



## 9 Accessories

### 9.1 Software

#### 9.1.1 MOVISAFE® Config UCS/DCS and MOVISAFE® Assist

The MOVISAFE® Config UCS/DCS and MOVISAFE® Assist software is on the software CD-ROM (part number 1156 6604).

For detailed project planning information, refer to the online help of the respective software.

Requirements for using the MOVISAFE® Assist/Config software:

- Only for MOVISAFE® Config: Activation with a USB license dongle (see chapter "License dongle")
- Operating system: Microsoft Windows® 2000, XP, Vista
- Required hard disk space: approx. 75 MB each
- RAM: Min. 256 MB, recommended 512 MB or more
- Required hardware components: Interface adapter UWS21A (RS232 to RS485) or interface adapter USB11A (USB to RS485). For more information on hardware components, refer to the MOVIDRIVE® MDX60B/61B catalog.

#### 9.1.2 License dongle for MOVISAFE® Config



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The license dongle enables the entire functionality of the MOVISAFE® Config UCS software. The software can be used without license dongle but the functionality will be limited.

MOVISAFE® Config UCS functionalities	
With license dongle	Without license dongle
<ul style="list-style-type: none"> <li>• Creating a program</li> <li>• Compiling a program</li> <li>• Saving a program</li> <li>• Loading a program from the PC to the UCS..B or UCS..B/PS option</li> </ul>	<ul style="list-style-type: none"> <li>• Function chart diagnostics and scope</li> <li>• Unit replacement (data storage); up or download of a configuration file (".cfg")</li> <li>• Activating a safety data set (with UCS..B/PS option)</li> <li>• Creating a configuration report</li> </ul>

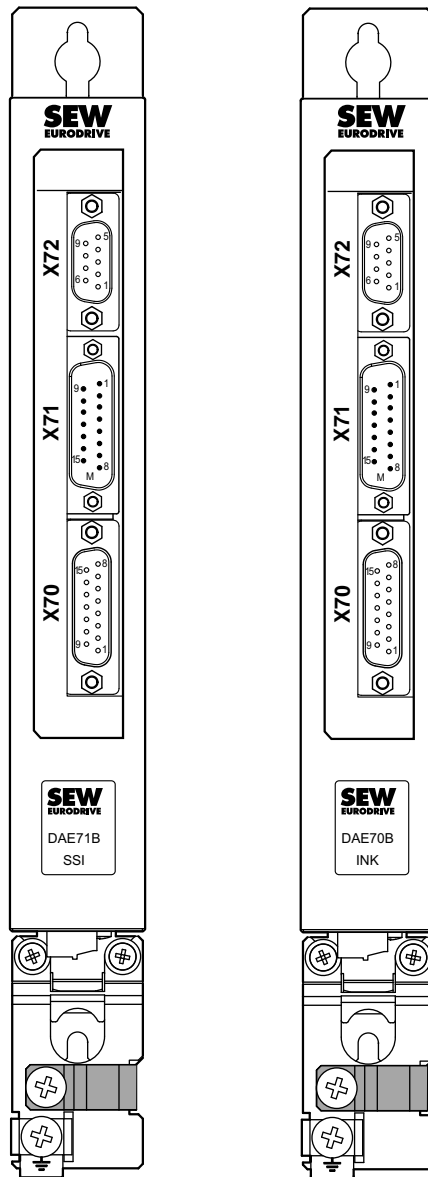


### INFORMATION

- The license dongle is not included in the scope of delivery. You can order the license dongle via the part number 1058 5834.
- The driver for the license dongle is installed during installation of the MOVISAFE® UCS Config software.
- The license dongle is compatible with the MOVISAFE® UCS..B and DCS..B product series.



## 9.2 DAE70B/71B encoder signal split box



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### 9.2.1 DAE70B (INC)

- Splitting of the encoder signals of a TTL incremental encoder or SIN/COS encoder for the following unit combinations:
  - MOVIDRIVE<sup>®</sup> B with built-in DCS..B option
  - MOVIDRIVE<sup>®</sup> B with MOVISAFE<sup>®</sup> UCS..B (compact or multi-axis type)
  - MOVIDRIVE<sup>®</sup> B with MOVISAFE<sup>®</sup> UCS..B (compact or multi-axis type)
- Connection of the TF temperature sensor:

The TF temperature sensor is connected to terminal X26 of the DAE70B encoder signal split box. The DAE80B/81B encoder cable is used to connect the terminal X71 of the DAE70B encoder signal split box to the respective encoder card in MOVIDRIVE<sup>®</sup> B or MOVIAxis<sup>®</sup>.

**9.2.2 DAE71B (SSI)**

- Splitting of the encoder signals of an SSI absolute encoder for the following unit combinations:
  - MOVIDRIVE<sup>®</sup> B with built-in DCS..B option
  - MOVIDRIVE<sup>®</sup> B with MOVISAFE<sup>®</sup> UCS..B (compact or multi-axis type)
  - MOVIDRIVE<sup>®</sup> B with MOVISAFE<sup>®</sup> UCS..B (compact or multi-axis type)
- Connection of the TF temperature sensor:

The TF temperature sensor is connected to terminal X26 of the DAE71B encoder signal split box. The DAE80B/81B encoder cable is used to connect the terminal X71 of the DAE71B encoder signal split box to the respective encoder card in MOVIDRIVE<sup>®</sup> B or MOVIAXIS<sup>®</sup>.

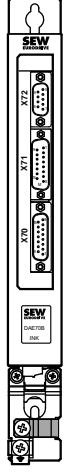
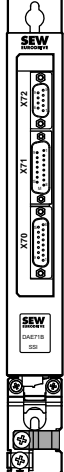
**9.2.3 Part numbers**

DAE70B/71B encoder signal split box, built into the UOH11B universal housing. Matching prefabricated cables are listed in chapter "Prefabricated cables".

- Part number DAE70B (INK): 1824 379 7
- Part number DAE71B (SSI): 1824 380 0



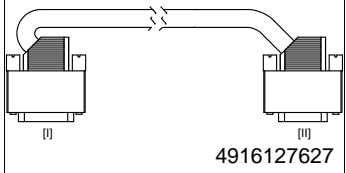
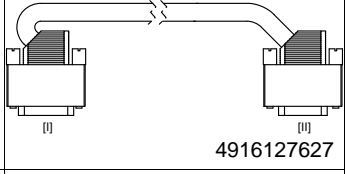

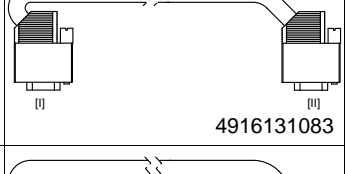
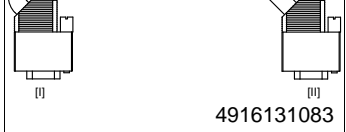
9.2.4 Encoder signal split boxes

Designation	Description	Connection	Part number	Symbol
DAE70B	Encoder signal split box for incremental encoder (INK)	<ul style="list-style-type: none"> <li>• X26: TF temperature sensor</li> <li>• X70: Encoder connection</li> <li>• X71: MOVIDRIVE® B/MOVIAXIS®</li> <li>• X72: MOVISAFE® UCS..B/DCS..B</li> </ul>	1824 379 7	 <p>4916135051</p>
DAE71B	Encoder signal split box for absolute encoders (SSI)	<ul style="list-style-type: none"> <li>• X26: TF temperature sensor</li> <li>• X70: Encoder connection</li> <li>• X71: MOVIDRIVE® B/MOVIAXIS®</li> <li>• X72: MOVISAFE® UCS..B/DCS..B</li> </ul>	1824 380 0	 <p>4916138507</p>



### 9.2.5 Connection cables for encoder signal split boxes

The connection cables can be configured from 0.8 m to 6 m.

Designation	Description	Connection	Part number	Symbol
DAE80B	Connection between encoder signal split box and MOVIDRIVE® B	MOVIDRIVE® B: <ul style="list-style-type: none"> <li>• DEH11B:X15</li> <li>• DEH21B:X15</li> <li>• DEU21B:X15</li> </ul>	1813 265 0	 4916127627
DAE81B	Connection between encoder cable split box and MOVIAXIS®	MOVIAXIS®: <ul style="list-style-type: none"> <li>• MXA:X13</li> <li>• XGH11A:X63</li> <li>• XGS11A:X64</li> </ul>	1813 266 9	 4916127627
DAE82B	Connection between encoder cable split box and MOVISAFE® UCS..B	MOVISAFE®: <ul style="list-style-type: none"> <li>• UCS..B:X7</li> <li>• UCS..B:X8</li> </ul>	1813 112 3	 4916131083
DAE83B	Connection between encoder cable split box and MOVISAFE® DCS..B	MOVISAFE®: <ul style="list-style-type: none"> <li>• DCS..B:X84</li> <li>• DCS..B:X85</li> </ul>	1813 111 5	 4916131083
DAE84B	Connection between encoder signal split box and MOVIDRIVE® B	MOVIDRIVE® B: <ul style="list-style-type: none"> <li>• DEH21B:X62</li> <li>• DIP11B:X62</li> </ul>	1814 321 0	 4916131083



### 9.2.6 Cable sets for encoder signal split box

The connection cables for the cable sets are delivered with a fixed length of 1.5 m.

