

SIMATIC S7-1200 G2 New products

The smart choice for basic automation



CHALLENGES AND OPPORTUNITIES

2009



2025



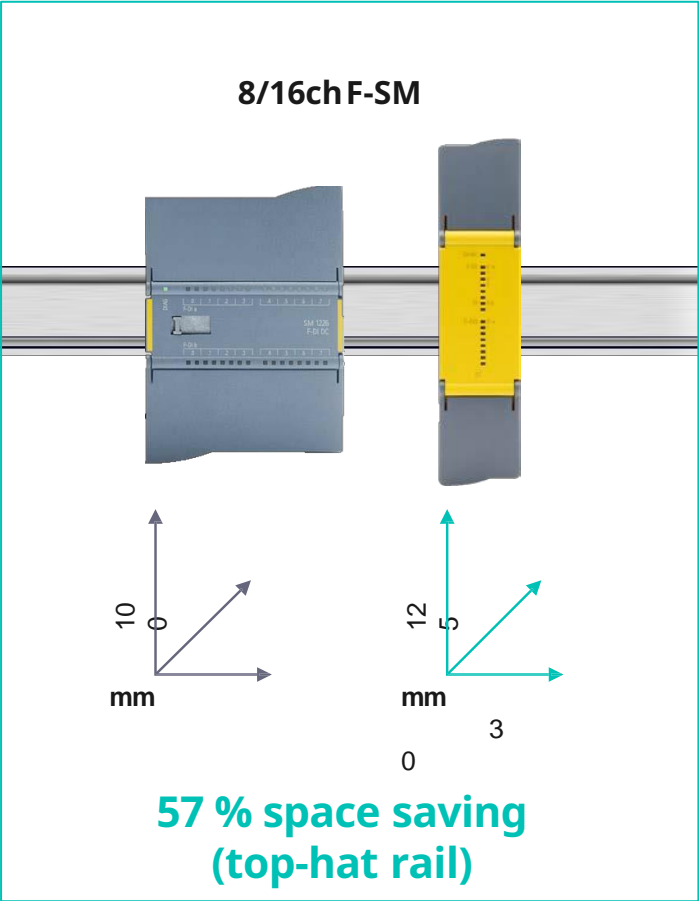
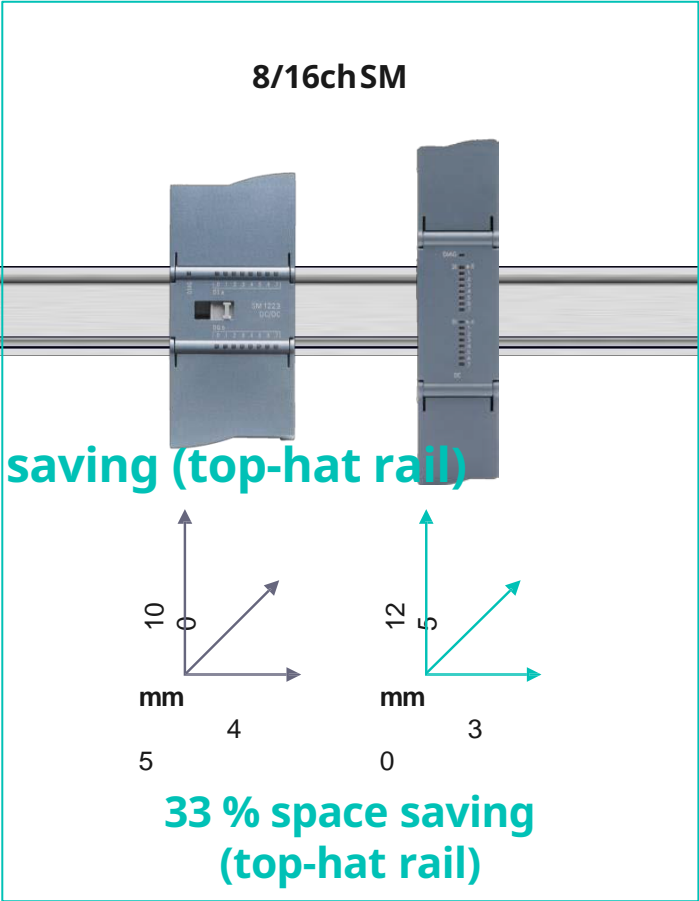
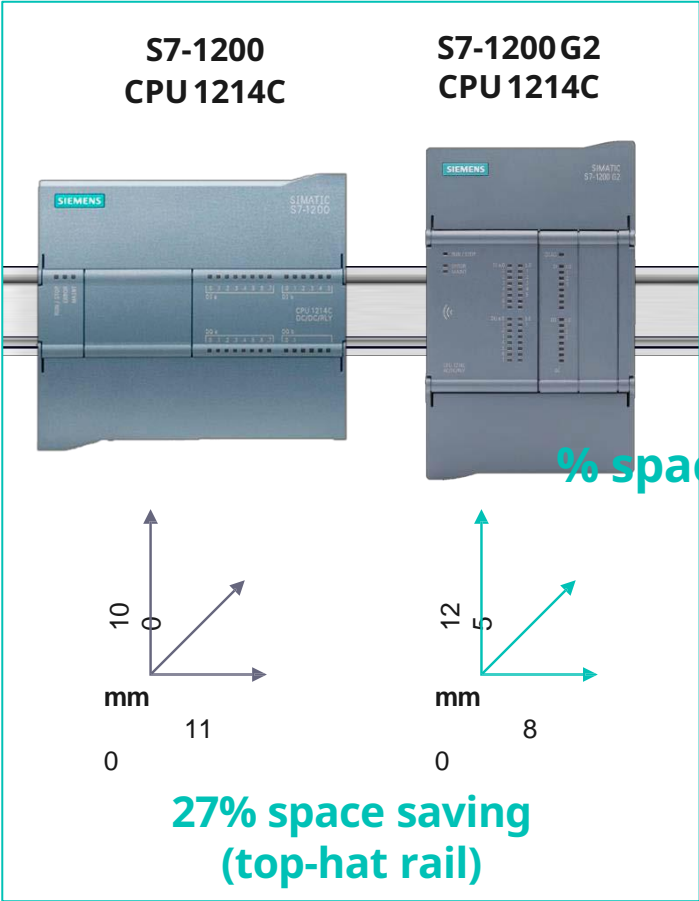
Technological advances require continuous improvements and the use of state-of-the-art **technology**, which results in a need for higher productivity.

