SUBCON-PLUS-PROFIB...

Fast connectors for PROFIBUS systems



Data sheet
101610_en_13

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1 Description

The **SUBCON-PLUS-PROFIB...** D-SUB series is specifically designed for use in PROFIBUS systems up to 12 Mbps. Under field conditions, it enables the quick and easy connection of the incoming and outgoing bus line.

The product range includes ten fast connectors:

Connection	Cable entry	Programming interface	Reversible cable entry	Type	Item No.
Screw connection	Angled 35°	-	✓	SUBCON-PLUS-PROFIB/SC2	2708232
		✓	✓	SUBCON-PLUS-PROFIB/PG/SC2	2708245
	Angled 90°	-	-	SUBCON-PLUS-PROFIB/90/SC	2313698
		✓	-	SUBCON-PLUS-PROFIB/90/PG/SC	2313708
	Axial	-	-	SUBCON-PLUS-PROFIB/AX/SC	2744380
Push-in spring connection	Axial	-	-	SUBCON-PLUS-PROFIB/AX	2744377
	Angled 35°	-	✓	SUBCON-PLUS-PROFIB	2744348
		✓	-	SUBCON-PLUS-PROFIB/PG	2744403
IDC connection	Angled 90°	-	-	SUBCON-PLUS-PROFIB/90/IDC	2313672
		✓	-	SUBCON-PLUS-PROFIB/90/PG/IDC	2313685

WARNING: Explosion hazard when used in potentially explosive areas
Connectors with screw connection or push-in spring connection: Follow the instructions provided here during installation and make sure you observe the safety notes.
The connectors with IDC connection have **no** ATEX approval and are suitable only for safe areas.

Make sure you always use the latest documentation.
It can be downloaded at phoenixcontact.com/products.

Features

- All connectors can be used for PROFIBUS cables with a solid or stranded copper conductor.
- All versions already have an integrated termination resistor. This is switched on externally via a slide switch. At the same time, the outgoing bus segment is switched off. This makes it easy to start up segment by segment while incorrect terminations are avoided.
- In addition, the connector housing with high-quality shielding ensures a high level of immunity to interference even at maximum data transmission speed.
- The connectors are designed for all standard PROFIBUS cables with an outside diameter of 8 mm (types A and B). When using Fast Connect cables, work is reduced to a minimum by using the PSM-STRIP-FC/PROFIB quick stripping tool.
- A special feature of the 35° angled connector is that the internal connection unit can be turned round. Whether the cable is to be inserted from the right or left can thus be decided on site.
- The product can be plugged into all 9-pos. D-SUB connectors (female) in accordance with IEC 807-2.

2 Table of contents

1 Description 1

2 Table of contents 2

3 Ordering data 3

4 Connectors with screw connection or push-in spring connection 5

4.1 Safety regulations and installation notes 5

4.2 Installation in zone 2 5

4.3 SUBCON-PLUS-PROFIB(/PG)/SC2 6

4.4 SUBCON-PLUS-PROFIB/90(/PG)/SC 9

4.5 SUBCON-PLUS-PROFIB/AX(/SC) 12

4.6 SUBCON-PLUS-PROFIB(/PG) 15

5 Connectors with IDC connection 18

6 Termination resistor 21

7 Disposal 21

3 Ordering data

Connectors with screw connection	Type	Item No.	Pcs./Pkt.
D-SUB connector, 9-pos., male, 35° cable entry, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be connected via slide switch, pin assignment: 3, 5, 6, 8	SUBCON-PLUS-PROFIB/SC2	2708232	1
D-SUB connector, 9-pos, male, 35° cable entry, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be connected via slide switch, pin assignment: 3, 5, 6, 8	SUBCON-PLUS-PROFIB/PG/SC2	2708245	1
D-SUB connector, 9-pos., male, 90° cable entry, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be connected via slide switch, pin assignment: 3, 5, 6, 8	SUBCON-PLUS-PROFIB/90/SC	2313698	1
D-SUB connector, 9-pos, male, 90° cable entry, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be connected via slide switch, pin assignment: 3, 5, 6, 8	SUBCON-PLUS-PROFIB/90/PG/SC	2313708	1
D-SUB connector, 9-pos., male, axial version with two cable entries, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be connected via slide switch, pin assignment: 3, 5, 6, 8	SUBCON-PLUS-PROFIB/AX/SC	2744380	1

Connectors with push-in spring connection	Type	Item No.	Pcs./Pkt.
D-SUB connector, 9-pos., male, axial version with two cable entries, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be connected via slide switch, pin assignment: 3, 5, 6, 8	SUBCON-PLUS-PROFIB/AX	2744377	1
D-SUB connector, 9-pos., pin, two 35° angled cable entries, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be switched on via slide switch, pin assignment: 3, 5, 6, 8	SUBCON-PLUS-PROFIB	2744348	1
D-SUB connector, 9-pos, male, 35° cable entry, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be connected via slide switch, pin assignment: 3, 5, 6, 8	SUBCON-PLUS-PROFIB/PG	2744403	1

Connectors with IDC connection	Type	Item No.	Pcs./Pkt.
D-SUB connector, 9-pos., male, 90° cable entry, bus system: PROFIBUS DP up to 12 Mbps, termination resistor can be connected via slide switch, pin assignment: 3, 5, 6, 8	SUBCON-PLUS-PROFIB/90/IDC	2313672	1
D-SUB connector, 9-pos, male, 90° cable entry, bus system: PROFIBUS DP up to 12 Mbps with PG D-SUB socket for connecting a programming device, termination resistor can be connected via slide switch, pin assignment: 3, 5, 6, 8	SUBCON-PLUS-PROFIB/90/PG/IDC	2313685	1

