

Overview

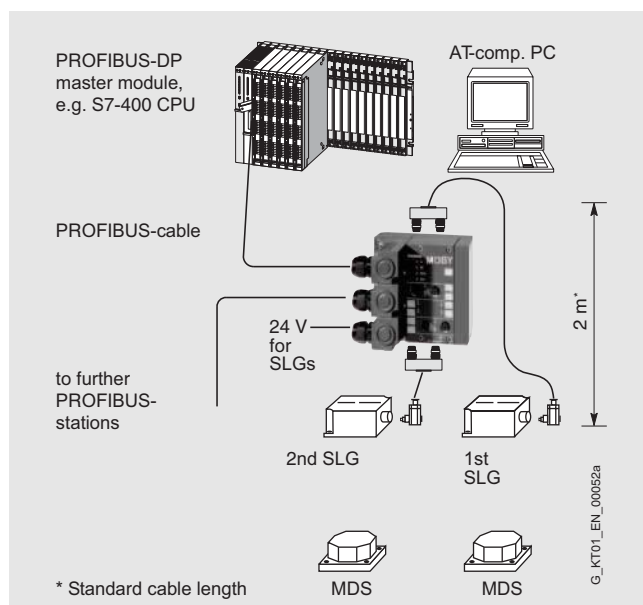


The low-cost communications module ASM 450 is an autonomous PROFIBUS DP slave for the operation of MOBY components via the PROFIBUS DP:

- SIMATIC S7 (including FB/FC software)
- SINUMERIK
- SICOMP IMC, PC, PLC

Thanks to their high degree of protection and ruggedness, they are particularly suitable for machine-level use.

Design



Configuration

The ASM communications modules are mounted on the ET 200X standard module. The relevant configuration and mounting instructions should be referred to in the ET 200X manual. Expansion modules from the ET 200X spectrum cannot be used.

Function

The PROFIBUS DP procedure according to EN 50170 Vol. 2 PROFIBUS for the communication between ASM and SIMATIC S5/S7 (or any PROFIBUS master) and the MOBY-specific procedures for communication between ASM and SLG are implemented on the ASMs.

The data in the MDS is accessed as follows:

- Direct addressing via absolute addresses

On the PROFIBUS DP, the ASM occupies a node address on the bus that is set on the basic module. The ASM is integrated into the hardware configuration by means of a device master (GSD) file. Then the ASM can be configured by means of the software tool HW_Config of the SIMATIC Manager or another PROFIBUS tool.

Error messages and operating states (MDS in the field, transmission, etc.) are indicated additionally by means of LEDs and simplify commissioning and service.

For the connection to any PROFIBUS DP master, the software interface is disclosed in the documentation.

The **IP67 connectors (Order No. 6ES7194-1AA01-0XA0)** are to be ordered separately!

ASM 450 (for MOBY E/I)

The ASM 450 has two SLG interfaces. When using two SLG interfaces, the module operates in multiplex mode so that the MDS can only be read reliably when it is not moving. The data in the MDS is accessed direct by means of absolute addresses.

Using the software functions FC44 for the SIMATIC S7, the ASM operates in cyclic mode, i.e. the data throughput depends among other things on the size of the address window (max. 208 bytes), number of slaves, etc.

RFID systems

Communications modules

ASM 450

Technical specifications

Communication modules	ASM 450
Serial interface to user	PROFIBUS DP
Procedure conforms to:	EN 50170 Vol. 2 PROFIBUS
Connection to PROFIBUS	PG 11 gland (3 x 6ES7194-1AA01-0XA0, not included in scope of delivery)
Data transmission rate	9.6 Kbaud to 12 Mbaud (automatic detection)
Max. block length	208 byte
Serial interface to SLG	Connector
Max. cable length	500 m, SLG-dependent, (standard length 2 m)
Connectable SLGs	SLG 7x or SLG 4x in multiplex mode
Data transmission rate	19.2 Kbaud to 57.6 Kbaud (depending on the MOBY family)
Software function	
Programming	Depending on the PROFIBUS DP Master
Function blocks	
SIMATIC S7	FC44
MDS addressing	Direct via addresses
Commands	Initialize MDS, read data, write data, etc.
Digital inputs/outputs	2/2
Galvanic isolation	Yes
Power supply	
Permissible range	20 ... 30 V DC (rated value 24 V DC)
Current consumption	Max. 180 mA; typ. 130 mA (without SLG)
Ambient temperature	
During operation	0 °C ... +55 °C
During transportation and storage	-40 °C ... +70 °C
Degree of protection	IP67
Dimensions (W x H x D) in mm	134 x 110 x 55 (without bus connector)
Weight, approx.	0.5 kg

