



1 About this Documentation

About this Documentation

1.1 Validity of the Documentation

Target group This documentation is intended for users programming the PLC component of a control of the type IndraLogic XLC / IndraMotion MLC, IndraMotion MLD or IndraMotion MTX, commissioning the respective control or supporting it with an internally used visualization.

This documentation describes the PLC programming tool IndraLogic 2G and its usage.

Described are:

- Concepts and basic components
- Menu items of the PLC programming tool IndraLogic 2G
- Editors of the PLC programming tool IndraLogic 2G
- Programming references for further information
- Creating visualizations
- Working with libraries

This documentation supports the user during the following phases:

- Programming the PLC program
- Debugging and commissioning
- Visualization

1.2 Required and Supplementing Documentations

Documentation titles with type designation codes and parts numbers

IndraWorks		MLC	XLC
/36/	Rexroth IndraWorks 12VRS Software Installation DOK-IWORKS-SOFTINS*V12-COxx-EN-P, R911334396 This documentation describes the IndraWorks installation.	X	X
/5/	Rexroth IndraWorks 12VRS Engineering DOK-IWORKS-ENGINEE*V12-APxx-EN-P, R911334388 This documentation describes the application of IndraWorks in which the Rexroth Engineering tools are integrated. It includes instructions on how to work with IndraWorks and how to operate the oscilloscope function.	X	X
/20/	Rexroth IndraMotion MLC 12VRS Functional Description DOK-MLC***-FUNC****V12-APxx-EN-P, R911333848 This documentation describes wizards, context menus, dialogs, control commissioning, device configuration and functionalities of the IndraMotion MLC.	X	
/20/	Rexroth IndraLogic XLC 12VRS Functional Description DOK-XLC***-FUNC****V12-APxx-EN-P, R911333878 This documentation describes wizards, context menus, dialogs, control commissioning, device configuration and functionalities of the IndraLogic XLC.		X
/7/	Rexroth IndraWorks 12VRS CamBuilder DOK-IWORKS-CAMBUIL*V12-APxx-EN-P, R911333842 This documentation describes the basic principles and operation of the CamBuilder, the cam editing tool.	X	X



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/37/	Rexroth IndraLogic XLC IndraMotion MLC 12VRS Automation Interface DOK-XLCMLC-AUT*INT*V12-APxx-EN-P, R911334178 This documentation describes the script-based access to IndraWorks project data via the interface of the Automation Interface.	X	X
/38/	Rexroth IndraWorks 12VRS FDT Container DOK-IWORKS-FDT*CON*V12-APxx-EN-P, R911334398 This documentation describes the IndraWorks FDT Container functionality. It includes the activation of the functionality in the project and working with DTMs.	X	X
/29/	Rexroth IndraLogic XLC IndraMotion MLC 12VRS Project Conversion DOK-XLCMLC-PROCONV*V12-APxx-EN-P, R911334187 This documentation described the project conversion of IndraLogic 04VRS and IndraMotion MLC04VRS on IndraWorks Version 12 with IndraLogic 2G. It especially focuses on changes in the field of Motion and PLC.	X	X
/28/	Rexroth IndraMotion MLC 12VRS Commissioning DOK-MLC***-STARTUP*V12-COxx-EN-P, R911333858 This documentation describes the steps required for commissioning and performing service on the IndraMotion MLC system. It includes checklists for tasks to be frequently performed and a detailed description of the steps.	X	

Motion		MLC	XLC
/23/	Rexroth IndraLogic XLC IndraMotion MLC 12VRS PLCopen Libraries DOK-XLCMLC-FUNLIB**V12-LIxx-EN-P, R911334182 This documentation describes the function blocks, functions and data types of the RIL_CommonTypes, ML_Base and ML_PLCOpen libraries for the IndraLogic XLC/IndraMotion MLC. It also includes the error reactions of function blocks.	X	X
/27/	Rexroth IndraLogic XLC IndraMotion MLC 12VRS Generic Application Template DOK-XLCMLC-TF*GAT**V12-APxx-EN-P, R911334191 This documentation provides a structured template to the IndraLogic PLC programmer. This template can be used to add and edit the PLC programming code. It includes the template, the template wizard and example applications.	X	X
/31/	Rexroth IndraMotion MLC 12VRS RCL Programming Instruction DOK-MLC***-RCL*PRO*V12-APxx-EN-P, R911333852 This documentation provides information on the RobotControl. It is given most importance to the programming language RCL (RobotControl Language). The program structure, variables, functions, motion statements and the required system parameters are described.	X	
/21/	Rexroth IndraLogic XLC IndraMotion MLC 12VRS Parameters DOK-XLCMLC-PARAM***V12-RExx-EN-P, R911334176 This documentation describes the parameters of the XLC/MLC systems as well as the interaction between parameterization and programming. It includes the axis parameters, control parameters, kinematic parameters, touch probe parameters and programmable limit switch parameters.	X	X
/10/	Rexroth IndraDrive; Firmware for Drive Controllers MPH, MPB, MPD, MPC-07 DOK-INDRV*-MP*-07VRS**-FKxx-EN-P, R911328670		
/11/	Rexroth IndraDrive MPx-16 Functions DOK-INDRV*-MP*-16VRS**-APxx-EN-P, R911326767		



