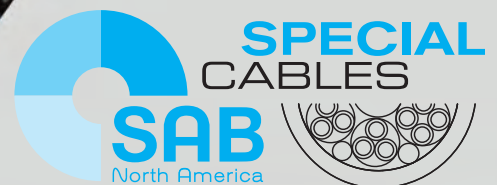


# CABLES & ACCESSORIES FOR INDUSTRIAL AUTOMATION



[www.sabcable.com](http://www.sabcable.com)  
866-722-2974 ■ [info@sabcable.com](mailto:info@sabcable.com)





# Cables & Accessories for Industrial Automation

## About Us



SAB North America is a focused supplier for the automation, aerospace, medical, high temperature, and robotics industries, providing cable and thermocouple 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



Equipment OEMs must have complete certainty that the cables they choose are suitable for their design. SAB North America provides a wide variety of safe, reliable flexible cables for use in industrial automation machinery and manufacturing. SAB has more than 75 years of experience manufacturing quality, rugged cables for challenging applications so that you can be sure that SAB cable is a safe and reliable addition to your equipment.

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

SAB's level of speed and service as a supplier is unmatched. SAB lives up to its name in not only flexible cable but also flexible manufacturing.



## 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 and grounding cables


















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# Cables & Accessories for Industrial Automation

SAB offers a variety of solutions for all your industrial automation requirements

Manufacturing & Testing	.....	2
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## FLEXIBLE WIRE & CABLE

 <b>SABControl</b>	Flexible Power & Control Cables	6
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 <b>SABVFD</b>	Variable Frequency Drive Cables	25
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 <b>SABSensor</b>		
 <b>SABDrum</b>	Hybrid & Special Cables	80
 <b>SABClean</b>		
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 <b>SABRail</b>		
 <b>SABMEDLine</b>		

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# INSIGHTS

## CABLE MANUFACTURING

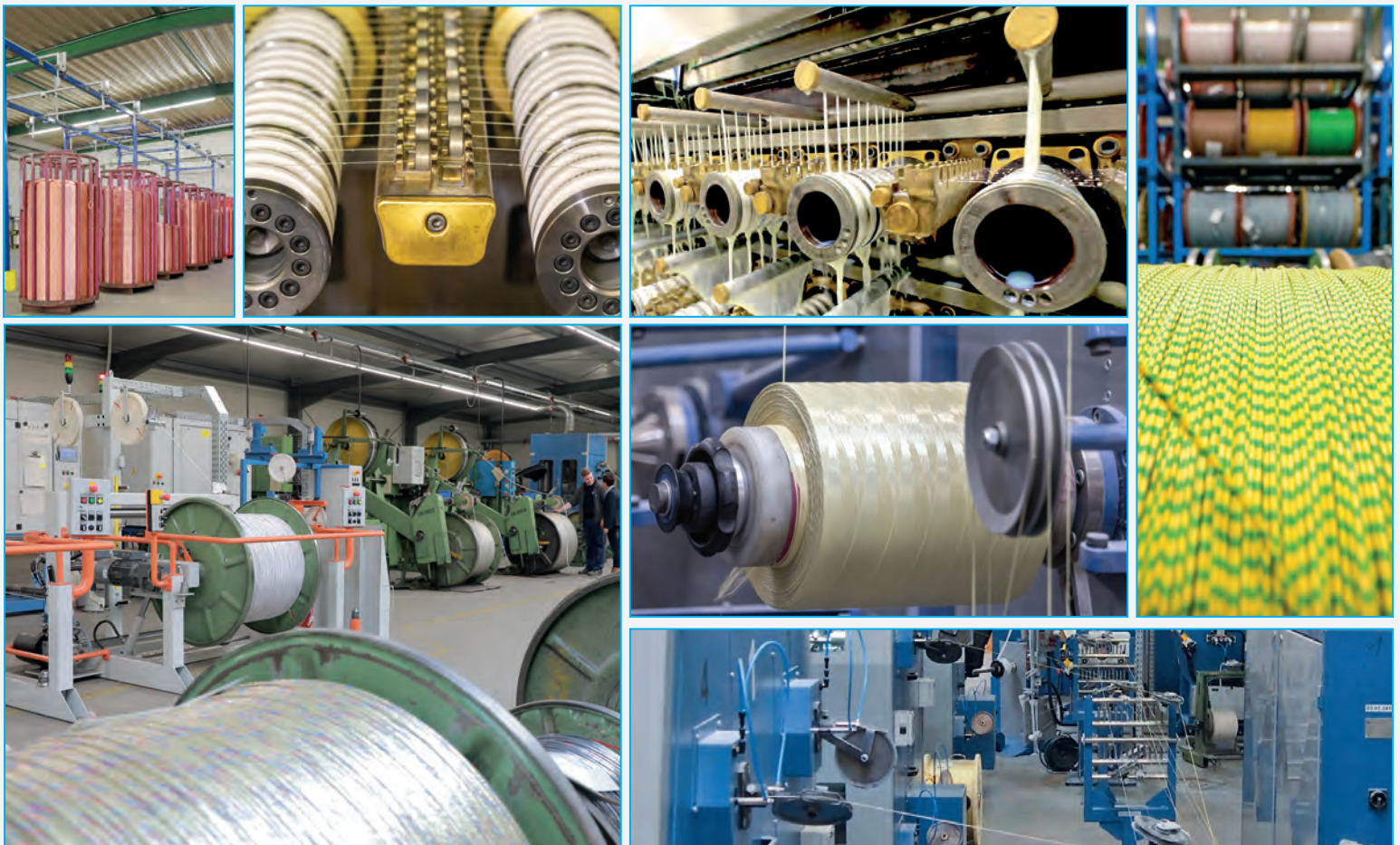
Everything starts with copper. We draw our own copper so we have complete control from the very beginning of production through extruding the overall jacket. With over 550 experienced employees worldwide, we develop, produce and market more than 1,500 special solutions annually. These, as well as our standard cables and thermocouples have been thoroughly tested in our test laboratory based on DIN norms. This gives you an indestructible product, because:



### IT DEPENDS ON THE RIGHT CONNECTION!

- *Over 75 years experience as a cable specialist*
- *Outstanding customer service*
- *Customized solutions according to your special needs*
- *Excellent quality through continuous quality control*
- *Latest innovations in the cable and temperature measurement technology in the industry*

We develop and produce high quality cables and wires as well as special solutions that are manufactured according to your individual requirements and for your application. If you do not find the appropriate cable in our catalog please contact us. We will find the solution for you.





# INSIGHTS

## TESTING

When you need a cable, there's a good chance it will have to stand up to harsh conditions. From frequent bending and flexing in moving automated machinery to exposure to liquids and temperature extremes, there are many potential causes of cable failure that can lead to equipment downtime and lost productivity. That's why your cable selection considerations should include your supplier's testing capabilities. When you partner with a cable manufacturer whose products are tested extensively, your cables will provide a longer service life to keep your equipment running.

SAB has a dedicated test lab, extensive test capabilities and expertise to both test standard cables and perform special testing when necessary, giving you the peace of mind of knowing cable failure won't stand in the way of machine productivity. We test to international standards.





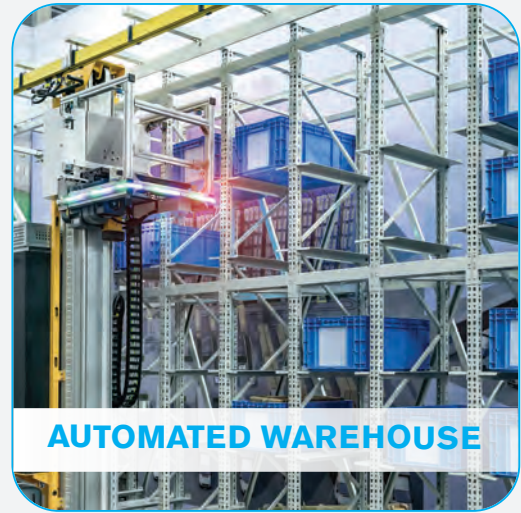
# CABLES & ACCESSORIES FOR A VARIETY OF APPLICATIONS



**AGGREGATE & CONSTRUCTION**



**AIRPORT EQUIPMENT**



**AUTOMATED WAREHOUSE**



**AUTOMOTIVE**



**CLEANROOM**



**CRANE & CONVEYOR**



**DATA**



**FOOD & BEVERAGE**



**INDUSTRIAL AUTOMATION**



# CABLES & ACCESSORIES FOR A VARIETY OF APPLICATIONS



**LIFT CONTROL**



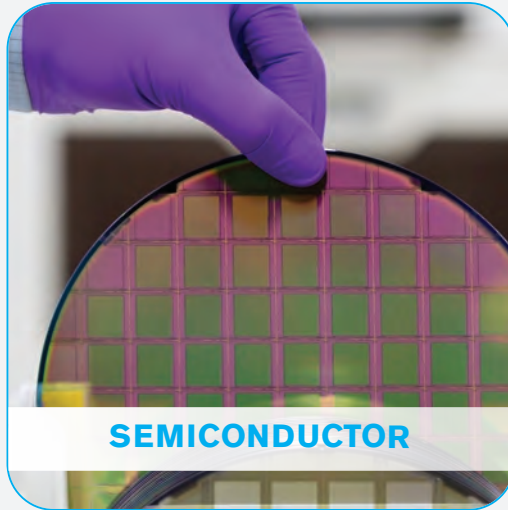
**MARINE**



**MEDICAL**



**RAILWAY**



**SEMICONDUCTOR**



**STEEL**



**TESTING & MEASUREMENT**



**THEME PARKS & RIDES**



**WASTE MANAGEMENT**



These cables are suitable for a wide range of industrial machinery and automation applications, plus food and beverage processes, conveyors and control panels. SAB's versatile highly flexible control cables resist oils and feature a tight bending radius with smaller diameters. SAB's control cable variations include harmonized hook-up wire and cordage, silicone high temperature, and halogen-free cables.





### Features:

- Flexible for easy installation
- Chemical and wash down resistant
- NFPA 79 compliant
- Abrasion and notch resistant
- Easy to crimp conductors
- Can be routed around tight bends and fit into confined spaces
- Hook-up wire & cordage per European standards





## CONTROL & CONNECTION CABLES

### PVC Control & Connection Cables

■ CC 600		Oil resistant 90°C flexible control cable with black conductors	8
■ CC 600 CY		Oil resistant 90°C flexible shielded control cable	9





### PUR Control & Connection Cables

■ CC 600 P		Oil resistant, tear resistant, flexible PUR control cable with black conductors.	10
■ CC 600 CP		Oil resistant, tear resistant, shielded flexible PUR control cable with black conductors	11



Additional control cables are available on our website and in the full line catalog (Section A)



### Hook-up wire

■ 05V-K/AWM/TEW		PVC hook-up wire, machine tool wire, thermoplastic equipment wire, 300/500 V, 26 AWG - 24 AWG	12
■ 05V-K/MTW/TEW		PVC hook-up wire tri-rated, machine tool wire, thermoplastic equipment wire, 300/500 V, 22 AWG - 18 AWG	12
■ H07V-K/MTW/TEW		Harmonized PVC hook-up wire tri-rated, machine tool wire, thermoplastic equipment wire, 450/750 V, 16 AWG - 1 AWG	12
■ 07V-K/MTW/TEW		PVC hook-up wire, machine tool wire, thermoplastic equipment wire, 450/750 V, 2/0 AWG - 4/0 AWG	12

### Halogen-free Single Conductor Cables

■ SABIX® A 147 FRNC		Low smoke, halogen-free wiring cable 600 V	13
■ SABIX® A 157 FRNC		Low smoke, halogen-free wiring cable 1000 V	13

### Heavy Duty European Standardized Cables

■ H07RN-F		Heavy duty neoprene jacketed harmonized cordage 450/750V	14
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Additional European standardized cables are available on our website and in the full line catalog (Section H)

Additional halogen-free cables are available on our website and in the full line catalog (Section K)







## SILICONE JACKETED HIGH TEMPERATURE CABLES

### Features:

- Suitable for areas with high ambient temperatures in dry, damp or wet areas
- Resist temperatures as low as -50°C
- Resist high temperatures up to +180°C for continuous operation and up to +250°C for short periods.
- Continuous flex versions available



### Silicone Jacketed High Temperature Cables with UL Recognition, CSA Approval

■ SC 600 HDTR		SABIX® insulated conductors with silicone outer jacket	15
■ SC 600 C HDTR		Shielded SABIX® insulated conductors with silicone outer jacket	16

Additional high temperature cables are available on our website and in the full line catalog (Section I)





## HALOGEN-FREE CABLES

### Features:

- Designed not to give off corrosive gases in case of fire.
- Over 30 different SABIX® compounds available to meet your specific application.



### Halogen-free Control Cables with UL Recognition, CSA Approval

■ SABIX® CC 625 FRNC M		Control cable with numbered conductors	17
■ SABIX® CC 625 S FRNC M		Control cable with numbered conductors and overall tinned copper shield	18

Additional halogen-free cables are available on our website and in the full line catalog (Section K)



# Cables for Industrial Automation

## CC 600

Oil Resistant 90°C flexible control cable with black conductors



Marking for CC 600 2041604:

SAB BRÖCKSKES · D-VIERSEN · <VDE-REG 7000> 4x1.5mm<sup>2</sup> CC 600 16 AWG/4c 2041604 AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 5
<b>Insulation:</b>	special PVC acc. to VDE and UL/CSA
<b>Color code:</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
<b>Stranding:</b>	in layers
<b>Jacket material:</b>	special oil resistant PVC acc. to VDE and UL/CSA
<b>Jacket color:</b>	gray (RAL 7000)

### Outstanding features:

- UL recognized, CSA approved
- high mechanical loading capacity
- oil resistant
- acc. to VDE-Reg no. 7000

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 300/500 V	
<b>Voltage UL/CSA:</b>	600 V	
<b>Testing voltage:</b>	conductor/conductor: 3000 V	
<b>Min. bending radius:</b>		
<i>fixed installation:</i>	4 x O.D.	
<i>free movement:</i>	6 x O.D.	
<b>Radiation resistance:</b>	8 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b>	<b>UL/CSA:</b> up to +90°C
<i>static:</i>	-40/+70°C	
<i>flexible:</i>	+5/+70°C	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2	
<b>Oil resistance:</b>	very good - TM5 acc. to EN 50363-4-1 + VDE 0207-363-4-1, Oil 60°C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210	
<b>Chemical resistance:</b>	see page O/11	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 20 AWG (≈ 16/32) • 0.50 mm<sup>2</sup></b>				
2042002	2	0.209	5.3	28
2042003	3	0.220	5.6	32
2042004	4	0.236	6.0	38
2042005	5	0.264	6.7	47
2042007	7	0.283	7.2	58
2042008	8	0.335	8.5	73
2042009	9	0.362	9.2	84
2042010	10	0.370	9.4	85
2042012	12	0.382	9.7	96
2042014	14	0.398	10.1	108
2042016	16	0.429	10.9	125
2042018	18	0.449	11.4	138
2042025	25	0.547	13.9	189
2042034	34	0.614	15.6	249
2042041	41	0.665	16.9	287
2042061	61	0.780	19.8	422
<b>▶ 18 AWG (≈ 30/32) • 1.00 mm<sup>2</sup></b>				
2041802	2	0.236	6.0	37
2041803	3	0.252	6.4	46
2041804	4	0.276	7.0	55
2041805	5	0.307	7.8	69
2041807	7	0.335	8.5	86
2041809	9	0.425	10.8	122
2041810	10	0.433	11.0	125
2041812	12	0.445	11.3	142
2041814	14	0.476	12.1	165
2041815	15	0.500	12.7	180
2041818	18	0.535	13.6	209
2041825	25	0.646	16.4	285
2041834	34	0.728	18.5	376
2041841	41	0.783	19.9	434
2041850	50	0.882	22.4	533
2041861	61	0.933	23.7	649

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 16 AWG (≈ 27-29/30) • 1.50 mm<sup>2</sup></b>				
2041602	2	0.264	6.7	48
2041603	3	0.280	7.1	58
2041604	4	0.311	7.9	73
2041605	5	0.339	8.6	88
2041607	7	0.378	9.6	115
2041608	8	0.441	11.2	140
2041609	9	0.480	12.2	162
2041610	10	0.488	12.4	165
2041612	12	0.504	12.8	189
2041615	15	0.563	14.3	229
2041618	18	0.602	15.3	277
2041625	25	0.728	18.5	382
2041630	30	0.760	19.3	448
2041634	34	0.827	21.0	511
2041641	41	0.902	22.9	597
2041650	50	0.980	24.9	714
2041661	61	1.051	26.7	880
<b>▶ 14 AWG (≈ 46/30) • 2.50 mm<sup>2</sup></b>				
2041402	2	0.319	8.1	73
2041403	3	0.339	8.6	89
2041404	4	0.374	9.5	112
2041405	5	0.417	10.6	140
2041407	7	0.457	11.6	177
2041409	9	0.587	14.9	267
2041412	12	0.618	15.7	296
2041418	18	0.736	18.7	432
2041425	25	0.909	23.1	607

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 12 AWG (≈ 52/28) • 4.00 mm<sup>2</sup></b>				
2041203	3	0.402	10.2	132
2041204	4	0.445	11.3	165
2041205	5	0.496	12.6	204
2041207	7	0.547	13.9	267
2041212	12	0.740	18.8	447
<b>▶ 10 AWG (≈ 78/28) • 6.00 mm<sup>2</sup></b>				
2041003	3	0.476	12.1	191
2041004	4	0.520	13.2	236
2041005	5	0.587	14.9	296
2041007	7	0.669	17.0	403
<b>▶ 8 AWG (≈ 69/26)</b>				
2040803	3	0.618	15.7	333
2040804	4	0.689	17.5	411
2040805	5	0.768	19.5	503
<b>▶ 6 AWG (≈ 110/26)</b>				
2040604	4	0.839	21.3	632
2040605	5	0.945	24.0	799
<b>▶ 4 AWG (≈ 175/26)</b>				
2040404	4	1.043	26.5	985
<b>▶ 2 AWG (≈ 272/26)</b>				
2040204	4	1.197	30.4	1349
<b>▶ 1 AWG (≈ 342/26)</b>				
2040104	4	1.374	34.9	1902

