

SIEMENS



Engineered
with
TIA Portal

Maximum engineering efficiency at minimal effort

The perfect match: SIMATIC S7-1200, Basic Panels and TIA Portal

siemens.com/s7-1200



Intuitive, efficient, proven:
TIA Portal redefines engineering.

Answers for industry.

Modular! Powerful! Easy to use!

System Flexibility and Modularity:

Modular board concept provides the ability to add additional I/Os without increasing the CPU's footprint. So if your application calls for a single RTD input just add the correct signal board and this reduces space and cost.

Integrated PROFINET/Ethernet interface eliminates the need for additional proprietary programming cables and no Ethernet expansion module; which reduces space and cost.

Powerful Integrated Functionality:

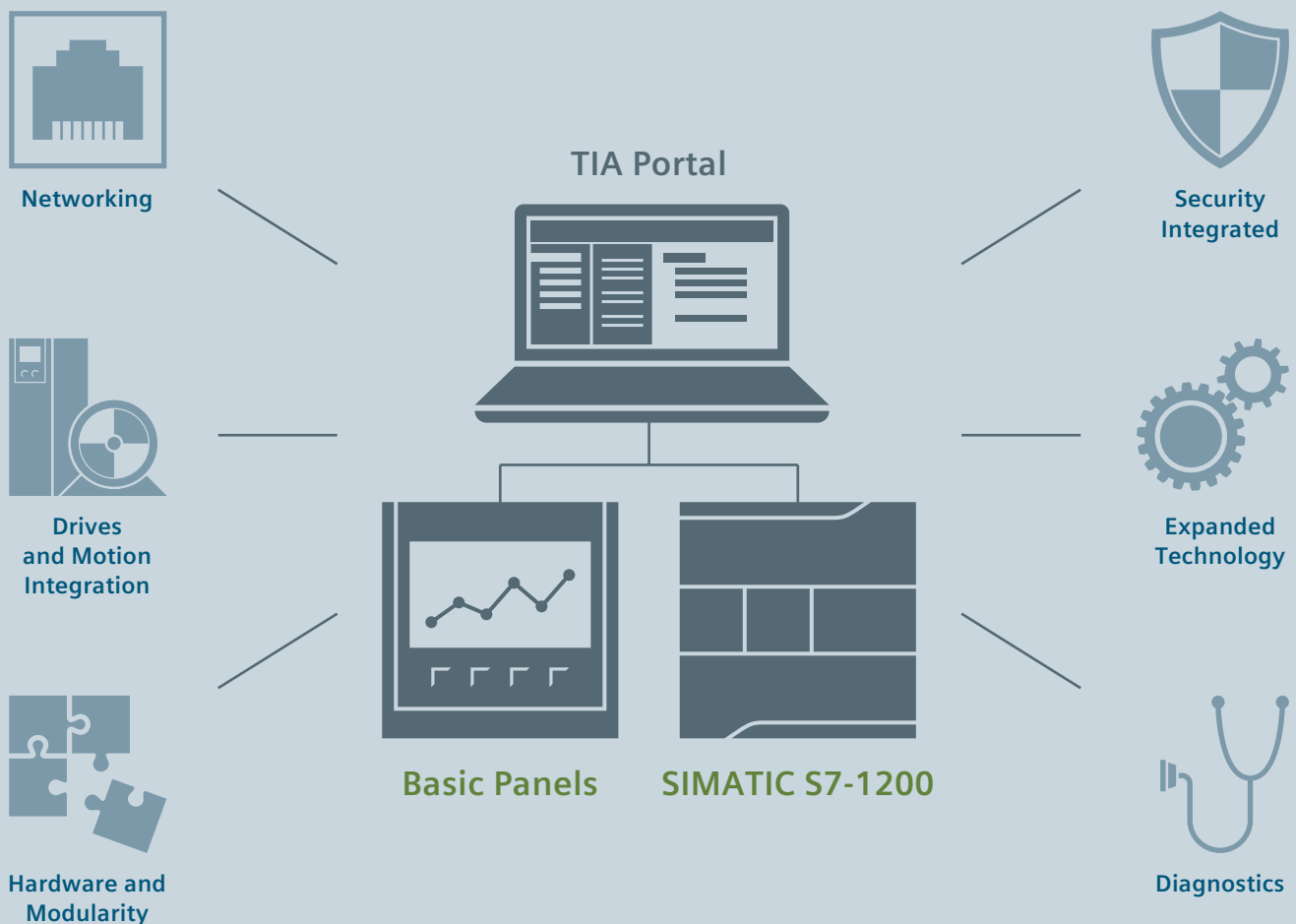
Extensive built-in technology like motion control I/O, PID controllers, High Speed Counting I/O, and Analog I/O eliminates the need for additional specialty modules reducing space and cost.

