. a network. Internet). More detailed information about configuring and operating WLAN is available in the online help of the WLAN network adaptioner Notice Of Adapticer Security for WLAN and Bluetooth operations You can change WLAN Bluetooth PG Field on and off off hotkeys Fn + F3. Radio waves needed for WLAN and Bluetooth can cause disruption in hearing aids (unpleasant buzzing) and in vehicle electronics on board. To avoid interference, turn off the PG Fields onboard, or while driving the vehicle. Radio waves caused by WLAN and Bluetooth can cause life support system damage. Turn off WLAN and Bluetooth functions if you are close to that system, for example hospitals, medical electronic systems. Various wireless connections and accessible data transmission rates depend on ambient and environmental conditions. WLAN and Bluetooth connections are not proof of pipes. Unauthorized third parties can then receive data. To protect transmitted data, WLAN and Bluetooth have different encryption methods. We recommend that you activate encryption according to your WLAN and Bluetooth environments. If possible, do not bring WLAN and Bluetooth connections around the following devices because the operation of this device can result in complete errors or failures of WLAN and Bluetooth connections: Microwaves Wireless video-audio transmission system Wireless phone (DECT) Operation Command, 03/2016, A5E AA 53 54 Notes on operations and software 5.2 Notes on SIMATIC SOFTWARE CAREFULLY Risk disruption with WLAN radio wave pacemakers and Bluetooth may interfere with pacemakers. If you wear a pacemaker, keep a minimum distance of 20 cm from the PG field when WLAN or Bluetooth is activated. WARNING Of the dangers of radio wave explosions spread by WLAN and Bluetooth could trigger explosions or fires. Turn off WLAN and Bluetooth PG Fields if you go around flammable gas or in explosive environments (for example paint shops). Siemens is not responsible for radio or television interruptions that have been caused by unauthorized changes to this device. Moreover, Siemens will not be responsible for the use or replacement of cables and connection devices that Siemens have not yet recommended. Users are only responsible for fault drugs that have been caused by unauthorized changes, or for the use or replacement of the device. 5.2 Notes on SIMATIC software Start STEP 7 Please note that the license key is required to work with STEP 7. For more information, refer to the On unit section (Page 37). In the Windows desktop, click the SIMATIC Manager icon, or Click the Start button, and select the desired program with Simatics &gt; STEP 7. Note Archive/Meeting Functions in STEP 7 is used to transfer step 7 projects from one PG to another. To send, in SIMATIC Manager select File &gt; Archive or File &gt; Take. A detailed description of the procedure is provided in the Steps section Online File Archive/Retrieval help for STEP Operation Instructions, 03/2016, A5E AA 55 55 on operations and software 5.3 Intel Active Management Technology Starting WinCC flexible Please note that the license key is required to use flexible WinCC. In the Windows desktop, click on the SIMATIC Manager icon, or Click the Start button, and select the desired program with Simatics &gt; WinCC flexible. Start the TIA Portal You have the following options for starting the TIA Portal: Click the TIA Portal icon on the Windows desktop: Click the Start button and choose the following route: All Programs &gt; Siemens Automation &gt; TIA Portal V1x 5.3 Intel Active Management Intel Management Technology is the technology for remote maintenance of computers (AMT PC). This remote maintenance includes the following functions: Remote power management: AMT PCs can be turned on/off and restarted from other PCs. Mouse-Redirection Video Keyboard (KVM-Redirection) Mouse Video redirector keyboard. This allows remote access to AMT PCs, and AMT PC operations without a functional operating system. BIOS Setup Management You can start and change BIOS Setup remotely. Remote reboot: ANT PC can be booted from a bootable ISO file provided by another PC. SOL (Serial on LAN): You can redirect serial interface data to the network. This function is primarily used for text-based remote control of AMT PCs in console mode. IDE redistribution: ISO files contain memory images of CD or DVD content with ISO 9660 structure. ISO files can be implemented on an AMT PC to be used as a virtual DVD drive at the PC help desk. OperationAl Instructions, 03/2016, A5E AA 55 56 Notes on operations and software 5.4 Configuration of Trusted Platform Module (TPM) AMT PC You configure AMT in BIOS and MEBx Setup (Management Engine BIOS Connection). MEBx is a BIOS connection to configure AMT. Press &amp; lt;ESC&gt; when the BIOS appears briefly at the beginning and select the STARTING PAGE OF MEBx BIOS. Note Password Protection for AMT PC AMT allows almost unlimited access to AMT PC. Protect access to AMT PCs via password. 5.4 PG Field Trusted Platform Module (TPM) features a Trusted Platform Module (TPM) called standard 2.0. You can enable this module in the BIOS-Setup Security dialog. Follow the BIOS Setup instructions. The Trusted Platform Module can be used, for example, in combination with BitLocker driver encryption under Windows 7 and Windows 10 (available in later shipping stages). Follow the operating system instructions. Improper Usage Notes pose a risk of data loss. Always save keys and passwords in a safe place. The ecrypted data could not be collected. The Siemens warranty does not cover the hardware reset after losing the password. Hotfix notes needed to use TPM 2.0 under Windows 7 When you install 2.0 under Windows 7 on your own device, note the following: 1. Windows but first through UEFI. &lt;/ESC&gt; &lt;/ESC&gt; Then install hotfix KB from Microsoft. For more detailed information, visit ((56 Operating Instructions, 03/2016, A5E AA 57 Expanding device Remove and install memory memory module Masterboard expansion options equipped with 2 slots for the DDDR4-memory module. You can use it to expand the memory capacity of the PG to a maximum of 32 GB. The memory module should not exceed a maximum size of 16 GB. Preparation 1. Switch the device off. Make sure the device is not in Standby mode (non-stored data can be lost) and that the device cannot be corrupted. 2. Close the display unit. 3. Remove all connected cables from the device. 4. Place the PG with the display unit facing down on the surface level. NOTICE Of adhering to the ESD guidelines Electronic components on PCBS are very sensitive to electrostatic emissions. Therefore, it is important to take precautions when handling these components. Refer to the ESD Guidelines (Page 79) for a description of these measures. Note Please use only the Siemens memory module because it is qualified and cleaned for use in this device. You'll find order data in the catalog. 5. Open the battery pack cover; see chapter Using batteries (Page 42). Operation Command, 03/2016, A5E AA 57 58 Device Grows 6.1 Removes and installs the memory module Removes memory module 1. Remove the battery (Page 42). 2. Remove the screw (Torx T6) which holds the cover. 3. Remove the cover. 4. Carefully push both speedrs to the side. The memory module folds. 5. Pull the memory module from the slot. 58 Operating Instructions, 03/2016, A5E AA 59 Expanding device 6.1 Remove and install memory module Install memory module 1. Mute the memory module into the slot with the connection contact in front. Pay attention to the notch (locking element) on the side of the connector. 