



RFID systems
RFID 181EIP communication module

Operating instructions

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Safety Guidelines

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.



Danger

indicates that death or severe personal injury **will** result if proper precautions are not taken.



Warning

indicates that death or severe personal injury **may** result if proper precautions are not taken.



Caution

with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.

Caution

without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.

Notice

indicates that an unintended result or situation can occur if the corresponding information is not taken into account.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The device/system may only be set up and used in conjunction with this documentation. Commissioning and operation of a device/system may only be performed by **qualified personnel**. Within the context of the safety notes in this documentation qualified persons are defined as persons who are authorized to commission, ground and label devices, systems and circuits in accordance with established safety practices and standards.

Prescribed Usage

Note the following:



Warning

This device may only be used for the applications described in the catalog or the technical description and only in connection with devices or components from other manufacturers which have been approved or recommended. Correct, reliable operation of the product requires proper transport, storage, positioning and assembly as well as careful operation and maintenance.

Trademarks

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Introduction

Purpose of these operating instructions

The information provided in these operating instructions enables you to operate the RFID 181EIP communication module on an EHTERNET/IP Scanner.

Basic knowledge required

These operating instructions assume general knowledge of automation engineering and identification systems.

Scope of this manual

The operating instructions apply to the RFID 181EIP communication module.

Position in the information landscape

- In addition to these operating instructions, you require the operating instructions for the controller used.
- The manual of the relevant RFID family contains information on the readers/SLGs to be connected.

Guide

These operating instructions describe the hardware of the RFID 181EIP communication module. They comprise introductory chapters and reference chapters (e.g. technical data).

The operating instructions include the following subject areas:

- Connection of the RFID 181EIP communication module
- Display elements of the RFID 181EIP communication module
- Information on repair and maintenance (e.g. firmware update)
- Technical data as well as dimension drawings of the RFID 181EIP communication module
- Ordering data

Recycling and disposal

- Due to its non-toxic equipment, the RFID 181EIP communication module can be recycled.

- For environment-friendly recycling and disposal of your electronic waste, please contact a company certified for the disposal of electronic waste.

Description

2.1 Description

Area of application

The RFID 181EIP communication module is a module that can be used on any controller for operating Siemens SIMATIC RFID components over Ethernet/IP.



Figure 2-1 RFID 181EIP communication module with main components

For operating the RFID 181EIP on an Ethernet/IP Controller (AllenBradley, ControlLogix), a convenient application example is made available to the user. This example is available in source code and can be extended or changed by the user.

The following Siemens SIMATIC RFID families can be operated with the RFID 181EIP:

- MOBY I (normal addressing and filehandler)
- MOBY E
- MOBY D
- MOBY U (normal addressing and filehandler)
- RF300 (normal addressing and filehandler)
- RF600

Features

Up to two readers / SLGs can be operated on the RFID 181EIP at the same time. The user can issue a command to 2 readers / SLGs simultaneously.

Other features

- Degree of protection IP67
- System integration with M12, 7/8" concept
- Firmware update

Layout

For connecting to Ethernet/IP, the RFID 181EIP communication module has a connection block of the M12, 7/8" type.

The following figure shows the basic design of the RFID 181EIP.

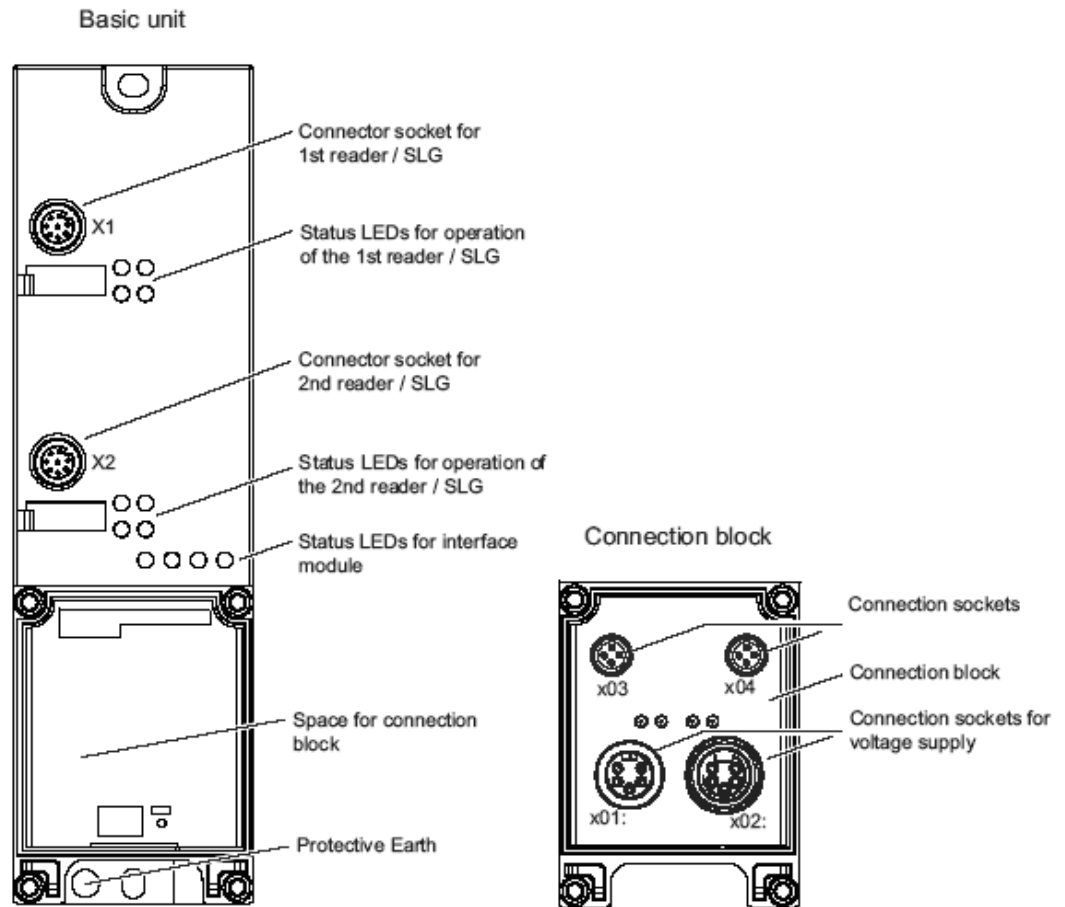


Figure 2-3 Basic design of the RFID 181EIP

Potential

Ungrounded installation of the system is possible with the RFID 181EIP. The following circuit shows the internal relationships of the reference potentials.