2 conductor cable does not have ground  
Other dimensions and colors are available on request



also available with blue, red or orange conductors and black or orange jacket



# Cables for Industrial Automation

## CC 600 CY

Oil Resistant 90°C flexible shielded control cable



Marking for CC 600 CY 2591804:

SAB BRÖCKSKES · D-VIERSEN · <VD-REG 7000> 4x1.0mm<sup>2</sup> CC 600 CY 18 AWG/4c 2591804 AWM Style 21216 90°C 600V Oil 60°C CSA AWM I/II A/B 90°C F 600V FT1 FT2

### Construction:

<b>Conductor:</b> AWG 20 - 10:	bare copper strands acc. to IEC 60228, VDE 0295, class 5
AWG 8 - 1:	bare copper strands acc. to UL/CSA
<b>Insulation:</b>	special PVC acc. to VDE and UL/CSA
<b>Color code:</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
<b>Stranding:</b>	in layers
<b>Inner Jacket:</b>	special PVC acc. to VDE and UL/CSA
<b>Shielding:</b>	tinned copper braiding
<b>Jacket material:</b>	special oil resistant PVC acc. to VDE and UL/CSA
<b>Jacket color:</b>	gray (RAL 7000)

### Outstanding features:



- UL recognized, CSA approved
- high mechanical loading capacity
- oil resistant
- AWG 20 - AWG 10:  
built acc. to VDE-Reg. no. 7000

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 300/500 V	
<b>Voltage UL/CSA:</b>	600 V	
<b>Testing voltage:</b>	conductor/conductor:	3000 V
	conductor/shielding:	2000 V
<b>Min. bending radius:</b>		
<i>fixed installation:</i>	5 x O.D.	
<i>free movement:</i>	10 x O.D.	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b>	<b>UL/CSA:</b> up to +90°C
<i>static:</i>	-40/+70°C	
<i>flexible:</i>	+5/+70°C	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2	
<b>Oil resistance:</b>	very good - TM5 acc. to DIN VDE 0281 part 1 + HD 21.1, Oil 60°C acc. to UL 758, Fuel Oil acc. to CSA-C 22.2 No. 210	
<b>Chemical resistance:</b>	see page O/11	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 20 AWG (≈ 16/32) • 0.50 mm<sup>2</sup></b>				
2592002	2	0.291	7.4	55
2592003	3	0.311	7.9	64
2592004	4	0.331	8.4	73
2592005	5	0.358	9.1	85
2592007	7	0.378	9.6	98
2592010	10	0.469	11.9	148
2592012	12	0.492	12.5	163
2592025	25	0.657	16.7	288
<b>▶ 18 AWG (≈ 30/32) • 1.0 mm<sup>2</sup></b>				
2591802	2	0.327	8.3	71
2591803	3	0.339	8.6	79
2591804	4	0.370	9.4	95
2591805	5	0.402	10.2	117
2591807	7	0.437	11.1	140
2591809	9	0.535	13.6	195
2591812	12	0.555	14.1	218
2591818	18	0.642	16.3	310
2591825	25	0.772	19.6	411

item no.	no. of conductors incl. ground	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 16 AWG (≈ 27-29/30) • 1.50 mm<sup>2</sup></b>				
2591602	2	0.358	9.1	87
2591603	3	0.374	9.5	98
2591604	4	0.406	10.3	122
2591605	5	0.433	11.0	144
2591607	7	0.480	12.2	176
2591612	12	0.614	15.6	274
2591618	18	0.724	18.4	394
2591625	25	0.878	22.3	548
<b>▶ 14 AWG (≈ 46/30) • 2.50 mm<sup>2</sup></b>				
2591403	3	0.441	11.2	144
2591404	4	0.476	12.1	172
2591405	5	0.520	13.2	206
2591407	7	0.567	14.4	256
2591412	12	0.744	18.9	418
2591418	18	0.874	22.2	585
2591425	25	1.028	26.1	773

item no.	no. of conductors incl. ground	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 12 AWG (≈ 52/28) • 4.00 mm<sup>2</sup></b>				
2591203	3	0.512	13.0	201
2591204	4	0.555	14.1	243
2591205	5	0.602	15.3	285
2591207	7	0.665	16.9	372
<b>▶ 10 AWG (≈ 78/28) • 6.00 mm<sup>2</sup></b>				
2591003	3	0.587	14.9	273
2591004	4	0.630	16.0	323
2591005	5	0.705	17.9	406
2591007	7	0.772	19.6	511
<b>▶ 8 AWG (≈ 69/26)</b>				
2590804	4	0.807	20.5	531
<b>▶ 6 AWG (≈ 110/26)</b>				
2590604	4	0.957	24.3	746
<b>▶ 4 AWG (≈ 175/26)</b>				
2590404	4	1.157	29.4	1144
<b>▶ 2 AWG (≈ 272/26)</b>				
2590204	4	1.346	34.2	1564
<b>▶ 1 AWG (≈ 342/26)</b>				
2590104	4	1.441	36.6	1882

2 conductor cable does not have ground  
Other dimensions and colors are available on request



also available with blue, red or orange conductors and black or orange jacket



# Cables for Industrial Automation

## CC 600 P

Oil resistant, tear resistant, flexible polyurethane control cable with black conductors



21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE



Marking for CC 600 P 2611604:

SAB BRÖCKSKES · D-VIERSEN · 2610415 4x1.5mm<sup>2</sup> CC 600 P 16 AWG/4c 2611604 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 5
<b>Insulation:</b>	PVC, Tl2 acc. to EN 50363-3 + VDE 0207-363-3
<b>Color code:</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
<b>Stranding:</b>	in layers
<b>Inner jacket:</b>	from 12 AWG: PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
<b>Jacket material:</b>	PU acc. to UL 758
<b>Jacket color:</b>	gray (RAL 7000)

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 300/500 V	
<b>Voltage UL/CSA:</b>	600 V	
<b>Testing voltage:</b>	conductor/conductor: 2000 V	
<b>Min. bending radius:</b>		
<i>fixed installation:</i>	4 x O.D.	
<i>free movement:</i>	6 x O.D.	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b>	<b>UL/CSA:</b> up to +80°C
<i>static:</i>	-40/+70°C	
<i>flexible:</i>	+5/+70°C	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2	
<b>Oil resistance:</b>	very good - oil rating 60° C acc to UL 1581	
<b>Chemical resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids etc.	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

### Outstanding features:



- UL recognized, CSA approved
- oil resistant
- abrasion resistant
- notch resistant
- good chemical resistance

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 20 AWG (≈ 16/32) • 0.50 mm<sup>2</sup></b>				
2612002	2	0.244	6.2	32
2612003	3	0.252	6.4	38
2612004	4	0.268	6.8	44
2612005	5	0.291	7.4	53
2612007	7	0.311	7.9	65
2612012	12	0.398	10.1	97
2612018	18	0.457	11.6	136
2612025	25	0.539	13.7	178
2612034	34	0.598	15.2	233
2612050	50	0.709	18.0	331
<b>▶ 18 AWG (≈ 30/32) • 1.00 mm<sup>2</sup></b>				
2611802	2	0.272	6.9	43
2611803	3	0.280	7.1	51
2611804	4	0.303	7.7	61
2611805	5	0.327	8.3	74
2611807	7	0.378	9.6	99
2611812	12	0.453	11.5	139
2611818	18	0.528	13.4	200
2611825	25	0.630	16.0	267
2611830	30	0.657	16.7	312
2611834	34	0.709	18.0	355
2611842	42	0.756	19.2	431
2611850	50	0.886	22.5	542

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 16 AWG (≈ 27-29/30) • 1.50 mm<sup>2</sup></b>				
2611602	2	0.295	7.5	53
2611603	3	0.307	7.8	65
2611604	4	0.331	8.4	78
2611605	5	0.358	9.1	94
2611607	7	0.417	10.6	128
2611612	12	0.504	12.8	182
2611618	18	0.587	14.9	263
2611625	25	0.709	18.0	360
2611630	30	0.732	18.6	420
2611634	34	0.791	20.1	528
2611642	42	0.902	22.9	629
2611650	50	0.984	25.0	726
<b>▶ 14 AWG (≈ 46/30) • 2.50 mm<sup>2</sup></b>				
2611402	2	0.343	8.7	75
2611403	3	0.358	9.1	94
2611404	4	0.386	9.8	114
2611405	5	0.421	10.7	140
2611407	7	0.496	12.6	194
2611412	12	0.602	15.3	277
2611418	18	0.717	18.2	412
2611425	25	0.913	23.2	595

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 12 AWG (≈ 52/28) • 4.00 mm<sup>2</sup></b>				
2611203	3	0.469	11.9	157
2611204	4	0.512	13.0	194
2611205	5	0.547	13.9	230
<b>▶ 10 AWG (≈ 78/28) • 6.00 mm<sup>2</sup></b>				
2611004	4	0.579	14.7	264
2611005	5	0.634	16.1	324
<b>▶ 8 AWG (≈ 69/26)</b>				
2610804	4	0.728	18.5	433

2 conductor cable does not have ground  
Other dimensions and colors are available on request



also available with blue or red conductors and black or orange jacket

# Cables for Industrial Automation

## CC 600 CP

Oil resistant, tear resistant, shielded flexible polyurethane control cable with black conductors



Marking for CC 600 CP 2811604:

SAB BRÖCKSKES · D-VIERSEN · 2810415 4x1.5mm<sup>2</sup> CC 600 CP 16 AWG/4c 2811604 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 5
<b>Insulation:</b>	PVC, T12 acc. to EN 50363-3 + VDE 0207-363-3
<b>Color code:</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
<b>Stranding:</b>	in layers
<b>Wrapping:</b>	PETP foil
<b>Shielding:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Jacket materials:</b>	PU acc. to UL 758
<b>Jacket color:</b>	gray (RAL 7000)

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 300/500 V	
<b>Voltage UL/CSA:</b>	600 V	
<b>Testing voltage:</b>	conductor/conductor: 2000 V conductor/shielding: 2000 V	
<b>Min. bending radius:</b>	<i>fixed installation:</i> 5 x O.D. <i>free movement:</i> 10 x O.D.	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b> -40/+70°C <i>flexible:</i> +5/+70°C	<b>UL/CSA:</b> up to +80°C
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 UL VW-1, CSA FT1, FT2	
<b>Oil resistance:</b>	very good - oil rating 60° C acc to UL 1581	
<b>Chemical resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids etc.	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

### Outstanding features:



- UL recognized, CSA approved
- oil resistant
- abrasion resistant
- notch resistant
- good chemical resistance

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 20 AWG (≈ 16/32) ▪ 0.50 mm<sup>2</sup></b>				
2812002	2	0.264	6.7	42
2812003	3	0.276	7.0	47
2812004	4	0.291	7.4	54
2812005	5	0.315	8.0	64
2812007	7	0.335	8.5	75
2812012	12	0.417	10.6	112
2812018	18	0.488	12.4	165
2812025	25	0.567	14.4	211
<b>▶ 19 AWG (≈ 23/32) ▪ 0.75 mm<sup>2</sup></b>				
2811902	2	0.283	7.2	48
2811903	3	0.295	7.5	55
2811904	4	0.315	8.0	64
2811905	5	0.339	8.6	75
2811907	7	0.390	9.9	99
2811912	12	0.465	11.8	147
2811918	18	0.531	13.5	200
2811925	25	0.646	16.4	278

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 18 AWG (≈ 30/32) ▪ 1.00 mm<sup>2</sup></b>				
2811802	2	0.291	7.4	53
2811803	3	0.303	7.7	61
2811804	4	0.327	8.3	72
2811805	5	0.350	8.9	85
2811807	7	0.402	10.2	113
2811809	9	0.457	11.6	135
2811812	12	0.480	12.2	167
2811818	18	0.555	14.1	233
2811825	25	0.669	17.0	324
2811850	50	0.917	23.3	595
<b>▶ 16 AWG (≈ 27-29/30) ▪ 1.50 mm<sup>2</sup></b>				
2811603	3	0.331	8.4	75
2811604	4	0.354	9.0	89
2811605	5	0.382	9.7	107
2811607	7	0.449	11.4	151
2811612	12	0.531	13.5	212
2811618	18	0.634	16.1	319
2811625	25	0.744	18.9	421

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 14 AWG (≈ 46/30) ▪ 2.50 mm<sup>2</sup></b>				
2811403	3	0.382	9.7	106
2811404	4	0.409	10.4	127
2811405	5	0.453	11.5	161
2811407	7	0.528	13.4	219
2811409	9	0.614	15.6	265
2811412	12	0.650	16.5	333
2811418	18	0.752	19.1	473
2811425	25	0.949	24.1	667
<b>▶ 12 AWG (≈ 52/28) ▪ 4.00 mm<sup>2</sup></b>				
2811203	3	0.445	11.3	156
2811204	4	0.480	12.2	189
2811205	5	0.524	13.3	228
<b>▶ 10 AWG (≈ 78/28) ▪ 6.00 mm<sup>2</sup></b>				
2811003	3	0.516	13.1	217
2811004	4	0.559	14.2	265
2811005	5	0.618	15.7	335
<b>▶ 8 AWG (≈ 69/26)</b>				
2810804	4	0.748	19.0	465

2 conductor cable does not have ground

Other dimensions and colors are available on request



**Drain wire available upon request.**  
Also available with blue or red conductors and black or orange jacket



# Cables for Industrial Automation

**05V-K**

PVC hook-up wire tri-rated, 300/500 V

**H07V-K/MTW/TEW**

Harmonized PVC hook-up wire tri-rated, 450/750 V

**07V-K/MTW/TEW**

PVC hook-up wire tri-rated, 450/750 V



00V AWM Style 1015/10519 105°C 600V VW-1 CSA Type TEW 105°C 600V FT1 CE



Marking for H07V-K/MTW/TEW 31670182:

SAB BRÖCKSKES · D-VIERSEN · H07V-K 1.5mm<sup>2</sup> 16 AWG (UL) Type MTW 600V AWM Style 1015/10519 105°C 600V VW-1 CSA Type TEW 105°C 600V FT1 CE

## Construction:

<b>Conductor:</b>	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
<b>Insulation:</b>	PVC, T12 acc. to EN 50363-3 + VDE 0207-363-3
<b>Color code:</b>	see color code chart below

## Outstanding features:

- flexing single conductor
- harmonized acc. to European standards
- MTW (Machine Tool Wire)
- TEW (Thermoplastic Equipment Wire)
- 05V-K, H07V-K & 07V-K:  
with reference to BS 6231 type BK
- NFPA 79 for industrial machinery
- 20, 19, 18, 6 to 4/0 AWG insulation  
thickness is larger than HAR  
specification. (now marked 07V-K)

## Technical data:

<b>Nominal voltage:</b>	<b>05V-K</b> U <sub>0</sub> /U 300/500 V	<b>H07V-K &amp; 07V-K</b> U <sub>0</sub> /U 450/750 V
<b>Voltage UL/CSA:</b>	600 V	
<b>Testing voltage:</b>	<b>05V-K</b> 2000 V	<b>H07V-K &amp; 07V-K</b> 2500 V
<b>Min. bending radius:</b>	4 x O.D.	
<b>Temperature range:</b>	<b>DIN VDE</b> static: flexible:	<b>UL-AWM/CSA</b> up to +105°C up to +105°C
		<b>(UL) MTW</b> up to +90°C up to +90°C
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1	
<b>Approvals:</b>	<b>05V-K/MTW/TEW:</b> 26 - 24 AWG: UR AWM, CSA, CE, RoHS 22 - 18 AWG: UL MTW, UR AWM, CSA, CE, RoHS <b>H07V-K/MTW/TEW:</b> 16 - 8 AWG: HAR, UL MTW, UR AWM, CSA, CE, RoHS <b>07V-K/MTW/TEW:</b> 6 - 4/0 AWG: UL MTW, UR AWM, CSA, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

### 300/500V

#### 05V-K/AWM/TEW - UR AWM/CSA/CE

item no.	mm <sup>2</sup>	AWG	outer-ø		cable weight ≈lbs/mt
			inch	mm	
▶ 3166 .. 14	0.14	26 (≈ 18/38)	0.079	2.0	4
▶ 3166 .. 25	0.25	24 (≈ 14/34)	0.087	2.2	5

Other colors are available on request

#### 05V-K/MTW/TEW - UL MTW/UR AWM/CSA/CE

item no.	mm <sup>2</sup>	AWG	outer-ø		cable weight ≈lbs/mt
			inch	mm	
▶ 3166 .. 34	0.34	22 (≈ 7/30)	0.091	2.3	5
▶ 3166 .. 50	0.50	20 (≈ 16/32)	0.098	2.5	7
▶ 3166 .. 75	0.75	19 (≈ 23/32)	0.106	2.7	9
▶ 3166 .. 80	1.00	18 (≈ 30/32)	0.110	2.8	10

Other colors are available on request

#### Color code for single conductors:

01 = black	06 = green <sup>1</sup>	16 = dark blue
02 = blue	07 = violet	17 = pink
03 = brown	08 = white	27 = green/yellow
04 = gray	09 = orange	32 = blue/white <sup>1</sup>
05 = yellow <sup>1</sup>	11 = red	63 = white/blue <sup>1</sup>

<sup>1</sup> Not <HAR> approved for all sizes for these colors

### 450/750V

#### H07V-K/MTW/TEW - HAR/UL MTW/UR AWM/CSA/CE

item no.	mm <sup>2</sup>	AWG	outer-ø		cable weight ≈lbs/mt
			inch	mm	
▶ 3167 .. 82	1.50	16 (≈ 27/30)	0.122	3.1	13
▶ 3167 .. 84	2.50	14 (≈ 46/30)	0.142	3.6	20
▶ 3167 .. 86	4.00	12 (≈ 52/28)	0.165	4.2	30
▶ 3167 .. 87	6.00	10 (≈ 78/28)	0.185	4.7	42
▶ 3167 .. 88	10.00	8 (≈ 77/26)	0.260	6.6	76

