CABLES
FOR ROBOTS

75 Years

SAB Robot

www.sabcable.com
866-722-2974 ■ info@sabcable.com

SPECIAL CABLES
SAB North America

About Us

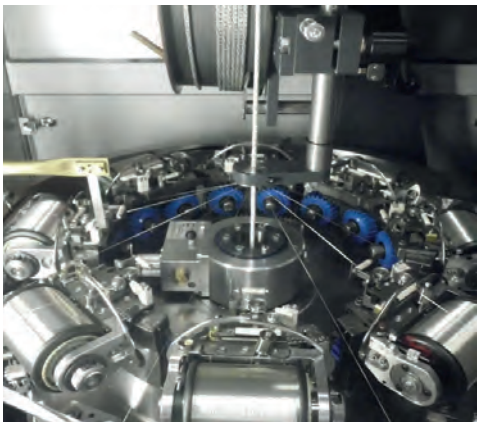
SAB North America is a focused supplier for the automation, aerospace, medical, high temperature, and robotics industries, providing cable solutions that meet, exceed, and set new standards in the flexible cable market. In addition to flexible cable products, we offer an extensive inventory of high-quality cable accessories, including cord grips, grounding glands and other accessories that complement our flexible control and automation cables.

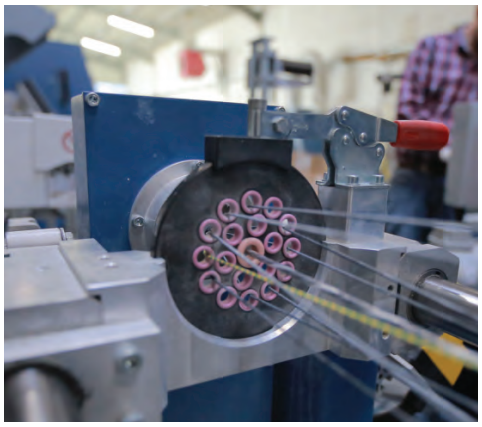
Whatever the need may be, look to SAB North America for Special Cables that can, for example, help minimize maintenance costs and increase productivity, reduce downtime, and solve specific problems. Here is a small sample of some of the challenges that Special Cables from SAB North America can help address:

- Hybrid designs for multiple functions
- Harsh environments
- Difficult applications
- Industry-specific requirements

At SAB North America, we offer cables that are perfect for the high mechanical stresses found in robotics applications. These cables can withstand millions of alternating bending cycles, as well as tensile and torsional stress. They also meet requirements relating to temperature, oil and chemical resistance. The enduring quality of SAB robotic automation cables are quietly at work behind the scenes on assembly lines & factory floors. Machine builders and Tier 1 & Tier 2 suppliers to the automotive industry entrust SAB North America to build cables that thrive in harsh environments. Communication, control & power cables are literally the veins & arteries that make your machines tick. Don't allow inferior cables to compromise your equipment.

Whether you're a valued distribution partner, an automation house, an integrator, or a contractor to the automobile manufacturer, rest assured that our cables are reliable to maximize production efficiencies. SAB brings world class performance & 75 years of ingenuity to the table.





SAB Advantage...We make it Easy

- Engineering & technical assistance
- Cut to length with no cut charges
- Prepaid freight within US for orders over $2,500
- Specialty cable designs (1500 ft minimum)
- No minimum on orders from stock
- Free drop shipments (no surcharges)
- 24-hour shipments from stock
- Cord Grips for securing cables

Cables for Robots

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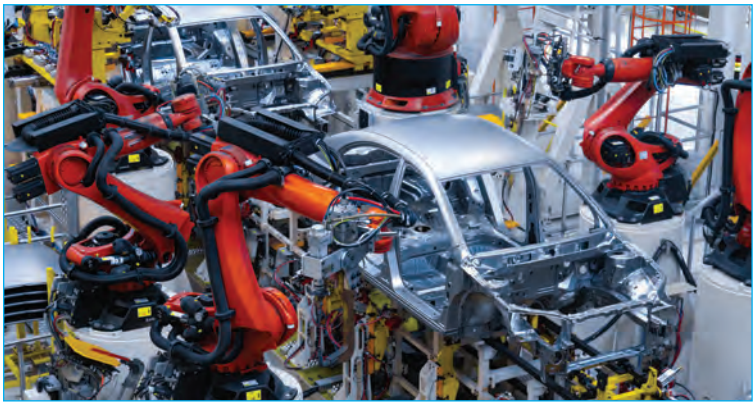
SAB enjoys a distinguished history partnering with the Automotive Industry worldwide. The high stress demands of the automotive vertical markets are a natural fit for our brand of high-performance cables.

Supplier no.:

Audi	1917/0
BMW	609-213-10
Daimler	102 218 10
Ford	DJM5A
PSA	A00DYT 01
Porsche	11 901
Škoda	27597
VW	1917-0
VW Mexico	600 200 57 70

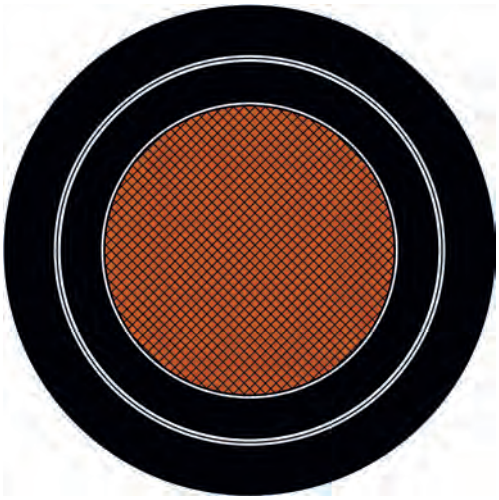
Applications



Cables for dress packages

Grafik: Murrplastik Systemtechnik, Oppenweiler

Single conductor welding cables for robot applications



Construction:

Conductor:	bare copper strands acc. to IEC 60228
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2

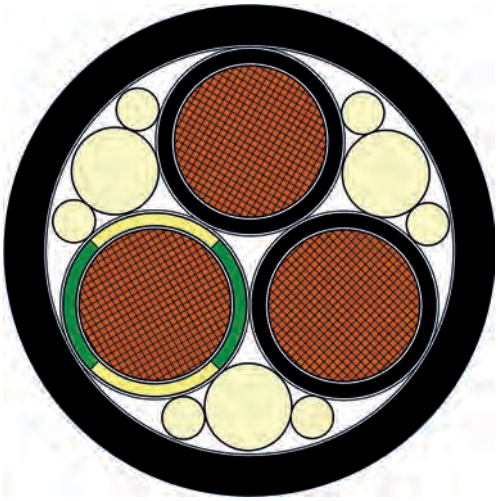
item no.	mm	dimensions AWG/c	color coding	outer-ø inch	outer-ø mm
► 7260001	16	6/1c	bk/bk	0.398	10.1
► 7260002	25	4/1c	bk/bk	0.437	11.1
► 7260003	25	4/1c	gnye/bk	0.437	11.1
► 7260004	35	2/1c	bk/bk	0.524	13.3
► 7260005	35	2/1c	gnye/bk	0.524	13.3
► 7260006	50	1/1c	bk/bk	0.622	15.8
► 7260007	70	2/0-1c	bk/bk	0.717	18.2
► 7260008	95	3/0-1c	bk/bk	0.815	20.7

Other dimensions and colors are possible on request.