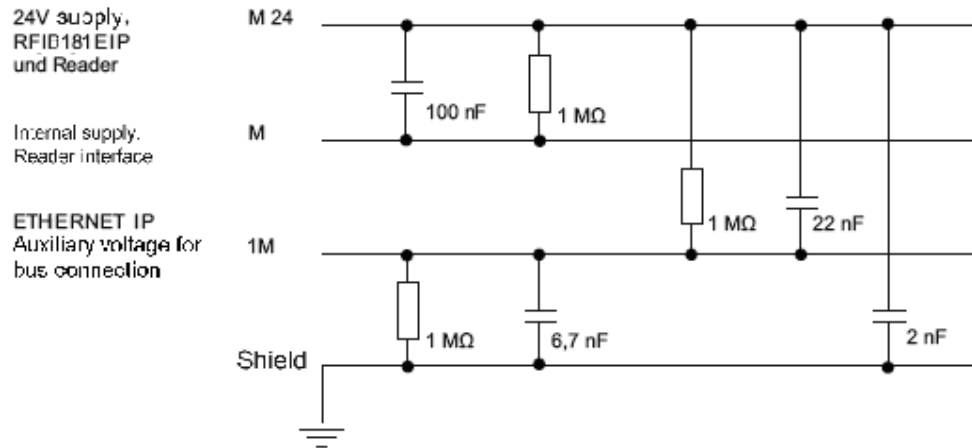


Figure 2-4 Electrical isolation of RFID 181EIP

Integration

The following figure shows how the RFID 181EIP is integrated in an automation system.

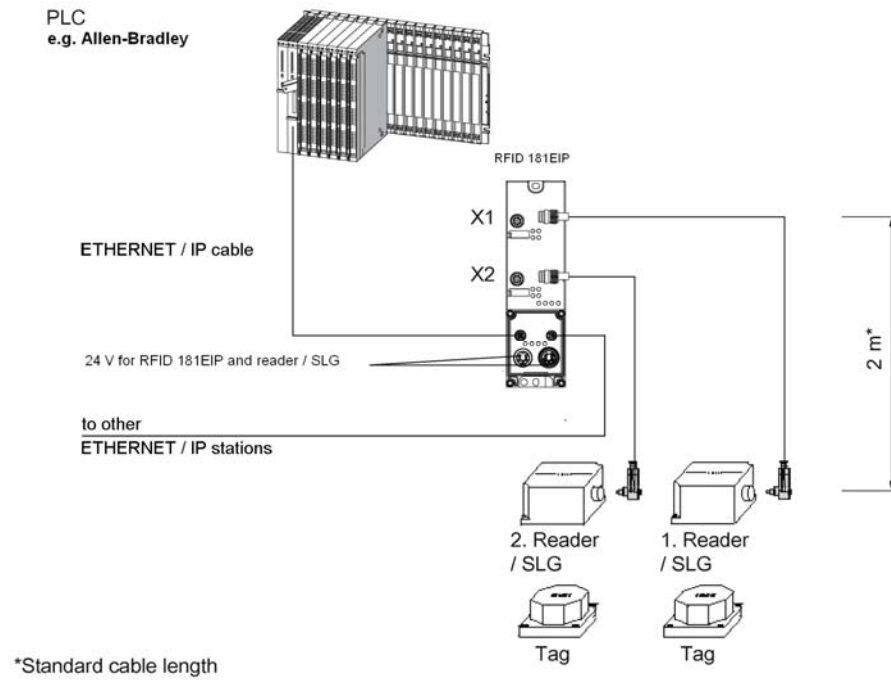


Figure 2-5 Layout concept of RFID 181EIP

The RFID 181EIP is integrated into the hardware configuration by means of an EDS file. The RFID 181EIP can then be configured using an Ethernet/IP configuration tool.

The necessary EDS file (RFID_181EIP.eds) can be downloaded from the following web side: www.woodhead.com

Description

2.1 Description

Installation

The RFID 181EIP communication module is designed for easy assembly.

3.1 Mounting position, mounting dimensions

Mounting position

There are no restrictions regarding the mounting position for the RFID 181EIP.

Mounting dimensions and spacing

Table 3-1 Mounting dimensions

Designation	Dimensions
Mounting width	60 mm
Mounting height	210 mm
Mounting depth	54 mm with connection block (without connector)

3.2 Mounting the I/O module

Features

- The base unit is mounted on a stable surface
- The base unit can be wired up (before the connection block is mounted)

Requirements

Screws:

Screw type	Description
M5 cylindrical head screw to ISO 1207/ISO 1580 (DIN 84/DIN 85)	The screw should be at least 20 mm long. You will also need washers according to DIN 125.
Cylindrical head screw with M5 hexagonal recessed hole according to DIN 912	

Required tools

Medium-sized cross-head screwdriver or 8 mm socket wrench.

Note

If the RFID module is mounted onto a metallic grounded plate, the fastening screw provides the grounding of the communication module. Keep in mind that the screw and the threads have to be lacquer-free.

Procedure

Fix the base unit onto a level surface using the screws. The base unit must be screwed to the surface (3 Nm tightening torque) at both fixing points (front, top and bottom).

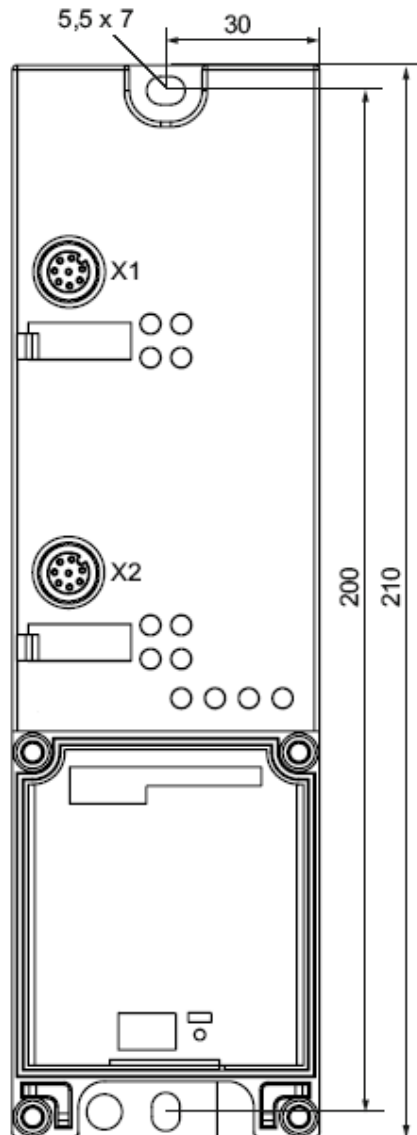


Figure 3-1 Mounting the RFID 181EIP

3.3 Mounting the connection block

Features

The connection block connects the RFID 181EIP with the Ethernet/IP and supplies the base unit with voltage.

