SIMATIC

S7-1200 G2

Deep Dive Launch Webinar

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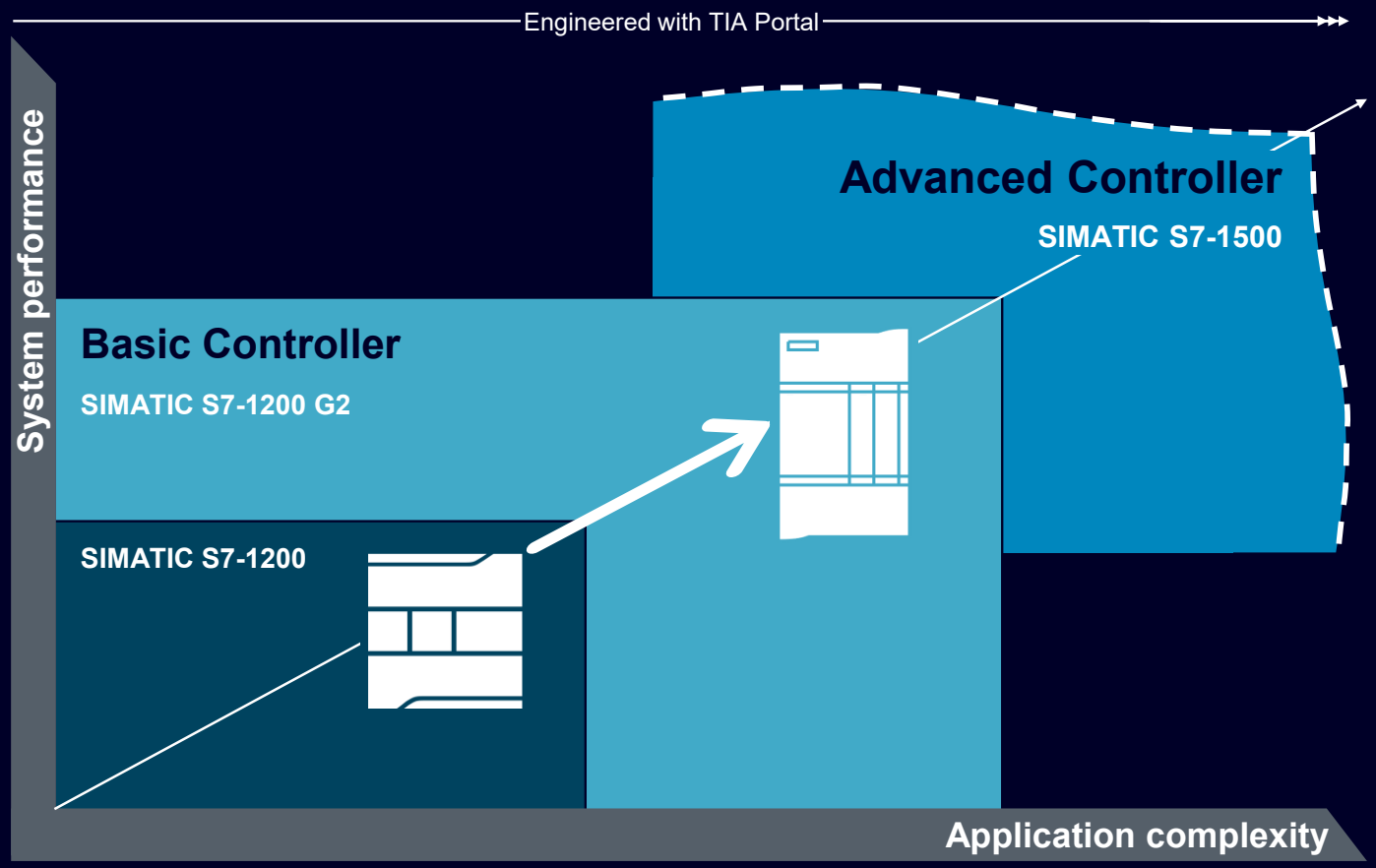
Agenda:

- S7-1200 G2 Overview & technical details
- S7-1200 to G2 Migration
- S7-1200 G2 Roadmap
- S7-1200 G2 support information
- S7-1200 Promotional packages

Enhanced performance and scalability – with a powerful controller system for the basic automation market



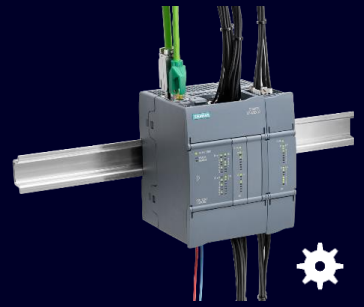
Solution

To meet new productivity requirements, it is recommended to specify SIMATIC S7-1200 G2 Controllers and latest SIMATIC automation devices for the basic automation segment.
This ensures that also simpler automation systems can handle increased demands, such as:

- New performance requirements for faster data processing and more multitasking
- New motion control functions for the realization of versatile motion control solutions
- New machine safety options for more flexible, cost-effective and scalable fail-safe applications
- New levels of data transparency for quick and easy access to diagnostic and device data

At the same time, SIMATIC S7-1200 G2 offers full scalability in the SIMATIC controller portfolio, which is the key to greater overall efficiency.

Overview
Highlights of SIMATIC S7-1200 G2



Enhanced performance & scalability

- Enhanced processing power, dedicated communication performance and more memory
- Up to 31 PROFINET devices and synchronized program execution with PROFINET IRT
- Optimized scalable hardware portfolio and seamless scalability across all SIMATIC controllers
- Analysis and optimization of PLC runtime with SIMATIC Profiling

Flexible machine safety

- Fail-safe integrated in the complete range (PROFIsafe communication, I/Os)
- Improved F-IO Portfolio with F-SBs and mixed I/O modules
- Fail-safe engineering integrated in STEP 7 Basic

Efficient motion control

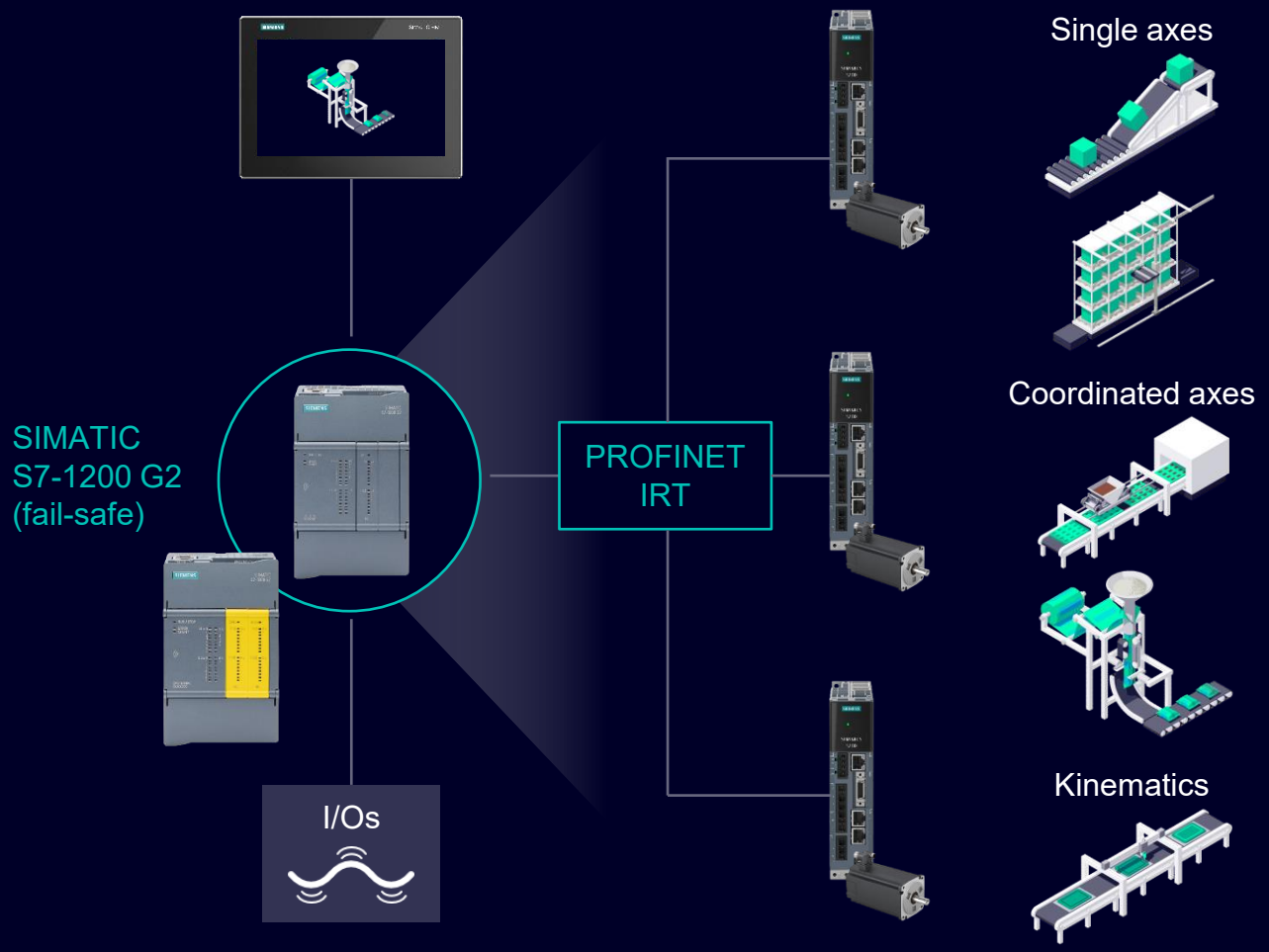
- Control of single axes, coordinated axes and simple kinematics
- Integrated motion control technology objects simplifying configuration

