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You can read the recommendations in the user guide, the technical guide or the installation guide for HONEYWELL EXCEL 800. You'll find the answers to all your questions on the HONEYWELL EXCEL 800 in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual HONEYWELL EXCEL 800
User guide HONEYWELL EXCEL 800
Operating instructions HONEYWELL EXCEL 800
Instructions for use HONEYWELL EXCEL 800
Instruction manual HONEYWELL EXCEL 800

		Honeywell
		Excel 800
		SYSTEM
HONEYWELL EXCEL 5000 OPEN SYSTEM		
INSTALLATION AND COMMISSIONING INSTRUCTIONS		
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EN1B-0375GE51 R0709 2 Excel 800 Safety Information General Safety Information When performing any work (installation, mounting, start- Safety Information as per EN60730-1 Purpose The Excel 800 System is an independently mounted electronic control system with fixed wiring. It is used for the purpose of building HVAC control and is suitable for use only in non-safety controls for installation on or in appliances. Pollution degree Pollution Degree 2, suitable for use in residential controls, commercial controls, in a clean environment. Category II for mains-powered (16A) controls Category I for 24 V powered controls Rated impulse voltage Automatic action 2500 VAC Type 1.C (micro-interruption for the relay outputs) Class A 75 °C for all housing and plastic parts 125 °C in the case of devices applied with voltage-carrying parts and connectors Electromagnetic interference Tested at 230 VAC, with the modules in normal condition. up), all instructions given by the manufacturer and in particular the safety instructions provided in these Installation and Commissioning Instructions are to be observed. The Excel 800 System (including the XCL8010 Controller Module, I/O modules, manual disconnect modules, and the auxiliary terminal packages) may be installed and mounted only by authorized and trained personnel. Rules regarding electrostatic discharge should be followed. If the Excel 800 System is modified in any way, except by the manufacturer, all warranties concerning operation and safety are invalidated. Make sure that the local standards and regulations are observed at all times.

Examples of such regulations are VDE 0800 and VDE 0100 or EN 60204-1 for earth grounding. Use only accessory equipment which comes from or has Overvoltage category been approved by Honeywell. It is recommended that devices are to be kept at room temperature for at least 24 hours before applying power. This is to allow any condensation resulting from low shipping/storage temperatures to evaporate. The Excel 800 System must be installed in such a Software class Ball-pressure test temperature manner (e.

g., in a lockable cabinet) as to ensure that uncertified persons have no access to the terminals. System transformer Europe: safety isolating transformers according to IEC61558-2-6 U.S.A.

and Canada: NEC Class-2 transformers Table 1 System data as per EN60730-1 3 EN1B-0375GE51 R0709 System Overview Excel 800 System Overview System Architecture An Excel 800 System consists of the XCL8010 Controller and various I/O modules. The XCL8010 Controller provides interface connections, which allow connection to external systems. Auxiliary parts enable special features. EBI / SymmetrE Ethernet LAN/WAN BNA Internet Browser OVN = OpenViewNet Web-enabled via OVN Modem XI582 or XI882A C-Bus XCL8010 + XF8xx XLWeb C-Bus Panel Interface (<40m) IO (XF8xx) Existing XL500 Controllers LON LON IO (XFL8xx) XFCxxx XFCLxxx XL10/12 for distribution within building Fig. 1 Excel 800 System architecture Fig. 2 XCL8010 Controller and I/O modules EN1B-0375GE51 R0709 4 Excel 800 System Overview I/O Modules Pluggable I/O Modules There are 2 variants of pluggable I/O modules: · Panel Bus I/O modules with communication via Panel Bus (light-gray housings). Panel Bus I/O modules are automatically commissioned (with firmware download) by the XCL8010 Controller. · LONWORKS Bus I/O modules (dark-gray housings) with communication via LONWORKS (FTT10-A, link power rd compatible) for easy integration and use with 3 -party controllers. Mixed I/O Modules Besides the pluggable Panel Bus I/O modules (consisting of a terminal socket and a removable electronic module), there are also mixed Panel Bus I/O modules. Specifically: the XF830A and XFU830A are mixed Panel Bus I/O modules, featuring an integrated terminal socket and a variety of inputs and outputs.

Mixed Panel Bus I/O modules have a light-gray housing and are likewise automatically commissioned (with firmware download) by the XCL8010 Controller. Terminal Sockets Pluggable I/O modules must be mounted on the appropriate terminal sockets. Pluggable Panel Bus I/O modules and pluggable LONWORKS Bus I/O modules use the same terminal sockets.



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These terminal sockets are available with push-in terminals (XS82...) or with screw-type terminals (XSU82...).

Mixed I/O modules feature an integrated terminal socket. Color Coding To distinguish modules and components, the following color coding is used: Color Red Part All of the user-accessible adjustable mechanical parts (i.e., bridge connectors and locking mechanism) and operating controls (manual overrides, etc.) Panel Bus I/O modules LONWORKS Bus I/O modules Light-gray Dark-gray Table 2 Color coding of Excel 800 Modules pluggable ANALOG INPUT pluggable ANALOG OUTPUT pluggable BINARY INPUT pluggable RELAY OUTPUT pluggable FLOATING OUTPUT MIXED I/Os LonWorks BUS MODULES XFL821A XFLR822A XFLR824A XFL822A XFL823A XFL824A PANEL BUS MODULES XF821A XFR822A XFR824A XFR825A XF822A XF823A XF824A XCL8010A CONTROLLER MODULE LonWorks or Panel Bus XS821-22 XSU821-22 XS823 XSU823 XS824-25 XSU824-25 XF830A, XFU830A PANEL BUS I/O MODULES Fig.

3 Overview of I/O modules 5 EN1B-0375GE51 R0709 System Overview Excel 800 I/O Module Overview Panel Bus module XF821 XF822 XFR822 XF823 XF824 XFR824 XFR825 XF830A XFU830A 1) 2) LONWORKS Bus module XFL821 XFL822 XFLR822 XFL823 XFL824 XFLR824 Description Analog input module Analog output module Binary input module Relay output module Floating output module Mixed I/O module Mixed I/O module Inputs Outputs 8 12 20 20 8 8 6 2) 6 2) Manual controls LEDs 1) 8 status LEDs 8 Manual overrides 8 status LEDs 12 status LEDs 6 status LEDs 6 Manual overrides 6 status LEDs 3 Manual overrides 3 pairs of status LEDs &shTechnical Data System Data Operating voltage Max. number of C-Bus participants Power consumption 24 VAC, \pm 20%, 21 ... 30 VDC 30 Max.

3.57 A (1 XCL8010 Controller + 16 I/O modules) 1.5 mm² 1.5 mm² Table 9 Operational environment Push-in terminals Screw-type terminals Overvoltage protection All inputs and outputs are protected against 24 VAC and 40 VDC overvoltage as well as against short-circuiting. Calculated lifetime of MTBF 13.7 years weakest component under typical operating conditions Table 7 System data EN1B-0375GE51 R0709 8 Excel 800 Planning Planning Overview Engineering with CARE During CARE engineering, the type of I/O modules, terminal assignment and module configuration are defined depending on the application. Planning In this step, the following has to be defined, if applicable: · Power supply · Fusing · Earth grounding · Lightning protection · Panel Bus wiring · Design of a LONWORKS network · Design of a C-Bus network · Useful accessories · Cable selection Devices powered XCL8010 with XI582 (backlight ON) and with watchdog load (max. 500 mA) XCL8010 with XI582 (backlight ON) but without watchdog load ...

821 ...822 ...823 ...824 .