Simple configuration tools are used for both Motion and PID control functions; which saves engineers considerable development time. Rapid realization of your application is achieved with integrated control panels that dramatically reduce start-up and commissioning time.

Engineering Usability:

Intelligent drag and drop between editors allows engineers to be much quicker during development. This intuitive functionality saves considerable time and overall engineering costs.

Single engineering framework for Logic, HMI and Networking with common navigation, icons, and menus are consistent throughout all views. This makes it easy to learn and even easier to maintain saving you time.



SIMATIC HMI Basic Panels

1st generation



KP300 Basic mono PN
Key operation, 3" FSTN display,
black/white, changeable backlight
color (white, red, green, yellow)

6AV6 647-0AH11-3AX0



KP400 Basic color PN
Key operation, high-resolution
4" Widescreen TFT display,
256 colors

6AV6 647-0AJ11-3AX0

2nd generation



KTP400 Basic PN **NEW**
Touch + Key operation, 4" TFT liquid
crystal LCD display, 65536 colors
Available 04/2014

6AV2 123-2DB03-0AX0



KTP700 Basic PN **NEW**
Touch + Key operation, 7" TFT liquid
crystal LCD display, 65536 colors
Available 04/2014

6AV2 123-2GB03-0AX0



KTP900 Basic PN **NEW**
Touch + Key operation, 9" TFT liquid
crystal LCD display, 65536 colors
Available 09/2014

6AV2 123-2JB03-0AX0



KTP1200 Basic PN **NEW**
Touch + Key operation, 12" TFT
liquid crystal LCD display,
65536 colors
Available 09/2014

6AV2 123-2MB03-0AX0

For latest information please click:
siemens.com/basic-panels

Communication Modules and Processor



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



CP 1242-7 GPRS
6GK7 242-7KX30-0XE0

RF120C RFID/Code Reading **NEW**
6GT2 002-0LA00

CP 1243-1 DNP3 **NEW**
6GK7 243-1JX30-0XE0

CP 1243-1 Security **NEW**
6GK7 243-1BX30-0XE0

CP 1243-1 IEC 60807 **NEW**
6GK7 243-1PX30-0XE0

CM CANopen **NEW**
This product can be ordered
directly from HMS Anybus
21620

Engineering System



**SIMATIC STEP 7
Basic V13**
6ES7 822-0AA03-0YA5

**SIMATIC STEP 7
Professional V13**
6ES7 822-1AA03-0YA5

**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

Compact Switch Module



CSM 1277
4-port unmanaged switch,
4xRJ45 sockets,
10/100 Mbit/s
6GK7 277-1AA10-0AA0

Power Module



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

Accessories and Technology



SIMATIC Memory Card
4 MB (optional)
6ES7 954-8LC02-0AA0
12 MB (optional)
6ES7 954-8LE02-0AA00
24 MB (optional)
6ES7 954-8LF02-0AA0



Input Simulators Digital
Simulator (1211C/1212C-8 Inputs)
6ES7 274-1XF30-0XA0
Simulator (1214C/1215C-14 Inputs)
6ES7 274-1XH30-0XA0
Simulator (1217C-14 Inputs)
6ES7 274-1XK30-0XA0



Input Simulator Analog **NEW**
Potentiometer: for all CPUs
6ES7 274-1XA30-0XA0



SIMATIC S7-1200 Compact Controllers



CPU 1211C
30 KB, DI 6x24 V DC, DO 4x24 V DC
or 4xRLY, AI 2x10 bit 0–10 V DC
DC/DC/DC 6ES7 211-1AE40-0XB0
AC/DC/RLY 6ES7 211-1BE40-0XB0
DC/DC/RLY 6ES7 211-1HE40-0XB0



CPU 1212C
50 KB, DI 8x24 V DC, DO 6x24 V DC
or 6xRLY, AI 2x10 bit 0–10 V DC
DC/DC/DC 6ES7 212-1AE40-0XB0
AC/DC/RLY 6ES7 212-1BE40-0XB0
DC/DC/RLY 6ES7 212-1HE40-0XB0



CPU 1214C
75 KB, DI 14x24 V DC, DO 10x24 V DC
or 10xRLY, AI 2x10 bit 0–10 V DC
DC/DC/DC 6ES7 214-1AG40-0XB0
AC/DC/RLY 6ES7 214-1BG40-0XB0
DC/DC/RLY 6ES7 214-1HG40-0XB0