Other colors are available on request

#### 07V-K/MTW/TEW - UL MTW/UR AWM/CSA/CE

item no.	mm <sup>2</sup>	AWG	outer-ø		cable weight ≈lbs/mt
			inch	mm	
▶ 3167 .. 89	16.00	6 (≈ 122/26)	0.331	8.4	126
▶ 3167 .. 90	25.00	4 (≈ 190/26)	0.398	10.1	181
▶ 3167 .. 91	35.00	2 (≈ 272/26)	0.453	11.5	251
▶ 3167 .. 92	50.00	1 (≈ 400/26)	0.543	13.8	371
▶ 3167 .. 93	70.00	2/0 (≈ 543/26)	0.634	16.1	494
▶ 3167 .. 94	95.00	3/0 (≈ 484/24)	0.717	18.2	659
▶ 3167 .. 95	120.00	4/0 (≈ 589/24)	0.791	20.1	808

Other colors are available on request

# Cables for Industrial Automation

**SABIX® A 147 FRNC** Wiring cable 600 V

**SABIX® A 157 FRNC** Wiring cable 1000 V



A 147 FRNC 300/500V 0.5 mm<sup>2</sup> 20 AWG AWM Style 10528 75°C 600V CE



Marking for SABIX® A 147 FRNC 61470150:

SAB BRÖCKSKES · D-VIERSEN · SABIX® A 147 FRNC 300/500V 0.5 mm<sup>2</sup> 20 AWG AWM Style 10528 75°C 600V CE

## Construction:

<b>Conductor:</b>	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
<b>Insulation:</b>	SABIX®
<b>Color code:</b>	colored, see table below

## Technical data:

<b>Nominal voltage:</b>	<b>SABIX® A 147 FRNC:</b> 20 - 18 AWG U <sub>0</sub> /U 300/500 V	<b>SABIX® A 157 FRNC:</b> 16 AWG - 550 MCM U <sub>0</sub> /U 450/750 V
<b>Voltage UL:</b>	<b>SABIX® A 147 FRNC:</b> 20 - 18 AWG 600 V	<b>SABIX® A 157 FRNC:</b> 16 AWG - 550 MCM 1000 V
<b>Testing voltage:</b>	<b>SABIX® A 147 FRNC:</b> 2000 V	<b>SABIX® A 157 FRNC:</b> 2500 V
<b>Min. bending radius: For one single bend:</b>	7.5 x O.D. 5 x O.D.	
<b>Temperature range:</b> <i>static:</i> <i>flexible:</i>	<b>DIN/VDE:</b> -40/+90°C -30/+90°C	<b>UL:</b> up to +75°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Burning characteristics:</b>	No flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	
<b>Corrosivity:</b>	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	
<b>Smoke density:</b>	acc. to IEC 61034 + VDE 0482-1034	
<b>Flexibility:</b>	good	
<b>Approvals:</b>	UR AWM, CE, EAC, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog	

## Outstanding features:

- low smoke halogen-free (LSHF)
- no flame propagation
- flame retardant and self-extinguishing
- UL recognition

## SABIX® A 147 FRNC

item no.	mm <sup>2</sup>	AWG	nominal outer-ø		cable weight
			inch ±5%	mm ±5%	≈lbs/mft
▶ 6147 .. 50	0.50	20 (≈ 16/32)	0.098	2.5	8
▶ 6147 .. 75	0.75	19 (≈ 23/32)	0.110	2.8	9
▶ 6147 .. 80	1.00	18 (≈ 30/32)	0.114	2.9	11

Other dimensions and colors are available on request

## SABIX® A 157 FRNC

item no.	mm <sup>2</sup>	AWG MCM	nominal outer-ø		cable weight
			inch ±5%	mm ±5%	≈lbs/mft
▶ 6157 .. 82	1.50	16 (≈ 27-29/30)	0.126	3.2	15
▶ 6157 .. 84	2.50	14 (≈ 46/30)	0.142	3.6	22
▶ 6157 .. 86	4.00	12 (≈ 52/28)	0.169	4.3	31
▶ 6157 .. 87	6.00	10 (≈ 78/28)	0.217	5.5	50
▶ 6157 .. 88	10.00	8 (≈ 77/26)	0.264	6.7	79
▶ 6157 .. 89	16.00	6 (≈ 122/26)	0.346	8.8	129
▶ 6157 .. 90	25.00	4 (≈ 190/26)	0.402	10.2	189
▶ 6157 .. 91	35.00	2 (≈ 272/26)	0.500	12.7	278
▶ 6157 .. 92	50.00	1 (≈ 400/26)	0.547	13.9	385
▶ 6157 .. 93	70.00	2/0 (≈ 543/26)	0.642	16.3	521
▶ 6157 .. 94	95.00	3/0 (≈ 484/24)	0.724	18.4	678
▶ 6157 .. 95	120.00	4/0 (≈ 589/24)	0.823	20.9	839
▶ 6157 .. 96	150.00	250 (≈ 740/24)	0.882	22.4	1029
▶ 6157 .. 97	185.00	350 (≈ 902/24)	0.984	25.0	1269
▶ 6157 .. 98	240.00	450 (≈ 1220/24)	1.114	28.3	1662
▶ 6157 .. 99	300.00	550 (≈ 1525/24)	1.220	31.0	2058

Other dimensions and colors are available on request

### Color code for single conductors:

01 = black	07 = violet
02 = blue	08 = white
03 = brown	09 = orange
04 = gray	11 = red
05 = yellow	16 = gentian blue
06 = green	27 = green/yellow



# Cables for Industrial Automation

## H07RN-F

Heavy duty neoprene jacketed harmonized cordage 450/750 V



HAR CE RoHS

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, EN 60228, class 5
<b>Insulation:</b>	synthetic rubber, Type E14
<b>Color code:</b>	HD 308 (VDE 0293-0308)
<b>Stranding:</b>	from 2 conductors stranded in layers
<b>Jacket material:</b>	synthetic rubber, EM2
<b>Jacket color:</b>	black

### Technical data:

<b>Nominal voltage:</b>	Uo/U 450/750 V
<b>Testing voltage:</b>	2500 V
<b>Min. bending radius:</b>	6 x O.D.
<b>Temperature range:</b>	-25/+60°C
<b>Approvals:</b>	HAR, CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30

### Outstanding features:



- harmonized to European standards
- high mechanical loading capacity
- UV resistant

item no.	no. of conductors incl. ground	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft
<b>▶ 18 AWG (≈ 30/32) ▪ 1.00 mm<sup>2</sup></b>				
39550210	2	0.295	7.5	54
39550310	3	0.327	8.3	64
39550410	4	0.354	9.0	81
39550510	5	0.386	9.8	97
<b>▶ 16 AWG (≈ 27-29/30) ▪ 1.50 mm<sup>2</sup></b>				
39550215	2	0.327	8.3	67
39550315	3	0.362	9.2	84
39550415	4	0.406	10.3	108
39550515	5	0.437	11.1	128
<b>▶ 14 AWG (≈ 46/30) ▪ 2.50 mm<sup>2</sup></b>				
39550225	2	0.386	9.8	97
39550325	3	0.429	10.9	124
39550425	4	0.469	11.9	155
39550525	5	0.520	13.2	188
<b>▶ 12 AWG (≈ 52/28) ▪ 4.00 mm<sup>2</sup></b>				
39550240	2	0.429	10.9	131
39550340	3	0.488	12.4	175
39550440	4	0.543	13.8	215
39550540	5	0.602	15.3	269
<b>▶ 10 AWG (≈ 78/28) ▪ 6.00 mm<sup>2</sup></b>				
39550160	1	0.323	8.2	74
39550260	2	0.488	12.4	178
39550360	3	0.567	14.4	235
39550460	4	0.614	15.6	292
39550560	5	0.697	17.7	366

item no.	no. of conductors incl. ground	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft
<b>▶ 8 AWG (≈ 77/26) ▪ 10.00 mm<sup>2</sup></b>				
39550161	1	0.394	10.0	114
39550261	2	0.689	17.5	326
39550361	3	0.764	19.4	420
39550461	4	0.843	21.4	517
39550561	5	0.933	23.7	635
<b>▶ 6 AWG (≈ 122/26) ▪ 16.00 mm<sup>2</sup></b>				
39550162	1	0.441	11.2	158
39550262	2	0.768	19.5	437
39550362	3	0.858	21.8	575
39550462	4	0.957	24.3	722
39550562	5	1.059	26.9	887
<b>▶ 4 AWG (≈ 190/26) ▪ 25.00 mm<sup>2</sup></b>				
39550163	1	0.520	13.2	235
39550263	2	0.976	24.8	679
39550363	3	1.024	26.0	843
39550463	4	1.161	29.5	1089
39550563	5	1.295	32.9	1341
<b>▶ 2 AWG (≈ 272/26) ▪ 35.00 mm<sup>2</sup></b>				
39550164	1	0.579	14.7	312
39550364	3	1.150	29.2	1112
39550464	4	1.280	32.5	1415
<b>▶ 1 AWG (≈ 400/26) ▪ 50.00 mm<sup>2</sup></b>				
39550165	1	0.669	17.0	423
39550365	3	1.319	33.5	1502
39550465	4	1.472	37.4	1932

item no.	no. of conductors incl. ground	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft
<b>▶ 2/0 AWG (≈ 543/26) ▪ 70.00 mm<sup>2</sup></b>				
39550166	1	0.744	18.9	564
39550366	3	1.469	37.3	1996
39550466	4	1.646	41.8	2570
<b>▶ 3/0 AWG (≈ 484/24) ▪ 95.00 mm<sup>2</sup></b>				
39550167	1	0.843	21.4	739
39550367	3	1.732	44.0	2644
39550467	4	1.866	47.4	3347
<b>▶ 4/0 AWG (≈ 589/24) ▪ 120.00 mm<sup>2</sup></b>				
39550168	1	0.933	23.7	921
<b>▶ 250 MCM (≈ 740/24) ▪ 150.00 mm<sup>2</sup></b>				
39550169	1	1.016	25.8	1132
<b>▶ 350 MCM (≈ 902/24) ▪ 185.00 mm<sup>2</sup></b>				
39550170	1	1.106	28.1	1371
<b>▶ 450 MCM (≈ 1220/24) ▪ 240.00 mm<sup>2</sup></b>				
39550171	1	1.232	31.3	1757
<b>▶ 550 MCM (≈ 1525/24) ▪ 300.00 mm<sup>2</sup></b>				
39550172	1	1.358	34.5	2201

Other dimensions and colors are available on request

### HD 308 color code: up to 5 conductors

- 1c cable: natural
- 2c cable: blue, brown
- 3c cable: green/yellow, blue, brown
- 4c cable: green/yellow, brown, black, gray
- 5c cable: green/yellow, blue, brown, black, gray

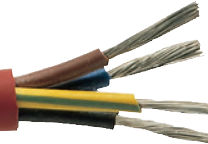
# Cables for Industrial Automation

## SC 600 HDTR

SABIX® insulated conductors with silicone outer jacket



535 150°C 600V CSA AWM I/II A 150°C 600V FT1 FT2 CE



Marking for SC 600 HDTR 01271804:

SAB BRÖCKSKES · D-VIERSEN · SC 600 HDTR AWM Style 4535 150°C 600V CSA AWM I/II A 150°C 600V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
<b>Insulation:</b>	SABIX®
<b>Color code:</b>	colored acc. to HD 308 (VDE 0293-308) see below, from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors- a green/yellow ground
<b>Stranding:</b>	in layers
<b>Jacket material:</b>	Besilen® better than EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
<b>Jacket color:</b>	reddish brown (similar RAL 3016)

### Outstanding features:

- halogen-free
- flexible at low temperatures
- heat resistant
- UL recognized and CSA approved

### Technical data:

<b>Nominal voltage:</b>	Uo/U 300/500 V	
<b>Voltage UL/CSA:</b>	600 V	
<b>Testing voltage:</b>	conductor/conductor: 2000 V	
<b>Min. bending radius:</b>	fixed installation: free movement:	
	4 x O.D. 6 x O.D.	
<b>Radiation resistance:</b>	2 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b>	<b>UL/CSA:</b>
<i>static:</i>	-40/+180°C +200°C (2000h)	up to +150°C Style 4535
<i>flexible:</i>	-25/+180°C	
<i>short-term use:</i>	+250°C	
<b>Halogen-free</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1, FT2	
<b>Corrosivity:</b>	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, EAC, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog	

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
<b>▶ 20 AWG (≈ 16/32) • 0.50 mm<sup>2</sup></b>				
01272002	2	0.220	5.6	26
01272003	3	0.232	5.9	30
01272004	4	0.248	6.3	36
01272005	5	0.272	6.9	42
01272007	7	0.295	7.5	53
01272008	8	0.339	8.6	61
01272010	10	0.366	9.3	73
01272012	12	0.378	9.6	83
01272016	16	0.417	10.6	105
01272018	18	0.441	11.2	117
01272024	24	0.516	13.1	161
<b>▶ 19 AWG (≈ 23/32) • 0.75 mm<sup>2</sup></b>				
01271902	2	0.232	5.9	31
01271903	3	0.252	6.4	36
01271904	4	0.272	6.9	44
01271905	5	0.299	7.6	52
01271907	7	0.323	8.2	66
01271908	8	0.374	9.5	76
01271910	10	0.406	10.3	91
01271912	12	0.417	10.6	104
01271916	16	0.465	11.8	132
01271918	18	0.492	12.5	148
01271924	24	0.583	14.8	206
<b>▶ 18 AWG (≈ 30/32) • 1.00 mm<sup>2</sup></b>				
01271802	2	0.248	6.3	34
01271803	3	0.260	6.6	42
01271804	4	0.283	7.2	50
01271805	5	0.307	7.8	60
01271807	7	0.335	8.5	77
01271808	8	0.386	9.8	89
01271810	10	0.421	10.7	106
01271812	12	0.433	11.0	122
01271816	16	0.480	12.2	157
01271818	18	0.512	13.0	176
01271824	24	0.626	15.9	255

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
<b>▶ 16 AWG (≈ 27-29/30) • 1.50 mm<sup>2</sup></b>				
01271602	2	0.280	7.1	46
01271603	3	0.295	7.5	56
01271604	4	0.315	8.0	67
01271605	5	0.350	8.9	81
01271607	7	0.382	9.7	105
01271608	8	0.449	11.4	122
01271610	10	0.496	12.6	150
01271612	12	0.512	13.0	173
01271616	16	0.583	14.8	229
01271618	18	0.614	15.6	255
01271624	24	0.724	18.4	339
<b>▶ 14 AWG (≈ 46/30) • 2.50 mm<sup>2</sup></b>				
01271402	2	0.335	8.5	68
01271403	3	0.354	9.0	85
01271404	4	0.386	9.8	104
01271405	5	0.437	11.1	129
01271407	7	0.476	12.1	168
01271408	8	0.563	14.3	197
01271410	10	0.622	15.8	241
01271412	12	0.642	16.3	279
01271416	16	0.720	18.3	363
01271418	18	0.760	19.3	403
01271424	24	0.913	23.2	597
<b>▶ 12 AWG (≈ 52/28) • 4.00 mm<sup>2</sup></b>				
01271202	2	0.382	9.7	91
01271203	3	0.417	10.6	124
01271204	4	0.457	11.6	155
01271205	5	0.508	12.9	189
01271207	7	0.555	14.1	248
<b>▶ 10 AWG (≈ 78/28) • 6.00 mm<sup>2</sup></b>				
01271002	2	0.441	11.2	134
01271003	3	0.461	11.7	167
01271004	4	0.512	13.0	212
01271005	5	0.563	14.3	256
01271007	7	0.630	16.0	348

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
<b>▶ 8 AWG (≈ 77/26) • 10.00 mm<sup>2</sup></b>				
01270802	2	0.575	14.6	228
01270803	3	0.610	15.5	291
01270804	4	0.669	17.0	363
01270805	5	0.744	18.9	443
01270807	7	0.831	21.1	601
<b>▶ 6 AWG (≈ 122/26) • 16.00 mm<sup>2</sup></b>				
01270602	2	0.669	17.0	329
01270603	3	0.736	18.7	429
01270604	4	0.807	20.5	537
01270605	5	0.823	20.9	650
01270607	7	1.012	25.7	893
<b>▶ 4 AWG (≈ 190/26) • 25.00 mm<sup>2</sup></b>				
01270402	2	0.850	21.6	518
01270403	3	0.906	23.0	665
01270404	4	1.008	25.6	849
<b>▶ 2 AWG (≈ 77/26) • 35.00 mm<sup>2</sup></b>				
01270202	2	0.976	24.8	722
01270203	3	1.039	26.4	935
01270204	4	1.142	29.0	1181

Other dimensions and colors are available on request

#### HD 308 color code:

- #1- nature, #2- blue-brown, #3- green/yellow - blue - brown, #4- green/yellow - brown - black - gray, #5- green/yellow - blue - brown - black - gray



Temperature range  
up to +200°C  
Style 4511 with nickel  
or silver plated  
copper strands.



