



## Data sheet CODESYS Control for Raspberry Pi MC SL

CODESYS Control for Raspberry Pi MC SL is an adapted CODESYS Control runtime system for Raspberry Pi with more than one core on a single CPU.

### Product description

CODESYS Control for Raspberry Pi SL contains a multicore capable CODESYS Control runtime system for all Raspberry Pi models whose CPU has multiple cores, including compute modules (see <http://www.raspberrypi.org/>), as well as their possibility to use expansion hardware such as Raspberry PiFace Digital, Raspberry Pi Camera and various devices/boards with SPI, I<sup>2</sup>C or 1-wire interface.

After the installation of the runtime environment, the Raspberry Pi can be programmed as PLC with the CODESYS Development System.

This product can be installed with the included CODESYS Deploy Tool plug-in via the CODESYS Development System on a Linux distribution Raspbian. After each restart the runtime system will be started automatically. If no valid full license can be found, CODESYS Control runs for two hours without functional limitations before shut down.

Detailed information can be found in the [Online Help](#).

### Benefits

- Extended version of CODESYS Control for Raspberry Pi SL including multicore support (all CPUs)
- Extension of the CODESYS Development System for binding individual IEC applications to different CPU cores
- Debugging of the multicore application within CODESYS

### Interfaces

- CODESYS OPC UA Server, as full version for data exchange
- CANopen via EL6751 Gateway

The CODESYS device description does support the following components:

- Raspberry Pi Camera
- I<sup>2</sup>C interface, with SenseHat, SRF02, Adafruit PWM, MPU6050 Gyro, MPU9150 Gyro, AK8975 Compass
- SPI interface, with MCP3008, MCP23S17, PiFace Digital, PiFace Control Display
- One-wire interface, with DS20B18
- GPIO

### Visualization

- CODESYS WebVisu, is included as full version in the delivery of the runtime package.

### Fieldbus support

With the delivery of the Runtime Package the following fieldbuses are supported:

- CODESYS CANopen Manager / Device
- CODESYS EtherCAT Master
- CODESYS EtherNet/IP Scanner / Adapter
- CODESYS J1939
- CODESYS Modbus TCP Master / Slave
- CODESYS Modbus Serial Master / Slave
- CODESYS PROFINET Controller / Device

### Product options

Further products can be licensed for a fee:

- CODESYS BACnet SL
- CODESYS KNX SL
- CODESYS SoftMotion SL
- CODESYS SoftMotion CNC+Robotics SL

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## General information

### Vendor:

CODESYS GmbH  
 Memminger Strasse 151  
 87439 Kempten  
 Germany

### Support:

<https://support.codesys.com>

### Item:

CODESYS Control for Raspberry Pi MC SL

### Item number:

2302000032

### Sales:

CODESYS Store

<https://store.codesys.com>

### Included in delivery:

- Package for the CODESYS Development System including CODESYS Control, license agreement, online help and device description
- License Key
- CODESYS Deploy Tool (AddOn for the CODESYS Development System)

## System requirements and restrictions

<b>Programming System</b>	CODESYS Development System V3.5.16.20 or higher
<b>Runtime System</b>	CODESYS Control V3.5.16.20
<b>Supported Platforms/ Devices</b>	<ul style="list-style-type: none"> <li>• Raspberry Pi2</li> <li>• Raspberry Pi3, incl. Compute Modul 3</li> <li>• Raspberry Pi4</li> </ul> <p>Note: Use the tool "Device Reader" to find out the supported features of your device (free of charge component of CODESYS Development System).</p>
<b>Additional Requirements</b>	<ul style="list-style-type: none"> <li>• The CODESYS Control requires a network interface (LAN, WLAN), especially with the Raspberry Pi Compute Module and the Raspberry Pi ZERO.</li> <li>• If the product is used for industrial purposes, it is the responsibility of the system manufacturer to ensure compliance with the necessary specifications.</li> <li>• The operating system "Raspbian" (from version 9 "Stretch")  <a href="https://www.raspberrypi.org/downloads/">https://www.raspberrypi.org/downloads/</a></li> <li>• Dynamic libraries needed by the CODESYS Control Runtime binary:           <ul style="list-style-type: none"> <li>◦ libm.so.6</li> <li>◦ libpthread.so.0</li> <li>◦ libdl.so.2</li> <li>◦ librt.so.1</li> <li>◦ libc.so.6</li> <li>◦ libgcc_s.so.1</li> </ul> </li> </ul>
<b>Restrictions</b>	<ul style="list-style-type: none"> <li>• The combination of Raspberry Pi and a CODESYS Runtime is primarily intended for test and teaching purposes.</li> <li>• The runtime system does not have real-time behavior. Its Jitter depends on many factors, especially on parallel executed Linux applications, and is ideally approximately 50 µs with maximum values of approximately 400 µs.</li> </ul>

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<b>Licensing</b>	Single device licensing  License activation optional on CODESYS Key or CODESYS Licensing via CODESYS Softcontainer is strictly linked to the selected hardware.  Note: Without a license the software runs in demo mode for two hours (manual restart is needed).
<b>Required Accessories</b>	<ul style="list-style-type: none"><li>• SD-card (minimum 4GB)</li><li>• Optional: CODESYS Key</li></ul>

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*Note: Not all CODESYS features are available in all territories. For more information on geographic restrictions, please contact [sales@codesys.com](mailto:sales@codesys.com).*

*Note: Technical specifications are subject to change. Errors and omissions excepted. The content of the current online version of this document applies.*