

Overview



- For quick, high-performance serial data exchange via point-to-point connection
- Implemented protocols: ASCII, USS drive protocol, Modbus RTU, 3964(R)
- Additional protocols can also be loaded
- Simple parameterization with STEP 7 Basic

Ordering data

Article No.

CM 1241 communications module

Communications module for point-to-point connection, with one RS 422/485 interface

6ES7241-1CH32-0XB0

Communications module for point-to-point connection, with one RS 232 interface

6ES7241-1AH32-0XB0

Accessories**Front flap set (spare part)**

For communications modules

6ES7291-1CC30-0XA0

Technical specifications

Article number	6ES7241-1CH32-0XB0	6ES7241-1AH32-0XB0
	Communication Module CM 1241, RS422/485	Communication Module CM 1241, RS232
General information		
Product type designation	CM 1241 RS 422 / 485	CM 1241 RS 232
Supply voltage		
Rated value (DC)	24 V	24 V
Input current		
Current consumption, max.	220 mA; From backplane bus 5 V DC	200 mA; From backplane bus 5 V DC
Interfaces		
Interfaces/bus type	RS 422 / 485 (X.27)	RS 232C (V.24)
Number of interfaces	1	1
Point-to-point connection		
• Cable length, max.	1 000 m	10 m
Integrated protocol driver		
- Freepoint	Yes	Yes
- ASCII	Yes; Available as library function	Yes; Available as library function
- Modbus RTU master	Yes	Yes
- MODBUS RTU slave	Yes	Yes
- USS	Yes; Available as library function	

SIMATIC S7-1200 Basic Controllers

I/O modules

Communication

CM 1241 communications module

Technical specifications

Article number	6ES7241-1CH32-0XB0 Communication Module CM 1241, RS422/485	6ES7241-1AH32-0XB0 Communication Module CM 1241, RS232
Protocols		
Integrated protocols		
Freeport		
- Telegram length, max.	1 kbyte	1 kbyte
- Bits per character	7 or 8	7 or 8
- Number of stop bits	1 (Standard), 2	1 (Standard), 2
- Parity	No parity (standard); even, uneven, mark (parity bit always 1); space (parity bit always 0)	No parity (standard); even, uneven, mark (parity bit always 1); space (parity bit always 0)
3964 (R)		
- Telegram length, max.	1 kbyte	1 kbyte
- Bits per character	7 or 8	7 or 8
- Number of stop bits	1 (Standard), 2	1 (Standard), 2
- Parity	No parity (standard); even, uneven, mark (parity bit always 1); space (parity bit always 0)	No parity (standard); even, uneven, mark (parity bit always 1); space (parity bit always 0)
Modbus RTU master		
- Address area	1 through 49 999 (Standard Modbus addressing)	1 through 49 999 (Standard Modbus addressing)
- Number of slaves, max.	247; slave numbers 1 through 247, per MODBUS network segment maximum 32 devices, additional repeaters needed to expand the network to maximum configuration	247; slave numbers 1 through 247, per MODBUS network segment maximum 32 devices, additional repeaters needed to expand the network to maximum configuration
MODBUS RTU slave		
- Address area	1 through 49 999 (Standard Modbus addressing)	1 through 49 999 (Standard Modbus addressing)
Interrupts/diagnostics/status information		
Diagnostics function	Yes	Yes
Diagnostics indication LED		
• for status of the outputs	Yes	Yes
Degree and class of protection		
IP degree of protection	IP20	IP20
Standards, approvals, certificates		
CE mark	Yes	Yes
CSA approval	Yes	Yes
UL approval	Yes	Yes
cULus	Yes	Yes
FM approval	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
Marine approval	Yes	Yes
Ambient conditions		
Ambient temperature during operation		
• min.	-20 °C	-20 °C
• max.	60 °C	60 °C
Dimensions		
Width	30 mm	30 mm
Height	100 mm	100 mm
Depth	75 mm	75 mm
Weights		
Weight, approx.	155 g	150 g

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Overview

- For fast, high-performance serial data exchange via point-to-point connection
- Implemented protocols: ASCII, USS drive protocol, Modbus RTU
- Additional protocols can be loaded later
- Simple parameterization with STEP 7 Basic
- Can be plugged directly into the CPU

Ordering data**Article No.**

CB 1241 RS485 communication board for point-to-point connection, with 1 RS485 interface	6ES7241-1CH30-1XB0
Accessories	
Terminal block (spare part) for signal board with 6 screws, gold-plated; 4 pcs.	6ES7292-1BF30-0XA0

Technical specifications

Article number	6ES7241-1CH30-1XB0 Communication Board CB 1241, RS485
General information	
Product type designation	CB 1241 RS 485
Input current	
from backplane bus 5 V DC, typ.	50 mA
Interfaces	
Point-to-point connection	
• Cable length, max.	1 000 m
Integrated protocol driver	
- Freeport	Yes
- ASCII	Yes; Available as library function
- Modbus RTU master	Yes
- MODBUS RTU slave	Yes
- USS	Yes; Available as library function
Protocols	
Integrated protocols	
Freeport	
- Telegram length, max.	1 kbyte
- Bits per character	7 or 8
- Number of stop bits	1 (Standard), 2
- Parity	No parity (standard); even, uneven, mark (parity bit always 1); space (parity bit always 0)
3964 (R)	
- Telegram length, max.	1 kbyte
- Bits per character	7 or 8
- Number of stop bits	1 (Standard), 2
- Parity	No parity (standard); even, uneven, mark (parity bit always 1); space (parity bit always 0)
Modbus RTU master	
- Address area	1 through 49 999 (Standard Modbus addressing)
- Number of slaves, max.	247; slave numbers 1 through 247, per MODBUS network segment maximum 32 devices, additional repeaters needed to expand the network to maximum configuration
MODBUS RTU slave	
- Address area	1 through 49 999 (Standard Modbus addressing)

Article number	6ES7241-1CH30-1XB0 Communication Board CB 1241, RS485
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
Marine approval	Yes
Ambient conditions	
Ambient temperature during operation	
• min.	-20 °C
• max.	60 °C
Mechanics/material	
Enclosure material (front)	
• Plastic	Yes
Dimensions	
Width	38 mm
Height	62 mm
Depth	21 mm
Weights	
Weight, approx.	40 g

SIMATIC S7-1200 Basic Controllers

I/O modules
Communication

CM 1242-5

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Overview



DP-M	DP-S	FMS	PG/OP	S7
	●			

The CM 1242-5 communication module is used to connect a SIMATIC S7-1200 to PROFIBUS as a DP slave and has the following characteristics:

- PROFIBUS DPV1 slave in accordance with IEC 61158
- Module replacement without PG supported
- Power is supplied via the backplane bus so that no extra cabling is required
- Support of all standard baud rates from 9.6 kbps to 12 Mbps
- Compact industry-standard enclosure in S7-1200 design for mounting on a DIN rail
- Fast commissioning thanks to easy configuration using STEP 7 without additional programming overhead

The CM 1242-5 is intended for use in factory automation. Low-cost PROFIBUS-based automation solutions can be created on the basis of the SIMATIC S7-1200 for optimal production.

Ordering data

Article No.