# Cables for Industrial Automation

## SC 600 C HDTR

Shielded SABIX® insulated conductors with silicone outer jacket



Marking for SC 600 C HDTR 01241804:

SAB BRÖCKSKES · D-VIERSEN · SC 600 C HDTR AWM Style 4535 150°C 600V CSA AWM I/II A 150°C 600V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
<b>Insulation:</b>	SABIX®
<b>Color code:</b>	colored acc. to HD 308 (VDE 0293-308) see below, from 6 conductors- black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 from 3 conductors- a green/yellow ground
<b>Stranding:</b>	in layers
<b>Inner jacket:</b>	Besilen® EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
<b>Shielding:</b>	tinned copper braiding
<b>Jacket material:</b>	Besilen® better than EM9 acc. to EN 50363-2-1 + VDE 0207-363-2-1
<b>Jacket color:</b>	black (similar RAL 9011)

### Outstanding features:

- good EMC characteristics
- halogen-free
- flexible at low temperatures
- heat resistant
- UL recognized and CSA approved

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 300/500 V	
<b>Voltage UL/CSA:</b>	600 V	
<b>Testing voltage:</b>	conductor/conductor: 2000 V conductor/shielding: 2000 V	
<b>Min. bending radius:</b>	fixed installation: 4 x O.D. free movement: 6 x O.D.	
<b>Radiation resistance:</b>	2 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b> static: -40/+180°C flexible: -25/+180°C short-term use: +250°C	<b>UL/CSA:</b> up to +150°C Style 4535
<b>Halogen-free</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1, FT2	
<b>Corrosivity:</b>	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, EAC, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog	

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
<b>▶ 19 AWG (≈ 23/32) ▪ 0.75 mm<sup>2</sup></b>				
01241902	2	0.323	8.2	62
01241903	3	0.335	8.5	68
01241904	4	0.354	9.0	83
01241905	5	0.382	9.7	93
<b>▶ 18 AWG (≈ 30/32) ▪ 1.00 mm<sup>2</sup></b>				
01241802	2	0.331	8.4	68
01241803	3	0.343	8.7	81
01241804	4	0.366	9.3	91
01241805	5	0.398	10.1	112
01241807	7	0.433	11.0	136

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
<b>▶ 16 AWG (≈ 27-29/30) ▪ 1.50 mm<sup>2</sup></b>				
01241602	2	0.370	9.4	87
01241603	3	0.394	10.0	110
01241604	4	0.425	10.8	129
01241605	5	0.457	11.6	158
01241607	7	0.504	12.8	186
<b>▶ 14 AWG (≈ 46/30) ▪ 2.50 mm<sup>2</sup></b>				
01241402	2	0.441	11.2	141
01241403	3	0.461	11.7	157
01241404	4	0.508	12.9	189
01241405	5	0.563	14.3	226

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
<b>▶ 12 AWG (≈ 52/28) ▪ 4.00 mm<sup>2</sup></b>				
01241203	3	0.543	13.8	221
01241204	4	0.583	14.8	258
01241205	5	0.657	16.7	323
<b>▶ 10 AWG (≈ 78/28) ▪ 6.00 mm<sup>2</sup></b>				
01241003	3	0.594	15.1	266
01241004	4	0.661	16.8	352
01241005	5	0.713	18.1	390

Other dimensions and colors are available on request

#### HD 308 color code:

#1- nature, #2- blue-brown, #3- green/yellow - blue - brown, #4- green/yellow - brown - black - gray, #5- green/yellow - blue - brown - black - gray



Temperature range up to +200°C  
Style 4511 with nickel  
or silver plated copper strands.

# Cables for Industrial Automation

## SABIX® CC 625 FRNC M

Control cable with numbered conductors



Marking for SABIX® CC 625 FRNC M 62521215:

SAB BRÖCKSKES · D-VIERSEN · 62521215 12 x 1.5 mm² SABIX® CC 625 FRNC M

16 AWG/12c 62521612 UL AWM Style 21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 5
<b>Insulation:</b>	SABIX®
<b>Color code:</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
<b>Stranding:</b>	in layers
<b>Jacket material:</b>	SABIX®
<b>Jacket color:</b>	gray (RAL 7000)

### Outstanding features:

- low smoke halogen-free (LSHF)
- UL recognized, CSA approved
- no flame propagation
- flame retardant and self-extinguishing
- flexible

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 300/500 V
<b>Voltage UL/CSA:</b>	600 V
<b>Testing voltage:</b>	conductor/conductor: 3000 V
<b>Min. bending radius:</b>	<i>fixed installation:</i> 4 x O.D. <i>free movement:</i> 6 x O.D.
<b>Temperature range:</b>	<b>UL:</b> up to +75°C <b>CSA:</b> up to +80°C <b>static:</b> <b>DIN VDE:</b> -40/+90°C <b>flexible:</b> -30/+90°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Burning characteristics:</b>	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
<b>Corrosivity:</b>	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
<b>Smoke density:</b>	acc. to IEC 61034 + VDE 0482-1034
<b>Flexibility:</b>	good
<b>Approvals:</b>	UR AWM, CSA AWM, CE, EAC, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	mm ±5%	cable weight ≈lbs/mft
<b>▶ 20 AWG (≈ 16/32) • 0.50 mm<sup>2</sup></b>				
62522002	2	0.205	5.2	27
62522003	3	0.217	5.5	32
62522004	4	0.232	5.9	38
62522005	5	0.252	6.4	44
62522007	7	0.276	7.0	56
62522008	8	0.323	8.2	70
62522009	9	0.350	8.9	79
62522010	10	0.358	9.1	81
62522012	12	0.366	9.3	91
62522014	14	0.386	9.8	103
62522016	16	0.413	10.5	119
62522018	18	0.437	11.1	132
62522025	25	0.531	13.5	181
62522030	30	0.547	13.9	208
62522034	34	0.598	15.2	239
62522040	40	0.650	16.5	283
62522041	41	0.650	16.5	288
62522061	61	0.760	19.3	409
<b>▶ 18 AWG (≈ 30/32) • 1.00 mm<sup>2</sup></b>				
62521802	2	0.232	5.9	36
62521803	3	0.248	6.3	44
62521804	4	0.268	6.8	54
62521805	5	0.295	7.5	65
62521807	7	0.323	8.2	83
62521808	8	0.378	9.6	102
62521809	9	0.413	10.5	116
62521810	10	0.421	10.7	120

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	mm ±5%	cable weight ≈lbs/mft
62521812	12	0.433	11.0	137
62521814	14	0.453	11.5	155
62521818	18	0.512	13.0	198
62521825	25	0.622	15.8	271
62521830	30	0.654	16.6	320
62521834	34	0.709	18.0	365
62521840	40	0.768	19.5	429
62521841	41	0.768	19.5	454
62521861	61	0.902	22.9	626
<b>▶ 16 AWG (≈ 27-29/30) • 1.50 mm<sup>2</sup></b>				
62521602	2	0.256	6.5	46
62521603	3	0.272	6.9	57
62521604	4	0.299	7.6	71
62521605	5	0.327	8.3	87
62521607	7	0.366	9.3	112
62521608	8	0.429	10.9	136
62521609	9	0.465	11.8	153
62521610	10	0.476	12.1	161
62521612	12	0.488	12.4	184
62521614	14	0.512	13.0	209
62521618	18	0.587	14.9	271
62521625	25	0.713	18.1	375
62521630	30	0.736	18.7	435
62521634	34	0.807	20.5	502
62521640	40	0.874	22.2	587
62521641	41	0.874	22.2	593
62521661	61	1.024	26.0	861

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	mm ±5%	cable weight ≈lbs/mft
<b>▶ 14 AWG (≈ 46/30) • 2.50 mm<sup>2</sup></b>				
62521402	2	0.307	7.8	70
62521403	3	0.327	8.3	86
62521404	4	0.362	9.2	108
62521405	5	0.398	10.1	131
62521407	7	0.441	11.2	173
62521408	8	0.528	13.4	212
62521409	9	0.563	14.3	234
62521410	10	0.583	14.8	252
62521412	12	0.602	15.3	290
62521418	18	0.717	18.2	425
62521425	25	0.878	22.3	585
<b>▶ 12 AWG (≈ 52/28) • 4.00 mm<sup>2</sup></b>				
62521203	3	0.382	9.7	126
62521204	4	0.425	10.8	160
62521205	5	0.476	12.1	198
62521207	7	0.528	13.4	261
<b>▶ 10 AWG (≈ 78/28) • 6.00 mm<sup>2</sup></b>				
62521003	3	0.449	11.4	182
62521004	4	0.500	12.7	230
62521005	5	0.559	14.2	286
<b>▶ 8 AWG (≈ 77/26) • 10.00 mm<sup>2</sup></b>				
62520804	4	0.677	17.2	409
62520805	5	0.760	19.3	508
<b>▶ 6 AWG (≈ 122/26) • 16.00 mm<sup>2</sup></b>				
62520604	4	0.831	21.1	611
<b>▶ 4 AWG (≈ 190/26) • 25.00 mm<sup>2</sup></b>				
62520404	4	1.043	26.5	991
<b>▶ 2 AWG (≈ 272/26) • 35.00 mm<sup>2</sup></b>				
62520204	4	1.189	30.2	1346

Other dimensions and colors are available on request



# Cables for Industrial Automation

## SABIX® CC 625 S FRNC M

Control cable with numbered conductors and overall tinned copper shield



21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1 CE



Marking for SABIX® CC 625 S FRNC M 62341612:

SAB BRÖCKSKES · D-VIERSEN · 62341215 12 x 1.5 mm<sup>2</sup> SABIX® CC 625 S FRNC M

16 AWG/12c 62341612 UL AWM Style 21089 75°C 600V CSA AWM I/II A/B 80°C 600V FT1 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 5
<b>Insulation:</b>	SABIX®
<b>Color code:</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
<b>Stranding:</b>	in layers
<b>Wrapping:</b>	PETP foil
<b>Shielding:</b>	tinned copper braiding
<b>Jacket material:</b>	SABIX®
<b>Jacket color:</b>	gray (RAL 7000)

### Outstanding features:

- low smoke halogen-free (LSHF)
- UL recognized, CSA approved
- no flame propagation
- good EMC characteristics\*
- flame retardant and self-extinguishing
- flexible

\*copper braiding should be connected circularly to optimize the EMC characteristics

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 300/500 V
<b>Voltage UL/CSA:</b>	600 V
<b>Testing voltage:</b>	conductor/conductor: 3000 V conductor/shielding: 2000 V
<b>Min. bending radius:</b>	<i>fixed installation:</i> 5 x O.D. <i>free movement:</i> 10 x O.D.
<b>Temperature range:</b>	<b>UL:</b> up to +75°C <b>CSA:</b> up to +80°C <i>static:</i> -40/+90°C <i>flexible:</i> -30/+90°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Burning characteristics:</b>	no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24 resp. IEC 60332-3-25 + VDE 0482-332-3-25 cat. C resp. D Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
<b>Corrosivity:</b>	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
<b>Smoke density:</b>	acc. to IEC 61034 + VDE 0482-1034
<b>Flexibility:</b>	good
<b>Approvals:</b>	UR AWM, CSA AWM, CE, EAC, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
<b>▶ 20 AWG (≈ 16/32) • 0.50 mm<sup>2</sup></b>				
62342002	2	0.224	5.7	30
62342003	3	0.236	6.0	36
62342004	4	0.252	6.4	43
62342005	5	0.276	7.0	51
62342007	7	0.299	7.6	65
62342008	8	0.350	8.9	81
62342009	9	0.370	9.4	88
62342010	10	0.378	9.6	91
62342012	12	0.386	9.8	102
62342014	14	0.421	10.7	126
62342016	16	0.441	11.2	138
62342018	18	0.472	12.0	157
62342025	25	0.543	13.8	206
62342030	30	0.591	15.0	243
62342034	34	0.642	16.3	288
62342040	40	0.693	17.6	338
62342041	41	0.693	17.6	345
62342061	61	0.795	20.2	466
<b>▶ 18 AWG (≈ 30/32) • 1.00 mm<sup>2</sup></b>				
62341802	2	0.252	6.4	39
62341803	3	0.268	6.8	49
62341804	4	0.287	7.3	58
62341805	5	0.315	8.0	72
62341807	7	0.350	8.9	93
62341808	8	0.398	10.1	111
62341809	9	0.441	11.2	134
62341810	10	0.449	11.4	141

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
62341812	12	0.469	11.9	162
62341814	14	0.488	12.4	180
62341818	18	0.547	13.9	228
62341825	25	0.665	16.9	325
62341830	30	0.697	17.7	374
62341834	34	0.752	19.1	423
62341840	40	0.811	20.6	490
62341841	41	0.811	20.6	499
62341861	61	0.945	24.0	700
<b>▶ 16 AWG (≈ 27-29/30) • 1.50 mm<sup>2</sup></b>				
62341602	2	0.276	7.0	48
62341603	3	0.295	7.5	62
62341604	4	0.319	8.1	76
62341605	5	0.354	9.0	93
62341607	7	0.386	9.8	120
62341608	8	0.465	11.8	159
62341609	9	0.492	12.5	174
62341610	10	0.504	12.8	183
62341612	12	0.524	13.3	210
62341614	14	0.547	13.9	238
62341618	18	0.622	15.8	312
62341625	25	0.756	19.2	433
62341630	30	0.780	19.8	493
62341634	34	0.843	21.4	561
62341640	40	0.909	23.1	647
62341641	41	0.909	23.1	653
62341661	61	1.067	27.1	943

item no.	no. of conductors incl. ground	nominal outer-ø inch ±5%	nominal outer-ø mm ±5%	cable weight ≈lbs/mft
<b>▶ 14 AWG (≈ 46/30) • 2.50 mm<sup>2</sup></b>				
62341402	2	0.327	8.3	68
62341403	3	0.354	9.0	91
62341404	4	0.382	9.7	113
62341405	5	0.433	11.0	148
62341407	7	0.476	12.1	192
62341408	8	0.555	14.1	232
62341409	9	0.598	15.2	259
62341410	10	0.618	15.7	288
62341412	12	0.646	16.4	331
62341418	18	0.760	19.3	478
62341425	25	0.921	23.4	648
<b>▶ 12 AWG (≈ 52/28) • 4.00 mm<sup>2</sup></b>				
62341203	3	0.417	10.6	138
62341204	4	0.453	11.5	172
62341205	5	0.504	12.8	212
62341207	7	0.555	14.1	277
<b>▶ 10 AWG (≈ 78/28) • 6.00 mm<sup>2</sup></b>				
62341003	3	0.484	12.3	191
62341004	4	0.535	13.6	243
62341005	5	0.594	15.1	302
<b>▶ 8 AWG (≈ 77/26) • 10.00 mm<sup>2</sup></b>				
62340804	4	0.720	18.3	427
62340805	5	0.795	20.2	526
<b>▶ 6 AWG (≈ 122/26) • 16.00 mm<sup>2</sup></b>				
62340604	4	0.874	22.2	623
<b>▶ 4 AWG (≈ 190/26) • 25.00 mm<sup>2</sup></b>				
62340404	4	1.079	27.4	974
<b>▶ 2 AWG (≈ 272/26) • 35.00 mm<sup>2</sup></b>				
62340204	4	1.232	31.3	1316






Other dimensions and colors are available on request

UL and CSA-listed tray cables for use in control systems, machinery, conveyors, control panels, assembly and production lines and processing equipment. Each carries a Class 1 Division 2 explosion classification and a WTTC rating for wind turbines. The lineup features flexible versions as well as round cables that allow installers to pull more cables at a time, thereby avoiding a stiff, complicated setup.

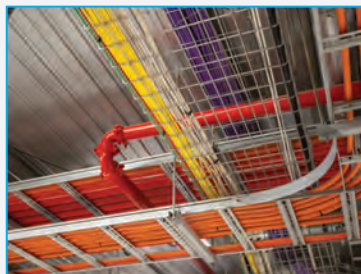
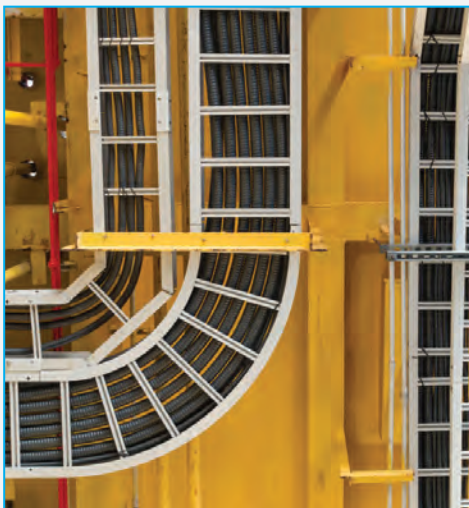
**Features:**

- Flexible for easier installation
- Chemical resistant for washdowns
- Can be routed around tight bends and fit into confined spaces
- Shielded versions available
- UL TC-ER for exposed runs
- NFPA 79 compliant



Semi-Rigid Data Cables			
■ DC 105		Semi-rigid PVC data cable, Type PLTC, ITC, and CMG . . . . .	20
■ DC 105 C		Shielded semi-rigid PVC data cable, Type PLTC, ITC, and CMG . . . . .	21
■ DC 105 C TP		Shielded, semi-rigid, twisted pair, PVC data cable, Type PLTC, ITC, and CMG . . . . .	22
UV and Oil Resistant, Flexible Tray Cables			
■ TR 600 S		UV and oil resistant 90°C flexible tray cable with black jacket Type TC-ER, MTW, WTTC, 90°C Wet/Dry . . . . .	23
■ TR 600 S CY		Shielded UV and oil resistant 90°C flexible tray cable with black jacket, Type TC-ER, MTW, WTTC, 90°C Wet/Dry . . . . .	24

Additional tray cables are available on our website and in the full line catalog (Section E)

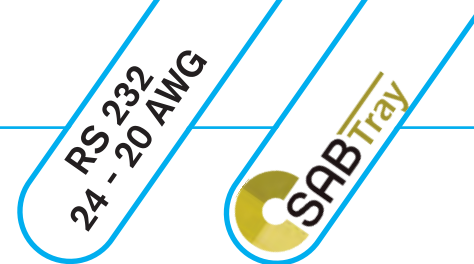




# Cables for Industrial Automation

## DC 105

Semi-rigid PVC data cable, Type PLTC, ITC, and CMG



(DC 105) - CSA TYPE CMG or AWM I/II A/B 105°C 300V FT4



Marking for DC 105 DC3332203:

SAB North America P/N DC3332203 22AWG/3c (UL) TYPE PLTC or ITC or CMG 105°C (DC 105) - CSA TYPE CMG or AWM I/II A/B 105°C 300V FT4 RoHS CE

### Construction:

<b>Conductor:</b>	tinned copper strands
<b>Insulation:</b>	semi-rigid PVC
26 - 20 AWG:	PVC/nylon
18 - 16 AWG:	
<b>Color code:</b>	
26 - 24 AWG:	color code chart 2, see below
22 AWG:	color code chart 4, see below
20 - 16 AWG:	color code chart 6, see below
<b>Stranding:</b>	twisted together in layers with non-wicking fillers
<b>Jacket material:</b>	PVC
<b>Jacket color:</b>	grayish tan (RAL 7032)

### Technical data:

<b>Nominal voltage:</b>	300 V
<b>Testing voltage:</b>	2000 V
<b>Min. bending radius:</b>	4 x O.D.
<i>fixed installation:</i>	
<b>Temperature range:</b>	-25/+105°C
<b>Approvals:</b>	UL: CMG (26-16 AWG) PLTC & ITC (22 - 20 AWG) PLTC-ER & ITC-ER (18 - 16 AWG) CSA: CMG/FT4 AWM I/II A/B CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog

#### Color Code Chart 2:

no.	Conductor color	no.	Conductor color
1	black	14	green/white
2	white	15	blue/white
3	red	16	black/red
4	green	17	white/red
5	orange	18	orange/red
6	blue	19	blue/red
7	white/black	20	red/green
8	red/black	21	orange/green
9	green/black	22	black/white/red
10	orange/black	23	white/black/red
11	blue/black	24	red/black/white
12	black/white	25	green/black/white
13	red/white		

#### Color Code Chart 4:

no.	Conductor color	no.	Conductor color
1	black	14	white/orange
2	brown	15	white/yellow
3	red	16	white/green
4	orange	17	white/blue
5	yellow	18	white/violet
6	green	19	white/gray
7	blue	20	white/black/brown
8	violet	21	white/black/red
9	gray	22	white/black/orange
10	white	23	white/black/yellow
11	white/black	24	white/black/green
12	white/brown	25	white/black/blue
13	white/red		

#### Color Code Chart 6:

no.	Conductor color	no.	Conductor color
1	black	14	red/yellow
2	red	15	red/black
3	white	16	white/black
4	green	17	white/red
5	orange	18	white/green
6	blue	19	white/yellow
7	brown	20	white/blue
8	yellow	21	white/brown
9	violet	22	white/orange
10	gray	23	white/gray
11	pink	24	white/violet
12	tan	25	white/black/red
13	red/green		

item no.	no. of conductors	nominal outer- $\phi$ inch	mm	cable weight $\approx$ lbs/100ft
<b>▶ 26 AWG (7/34)</b>				
DC3222603	3	0.156	4.0	18
DC3222604	4	0.166	4.2	20
DC3222606	6	0.189	4.8	25
DC3222607	7	0.192	4.9	26
DC3222608	8	0.204	5.2	28
DC3222610	10	0.230	5.8	36
DC3222615	15	0.261	6.6	48
DC3222620	20	0.295	7.5	58
DC3222625	25	0.323	8.2	70
<b>▶ 24 AWG (7/32)</b>				
DC3222402	2	0.160	4.1	20
DC3222403	3	0.167	4.2	23
DC3222404	4	0.182	4.6	24
DC3222405	5	0.191	4.9	27
DC3222406	6	0.204	5.2	30
DC3222407	7	0.207	5.3	31
DC3222408	8	0.220	5.6	35
DC3222410	10	0.249	6.3	43
DC3222412	12	0.256	6.5	49
DC3222415	15	0.283	7.2	59
DC3222418	18	0.303	7.7	65
DC3222420	20	0.311	7.9	70
DC3222425	25	0.343	8.7	86
<b>▶ 22 AWG (7/30)</b>				
DC3332202	2	0.178	4.5	22
DC3332203	3	0.190	4.8	25
DC3332204	4	0.202	5.1	29
DC3332205	5	0.213	5.4	34
DC3332206	6	0.228	5.8	40
DC3332207	7	0.231	5.9	41
DC3332208	8	0.244	6.2	46
DC3332209	9	0.261	6.6	53
DC3332210	10	0.289	7.3	60
DC3332212	12	0.297	7.5	67
DC3332215	15	0.317	8.1	79
DC3332218	18	0.339	8.6	87
DC3332220	20	0.348	8.8	94
DC3332225	25	0.385	9.8	117
DC3332230	30	0.430	10.9	143
DC3332240	40	0.475	12.1	184
DC3332250	50	0.517	13.1	221

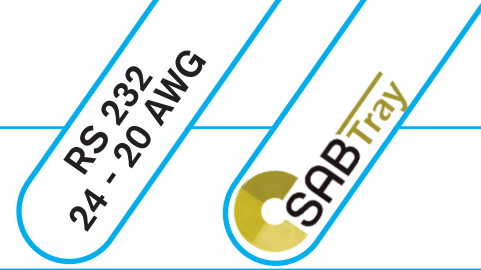
item no.	no. of conductors	nominal outer- $\phi$ inch	mm	cable weight $\approx$ lbs/100ft
<b>▶ 20 AWG (<math>\approx</math> 19/32)</b>				
DC3332002	2	0.196	5.0	29
DC3332003	3	0.205	5.2	35
DC3332004	4	0.220	5.6	42
DC3332006	6	0.254	6.5	55
DC3332007	7	0.254	6.5	52
DC3332008	8	0.275	7.0	62
DC3332009	9	0.303	7.7	74
DC3332010	10	0.325	8.3	80
DC3332012	12	0.335	8.5	92
DC3332015	15	0.358	9.1	110
DC3332020	20	0.415	10.5	143
DC3332025	25	0.459	11.7	184
<b>▶ 18 AWG (19/30)</b>				
DC3331802	2	0.276	7.0	45
DC3331803	3	0.29	7.4	58
DC3331804	4	0.313	8.0	70
DC3331805	5	0.339	8.6	78
DC3331806	6	0.366	9.3	91
DC3331807	7	0.367	9.3	98
DC3331808	8	0.395	10.0	110
DC3331809	9	0.423	10.7	124
DC3331810	10	0.457	11.6	144
DC3331812	12	0.472	12.0	164
DC3331815	15	0.507	12.9	194
DC3331818	18	0.579	14.7	244
DC3331820	20	0.595	15.1	263
DC3331825	25	0.662	16.8	325
DC3331850	50	0.904	23.0	621
<b>▶ 16 AWG (26/30)</b>				
DC3331602	2	0.296	7.5	54
DC3331603	3	0.312	7.9	68
DC3331604	4	0.337	8.6	83
DC3331605	5	0.366	9.3	95
DC3331606	6	0.396	10.1	109
DC3331607	7	0.397	10.1	119
DC3331608	8	0.428	10.9	134
DC3331609	9	0.459	11.7	160
DC3331610	10	0.497	12.6	174
DC3331612	12	0.513	13.0	199
DC3331615	15	0.584	14.8	261
DC3331618	18	0.629	16.0	297
DC3331620	20	0.647	16.4	330
DC3331625	25	0.721	18.3	400

Other dimensions and colors are available on request

# Cables for Industrial Automation

## DC 105 C

Shielded semi-rigid PVC data cable, Type PLTC, ITC, and CMG



CMG OR AWM I/II A/B 105°C 300V FT4 RoHS CE



Marking for DC 105 C DC3332204S:

SAB North America P/N DC3332204S 22AWG/4c (UL) TYPE PLTC OR ITC OR CMG SHIELDED 105°C (DC 105 C) CSA TYPE CMG OR AWM I/II A/B 105°C 300V FT4 RoHS CE

### Construction:

<b>Conductor:</b>	tinned copper strands
<b>Insulation:</b>	
26 - 20 AWG:	semi-rigid PVC
18 - 16 AWG:	PVC/nylon
<b>Color code:</b>	
26 - 24 AWG:	color code chart 2, see below
22 AWG:	color code chart 4, see below
20 - 16 AWG:	color code chart 6, see below
<b>Stranding:</b>	twisted together in layers with non-wicking fillers
<b>Shielding:</b>	double shielding, alu-foil, tinned copper braiding and tinned drain wire
<b>Jacket material:</b>	PVC
<b>Jacket color:</b>	grayish tan (RAL 7032)

### Technical data:

<b>Nominal voltage:</b>	300 V
<b>Testing voltage:</b>	2000 V
<b>Min. bending radius:</b>	6 x O.D.
<i>fixed installation:</i>	
<b>Temperature range:</b>	-25/+105°C
<b>Approvals:</b>	<b>UL:</b> CMG (26 - 16 AWG) PLTC & ITC (22 - 20 AWG) PLTC-ER & ITC-ER (18 - 16 AWG) <b>CSA:</b> CMG/FT4 AWM I/II A/B CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog

#### Color Code Chart 2:

no.	Conductor color	no.	Conductor color
1	black	14	green/white
2	white	15	blue/white
3	red	16	black/red
4	green	17	white/red
5	orange	18	orange/red
6	blue	19	blue/red
7	white/black	20	red/green
8	red/black	21	orange/green
9	green/black	22	black/white/red
10	orange/black	23	white/black/red
11	blue/black	24	red/black/white
12	black/white	25	green/black/white
13	red/white		

#### Color Code Chart 4:

no.	Conductor color	no.	Conductor color
1	black	14	white/orange
2	brown	15	white/yellow
3	red	16	white/green
4	orange	17	white/blue
5	yellow	18	white/violet
6	green	19	white/gray
7	blue	20	white/black/brown
8	violet	21	white/black/red
9	gray	22	white/black/orange
10	white	23	white/black/yellow
11	white/black	24	white/black/green
12	white/brown	25	white/black/blue
13	white/red		

#### Color Code Chart 6:

no.	Conductor color	no.	Conductor color
1	black	14	red/yellow
2	red	15	red/black
3	white	16	white/black
4	green	17	white/red
5	orange	18	white/green
6	blue	19	white/yellow
7	brown	20	white/blue
8	yellow	21	white/brown
9	violet	22	white/orange
10	gray	23	white/gray
11	pink	24	white/violet
12	tan	25	white/black/red
13	red/green		

item no.	no. of conductors	nominal outer- $\phi$ inch	nominal outer- $\phi$ mm	cable weight $\approx$ lbs/mft
<b>▶ 26 AWG (7/34)</b>				
DC32222602S	2	0.180	4.6	27
DC32222603S	3	0.186	4.7	30
DC32222604S	4	0.196	5.0	32
DC32222605S	5	0.207	5.3	34
DC32222606S	6	0.219	5.6	37
DC32222607S	7	0.221	5.6	39
DC32222608S	8	0.231	5.9	43
DC32222610S	10	0.258	6.6	51
DC32222615S	15	0.289	7.3	66
DC32222618S	18	0.307	7.8	70
DC32222625S	25	0.343	8.7	88
<b>▶ 24 AWG (7/32)</b>				
DC32222403S	3	0.197	5.0	35
DC32222404S	4	0.209	5.3	36
DC32222405S	5	0.221	5.6	39
DC32222406S	6	0.234	5.9	45
DC32222407S	7	0.236	6.0	46
DC32222408S	8	0.248	6.3	51
DC32222409S	9	0.261	6.6	56
DC32222410S	10	0.288	7.3	62
DC32222412S	12	0.288	7.3	67
DC32222415S	15	0.312	7.9	80
DC32222418S	18	0.332	8.4	86
DC32222420S	20	0.340	8.6	92
DC32222425S	25	0.372	9.4	111

item no.	no. of conductors	nominal outer- $\phi$ inch	nominal outer- $\phi$ mm	cable weight $\approx$ lbs/mft
<b>▶ 22 AWG (7/30)</b>				
DC3332203S	3	0.210	5.3	40
DC3332204S	4	0.224	5.7	43
DC3332205S	5	0.237	6.0	49
DC3332206S	6	0.252	6.4	54
DC3332207S	7	0.260	6.6	57
DC3332208S	8	0.267	6.8	61
DC3332210S	10	0.312	7.9	77
DC3332212S	12	0.320	8.1	86
DC3332215S	15	0.339	8.6	99
DC3332218S	18	0.362	9.2	110
DC3332220S	20	0.371	9.4	118
DC3332225S	25	0.433	11	150
<b>▶ 20 AWG (<math>\approx</math> 19/32)</b>				
DC3332003S	3	0.229	5.8	51
DC3332004S	4	0.244	6.2	59
DC3332006S	6	0.289	7.3	73
DC3332008S	8	0.307	7.8	85
DC3332010S	10	0.348	8.8	102
DC3332015S	15	0.380	9.7	135
DC3332020S	20	0.437	11.1	169
DC3332025S	25	0.481	12.2	213
<b>▶ 18 AWG (19/30)</b>				
DC3331803S	3	0.314	8.0	79
DC3331804S	4	0.337	8.6	92
DC3331806S	6	0.390	9.9	116
<b>▶ 16 AWG (26/30)</b>				
DC3331603S	3	0.336	8.5	93
DC3331604S	4	0.361	9.2	111
DC3331606S	6	0.420	10.7	139

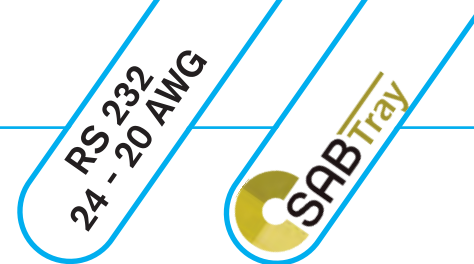
Other dimensions and colors are available on request



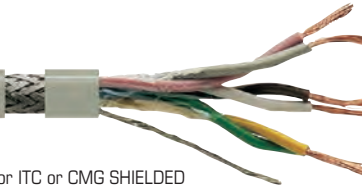
# Cables for Industrial Automation

## DC 105 C TP

Shielded, semi-rigid, twisted pair, PVC data cable, Type PLTC, ITC, and CMG



AWM I/II A/B 105°C 300V FT4 RoHS CE



Marking for DC 105 C TP DC3332203TP:

SAB North America P/N DC3332203TP 22AWG/3pr (UL) TYPE PLTC or ITC or CMG SHIELDED 105°C (DC 105 CTP) CSA TYPE CMG or AWM I/II A/B 105°C 300V FT4 RoHS CE

### Construction:

<b>Conductor:</b>	tinned copper strands
<b>Insulation:</b>	
24 - 20 AWG:	semi-rigid PVC
18 - 16 AWG:	PVC/nylon
<b>Color code:</b>	color code chart 3, see below
<b>Stranding:</b>	paired and twisted together in layers with non-wicking fillers
<b>Shielding:</b>	double shielding, alu-foil tinned copper braiding and tinned drain wire
<b>Jacket material:</b>	PVC
<b>Jacket color:</b>	grayish tan (RAL 7032)

### Technical data:

<b>Nominal voltage:</b>	300 V
<b>Testing voltage:</b>	2000 V
<b>Min. bending radius:</b>	
<i>fixed installation:</i>	6 x O.D.
<b>Temperature range:</b>	-25/+105°C
<b>Approvals:</b>	UL: CMG (24 - 16 AWG) PLTC & ITC (22 - 20 AWG) PLTC-ER & ITC-ER (18 - 16 AWG) CSA: CMG/FT4 AWM I/II A/B CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog

### Color Code Chart 3:

Pair no.	color combination	
1	black	paired with red
2	black	paired with white
3	black	paired with green
4	black	paired with blue
5	black	paired with yellow
6	black	paired with brown
7	black	paired with orange
8	red	paired with white
9	red	paired with green
10	red	paired with blue
11	red	paired with yellow
12	red	paired with brown
13	red	paired with orange
14	green	paired with white
15	green	paired with blue
16	green	paired with yellow
17	green	paired with brown
18	green	paired with orange
19	white	paired with blue
20	white	paired with yellow
21	white	paired with brown
22	white	paired with orange
23	blue	paired with yellow
24	blue	paired with brown
25	blue	paired with orange

item no.	no. of pairs	outer-ø		cable weight
		inch	mm	≈lbs/mft
<b>▶ 24 AWG (7/32)</b>				
DC3222401TP*	1	0.190	4.8	31
DC3222402TP	2	0.246	6.2	44
DC3222403TP	3	0.258	6.6	51
DC3222404TP	4	0.292	7.4	57
DC3222405TP	5	0.307	7.8	65
DC3222406TP	6	0.328	8.3	73
DC3222408TP	8	0.351	8.9	85
DC3222409TP	9	0.373	9.5	97
DC3222415TP	15	0.460	11.7	151
<b>▶ 22 AWG (7/30)</b>				
DC3332201TP*	1	0.203	5.2	32
DC3332202TP	2	0.266	6.8	50
DC3332203TP	3	0.289	7.3	63
DC3332204TP	4	0.323	8.2	71
DC3332205TP	5	0.333	8.5	80
DC3332206TP	6	0.358	9.1	90
DC3332208TP	8	0.383	9.7	107
DC3332209TP	9	0.429	10.9	128
DC3332211TP	11	0.460	11.7	154
DC3332215TP	15	0.505	12.8	188
DC3332225TP	25	0.644	16.4	262

\*DC3222401TP & DC3332201TP: black paired with white color code

item no.	no. of pairs	outer-ø		cable weight
		inch	mm	≈lbs/mft
<b>▶ 20 AWG (≈ 19/32)</b>				
DC3332001TP	1	0.220	5.6	42
DC3332002TP	2	0.305	7.7	67
DC3332003TP	3	0.321	8.2	80
DC3332004TP	4	0.345	8.8	95
DC3332006TP	6	0.422	10.7	129
DC3332009TP	9	0.482	12.2	180
DC3332015TP	15	0.572	14.5	254
<b>▶ 18 AWG (19/30)</b>				
DC3331801TP	1	0.300	7.6	68
DC3331802TP	2	0.415	10.5	106
DC3331803TP	3	0.439	11.2	128
DC3331804TP	4	0.476	12.1	162
DC3331806TP	6	0.595	15.1	231
DC3331809TP	9	0.686	17.4	312
DC3331815TP	15	0.823	20.9	461
<b>▶ 16 AWG (26/30)</b>				
DC3331601TP	1	0.320	8.1	78
DC3331602TP	2	0.448	11.4	124
DC3331603TP	3	0.474	12.0	162
DC3331604TP	4	0.515	13.1	192

# Cables for Industrial Automation

## TR 600 S

UV and oil resistant 90°C flexible tray cable, Type TC-ER, MTW, WTTC, and CSA approved



Marking for TR 600 S 93331641:

SAB NORTH AMERICA TR 600 S 93331641 16 AWG/41C (UL) TC-ER 90C DRY/WET 600V SUN RES DIR BUR OIL RES I/II OR WTTC 1000V OR MTW

\*FLEXING\* OR DP-1 OR AWM 2586 105°C CSA CIC-TC PVC/N 90°C DRY 75°C WET 600V -25°C SR FT4 OR AWM I/II A/B 90C 1000V FT4 RoHS CE

### Construction:

<b>Conductor:</b>	bare copper strands class K (30 AWG multiple strands)
<b>Insulation:</b>	special formulated PVC/Nylon
<b>Color code:</b>	black conductors with consecutive white numbers; green/yellow ground from 3 conductors
<b>Stranding:</b>	in layers
<b>Jacket material:</b>	special oil resistant pressure extruded PVC
<b>Jacket color:</b>	black (RAL 9005)