..825 XF830A XFU830A Power consumption 24 VAC 690 mA 24 VDC 640 mA Note In Europe the system transformer(s) must be safety isolating transformers according to IEC61558-2-6. In the U.S.

A. and Canada, NEC Class-2 transformers must be used. Transformer Selection Power Consumption When selecting the appropriate transformer, take into account the number of individual modules, accessories, and field devices in determining the total power consumption. 190 mA 130 mA 160 mA 180 mA 140 mA 140 mA 200 mA 140 mA 80mA 90 mA 130 mA 90 mA 90 mA 95 mA 95 mA Table 10 Power consumption of Excel 800 System components depending on power supply Connectable Power Supplies Honeywell CRT Series (Europe) Transformer CRT 2 CRT 6 CRT 12 Primary side 220/230 VAC 220/230 VAC 220/230 VAC Secondary side 24 VAC, 50 VA, 2 A 24 VAC, 150 VA, 6 A 24 VAC, 300 VA, 12 A Table 11 Honeywell CRT series transformers data 9 EN1B-0375GE51 R0709 Planning Excel 800 Honeywell 1450 Series (North America) · 50/60 Hz · Insulated accessory outputs · Built-in fuses · Line transient /surge protection · AC convenience outlet · NEC Class-2 Part number Primary side 1450 7287 -001 -002 120 VAC 120 VAC Power Supply of Field Devices Depending upon the power consumption of the field devices used, it is possible to use either a single transformer to power both the XCL8010 Controller and attached field devices, or it may be necessary to employ an additional transformer. See also section "Field Device Cables" on page 13 and connection examples on page 29.

Secondary side 24 VAC, 50 VA 2 x 24 VAC, 40 VA, and 100 VA from separate transformer 24 VAC, 100 VA, and 24 VDC; 600 mA 24 VAC, 50 VA 2 x 24 VAC, 40 VA, and 100 VA from separate transformer 24 VAC, 100 VA, and 24 VDC, 600 mA Fusing Specifications For connection examples see description of the I/O modules on page 39 and following. F1 (Fusing for XCL8010 Controller and I/O Modules) Rating: For example: Manufacturer: Type: Littlefuse 218004 4 A, time-lag fuse (slo-blo) -003 -004 -005 120 VAC 240/220 VAC 240/220 VAC F2 (Fusing for Active Field Devices) Depends upon loads in use. -006 240/220 VAC Table 12 Honeywell 1450 series transformers data System Protective Earth Grounding Excel 800 Systems comply with SELV (Safety Extra-Low Voltage). Earth grounding is therefore not recommended. However, if compliance with EN60204-1 is required, see Appendix 1. Standard Transformers (Europe, North America) Standard commercially available transformers used to supply power to Excel 800 Systems must fulfill the following specifications: Output voltage 24.5 VAC to 25.5 VAC 24.5 VAC to 25.5 VAC 24.

5 VAC to 25.5 VAC Impedance 1.15 0.40 0.17 AC current max. 2 A max. 6 A max. 12 A Lightning Protection Please contact your local Honeywell representative for information on lightning protection. Table 13 Requirements for standard transformers Panel Bus Topologies · Up to 16 Panel Bus I/O modules can be controlled by a single XCL8010 Controller. · Panel Bus I/O modules must be addressed using the HEX switch. · Maximum distance between controller and Panel Bus I/O module: 40 m. · No bus termination · Polarity-insensitive RIN-APU24 Uninterruptable Power Supply The RIN-APU24 Uninterruptable Power Supply can be wired to power Excel 800 Systems. See also RIN-APU24 Uninterruptable Power Supply Mounting Instructions (MU1B-0258GE51) for detailed wiring diagrams. EN1B-0375GE51 R0709 10 Excel 800 Planning LONWORKS Bus Topologies The LONWORKS Bus is a 78-kilobit serial link that uses transformer isolation so that the bus wiring does not have a polarity. I. e. it is not important which of the two LONWORKS Bus terminals are connected to each wire of the twisted pair. The LONWORKS Bus does not need to be shielded on the controller module side. The LONWORKS Bus can be wired in daisy chain, star, loop or any combination thereof as long as the maximum wire length requirements are met.



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Configuration The recommended configuration is a daisy chain with two bus terminations.

This layout allows for max. LONWORKS Bus lengths, and its simple structure presents the least number of possible problems, particularly when adding on to an existing bus. See also "LONWORKS Mechanisms", Product Literature no.: EN0B-0270GE51. Accessories Besides the auxiliary parts of Table 5 on page 7, the following accessories are available. Preconfigured Connection Cables Type Connecting XCL8010 Controller with XI582 Operator Interface XI582 Operator Interface Adapter cable for Excel 500/600 Controllers Laptops Laptops Modems Features 5 m, shielded, RJ45 plug with clip See XW582 and XW586 0.2 m, shielded, RJ45 9 pin sub-D 3 m, shielded, RJ45 plug with clip See XW582 and XW586 1.8 m, RJ45 9 pin sub-D XW882 XW582 + XW586 XW884 XW885 XW585 + XW586 C-Bus Topologies Via the C-Bus up to 30 C-Bus devices (e.g., controllers, etc.

) can communicate with one another and a PC central. The C-Bus must be connected via the individual controllers (open ring). Note Star connection is not allowed because uncontrollable line reflections may occur. Instead of an Excel 800 Controllers, other C-Bus controllers (e.g., the Excel 500, Excel 100, Excel 50) can also be connected. XW586 Table 14 Preconfigured connection cables XW882 Cable Details 87654321 RJ45 plug with clip at front SHIELD LOOSE XI582 ENDS WIRING TERMINALS GRAY (not used) YELLOW Tx D BROWN +5VE GREEN Rx D WHITE GND 1 2 3 4 +5V XW882 Fig. 5 XCL8010/XI582 cable details XW884 Cable Details Fig. 4 C-Bus topology Excel 5000 87654321 RJ45 plug with clip at front SHIELD RS232 plug sub-D female 1 Rx D RTS Tx D GND 6 2 7 3 8 4 9 5 +5V XW884 Fig. 6 XCL8010/Excel 500/600 cable details 11 EN1B-0375GE51 R0709 Planning Excel 800 XW885 Cable Details LONWORKS Bus Termination Modules RS232 plug sub-D female 9876 87654321 RJ45 plug with clip at front SHIELD Type 209541 XAL-Term Description LONWORKS Bus termination module LONWORKS connection and termination module, which can be mounted on DIN rails and in fuse boxes Rx D RTS Tx D GND +5V XW885 Fig.

7 XCL8010/laptop cable details 54321 Table 15 LONWORKS Bus termination modules XW582 Cable Details Cable Specifications SHIELD LOOSE XI582 ENDS WIRING TERMINALS YELLOW Tx D BROWN +5VE GREEN Rx D WHITE GND 1 2 3 4 to XC5010C 54321 9876 Power Supply Cables When checking the length of the power supply cable, the connection cables to all I/O modules must be taken into account. Max. length 3 m (per side of the controller), see Fig. 33 on page 25 2 min. 0.

75 mm (AWG 18) XW582 Fig. 8 XW582 cable details Cross section Table 16 Power supply cables specification XW585 Cable Details RS232 plug sub-D female 54321 9876 SHIELD RS232 plug sub-D female 9876 Panel Bus Cables Max. length 40 m twisted pair, e.g., J-Y-Y 2 x 2 x 0.