Diverse customer requirements call for scalable and tailor-made automation solutions with maximum **flexibility**.

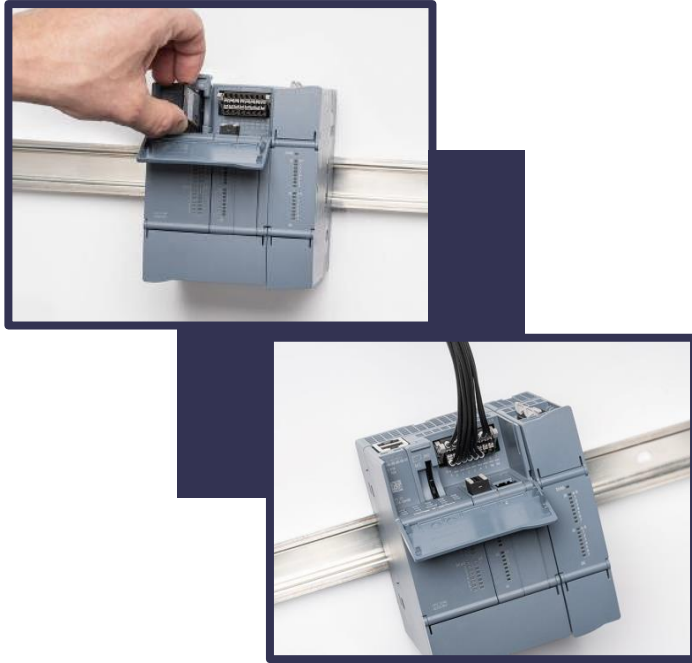
Legal regulations (e.g. machine safety) must also be complied with despite **high-cost pressures**, without compromising productivity.