2. Carefully push the module down until the keys are involved. 3. Put the cover back on the slot and ignore it with screws. 4. Re-battery ants (Page 42) and connect the device to the power supply system. Note The memory module must sit firmly in their slots. Corrupted touch of the memory module can cause damage, e.g. device boot failure. The memory configuration view while memory expansion is automatically detected. RAM configuration is shown in the BioS Setup, Main menu. Operation Command, 03/2016, A5E AA 59 60 Expanding device 6.1 Remove and install memory module 60 Operational Instructions, 03/2016, A5E AA 61 Device maintenance and repair maintenance To maintain high system availability, we recommend replacement of PC component prevention that is subject to wear according to the time interval for replacement shown in the table below: Components Backup Drive intervals 3 years 5 years 5 years 7.2 Install eliminates eliminating Hard drive kits and hard drive SSD kits and SSD kits consist of hard drive or SSD assembly (see order documents for HDD or SSD capacity details), Torx T8 screwdrivers, and transport bags and storage. Hard disk kits or SSD kits can be ordered under the following order numbers: 6ES7791-2BA02-0AA0 (1 TB HDD) 6ES7791-2BA22-0AA0 (512 GB SSD) 6ES7791-2BA23-0AA0 (1 TB SSD) With SATA to a USB adaptrate 3.0 (order no. 6ES7790-1AA01-0AA0), you can easily create your system image for backup purposes, or as the basis for the specific installation of the system. See also Accessories (Page 21) Operating Instructions, 03/2016, A5E AA 61 62 Maintenance and repair devices 7.2 Installation and removing hardware Replacing hard disk installation and SSD Installation Requirements Always replace the hard drive with a hard disk or SSD of the same type. A hard disk or SSD is available as a spare part. Information about this can be found in the Hard Disk Kit section and the SSD kit (Page 61). This device is not in Standby or Hibernate mode (unsuched data may be lost) or the device can be corrupted. This device is completely isolated from the line voltage. The battery has been removed, see the Battery Using section (Page 42). All connection cables have been removed from the device. Removes a hard disk rally or SSD assembly 1. Open the display. 2. Remove both screws (Torx T8) on the cover of a hard drive rally or an SSD rally. 3. Open the cover and remove the installation of the hard disk or assembly of SSDs. 62 OperationAl Instructions, 03/2016, A5E AA 63 Maintenance and repair device 7.2 Install and remove hardware That Inserts the installation of hard drives or assembly SSD 1. Push a rally of new hard drives or SSD rallies thoroughly into the slot as far as it will go. 2. Close the cover, and save it with two screws. See also ESD Guidelines (Page 79) Operating Instructions, 03/2016, A5E AA 63 64 Maintenance and repair device 7.3 Reinstall software Replacing PG Medan backup battery has backup battery. This provides hardware clocks with power even if the device has been turned off. The battery is subject to wear and tear and needs to be replaced after five years to make sure your PG works properly. Note The backup battery should only be replaced with a repair center. If you have any questions, please contact your serviced office or your sales partner. NOTICE Risk of damage! Lithium batteries can only be replaced with the same battery or with the type recommended by the manufacturer (command no.: A5E). WARNING The dangers of explosion and the release of hazardous substances! Do not dispose of lithium batteries into open fire, do not coat, or open the body of a cell, do not short-circuit, or reverse polarity, heat above 100 C, follow the instructions for disposal, and protect from direct exposure to sunlight, humidity, and conveyor. Condensation. The battery must be disposed of according to local regulations. 7.3 Reinstall software software and drivers for device If ever your software fails, you can use data storage media included in the scope of delivery to reinstall it. DVD operating system package recovery: The operating system package contains DVD Recovery with installation program to configure hard disk and install operating system and language supported by the operating system (MUI package). The basic language of the installed operating system is English. To add another language, install this language from DVD Recovery in the future. 64 Operation Instructions, 03/2016, A5E AA 65 Maintenance and repair device 7.3 Reinstall this Dvd Manuales and Drivers software contains documentation and hardware drivers for PG Field. SW SIMATICs for PG Field M5 DVD box contains DVDs with SIMATIC software. DVD set restore: The Restore DVD set is supplied as standard. It contains the following recover options: Restore Basic: To restore operating systems and hardware drivers, without SIMATIC restore SIMATIC software: To restore operating systems, hardware drivers and SIMATIC software Notes Before using DVD recovery or restoring DVD sets, place the data storage medium from which the operating system will be pierced later at the first position in boot sequence. You make this setting in the BIOS Setup Boot menu Recovers the state of delivery You can recover the original software using a Restore DVD. The DVD contains the images and tools needed to transfer the software to your device's hard disk drive or SSD. The following options are available to restore transmission conditions: Restore the entire hard disk/ssd with driver C and D Restore C drives This means that the data stored on drive D is maintained. Operation Instructions, 03/2016, A5E AA 65 66 Maintenance and repair device 7.3 Reinstall Software Requirements - Back up the license key If the operating system is still available, then back up your license key from your device to the external storage medium before restoring the shipping state. If a backup can't be done, please contact Customer Support. There you can get the necessary information for matching software permissions. Make sure the License Certificate (COL) is ready for Customer Support. COL is included in the scope of delivery in printed form. NOTICE Risk of data loss If recovering system partitions only set all data on the C drive: (system partition) will be deleted. All data, user settings and all permissions or license keys on drive C: lost! All data on drive C: will be completely erased, reformatted and overwritten with the original factory software. When recovering the entire hard disk is set, ALL data, settings the permission or license key will be lost on the entire drive. Procedure 1. Mute the Restore DVD into the DVD drive. 2. Reboot the device. 3. Press &amp; press lt;Esc&gt; the key when the device is booted and make sure it is pressed. The BIOS selection menu is displayed when control is complete. 4. Click the Boots Manager button. 