8 +5V Rx D RTS Tx D GND 54321 Cable type Table 17 Panel Bus cables specification XW585 Fig. 9 XW585 cable details XW586 Cable Details 87654321 RJ45 plug with clip at front SHIELD RS232 plug sub-D male DCD DSR Rx D RTS Tx D CTS DTR GND 54321 +5V XW586 Fig. 10 XW586 cable details EN1B-0375GE51 R0709 9876 12 Excel 800 Planning LONWORKS Bus Cables Cable type Belden 85102 (plenum) Belden 8471 (non-plenum) Level IV, 22 AWG JY (St) Y 2 x 2 x 0.8 TIA568A Cat. 5 24AWG, twisted pair Max. bus length 2700 m (8900 ft) 2700 m (8900 ft) 1400 m (4600 ft) 900 m (3000 ft) 900 m (3000 ft) Note In the event that the limit on the total wire length is exceeded, the FTT physical layer repeaters (FTT 10A) can be added to interconnect segments. This increases the overall length by an amount equal to the original specification for that cable type and bus type for each repeater used. For example, adding repeaters for a doubly-terminated bus using JY (St) Y 2 x 2 x 0.8 cable increases the maximum length 900 m (3000 ft) for each repeater.

Table 18 Doubly-terminated bus specifications Notes · The cable types listed above are as recommended by Echelon in their FTT-10A User Guide.

· The cable recommended by Honeywell is the level IV, 22 AWG, solid core, non-shielded cable. · Belden part numbers are 9H2201504 (plenum) and 9D220150 (non-plenum). Field Device Cables Cross-sectional area Type of signal 100 m (300 ft) (Fig. 40 on p. 29) one transformer 1.5 mm2 (16 AWG) 400 m (1300 ft) (Fig. 41 on p. 29) separate transformers not allowed for > 100 m (300 ft) 24 VAC power FTT Specification The FTT specification includes two components that must be met for proper system operation: · The distance from each transceiver to all other transceivers and to the termination must not exceed the max. node-to-node distance. · If multiple paths exist, the maximum total wire length is the total amount of wire used.

Max. node-tonode distance 500 m (1650 ft) 400 m (1300 ft) 400 m (1300 ft) 320 m (1050 ft) Max. total wire length 500 m (1650 ft) 500 m (1650 ft) 500 m (1650 ft) 450 m (1500 ft) 0...

10 V signals 0.081 2.08 mm2 (28 14 AWG) Table 20 Cable sizing for connection of field devices For wiring field devices see page 29. Cable type Belden 85102 Belden 8471 Level IV, 22AWG JY (St) Y 2 x 2 x 0.8 TIA568A Cat.

5 250 m (825 ft) 24AWG, twisted pair Table 19 Free topology (singly-terminated) specifications NOTICE Unpredictable reflections on the bus due to step change in line impedance characteristics! Do not use different wire types or gauges on the same LONWORKS network segment. 13 EN1B-0375GE51 R0709 Planning Excel 800 C-Bus Cables Note Observe national regulations for C-Bus cables! · For Europe, only shielded cable is permitted. · For the U.S., shielded or unshielded cable can be used. Cable type J-Y-(ST)Y 2 x 2 x 0.8 A-Y-(ST)Y 2 x 2 x 0.8 AK 3702 AK 3740A Belden 9842 Belden 9841 AK 3702 AK 3740A

Description shielded, twisted pair shielded, twisted pair unshielded, twisted pair shielded twisted pair shielded unshielded, twisted pair shielded Recommended for Europe, inside cabinet Europe, outside cabinet US not approved for Europe US (low-cost) not approved for Europe Europe, US also possible US US not approved for Europe US (low-cost) not approved for Europe Table 21 C-Bus cable types Maximum Cable Length The maximum C-Bus cable length is 1200 m (4000 ft). See section "C-Bus Topologies" on page 11. EN1B-0375GE51 R0709 14 Excel 800 Planning Dimensions Controller Module 144 92.

75 110 28 32 Fig. 11 Controller module, dimensions (in mm) Pluggable I/O Modules 89.5 LOCK 94.1 110 67.5 30.6 28 83 SCREW-TYPE TERMINALS 14 XS814 Aux. Terminal Package (optional) SWIVEL LABEL HOLDER 38 51.5 Fig. 12 Pluggable I/O modules (shown with manual overrides), including XS814 Aux. Terminal Package, dimensions (in mm) 15 EN1B-0375GE51 R0709 45 45 Planning Excel 800 Mixed I/O Modules 216 71 72 73 74 COM a COM b 24V-24V-0 40 External 24V 3 45 92.



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5 24V for relay I...5 J1 J2 J3 J4 J5 Binary Inputs Analog Inputs I10 B7 B8 B9 B10 B11 B12 AI5 AI6 AI7 AI8 7 8 9 10 11 12 17 18 19 20 123456 13 14 15 16 B1 B2 B3 B4 B5 B6 AI1 AI2 AI3 AI4 Install. Instr.

EN1B-0375GE51 G1 G2 41 42 DI 1 2 3 4 5 6 7 8 9 10 11 12 123456 ! DO 100 CLEARANCE 12 BI / 8 AI / 8 AO / 6 RO 24V, 15VA, T50 0706AX0001-XFU830A 8 Made in Germany 0532 7 8 9 10 11 12 17 18 19 20 25 26 27 28 35 36 37 38 39 40 69 XF830A 1 2 3 4 5 6 13 14 15 16 41 42 21 22 23 24 29 30 31 32 33 34 28 15 SWIVEL LABEL HOLDER 38 SCREW-TYPE TERMINALS (XFU830A) A1 A2 A3 A4 A5 A6 A7 A8 A9 A C B1 B2 B3 B4 B5 B6 B7 B8 B9 A1 A2 A3 A4 A5 A6 A7 A8 A9 B1 B2 B3 B4 B5 B6 B7 B8 B9 A1 B1 A2 B2 A3 B3 A4 B4 G1 A5 B5 A6 B6 A7 B7 A8 B8 G2 51.5 A, B, and C = XS830 Aux. Terminal Packages (optional) D = XS831 Aux. Terminal Package (optional) Fig. 13 Mixed Excel 800 I/O Modules (example shows XF830A with four auxiliary terminal packages), dimensions (in mm) EN1B-0375GE51 R0709 16 45 BCD EF S2 COM a COM b 24V~ 24V~0 75 76 77 78 012 67 8 9A GND Analog Outputs AO5 25 21 AO1 AO6 26 22 AO2 AO7 27 23 AO3 AO8 IN1 28 35 24 29 AO4 NO1 24V Relays IN2 36 30 NO2 IN3 37 31 NO3 IN4 38 32 NO4 IN5 39 33 NO5 IN6 40 34 NO6 Honeywell Excel 800 Mounting/Dismounting Modules Mounting/Dismounting Modules WARNING Risk of electric shock or equipment damage! Do not touch any live parts in the cabinet.

Disconnect the power supply before you start to install Mounting/Dismounting Controller/Sockets Mounting Sockets Notes · When using both Panel Bus and LONWORKS Bus I/O modules in an Excel 800 System, group both Panel Bus modules (light-gray) and LONWORKS Bus I/O modules (dark-gray), e.g., on different rails. · Up to 10 Panel Bus I/O modules can be mounted to one side of the controller. In total, up to 16 Panel Bus I/O modules can be mounted to one controller. · The XCL8010 Controller Module and the mixed Panel Bus I/O modules are mounted on the DIN rail in the same way as a terminal socket. the Excel 800 System. More than one disconnect switch may be required to deenergize the system. Do not reconnect the power supply until you have completed the installation. Note The terminal socket of each pluggable I/O module can be mounted and wired before inserting and locking the corresponding electronic module.

