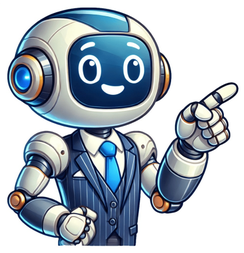
I'm not a robot



PRE-PROGAMMED as 4 CHANNEL 7 DAY TIME SW. with HOLIDAY OFF OVERRIDE • 12 PROGRAMMABLE HOLIDAY BLOCK DATES (individual days or group of days) • INDIVIDULE AFTER HOURS PUSH BUTTON INPUTS (AHR up to 99hrs run time) • HOLIDAYS CAN BE SET FOR ONCE OFF OR REPEAT EACH YEAR (ie CHISTMAS) • COMMON HOLIDAY OFF OVERRIDE FUNCTION INTERLOCKABLE WITH EACH OF • THE FOUR TIME SWITCHES. INDIVIDULE TIME SWITCHES CAN BE SET FOR MULTIPLE ON/OFF's EACH DAY • PLAIN ENGLISH SCROLLING LCD DISPLAY SHOWING OUTPUT & HOLIDAY STATUS • EXISTING HOLIDAY PROGRAM DATE INFORMATION AVAILABLE ON LCD SCREEN • TOGGLE ON / TOGGLE OFF AHR FUNCTION. • DIN RAIL MOUNT, SUITS M.C.B ENCLOSURES • OUTPUT RELAYS ARE POTENTIAL FREE & RATED AT 240v 10A (res.) • MANUAL ALL ON & OFF KEYBOARD FACILITY • This pre-programmed Siemens Logo PLC has been programmed for use as a 4 channel 7 day Time Switch with independent output voltage free relays (240v rated). Each time switch channel has its own multi on/off per day, 7 days a week time switch setting schedule plus individual after hours push button inputs. 12 Holiday Start / Finish blocks (single day or block of days ..ie easter) can be programmed as a common off HOLIDAY override to override any or all of the four time switches but are still able to individually triggered on by the their independent AHR inputs. The 4 time switches are each preset to operate Monday to Friday from 08:00 (8 am) till 17:30 (5:30pm), & the after hour timers preset for 2 hours operation, but all settings are user adjustable via the keypad onsite. Two of the PLC keyboard buttons have been assigned as Master Manual all ON & OFF buttons, but if left in Manual returns to Auto time switch control after 99 hours if not toggled back to Auto control by again pressing the PLC fascia button. . HEVAC CONTROL AGENCIES Pty.Ltd. www.hevac.com.au PRE PROGRAMMED 4 x 7 DAY TIME SWITCH c/w INDIVIDULE AHR I/P's + common 365 DAY HOLIDAY OFF override 24v AC or DC POWERED VOLTAGE FRE RELAY OUTPUTS 03 95627888 SIEMENS 240V VERSION AVAILABLE (WILL AUTO RETURN TO AUTO AFTER 99HRS) LOGO as 4 channel 365 T/Switch LOGO PLC as updated 24/03/2020 Loading... Please enable javascript or update your browser. Page 1 _____ LOGO! Preface _____ Getting started with LOGO! LOGO! installation and _____ wiring _____ Programming LOGO! _____ LOGO! LOGO! functions UDF (User-Defined _____ Function) (0BA7 only) Manual _____ Data Log (0BA7 only) _____ Configuring LOGO! _____ Applicable cards _____ LOGO! software _____ Applications _____... Page 2 Note the following: WARNING Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. Preface We thank you for purchasing LOGO! and congratulate you on your decision. With LOGO! you have acquired a logic module that meets the stringent quality requirements of ISO 9001. LOGO! can be used in many fields of applications. Due to its high functionality and easy operation, LOGO! offers you the utmost efficiency for almost any application. Page 4 Preface Note Some chapters/sections in this manual specifically relate to the LOGO! 0BA7 devices. For easy identification, the names of these chapters/sections end with "(0BA7 only)". Valid range of this manual The manual applies to devices of series 0BA6 and 0BA7. New features of the LOGO! 0BA7 device series The following features are new for the LOGO! 0BA7 devices: ●... Page 5 Preface ● Support of configuration of elements connected to UDFs (User-Defined Functions) LOGO!Soft Comfort V7.0 provides a new circuit program editor - the UDF editor. Circuit programs created in the UDF editor can be saved as individual UDF blocks for use in an existing or a new circuit program in LOGO!Soft Comfort. Page 6 Preface ● Additional optional analog inputs and fast digital inputs are available on some of the LOGO! 0BA6 Base Modules. ● LOGO! 0BA6 configuration menus can be displayed in one of ten supported languages. You have a configuration choice to specify the language for LOGO! menus. ●... Page 7 Preface Additional support Additional support is available on the Siemens website: Siemens LOGO! website (LOGO! Manual, 04/2011, A5E03556174-01... Page 8 Preface LOGO! Manual, 04/2011, A5E03556174-01... Table of contents Preface .....3 Getting started with LOGO!.....13 LOGO! installation and wiring .....29 Modular LOGO! setup.....32 2.1.1 Maximum LOGO! network setup (0BA7 only).....32 2.1.2 Maximum setup with expansion and communication modules.....34 2.1.3 Setup with different voltage classes .....36 2.1.4 Compatibility.....38 Installing/removing LOGO!.....39... Page 10 Table of contents 3.7.6 Switching LOGO! to RUN mode .....97 3.7.7 Second circuit program .....100 3.7.8 Deleting a block..... 105 3.7.9 Deleting block groups..... 106 3.7.10 Correcting programming errors.....107 3.7.11 Selecting analog output values for RUN/STOP transition .....107 3.7.12 Defining the type of analog outputs ..... Page 11 Table of contents 4.4.13 Astronomical clock (0BA7 only) .....195 4.4.14 Stopwatch (0BA7 only) .....198 4.4.15 Up/down counter.....201 4.4.16 Hours counter.....205 4.4.17 Threshold trigger.....210 4.4.18 Analog threshold trigger.....213 4.4.19 Analog differential trigger .....216 4.4.20 Analog comparator.....218 4.4.21 Analog watchdog .....223 4.4.22 Analog amplifier .....226 4.4.23 Latching relay.....228... Page 12 Table of contents Applications .....317 Technical data .....319 General technical data .....319 Technical data: LOGO! 230..... 321 Technical data: LOGO! DM8 230R and LOGO! DM16 230R ..... 324 Technical data: LOGO! 24.....326 Technical data: LOGO! DM8 24 and LOGO! DM16 24 .....328 Technical data: LOGO! 24RC... Getting started with LOGO! Here's LOGO! LOGO! is a universal logic module made by Siemens that integrates: ● Controls ● Operator and display panel with background lighting ● Power supply ● Interface for expansion modules ● Interface for cards or cables, according to the device series: –... Page 14 Getting started with LOGO! Which devices are available? LOGO! Base Modules are available in two voltage classes: ● Class 1 ≤ 24 V, i.e. 12 V DC, 24 V DC, 24 V AC ● Class 2 > 24 V, i.e. 115...240 V AC/DC LOGO! Base Modules are available in two versions: ●... Page 15 Getting started with LOGO! Features of the LOGO! TD The LOGO! TD is available beginning with the 0BA6 series. It provides an additional display that is wider than the LOGO! Basic. It has four function keys that you can program in your circuit program as inputs. Page 16 Getting started with LOGO! Note The LOGO! Base Module may only be equipped with expansion modules of the same voltage class. Mechanical encoding pins in the housing prevent you from connecting devices of a different voltage class. Exception: The interface on the left side of an analog module or communication module is galvanically isolated. Page 17 Getting started with LOGO! The LOGO! structure Rx/Tx LINK Rx/Tx LINK ① ② Power supply Inputs ③ ④ Outputs PE terminal, for connecting to earth ground ⑤ ⑥ RJ45 socket, for connection to Ethernet Ethernet communication status LEDs (10/100 Mbit/s) ⑦... Page 18 Getting started with LOGO! ① ② Power supply Inputs ③ ④ Outputs Module slot with cap ⑤ ⑥ Control panel (not for RCo) LCD (not for RCo) ⑦ ⑧ LOGO! TD cable connector Expansion interface ⑨ Mechanical coding sockets LOGO! Manual, 04/2011, A5E03556174-01... Page 19 Getting started with LOGO! ① ② Power supply Inputs ③ ④ Outputs RUN/STOP LED ⑤ ⑥ Expansion interface Mechanical coding pins ⑦ ⑧ Mechanical coding sockets Slide LOGO! Manual, 04/2011, A5E03556174-01... Page 20 Getting started with LOGO! ① ② Power supply Inputs ③ ④ Outputs RUN/STOP LED ⑤ ⑥ Expansion interface Mechanical coding pins ⑦ ⑧ Mechanical coding sockets Slide LOGO! AM2 ① ② Power supply Inputs ③ ④ RUN/STOP LED Expansion interface ⑤... Page 21 Getting started with LOGO! LOGO! AM2 AQ (0 ... 10 V DC or 0/4 ... 20 mA) ① ② Power supply Outputs ③ ④ RUN/STOP LED Expansion interface ⑤ ⑥ Mechanical coding pins Mechanical coding sockets ⑦ ⑧ Slide PE terminal, for connecting to earth ground LOGO! CM EIB/KNX ①... Page 22 Getting started with LOGO! LOGO! TD ① Communication interface ② Power supply The LOGO! TD includes a wider display area than the LOGO! onboard display. It includes four programmable cursor keys, four programmable function keys, and an ESC and an OK key. Page 23 Getting started with LOGO! Symbols Version with display unit is equipped with 8 inputs, 4 outputs and 1 Ethernet interface Version with display unit is equipped with 8 inputs and 4 outputs Version without display unit is equipped with 8 inputs and 4 outputs The digital module is equipped with 4 digital inputs and 4 digital outputs The digital module is equipped with 8 digital inputs and 8 digital outputs The analog module is equipped with 2 analog inputs or 2 analog outputs, according to... Page 24 Getting started with LOGO! Versions The following LOGO! versions are available: Symbol Designation Supply voltage Inputs Outputs Properties LOGO! 12/24RCE 12/24V DC 8 digital 4 relays (10 A) LOGO! 230RCE 115 ... 240 V 8 digital 4 relays (0BA7) AC/DC (10A) LOGO! 12/24RC 12/24 V DC... Page 25 Getting started with LOGO! Expansion modules The following expansion modules can be connected to LOGO!: Symbol Name Power supply Inputs Outputs LOGO! DM8 12/24R 12/24 V DC 4 digital 4 relays (5A) LOGO! DM8 24 24 V DC 4 digital 4 solid state 24V / 0.3A LOGO! DM8 24R... Page 26 Getting started with LOGO! Communication modules The following communication modules can be connected to LOGO!: Symbol Name Power supply Inputs Outputs LOGO! CM AS Interface 30 V DC the next four the next four inputs after the outputs after the physical inputs of physical outputs LOGO! Page 27 Getting started with LOGO! Certification and approvals LOGO! is certified to cULus and FM. ● cULus Haz. Loc. Underwriters Laboratories Inc. (UL) to - UL 508 (Industrial Control Equipment) - CSA C22.2 No. 142 (Process Control Equipment) - UL 1604 (Hazardous Location) - CSA-213 (Hazardous Location) APPROVED for use in Class I, Division 2, Group A, B, C, D Tx... Page 28 Getting started with LOGO! ID for Korea Our products carrying the label shown at the side are compliant with Korean standards. WARNING Risk of death, personal injury or property damage can occur if you do not follow safety precautions for hazardous locations. In potentially explosive atmospheres, do not disconnect connectors when the system is in RUN. LOGO! installation and wiring General guidelines Please note the following guidelines for installing and wiring your LOGO!: ● Always ensure that the wiring of your LOGO! is compliant with current rules and standards. Also, conform with all national and regional regulations when you install and operate the devices. Page 30 LOGO! installation and wiring What you must note when installing LOGO! is designed for fixed and enclosed installation in the housing or the control cabinet. WARNING Attempts to install or wire LOGO! or related equipment with power applied could cause electric shock or faulty operation of the equipment. Page 31 LOGO! installation and wiring Carrying out tests You must ensure safety in your plant. Before finally commissioning a system, carry out complete functional testing as well as all the necessary safety testing. Also, test for any predictable faults that can occur. This means that you will avoid any danger to the plant or to people during operation. LOGO! installation and wiring 2.1 Modular LOGO! setup Modular LOGO! setup 2.1.1 Maximum LOGO! network setup (0BA7 only) Maximum LOGO! 0BA7 network setup LOGO! 0BA7 supports SIMATIC S7 communication via 10/100 Mbit/s TCP/IP Ethernet. A LOGO! 0BA7 device can support a maximum of 8+1 network connections as described below: ●... Page 33 LOGO! installation and wiring 2.1 Modular LOGO! setup A typical LOGO! 0BA7 network setup is shown below: ① Physical Ethernet connections ② Logical connection for communication between LOGO! and PC (by TCP/IP-based Ethernet) ③ Logical connections for S7 communication between SIMATIC devices (with S7 protocol over TCP/IP) LOGO! Manual, 04/2011, A5E03556174-01... LOGO! installation and wiring 2.1 Modular LOGO! setup 2.1.2 Maximum setup with expansion and communication modules LOGO! supports a maximum of 24 digital inputs, 8 analog inputs, 16 digital outputs, and 2 analog outputs (Page 13). You can achieve the maximum setup in different ways as shown below: with Maximum setup of a LOGO! Page 35 PV should be on the LOGO! Base Module or an analog input module adjacent to the LOGO! Base Module). Siemens recommends that you position the CM AS Interface on the far right. (If the AS Interface voltage fails, communication between the LOGO! system and expansion modules that are arranged to the right of the LOGO! CM AS Interface expansion module is interrupted). LOGO! installation and wiring 2.1 Modular LOGO! setup 2.1.3 Setup with different voltage classes Rules Digital modules can only be directly connected to devices of the same voltage class. You can connect analog and communication modules to devices of any voltage class. You can replace two similar DM8 expansion modules by one appropriate DM16 expansion module (and vice versa) without having to change the circuit program. Page 37 LOGO! installation and wiring 2.1 Modular LOGO! setup Overview: Connecting an additional expansion module to an expansion module Expansion module Additional expansion modules DM8 24, DM8 24R DM8 AM2, 12/24R, DM16 24 230R, AM2 PT100, DM16 DM16 AM2 RTD, 230R AM2 AQ DM8 12/24R, DM16 24R... LOGO! installation and wiring 2.1 Modular LOGO! setup 2.1.4 Compatibility The LOGO! TD module can only be used with equipment series 0BA6 or 0BA7. The ES7 version of the LOGO! TD provides new menu commands for network communication and error diagnostics that specifically relate to the LOGO! 0BA7 device. The ES7 LOGO! TD additionally provides a "Card"... LOGO! installation and wiring 2.2 Installing/removing LOGO! Installing/removing LOGO! Dimensions The LOGO! installation dimensions are compliant with DIN 43880. LOGO! can be snap-mounted to 35 mm DIN rails to EN 50022 or on the wall. LOGO! width: ● LOGO! TD has a width of 128.2 mm, which corresponds to 8 subunits ●... LOGO! installation and wiring 2.2 Installing/removing LOGO! 2.2.1 DIN rail mounting Mounting How to mount a LOGO! Base Module and a digital module onto a DIN rail: 1. Hook the LOGO! Base Module onto the rail. 2. Push down the lower end to snap it on. The mounting interlock at the rear must engage. 