Selection and Ordering data

	Order No.
ASM 450 communication module	6GT2 002-0EB00
Max. 2 SLGs can be connected in multiplex mode, without connectors	
Accessories	
Connector	6ES7194-1AA01-0XA0
For ASM 450 for the PROFIBUS DP interface and 24 V supply, 3 units per ASM 450 are necessary	
Integrated plug connector	6ES7 194-1FC00-0XA0
for ASM 450; T functionality; spare part	
MOBY M12 dual-pin connector for ASM 450	6GT2 090-0BC00
For mounting individual ASM SLG, without cable	
MOBY E, I, U connecting cable	
Preassembled, between ASM 450 and SLG, angled connector, in the following lengths:	
• 2 m (preferred length)	6GT2 091-1CH20
• 5 m	A 6GT2 091-1CH50
• 10 m	A 6GT2 091-1CN10
• 20 m	A 6GT2 091-1CN20
• 50 m	6GT2 091-1CN50
Preassembled, between ASM 450 and SLG, angled connector 2 m long	A 6GT2 091-2CH20
CD "RFID Systems Software & Documentation"	6GT2 080-2AA10
FB/FC for SIMATIC, 3964R driver for DOS/Windows 95/NT/2000/XP, C-libraries, PC presentation program, RFID documentation	

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Overview



The ASM 470 and 475 are low-cost modules for connecting the MOBY D, E, I, U and RF300 identification systems to the S7-300 and ET 200M.

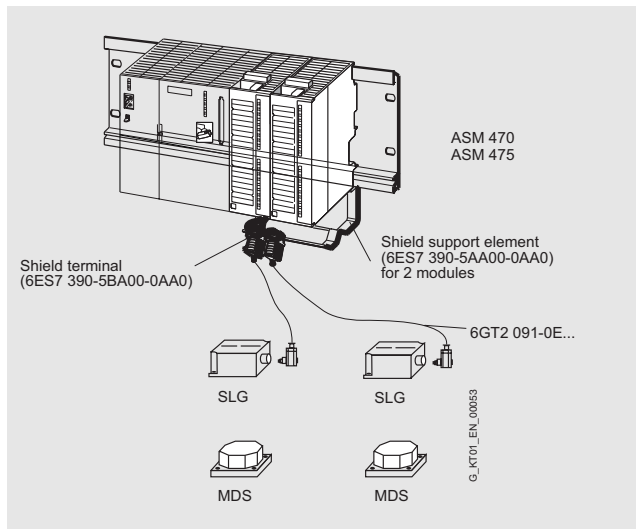
Application

The ASM 470 and ASM 475 communications modules integrate the MOBY identification systems into the following systems:

- SIMATIC S7-300
- S7-400, PC (CP5412 (A2)) via ET 200M
- SINUMERIK 840D/810D

A maximum of two SLGs can be connected and operated in parallel mode (ASM 470 only in multiplex mode).

Design



Configuration

Function

As many as eight ASM communication modules can be plugged into one SIMATIC S7-300 rack and operated. In a configuration with several racks (max. 4), the ASMs can be plugged into and operated on any rack. This means that as many as 32 ASMs can be operated in the maximum configuration of a SIMATIC S7-300. The electrical isolation between SLG and SIMATIC S7-300 bus ensures a noise-resistant setup.

Error messages and operating states (MDS in field, command active etc.) are indicated using LEDs.

Communication between the ASM 475 and S7-CPU takes place by means of acyclic message frames of the P-bus, so that the useful data (max. 238 byte) is transmitted very quickly and effectively. The ASM 475 is fully integrated into the diagnostics of the SIMATIC Manager by means of an Object Manager (OM). Depending on the PROFIBUS master, as many as 126 ET 200M modules can be operated on one PROFIBUS line.

