

SIEMENS



Engineered
with
TIA Portal

SIMATIC S7-1200 Basic Controllers, Basic Panels and TIA Portal

The difference is in the combination



Intuitive, efficient, proven:
TIA Portal redefines engineering.

[siemens.com/s7-1200](https://www.siemens.com/s7-1200)

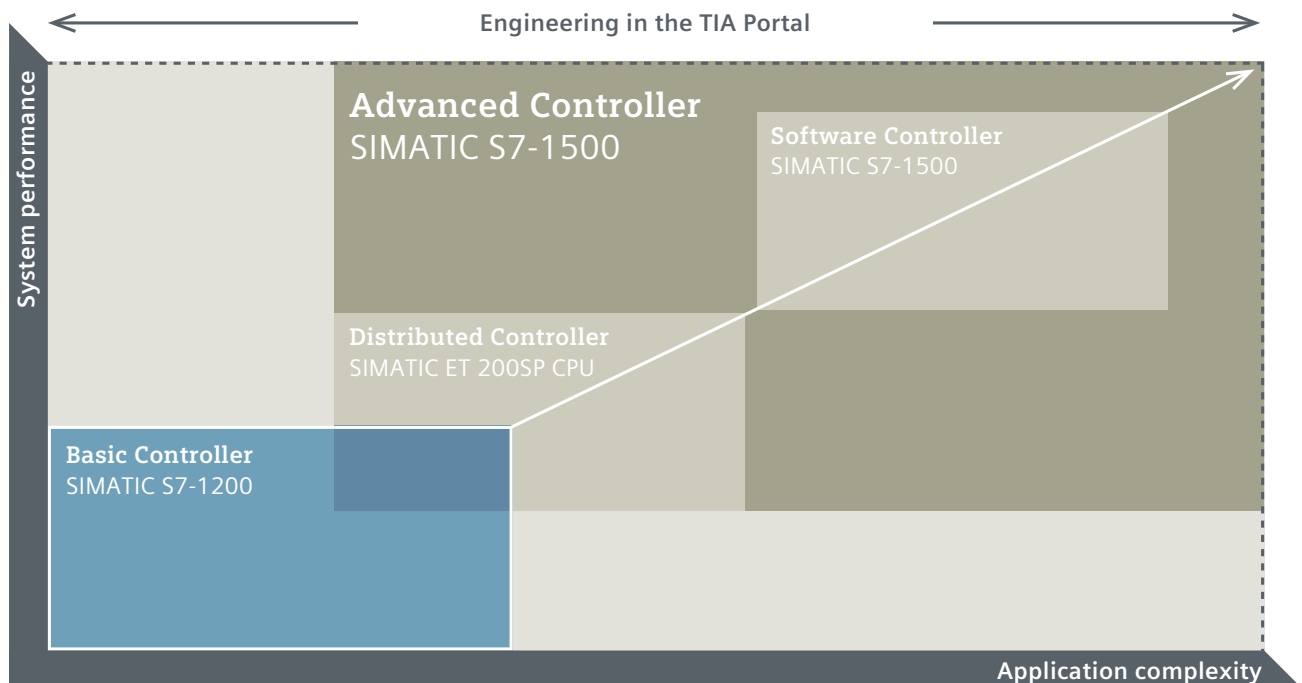
SIMATIC S7-1200 Basic Controllers All-in-one!

Thanks to their wide range of technological functions and integrated I/Os, as well as featuring a compact, space-saving design, SIMATIC S7-1200 Basic Controllers are the intelligent choice for everyday automation tasks within the scope of small projects. Thanks to standardized remote control protocols, you can connect SIMATIC S7-1200 controllers directly to your control station without any programming.

A further decisive benefit is the integration of SIMATIC controllers into the Totally Integrated Automation Portal (TIA Portal), with every SIMATIC controller having recourse to a shared database, a standardized operator concept and centralized services. This reduces your engineering overhead and your engineering time.

In addition, the user-friendly and innovative operation of the TIA Portal and integrated system diagnostics also contribute to efficient working.

SIMATIC controllers support automation solutions that are scalable in performance and functionality, and thus cost-efficient for any individual application. For more complex tasks, SIMATIC S7-1500 controllers seamlessly continue the functionality of the SIMATIC S7-1200 series, ensuring uniform sequences and thus maximum efficiency in engineering, operation, and maintenance.