CM 1242-5 communication module

Communication module for electrical connection of SIMATIC S7-1200 to PROFIBUS as a DP slave module

6GK7242-5DX30-0XE0

Accessories

PROFIBUS FastConnect RS485 connection plug

With 90° cable outlet; insulation displacement technology, max. transmission rate 12 Mbps

- Without programming device interface
- With programming device interface

6ES7972-0BA52-0XA0

6ES7972-0BB52-0XA0

PROFIBUS FC standard cable

2-core bus cable, shielded, special design for fast mounting, sold by the meter; delivery unit: max. 1 000 m, minimum order quantity 20 m, sold by the meter

6XV1830-0EH10

PROFIBUS FastConnect stripping tool

Stripping tool for fast stripping of the PROFIBUS FastConnect bus cable

6GK1905-6AA00

PROFIBUS bus terminal 12M

Bus terminal for connection of PROFIBUS nodes up to 12 Mbps with connecting cable

6GK1500-0AA10

Technical specifications

Article number	6GK7242-5DX30-0XE0
product type designation	CM 1242-5
transfer rate	
transfer rate	
• at the 1st interface acc. to PROFIBUS	9.6 kbit/s ... 12 Mbit/s
interfaces	
number of interfaces acc. to Industrial Ethernet	0
number of electrical connections	
• at the 1st interface acc. to PROFIBUS	1
• for power supply	0
type of electrical connection	
• at the 1st interface acc. to PROFIBUS	9-pin Sub-D socket (RS485)
supply voltage, current consumption, power loss	
type of voltage of the supply voltage	DC
supply voltage 1 from backplane bus	5 V
consumed current	
• from backplane bus at DC at 5 V typical	0.15 A
power loss [W]	0.75 W
ambient conditions	
ambient temperature	
• for vertical installation during operation	0 ... 45 °C
• for horizontally arranged busbars during operation	0 ... 55 °C
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
relative humidity	
• at 25 °C without condensation during operation maximum	95 %
protection class IP	IP20

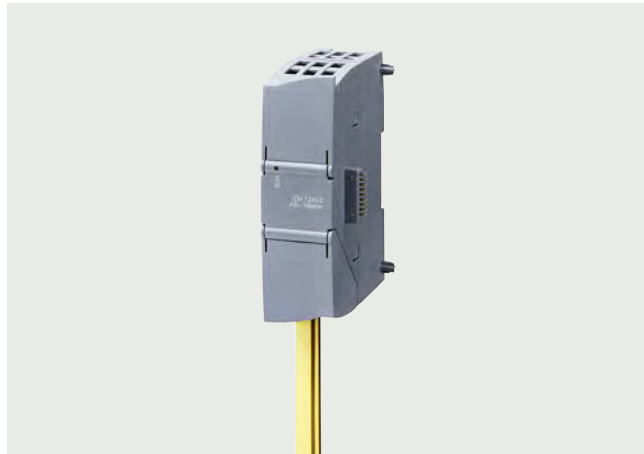
Article number	6GK7242-5DX30-0XE0
product type designation	CM 1242-5
design, dimensions and weights	
module format	Compact module S7-1200 single width
width	30 mm
height	100 mm
depth	75 mm
net weight	0.115 kg
fastening method	
• 35 mm top hat DIN rail mounting	Yes
• S7-300 rail mounting	No
• wall mounting	Yes
product features, product functions, product components general	
number of units	
• per CPU maximum	3
performance data PROFIBUS DP	
service as DP slave	
• DPV0	Yes
• DPV1	Yes
data volume	
• of the address range of the inputs as DP slave total	240 byte
• of the address range of the outputs as DP slave total	240 byte
performance data telecontrol	
protocol is supported	
• TCP/IP	No
product functions management, configuration, engineering	
configuration software	
• required	STEP 7 Basic/Professional
standards, specifications, approvals hazardous environments	
certificate of suitability CCC for hazardous zone according to GB standard	Yes

SIMATIC S7-1200 Basic Controllers

I/O modules
Communication

AS-Interface communication > CM 1243-2 AS-i Master

Overview



CM 1243-2 communications module for S7-1200

More information

Manuals

see <https://support.industry.siemens.com/cs/ww/en/ps/15750/man>

AS-Interface I/O modules and other AS-Interface system components
see catalog IC 10 <https://www.siemens.com/ic10>

More information see <https://www.siemens.com/as-interface>

The CM 1243-2 communications module is the AS-Interface master for the SIMATIC S7-1200 and has the following features:

- Connection of up to 62 AS-Interface slaves
- Integrated analog value transmission
- Supports all AS-Interface master functions in accordance with the AS-Interface specification V3.0
- Indication of the operating state on the front of the device displayed via LED
- Display of operating mode, AS-Interface voltage faults, configuration faults and peripheral faults via LED behind the front panel
- Compact enclosure in the design of the SIMATIC S7-1200
- Suitable for AS-Interface with 30 V voltage and for AS-i Power 24 V: A standard 24 V power supply unit can be used in combination with the optional DCM 1271 data decoupling module.
- Configuration and diagnostics via the TIA Portal

Design

The CM 1243-2 communications module is positioned to the left of the S7-1200 CPU and linked to the S7-1200 via lateral contacts.

It has:

- Terminals for two AS-i cables (internally jumpered) via two screw terminals
- One terminal for connection to the functional ground
- LEDs for indication of the operating state and fault statuses of the connected slaves

The screw terminals (included in scope of supply) can be removed to facilitate installation.

Function

The CM 1243-2 supports all specified functions of the AS-Interface specification V3.0.

The values of the digital AS-i slaves can be activated via the process image of the S7-1200. During configuration of the slaves in the TIA Portal, the values of the analog AS-i slaves can also be accessed directly in the process image.

If required, master calls can be performed with the data record interface, e.g. read/write parameters, read/write configuration.

Changeover of the operating mode, automatic application of the slave configuration and the re-addressing of a connected AS-i slave can be implemented via the control panel of the CM 1243-2 in the TIA Portal.

The optional DCM 1271 data decoupling module (see page 3/137) has an integrated detection unit for detecting ground faults on the AS-Interface cable. The integrated overload protection also disconnects the AS-Interface cable if the drive current required exceeds 4 A. For more information on DCM 1271, see page 3/136.

Notes on security

In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Siemens products and solutions represent only one component of such a concept.

For more information about the subject of Industrial Security, see <http://www.siemens.com/industrialsecurity>.

Configuration

The TIA Portal enables user-friendly configuration and diagnostics of the AS-Interface master and any connected slaves.

When operated on a S7-1200 CPU with firmware version V4.0 or higher, the firmware version V1.1 (or higher) is required for the CM 1243-2.

Benefits

- More flexibility and versatility in the use of SIMATIC S7-1200 as the result of a significant increase in the number of digital and analog inputs/outputs available
- Very easy configuration and diagnostics of the AS-Interface via the TIA Portal
- Simple operation with AS-Interface power supply unit (see <https://mall.industry.siemens.com/mall/en/WW/Catalog/Products/8200165?tree=CatalogTree>) possible without restrictions.
- Alternatively: No need for the AS-i power supply unit with AS-i Power24V. The AS-Interface cable is supplied through an existing 24 V DC PELV power supply unit. For decoupling, the AS-i DCM 1271 data decoupling module is required, see "Accessories" and page 3/136.
- LEDs for indication of fault statuses for fast diagnostics
- Monitoring of AS-Interface voltage facilitates diagnostics

Application

The CM 1243-2 is the AS-Interface master connection for the 12xx CPUs of the SIMATIC S7-1200. Through connection to AS-Interface, the number of digital inputs and outputs available for the S7-1200 is greatly increased (max. 496 DI/496 DQ on the AS-Interface per CM).

The integrated analog value processing also makes the analog values available at the AS-Interface for the S7-1200. Up to 31 analog slaves with a standard address (each with up to four channels) or up to 62 analog slaves with an A/B address (each with up to two channels) are possible per CM.