Technical Data:

Operating voltage	Testing voltage	Temperature range	Min. bending radius	Halogen-free	Absence of harmful substances
750 V (DC)	2000 V (AC)	flexible application: -40/+90°C	recommended: 7.5 x O.D.	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to RoHS directive of the European Union

Multi-conductor welding cables for robot applications



Construction:

Conductor:	bare copper strands acc. to IEC 60228
Insulation:	PUR
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green-yellow ground from 3 conductors
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

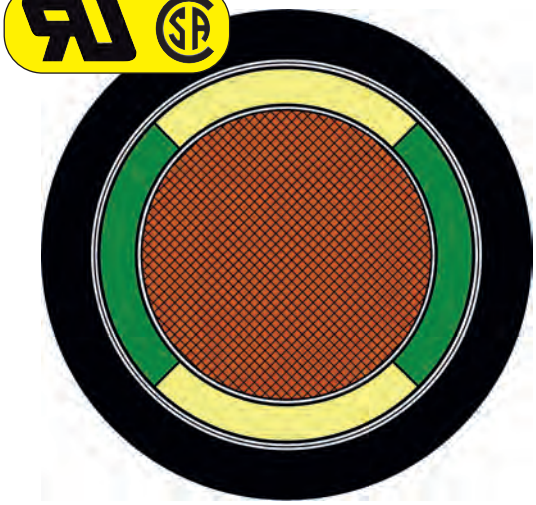
item no.	mm	dimensions AWG/c	outer-ø inch	outer-ø mm
► 7260009	16	6/3c	0.760	19.3
► 7260010	25	4/3c	0.917	23.3
► 7260011	35	2/3c	1.047	26.6
► 7260012	50	1/3c	1.213	30.8

Other dimensions and colors are possible on request.

Technical Data:

Operating voltage	Testing voltage	Temperature range	Min. bending radius	Halogen-free	Absence of harmful substances
≤ 16.0 mm² = 500 V (DC) ≥ 25.0 mm² = 750 V (DC)	≤ 16.0 mm² = 1500 V (AC) ≥ 25.0 mm² = 2000 V (AC)	flexible application: -40/+90°C	recommended: 7.5 x O.D.	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to RoHS directive of the European Union

UL/CSA single conductor welding cable



Construction:

Conductor:	copper strands acc. to IEC 60228
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2

item no.	mm	dimensions AWG/c	color coding	outer-ø inch	outer-ø mm
► 37689069	10	8/1c	bk/gnye	0.276	7.0
► 37689071	10	8/1c	pk functional earth	0.276	7.0
► 37689010	16	6/1c	bk/gnye	0.350	8.9
► 7260015	25	4/1c	gnye/bk	0.437	11.1
► 3909602	25	4/1c	bk/bk	0.524	11.1
► 3909604	35	2/1c	bk/bk	0.524	13.3
► 3909605	35	2/1c	bk/gnye	0.524	13.3
► 3909582	50	1/1c	bk/bk	0.622	15.8
► 3909583	70	2/0-1c	bk/bk	0.709	18.0

Other dimensions and colors are possible on request.

Technical Data:

Operating voltage	Voltage UL/CSA	Testing voltage	Temperature range	Min. bending radius	Halogen-free	Absence of harmful substances
750 V (DC)	1000 V	10000 V	flexible application: -40/+90°C **UL: up to +80°C**	recommended: 7.5 x O.D.	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to RoHS directive of the European Union

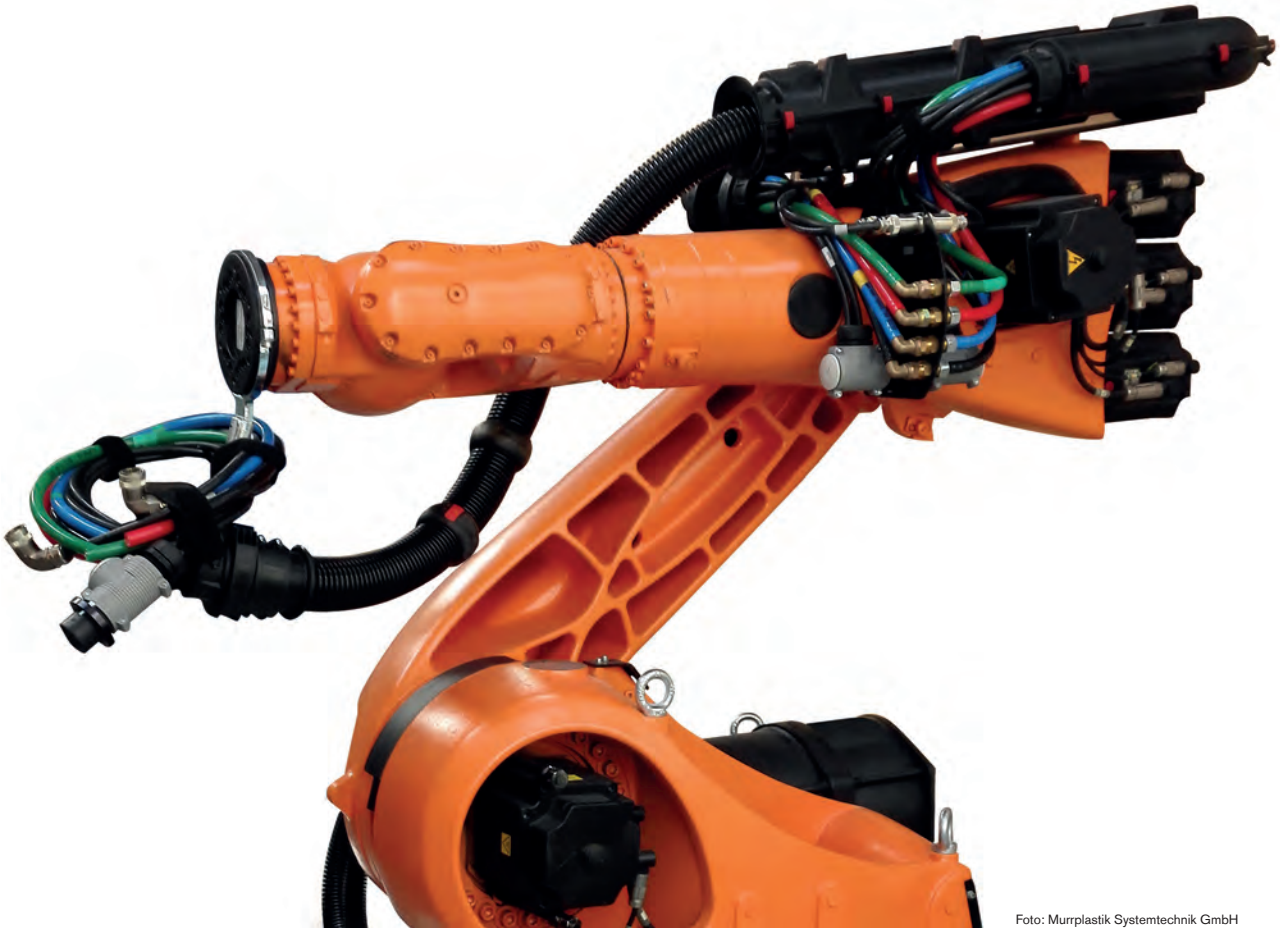


Foto: Murrplastik Systemtechnik GmbH

Hybrid control cable for welding applications

Construction:

Conductor:	bare copper strands acc. to IEC 60228
Insulation:	TPE
Color code:	white conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green-yellow ground
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
Jacket color:	black (RAL 9005)

item no.	dimension mm	outer-ø inch	outer-ø mm
► 7969081	5 x (2 x 0.75) D + 22 x 0.75	0.630	16.0

Other dimensions and colors are possible on request.