Increased data transparency

- Near Field Communication (NFC) for wireless access to diagnostic, operational and device data
- Web API as an interface for reading and writing CPU data

i Scalable, cost-optimized and powerful portfolio for the basic automation segment

Efficient motion control
Integrated motion control for basic automation machines



Challenge

- Ensuring maximum productivity requires **safe, highly automated** and **coordinated** machine operating modes
- High-precision movement of machine components demand **synchronized processing of signals**
- **High complexity** in the **system architecture** and **selection of components**, as many devices are required to implement IO-connection, drive technology and machine safety
- **High level of expertise** required in the **engineering** of motion control solutions

Solution

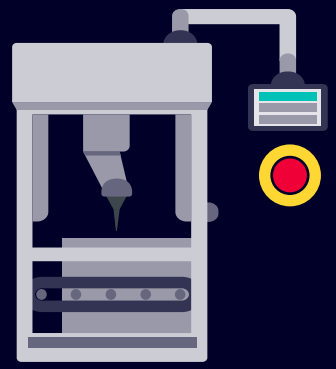
SIMATIC S7-1200 G2 with **integrated motion control**:

- Simple **single axes control** up to **coordinated axes control** and easy **kinematics**
- Integrated motion control **technology objects** simplifying system configuration
- **PROFINET IRT** for **fast program execution** at synchronized intervals
- **Coordinated machine safety** and **motion control** in one **single PLC** reducing system complexity supported by one common engineering platform (**TIA Portal**)
- **Ready-to-use applications** and comprehensive **motion control trainings**

Customer value

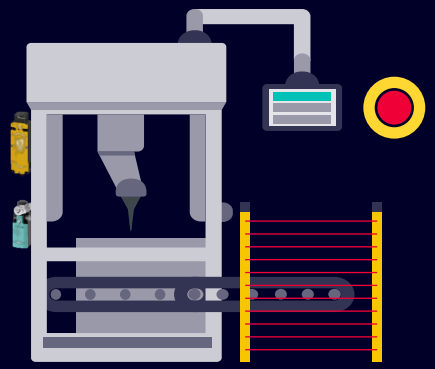
- **High level of productivity**: optimum integration of high-precision motion control and flexible machine safety operations
- **Faster time-to-market**: fast generation of user programs with less development effort and easily configurable motion profiles using Technology Objects
- **Seamless scalability**: from compact basic automation machines to high-end applications with many more axes, as the motion control functions are realized identically across all SIMATIC controllers

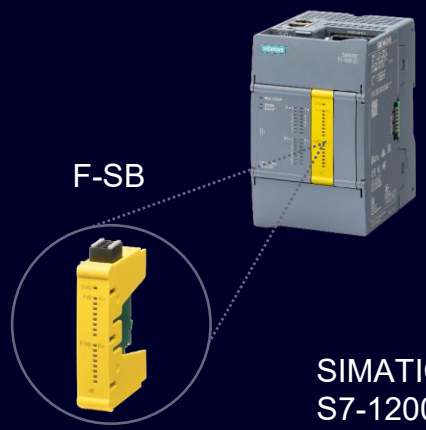
Flexible machine safety
Efficient realization of safety functions and safety modes



From a **single** safety function…

…to **multiple** safety functions





SIMATIC
S7-1200F G2

SIMATIC
S7-1200F G2 with F-SMs

Challenge

- Consideration of **different operating modes** in terms of operability and thus safety
- Machines of **various sizes and complexity** with different number of safety functions required
- **Need to change safety concept** if a certain level of complexity is reached
- **Many hardware devices necessary** in order to realize safety functions, leading to high wiring effort and complex system architectures

Solution

Fail-safe SIMATIC S7-1200 G2 with improved hardware portfolio:

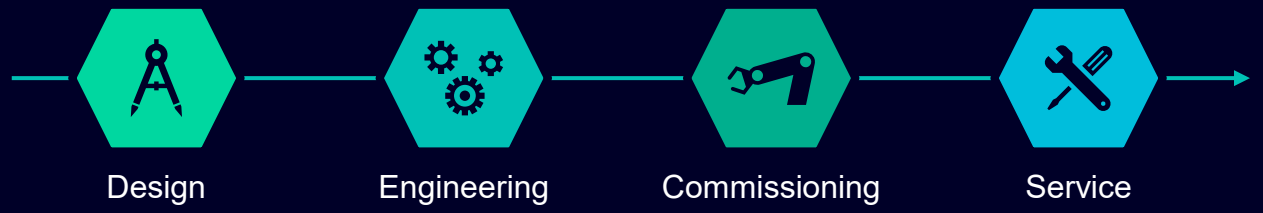
- Flexible expansion of fail-safe I/Os according to the number of safety functions with **up to two fail-safe signal boards** or **fail-safe signal modules with mixed I/Os**
- Fail-safe engineering **integrated in STEP 7 Basic** (no safety license necessary)
- **Flexible machine safety** implementation with multiple operating modes (e. g., Safely-Limited-Speed) to ensure maximum productivity
- **Safety integrated** in SIMATIC S7-1200 G2, together with **motion control** and **standard machine control** with the associated communication (**PROFIsafe**)

Customer value

- **Highest flexibility**: Use of exactly the required hardware and I/Os with the improved signal board and signal module concept
- **Cost-efficiency**:
  - Space savings, cost savings and reduced complexity by expanding the CPU with matching fail-safe I/Os for your safety application
  - Safety, Motion and Standard control in a single device enables seamless configuration (engineering), communication and thus highest productivity
- **Scalability and standardization**: Easy adaptation to different machine configurations across the whole SIMATIC Controller Portfolio

Increased data transparency
Smart solutions along the machine life cycle

TIA Portal for all phases of the machine life cycle



Read and **Write** particular data via Near Field Communication

Challenge

- **On-site programming** required for adaptation of customer-specific network settings in the PLC
- **Additional hardware devices** with direct access **necessary** to extract diagnostic data
- **Long machine downtimes** in the event of machine failure if efficient diagnostics are not provided
- **Availability of diagnostic information** usually requires high programming effort

Solution

SIMATIC S7-1200 G2 controllers:

- **Near Field Communication** (NFC) functionality of all SIMATIC S7-1200 G2 controllers[1]
- Access to **diagnostic data** and previously configured **process data** for quick and efficient machine service
- Setting **IP-addresses** and other **network settings** without programming device during commissioning

Customer value

- **Shorter downtimes** thanks to plain-text diagnostic information about the entire PLC station and quick data access
- NFC functionality **eliminates the need for direct access** with additional programming device to the PLC
- **Significant time savings** thanks so simplified handling and configuration
- **Increased machine transparency** across the machine life cycle

1 Only iOS devices supported with the initial release

Overview
CPUs and communication

	CPU 1212(F)C	CPU 1214(F)C
RAM Data	500 k	750 k
RAM Progr.	150/200 k	250/300 k
Retentive Memory	20 kB	20 kB
Bit performance	37 ns	37 ns
W x H x D (mm)	70 x 125 x 100	80 x 125 x 100
Integrated DI/DO	8/6	14/10
PROFINET/Modbus TCP	2 ports IRT	2 ports IRT
Communication Modules	3 max	3 max
Total SMs + CMs	6 max	10 max
High-Speed Counter	8	8
Total SBs	1 max	2 max
Position axes Typical[1] | Maximum[2]	4 | 10	4 | 10
Motion Control (MC) Resources[3]	800	800
Extended MC Resources[4]	40	40
NFC	✓	✓
SIMATIC Memory card	Optional	Optional
Variants	DC/DC/DC & DC/DC/RLY & AC/DC/RLY (Std. only)	

Communication

CB 1241
RS485

CM 1241
PtP (RS232/RS485/RS422)

1 At 4 ms Servo/IPO cycle time and 35% CPU load due to Motion Control. Estimated values are subject to implementation of use case I **2** No further TOs applicable
3 Resources for Motion Control technology objects: Speed axis = 40 | Positioning axis = 80 | Synchr. Axis = 160 | Output cam= 20 | Output cam track = 160 | Measuring input = 40 | Ext. Encoder = 80
4 Resources for Extended Motion Control technology objects: Cams (1,000 points and 50 segments) = 2 | Cams (10,000 points and 50 segments) = 20 | Kinematic objects= 30 | Interpreter = 60 | Leading axis proxy = 3

Communication
Serial communication

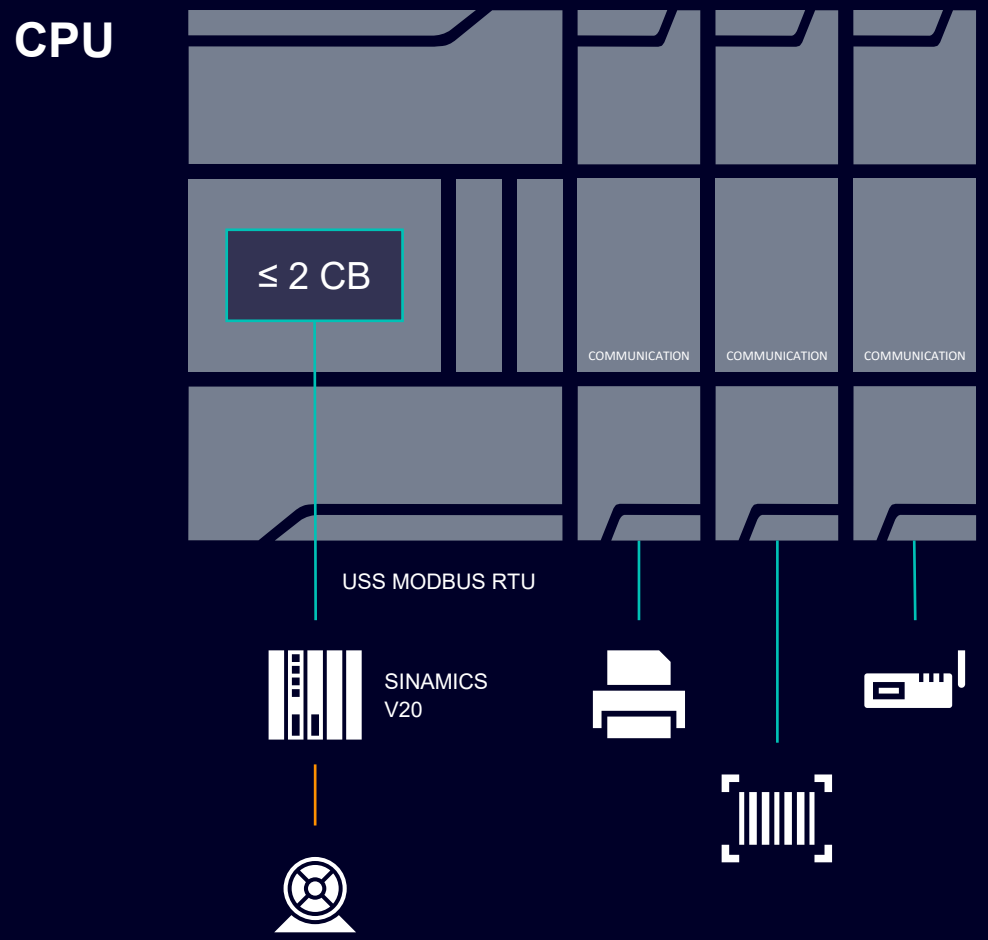
Serial Network communication with SIMATIC S7-1200 G2

