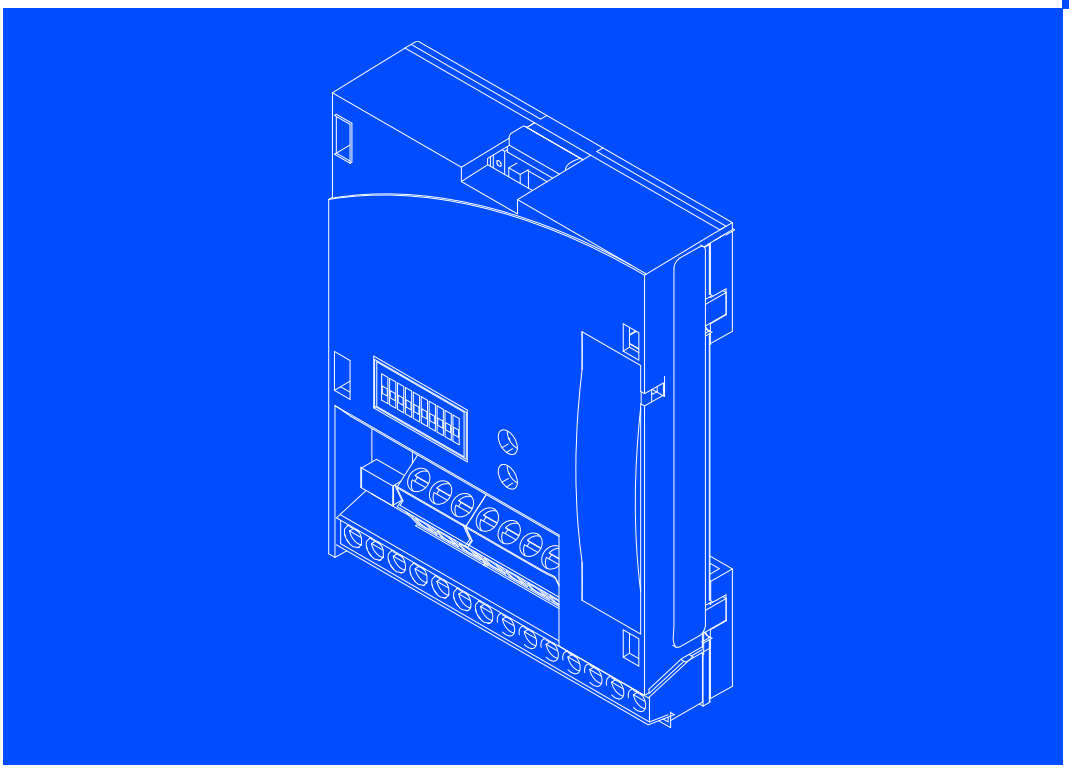
EDS82ZAFPC201
13403738

L-force Communication

Communication Manual

PROFIBUS I/O



E82ZAFPC201

Function module

Lenze

1 About this documentation

Contents

This documentation exclusively describes the function module E82ZAFPC201 (PROFIBUS I/O).

Note!

This documentation supplements the **mounting instructions** supplied with the function/communication module and the **documentation of the used standard device**.

The mounting instructions contain safety instructions which must be observed!

- The features and functions of the function module are described in detail.
- Typical applications are explained by means of examples.
- Moreover, this documentation contains the following:
  - Safety instructions which must be observed.
  - The essential technical data of the function module
  - Information on versions of the Lenze standard devices to be used
  - Notes on troubleshooting and fault elimination

The theoretical concepts are only explained to the level of detail required to understand the function of the function module.

Depending on the software version of the controller and the version of the »Engineer« software installed, the screenshots in this documentation may deviate from the »Engineer« representation.

This documentation does not describe any software provided by other manufacturers. No liability can be accepted for corresponding data provided in this documentation. For information on how to use the software, please refer to the host system (master) documents.

All brand names mentioned in this documentation are trademarks of their respective owners.

Validity information

The information given in this documentation is valid for the following devices:

Function module	Type designation	From hardware version	From software version
PROFIBUS I/O	E82ZAFPC201	1A	10