Nominal voltage	Testing voltage	Temperature range	Min. bending radius	Absence of harmful substances
Uo/U 300/500 V	conductor/conductor 2000 V (AC) conductor/shielding 2000 V (AC)	flexible application: -40/+80°C	recommended: 10 x O.D.	acc. to RoHS directive of the European Union

dimensions in () denotes shielded
D= tinned copper shield

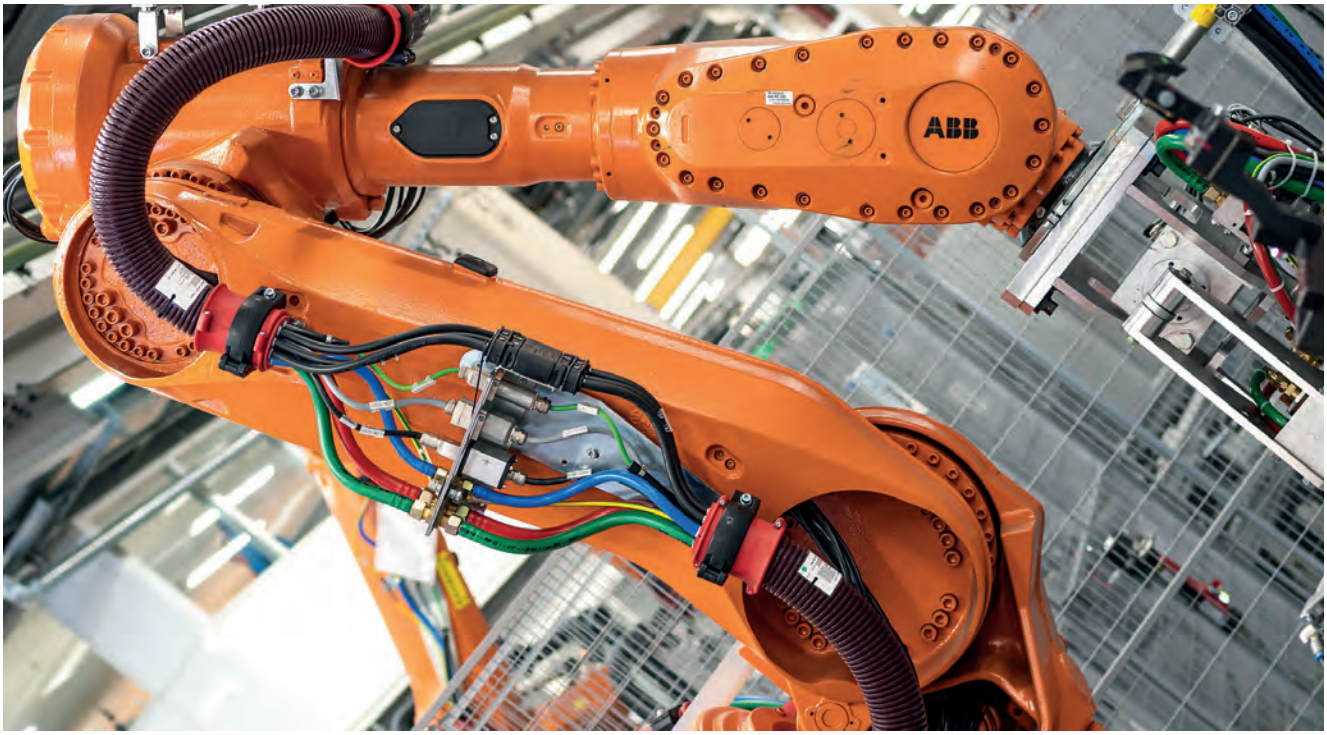


Foto: Becker GmbH, Dülmen

Hybrid blue control cable for welding guns

Construction:

Conductor:	bare copper strands acc. to IEC 60228
Insulation:	TPE
Color code:	white conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green-yellow ground
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	sky blue (RAL 5015)

item no.	dimensions AWG/c	outer-ø inch	outer-ø mm
► 3990157	18/3c+ 20/4c+ 20/3 triad + (20/1pr)D	0.476	12.1

Other dimensions and colors are possible on request.

Technical Data:

Peak operating voltage	Testing voltage	Temperature range	Min. bending radius	Absence of harmful substances
max. 500 V	conductor/conductor 1500 V conductor/shielding 1200 V	flexible application: -40/+90°C	recommended: 10 x O.D.	acc. to RoHS directive of the European Union

Pair in () denotes shielded. D = tinned copper shield

Further welding gun cables on request!

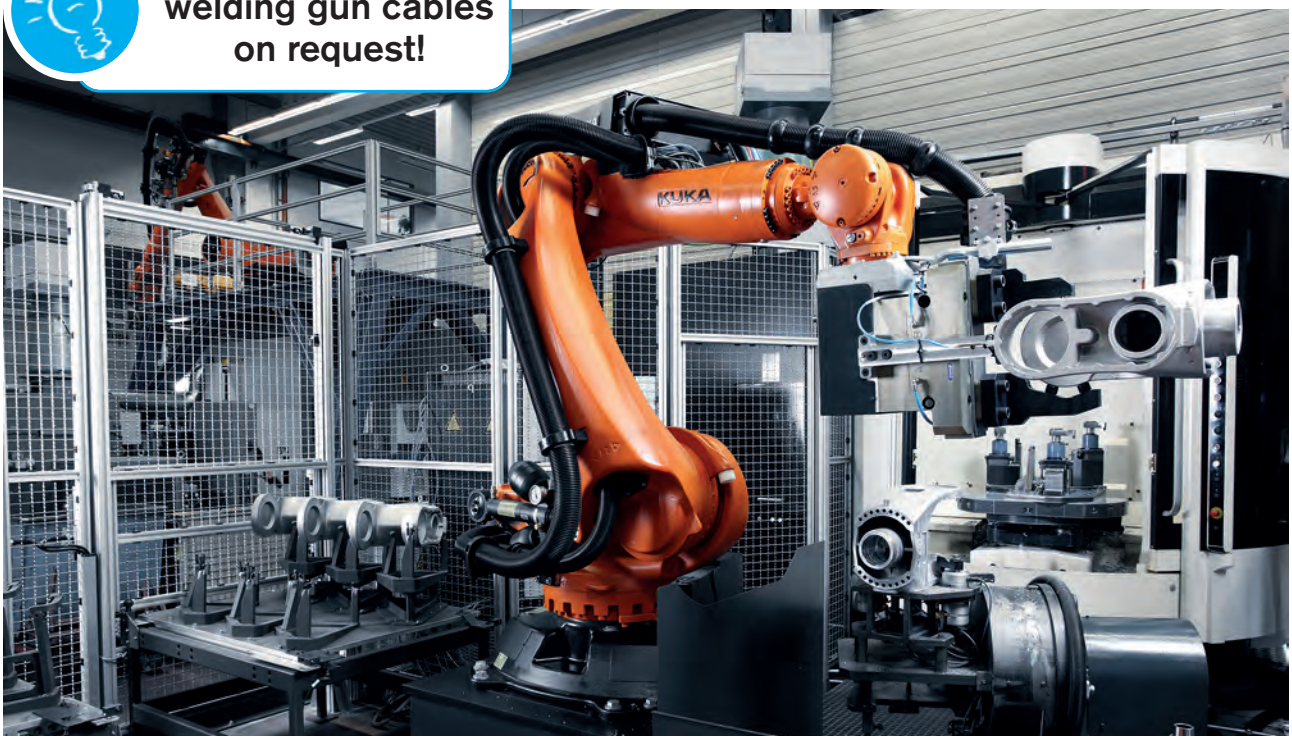
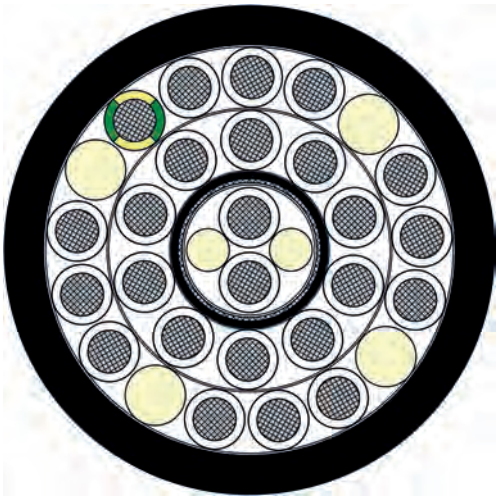