Operating conditions

- The CM 1243-2 communications module exchanges data with the S7-1200 CPU with a cycle time of 10 ms.
- The AS-i cycle time depends on the AS-i bus capacity and is up to 5 ms in the case of 31 slave addresses; for more information, see manual AS-i Master CM 1243-2 and AS-i DCM 1271 data decoupling module, <https://support.industry.siemens.com/cs/ww/en/view/57358958>.
- For calculation of the maximum switching frequency at inputs/outputs of AS-i slaves, these cycle times and the runtime of the user program must be added up.

Ordering data**Article No.****CM 1243-2 communications module 3RK7243-2AA30-0XB0**

- AS-Interface master for SIMATIC S7-1200
- Corresponds to AS-Interface specification V3.0
- With screw terminals, removable terminals (included in the scope of supply)
- Dimensions (W x H x D) mm: 30 x 100 x 75

Note:

The CM 1243-2 communications module is available as a SIPLUS version under Article No. 6AG1243-2AA30-7XB0 in the extended temperature range (from -25 to +70 °C) and for use in harsh environmental conditions (coated according to environment standard IEC 60721).

For more information, see page 3/156.

Accessories**DCM 1271 data decoupling module 3RK7271-1AA30-0AA0**

- Max. current: 1 x 4 A
- With screw terminals, removable terminals (included in the scope of supply)
- Dimensions (W x H x D) mm: 30 x 100 x 75

Screw terminals (spare part)

- With screw terminals, 5-pole
For AS-i Master CM 1243-2 and AS-i DCM 1271 data decoupling module
- With screw terminals, 3-pole
For AS-i DCM 1271 data decoupling module for connecting the power supply unit

3RK1901-3MA00**3RK1901-3MB00****AS-Interface addressing unit V3.0 3RK1904-2AB02**

- For AS-Interface modules and sensors and actuators with integrated AS-Interface according to AS-i specification V3.0
- For setting the AS-i address of standard slaves, and slaves with extended addressing mode (A/B slaves)
- With input/output test function and many other commissioning functions
- Battery operation with four type AA batteries (IEC LR6, NEDA 15)
- Degree of protection IP40
- Dimensions (W x H x D) mm: 84 x 195 x 35
- Scope of supply:
 - Addressing unit with four batteries
 - Addressing cable, with M12 plug to addressing plug (hollow plug), length 1.5 m

3RK1904-2AB02

SIMATIC S7-1200 Basic Controllers

I/O modules

Communication

AS-Interface communication > DCM 1271 data decoupling module

Overview



DCM 1271 data decoupling module for SIMATIC S7-1200

More information

Manual for AS-i Master CM 1234-2 and AS-i DCM 1271 data decoupling module, see <https://support.industry.siemens.com/cs/ww/en/view/57358958>

More information on AS-i Power24V, see <https://support.industry.siemens.com/cs/ww/en/view/26250840>

AS-Interface I/O modules and other AS-Interface system components see catalog IC 10 <https://www.siemens.com/ic10>

More information see <https://www.siemens.com/as-interface>

With the aid of the DCM 1271 data decoupling module, the AS-Interface network can also be supplied with 24 V DC or 30 V DC from a standard power supply unit and the transmission of data and power can be implemented on one cable.

The DCM 1271 data decoupling module has the same type of enclosure as an S7-1200 module and can therefore be perfectly combined with the AS-i Master CM 1243-2.

The DCM 1271 data decoupling module has no connection to the backplane bus of the SIMATIC S7-1200 and is therefore not counted as a communications module for the calculation of the maximum configuration.

Features of the DCM 1271 data decoupling module

- Design: S7-1200, width 30 mm, degree of protection IP20
- Detachable terminals (included in scope of supply)
- Single data decoupling
- Supply of several AS-i networks with a single power supply unit
- Operation with 24 V DC or 30 V DC, grounded or non-grounded
- Current limiting at 4 A
- Integrated ground-fault detection
- Diagnostic LEDs for ground faults and overloads
- Signaling contact for ground-fault detection

Ground-fault detection

The integrated ground-fault detection functions with grounded and non-grounded power supply: The connection of negative pole and ground (upstream from the data decoupling module) customary with 24 V DC power supplies is permitted. A ground fault to the negative or positive pole on the AS-Interface network (behind the data decoupling module) is identified and signaled via LED and a transistor output.

Benefits

- An existing standard power supply unit with 24 V DC or 30 V DC can be used for supplying AS-i networks
- The AS-Interface system can also be used in tightly budgeted applications because no AS-Interface power supply unit needs to be purchased
- Applications benefit in addition from the advantages of a modern bus system:
 - High level of standardization
 - Additional diagnostics and maintenance information
 - Faster commissioning

Application

The AS-Interface data decoupling module is designed for AS-Interface networks with 30 V or 24 V supply (AS-i Power24V).

Operation of an AS-i network with the data decoupling module and a 30 V standard power supply unit is technically equivalent to the use of an AS-Interface power supply unit and offers the service-proven features of AS-Interface for all applications.

AS-i Power24V uses a 24 V power supply unit in conjunction with a data decoupling module and is particularly suitable for

- Compact machines using AS-Interface input/output modules
- Applications in the control cabinet for AS-Interface integration of SIRIUS 3RT2 contactors using 3RA27 function modules

Note:

The power supply units must comply with the ES1 (IEC 62368-1) or PELV (Protective Extra Low Voltage)/SELV (Safety Extra Low Voltage) standards, have a residual ripple of < 250 mV_{pp}, and must limit the output voltage to a maximum of 40 V in the event of a fault.

We recommend

- SITOP power supplies, see <https://mall.industry.siemens.com/mall/en/WW/Catalog/Products/10244081?tree=CatalogTree> or catalog KT 10.1, <https://support.industry.siemens.com/cs/ww/en/view/109745655>
- PSN130S 30 V power supply units, see <https://mall.industry.siemens.com/mall/en/WW/Catalog/Products/10174512?tree=CatalogTree>.

Note on AS-i Power24V:

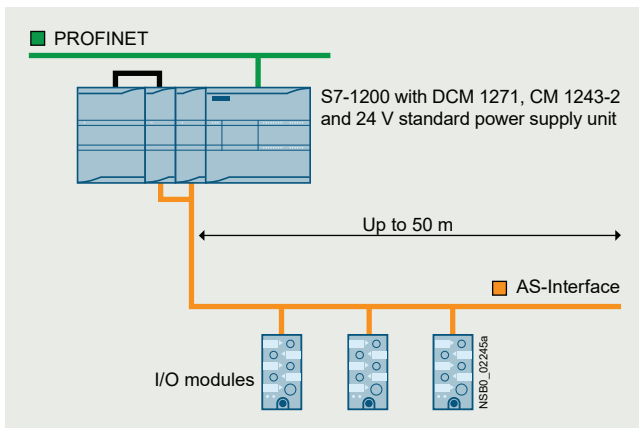
The length of an AS-i Power24V network is restricted to 50 m in order to limit the voltage drop along the cable.

AS-i masters, AS-i slaves and the sensors and actuators supplied through the AS-i cable must be designed for the reduced voltage. Sensors and actuators for the standard voltage range of 10 to 30 V can be supplied with sufficient voltage.

Please also observe the requirements specified in "AS-i Power24V" for the operation of an AS-i Power24V network, see <https://mall.industry.siemens.com/mall/en/WW/Catalog/Products/10057530?tree=CatalogTree>.

More information on AS-i Power24V, see System Manual for AS-Interface, <https://support.industry.siemens.com/cs/ww/en/view/26250840>.

AS-Interface communication > DCM 1271 data decoupling module



Configuration of an AS-i Power24V network with AS-Interface DCM 1271 data decoupling module

Ordering data

Article No.