Accessories	Type	Item No.	Pcs./Pkt.
Quick stripping tool for PROFIBUS cable, Fast Connect type	PSM-STRIP-FC/PROFIB	2744623	1
Stripping pliers for PVC-insulated cables, stripping range: 0.08 to 6 mm², can cut wires up to 6 mm² stranded and 4 mm² rigid	QUICK WIREFOX 6	1204384	1
PROFIBUS cable Fast Connect type, up to 12 Mbps (02YSY (ST)CY 1x2x22 AWG)	PSM-CABLE-PROFIB/FC	2744652	1
D-SUB connector, 9-pos., male, assignment: 3, 5, 6, 8, two 90° M12 cable entries (B-coded), bus system: PROFIBUS DP up to 12 Mbps, termination resistor via separate M12 terminator	SUBCON-PLUS-PROFIB/90/M12	2902318	1
D-SUB connector, 9-pos., male, assignment: 3, 5, 6, 8, two 35° M12 cable entries (B-coded), bus system: PROFIBUS DP up to 12 Mbps, termination resistor via separate M12 terminator	SUBCON-PLUS-PROFIB/35/M12	2902320	1
D-SUB connector, 9-pos., male, assignment: 3, 5, 6, 8, two 180° angled (axial) M12 cable entries (B-coded), bus system: PROFIBUS DP up to 12 Mbps, termination resistor via separate M12 terminator	SUBCON-PLUS-PROFIB/AX/M12	2902321	1

4 Connectors with screw connection or push-in spring connection

4.1 Safety regulations and installation notes

WARNING:
Observe the following safety notes when using the connector.

- The category 3 product is designed for installation in zone 2 potentially explosive areas. It satisfies the requirements of the following standards:
  - EN/IEC 60079-0
  - EN/IEC 60079-7
  - You will find detailed information in the declarations of conformity, which are enclosed and are also available on our website in the latest version.
- Installation, operation, and maintenance may only be carried out by qualified electricians. Follow the installation instructions as described.
- When installing and operating the device, the applicable regulations and safety directives (including national safety directives) as well as general technical regulations must be observed. The safety-relevant data is listed in this document.
- Observe the specified conditions for use in potentially explosive areas.
- Also observe the requirements of EN 60079-14.
- Modifying the product is prohibited. Do not repair the product yourself; replace it with an equivalent product. Repairs may be carried out only by the manufacturer. Follow the specifications in the operating instructions exactly when opening and closing the product. The manufacturer is not liable for damage resulting from non-compliance.
- Do not subject the product to mechanical and/or thermal stress that exceeds the specified limits.
- The product must be stopped and immediately removed from the Ex area if it is damaged, was subjected to an impermissible load, stored incorrectly, or if it malfunctions.
- The product is not designed for use in potentially dust-explosive atmospheres.

4.2 Installation in zone 2

WARNING: Explosion hazard when used in potentially explosive areas
- Make sure that the following notes and instructions are observed.
- D-SUB interfaces may only be connected or disconnected when the voltage is disconnected.
- Tighten the D-SUB mounting screws on all connectors.

- Use in potentially explosive areas is not permitted in China.
- The device should be installed so that at least IP54 degree of protection is achieved in accordance with EN 60529. To this end, a suitable, approved housing that meets the requirements of EN 60079-7 should be used.
- Only devices which are designed for operation in Ex zone 2 and are suitable for the conditions at the installation location may be connected to the circuits in zone 2.
- In potentially explosive areas, only open the product and connect and disconnect cables when the power is disconnected.
- The switches of the device that can be accessed may only be actuated when the device is disconnected from the power supply.
- For safe operation, lockable connectors must have a functional interlock (e.g., locking clip, screw connection, etc.). Insert the interlock. Repair any damaged male connectors immediately.
- Only connect one cable to each terminal point.
- Only operate the device in Ex zone 2 when all connectors are fully inserted.
- Use the device in an environment that does not exceed pollution degree 2 in accordance with EN/IEC 60664-1.
- Use transient protection so that short-term surge voltages do not exceed 119 V.

4.3 SUBCON-PLUS-PROFIB(/PG)/SC2

SUBCON-PLUS-PROFIB/SC2 (2708232)	
SUBCON-PLUS-PROFIB/PG/SC2 (2708245)	
Connection	
Connector connection	9-pos. D-SUB pin strip
Programming connection	9-pos. D-SUB female strip (for SUBCON-PLUS-PROFIB/PG/SC2 only)
Interface connection	Screw connection
Cable entry	Either left or right
Connection cross-section of screw terminal blocks	
Rigid	0.14 mm^2 ... 1.5 mm^2 (AWG 26-16)
Flexible	0.14 mm^2 ... 1 mm^2 (AWG 26-18)
Stripping length	5 mm
Insertion cycles	>200
Cable diameter	8 mm (±0.4 mm)
Mounting screws/maximum tightening torque	4-40 UNC/0.4 Nm
Pin assignment	3, 5, 6, 8
General data	
Degree of protection	IP40
Housing material	ABS, metal-plated
Nominal current I_N	100 mA
Max. operating voltage	5 V
Termination resistor	390 Ω - 220 Ω - 390 Ω (switchable)
Ambient conditions	
Temperature range	
Operation	-20°C ... +75°C
Storage/transport	-25°C ... +80°C
Relative humidity	75% at 25°C
Approvals	
UL approval	c UL us file no. 238705
ATEX Please follow the special installation instructions in the documentation (Page 5).	Ex II 3 G Ex ec IIC T4 Gc (PxCIF15ATEX2744348X)
UKEX	Ex II 3 G Ex ec IIC T4 Gc (PxCIMA22UKEX2744348X)

Figure 1 Circuit diagram

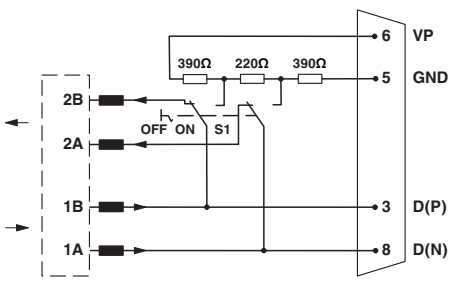
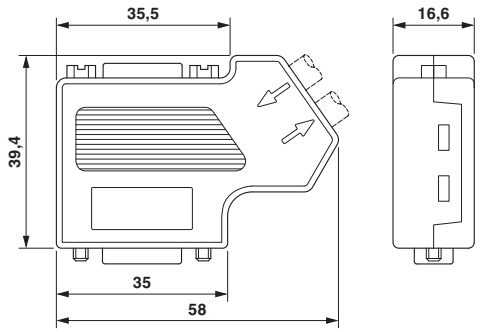
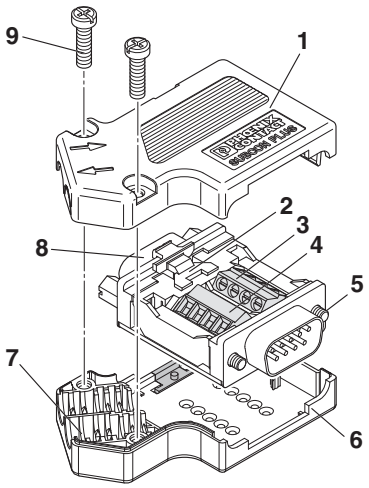