1 PRESS 71 COM a 72 COM b 73 24V~ 74 24V~0 COM a COM b 24V~ 24V~0 2 1:ABCD FERTA QWESDERT1 2:ABCD FERTA QWESDERT2 3:ABCD FERTA QWESDERT3 4:ABCD FERTA QWESDERT4 5:ABCD FERTA QWESDERT5 6:ABCD FERTA QWESDERT6 7:ABCD FERTA QWESDERT7 8:ABCD FERTA QWESDERT8 1:ABCD FERTA QWESDERT1 2:ABCD FERTA QWESDERT2 3:ABCD FERTA QWESDERT3 4:ABCD FERTA QWESDERT4 5:ABCD FERTA QWESDERT5 6:ABCD FERTA QWESDERT6 7:ABCD FERTA QWESDERT7 8:ABCD FERTA QWESDERT8 PRESS Honeywell LON C-BUS RESET PC/HMI 1 87 654 32 1 8 765 43 21 ! 2 3 4 5 6 7 8 Honeywell 1 2 3 4 5 6 7 8 9 10 11 12 Honeywell !! 11 12 13 14 8 9 10 5 6 7 9.6k 76k 76k S1 all mid end S2 Panel LON Modem 87 65 432 1 1 2 3 4 21 22 1 2 3 4 5 6 7 8 1 2 3 4 5 6 7 8 9 10 11 12 VAUX AI/AO GND 9 10 11 12 13 14 15 16 17 18 25 26 BI GND 13 14 15 16 17 18 19 20 21 22 23 24 25 26 C-Bus I/O Bus Rx Tx 3 LON C-Bus in C-Bus out Power/ Alarm GND Fig. 15 Max. number of Panel Bus I/O modules 4 PRESS 71 COM a 72 COM b 73 24V~ 74 24V~0 5 01 01 01 23 45 67 23 45 67 PRESS S1 S2 8 9A S1 S2 8 9A S1 23 45 67 S2 8 9A PRESS PRESS EF EF 1 2 3 Honeywell 1 2 3 4 5 6 7 8 Honeywell 1 2 3 4 0 100 0 100 A A A AUTO A A A A A A A AUTO !! 11 12 13 21 22 23 31 32 33 41 42 43 51 52 53 61 62 63 21 22 1 2 3 4 5 6 7 8 11 21 22 23 31 32 33 VAUX GND 9 10 11 12 13 14 15 16 17 18 AI/AO GND 25 26 12 13 14 24 34 44 54 64 25 14 24 34 6 Fig.

14 Legend 1 2 3 4 5 6 XCL8010 Controller Module Swivel label holder Cable connection Stopper (from 3rd-party supplier) Bridge connectors Auxiliary terminal packages XCL8010 Controller Module and I/O modules mounted on multiple DIN rails BCD EF BCD BCD 5 6 Honeywell --1 --0 --AUTO ! 41 42 43 51 52 53 61 62 63 44 54 64 25 Fig. 16 Max. number of LONWORKS Bus I/O modules with power supply via XCL8010 17 EN1B-0375GE51 R0709 Mounting/Dismounting Modules Excel 800 Angle the terminal socket at the upper edge of the DIN rail until it snaps in. Swing the terminal socket down and apply gentle force Connecting Sockets Controller, terminal sockets, and mixed I/O modules on the same DIN rail can be connected mechanically and electrically with bridge connectors. Controller and terminal sockets on different DIN rails must be connected using cables, see Fig. 14 and page 24. until it snaps into position with an audible "click". Position controller module and terminal sockets flush with one another along the rail. If desired, mount stoppers at the ends of the rail to prevent sliding. NOTICE Risk of malfunction! Wire Panel Bus I/O modules and LONWORKS Bus I/O modules separately. When using both Panel Bus and LONWORKS Bus I/O modules in an Excel 800 System, LONWORKS Bus I/O modules must be connected to the controller via LON terminals 11 .

.. 14. Position the bridge connector on terminals 71 ..
. 74 of the right-hand terminal socket or mixed I/O module or controller and on terminals 75 ... 78 of the left-hand terminal socket or mixed I/O module or controller. Then press the bridge connector down. Fig. 17 Note Mounting terminal sockets Take care to not bend the Omega clamp, which serves to establish the electrical contact with the DIN rail and which located on the back of the terminal socket. Fig. 18 Notes Connecting terminal sockets with bridge connector · Bridge connectors transmit both communication signals and power supply between modules.

· Removing bridge connectors will interrupt the transmission of both communication signals and power supply between the modules. EN1B-0375GE51 R0709 18 Excel 800 Mounting/Dismounting Modules Dismounting Sockets Disconnecting Sockets Release all bridge connectors before removing the controller module and/or the terminal sockets and/or mixed I/O modules from the DIN rail. Press down at the same time both the gray side wings Mounting/Dismounting Electronic Modules Mounting Electronic Modules Note Electronic modules can be removed from or inserted into the sockets without switching off the power supply. The behavior of connected field devices must be taken into consideration.



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Make sure that terminal socket and electronic I/O module next to the red button and then pull the bridge connector out of the module. match, see Table 4 on page 6. Make sure that the red locking mechanism is in the open, i.e., left, position. Gently push the electronic module onto the terminal socket until snug. Fig. 19 Releasing bridge connectors Dismounting Controller / Terminal Sockets / Mixed I/O Modules Insert a screwdriver into the latch on the underside of the module and lever the red latch 23 mm downwards. The module can then be swung away from the rail. Fig. 21 Inserting the electronic module Lock the red locking mechanism by sliding it to the right.

Fig. 20 Releasing latch Fig. 22 Locking the electronic module Note The red locking mechanism will not close if the electronic module is not properly mounted. 19 EN1B-0375GE51 R0709 Mounting/Dismounting Modules Excel 800 Dismounting Electronic Modules Note Electronic modules can be removed from or inserted into the sockets without switching off the power supply. The behavior of connected field devices must be taken into consideration.

Open the red locking mechanism by sliding it to the left Mounting/Dismounting Manual Disconnect Modules XS812 and XS812RO Manual Disconnect Modules are mounted on the terminal socket appropriate for the electronic module, see Table 4 on page 6. The electronic module is mounted onto the manual disconnect module. and then gently pull the electronic module out of the terminal socket. **WARNING Risk of electric shock or equipment damage!** The XS812RO Manual Disconnect Module is designed for 24 V applications only! Never use the XS812RO Manual Disconnect Module with line voltage. Mounting Manual Disconnect Modules Make sure that manual disconnect module, electronic module, and terminal socket match, see Table 4 on page 6. Make sure that the red locking mechanism is in the open, Fig. 23 Dismounting the electronic module i.e., left, position. Gently push the manual disconnect module onto the terminal socket until snug.

Lock the red locking mechanism by sliding it to the right. Fig. 24 Mounting the manual disconnect modules EN1B-0375GE51 R0709 20 Excel 800 Mounting/Dismounting Modules Operating the Individual Switches Use a screwdriver to open/close the appropriate disconnect switches of the manual disconnect modules. Mounting/Dismounting Auxiliary Terminal Packages The XS814 Auxiliary Terminal Package can be mounted on any pluggable I/O module. The XS830 and XS831 Auxiliary Terminal Packages are suitable for mixed I/O modules, only. Specifically, they can be mounted on the top and/or bottom of the XF830A and on the bottom of the XFU830A. For reasons of mechanical stability, a maximum of two rows of Auxiliary Terminal Packages may be mounted together on any given I/O module. Mounting Auxiliary Terminal Packages Push the auxiliary terminal package onto the grooves of Fig. 25 Operating the disconnect switches the corresponding terminal socket / the mixed I/O module. Dismounting Manual Disconnect Modules Open the red lock mechanism by sliding it to the left and then gently pull the electronic module out of the terminal socket.