3. Page 41 LOGO! installation and wiring 2.2 Installing/removing LOGO! 5. Slide the digital module towards the left until it contacts the LOGO! Base Module. 6. Using a screwdriver, push the interlock to the left. In its end position the slide interlock engages in the LOGO! Base Module. Repeat the digital module steps to mount further expansion modules. Page 42 LOGO! installation and wiring 2.2 Installing/removing LOGO! Removal To remove LOGO!: ..if you have installed only one LOGO! Base Module: 1. Insert a screwdriver into the eyelet at the bottom of the slide interlock and move the latch downward. 2. LOGO! installation and wiring 2.2 Installing/removing LOGO! Repeat steps 1 to 4 for all other expansion modules. Note If you have connected more than one expansion module, it is advisable to start removal with the last module at the right-hand side. Make sure the slide interlock of the module to be installed/removed is not engaged in the next module. Page 44 LOGO! installation and wiring 2.2 Installing/removing LOGO! Drilling template for wall-mounting Before you can wall-mount LOGO!, you need to drill holes using the template shown below: All dimensions in mm Bore hole for Ø M4 screw, tightening torque 0.8 to 1.2 Nm ①... LOGO! installation and wiring 2.2 Installing/removing LOGO! 2.2.3 Mounting the LOGO! TD To prepare the mounting surface for the optional LOGO! TD and mount it, follow these steps: 1. Cut a 119.5 mm x 78.5 mm (tolerance: +0.5 mm) hole in the mounting surface. 2. LOGO! installation and wiring 2.3 Wiring LOGO! Wiring LOGO! Wire LOGO! using a screwdriver with a 3-mm blade. You do not need wire ferrules for the terminals. You can use conductors with cross-sections of up to the following thicknesses: ● 1 x 2.5 mm ●... Page 47 LOGO! installation and wiring 2.3 Wiring LOGO! Connecting LOGO! To connect LOGO! to the power supply: Note LOGO! is a double-insulated switchgear. For LOGO! 0BA6, you do not need to connect an equipment grounding conductor. For LOGO! 0BA7, however, you must connect its PE terminal to earth ground. The power connection is non-polar. If you connect a DC power supply to the LOGO! TD, you can connect the positive supply wire or negative supply wire to either the left or right side. Note Siemens recommends that you protect the LOGO! TD with a 0.5 A safety fuse on the power supply. LOGO! LOGO! installation and wiring 2.3 Wiring LOGO! 2.3.3 Connecting LOGO! inputs Requirements At the inputs you connect sensor elements such as: momentary pushbuttons, switches, light barriers, daylight control switches etc. Sensor characteristics for LOGO! LOGO! 12/24RCE LOGO! 24/24o LOGO! DM8 LOGO! DM8 12/24R LOGO! 12/24RC... Page 50 LOGO! installation and wiring 2.3 Wiring LOGO! Sensor connections Connecting glow lamps and 2-wire proximity switches (Bero) to LOGO! 230RCE/230RC/230RCo or LOGO! DM8 230R (AC) and LOGO! DM16 230R (AC) The figure below shows how you connect a switch with a glow lamp to LOGO! The current that flows through the glow lamp allows LOGO! to detect a "1"... Page 51 LOGO! installation and wiring 2.3 Wiring LOGO! Special features of LOGO! 12/24RCE/RC/RCo, LOGO! 24/24o and LOGO! 24C/24Co Fast digital inputs: I3, I4, I5 and I6: These versions are also equipped with fast digital inputs (up/down counters, threshold triggers). The restrictions mentioned earlier do not apply to these fast digital inputs. Note The fast digital inputs I3, I4, I5 and I6 are the same as in the previous versions 0BA0 to 0BA5;... Page 52 LOGO! installation and wiring 2.3 Wiring LOGO! Sensor connections To connect sensors to LOGO! : LOGO! 12/24..and LOGO! 24... The inputs of these devices are not isolated and therefore require a common reference potential (chassis ground). With LOGO! 12/24RCE/RC/RCo, LOGO! 24/24o and LOGO! 24C/24Co modules, you can tap analog signals between the supply voltage and chassis ground (* = series... Page 53 LOGO! installation and wiring 2.3 Wiring LOGO! LOGO! AM2 The illustration above shows an example of four-wire current measurement and two-wire voltage measurement. Connecting a two-wire sensor to the LOGO! AM2 Wire up the two-wire sensor's connecting wires as follows: 1. Page 54 LOGO! installation and wiring 2.3 Wiring LOGO! LOGO! AM2 PT100 You can connect a maximum of two 2-wire or 3-wire PT100 sensors or one 2-wire plus one 3-wire PT100 sensor to the module. Note that the sensor type supported by the module is only PT100 with the default temperature coefficient of α= 0.003850. Page 55 LOGO! installation and wiring 2.3 Wiring LOGO! LOGO! AM2 RTD You can connect a maximum of two PT100 sensors or two PT1000 or one PT100 plus one PT1000 sensor in a 2-wire or 3-wire connection or in a mixed use of 2-wire and 3-wire connection to the module. LOGO! installation and wiring 2.3 Wiring LOGO! 2.3.4 Connecting outputs LOGO! ...R... The LOGO! ...R... version is equipped with relay outputs. The potential of the relay contacts is isolated from the power supply and the inputs. Requirements for relay outputs You can connect various loads to the outputs;... Page 57 LOGO! installation and wiring 2.3 Wiring LOGO! Connecting This is how you connect the load to a LOGO! with solid-state outputs: LOGO! AM2 AQ V1, V2: 0 ... 10 V DC >= 5 kΩ I1, I2: 0/4 ... 20 mA " cursor by pressing and . Move the ">" cursor to " " and confirm with OK. The Edit menu of LOGO! is as shown below: ③... Programming LOGO! 3.7 Writing and starting the circuit program 3.7.2 The first circuit program Let us now take a look at the following parallel circuit consisting of two switches. Circuit diagram The corresponding circuit diagram: Translated into a LOGO! circuit program this means: Relay K1 is (at output Q1) controlled by means of an OR block. Programming LOGO! 3.7 Writing and starting the circuit program 3.7.3 Circuit program input Let us now write the circuit program, starting at the output and working towards the input. LOGO! initially shows the output: You will see an underscore below the Q in Q1, which is the cursor. The cursor indicates your current position in the circuit program. Page 87 Programming LOGO! 3.7 Writing and starting the circuit program Press OK to confirm your entries and exit the dialog. You have now entered the first block. Each new block is automatically assigned a block number. The only thing left to do is interconnect the block inputs. This is how it is done: Press OK. Page 88 Programming LOGO! 3.7 Writing and starting the circuit program Press OK. I1 is now connected to the input of the OR block. The cursor jumps to the next input of the OR block. Now you connect input I2 to the input of the OR block: 1. Page 89 Programming LOGO! 3.7 Writing and starting the circuit program Note You can invert individual inputs of the basic and special functions; that is, if an input carries a logical "1" signal, the circuit program will output a logical "0". On the other hand, a logical "0"... Programming LOGO! 3.7 Writing and starting the circuit program 3.7.4 Assigning a circuit program name You can assign your circuit program a name that consists of up to 16 uppercase/lowercase letters, numbers and special characters. When LOGO! is in the view below, follow these steps: ①... Programming LOGO! 3.7 Writing and starting the circuit program Your circuit program is now named "ABC", and you are returned to the programming menu. To change the name of your circuit program, proceed in the same way. Note You can change the name of the circuit program only in programming mode. You can read the name both in programming and in parameter assignment mode. Page 92 Programming LOGO! 3.7 Writing and starting the circuit program Assigning a program password from the LOGO! Basic A password can have a maximum length of 10 characters, and consists only of uppercase letters. On the LOGO! Basic, you can assign, edit or deactivate the password only from the "Password"... Page 93 Programming LOGO! 3.7 Writing and starting the circuit program Note You can cancel the input of a new password with ESC. In this case, the LOGO! Basic returns to the programming menu without saving the password. You can also set your password using LOGO!Soft Comfort. You cannot edit a password- protected circuit program in a LOGO! Base Module or upload it to LOGO!Soft Comfort unless you enter the correct password. Page 94 Programming LOGO! 3.7 Writing and starting the circuit program Deactivating the password from the LOGO! Basic To deactivate the password to allow, for example, another user to edit your circuit program, you must know your current password (in our example "ZZ"), the same as if you were changing it. Page 95 Programming LOGO! 3.7 Writing and starting the circuit program Changing LOGO! from RUN to STOP mode from the LOGO! TD A change from RUN mode to STOP mode from the LOGO! TD requires password entry if one is assigned. You must know the existing password if one is assigned. If there is no password assigned on the LOGO! Base Module, the LOGO! TD will not prompt you for password entry. Page 96 Programming LOGO! 3.7 Writing and starting the circuit program The main menu of the LOGO! TD (version ES7): LOGO! changes to STOP mode. Note Whenever the LOGO! TD is shut down, the password is reset. The next time you start it and access this password-protected function (RUN to STOP), you will be prompted for password entry on the LOGO! TD. Programming LOGO! 3.7 Writing and starting the circuit program 3.7.6 Switching LOGO! to RUN mode In the main menu, select RUN to start LOGO!. 1. Return to the main menu: Press ESC ① 2. Move the '>' cursor to " ": Press ①... Page 98 Programming LOGO! 3.7 Writing and starting the circuit program What is meant by: "LOGO! is in RUN"? In RUN mode, LOGO! executes the circuit program. To do so, LOGO! first reads the status at the inputs, determines the status of the outputs by means of the circuit program, and switches these on or off according to your settings. Page 99 Programming LOGO! 3.7 Writing and starting the circuit program Status indication on the display LOGO! Manual, 04/2011, A5E03556174-01... Programming LOGO! 3.7 Writing and starting the circuit program 3.7.7 Second circuit program Up to this point, you have successfully created your first circuit and assigned it a name and, if desired, a program password. In this section we will show you how to modify existing circuit programs and how to use the special functions. Page 101 Programming LOGO! 3.7 Writing and starting the circuit program Adding a block to a circuit program Press to move the cursor to the B in B1 (B1 is the number of the OR block): Insert the new block at this position. Confirm with OK. Page 102 Programming LOGO! 3.7 Writing and starting the circuit program In our example we do not use the reset input of the off-delay function, and we identify it with an 'x' connector. Assigning block parameters Now you set the off-delay time T: 1. Page 103 Programming LOGO! 3.7 Writing and starting the circuit program Showing/hiding parameters - the parameter protection mode If you want to show/hide the parameter and allow/prevent its modification in parameter assignment mode: 1. Move the cursor to the protection mode: Press 2. Page 104 Programming LOGO! 3.7 Writing and starting the circuit program Verification of the circuit program This program branch for Q1 is now completed. LOGO! shows you the output Q1. You can once again view the circuit program on the display. Use the keys to browse the circuit program;... Programming LOGO! 3.7 Writing and starting the circuit program 3.7.8 Deleting a block Let us assume you want to delete the block B2 from your circuit program and connect B1 directly to Q1. Proceed as follows: 1. Switch LOGO! to programming mode (as a reminder, refer to the topic "The four golden rules for operating LOGO!"... Programming LOGO! 3.7 Writing and starting the circuit program 3.7.9 Deleting block groups Assuming you intend to delete the blocks B1 and B2 from the following circuit program (corresponds with the circuit program in the "Second circuit program (Page 100)" topic), proceed as follows: 1. Programming LOGO! 3.7 Writing and starting the circuit program 3.7.10 Correcting programming errors Programming errors can be corrected easily in LOGO!: ● Provided editing mode is not yet closed, you can revert by one step by pressing ESC. ● If you have already configured all inputs, simply reconfigure the faulty input: 1. Page 108 Programming LOGO! 3.7 Writing and starting the circuit program ② 6. Select " ": Press OK LOGO! shows the following display: The first two rows show your choices. The bottom row shows the current setting for the analog output channels. The default setting is 'Last'. ③... Programming LOGO! 3.7 Writing and starting the circuit program 3.7.12 Defining the type of analog outputs Analog outputs can be either 0..10V/0..20mA, which is the default, or 4..20mA. To define the type of analog outputs, follow these steps starting from the programming menu: ①... Programming LOGO! 3.7 Writing and starting the circuit program 3.7.13 Deleting the circuit program and password To delete a circuit program and the password if one is defined: 1. Switch the LOGO! to programming mode (main menu). LOGO! opens the main menu: LOGO! 0BA6 main menu: LOGO! 0BA7 main menu: ①... Programming LOGO! 3.7 Writing and starting the circuit program 5. Press OK. 6. Enter your password. 