### Technical data:

<b>Voltage:</b>	<b>UL-AWM / (UL) / CSA:</b> 600 V	<b>(UL) WTTC:</b> 1000 V
<b>Testing voltage:</b>	2500 V	
<b>Min. bending radius:</b>	<i>fixed installation:</i> 4 x O.D. <i>free movement:</i> 6 x O.D.	
<b>Temperature range:</b>	<b>UL -AWM</b> up to +105°C -40°C	<b>(UL) / CSA:</b> up to +90°C
<b>Burning characteristics:</b>	(UL) FT4 and CSA FT1, FT2, FT4	
<b>Oil resistance I &amp; II:</b>	yes	
<b>Sunlight resistance:</b>	yes	
<b>Exposed runs:</b>	yes	
<b>Cold bend test:</b>	-40°C	
<b>Direct burial:</b>	yes	
<b>Machinery area:</b>	yes	
<b>Approvals:</b>	UL TC-ER, UL MTW, UL WTTC, UR AWM, CSA CIC-TC, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog	

### Outstanding features:

- flexible stranding for easy installation
- oil resistant meeting UL Oil Res I and II
- NFPA 79 for Industrial Machinery
- UL TC-ER (exposed runs)
- CSA approved for TC
- Submersible pump (14 AWG ≥ 3 thru 7 cond.)
- WTTC: Wind Turbine tray cable
- 90°C Wet rated
- Class 1 Div 2 per NEC Article 501.4 (B)

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
<b>▶ 18 AWG</b>				
93331802*	2	0.286	7.3	45
93331803	3	0.300	7.6	55
93331804	4	0.324	8.2	67
93331805	5	0.349	8.9	79
93331807	7	0.376	9.6	100
93331809	9	0.432	11.0	125
93331812	12	0.480	12.2	157
93331818	18	0.596	15.1	244
93331825	25	0.686	17.4	319
93331850	50	0.940	23.9	622
<b>▶ 16 AWG</b>				
93331602*	2	0.306	7.8	52
93331603	3	0.321	8.2	70
93331604	4	0.348	8.8	81
93331605	5	0.376	9.6	96
93331607	7	0.412	10.5	126
93331608	8	0.440	11.2	137
93331609	9	0.473	12.0	152
93331612	12	0.527	13.4	196
93331616	16	0.613	15.6	273
93331618	18	0.646	16.4	300
93331619	19	0.646	16.4	310
93331625	25	0.746	18.9	395
93331634	34	0.884	22.5	544
93331637	37	0.896	22.8	592
93331641	41	0.945	24.0	654
93331650	50	1.025	26.0	756

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
<b>▶ 14 AWG</b>				
93331402*	2	0.346	8.8	65
93331403	3	0.364	9.2	88
93331404	4	0.396	10.1	112
93331405	5	0.430	10.9	130
93331407	7	0.472	12.0	169
93331409	9	0.578	14.7	236
93331412	12	0.644	16.4	297
93331418	18	0.744	18.9	417
93331425	25	0.904	23.0	596
<b>▶ 12 AWG</b>				
93331202*	2	0.385	9.8	99
93331203	3	0.403	10.2	120
93331204	4	0.440	11.2	150
93331205	5	0.479	12.2	189
93331207	7	0.526	13.4	240
<b>▶ 10 AWG</b>				
93331003	3	0.487	12.4	179
93331004	4	0.568	14.4	248
93331005	5	0.618	15.7	298
93331007	7	0.674	17.1	403
<b>▶ 8 AWG</b>				
93330803	3	0.662	16.8	309
93330804	4	0.728	18.5	388
93330805	5	0.826	21.0	465
<b>▶ 6 AWG</b>				
93330603	3	0.765	19.4	443
93330604	4	0.879	22.3	580
93330605	5	0.954	24.2	717

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
<b>▶ 4 AWG</b>				
93330403	3	0.966	24.5	696
93330404	4	1.061	26.9	845
93330405	5	1.179	29.9	1035
<b>▶ 2 AWG</b>				
93330203	3	1.114	28.3	977
93330204	4	1.160	29.5	1215
93330205	5	1.363	34.6	1575
<b>▶ 1 AWG</b>				
93330104	4	1.401	35.6	1588
<b>▶ 1/0 AWG</b>				
93331104	4	1.458	37.0	1971
<b>▶ 2/0 AWG</b>				
93332104	4	1.588	40.3	2301
<b>▶ 3/0 AWG</b>				
93333104	4	1.733	44.0	2946
<b>▶ 4/0 AWG</b>				
93334104	4	1.841	46.8	3459
<b>▶ 250 MCM</b>				
93332504	4	2.138	54.3	4538
<b>▶ 350 MCM</b>				
93333504	4	2.335	59.3	5591
<b>▶ 500 MCM</b>				
93335004	4	2.815	71.5	8065

Other dimensions and colors are available on request  
\* 2 conductor cables are rated UL TC only

UL TC-ER-JP (joist pull) available upon request



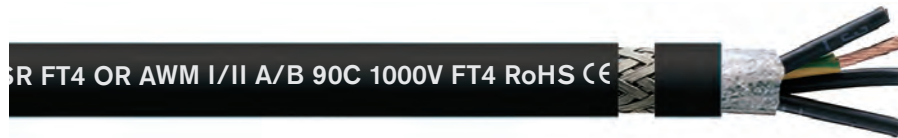
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# Cables for Industrial Automation

## TR 600 S CY

UV and oil resistant 90°C shielded flexible tray cable, Type TC-ER, MTW, WTTC, and CSA approved



Marking for TR 600 S CY 93341604

SAB NORTH AMERICA TR 600 S CY 93341604 16 AWG/ 4C (UL) TC-ER 90C DRY/WET 600V SUN RES DIR BUR OIL RES I/II OR WTTC 1000V OR MTW "FLEXING" OR DP-1 OR AWM 2586 105°C CSA CIC-TC PVC/N 90°C DRY 75°C WET 600V -25°C SR FT4 OR AWM I/II A/B 90C 1000V FT4 RoHS CE

### Construction:

<b>Conductor:</b>	bare copper strands class K (30 AWG multiple strands)
<b>Insulation:</b>	special formulated PVC/Nylon
<b>Color code:</b>	black conductors with consecutive white numbers; green/yellow ground from 3 conductors
<b>Stranding:</b>	in layers
<b>Wrapping:</b>	fleece tape
<b>Shielding:</b>	tinned copper braiding (85% coverage)
<b>Jacket material:</b>	special oil resistant pressure extruded PVC
<b>Jacket color:</b>	black (RAL 9005)

### Technical data:

<b>Voltage:</b>	<b>UL-AWM / (UL) / CSA:</b> 600 V <b>(UL) WTTC:</b> 1000 V
<b>Testing voltage:</b>	2500 V
<b>Min. bending radius:</b>	<i>fixed installation:</i> 6 x O.D. <i>free movement:</i> 8 x O.D.
<b>Temperature range:</b>	<b>UL -AWM</b> up to +105°C <i>static:</i> -40°C <b>(UL) / CSA:</b> up to +90°C
<b>Burning characteristics:</b>	(UL) FT4 and CSA FT1, FT2, FT4
<b>Oil resistance I &amp; II:</b>	yes
<b>Sunlight resistance:</b>	yes
<b>Exposed runs:</b>	yes
<b>Cold bend test:</b>	-40°C
<b>Direct burial:</b>	yes
<b>Machinery area:</b>	yes
<b>Approvals:</b>	UL TC-ER, UL MTW, UL WTTC, UR AWM, CSA CIC-TC, CSA AWM, CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog

### Outstanding features:



- flexible stranding for easy installation
- oil resistant meeting UL Oil Res I and II
- NFPA 79 for Industrial Machinery
- UL TC-ER (exposed run)
- CSA approved for TC
- Submersible pump (14 AWG ≥ 3 thru 7 cond.)
- WTTC: Wind Turbine tray cable
- 90°C Wet rated
- Class 1 Div 2 per NEC Article 501.4 (B)

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
<b>▶ 18 AWG</b>				
93341803	3	0.324	8.2	71
93341804	4	0.348	8.8	85
93341805	5	0.373	9.5	95
93341807	7	0.400	10.2	120
93341809	9	0.455	11.6	149
93341812	12	0.504	12.8	185
93341818	18	0.617	15.7	270
93341825	25	0.710	18.0	365
<b>▶ 16 AWG</b>				
93341603	3	0.345	8.8	83
93341604	4	0.372	9.4	100
93341605	5	0.400	10.2	116
93341607	7	0.430	10.9	145
93341609	9	0.492	12.5	187
93341612	12	0.579	14.7	245
93341618	18	0.664	16.9	335
93341625	25	0.770	19.6	445

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
<b>▶ 14 AWG</b>				
93341403	3	0.388	9.9	108
93341404	4	0.420	10.7	131
93341405	5	0.454	11.5	155
93341407	7	0.490	12.4	190
93341412	12	0.662	16.8	350
93341418	18	0.764	19.4	482
93341425	25	0.924	23.5	701
<b>▶ 12 AWG</b>				
93341203	3	0.427	10.8	145
93341204	4	0.464	11.8	178
93341205	5	0.506	12.9	210
93341207	7	0.578	14.7	307
<b>▶ 10 AWG</b>				
93341003	3	0.562	14.3	190
93341004	4	0.568	14.4	250
93341005	5	0.643	16.3	350
93341007	7	0.695	17.7	408

item no.	no. of conductors incl. ground	nominal outer-ø inch	mm	cable weight ≈lbs/mft
<b>▶ 8 AWG</b>				
93340804	4	0.759	19.3	447
<b>▶ 6 AWG</b>				
93340604	4	0.915	23.2	672
93340605	5	0.936	23.8	766
<b>▶ 4 AWG</b>				
93340404	4	1.097	27.9	993
<b>▶ 2 AWG</b>				
93340204	4	1.271	32.3	1455

Other dimensions and colors are available on request

UL TC-ER-JP (joist pull) available upon request





UL and CSA-listed VFD cables for use in paper mills, cement plants, mining controls, automotive plants, steel mills, and HVAC applications as well. Anywhere VFD motors are used SAB has a cable to offer. We have one ground or symmetrical ground options, power only or power with 1 or 2 pairs. We also offer continuous flex options and 2KV for larger motors. Combine with our EMC grounding glands and protect your installation from EMI interference.



### Features:

- Cables engineered to suppress the noise issues associated with VFD drives
- XLPE insulation offers improved capacitance for longer installations
- NFPA 79 compliant
- Flexible or continuous flex operations
- Heavy-duty jacket for harsh environments

### Variable Frequency Drive Tray Cable

■ VFD Cable Selection Guide		VFD Motor Properties Selection Chart for VFD cable per NEC	26
■ VFD XLPE TR		Variable frequency drive - double shielded VFD cable with XLPE insulation, Type TC-ER	27
■ VFD XLPE TR D		Variable frequency drive - double shielded VFD cable with drain wire and XLPE insulation, Type TC-ER	28
■ VFD XLPE TR Lean		Variable frequency drive - double shielded VFD cable with XLPE insulation Type TC-ER	29
■ VFD Combo XLPE		Variable frequency drive - double shielded VFD cable with XLPE insulation and shielded pair, Type TC-ER	30

Additional VFD cables are available on our website and in the full line catalog (Section E)





# Cables for Industrial Automation

## VFD Cable Selection Guide

### ■ VFD Motor Properties Selection Chart for VFD Cables per NEC

Small motor properties AWG size selection chart for VFD cables: VFD XLPE TR, VFD Combo XLPE, VFD Symmetrical XLPE, and VFD XLPE Auto

Drive HP	230 V 3Ø AWG	460 V 3Ø AWG	575 V 3Ø AWG
1/4 - 3	14	16	18
5	14	14	16
7 1/2	12	14	14
10	10	14	14
15	8	12	14
20	6	10	12
25	4	8	10
30	3	8	10
40	2	6	8
50	1/0	4	6

Drive HP	230 V 3Ø AWG	460 V 3Ø AWG	575 V 3Ø AWG
60	2/0	3	4
75	3/0	2	3
100	300 MCM	1/0	2
125	500 MCM	2/0	1/0
150	-	3/0	2/0
200	-	300 MCM	4/0
250	-	400 MCM	300 MCM
300	-	-	400 MCM
350	-	-	500 MCM
400 - 500	-	-	-

Note: The above table references the suggested wire AWG to use based on Horse Power (HP) and the Full Load Current (FLC) times 125% per NEC Art. 430-22 (G) (1) and (2) for small motors.

For special motor types NEC Art. 430-22 (A) - (G) may give additional restrictions for conductor sizes. Amperes (FLC) were determined from NEC Art. 430-250.

Drive HP	230 V 1pr AWG	460 V 1pr AWG	575 V 1pr AWG
1/4 - 3	14	16*	16*
5	14	14	14
7 1/2	10	14	14
10	8	14	14
15	6	10	12
20	-	8	10
25	-	8	8
30	-	6	8
40	-	-	6
50	-	-	-

Drive HP	230 V 2pr AWG	460 V 2pr AWG	575 V 2pr AWG
1/4 - 3	14	14	16*
5	12	14	14
7 1/2	10	14	14
10	8	12	14
15	4	10	10
20	-	8	10
25	-	6	8
30	-	6	6
40	-	-	6
50	-	-	-

\* If the circuit is protected according NEC 43022 (G) (1) (1) or (G) (1) (2). Otherwise AWG 14.



# Cables for Industrial Automation

## VFD XLPE TR

Variable frequency drive - double shielded VFD cable with XLPE insulation  
Type TC-ER



600V FT4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE



Marking for VFD XLPE TR 35681404:

SAB NORTH AMERICA VFD XLPE TR P/N 35681404 (UL) Type TC-ER 14AWG/3C RHW-2 CDRS + GNDG CDR 90C Dry/Wet 600V, Oil Res I & II, Sunlight Resistant, Direct Burial, (UL) WTTC 1000V, (UL) Flexible Motor Supply Cable, c(UL) CIC-TC XLPE 600V FT4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE

### Construction:

<b>Conductor:</b>	tinned copper strands class K
<b>Insulation:</b>	special formulated crosslinked PE, ground wire PVC
<b>Color code:</b>	blackish gray conductors with consecutive white numbers and green/yellow ground
<b>Stranding:</b>	in layers
<b>Shielding:</b>	double shield, AMA foil and tinned copper braiding
<b>Jacket material:</b>	special sunlight and oil resistant copolymer
<b>Jacket color:</b>	black (RAL 9005)

### Technical data:

<b>Voltage:</b>	(UL) / c(UL): 600 V CSA-AWM: 1000 V (UL) WTTC: 1000 V
<b>Testing voltage:</b>	3000 V
<b>Min. bending radius:</b>	12 x O.D.
<b>Temperature range:</b>	(UL) / c(UL) / CSA-AWM: up to +90°C -40/105°C
<i>static:</i>	
<b>Burning characteristics:</b>	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2
<b>Oil resistance I &amp; II:</b>	yes
<b>Sunlight resistance:</b>	yes
<b>Exposed runs:</b>	yes
<b>Cold bend test:</b>	-40°C
<b>Direct burial:</b>	yes
<b>Approvals:</b>	UL TC-ER, UL WTTC, c(UL) CIC-TC, CSA AWM, CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog

### Outstanding features:



- interconnection of variable frequency drive control device to variable frequency motors
- UL 90°C wet
- WTTC: UL subject 2277
- TC-ER UL standard 1277
- UL flexible motor supply cable 1000 V
- crosslinked conductors, better for longer installations
- Oil Res I & II
- double shielded (100% shielded)
- Class 1 Div 2 per NEC Article 501.4 (B)



- Temperature resistant down to -40°C
- Heavy duty application

item no.	AWG/c	nominal outer-ø		cable weight ≈lbs/mft	EMC Grounding Gland						VFD Termination Kit
		inch 10%	mm 10%		Metric EMC-2	Metric EMC-4	PG EMC-2	PG EMC-4	NPT EMC-2	NPT EMC-4	Grounding kits for larger AWG cables
▶35681604	16/4c	0.477	12.1	125	EM2-25	EM4-20C	EP2-16	EP4-16	EN2-3/4	EN4-1/2C	—
▶35681404	14/4c	0.522	13.3	159	EM2-25	EM4-20C	EP2-16	EP4-16	EN2-3/4	EN4-1/2C	VFD GRD KIT 14-2
▶35681204	12/4c	0.592	15.0	214	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35681004	10/4c	0.680	17.3	294	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35680804	8/4c	0.886	22.5	556	EM2-32C	EM4-32	EP2-29	EP4-29	EN2-1	EN4-1	VFD GRD KIT 14-2
▶35680604	6/4c	0.968	24.6	736	EM2-40C	EM4-40	EP2-36	EP4-36	EN2-1	EN4-1 1/4	VFD GRD KIT 14-2
▶35680404	4/4c	1.090	27.7	1079	EM2-40C	EM4-40	EP2-36	EP4-36	-	EN4-1 1/4	VFD GRD KIT 14-2
▶35680204	2/4c	1.247	31.7	1550	EM2-50C	EM4-50	EP2-42	EP4-42	-	EN4-1 1/2	VFD GRD KIT 14-2
▶35680104	1/4c	1.444	36.7	1190	EM2-50C	EM4-50	EP2-42	EP4-42	-	-	VFD GRD KIT 14-2
▶35681104	1/0-4c	1.565	39.8	2168	EM2-63	EM4-63	EP2-48	EP4-48	-	-	VFD GRD KIT 1-4/0
▶35682104	2/0-4c	1.661	42.2	2550	EM2-63	EM4-63C	EP2-63	EP4-48	-	-	VFD GRD KIT 1-4/0
▶35683104	3/0-4c	1.830	46.5	3135	-	-	-	-	-	-	VFD GRD KIT 1-4/0
▶35684104	4/0-4c	2.083	52.9	3844	-	-	-	-	-	-	VFD GRD KIT 1-4/0
▶35682504	250/4c	2.217	56.3	4566	-	-	-	-	-	-	VFD GRD KIT 250-500
▶35683504	350/4c	2.471	62.8	6106	-	-	-	-	-	-	VFD GRD KIT 250-500
▶35685004	500/4c	2.820	71.6	8440	-	-	-	-	-	-	VFD GRD KIT 250-500

Other dimensions and colors are possible on request.

UL TC-ER-JP (joist pull) available upon request

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages starting on page 90. VFD termination kits are on page 95.