Scalable performance and functionality for consistent and efficient engineering: SIMATIC S7-1500 devices build on the functionality of the SIMATIC S7-1200 Controllers, making later expansions simpler and more cost-effective.

SIMATIC S7-1200 Basic Controllers are the ideal choice for simple and autonomous tasks in the low to mid performance ranges. These compact devices are characterized by minimal space requirements, telecontrol capability and integrated technology modules for measuring, weighing and counting, so that no other special modules are required.

SIMATIC S7-1200 controllers offer you the following

- **High flexibility and modular design**
CPU can be expanded with further I/O without additional space requirements
- **Integrated technology**
Optimized for loop control, weighing, high-speed counting, telecontrol and identification
- **High level of operator convenience in engineering**
- **Networking**
The integrated PROFINET interface ensures scalability and flexibility
- **Security Integrated**
Comprehensive access, copy and manipulation protection
- **Integrated diagnostics**
Diagnostics messages are displayed in plaintext in the TIA Portal, on the CPU Web server, in the SIMATIC app, and on the HMI
- **Safety Integrated**
Fail-safe CPUs can execute both standard and safety related programs



Block libraries – a secure investment

“I can take program blocks for technological functions that I created for the SIMATIC S7-1200, and also use them for larger projects on the SIMATIC S7-300/400, or in future on the S7-1500. Block libraries are our most important investment today.”

Claus Niedermann,
Software specialist at Zebra Elektrotechnik



Compact grab control and intuitive programming in the TIA Portal

“I’ve had very little space on the control panel and I had to position it directly on the grab. That’s one of the reasons why the SIMATIC S7-1200 compact controller with CPU 1214C and three input and output modules was the perfect choice for this task, especially when combined with a SITOP power supply, SIRIUS switching devices, and fuses from Siemens.”

Jürgen Schäfer, HSE

Central processing units

Standard modules

CPU 1211C



50 KB, DI 6 x 24 V DC, DO 4 x 24 V DC or 4 x RLY, AI 2 x 10 bit 0 – 10 V DC, expandable up to 3CM

DC/DC/DC	6ES7 211-1AE40-0XB0
AC/DC/RLY	6ES7 211-1BE40-0XB0
DC/DC/RLY	6ES7 211-1HE40-0XB0

CPU 1212C



75 KB, DI 8 x 24 V DC, DO 6 x 24 V DC or 6 x RLY, AI 2 x 10 bit 0 – 10 V DC, expandable up to 3CM + 2SM

DC/DC/DC	6ES7 212-1AE40-0XB0
AC/DC/RLY	6ES7 212-1BE40-0XB0
DC/DC/RLY	6ES7 212-1HE40-0XB0

CPU 1214C



100 KB, DI 14 x 24 V DC, DO 10 x 24 V DC or 10 x RLY, AI 2 x 10 bit 0 – 10 V DC, expandable up to 3CM + 8SM

DC/DC/DC	6ES7 214-1AG40-0XB0
AC/DC/RLY	6ES7 214-1BG40-0XB0
DC/DC/RLY	6ES7 214-1HG40-0XB0

Also for use under extreme ambient conditions as SIPLUS S7-1200

More at siemens.com/siplus-extreme

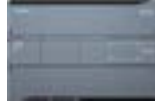
CPU 1215C



125 KB, DI 14 x 24 V DC, DO 10 x 24 V DC or 10 x RLY, AI 2 x 10 bit 0 – 10 V DC, AO 2 x 10 bit 0 to 20 mA, expandable up to 3CM + 8SM

DC/DC/DC	6ES7 215-1AG40-0XB0
AC/DC/RLY	6ES7 215-1BG40-0XB0
DC/DC/RLY	6ES7 215-1HG40-0XB0

CPU 1217C



150 kB, DI 10 x 24 V DC, 4 x 1.5 V differential, DO 6 x 24 V DC, 4 x 1.5 V differential, AI 2 x 10 bit 0 – 10 V DC, AO 2 x 10 bit 0 – 20 mA cable driver I/O for (1 MHz ±1.5 V), expandable up to 3CM + 8SM