RS-485, RS-422 & RS-232 – point-to-point (PtP) communication for character-based serial protocols, and this provides maximum freedom and flexibility for the use of PtP communication instructions in the user program.

Modbus RTU – using the Modbus instructions the Modbus master or slave is able to communicate with devices that use the Modbus RTU protocol.

USS – Using simple USS instructions you can control the operation of drives that support the USS (Universal Serial Interface) protocol.

CB 1241: RS-485
CM 1241: PtP (RS-232/RS-485/RS-422)



Overview
Signal boards and signal modules

SBs

Digital SBs	Analog SBs
8 DI 24V 100 kHz	4 AI
8 DQ 24V 100 kHz	4 AQ
4 DI/4 DQ 24V 100 kHz	2 AI/2 AQ
4 DI/4 DQ 5V 200 kHz	4 TC
	2 RTD

SMs

Digital SMs	Analog SMs
DI 16 x 24 V DC	8 AI
DQ 16 x 24 V DC 0.5 A	8 AQ
DQ 16 x Relay	4 AI/4 AQ
8 DI/8 DQ	8 AI TC
8 DI/8 RLY	4 AI RTD

Overview
Fail-safe: signal boards and signal modules

SBs	SMs
4x F-DI(1oo1)/2x F-DI(1oo2), 4-Vs[1]	8x F-DI(1oo1)/4x F-DI(1oo2), 8-Vs[1]
2x F-DQ, PP-PM[1]	4x F-DQ, PP-PM[1]
2x F-DI(1oo1)/1x F-DI (1oo2), 1x F-DQ. PP-PM[1]	4x F-DI(1oo1)/2x F-DI (1oo2), 2x F-DQ. PP-PM, 2x DI

1oo1 (One out of One):
1oo1 as simple redundancy, a single input connected to a fail-safe digital input

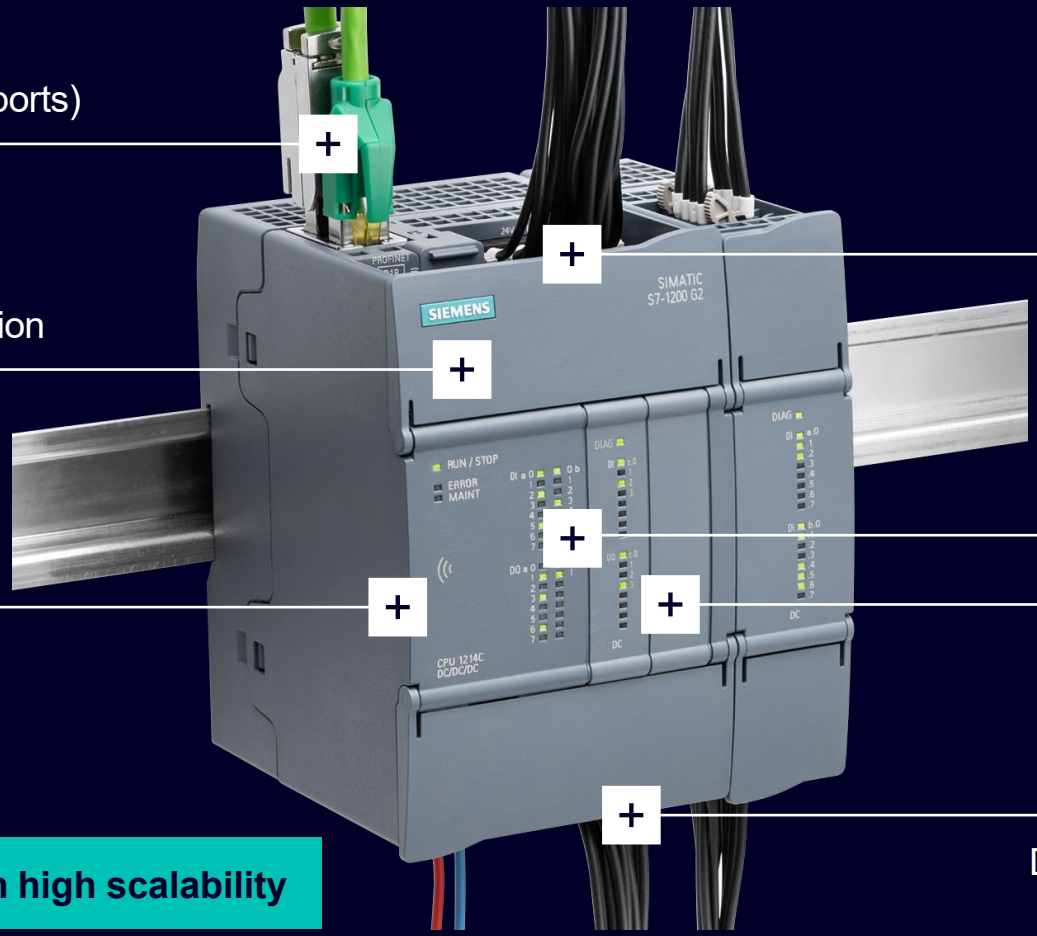
1oo2 (One out of Two):
Redundancy with cross-diagnosis: There are two independent sensors, each connected to an F-DI. Both sensors provide signals to the F-DI. The F-DI monitors the signals and makes decisions based on both inputs. This configuration is normally used in safety-critical applications

Vs: Integrated Sensor supply,
allows to detect short-circuit or overload scenarios, and react accordingly

i Initial failsafe portfolio release expected by end of 2025

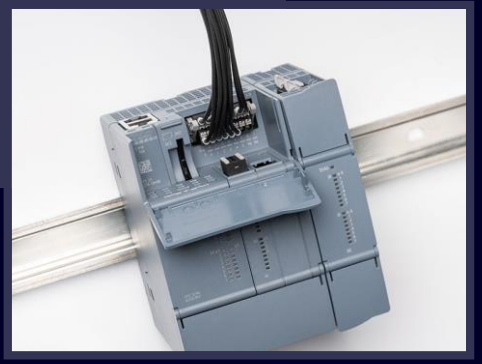
1 Not within initial failsafe Portfolio release

Design and handling
S7-1200 G2 CPU new hardware design

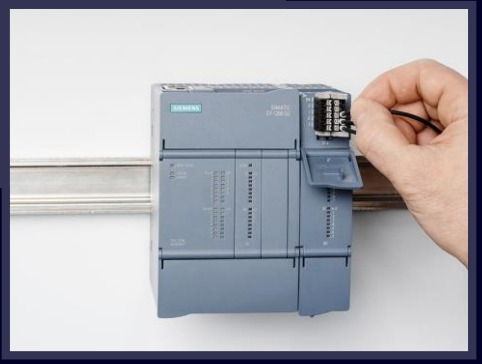


Innovative & modular design with high scalability

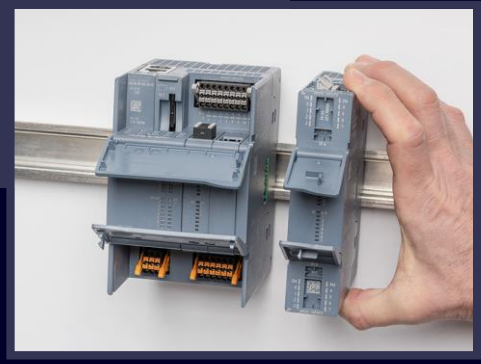
New hardware design
Handling



Memory Card access, 2xPN Ports and improved signal board concept (up to two SBs).