Requirements

The base unit is already mounted

Required tools

Cross-head screwdriver, medium.

Mounting the connection block

1. Plug the connection block into the base unit
2. Screw the connection block onto the base unit (torque 1 to 1.3 Nm) Tighten the screws evenly, working in cross-wise passes. 4 screws are already located in the connection block (see Figure).

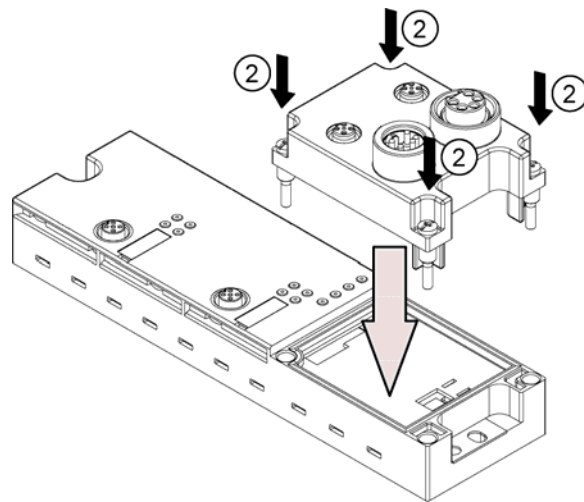


Figure 3-2 Plug connection block onto the base unit and screw down

Note

IP65, IP66 or IP67 degree of protection only exists when the connection block is screwed to the base unit.

3.4 Replacing labels

Features

You can use the labels to mark every channel on the base unit and the connection block. The modules are supplied with inserted labeling strips.

- 2 labels on the base module
- 1 label on connection block

Requirements

If you want to replace the labels, you can reorder them. You will find the order number in the Section *Ordering Data*.

Required tools

Screwdriver, size 2.5 mm to 4 mm.

Replacing labels

1. Push the screwdriver into the small opening of the label, and then lever it out.

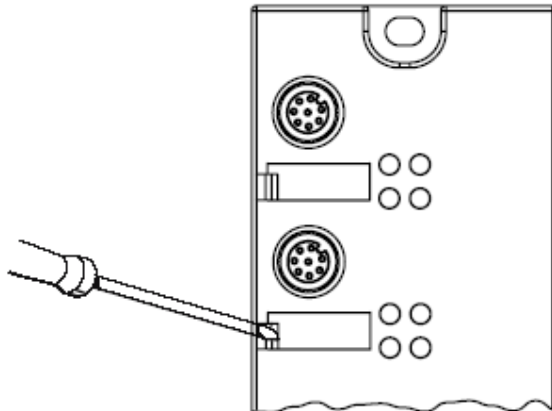


Figure 3-3 Removing labels

2. Use a finger to push the new label into the holder of the module.

3.5 Disassembling the RFID 181EIP

Procedure

The RFID 181EIP is wired up and operating.

1. Switch off the supply voltage for the RFID 181EIP.
2. Disconnect the wiring on the connection block.
3. Remove the 4 fixing screws from the connection block and pull the connection block off the base unit.
4. Disconnect the wiring on the base unit.
5. Remove the fixing screws from the base unit.

Note

Please note the information in the Section *Loop-through connection of Ethernet/IP and supply voltage*.

Connecting

Proper use

When connecting non-specified devices to the RFID 181EIP, it is possible that the connected device may be destroyed.

Ethernet/IP connection system

Detailed information about connecting the RFID 181EIP to Ethernet/IP can be found in the description of the according Ethernet/IP controller manufacturer description.

Notice

The device must **not** be connected to the public telephone network without a HUB / Switch because the voltage intervals are designed for 500 V.

Ethernet/IP installation techniques

Ethernet/IP communication can be established in BUS or STAR topology. Please note the information in the Section *Loop-through connection of Ethernet/IP and supply voltage*.

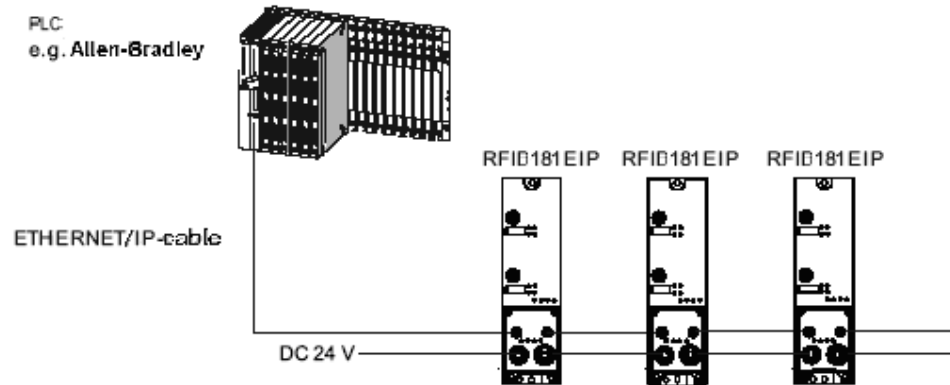


Figure 4-1 RFID 181EIP with BUS topology

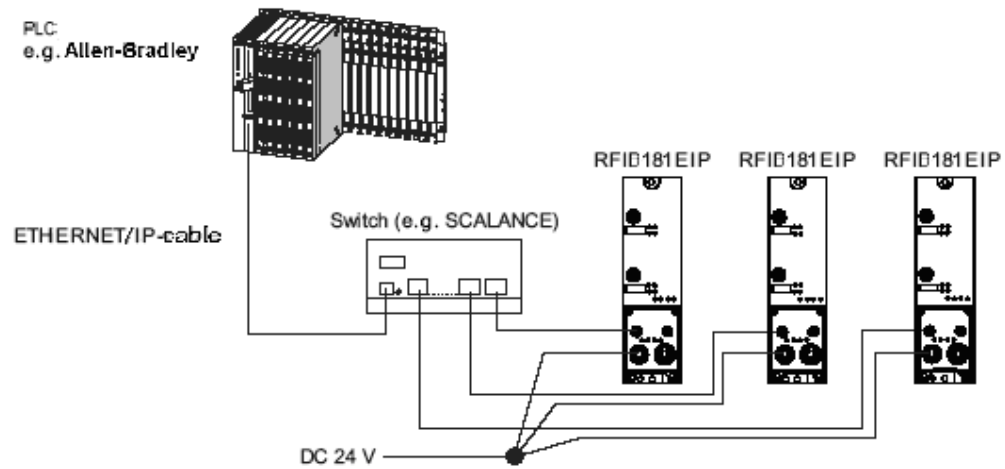


Figure 4-2 RFID 181EIP with STAR topology

Reader/SLG connection system

One reader/SLG always occupies one M12 connection socket on the RFID 181EIP. A preassembled cable therefore provides the optimum easy connection for the reader/SLG. The connection cable is 2 m long in the standard version.