Fig. 26 Mounting the auxiliary terminal package onto the terminal socket / mixed I/O module Dismounting Auxiliary Terminal Packages Push down the catch of the auxiliary terminal package and pull it out of the grooves of the terminal socket / the mixed I/O module. Fig. 27 Dismounting the auxiliary terminal package from the terminal socket / the mixed I/O module 21 EN1B-0375GE51 R0709 Mounting/Dismounting Modules Excel 800 Mounting/Dismounting Cross Connectors Note The long cross connector (incl. in the scope of the delivery) can be mounted to the XS824-25 or XSU824-25, as required (see Fig. 29). It can be dismantled (see Fig. 28) and, if desired, replaced with one or two short connectors (optional accessory, see Table 5 on page 7). It is not permitted to replace these cross connectors with wire. Insert a screwdriver on one end of the cross connector Mounting/Dismounting Swivel Label Holders Note A swivel label holder is included in the scope of delivery of each module.

Use only the (short / long) swivel label holders appropriate for the given type (pluggable or mixed, respectively) of I/O module. and swivel it to the right and to the left. Insert a screwdriver on the other end of the cross Mounting Swivel Label Holders Snap the swivel label holder onto the hinges of the connector and swivel it to the right and to left until the cross connector is released. If desired, insert another cross connector. terminal socket / mixed I/O module. Apply self-adhesive labels to the holders. Fig. 28 Dismounting the cross connectors (long cross connector shown here) Fig. 30 Mounting the swivel label holder Dismounting Swivel Label Holders Press the hinges together and remove the swivel label holder. Fig.

29 Mounting the cross connectors (short cross connector shown here) EN1B-0375GE51 R0709 22 Excel 800 Wiring and Setting Up the System Wiring and Setting Up the System General Safety Considerations · When connecting the XCL8010 Controller Module or Excel 800 I/O modules, both VDE, National Electric Code (NEC) or equivalent, and any local regulations concerning grounding and zero voltage must be observed. · Electrical work should be carried out by a qualified electrician. · The electrical connections must be made at the terminal blocks. The corresponding connection diagrams are located on the individual controller module and I/O modules. · For Europe only: To comply with CE requirements, devices with a voltage in the range of 50 ... 1000 VAC or 75 ...

1500 VDC, which are not provided with a supply cord and plug or with other means for disconnection from the supply having a contact separation of at least 3 mm in all poles, must have the means for disconnection incorporated in the fixed wiring. Wiring Terminals Wiring Push-In Terminals The terminal sockets of the pluggable I/O modules are available in versions (XF82...) featuring convenient push-in terminals for easy wiring.

Of the mixed I/O modules, the XF830A likewise features push-in terminals. For correct wiring, cables must fulfill the following specifications according to IEC664-1 / VDE 0110 (4.97): Max. plug gauge Solid conductor H05(07) V-U Stranded conductor H05(07) V-K Stranded conductor with wire end ferrules (without plastic collar) Stripping length 2 2 2 0.14 .

.. 1.50 mm 0.25 ... 1.50 mm 0.25 .

.. 1.50 mm 0.25 ... 1.50 mm 8.0 +1.

0 mm 2 **WARNING Risk of electric shock or equipment damage!** Do not touch any live parts in the cabinet. Disconnect the power supply before making connections Table 22 Push-in terminals wiring specifications Wiring Screw-Type Terminals The terminal sockets of the pluggable I/O modules are available in versions (XFU82).



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..) featuring screw-type terminals.

The mixed I/O modules are likewise available in a version (the XFU830A) featuring screw-type terminals. For correct wiring, cables must fulfill the following specifications according to IEC664-1 / VDE 0110 (4:97): Max. plug gauge 2 2 2 to or removing connections from terminals of controller or I/O modules. Do not use spare terminals as wiring support points.

Do not reconnect the power supply until you have completed the installation. 0.14 ... 1.50 mm 0.25 ...

1.50 mm 0.25 ... 1.50 mm 0.25 ...

1.50 mm 1.0 +1.0 mm Observe precautions for handling electrostatic sensitive devices. Solid conductor H05(07) V-U Stranded conductor H05(07) V-K Stranded conductor with wire end ferrules (without plastic collar) Stripping length 2 Table 23 Screw-type terminals wiring specifications 23 EN1B-0375GE51 R0709 Wiring and Setting Up the System Excel 800 Connecting Power Supply The Excel 800 System can be powered by one or more external transformers.

Note The maximum length for the power supply cable from a transformer is 3 m. This also includes the length of the modules and the connection cables between the rails. Referring to Fig. 31 the following conditions must be fulfilled: A + B 3 m and A + C 3 m Additional Transformer Connect the additional transformer in a second room or cabinet to terminals 73 and 74 or 77 and 78 of an I/O module. TRANSFORMER 2 Single or the First Transformer Connect the transformer to terminals 1 and 2 of the 71 72 73 74 I/O MAX.

3 m I/O XCL8010 Controller. I/O B I/O CPU 12 I/O C A Fig. 32 Wiring the power supply from a second transformer A+B 3m AND A+C 3m NOTICE Equipment damage! Do not use bridge connectors to connect modules powered by different transformers. When connecting modules powered by different transformers using cables, be sure to not connect terminals 73 and 77. Fig. 31 Wiring power supply from the (first) transformer to the controller module EN1B-0375GE51 R0709 24 Excel 800 Wiring and Setting Up the System Connecting Single Bus Controller Systems This section describes how to connect a controller system which uses Panel Bus I/O modules, only or LONWORKS Bus I/O modules, only. Panel Bus I/O Modules in Separate Rooms In this scenario, communication and reference voltage (24 V0) must be connected between the rooms. Connect the last module of room 1 to the first module of room 2: Reference voltage via power supply terminals 74 or 78 terminals 73 and 77 must not be connected Communication via communication terminals 71, 72 or 75, 76 Controller and I/O Modules on a Single Rail Connect controller and I/O modules using the bridge connectors. This provides power supply and communication connection. No further wiring is necessary.

Controller and I/O Modules on Several Rails in a Single Cabinet The rails of a controller system are connected in series. Connect the rail ends as follows: CPU 12 PANEL I/O 75 76 77 78 MAX. 40 m Power supply via power supply terminals 73, 74 or 77, 78 Communication via communication terminals 71, 72 or 75, 76 71 72 73 74 71 72 73 74 PANEL I/O PANEL I/O 75 76 77 78 24 V0 I/O I/O Fig. 34 Wiring the Panel Bus I/O modules in separate rooms 71 72 73 74 I/O I/O 75 76 77 78 Maximum Cable Length The maximum cable length for connecting room 1 and room 2 is 40 m. 71 72 73 74 I/O CPU 12 I/O 75 76 77 78 71 72 73 74 I/O I/O Fig. 33 Wiring the power supply and the communication lines to the I/O modules Maximum Power Cable Length The maximum length for power supply cable per side is 3 m. This also includes the connection cables between the rails, the lengths of the modules, and the cable from the transformer. 25 EN1B-0375GE51 R0709 Wiring and Setting Up the System Excel 800 LonWorks Bus I/O Modules in Separate Rooms In this scenario, only communication lines must be connected between the rooms. Connect the last module of room 1 to the first module of Connecting Panel Bus and LONWORKS Bus Mixed Controller Systems Connecting I/O Modules with Each Other For connecting the I/O modules with each other, proceed as described for single bus controller systems on page 24. room 2: via communication terminals 71, 72 or 75, 76 CPU 12 75 LonWorks 76 I/O 77 78 Connecting I/O Modules to the Controller Panel Bus I/O Modules Connect communication terminals 71 .