NEW HARDWARE DESIGN - DIMENSIONS



NEW HARDWARE DESIGN - HANDLING



Memory card access, 2x PN connections and improved signal board concept (up to 2 SBs).

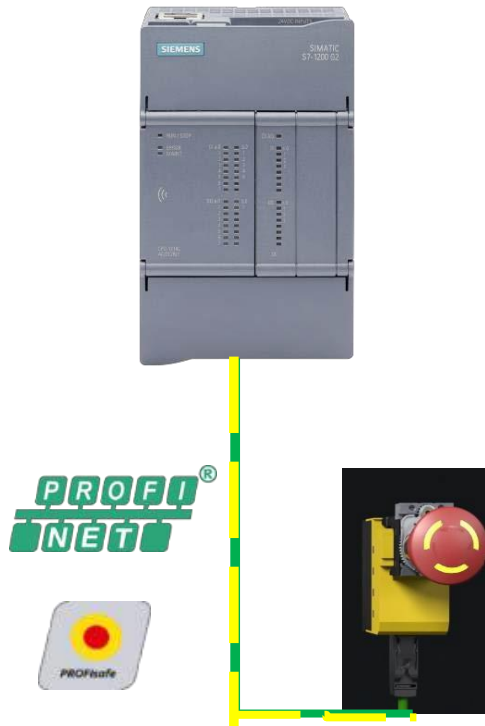


Removable high-density terminal blocks with push-in wiring for easy operation → contactless pre-wiring position.



Reduction of the DIN rail footprint by ~25%. Single, reliable BUS connection system for SMs and CMs.

POSSIBILITIES FOR IMPLEMENTING FAIL-SAFE APPLICATIONS



**SIMATIC S7-1200F G2
with Sirius ACT PN**



**SIMATIC S7-1200F G2
with digital peripherals, e.g. ET200SP**



**SIMATIC S7-1200F G2
directly via the converter, e.g. S210**

INCREASED DATA TRANSPARENCY WITH NEAR-FIELD COMMUNICATION (NFC)

Near Field Communication (NFC) is a wireless transmission standard that requires a distance of 4 cm or less.



Only only iOS devices supported at the time of initial release.

SIMATIC S7-1200 G2 with near-field communication¹ (NFC) in every CPU

SUSTAINABILITY - BETTER WORLD PRODUCT

ENVIRONMENTAL PRODUCT DECLARATIONS (EPD)

ENVIRONMENTAL PRODUCT DECLARATION

SIMATIC S7-1200 G2 CPU

6ES7214-1AH50-0XB0

Type II according to ISO 14021 including life cycle impact assessment (LCIA)



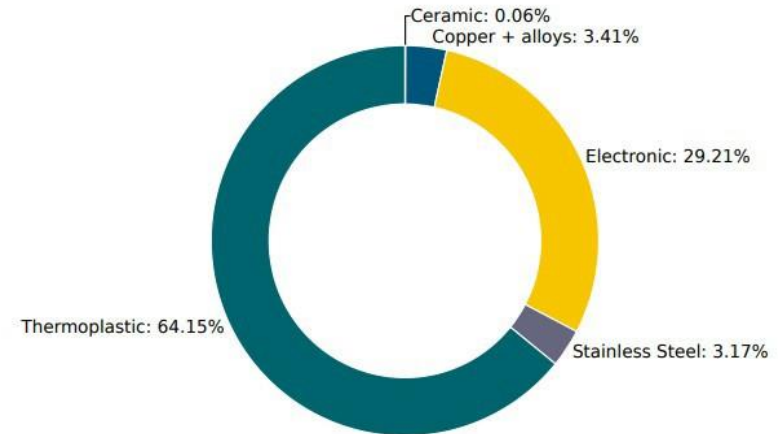
Figure similar

SIEMENS

Material composition

The following chart outlines the overall material composition of the calculated reference product without packaging. Product weight of 0.35 kg adds up with packaging weight of 0.04 kg to a total weight of 0.39 kg. Packaging consists of cardboard and paper.