CPU 1215C
100 KB, DI 14x24 V DC,
DO 10x24 V DC or 10xRLY,
AI 2x10 bit 0–10 V DC, AO 2x10 bit
0 to 20 mA
DC/DC/DC 6ES7 215-1AG40-0XB0
AC/DC/RLY 6ES7 215-1BG40-0XB0
DC/DC/RLY 6ES7 215-1HG40-0XB0



CPU 1217C **NEW**
125 KB, DI 10x24 V DC, 4x1.5 V differential
DO 6x24 V DC, 4x1.5 V differential
AI 2x10 bit 0–10 V DC,
AO 2x10 bit 0 to 20 mA
Line Driver I/O for (1 MHz + –1.5 V)
DC/DC/DC 6ES7 217-1AG40-0XB0

TS-Adapter IE Basic
6ES7 972-0EB00-0XA0

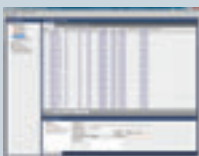


Quad-Band GSM Antenna
6NH9 860-1AA00



Signal Module Expansion Cable
2.0 m
6ES7 290-6AA30-0XA0

TS-Module Modem
6ES7 972-0MM00-0XA0



Telecontrol Server Basic 8
6NH9 910-0AA20-0AA0

SIWAREX weighing modules
WP 231 SIWAREX NEW
Static Scale
7MH4 960-2AA01

TS-Module ISDN
6ES7 972-0MD00-0XA0

Telecontrol Server Basic 64
6NH9 910-0AA20-0AB0

WP 241 SIWAREX NEW
Belt Scale
7MH4 960-4AA01

TS-Module RS232
6ES7 972-0MS00-0XA0

Telecontrol Server Basic 256
6NH9 910-0AA20-0AC0

IO-Link
SM 1278 IO-Link Master NEW
6ES7 278-4BD32-0XB0

TS-Module GSM
6GK7 972-0MG00-0XA0

and more.



Signal and Communication Boards



SB 1221 DC 200 kHz

DI 4x5 V DC
DO 4x24 V DC

6ES7 221-3AD30-0XB0

6ES7 221-3BD30-0XB0

SB 1231 AI

AI 1x12 bit ± 10 V DC, ± 5 V DC,
 ± 2.5 V DC or 0–20 mA

6ES7 231-4HA30-0XB0

SB 1222 DC 200 kHz

DO 4x5 V DC 0.1 A
DO 4x24 V DC 0.1 A

6ES7 222-1AD30-0XB0

6ES7 222-1BD30-0XB0

SB 1231 RTD

AI 1xRTDx16 bit,
Type: Platinum (Pt)

6ES7 231-5PA30-0XB0

SB 1223 DC/DC

DI 2x24 V DC/
DO 2x24 V DC 0.5 A

6ES7 223-0BD30-0XB0

SB 1231 TC

AI 1xTCx16 bit, Types: J, K,
voltage range: ± 80 mV

6ES7 231-5QA30-0XB0

SB 1223 DC/DC 200 kHz

DI 2x5 V DC/
DO 2x5 V DC 0.1 A
DI 2x24 V DC/
DO 2x24 V DC 0.1 A

6ES7 223-3AD30-0XB0

6ES7 223-3BD30-0XB0

CB 1241 RS485

Communication Board

6ES7 241-1CH30-1XB0

SB 1232 AO

AO 1x12 bit ± 10 V DC
or 0–20 mA

6ES7 232-4HA30-0XB0

BB 1297

Battery Board
(Long-Term Backup of RTC)

6ES7 297-0AX30-0XA0

Signal Modules



SM 1221 DC
DI 8x24 V DC
DI 16x24 V DC

6ES7 221-1BF32-0XB0
6ES7 221-1BH32-0XB0



SM 1222 DC
DO 8x24 V DC 0.5 A
DO 16x24 V DC 0.5 A

6ES7 222-1BF32-0XB0
6ES7 222-1BH32-0XB0

SM 1222 RLY
DO 8xRLY 30 V DC/250 V AC 2 A
DO 16xRLY 30 V DC/250 V AC 2 A
DO 8xRLY Changeover 30 V DC/250 V AC 2 A