..74 or 75...

78 of Panel Bus I/O modules to communication terminals 71 ...74 or 75..

78 of the controller module using either Bridge connectors for flush mounting on a single DIN rail or 71 72 LonWorks I/O 73 74 75 LonWorks 76 I/O 77 78 Cables for separate mounting, e.g., on multiple rails, separate cabinets, etc. LONWORKS Bus I/O Modules Connect communication terminals 71 ... 74 or 75

...

78 of Fig. 35 Wiring the LONWORKS Bus I/O modules in separate rooms LONWORKS Bus I/O modules to LONWORKS terminals 11 ... 14 of the controller module using cables. Maximum Cable Length For maximum cable lengths and cable specifications of the communication lines, see Table 18 and Table 19 on page 13. EN1B-0375GE51 R0709 26 Excel 800 Wiring and Setting Up the System Fig. 36 Mixed bus system correct wiring Fig. 37 Mixed bus system incorrect wiring 27 EN1B-0375GE51 R0709 Wiring and Setting Up the System Excel 800 Setting Address of Panel Bus I/O Modules During CARE engineering, each Panel Bus I/O module is assigned its own unique address. For the sake of clarity for maintenance personnel, it is recommended that you address the Panel Bus I/O modules in ascending order 0 through F.

Hex switch Address Hex switch Address 0 01 8 09 1 02 9 10 2 03 A 11 3 04 B 12 4 05 C 13 5 06 D 14 6 07 E 15 7 08 F 16 Setting I/O Bus Switch Set the I/O Bus switch S2 of the XCL8010 Controller Module depending on the modules connected to terminals 71 ... 78 and the desired communication as follows:

Communication S2 setting Terminals LONWORKS Bus only LON 71 ..

. 74 LONWORKS Bus 75 ... 78 LONWORKS Bus 11 .

.. 14 LONWORKS Bus Panel Bus and LONWORKS Bus Panel 71 ... 74 Panel Bus 75 ... 78 Panel Bus 11 ..

. 14 LONWORKS Bus Table 24 HEX switch settings and addresses Table 25 I/O Bus switch settings Use the rotary HEX switch to set the address to the one already defined during CARE engineering. 4 4 LOCK Fig. 39 S2 I/O Bus switch Fig. 38 HEX switch location Notes · If the HEX switch is changed, the Panel Bus I/O module will revert to its default configuration. · With LONWORKS Bus I/O modules, the HEX switch is without function. EN1B-0375GE51 R0709 28 Excel 800 Wiring and Setting Up the System Connecting Field Devices Connecting Field Devices with Power Supply Depending on the distance from the controller, field devices can be supplied by the controller or need a separate transformer, see Table 20 on page 13.



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For fusing see section "Fusing Specifications" on page 10. Example 1: Power Supply via Controller · 24 V actuator connected to an analog output module · Less than 100 m away from the controller Cabling Field Devices Cable Routing Route low-voltage signal and output cables separately from mains cables. Cable Minimum distance Shielded Unshielded 10 mm (0.

4 in.) 100 mm (4 in.) Table 26 Minimum distances to power mains cables F2 F1 230 V~ 24 V~ 24 V0 XCL8010 1 2 9 822 Y (0... 10 Vdc) 24V~ Y GND All low-voltage signal and output cables should be regarded as communication circuits in accordance with VDE 0100 and VDE 0800 (or NEC or other equivalent). Cable Shielding · If the general guidelines for cable routing are observed, it is not necessary to shield field device signal and power supply cables. · If, for whatever reason, the routing guidelines cannot be observed, the field device signal and power supply cables must be shielded. 1... 8 11...18 max. 100 m Fig. 40 Power supply of field devices via I/O module Example 2: Power Supply via Separate Transformer · 24 V actuator connected to an analog output module · 100 ... 400 m away from the controller Shielding of cables leading to field devices must be grounded only at the cabinet end.

The shield must not be terminated at the XCL8010 Controller Module. 24 V0 24 V~ F2 F1 230 V~ 24 V~ 24 V0 XCL8010 1 2 822 Y (0...10 Vdc) 230 V~ 1...8 11...

18 24V~ Y GND max. 400 m Fig. 41 Power supply of field devices via a separate transformer 29 EN1B-0375GE51 R0709 Wiring and Setting Up the System Excel 800 Commissioning I/O Modules Commissioning Panel Bus I/O Modules During CARE engineering, the HEX address of the Panel I/O modules is defined. Note In the case of Panel Bus I/O modules, it is essential that the HEX switch be set to the address assigned during CARE engineering. The XCL8010 Controller automatically commissions all Panel Bus I/O modules.

Commissioning LONWORKS Bus I/O Modules Commissioning is done using CARE. Updating Software The XCL8010 Controller software can be updated using CARE. Software with Panel Bus I/O Modules The XCL8010 Controller automatically updates the software of all Panel Bus I/O modules. Software with LONWORKS Bus I/O Modules The software of the LONWORKS I/O modules can be updated using CARE or EXCELON. EN1B-0375GE51 R0709 30 Excel 800 Connecting to External Systems or Interfaces Connecting to External Systems or Interfaces WARNING Risk of electric shock or equipment damage! Do not touch any live parts in the cabinet! Disconnect the power supply before making connections Brown Orange Yellow Brown Orange Yellow Termination Examples to or removing connections from terminals of controller or I/O modules.

Do not reconnect the power supply until you have completed installation. Observe the rules regarding electrostatic discharge. Fig. 42 Termination Module 209541 connections for a doubly-terminated FTT network Connecting via LONWORKS Bus Via a LONWORKS Bus, an Excel 800 System can be connected to other controller systems, to additional LONWORKS Bus I/O modules, or to laptops. LONWORKS Bus Termination Depending upon the configuration, either 1 or 2 termination modules are required for terminating a LONWORKS bus with FTT devices on it. The following 2 different LONWORKS termination units are available for this purpose: · 209541 LONWORKS Bus Termination Module and · XAL-Term LONWORKS Connection and Termination Module, which can be mounted on DIN rails and in fuse boxes Fig. 43 Termination Module 209541 connections for a singly-terminated FTT network Fig. 44 XAL-Term Connection and Termination Module 31 EN1B-0375GE51 R0709 Connecting to External Systems or Interfaces Excel 800 Connecting via C-Bus Via C-Bus an Excel 800 Controller can be connected to other controller systems to form a network. Connecting HMIs or Laptops HMIs, e.g.

, XI582 or XI882A, can be connected via the HMI interface of the XCL8010 Controller Module. Laptops can be connected via the HMI interface or via the LONWORKS interface of the XCL8010 Controller Module. Connecting to the Controller Connect the C-Bus to the XCL8010 Controller Module as follows:

Input to C-Bus terminals 8 and 9 Output to C-Bus terminals 5 and 6 Do not connect the C-Bus to the cabinet earth or any other earth ground points Connecting the XI582 Operator Interface Connect the XI582 Operator Interface to the HMI interface of the XCL8010 Controller Module by means of the XW882 cable or the XW582 cable connected with an XW586 cable. For mounting details, refer to the XI582 Installation Instructions (Product Literature no.: EN2B-0126GE51). For cable details, refer to section "Preconfigured Connection Cables" on page 11. Setting the C-Bus Termination Switch Set the C-Bus termination switch S1 appropriately. Connecting the XI882A Operator Interface Connect the XI882 Operator Interface to the HMI interface of the XCL8010 Controller Module by means of the XW882 cable or the XW586 cable connected with an XW585 cable. For cable details, refer to section "Preconfigured Connection Cables" on page 11. Fig.