66 OperationAl Instructions, 03/2016, A5E AA 67 Maintenance and repair device 7.3 Reinstall software 5. In the boot menu, select the optical drive using the cursor keys. To recover a system that boots in UEFI mode, you must also boot DVD restore using UEFI. To boot DVD restore in UEFI mode, in the Boots menu in THE BIOS setup selects the item where the optical drive is identified with UEFI in front of the name. Example: UEFI: MATSHITADVD-RAM UJ8E0 To restore a system that boots the Boots in Legacy mode, you must also boot the DVD restore using Legacy. To boot DVD recovery in Legacy mode, in the Boot menu in THE BIOS setup select the item where the optical drive is identified with P in front of the SATA port number. Example: P5: MATSHITADVD-RAM UJ8E0 Notes In delivery state, Windows 7 boots in UEFI mode. In the state of delivery, Windows 10 (available in later shipping stages) boots in UEFI mode. 6. Follow the on-screen instructions. Note All data, programs, user settings, permissions, and existing license keys on the drive are deleted. See also Device Identification Instructions (Page 27), 03/2016, A5E AA 67 68 Device maintenance and repair 7.3 Reinstall software Reinstall the latest Windows operating system Updates for Windows operating systems available on the Internet at Microsoft (and on devices in the Start &gt; All Programs &gt; Windows Updates &gt; Check for updates. Note Before you install a new driver or operating system update for the Windows MUI version, configure regional menu settings and dialogs and default English (US). Other operating systems Contact the corresponding manufacturer Installing drivers and software Install note drivers In case of multilingual operating system (MUI version), you need to set regional settings for menus and dialogs and default languages for English (US) before you install new drivers or operating system updates. Install the drivers and software from manual DVDs and Drives that are included with your product. Continue as follows: 1. Insert Manual DVD and Driver into the optical CD/DVD drive. 2. If the suite does not start automatically, run START. CMD from DVD. 3. Select Driver from the index. 4. Select the operating system. 5. Select the required driver. 68 Operation Instructions, 03/2016, A5E AA 69 Maintenance and repair device 7.3 Reinstall software 6. Click the link next to The driver path to open a folder that contains driver data. 7. Run Setup from folder. Chipset Driver Notes must be installed before &lt;/Esc&gt;install any other drivers for the new installation of Windows operating system Install SIMATIC 1 software procedure. Ant DVD software respectively from the SIMATIC SW for Field PG M5 box into the optical CD/DVD drive. 2. If the suite does not start automatically, run START. CMD from DVD. 3. Select Software from the index. 4. Press SIMATIC Software to run SIMATIC software setup. 5. Follow the Setup instructions. 6. Run Setup from folders. NOTE USB Sticks with license keys required to run SIMATIC software is only available for versions that include their respective SIMATIC software. For more information about activating the license key, refer to the initial accreditation section of the initial authority on (Page 37). Install additional SIMATIC software Continue as follows to install additional SIMATIC software: 1. Mute the respective DVD software from the SIMATIC SW for Field PG M5 box into the optical CD/DVD driver. 2. If Setup doesn't start automatically, run Setup manually from DVDs. 3. Follow the Setup instructions. For more information on installation, refer to their respective SIMATIC software documentation. Operation Command, 03/2016, A5E AA 69 70 Device Maintenance and repair 7.3 Reinstall software Installing Windows Notes Specific information about using Windows operating system is available on the Internet: Microsoft Technet Windows (Respective manuals are not included in the scope of delivery. Requirements You need a DVD Recovery for the operating system you want to install. Recovery DVDs are included in the scope of delivery when you have configured the device with the operating system. If you're using an unknown storage controller of the operating system, for example the RAID or AHCI controller, copy the respective controller drivers to the USB stick to the hand. A controller driver is required during installation. Procedure 1. Ant DVD Recovery into optical drives. 2. Reboot the device. 3. Press &amp; press lt;Esc&gt; the key when the device is booted and make sure it is pressed. The BIOS selection menu is displayed when control is complete. 4. Click the Boots Manager button. 5. Select the optical drive using the cursor key. For your system to boot in UEFI mode after installation, you must also boot DVD recovery using UEFI. Your data storage medium will be provided with GPT partition management during Windows installation. To boot DVD recovery in UEFI mode, in the Boot menu in BIOS setup selects an item where the optical drive is identified with UEFI in front of the name. Example: UEFI: MATSHITADVD-RAM UJ8E0 For your system to boot in Legacy mode after installation, you must also boot DVD recovery using Legacy. Your data storage medium will be provided with MBR partition management during Windows installation. To boot DVD recovery in &amp; lt;/Esc &gt;mode, in the Boot menu in BIOS setup selects an item where the optical drive is identified with P in front of the SATA port number. Example: P5: MATSHITADVD-RAM UJ8E0 6. Verify the option by pressing ENTER. 70 Operation Instructions, 03/2016, A5E AA 71 Maintenance and repair device 7.3 Reinstall software 7. Immediately press any key when you see the following prompts to install the operating system from the Recovery DVD. Press any key to boot from the CD or DVD.. After a few seconds, you'll see a Windows Install installation program. 8. Now follow the instructions in the installation program. You can find additional information about this in the next section. Installation program Install Windows Language installation program and operating system are preset to English. You can change the operating system language after installation. Information on this topic can be found in the Provide language options using the Multilingual User Interface (MUI). Preparing a partition and integrating unknown storage controller by the operating system You can provide partitions during the installation process and integrate storage controllers unknown to the operating system. To do so, select Custom (advanced) when prompted for installation type in the Windows Installation program. The following dialog windows are available (example): Operation Instructions, 03/2016, A5E AA 71 72 Maintenance and repair devices 7.3 Reinstall Software Refresh Load Driver Drive option (advanced) Updates the integration of unknown controller drivers of the operating system and is required for installation. Please read the information in the Information section of the system with the RAID or AHCI CONTROLLER. To display additional functionality you can use to set up data storage media, see the Windows Installation Options Driver Window (advanced) figure. Refresh Load Driver Delete New Update Format unknown driver updates of the operating system and is required for installation. Please read the information in the Information section of the system with the RAID or AHCI CONTROLLER. Eliminates partitions Resize partition formatting partitions Create a new partition Introduction for error messages, for example, if the data medium is not formatted in the required NTFS format. 72 Operation Instructions, 03/2016, A5E AA 73 Maintenance and repair device 7.3 Reinstall Note software If you want to install the operating system on the data medium connected to an unknown storage controller operating system, you need to integrate the storage controller driver. Integrate this driver before you amend the data medium and before you install the operating system. For more information about integrating storage controllers, refer to the Information section for with the RAID or AHCI controller. 