Designation	Description	Connection	Part number	Symbol
Cable set 1	Cable set for encoder signal split box for MOVIDRIVE® B with DEH11B, DEH21B and DEU21B and MOVISAFE® UCS..B for splitting SIN/COS and TTL signals; with DEU21B also SSI signals	Includes the cables: <ul style="list-style-type: none"> <li>• DAE80B</li> <li>• DAE82B</li> </ul>	1824 690 7	<p>4925961867</p>
Cable set 2	Cable set for encoder signal split box for MOVIDRIVE® B with DEH11B, DEH21B and DEU21B and MOVISAFE® DCS..B for splitting SIN/COS and TTL signals; with DEU21B also SSI signals	Includes the cables: <ul style="list-style-type: none"> <li>• DAE80B</li> <li>• DAE83B</li> </ul>	1824 691 5	<p>4925961867</p>
Cable set 3	Cable set for encoder signal split box for MOVIAxis® and MOVISAFE® UCS..B for splitting SIN/COS, TTL and SSI signals	Includes the cables: <ul style="list-style-type: none"> <li>• DAE81B</li> <li>• DAE82B</li> </ul>	1824 692 3	<p>4925961867</p>
Cable set 4	Cable set for encoder signal split box for MOVIDRIVE® B with DIP11B and DEH21B and MOVISAFE® DCS..B for splitting SSI signals	Includes the cables: <ul style="list-style-type: none"> <li>• DAE84B</li> <li>• DAE83B</li> </ul>	2820 303 8	<p>4925961867</p>
Cable set 5	Cable set for encoder signal split box for MOVIDRIVE® B with DIP11B and DEH21B and MOVISAFE® UCS..B for splitting SSI signals	Includes the cables: <ul style="list-style-type: none"> <li>• DAE84B</li> <li>• DAE82B</li> </ul>	2820 304 6	<p>4925961867</p>



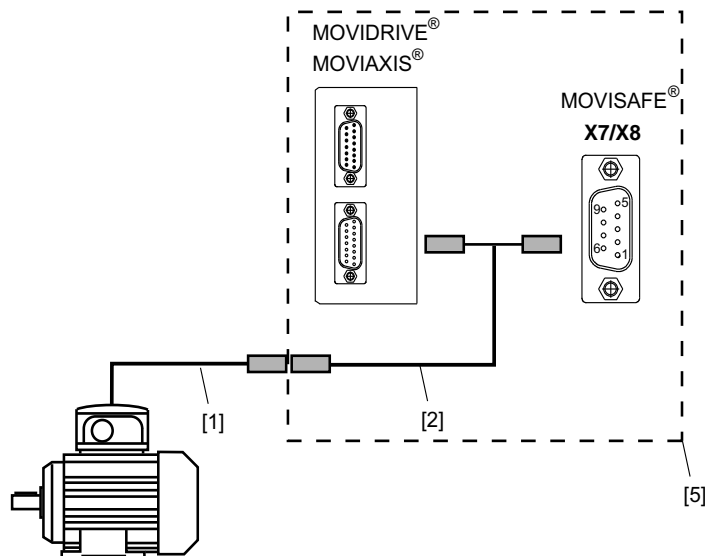
### 9.3 Prefabricated cables

#### 9.3.1 Overview

You can order prefabricated cables from SEW-EURODRIVE for connecting an encoder system to MOVISAFE<sup>®</sup> UCS..B. The cables are divided into split cables and adapter cables.

- Split cable

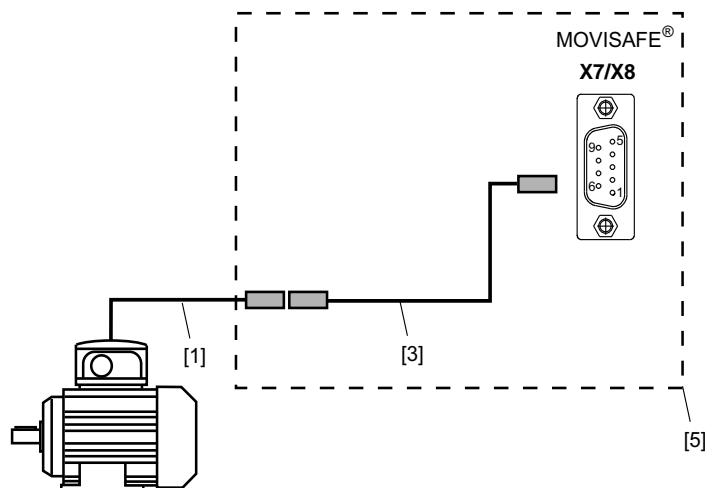
Dual connection of an encoder system to MOVIDRIVE<sup>®</sup> B or MOVIAXIS<sup>®</sup> and to MOVISAFE<sup>®</sup> UCS..B.



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- Adapter cable

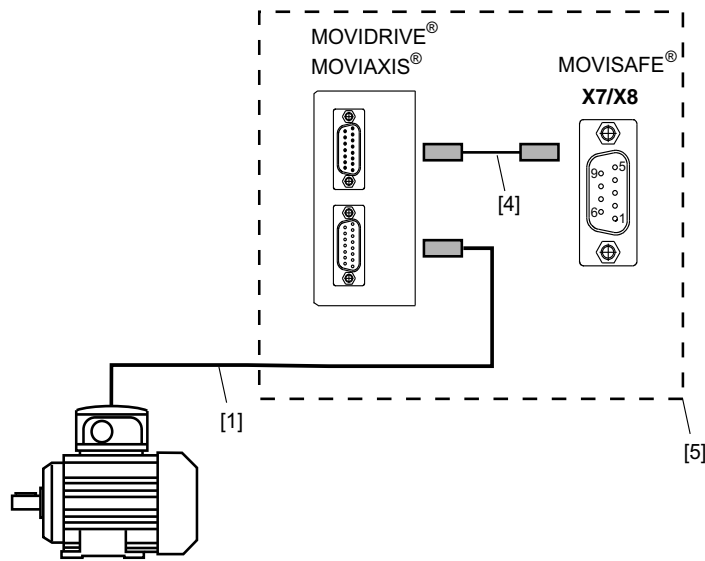
Direct connection of an encoder system to MOVISAFE<sup>®</sup> UCS..B



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- Adapter cable

Direct connection of the incremental encoder simulation of MOVIDRIVE<sup>®</sup> B or MOVIAXIS<sup>®</sup> to MOVISAFE<sup>®</sup> UCS..B



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- [1] Standard encoder cable
- [2] Split cable
- [3] Adapter cable
- [4] Adapter cable for encoder simulation
- [5] Installation in the control cabinet



### INFORMATION

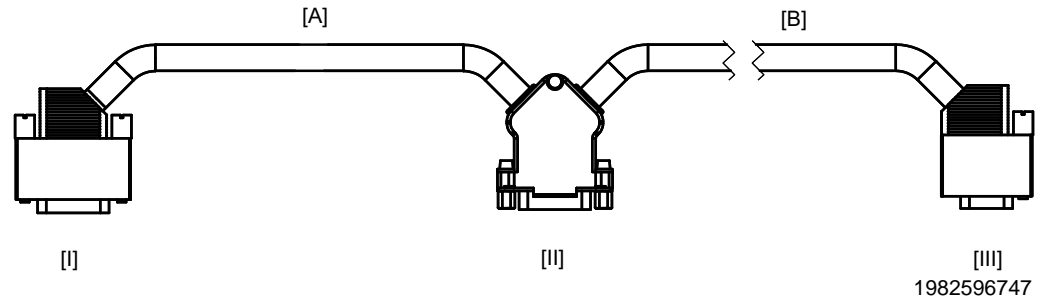
- SEW-EURODRIVE recommends using the prefabricated DAE..B cables according to the following table. The prefabricated cables are designed for connection to the UCS..B safety modules in conjunction with MOVIDRIVE® B and MOVIAXIS®.
- Note that a split or adapter cable must always be used together with a standard encoder cable.
- The maximum length of prefabricated split and adapter cables is 6 m.
- Branching off to other evaluation units, interconnecting active units, or switching between encoders is not permitted.