DCM 1271 data decoupling module**3RK7271-1AA30-0AA0**

- Max. current: 1 x 4 A
- With screw terminals, removable terminals (included in the scope of supply)
- Dimensions (W x H x D) mm: 30 x 100 x 75

Accessories**Screw terminals (spare part)**

- With screw terminals, 5-pole
For AS-i Master CM 1243-2 and AS-i DCM 1271 data decoupling module
- With screw terminals, 3-pole
For AS-i DCM 1271 data decoupling module for connecting the power supply unit

3RK1901-3MA00**3RK1901-3MB00****CM 1243-2 communications module****3RK7243-2AA30-0XB0**

- AS-Interface master for SIMATIC S7-1200
- Corresponds to AS-Interface specification V3.0
- With screw terminals, removable terminals (included in the scope of supply)
- Dimensions (W x H x D) mm: 30 x 100 x 75

SIMATIC S7-1200 Basic Controllers

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Communication

CM 1243-5

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Overview



DP-M	DP-S	FMS	PG/OP	S7
●			●	●

The CM 1243-5 communication module is used to connect a SIMATIC S7-1200 to PROFIBUS as a DP master and has the following characteristics:

- PROFIBUS DPV1 master in accordance with IEC 61158
- Support of up to 16 PROFIBUS DP slaves
- Communication with other S7 controllers based on S7 communication
- Allows programming devices and operator panels with PROFIBUS interfaces to be connected to the SIMATIC S7-1200
- Module replacement without PG supported
- Support of all standard baud rates from 9.6 kbps to 12 Mbps
- Compact industrial enclosure in SIMATIC S7-1200 design for mounting on a DIN rail
- Fast commissioning thanks to easy configuration using STEP 7 without additional programming overhead

The CM 1243-5 is intended for use in factory automation. Low-cost PROFIBUS-based automation solutions can be created on the basis of the SIMATIC S7-1200 for optimal production.

Ordering data

Article No.

CM 1243-5 communications module

Communications module for electrical connection of SIMATIC S7-1200 to PROFIBUS as a DPV1 master

6GK7243-5DX30-0XE0

Accessories

PROFIBUS FastConnect RS485 connection plug

With 90° cable outlet; insulation displacement technology, max. transmission rate 12 Mbps

- Without programming device interface
- With programming device interface

6ES7972-0BA52-0XA0

6ES7972-0BB52-0XA0

PROFIBUS FC standard cable

2-wire bus cable, shielded, special design for fast mounting, delivery unit: max. 1 000 m, minimum order quantity 20 m, sold by the meter

6XV1830-0EH10

PROFIBUS FastConnect stripping tool

Stripping tool for fast stripping of the PROFIBUS FastConnect bus cable

6GK1905-6AA00

PROFIBUS bus terminal 12M

Bus terminal for connection of PROFIBUS nodes up to 12 Mbps with connecting cable

6GK1500-0AA10

Technical specifications

Article number	6GK7243-5DX30-0XE0
product type designation	CM 1243-5
transfer rate	
transfer rate	
• at the 1st interface acc. to PROFIBUS	9.6 kbit/s ... 12 Mbit/s
interfaces	
number of interfaces acc. to Industrial Ethernet	0
number of electrical connections	
• at the 1st interface acc. to PROFIBUS	1
• for power supply	1
type of electrical connection	
• at the 1st interface acc. to PROFIBUS	9-pin Sub-D socket (RS485)
• for power supply	3-pole terminal block
supply voltage, current consumption, power loss	
type of voltage of the supply voltage	DC
supply voltage external	24 V
supply voltage external at DC rated value	24 V
relative positive tolerance at DC at 24 V	20 %
relative negative tolerance at DC at 24 V	20 %
consumed current	
• from external supply voltage at DC at 24 V typical	0.1 A
power loss [W]	2.4 W
ambient conditions	
ambient temperature	
• for vertical installation during operation	0 ... 45 °C
• for horizontally arranged busbars during operation	0 ... 55 °C
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
relative humidity	
• at 25 °C without condensation during operation maximum	95 %
protection class IP	IP20
design, dimensions and weights	
module format	Compact module S7-1200 single width
width	30 mm
height	100 mm
depth	75 mm
net weight	0.134 kg
fastening method	
• 35 mm top hat DIN rail mounting	Yes
• S7-300 rail mounting	No
• wall mounting	Yes

Article number	6GK7243-5DX30-0XE0
product type designation	CM 1243-5
product features, product functions, product components general	
number of units	
• per CPU maximum	3
performance data PROFIBUS DP	
service as DP master	
• DPV1	Yes
number of DP slaves	
• on DP master operable	32
data volume	
• of the address range of the inputs as DP master total	512 byte
• of the address range of the outputs as DP master total	512 byte
• of the address range of the inputs per DP slave	244 byte
• of the address range of the outputs per DP slave	244 byte
• of the address range of the diagnostic data per DP slave	240 byte
service as DP slave	
• DPV0	No
• DPV1	No
performance data S7 communication	
number of possible connections for S7 communication	
• maximum	8; max. 4 connections to other S7 stations
• with PG connections maximum	1
• with PG/OP connections maximum	3
performance data multi-protocol mode	
number of active connections with multi-protocol mode	
• without DP maximum	8
• with DP maximum	8
performance data telecontrol	
protocol is supported	
• TCP/IP	No
product functions management, configuration, engineering	
configuration software	
• required	STEP 7 Basic/Professional
standards, specifications, approvals hazardous environments	
certificate of suitability CCC for hazardous zone according to GB standard	Yes

SIMATIC S7-1200 Basic Controllers

I/O modules

Communication

CSM 1277 unmanaged**Overview**

- Unmanaged switch for connecting a SIMATIC S7-1200 to an Industrial Ethernet network with a line, tree or star topology
- Multiplication of Ethernet interfaces on a SIMATIC S7-1200 for additional connection of up to three programming devices, operator controls, and further Ethernet nodes
- Simple, space-saving mounting on the SIMATIC S7-1200 DIN rail
- Low-cost solution for implementing small, local Ethernet networks
- Connection without any problems using RJ45 standard plug connectors
- Simple and fast status display via LEDs on the device
- Integral autocrossover function permits use of uncrossed connecting cables

Ordering data**Article No.**

CSM 1277 compact switch module Unmanaged switch for connecting a SIMATIC S7-1200 and up to three further nodes to Industrial Ethernet with 10/100 Mbps; 4 x RJ45 ports; external 24 V DC power supply, diagnostics on LEDs, S7-1200 module including electronic manual on CD-ROM	6GK7277-1AA10-0AA0
SIPLUS NET CSM 1277 compact switch module Unmanaged switch for connection of SIPLUS S7-1200 and up to three further stations to Industrial Ethernet with 10/100 Mbps; 4 x RJ45 ports; external 24 V DC power supply, LED diagnostics, S7-1200 module including electronic manual on CD-ROM	6AG1277-1AA10-4AA0
Accessories	
IE FC TP trailing cable 2 x 2 (Type C) 4-core, shielded TP installation cable for connection to IE FC outlet RJ45/ IE FC RJ45 plug 180/90 for use as trailing cable; PROFINET-compatible; with UL approval; sold by the meter; max. delivery unit 1 000 m, minimum order quantity 20 m	6XV1840-3AH10
IE FC RJ45 plug 180 2 x 2 RJ45 plug connector for Industrial Ethernet with a rugged metal housing and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables; 180° cable outlet; for network components and CPs/CPUs with Industrial Ethernet interface <ul style="list-style-type: none"> • 1 pack = 1 unit • 1 pack = 10 units • 1 pack = 50 units 	6GK1901-1BB10-2AA0 6GK1901-1BB10-2AB0 6GK1901-1BB10-2AE0
IE FC outlet RJ45 For connection of Industrial Ethernet FC cables and TP cords; graduated prices for 10 and 50 units or more	6GK1901-1FC00-0AA0
IE TP cord RJ45/RJ45 <ul style="list-style-type: none"> • TP cord pre-assembled with 2 RJ45 plug connectors; length: 0.5 m • TP cable 4 x 2 with 2 RJ45 plug connectors; length: 0.5 m 	6XV1850-2GE50 6XV1870-3QE50