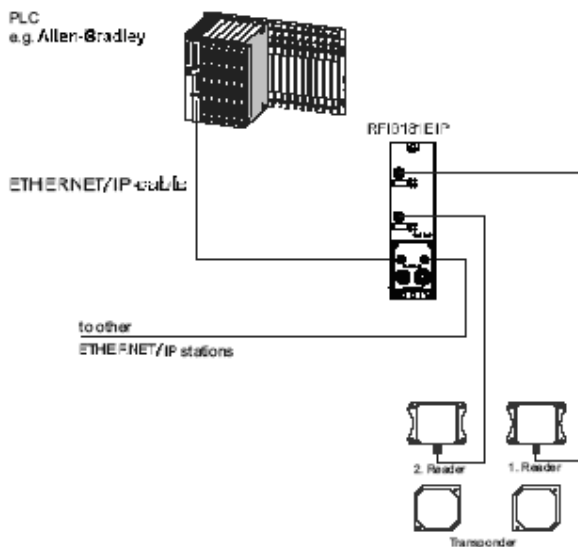


Figure 4-3 Overview of wiring

4.1 Wiring connection block M12, 7/8"

Features

- Connect the supply voltages and Ethernet/IP to connection block M12, 7/8":
 - M12 connection in D coding: Ethernet/IP
 - 7/8" connection: Power supply voltages
- You can loop the supply voltages and Ethernet/IP through via the second M12 or 7/8" round socket. (only 6GT2002-1JD00)
- When using the 6GT2002-4JD00 connection block an external T-connector has to be used.

Requirements

- Wire connection block M12, 7/8" when the supply voltage is switched off.

Required tools

Stripping tool, screwdriver for wiring the M12 and/or 7/8" connector if you are not using a pre-assembled cable.

Accessories required

- Pre-assembled cable with connector
- If you are not using a pre-assembled cable:
 - M12: 4-core Ethernet cable (Twisted Pair), shielded and M12 connector, 4-pole, D coding (see Table *Pin assignments of M12 connector, 4-pole, D coding (Ethernet/IP)*)
 - 7/8": 5-core cable and 7/8" connector (see Table *Pin assignment for 7/8" connector (supply voltages)*) (from Siemens available only for 6GT2002-1JD00)
- For order numbers, refer to Section *Ordering data*.

Wiring M12, 7/8" connector

The tables below contain the pin assignment for the M12 and 7/8" connectors:

Table 4-1 Pin assignment for M12 connector, 4-pole, D coding (Ethernet/IP)

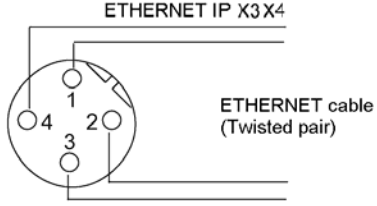
Pin	Assignment	View of M12 connector, 4-pole, D coding (wiring side)
1	Data line TxP	 <p data-bbox="980 747 1398 804">Any connector can be used for infeed and looping through</p>
2	Data line RxP	
3	Data line TxN	
4	Data line RxN	

Table 4-2 Pin assignment for 7/8" connector 5-pole; 6GT2002-1JD00 (supply voltages)

Pin	Assignment	View of 7/8" connector (wiring side)
1	Load voltage ground (2M)	
2	Ground for electronic / encoder supply (1M)	
3	PE	
4	Electronics / encoder supply (1L+) (voltage supply for RFID 181EIP and reader/SLG)	
5	Load voltage supply (2L+) (unused on RFID 181EIP)	

Note

When connecting up the supply voltage, we recommend the cable specified in the Section *Ordering data* (cable 5 x 1.5 mm² pre-assembled with 7/8" connectors).

If you want to assemble the cable yourself, then the conductor cross-section should be 1.5 mm².

Table 4-3 Pin assignment for 7/8" connector 4-pole; 6GT2002-4JD00 (supply voltages)

Pin	Assignment	View of 7/8" connector (wiring side)
1	Electronics / encoder supply (1L+) (voltage supply for RFID 181EIP and reader/SLG)	
2	Not used	
3	Not used	
4	Ground for electronic / encoder supply (1M)	

Note

When connecting up the supply voltage, please use a pre-assembled cable from a cable manufacturer. Siemens does not offer this type of cables.

If you want to assemble the cable yourself, then the conductor cross-section should be 1.5 mm².

Connecting up M12, 7/8" connector

1. Press the connector (M12 or 7/8") into the relevant round socket on the connection block. Ensure that the correct stop is provided between the connector and bush (groove and spring).
2. Use the knurled locking ring to secure the connector.

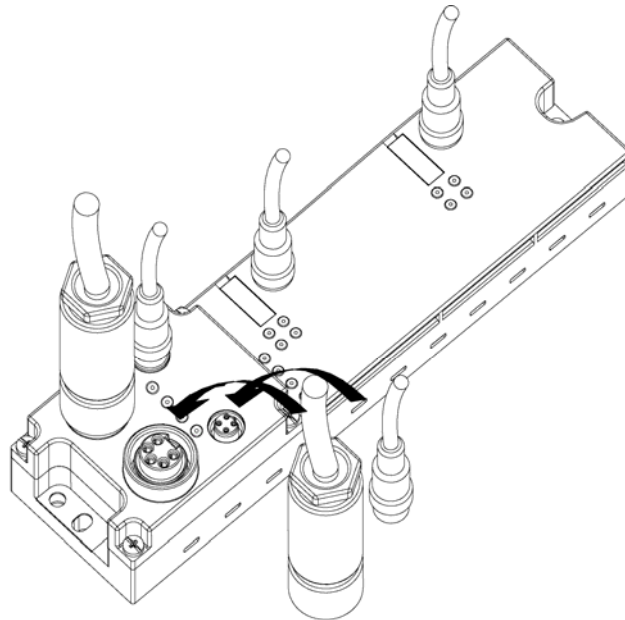


Figure 4-4 Connecting up M12, 7/8" connector

Sealing unused sockets

Always close all unused sockets using M12 or 7/8" seal caps in order to achieve the degree of protection IP65, IP66 or IP67. For order numbers, refer to Section *Ordering data*.