45 C-Bus termination switch S1 Connecting Laptops (XL-Online/CARE) Connect a laptop (on which e.g., XL-Online or CARE has Switch setting S1 been installed) to the HMI interface or to the LONWORKS interface of the XCL8010 Controller Module by means of Baud rate Up to 9600 baud (default setting) the XW885 cable or the XW585 cable connected with an XW586 Cable. For cable details, refer to section "Preconfigured Connection Cables" on page 11. 9.

6k all 76k mid 76k end Up to 76800 baud without bus termination Up to 76800 baud with bus termination Table 27 XCL8010 C-Bus termination switch settings Connecting Modems An Excel 800 System can be connected to a modem or an ISDN terminal adapter via the Modem Interface of the XCL8010 Controller Module by means of the XW586 cable. Connect the RJ45 female connector of the XW586 cable How to Shield In principle, data transmitting cables should be shielded in case of RFI. On the controller side, connect the shield to terminals 7 and 10. On the side of the device, connect the shield to the to the modem interface of the XCL8010 Controller. Connect the 9-pin sub-D connector to the modem.

respective terminals. Do not connect it to the cabinet ground or any other ground points. For cable details, refer to section "Preconfigured Connection Cables" on page 11. Refer to Appendix 2 for details regarding remote communication. EN1B-0375GE51 R0709 32 Excel 800 Description of the XCL8010 Controller Module Description of the XCL8010 Controller Module Overview PC or HMI Excelon LonWorks Bus LONWORKS / Panel Bus Modem I/O modules XL12 LONWORKS Bus C-Bus XL500 Fig.



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46 Connections to the XCL8010 Controller Legend 1 2 3 4 5 6 7 8 9 10 11 12 13 14 Fig. 47 XCL8010 Controller Module front details Power supply for I/O modules I/O Bus communication terminals LONWORKS interface LONWORKS service button LONWORKS service LED C-Bus Tx LED C-Bus Rx LED Reset button HMI interface and LEDs Alarm LED Power LED Power supply terminals Alarm/watchdog outputs Modem interface and LEDs S2 I/O Bus switch S1 C-Bus termination switch C-Bus terminals LONWORKS terminals 15 16 17 18 33 EN1B-0375GE51 R0709 Description of the XCL8010 Controller Module Excel 800 XCL8010 Terminals 72 COM B 73 74 24 V~ 24 V~0 Features COM A COM B 24 V~ 24 V~0 71 COM A 75 76 77 78 LONWORKS Interface and Terminals The XCL8010 Controller Module features · An RJ45 socket serving as an interface to connect laptops to the LONWORKS Bus · LONWORKS terminals 11, 12, 13, and 14 to connect LONWORKS Bus I/O modules or other LONWORKS devices to the XCL8010 Controller or other LONWORKS controllers. 87654321 11 LON 1 12 13 14 LON 2 LON 1 LON 2 1 8 C+ 9 C10 SHIELD 5 C+ 6 C7 SHIELD 2 3 * WATCHDOG RELAY 24 V~ 24 V~0 24 V~0 4 NC Fig. 48 Terminal assignment and internal connections of the XCL8010 Controller Module Terminal Signal Comment 71, 75 72, 76 73, 77 74, 78 1 2 3 4 5, 8 6, 9 7, 10 11, 12 13, 14 2-wire communication bus COM a (LON/Panel Bus) COM b 24 V~ 2-wire communication bus (LON/Panel Bus) Power supply for I/O modules Fig. 49 LONWORKS interface and LONWORKS terminals LONWORKS Interface Signals on RJ45 Socket Pin Signal type 1 2 3.

..8 Connection to LONWORKS Bus Connection to LONWORKS Bus Not used 24 V~0 Power supply for I/O modules 24 V~ Power supply from transformer 24 V~0 Power supply from transformer 24 V~0 Alarm/watchdog output NC C+ CShield LON LON Alarm/watchdog output C-Bus C-Bus C-Bus shield LONWORKS IN LONWORKS OUT Table 29 Signals of LONWORKS interface LONWORKS Service LED and Button The XCL8010 Controller Module is equipped with a LONWORKS service button and corresponding LONWORKS Service LED (status: yellow/OFF). Table 28 Description of XCL8010 terminals LON 12 Fig. 50 LONWORKS service button (1) and service LED (2) See also section "Troubleshooting" on page 73. EN1B-0375GE51 R0709 34 Excel 800 Description of the XCL8010 Controller Module C-Bus Tx LED and Rx LED The XCL8010 Controller Module is equipped with a Tx LED (status: yellow/OFF) and an Rx LED (status: yellow/OFF). HMI Interface The controller module is equipped with an HMI interface for the connection of HMIs, e.g., the XI582 or the XI882A, or a laptop (with XL-Online/CARE). C-Bus 1 Fig.

51 C-Bus Tx LED (1) and Rx LED (2) 2 Fig. 53 C-Bus LEDs Tx (1) flickering Rx (2) flickering HMI interface, Tx LED (1) and Rx LED (2) The controller is sending data onto the C-Bus The controller is receiving data from the C-Bus HMI interface LEDs on RJ45 socket Tx (1) flickering Rx (2) flickering The controller is transmitting data to the HMI The controller is receiving data from the HMI Table 30 Controller C-Bus LEDs Table 31 HMI interface LEDs Reset Button The XCL8010 Controller Module is equipped with a reset button. HMI interface Signals on RJ45 socket Pin Signal type 1 2 3 Receive Transmit Signal ground 5V - RESET 4 5 6 7 1 Fig. 52 Reset button (1) 8 Table 32 Signals of the HMI interface Pushing the reset button (1), e.g. using a paperclip, will cause the XCL8010 Controller Module to reset. Note In the event of a reset, all non-volatile memory contents are permanently deleted, though the clock will not be set to zero. In order to avoid problems, we therefore recommend that you always save your application changes (e.g., time program changes) to FLASH memory.

NOTICE Equipment damage! Make sure that the controller is not connected to earth ground. If nonetheless earth grounding is required, make sure that only terminal 2 is connected to earth ground. Terminal 1 must not be connected to earth ground. See also Appendix 1. 35 EN1B-0375GE51 R0709 Description of the XCL8010 Controller Module Excel 800 Alarm and Power LEDs The XCL8010 Controller Module is equipped with an alarm LED and a power LED. Power LED (2, green) On Flashing Normal operation One or more of the internal voltage supplies are outside of the permissible ranges. The controller stops operation. Check wiring or see section "Troubleshooting" on page 73. Is extinguished briefly · The operator has activated the reset button · The controller is performing a warm start Table 34 Controller power LED Watchdog Fig. 54 Alarm LED (1) and power LED (2) Watchdog status Status Alarm LED (1, red) Off On Signal on terminal 4 Normal operation Watchdog alarm output is powered · The controller has encountered a hardware problem · The application has a fault · The controller has been powered up without an application or the operator has manually stopped the application, e.

g., using XL-Online. In this case, the LED will light up 13 minutes after power-up without application Failure (= alarm) Normal operation Table 35 Watchdog status 4 24 V 0V Permissible Load of Normally Closed Contact (Terminal 4) Max. load Per normally closed contact (terminal 4) 19...29 VAC current at cos 0.95: 0.5 A, current at cos 0.6: 0.5 A 19...29 VDC 0.5 A resistive or inductive Min.

current 10 mA Flashing The watchdog alarm output has not yet been powered, although the controller has encountered a problem. The controller performs a warm start. If problem persists, the LED will become lit constantly, see above. See section "Troubleshooting" on page 73. Table 36 Permissible load of terminal 4 Table 33 Controller alarm LED EN1B-0375GE51 R0709 36 Excel 800 Description of the XCL8010 Controller Module Modem Interface The controller module is equipped with a modem interface for the connection of a modem or an ISDN terminal adapter.