Technical specifications

Article number	6GK7277-1AA10-0AA0
product type designation	SCALANCE CSM 1277
transfer rate	
transfer rate	10 Mbit/s, 100 Mbit/s
interfaces for communication integrated	
number of electrical connections	4
• for network components or terminal equipment	
number of 100 Mbit/s SC ports	0
• for multimode	
number of 1000 Mbit/s LC ports	0
• for multimode	
• for single mode (LD)	0
interfaces other	
number of electrical connections	
• for power supply	1
type of electrical connection	
• for power supply	3-pole terminal block
supply voltage, current consumption, power loss	
type of voltage 1 of the supply voltage	DC
• supply voltage 1 rated value	24 V
• power loss [W] 1 rated value	1.6 W
• supply voltage 1 rated value	19.2 ... 28.8 V
• consumed current 1 maximum	0.07 A
• type of electrical connection 1 for power supply	3-pole terminal block
• product component 1 fusing at power supply input	Yes
• fuse protection type 1 at input for supply voltage	0.5 A / 60 V
ambient conditions	
ambient temperature	
• during operation	0 ... 60 °C
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
relative humidity	
• at 25 °C without condensation during operation maximum	95 %
protection class IP	IP20
design, dimensions and weights	
design	SIMATIC S7-1200 device design
width	45 mm
height	100 mm
depth	75 mm
net weight	0.15 kg
fastening method	
• 35 mm top hat DIN rail mounting	Yes
• wall mounting	Yes
• S7-300 rail mounting	No
• S7-1500 rail mounting	No

Article number	6GK7277-1AA10-0AA0
product functions management, configuration, engineering	
product function	
• multiport mirroring	No
product function switch-managed	No
product functions redundancy	
product function	
• Parallel Redundancy Protocol (PRP)/operation in the PRP-network	Yes
• Parallel Redundancy Protocol (PRP)/Redundant Network Access (RNA)	No
standards, specifications, approvals	
standard	
• for FM	FM3611: Class 1, Division 2, Group A, B, C, D / T.., CL-1, Zone 2, GP. IIC, T.. Ta
• for safety from CSA and UL	UL 508, CSA C22.2 No. 142
• for emitted interference	EN 61000-6-4 (Class A)
• for interference immunity	EN 61000-6-2
MTBF	273 y
reference code	
• acc. to IEC 81346-2	KF
• according to IEC 81346-2:2019	KFE
standards, specifications, approvals CE	
certificate of suitability CE marking	Yes
standards, specifications, approvals hazardous environments	
standard for hazardous zone	EN 600079-15:2005, EN 600079-0:2006, II 3 G Ex nA II T4, KEMA 08 ATEX 0003 X
certificate of suitability	
• CCC for hazardous zone according to GB standard	Yes
standards, specifications, approvals other	
certificate of suitability	EN 61000-6-2, EN 61000-6-4
• C-Tick	Yes
• KC approval	No
standards, specifications, approvals marine classification	
Marine classification association	
• American Bureau of Shipping Europe Ltd. (ABS)	Yes
• French marine classification society (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Germanische Lloyd (GL)	No
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (NK)	Yes
• Polski Rejestr Statkow (PRS)	No
• Royal Institution of Naval Architects (RINA)	No

More information

Selection tool:

To support the selection of SCALANCE network components, the TIA selection tool is available at:

<http://www.siemens.com/tst>

SIMATIC S7-1200 Basic Controllers

I/O modules
Communication

CP 1243-1

3

Overview



The CP 1243-1 communications processor is used for connecting the SIMATIC S7-1200 to telecontrol centers via remote networks and telecontrol protocols (DNP3, IEC 60870-5-104, TeleControl Basic), and for safe communication via IP-based networks.

The CP has the following features:

- Ethernet-based connection to TeleControl Server Basic, e.g. via internet
- Data transfer of measured values, control variables, or alarms optimized for telecontrol systems
- Automatic sending of alert emails
- Data buffering of up to 64 000 values ensures a secure database even with temporary connection failures
- Secure communication via VPN connections based on IPsec
- Access protection via stateful inspection firewall
- Support of SINEMA Remote Connect with autoconfiguration
- Clearly laid out LED signaling for fast and easy diagnostics
- Compact industrial enclosure in S7-1200 design for mounting on a DIN rail
- Fast commissioning thanks to easy configuration using STEP 7

Ordering data

Article No.

CP 1243-1 communications processor

CP 1243-1 communications processor for connecting SIMATIC S7-1200 as an additional Ethernet interface and for connection to control centers via telecontrol protocols (DNP3, IEC 60870, TeleControl Basic), security (firewall, VPN)

6GK7243-1BX30-0XE0

Accessories

CSM 1277 compact switch module

Unmanaged switch for connecting a SIMATIC S7-1200 and up to three further nodes to Industrial Ethernet with 10/100 Mbps; 4 x RJ45 ports; external 24 V DC power supply, LED diagnostics, S7-1200 module including electronic device manual on CD-ROM

6GK7277-1AA10-0AA0

IE FC RJ45 plugs

RJ45 connectors for Industrial Ethernet with a rugged metal enclosure and integrated insulation displacement contacts for connecting Industrial Ethernet FC installation cables

IE FC RJ45 plug 180

180° cable outlet; for network components and CPs/CPU with Industrial Ethernet interface

- 1 pack = 1 unit
- 1 pack = 10 units
- 1 pack = 50 units

6GK1901-1BB10-2AA0
6GK1901-1BB10-2AB0
6GK1901-1BB10-2AE0

IE FC TP standard cable GP 2 x 2 (Type A)

4-core, shielded TP installation cable for connection to IE FC outlet RJ45/IE F RJ45 plug; PROFINET-compatible; with UL approval; sold by the meter; max. length 1 000 m, minimum order quantity 20 m

6XV1840-2AH10

IE FC stripping tool

Pre-adjusted stripping tool for fast stripping of Industrial Ethernet FC cables

6GK1901-1GA00

Technical specifications

Article number	6GK7243-1BX30-0XE0
product type designation	CP 1243-1
transfer rate	
transfer rate	
• at the 1st interface	10 ... 100 Mbit/s
interfaces	
number of interfaces acc. to Industrial Ethernet	1
number of electrical connections	
• at the 1st interface acc. to Industrial Ethernet	1
• for power supply	0
type of electrical connection	
• at the 1st interface acc. to Industrial Ethernet	RJ45 port

Article number	6GK7243-1BX30-0XE0
product type designation	CP 1243-1
supply voltage, current consumption, power loss	
type of voltage of the supply voltage	DC
supply voltage 1 from backplane bus	5 V
consumed current	
• from backplane bus at DC at 5 V typical	0.25 A
power loss [W]	1.25 W