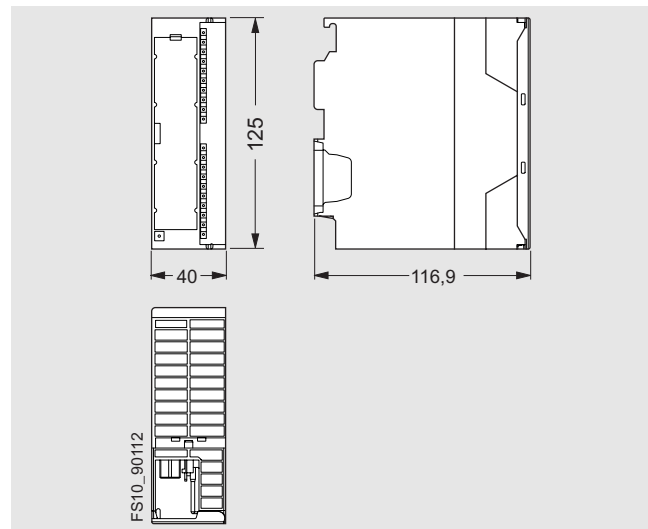
ASM 470 (for MOBY I/E)

The data in the MDS is accessed direct by means of physical addresses using the ASM 470. Communication with the ASM takes place in the process image in blocks of 12 byte and is slower than with the ASM 475. Via ET 200M, it can be operated on any non-Siemens PROFIBUS master.

ASM 475 (for MOBY I/E/U/D/RF300)

The data in the MDS is accessed direct by means of physical addresses using the ASM 475. The data is transferred between FC/FB45, FC55 and ASM at great speed and without placing a great load on the CPU. In the MOBY I/U mode, the ASM can also be operated with the FC56 (file handler).

Dimensions



Communication module ASM 475

*Technical specifications and Selection and Ordering data:
See next page.*

RFID systems

Communications modules

ASM 470/475

Technical specifications

Communication modules	ASM 470	ASM 475	ASM 475 (with MOBY I/U file handler)
Serial interface to SLG	RS422		
SLG connection point	Max. 2 pieces via screw terminals in front connector		
Interface/cable length, max. connectable length	RS422/1000 m, depending on SLG and cable type		
Connectable SLGs	MOBY I/E (multiplex mode)	MOBY I/E/U/D/RF300	MOBY I/U
Interface for 24 V DC	Via screw terminals in front connector		
Function blocks			
SIMATIC S7	FC47	FC/FB45, FC55 (multitag)	FC56
MDS addressing	Direct access via addresses		Access via DOS-like file system
Commands	Initialize MDS, read data from MDS, write data to MDS, etc.		Format MDS, read file, write file, etc.
Dialog function	yes (MOBY I)	no	
Power supply			
• Nominal value	24 V DC		
• Permitted range	20 to 30 V DC		
Electrical isolation between S7-300 and MOBY	Yes		
Current consumption from S7 bus terminal, max.	100 mA		
Power loss, typically	1 W		
Ambient temperature			
Operation			
• Horizontal configuration of SIMATIC	0 ... +60 °C		
• Vertical configuration of SIMATIC	0 ... +40 °C		
Transport and storage	-40 ... +70 °C		
Dimensions (W x H x D) in mm	40 x 125 x 120		
Weight, approx.	0.2 kg		

Selection and Ordering data

	Order No.
MOBY communication module ASM 470	6GT2 002-0FA10
For SIMATIC S7-300 and ET 200M	
MOBY communication module ASM 475	6GT2 002-0GA10
For SIMATIC S7-300 and ET 200M, parameterizable	
Accessories	
Front connector (1 x per ASM)	6ES7 392-1AJ00-0AA0
MOBY E, I, U connecting cable	
Preassembled, between ASM 470/475 and write/read device, angled connector, in the following lengths:	
2 m	6GT2 091-0EH20
5 m	A 6GT2 091-0EH50
10 m	A 6GT2 091-0EN10
20 m	A 6GT2 091-0EN20
50 m	A 6GT2 091-0EN50
Preassembled, between ASM 470/475 and write/read device, straight connector, in the follow- ing lengths:	