#### 9.3.2 Split cables and adapter cables

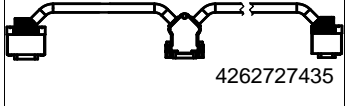
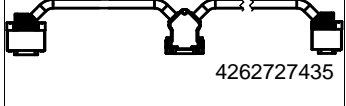
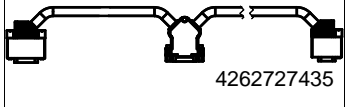

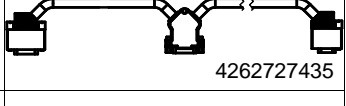

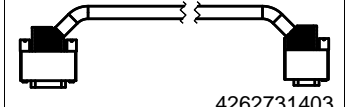
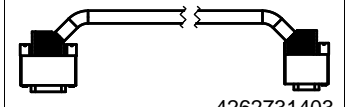
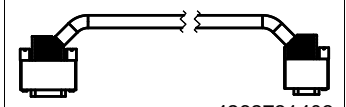
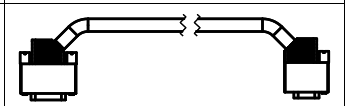
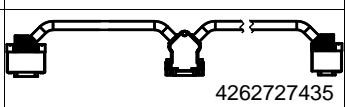
The length of the adapter cables and the B-side of the split cables can be configured from 0.2 m to 6 m.



- [A] A-side with fixed length (0.2 m)
- [B] B-side with variable length (0.2 m to 6 m)
- [I] Encoder card connection
- [II] Encoder connection
- [III] Connection of MOVISAFE® UCS..B



### 9.3.3 Split cables for MOVISAFE® UCS..B

Designation	Description	Connection	Part number	Symbol
DAE50B	Splitting of SIN/COS and TTL encoder (asynchronous motor)	MOVIDRIVE® B: • DEH11B:X14 • DER11B:X14 • DEU21B:X14	1811 447 4	 4262727435
DAE52B	Splitting of SIN/COS and TTL encoder (asynchronous motor)	MOVIDRIVE® B: • DEH11B/21B:X15 • DEU21B:X15  MOVIAXIS®: • MXA:X13 • XGH11A:X63 • XGS11A:X64	1811 449 0	 4262727435
DAE53B	Splitting of SIN/COS and TTL encoder (synchronous motor)	MOVIDRIVE® B: • DEH11B/21B:X15 • DEU21B:X15  MOVIAXIS®: • MXA:X13 • XGH11A:X63 • XGS11A:X64	1811 450 4	 4262727435
DAE54B	Splitting of SSI encoder	MOVIDRIVE® B: • DIP11B:X62 • DEH21B:X62	1811 451 2	 4262727435
DAE55B	Splitting of SSI encoder	MOVIDRIVE® B: • DEU21B:X15	1811 452 0	 4262727435
DAE56B	Encoder simulation adapter	MOVIAXIS®: • XGH11A:X62 • XGS11A:X62	1811 464 4	 4262731403
DAE57B	Adapter SIN/COS, TTL encoder, encoder simulation	MOVIDRIVE® B: • DEH11B:X14 • DER11B:X14 • DEU21B:X14	1811 465 2	 4262731403
DAE58B	SSI encoder adapter	Cable (D-sub 9 to D-sub 9) with resistors	1811 919 0	 4262731403
DAE59B	SSI encoder adapter	Cable (D-sub 15 to D-sub 9) with resistors Encoder voltage DC 24 V on pin 13	1811 920 4	 4262731403
DAE60B	SSI encoder adapter	Cable (D-sub 15 to D-sub 9) with resistors Encoder voltage DC 12 V on pin 15	1812 043 1	 4262731403
DAE61B	Splitting of SSI encoder	MOVIDRIVE® B: • DEU21B:X14  MOVIAXIS®: • XGS11A:X64	1812 042 3	 4262727435

### 9.3.4 Connecting a motor encoder

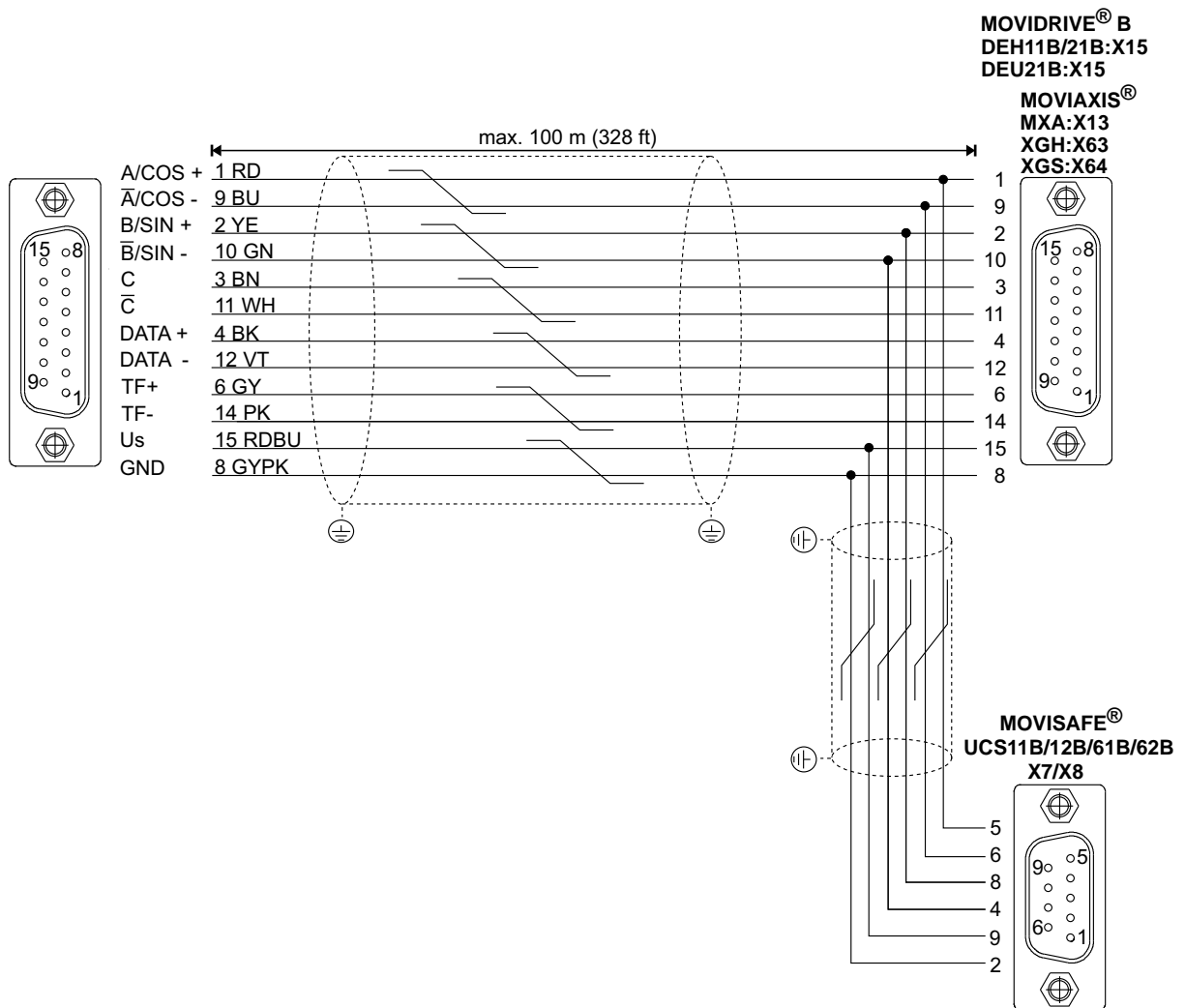
#### SIN/COS or TTL incremental encoder (parallel connection)



## Accessories

### Prefabricated cables

The following figure shows the parallel connection of a sin/cos or TTL incremental encoder to MOVIDRIVE® B or MOVIAXIS®. In this case, the signal outputs of the encoder are distributed to X15 (with MOVIDRIVE® B) or X13/X63/X64 (with MOVIAXIS®) and to X7/X8 of MOVISAFE® UCS11B/12B/61B/61B (see following figure).



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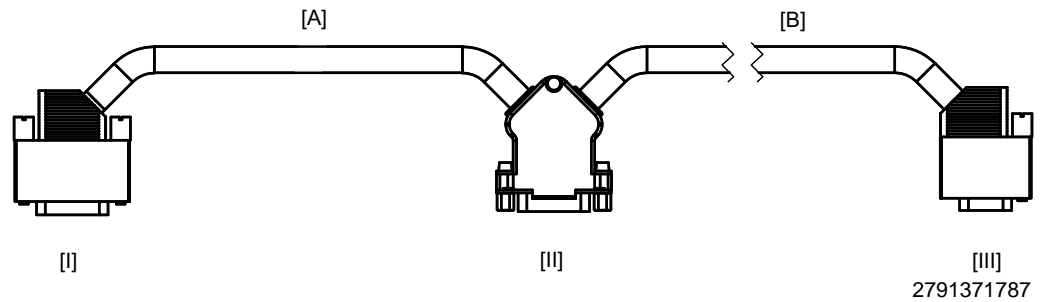
### INFORMATION

An individual sin/cos or TTL encoder can be used for applications up to performance level d. The following limitations must be considered:

- Mechanical faults, such as shaft breakage or slip, are not detected and have to be ruled out by appropriate measures in the system design.
- The design of the mechanical system and the encoder must be subjected to an FMEA based on the system to ensure that the encoder has a positive connection with the movement.
- Sin/cos encoders, TTL encoders, or encoders that provide such signal tracks must be used. The encoders must be designed in such a way that the output signals of both tracks are generated independently of one another and that common cause failure can be ruled out.