Foto: KUKA AG

Control cables for flexing applications



Construction:

Conductor:	tinned copper strands acc. to IEC 60228
Insulation:	TPE
Color code:	white conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green-yellow ground
Inner jacket:	TPE
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

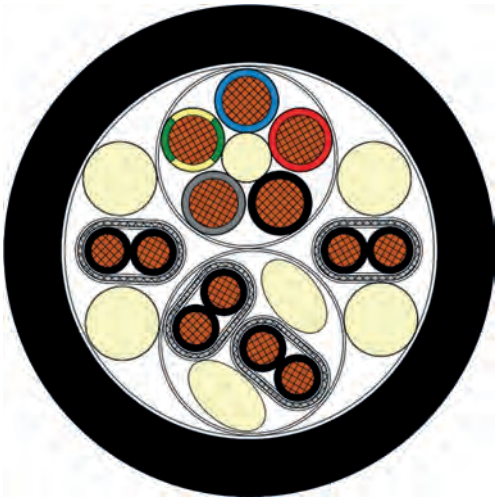
item no.	dimensions AWG/c	outer-ø inch	outer-ø mm
► 7649065	23 x 1.0 + (2 x 1.0) D	0.520	13.2

Other dimensions and colors are possible on request.

Technical Data:

Peak operating voltage	Testing voltage	Temperature range	Min. bending radius	Absence of harmful substances
max. 600 V	conductor/conductor 2000 V conductor/shielding 1200 V	flexible application: -40/+90°C	recommended: 10 x O.D.	acc. to RoHS directive of the European Union

Torsional control cable for robots



Construction:

Conductor:	bare copper strands acc. to IEC 60228
Insulation:	TPE
Color code:	colored acc. to specification
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

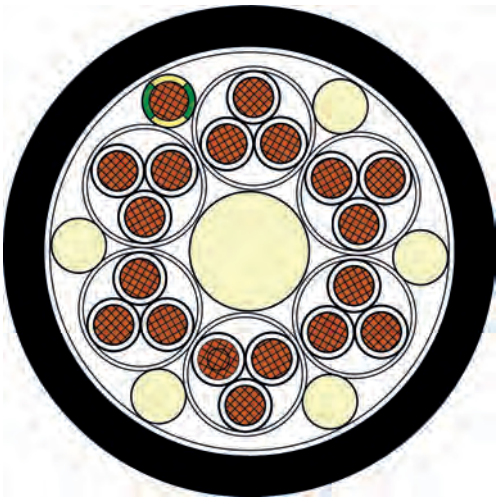
item no.	dimensions AWG/c	outer-ø inch	outer-ø mm
► 7260025	18/5c + (20/4pr)D	0.539	13.7

Other dimensions and colors are possible on request.

Technical Data:

Min. bending radius	Torsion angle	Temperature range	PWIS uncritical	Absence of harmful substances
recommended: 10 x O.D.	up to ±180°/0.5 m	flexible application: -40/+90°C	all our robot cables are free from paint-wetting impairment substances	acc. to RoHS directive of the European Union

Control cables for robots



Construction:

Conductor:	bare copper strands acc. to IEC 60228
Insulation:	TPE
Color code:	white conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green-yellow ground
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

item no.	dimensions AWG/c	outer-ø inch	outer-ø mm
► 7609151	19/19c	0.488	12.4
► 7609190	18/18c	0.508	12.9
► 7609056	18/19c	0.523	13.3

Other dimensions and colors are possible on request.

Technical Data:

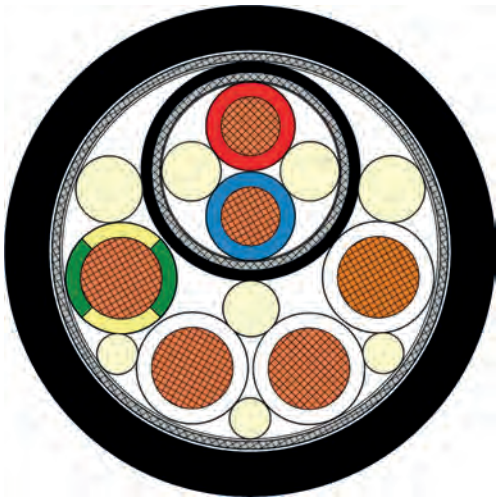
Nominal voltage	Testing voltage	Temperature range	Min. bending radius	Absence of harmful substances
max. 350 V	conductor/conductor 1500 V	flexible application: -40/+90°C	recommended: 10 x O.D.	acc. to RoHS directive of the European Union

Foto: KUKA AG

You haven´t found your special cable?

Please contact our specialists!

Robot motor cables



Construction:

Conductor:	bare copper strands acc. to IEC 60228
Insulation:	TPE
Color code:	acc. to specification
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

item no.	dimensions AWG/c	outer-ø inch	outer-ø mm
► 7649120	19/4c + 22/2pr	0.382	9.7
► 7799043	14/4c + 18/2c	0.476	12.1
► 7260070	14/4c + (18/2c) C	0.476	12.1
► 8419202	14/4c + (16/2c) C	0.508	12.9
► 7969253	16/4c + (19/2pr) D	0.547	13.9

Other dimensions and colors are possible on request.

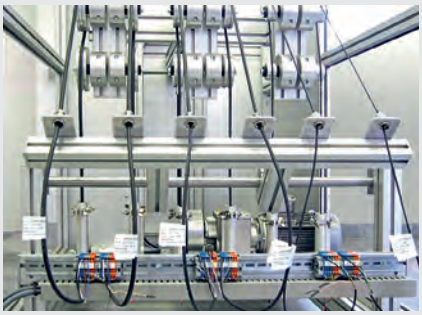
Technical Data:

Nominal voltage	Temperature range	Halogen-free	Absence of harmful substances
Uo/U 450/750 V	flexible application: -40/+90°C	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to RoHS directive of the European Union

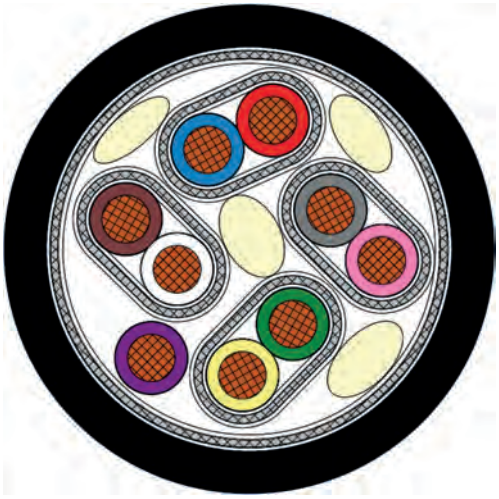
Further robot motor cables on request!