7. Press OK. The circuit program and the password are deleted. 3.7.14 Summertime/wintertime conversion You can enable or disable automatic summertime/wintertime conversion ① ● in parameter assignment mode by calling the menu command " "... Page 112 Programming LOGO! 3.7 Writing and starting the circuit program ④ 6. Move the '>' cursor to " ": Press ④ 7. Confirm " ": Press OK LOGO! shows the following display: The current setting of automatic S/W Time conversion is shown on the bottom row. The default setting is 'Off': disabled. Page 113 Programming LOGO! 3.7 Writing and starting the circuit program Enabling summertime/wintertime conversion To enable the summertime/winter time conversion and set parameters, follow these steps: 1. Move the '>' cursor to 'On': Press 2. Confirm 'On': Press OK The display shows: 3. Page 114 Programming LOGO! 3.7 Writing and starting the circuit program Note You can specify a time zone difference Δ between 0 and 180 minutes. The US2 selection is only supported in LOGO! devices as of the series 0BA6. Let us assume you want to enable European summertime/wintertime conversion: 1. Page 115 Programming LOGO! 3.7 Writing and starting the circuit program The display shows: ● Confirm all your entries with OK. You have now customized the summertime/wintertime conversion. The LOGO! onboard display now shows: LOGO! indicates that summertime/wintertime conversion is enabled, and that user-defined parameters ('..') have been set. Programming LOGO! 3.7 Writing and starting the circuit program 3.7.15 Synchronization Time synchronization between LOGO! and a connected communication module EIB/KNX (version 0AA1 upwards!) can be enabled/disabled ● in parameter assignment mode by means of the set menu ("Clock" menu item) ●... Page 117 Programming LOGO! 3.7 Writing and starting the circuit program LOGO! shows the following display: The current setting of the automatic synchronization function is displayed on the bottom row. ④ The default setting is " "; that is, disabled. To enable/disable synchronization in parameter assignment mode: If you want to enable/disable automatic synchronization in parameter assignment mode, ⑥... Programming LOGO! 3.8 Configuring additional functions for LOGO! (0BA7 only) Configuring additional functions for LOGO! (0BA7 only) If you are a LOGO! 0BA7 user, then after you have successfully created the second circuit program, you can configure additional functions, including the new functions for the 0BA7 device series, as described below. Programming LOGO! 3.8 Configuring additional functions for LOGO! (0BA7 only) 3.8.1 Configuring network settings A LOGO! 0BA7 device can establish network communication with other LOGO! 0BA7 devices, SIMATIC S7 PLCs, a SIMATIC HMI, or a PC with LOGO!Soft Comfort V7.0 (For more detailed information, refer to the Maximum LOGO! network setup (0BA7 only) (Page 32) topic). Programming LOGO! 3.8 Configuring additional functions for LOGO! (0BA7 only) 8. Press to step into the next screen form for subnet mask setting. The default subnet mask is as shown below. To change the setting, press OK. When the cursor appears in a solid square, press to move the cursor to a position where you want to modify the number, then press... Programming LOGO! 3.8 Configuring additional functions for LOGO! (0BA7 only) 3.8.3 Configuring the Data Log You can configure the Data Log block only from LOGO!Soft Comfort. You can configure a maximum of one Data Log for your circuit program using LOGO!Soft Comfort. Page 122 Programming LOGO! 3.8 Configuring additional functions for LOGO! (0BA7 only) Viewing network connectors in LOGO! Consider a circuit program where a network digital input NI1 connects to the function block B5. B5 is connected to Q4. To view this network input, proceed as follows: 1. Programming LOGO! 3.8 Configuring additional functions for LOGO! (0BA7 only) 3.8.5 Changing LOGO! to normal/slave mode LOGO! 0BA7 provides a menu command for network communication settings. The section Configuring network settings (Page 119) showed you how to configure the network IP address, subnet mask and gateway for your LOGO!. Page 124 Programming LOGO! 3.8 Configuring additional functions for LOGO! (0BA7 only) ② 4. Confirm " ": Press OK LOGO! requires a password entry if one is assigned. If there is no password assigned on the LOGO!, LOGO! directly displays the view in Step 5. ③... Page 125 Programming LOGO! 3.8 Configuring additional functions for LOGO! (0BA7 only) Changing LOGO! from slave mode to normal mode LOGO! is now in the following view: ① 1. Move the cursor to " ": Press ① 2. Confirm " ": Press OK ②... Page 126 Programming LOGO! 3.8 Configuring additional functions for LOGO! (0BA7 only) Changing the password from the LOGO! After you enter the password assigned, LOGO! shows the following display: ① 1. Move the cursor to " ": Press ① 2. Confirm " ": Press OK 3. Page 127 Programming LOGO! 3.8 Configuring additional functions for LOGO! (0BA7 only) Deactivating the password from the LOGO! To deactivate the password when LOGO! is in the following view, follow these steps: ① 1. Move the cursor to " ": Press ① 2. Programming LOGO! 3.8 Configuring additional functions for LOGO! (0BA7 only) 3.8.6 Diagnosing errors from LOGO! LOGO! 0BA7 supports error diagnostics. From LOGO!, you can view basic errors including SD card read/write errors, network communication errors, and so forth. You can clear individual error messages or all error messages. Page 129 Programming LOGO! 3.8 Configuring additional functions for LOGO! (0BA7 only) Clearing error information LOGO! 0BA7 can provide the following error messages: ● SD card read/write error ● SD card is write-protected ● EM (expansion module) bus error ● Network error To clear a specific error or all errors, proceed as follows: ④... Programming LOGO! 3.9 Memory space and circuit program size Memory space and circuit program size The size of a circuit program in LOGO! is limited by the memory space (memory used by the blocks). Memory areas ● Program memory: LOGO! allows only a limited number of blocks in your circuit program. The second limitation is based on the maximum number of bytes a circuit program may contain. Page 131 Programming LOGO! 3.9 Memory space and circuit program size Memory requirements (0BA6) The table below shows an overview of the memory requirements for the basic and special function blocks in LOGO! 0BA6: Function Program memory memory* Basic functions AND with edge evaluation NAND (not AND) NAND with edge evaluation NOR (not OR) Page 132 Programming LOGO! 3.9 Memory space and circuit program size Function Program memory memory* Analog multiplexer Analog ramp PI controller Others Latching relay Pulse relay Message texts Softkey Shift register *: Bytes in the Rem memory area if retentivity is enabled. Memory requirements (0BA7) The table below shows an overview of the memory requirements for the basic and special function blocks in LOGO! 0BA7:... Page 133 Programming LOGO! 3.9 Memory space and circuit program size Function Program memory memory* Yearly timer Astronomical clock Stopwatch Counters Up/down counter Hours counter Threshold trigger Analog Analog threshold trigger Analog differential trigger Analog comparator Analog watchdog Analog amplifier Pulse Width Modulator (PWM) Mathematic instruction Mathematic instruction error detection Analog multiplexer... Page 134 Programming LOGO! 3.9 Memory space and circuit program size Calculating memory requirements When calculating the memory requirements of a circuit, you must always take into account all individual areas of memory. Example: The sample circuit program contains: Block no. Function Memory area Bytes Bytes... Page 135 Programming LOGO! 3.9 Memory space and circuit program size Indication of available memory space LOGO! shows you the amount of free memory space. Proceed as follows: 1. Switch LOGO! to programming mode (as a reminder, refer to the topic "The four golden rules for operating LOGO! (Page 79)". ①... Page 136 Programming LOGO! 3.9 Memory space and circuit program size LOGO! Manual, 04/2011, A5E03556174-01... LOGO! functions LOGO! provides you with various elements in programming mode, which are organized in the following lists: ● ↓Co: Connector list (Connector) (Page 138) ● ↓GF: List of the basic functions AND, OR, ... (Page 142) ● ↓SF: List of the special functions (Page 156) ●... LOGO! functions 4.1 Constants and connectors - Co Constants and connectors - Co Constants and connectors (Co) represent inputs, outputs, flags, constant voltage levels (constants), and network digital and analog inputs/outputs (if 0BA7). Inputs: 1) Digital inputs Digital inputs are identified with an I. The number of the digital inputs (I1, I2, ...) corresponds to the number of the input connectors of the LOGO! Base Module and of the connected digital modules, in the order of their installation. Page 139 LOGO! functions 4.1 Constants and connectors - Co 2) Analog outputs Analog outputs are identified by the letters AQ. Two analog outputs are available, namely AQ1 and AQ2. An analog output can only be connected with the analog input of a function, an analog flag AM or an analog output connector. Page 140 LOGO! functions 4.1 Constants and connectors - Co Message text character set flag M27 The M27 flag selects between the two character sets that LOGO! uses to display message texts. State 0 corresponds to Character Set 1, and state 1 corresponds to Character Set 2. If M27=0 (low), only message texts configured for Character Set 1 will display;... Page 141 LOGO! functions 4.1 Constants and connectors - Co Network inputs/outputs (available only in 0BA7 if configured from LOGO!Soft Comfort) You can configure the following network inputs/outputs only from LOGO!Soft Comfort. If the circuit program in LOGO! contains a network digital/analog I/O, you can not edit any of the rest of the circuit program except for the Par parameter. LOGO! functions 4.2 Basic functions list - GF Basic functions list - GF Basic functions represent simple logical elements of Boolean algebra. You can invert the inputs of individual basic functions, that is, the circuit program inverts a logical "1" at a relevant input to a logical "0"; if "0" is set at the input, the program sets a logical "1". LOGO! functions 4.2 Basic functions list - GF View in the circuit diagram View in LOGO! Name of the basic function XOR (Page 149) (exclusive OR) NOT (Page 149) (negation, inverter) 4.2.1 The output of the AND is only 1 if all inputs are 1, i.e. all contacts are closed. At an unused block input (x): x = 1. LOGO! functions 4.2 Basic functions list - GF 4.2.2 AND with edge evaluation The output of an edge triggered AND is only 1 if all inputs are 1 and if at least one input was low in the previous cycle. At an unused block input (x): x = 1. LOGO! functions 4.2 Basic functions list - GF 4.2.3 NAND (not AND) The output of the NAND is only 0 if the status at all inputs is 1, i.e. the contacts are closed. At an unused block input (x): x = 1. NAND function logic table LOGO! Manual, 04/2011, A5E03556174-01... LOGO! functions 4.2 Basic functions list - GF 4.2.4 NAND with edge evaluation The output status of the NAND with edge evaluation is only 1 if at least one input is 0 and if all inputs were 1 in the previous cycle. At an unused block input (x): x = 1. Page 147 LOGO! functions 4.2 Basic functions list - GF 4.2.5 The output status of the OR element is only 1 if at least one input is 1, i.e. at least one of the contacts is closed. At an unused block input (x): x = 0. OR function logic table LOGO! Manual, 04/2011, A5E03556174-01... LOGO! functions 4.2 Basic functions list - GF 4.2.6 NOR (not OR) The output status of the NOR is only 1 if all inputs are 0, i.e. if switched off. The NOR output is set to 0 when one of the inputs is switched on (logical 1 status). At an unused block input (x): x = 0. LOGO! functions 4.2 Basic functions list - GF 4.2.7 XOR (exclusive OR) The output status of the XOR is 1 if the inputs are not equ