The following prefabricated cables are available from SEW-EURODRIVE for the safe connection of motor encoders.



- [A] A-side with fixed length (200 mm)
- [B] B-side with variable length (200 mm to 6 m)

Type	Part number	Connection		
		[I] D-sub connector, DA15	[II] D-sub socket, DA15	[III] D-sub connector, DE9
DAE52B DAE53B	1811 449 0 1811 450 4	MOVIDRIVE® B: • DEH11B:X15 • DEH21B:X15 • DEU21B:X15 MOVIAXIS®: • MXA:X13 • XGH:X63 • XGS:X64	Motor encoder	UCS..B:X7/X8

- **DAE52B**  
Connection of encoder cables without TF line
- **DAE53B**  
Connection of encoder cables with integrated TF line.

The following encoders can be connected:

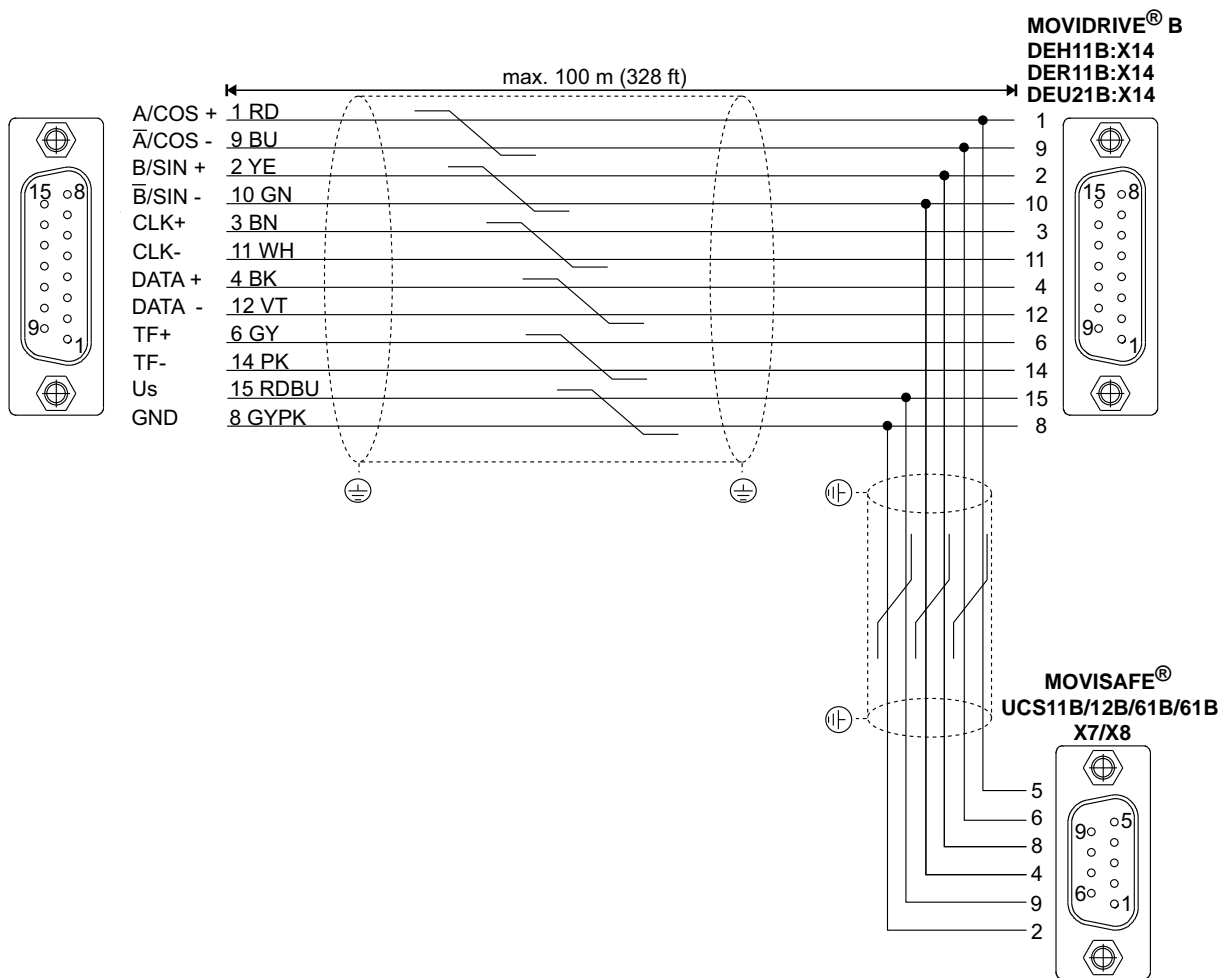
- TTL incremental encoders
- SIN/COS encoders
- Hiperface® encoder (only the sin/cos tracks are evaluated in UCS..B)
- RS485 combination encoder (only the sin/cos tracks are evaluated in UCS..B)
- SSI combination encoder (only the sin/cos tracks are evaluated in UCS..B)



#### 9.3.5 Connecting an external encoder

##### SIN/COS or TTL incremental encoder (parallel connection)

The following figure shows the parallel connection of a sin/cos or TTL incremental encoder to MOVIDRIVE® B.



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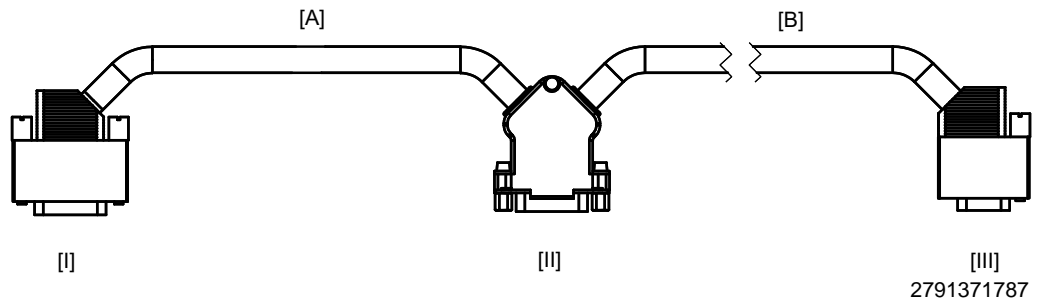
#### INFORMATION

An individual sin/cos or TTL encoder can be used for applications up to performance level d. The following limitations must be considered:

- Mechanical faults, such as shaft breakage or slip, are not detected and have to be ruled out by appropriate measures in the system design.
- The design of the mechanical system and the encoder must be subjected to an FMEA based on the system to ensure that the encoder has a positive connection with the movement.
- Sin/cos encoders, TTL encoders, or encoders that provide such signal tracks must be used. The encoders must be designed in such a way that the output signals of both tracks are generated independently of one another and that common cause failure can be ruled out.



The following prefabricated cables are available from SEW-EURODRIVE for the safe connection of external encoders.



[A] A-side with fixed length (200 mm)

[B] B-side with variable length (200 mm to 6 m)

Type	Part number	Connection		
		[I] D-sub socket, DA15	[II] D-sub socket, DA15	[III] D-sub connector, DE9
DAE50B	1811 447 4	MOVIDRIVE® B: • DEH11B:X14 • DER11B:X14 • DEU21B:X14	External encoder	UCS..B:X7/X8

The following encoders can be connected:

- TTL incremental encoders
- SIN/COS encoders
- Hiperface® encoder (only the sin/cos tracks are evaluated in UCS..B)
- RS485 combination encoder (only the sin/cos tracks are evaluated in UCS..B)
- SSI combination encoder (only the sin/cos tracks are evaluated in UCS..B)