Figure 2 Dimensions



SUBCON-PLUS-PROFIB/SC2 (2708232)
SUBCON-PLUS-PROFIB/PG/SC2 (2708245)

Figure 3 Structure

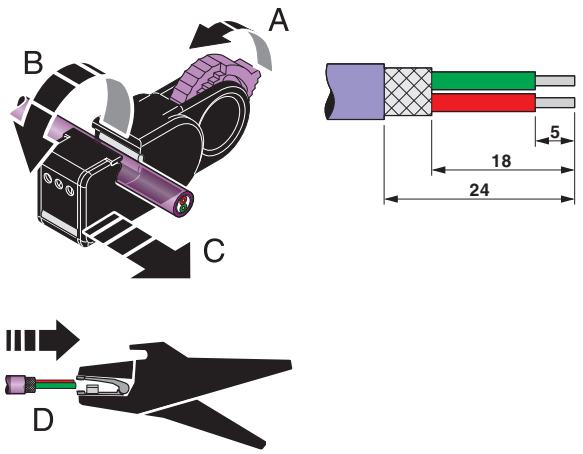


1	Upper housing part
2	Slide switch
3	Connection block for incoming bus
4	Connection block for outgoing bus
5	D-SUB mounting screws
6	Lower housing part
7	Strain relief
8	PG connection (only for SUBCON-PLUS-PROFIB/PG/SC2)
9	Housing screws

Product description

D-SUB connector with or without PG connection, with screw terminal connection for flexible and rigid conductors up to 12 Mbps. The integrated termination resistor can be connected and, when activated, simultaneously switches off the outgoing bus line.

Figure 4 Stripping



NOTE: Malfunction
Observe the specified stripping lengths.

The following stripping tools are recommended:

– PSM-STRIP-FC/PROFIB, item no. 2744623
– QUICK WIREFOX 6, item no. 1204384

SUBCON-PLUS-PROFIB/SC2 (2708232)
SUBCON-PLUS-PROFIB/PG/SC2 (2708245)

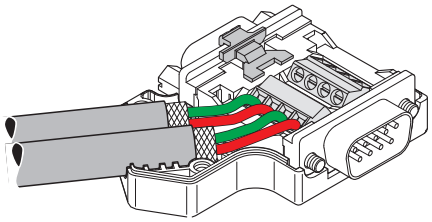
WARNING: Explosion hazard when used in potentially explosive areas

- D-SUB interfaces may only be connected or disconnected when the voltage is disconnected.
- Tighten the D-SUB mounting screws on all connectors.

Cable entry can be from the right or left side. The connector supplied is pre-assembled for left-hand entry.

Left-hand side cable entry

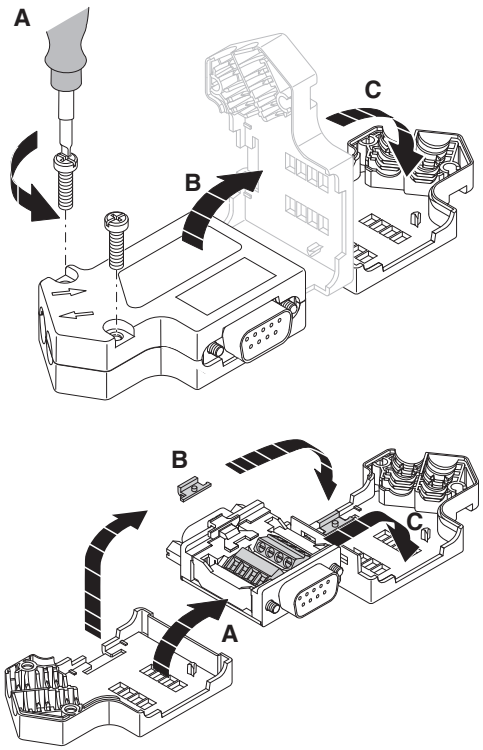
Figure 5 Left-hand side cable entry



- Strip off the conductors (see Figure 4).
- Loosen the housing screw. Lift off the top cover.
- Screw the stripped conductors into the corresponding connection block contacts.
- Always connect the incoming bus line to terminal block connections 1A/1B (even at the start of the bus system).
- Connect the outgoing bus line to terminal connections 2A/2B. Observe the labeling of the connection terminal blocks.
- Finally, close and tighten the housing half-shells. This creates the shield connection and strain relief for the bus line.

Right-hand side cable entry

Figure 6 Right-hand side cable entry



- Strip off the conductors (see Figure 4).
- Loosen the housing screw. Lift off the top cover.
- Lever the PCB out of the lower housing part near the cable entry. Use a screwdriver to do this.
- Insert the PCB in the upper housing part.
- Screw the stripped conductors into the corresponding connection block contacts.
- Always connect the incoming bus line to terminal block connections 1A/1B (even at the start of the bus system).
- Connect the outgoing bus line to terminal connections 2A/2B. Observe the labeling of the connection terminal blocks.
- Finally, close and tighten the housing half-shells. This creates the shield connection and strain relief for the bus line.

