

Assembly instructions

KAS / KV

Cable connector and cable extension



Superior Clamping and Gripping

SCHUNK ®

Imprint

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Technical changes:

We reserve the right to make alterations for the purpose of technical improvement.

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Dear Customer,

Thank you for trusting our products and our family-owned company, the leading technology supplier of robots and production machines.

Our team is always available to answer any questions on this product and other solutions. Ask us questions and challenge us. We will find a solution!

Best regards,

Your SCHUNK team

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Please read the operating manual in full and keep it close to the product.

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1 About this manual

This manual contains important information for a safe and appropriate use of the product.

This manual is an integral part of the product and must be kept accessible for the personnel at all times.

Before starting work, the personnel must have read and understood this operating manual. Prerequisite for safe working is the observance of all safety instructions in this manual.

In addition to these instructions, the documents listed under ► 1.1 [4] are applicable.

NOTE: The illustrations in this manual are intended to provide a basic understanding and may deviate from the actual version.

1.1 Applicable documents

- General terms of business *
- Catalog data sheet of the purchased product *

The documents labeled with an asterisk (*) can be downloaded from [schunk.com](https://www.schunk.com).

1.2 Variants

This operating manual applies to the following variations:

- KAS / KV with Amphenol PT bayonet coupling, 19 pins
- KAS / KV with Amphenol PT bayonet coupling, 26 pins
- KAS / KV with threaded coupling M16, 19 pins

2 Safety instructions

- If the plug connectors are used to ground for voltages $> 50 V_{\text{eff}}$, the parts of the housing that can be touched must be included to a reliable degree in the protective measures of the device (according to DIN VDE Part 0100-444, IEC 60364-4-41).
- Plug connectors may not be plugged in or unplugged while voltage is applied.
- Grounding must be carried out by the customer.

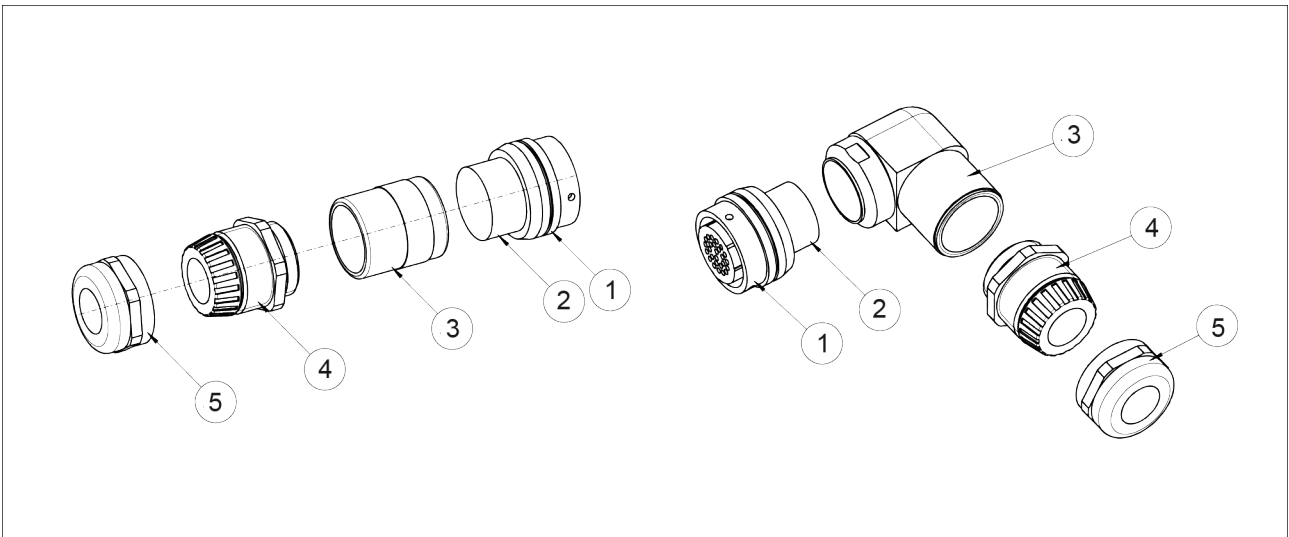
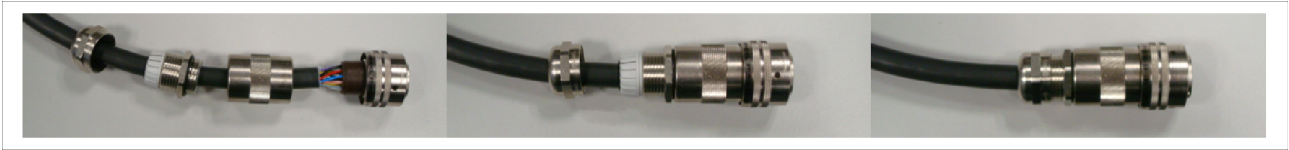
NOTE