Technical specifications

Article number	6GK7243-1BX30-0XE0
product type designation	CP 1243-1
ambient conditions	
ambient temperature	
• for vertical installation during operation	-20 ... +60 °C
• for horizontally arranged busbars during operation	-20 ... +70 °C
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
relative humidity	
• at 25 °C without condensation during operation maximum	95 %
protection class IP	IP20
design, dimensions and weights	
module format	Compact module S7-1200 single width
width	30 mm
height	110 mm
depth	75 mm
net weight	0.122 kg
fastening method	
• 35 mm top hat DIN rail mounting	Yes
• wall mounting	Yes
product features, product functions, product components general	
number of units	
• per CPU maximum	3
performance data open communication	
number of possible connections for open communication	
• by means of T blocks maximum	like CPU
performance data S7 communication	
number of possible connections for S7 communication	
• maximum	like CPU
performance data IT functions	
number of possible connections	
• as email client maximum	1
performance data telecontrol	
suitability for use	
• node station	No
• substation	Yes
• TIM control center	No
control center connection	For use with TeleControl Server Basic, WinCC and PCS7 supported
• by means of a permanent connection	supported
• note	Connection to SCADA system via Telecontrol Server Basic and Standard Telecontrol protocols
protocol is supported	
• DNP3	Yes
• IEC 60870-5	Yes
product function data buffering if connection is aborted	Yes; 64,000 events
number of data points per station maximum	500
number of stations for direct communication with Telecontrol Server Basic	
• in send direction maximum	3
• in receive direction maximum	15

Article number	6GK7243-1BX30-0XE0
product type designation	CP 1243-1
performance data teleservice	
diagnostics function online diagnostics with SIMATIC STEP 7	Yes
product function	
• program download with SIMATIC STEP 7	Yes
• remote firmware update	Yes
product functions management, configuration, engineering	
configuration software	
• required	STEP 7 Basic/Professional
product functions diagnostics	
product function web-based diagnostics	Yes
product functions security	
firewall version	stateful inspection
product function with VPN connection	IPsec, SINEMA RC
type of encryption algorithms with VPN connection	AES-256, AES-192, AES-128, 3DES-168
type of authentication procedure with VPN connection	Preshared key (PSK), X.509v3 certificates
type of hashing algorithms with VPN connection	MD5, SHA-1, SHA-2
number of possible connections with VPN connection	8
product function	
• password protection for Web applications	No
• password protection for teleservice access	No
• encrypted data transmission	Yes
• ACL - IP-based	No
• ACL - IP-based for PLC/routing	No
• switch-off of non-required services	Yes
• blocking of communication via physical ports	No
• log file for unauthorized access	No
product functions time	
protocol is supported	
• NTP	Yes
• NTP (secure)	Yes
time synchronization	
• from NTP-server	Yes
• from control center	Yes
standards, specifications, approvals hazardous environments	
certificate of suitability CCC for hazardous zone according to GB standard	Yes

SIMATIC S7-1200 Basic ControllersI/O modules
Communication**CP 1243-7 LTE**

3

Overview

CP 1243-7 LTE is used to connect the S7-1200 to a mobile wireless 4th Generation LTE (Long Term Evolution) network. The increased data rates compared to GPRS and widespread introduction of LTE open up new areas of application. The CP1243-7 is characterized by the following properties:

- 1 connection to LTE (4G) mobile wireless network (various versions for EU and North America)
- Integration into telecontrol applications via IEC60870-5-104, DNP3 or Telecontrol Server Basic
- Data transfer of measured values, control variables, or alarms optimized for telecontrol systems
- Operation with fixed IP addresses and dynamic IP addresses with standard cellular phone contract
- Time synchronization based on NTP (Network Time Protocol)
- "On-demand" connection setup via voice call or SMS
- Sending and receiving of SMS
- Teleservice access with STEP 7 to substations via mobile wireless networks
- Compact industrial enclosure in S7-1200 design for mounting on a DIN rail
- Temperature range in operation: -20°C to +70°C
- Top hat DIN rail mounting
- Diagnostics LEDs (overall status and details)
- Integrated security functions (VPN and firewall)
- Access to the CPU web server
- Fast commissioning due to simplified configuration with STEP 7
- Data buffering of up to 64 000 values ensures a secure database even with temporary connection failures
- Support of SINEMA Remote Connect with autoconfiguration

Ordering data**Article No.****CP 1243-7 LTE communication processor**

Communication processor for connecting SIMATIC S7-1200 to TeleControl Server Basic via LTE mobile wireless network

- **CP 1243-7 LTE EU**
Frequencies in European band: 700, 1 700 MHz

Frequencies in European band: 700, 1 700 MHz

- **CP 1243-7 LTE US**
Frequencies in North American band: 800, 1 800, 2 600 MHz

6GK7243-7KX30-0XE0**6GK7243-7SX30-0XE0****Accessories****ANT794-4MR antenna**

Omnidirectional antenna for GSM (2G), UMTS (3G) and LTE (4G) networks; omnidirectional; weatherproof for indoor and outdoor use; 5 m cable with fixed connection to antenna; SMA connector; including mounting bracket, screws, wall plugs

6NH9860-1AA00

Technical specifications

Article number	6GK7243-7KX30-0XE0	6GK7243-7SX30-0XE0
product type designation	CP 1243-7 LTE EU	CP 1243-7 LTE US
transfer rate		
transfer rate		
• for LTE transmission		
- with downlink maximum	42 Mbit/s	42 Mbit/s
- with uplink maximum	5.76 Mbit/s	5.76 Mbit/s
interfaces		
number of interfaces acc. to Industrial Ethernet	0	0
number of electrical connections		
• for external antenna(s)	1	1
• for power supply	1	1
number of slots		
• for SIM cards	1	1
type of electrical connection		
• for external antenna(s)	SMA socket (50 ohms)	SMA socket (50 ohms)
• for power supply	3-pole terminal block	3-pole terminal block
slot version		
• for SIM card	Standard	Standard
wireless technology		
type of mobile wireless service		
• is supported SMS	Yes	Yes
• is supported GPRS	Yes	Yes
• note	GPRS (Multislot Class 10)	GPRS (Multislot Class 10)
type of wireless network is supported		
• GSM	Yes	Yes
• UMTS	Yes	Yes
• LTE	Yes	Yes
operating frequency		
• 850 MHz		Yes
• 1900 MHz		Yes
operating frequency for GSM transmission	operating frequency for GSM transmission 900 MHz, operating frequency for GSM transmission 1800 MHz	
operating frequency with UMTS transmission	operating frequency with UMTS transmission 900 MHz, operating frequency with UMTS transmission 2100 MHz	
operating frequency for LTE transmission	operating frequency for LTE transmission 800 MHz, operating frequency for LTE transmission 1800 MHz, operating frequency for LTE transmission 2600 MHz	operating frequency for LTE transmission 700 MHz, operating frequency for LTE transmission 1700 MHz

Article number	6GK7243-7KX30-0XE0	6GK7243-7SX30-0XE0
product type designation	CP 1243-7 LTE EU	CP 1243-7 LTE US
supply voltage, current consumption, power loss		
type of voltage of the supply voltage	DC	DC
supply voltage external	24 V	24 V
supply voltage external at DC rated value	24 V	24 V
relative positive tolerance at DC at 24 V	20 %	20 %
relative negative tolerance at DC at 24 V	20 %	20 %
consumed current		
• from external supply voltage at DC at 24 V typical	0.1 A	0.1 A
• from external supply voltage at DC at 24 V maximum	0.22 A	0.22 A
ambient conditions		
ambient temperature		
• for vertical installation during operation	-20 ... +60 °C	-20 ... +60 °C
• for horizontally arranged busbars during operation	-20 ... +70 °C	-20 ... +70 °C
• during storage	-40 ... +70 °C	-40 ... +70 °C
• during transport	-40 ... +70 °C	-40 ... +70 °C
relative humidity		
• at 25 °C without condensation during operation maximum	95 %	95 %
protection class IP	IP20	IP20
design, dimensions and weights		
module format	Compact module S7-1200 single width	Compact module S7-1200 single width
width	30 mm	30 mm
height	100 mm	100 mm
depth	75 mm	75 mm
net weight	0.133 kg	0.133 kg
fastening method		
• 35 mm top hat DIN rail mounting	Yes	Yes
• S7-300 rail mounting	No	No
• wall mounting	Yes	Yes
product features, product functions, product components general		
number of units		
• per CPU maximum	3	3