assignment mode (example): Press If automatic summertime/wintertime conversion is disabled, press and LOGO! shows the following view in parameter assignment mode (example): If automatic summertime/wintertime conversion is enabled and set to "EU" (for example), press and LOGO! shows the following view in parameter assignment mode (example): LOGO! LOGO! functions 4.4 Special functions list - SF 4.4.14 Stopwatch (0BA7 only) Short description The stopwatch function counts the elapsed time between a start stopwatch signal and a stop stopwatch signal. Symbol in LOGO! Wiring Description A signal at input En begins counting elapsed time at analog output AQ. Page 199 LOGO! functions 4.4 Special functions list - SF Timing diagram Functional description En = 1 and Lap = 0: Using the selected timebase, the stopwatch outputs the current time (CurT) to AQ. En = 1 and Lap = 1: The stopwatch leaves AQ at its last value when Lap = 0. This value is recorded as LapT for stopwatch pause time. Page 200 LOGO! functions 4.4 Special functions list - SF Setting the Par parameter View in programming mode (example): To change the timebase, press to move the cursor to "1". Press to select another timebase. To confirm your selection, press OK. Views in parameter assignment mode (example): LOGO! Manual, 04/2011, A5E03556174-01... LOGO! functions 4.4 Special functions list - SF 4.4.15 Up/down counter Short description An input pulse increments or decrements an internal value, depending on the parameter setting. The output is set or reset when a configured threshold is reached. The direction of count can be changed with a signal at input Dir. Page 202 LOGO! functions 4.4 Special functions list - SF Parameters On and Off The on threshold On and the off threshold Off can be provided by the actual value of another already-programmed function. You can use the actual values of the following functions: ●... Page 203 LOGO! functions 4.4 Special functions list - SF Timing diagram Functional description The internal counter increments (Dir = 0) or decrements (Dir = 1) by one count with every positive edge at input Cnt. You can use input R to reset the internal count value to the start value. As long as R = 1, the output is also 0 and the pulses at input Cnt are not counted. Page 204 LOGO! functions 4.4 Special functions list - SF To set the start value, press to access the following screen form: If the referenced block (B021, in the example) returns a value that lies out of the valid range, the value is rounded to the next valid value. The view in parameter assignment mode (example): LOGO! Manual, 04/2011, A5E03556174-01... LOGO! functions 4.4 Special functions list - SF 4.4.16 Hours counter Short description A configured time is triggered with a signal at the monitoring input. The output is set when this time has expired. Symbol in LOGO! Wiring Description Input R A positive edge (0 to 1 transition) at input R resets output Q and sets a configured value MI at the counter for the duration of the time-to-go (MN). Page 206 LOGO! functions 4.4 Special functions list - SF Parameter MI The maintenance interval MI can be provided by the actual value of another already- programmed function. The timebase of the referenced value is "h" (for hours) only. You can use the actual values of the following functions: ●... Page 207 LOGO! functions 4.4 Special functions list - SF Timing diagram Functional description The hours counter monitors input En. When En = 1, LOGO! computes the time expired and the time-to-go MN. LOGO! shows these times in parameter assignment mode. Output Q is set when the time-to-go MN = 0. Page 208 LOGO! functions 4.4 Special functions list - SF Limit value of OT The value of the operating hours in OT is retained when you reset the hours counter with a signal at input R. The hours counter OT will be reset to zero with a transition from 0 to 1 at Ral. Page 209 LOGO! functions 4.4 Special functions list - SF For information on how to assign the actual value of another already-programmed function to a parameter, see the On-delay (Page 160) topic. View in parameter assignment mode: LOGO! Manual, 04/2011, A5E03556174-01... LOGO! functions 4.4 Special functions list - SF 4.4.17 Threshold trigger Short description The output is set and reset with two configurable threshold triggers. Symbol in LOGO! Wiring Description Input Fre The function counts the 0 to 1 transitions at input Fre. 1 to 0 transitions are not counted. Page 211 LOGO! functions 4.4 Special functions list - SF If your LOGO! is a LOGO! 0BA7, you can additionally use the actual values of the following functions: ● Analog filter (0BA7 only) (Page 271) (actual value AQ) ● Average value (0BA7 only) (Page 276) (actual value AQ) ●... Page 212 LOGO! functions 4.4 Special functions list - SF Calculation rule ● If the On threshold ≥ Off threshold, then: Q = 1, if f > On Q = 0, if f ≤ Off. ● If the On threshold < Off threshold, then Q = 1 if On ≤... LOGO! functions 4.4 Special functions list - SF 4.4.18 Analog threshold trigger Short description The output is set and reset at two configurable thresholds. Symbol in LOGO! Wiring Description Input Ax Input Ax is one of the following analog signals: AI1 to AI8 (*) •... Page 214 LOGO! functions 4.4 Special functions list - SF If your LOGO! is a LOGO! 0BA7, you can additionally use the actual values of the following functions: ● Analog filter (0BA7 only) (Page 271) (actual value AQ) ● Average value (0BA7 only) (Page 276) (actual value AQ) ●... Page 215 LOGO! functions 4.4 Special functions list - SF Calculation rule ● If the On threshold ≥ Off threshold, then: Q = 1, if the actual value Ax > On Q = 0, if the actual value Ax ≤ Off. ● If the On threshold < Off threshold, then Q = 1 if On ≤... LOGO! functions 4.4 Special functions list - SF 4.4.19 Analog differential trigger Short description The output is set and reset depending on a configurable threshold and a differential value. Symbol in LOGO! Wiring Description Input Ax Input Ax is one of the following analog signals: AI1 to AI8 (*) •... Page 217 LOGO! functions 4.4 Special functions list - SF Timing diagram B: Function with positive difference Δ Functional description The function fetches the analog signal at input Ax. Ax is multiplied by the value of the A (gain) parameter, and the value at parameter B (offset) is added to product, i.e. Page 218 LOGO! functions 4.4 Special functions list - SF View in parameter assignment mode (example): Press 4.4.20 Analog comparator Short description The output is set and reset depending on the difference Ax - Ay and on two configurable thresholds. Symbol in LOGO! Wiring Description Inputs Ax and Ay... Page 219 LOGO! functions 4.4 Special functions list - SF Gain and offset parameters For more information on the gain and offset parameters, refer to topic "Calculating the gain and offset of analog values (Page 154)". Parameters On and Off The on threshold On and the off threshold Off can be provided by the actual value of another already-programmed function. Page 220 LOGO! functions 4.4 Special functions list - SF Parameter p (number of decimals) Applies only to Ax, Ay, On, Off and Δ values displayed in a message text. Does not apply to the comparison of on and off values! (The compare function ignores the decimal point.) Timing diagram Functional description... Page 221 LOGO! functions 4.4 Special functions list - SF Setting the Par parameter The gain and offset parameters are used to adapt the sensors to the relevant application. View in programming mode: Press Example In a heating control system, the supply T and return line temperatures T are to be compared, for example with a sensor at AI2. Page 222 LOGO! functions 4.4 Special functions list - SF Configuration (example): Press View in parameter assignment mode (example): Press View in the message text (example): Reducing the input response of the analog comparator You can selectively delay the output of an analog comparator by means of the "On-delay" and "Off-delay"... Page 223 LOGO! functions 4.4 Special functions list - SF Function block diagram 4.4.21 Analog watchdog Short description This special function saves the process variable of an analog input to memory, and sets the output when the output variable exceeds or drops below this stored value plus a configurable offset. LOGO! functions 4.4 Special functions list - SF Gain and offset parameters For more information on gain and offset parameters, refer to topic "Calculating the gain and offset of analog values (Page 154)". Parameters Delta1 and Delta2 The Delta1 and Delta2 parameters can be provided by the actual value of another already- programmed function. Page 225 LOGO! functions 4.4 Special functions list - SF Parameter p (number of decimals) Applies only to the Aen, Ax, Δ and Δ values displayed in a message text. Timing diagram Functional description A 0 to 1 transition at input En saves the value of the signal at the analog input Ax. This saved process variable is referred to as "Aen". LOGO! functions 4.4 Special functions list - SF View in parameter assignment mode (example): 4.4.22 Analog amplifier Short description This special function amplifies the value of an analog input and outputs the result at an analog output. Symbol in LOGO! Wiring Description Input Ax... Page 227 LOGO! functions 4.4 Special functions list - SF Gain and offset parameters Please note the information on gain and offset parameters in topic Calculating the gain and offset of analog values (Page 154). Parameter p (number of decimals) Applies only to the AQ value in a message text. Functional description The function fetches the analog signal of input Ax. LOGO! functions 4.4 Special functions list - SF View in parameter assignment mode (example): 4.4.23 Latching relay Short description Input S sets output Q, input R resets output Q again. Symbol in LOGO! Wiring Description Input S You set output Q with a signal at input S. Input R You reset output Q with a signal at input R. LOGO! functions 4.4 Special functions list - SF 4.4.24 Pulse relay Short description A short pulse at the input sets and resets the output. Symbol in LOGO! Wiring Description Input Trg You set and reset output Q with a signal at input Trg (Trigger). Page 230 LOGO! functions 4.4 Special functions list - SF Status diagram 0 ->1 0 ->1 0 ->1 0 ->1 0 ->1 0 ->1 0 ->1 0 ->1 0 ->1 0 ->1 *: RS or SR **: Triggering signal is effective, because S and R = 0. Depending on your configuration, either input R takes priority over input S (input S is not effective when R = 1), or vice versa (input R is not effective when S = 1). Page 231 LOGO! functions 4.4 Special functions list - SF 4.4.25 Message texts Short description With the message text function block, you can configure a message that includes text and other parameters for LOGO! to display in RUN mode. You can configure simple message texts from the LOGO! onboard display. LOGO!Soft Comfort provides an extended set of features for message texts: bar graph representation of data, names for digital I/O states and more. Page 232 LOGO! functions 4.4 Special functions list - SF ● Current Character Set: which character set is selected for the display of message texts Note Message texts supported by LOGO! 0BA5 will display on the LOGO! TD only when the following conditions are met: - CharSet1 is selected and set to ISO8859-1 - Current Character Set "CurrCharSet"... Page 233 LOGO! functions 4.4 Special functions list - SF Programming Global Message Text Parameters Message Text Function Block Symbol in LOGO! Wiring Description Input En A 0 to 1 transition at input En (Enable) starts the output of the message text. Input P P: Priority of the message text Range of values: 0...127... Page 234 LOGO! functions 4.4 Special functions list - SF Symbol in LOGO! Wiring Description Parameter Text: Input of the message text Par: Parameter or actual value of another already- programmed function (see "Visible parameters or process variables") Time: Display of the continuously updated time-of-day Date: Display of the continuously updated date EnTime: Display of the time of the 0 to 1 transition of the signal at input En... Page 235 LOGO! functions 4.4 Special functions list - SF Restriction A maximum of 50 message texts are available. Functional description When LOGO! is in RUN mode, LOGO! displays the message text that you have configured along with its parameter values upon a 0 to 1 transition of the signal at input En. Based on your setting for the message destination, the message text displays on the LOGO! onboard display, the LOGO! TD, or both. Page 236 LOGO! functions 4.4 Special functions list - SF Example This is how two message texts could be shown: Message Ticking You can configure message text lines to tick or not tick. Two types of message ticking exist: ● Character by character ●... Page 237 LOGO! functions 4.4 Special functions list - SF Example: Tick Message Character by Character The following illustration shows a one-line, 24-character message text: If you set this message to tick "character by character" with a tick interval of 0.1 seconds, then the initial appearance of this message line on the LOGO! onboard display or LOGO! TD is as shown in this illustration: After 0.1 second, one character of the message line ticks. Page 238 LOGO! functions 4.4 Special functions list - SF Input P configuration From the input P, you configure the following characteristics of the message text: ● Priority ● Acknowledgement ● Message destination ● Tick type, and tick setting for each line To configure the priority and the acknowledgment (programming mode): 1. Page 239 LOGO! functions 4.4 Special functions list - SF 5. If your message text has lines that tick, press to position the cursor on the "Ch by Ch" line and then press to select either "Ch by Ch" or "Ln by Ln" for the TickType. 6. LOGO! functions 4.4 Special functions list - SF Special function Parameter or process variable visible in a message text Stopwatch TB, Ta, Lap, AQ Counter Up/down counter Cnt, On, Off Hours counter MI, Q, OT Threshold trigger , On, Off, G_T Analog Analog threshold trigger On, Off, A, B, Ax... Page 241 LOGO! functions 4.4 Special functions list - SF Editing message texts Only simple message texts can be edited from the LOGO! Basic. Text messages created in LOGO!Soft Comfort that make use of new features such as bar graphs, I/O status names, and others can not be edited from the LOGO! Basic. Page 242 LOGO! functions 4.4 Special functions list - SF Setting the Par parameter View in programming mode: Press to select a line for the message text. Press to select the letter to be displayed in the text. To move the cursor from one position to the other, press and . LOGO! functions 4.4 Special functions list - SF 4.4.26 Softkey Short description This special function has the effect of a mechanical pushbutton or switch. Symbol in LOGO! Wiring Description Input En Output Q is set with a 0 to 1 transition of the signal at input En (Enable), and if 'Switch=On' was confirmed in parameter assignment mode. Page 244 LOGO! functions 4.4 Special functions list - SF Setting the Par parameter View in programming mode (example): 1. Select the 'Softkey' function. 2. Select input En and confirm with OK. The cursor is now positioned below 'Par'. 3. Change to the input mode of 'Par': Confirm with OK (the cursor is now positioned to 'On') To change 'Par' to 'Switch' action and the initialization status after the program start: 4. LOGO! functions 4.4 Special functions list - SF Let us assume you want to set 'Switch' (On). 