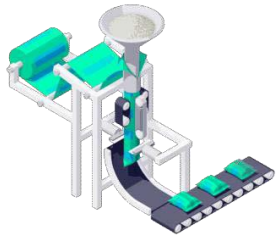
Product Weight 0.35 kg



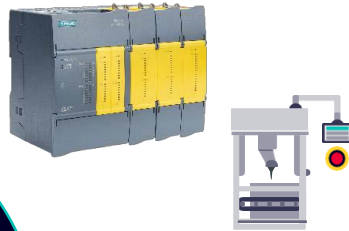
 Better World

HIGHLIGHTS OF THE SIMATIC S7 1200 G2

Efficient Motion Control



Flexible machine safety



Improved performance & scalability



Increased data transparency



SIMATIC
S7-1200G2

Improved performance and scalability

- Improved computing power, dedicated communication performance and more memory
- Up to 31 PROFINET devices and synchronised programme execution with PROFINET IRT
- Optimised scalable hardware portfolio and seamless scalability across all SIMATIC controllers
- Analysis and optimisation of PLC runtime via code with profiling
- Improved computing power, dedicated communication performance and more memory
- Up to 31 PROFINET devices and synchronised programme execution with PROFINET IRT
- Optimised scalable hardware portfolio and seamless scalability across all SIMATIC controllers
- Analysis and optimisation of PLC runtime via code with profiling

Flexible machine safety

- Fail-safe integrated throughout the entire product range (PROFIsafe communication, I/Os)
- Improved F-I/O portfolio (fail-safe signal boards and signal modules with mixed I/Os)
- Fail-safe engineering integrated in STEP 7 Basic

Efficient motion control

- Control of individual axes, coordinated axes and simple kinematics
- Integrated motion control technology objects simplify configuration



Increased data transparency

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

FROM S7-1200 TO G2: HOW TO MAKE THE SWITCH

Central assemblies 'small'

S7-1200		
Bezeichnung	Bestellnummer	RS Nummer
CPU 1211C, DC/DC/DC, 6DI/4DO/2AI	6ES7211-1AE40-0XB0	8624459
CPU 1211C, AC/DC/Relais, 6DI/4DO/2AI	6ES7211-1BE40-0XB0	8624455
CPU 1211C, DC/DC/Relais, 6DI/4DO/2AI	6ES7211-1HE40-0XB0	8624468
CPU 1212C, DC/DC/DC, 8DI/6DO/2AI	6ES7212-1AE40-0XB0	8624465
CPU 1212C, AC/DC/Relais, 8DI/6DO/2AI	6ES7212-1BE40-0XB0	8624461
CPU 1212C, DC/DC/Relais, 8DI/6DO/2AI	6ES7212-1HE40-0XB0	8624474



S7-1200 G2		
Bestellnummer	Bezeichnung	RS Nummer
6ES7212-1AG50-0XB0	CPU 1212C, DC/DC/DC, 8DI/6DO	432051
6ES7212-1BG50-0XB0	CPU 1212C, AC/DC/Relais, 8DI/6DO	432052
6ES7212-1HG50-0XB0	CPU 1212C, DC/DC/Relais, 8DI/6DO	432057

Central assemblies 'large'

S7-1200		
Bezeichnung	Bestellnummer	RS Nummer
CPU 1214C, DC/DC/DC, 14DI/10DO/2AI	6ES7214-1AG40-0XB0	8624471
CPU 1214C, AC/DC/Relais, 14DI/10DO/2AI	6ES7214-1BG40-0XB0	8624477
CPU 1214C, DC/DC/Relais, 14DI/10DO/2AI	6ES7214-1HG40-0XB0	8624480
CPU 1215C, DC/DC/DC, 14DI/10DO/2AI/2AO	6ES7215-1AG40-0XB0	8624487
CPU 1215C, AC/DC/Relais, 14DI/10DO/2AI/2AO	6ES7215-1BG40-0XB0	8624483
CPU 1215C, DC/DC/Relais, 14DI/10DO/2AI/2AO	6ES7215-1HG40-0XB0	8624496
CPU 1217C, DC/DC/DC, 14DI/10DO/2AI/2AO	6ES7217-1AG40-0XB0	8624499