3.4 Connections and interfaces

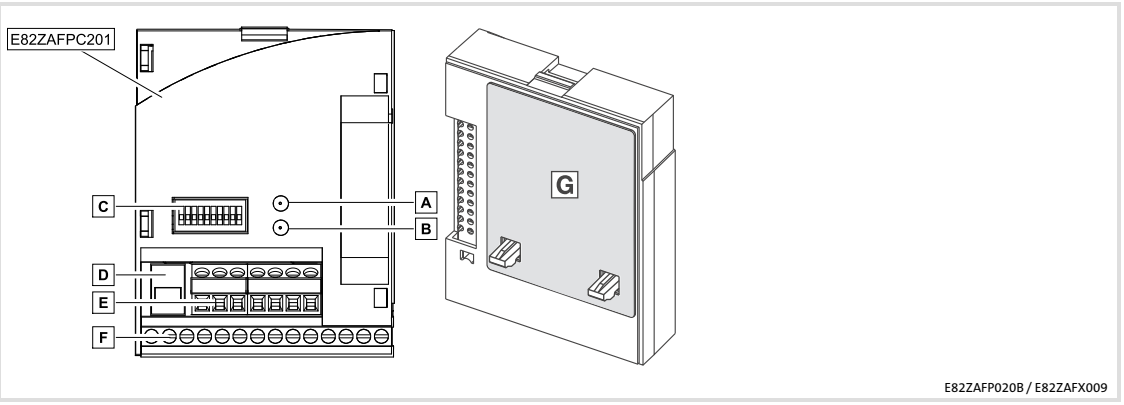


Fig. 3-1 Communication module E82ZAFPC201 (PROFIBUS I/O)

Pos.	Description	Detailed information
A	Status of PROFIBUS communication (yellow LED)	85
B	Connection status to standard device (green LED)	
C	DIP switches for setting ... • compatibility with the PROFIBUS function modules E82ZAFPC0xx • the bus device address	 32 33
D	DIP switch for activating the bus terminating resistor	33
E	Terminal strip X3.1, connections for ... • digital inputs E1 and E2 • external voltage supply	15
F	Terminal strip X3.2, connections for ... • PROFIBUS • controller inhibit (CINH) • external voltage supply	16
G	Nameplate	11

4 Technical data

4.1 General data

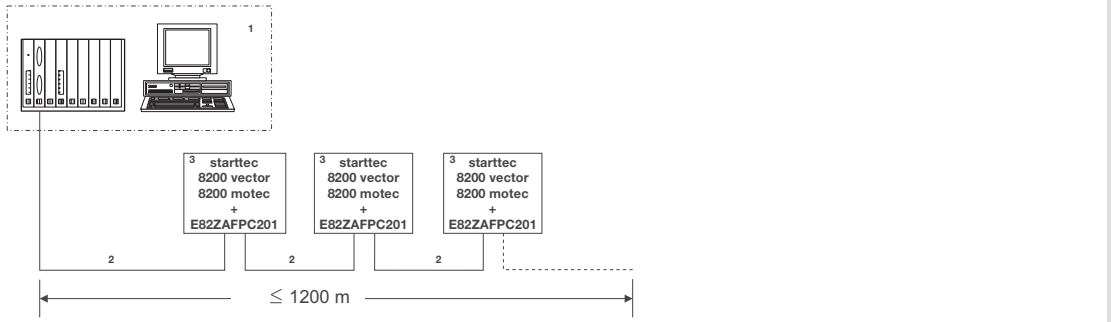
Area	Values
Order designation	E82ZAFPC201
PUO ID number	$0x081B_{hex}$
Communication profile (DIN 19245 Part 1 and Part 3)	• PROFIBUS-DP-V0 • PROFIBUS-DP-V1
Communication medium	RS485
Drive profile	• DRIVECOM profile "Drive technology 20" (can be switched off) • PROFIdrive (can be switched off, state machine and PROFIdrive parameter data channel)
Network topology	• Without repeaters: line • With repeaters: line or tree
PROFIBUS bus device	Slave
Baud rate [kbps]	9.6 ... 12000 (automatic detection)
Process data words	1 ... 10 words (16 bits/word)
DP user data length	1 ... 10 process data words + 4 parameter data words
Max. number of bus devices	• Standard: 32 (= 1 bus segment) • With repeaters: 125
Max. cable length per bus segment	1200 m (depending on the baud rate and cable type used)
External DC voltage supply	+24 V DC ±10 %, max. 100 mA

4.2 Operating conditions

Ambient conditions			
Climate			
	Storage	IEC/EN 60721-3-1	1K3 (-25 to +60 °C)
	Transport	IEC/EN 60721-3-2	2K3 (-25 to +70 °C)
	Operation	Corresponding to the data of the Lenze standard device used (see documentation of the standard device).	
	Pollution	EN 61800-5-1	Degree of pollution 2
Degree of protection		IP20 (protection against accidental contact according to NEMA 250 type 1)	

5.2.2 Wiring with a host (master)

Basic design of a PROFIBUS network with RS485 cabling without repeater



No.	Element	Note
1	Host	E.g. PC or PLC with PROFIBUS master interface module
2	Bus cable	Connects the PROFIBUS master interface module to the function modules. ● The baud rate depends on the length of the bus cable (📖 22).
3	PROFIBUS slave	Applicable standard device (📖 11)with function module ● Activate bus terminating resistors at the first and last physical node (📖 33).

Note!

When using a repeater, max. 125 nodes can communicate via the PROFIBUS.

