

notion#plc-CODESYS

Information brochure

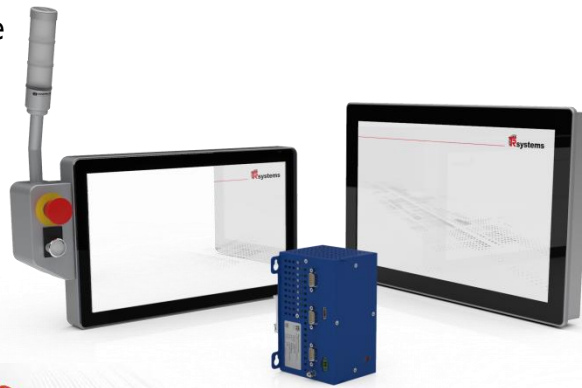


Fig. similar

09.10.2019
Ver.03
TRS-DOC-001443

Automation system

- High-Performance-Control according to IEC 61131-3
- scalable performance class
- Multi-core-support
- ready for industry 4.0
- OEM-System-Support

Product description

The automation functionality **notion#plc-CODESYS** complements the innovative device series **notion.ABC** with a PLC and integrated visualization as well as state-of-the-art industry 4.0 communication in high-quality tablet / smartphone design.

Depending on the application challenges, different CPU technologies can be paired with the actually required application performance. Due to the latest multicore support, even very high performance requirements can be implemented in a cost-optimized control concept.

The PLC control core is based on the CODESYS® automation software, which has been established for years. Integrated storage media are suitable for complex data acquisition and fail-safe data retention during production operation. An additional device UPS is not required!

Our special industry 4.0 features provide high-performance and uncomplicated networking to IT and app technologies. This enables common smartphone apps to display and process automation data in the most modern form.

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*Customer-specific solutions on request

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Automation functionality

Program modules CODESYS®	Equipment and equipment	Function
PLC runtime	Scalable PLC performance class: - Cortex Single-1-Core - Cortex Multi-4-Core - X86 Multi-2-Core	PLC runtime system for IEC 61131-3 control (version > 3.5.x) - scalable PLC performance class (selectable) - integrated visualization (target visualization) - Integrated fieldbus (EtherCAT, CAN Open**)
Web-Visu	optional	integrated web server in PLC runtime system
Softmotion light-SL	on request	simple motion control (non-synchronized single-axis movements) from CiA 402 - compatible drives, integrated in the PLC runtime system
Softmotion-CNC&ROBOTICS	optional	3D CNC motion control for motion controllers with full 3D CNC or robotic functionality including interpolator and kinematic transformations integrated in PLC runtime system

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Industry 4.0 Communication

Exchange of data	WebSocket JSON
Visualization extension	PDF viewer Video viewer Web viewer
Services	Telnet server FTP server HTTP server SSH server Shell Samba server and –Client NFS server and –Client
Component support	USB management
Network support	Release / networking of drives
System and service support	configuration manager rescue system

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Recommendation for selecting the scalable PLC performance class

PLC runtime	CPU technology	Cores	typical system requirements																				
Cortex Single-1-Core	ARM® Cortex™	1	PLC runtime + Target visu + Web visu + Softmotion-light-SL with one program cycle time > 2 ms																				
			<table border="1"> <tr> <td>Visualization static</td> <td>up to 50 variables / page</td> </tr> <tr> <td>Dynamic visualization</td> <td>no dynamic graphics</td> </tr> <tr> <td>program size</td> <td>compact control function</td> </tr> <tr> <td>Number of Tasks</td> <td>< 10</td> </tr> <tr> <td>PDF viewer</td> <td>conditionally recommended</td> </tr> <tr> <td>Video viewer</td> <td>not recommended</td> </tr> <tr> <td>Web viewer</td> <td>conditionally recommended</td> </tr> <tr> <td>Data logging on HDD</td> <td>small data volume</td> </tr> <tr> <td>Netzwerkkommunikation</td> <td>network communication</td> </tr> <tr> <td>Task distribution to cores</td> <td>no</td> </tr> </table>	Visualization static	up to 50 variables / page	Dynamic visualization	no dynamic graphics	program size	compact control function	Number of Tasks	< 10	PDF viewer	conditionally recommended	Video viewer	not recommended	Web viewer	conditionally recommended	Data logging on HDD	small data volume	Netzwerkkommunikation	network communication	Task distribution to cores	no
Visualization static	up to 50 variables / page																						
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Data logging on HDD	small data volume																						
Netzwerkkommunikation	network communication																						
Task distribution to cores	no																						