### INFORMATION

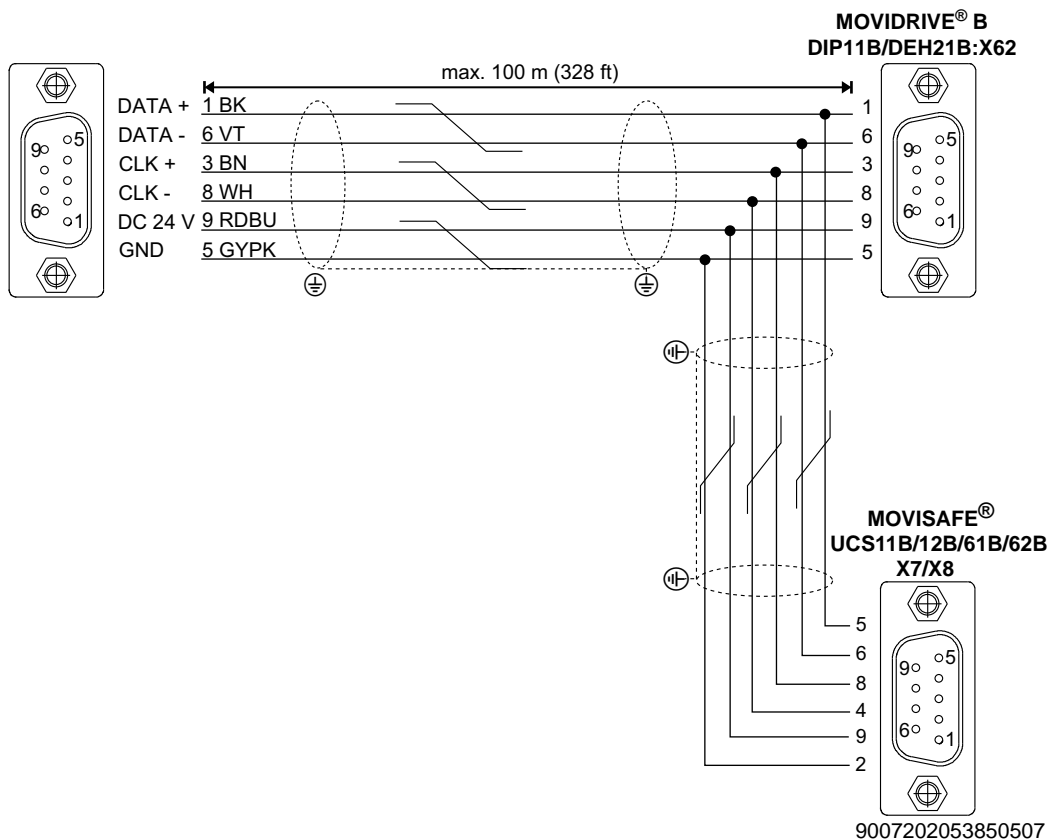
DAE50B encoder cables can only be used together with a standard encoder cable for motor encoders (DEU/DEH/DER:X15).



**9.3.6 Connecting an absolute encoder**

- **SSI absolute encoder in slave mode (parallel connection)**

The following figure shows the parallel connection of an SSI absolute encoder in slave mode to MOVIDRIVE® B.

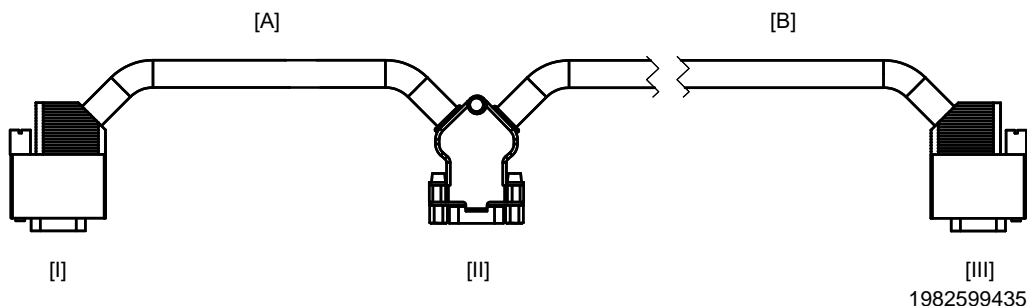


**INFORMATION**



In this connection variant, the pulse signals and data are also read by MOVISAFE® UCS..B. In this example, the encoder is **not** supplied with voltage from MOVISAFE® UCS..B. Note the maximum pulse rate of 200 kHz (see chapter "Specification of encoder interfaces").

The following prefabricated cable is available from SEW-EURODRIVE for the safe connection of motor encoders.



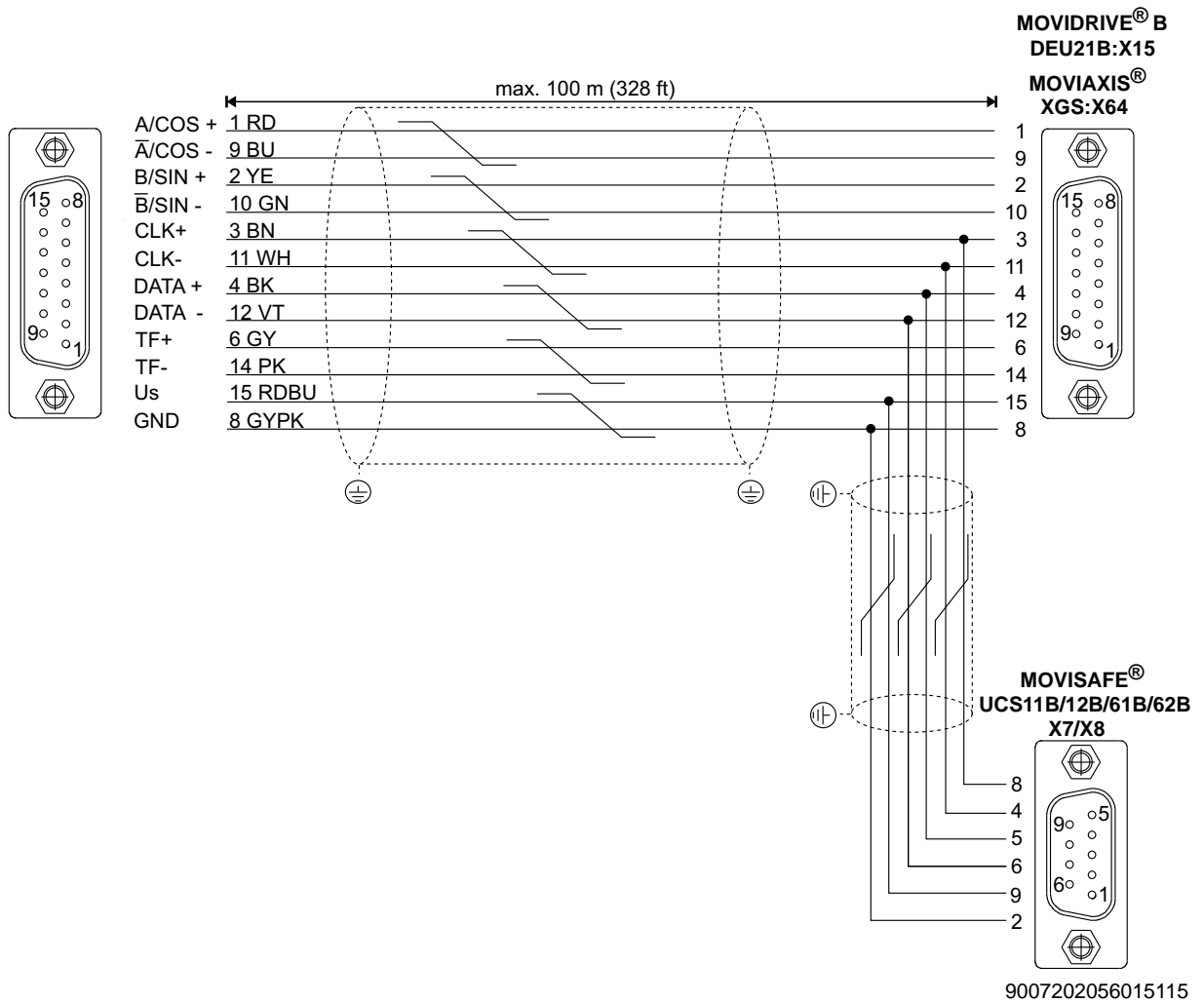
- [A] A-side with fixed length (200 mm)
- [B] B-side with variable length (200 mm to 6 m)



Type	Part number	Connection		
		[I]	[II]	[III]
		<b>D-sub connector, DE9</b>	<b>D-sub socket, DE9</b>	<b>D-sub connector, DE9</b>
DAE54B	1811 451 2	MOVIDRIVE® B: • DIP11B:X62 • DEH21B:X62	SSI absolute encoder	UCS..B:X7/X8

• **SSI absolute encoder in slave mode (parallel connection)**

The following figure shows the parallel connection of an SSI absolute encoder in slave mode to MOVIDRIVE® B and MOVIAXIS®.



**INFORMATION**

In this connection variant, the pulse signals and data are also read by MOVISAFE® UCS..B. In this example, the encoder is **not** supplied with voltage from MOVISAFE® UCS..B. Note the maximum pulse rate of 200 kHz (see chapter "Specification of encoder interfaces").