For the cable connector, protection class IP65 according to IEC 60529 / DIN EN 60529 only applies if the following criteria are met:

- All cable connector pins have been mounted. This also applies to pins without a cable allocation.
 - All of the seals for the cable connector have been mounted and the fittings have been tightened.
 - The cable connector is plugged in and not under tension.
-

3 Assembling the cable connector

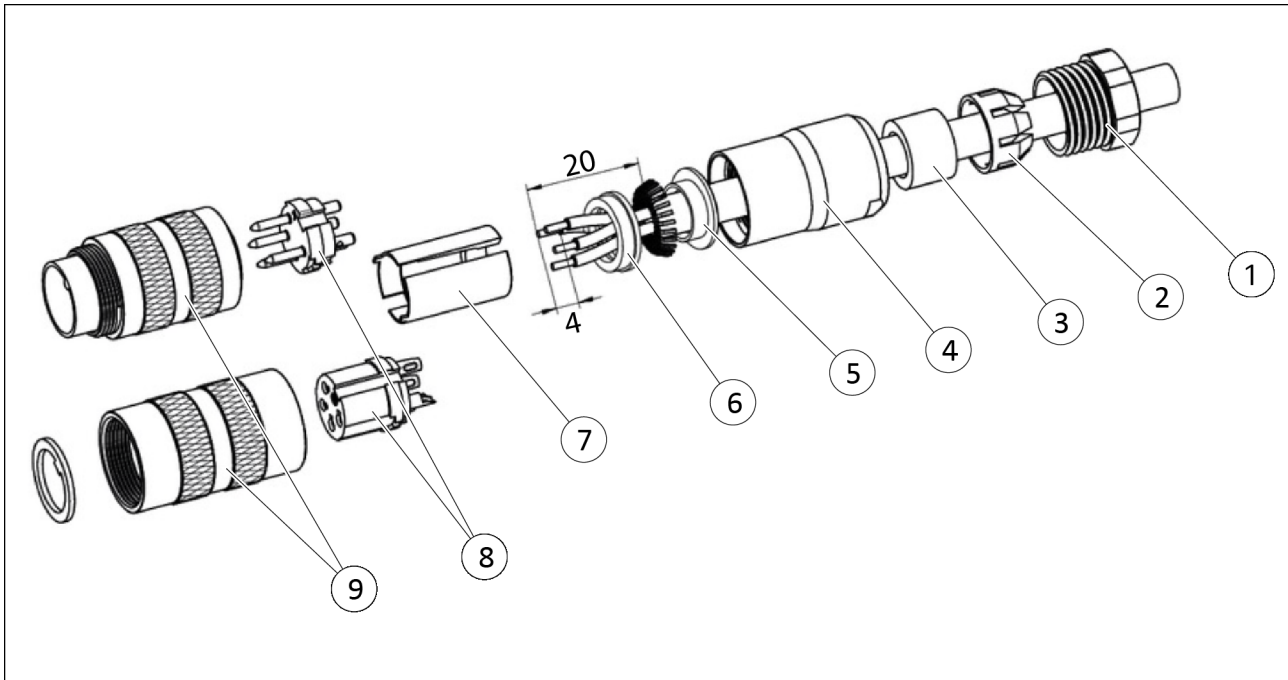
3.1 Cable connector with bayonet coupling



1. Thread the pressure screw (5), strain relief (4), housing (3) and seal (2) onto the cable.
 2. Strip the cable sheathing and cable strands (approx. 4 mm).
 3. Solder the cable strands to the contact insert (1) (connector or socket insert).
 4. Slide the contact insert (1) and seal (2) into the housing (3) and screw together.
 5. Screw the strain relief (4) to the housing (3).
 6. Screw the pressure screw (5) to the strain relief (4).
- ✓ Assembly of the cable connector completed.