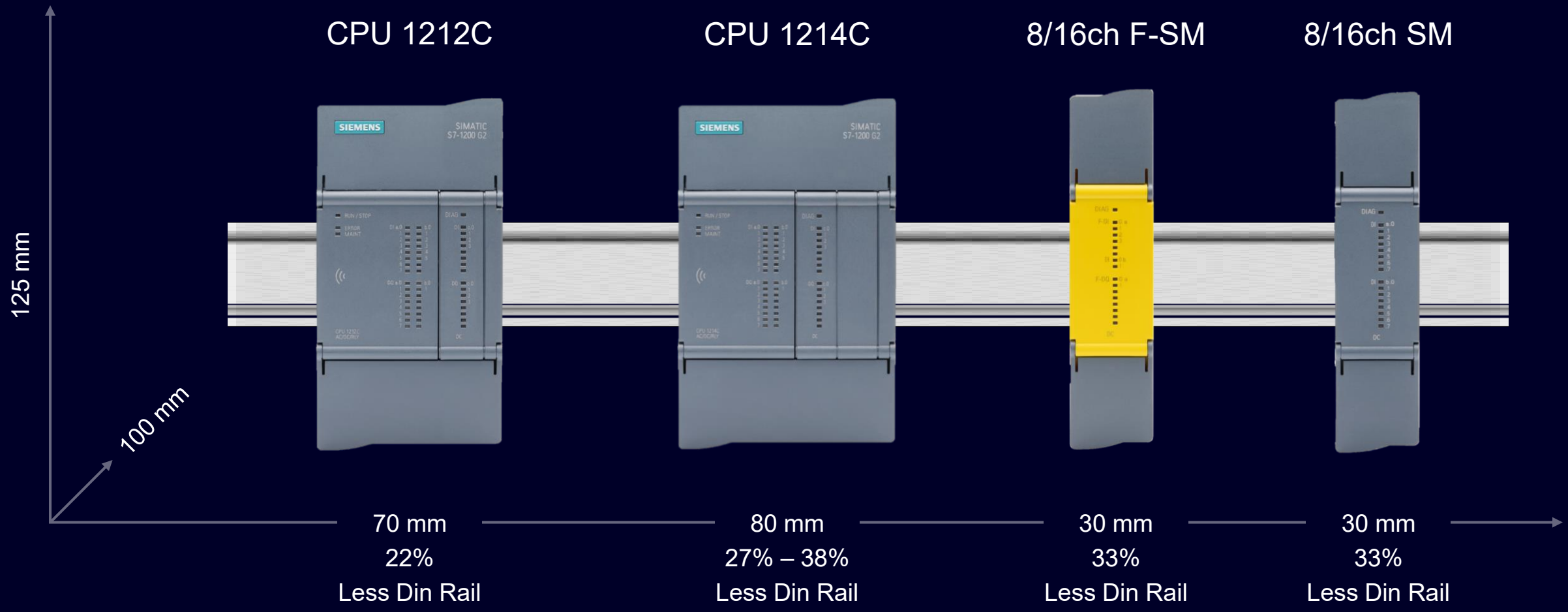


Removable high(er) density terminal blocks with push-in wiring for ease of use
→ non-contact pre-wiring position.



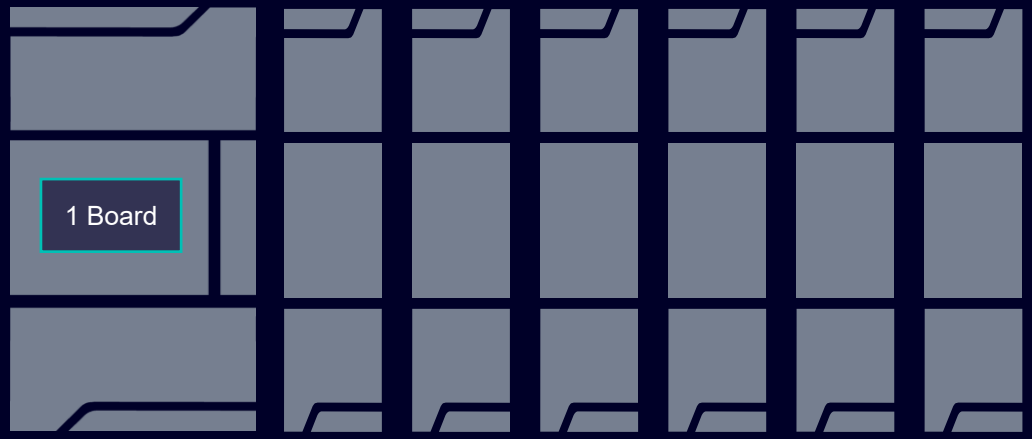
DIN rail footprint reduced by ~25%.
Single, reliable bus connection system for both SMs and CMs.

New hardware design
Dimensions



Design and handling
Set-up and extension options

CPU 1212C **CM/SM – Max. 6 expansion modules**



- Max. **1** signal board or communication board expansion
- Max. **6** signal module expansions including SM and CM
- Max. **3** communication module expansions

CPU 1214C **CM/SM – Max. 10 expansion modules**

- Max. **2** signal board or communication board expansions
- Max. **10** signal module expansions including SM and CM
- Max. **3** communication module expansions

CPU 1212/1214

- Both communication modules and signal modules are installed to the right of the CPU
- CM must connect to the right of the CPU or to the right of another CM
- SM must connect to the right of a CPU, CM, or another SM

Variable extension and set-up options for differing requirements

New hardware design
Accessories: SIMATIC memory card

Capacity

- 4 MB
- 12 MB
- 24 MB
- 256 MB
- 2 GB
- 32 GB

What can be saved on a S7-1200 memory card?

- Program
- Data
- System data
- Recipes
- Data protocol
- Files
- Projects

SIMATIC memory card optional

SIMATIC Memory Card

- Increased lifespan 500,000 write accesses possible
- Project sent as an e-mail with transfer to memory card using standard PC
- No special card reader required (SD card with FAT 32 file system)
- No data lost despite openness with CPU shutdown
- Increased copy protection – Option of linking the programs to the memory card serial numbers

Efficient motion control
Integrated motion control for basic automation machines

SIMATIC Motion Control

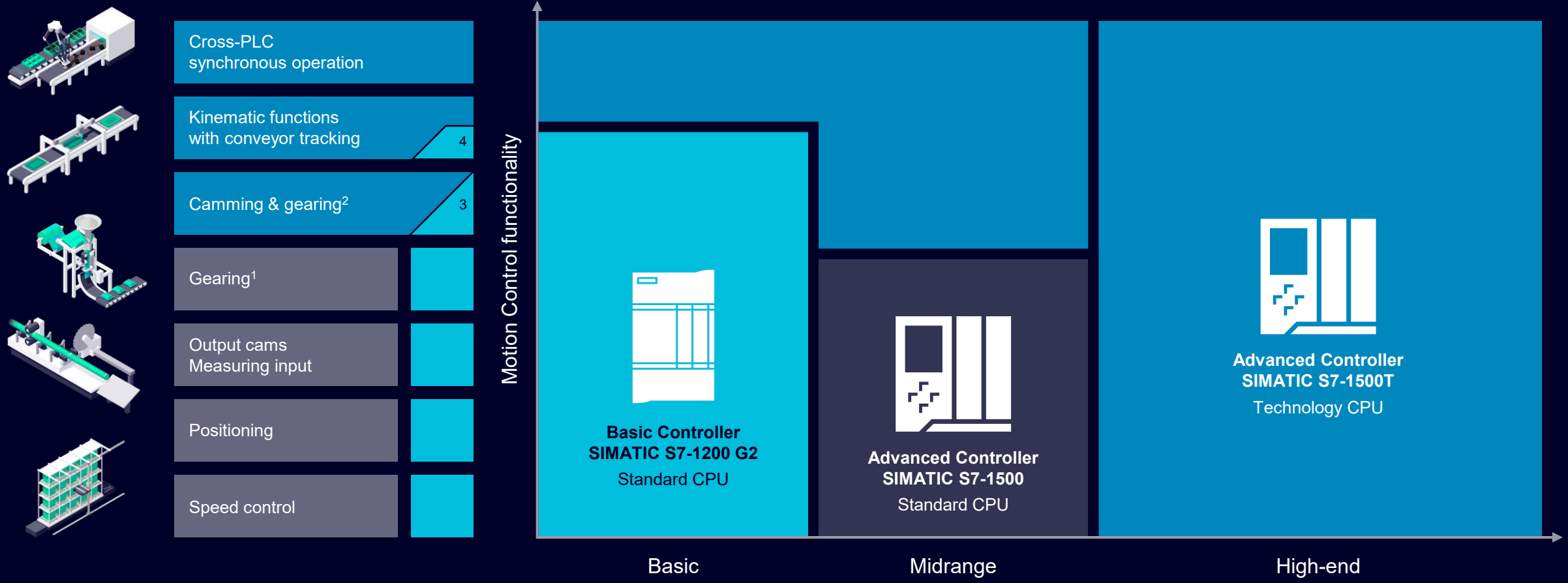
Supported Technology Objects (TO)[1]

- TO_SpeedAxis
- TO_PositioningAxis
- TO_SynchronousAxis
- TO_ExternalEncoder
- TO_OutputCam
- TO_CamTrack
- TO_MeasuringInput
- TO_Cam
- TO_Kinematics

allowing to address basic motion applications

1 Small differences in the associated instructions for some technology objects compared to S7-1500

Efficient motion control
SIMATIC S7-1200 G2 within the motion control portfolio



1 Synchronization without specification of the synchronous position
2 Synchronization with specification of the synchronous position, velocity gearing | **3** Camming with points | **4** Cartesian portal without conveyor tracking