1. Change to the editing mode: Confirm with OK (the cursor is now positioned on 'Off') 2. To change from 'Off' to 'On': Press 3. Page 246 LOGO! functions 4.4 Special functions list - SF Functional description The function reads the value at input In with a positive edge (0 to 1 transition) at input Trg (Trigger). If your LOGO! is a LOGO! 0BA6, this value is applied to shift register bit S1 or S8, depending on the shifting direction: ●... Page 247 LOGO! functions 4.4 Special functions list - SF Timing diagram The timing diagram for the shift register in LOGO! 0BA6 is shown as follows: The timing diagram example for the shift register in LOGO! 0BA7 is shown as follows: Setting the Par parameter (0BA6) View in programming mode: Press LOGO! LOGO! functions 4.4 Special functions list - SF Setting the Par parameter (0BA7) View in programming mode (example): The view above indicates that the configured shift register bit is S4.8. This special function is not available in parameter assignment mode. 4.4.28 Analog multiplexer Short description... Page 249 LOGO! functions 4.4 Special functions list - SF Parameters V1...V4 The analog values for the parameters V1...V4 can be derived from another already- programmed function. You can use the actual values of the following functions: ● Analog comparator (Page 218) (actual value Ax – Ay) ●... Page 250 LOGO! functions 4.4 Special functions list - SF Timing diagram Functional description If input En is set, then the function issues one of four possible analog values V1 to V4 at the output AQ, depending on the value of S1 and S2. If the input En is not set, then the function issues the analog value 0 at output AQ. LOGO! functions 4.4 Special functions list - SF 4.4.29 Analog Ramp Short description The Analog Ramp instruction allows the output to be changed from the current level to the selected level at a specified rate. Symbol in LOGO! Wiring Description Input En A change in the status from 0 to 1 at input En (Enable) applies the start/stop level (Offset "B"... Page 252 LOGO! functions 4.4 Special functions list - SF Symbol in LOGO! Wiring Description Parameter Level 1 and Level 2: Levels to be reached Range of values for each level: -10,000 to +20,000 MaxL: Maximum value that must not be exceeded under any circumstances. LOGO! functions 4.4 Special functions list - SF Parameters L1, L2 The analog values for the parameters L1 and L2 can be derived from another already-programmed function. You can use the actual values of the following functions: ● Analog comparator (Page 218) (actual value Ax – Ay) ●... Page 254 LOGO! functions 4.4 Special functions list - SF Timing diagram for AQ Functional description If the input En is set, then the function sets the current level to StSp + Offset "B" for 100 ms. Then, depending on the connection of Sel, the function runs from the level StSp + Offset "B" to either level 1 or level 2 at the acceleration set in Rate. Page 255 LOGO! functions 4.4 Special functions list - SF Setting the Par parameter View in programming mode (example): View in parameter assignment mode: LOGO! Manual, 04/2011, A5E03556174-01... Page 256 LOGO! functions 4.4 Special functions list - SF 4.4.30 PI controller Short description Proportional-action and integral-action controllers. You can use both types of controller individually or combined. Symbol in LOGO! Wiring Description Input A/M Set the mode of the controller: 1: automatic mode 0: manual mode Input R... Page 257 LOGO! functions 4.4 Special functions list - SF Symbol in LOGO! Wiring Description Output AQ This special function has an analog output (= manipulated variable). This output can only be connected with the analog input of a function, an analog flag or an analog output connector (AQ1, AQ2). Page 258 LOGO! functions 4.4 Special functions list - SF Select the required function by the block number. For information on parameter defaults, refer to the On-delay (Page 160) topic. Parameters KC, TI Please note: ● If parameter KC has value 0, the "P" function (proportional control) will not be executed. ●... Page 259 LOGO! functions 4.4 Special functions list - SF Functional description If the input A/M is set to 0, then the special function issues output AQ with the value that you set with parameter Mq. If the input A/M is set to 1, then automatic mode commences. As an integral sum the value Mq is adopted, the controller function begins the calculations. Page 260 LOGO! functions 4.4 Special functions list - SF Setting the Par parameter View in programming mode (example): View in parameter assignment mode: LOGO! Manual, 04/2011, A5E03556174-01... LOGO! functions 4.4 Special functions list - SF 4.4.31 Pulse Width Modulator (PWM) Short description The Pulse Width Modulator (PWM) instruction modulates the analog input value Ax to a pulsed digital output signal. The pulse width is proportional to the analog value Ax. Symbol in LOGO! Wiring Description... Page 262 LOGO! functions 4.4 Special functions list - SF If your LOGO! is a LOGO! 0BA7, you can additionally use the actual values of the following functions: ● Analog filter (0BA7 only) (Page 271) (actual value AQ) ● Average value (0BA7 only) (Page 276) (actual value AQ) ●... Page 263 LOGO! functions 4.4 Special functions list - SF Examples with Timing Diagrams The following examples show how the PWM instruction modulates a digital output signal from the analog input value: Example 1 Analog input value: 500 (range 0 ...1000) Periodic time T: 4 seconds The digital output of the PWM function is 2 seconds high, 2 seconds low, 2 seconds high, 2 seconds low and continues in that pattern as long as parameter "En"... Page 264 LOGO! functions 4.4 Special functions list - SF Setting the Par Parameter The following illustration shows the view in programming mode that corresponds to the first example: Use the keys to navigate to the Min, Max, A, B, T and P parameters. For each digit of a value, use the keys to scroll through value choices. LOGO! functions 4.4 Special functions list - SF 4.4.32 Mathematic instruction Short description The mathematic instruction block calculates the value AQ of an equation formed from the user-defined operands and operators. Symbol in LOGO! Wiring Description Input En A change in the status from 0 to 1 at input En (Enable) enables the mathematic instruction function block. Page 266 LOGO! functions 4.4 Special functions list - SF If your LOGO! is a LOGO! 0BA7, you can additionally use the actual values of the following functions: ● Analog filter (0BA7 only) (Page 271) (actual value AQ) ● Average value (0BA7 only) (Page 276) (actual value AQ) ●... Page 267 LOGO! functions 4.4 Special functions list - SF Functional Description The mathematic instruction function combines the four operands and three operators to form an equation. The operator can be any one of the four standard operators: +, -, *, or /. For each operator, you must set a unique priority of High (H), Medium (M), or Low (L). LOGO! functions 4.4 Special functions list - SF Setting the Par parameter The following illustration shows the view in programming mode that corresponds to the first example (12 + (6 / 3)) - 1: Use the keys to navigate between the operand value, operator, and operation priority. Page 269 LOGO! functions 4.4 Special functions list - SF Parameter MathBN The value for the MathBN parameter references the block number of an already- programmed mathematic instruction function block. Functional description The mathematic instruction error detection block sets the output when the referenced mathematic instruction function block has an error. Page 270 LOGO! functions 4.4 Special functions list - SF Setting the Par parameter The parameters MathBN, AutoRst, and Err can be set in programming mode or parameter assignment mode. View in programming mode (example): Use the keys to navigate between the MathBN, AutoRst, and Err parameters. To change a value, use the keys to scroll through value choices for each value. LOGO! functions 4.4 Special functions list - SF 4.4.34 Analog filter (0BA7 only) Short Description The analog filter function smooths the analog input signal. Symbol in LOGO! Wiring Description Input Ax is the analog input signal to be smoothed. Input Ax is one of the following analog signals: AI1 to AI8 (*) •... Page 272 LOGO! functions 4.4 Special functions list - SF Functional description The function fetches the analog signal at input Ax based on the set number of samples (Sn) and outputs the average value. Note There are a maximum of eight analog filter function blocks available for use in the circuit program in LOGO! 0BA7. LOGO! functions 4.4 Special functions list - SF 4.4.35 Max/Min (0BA7 only) Short description The Max/Min function records the maximum or minimum value of Ax. Symbol in LOGO! Wiring Description A signal at input En (Enable) outputs an analog value to AQ, depending on the settings of parameters ERst and Mode. LOGO! functions 4.4 Special functions list - SF Parameter Mode The value for parameter Mode can be provided by the actual value of another already- programmed function. You can use the actual values of the following functions: ● Analog comparator (Page 218) (actual value Ax – Ay) ●... Page 275 LOGO! functions 4.4 Special functions list - SF Timing diagram (example) Functional description ERst = 1 and En = 0: The function sets the AQ value to 0. ERst = 1 and En = 1: The function outputs a value at AQ, depending on the settings of Mode and S1. Page 276 LOGO! functions 4.4 Special functions list - SF 4.4.36 Average value (0BA7 only) Short description The average value function calculates the average value of an analog input over a configured time period. Symbol in LOGO! Wiring Description A change in status from 0 to 1 transition at input En starts the average value function. Page 277 LOGO! functions 4.4 Special functions list - SF Timing diagram (example) Functional description This function fetches the analog input signal according to both the set sampling time St and the number of samples Sn and outputs the average value. A signal at R sets AQ to 0. Setting the Par parameter View in programming mode (example): LOGO! Page 278 LOGO! functions 4.4 Special functions list - SF LOGO! Manual, 04/2011, A5E03556174-01... UDF (User-Defined Function) (0BA7 only) User-Defined Function (UDF) LOGO!Soft Comfort V7.0 provides you with a new option for creating circuit programs - the UDF (User-Defined Function) editor. You can save circuit programs created in the UDF editor as individual UDF blocks for use in a circuit program in the UDF or FBD editor. A UDF block is a preconfigured circuit program that you create. Page 280 UDF (User-Defined Function) (0BA7 only) Editing elements to the inputs of a UDF block: 1. Switch LOGO! to programming mode. ① 2. Select " " on the main menu: Press ① 3. Confirm " ": Press OK ② 4. Select " ": Press ②... Page 281 UDF (User-Defined Function) (0BA7 only) 8. Press until LOGO! steps into the screen form for the first UDF block U01. ④ 9. Press to move the cursor to " ", then press OK. The cursor appears in a flashing solid square. Page 282 UDF (User-Defined Function) (0BA7 only) Editing elements to the outputs of a UDF block: If LOGO! shows the following screen form as shown in step 10 above and you want to change the element connected to "1" where "1" indicates the first output of the UDF block U01 that is connected to Q1, follow these steps: 1. Page 283 UDF (User-Defined Function) (0BA7 only) Setting the Par parameter You can edit the Par parameter for your UDF block if you configured parameters for this UDF using LOGO!Soft Comfort; otherwise, you cannot edit parameters for UDF blocks. In this case, the UDF block display shows no "Par": If your UDF block contains the Par parameter, you can edit the parameters as described below: View in programming mode (example):... Page 284 UDF (User-Defined Function) (0BA7 only) 4. Press to see the final view: You can also edit UDF parameter settings in parameter assignment mode in the same way as you do in programming mode. LOGO! Manual, 04/2011, A5E03556174-01... Data Log (0BA7 only) You can configure a maximum of one Data Log for your circuit program using LOGO!Soft Comfort. The Data Log is used to record process measurement variables of the selected function blocks. You can add the Data Log instruction to your circuit program as you do with a function block. Page 286 Data Log (0BA7 only) 3. You can see that a flag M1 is connected to the Data Log block L1. Press OK or move the cursor to "M" in "M1". Press OK. LOGO! shows the following display: 4. You can select a different element from available lists and press OK to confirm. In the following example, you can see that this Data Log block L1 is now connected to the B3 block: Note... Configuring LOGO! Parameter assignment refers to the configuration of the block parameters. You can set delay times for time functions, the switching times of timers, counter threshold values, the monitoring interval of an hours counter, the on and off thresholds of the trigger, and more. You can configure the parameters ●... Configuring LOGO! 7.1 Selecting parameter assignment mode Selecting parameter assignment mode Press ESC to change from RUN to parameter assignment mode: Note The following applies to earlier device versions up to 0BA2: you open parameter assignment mode by pressing ESC+OK. LOGO! changes to parameter assignment mode and opens the parameter assignment menu: Description of the four menu items of the parameter assignment menu... Page 289 Configuring LOGO! 7.1 Selecting parameter assignment mode LOGO! shows the main menu of the programming mode: LOGO! 0BA6 main menu LOGO! 0BA7 main menu ● Menu command ② For information on the various parameters, refer to the topics "Parameters (Page 290)", "Selecting the parameters (Page 291)", and "Modifying parameters (Page 292)". Configuring LOGO! 7.1 Selecting parameter assignment mode 7.1.1 Parameters Note The following discourse on parameters assumes that the respective default parameter mode ("+") has been maintained. This is a prerequisite for viewing and editing parameters in the parameter assignment mode! See the "Parameter protection (Page 153)" topic and the "Synchronization (Page 