1. Make sure that the partition where you want to install the operating system is large enough and provided with the NTFS file system. The minimum size of this recommended partition varies, depending on the operating system, how much RAM you have and how much additional software you want to use. Information on how the data medium is divided in its factory conditions can be found in the table below. 2. Select the partition where you want to install the operating system. 3. Click Next. Installation started. Windows operating system is installed on the data medium. Windows 7 partition, the following factory settings Information is used for 100 GB of data storage media. Boot First Text Partition Size File System 100 MB is automatically set up by the 200 GB NTFS Second System installation program does not compress third DATA The remaining NTFS does not compress Partition Windows 10, factory setup (in later transmission stage) The following information applies to 100 GB data storage media. First WinRE 300 MB NTFS Second Boot File System 260 MB FAT32, is automatically established by the 128 MB FAT32 Third MSR installation program, was automatically established by the NTFS Fourth System installation program 200 GB not compressed Fifth Data Balance NTFS not compressed OperationAl Instructions, 03/2016, A5E AA 73 74 Maintenance device and repair 7.3 Reinstall software software for the system with the RAID controller or AHCI controller data controller unknown operating system must be informed of the operating system before installation Requirements You have forged the relevant controller driver to a USB stick. Procedure 1. Connect the USB stick with the controller driver to the device. 2. Start the Install Windows installation program as described above. 3. Select Load Driver in the Windows installation window. 4. Select their respective drivers on a USB stick Providing language options using the Multilingual User Interface (MUI) You can set menu views, dialogs or other information, such as dates and times, to different languages. For this purpose, you can choose one of the languages that have been installed or installed a new language package. The following order sequence is described in English. Depending on the default settings, it can be displayed in other languages. Procedure of Changing settings for language, region, and format of registered user account Windows 7: 1. Select: Start &gt; Control Panel &gt; Hours, Languages and &gt; Regional And Language Options 2. You can make the desired changes in the Format and Keyboard and Location Languages tabs. Windows 10 (in the shipping stage later): 1. Select: Start &gt; Control Panel &gt; Clock, Language and Region &gt; Region 2. You can make the desired changes in the Format and Location tab. Operation Instructions, 03/2016, A5E AA 75 Maintenance and repair device 7.3 Reinstall software Change settings for language, region and format of system accounts and standard user accounts You can change settings for system account languages, regions and formats (for example, languages in user login dialogs) and standard user account settings (for example, languages in user login dialogs) and standard user account settings (standard for registered user settings copied to system accounts and standard user accounts for this purpose. Windows 7: 1. Select: Start &gt; Control Panel &gt; Hours, Languages and &gt; Regional And Language Options 2. You can make the necessary changes in the Administration tab. You copy settings by clicking each other's buttons. Windows 10 (in the shipping stage later): 1. Select: Start &gt; Control Panel &gt; Clock, Language and Region &gt; Region 2. You can make the necessary changes in the Administration tab. You copy settings by clicking each other's buttons. Installing the language packages of the available languages is described in the device design chapter. Some language packages are available on DVD Recovery in the Languagepacks folder. Windows 7: 1. Select: Start &gt; Control Panel &gt; Hours, Languages and &gt; Regional And Language Options 2. Select the Keyboard and Languages tab. 3. Click the Install/uninstall language button and make the necessary changes. Windows 10 (in the shipping stage later): 1. Right-click the start menu in the taskbar and select Command Prompt (Admin). 2. Enter the following commands in the command line: Dism / online / Add-Package / PackagePath:#Path to the language pack# For #Path to the language pack#, enter the path to the language pack you want to install. Example: Dism/online /Add-Package/PackagePath:E:\Languagepacks\ja-jp\lp.cab Operation Instructions, 03/2016, A5E AA 75 76 Maintenance and repair device 7.4 Recycling and disposal of backup data/subsequent modification of hardware partitions supported Notes Older Version of IPC SIMATIC Image Creator does not support device hardware. Support is available as Simatic IPC Image &amp;; Partition Creator Version 3.3. For information about Image Creator &amp;; SIMATIC IPC partition, refer to the corresponding product documentation Creating an image To back up your data under Windows, we recommend using the SIMATIC IPC Image &amp; Partition Creator software tool. This tool is a simple and efficient backup and restores solutions for HDD content and individual partitions (images). SIMATIC IPC Image &amp; Partition Creator supports burning to DVD media. The software can be ordered from the SIEMENS online messaging system. For detailed information about Image Creator &amp; Partition SIMATIC IPC, please refer to the corresponding product documentation Modify partition recommend using SIMATIC SIMATIC Image Creator &amp;; Partition to modify partitions. The software is available on order from the SIEMENS Online Messaging System. For more information about using Image Creator &amp; Partition SIMATIC IPC, refer to the corresponding documentation. Note To run the System-only Restore software option from the Restore DVD, the partition size must match the factory default. Factory settings for partition sizes are listed in the Install Windows chapter. 7.4 Recycling and disposal Devices described in these operational instructions may be recycled thanks to their low pollutant levels. Contact your certified disposal services company for recycling and disposal of your environmentally sounding old device. 76 Operational Instructions, 03/2016, A5E AA 77 Certificate of Technical Specifications and approval of ISO 9001 Siemens quality assurance system for all product creation process (development, production and sales) meet the requirements of ISO 9001. This has been confirmed by DQS (German society for certification of quality management system). Device Software License Agreement is transmitted with installed software. Please note the corresponding license agreement. United States and Canadian Product safety certificates. The following approvals are available for devices: Underwriners Laboratory (UL) according to Second Edition UL and Canada Standard CAN/CSA-C22.2 No Second Edition. Integrated wireless WLAN Lan that complies with IEEE a/b/g/n/ac certified for Europe, USA and Canada. RCM AUSTRALIA/NEW ZEALAND This product meets the requirements of EN Generic standards - Emissions standards for residential, commercial and industrial environments lightweight. The product meets the standard requirements of EN Generic standards - Emissions standards for residential, commercial and industrial environments lightweight. OperationAl Instructions, 03/2016, A5E AA 77 78 Technical Specifications 8.2 Instructions and declaration 8.2 Instructions and declaration of Notes on the CE Mark Note on the following CE sign