# Cables for Industrial Automation

## VFD XLPE TR D

Variable frequency drive - double shielded VFD cable with drain wire and XLPE insulation, Type TC-ER



600V FT4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE



Marking for VFD XLPE TR D 35681404D:

SAB NORTH AMERICA VFD XLPE TR D P/N 35681404D (UL) Type TC-ER 14AWG/3C RHW-2 CDRS + GNDG CDR 90C Dry/Wet 600V, Oil Res I & II, Sunlight Resistant, Direct Burial, (UL) WTTC 1000V, (UL) Flexible Motor Supply Cable, c(UL) CIC-TC XLPE 600V FT4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE

### Construction:

<b>Conductor:</b>	tinned copper strands class K
<b>Insulation:</b>	special formulated crosslinked PE, ground wire PVC
<b>Color code:</b>	blackish gray conductors with consecutive white numbers and green/yellow ground
<b>Stranding:</b>	in layers
<b>Shielding:</b>	double shield, AMA foil and tinned copper braiding and drain wire
<b>Jacket material:</b>	special sunlight and oil resistant copolymer
<b>Jacket color:</b>	black (RAL 9005)

### Technical data:

<b>Voltage:</b>	(UL) / c(UL): 600 V CSA-AWM: 1000 V (UL) WTTC: 1000 V
<b>Testing voltage:</b>	3000 V
<b>Min. bending radius:</b>	12 x O.D.
<b>Temperature range:</b>	(UL) / c(UL) / CSA-AWM: up to +90°C -40/105°C
<i>static:</i>	
<b>Burning characteristics:</b>	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2
<b>Oil resistance I &amp; II:</b>	yes
<b>Sunlight resistance:</b>	yes
<b>Exposed runs:</b>	yes
<b>Cold bend test:</b>	-40°C
<b>Direct burial:</b>	yes
<b>Approvals:</b>	UL TC-ER, UL WTTC, c(UL) CIC-TC, CSA AWM, CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog

### Outstanding features:



- interconnection of variable frequency drive control device to variable frequency motors
- UL 90°C wet
- WTTC: UL subject 2277
- TC-ER: UL standard 1277
- UL flexible motor supply cable 1000 V
- crosslinked conductors, better for longer installations
- Oil Res I & II
- double shielded (100% shielded)
- drain wire included
- Class 1 Div 2 per NEC Article 501.4 (B)

item no.	AWG/c	drain wire AWG	nominal outer-ø		cable weight ≈lbs/mft	EMC Grounding Gland						VFD Termination Kit
			inch 10%	mm 10%		Metric EMC-2	Metric EMC-4	PG EMC-2	PG EMC-4	NPT EMC-2	NPT EMC-4	Grounding kits for larger AWG cables
▶35681604D	16/4c	16	0.493	12.5	144	EM2-25	EM4-20C	EP2-16	EP4-16	EN2-3/4	EN4-1/2C	—
▶35681404D	14/4c	14	0.522	13.3	180	EM2-25	EM4-20C	EP2-16	EP4-16	EN2-3/4	EN4-1/2C	VFD GRD KIT 14-2
▶35681204D	12/4c	12	0.592	15.0	237	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35681004D	10/4c	10	0.680	17.3	327	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35680804D	8/4c	4x14	0.886	22.5	620	EM2-32C	EM4-32	EP2-29	EP4-29	EN2-1	EN4-1	VFD GRD KIT 14-2
▶35680604D	6/4c	4x12	0.974	24.7	805	EM2-40C	EM4-40	EP2-36	EP4-36	EN2-1	EN4-1 1/4	VFD GRD KIT 14-2
▶35680404D	4/4c	4x10	1.090	27.7	1150	EM2-40C	EM4-40	EP2-36	EP4-36	-	EN4-1 1/4	VFD GRD KIT 14-2
▶35680204D	2/4c	4x8	1.247	31.7	1600	EM2-50C	EM4-50	EP2-42	EP4-42	-	EN4-1 1/2	VFD GRD KIT 14-2

Other dimensions and colors are possible on request.

UL TC-ER-JP (joist pull) available upon request

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages starting on page 90. VFD termination kits are on page 95.



- Temperature resistant down to -40°C
- Heavy duty application



# Cables for Industrial Automation

## VFD XLPE TR Lean

Variable frequency drive - double shielded VFD cable with XLPE insulation, Type TC-ER



600V FT4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE



Marking for VFD XLPE TR LEAN 35661404:

SAB NORTH AMERICA VFD XLPE TR LEAN P/N 35661404 (UL) Type TC-ER 14AWG/3C XHHW-2 CDRS + GNDG CDR 90C Dry/Wet 600V, Oil Res I & II, Sunlight Resistant, Direct Burial, (UL) WTTTC 1000V, (UL) Flexible Motor Supply Cable, c(UL) CIC-TC XLPE 600V FT4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE

### Construction:

<b>Conductor:</b>	tinned copper strands class K
<b>Insulation:</b>	special formulated crosslinked PE, ground wire PVC
<b>Color code:</b>	black conductors with consecutive white numbers and green/yellow ground
<b>Stranding:</b>	in layers
<b>Shielding:</b>	double shield, AMA foil and tinned copper braiding
<b>Jacket material:</b>	special sunlight and oil resistant copolymer
<b>Jacket color:</b>	black (RAL 9005)

### Technical data:

<b>Voltage:</b>	(UL) / c(UL): 600 V CSA-AWM: 1000 V (UL) WTTTC: 1000 V
<b>Testing voltage:</b>	3000 V
<b>Min. bending radius:</b>	12 x O.D.
<b>Temperature range:</b>	(UL) / c(UL) / CSA-AWM: static: up to +90°C -40/105°C
<b>Burning characteristics:</b>	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2
<b>Oil resistance I &amp; II:</b>	yes
<b>Sunlight resistance:</b>	yes
<b>Exposed runs:</b>	yes
<b>Cold bend test:</b>	-40°C
<b>Direct burial:</b>	yes
<b>Approvals:</b>	UL TC-ER, UL WTTTC, c(UL) CIC-TC, CSA AWM, CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog

### Outstanding features:

- interconnection of variable frequency drive control device to variable frequency motors
- UL 90°C wet
- WTTTC: UL subject 2277
- TC-ER: UL standard 1277
- UL flexible motor supply cable 1000 V
- recommended for installations up to 100ft
- Oil Res I & II
- double shielded (100% shielded)
- Class 1 Div 2 per NEC Article 501.4 (B)

item no.	AWG/c	nominal outer-ø		cable weight ≈lbs/mft	EMC Grounding Gland						VFD Termination Kit
		inch 10%	mm 10%		Metric EMC-2	Metric EMC-4	PG EMC-2	PG EMC-4	NPT EMC-2	NPT EMC-4	Grounding kits for larger AWG cables
▶35661804	18/4c	0.383	9.7	94	EM2-20	EM4-20	EP2-13	EP4-13	EN2-1/2	EN4-1/2	—
▶35661604	16/4c	0.423	10.7	120	EM2-20	EM4-20	EP2-13	EP4-13	EN2-1/2	EN4-1/2	—
▶35661404	14/4c	0.468	11.9	153	EM2-25	EM4-20	EP2-16	EP4-16	EN2-1/2	EN4-1/2C	VFD GRD KIT 14-2
▶35661204	12/4c	0.530	13.5	207	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35661004	10/4c	0.606	15.4	286	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35660804	8 /4c	0.814	20.7	471	EM2-32	EM4-32	EP2-29	EP4-29	EN2-1	EN4-3/1	VFD GRD KIT 14-2

Other dimensions and colors are possible on request.

UL TC-ER-JP (joist pull) available upon request

Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages starting on page 90. VFD termination kits are on page 95.

- Temperature resistant down to -40°C
- Heavy duty application

# Cables for Industrial Automation

## VFD Combo XLPE

Variable frequency drive - double shielded VFD cable with XLPE insulation and shielded pair, Type TC-ER



CSA AWM I/II A/B 90°C 1000V FT1 FT2 CE



Marking for VFD Combo XLPE 35691404:

SAB NORTH AMERICA VFD Combo XLPE P/N 35691404 (UL) Type TC-ER 14AWG/3C RHW-2 CDRS + GNDG CDR + 14AWG/1PR 90C Dry/Wet 600V,

Oil Res I & II, Sunlight Resistant, Direct Burial, (UL) WTTC 1000V, (UL) Flexible Motor Supply Cable, c(UL) CIC-TC XLPE 600V FT4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE

### Construction:

<b>Conductor:</b>	tinned copper strands class K
<b>Insulation:</b>	special formulated crosslinked PE, ground wire: PVC, pair: PVC/Nylon
<b>Color code:</b>	blackish gray conductors with consecutive white numbers and green/yellow ground, pair is black with white #5 and #6
<b>Stranding:</b>	in layers
<b>Shielding (pair):</b>	aluminum foil and drain wire (drain wire same size as pair)
<b>Shielding (overall):</b>	double shield, AMA foil and tinned copper braiding
<b>Jacket material:</b>	special sunlight and oil resistant copolymer
<b>Jacket color:</b>	black (RAL 9005)

### Technical data:

<b>Voltage:</b>	(UL) / c(UL): 600 V CSA-AWM: 1000 V (UL) WTTC: 1000 V
<b>Testing voltage:</b>	3000 V
<b>Min. bending radius:</b>	12 x O.D.
<b>Temperature range:</b>	(UL) / c(UL) / CSA-AWM: up to +90°C -40/105°C
<i>static:</i>	
<b>Burning characteristics:</b>	(UL) / c(UL) FT4, c(UL) / CSA-AWM FT1, FT2
<b>Oil resistance I &amp; II:</b>	yes
<b>Sunlight resistance:</b>	yes
<b>Exposed runs:</b>	yes
<b>Cold bend test:</b>	-40°C
<b>Direct burial:</b>	yes
<b>Approvals:</b>	UL TC-ER, UL WTTC, c(UL) CIC-TC, CSA AWM, CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30 in full line catalog

### Outstanding features:



- interconnection of variable frequency drive control device to variable frequency motors
- shielded pairs for a brake or temperature sensor
- WTTC: UL subject 2277
- TC-ER: UL standard 1277
- UL flexible motor supply cable 1000 V
- crosslinked conductors, better for longer installations
- Oil Res I & II
- double shielded (100% shielded)
- rated for UL 90°C wet
- Class 1 Div 2 per NEC Article 501.4 (B)



- Temperature resistant down to -40°C
- Heavy duty application

item no.	AWG/c	AWG/pair	nominal outer-ø		cable weight ≈lbs/mft	EMC Grounding Gland						VFD Termination Kit
			inch 10%	mm 10%		Metric EMC-2	Metric EMC-4	PG EMC-2	PG EMC-4	NPT EMC-2	NPT EMC-4	
▶35691614	16/4c	18/1pr	0.573	14.6	144	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4-	—
▶35691624D	16/4c	16/1pr	0.580	14.7	210	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4-	—
▶35691414	14/4c	18/1pr	0.616	15.6	175	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35691404	14/4c	14/1pr	0.628	16.0	213	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35691424D	14/4c	16/1pr	0.626	15.9	257	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35691464	14/4c	18/2pr	0.662	16.8	254	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35691214	12/4c	18/1pr	0.654	16.6	231	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35691224D	12/4c	16/1pr	0.662	16.8	308	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35691204	12/4c	14/1pr	0.667	16.9	277	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35691264	12/4c	18/2pr	0.698	17.7	299	EM2-25C	EM4-25	EP2-21	EP4-21	EN2-3/4	EN4-3/4	VFD GRD KIT 14-2
▶35691004	10/4c	14/1pr	0.736	18.7	354	EM2-32C	EM4-32	EP2-29	EP4-29	EN2-1	EN4-1	VFD GRD KIT 14-2
▶35691024D	10/4c	16/1pr	0.738	18.7	417	EM2-32C	EM4-32	EP2-29	EP4-29	EN2-1	EN4-1	VFD GRD KIT 14-2
▶35691064	10/4c	18/2pr	0.762	19.4	383	EM2-32C	EM4-32	EP2-29	EP4-29	EN2-1	EN4-1	VFD GRD KIT 14-2
▶35690804	8/4c	14/1pr	0.960	24.4	536	EM2-40C	EM4-40	EP2-36	EP4-36	EN2-1	EN4-1 1/4	VFD GRD KIT 14-2
▶35690864	8/4c	18/2pr	0.961	24.4	576	EM2-40C	EM4-40	EP2-36	EP4-36	EN2-1	EN4-1 1/4	VFD GRD KIT 14-2
▶35690604	6/4c	14/1pr	1.030	26.2	726	EM2-40C	EM4-40	EP2-36	EP4-36	-	EN4-1 1/4	VFD GRD KIT 14-2
▶35690664	6/4c	16/2pr	1.032	26.2	766	EM2-40C	EM4-40	EP2-36	EP4-36	-	EN4-1 1/4	VFD GRD KIT 14-2
▶35690404	4/4c	14/1pr	1.140	29.0	1011	EM2-40C	EM4-40	EP2-36	EP4-36	-	EN4-1 1/4	VFD GRD KIT 14-2
▶35690464	4/4c	14/2pr	1.192	30.3	1068	EM2-40C	EM4-40	EP2-36	EP4-36	-	EN4-1 1/4	VFD GRD KIT 14-2
▶35690204	2/4c	14/1pr	1.280	32.5	1401	EM2-50C	EM4-50	EP2-42	EP4-42	-	EN4-1 1/2	VFD GRD KIT 14-2

\* D means drain wire in P/N

Other dimensions and colors are possible on request.

UL TC-ER-JP (joist pull) available upon request











Table shows recommended cable glands. Other thread sizes may be available. Refer to EMC gland pages starting on page 90. VFD termination kits are on page 95.

These cables are designed to deliver optimal functionality wherever alternate bending and continuous motion are required, from heavy-duty power and control to ultra-sensitive data communications. SAB PVC or PUR/TPE cable track cables resist abrasion and chemicals for a long service life. Designed and tested for X-Y flexing and alternate bending. Life cycle testing available up to 20 million cycles.

**Features:**

- Applications requiring alternate bending or continuous motion
- Abrasion resistant
- Long service life; millions of flexing cycles
- Fully tested in our technical department
- Chemical and wash down resistant



Single Conductor Cable Track Cables with UL Recognition, CSA Approval			
■ S 900		Continuous flex oil resistant power supply cable for small bend radius applications . . .	32
PVC Cable Track Data and Control Cables with UL Recognition			
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Additional continuous flex cables are available on our website and in the full line catalog (Section B)

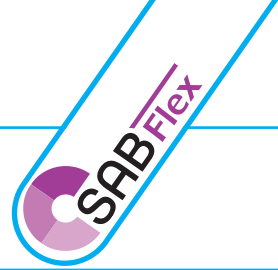




# Cables for Industrial Automation

## S 900

Continuous flex oil resistant power supply cable for small bend radius applications



Marking for S 900 7671362:

SAB BRÖCKSKES · D-VIERSEN · 7670601 16.0 mm<sup>2</sup> S 900 6 AWG 7671362 AWM Style 10455 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 6
<b>Insulation:</b>	PVC, Tl2 acc. to EN 50363-3 + VDE 0207-363-3, black
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PVC, TM5 acc. to EN 50363-3 + VDE 0207-363-3
<b>Jacket color:</b>	black (RAL 9005)

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 0.6/1 kV	
<b>Voltage UL/CSA:</b>	600 V	
<b>Min. bending radius:</b>	7.5 x O.D.	
<i>continuously flexing:</i>		
<b>Radiation resistance:</b>	8 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b>	<b>UL/CSA:</b> up to +90°C
<i>static:</i>	-40/+70°C	
<i>flexing:</i>	+5/+70°C	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2	
<b>Oil resistance:</b>	very good - TM5 acc. to EN 50363-3 + VDE 0207-363-3	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

### Outstanding features:



- highly flexible single conductor for use in cable tracks
- UV resistant jacket

item no.	no. of conductors n x mm <sup>2</sup>	AWG/MCM	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft	ampere at 30° C
▶ 7671315	1 x 1.50	16 (≈ 84/34)	0.193	4.9	26	24
▶ 7671325	1 x 2.50	14 (≈ 140/34)	0.228	5.8	37	32
▶ 7671340	1 x 4.00	12 (≈ 224/34)	0.260	6.6	52	42
▶ 7671360	1 x 6.00	10 (≈ 186/32)	0.287	7.3	70	54
▶ 7671361	1 x 10.00	8 (≈ 320/32)	0.358	9.1	108	73
▶ 7671362	1 x 16.00	6 (≈ 512/32)	0.398	10.1	155	98
▶ 7671363	1 x 25.00	4 (≈ 798/32)	0.472	12.0	226	129
▶ 7671364	1 x 35.00	2 (≈ 1083/32)	0.539	13.7	305	158
▶ 7671365	1 x 50.00	1 (≈ 703/28)	0.622	15.8	425	198
▶ 7671385	1 x 54.00	1/0 (≈ 779/28)	0.642	16.3	455	213
▶ 7671386	1 x 68.00	2/0 (≈ 969/28)	0.673	17.1	530	226
▶ 7671366	1 x 70.00	2/0 (≈ 988/28)	0.681	17.3	540	245
▶ 7671387	1 x 86.00	3/0 (≈ 1218/28)	0.776	19.7	696	263
▶ 7671367	1 x 95.00	3/0 (≈ 1340/28)	0.827	21.0	770	292
▶ 7671388	1 x 108.00	4/0 (≈ 1528/28)	0.886	22.5	864	313
▶ 7671368	1 x 120.00	4/0 (≈ 1680/28)	0.898	22.8	941	344
▶ 7671389	1 x 127.00	250 MCM (≈ 1799/28)	0.917	23.3	1001	370
▶ 7671369	1 x 150.00	250 MCM (≈ 2122/28)	0.969	24.6	1158	391
▶ 7671390	1 x 152.00	300 MCM (≈ 2154/28)	0.969	24.6	1158	396
▶ 7671391	1 x 177.00	350 MCM (≈ 1443/26)	1.051	26.7	1378	430
▶ 7671370	1 x 185.00	350 MCM (≈ 1472/26)	1.051	26.7	1401	448
▶ 7671392	1 x 204.00	400 MCM (≈ 1628/26)	1.197	30.4	1620	470
▶ 7671393	1 x 232.00	450 MCM (≈ 1850/26)	1.240	31.5	1809	490
▶ 7671371	1 x 240.00	450 MCM (≈ 1910/26)	1.240	31.5	1856	528
▶ 7671394	1 x 255.00	500 MCM (≈ 2035/26)	1.252	31.8	1962	535
▶ 7671395	1 x 283.00	550 MCM (≈ 2257/26)	1.323	33.6	2284	560
▶ 7671372	1 x 300.00	550 MCM (≈ 2388/26)	1.350	34.3	2286	608
▶ 7671396	1 x 306.00	600 MCM (≈ 2442/26)	1.350	34.3	2329	613

from 283 mm<sup>2</sup> only UL recognition.  
Other dimensions and colors are possible on request.