4.4 SUBCON-PLUS-PROFIB/90(/PG)/SC

SUBCON-PLUS-PROFIB/90/SC (2313698)	
SUBCON-PLUS-PROFIB/90/PG/SC (2313708)	
Connection	
Connector connection	9-pos. D-SUB pin strip
Programming connection	9-pos. D-SUB female strip (for SUBCON-PLUS-PROFIB/90/PG/SC only)
Interface connection	Screw connection
Cable entry	90° angled cable outlet
Connection cross-section of screw terminal blocks	
Rigid	0.14 mm^2 ... 1.5 mm^2 (AWG 26-16)
Flexible	0.14 mm^2 ... 1 mm^2 (AWG 26-18)
Stripping length	5 mm
Insertion cycles	>200
Reconnection frequency	5
Cable diameter	8 mm (±0.4 mm)
Mounting screws/maximum tightening torque	4-40 UNC/0.4 Nm
Pin assignment	3, 5, 6, 8
General data	
Degree of protection	IP40
Housing material	ABS, metal-plated
Nominal current I_N	100 mA
Max. operating voltage	5 V
Termination resistor	390 Ω - 220 Ω - 390 Ω (switchable)
Ambient conditions	
Temperature range	
Operation	-20°C ... +75°C
Storage/transport	-25°C ... +80°C
Relative humidity	75% at 25°C
Approvals	
UL approval	c UL us file no. E238705
ATEX Please follow the special installation instructions in the documentation (Page 5).	Ex II 3 G Ex ec IIC T4 Gc (PxCIF15ATEX2744348X)
UKEX	Ex II 3 G Ex ec IIC T4 Gc (PxCIMA22UKEX2744348X)

All common Fast Connect PROFIBUS cables with rigid and flexible single-core wires are supported, e.g., PSM-CABLE-PROFIB/FC (item no. 2744652).

SUBCON-PLUS-PROFIB/90/SC (2313698)
SUBCON-PLUS-PROFIB/90/PG/SC (2313708)

Figure 7 Circuit diagram

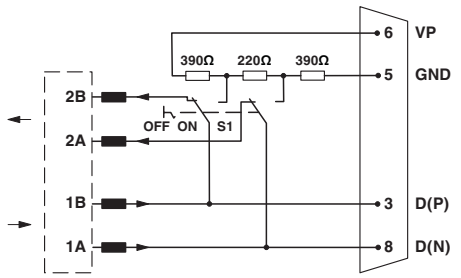


Figure 8 Dimensions

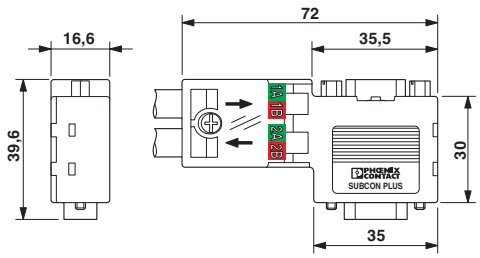
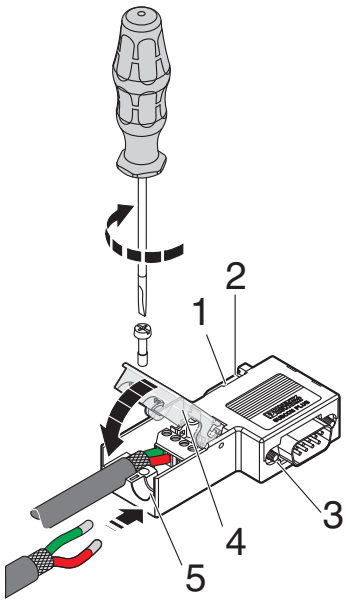


Figure 9 Structure



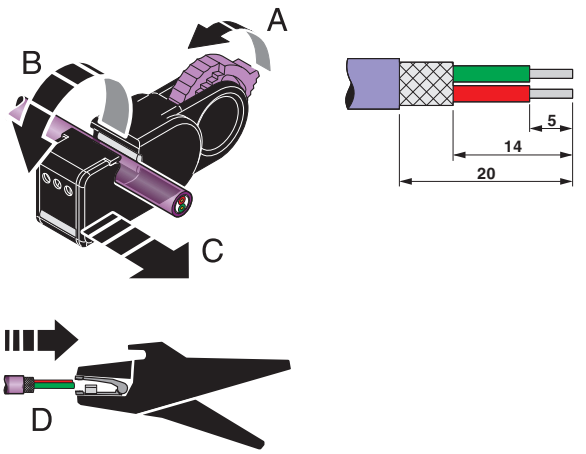
1	Slide switch
2	PG connection (only for SUBCON-PLUS-PROFIB/90/PG/SC)
3	D-SUB mounting screws
4	Terminal cover
5	Strain relief

Product description

D-SUB connector with or without PG connection, with screw terminal connection for flexible and rigid conductors up to 12 Mbps. The integrated termination resistor can be connected and, when activated, simultaneously switches off the outgoing bus line.

SUBCON-PLUS-PROFIB/90/SC (2313698)
SUBCON-PLUS-PROFIB/90/PG/SC (2313708)

Figure 10 Stripping



NOTE: Malfunction
Observe the specified stripping lengths.

The following stripping tools are recommended:

– PSM-STRIP-FC/PROFIB, item no. 2744623
– QUICK WIREFOX 6, item no. 1204384

WARNING: Explosion hazard when used in potentially explosive areas
– D-SUB interfaces may only be connected or disconnected when the voltage is disconnected.
– Tighten the D-SUB mounting screws on all connectors.

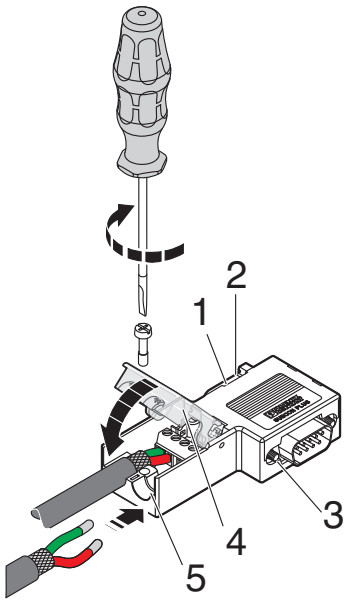
The connector allows the incoming and outgoing bus lines to be quickly connected. The connector contacts are routed onto screw terminal blocks with colored labeling.

The integrated termination resistor can be connected and, when activated, simultaneously switches off the outgoing bus line. In this way, the bus system can be started up segment by segment.

The strain relief is integrated in the housing half-shells. It is designed for standard PROFIBUS cable type A.

The additionally integrated SUBCON-PLUS-PROFIB/90/PG/SC programming connection allows a programming or service device to be connected without interrupting the bus operation.