applies to the SIMATIC product described in this documentation: RTTE Instructions This Product is designed for the following application: Application, Residential, business and commercial operations, and small business requirements for emissions applications Immunity EN Industrial EN Device complies with EN (Current) and EN (voltage fluctuations and Flicker). This product meets the requirements of SPR Instructions 1999/5/EC Radio Equipment and Telecommunication Terminal Equipment - Use of Radio Spectrum : EN/EN / EN Instructions containing the Council's Requirements on Estimated Member States Law relating to Electromagnetic Compatibility (EmC Safety: see Low voltage instructions for low voltage instructions This Product meets Directive 2014/35/EU The European Parliament and the Council on the harmonization of Member States laws relating to electrical appliances designed for use within certain voltage limits. Compliance with these instructions has been tested to the DECLARATION EN compliance with the SPR Declaration of conformity and corresponding documentation provided to the authorities in accordance with the SPR's instructions set out above. Your sales rep can set this up upon request. 78 Operating Instructions, 03/2016, technical specifications A5E AA 79 8.2 Instructions and guidelines on the declaration of installation guidelines and security notices specified in the supplied documentation shall be complied with during commissioning and operations. Connecting noise immunity needs to EN is met if connected peripherals are suitable for industrial applications. Peripheral devices should only be connected using the ESD ESD shield cables All electronic modules are equipped with large-scale integrated IC or components. Due to their design, these electronic elements are very sensitive to overvoltage, and thus to any electrostatic discharge. Electrostatic sensitive components/modules are commonly referred to as ESD devices. This is also an international acronym for the device. Electrostatic sensitive modules identified by the following symbols: NOTICE Risk Overvoltage module that is sensitive to electrostatic discharge can be destroyed by voltage well under those that are visible to humans. Such voltage occurs if you touch the components or electrical connectors of the module without first exiting the static from your body. Electrostatic discharge currents can cause continuous failure of the module, that is, this damage may not be noticeable immediately, but operating can cause damage. Electrostatic charging Anyone who is not connected to the electricity potential of their environment can be charged electrostatic fees. The figure below shows the maximum electrostatic voltage that can build a person in contact with the materials indicated. These values correspond to IEC specifications. Operating Instructions, 03/2016, A5E AA 79 80 Technical Specifications 8.2 Instructions and Declaration of Image 8-1 Electrostatic voltage that operators may be subject to basic protective measures against electrostatic discharge Ensure proper grounds: When handling electrostatic sensitive devices, ensure that your body, work environment and any packaging This prevents electrostatic charges. Avoid direct contact: As a general rule, simply touch an electrostatistic sensitive device when inevitable (for example during maintenance work). Operate the module without touching any chip pins or conductors. In this way, released cannot affect sensitive devices. Sensitive. body before you start taking any size on the module. Do so by touching the targeted metal part. Always use a targeted gauge. 80 Operating Directive, 03/2016, A5E AA 81 Technical specifications 8.3 Technical specifications 8.3 Technical specifications nos General technical data command. Dimensions View order document or rating plate 385 x 53 x 275 (W x H x D in mm) Approx batteryless weight. 3 kg Supply voltage supply (UN) Direct voltage use AC power output power supply unit (DC) Power supply current output (DC) 3.4 kg 100 V to 240 V AC (±10%); sinusoidal Hz (47 to 63 Hz) Max. 100 W 19V Max. 4.7 Maximum Ready Power 90 W (in battery operation) Typically 1.5 W Lithium ion battery (9 cells) with Approx mah; 11.1 V with heat suis and various fissus; charging state welding) can be re-reviewed; charged up to 40oC; high number of cycles for use in harsh environments; low noise release &lt; 45 db(a) to Din Degree protection (entire device) IP 30 (with closed cover) in accordance with class IEC Safety Protection CLASS II in accordance with IEC IEC Safety specifications /EN UL Second Ed CAN/CSA-C22.2 No Second Edition Electromagnetic compatibility (EMC) EN output interference, EN Class D and EN Noise immunity: Mains is covered by interference interference on the supply line ± 2 kv; (according to IEC; Ruptured) ± 1 kv; (according to IEC; Sym surge to line) ± 2 kv; (according to IEC; Sym./ online to earth surge) Operating Directive, 03/2016, A5E AA 81 82 Technical specifications 8.3 Sound immunity technical specifications on signal lines ± 1 kv; (to IEC; ruptured; length &lt; 30 m) ± 2 kv; (to IEC ; broke; length &gt; 30 m) ± 2 kv; (acc. to IEC ; pulse/cable spike to the ground; length &gt; 30 m) Immunity for the release of static electrical immunity to RF interference magnetic field ± 4 kv, disconnection (according to IEC; ESD) ± 8 kv, air release (according to IEC; ESD) 10 V/m with amplitud modulation 80% at 1 khz, according to SPH 150 khz to 80 MHz (to IEC) 10 V/m with 80% amplitud modulation with 1kHz, 80 MHz to 1000 MHz) (to IEC) 3 V/m with amplitud modulation 80% at 1 khz, 1.4 GHz - 2 GHz (acc. to IEC) 1 V/m, with 80% amplitud modulation at 1 khz, 2.0 GHz 2.7 GHz (to IEC) Aligned with SPH 30 A/m, 50 Hz and 60 Hz (acc. to IEC) Temperature weather conditions tested to IEC, IEC 50 Hz and 60 Hz (acc. to IEC) Temperature weather conditions tested to IEC, IEC EC During operation * Storage / transport + 5 C to + 40 C max. 10 C/h (no dissing) 20 C to + 60 C at max. 20 C/h (no exposure) Relative humidity tested to IEC, IEC, IEC During operation * Storage/transport 5% to 85% at 30 C/h (no complaining) 5% to 95% at 25 C/h (no complaining) * Combustion with optical boosters is only allowed in and so the maximum ambient temperature is 35 C. C. C. Vibration mood condition Tested according to IEC DIN Operation * 10 to 58 Hz; amplitud mm 58 to 500 Hz; 4.9 m/s 2 Transport 5 to 9 Hz; amplitud 3.5 mm, 9 to 500 Hz: 9.8 m/s 2 Shocks Tested according to IEC Operation * Half sine, 50 m/s 2, 30 ms, 100 shock Storage/transport Half sine, 250 m/s 2, 6 ms, 1000 surprises * Combustion with optical drive is only allowed in unscgued environments and up to a maximum ambient temperature of 35 C. 82 Operation Directive, 03/2016, A5E AA 83 Technical specifications 8.3 Technical specifications Typical of Quality Assurance features According to IS Ram Processor Specifications Motherboard Processor 9001 are listed in your order document. Expanded to 32 GB DDR4 SODIMM Optical Hard Drive Drive 1) 2.5-SATA HDD or SSD, the capacity stated in the BIOS. DVD+-R/+-RW 1) Combustion with optical drive is only allowed in unscgued environments and up to a maximum ambient temperature of 35 C. Intel HD graphics guards graphics 530 graphics guard graphics are allocated in memory system Resolution / frequency / color According to the lcd chart booster rating options display Type TFT (Thin Film Transistor), 16:9, Anti-reflection size 344 x 194, equivalent to 15.6 Screen resolution 1920 x 1080 (full HD) Maximum possible color 256k Vertical