Our testing machines

Our modern testing machines comply with the current standards of automotive industry and enable us to reproduce nearly all customer-specific requirements.



KSR cables - constant welding current control



Construction:

Conductor:	copper strands acc. to IEC 60228
Insulation:	TPE
Color code:	acc. to specification
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

item no.	dimensions AWG/c	outer-ø inch	outer-ø mm
► 7959035	(20/1pr) D + (20/2c) D	0.346	8.8
► 7260033	(20/1pr) D + 20/1pr	0.323	8.2
► 7969101	(18/3c) D + (18/2c) D+ 18/1c	0.409	10.4
► 7260035	(20/4pr) D+ 20/1c	0.378	9.6
► 7260036	19/6c + (19/3c) D	0.386	9.8
► 7260037	(19/2pr) D + (19/3c) D	0.406	10.3
► 7260038	(20/1pr) D + 18/7c	0.358	9.1

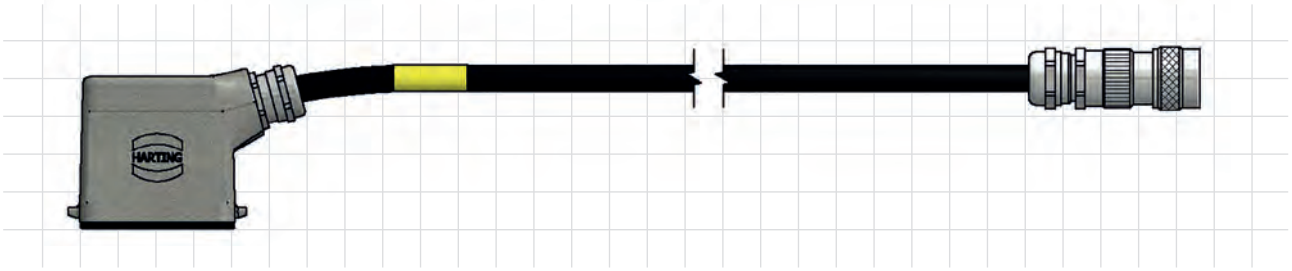
Other dimensions and colors are possible on request.

Technical Data:

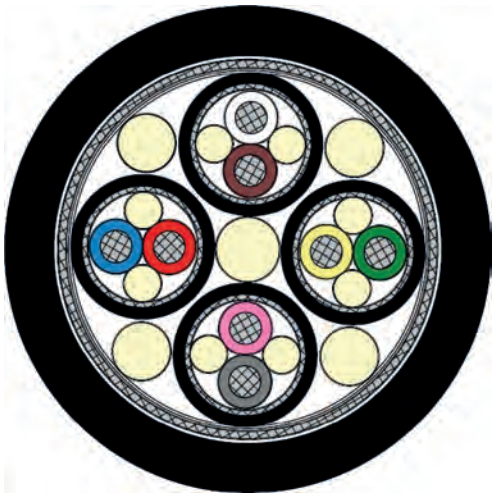
PWIS uncritical	Temperature range	Min. bending radius	Absence of harmful substances
all our robot cables are free of paint-wetting interfering substances	flexible application: -40/+90°C	recommended: 10 x O.D.	acc. to RoHS directive of the European Union

dimensions in () denotes shielded
D= tinned copper shield

Further KSR cables on request!



Transmission cables/Encoder cables



Construction:

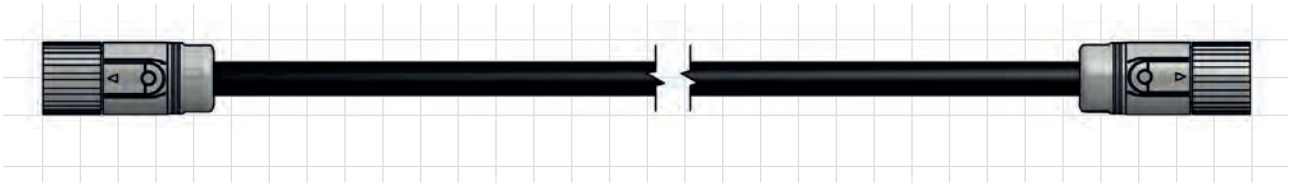
Conductor:	tinned copper strands, fine wires acc. to IEC 60228
Color code:	with reference to DIN 47100
Stranding:	twisted pairs wrapped with tinned copper wires
Inner jacket:	TPE
Stranding:	pairs together
Total shield:	wrapped with tinned copper wires
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

item no.	dimensions AWG/c	outer-ø inch	outer-ø mm
► 3909449	[(24/4pr) D] D	0.358	9.1

Other dimensions and colors are possible on request.
dimensions in () denotes shielded; D= tinned copper shield
dimensions in [] denotes overall shield

Technical Data:

Peak operating voltage	PWIS uncritical	Halogen-free	Temperature range	Min. bending radius	Absence of harmful substances
max. 350 V	free of paint-wetting interfering substances	acc. to IEC 60754-1 + VDE 0482-754-1	flexible application: -40/+70°C	recommended: 10 x O.D.	acc. to RoHS directive of the European Union



Construction:

Conductor:	bare copper strands, fine wires acc. to IEC 60228
Insulation:	TPE
Color code:	with reference to DIN 47100
Stranding:	conductors twisted to pairs, pairs in layers
Shielding:	wrapped with tinned copper wires
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

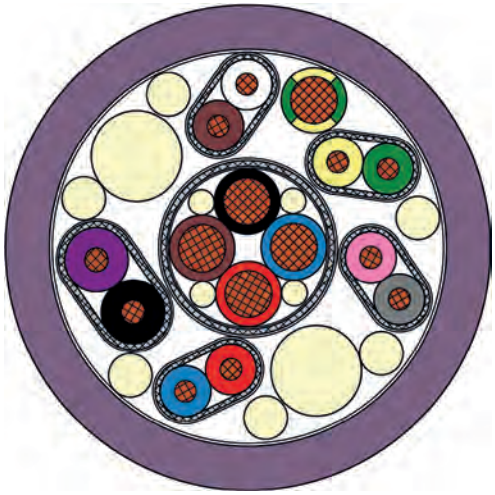
item no.	dimensions mm/c	outer-ø inch	outer-ø mm
► 7899041	8 x (2 x 0.22) D	0.480	12.2
► 7969237	8 x 2 x 0.25	0.350	8.9

Other dimensions and colors are possible on request.

Technical Data:

Peak operating voltage	Testing voltage	Temperature range	Min. bending radius	Torsion angle	Absence of harmful substances
max. 350 V	conductor/conductor 1500 V conductor/shielding 1200 V	flexible application: -40/+90°C	recommended: 10 x OD	up to ±180°/0.5 m	acc. to RoHS directive of the European Union

Flexible Interbus Hybrid Cable for Automotive



Construction:

Conductor:	bare copper strands acc. to IEC 60228
Insulation:	special Polymer / TPE
Color code:	with reference to DIN 47100 + black, blue, red, brown, green-yellow
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	red lilac (RAL 4001)

item no.	dimensions AWG/c	outer-ø inch	outer-ø mm
► 7260042	18/4c + 24/5pr+18/1c	0.520	13.2

Other dimensions and colors are possible on request.

