

Communication modules

SIMATIC RF120C

Overview



SIMATIC RF120C communication module

The SIMATIC RF120C is a communication module for direct connection of SIMATIC identification systems to the SIMATIC S7-1200. The readers of all RFID systems as well as the MV400 code reading systems can be operated on the SIMATIC RF120C.

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

Benefits

get Designed for Industry

- Space savings thanks to the extremely compact design of the identification system connected directly to the controller
- Due to the intuitive parameterization of the RF120C and the reader via the SIMATIC device configuration, the manual is mostly no longer required
- A library with newly-developed instructions (function blocks) facilitates simple programming and commissioning
- The library blocks can also be used for the PROFIBUS and Profinet communication modules (ASM 456, RF180C). This enables the user to select the best connection variant in each case without having to change the control program
- Reader connection using a sub D connector on the RF120C for fast installation of all components
- Powerful hardware ensures maximum data exchange speed with the reader so that data is made available to the application even faster.
- Very easy downloading of functional expansion and error rectification firmware for RF120C and readers via the TIA portal ensures high availability of the identification system

Application

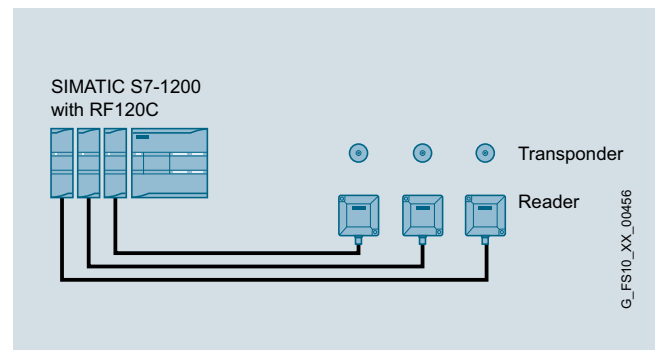
The SIMATIC S7-1200 controller with the RF120C communication module has been developed for all simple control applications including identification tasks.

Due to its technical setup with IP 20 degree of protection, the S7-1200 is designed for use in the control cabinet.

Main applications for SIMATIC RF120C:

- Mechanical engineering, automation systems, conveyor systems
- Ancillary assembly lines in the automobile industry/suppliers
- Small assembly lines

Design



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Function

The SIMATIC RF120C communication module is positioned to the left of the S7-1200 CPU. This enables a maximum of three RF120Cs to be operated on one S7-1200 CPU.

The reader is powered from the RF120C. The RF120C is provided with voltage via a screw-type terminal connector which is included in the scope of delivery.

The RF120C is integrated in the TIA Portal with a hardware support package (HSP). This allows all parameters of the communications module and of the reader to be adjusted via the device configuration.

For programming in the controller, a library is available with simple instructions such as Read, Write for accessing the transponder data. These statements can also be used for other identification communication modules which are connected to the S7-1200 via PROFIBUS, PROFINET: ASM 456, RF180C. Furthermore, the library blocks can also be used for the S7-1500 in order to operate identification communication modules via PROFIBUS, Profinet.

Error messages and operating states (transponder in the field, transmission, etc.) are indicated additionally by means of LEDs behind the top cover of the RF120C. This makes commissioning and servicing considerably easier.

The RF120C features a sub D socket for connecting the reader. This also supplies the reader with voltage. The power supply of the reader is equipped with an electronic fuse. The maximum permissible current for a reader is 1 A.

The reader is connected to the RF120C with a pre-assembled reader cable which is available in different lengths. This 6GT2091-4Lxxx type cable can easily be extended with a type 6GT2891-4Fxxx cable in order to cover greater distances between the reader and the controller.

Communication between the SIMATIC RF120C and the controller is acyclic. Consequently, a very large amount of data can be transferred to/from the RF120C without overloading the bus cycle. This has advantages when transferring large volumes of data.