The right Power Supply Unit
Optimal 24 V DC supply of SIMATIC S7-1200 G2

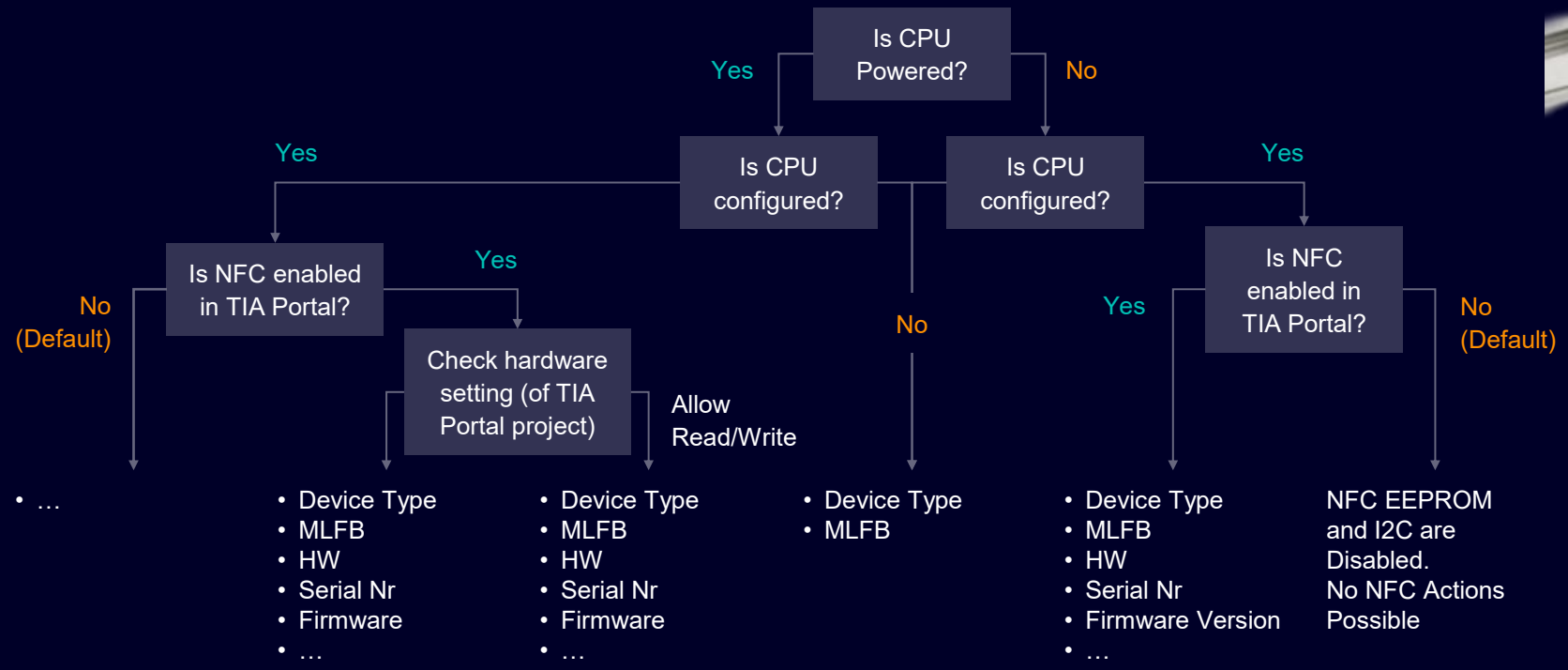
Power module PM 1207

- Input voltage: 120 - 240 V AC/DC wide range input
- Output: 24 V/5 A
- Efficiency > 88 %
- Power information via diagnostics interface over a digital input of the PLC
- Removeable push-in clamps for input and output
- DIN rail and wall mounting
- Width: only 70 mm, same size with double performance compared to previous device
- 2 variants: without and with Ex-protection certification
- Configurable in the TIA Portal

Increased data transparency
NFC function

Near Field Communication (NFC)

- Gather Information without having to power the Device
- Read/Write Application and Diagnostic Data (based on configuration)



Increased data transparency
Overview NFC functionalities

S7-1200 G2 NFC App button	Operation	Condition						
		1	2	3	4	5	6	7
Allows you to view specific device information for the CPU and its connected CB/SBs and CM/SMs **Devices**	Device type	Read	Read	–	Read	Read	–	Read
	Article number	Read	Read	–	Read	Read	–	Read
	Hardware version	Read	Read	–	Read	Read	–	Read
	Serial number (SN)	Read	Read	–	Read	Read	–	Read
	Firmware version	Read	Read	–	Read	Read	–	Read
	Slot number	Read	Read	–	Read	Read	–	Read
	MAC address	Read	Read	–	Read	Read	–	Read
	IP address, Subnet, Gateway, PROFINET name	Read/Write	Read	–	Read/Write	Read	–	Read
	Webserver on/off	Read	Read	–	Read	Read	–	–
	TIA Portal version	Read	Read	–	Read	Read	–	–
	SD card info	Read	Read	–	Read	–	–	–
Allows you to read/write operations **Operations**	Operation mode	Read/Write	Read	–	Read	–	–	–
	Reset memory	Write	–	–	Write	–	–	–
	Set Time of Day	Write	–	–	Write	–	–	–
Allows you to read diagnostics **Diagnostics**	Configured vs actual device diagnostics	Read	Read	–	Read	Read	–	Read
	Cycle times	Read	Read	–	Read	–	–	–
	CPU memory usage	Read	Read	–	Read	–	–	–
	Diagnostic buffer	Read	Read	–	Read	–	–	–

Condition

CPU is powered on:

1. Configured in STEP 7, NFC and write access enabled for the CPU
2. Configured in STEP 7, NFC enabled for the CPU, write access not enabled for the CPU
3. Configured in STEP 7, NFC is not enabled for the CPU
4. Not configured in STEP 7

CPU is powered off:

5. Configured STEP 7, NFC is enabled for the CPU
6. Configured in STEP 7, NFC is not enabled for the CPU
7. Not configured in STEP 7 configured

TIA Portal V20

Engineering for standard and fail-safe S7-1200 G2

Fail-safe SIMATIC S7-1200 (G2): No more separate Safety license from V20 onwards
STEP 7 Safety Basic will be discontinued from V20 onwards

Until TIA Portal V19

Hardware:
S7-1200 F-CPU/F-DI/F-DQ

Software:
- STEP 7 V19 Basic (or Advanced)
- STEP 7 V19 Safety Basic

Starting with TIA Portal V20

Hardware:
S7-1200 (G2) F-CPU/F-DI/F-DQ

Software:
STEP 7 V20 Basic (or Advanced)

SIMATIC S7-1200

SIMATIC S7-1200 G2

Scalable automation solutions

Scalable portfolio for standard and machine safety functions.

Seamless system integration

Seamlessly integrated in STEP 7 without need for separate license.

Reduce license costs

- Reduce entry costs
- Especially customers requiring just few F-PLCs

Hints

- V18/V19 Safety Basic licenses will still be available
- Future S7-1200 (G2) Hardware will use similar principles
- SUS contracts for Safety Basic will be discontinued end of 2024

TIA Portal V20
STEP 7 Basic

Support of SIMATIC S7-1200 (G2) standard and fail-safe hardware

- S7-1200 (G2) Std.- & F-CPU’s
- S7-1200 (G2) Std.- & F- I/O
- ET 200SP Std.- & F-I/O

+

Supports engineering for standard and fail-safe application

SIMATIC
STEP 7 Basic

- STEP 7 Basic
  - One engineering package for standard and fail-safe
- S7-1200 (G2) standard & fail-safe incl. ET200 (F) periphery

STEP 7 Basic
One engineering for standard and fail-safe S7-1200 (G2)

Cybersecurity for a more resilient automation industry

IEC 62443-4-2 certified SIMATIC S7-1200 G2 CPUs

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Challenge

Risk of cybertreads is increasing

Yesterday we had islands of communication, manufacturing was safe in it‘s own (proprietary) OT world. All data was collected and processed locally. Only concentrated information was communicated, separate from the process.

Today everything is more and more connected – OT with IT, and a huge amount of data needs to be handled all the time, securely, process-integrated and in an optimal way.

The thread is real and growing

61% of smart factories
have experienced a cybersecurity incident

33% of cyber incidents
occure in manufacturing

65% of ransomware attacks
occure in manufacturing

65% of IT architectures
had external connections to OT (in 2021)

Source: Technical Slides Cybersecurity for Industry

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Solution

System integrity as part of defense in depth principle

Ensure the system integrity through a hardened system

Allow for a comprehensive patch management with FW releases

Through security by default authentication and access protection are set as standard – can be deactivated intentionally

Design and implemented measures protect automation components against multiple threats. This is the foundation for holistic solutions to maximize protection over the system lifecycle

Benefits

- Increased plant availability
- Identifying threats and vulnerabilities over the lifecycle (Siemens Security Advisory)
- Use of certified secure developed and hardened Siemens products according to IEC 62443-4-1 and IEC 62443-4-2
- Comprehensive long-term protection through continuous monitoring and security management

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Products

Certified SIMATIC S7-1200 G2 Controller Family

Industrial IT Security of Siemens Products

We do **product design** for fundamental system hardening:

- Secure development process fully compliant to the IEC 62443-4-1
- Product requirements implemented in compliance with IEC 62443-4-2
- Improved access protection (authentication) with role-based access control
- Support of encrypted communication protocols to protect data integrity and confidentiality
- Secure boot ensures firmware authenticity and integrity during startup
- Digitally signed secure firmware updates
- Security log for security related events

Tested by TÜV SÜD Product Service GmbH!

ZERTIFIKAT ◆ CERTIFICATE ◆ СЕРТИФИКАТ ◆ CERTIFICADO ◆ CERTIFICAT

Product Service

CERTIFICATE

No. IITS2 128627 0001 Rev. 01

Holder of Certificate: **Siemens AG**
DI FA
Gleiwitzer Straße 555
90475 Nürnberg
GERMANY

Certification Mark:

Product Type: **Industrial IT Security**

Model(s):
SIMATIC S7-1500 Controller Family
(Starting from Firmware Version 3.1)
SIMATIC S7-1200 G2 Controller Family
(Starting from Firmware Version 1.0)
Software Controller
(Starting from Version 30.1)

Tested according to:
IEC 62443-4-1:2018
IEC 62443-4-2:2019
PPP 15003C:2024 (IEC 62443-4-1: Full ML3 Process Profile)

The secure development lifecycle and the resulting product(s) were assessed on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. See http://www.tuvsud.com/ps-cert for details.