DC/DC/DC	6ES7 217-1AG40-0XB0
----------	----------------------------

Fail-safe modules

CPU 1214FC



125 KB, DI 14x24 V DC, DO 10x24 V DC or 10xRLY, AI 2x10 Bits 0 – 10 V DC

DC/DC/DC	6ES7 214-1AF40-0XB0
DC/DC/RLY	6ES7 214-1HF40-0XB0

CPU 1215FC



150 KB, DI 14 x 24 V DC, DO 10 x 24 V DC or 10 x RLY, AI 2 x 10 bit 0 – 10 V DC, AO 2 x 10 bit, 0 – 20 mA

DC/DC/DC	6ES7 215-1AF40-0XB0
DC/DC/RLY	6ES7 215-1HF40-0XB0

Communication

Communication modules

Article No.

CM 1241 RS232

6ES7 241-1AH32-0XB0

CM 1241 RS422/485

6ES7 241-1CH32-0XB0

CM 1243-2 AS-i master

3RK7 243-2AA30-0XB0

DCM 1271 AS-i Data decoupling

3RK7 271-1AA30-0AA0

CM 1242-5 PROFIBUS DP slave

6GK7 242-5DX30-0XE0

CM 1243-5 PROFIBUS DP master

6GK7 243-5DX30-0XE0

Communications processors

Article No.

CP 1242-7 GPRS

6GK7 242-7KX30-0XE0

CP 1243-7 LTE

6GK7 243-7KX30-0XE0

CP 1243-1 Security

6GK7 243-1BX30-0XE0

CP 1243-1 DNP3 DNP3 protocol

6GK7 243-1JX30-0XE0

CP 1243-1 IEC IEC 60870-5-104 protocol

6GK7 243-1PX30-0XE0

RF120C RFID/code reader

6GT2 002-0LA00

Telecontrol

Article No.

TS Adapter IE Basic

6ES7 972-0EB00-0XA0

TS Module

TS module modem

6ES7 972-0MM00-0XA0

TS module ISDN

6ES7 972-0MD00-0XA0

TS module RS232

6ES7 972-0MS00-0XA0

TS module GSM

6GK7 972-0MG00-0XA0



Quad-band GSM/UMTS/LTE antenna ANT794-4MR

6NH9 860-1AA00

CM CANopen

Article No.

This product can be ordered directly from HMS Anybus

21620

Communications board

Article No.