Technical Data:

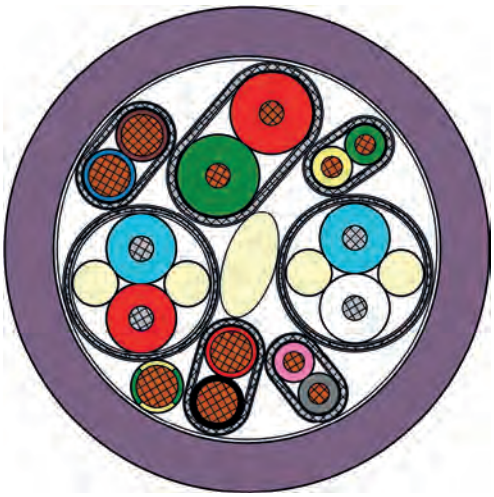
Nominal voltage	Testing voltage	Temperature range	Min. bending radius	Absence of harmful substances
max. 350 V	conductor/conductor 1700 V conductor/shielding 1000 V	flexible application: -40/+70°C	recommended: 10 x O.D.	acc. to RoHS directive of the European Union

You haven´t found your special cable?

Please contact our specialists!

Foto: KUKA AG

Robot multibus cable



Construction:

Conductor:	bare resp. tinned copper strands acc. to IEC 60228
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	red lilac (RAL 4001)

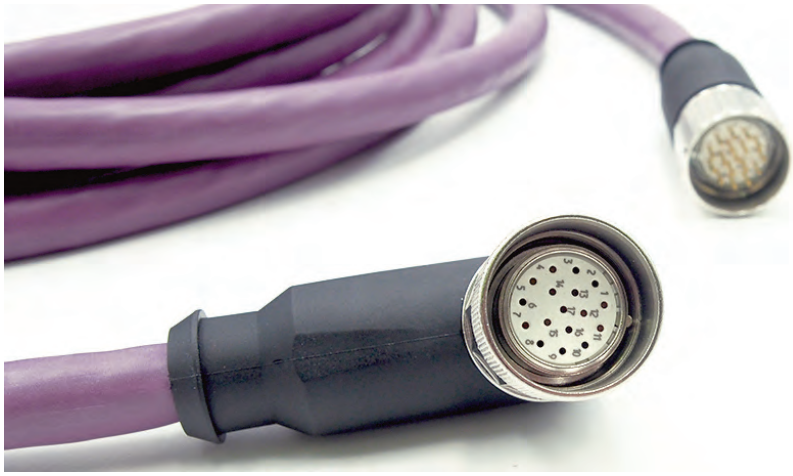
item no.	dimensions mm/c	outer-ø inch	outer-ø mm
► 7260043	2 x (2 x 0.25) D + 2 x (2 x 0.34) D + 1.0 + (2 x 0.29) D + 2 x (2 x 1.0) D	0.552	13.9

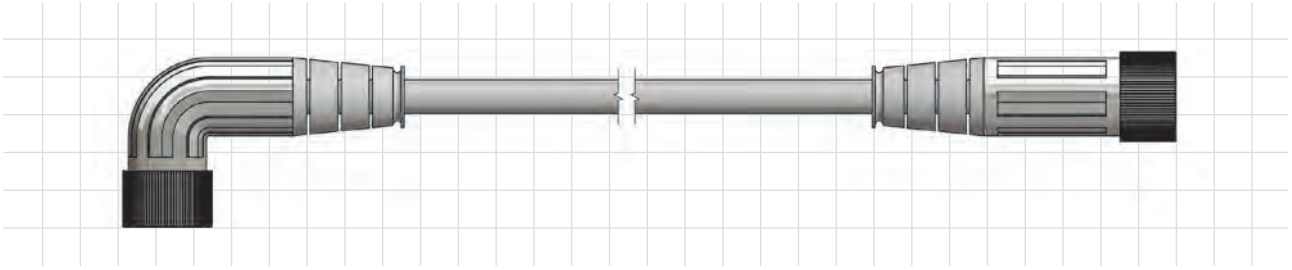
Other dimensions and colors are possible on request.

Technical Data:

Operating voltage	Voltage UL	Testing voltage	Temperature range	Min. bending radius	Absence of harmful substances
max. 350 V	30 V	conductor/conductor 1000 V conductor/shielding 700 V	flexible application: -40/+70°C **UL: up to +80°C**	recommended: 12 x O.D.	acc. to RoHS directive of the European Union

dimensions in () denotes shielded
D= tinned copper shield



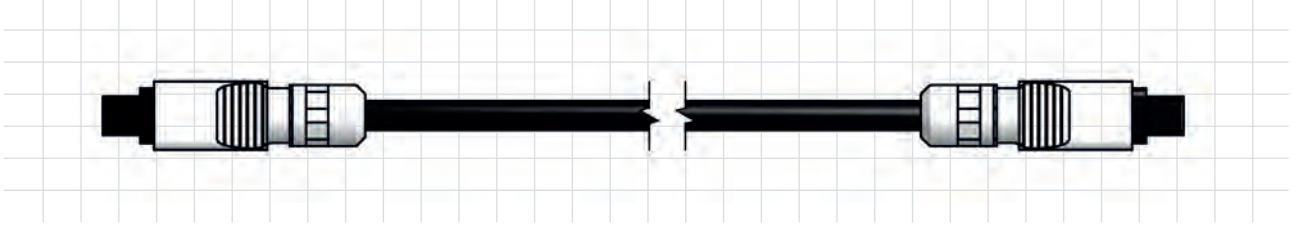


Hybrid cables

item no.	dimensions AWG/c	outer-ø inch	outer-ø mm
► 6259019	(22/2c) D CB + (20/3pr) D + 20/1c	0.370	9.4
► 7969238	(24/4pr) D + (20/2c) D	0.409	10.4
► 8039208	(24/4pr) D + (20/2pr) D	0.417	10.6
► 16399009	(24/4pr) D CAT 6 + (20/4c) D	0.457	11.6

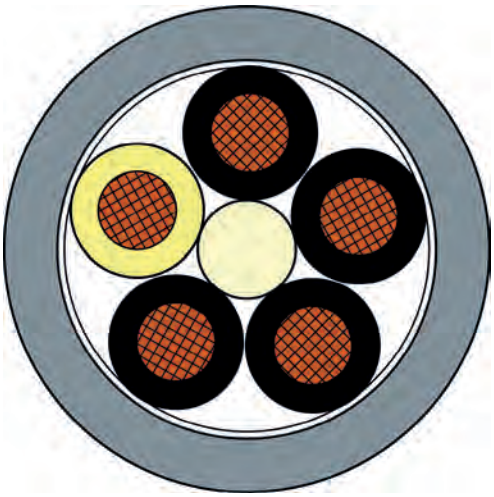
Other dimensions and colors are possible on request.

dimensions in () denotes shielded
D= tinned copper shield



Power cable

5 x 1.5 mm²

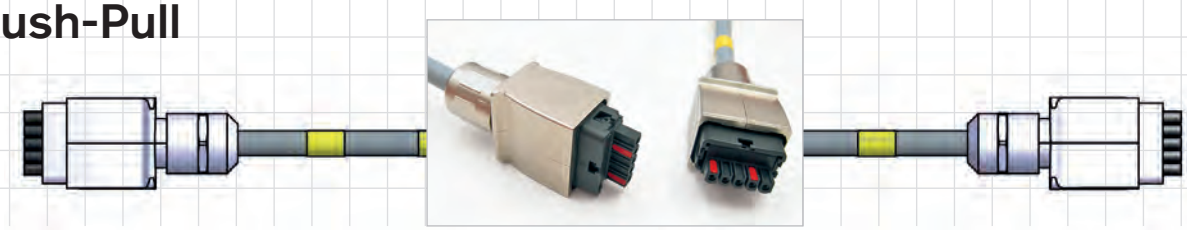


item no.	dimensions AWG/c	outer-ø inch	outer-ø mm
► 7260047	16/5c	0.390	9.9

Other dimensions and colors are possible on request.