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Field buses		MLC	XLC
/39/	<p>Rexroth IndraMotion MLC 11VRS PLCopen Field Bus DOK-IM*ML*-PLCFBUS*V11-APxx-EN-P, R911333896</p> <p>This documentation describes the creation of field bus drives in an IndraWorks project, function blocks, functions and data types of the libraries RIL_CommonTypes.library (excerpt for field bus drives), RMB_PLCOpenFieldBus.library, RIL_Utility.library (excerpt for field bus drives). It also includes the error reactions of function blocks.</p>	X	X
/4/	<p>Rexroth IndraLogic XLC IndraMotion MLC 12VRS Field Buses DOK-XLCMLC-FB*****V12-APxx-EN-P, R911334394</p> <p>This documentation describes the supported field buses and their diagnostic function blocks.</p>	X	X
HMI		MLC	XLC
/8/	<p>Rexroth IndraWorks 12VRS HMI DOK-IWORKS-HMI****V12-APxx-EN-P, R911334392</p> <p>This documentation describes the functions, configuration and operation of the user interfaces IndraWorks HMI Engineering and IndraWorks HMI Operation.</p>	X	X
/6/	<p>Rexroth IndraWorks 12VRS WinStudio DOK-IWORKS-WINSTUD*V12-APxx-EN-P, R911333844</p> <p>This documentation describes the installation of the software, working with WinStudio and the creation and operation of applications.</p>	X	X
/50/	<p>Rexroth IndraLogic XLC IndraMotion MLC 12VRS HMI Connection DOK-XLCMLC-HMI****V12-APxx-EN-P, R911334184</p> <p>This documentation describes the visualization systems supported by the IndraLogic XLC and IndraMotion MLC and their connection.</p>	X	X
PLC		MLC	XLC
/3/	<p>Rexroth IndraWorks 12VRS IndraLogic 2G Programming Instruction DOK-IWORKS-IL2GPRO*V12-APxx-EN-P, R911334390</p> <p>This documentation describes the PLC programming tool IndraLogic 2G and its usage. It includes the basic usage, first steps, visualization, menu items and editors.</p>	X	X
/33/	<p>Rexroth IndraWorks 12VRS, Basic Libraries, IndraLogic 2G DOK-IL*2G*-BASLIB**V12-LIxx-EN-P, R911333835</p> <p>This documentation describes the system-comprehensive PLC libraries.</p>	X	X
Technology			
/30/	<p>Rexroth IndraMotion MLC 12VRS Technology Libraries DOK-MLC***-TF*LIB**V12-LIxx-EN-P, R911333868</p> <p>This documentation describes the function blocks, functions and data types of the libraries "ML_TechInterface.library", "ML_TechMotion.library", "RMB_TechCam.library" and "ML_TechBase.library". It also includes libraries for the winder functionality, register controller functionality and CrossCutter functionality.</p>	X	
/60/	<p>Rexroth IndraMotion MLC 12VRS RegisterControl (Library) DOK-MLC***-REGI*CO*V12-LIxx-EN-P, R911333856</p> <p>This documentation describes the inputs and outputs of the individual function blocks and provides notes on their usage.</p>	X	



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/62/	Rexroth IndraMotion MLC 12VRS RegisterControl (Application Manual) DOK-MLC***-REGI*CO*V12-APxx-EN-P, R911333854 This documentation describes the application of the integrated register control for a rotogravure printing machine. The components of the mark stream sensor, the HMI application and the error recovery options are described. This instruction provides information on how to operate the register control, react on errors and query diagnostics. This documentation is written for machine setters and machine operators.	X	
/49/	Rexroth IndraMotion MLC 12VRS Application of Winder Functions DOK-MLC***-TF*WIND*V12-APxx-EN-P, R911333870 This application-related system documentation describes the usage of the winder technology functions.	X	