CB 1241 RS485

6ES7 241-1CH30-1XB0



Telecontrol server

Telecontrol Server Basic 8

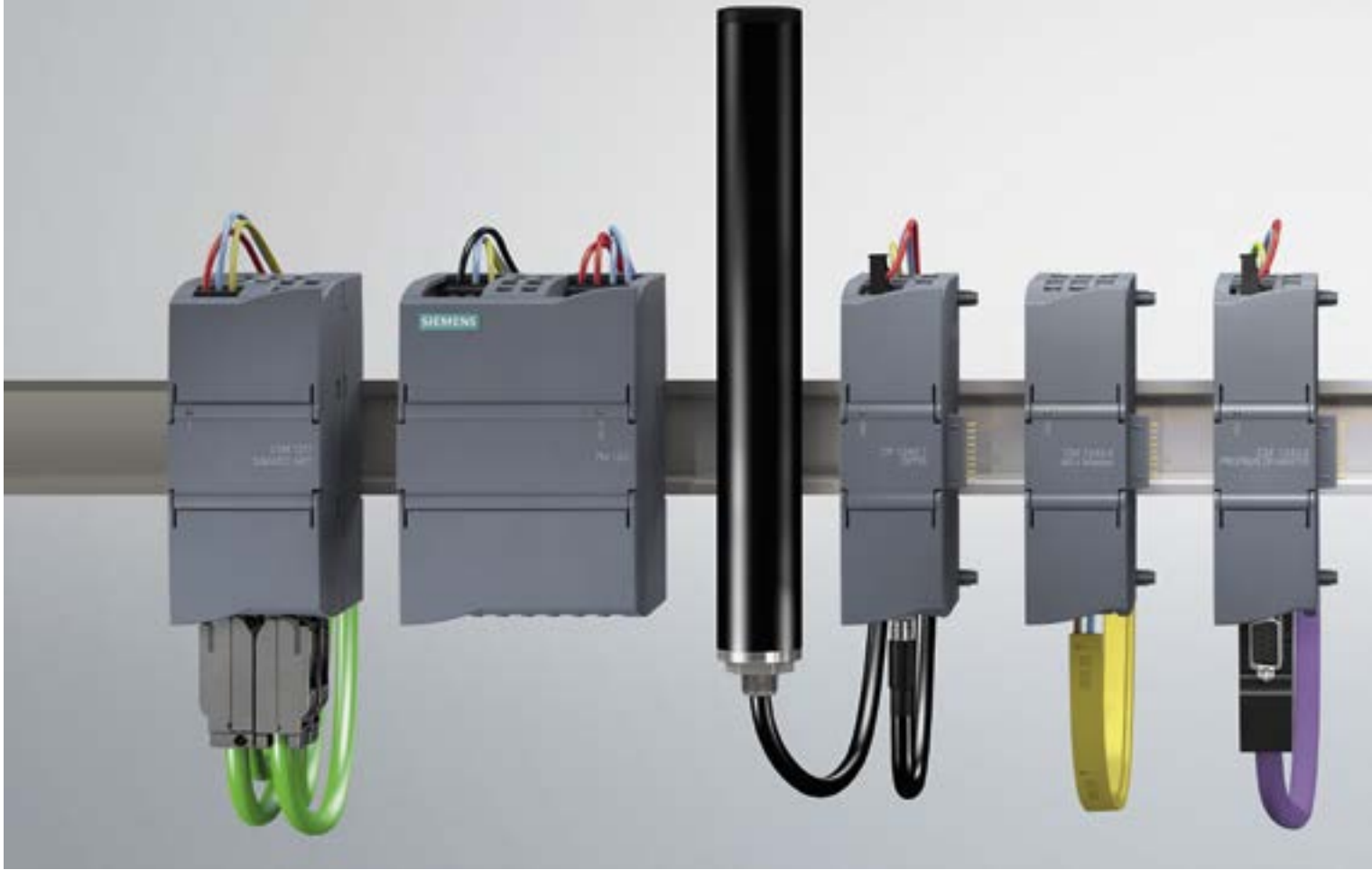
6NH9 910-0AA21-0AA0

Telecontrol Server Basic 64

6NH9 910-0AA21-0AB0

Telecontrol Server Basic 256

6NH9 910-0AA21-0AC0



Signaling modules

Signal modules – digital

Article No.

SM 1221 DC

DI 8x24 V DC	6ES7 221-1BF32-0XB0
DI 16x24 V DC	6ES7 221-1BH32-0XB0

SM 1222 DC

DO 8x24 V DC 0.5 A	6ES7 222-1BF32-0XB0
DO 16x24 V DC 0.5 A	6ES7 222-1BH32-0XB0

SM 1222 RLY

DO 8xRLY 30 V DC/250 V AC 2 A	6ES7 222-1HF32-0XB0
DO 16xRLY 30 V DC/250 V AC 2 A	6ES7 222-1HH32-0XB0
DO 8xRLY switchover 30 V DC/250 V AC 2 A	6ES7 222-1XF32-0XB0

SM 1223 DC/DC

DI 8x24 V DC, DO 8x24 V DC 0.5 A	6ES7 223-1BH32-0XB0
DI 16x24 V DC, DO 16x24 V DC 0.5 A	6ES7 223-1BL32-0XB0

SM 1223 DC/RLY

DI 8x24 V DC, DO 8xRLY 30 V DC/250 V AC 2 A	6ES7 223-1PH32-0XB0
DI 16x24 V DC, DO 16xRLY 30 V DC/250 V AC 2 A	6ES7 223-1PL32-0XB0

SM 1223 AC/RLY

DI 8x120/250 V AC, DO 8xRLY 30 V DC/250 V AC 2 A	6ES7 223-1QH32-0XB0
---	---------------------

Signal modules – analog

Article No.