116)"... Configuring LOGO! 7.1 Selecting parameter assignment mode 7.1.2 Selecting the parameters To select a parameter: 1. On the parameter assignment menu, select 'Set Param': Press 2. Confirm with OK. LOGO! shows the first parameter. If no parameter can be set, you can press ESC to return to the parameter assignment menu. Configuring LOGO! 7.1 Selecting parameter assignment mode 7.1.3 Modifying parameters You first select the parameter you want to edit (Page 291). You change the value of the parameter in the same way as you did in programming mode: 1. Move the cursor to the point at which you want to make the change: Press 2. Page 293 Configuring LOGO! 7.1 Selecting parameter assignment mode Current value of a counter View of a counter parameter in parameter assignment mode: You can change the on/off threshold. This does not apply if the on or off threshold represents the result of another function (in the "Up/down counter (Page 201)" topic, this is B021). Current value of an hour counter View of an hour counter parameter in parameter assignment mode: You can edit the configured time interval MI. Configuring LOGO! 7.2 Setting the default values for LOGO! Setting the default values for LOGO! You can set the following default values for a LOGO! Basic: Clock settings You can set the default values for time-of-day and date (Page 295) , summertime/wintertime conversion (Page 111) and synchronization (Page 116): ●... Configuring LOGO! 7.2 Setting the default values for LOGO! 7.2.1 Setting the time of day and date (LOGO! ... C) You can set the time of day and the date ● in parameter assignment mode by means of the set menu ("Clock" menu item) ●... Configuring LOGO! 7.2 Setting the default values for LOGO! To set the time of day and the date in programming mode: If you want to set the time of day and the date in programming mode, select 'Setup' in the main menu, then menus 'Clock' and 'Set Clock'. Page 297 Configuring LOGO! 7.2 Setting the default values for LOGO! To set the backlight choice in programming mode: You can set the default value for the backlight in programming mode only. ① 1. In the main menu, select " " : Press ①... Configuring LOGO! 7.2 Setting the default values for LOGO! 7.2.3 Setting the menu language The language of the LOGO! menus can be one of ten predefined languages: CN (Chinese) DE (German) EN (English) ES (Spanish) FR (French) IT (Italian) NL (Dutch) RU (Russian) TR (Turkish) JP (Japanese) Configuring LOGO! 7.2 Setting the default values for LOGO! 7.2.4 Setting the number of AIs in the LOGO! Basic LOGO! 12/24RC/RCo/RCE, LOGO! 24/24o and LOGO! 24C/24Co support up to four onboard inputs that can be used as either digital or analog inputs (0 ...10V). Inputs I7 (AI1) and I8 (AI2) are available as analog inputs by default, whether you use them or not. Configuring LOGO! 7.2 Setting the default values for LOGO! 7.2.5 Setting the start screen You can select the default setting for the start screen that LOGO! and the LOGO! TD will display in RUN mode. You make this selection from LOGO! in parameter assignment mode. To select the start screen: 1. Page 301 Configuring LOGO! 7.2 Setting the default values for LOGO! LOGO! displays your selection. Power the LOGO! Basic off then on to make your changes take effect. When LOGO! is in RUN mode, both LOGO! and the LOGO! TD will display the start screen that you selected. LOGO! Manual, 04/2011, A5E03556174-01... Page 302 Configuring LOGO! 7.2 Setting the default values for LOGO! LOGO! Manual, 04/2011, A5E03556174-01... Applicable cards LOGO! 0BA6 provides the following cards for program storage and real-time clock backup: ● LOGO! Memory Card ● LOGO! Battery Card ● LOGO! Memory/Battery Card Each of the three cards is color-coded to make them easily distinguishable from one another. They also vary in size. Page 304 Applicable cards Note You do not need a memory card or combined memory/battery card to backup the circuit program in your LOGO! The LOGO! circuit program is automatically stored in nonvolatile memory when you exit the programming mode. You can backup the LOGO! circuit program on a memory card, a combined memory/battery card, or a standard SD card. Applicable cards 8.1 Security function (CopyProtect) Security function (CopyProtect) The security function provides copy protection for circuit programs on memory cards, combined memory/battery cards or SD cards. Unprotected cards You can edit circuit programs without restrictions and exchange data between the card and the device. Page 306 Applicable cards 8.1 Security function (CopyProtect) Assigning a security function To assign a circuit program and copy protection function to the card, open the programming mode and select "Card". 1. Switch LOGO! to programming mode (ESC / >Stop). 2. Select the 'Card' command: Press 3. Applicable cards 8.2 Inserting and removing the card from LOGO! Inserting and removing the card from LOGO! When you remove a LOGO! memory card, a combined memory/battery card, or an SD card that contains a circuit program with copy protection attributes, note the following: The circuit program stored on the card can only be executed if the card remains inserted during system runtime. Page 308 Applicable cards 8.2 Inserting and removing the card from LOGO! To remove a battery card, or combined memory/battery card, slide a screwdriver with a 3- mm blade into the slot on the upper surface of the card until it engages in the back, then with the screwdriver engaged, pull the card out with your hand. Applicable cards 8.3 Copying data from LOGO! to the card Copying data from LOGO! to the card Copying data from LOGO! to the card manually To manually copy the circuit program to the memory card, combined battery/memory card, or the SD card, follow these steps: 1. Page 310 Applicable cards 8.3 Copying data from LOGO! to the card Copying data from LOGO! 0BA7 to the SD card automatically LOGO!Soft Comfort V7.0 provides an option for automatically copying the circuit program to the SD card when transferring the circuit program to LOGO! 0BA7. This option is available in the dialog for PC->LOGO! transfer. Applicable cards 8.4 Copying data from the card to LOGO! Copying data from the card to LOGO! You can copy a circuit program from a compatible memory card, combined memory/battery card, or an SD card to LOGO! in one of the following ways: ●... Page 312 Applicable cards 8.4 Copying data from the card to LOGO! Copying by means of the "Card" menu For information on the replacement of a memory card, combined memory/battery card, or an SD card, also note the information in the topic "Inserting and removing the card from LOGO! (Page 307)". LOGO! software LOGO! software LOGO!Soft Comfort is available as a programming package for the PC. This software provides many features, for example: ● A graphic interface for offline creation of your circuit program by means of Ladder Diagram (contact chart / circuit diagram) or Function Block Diagram (function chart) ●... Page 314 LOGO! software 9.1 LOGO! software The LOGO! alternatives As you can see, LOGO!Soft Comfort represents an alternative to conventional engineering methods, with several advantages: ● You can develop the circuit program on your PC. ● You simulate the circuit program on your computer and verify its functions before you actually implement it in your system. LOGO! software 9.2 Connecting LOGO! to a PC Connecting LOGO! to a PC Connecting the PC cable (for LOGO! 0BA6 only) To connect LOGO! to a PC, you need the LOGO! PC cable. See the Appendix "Order numbers (Page 363)". Turn the power off to the LOGO! Base Module. Page 316 LOGO! software 9.2 Connecting LOGO! to a PC Note You can switch earlier versions up to 0BA3 with/without display to PC ↔ LOGO mode as follows: 1. Switch off the power supply to LOGO!. 2. Remove the cover or the memory, battery, or combined memory/battery card and connect the cable to this socket. Applications Note LOGO! sample applications are available to all our customers free of charge on the Siemens LOGO! website ((go to Products & Solutions → Applications → Application Examples). The examples provided are not guaranteed to be error-free; they serve as general information about the fields of application for LOGO!, and may be different from user-specific solutions. Page 318 ● Connect LOGO! directly to your domestic installation; the integrated power supply makes it possible. Do you want more Info? For more information about LOGO!, see the Siemens web page (as mentioned in the first paragraph of the Note in this chapter). Do you have any suggestions? There are definitely many more useful applications for LOGO!. Technical data General technical data Criterion Tested in accordance with Values LOGO! Base Modules (0BA6) (LOGO! Basic or LOGO! Pure) 72 x 90 x 55 mm Approx. 190 g Dimensions (WxHxD) on a 35 mm profile rail 4 Weight module widths or wall mounting Installation LOGO! Base Modules (0BA7) (LOGO! Basic) Page 320 Technical data A.1 General technical data Criterion Tested in accordance with Values Ambient mechanical conditions Degree of protection IP 20 for LOGO! Base Modules, expansion modules, and the LOGO! TD excluding the TD front panel IP 65 for LOGO! TD front panel Vibrations: IEC 60068-2-6 5 ... Technical data A.2 Technical data: LOGO! 230... LOGO! 230RC LOGO! 230RCE LOGO! 230RCo Power supply Input voltage 115 ... 240 V AC/DC 115 ... 240 V AC/DC Permissible range 85 ... 265 V AC 85 ... 265 V AC 100 ... Page 322 Technical data A.2 Technical data: LOGO! 230... LOGO! 230RC LOGO! 230RCE LOGO! 230RCo Input current at Signal 0 < 0.03 mA AC < 0.03 mA AC • • • Signal 1 > 0.08 mA AC > 0.08 mA AC • •... Page 323 The data was determined with the following devices: Siemens fluorescent tubes 58W VVG 5LZ 583 3-1 uncompensated. Siemens fluorescent tubes 58W VVG 5LZ 583 3-1 parallel compensated with 7µF. Siemens fluorescent tubes 58W VVG 5LZ 501 1-1N with ballast. LOGO! Technical data A.3 Technical data: LOGO! DM8 230R and LOGO! DM16 230R Technical data: LOGO! DM8 230R and LOGO! DM16 230R LOGO! DM8 230R LOGO! DM16 230R Power supply Input voltage 115...240 V AC/DC 115 ... 240 V AC/DC Permissible range 85 ... Page 325 Technical data A.3 Technical data: LOGO! DM8 230R and LOGO! DM16 230R LOGO! DM8 230R LOGO! DM16 230R Delay time at 0 to 1: 120V AC typ. 50 ms typ. 50 ms • • • 240 V AC typ. 30 ms typ. The data was determined with the following devices: Siemens fluorescent tubes 58W VVG 5LZ 583 3-1 uncompensated. Siemens fluorescent tubes 58W VVG 5LZ 583 3-1 parallel compensated with 7µF. Siemens fluorescent tubes 58W VVG 5LZ 501 1-1N with ballast. Technical data: LOGO! 24... Page 327 Technical data A.4 Technical data: LOGO! 24... LOGO! 24 LOGO! 24C LOGO! 24Co LOGO! 24o Delay time at 0 to 1 typ. 1.5 ms typ. 1.5 ms ... Page 336 The data was determined with the following devices: Siemens fluorescent tubes 58W VVG 5LZ 583 3-1 uncompensated. Siemens fluorescent tubes 58W VVG 5LZ 583 3-1 parallel compensated with 7µF. Siemens fluorescent tubes 58W VVG 5LZ 501 1-1N with ballast. LOGO! Technical data A.9 Switching capacity/service life of the relay outputs Switching capacity/service life of the relay outputs Switching capacity and service life of the contacts with ohmic loading (heating): Switching capacity and service life of the contacts with high inductive load to IEC 947-5-1 DC 13/AC 15 (contactors, solenoid coils, motors): LOGO! Manual, 04/2011, A5E03556174-01... Technical data A.10 Technical data: LOGO! AM2 A.10 Technical data: LOGO! AM2 LOGO! AM2 Power supply Input voltage 12/24 V DC Permissible range 10.8 ... 28.8 V DC Power consumption 25 ... 50 mA Voltage failure buffering typ. 5 ms Power loss at 12 V 0.3 ... Technical data A.11 Technical data: LOGO! AM2 PT100 A.11 Technical data: LOGO! AM2 PT100 LOGO! AM2 PT100 Power supply Input voltage 12/24 V DC Permissible range 10.8 ... 28.8 V DC Power consumption 25 ... 50 mA Voltage failure buffering typ. Technical data A.12 Technical data: LOGO! AM2 RTD A.12 Technical data: LOGO! AM2 RTD LOGO! AM2 RTD Power supply Input voltage 12/24 V DC Permissible range 10.8 ... 28.8 V DC Power consumption 30 ... 40 mA Voltage failure buffering typ. Technical data A.13 Technical data: LOGO! AM2 AQ LOGO! AM2 RTD Cable length (shielded) max. 10 m Interference frequency 55 Hz suppression A.13 Technical data: LOGO! AM2 AQ LOGO! AM2 AQ Power supply Input voltage 24 V DC Permissible range 20.4 ... Technical data A.14 Technical data: CM EIB/KNX A.14 Technical data: CM EIB/KNX CM EIB/KNX Mechanical data Dimensions (WxHxD) 36 x 90 x 55 mm Weight Approx. 107 g Installation on a 35 mm profile rail 2 module widths or wall mounting, must be mounted as the last module on the right of LOGO! Power supply... Technical data A.15 Technical data: CM AS Interface A.15 Technical data: CM AS Interface CM AS Interface Mechanical data Dimensions (WxHxD) 36 x 90 x 58 mm Weight Approx. 90 g Installation on a 35 mm profile rail 2 module widths or wall mounting, must be mounted as