General structure of the identification byte							
MSB							LSB
7	**6**	**5**	**4**	**3**	**2**	**1**	**0**

Data length
00 1 byte or 1 word
...
15 16 bytes or 16 words

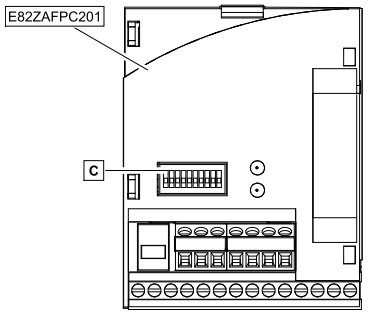
Input/output
00 Special identification format
01 Input
10 Output
11 Input and output

Length/format
0 Byte
1 Word

Consistency
0 Byte or word
1 Total length

6.4 Setting the software compatibility

DIP switch **S8** (C) serves to set compatibility with the Lenze PROFIBUS function modules E82ZAFPC0xx.



E82ZAFP020B

E82ZAFD005

DIP switch C	
Position of switch S8	**Compatibility**
OFF	E82ZAFPC201
ON	E82ZAFPC0xx

C1525: Display of current DIP switch setting

Code	Subcode	Index	Possible settings			Data type
			Lenze	Selection		
C1525		23050_d = $5A0A_h$	Disp			
	1			0	[1] 127	
	2			0	1	

This code displays the current DIP switch settings.

► Subcode1, bus device address:

DIP switches ©	Value	Example	
		Switch position	Bus device address
S1	1	**ON**	1 + 16 + 32 + 64 = 113
S2	2	OFF	
S3	4	OFF	
S4	8	OFF	
S5	16	**ON**	
S6	32	**ON**	
S7	64	**ON**	

► Subcode2, compatibility:

DIP switches ©	
Position of switch S8	**Compatibility**
OFF	E82ZAFPC201
ON	E82ZAFPC0xx

12.3 Parallel operation of AIF and FIF interfaces

Note!

The option of parallel operation ...

- ► of a communication module (AIF) and a function module (FIF) exists for the standard devices 8200 vector and Drive PLC.
- ► of two function modules (FIF) exists for the standard devices 8200 motec, Drive PLC and starttec.

Possible combinations

Function module on FIF		Communication module on AIF					
		Keypad E82ZBC Keypad XT EMZ9371BC	PROFIBUS-DP EMF2133IB	System bus CAN EMF2171IB EMF2172IB	CANopen EMF2178IB	DeviceNet EMF2179IB	Ethernet PowerLink EMF2191IB
Standard I/O PT	E82ZAFSC010	✓	✓	✓	✓	✓	✓
Application I/O PT	E82ZAFAC010	✓	✓)	✓)	✓)	✓)	✓)
PROFIBUS-DP	E82ZAFPC010	✓	☒	☒	☒	☒	☒
PROFIBUS I/O	E82ZAFPC201						
Sys. bus CAN PT	E82ZAFCC010	✓	✓	✓	✓	✓	✓
Sys. bus CAN PT	E82ZAFCC210						
Sys.-bus CAN-I/O RS PT	E82ZAFCC100						
CANopen PT	E82ZAFUC010	✓	☒	☒	☒	☒	☒
DeviceNet PT	E82ZAFVC010	✓	☒	☒	☒	☒	☒
INTERBUS PT	E82ZAFIC010	✓	☒	☒	☒	☒	☒
LECOM-B PT	E82ZAFLC010	✓	☒	☒	☒	☒	☒
AS interface PT	E82ZAFFC010	✓	☒	☒	☒	☒	☒

Function module on FIF		Communication module on AIF				
		INTERBUS EMF2113IB	LECOM-A/B EMF2102IBC V001	LECOM-A EMF2102IBC V004	LECOM-B EMF2102IBC V002	LECOM-LI EMF2102IBC V003
Standard I/O PT	E82ZAFSC010	✓	✓	✓	✓	✓
Application I/O PT	E82ZAFAC010	✓)	✓)	✓)	✓)	✓)
PROFIBUS-DP	E82ZAFPC010	☒	✓)	✓	✓)	✓)
PROFIBUS I/O	E82ZAFPC201					
Sys. bus CAN PT	E82ZAFCC010	✓	✓	✓	✓	✓
Sys. bus CAN PT	E82ZAFCC210					
Sys.-bus CAN-I/O RS PT	E82ZAFCC100					
CANopen PT	E82ZAFUC010	☒	✓)	✓	✓)	✓)
DeviceNet PT	E82ZAFVC010	☒	✓)	✓	✓)	✓)
INTERBUS PT	E82ZAFIC010	☒	✓)	✓	✓)	✓)
LECOM-B PT	E82ZAFLC010	☒	✓)	✓	✓)	✓)
AS interface PT	E82ZAFFC010	☒	✓)	✓	✓)	✓)

✓ Combination possible, communication module can be supplied internally or externally (keypad only internally)
✓ Combination possible, communication module has to be supplied externally
☒ Combination not possible

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