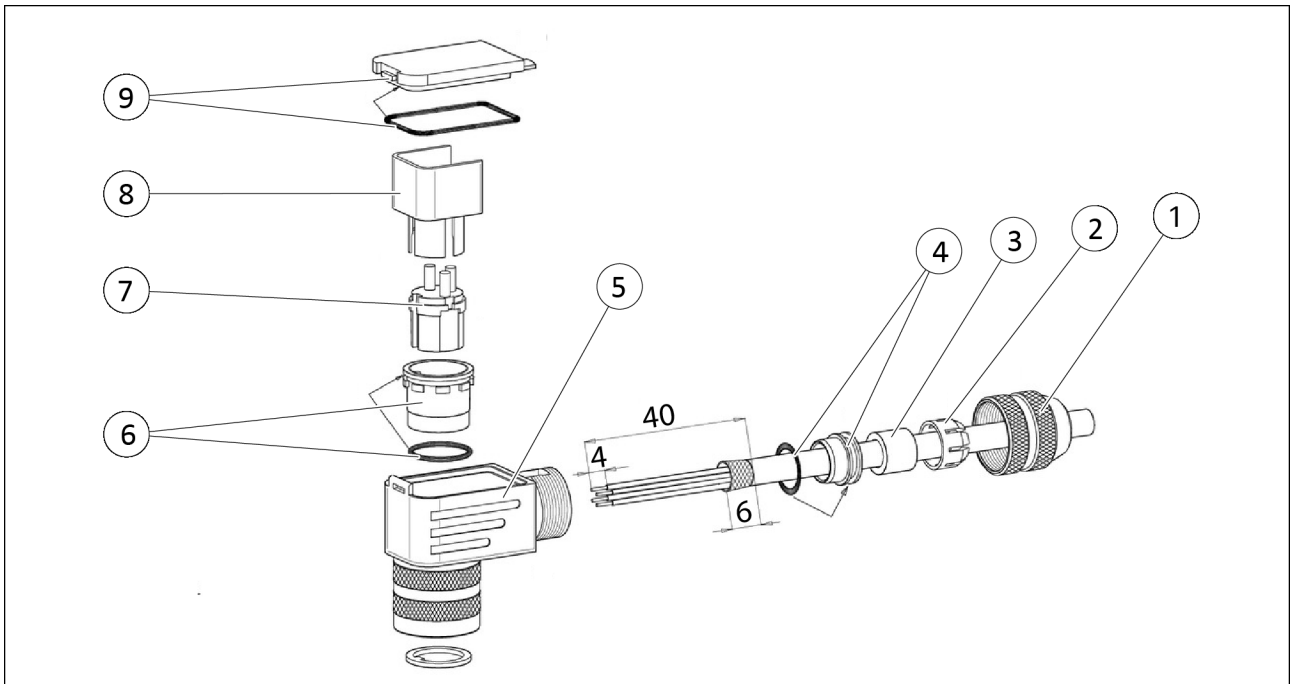
3.2 Cable connector with threaded coupling M16

Straight version (with shield clamping ring)



1. Thread the pressure screw (1), clamping basket (2), seal (3), coupling sleeve (4) and first shield clamping ring (5) onto the cable.
2. Strip the cable sheathing (approx. 20 mm) and cable strands (approx. 4 mm).
3. Expand the shield and thread on the second shield clamping ring (6).
4. Solder the cable strands to the contact insert (8) (connector or socket insert).
5. Push both shield clamping rings together and cut off the projecting shield.
6. Fix the contact insert and shield clamping rings with the spacer sleeve (7).
7. Slide the coupling sleeve (4) over the spacer sleeve and screw together with the threaded ring (9).
8. For strain relief of the cable, screw the pressure screw (1) to the coupling sleeve (4).
- ✓ Assembly of the cable connector completed.

Angled version (with shield clamping ring)



1. Thread the pressure screw (1), clamping basket (2), seal (3) and shielding ring with O-ring (4) onto the cable.
 2. Strip the cable sheathing (approx. 40 mm) and cable strands (approx. 4 mm).
 3. Shorten exposed shield to approx. 6 mm.
 4. Guide the cable strands into the housing (5) and through the cover opening.
 5. Slide the pressure screw (1) with clamping basket, seal and shielding ring towards the housing (5) and tighten slightly.
 6. Solder the cable strands to the contact insert (7) (connector or socket insert).
 7. Insert the contact insert together with the positioning sleeve (6) and spacer sleeve (8) into the housing.
 8. Insert the cover with cover seal (9) and hook it in.
 9. For strain relief of the cable, screw the pressure screw (1) to the housing tightly (5).
- ✓ Assembly of the cable connector completed.