data on the KP400 Basic Data input on an HMI device is similar to operating the keys on a cell phone. Each key has several functions. When you press a data input key for long enough, the number is automatically inserted. Configuring the HMI device Configuring devices with graphical Control Panel 5.1.1 Opening the Control Panel With the exception of the KP300 Basic mono PN, all Basic Panels have a graphic Control Panel. Open the Control Panel by pressing the "Control Panel" button of the Loader. Configuring the HMI device 5.1 Configuring devices with graphical Control Panel Protecting the Control Panel with a password You can protect the Control Panel against unauthorized operation. You can read the settings in the Control Panel without having entered a password, however, you are not allowed to edit the settings. Configuring the HMI device 5.1 Configuring devices with graphical Control Panel 5.1.3 Changing MPI/DP settings Note The settings for MPI or PROFIBUS DP communication are defined in the HMI device project. Edit the transfer settings only in the following situations: •... Configuring the HMI device 5.1 Configuring devices with graphical Control Panel 5.1.4 Changing the network configuration NOTICE Communication errors caused by IP address conflicts Communication errors can occur if several devices in a network share the same IP address. Assign each HMI device an IP address that is unique within the network. 1. Configuring the HMI device 5.1 Configuring devices with graphical Control Panel 5.1.5 Time server configuration The HMI device has an unbuffered realtime clock. The realtime clock is set either using the configuration or using a time server. To fetch the time-of-day of the HMI device from a time server, specify up to four different time servers. Configuring the HMI device 5.1 Configuring devices with graphical Control Panel 5.1.6 Changing monitor settings NOTICE Orientation of the screen for KTP400 Basic and KTP600 Basic The screen orientation is defined by the configuration engineer in the course of project creation. Configuring the HMI device 5.1 Configuring devices with graphical Control Panel 5.1.7 Displaying information about the HMI device 1. Press "OP" to open the "OP Properties" dialog. 2. Open the "Device" tab. The "Device" tab is used to display specific information on the HMI device. Configuring the HMI device 5.1 Configuring devices with graphical Control Panel 5.1.8 Calibrating the touch screen This function is only available for touch screen devices. 1. Press "OP" to open the "OP Properties" dialog. 2. Change to the "Touch" tab. 3. Configuring the HMI device 5.1 Configuring devices with graphical Control Panel 5.1.9 Displaying licensing information for the HMI device 1. Press "OP" to open the "OP Properties" dialog. 2. Open the "License" tab. The "License" tab is used to display the licensing information for the software of the HMI device. Configuring the HMI device 5.1 Configuring devices with graphical Control Panel 5.1.10 Enabling a data channel You must enable at least one data channel to transfer a project to the HMI device. Note After having completed the project transfer, you can protect the HMI device against unintentional overwriting of project data and of the HMI device image by locking all data channels. Page 449 Configuring the HMI device 5.1 Configuring devices with graphical Control Panel Enabling a data channel - Basic Panels PN 1. Press "Transfer" to open the "Transfer Settings" dialog. 2. Select the "Enable Channel" check box in the "Channel 1" field. Press the "Advanced"... Configuring the HMI device 5.1 Configuring devices with graphical Control Panel 5.1.11 Changing password settings Password protection prevents unauthorized access to the Control Panel. NOTICE The password cannot contain spaces or special characters * ? . % / \ ' ". If the password is no longer available for the Control Panel, you first have to update the operating system before you can make any changes in the Control Panel. Configuring the HMI device 5.1 Configuring devices with graphical Control Panel 5.1.12 Setting the Screen Saver NOTICE Burn-in effect The screen contents may leave a faint version (ghost) of the image in the background if they appear for too long. The "ghost"... Configuring the HMI device 5.2 Configuring KP300 Basic Configuring KP300 Basic 5.2.1 Opening the Control Panel Use the "Info/Settings" menu command to open the Control Panel in the Loader. Configure your HMI device in the Control Panel. You can make the following settings: ●... Configuring the HMI device 5.2 Configuring KP300 Basic 5.2.2 Overview The following table shows the menu structure of the Control Panel with the functions that are available there for configuring your HMI device. Menu entry Function / Note Start Transfer Info/Settings Contrast Changing monitor settings (Page 83) Page 454 Configuring the HMI device 5.2 Configuring KP300 Basic Network Mode Changing the network configuration (Page 85) LLDP Protocol Enable Disable Auto Negotiation Enable Disable Speed Only available if "Auto Negotiation = Enable" 10 Mbits/s 100 Mbits/s Communication Link Only available if "Auto Negotiation = Enable" Half-Duplex Full-Duplex Time server configuration (Page 86) Configuring the HMI device 5.2 Configuring KP300 Basic 5.2.3 Displaying information about the HMI device Menu commands in the "Info/Settings" menu The following table shows the menu commands in the "Info/Settings" menu: Menu item Information contained there Device Info HMI device name Size of the internal flash memory in which the HMI device image and project are stored The size of internal flash memory is not equivalent to application memory available for a project. Configuring the HMI device 5.2 Configuring KP300 Basic 5.2.5 Enabling a data channel You must enable at least one data channel to transfer a project to the HMI device. Note After having completed the project transfer, you can protect the HMI device against unintentional overwriting of project data and of the HMI device image by locking all data channels. Configuring the HMI device 5.2 Configuring KP300 Basic 5.2.6 Changing the network configuration NOTICE Communication errors caused by IP address conflicts Communication errors can occur if several devices in a network share the same IP address. Assign each HMI device an IP address that is unique within the network. Procedure Proceed as follows: 1. Configuring the HMI device 5.2 Configuring KP300 Basic 8. If you assign the connection type and transmission rate manually, select the desired values under "Speed" and "Communication Link". – Select "100 Mbps" or "10 Mbps". – Select "Half-Duplex" or "Full-Duplex". 5.2.7 Time server configuration Introduction... Configuring the HMI device 5.2 Configuring KP300 Basic 5.2.8 Changing password settings Password protection prevents unauthorized access to the "Info/Settings > Logon/Settings" menu. NOTICE The password cannot contain spaces or special characters * ? . % / \ ' ". If the password for the "Info/Settings >... Configuring the HMI device 5.2 Configuring KP300 Basic 5.2.9 Setting the Screen Saver NOTICE Burn-in effect The screen contents may leave a faint version (ghost) of the image in the background if they appear for too long. The "ghost" will disappear automatically after some time. The longer the same content is displayed on the screen, the longer it will take for the burn-in effect to disappear. Commissioning a project Overview Configuration phase A project – the process image of the working process – is created during configuration to visualize automated working processes. The process displays for the project contain displays for values and messages which provide information about process statuses. The process control phase follows the configuration phase. Commissioning a project 6.2 Operating modes Operating modes Operating modes The HMI device may be in the following operating modes: ● Offline ● Online ● Transfer "Offline mode" and "Online mode" can be set on both the configuring PC and the HMI device. Commissioning a project 6.3 Data transmission options Data transmission options Overview The following table shows the options for data transfer between the HMI device and configuration PC. Type Data channel Basic Panels DP Basic Panels PN Backup/restore, Serial Operating system update MPI/PROFIBUS DP Project transfers PROFINET... Page 464 Commissioning a project 6.4 Transfer Procedure (WinCC flexible) Proceed as follows: 1. On the configuring PC, select the "Transfer settings" command from the "Project > Transfer" menu in WinCC flexible. The "Select devices for transfer" dialog opens. 2. Select the HMI device in the left area of the dialog. 3. Commissioning a project 6.4 Transfer 6.4.3 Starting automatic transfer Introduction If automatic transfer is activated, the HMI device automatically changes to "Transfer" mode at runtime as soon as a transfer is started on the connected configuring PC. Note With automatic transfer, the HMI device only changes into "Transfer" mode when the project is running on the HMI device. Page 466 Commissioning a project 6.4 Transfer Procedure (WinCC flexible) Proceed as follows: 1. On the configuring PC, select the "Transfer settings" command from the "Project > Transfer" menu in WinCC flexible. The "Select devices for transfer" dialog opens. 2. Select the HMI device in the left area of the dialog. 3. Commissioning a project 6.4 Transfer 6.4.4 Testing a project Introduction You have the following options to test a project: ● Test the project on the configuring PC You can test a project at a configuring PC, using a simulator. For detailed information, refer to the "WinCC flexible"... Commissioning a project 6.5 Backup and restore Requirements for online testing ● The project has been transferred to the HMI device. ● The HMI device is in "Online" mode. Procedure In "Online" mode, you can test individual project functions on the HMI device without them being affected by the PLC. Commissioning a project 6.5 Backup and restore See also Data transmission options (Page 91) 6.5.2 Backup and restore using WinCC flexible Requirement ● No project is open on the configuration PC in WinCC flexible. ● The HMI device is connected to this configuration PC. ●... Page 470 Commissioning a project 6.5 Backup and restore Procedure – restoring Proceed as follows: 1. On the configuration PC, select the "Communication settings" command in the menu "Project > Transfer" in WinCC flexible. The "Communication settings" dialog box opens. 2. Select the type of HMI device. 3. Commissioning a project 6.5 Backup and restore 6.5.3 Backup and restore using ProSave Requirements ● The HMI device is connected to a PC on which ProSave is installed. ● The data channel is parameterized on the HMI device. Procedure – backup Proceed as follows: 1. Commissioning a project 6.5 Backup and restore Procedure – restore Proceed as follows: 1. Go to the Windows Start menu and start ProSave on the PC. 2. Select the HMI device type in the "General" tab. 3. Select the type of interconnection for the HMI device and the PC. 4. Commissioning a project 6.6 OS update - Basic Panel DP Restoring the data of the HMI device Proceed as follows: 1. Select the "Restore" command from the "Online > HMI device maintenance" menu. 2. Enter the name of the backup file under "Save as". Information about the selected backup file is displayed under "Content". Commissioning a project 6.6 OS update - Basic Panel DP 6.6.2 Resetting factory settings In ProSave, WinCC flexible or WinCC, you can update the operating system with or without resetting to factory settings. ● Updating the operating system without reset to factory settings First, switch into "Transfer"... Page 475 Commissioning a project 6.6 OS update - Basic Panel DP Requirements ● The HMI device is connected to a configuring PC. ● No project is open in WinCC flexible. ● When updating the operating system without reset to factory setting only: The data channel is configured on the HMI device. Commissioning a project 6.6 OS update - Basic Panel DP 6.6.4 Updating the Operating System using ProSave Requirements ● The HMI device is connected to a PC on which ProSave is installed. ● When updating the operating system without reset to factory settings only: the data channel is configured on the HMI device. Commissioning a project 6.7 OS update - Basic Panel PN OS update - Basic Panel PN 6.7.1 Overview Updating the operating system A compatibility conflict may occur when transferring a project to the HMI device. This is caused by different versions of the configuration software used and the HMI device image available on the HMI device. Commissioning a project 6.7 OS update - Basic Panel PN 6.7.2 Resetting factory settings In ProSave, WinCC flexible or WinCC, you can update the operating system with or without resetting to factory settings. ● Updating the operating system without reset to factory settings First, switch into "Transfer"... Page 479 Commissioning a project 6.7 OS update - Basic Panel PN Requirements ● No project is open on the configuring PC in WinCC flexible. ● The HMI device is connected to this configuring PC. ● The data channel is configured on the HMI device. Procedure Proceed as follows: 1. Commissioning a project 6.7 OS update - Basic Panel PN 6.7.4 Updating the operating system using ProSave Requirements ● The HMI device is connected to a PC on which ProSave is installed. ● The data channel is configured on the HMI device. Procedure Proceed as follows: 1. Commissioning a project 6.7 OS update - Basic Panel PN 6.7.5 Updating the operating system using WinCC If possible, you should use the interface with the highest bandwidth for this connection, such as Ethernet. Updating the operating system via a serial connection can take up to an hour. CAUTION Updating the operating system deletes all data on the HMI device When you update the operating system you delete data on the target system. Commissioning a project 6.7 OS update - Basic Panel PN 6.7.6 Resetting to factory settings with WinCC flexible CAUTION Updating the operating system deletes all data on the HMI device When you update the operating system you delete data on the target system. For this reason, it is advisable to backup the following data: •... Page 483 Commissioning a project 6.7 OS update - Basic Panel PN Note Possible address conflicts with incorrect IP address Do not use a dynamic IP configuration for "Reset to factory settings". Specify a unique IP address in which the configuring PC is located. For the duration of the update process, the HMI device is automatically assigned to the specified address. Commissioning a project 6.7 OS update - Basic Panel PN 6.7.7 Resetting to factory settings with ProSave Requirement ● The HMI device is connected over the Ethernet to a PC on which ProSave is installed. ● Have the MAC address of your HMI device's Ethernet interface to hand. –... Page 485 Commissioning a project 6.7 OS update - Basic Panel PN 4. Change to the "OS Update" tab. 5. Select the "Reset to factory settings" check box. A text box opens where you can enter the MAC address. 