Test report no.: 713375176-04
Valid until: 2027-10-23

Date, 2025-07-14 (Michael Hermes)

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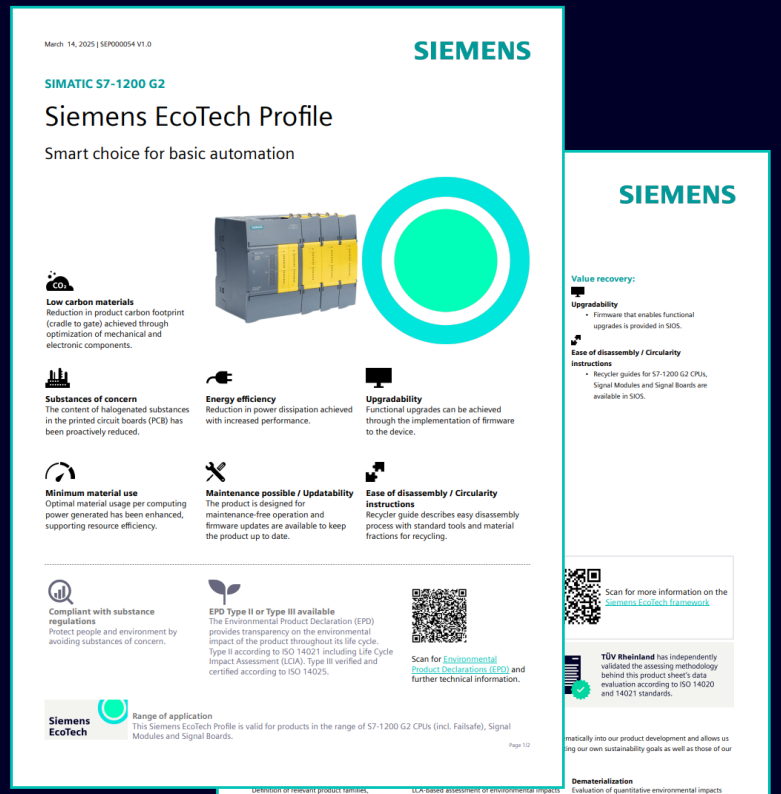
Siemens EcoTech
SIMATIC S7-1200 G2


March 14, 2025 | SEP000054 V1.0

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SIMATIC S7-1200 G2

Siemens EcoTech Profile

Smart choice for basic automation

Low carbon materials
Reduction in product carbon footprint (cradle to gate) achieved through optimization of mechanical and electronic components.

Substances of concern
The content of halogenated substances in the printed circuit boards (PCB) has been proactively reduced.

Energy efficiency
Reduction in power dissipation achieved with increased performance.

Upgradability
Functional upgrades can be achieved through the implementation of firmware to the device.

Minimum material use
Optimal material usage per computing power generated has been enhanced, supporting resource efficiency.

Maintenance possible / Updatability
The product is designed for maintenance-free operation and firmware updates are available to keep the product up to date.

Ease of disassembly / Circularity instructions
Recycler guide describes easy disassembly process with standard tools and material fractions for recycling.

Compliant with substance regulations
Protect people and environment by avoiding substances of concern.

EPD Type II or Type III available
The Environmental Product Declaration (EPD) provides transparency on the environmental impact of the product throughout its life cycle. Type II according to ISO 14021 including Life Cycle Impact Assessment (LCIA). Type III verified and certified according to ISO 14025.

Scan for Environmental Product Declarations (EPD) and further technical information.

Siemens EcoTech

Range of application
This Siemens EcoTech Profile is valid for products in the range of S7-1200 G2 CPUs (incl. Failsafe), Signal Modules and Signal Boards.

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Value recovery:

Upgradability
- Firmware that enables functional upgrades is provided in SIOS.

Ease of disassembly / Circularity instructions
- Recycler guides for S7-1200 G2 CPUs, Signal Modules and Signal Boards are available in SIOS.

Scan for more information on the Siemens EcoTech framework

TÜV Rheinland has independently validated the assessing methodology behind this product sheet's data evaluation according to ISO 14020 and 14021 standards.

matically into our product development and allows us ing our own sustainability goals as well as those of our

Dematerialization
Evaluation of quantitative environmental impacts of Ecodesign and of further requirements, derivation of improved design specifications wherever reasonable.

Definition of relevant product families, identification, and prioritization of Ecodesign requirements from stakeholder expectations.

LCA-based assessment of environmental impacts for representative products along the entire life cycle, communicated via EPD.

Siemens EcoTech

Published by Siemens

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Siemens EcoTech Profile
SIMATIC S7-1200 G2

Link to EPD
Environmental Product Declaration for SIMATIC S7-1200 G2 components

Sustainable materials
- Product carbon footprint (cradle to gate) reduced
  CPU 1212: 12.4 kg (-10%)
  CPU 1214: 14.4 kg (-28%)
- Product performance increased by more than 100% with a comparable weight (avg. increase <15%) for all variants of CPU 1212 and CPU 1214 compared to its predecessor

Optimal use
Power dissipation reduced by 20% for CPU 1212 and 30% for CPU 1214 compared to predecessor products

Value recovery and circularity
- Firmware updates provided in SIOS to correct errors and implement functional enhancements
- Recycler guides for SIMATIC S7-1200 G2 CPUs, signal modules and signal boards are available in SIOS

SIEMENS

How to migrate technically

S7-1200 to S7-1200 G2

Migration Possibility
SIMATIC S7-1200 to SIMATIC S7-1200 G2: CPU 1212

S7-1200

Type of CPU	CPU 1211C	CPU 1212C	CPU 1212FC
Interfaces			
Program memory/ Data memory	75 kB	100 kB	150 kB
Bit performance (ns)	85	85	85
Integrated DI/DO	6/4	8/6	8/6
Integrated AI/AO	2/-	2/-	2/-
HSC	6	6	6
Width (mm)	90	90	90

S7-1200 G2

CPU 1212C	CPU 1212FC
	
150/500 kB	200/500 kB
37	37
8/6	8/6
Optional SB	Optional SB
8	8
70	70

PROFINET/IE

Migration Possibility
SIMATIC S7-1200 to SIMATIC S7-1200 G2: CPU 1214

S7-1200

Type of CPU	CPU 1214C	CPU 1214FC	CPU 1215C	CPU 1215FC	CPU 1217C
Interfaces					
Program memory/ Data memory	150 kB	200 kB	200 kB	250 kB	250 kB
Bit performance (ns)	85	85	85	85	85
Integrated DI/DO	14/10	14/10	14/10	14/10	14/10
Integrated AI/AO	2/-	2/-	2/2	2/2	2/2
HSC	6	6	6	6	6
Width (mm)	110	110	130	130	150

S7-1200 G2

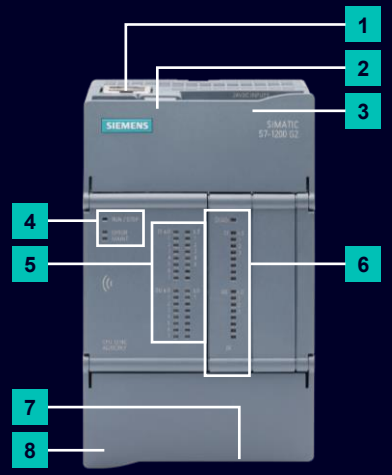
CPU 1214C	CPU 1214FC
	
250/750 kB	300/750 kB
37	37
14/10	14/10
Optional SB	Optional SB
8	8
80	80

PROFINET/IE

Product overview – Ports, handling and wiring comparison
S7-1200 “classic” compared to S7-1200 G2

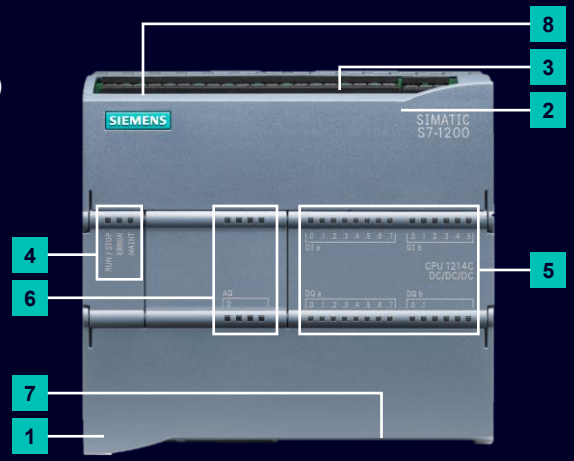
SIMATIC S7-1200 G2

1. PROFINET interface with two ports (on the top of the CPU)
2. Memory card slot (behind the door)
3. Removable push-in input connector (behind the door)
4. Status LEDs for the CPU
5. Status LEDs for the on-board I/O
6. Optional plug-in expansion board
7. Removable push-in output connector (behind the door, on the bottom of the CPU)
8. Power connector (behind the door, on the bottom of the CPU)