SM 1231 AI

AI 4x13 bits ± 10 V DC, ± 5 V DC, ± 2.5 V DC or 4–20 mA	6ES7 231-4HD32-0XB0
--	---------------------

AI 8x13 bits ± 10 V DC, ± 5 V DC, ± 2.5 V DC or 4–20 mA	6ES7 231-4HF32-0XB0
--	---------------------

AI 4x16 bits ± 10 V DC, ± 5 V DC, ± 2.5 V DC, ± 1.25 V DC or 4–20 mA	6ES7 231-5ND32-0XB0
---	---------------------

SM 1231 RTD

AI 4xRTDx16 bits	6ES7 231-5PD32-0XB0
------------------	---------------------

AI 8xRTDx16 bits	6ES7 231-5PF32-0XB0
------------------	---------------------

Types: Platinum (Pt), copper (Cu), nickel (Ni) or resistance element

SM 1231 TC

AI 4xTCx16 bits	6ES7 231-5QD32-0XB0
-----------------	---------------------

AI 8xTCx16 bits	6ES7 231-5QF32-0XB0
-----------------	---------------------

Types: J, K, T, E, R, S, N, C, TXK/XK(L); voltage range: ± 80 mV

SM 1232 AO

AO 2x14 bits ± 10 V DC or 4–20 mA	6ES7 232-4HB32-0XB0
---------------------------------------	---------------------

AO 4x14 bits ± 10 V DC or 4–20 mA	6ES7 232-4HD32-0XB0
---------------------------------------	---------------------

SM 1234 AI/AO

AI 4x13 bits ± 10 V DC, ± 5 V DC, ± 2.5 V DC or 4–20 mA, AO 2x14 bits ± 10 V DC or 4–20 mA	6ES7 234-4HE32-0XB0
--	---------------------



Signal boards



	Article No.
SB 1221 DC* 200 kHz	
DI 4 x 5 V DC*	6ES7 221-3AD30-0XB0
DI 4 x 24 V DC*	6ES7 221-3BD30-0XB0
SB 1222 DC 200 kHz	
DO 4 x 5 V DC 0.1 A	6ES7 222-1AD30-0XB0
DO 4 x 24 V DC 0.1 A	6ES7 222-1BD30-0XB0
SB 1223 DC*/DC	
DI 2 x 24 V DC*/DA 2 x 24 V DC 0.5 A	6ES7 223-0BD30-0XB0
SB 1223 DC*/DC 200 kHz	
DI 2 x 5 V DC*/DA 2 x 5 V DC 0.1 A	6ES7 223-3AD30-0XB0
DI 2 x 24 V DC*/DA 2 x 24 V DC 0.1 A	6ES7 223-3BD30-0XB0
SB 1232 AO	
AO 1 x 12 bits ± 10 V DC or 0 – 20 mA	6ES7 232-4HA30-0XB0
SB 1231 AI	
AI 1 x 12 bits ± 10 V DC, ± 5 V DC, ± 2.5 V DC or 0 – 20 mA	6ES7 231-4HA30-0XB0
SB 1231 RTD	
AI 1 x RTD x 16 bits, type: platinum (Pt)	6ES7 231-5PA30-0XB0
SB 1231 TC	
AI 1 x TC x 16 bits, types: J, K voltage range: ± 80 mV	6ES7 231-5QA30-0XB0
*sourcing input	

Signal modules – fail-safe



	Article No.
SM 1226 F-DO 2 x Relay	
F-DO 2 x 5 A 30 V DC/250 V AC	6ES7 226-6RA32-0XB0
SM 1226 F-DO 4 x 24 V DC	
F-DO 4 x 2 A 24 V DC	6ES7 226-6DA32-0XB0
SM 1226 F-DI 16 x 24 V DC	
F-DI 16 x 24 VDC	6ES7 226-6BA32-0XB0

Engineering framework

Software SIMATIC STEP 7



	Article No.
SIMATIC STEP 7 Basic V13	
	6ES7 822-0AA03-0YA5
SIMATIC STEP 7 Professional V13	
	6ES7 822-1AA03-0YA5
SIMATIC STEP 7 Safety Basic V13 SP1	
	6ES7833-1FB13-0YA5
Software Update Service SIMATIC STEP 7 Basic	
	6ES7 822-0AA00-0YL0
Upgrade SIMATIC STEP 7 Basic V11–V12 to V13 Floating License	
	6ES7 822-0AA03-0YE5

Accessories

	Article No.
BB 1297	Battery board (long-term backup of the real-time clock (RTC))
	6ES7 297-0AX30-0XA0