frequency 60 Hz Different &gt; 200 : 1 Brightness &gt;220 cd/m 2 Light-justified damaged area and dark pixels: Max. 10 Audio GuardInline Sound Magnifier Realtek ALC255, maximum output power matching UAA 2 x 1W Operating Directive , 03/2016, A5E AA 83 84 Technical specifications 8.3 Technical specifications WLAN IEEE a/ b/ g / n and ac Keyboard Variant Key key drop key Standard notebook 19 mm 2.. Set up 5 mm International Labeling device / German AZERTY (option) Clickpad integrateduding device with integrated main function interface rs232/TTY (COM1) Interface RS232 integrated in each device by default. The TTY (20 ma) interface, depending on the configuration, cannot be modified by Standard for the S5 equipment variant. Active for 100 m, 25-pin socket, no galvanic seclusion or V.24 watery interface DVI-I interface for external monitors (VGA screen can be controlled using DVI/VGA customizer), maximum. DVI/VGA resolution: 1920 x 1200 DPP 1.2 (port exposure) Interface for external monitors, maximum resolution: 4096 x 2560 USB 1x USB 3.0 Type C (left of device): Max. 1.5 A 1x USB 3.0 Type A (rear device): Max. 0.9 A 1 x USB 3.0 Type A (right of device, top): Max. 0.9 A 1 x USB 3.0 Type A (right of device, bottom) with charging function for smartphone: Max. 1.5 A PROFIBUS/MPI interface 9-pin sub-pin speed delivery socket 9.6 kbaud to 12 Mbaud, software configured Remote Electrical operation mode: - Data channel A, B - US RTS control line, RTS_PG 5 V volt supply (max. 90 ma) Targeted: - DP12 connection line shield RS485 port physical line, electric remote Ethernet 2 x Gigabit Ethernet (RJ45) DC-In DC power supply input, jek ceiling head font, microphone, UAJ connection head set for 3.5mm jack 84 Operation Directive, 03/2016, A5E AA 85 Technical specifications 8.3 Technical specifications Smart Card Reader ISO Reader /IEC 7816 Smart Card Interface ExpressCard Reader 1 x ExpressCard Type 34 SIMATIC Memory Carder Interface Multimedia Card Reader Manager for SIMATIC Memory Card Programming Interface (S5 and S7-400) for SIMATIC Micro Card Interface for: SMC (mechanical as SD card); SD card programming functions (including SD UHS-II) MMC Status displays at the Level Of Access Device level to HDD/DVD MPI/DP S5 and module S7 / Card Reader (except Smart Card Reader) Num Lock Caps Lock WLAN Active Operation Instructions, 03/2016, A5E AA 85 86 Technical specification 8.4 Interface description interface DC-In Power socket customizer. It has the following charges: USB 3.0 Type A Pin no. Short assignment Means Input/output 1 VBUS+5V (fused) Output 2D- Data line Input/output 3D + Data line Input/output 4 GND Ground 5 RX- Input Data Line 6 RX + Data Line Input 7 GND Ground 8 TX- Data line Output 9 TX + Data Line Output 86 Operation Directive, 03/2016, A5E AA 87 Technical specifications 8.4 USB 3.0 Interface lighting Type C Pin no. Compact Lighting Means Input/output A1 GND Ground A2 TX1+ Data Cable (USB 3.0) Output A3 TX1- Data cable (USB 3.0) Output A4 VBUS + 5V (fused) Output A5 CC1 Input channel configuration /output A6 D+ Data Cable (USB 2.0) Input /output A7 D- Data cable (USB 2.0) Input/output A8 - Not assigned - A9 VBUS + 5 V (fused) Output A10 RX2- Data Cable (USB 3.0) Input A11 RX2 + Data Cable (USB 3.0) Input A12 GND Ground - B1 GND Ground - B2 TX2+ Data Cable (USB 3.0) Output B3 TX2- Data cable (USB 3.0) Output B4 VBUS + 5 V (fused) Output B5 VCONN Configuration channel Input / output B6 D + Cable data (USB 2.0) Input /output B7 D- Data cable (USB 2.0) Input/output B8 - Not assigned - B9 VBUS + 5 V (fused) Output B10 RX1- Data cable (USB 3.0) Input B11 RX1 + Data Cable (USB 3.0) Input B12 GND Ground - Operation Directive , 03/2016, A5E AA 87 88 Technical specifications 8.4 Interface RS232/TTY (COM1) Pin no. Short assignment Means Input/Output 1 - Shield - 2 TxD (D1) data-ically delivered 3 RxD (D2) Irrigated Output receives Input Data 4 RTS (S2) Request to send Clear 5 CTS (M2) Output to send Input 6 DSR (M1) Ready for operation Input 7 GND (E2) Ground function (potential reference) 8 DCD (M5) Data carrier track Input 9 +TTY RxD When coil receives Input Not used TTY TxD When coil sending Output ma potentially remote power source - 20 DTR (S1) Data ready Output 21 -TTY TxD When coil sending Output 22 RI (M3) Input incoming call Not used - - Gender modifier for COM1 With gender modifier (25-pin / 9-pin) com1/V.24 / AG port can be converted to regular 9-pin male connector. For this, all you have to do is attach the customizer to the COM1 socket and guarantee it with two hexagon head screws. Port V.24 and TTY KOM1 can be used alternatively. 88 Operating Directive, 03/2016, A5E AA 89 Technical specifications 8.4 DVI-I Pin no. Short Assignment Means Input / output S GND Ground S1 GND Ground C1 R Red Output C2 G Green Output C3 B Blue Output C4 HSYNC Transversely move pulse Output C5 GND Ground - CSA GND Ground - 1 TX2N TDMS data 2- Output 2 T Data TDMS 2+ Output 3 GND Ground 4 NC Not used 5 NC Not used 6 DDC CLK DDC hours Input/output 7 DDC CLK DDC data Input/output 8VSYNC Vertically drive pulse Output 9 TX 1N TDMS data 1- Output 10 TX1P TDMS data 1+ Output 11 GND Ground 12 NC Not used 13 NC Not used V +5 V Output 15 GND Ground 16 MONDET Hotplug ing Input 17 TX0N TDMS data 0- Output 18 TX0P TDMS data 0+ Output 19 GND Ground 20 NC Not used 21 NC Not used 22 GND Ground 23 TXCP TDMS hours + Output 24 TXCN TDMS hours - Command Operation Output , 03/2016, A5E AA 89 90 Technical specification 8.4 Regarding the interface Display port Pin number. Short Assignment Means Input /output 1 ML_Lane0 + DP data 0 + Output 2 GND Ground - 3 ML_Lane0- DP data 0- Output 4 ML_Lane1 + DP data 1+ Output 5 GND Ground - 6 ML_Lane1 - DP data 1- Output 7 ML_Lane2 + DP data 2+ Output 8 GND Ground - 9 ML_Lane2- DP data 2- Output 10 ML_Lane3 + DP data 3+ Output 11 GND Ground - 1 2 ML_Lane3- DP data 3- Output 13 CONFIG1 CABLE CABLE Customizer 14 CONFIG2 Ground Input (pull down) - 15 AUX_CH + Additional Channels + Bi-directional 16 GND Ground - 17 AUX_CH Additional channels- Bi-directional 18 HPD Hot Plug 19 GND Ground Input - 20 DP_PWR +3.3V (fused) Output 90 Operation Directive, 03/2016, A5E AA 91 Technical specifications 8.4 Interface lighting PROFIBUS / MPI Socket PROFIBUS/MPI has the following pinout : Pin no. Compact assignment Means Input/output 1 Not used 2 Not used 3 LTG_B Cue B module MPI Input/output 4 RTS_AS RTSAS, control cues for received data flow. Gesture Input is 1 active when the connected PLC continues to deliver. 