S7-1200 G2		
Bestellnummer	Bezeichnung	RS Nummer
6ES7214-1AH50-0XB0	CPU 1214C, DC/DC/DC, 14DI/10DO	432059
6ES7214-1BH50-0XB0	CPU 1214C, AC/DC/Relais, 14DI/10D	432060
6ES7214-1HH50-0XB0	CPU 1214C, DC/DC/Relais, 14DI/10D	432063



 Empfohlener Nachfolger
 Alternativer Nachfolger

FROM S7-1200 TO G2: HOW TO MAKE THE SWITCH

Central assemblies 'fail-safe'

S7-1200		
Bezeichnung	Bestellnummer	RS Nummer
CPU 1214FC, DC/DC/DC, 14DI/10DO/2AI	6ES7214-1AF40-0XB0	2008960
CPU 1214FC, DC/DC/Relais, 14DI/10DO/2AI	6ES7214-1HF40-0XB0	2330553
CPU 1215FC, DC/DC/DC, 14DI/10DO/2AI/2AO	6ES7215-1AF40-0XB0	2330554
CPU 1215C, DC/DC/Relais, 14DI/10DO/2AI/2AO	6ES7215-1HF40-0XB0	2330556

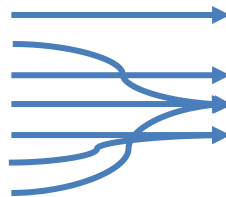


S7-1200 G2		
Bestellnummer	Bezeichnung	RS Nummer
6ES7212-1AF50-0XB0	CPU 1212FC, DC/DC/DC, 8DI/6DO	432049
6ES7212-1HF50-0XB0	CPU 1212FC, DC/DC/Relais, 8DI/6DO	432054
6ES7214-1AF50-0XB0	CPU 1214FC, DC/DC/DC, 14DI/10DO	432058
6ES7214-1HF50-0XB0	CPU 1214FC, DC/DC/Relais, 14DI/10DO	432061

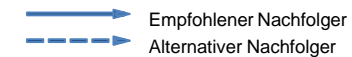
Digital signal boards



S7-1200		
Bezeichnung	Bestellnummer	RS Nummer
SB 1221, 4 DI 24VDC	6ES7221-3BD30-0XB0	7465760
SB 1221, 4 DI 5VDC	6ES7221-3AD30-0XB0	7465766
SB1222, 4 DO 24VDC	6ES7222-1BD30-0XB0	7465772
SB1222, 4 DQ 5VDC	6ES7222-1AD30-0XB0	7465779
SB1223, 2 DI/2 DO 24VDC	6ES7223-0BD30-0XB0	6683121
SB 1223, 2 DI/2 DO 24VDC	6ES7223-3BD30-0XB0	7465785
SB 1223, 2 DI/2 DO 5VDC	6ES7223-3AD30-0XB0	7465776



S7-1200 G2		
Bestellnummer	Bezeichnung	RS Nummer
6ES7221-3BF50-0XB0	SB 1221, 8 DI 24VDC	432065
6ES7222-1BF50-0XB0	SB 1222, 8 DO 24VDC	
6ES7223-7AF50-0XB0	SB 1223 4 DI / 4 DO 5VDC	432074
6ES7223-7BF50-0XB0	SB 1223 4 DI / 4 DO 24VDC	432076



FROM S7-1200 TO G2: HOW TO MAKE THE SWITCH

Analogue signal boards

S7-1200		
Bezeichnung	Bestellnummer	RS Nummer
Signal Board SB 1231, 1 AI	6ES7231-4HA30-0XB0	7352884
Signal Board SB 1232, 1 AO	6ES7232-4HA30-0XB0	6683125