I/O Bus Switch S2 The XCL8010 Controller Module features a 2-position I/O Bus switch S2. I/O Bus switch S2 must be set in accordance with the kind of I/O modules connected to communication terminals 71, 72 and 75, 76 of the controller module. Terminals 71, 72 and 75, 76 must be all connected either to Panel Bus I/O modules or to LONWORKS Bus I/O modules. The default setting is Panel. Fig. 55 Modem interface, Tx LED (1) and Rx LED (2) Modem LEDs on RJ45 socket Tx (1) flickering The controller is transmitting data to the HMI, e.g., XI582 or XI882A Rx (2) flickering The controller is receiving data from the HMI Table 37 HMI interface LEDs Fig. 56 I/O Bus switch S2 Communication S2 setting LONWORKS Bus only Panel Bus and LONWORKS Bus LONWORKS BUS modules connected to terminals 11 ..

.. @@@@ @@@@ @10 VDC · 0(4) ... @@10 V), without sensor Fig. @@All grounds are internally connected internally to each other.



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Auxiliary voltage signal (used e.g. @@@@+120 °C, only NTC10k specified for -30 °C .
.. +100 °C, only NI1000TK5000 specified for -30 °C ...

@@@@@20 mA Signal Fig. @10 V, 2 ... @@@@All grounds are internally connected to each other.

Do not use! @@@@. If additional shield terminals are needed, the XS814 Auxiliary Terminal Package can be installed. 1 2 3 4 5 6 Service button S1 Hex switch S2 Manual overrides Status LEDs Service LED Power LED Functionality of service LED and power LED: see Table 77 to Table 79 on page 77 and following. EN1B-0375GE51 R0709 44 Excel 800 Description of the I/O Modules Technical Data Voltage rating Current rating Resolution Accuracy Zero output voltage Protection Manual Override in the AUTO Position 0(2)...11 V (default) max. ±1 mA 8 bit ±150 mV < 200 mV Short-circuit protected; protected against failure voltage (24 VAC, 40 VDC) automatic/manual mode and output value When a manual override of the XFR822/XFLR822 is set to AUTO, and the corresponding analog output has been configured, the following applies: · If the LONWORKS network is functioning properly, the output voltage of the analog output will be as commanded. If the LONWORKS network is not functioning properly, the output voltage of the analog output will be the safety position value. The brightness of the status LED (red) of the analog output will be proportional to the commanded output signal. · Feedback signal When a manual override of the XFR822/XFLR822 is set to AUTO, and the corresponding analog output has not been configured, the following applies: · Table 48 Analog output modules data Status LED Behavior Automatic mode Override mode Regardless as to whether the LONWORKS network is functioning properly or not, the output voltage of the analog output will be 0 V (values from the LONWORKS Bus will be ignored, and there will be no heartbeat or safety position).

The feedback signal on the LONWORKS network nvoAoActPosnFb[] will have a value of 0% and a state of 0. The analog output status LED will be unlit. Brightness is proportional to the commanded output signal Flashes · Table 49 Analog output status LED behavior · Status LEDs with Manual Overrides 5 6 7 1 2 4 3 Manual Override in the Override Position (0...100%) 8 Honeywell When a manual override of the XFR822/XFLR822 is set to 0...100%, and the corresponding analog output has been configured, the following applies: · The output voltage of the analog output will be 0...10 V (direct) or 10...0 V (reverse).

The feedback signal on the LONWORKS network nvoAoActPosnFb[] will have a value of 0...100% and a state of -1. The status LED (red) of the analog output will flash to indicate "manual override."

" 0 AUTO 100 -! · Fig. 67. Manual overrides (rotary knobs) The XFR822/XFLR822 Analog Output Modules are equipped with manual overrides: one for each analog output. These rotary knobs can be manually set to either "AUTO" or "0...100%" (infinitely adjustable). When a manual override of the XFR822/XFLR822 is set to 0...

100%, and the corresponding analog output has not been configured, the following applies: · The output voltage of the analog output will be 0...10 V. The feedback signal on the LONWORKS network nvoAoActPosnFb[] will have a value of 0...100% and a state of -1. The status LED (red) of the analog output will flash to indicate "manual override." NOTICE Damage to the electronic module! Do not use a tool to adjust the rotary knobs.

Do not use excessive force. Adjust only by hand. · Analog Outputs Configured as Binary Outputs Using CARE, the analog outputs can be configured individually as binary outputs. The voltage output is then 0 V or 10 V, depending upon the signal from the controller. 45 EN1B-0375GE51 R0709 Description of the I/O Modules Excel 800 Connection Example Fig.

68 Analog output connection example For fusing specifications see section "Fusing Specifications" on page 10. EN1B-0375GE51 R0709 46 Excel 800 Description of the I/O Modules Synchronization Behavior of Analog Output Module Configured as Floating Output In order to regularly update the real actuator position with the calculated position and thus ensure that the actuator definitely reaches its end position, a synchronization process is performed by the analog output module. During the synchronization process, the analog output module will continue running for the configured runtime once it reaches the calculated end position. This updating (synchronization) is performed: · If the calculated position of the actuator < lower synchronization threshold (2%) = synchronization towards 0% · If the calculated position of the actuator > upper synchronization threshold (98%) = synchronization towards 100% · Following any power-up or any reset Fig. 69 Connection example with Relay Module MCD 3 · The relay module facilitates the control of peripheral devices with high load via the analog outputs.

· Input terminal 17 controls of MCD3 controls changeover contact K3. · Relay terminal 18 of MCD3 controls the N.O. contacts (floating outputs) K1, K2. For fusing specifications, see section "Fusing Specifications" on page 10. 47 EN1B-0375GE51 R0709 Description of the I/O Modules Excel 800 Fig. 70 Connection example with Relay Module MCE 3 The relay module facilitates the control of peripheral devices with high load via the analog outputs. · Input terminal 16 of MCE3 controls the N.O. contact K3.

· Input terminal 17 of MCE3 controls the changeover contact K2. · Input terminal 18 of MCE3 controls the changeover contact K1. For fusing specifications, see section "Fusing Specifications" on page 10. EN1B-0375GE51 R0709 48 Excel 800 Description of the I/O Modules Binary Input Modules Types of Binary Input Modules, Terminal Socket Type Description Housing Terminals 72 COM B 73 74 24 V~ 24 V~0 71 COM A XF823 XFL823 XS823 XSU823 Panel Bus binary input module LONWORKS Bus binary input module Terminal socket Light-gray Dark-gray COM A COM B 24 V~ 24 V~0 75 76 77 78 BI1 BI2 BI3 BI4 BI5 BI6 BI7 BI8 BI9 BI10 BI11 BI12 Light-gray 12 3 4 5 6 7 8 9 10 11 12 Table 50 Excel 800 Binary Input Modules GND GND GND GND GND GND GND GND GND GND 13 14 15 16 17 18 19 20 21 22 23 24 25 26 Features · 12 binary inputs · 12 configurable status LEDs (green/red, yellow/OFF) · Binary inputs can be used as Fig. 72 Terminal assignment and internal connections of binary input modules Static digital inputs as dry-contacts (default) Fast totalizers (up to 20 Hz) Terminal Signal COMMENT 71, 75 72, 76 73, 77 74, 78 1.



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