4 Connecting the cable extension

NOTE

The pin allocations shown in the following are only valid for the pre-assembled state with a standard cable.

4.1 Cable extension with bayonet coupling

4.1.1 Characteristics of standard cable

NOTE

Pre-assembled cable connectors

The following instructions only apply to the standard cable used for pre-assembled cable connectors with bayonet coupling.

Application

Applied as a control cable in dry or wet rooms for use on assembly and welding robots, rotary and swivel tables under simultaneous bending and torsional loads and wherever a defined cable routing is not possible.

Characteristics

- Flame retardant and low adhesion
- Resistant to hydrolysis, microbes, UV radiation and ozone, greases, coolants and lubricants
- Oil resistant
- RoHS compliant
- Conforms to Directive 2006/95/EC (Low Voltage Directive)

Technical data

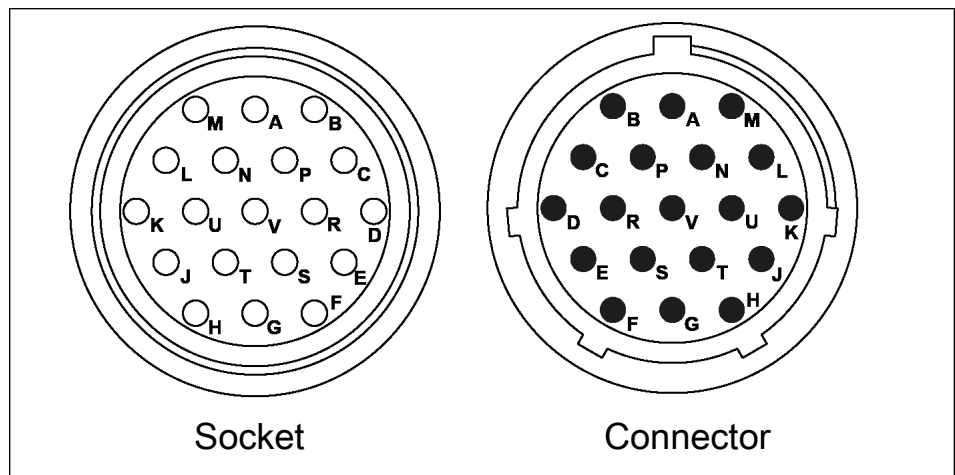
Reference value	Value
Wire detection	Colored according to DIN 47100
Stranding	26 wires 0.25 mm ²
Outer sheath material	PUR
Sheath color	Black (similar to RAL 9005)
Nominal voltage	48 V
Smallest bending radius fixed	5 x d
Smallest bending radius moved	10 x d
Traversing speed	Max. 3 m/s; torsion: 25 cycles/min
Traverse path	Max. 10 m
Acceleration	Max. 10 m/s ²
Torsion angle	±270° (with cable length min. 80 x d)

Reference value	Value
Operating temperature moved, min. / max. [°C]	-30°C / +80°C
Fire behavior	Flame retardant according to UL758/1581
Outer diameter	10.50 ±0.30 mm
Weight	149.0 kg/km

NOTE

The following instructions only apply to the standard cable used for pre-assembled cable connectors with threaded coupling M16.