PLC runtime	CPU technology	Cores	typical system requirements																				
Cortex Multi-4-Core	ARM® Cortex™	4	PLC runtime + Target visu + Web visu + Softmotion-CNC&ROBOTICS with one program cycle time > 2 ms																				
			<table border="1"> <tr> <td>Visualization static</td> <td>limited by display size</td> </tr> <tr> <td>Dynamic visualization</td> <td>LifeCharts, wipe functions, graphics</td> </tr> <tr> <td>Program size</td> <td>demanding small investments</td> </tr> <tr> <td>Number of Tasks</td> <td>< 20</td> </tr> <tr> <td>PDF viewer</td> <td>Yes</td> </tr> <tr> <td>Video viewer</td> <td>conditionally recommended</td> </tr> <tr> <td>Web viewer</td> <td>Yes</td> </tr> <tr> <td>Data logging on HDD</td> <td>Possible in cycle</td> </tr> <tr> <td>network communication</td> <td>average data volume</td> </tr> <tr> <td>Task distribution to cores</td> <td>Yes</td> </tr> </table>	Visualization static	limited by display size	Dynamic visualization	LifeCharts, wipe functions, graphics	Program size	demanding small investments	Number of Tasks	< 20	PDF viewer	Yes	Video viewer	conditionally recommended	Web viewer	Yes	Data logging on HDD	Possible in cycle	network communication	average data volume	Task distribution to cores	Yes
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PLC runtime	CPU technology	Cores	typical system requirements																				
X86 Multi-2-Core	Intel® Atom™	2	PLC Runtime + Target Visu + Web Visu + Softmotion-CNC&ROBOTICS with a program cycle time < 2 ms																				
			<table border="1"> <tr> <td>Visualization static</td> <td>limited by display size</td> </tr> <tr> <td>Dynamic visualization</td> <td>Life charts, wipe functions, graphics</td> </tr> <tr> <td>Program size</td> <td>medium industrial plant</td> </tr> <tr> <td>Number of Tasks</td> <td>< 30</td> </tr> <tr> <td>PDF viewer</td> <td>Yes</td> </tr> <tr> <td>Video viewer</td> <td>Yes</td> </tr> <tr> <td>Web viewer</td> <td>Yes</td> </tr> <tr> <td>Data logging on HDD</td> <td>Possible in cycle</td> </tr> <tr> <td>network communication</td> <td>unlimited</td> </tr> <tr> <td>Task distribution to cores</td> <td>Yes</td> </tr> </table>	Visualization static	limited by display size	Dynamic visualization	Life charts, wipe functions, graphics	Program size	medium industrial plant	Number of Tasks	< 30	PDF viewer	Yes	Video viewer	Yes	Web viewer	Yes	Data logging on HDD	Possible in cycle	network communication	unlimited	Task distribution to cores	Yes
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network communication	unlimited																						
Task distribution to cores	Yes																						

PLC runtime	CPU technology	Cores	typical system requirements
X86 Multi-n-Core	Intel® Core™ i3 / i5 / i7	n	even more powerful system requirements on request

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Interface and hardware support

Fieldbuses / Interfaces / Storage media	CPU technology	
	ARM® Cortex™ (notion.tablet)	Intel® Atom™ (notion.computer)
CANopen (Fieldbus)	✓	optional
EtherCAT (Realtime LAN fieldbus, 1x LAN)	✓	✓
further LAN**	100 MBit	100 MBit / 1 GBit
RS232 / 422 / 485	✓	✓
USB 2.0	✓	✓
eMMC (Flash memory, on CPU)	✓	✓
uSD (Flash memory, optional)	✓	✗
HDD (Hard disk, optional)	✓	✓
Status-LED (PLC diagnosis: Run / stop / store data)	✓	✓
Real-time clock	✓	✓
RETAIN (remament data storage and secure bridging in case of short-term power failure for all data)	✓	✓

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