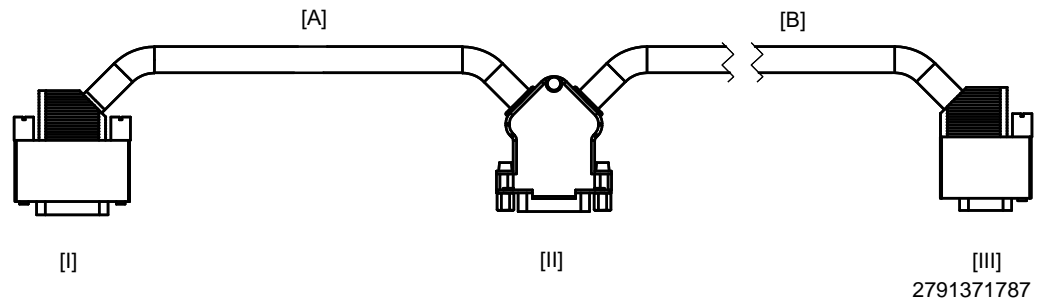




## Accessories

### Prefabricated cables

The following prefabricated cable is available from SEW-EURODRIVE for the safe connection of motor encoders.



[A] A-side with fixed length (200 mm)

[B] B-side with variable length (200 mm to 6 m)

Type	Part number	Connection		
		[I] D-sub connector, DA15	[II] D-sub socket, DA15	[III] D-sub connector, DE9
DAE61B	1812 042 3	MOVIDRIVE® B: • DEU21B:X15 MOVIAXIS®: • XGS:X64	SSI absolute encoder	UCS..B:X7/X8

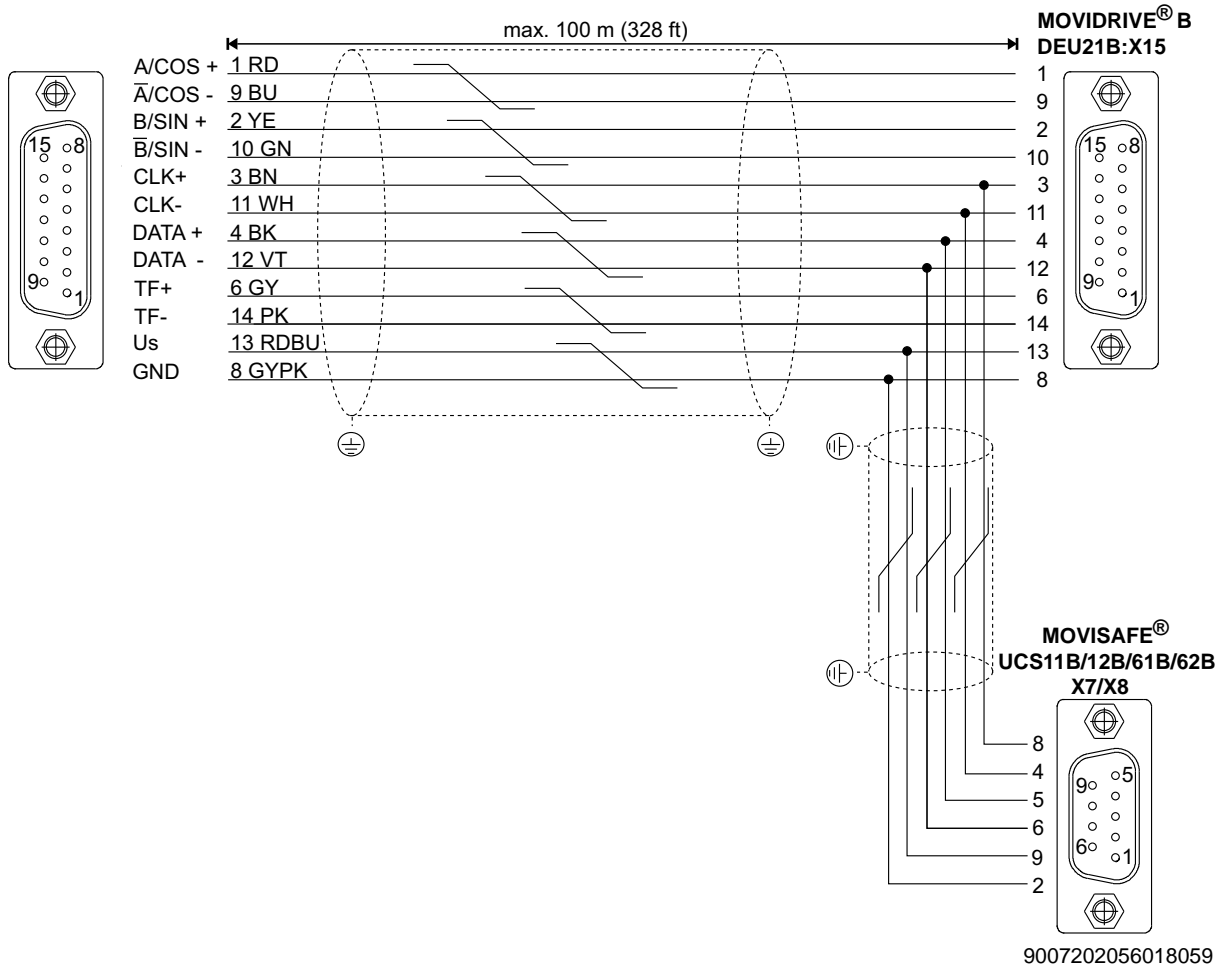


#### INFORMATION

- With MOVIAXIS®, voltage is supplied to the encoder via the option XGS11A (DC 12 V or 24 V), with MOVIDRIVE® B via option DEU21B (DC 12 V).
- Voltage supply monitoring must be set accordingly in MOVISAFE® Config UCS.
- **SSI absolute encoder in slave mode (parallel connection)**



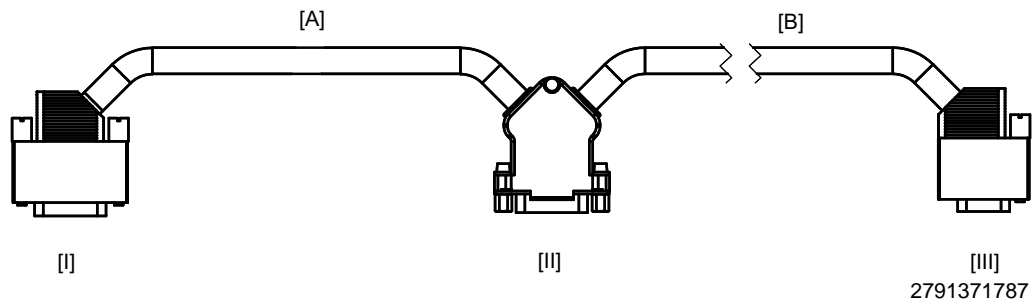
The following figure shows the parallel connection of an SSI absolute encoder in slave mode to MOVIDRIVE® B.



**INFORMATION**

In this connection variant, the pulse signals and data are also read by MOVISAFE® UCS..B. In this example, the encoder is **not** supplied with voltage from MOVISAFE® UCS..B. Note the maximum pulse rate of 200 kHz (see chapter "Specification of encoder interfaces").

The following prefabricated cable is available from SEW-EURODRIVE for the safe connection of motor encoders.



- [A] A-side with fixed length (200 mm)
- [B] B-side with variable length (200 mm to 6 m)



Type	Part number	Connection		
		[I]	[II]	[III]
		<b>D-sub connector, DA15</b>	<b>D-sub socket, DA15</b>	<b>D-sub connector, DE9</b>
DAE55B	1811 452 0	MOVIDRIVE® B: • DEU21B:X15	SSI absolute encoder	UCS..B:X7/X8



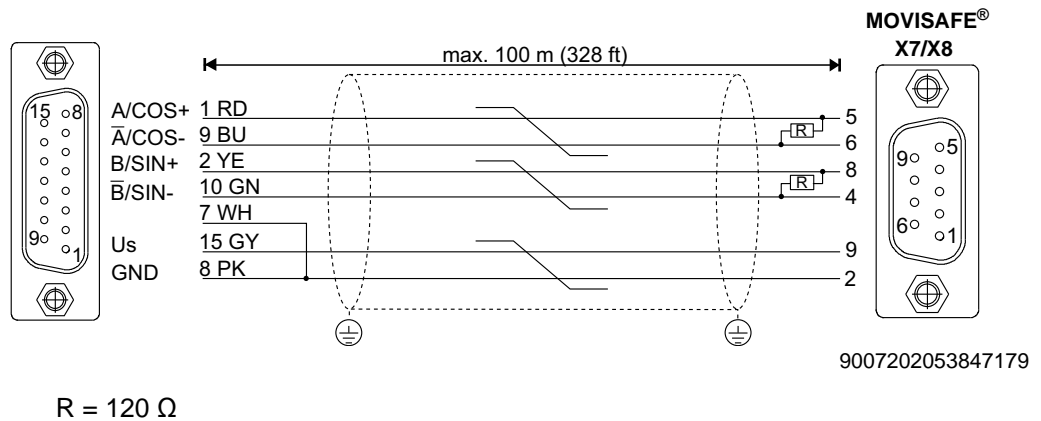
### INFORMATION

- The encoder is supplied with DC 24 V via the DEU21B option.
- Voltage supply monitoring must be set accordingly in MOVISAFE® Config UCS.