Hardware		MLC	XLC
/1/	Rexroth IndraControl L45/L65 DOK-CONTRL-IC*L45*L65*-PRxx-EN-P, R911324661	X	X
/2/	Rexroth IndraControl L25 DOK-CONTRL-IC*L25*****-PRxx-EN-P, R911328474	X	X
/24/	Rexroth IndraControl Lxx 12VRS Function Modules DOK-CONTRL-FM*LXX**V12-APxx-EN-P, R911333830 This documentation describes all function modules of the Lxx controls including engineering and diagnostics.	X	X
/12/	Rexroth IndraDrive Drive Controllers MPx-02 to MPx-07 DOK-INDRV*-GEN-**VRS**-PAxx-EN-P, R911297317		
/13/	Rexroth IndraDrive MPx-02 to MPx-07 and HMV DOK-INDRV*-GEN-**VRS**-WAxx-EN-P, R911297319		
/35/	Rexroth IndraDrive Drive Controller Control Sections CSB01, CSH01, CDB01 DOK-INDRV*-CSH*****-PR08-EN-P, R911295012		

Diagnostics and Service		MLC	XLC
/26/	Rexroth IndraMotion MLC/XLC 11VRS Service Tool DOK-IM*ML*-IMST***V11-RExx-EN-P, R911331940	X	X
/22/	Rexroth IndraLogic XLC IndraMotion MLC 12VRS Diagnostics DOK-XLCMLC-DIAG***V12-RExx-EN-P, R911334180 This documentation includes all control parameters implemented in the control systems IndraLogic XLC and IndraMotion MLC.	X	X

System Overview		MLC	XLC
/48/	Rexroth IndraMotion for Printing 12VRS System Overview DOK-IM*PR*-SYSTEM**V11-PRxx-EN-P, R911333840 This documentation describes the product IndraMotion for Packaging. It introduces the control systems, drive systems and I/O systems as well as the commissioning and programming.	X	
/48/	Rexroth IndraMotion for Packaging 12VRS System Overview DOK-IM*PA*-SYSTEM**V12-PRxx-EN-P, R911333838 This documentation describes the product IndraMotion for Packaging. It introduces the control systems, drive systems and I/O systems as well as the commissioning and programming.	X	



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/9/	Rexroth IndraMotion MLC 12VRS System Overview DOK-MLC***-SYSTEM**V12-PRxx-EN-P, R911333860 This documentation provides an overview on the possible hardware/software components of the automation system IndraMotion MLC of the named version. It helps assembling a system.	X	
/9/	Rexroth IndraLogic XLC 12VRS System Overview DOK-XLC***-SYSTEM**V12-PRxx-EN-P, R911333880 This documentation provides an overview on the possible hardware/software components of the automation system IndraLogic XLC of the named version. It helps assembling a system.		X

First Steps		MLC	XLC
/25/	Rexroth IndraMotion MLC 12VRS First Steps DOK-MLC***-F*STEP**V12-COxx-EN-P, R911333846 This documentation describes the first steps of the IndraMotion MLC and the RobotControl. It includes the hardware and software prerequisites as well as the creation of a project.	X	
/25/	Rexroth IndraLogic XLC 12VRS First Steps DOK-XLC***-F*STEP**V12-COxx-EN-P, R911333876 This documentation describes the first steps of the IndraLogic XLC. It includes the hardware and software prerequisites as well as the creation of a project.		X

xx Respective edition
Fig. 1-1: XCL/MLC documentation overview

1.3 Information Representation

1.3.1 Safety Instructions

The safety instructions available in the user documentations contain certain signal words (Danger, Warning, Caution, Notice) and if applicable, signal alert symbols (acc. to ANSI Z535.6-2006).

The signal word should direct the attention to the safety instructions. It indicates the severity of the hazard.

The signal alert symbol (warning triangle with exclamation mark) positioned in front of the signal words Danger, Warning and Caution indicates hazards for individuals.

DANGER

In case of non-compliance with this safety instruction, death or serious injury will occur.

WARNING

In case of non-compliance with this safety instruction, death or serious injury could occur.

CAUTION

In case of non-compliance with this safety instruction, minor or moderate injury could occur.

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NOTICE

In case of non-compliance with this safety instruction, property damages can occur.

1.3.2 Symbols Used

Note Notes are represented as follows:



This is a note for the user.

Tip Tips are represented as follows:



This is a tip for the user.

1.3.3 Names and Abbreviations

Term	Explanation
SFC	Structuring medium "Sequential Function Chart"
IL	PLC programming language "Instruction List"
CFC	PLC programming language "Continuous Function Chart"
DUT	Data type
EN/ENO	Boolean input (Enable) EN / Boolean output ENO (ENable Out)
FBD	PLC programming language "Function Block Diagram"
GNVL	Global Network Variable List
GVL	Global Variable List
IEC	International Electrotechnical Commission
IndraWorks Engineering framework	Configuration and commissioning tool by Bosch Rexroth
LD	PLC programming language "Ladder Diagram"
POU	Program organization unit

Fig.1-2: Terms and abbreviations used