We assemble our cables with
your requested plugs even for small quantities.
Please contact us!

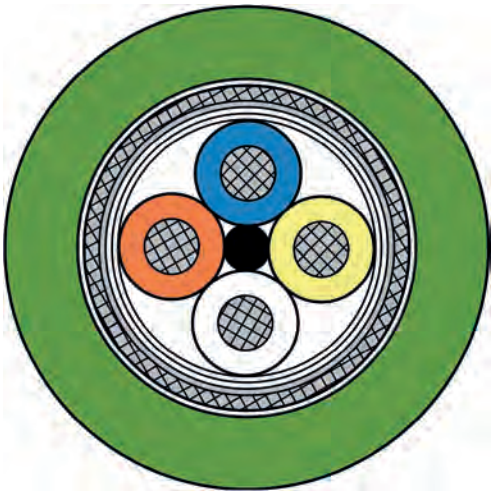
Push-Pull



7/8"

M12

RT profinet cables CAT 5



Construction:

Conductor:	tinned copper strands acc. to IEC 60228
Color code:	white, blue, orange, yellow
Stranding:	twisted pairs, resp. twisted to star quad
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	green (RAL 6018)

item no.	dimensions AWG/pr	stranding	outer-ø inch	outer-ø mm
► 6689001	22/2pr	star quad	0.276	7.0
► 6689039	22/2pr	paired	0.307	7.8

Other dimensions and colors are possible on request.

Technical Data:

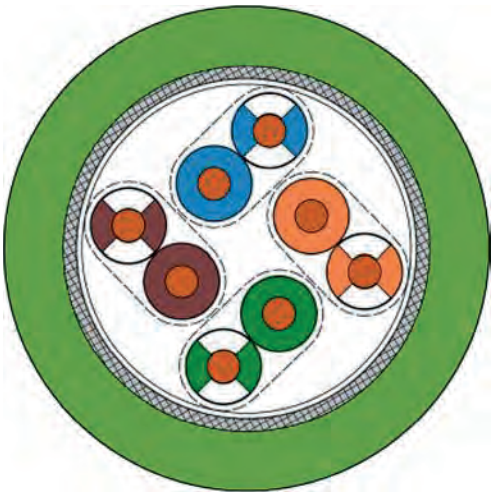
Peak operating voltage	Testing voltage	Temperature range	Torsion angle	Absence of harmful substances
max. 350 V	conductor/conductor 1500 V conductor/shielding 1200 V	flexible application: -30/+70°C	recommended: ±180°/m	acc. to RoHS directive of the European Union

Type R

We assemble our cables with connectors of all well-known manufacturers

CABLE ASSEMBLY POSSIBLE

RT Ethernet cables CAT 6A



Construction:

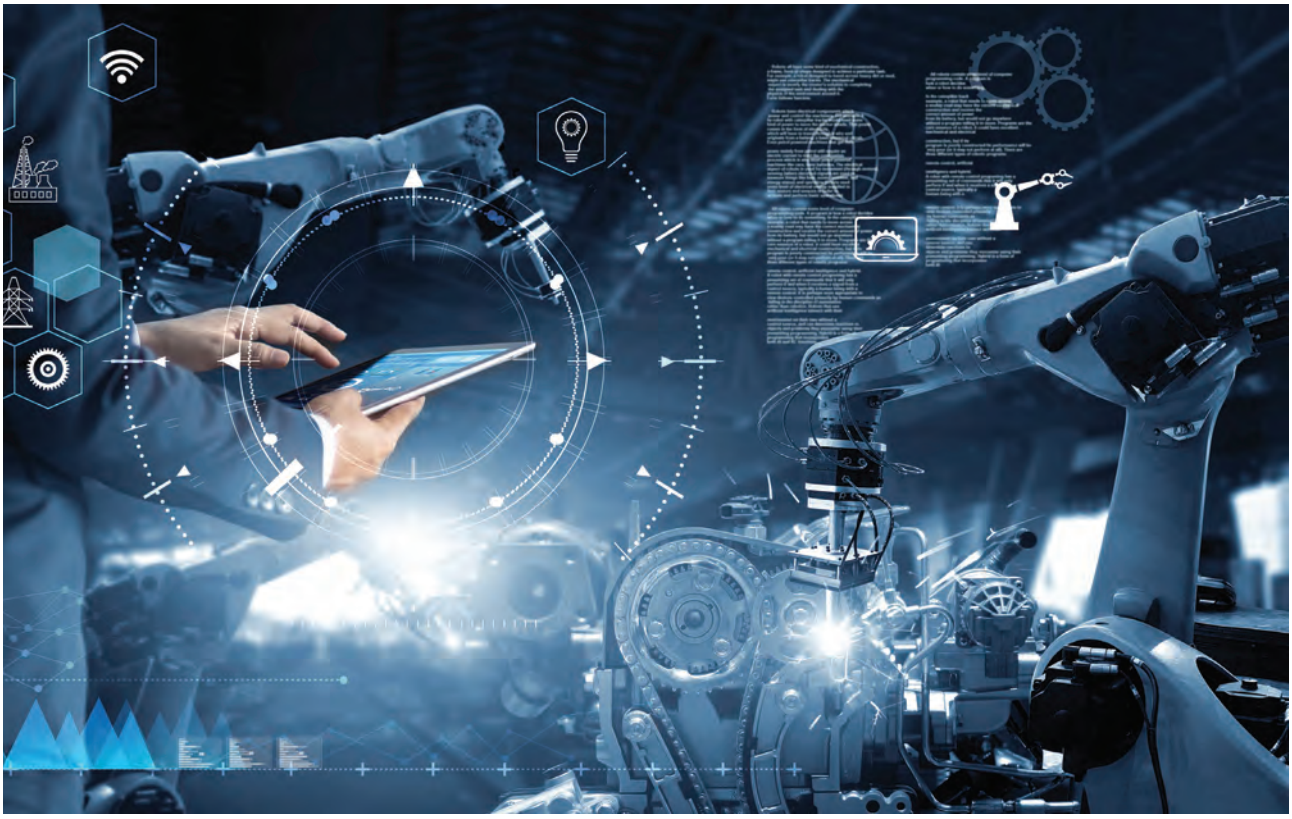
Conductor:	copper strands acc. to IEC 60228
Color code:	colored acc. to specification
Stranding:	conductors twisted to pairs
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	green (RAL 6018)

item no.	dimensions AWG/pr	stranding	outer-ø inch	outer-ø mm
► 16874631	26/4pr	paired	0.280	7.1

Other dimensions and colors are possible on request.

Technical Data:

Peak operating voltage	Testing voltage	Temperature range	Torsion angle	Absence of harmful substances
max. 90 V	conductor/conductor 2000 V conductor/shielding 2000 V	flexible application: -30/+70°C	recommended: ±180°/m	acc. to RoHS directive of the European Union



RT hybrid Ethernet cables CAT 6

Construction:

Conductor:	bare copper strands acc. to IEC 60228
Insulation:	4 x 2 x AWG 26: FEP 4 x 1.0 mm²: TPE
Color code:	4 x 2 x AWG 26: white-blue/blue, white-orange/orange, white-green/green, white-brown/brown 4 x 1.0 mm²: black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	black (RAL 9005)

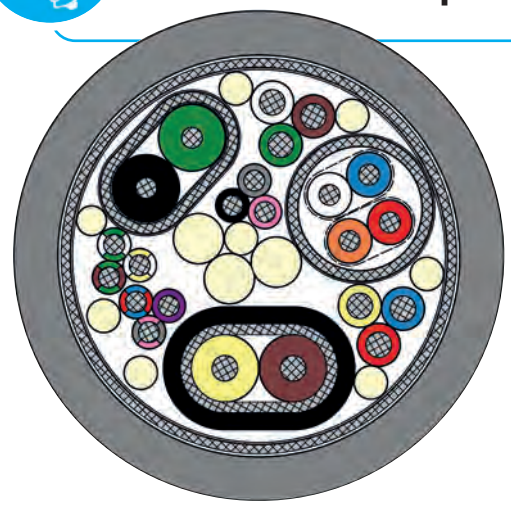
item no.	dimensions AWG/c	outer-ø inch	outer-ø mm
► 6949001	26/4pr + 18/4c	0.496	12.6

Other dimensions and colors are possible on request.