#### 9.3.7 Direct encoder connection

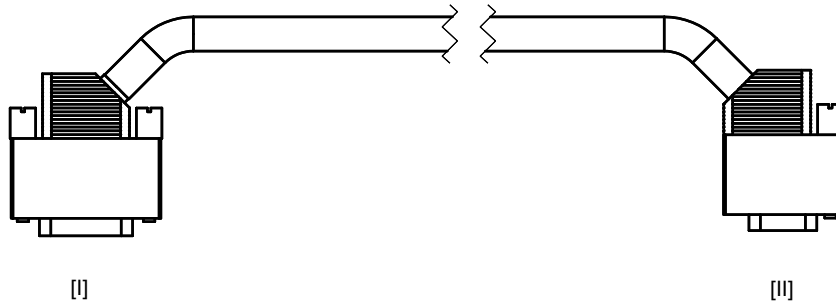
- **SIN/COS or TTL incremental encoder (direct connection)**

The following figure shows the direct connection of a sin/cos or TTL incremental encoder to MOVISAFE® UCS..B.





The following prefabricated cable is available from SEW-EURODRIVE for direct connection of an encoder to MOVISAFE® UCS..B.



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Type	Part number	Connection	
		[I]	[II]
		<b>D-sub socket, DA15</b>	<b>D-sub connector, DE9</b>
DAE57B	1811 465 2	<ul style="list-style-type: none"> <li>SIN/COS encoders</li> <li>TTL incremental encoders</li> <li>Encoder simulation</li> </ul>	UCS..B:X7/8

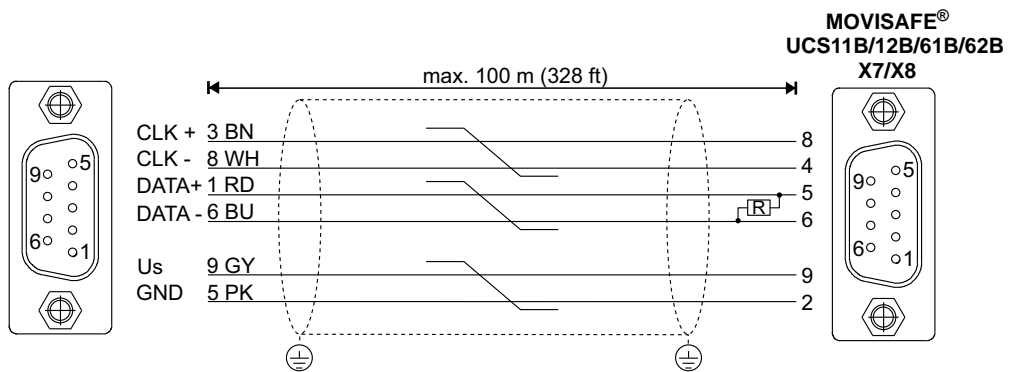


**INFORMATION**

- For this connection variant, you must connect the encoder voltage supply to MOVISAFE® UCS..B.
- DAE57B encoder cables can only be used together with a standard encoder cable for motor encoders (DEU/DEH/DER:X15).
- The cable DAE57B is also used for connecting the encoder simulation of MOVIDRIVE® B (terminal X14 of options DEH11B, DER11B or DEU21B) with MOVISAFE® UCS11B/12B, terminal X7/8.

**9-pole SSI absolute encoder in master mode (direct connection)**

The following figure shows the direct connection of a 9-pole SSI absolute encoder to MOVISAFE® UCS11B/12B/61B/62B.



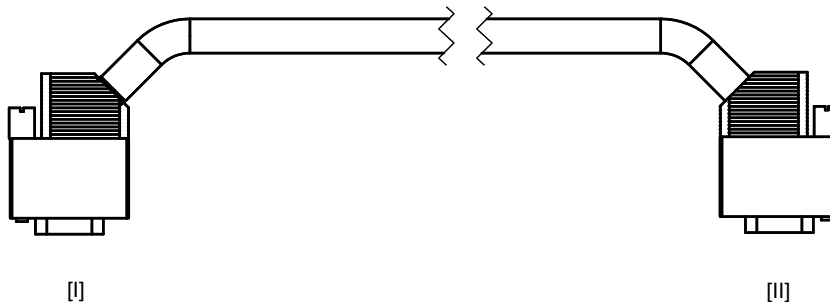
9007202053779467

R = 120 Ω



**Accessories**  
Prefabricated cables

The following prefabricated cable is available from SEW-EURODRIVE for direct connection of a 9-pole SSI absolute encoder to MOVISAFE® UCS11B/12B/61B/62.



2792558475

Type	Part number	Connection	
		[I]	[II]
		D-sub socket, DE9	D-sub connector, DE9
DAE58B	1811 919 0	SSI absolute encoder, 9-pole	UCS..B:X7/X8

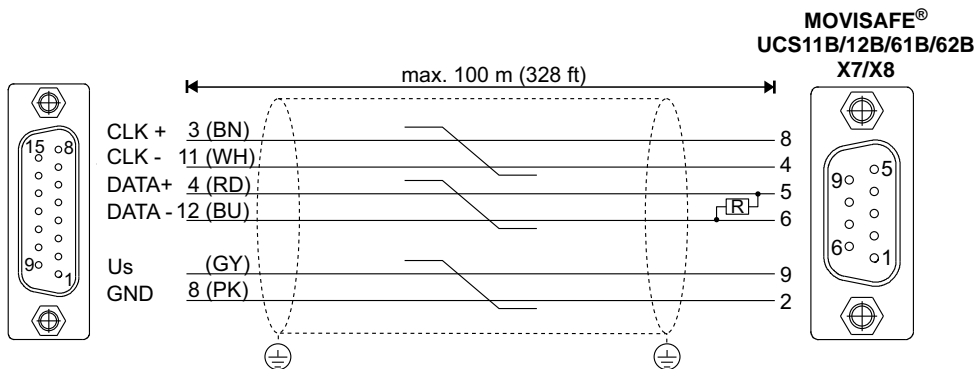


**INFORMATION**

For this connection variant, the pulses are provided by MOVISAFE® UCS..B. In this example, voltage must be supplied to the encoder via MOVISAFE® UCS..B. Note the maximum pulse rate of 150 kHz (see chapter "Technical specification of encoder interfaces").

**15-pole SSI absolute encoder in master mode (direct connection)**

The following figure shows the direct connection of a 15-pole SSI absolute encoder to MOVISAFE® UCS11B/12B/61B/62B.



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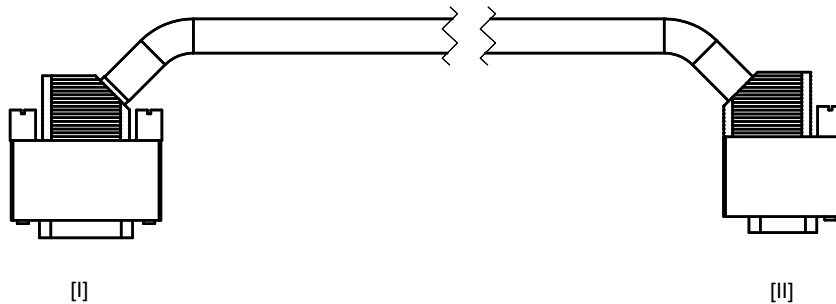
R = 120 Ω

U<sub>s</sub> = DC 24 V encoder voltage supply at pin 13 with cable DAE59B

U<sub>s</sub> = DC 12 V encoder voltage supply at pin 15 with cable DAE60B



The following prefabricated cables are available from SEW-EURODRIVE for direct connection of a 15-pole SSI absolute encoder to MOVISAFE® UCS..B.



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Type	Part number	Connection	
		[I]	[II]
		D-sub socket, DA15	D-sub connector, DE9
DAE59B	1811 920 4	SSI absolute encoder, 15-pole	
DAE60B	1812 043 1		
			UCS..B:X7/X8



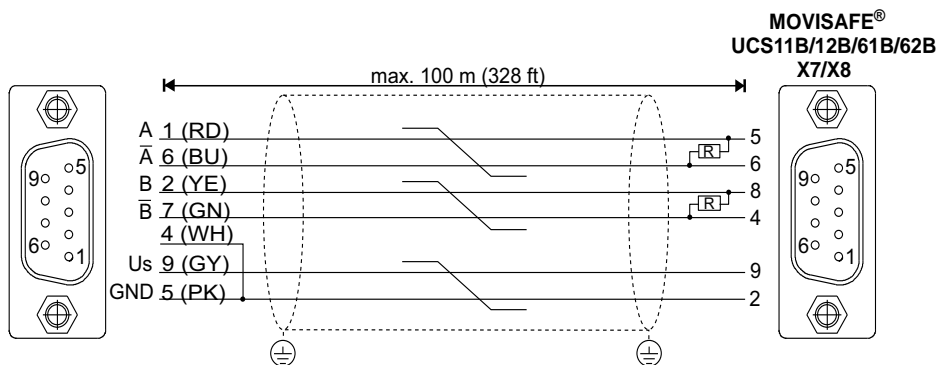
**INFORMATION**

For this connection variant, the pulses are provided by MOVISAFE® UCS..B. In this example, voltage must be supplied to the encoder via MOVISAFE® UCS..B. Note the maximum pulse rate of 150 kHz (see chapter "Technical specification of encoder interfaces").