4.2 Loop-through connection of Ethernet/IP and supply voltage

Features

The connection block features one connector for the incoming supply and one socket for loop-through connection of the supply voltage. The connector and the socket for the supply are linked with one another internally.

Two sockets are available for the incoming Ethernet/IP and for loop-through connection. The sockets are not connected to each other in the connection block. The switch in the base unit creates the logical connection.

Note

If you disassemble the connection block during operation, only the power supply will be looped through. Data communication to subsequent devices will be interrupted from this module onwards.

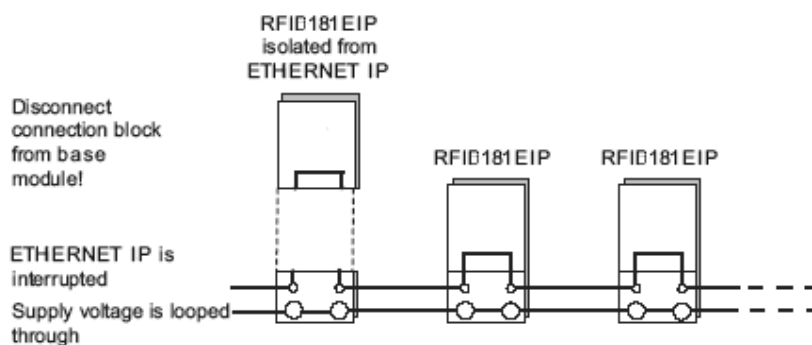


Figure 4-5 Loop-through connection of Ethernet/IP and supply voltage

Caution

The IP65, IP66 or IP67 degree of protection is no longer guaranteed when the connection block is dismantled.

Notes for wiring

- If you are wiring your structure, then you must take into account the impact of cable length on supply voltage to the RFID 181EIP.

Example for connection block M12, 7/8":

When using a 10 m long cable with a diameter of 1.5 mm², the voltage drop is 2.5 V with a loading of 10 A. This corresponds to 0.25 V at a 1 A load.

- The maximum infeed current for connection block M12, 7/8" is 6 A at 1L+ and 8 A at 2L+. These values must not be exceeded.

Caution

If you do not observe the maximum infeed current and the cable cross-section required, this may result in the cable isolation and contacts overheating and to the device being damaged.

4.3 Wiring an RFID 181EIP to a scanner with RJ45 connector

A connection can be easily implemented from an RJ45 connector to an M12 connector.

Self-assembly of an RJ45-to-M12 cable

- You will need a preassembled ETHERNET cable with M12 connectors at both ends twice the required length. You will also need two RJ45 connectors for self-assembly. Cut the M12 cable in the center and connect one RJ45 connector to each free cable end. This will result in two RJ45-to-M12 cables.
- You will need the following individual parts: RJ45 and M12 plug-in cables and ETHERNET standard cable (unassembled). The parts can be found in the ordering data. You can make up a cable to your own length requirements using these parts.

Using an RJ45-to-M12 cabinet feedthrough

This connection variant must always be used when the controller electronics is installed in a cabinet. The following figure shows the connection layout.

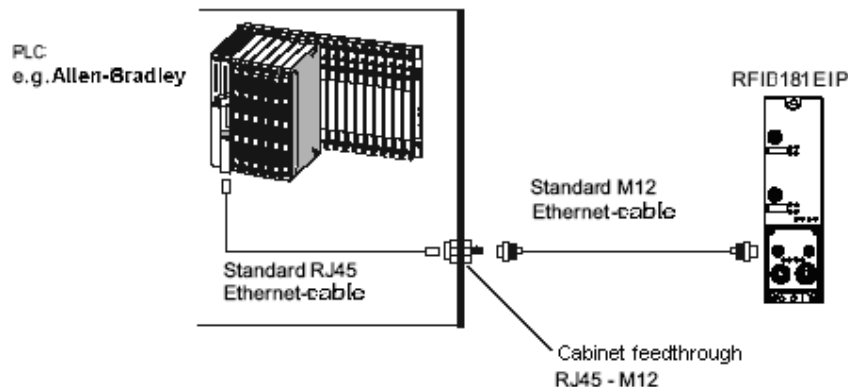


Figure 4-6 Cabinet feedthrough

4.4 Connection of RFID 181EIP to protective earth (PE)

Features

- You have to connect the RFID 181EIP to the protective earth. Usually this happens when the device is mounted onto a metallic ground plate.
If you want to mount the device onto a non metallic plate, a separate earth connection has to be planned. For this purpose connect a earth cable with an additional screw onto the earth thread of the communication module.
- The connection to protective earth is also required to deflect the interference currents and for electromagnetic compatibility.

Requirements

Always make sure there is a low-impedance contact with the protective earth. The thread of the mounting screws has to be lacquer-free. This guarantees a low-impedance connection between the module earth and the protective earth.

Required tools

- Insert
- Stripping tool (optional)
- Crimp tool (optional)

Accessories required (optional)

- M5 x 10 retaining bolt and washers
- Grounding cable (copper braided cable) with minimum cross-section of 4 mm².
- Cable lug

Connection of RFID 181EIP to protective earth

1. Isolate the grounding cable and secure the cable lug.
2. Screw the cable lug down to the communication module (M5 retaining bolt). The tightening torque is 3 Nm.

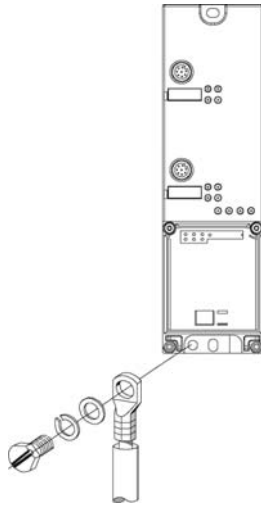


Figure 4-7 Connection of RFID 181EIP to protective earth

Maintenance and service

5.1 Replacing the RFID 181EIP communication module

Initial situation

- The RFID 181EIP communication module is already mounted. A new RFID 181EIP communication module of the same type should be installed.
- The RFID 181EIP is wired up and operating.