5 M5EXT M5EXT (GND) return line from 5V Power Output supply. Current load caused by external users associated between P5EXT and M5EXT cannot exceed a maximum of 90 ma. 6 P5 EXT P5EXT power supply (+5 V) from power output supply 5 V. Current load caused by external users associated between P5EXT and M5EXT cannot exceed a maximum of 90 ma. 7 Not used 8 LTG_A cue A module MPI Input / output 9 RTS_PG RTS MPI module signals. Control Output Signal is 1 when PG PG Send. Shield on operating line holster, 03/2016, A5E AA 91 92 Technical specifications 8.4 Rj45 Pin Ethernet interface lighting no. Compact Assignment Means Input/output 1 BI_DA + Bi-directional data A + Input/output 2 BI_DA- Bi-directional data A- Input/output 3 BI_DB + Bi-direction data B + Input/output 4 BI_DC + Bidirectional Data C + Input/output 5 BI_DC- Bi-data direction C- Input / output 6 BI_DB- Bi-direction data C + Input / output 6 BI_DB- Bidirectional data C + Input / output 5 BI_DC- Bi-directional data C- Input / output 6 BI_DB- Bidirectional data C + Input / output 5 BI_DC- Bi data-direction C- Input/output 6 BI_DB- Bi-direction data C + Bi-direction data C + Input / output 5 BI_DC- Bi-direction data C- Input / output 6 BI_DB- Bi-direction data C + Bi-direction data C + Input / output 5 BI_DC- Bi-direction data C- Input / output 6 BI_DB- Bidirectional data C + Input / output 5 BI_DC- Bi-direction Input C- Input / output 6 BI_DB- Bi-directional data C + Bi-direction data C + Bi-direction data C + Input / output 5 BI_DC- Bi-directional data C- Input / output 6 outputs 7 BI_DD+ Data d+ Data d+ Input / output 8 BI_DD- D-direction data D- Input / output S Shield LED 1 LED 2 OFF Green light until Orange light up green flash 10 Mbps 100 Mbps 1 Gbps Connection is showing UAJ activity You can connect various audio devices to UAJ Connection UAJ You can connect various audio devices to UAJ UAJ Connection You can connect multiple audio devices to UAJ Connection You can connect various audio devices to UAJ Connection UAJ You can connect multiple audio devices to UAJ Connection UAJ You can connect multiple audio devices to UAJ Connection UAJ You can connect multiple audio devices to UAJ Connection UAJ. The audio guard socket recognizes the connection pin assignment, depending on the audio device connected. Information about connecting audio devices can be found in the Connect exact device section (Page 34). The 3.5 mm pin is assigned as follows depending on the audio device: Ring Tip 1 Ring 2 Sleeve Headphones out (stereo) L R - GND Line out (stereo) L R - GND Line in (stereo) L R - GND Line in (stereo) L R - GND Line in (stereo) L R - GND Line in (stereo) L R - GND Line in (stereo) L R - GND Line in (stereo) L R (stereo) L R - GND Line in (stereo) L R - GND Line in (stereo) L R - GND Line in (stereo) L R - GND Line in (stereo) L R - GND Linestereo - Microphone GND in (mono) MIC - - GND Headset (OMTP) L R MIC GND Headset (CTIA) L R GND MIC 92 Operating Directive , 03/2016, A5E AA 93 Technical specifications 8.5 System source Connecting SIMATIC S5 cable S5 cable (not always supplied as standard) allows you to connect your PG to SIMATIC S5 automation device. Note the information in the STEP 5 documentation. Cable The S7 for MPI/DP Cable 6ES7901-0BF00-0AA0 is used to connect your PG to the SIMATIC S7 automation system. See the information in the Connect SIMATIC S7 or PROFIBUS section (Page 32). 8.5 System resources Allocated at this time system resources All system resources (hardware address, memory configuration, interference provisioning, DMA channels) are dynamically assigned by Windows OS, depending on the hardware configuration, drivers and connected external devices. You can view the current task of the system source, or any conflicts with the following operating systems: Windows 7 Start &gt; Enter cmd in the search function, and then enter msinfo32 in the input box. Windows 10 (in the later delivery stage) Operating Directive, 03/2016, A5E AA 93 94 Technical specification 8.6 BIOS lighting 8.6 Bios Description Parameterize your device in BIOS Inventory. The BIOS Inventory Program the BIOS Inventory Program, or BIOS Inventory for Short, is located, together with the inventory parameters, in the FLASH block on the parent board. Change device inventory parameters in BIOS Inventory, such as system time or sequence. Change device configuration Your device configuration has been pre-set to operate with the included software. Awda should only exchange default inventory parameters if if modifications to your device require different parameters. NOTICE Of Damage can occur by running CPU software If a PC BIOS update is performed while simaTIC software controller, WinAC SIMATIC for example, running, CPU software can be damaged, resulting in communication interruptions or failures, for example. Other actions that place heavy loads on PC hardware, for example, carry out hardware tests such as benchmarks, can result in software CPU damage. Do not run BIOS updates or other actions that will put heavy load on hardware during CPU operation software. Change the software CPU to QUIT before you run a BIOS update or perform other critical actions. Note Documentation BIOS setup is described for all devices and device configurations. Some BIOS submenus or Setup parameters may not be included, depending on your order. Your BIOS Setup interface can deviate from the figures in this document. You can find a detailed description of the BIOS on the Support website under Operation Instructions ENTRY ID, 03/2016, A5E AA 95 Technical Specifications 8.6 DESCRIPTION BIOS Opening BIOS selection menu Procedure 1. Reset the device (restart warm or cold). Depending on the device version, the default settings can differ from the figures indicated. The following message appears briefly on the display at the end of the standalone test: Press ESC for boot option 2. Press &amp;lt;ESC&gt; to open the BIOS options menu: The following keys are available in the BIOS options menu: The Continue Menu of Exit Boot Manager Function option, continue to start sequence Specify boot media from which to boot: Hard disk drive CD-ROM drive USB drive (USB boot = enabled) Device Management Boot From Device Manager Start File to UEFI boot media Boot Maintenance Manager: Boot Options: Optional Drive boot order set: Optional Configuration of Console drivers: Configure connected input devices Boot from Files: Start from . EFI file Reset System: Restores the Secure Factory Settings Boot Option 1 SCU BIOS Update MEBx Configuration settings to start the device in Safe Boot mode. The only software modules loaded are those known to be safe for BIOS or operating systems. Start BIOS Setup through BioS Update Utility Configuration Setup from the USB Intel Memory Wood Management AMT Configuration 1 Available on Windows 8 or later Operational Instructions, 03/2016, A5E AA 95 96 Technical Specifications 8.6 BIOS description of the BIOS Setup Menu Parameters setup Not all menus are included in each supplied device configuration. The following table shows the menu. Advanced Security Power Boot Out menu Means Display System Information, for example, BIOS, processor and memory Configure hardware using different downland Security functions, &lt;/ESC&gt; &lt;/ESC &gt; specify the CPU setting and the suis on function. Specify a but option, for example, the Save and Exit order (see Exit menu) Menu always has the same structure. The numbers below show an example for the Main menu. Device-specific information is shown to be blurry. 1 Header 2 Menu bar 3 Settings, submenus and device-specific information Version during bios setup selected displayed in the header. Switch between various Main, Advanced, and other menus in the menu bar at the top. Information about your device is displayed in the center-left area; here you can edit the settings that are partly in the submenus. 