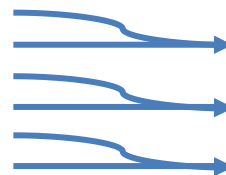
S7-1200 G2		
Bestellnummer	Bezeichnung	RS Nummer
6ES7231-4HD50-0XB0	Signal Board SB 1231, 4 AI	432077
6ES7232-4HD50-0XB0	Signal Board SB 1232, 4 AO	432080
6ES7233-4HD50-0XB0	Signal Board SB 1233, 2 AI / 2 AO	432083





Digital signal modules Digital input, digital output

S7-1200		
Bezeichnung	Bestellnummer	RS Nummer
Digitaleingabe SM 1221, 8 DI, 24V DC	6ES7221-1BF32-0XB0	7877942
Digitaleingabe SM 1221, 16 DI, 24V DC	6ES7221-1BH32-0XB0	7877945
Digitalausgang SM 1222, 8 DO, Wechsler	6ES7222-1XF32-0XB0	2461792
Digitalausgabe SM1222, 16 DO, Relais	6ES7222-1HH32-0XB0	7877955
Digitalausgabe SM1222, 8 DO, 24V DC	6ES7222-1BF32-0XB0	7877949
Digitalausgabe SM1222, 16 DO, 24V DC	6ES7222-1BH32-0XB0	7877958
Digitalausgabe SM1222, 16 DO, 24V DC Sin	6ES7222-1BH32-1XB0	2461791

S7-1200 G2		
Bestellnummer	Bezeichnung	RS Nummer
6ES7221-1BH50-0XB0	Digitaleingabe SM 1221, 16 DI, 24V DC	432064
6ES7222-5HH50-0XB0	Digitalausgabe SM1222, 16 DO, Relais	432070
6ES7222-5BH50-0XB0	Digitalausgabe SM1222, 16 DO, 24V DC	432068



 Empfohlener Nachfolger
 Alternativer Nachfolger

FROM S7-1200 TO G2: HOW TO MAKE THE SWITCH

Digital signal modules Digital input/output

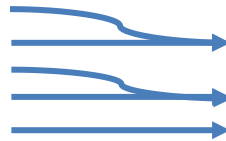
S7-1200		
Bezeichnung	Bestellnummer	RS Nummer
Digitale E/A SM 1223, 8 DI AC/8 DO Relais	6ES7223-1QH32-0XB0	8104144
Digitale E/A SM 1223, 8 DI / 8 DO 24VDC	6ES7223-1BH32-0XB0	7877964





S7-1200 G2		
Bestellnummer	Bezeichnung	RS Nummer
6ES7223-5PH50-0XB0	Digitale E/A SM 1223, 8 DI AC/8 DO R	432073
6ES7223-5BH50-0XB0	Digitale E/A SM 1223, 8 DI / 8 DO 24V	432071

Analogue signal modules

S7-1200		
Bezeichnung	Bestellnummer	RS Nummer
Analogeingabe SM 1231, 4 AI	6ES7231-4HD32-0XB0	8285252
Analogeingabe SM 1231, 8 AI	6ES7231-4HF32-0XB0	7877970
Analogausgabe SM 1232, 2 AO	6ES7232-4HB32-0XB0	7877973
Analogausgabe SM 1232, 4 AO	6ES7232-4HD32-0XB0	7877977
Analoge E/A SM 1234, 4 AI/2 AO	6ES7234-4HE32-0XB0	7877986



S7-1200 G2		
Bestellnummer	Bezeichnung	RS Nummer
6ES7231-4HF50-0XB0	Analogeingabe SM 1231, 8 AI	432079
6ES7232-4HF50-0XB0	Analogausgabe SM 1232, 4 AO	432082
6ES7233-4HF50-0XB0	Analoge E/A SM 1234, 4 AI/4 AO	432085

 Empfohlener Nachfolger
 Alternativer Nachfolger