Procedure

1. Remove the 4 fixing screws from the connection block and pull the connection block off the communication module.

Note

If you disassemble the connection block during operation, only the power supply will be looped through. Ethernet/IP communication will be interrupted during module replacement from this node onwards. You will find further information in the Section *Loop-through connection of Ethernet/IP and supply voltage*.

2. Disconnect the wiring on the communication module.
3. Remove the fixing screws from the communication module and remove it.
4. Locate the new communication module and screw it down firmly.
5. Place the connection block on the new communication module and tighten the 4 fixing screws.

Result

The stored data remains saved in the connection block, so the new RFID 181EIP communication module starts communication with the former data.

Note

If the connection block is replaced in addition to the base unit, the RFID 181EIP may not start up automatically. In this case, proceed as follows:

What should I do if the RFID 181EIP no longer starts up

Under certain conditions, if the connection block is replaced in addition to the base unit, the RFID 181EIP may not start up automatically. This is indicated by a permanently lit BF LED.

In this case, refer to the chapter *Configuration of the RFID_181EIP for the use in an Ethernet/IP network environmen* in the document *Configuration and Programming*.

5.2 Firmware update

When you require an update for your RFID 181EIP, please contact your local Woodhead representative.

Diagnostics

6.1 Diagnosis using LEDs

The following figure shows details of the LEDs of the RFID 181EIP.

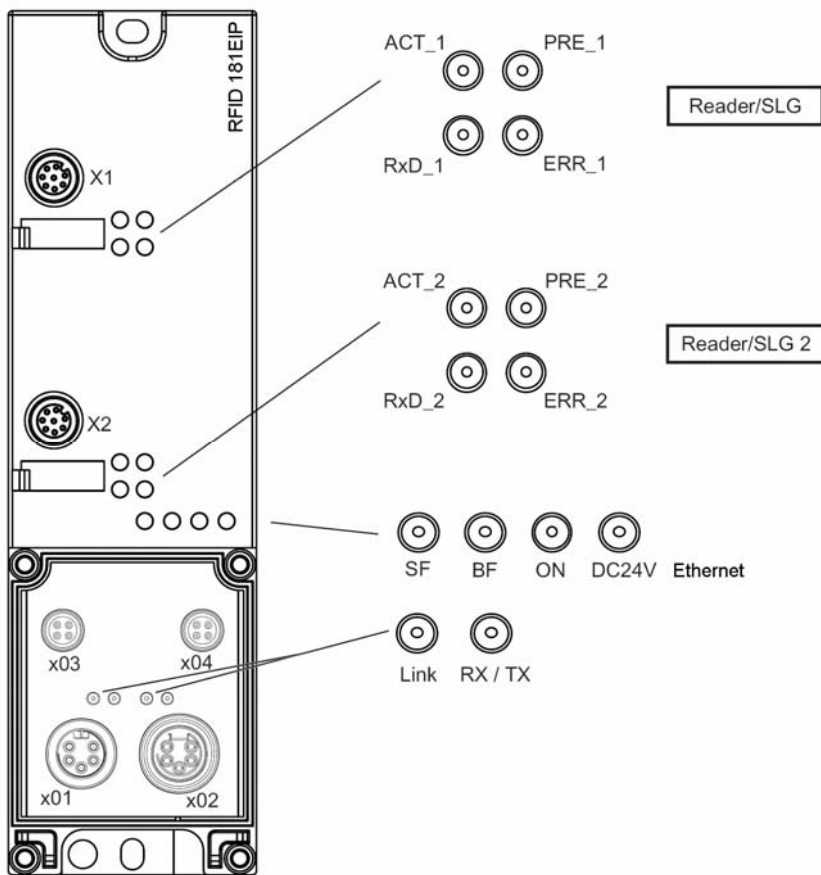


Figure 6-1 LEDs of the RFID 181EIP

Table 6-1 Status LEDs for the RFID 181EIP

LEDs	Meaning*
ON	Lights up when the RFID 181EIP has completed start-up without errors.
DC 24 V	Lights up when the 24 V supply voltage is connected to the RFID 181EIP.
ACT_1, ACT_2	The corresponding reader/SLG is active in processing a user command.
ERR_1, ERR_2 *	A flashing pattern indicates the last error to occur.
PRE_1, PRE_2 **	Indicates the presence of a tag/MDS.
RxD_1, RxD_2	Indicates live communication with the reader / SLG. May also indicate malfunctions on the reader / SLG.
*) The meaning of the individual flash patterns and the associated fault descriptions can be found in the relevant FB documentation.	
**) In multitag mode, this LED uses a flash interval to indicate the number of data media currently within the range of influence of the reader/SLG.	

Table 6-2 LED display for Ethernet/IP diagnostics

BF	SF	Cause of error	Error handling
Blink	–	• Communication module is in start-up mode.	When the bus is configured correctly, this state ends a few seconds after switching the module on.
		• There is no connection to the IO controller.	<ul style="list-style-type: none"> • Check the Ethernet/IP connection • Check your Ethernet/IP configuration • Reload the configuration into the RFID 181EIP
Off	On	• An error has occurred	<ul style="list-style-type: none"> • Evaluate the diagnostics (with later firmware version)
Off	Off	• Normal mode	–
– = Status not relevant			

Table 6-3 LEDs on connection block

Link (green)	Tx / Tx (yellow)	Meaning
Off	Off	No physical connection over Ethernet/IP
On	Off	Physical connection over Ethernet/IP, no data communication
On	Flashes	Physical connection over Ethernet/IP, with data communication
Off	On	Temporary state following switch-on
The table is applicable to both left and right Ethernet/IP connection.		