96 Operation Directive, 03/2016, A5E AA 97 Technical specification 8.6 BIOS lighting 4 Help Area 5 The main help text on the selected inventory parameters is now displayed in the center right area. The main task for navigation in bios inventory is found in the Exit menu of your Cookies always exiting the BIOS Inventory in this menu. Exit Saving Changes Save Changes Without Exiting Remove Optimum Default Load Changes Custom Load Save Custom Default Exhaust Changes All changes are saved and the system restarts with the new Inventory parameters. All changes are saved All changes are discarded and the system restarts with the old Inventory parameter. All preparation parameters are reset to a safe default value. Notice: Existing Inventory parameters are written instead by this. Profiles must be loaded with custom Inventory parameters. Requirements: Parameters are stored before with Custom Default Save. The Inventory parameters configured at this time are stored as custom profiles (see also Custom default load). All changes are discarded. Operation Instructions, 03/2016, A5E AA 97 98 Technical specification 8.6 BIOS Preparation Requirements Default To document your device configuration If you have changed any default settings in The Setup, you can include them in the following schedule. You can then refer to this inclusion for any future hardware modifications. Print notes table below and keep the page in a safe place as soon as you make your participation. BIOS Setup sets parameters Default System Participation Custom Prime Time hh:mm:sss System Date MM / DD / YYYY Boot configuration Numlock POST error On Never stop on com 1 On-board Interior Peripheral Configuration error 1 Ethernet 1 Ethernet Address On-board Ethernet 2 Ethernet 2 Address WLAN MPI (dedicated device) S ExpressCard Touchpad Card Enabled Powered 00:1B:1B:41:42:7B (example) Powered 00:1B:1B:0A:85:10 (example) Chipset Configuration Powered Off-Powered HPET Support HPET VT-d Powered 98 Operation Directive, 03/2016, A5E AA 99 Technical specifications 8.6 BIOS lighting Active Management of Amt Intel Support Support Intel AMT Intel Disability Setup Enabled MeBx Screen Selection Un-Configure ME Dinyahdayakan Intel AMT Skrin Konfigurasi Membolehkan USB Konfigurasi Kata Laluan Intel AMT Penulis Didayakan USB Konfigurasi Kemajuan PET Didayakan Intel AMT SPI Dilindungi Penyelia Operasi TPM Penyelia Kata Laluan Kuasa pada Tahap Akses Pengguna Kata Laluan Tiada operasi Tidak dipasang Lanjutan Kawalan CPU SW Pengawal Sambungan (SGX) Perisian Dikawal Pilih Pemilik EPOCH jenis input Tiada perubahan dalam Pemilik EPOCHs Intel (VMX) Teknologi Virtualisasi Teras Pemproses Aktif Hyper-Threading AES Intel SpeedStep Intel Speed Shift Technology Turbo Mode C state Enabled All Enabled Enabled Enabled Enabled Enabled Enabled Enabled Enabled Enabled A5E AA 99 100 Spesifikasi teknikal 8.6 BIOS penerangan Boot Boot Type Dwi Boot Jenis Cepat Didayakan But Senyap Didayakan Tindanan Rangkaian Dinyahdayakan Keupayaan But PXE Dinyahdayakan Tambah Pilihan But Auto USB Boot Peranti EFI Pertama Didayakan Timeout 0 Legasi / Boot Peranti Keutamaan Menu But Biasa Kemas kini BIOS standard Semak dengan kerap jika kemas kini tersedia untuk dimuat turun ke peranti anda. You can get additional information on the Internet at the following address:after system Sales Information (Piercing and restoring the NOTIS BIOS Setup settings Data loss That cannot be repatriated all BIOS Setup settings are deleted after bios update. This can put the system in an unspecified state. This can damage devices and plants. 1. Print the table in the next section of General BIOS Setup Settings. 2. Enter your custom BIOS Inventory settings in this schedule before you run the BIOS update. 3. Start BIOS Setup after BIOS update. 4. Load default BIOS Inventory settings with &lt;F9&gt;Default Inventory. Or use the Bios Inventory command to Load Optimum Defaults in the Exit menu. 5. Create your own Inventory settings based on the schedule you have printed. 6. Save bios inventory settings with Save and &lt;F10&gt;Exit. 100 Operation Instructions, 03/2016, A5E AA 101 Technical specification 8.6 BIOS subject Performing BIOS update NOTIS Damage to the device If you turn off the device during update, the BIOS will become incomplete and damaged. This can cause damage. Let the device be turned on during the update. If you have purchased a new BIOS update for your device, follow these steps to install the update: 1. Connect the device to power supply. 2. Copy the update to the USB memory log. 3. Reset the device (restart hot or cool). The following message appears briefly on display at the end of the self-satiable test: Press ESC for option but 4. Press &lt;ESC&gt;to open the BIOS drop-down menu. 5. Click the BIOS Update button. 6. Follow the on-screen instructions. But again There may be some back details after the BIOS update. This was originally initiated by the Management Engine (ME). But originally&lt;/ESC&gt; &lt;/F9&gt; &lt;/F9&gt; required by ME to adapt itself to changes to the alarm of bioS updates, errors and system messages During startup (boot process), BIOS first performed a Power On Self Test (POST) and check if certain functional units of the PC operate error-free. The sequence of boots is interrupted immediately if a critical error occurs. BIOS controls and tests further functioning units if POST does not return any errors. In this initial phase, the graphic controller is started and any error messages are removed to the screen. The output of error messages by the BIOS system is listed below. For information about output error messages by the operating system or application program, refer to the corresponding manual. OperationAl Instructions, 03/2016, A5E AA 101 102 Technical Specifications 8.6 REPEal BIOS Error message on the Operating System screen error not found Meaning / tipS Possible cause: No operating system installed incorrect partition boot incorrect boot incorrect Reports of hard drives pending failure through the CMOS S.M.A.R.T. battery are not connected. CMOS battery weak CMOS clocks are operated without battery or with too weak batteries, during battery changes, for example. Check the CMOS hours. PG Field Keyboard Error: Internal keyboard defects and no external keyboard connected Other Devices: The keyboard is damaged or not connected to the PLD configuration failed PLC programming on the parent board failed. 102 Operational Directives, 03/2016, A5E AA 103 Technical Specifications 8.7 Active Management Technology (AMT) 8.7 Active Management Technology (AMT) Introduction Intel Active Management Technology (Intel AMT) is Intel technology for remote maintenance of SIMATIC Industrial PC (IPC) with AMT technology using PC management amt. It is not necessary to install the operating system at IPC SIMATIC with Intel AM. Intel AMT provides multi-functionality, for example: Keyboard Video Mouse (KVM) KVM Connection Redemption is always possible to use an integrated KVM server in firmware. KVM allows access to IPCs with corrupted or missing operating systems because KVM servers are integrated in AMT hardware. KVM allows you to reboot the remote computer and make changes to BIOS settings. SIMATIC IPC remote power management with Intel AMT can be turned on and off or restarted using another PC. Redirecting Image IDE on management PCs can be integrated and used on SIMATIC IPCs with Intel AMT both as CD/DVD drives and as floppy drives. If the image is bootable, you can also boot SIMATIC IPC with Intel AMT from it. The following figures show the remote maintenance of IPC SIMATIC with Intel AMT, for example. solve problems of corruption operating systems or incorrect BIOS settings: Operational Instructions, 03/2016, A5E AA 103 104 Technical specifications 8.7 Active Management Technology (AMT) Overview AMT This section describes the steps and settings required on local IPC so that the IPC can be controlled and maintained remotely from the management station. The local IPC is known below as AMT PC. These sections contain the following information: AMT settings in MEBx and in the basic configuration of AMT BIOS setup Further useful notes 104 Operating Instructions, 03/2016, A5E AA AA

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