6. Enter the HMI device's MAC address in the text box. 7. Commissioning a project 6.7 OS update - Basic Panel PN 6.7.8 Resetting to factory settings with WinCC If possible, you should use the interface with the highest bandwidth for this connection, such as Ethernet. Updating the operating system via a serial connection can take up to an hour. CAUTION Updating the operating system deletes all data on the HMI device When you update the operating system you delete data on the target system. Maintenance and care Maintenance and care Introduction The HMI device is designed for maintenance-free operation. Make sure you keep the touch screen and keyboard membrane clean. Requirements Use a cleaning cloth dampened with a cleaning agent to clean the equipment. Only use water with a little liquid soap or a screen cleaning foam. Maintenance and care 7.2 Recycling Recycling Recycling and disposal The HMI devices described in these operating instructions can be recycled due to the low levels of pollutants. Contact a certified disposal service company for environmentally sound recycling and disposal of your old devices. Basic Panels Operating Instructions, 04/2012, A5E02421799-03... ● 2004/108/EC "Electromagnetic Compatibility" (EMC Directive) EC Declaration of Conformity The EC Declarations of Conformity are available to the relevant authorities at the following address: Siemens AG Industry Sector I IA AS FA WF AMB PO Box 1963 D-92209 Amberg, Germany Marking for Australia The HMI device fulfills the requirements of standard AS/NZS 2064 (Class A). Technical specifications 8.2 Directives and declarations Directives and declarations 8.2.1 Electromagnetic compatibility Introduction The HMI device fulfils, among other things, the requirements of the EMC law pertaining to the domestic European market. EMC-compatible installation of the HMI device The EMC-compliant installation of the HMI device and the application of interference-proof cable is the basis for interference-free operation. Technical specifications 8.2 Directives and declarations Sinusoidal interference The following table shows the EMC behavior of the modules with respect to sinusoidal interference. This requires the HMI device to meet the specifications and directives for electrical installation. Sinusoidal interference Test values Degree of severity HF radiation (in... Page 492 Technical specifications 8.2 Directives and declarations Electrostatic sensitive devices can be labeled with an appropriate symbol. CAUTION Damage to ESD from touch Electrostatic sensitive devices, ESD, can be destroyed by voltages which are far below the human perception limit. If you touch a component or electrical connections of a module without discharging any electrostatic energy, these voltages may arise. Page 493 Technical specifications 8.2 Directives and declarations CAUTION Grounding measures There is no equipotential bonding without grounding. An electrostatic charge is not discharged and may damage the ESD. Protect yourself against discharge of static electricity. When working with electrostatic sensitive devices, make sure that the person and the workplace are properly grounded. Protective measures against discharge of static electricity ●... Technical specifications 8.3 Dimension drawings Dimension drawings 8.3.1 Dimension drawing of the KP300 Basic mono PN Basic Panels Operating Instructions, 04/2012, A5E02421799-03... Technical specifications 8.3 Dimension drawings 8.3.2 Dimension drawing of the KP400 Basic color PN Basic Panels Operating Instructions, 04/2012, A5E02421799-03... Technical specifications 8.3 Dimension drawings 8.3.3 Dimension drawing of the KTP400 Basic mono PN Basic Panels Operating Instructions, 04/2012, A5E02421799-03... Technical specifications 8.3 Dimension drawings 8.3.4 Dimension drawing of the KTP400 Basic color PN Basic Panels Operating Instructions, 04/2012, A5E02421799-03... Technical specifications 8.3 Dimension drawings 8.3.5 Dimension drawing of the KTP600 Basic color DP Basic Panels Operating Instructions, 04/2012, A5E02421799-03... Technical specifications 8.3 Dimension drawings 8.3.6 Dimension drawing of the KTP600 Basic mono/color PN Basic Panels Operating Instructions, 04/2012, A5E02421799-03... Technical specifications 8.3 Dimension drawings 8.3.7 Dimension drawing of the KTP1000 Basic color DP Basic Panels Operating Instructions, 04/2012, A5E02421799-03... Technical specifications 8.3 Dimension drawings 8.3.8 Dimension drawing of the KTP1000 Basic color PN Basic Panels Operating Instructions, 04/2012, A5E02421799-03... Technical specifications 8.3 Dimension drawings 8.3.9 Dimension drawing of the TP1500 Basic color PN Basic Panels Operating Instructions, 04/2012, A5E02421799-03... Technical specifications 8.4 Specifications Specifications 8.4.1 Power supply CAUTION Safe electrical isolation Use only 24 VDC power supply units with safe electrical isolation in accordance with IEC 60364-4-41 or HD 384.04.41 (VDE 0100, Part 410), e.g. to PELV standard. The supply voltage must be within the specified voltage range. Otherwise, malfunction at the HMI device cannot be ruled out. Page 504 Technical specifications 8.4 Specifications KP300 Basic mono PN KP400 Basic color PN Backlighting Half Brightness Life Time (MTBF 50,000 h Pixel error class according to DIN EN ISO 13406-2 MTBF: Operating hours after which the maximum brightness is reduced by half compared to the original value. MTBF is increased by using the integrated dimming function, for example, time-controlled via screen saver or centrally via PROFIenergy. Technical specifications 8.4 Specifications 8.4.3 KTP400 Basic and KTP600 Basic Weight KTP400 Basic KTP400 Basic KTP600 Basic KTP600 Basic KTP600 Basic mono PN color PN mono PN color DP color PN Weight without packaging Approx. 320 g Approx. 340 g Approx. Page 506 Technical specifications 8.4 Specifications Interfaces KTP400 Basic KTP400 Basic KTP600 Basic KTP600 Basic KTP600 Basic mono PN color PN mono PN color DP color PN 1 x RS 422/RS 485 Max. 12 Mbps 1 x Ethernet RJ45 10/100 Mbps 10/100 Mbps Supply voltage KTP400 Basic KTP400 Basic... Technical specifications 8.4 Specifications 8.4.4 KTP1000 Basic and TP1500 Basic HMI device KTP1000 Basic color DP KTP1000 Basic color PN TP1500 Basic color PN Weight without packaging Approx. 2.65 kg Approx. 4.2 kg Display KTP1000 Basic color DP KTP1000 Basic color PN TP1500 Basic color PN Type LCD TFT... Page 508 Technical specifications 8.4 Specifications Supply voltage KTP1000 Basic color DP KTP1000 Basic color PN TP1500 Basic color PN Rated voltage +24 V DC Range, permissible 19.2 to 28.8 V (–20%, +20%) Transients, maximum permissible 35 V (500 ms) Time between two transients, 50 s minimum Current consumption... Technical specifications 8.4 Specifications 8.4.5 Ambient conditions 8.4.5.1 Transport and storage conditions Mechanical and climatic conditions for transportation and storage The transport and storage conditions of this HMI device exceed requirements in accordance with IEC 61131-2. The following specifications apply to the transport and storage of an HMI device in its original packaging. Technical specifications 8.4 Specifications 8.4.5.2 Conditions of use Mechanical and climatic conditions of use The HMI device is designed for use in a location protected from the effects of the weather. The conditions of use are compliant with requirements to DIN IEC 60721-3-3: ●... Page 511 Technical specifications 8.4 Specifications Testing mechanical ambient conditions The following table provides information on the type and scope of tests for mechanical ambient conditions. Tested for Test standard Comments Vibrations Vibration test in accordance Type of vibration: with IEC 60068, part 2–6 Transitional rate of the frequency: (sinusoidal) 1 octave/minute. Technical specifications 8.4 Specifications 8.4.5.3 Information on insulation tests, protection class and degree of protection Test voltages Insulation strength is demonstrated in the type test with the following test voltages in accordance with IEC 61131-2: Circuits with a nominal voltage of U to other Test voltage circuits or ground... Technical specifications 8.5 Interface description Interface description 8.5.1 Power supply Plug connector, 2-pin Pin number Assignment +24 VDC (L+) GND 24 V (M) 8.5.2 PROFIBUS (Sub-D RS422/485) Name of interface on HMI device: X2 Sub-D socket, 9-pin, with screw lock Assignment for the RS 422 Assignment for the RS 485 n. Technical specifications 8.5 Interface description 8.5.3 PROFINET (Ethernet) Name of interface on HMI device: X1 RJ45 plug connector Assignment Tx– n. c. n. c. Rx– n. c. n. c. Meaning of LEDs State Green "SPEED" LED Yellow "LINK" LED No connection 10 MB connection 100 MB connection Active data transfer 10 MB... Page 515 Technical specifications 8.6 Functional scope with WinCC flexible and WinCC Functional scope with WinCC flexible and WinCC The following tables show the objects that can be integrated in a project for a Basic Panel. Alarms Object Specification Basic Panels Alarms Number of discrete alarms Number of analog alarms Length of the alarm text... Page 516 Technical specifications 8.6 Functional scope with WinCC flexible and WinCC Recipes The specified values are maximum values and should not be used additive. Object Specification Basic Panels Recipes Quantity Elements per recipe Data records per recipe Safety Object Specification Basic Panels Safety Number of user groups Number of users... Page 517 Technical specifications 8.6 Functional scope with WinCC flexible and WinCC New system functions In addition to the system functions already available, WinCC flexible 2008 SP2 and WinCC V11 or higher support the following system functions for the Basic Panels: System function/syntax Application SetBitInTag (Tag, Bit) Sets a bit in the specified tag to 1 (TRUE). Page 518 Technical specifications 8.6 Functional scope with WinCC flexible and WinCC Basic Panels Operating Instructions, 04/2012, A5E02421799-03... Service and support You can find additional information and support for the products described on the Internet at the following addresses: ● Technical support (● Support request form (● After-sales information system for SIMATIC PC / PG (●... Technical Support A.2 System events System events System events on the HMI device provide information about internal states of the HMI device and PLC. Note System events are only indicated if an alarm window was configured. System events are output in the language currently set on your HMI device. System event parameters System events may contain encrypted parameters which are relevant to troubleshooting because they provide a reference to the source code of the runtime software. Abbreviations ANSI American National Standards Institution Central Processing Unit Comma Separated Values Clear To Send Direct Current Data Carrier Detect DHCP Dynamic Host Configuration Protocol Dual-in-Line (electronic chip housing design) Domain Name System Distributed I/O Data Source Name Data Set Ready Data Terminal Ready Input and Output Components and modules endangered by electrostatic discharge... Page 522 Abbreviations PELV Protective Extra Low Voltage RJ45 Registered Jack Type 45 Request to send Receive Data SD Card Security Digital Card SELV Safety Extra Low Voltage Service Pack Programmable Logic Controller Super Twisted Nematic Sub-D Subminiature D (plug) Tabulator TCP/IP Transmission Control Protocol/Internet Protocol Thin Film Transistor Teletype... Glossary "Transfer" mode HMI device operating mode for transferring an executable project from the configuring PC to an HMI device. Acknowledge Acknowledgment of an alarm confirms that it has been noted. Alarm, acknowledgment Acknowledgment of an alarm confirms that it has been noted. Alarm, activated Moment at which an alarm is triggered by the PLC or HMI device. Page 524 Glossary Configuring PC A configuring PC is a programming device or PC on which plant projects are created using an engineering software. Display duration Defines whether a system alarm is displayed on the HMI device and the duration of the display. Page 525 Glossary HMI device image The HMI device image is a file that can be transferred from the configuring PC to the HMI device. The HMI device image contains the operating system of the HMI device , including the elements of the Runtime software required for the executable project file. I/O field Enables the input or output of values on the HMI device and their transfer to the PLC. Page 526 Glossary Project A project is the result of a configuration using an engineering software. The project usually contains several screens with embedded system-specific objects, basic settings and alarms. A project configured in WinCC flexible is saved to a project file with the extension *.hmi. There is a difference between an offline project on a configuring PC and an online executable project on an HMI device. Page 527 Glossary Runtime software The Runtime software is a process visualization software which can be used to test projects on a configuring PC. Screen Mode of visualization of all logically associated process data of a plant. Visualization of the process data can be supported by means of graphic objects. Screen object Refers to objects such as rectangles, I/O fields, or alarm views which are configured for visualization or operation of the plant. Page 528 Glossary Transfer Transfer of an executable project from the configuring PC to the HMI device. WinCC WinCC (TIA Portal) is engineering software for configuring SIMATIC Panels, SIMATIC Industrial PC and standard PC with the visualization software WinCC Runtime Advanced or the SCADA system, WinCC Runtime Professional.