Other communication module operating modes are indicated by the PRE, ERR, ACT, SF and ON LEDs:

Table 6-4 LED display for operating states

ON	BF	SF	PRE_1	ERR_1	ACT_1	PRE_2	ERR_2	ACT_2	Description
Off	Off	Off	Off	Off	Off	Off	Off	Off	Ramp-up active
On	On	On	On	On	On	On	On	On	LED test on start-up (start Ethernet/IP)
Off	Off	On	On	On	Off	On	On	Off	Internal fault
Off	Off	On	On	Off	On	On	Off	On	Checksum error of the firmware
Off	Off	On	Off	Slow flashin g	Off	Off	Slow flashin g	Off	Firmware update (flashes with every described area)

Technical data

Technical data for RFID 181EIP

Table 7-1 General technical data

Ethernet interface to the user	
Principle	Ethernet/IP
Physical medium	Ethernet over 4-core cable
Duty type	100BaseX full duplex
Transmission rate	100 Mbit/s
Plug-in connection	M12, 4-pin, D coding
Maximum cable length	100 m
Cable type	STP Cat 5
Autonegotiation	Yes
Autocrossing	Yes
Switch function	Yes, internal
implicit messages (io control)	Yes
explicit messages	Yes
VendorCode	579
ProductCode	3
Serial interface to the reader/SLG	
Connector	2 x M12 coupler plug, 8-pin
Max. cable length	1000 m, dependent on Reader/SLG (2 m = standard length; for other standard cables and self-assembled cables, refer to Section <i>Connection cables</i>)
Connectable readers/SLGs	2x readers / SLGs of the RFID families MOBY I/E, RF300, MOBY D or MOBY U
Software functions	
Programming	Depending on the PLC/scanner
Software	open source application example available for Allen Bradley / ControlLogix
Tag/MDS addressing	Direct access via addresses or filename
Commands	Initialize tag, read data from tag, write data to tag, etc.

Supply voltage¹⁾	
Rated value	24 V DC
Permissible range	20 V to 30 V DC
Current consumption without reader / SLG ²⁾	max. 500 mA; typ. 100 mA
Current consumption through reader connection	Each 500 mA
Galvanic isolation	Yes (between power supply and electronic)
Ambient temperature	
During operation	0 to +60 °C
Transport and storage	-40 to +70 °C
Dimensions (W x H x D) in mm	
Base unit only	60 x 210 x 30
Base unit with M12, 7/8" connection block	60 x 210 x 54
Weight	
Base unit	Approx. 210 g
M12, 7/8" connection block	Approx. 230 g
Mechanical Environmental Conditions	
Vibration during operation	According to IEC 61131-2: 0.75 mm (10Hz to 58 Hz) 10 g (58 Hz to 150 Hz)
Shock resistance, shock during operation	Acc. to IEC 61131-2: 30 g
Degree of protection	IP67
MTBF (Mean Time Between Failures) in years	
Base unit	121
Connection block	1100
Approvals	cULus (file E116536) FCC Code of Federal Regulations, CFR 47, Part 15, Sections 15.107 and 15.109 (Class A)
<p>1) All supply and signal voltages must be low level protective voltage (SELV / PELV acc. to EN 60950) 24 V DC supply: Safety (electrical) isolation of low voltage (SELV / PELV acc. to EN 60950)</p> <p>2) The current supply must provide the current required (max. 500 mA) for intermittent periods of failed voltage ≤ 20 ms.</p>	

Dimension drawings

The following figure shows the dimension drawing of an RFID 181EIP with bus connection block M12, 7/8" PN.

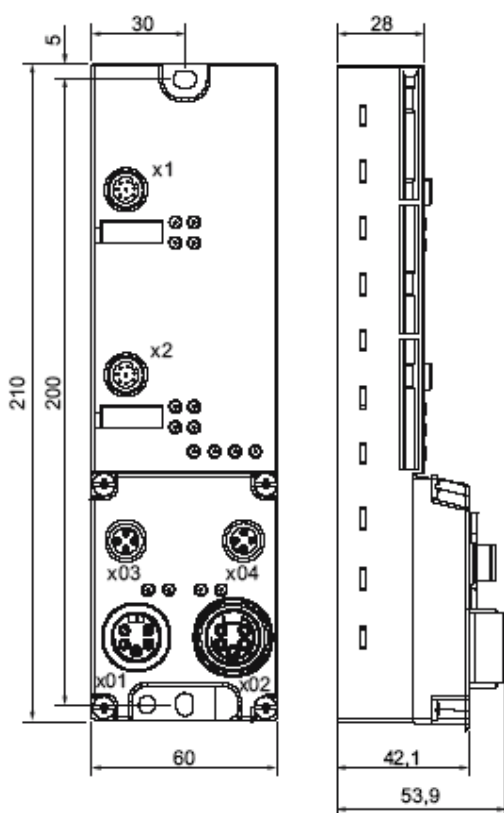


Figure 8-1 Dimension drawing for RFID 181EIP

Connecting cable to the reader/SLG

9.1 Routing of standard cables

Available cables

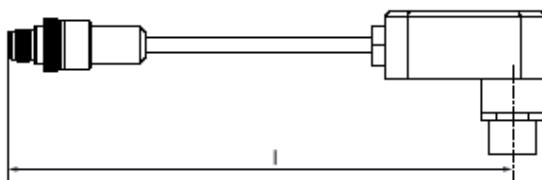


Figure 9-1 Connecting cable M12 ↔ Reader / SLG; l = 2 m, 5 m (MOBY I / E / U)

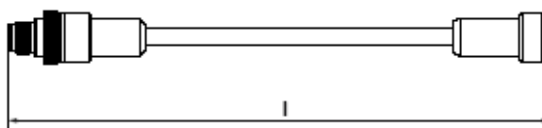


Figure 9-2 Connecting cable/extension cable M12 ↔ M12; l = 2 m, 5 m, 10 m, 20 m, 50 m

- RF300 connecting cable
- Extension cable for all RFID systems

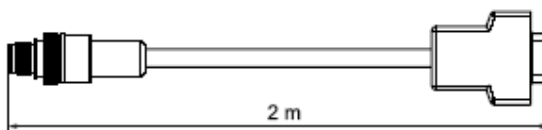


Figure 9-3 Connecting cable M12 ↔ sub-D (MOBY D)

Maximum cable length

The RFID 181EIP can be operated with any reader/SLG configuration with a maximum cable length of 50 m.

Longer connecting cables of up to 1000 m are possible in some instances. The current consumption of the connected reader/SLG must however be taken into account. You will find

Connecting cable to the reader/SLG

10.1 Routing of standard cables

information in the relevant system manuals.

Sequential arrangement of more than two sub-sections to form a long section of cable should be avoided due to the additional contact resistances.