Figure 11 Connecting



- Strip off the conductors (see Figure 10).
- Remove the separating foil, if necessary.
- Insert the single-core wires into the connection terminal blocks as far as they will go.
- Always connect the incoming bus line to terminal block connections 1A/1B (even at the start of the bus system).
- Connect the outgoing bus line to terminal connections 2A/2B. Observe the labeling of the connection terminal blocks.
- Then close and tighten the terminal cover. This creates the shield connection and strain relief for the bus line.

4.5 SUBCON-PLUS-PROFIB/AX(/SC)

	SUBCON-PLUS-PROFIB/AX/SC 2744380	SUBCON-PLUS-PROFIB/AX 2744377
Connection	Screw connection	Push-in spring connection
Connection cross-section		
Rigid	0.14 mm² ... 1.5 mm² (AWG 26-16)	0.12 mm² ... 0.5 mm² (AWG 26-20)
Flexible	0.14 mm² ... 1 mm² (AWG 26-18)	-
Stripping length	5 mm	9 mm
Connector connection	9-pos. D-SUB pin strip	
Cable entry	Axial	
Insertion cycles	>200	
Cable diameter	8 mm (±0.4 mm)	
Mounting screws	4-40 UNC	
Maximum tightening torque	0.4 Nm	
Pin assignment	3, 5, 6, 8	
General data		
Degree of protection	IP40	
Housing material	ABS, metal-plated	
Nominal current I_N	100 mA	
Max. operating voltage	5 V	
Termination resistor	390 Ω - 220 Ω - 390 Ω (switchable)	
Ambient conditions		
Temperature range		
Operation	-20°C ... +75°C	
Storage/transport	-25°C ... +80°C	
Relative humidity	75% at 25°C	
Approvals		
UL approval	cULus file no. E238705	
ATEX Please follow the special installation instructions in the documentation (Page 5).	Ex II 3 G Ex ec IIC T4 Gc (PxCIF15ATEX2744348X)	
UKEX	Ex II 3 G Ex ec IIC T4 Gc (PxCIMA22UKEX2744348X)	

Figure 12 Circuit diagram

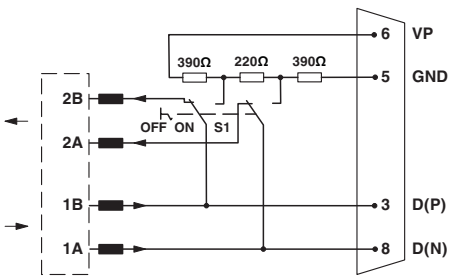
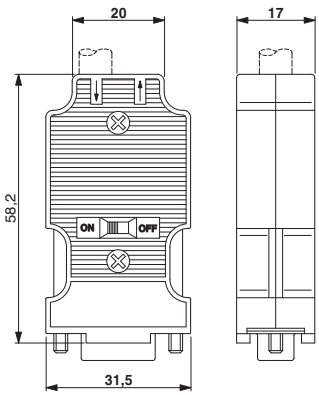


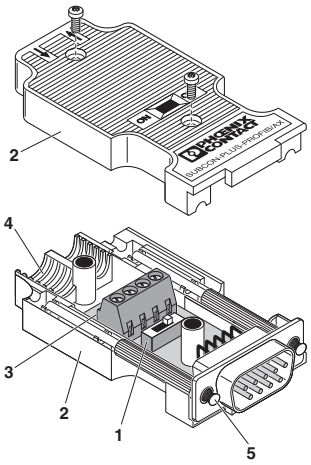
Figure 13 Dimensions



SUBCON-PLUS-PROFIB/AX/SC (2744380)

Screw connection

Figure 14 Structure SUBCON-PLUS-PROFIB/AX/SC



1	Slide switch
2	Housing
3	Connection block
4	Strain relief
5	D-SUB mounting screw

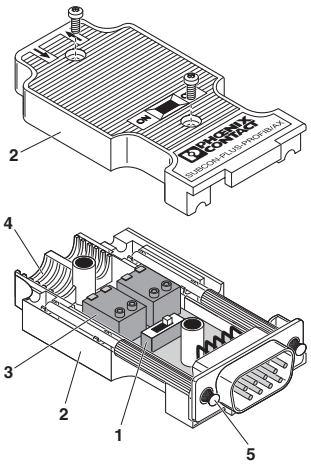
Product description

D-SUB connector with axial cable entry. The integrated termination resistor can be connected and, when activated, simultaneously switches off the outgoing bus line.

SUBCON-PLUS-PROFIB/AX (2744377)

Push-in spring connection

Figure 15 Structure SUBCON-PLUS-PROFIB/AX



1	Slide switch
2	Housing
3	Connection block with release rocker
4	Strain relief
5	D-SUB mounting screw

SUBCON-PLUS-PROFIB/AX/SC (2744380)
SUBCON-PLUS-PROFIB/AX (2744377)

Figure 16 Stripping

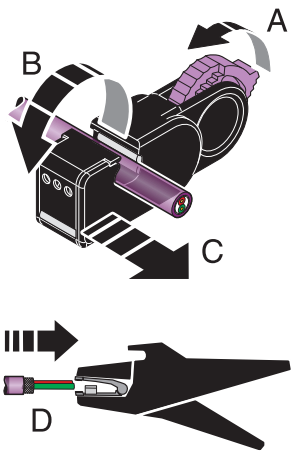


Figure 17 SUBCON-PLUS-PROFIB/AX/SC with screw connection

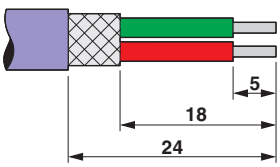
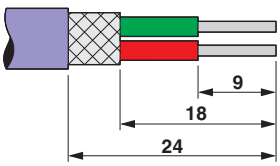


Figure 18 SUBCON-PLUS-PROFIB/AX with Push-in spring connection



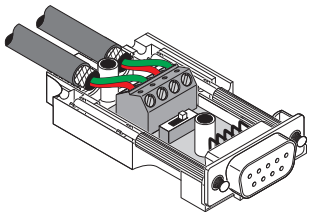
NOTE: Malfunction
Observe the specified stripping lengths.