SIMATIC S7-1200 Basic Controllers

I/O modules

Communication

CP 1243-7 LTE

Technical specifications

Article number	6GK7243-7KX30-0XE0	6GK7243-7SX30-0XE0
product type designation	CP 1243-7 LTE EU	CP 1243-7 LTE US
performance data		
number of users/telephone numbers definable maximum	10	10
performance data open communication		
number of possible connections for open communication		
• by means of T blocks maximum	like CPU	like CPU
performance data IT functions		
number of possible connections		
• as email client maximum	1	1
performance data telecontrol		
suitability for use		
• substation	Yes	Yes
control center connection	Telecontrol Server Basic	Telecontrol Server Basic
• by means of a permanent connection	supported	supported
• by means of demand-oriented connection	supported	supported
• note	Connection to SCADA system using OPC interface	Connection to SCADA system using OPC interface
protocol is supported		
• DNP3	Yes	Yes
• IEC 60870-5	Yes	Yes
product function data buffering if connection is aborted	Yes; 64,000 events	Yes; 64,000 events
number of stations for direct communication with Telecontrol Server Basic		
• in send direction maximum	3	3
• in receive direction maximum	15	15
performance data teleservice		
diagnostics function online diagnostics with SIMATIC STEP 7	Yes	Yes
product function		
• program download with SIMATIC STEP 7	Yes	Yes
• remote firmware update	Yes	Yes

Article number	6GK7243-7KX30-0XE0	6GK7243-7SX30-0XE0
product type designation	CP 1243-7 LTE EU	CP 1243-7 LTE US
product functions management, configuration, engineering		
configuration software		
• required	STEP 7 Basic/Professional	STEP 7 Basic/Professional
product functions diagnostics		
product function web-based diagnostics	Yes	Yes
product functions security		
firewall version	stateful inspection	stateful inspection
product function with VPN connection	IPsec, SINEMA RC	IPsec, SINEMA RC
type of encryption algorithms with VPN connection	AES-256, AES-192, AES-128, 3DES-168, DES-56	AES-256, AES-192, AES-128, 3DES-168, DES-56
type of authentication procedure with VPN connection	Preshared key (PSK), X.509v3 certificates	Preshared key (PSK), X.509v3 certificates
type of hashing algorithms with VPN connection	MD5, SHA-1	MD5, SHA-1
number of possible connections with VPN connection	1	1
product function		
• password protection for teleservice access	Yes	Yes
• encrypted data transmission	Yes	Yes
product functions time		
protocol is supported		
• NTP	Yes	Yes
time synchronization		
• from control center	Yes	Yes
standards, specifications, approvals hazardous environments		
certificate of suitability CCC for hazardous zone according to GB standard	Yes	Yes

3

Overview



The CP 1243-8 IRC (Industrial Remote Communication) communications processor is used for connecting a SIMATIC S7-1200 via the SINAUT ST7 telecontrol protocol to higher-level ST7 stations or to an ST7 control center. The CP 1243-8 IRC (as of HW2 and firmware V3.0) also offers connection to a DNP3 or IEC-capable control center via a corresponding open DNP3 or IEC 60870-5-104 telecontrol protocol. The CP 1243-8 IRC (as of HW2 and firmware V3.0) also offers connection to a DNP3 or IEC-capable control center via a corresponding open DNP3 or IEC 60870-5-104 telecontrol protocol.

The CP has the following features:

- Support for telecontrol protocol SINAUT ST7, DNP3, IEC 60870-5-104
- Two WAN connections for selecting the communication paths:
 - Ethernet-based connection: RJ45 port on the module for connecting external routers, e.g. SCALANCE M
 - Additional connection configurable via plug-in TS modules
- Both WAN interfaces can also be operated simultaneously: Route redundancy
- Data transfer of measured values, control variables, or alarms optimized for telecontrol systems
- Automatic transmission of alarms per email or text message
- Time synchronization based on NTP (Network Time Protocol) or via the SINAUT system
- Data buffering of up to 16,000 data frames prevents data loss in the event of temporary connection failures
- Secure communication via VPN connections based on IPsec
- Access protection via Stateful Inspection Firewall
- Support of SINEMA Remote Connect with autoconfiguration
- Fast and simple diagnostics via clear LED indicators, STEP 7 and web browser
- Compact industrial enclosure in S7-1200 design for mounting on a DIN rail

The integrated Ethernet interface and the option of using the TS modules provide flexible connection options for the CP. The following TS modules are available:

- TS module RS232
- TS module MODEM
- TS module ISDN

Ordering data

Article No.

CP 1243-8 IRC communications processor**6GK7243-8RX30-0XE0**

Communications processor for connecting a SIMATIC S7-1200 via the SINAUT ST7 Telecontrol protocol to higher-level ST7 stations or to an ST7 control center, or a DNP3 or IEC-capable control center via a corresponding DNP3 or IEC 60870-5-104 open Telecontrol protocols

Accessories**SINAUT Engineering Software V5.5 + SP3****6NH7997-0CA55-0AA0**

On CD, consisting of:

- SINAUT ST7/DNP3 configuration and diagnostic software for STEP 7 V5.6
- SINAUT TD7 block library
- Electronic manual in German and English

SINAUT engineering software V5.5 Upgrade from V5.0, V5.1, V5.2, V5.3 or V5.4**6NH7997-0CA55-0GA0****TeleService module**

Connection to TS Adapter IE Basic/Advanced or CP 1243-8 IRC.
Power supply via TS Adapter IE Basic/Advanced or CP 1243-8 IRC.

TS module RS232**6ES7972-0MS00-0XA0****TS module MODEM****6ES7972-0MM00-0XA0****CSM 1277 compact switch module****6GK7277-1AA10-0AA0**

Unmanaged switch for connecting a SIMATIC S7-1200 and up to three further nodes to Industrial Ethernet with 10/100 Mbps; 4 x RJ45 ports; external 24 V DC power supply, LED diagnostics, S7-1200 module including electronic device manual on CD-ROM

¹⁾ Please note country approvals under: <http://www.siemens.com/mobilenetwork-approvals>.

SIMATIC S7-1200 Basic Controllers

I/O modules
Communication

CP 1243-8 IRC

Technical specifications

Article number	6GK7243-8RX30-0XE0
product type designation	CP 1243-8 IRC
transfer rate	
transfer rate	
• at the 1st interface	10 ... 100 Mbit/s
• at the 2nd interface	0.3 ... 115.2 kbit/s
interfaces	
number of interfaces acc. to Industrial Ethernet	1
number of electrical connections	
• at the 1st interface acc. to Industrial Ethernet	1
• for power supply	1
type of electrical connection	
• at the 1st interface acc. to Industrial Ethernet	RJ45 port
type of electrical connection	
• at interface 2 for external data transmission	Interface to the TS Module
• for power supply	3-pole terminal block
supply voltage, current consumption, power loss	
type of voltage of the supply voltage	DC
supply voltage 1 from backplane bus	5 V
supply voltage external	24 V
supply voltage external	19.2 ... 28.8 V
supply voltage external at DC rated value	24 V
supply voltage external at DC rated value	19.2 ... 28.8 V
consumed current	
• from backplane bus at DC at 5 V typical	0.25 A
• from external supply voltage at DC at 24 V typical	0.1 A
power loss [W]	2.4 W; 1.25 W from S7-1200 backplane without TS module, 2.4 W from 24 V DC external with TS module
ambient conditions	
ambient temperature	
• for vertical installation during operation	-20 ... +60 °C
• for horizontally arranged busbars during operation	-20 ... +70 °C
• during storage	-40 ... -70 °C
• during transport	-40 ... +70 °C
relative humidity	
• at 25 °C without condensation during operation maximum	95 %
protection class IP	IP20