Pin assignment

Table 9-1 Connecting cable M12 ↔ Reader / SLG

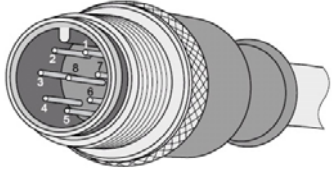

M12 connector (male)		Reader/SLG connector (female)
	1	2
	2	5
	3	3
	4	4
	5	6
	6	1
	7	–
	8	7
		

Table 9-2 Connecting cable / extension cable M12 ↔ M12

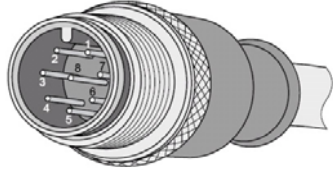
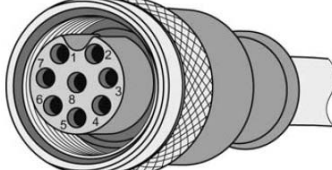
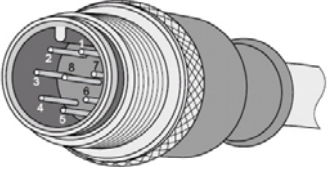
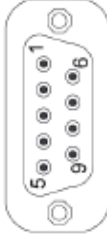
M12 connector (male)		M12 connector (female)
	1	1
	2	2
	3	3
	4	4
	5	5
	6	6
	7	7
	8	8
		

Table 9-3 Connecting cable M12 ↔ sub-D 9-pin

M12 connector (male)	Sub-D connector (female)		
	1	–	
	2	5	
	3	7	
	4	3	
	5	2	
	6	6	
	7	–	
	8	1, 8	
Note: Reader/SLG with Sub-D connector must be supplied over an additional connector with 24 V DC.			

9.2 Self-assembled cable

A reader/SLG connector plug with screw terminals is provided for users who want to individually pre-assemble their own cables (refer to the relevant system manual). Cables and reader/SLG connector plugs can be ordered from the Catalog *FS 10 Sensors for Production Automation*.

Cable structure

You will need cables of the following specifications for self-assembled cables:

7 x 0.25 mm²
 LiYC11Y 7 x 0.25

Connectors

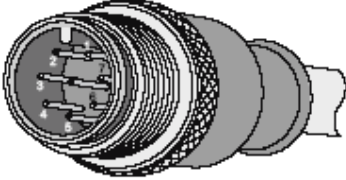
M12 connectors can be obtained from the relevant specialist dealers (e.g. Binder).

10.2 Self-assembled cable

Pin assignment

The pin assignment is listed in the following table.

Table 9-4 Pin assignment

M12 connector (male)	Pin	Signal	Core color
	1	1L+ (+ 24 V)	Note data sheet provided by cable manufacturer
	2	-RxD	
	3	0 V	
	4	RxD	
	5	TxD	
	6	-TxD	
	7	Free	
	8	PE / shield	

Ordering data

Table 10-1 RFID 181EIP ordering data

RFID 181EIP	
RFID 181EIP communication module max. 2 SLGs or readers can be connected	RFID181EIP

Accessories for RFID 181EIP are available from Siemens. The following table shows an overview. For more information look at the internet at www.siemens.com/automation/mall

Table 10-2 RFID 181EIP accessories ordering data

RFID 181EIP	
Connection block M12, 7/8" 5-pole PN	6GT2002-1JD00
Connection block M12, 7/8" 4-pole PN	6GT2002-4JD00
Labels 20 x 7 mm (1 pack = 340 items)	3RT1900-1SB20
Accessories for connection block M12, 7/8" PN	
IE plug-in cable for ETHERNET (pre-assembled trailing cable with two M12 connectors, 4-pin, code D)	6XV1870-8Axxx *
7/8"-plug-in cable for supply; for 6GT2002-4JD00 (pre-assembled trailing power cable with two 4-pin 7/8" connectors)	Not available from Siemens
7/8"-plug-in cable for supply (5 x 1.5 mm ²); only for 6GT2002-1JD00 (pre-assembled trailing power cable with two 5-pin 7/8" connectors)	6XV1822-5Bxxx *
Trailing power cable (5 x 1.5 mm ²) (not preassembled; length min. 20 m, length max. 1000 m)	6XV1830-8AH10
Connector plug 7/8" for supply; only for 6GT2002-1JD00 (1 pack = 5 items) <ul style="list-style-type: none"> • with pin insert • with socket insert 	6GK1905-0FA00 6GK1905-0FB00
• RJ45 plug-in cable with metal casing and FC connection system, 180 ° cable outlet;(1 pack = 1 item)	6GK1901-1BB10-2AA0
• Control cabinet feedthrough for conversion from M12 connection method (D coded, IP65) to RJ45 connection method (IP20) ;(1 pack = 5 items)	6GK1901-0DM20-2AA5
• M12 plug-in cable with metal casing and fast connection system, 180 ° cable outlet (D coded) ; (1 pack = 1 item)	6GK1901-0DB10-6AA0
M12 covering caps	3RX9802-0AA00
Covering caps 7/8" (1 pack = 10 items)	6ES7194-3JA00-0AA0
ETHERNET standard cable 2x2, Type A, unassembled; minimum order quantity 20 m	6XV1840-2AH10

Ordering data

11 Ordering data

Accessories for RFID	
SLG cable MOBY I / E / U; 2 m	6GT2091-0FH20
SLG cable MOBY I / E / U; 5 m	6GT2091-0FH50
SLG cable MOBY D; 2 m	6GT2691-0FH20
Reader cable RF300, extension cable RF300 / MOBY I / E / U / D; 2 m	6GT2891-0FH20
Reader cable RF300, extension cable RF300 / MOBY I / E / U / D; 5 m	6GT2891-0FH50
Reader cable RF300, extension cable RF300 / MOBY I / E / U / D; 10 m	6GT2891-0FN10
Reader cable RF300, extension cable RF300 / MOBY I / E / U / D; 20 m	6GT2891-0FN20
Reader cable RF300, extension cable RF300 / MOBY I / E / U / D; 50 m	6GT2891-0FN50
*) These cables are available in different lengths. See Catalog IK PI for more details	

Service & Support

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Technical support

The technical support for RFID 181EIP is provided by Siemens. Please direct your inquiry to one of the following contact details:

- E-mail address = techsupport.sea@siemens.com
- Internet address = <http://automation.usa.siemens.com/support>
- Telephone = 800-333-7421 (within USA)
- Telephone = (001) 423-262-2522 (outside USA)

You will receive an answer within 24 hours on Monday to Friday.

Internet

For general information, EDS file and application visit our site on the Internet at:

<http://www.woodhead.com>