SIMATIC memory card



4 MB (optional)	6ES7 954-8LC02-0AA0
12 MB (optional)	6ES7 954-8LE02-0AA0
24 MB (optional)	6ES7 954-8LF02-0AA0
256 MB (optional)	6ES7 954-8LL02-0AA0
2 GB (optional)	6ES7 954-8LP01-0AA0

Digital input simulators



Simulator (8 positions for CPU 1211C/1212C)	6ES7 274-1XF30-0XA0
Simulator (14 positions for CPU 1214C/1215C)	6ES7 274-1XH30-0XA0
Simulator (14 positions for CPU 1217C)	6ES7 274-1XK30-0XA0

Analog input simulators

Potentiometer: for all CPUs	6ES7 274-1XA30-0XA0
-----------------------------	----------------------------

Expansion cable for signal module



2.0 m	6ES7 290-6AA30-0XA0
-------	----------------------------

CSM 1277



4-port unmanaged switch, 4 x RJ45 sockets, 10/100 Mbit/s	6GK7 277-1AA10-0AA0
--	----------------------------

Technology

	Article No.
IO-Link	
SM 1278 IO-Link master	6ES7 278-4BD32-0XB0

SIWAREX weigh beams WP 231 SIWAREX



WP 231 SIWAREX, static scales	7MH4 960-2AA01
WP 241 SIWAREX, conveyor scale	7MH4 960-4AA01

Power modules

	Article No.
PM 1207	
Input: 120/230 V AC, 50/60 Hz, 1.2 A/0.67 A, output: 24 V DC/2.5 A	6EP1 332-1SH71



HMI

	Article No.
KP300 Basic mono PN	
Operation using keys, 3" FSTN display, monochrome, modifiable backlighting color (white, red, green, yellow)	6AV6 647-0AH11-3AX0



KP400 Basic color PN	
Operation using touch screen + keys, 4" TFT LCD display, 65536 colors	6AV6 647-0AJ11-3AX0



KTP400 Basic	
Operation using touch screen + keys, 9" TFT LCD display, 65536 colors	6AV2 123-2DB03-0AX0



KTP700 Basic	
Operation using touch screen + keys, 7" TFT LCD display, 65536 colors, PROFINET or PROFIBUS	
PROFINET	6AV2 123-2GB03-0AX0
PROFIBUS	6AV2 123-2GA03-0AX0



KTP900 Basic	
Operation using touch screen + keys, 9" TFT LCD display, 65536 colors	6AV2 123-2JB03-0AX0



KTP1200 Basic	
Operation using touch screen + keys, 12" TFT LCD display, 65536 colors, PROFINET or PROFIBUS	
PROFINET	6AV2 123-2MB03-0AX0
PROFIBUS	6AV2 123-2MA03-0AX0



Current information can be found at: siemens.com/basic-panels

Identification

	Article No.
SIMATIC RF200	
RFID system in the HF range, compact and cost-effective, simple connection to automation system	6GT2821-
More product information available at www.siemens.com/rf200	
SIMATIC RF300	
RFID system in the HF range, large data memory and fast acquisition, simple connection to automation system	6GT2801-
More product information available at www.siemens.com/rf300	
SIMATIC RF600	
RFID system in the UHF range, reliable and flexible SIMATIC integration and connection to PC/IT	6GT2811-
More product information available at www.siemens.com/rf600	



Find out more:

siemens.com/s7-1200

Discover the benefits of SIMATIC S7-1200:

- The new CPU 1217C
- SIMATIC S7-1200 automation tasks in less than 10 minutes
- Reference videos
- New firmware 4.1
- New: Safety Integrated for S7-1200

SIMATIC S7-1200 – see for yourself!



Subject to change without prior notice
Article No. E20001-A2450-P272-X-7600
Dispo 06313
21/60881 WS 02153.
Printed in Germany
© Siemens AG 2015

The information provided in this brochure contains merely general descriptions or characteristics of performance which in case of actual use do not always apply as described or which may change as a result of further development of the products. An obligation to provide the respective characteristics shall only exist if expressly agreed in the terms of contract.

All product designations may be trademarks or product names of Siemens AG or supplier companies whose use by third parties for their own purposes could violate the rights of the owners.

Follow us on:
twitter.com/siemensindustry
youtube.com/siemens

Siemens AG
Digital Factory
P.O. Box 48 48
90026 Nürnberg
Germany