The following stripping tools are recommended:

– PSM-STRIP-FC/PROFIB, item no. 2744623
– QUICK WIREFOX 6, item no. 1204384

WARNING: Explosion hazard when used in potentially explosive areas
– D-SUB interfaces may only be connected or disconnected when the voltage is disconnected.
– Tighten the D-SUB mounting screws on all connectors.

Figure 19 Connecting



Screw connection (SUBCON-PLUS-PROFIB/AX/SC)

- Strip off the conductors (see Figure 17).
- Loosen the housing screw. Lift off the top cover.
- Screw the stripped conductors into the corresponding connection block contacts.
- Always connect the incoming bus line to terminal block connections 1A/1B (even at the start of the bus system).
- Connect the outgoing bus line to terminal connections 2A/2B. Observe the labeling of the connection terminal blocks.
- Finally, close and tighten the housing half-shells. This creates the shield connection and strain relief for the bus line.

Push-in spring connection (SUBCON-PLUS-PROFIB/AX)

- Strip off the conductors (see Figure 18).
- Loosen the housing screw. Lift off the top cover.
- Insert the single-core wires into the connection terminal blocks as far as they will go. The conductors automatically make contact when inserted. To release the connection, press the orange release rocker.
- Always connect the incoming bus line to terminal block connections 1A/1B (even at the start of the bus system).
- Connect the outgoing bus line to terminal connections 2A/2B. Observe the labeling of the connection terminal blocks.
- Finally, close and tighten the housing half-shells. This creates the shield connection and strain relief for the bus line.

4.6 SUBCON-PLUS-PROFIB(/PG)

SUBCON-PLUS-PROFIB (2744348)	
SUBCON-PLUS-PROFIB/PG (2744403)	
Connection	
Connector connection	9-pos. D-SUB pin strip
Programming connection	9-pos. D-SUB female strip (for SUBCON-PLUS-PROFIB/PG only)
Cable entry	35°
Interface connection	Push-in spring connection
Connection cross-section: rigid	0.12 mm^2 ... 0.5 mm^2 (AWG 26-20)
Stripping length	9 mm
Insertion cycles	>200
Cable diameter	8 mm (±0.4 mm)
Mounting screws	4-40 UNC
Maximum tightening torque	0.4 Nm
Pin assignment	3, 5, 6, 8
General data	
Degree of protection	IP40
Housing material	ABS, metal-plated
Nominal current I_N	100 mA
Max. operating voltage	5 V
Termination resistor	390 Ω - 220 Ω - 390 Ω (switchable)
Ambient conditions	
Temperature range	
Operation	-20°C ... +75°C
Storage/transport	-25°C ... +80°C
Approvals	
UL approval	file no. E238705
ATEX Please follow the special installation instructions in the documentation (Page 5).	II 3 G Ex ec IIC T4 Gc (PxCIF15ATEX2744348X)
UKEX	II 3 G Ex ec IIC T4 Gc (PxCIMA22UKEX2744348X)

Figure 20 Circuit diagram

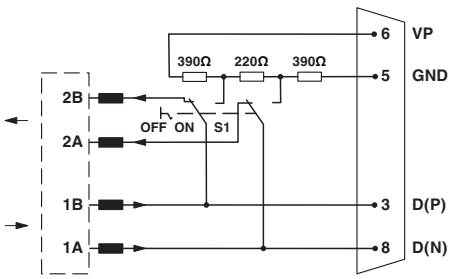
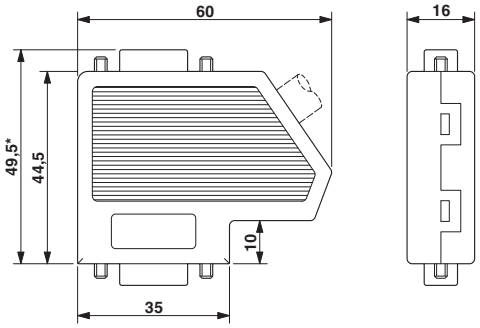
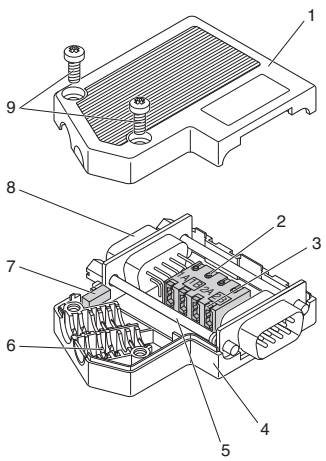


Figure 21 Dimensions



SUBCON-PLUS-PROFIB (2744348)
SUBCON-PLUS-PROFIB/PG (2744403)

Figure 22 Structure

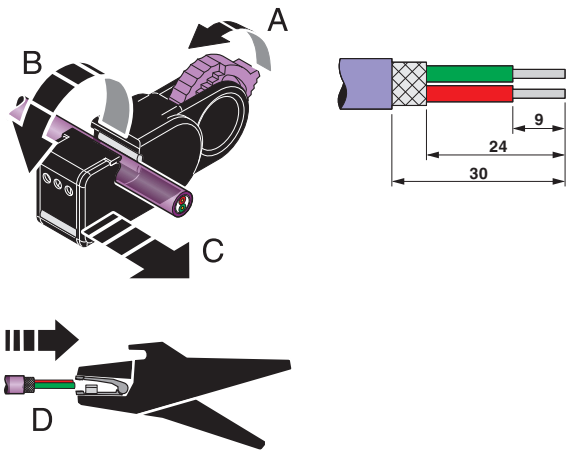


1	Upper housing part
2	Connection block
3	Release rocker
4	Lower housing part
5	D-SUB mounting screw
6	Strain relief
7	Slide switch
8	PG connection (only for SUBCON-PLUS-PROFIB/PG)
9	Housing screw

Product description

D-SUB connector with or without PG connection, with spring connection up to 12 Mbps. The integrated termination resistor can be connected and, when activated, simultaneously switches off the outgoing bus line.

Figure 23 Stripping



NOTE: Malfunction
Observe the specified stripping lengths.