6ES7 222-1HF32-0XB0
6ES7 222-1HH32-0XB0
6ES7 222-1XF32-0XB0



SM 1223 DC/DC
DI 8x24 V DC, DO 8x24 V DC 0.5 A
DI 16x24 V DC, DO 16x24 V DC 0.5 A

6ES7 223-1BH32-0XB0
6ES7 223-1BL32-0XB0

SM 1223 DC/RLY
DI 8x24 V DC, DO 8xRLY 30 V DC/
250 V AC 2 A
DI 16x24 V DC, DO 16xRLY 30 V DC/
250 V AC 2 A

6ES7 223-1PH32-0XB0
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

SM 1231 AI
AI 4x13 bit ± 10 V DC, ± 5 V DC,
 ± 2.5 V DC or 4–20 mA
AI 8x13 bit ± 10 V DC, ± 5 V DC,
 ± 2.5 V DC or 4–20 mA
AI 4x16 bit ± 10 V DC, ± 5 V DC,
 ± 2.5 V DC, ± 1.25 V DC or 4–20 mA

6ES7 231-4HD32-0XB0
6ES7 231-4HF32-0XB0
6ES7 231-5ND32-0XB0

SM 1231 RTD
AI 4xRTDx16 bit
AI 8xRTDx16 bit
Types: Platinum (Pt), Copper (Cu),
Nickel (Ni) or Resistance

6ES7 231-5PD32-0XB0
6ES7 231-5PF32-0XB0

SM 1231 TC
AI 4xTCx16 bit
AI 8xTCx16 bit
Types: J, K, T, E, R, S, N, C, TXK/XK(L)
Voltage range: ± 80 mV

6ES7 231-5QD32-0XB0
6ES7 231-5QF32-0XB0



SM 1232 AO
AO 2x14 bit ± 10 V DC or 4–20 mA
AO 4x14 bit ± 10 V DC or 4–20 mA

6ES7 232-4HB32-0XB0
6ES7 232-4HD32-0XB0

SM 1234 AI/AO
AI 4x13 bit ± 10 V DC, ± 5 V DC,
 ± 2.5 V DC or 4–20 mA,
AO 2x14 bit ± 10 V DC or 4–20 mA

6ES7 234-4HE32-0XB0

New SIMATIC S7-1217C

New, compact CPU with more functionality and 125k of internal memory. Covers more motion applications with the addition of the Line Driver inputs/outputs. Free assignment of the PTO/PWM outputs and the HSC inputs can be freely assigned as well for greater flexibility. An integrated trace function has been added to give users a troubleshooting tool for determining how signals are interacting.

Integrated Technology

Integrated new compact PID V2.0 optimized for stable and consistent loop control during restart and error response. RFID module integrated in the backplane of the CPU makes engineering RFID or code reading quick and easy. SIWAREX weighing modules for integration of static weighing and belt scale applications are equally efficient.

New Basic Panels

New SIMATIC HMI Basic Panels feature high-resolution touch display with 16:9 ratio for intuitive operation, innovative graphical user interface, integrated system diagnostics, PROFINET and PROFIBUS interfaces and USB interface for connecting to devices. Seamless integration of controller and HMI engineering software ensures maximum efficiency during development.

Hardware and Modularity

Integrated PROFINET/Ethernet port eliminates the need for additional proprietary programming cables and no expansion module is required. Modular signal boards can be connected directly to the front of the CPU without increasing the footprint of the CPU. This gives flexibility to help solve your application-specific requirements. Removable connectors for the entire product range make CPU and signal module replacement fast and efficient.

Networking

Application scalability and flexibility is achieved through the integrated PROFINET interface for programming, HMI connections, distributed I/O, and distributed drives. Also I-Device makes CPU to CPU as well as Master Slave architectures fast and simple. PROFIBUS, Modbus RTU/TCP, CANopen and TCP/IP are available for open communications.

Security Integrated

Protection against unauthorized code or process value changes helps to facilitate increased operational availability. Know-how protection, copy protection, and access protection help to prevent unauthorized third parties from opening and duplicating blocks protecting your algorithm or process.

Drives and Motion Integration

Easy configuration of linear position movements, and fast programming using standard PLC Open blocks. Up to 4 PTO/PWM outputs for open-loop speed and position control. Flexible connection of standard drive applications by PROFINET, PROFIBUS, Modbus TCP, or CANopen and up to 16 PROFINET drives can be connected to a single CPU.

System Diagnostics

Downtime mitigation is realized from machine failures with visualization of all SIMATIC hardware's integrated system diagnostics. This is achieved by simply configuring what you want by checking the box for wire break or high/low range. Efficient fault analysis is achieved through plain text diagnostics displayed in the TIA Portal, on CPU Web server, on the HMI via Active X control and no code is required.

Find out more

siemens.com/s7-1200

Discover the advantages of SIMATIC S7-1200:

- The new CPU 1217C
- SIMATIC S7-1200 Automation tasks in 10 minutes or less
- Reference videos
- New firmware 4.0

SIMATIC
S7-1200 –
take a look!



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