**9.3.8 TTL incremental encoder simulation**

**TTL incremental encoder simulation (direct connection)**

The following figure shows the direct connection of the TTL incremental encoder simulation of MOVIDRIVE® A / MOVIAXIS® to MOVISAFE® UCS11B/12B/61B/62B.



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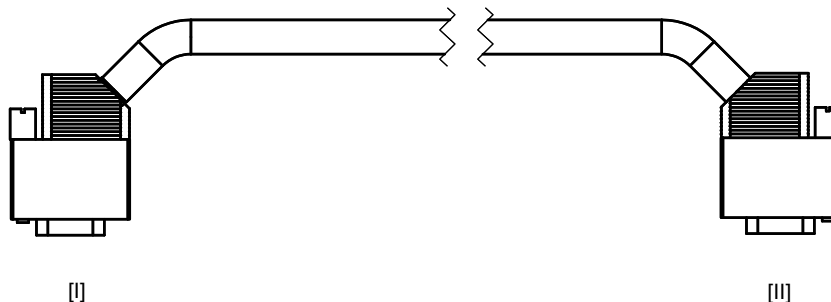
R = 120 Ω



## Accessories

### Connection of interface adapter option UWS21B (RS232)

The following prefabricated cable is available from SEW-EURODRIVE for direct connection of the TTL incremental encoder simulation to MOVISAFE® UCS11B/12B/61B/62B.



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Type	Part number	Connection	
		[I]	[II]
		<b>D-sub socket, DE9</b>	<b>D-sub connector, DE9</b>
DAE56B	1811 464 4	MOVIDRIVE® A:X14 MOVIAXIS®: • XGH: X62 • XGS: X62	UCS..B:X7/X8



### INFORMATION

- MOVIDRIVE® A
  - In this connection variant, a DC 24 V supply is routed from MOVIDRIVE® A to MOVISAFE® UCS..B. Set voltage monitoring in MOVISAFE® Config UCS to 24 V.
  - The number of pulses of the TTL incremental encoder simulation is for MDV60A: as X15, motor encoder input  
MDS60A: 1024 pulses/revolution
- MOVIAXIS® XGH/XGS
  - For this connection variant, you have to connect an encoder voltage supply to MOVISAFE® UCS..B for monitoring and to set it accordingly in MOVISAFE® Config UCS.
  - When starting up MOVIAXIS®, consider the change to software emulation.
  - The number of pulses of the TTL incremental encoder simulation can be set from 64 to 4096 pulses/revolution ( $2^6$  to  $2^{12}$ ).

## 9.4 Connection of interface adapter option UWS21B (RS232)

### 9.4.1 Part number

Interface adapter UWS21B: 1 820 456 2

### 9.4.2 Scope of delivery

The scope of delivery for the UWS21B option includes:

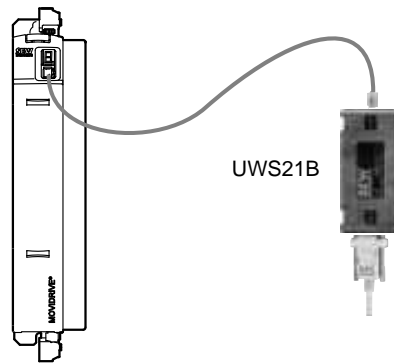
- UWS21B
- CD-ROM with MOVITOOLS® MotionStudio
- Serial interface cable with 9-pin D-sub socket and 9-pin D-sub connector to connect the UWS21B option to the PC.
- Serial interface cable with 2 RJ10 connectors for connecting the X6 service interface of the UCS..B (/PS) safety module with UWS21B.



**9.4.3 UCS..B (/PS) – UWS21B connection**

- Use the connection cable that is supplied to connect the UWS21B option to MOVISAFE® UCS..B (/PS).
- Plug the connection cable into the X6 terminal of the UCS..B (/PS).
- The following figure shows the connection cable for UCS..B (/PS) – UWS21B.

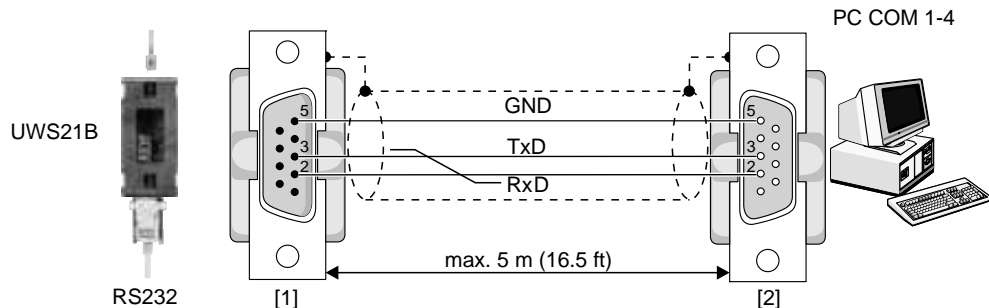
MOVIDRIVE® MDX60/61B



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**9.4.4 Connecting UWS21B to PC**

- Use the connection cable supplied (shielded RS232 standard interface cable) to connect the UWS21B option to the PC.
- The following figure shows the connection cable between UWS21B and PC (1:1 connection).



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- [1] 9-pin D-sub connector
- [2] 9-pin D-sub socket

**9.5 Connection of the interface adapter option USB11A**

**9.5.1 Part number**

Interface adapter USB11A: 824 831 1

**9.5.2 Scope of delivery**

- The scope of delivery for the USB11A includes:
  - USB11A interface adapter
  - USB connection cable PC – USB11A (type USB A-B)
  - Connection cable for MOVISAFE® UCS..B (/PS) – USB11A (RJ10-RJ10 cable)





## Accessories

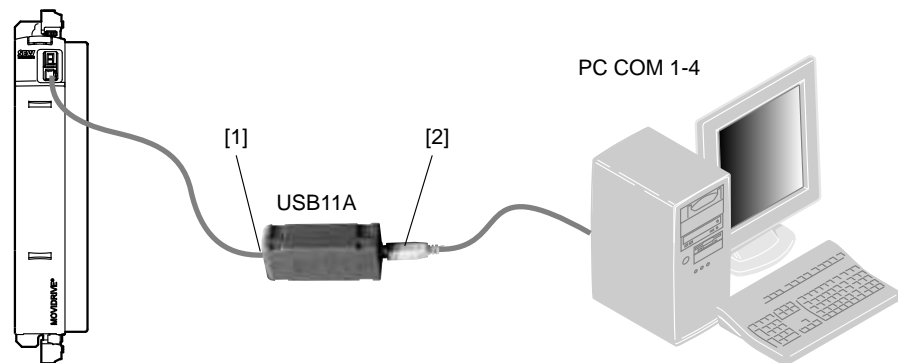
### Connection of the interface adapter option USB11A

- CD-ROM with drivers and MOVITOOLS® MotionStudio
- The USB11A interface adapter supports USB 1.1 and USB 2.0.

#### 9.5.3 UCS..B (/PS) – USB11A – PC connection

- Use the supplied connection cable [1] (RJ10 - RJ10) to connect USB11A to MOVISAFE® UCS..B.
- Plug the connection cable [1] into the X6 slot of the MOVISAFE® UCS..B (/PS) and into the RS485 slot of the USB11A.
- Use the supplied USB connection cable [2] (type USB A-B) to connect the USB11A to the PC.
- The following figure shows the connection cable for MOVISAFE® UCS..B (/PS) – USB11A.

MOVIDRIVE® MDX60/61B



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#### 9.5.4 Installation

- Connect the USB11A to a PC and to MOVISAFE® UCS..B (/PS) using the connection cables supplied.
- Insert the enclosed CD into the CD drive of your PC and install the driver. The first free COM port on the PC will be assigned to the USB11A interface adapter.

#### 9.5.5 Operation with MOVITOOLS® MotionStudio

- After installation, the PC recognizes the USB11A interface adapter after approximately 5 to 10 s.
- Start MOVITOOLS® MotionStudio.



#### INFORMATION

If the connection between the PC and USB11A is interrupted, you have to restart MOVITOOLS® MotionStudio.