The following stripping tools are recommended:

– PSM-STRIP-FC/PROFIB, item no. 2744623
– QUICK WIREFOX 6, item no. 1204384

SUBCON-PLUS-PROFIB (2744348)
SUBCON-PLUS-PROFIB/PG (2744403)

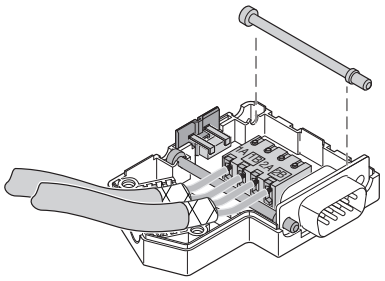
WARNING: Explosion hazard when used in potentially explosive areas
- D-SUB interfaces may only be connected or disconnected when the voltage is disconnected.
- Tighten the D-SUB mounting screws on all connectors.

The SUBCON-PLUS-PROFIB/PG (2744403) with programming interface is designed for cable entry on the left side. The cable entry is not reversible.

For SUBCON-PLUS-PROFIB (2744348), the cable entry can be from the right or left side. The connector supplied is pre-assembled for left-hand entry.

Left-hand side cable entry

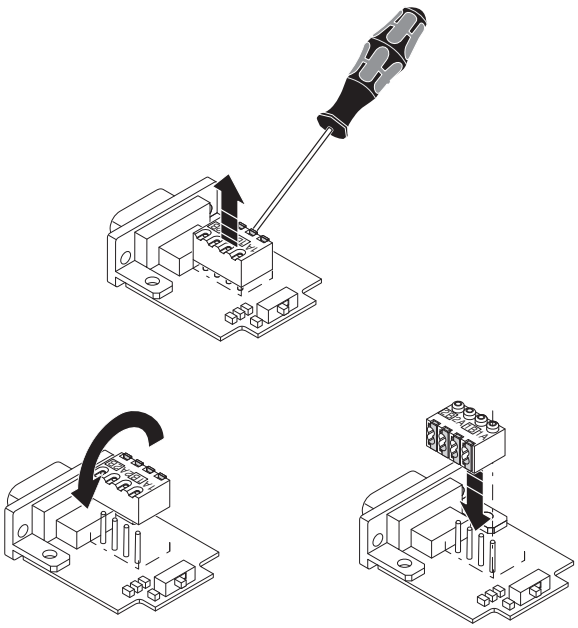
Figure 24 Left-hand side cable entry



- Strip off the conductors (see Figure 23).
- Loosen the housing screw. Lift off the top cover.
- Insert the single-core wires into the connection terminal blocks as far as they will go. The conductors automatically make contact when inserted. To release the connection, press the orange release rocker.
- Always connect the incoming bus line to terminal block connections 1A/1B (even at the start of the bus system).
- Connect the outgoing bus line to terminal connections 2A/2B. Observe the labeling of the connection terminal blocks.
- Finally, close and tighten the housing half-shells. This creates the shield connection and strain relief for the bus line.

Right-hand side cable entry (only 2744348)

Figure 25 Removing and turning around the connection block



- Strip off the conductors (see Figure 23).
- Loosen the housing screw. Lift off the top cover.
- Lever the PCB out of the lower housing part near the rivets. Use a screwdriver to do this.
- Remove the connection block. Rotate it 180°.
- Insert the single-core wires into the connection terminal blocks as far as they will go. The conductors automatically make contact when inserted. To release the connection, press the orange release rocker.
- Always connect the incoming bus line to terminal block connections 1A/1B (even at the start of the bus system).
- Connect the outgoing bus line to terminal connections 2A/2B. Observe the labeling of the connection terminal blocks.
- Finally, close and tighten the housing half-shells. This creates the shield connection and strain relief for the bus line.

5 Connectors with IDC connection

The connectors with IDC connection have **no** ATEX approval and are suitable only for safe areas.

- Installation, operation, and maintenance may only be carried out by qualified electricians. Follow the installation instructions as described.
- Do not repair the device yourself; replace it with an equivalent device. Repairs may be carried out only by the manufacturer. The manufacturer is not liable for damage resulting from non-compliance.

SUBCON-PLUS-PROFIB/90/IDC (2313672)	
SUBCON-PLUS-PROFIB/90/PG/IDC (2313685)	
Connection	
Connector connection	9-pos. D-SUB pin strip
Programming connection	9-pos. D-SUB female strip (for SUBCON-PLUS-PROFIB/90/PG/IDC only)
Interface connection	IDC fast connection (insulation displacement connection technology)
Cable entry	90° angled cable outlet
Connection cross-section of IDC terminal blocks (single-wire) Rigid Flexible	 0.32 mm^2 ... 1 mm^2 (AWG 22-18) 0.32 mm^2 ... 1 mm^2 (AWG 22-18)
Insertion cycles	>200
Cable diameter	8 mm (±0.4 mm)
Mounting screws	4-40 UNC
Maximum tightening torque	0.4 Nm
Pin assignment	3, 5, 6, 8
General data	
Degree of protection	IP40
Housing material	ABS, metal-plated
Nominal current I_N	100 mA
Nominal voltage U_N	5 V AC/DC
Termination resistor	390 Ω - 220 Ω - 390 Ω (switchable)
Ambient conditions	
Temperature range	
Operation	-20°C ... +75°C
Storage/transport	-25°C ... +80°C
Relative humidity	75% at 25°C
Approvals	
UL approval	c UL us file no. E238705

All common Fast Connect PROFIBUS cables with rigid and flexible single-core wires are supported, e.g., PSM-CABLE-PROFIB/FC (item no. 2744652).