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	Order No.
2 m	A 6GT2 091-2EH20
5 m	A 6GT2 091-2EH50
10 m	6GT2 091-2EN10
50 m	6GT2 091-2EN50
MOBY D connecting cable	
Pre-assembled, between the ASM 475 and SLG D1xS, 9-pin Sub-D connector in the following lengths:	
5 m	A 6GT2 491-0EH50
20 m	A 6GT2 491-0EN20
50 m	6GT2 491-0EN50
SIMATIC RF300 connecting cable	
preassembled, between ASM 475 and RF3xxR, IP65, straight connec- tor, in the following lengths ¹⁾ :	
2 m	A 6GT2 891-0EH20
5 m	A 6GT2 891-0EH50
CD: "RFID Systems Software & Documentation"	
FB/FC for SIMATIC, 3964R driver for DOS/Windows 95/NT/2000/XP, C-libraries, PC presentation program, RFID documentation	
	6GT2 080-2AA10

¹⁾ The connecting cables can be extended using the RF300 connecting cable for the ASM 456. These connecting cables are supplied in the lengths 2 m, 5 m, 10 m, 20 m and 50 m (6GT2 891-0Fxxx)

Overview



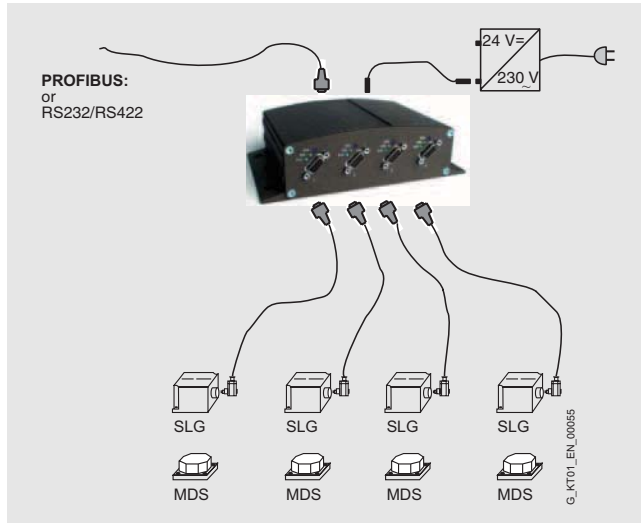
Up to 4 write/read devices or antennas can be connected **in parallel** to the low-cost connection modules. The user can select between two interfaces:

- PROFIBUS DP-V1 (ASM 754)
- RS232/RS422; serial interface to PC/PLC (ASM 424, ASM 724)

Design

Mounting

For easy mounting on a standard rail, an optional adapter is available.



Configuration

Function

Up to four write/read devices or antennas from the corresponding MOBY system can be connected to the rugged housing. Data in the MDS is accessed directly over the physical addresses. The extended MOBY E functions (multitag, access rights, password, etc.) are not supported.

Error messages and operating states (MDS in the field, transmission, etc.) are indicated additionally by means of LEDs and simplify commissioning and service.

PROFIBUS DP-V1 interface (ASM 754)

Communication to the application uses the acyclic protocol service of PROFIBUS DP-V1. The station address on PROFIBUS is set directly on the ASM by means of a DIP switch.

The functions FC45 or FC55 (multitag) are available to SIMATIC S7 users for easy integration in the application. The ASM is integrated into the hardware configuration via a GSD file. The ASM can then be configured via the SW tool HW_Config of SIMATIC Manager or another PROFIBUS tool.

For connection to any PROFIBUS DP-V1 master, the programming interface is described in the FC45 documentation.

RS232/RS422 interface (ASM 424, ASM 724)

A WINDOWS 98/NT/2000 C library (**MOBY API**, DLL functions) incl. 3964R driver with basic functions (open/close channel, read data from data memory, etc.) is available to the PC user for his application.

MOBY E

Up to four **SLA 7x** can be connected in parallel to the **ASM 754/724** which, however, operate internally in multiplex mode. If more than one SLA 7x is connected, the **MOBY E** data memory can only be reliably read or written in the stationary state.