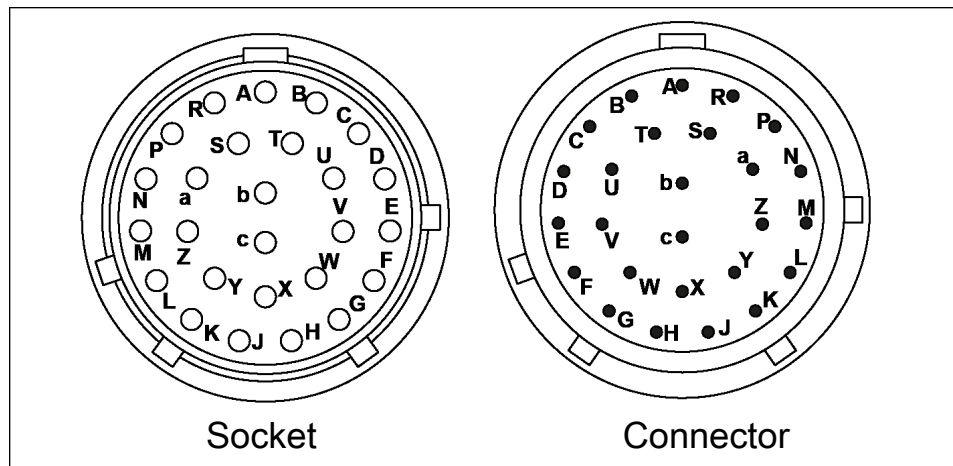
4.1.2 Pin allocation 19 pins



19-pin cable connector - 26 wires - wire cross-section 0.25 mm²

A	White	L	Grey / Pink
B	Brown	M	Red / Blue
C	Green	N	White / Green
D	Yellow	P	Brown / Green
E	Grey	R	White / Yellow
F	Pink	S	Yellow / Brown
G	Blue	T	White / Grey
H	Red	U	Grey / Brown
J	Black	V	White / Pink
K	Violet		

4.1.3 Pin allocation 26 pins



26-pin cable connector - 26 wires - wire cross-section 0.25 mm²

A	White	P	Brown / Green
B	Brown	R	White / Yellow
C	Green	S	Yellow / Brown
D	Yellow	T	White / Grey
E	Grey	U	Grey / Brown
F	Pink	V	White / Pink
G	Blue	W	Pink / Brown
H	Red	X	White / Blue
J	Black	Y	Brown / Blue
K	Violet	Z	White / Red
L	Grey / Pink	a	Brown / Red
M	Red / Blue	b	White / Black
N	White / Green	c	Brown / Black

4.2 Cable extension with threaded coupling M16

4.2.1 Characteristics of standard cable

NOTE

The following instructions only apply to the standard cable used for pre-assembled cable connectors with threaded coupling M16.

Application

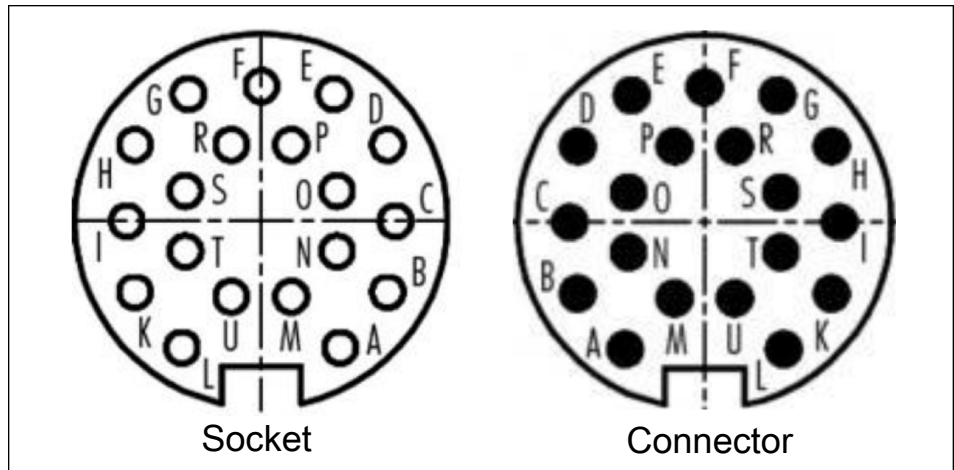
Applied as a control cable in dry or wet rooms for use on assembly and welding robots, rotary and swivel tables under simultaneous bending and torsional loads and wherever a defined cable routing is not possible.

Technical data

Reference value	Value
Wire detection	Colored according to DIN 47100

Reference value	Value
Stranding	26 wires 0.25 mm ²
Outer sheath material	PUR
Sheath color	Black (similar to RAL 9005)
Nominal voltage	48 V
Smallest bending radius fixed	5 x d
Smallest bending radius moved	10 x d
Traversing speed	Max. 3 m/s; torsion: 25 cycles/ min
Traverse path	Max. 10 m
Acceleration	Max. 10 m/s ²
Torsion angle	±270° (with cable length min. 80 x d)
Operating temperature moved, min. / max. [°C]	-30°C / +80°C
Fire behavior	Flame retardant according to UL758/1581
Outer diameter	10.50 ±0.30 mm
Weight	149.0 kg/km

4.2.2 Pin allocation



19-pin cable connector - wire cross-section 0.25 mm²

A	Blue	L	Brown
B	Grey / Pink	M	Orange
C	Red / Blue	N	Grey / Brown
D	White / Green	O	Violet
E	Black	P	White
F	Brown / Green	R	Red
G	Pink	S	Grey
H	White / Yellow	T	Yellow
I	Green	U	Light brown
K	Yellow / Brown		



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