SUBCON-PLUS-PROFIB/90/IDC (2313672)
SUBCON-PLUS-PROFIB/90/PG/IDC (2313685)

Figure 26 Circuit diagram

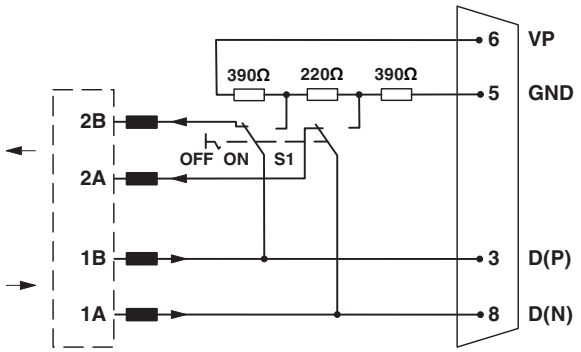


Figure 27 Dimensions

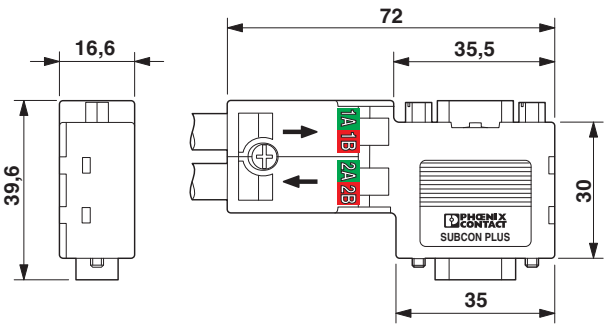
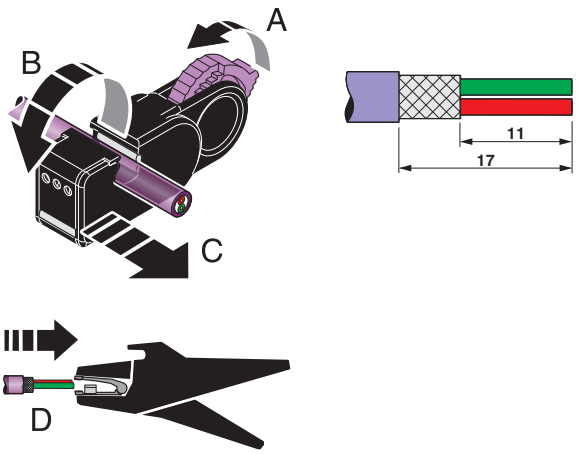


Figure 28 Stripping



NOTE: Malfunction
Observe the specified stripping lengths.

The following stripping tools are recommended:

– PSM-STRIP-FC/PROFIB, item no. 2744623
– QUICK WIREFOX 6, item no. 1204384

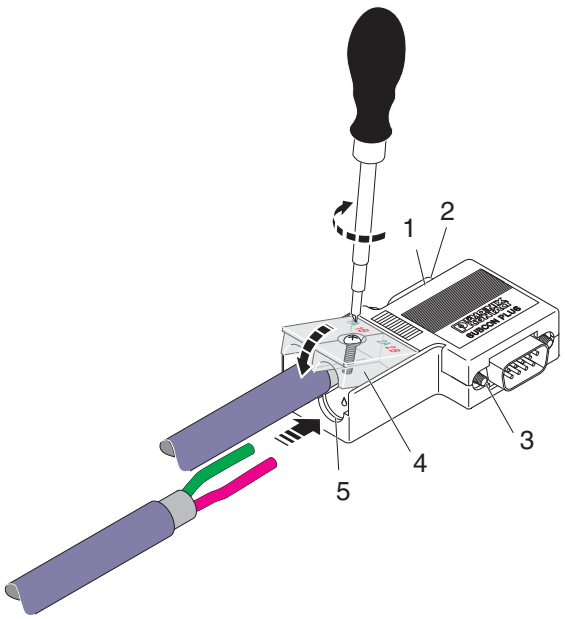
SUBCON-PLUS-PROFIB/90/IDC (2313672)
SUBCON-PLUS-PROFIB/90/PG/IDC (2313685)

The connector allows the incoming and outgoing bus lines to be quickly connected. The connector contacts are routed onto IDC terminal blocks with color labeling.

The integrated termination resistor can be connected and, when activated, simultaneously switches off the outgoing bus line. In this way, the bus system can be started up segment by segment.

The strain relief is integrated in the housing half-shells. It is designed for standard PROFIBUS cable type A. The additionally integrated SUBCON-PLUS-PROFIB/90/PG/IDC programming connection allows a programming or service device to be connected without interrupting the bus operation.

Figure 29 Connecting



1	Slide switch
2	PG connection (only for SUBCON-PLUS-PROFIB/90/PG/IDC)
3	D-SUB mounting screw
4	Terminal cover
5	Strain relief

- Strip off the conductors (see Figure 28).
- Remove the separating foil, if necessary.
- Insert the single-core wires into the connection terminal blocks as far as they will go.
- Always connect the incoming bus line to terminal block connections 1A/1B (even at the start of the bus system).
- Connect the outgoing bus line to terminal connections 2A/2B. Observe the labeling of the connection terminal blocks.
- Then close and tighten the terminal cover. This creates the shield connection and strain relief for the bus line.

All versions

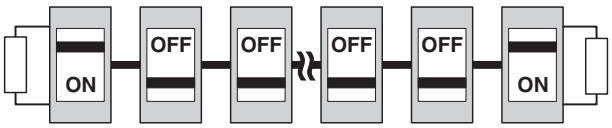
6 Termination resistor

Note regarding connectors with screw connection or push-in spring connection:

WARNING: Explosion hazard when used in potentially explosive areas

The switches of the device that can be accessed may only be actuated when the device is disconnected from the power supply.

Figure 30 Termination resistor



- Use the slide switch to activate the termination resistors at the start and end points of the bus system. At the same time, the connection terminal blocks (2A/2B) for the outgoing bus line are switched off.

The termination resistor must be deactivated at all other nodes in the bus system.

Length in accordance with PROFIBUS specification

Transmission speed	Segment length	Permissible branch lengths per bus segment
9.6 kbps	1200 m	32 x 3 m
19.2 kbps	1200 m	32 x 3 m
45.45 kbps	1200 m	32 x 3 m
93.75 kbps	1200 m	32 x 3 m
187.5 kbps	1200 m	32 x 2 m
500 kbps	400 m	32 x 1 m
1,500 kbps	200 m	32 x 0.3 m
3,000 kbps ... 12,000 kbps	100 m	Not permissible

Minimum cable length between two PROFIBUS DP bus devices

The PROFIBUS guideline recommends a minimum cable length of one meter. Due to the integrated inductances, you are not obliged to follow this recommendation. You can also install shorter cables between the PROFIBUS devices.

7 Disposal

The symbol with the crossed-out trash can indicates that this item must be collected and disposed of separately. Phoenix Contact or our service partners will take the item back for free disposal. For information on the available disposal options, visit phoenixcontact.com.