MOBY I/E

Up to four **SLG 4x** or **SLG 7x** can be connected in parallel to the **ASM 424**. MOBY data memories can be read or written simultaneously on all 4 SLGs.

RFID systems

Communications modules

ASM 424, ASM 754/724

Technical specifications

Communication module	ASM 754	ASM 424, ASM 724
Serial interface to user	PROFIBUS DP-V1, 9-pin Sub-D connector (Order No. 6ES7 972-0BA 12-0AX0)	RS232/RS422 9-pin Sub-D connector
Cable length, max	See PROFIBUS	30 m for RS232, 500 m for RS422
Procedure/protocol	EN 50170 Vol. 2 PROFIBUS	3964 R
Data transmission rate	9600 Kbit/s up to 12 Kbit/s (automatic detection)	38.4 bit/s
Block length, max	4 words cyclic/ 238 byte acyclic	238 byte
Serial interface to SLA/SLG	4 x 9-pin Sub-D socket	
Cable length, max	55 m to SLA; 1000 m to SLG	
Connectable SLG/SLA	MOBY I/E: max. 4 x SLG 4x or SLG 7x (parallel mode) MOBY E: max. 4 x SLA 7x (multiplex mode) Note: Mixed mode is not possible	
Software function		
Programming	Depending on the PROFIBUS DP-V1 master	Depending on the PC/PLC
Available software (CD "RFID Systems Software & Documentation")	FC45 for SIMATIC S7-300/400	C library MOBY API for PC with Windows 89/NT
• MDS addressing	Access directly via addresses	
• Commands	Initialize MDS, read data from MDS, write to MDS, etc.	
Power supply		
• Rated value	24 V DC (separate connector)	
• Permissible range	20 ... 30 V DC	
Current consumption	250 mA	
Starting current, max.	1.1 A (without SLA)	
Mounting	4 x M5 screws	
Degree of protection	IP40 (higher degree of protection on request)	
MTBF (at 40 °C)	100,000 hours	
Housing		
• Dimensions (W x H x D) in mm	205 x 130 x 60 (without connector)	
• Material	Aluminum	
• Color	Anthracite	
Ambient temperature		
• Operation	-25 ... +55 °C (condensation not permitted)	
• For transport and storage	-40 ... +85 °C (condensation not permitted)	
Weight, approx.	1.3 kg	

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Selection and Ordering data

	Order No.
ASM 424 communication module With serial interface RS232/RS422, max. 4 SLG 4x or 4 SLG 7x can be connected	6GT2 002-2CE00
ASM 724 communication module With serial interface RS 232/RS422, max. 4SLA 7x can be connected	A 6GT2 302-2CE00
754 communication module With PROFIBUS DP-V1 interface, max. 4 SLG 7x can be connected	6GT2 302-2EE00

	Order No.
Accessories CD: "RFID Systems Software & Documentation" FB/FC for SIMATIC, 3964R driver for DOS/Windows 95/NT/2000/XP, C-libraries, PC presentation program, RFID documentation	6GT2 080-2AA10

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Overview



SIMATIC RF-MANAGER

SIMATIC RF-MANAGER is software that is used for quick and easy creation and commissioning of RFID applications both for preprocessing and routing the delivered tag data to a higher-level enterprise system (data & device management).

In the current version, RF-MANAGER 2007, readers (write/read devices) of the RF660R type are supported exclusively. Depending on the scope of the RFID application, different software packages are available that differ in accordance with the number of supported readers (up to 50).

Benefits

- Management and operation of readers (write/read devices)
- Collection, visualization and preprocessing of tag data
- Routing of tag data to higher-level enterprise systems

Application

Both RF-MANAGER and the RF600 Data Manager support readers (write/read devices) of the RF660R type and can be used for applications with this reader.

The main applications of the RF660R range from the recognition of goods in loading bays, at goods receipt and goods dispatch through goods flow control on conveyor belts as far as implementation in warehouses or distribution centers and in fill level control of high-bay warehouses. Industrial use in factories, e.g. in paintshops or on assembly lines in the automotive industry, is also possible.