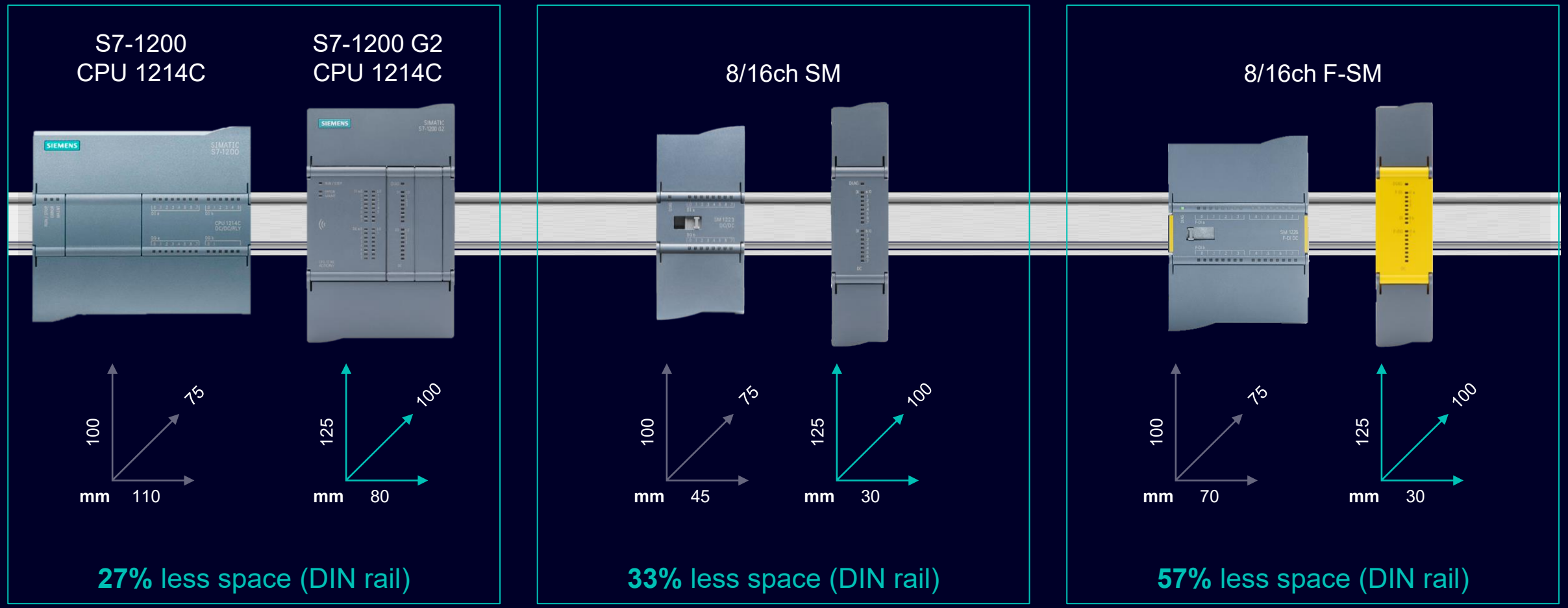


SIMATIC S7-1200 “classic”

1. PROFINET interface with 1 or 2 ports (on the bottom of the CPU)
2. Memory card slot (behind the door)
3. Removable input connector (behind the door)
4. Status LEDs for the CPU
5. Status LEDs for the on-board I/O
6. Optional plug-in expansion board
7. Removable output connector (behind the door, on the bottom of the CPU)
8. Power connector (behind the door, on the top of the CPU)



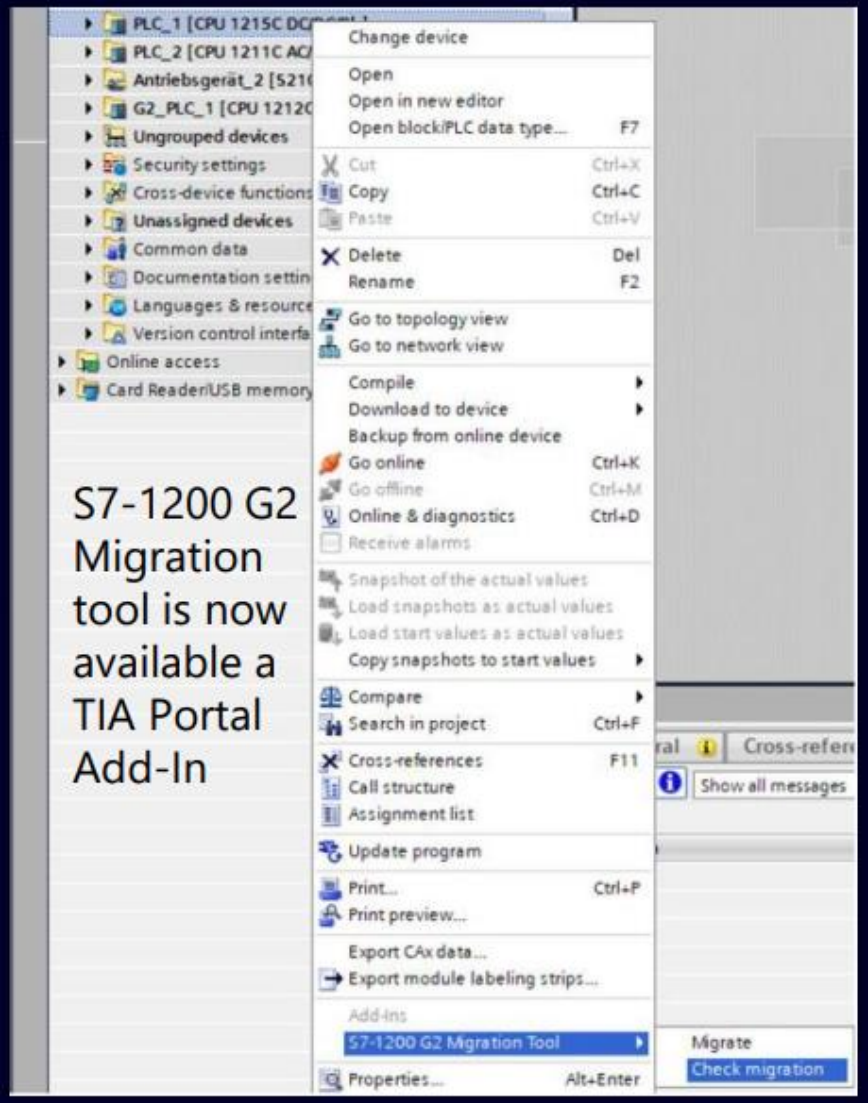
Comparison of dimensions
Examples



SIMATIC S7-1200 G2 Migration Tool

S7-1200 Migration tool available as a TIA Portal Add-In

https://support.industry.siemens.com/cs/sg/en/view/109773999



SIMATIC S7-1200 G2
Roadmap – Summary and Outlook

2024

Global product announcement

Hanover Fair April 24

2025

Initial product release with TIA Portal V20

CPUs / Power supply

- CPU 1212C
- CPU 1212FC
- CPU 1214C
- CPU 1214FC
  with NFC iOS app
- PM 1207

Digital SM/SB

- SM 8DI/8DQ (+Relay)
- SM 16DI
- SM 16DQ (+Relay)
- SB 8DI, 8DQ, 4DI/4DQ

Analog SM/SB

- SM 8AI
- SM 8AQ
- SB 4AI, 4AQ, 2AI/2AQ

Further portfolio elements

First communication / temperature modules

- CM RS485 / RS232 / RS422
- CB RS485
- RTD SM 4AI
- TC: SM 8AI, SB 4AI
- CSM 1277

Further portfolio elements

First failsafe I/O module for at least 2 safety functions

Additional safety I/Os towards the end of this year / beginning of next year

2026

S7-1200 G2 additions

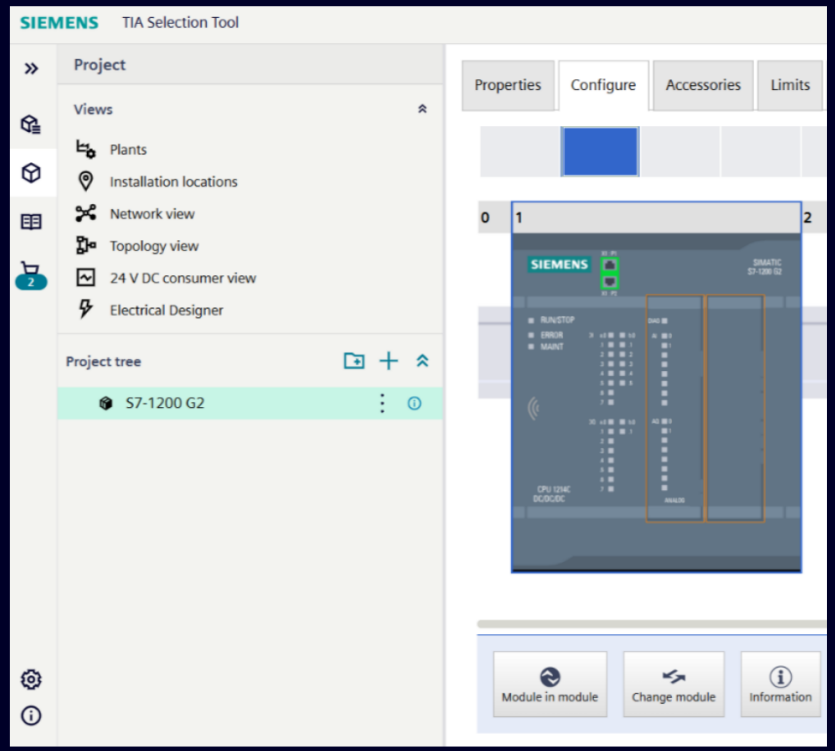
Wide range of additional modules and functions

SIMATIC S7-1200 G2
Support material

NFC App

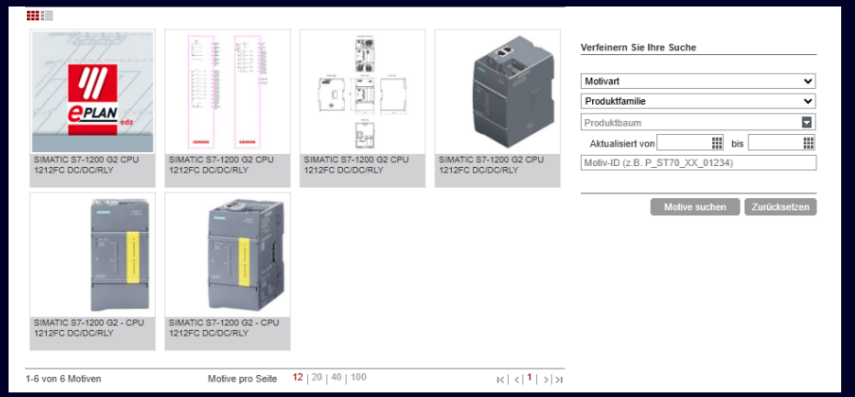
[SIMATIC S7-1200 G2 NFC im App Store]