Technical Data:

Peak operating voltage	Nominal voltage	Testing voltage	Temperature range	Min. bending radius	Absence of harmful substances
4 x 2 x AWG 26: max. 350 V	4 x 1.0 mm²: 300/500 V	26 AWG/4pr: conductor/conductor 1500 V conductor/shielding 1200 V 18 AWG/4c: conductor/conductor 2000 V	flexible application: -40/+90°C	recommended: 10 x O.D.	acc. to RoHS directive of the European Union

Teach Pendant cables on request!



Our cable assembly

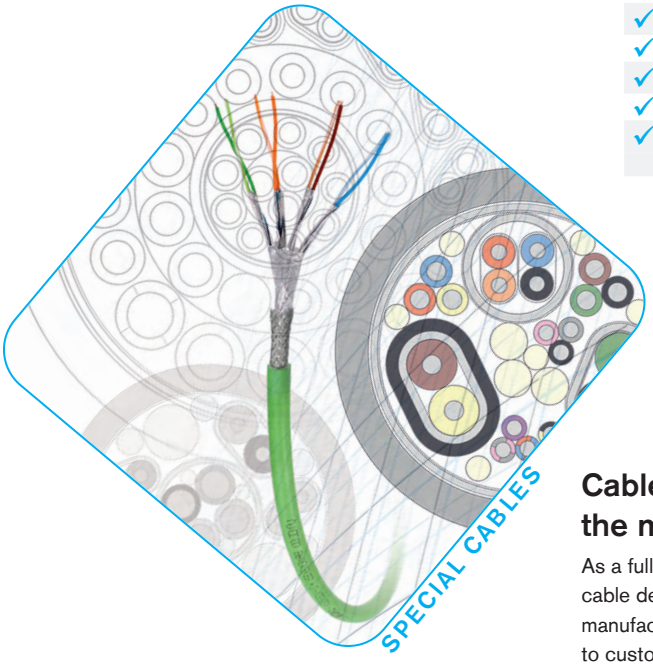
It doesn´t matter if standard or special cable assembly, we produce high-quality cables to the ready-made product with connector. A high quality standard is very important for us and achieved by quality control.

As manufacturer of ready-made cables or complete cable assemblies we offer a broad range according to application field and your special demands.

Production possibilities

Flexible cables and wires “Made in Germany”

As a leading manufacturer we develop and produce cables for industrial purposes.
Our wide range of materials offer a lot of possibilities for your individual product requirement.
The following survey shows an extract of our production possibilities:



Conductor Materials:

- ✓ bare copper
- ✓ tinned copper
- ✓ silver plated copper
- ✓ nickel plated copper
- ✓ nickel
- ✓ nickel pure
- ✓ compensating cable alloys

Insulation and Jacketing Materials:

- ✓ PVC
- ✓ Polyethylene
- ✓ Polypropylene
- ✓ Polyurethane
- ✓ TPE
- ✓ SABIX® (zero halogen)
- ✓ Besilen® - Silicone
- ✓ FEP, ETFE, PFA, PTFE
- ✓ PI foil
- ✓ Fiberglass

Temperature Ranges:

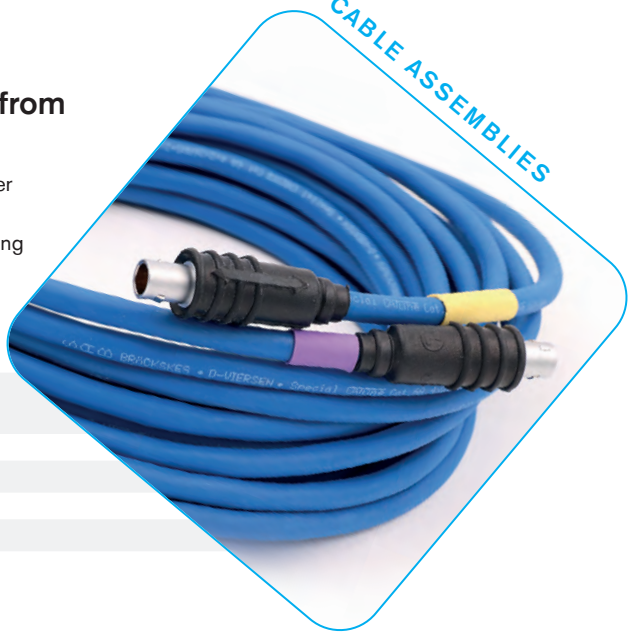
- Thermoplastic Elastomers
- ✓ -50°C up to +145°C
- SABIX®
- ✓ -50°C up to +220°C
- Besilen® - Silicone
- ✓ -40°C up to +220°C
- FEP, ETFE, PFA
- ✓ -90°C up to +260°C
- Fiberglass
- ✓ up to +600°C

Conductors:

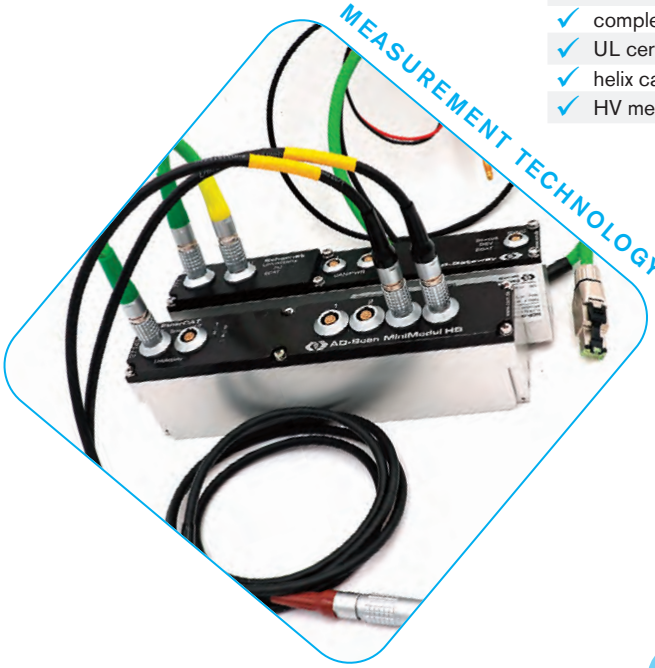
- ✓ cross sections 0.055 - 300 mm²
- ✓ unshielded and shielded over 100 conductors

Cable assemblies directly from the manufacturer SAB:

As a full service partner, we are able to offer cable design and production as well as the manufacturing of cable assemblies according to customer´s request. Please trust on our experience for decades in the treatment of cables and connectors.



- ✓ cable assemblies according to customer´s demands
- ✓ complete cable assemblies
- ✓ UL certified assemblies
- ✓ helix cables
- ✓ HV measuring assemblies



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Manufacturer of temperature sensors for industrial applications with 75 years of experience!

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March 2025