Technical specifications

Order No.	6GT2002-0LA00
Product-type designation	RF120C communication module
Suitability for installation	
Transmission rate at point-to-point connection, serial, maximum	115.2 kbit/s
Interfaces	
Design of interface for point-to-point connection	RS422
Number of readers connectable	1
Design of electrical connection	
• of the backplane bus	S7-1200 backplane bus
• for supply voltage	Screw-type terminals
Version of the interface to the reader for communication	Submin-D, 9-pin socket
Mechanical data	
Material	Xantar MX 1094
Color	Ti-Grey 24L01
Supply voltage, current consumption, power loss	
Supply voltage for DC	
• rated value	24 V
• minimum	20 V
• maximum	30 V
Current consumed at 24 V DC	
• without connected devices, typical	0.03 A
• including connected devices, maximum	1 A

Order No.	6GT2002-0LA00
Product-type designation	RF120C communication module
Permitted ambient conditions	
Ambient temperature	
• during operating	0 ... 55 °C
• during storage	-40 ... +70 °C
• during transport	-40 ... +70 °C
Protection class IP	IP20
Resistance against shock	According to IEC 61131-2
Resistance against shock	300 m/s ²
Resistance against vibration	100 m/s ²
Design, dimensions and weight	
Width	30 mm
Height	100 mm
Depth	75 mm
Net weight	0.15 kg
Type of mounting	S7-1200 rack
Cable length for RS 422 interface maximum	1000 m
Product properties, functions, components general	
Type of display	4 LEDs per reader connection, 1 LEDs for device status
Product function transponder file handler can be addressed	No
Protocol is supported S7 communication	Yes
Product functions management, configuration	
Type of parameterization	HSP
Type of programming	Library provides functions
Type of computer-mediated communication	Acyclic communication
Standards, specifications, approvals	
Verification of suitability	CE, FCC, UL/CSA

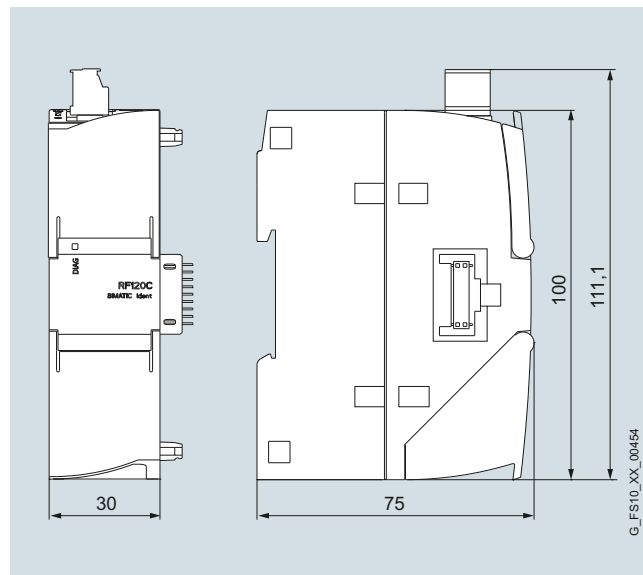
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Selection and ordering data

	Order No.
SIMATIC RF120C communications module Integrated in the S7-1200 controller for connection of a reader	6GT2002-0LA00
<i>Accessories for extended use</i>	
Extension cable for all readers PUR material, CMG approval, suitable for cable carriers, straight reader connector	
2 m	6GT2891-4FH20
5 m	6GT2891-4FH50
10 m	6GT2891-4FN10
20 m	6GT2891-4FN20
50 m	6GT2891-4FN50
2 m, plug angled at reader	6GT2891-4JH20
5 m, plug angled at reader	6GT2891-4JH50
Reader adapter cable for MOBY U PUR material, CMG approved, suitable for cable carriers. A cable of the type 6GT2091-4L... is also required.	
2 m	6GT2091-4FH20
5 m	6GT2091-4FH50
Reader adapter cable for MOBY D Material PUR, CMG approval, suitable for cable carriers, 2 m. A cable of the type 6GT2091-4L... is also required.	6GT2691-4FH20
<i>Accessories for all readers</i>	
Reader cable for SIMATIC RF200 / RF300 / RF600 / MV400 PUR material, CMG approval, suitable for cable carriers, straight reader connector	
2 m	6GT2091-4LH20
5 m	6GT2091-4LH50
10 m	6GT2091-4LN10
DVD "RFID Systems Software & Documentation"	6GT2080-2AA20

Dimensional drawings



SIMATIC RF120C communication module