Configuration only in [TIA Selection Tool cloud - Siemens]



S7-1200 G2: CAx Data in TechDB available

[https://www.automation.siemens.com/bilddb/index.aspx?view=Search&searchtext=S7-1200%2bG2&mlfb=6ES7212-1HF50-0XB0&gridview=view1]



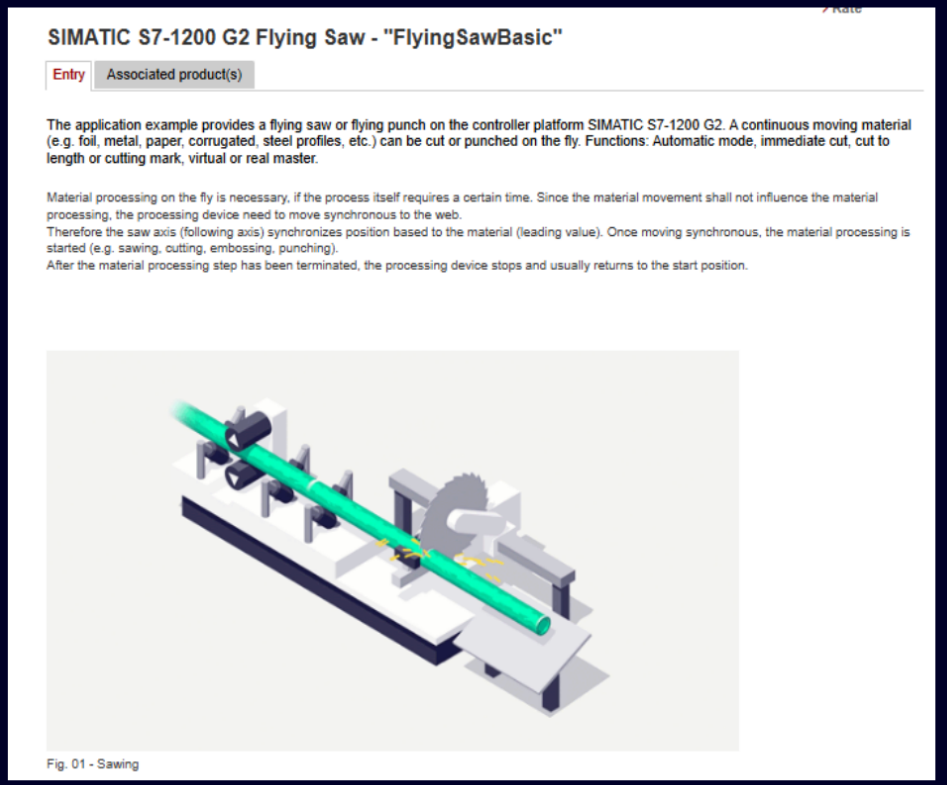
SIMATIC S7-1200 G2
Support material

Application Examples G2:

Flying Saw:
https://support.industry.siemens.com/cs/au/en/view/109977573
Pulp Molding Hot Press Machine:
https://support.industry.siemens.com/cs/au/en/view/109989699
Horizontal Form Fill Machine:
https://support.industry.siemens.com/cs/au/en/view/109989390
Vertical Form Fill Machine:
https://support.industry.siemens.com/cs/au/en/view/109989389
Plastic Pipe Automatic Assembly Machine:
https://support.industry.siemens.com/cs/au/en/view/109989388
Linear liquid Filling Machine:
https://support.industry.siemens.com/cs/au/en/view/109983738

Flying Saw

https://support.industry.siemens.com/cs/ww/en/view/109977573



SIMATIC S7-1200 G2 Flying Saw - "FlyingSawBasic"

Entry | Associated product(s)

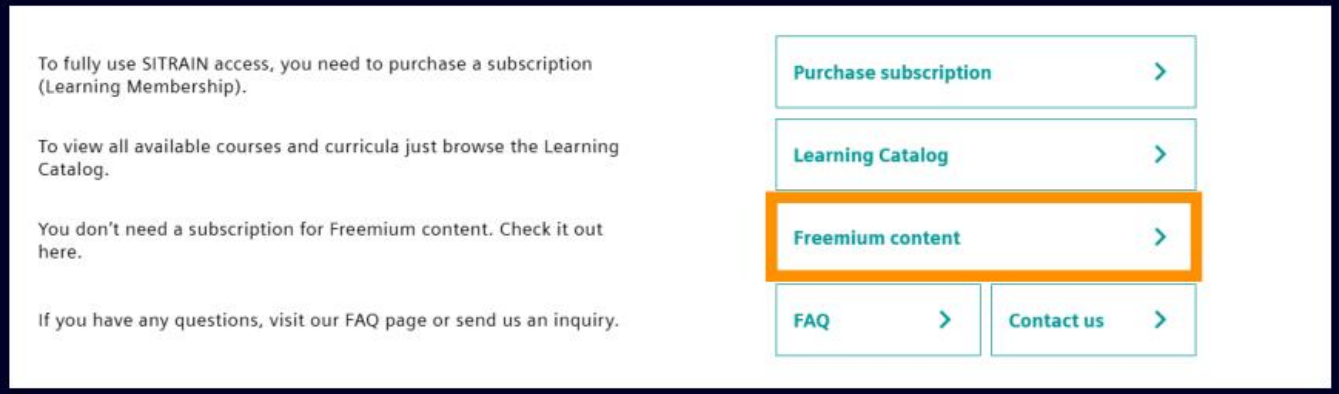
The application example provides a flying saw or flying punch on the controller platform SIMATIC S7-1200 G2. A continuous moving material (e.g. foil, metal, paper, corrugated, steel profiles, etc.) can be cut or punched on the fly. Functions: Automatic mode, immediate cut, cut to length or cutting mark, virtual or real master.

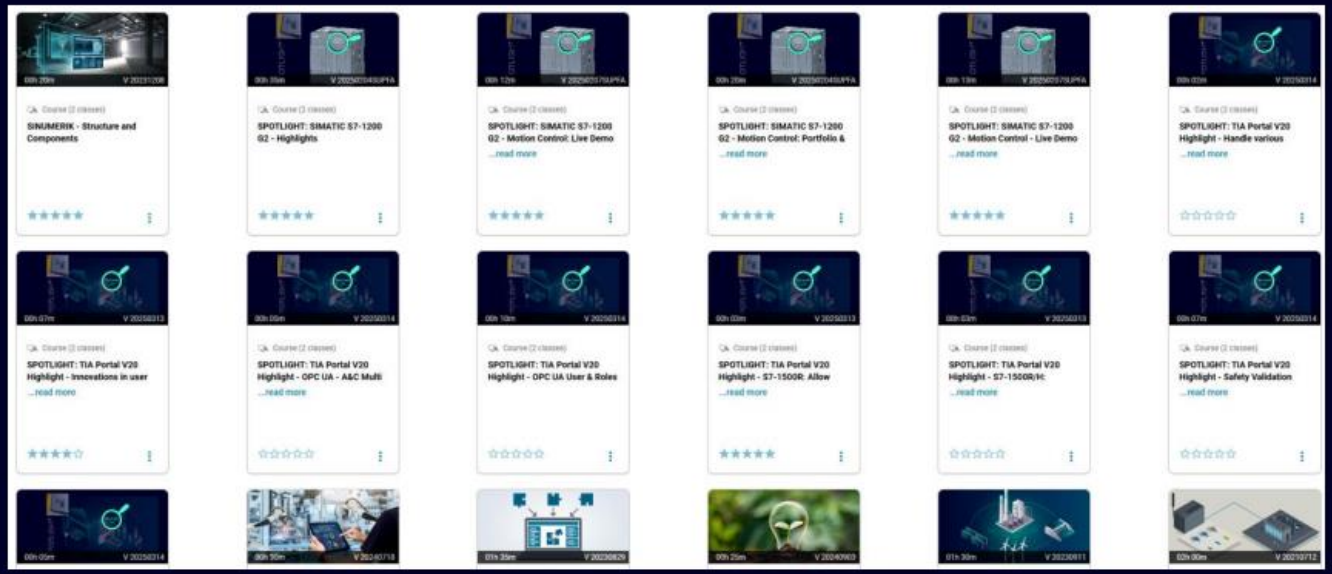
Material processing on the fly is necessary, if the process itself requires a certain time. Since the material movement shall not influence the material processing, the processing device need to move synchronous to the web.
Therefore the saw axis (following axis) synchronizes position based to the material (leading value). Once moving synchronous, the material processing is started (e.g. sawing, cutting, embossing, punching).
After the material processing step has been terminated, the processing device stops and usually returns to the start position.

Fig. 01 - Sawing

SITRAIN ACCESS – Fremium Area

Free S7-1200 G2 courses in Sitrain Fremium Area
https://siemens-learning-sitrainaccess.sabacloud.com/Saba/Web_spf/EU2PRD0112/app/dashboard





SIMATIC S7-1200 G2
APS Exclusive Bundle Promotion

Package 1:
S7-1214 G2+Analogue signal board + TIA Portal v20 Step 7 Basic

Save up to 33%

Package 2:
S7-1212 G2+Analogue signal board + 4” Unified HMI + TIA Portal v20 Step 7 Basic

Save up to 33%

Package 3:
S7-1214 G2+Analogue signal board + 7” Unified HMI + TIA Portal v20 Step 7 Basic

Package 4 & 5
S7-1214 G2+Analogue signal board + 7” Unified HMI + TIA Portal v20 Step 7 Basic + S200 Servo Drive

Terms and Conditions Apply:

- Use Promo code
- Valid until 30th September 2025
- Prices exclude GST and only valid for Australia
- APS commercial terms and conditions apply

THANK YOU

Heath Stranger

APS Industrial

Heath.stranger@apsindustrial.com.au

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