Article number	6GK7243-8RX30-0XE0
product type designation	CP 1243-8 IRC
design, dimensions and weights	
module format	Compact module S7-1200 single width
width	30 mm
height	110 mm
depth	75 mm
net weight	0.122 kg
fastening method	
• 35 mm top hat DIN rail mounting	Yes
• S7-300 rail mounting	No
• wall mounting	Yes
product features, product functions, product components general	
number of units	
• per CPU maximum	1
• note	One CP pluggable on left side of CPU, one TS Module pluggable left side of CP.
performance data open communication	
number of possible connections for open communication	
• by means of T blocks maximum	like CPU
performance data S7 communication	
number of possible connections for S7 communication	
• maximum	Configured S7-Connection for ST7-Communication
• with PG connections maximum	2
• with OP connections maximum	1
service	
• SINAUT ST7 via S7 communication	Yes
performance data IT functions	
number of possible connections	
• as email client maximum	1

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Technical specifications

Article number	6GK7243-8RX30-0XE0
product type designation	CP 1243-8 IRC
performance data telecontrol	
suitability for use	
• node station	No
• substation	Yes
• TIM control center	No
• note	Ethernet and TS Module can be operated in parallel
control center connection	control center with ST7 function supported
• by means of a permanent connection	
protocol is supported	
• DNP3	Yes
• IEC 60870-5	Yes
• SINAUT ST7 protocol	Yes
product function data buffering if connection is aborted	Yes; DNP3, IEC60870-5: 64000 events, SINAUT ST7: 16000 telegrams
number of data points per station maximum	500
transmission format	
• for SINAUT ST7 protocol with multi-master polling 10-bit	Yes
• for SINAUT ST7 protocol with polling or spontaneous 10-bit or 11-bit	Yes
operating mode for scanning of data transmission	
• with dedicated line/radio link with SINAUT ST7 protocol	Polling
• with dial-up network with SINAUT ST7 protocol	spontaneous
hamming distance	
• for SINAUT ST7 protocol	4
performance data teleservice	
diagnostics function online	Yes
diagnostics with SIMATIC STEP 7	
product function	
• program download with SIMATIC STEP 7	Yes
• remote firmware update	Yes
product functions management, configuration, engineering	
protocol is supported	
• SNMP v3	Yes
• DCP	Yes
configuration software	
• required	SINAUT ES V5.5 and STEP7 V13 SP1 or higher
• for PG configuring required SINAUT ST7 configuration software for PG	Yes

Article number	6GK7243-8RX30-0XE0
product type designation	CP 1243-8 IRC
product functions diagnostics	
product function web-based diagnostics	Yes
product functions security	
firewall version	stateful inspection
operating mode Virtual Private Network (VPN)	Yes
product function with VPN connection	IPsec, SINEMA RC
type of encryption algorithms with VPN connection	AES-256, AES-192, AES-128, 3DES-168, DES-56
type of authentication procedure with VPN connection	Preshared key (PSK), X.509v3 certificates
type of hashing algorithms with VPN connection	MD5, SHA-1
number of possible connections with VPN connection	8
product function	
• password protection for teleservice access	No
• encrypted data transmission	Yes
• MSC client via GPRS modem with MSC capability	Yes
protocol	
• is supported MSC protocol	Yes
• with Virtual Private Network MSC is supported	TCP/IP
key length for MSC with Virtual Private Network	128 bit
number of possible connections	
• as MSC client with VPN connection	1
• as MSC server with VPN connection	0
product functions time	
protocol is supported	
• NTP	Yes
time synchronization	
• from NTP-server	Yes
• from control center	Yes
standards, specifications, approvals hazardous environments	
certificate of suitability CCC for hazardous zone according to GB standard	Yes
accessories	
accessories	TS Module RS232 or TS Module MODEM

SIMATIC S7-1200 Basic Controllers

I/O modules
Communication

SIMATIC RF120C

Overview



The SIMATIC RF120C is a communications module for connecting the SIMATIC identification systems directly to the SIMATIC S7-1200. The readers of the RF200/300/1000 RFID systems as well as the MV300/400/500 optical readers can be operated on the SIMATIC RF120C.

Integration into the TIA Portal and the uniform plug-in connection systems permit fast and simple commissioning.

Ordering data

Article No.

SIMATIC RF120C communications module

Integrated in the S7-1200 PLC for connection of a reader

6GT2002-0LA00

Accessories for all readers

Reader cable for SIMATIC RF200 / RF300 / MV400

PUR material, trailable, straight reader connector

2 m

6GT2091-4LH20

5 m

6GT2091-4LH50

10 m

6GT2091-4LN10

Connecting cable for SIMATIC RF1000

Prefabricated RS232, between RF1040R or RF1070R and RF120C; black, length 2 m

6GT2891-6UH20

Connecting cable for SIMATIC MV320

Pre-assembled, between RF120C and MV320, coiled, length 5 m, usable length 1.6 to 4 m

6GT2191-1BH50

Accessories for extended use

Extension cable for all readers

PUR material, trailable.

2 m, straight plug

6GT2891-4FH20

5 m, straight plug

6GT2891-4FH50

10 m, straight plug

6GT2891-4FN10

20 m, straight plug

6GT2891-4FN20

50 m, straight plug

6GT2891-4FN50

2 m, plug angled at reader

6GT2891-4JH20

5 m, plug angled at reader

6GT2891-4JH50

10 m, plug angled at reader

6GT2891-4JN10

Technical specifications

Article number	6GT2002-0LA00
product type designation	RF120C communication module
transfer rate	
transfer rate at the point-to-point connection serial maximum	115.2 kbit/s
interfaces	
design of the interface for point-to-point connection	RS422/RS232
number of readers connectable	1
type of electrical connection	
• of the backplane bus	S7-1200 backplane bus
• for supply voltage	Screw terminals
design of the interface to the reader for communication	sub-D, 9-pin, female
mechanical data	
material	Xantar MX 1094
color	Ti-grey 24L01
tightening torque of the screw for securing the equipment maximum	0.45 N·m
supply voltage, current consumption, power loss	
supply voltage	
• at DC rated value	24 V
• at DC	20 ... 30 V
consumed current at DC at 24 V	
• without connected devices typical	0.03 A
• with connected devices maximum	1 A
ambient conditions	
ambient temperature	
• during operation	0 ... 55 °C
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
protection class IP	IP20
shock resistance	According to IEC 61131-2
shock acceleration	300 m/s ²
vibrational acceleration	100 m/s ²

Article number	6GT2002-0LA00
product type designation	RF120C communication module
design, dimensions and weights	
width	30 mm
height	100 mm
depth	75 mm
net weight	0.15 kg
fastening method	S7-1200 rack
wire length for RS 422 interface maximum	1 000 m
product features, product functions, product components general	
display version	4 LEDs for reader connection, 1 LED for device status
product function addressable transponder file handler	No
protocol is supported	
• S7 communication	Yes
product functions management, configuration, engineering	
type of programming	ID profile, library with functions
type of computer-switched communication	acyclic communication
standards, specifications, approvals	
certificate of suitability	CE, FCC, cULus, KCC, C-Tick, FM
certificate of suitability	
• IECEX	Yes
• for IECEX as marking	Ex: II 3G Ex nAA IIC T4 Gc
MTBF	196 y