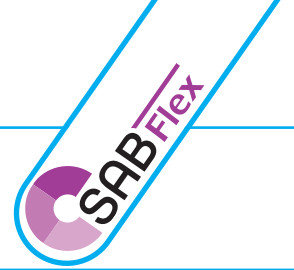
### Possible on request:

- with green/yellow insulation

# Cables for Industrial Automation

## SD 960

Continuous flex data cable for small bending radius



25c 37102625 AWM Style 21083 80°C 300V



Marking for SD 960 37102625:

SAB BRÖCKSKES · D-VIERSEN · 37102625 25 x 0.14 mm<sup>2</sup> SD 960 26 AWG/25c 37102625 AWM Style 21083 80°C 300V CE

### Construction:

<b>Conductor:</b>	bare copper strands, extra fine wires
<b>Insulation:</b>	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
<b>Color code:</b>	US 2, see below
<b>Stranding:</b>	specially adjusted layering with non-woven tape over each layer
<b>Jacket material:</b>	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
<b>Jacket color:</b>	grayish tan (RAL 7032)

### Technical data:

<b>Peak operating voltage:</b>	max. 350 V	
<b>Voltage UL:</b>	300 V	
<b>Testing voltage:</b>	conductor/conductor: 1500 V	
<b>Min. bending radius:</b>	7.5 x O.D.	
<i>continuously flexing:</i>		
<b>Radiation resistance:</b>	8 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b>	<b>UL/CSA:</b> up to +80°C
<i>static:</i>	-30/+70°C	
<i>flexing:</i>	-5/+70°C	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1	
<b>Oil resistance:</b>	acc. to our internal standard, see page O/29	
<b>Approvals:</b>	UR AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

### Outstanding features:



- very good flexibility
- small bending radius
- reinforced outer jacket

item no.	no. of conductors incl. ground	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 26 AWG (≈ 18/38) ▪ 0.14 mm<sup>2</sup></b>				
37102602	2	0.154	3.9	11
37102603	3	0.161	4.1	14
37102604	4	0.177	4.5	16
37102605	5	0.193	4.9	20
37102607	7	0.224	5.7	28
37102610	10	0.264	6.7	33
37102614	14	0.283	7.2	42
37102618	18	0.323	8.2	56
37102625	25	0.398	10.1	78

item no.	no. of conductors incl. ground	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 24 AWG (≈ 32/38) ▪ 0.25 mm<sup>2</sup></b>				
37102402	2	0.165	4.2	15
37102403	3	0.177	4.5	17
37102404	4	0.189	4.8	21
37102405	5	0.209	5.3	26
37102407	7	0.248	6.3	36
37102410	10	0.287	7.3	44
37102414	14	0.319	8.1	58
37102418	18	0.354	9.0	74
37102425	25	0.433	11.0	102

item no.	no. of conductors incl. ground	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 22 AWG (≈ 42/38) ▪ 0.34 mm<sup>2</sup></b>				
37102202	2	0.173	4.4	17
37102203	3	0.185	4.7	20
37102204	4	0.201	5.1	24
37102205	5	0.217	5.5	30
37102207	7	0.260	6.6	41
37102210	10	0.311	7.9	53
37102214	14	0.335	8.5	69
37102218	18	0.374	9.5	87
37102225	25	0.461	11.7	120

Other dimensions and colors are available on request

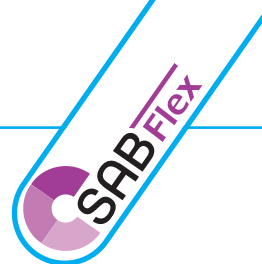
#### US 2 color code:

#1- black, #2- white, #3- red, #4- green, #5- orange, #6- blue, #7- white-black, #8- red-black, #9- green-black, #10- orange-black, #11- blue-black, #12- black-white, #13- red-white, #14- green-white, #15- blue-white, #16- black-red, #17- white-red, #18- orange-red, #19- blue-red, #20- red-green, #21- orange-green, #22- black-white-red, #23- white-black-red, #24- red-black-white, #25- green-black-white

# Cables for Industrial Automation

## S 960

Continuous flex control cable for small bending radius with black conductors



Marking for S 960 7521612:

SAB BRÖCKSKES · D-VIERSEN · 7521215 12 x 1.5 mm<sup>2</sup> S 960 16 AWG/12c 7521612 AWM Style 2587 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 6
<b>Insulation:</b>	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
<b>Color code:</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
<b>Stranding:</b>	specially adjusted layering with non-woven tape over each layer
<b>Jacket material:</b>	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
<b>Jacket color:</b>	black (RAL 9005)

### Outstanding features:



- very good flexibility
- small bending radius
- reinforced outer jacket
- UV resistant jacket

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 300/500 V	
<b>Voltage UL/CSA:</b>	600 V	
<b>Testing voltage:</b>	conductor/conductor: 2000 V	
<b>Min. bending radius:</b>	<i>continuously flexing:</i> 7.5 x O.D.	
<b>Radiation resistance:</b>	8 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b>	<b>UL/CSA:</b> up to +90°C
<i>static:</i>	-40/+70°C	
<i>flexing:</i>	+5/+70°C	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2	
<b>Oil resistance:</b>	acc. to our internal standard, see page O/29	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 20 AWG (≈ 28/34) ▪ 0.50 mm<sup>2</sup></b>				
7522002	2	0.217	5.5	27
7522003	3	0.228	5.8	32
7522004	4	0.248	6.3	38
7522005	5	0.276	7.0	48
7522007	7	0.323	8.2	66
7522012	12	0.398	10.1	97
7522018	18	0.472	12.0	142
7522025	25	0.567	14.4	191
7522034	34	0.638	16.2	254
7522050	50	0.752	19.1	351
7522061	61	0.831	21.1	440
<b>▶ 19 AWG (≈ 42/34) ▪ 0.75 mm<sup>2</sup></b>				
7521902	2	0.232	5.9	32
7521903	3	0.248	6.3	38
7521904	4	0.268	6.8	46
7521905	5	0.295	7.5	5
7521907	7	0.358	9.1	82
7521912	12	0.433	11.0	119
7521918	18	0.516	13.1	175
7521925	25	0.622	15.8	238
7521934	34	0.705	17.9	318
7521950	50	0.831	21.1	450
7521961	61	0.925	23.5	558
<b>▶ 18 AWG (≈ 56/34) ▪ 1.00 mm<sup>2</sup></b>				
7521802	2	0.244	6.2	37
7521803	3	0.256	6.5	44
7521804	4	0.283	7.2	55
7521805	5	0.311	7.9	68
7521807	7	0.370	9.4	95
7521809	9	0.445	11.3	136
7521812	12	0.453	11.5	142
7521815	15	0.516	13.1	187
7521818	18	0.539	13.7	210

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 18 AWG (≈ 56/34) ▪ 1.00 mm<sup>2</sup></b>				
7521825	25	0.650	16.5	285
7521834	34	0.736	18.7	382
7521850	50	0.886	22.5	555
7521861	61	0.965	24.5	671
<b>▶ 16 AWG (≈ 84/34) ▪ 1.50 mm<sup>2</sup></b>				
7521602	2	0.268	6.8	47
7521603	3	0.287	7.3	59
7521604	4	0.315	8.0	73
7521605	5	0.346	8.8	91
7521607	7	0.417	10.6	129
7521609	9	0.496	12.6	179
7521612	12	0.512	13.0	194
7521618	18	0.606	15.4	286
7521625	25	0.736	18.7	390
7521634	34	0.831	21.1	522
7521650	50	0.988	25.1	749
7521661	61	1.087	27.6	915
<b>▶ 14 AWG (≈ 140/34) ▪ 2.50 mm<sup>2</sup></b>				
7521402	2	0.35	8.9	79
7521403	3	0.374	9.5	97
7521404	4	0.409	10.4	120
7521405	5	0.457	11.6	150
7521407	7	0.551	14.0	214
7521412	12	0.681	17.3	323
7521418	18	0.815	20.7	480
7521425	25	0.988	25.1	654
<b>▶ 12 AWG (≈ 224/34) ▪ 4.00 mm<sup>2</sup></b>				
7521203	3	0.445	11.3	150
7521204	4	0.488	12.4	179
7521205	5	0.543	13.8	230
7521207	7	0.657	16.7	331

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 10 AWG (≈ 186/32) ▪ 6.00 mm<sup>2</sup></b>				
7521003	3	0.516	13.1	214
7521004	4	0.571	14.5	256
7521005	5	0.638	16.2	329
7521007	7	0.764	19.4	470
<b>▶ 8 AWG (≈ 320/32) ▪ 10.00 mm<sup>2</sup></b>				
7520803	3	0.638	16.2	337
7520804	4	0.709	18.0	428
7520805	5	0.791	20.1	529
<b>▶ 6 AWG (≈ 504/32) ▪ 16.00 mm<sup>2</sup></b>				
7520603	3	0.764	19.4	507
7520604	4	0.846	21.5	641
7520605	5	0.949	24.1	798
<b>▶ 4 AWG (≈ 760/32) ▪ 25.00 mm<sup>2</sup></b>				
7520404	4	1.024	26.0	935
7520405	5	1.142	29.0	1195
<b>▶ 2 AWG (≈ 1083/32) ▪ 35.00 mm<sup>2</sup></b>				
7520204	4	1.173	29.8	1284
7520205	5	1.295	32.9	1582
<b>▶ 1 AWG (≈ 703/28) ▪ 50.00 mm<sup>2</sup></b>				
7520104	4	1.374	34.9	1795

Other dimensions and colors are available on request



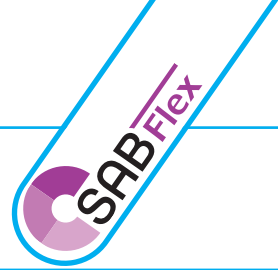
also available with gray jacket and blue or red conductors



# Cables for Industrial Automation

## SD 960 CY

Shielded continuous flex data cable for small bending radius



Marking for SD 960 CY 7852425:

SAB BRÖCKSKES · D-VIERSEN · 7852502 25 x 0.25 mm<sup>2</sup> SD 960 CY 24 AWG/25c 7852425 AWM Style 21083 80°C 300V CE

### Construction:

<b>Conductor:</b>	bare copper strands, extra fine wires
<b>Insulation:</b>	PVC, TI2 acc. to EN 50363-3 + VDE 0207-363-3
<b>Color code:</b>	US 2, see below
<b>Stranding:</b>	specially adjusted layering with non-woven tape over each layer
<b>Wrapping:</b>	non-woven tape
<b>Shielding:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
<b>Jacket color:</b>	black (RAL 9005)

### Technical data:

<b>Peak operating voltage:</b>	max. 350 V	
<b>Voltage UL:</b>	300 V	
<b>Testing voltage:</b>	conductor/conductor: 1500 V conductor/shielding: 1200 V	
<b>Min. bending radius:</b> <i>continuously flexing:</i>	7.5 x O.D.	
<b>Radiation resistance:</b>	8 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b> <i>static:</i> <i>flexing:</i>	DIN VDE -30/+70°C +5/+70°C	UL/CSA: up to +80°C
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1	
<b>Oil resistance:</b>	acc. to our internal standard, see page O/29	
<b>Approvals:</b>	UR AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

### Outstanding features:



- very good EMC characteristics
- very good flexibility
- small bending radius
- UV resistant jacket

item no.	no. of conductors	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 26 AWG (≈ 18/38) - 0.14 mm<sup>2</sup></b>				
7852602	2	0.177	4.5	17
7852603	3	0.185	4.7	20
7852604	4	0.205	5.2	24
7852605	5	0.220	5.6	28
7852607	7	0.252	6.4	38
7852610	10	0.295	7.5	45
7852614	14	0.335	8.5	60
7852618	18	0.366	9.3	73
7852625	25	0.433	11.0	100

item no.	no. of conductors	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 24 AWG (≈ 32/38) - 0.25 mm<sup>2</sup></b>				
7852402	2	0.193	4.9	20
7852403	3	0.205	5.2	24
7852404	4	0.217	5.5	28
7852405	5	0.244	6.2	36
7852407	7	0.280	7.1	43
7852410	10	0.335	8.5	60
7852414	14	0.362	9.2	75
7852418	18	0.398	10.1	92
7852425	25	0.492	12.5	134

item no.	no. of conductors	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 22 AWG (≈ 42/38) - 0.34 mm<sup>2</sup></b>				
7852202	2	0.201	5.1	22
7852203	3	0.213	5.4	26
7852204	4	0.228	5.8	31
7852205	5	0.252	6.4	40
7852207	7	0.291	7.4	49
7852210	10	0.346	8.8	69
7852214	14	0.378	9.6	86
7852218	18	0.425	10.8	114
7852225	25	0.512	13.0	153

Other dimensions and colors are available on request

#### US 2 color code:

#1- black, #2- white, #3- red, #4- green, #5- orange, #6- blue, #7- white-black, #8- red-black, #9- green-black, #10- orange-black, #11- blue-black, #12- black-white, #13- red-white, #14- green-white, #15- blue-white, #16- black-red, #17- white-red, #18- orange-red, #19- blue-red, #20- red-green, #21- orange-green, #22- black-white-red, #23- white-black-red, #24- red-black-white, #25- green-black-white



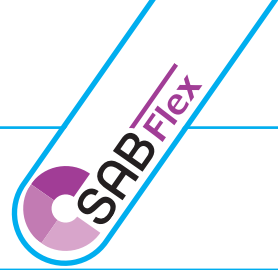
#### Possible on request:

- 20 AWG & 19 AWG
- with gray jacket and colored conductors with reference to DIN 47100

# Cables for Industrial Automation

## S 960 CY

Shielded continuous flex control cable for small bending radius with black conductors



600V CSA AWM I/II A/B 90°C 600V FT1 FT2 CE



Marking for S 960 CY 7541607:

SAB BRÖCKSKES · D-VIERSEN · 754715 7 x 1.5 mm<sup>2</sup> S 960 CY 16 AWG/7c 7541607 AWM Style 2587 90°C 600V CSA AWM I/II A/B 90°C 600V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 6
<b>Insulation:</b>	PVC, T12 acc. to EN 50363-3 + VDE 0207-363-3
<b>Color code:</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
<b>Stranding:</b>	specially adjusted layering with non-woven tape over each layer
<b>Inner jacket:</b>	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
<b>Shielding:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
<b>Jacket color:</b>	black (RAL 9005)

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 300/500 V	
<b>Voltage UL/CSA:</b>	600 V	
<b>Testing voltage:</b>	conductor/conductor: 2000 V conductor/shielding: 2000 V	
<b>Min. bending radius:</b> <i>continuously flexing:</i>	7.5 x O.D.	
<b>Radiation resistance:</b>	8 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b> <i>static:</i> <i>flexing:</i>	DIN VDE -40/+70°C	UL/CSA: up to +90°C +5/+70°C
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2	
<b>Oil resistance:</b>	acc. to our internal standard, see page O/29	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

### Outstanding features:



- very good EMC characteristics
- very good flexibility
- small bending radius
- UV resistant jacket

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 20 AWG (≈ 28/34) ▪ 0.50 mm<sup>2</sup></b>				
7542002	2	0.311	7.9	53
7542003	3	0.323	8.2	61
7542004	4	0.343	8.7	70
7542005	5	0.370	9.4	83
7542007	7	0.421	10.7	110
7542012	12	0.516	13.1	163
7542018	18	0.594	15.1	226
7542025	25	0.697	17.7	296
<b>▶ 19 AWG (≈ 42/34) ▪ 0.75 mm<sup>2</sup></b>				
7541902	2	0.327	8.3	60
7541903	3	0.343	8.7	69
7541904	4	0.366	9.3	81
7541905	5	0.394	10.0	95
7541907	7	0.457	11.6	126
7541912	12	0.551	14.0	185
7541918	18	0.638	16.2	261
7541925	25	0.764	19.4	350
<b>▶ 18 AWG (≈ 56/34) ▪ 1.00 mm<sup>2</sup></b>				
7541802	2	0.339	8.6	66
7541803	3	0.350	8.9	75
7541804	4	0.374	9.5	88
7541805	5	0.406	10.3	105
7541807	7	0.476	12.1	144
7541812	12	0.579	14.7	222
7541818	18	0.665	16.9	305
7541825	25	0.791	20.1	404
7541836	36	0.890	22.6	574

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 16 AWG (≈ 84/34) ▪ 1.50 mm<sup>2</sup></b>				
7541602	2	0.366	9.3	79
7541603	3	0.382	9.7	92
7541604	4	0.409	10.4	110
7541605	5	0.453	11.5	140
7541607	7	0.531	13.5	192
7541612	12	0.638	16.2	282
7541618	18	0.744	18.9	394
7541625	25	0.886	22.5	530
<b>▶ 14 AWG (≈ 140/34) ▪ 2.50 mm<sup>2</sup></b>				
7541402	2	0.449	11.4	122
7541403	3	0.472	12.0	147
7541404	4	0.516	13.1	179
7541405	5	0.571	14.5	229
7541407	7	0.622	15.8	294
7541412	12	0.803	20.4	438
7541418	18	0.933	23.7	610
7541425	25	1.110	28.2	815
<b>▶ 12 AWG (≈ 224/34) ▪ 4.00 mm<sup>2</sup></b>				
7541203	3	0.539	13.7	202
7541204	4	0.575	14.6	251
7541205	5	0.630	16.0	304
7541207	7	0.760	19.3	440
<b>▶ 10 AWG (≈ 186/32) ▪ 6.00 mm<sup>2</sup></b>				
7541003	3	0.638	16.2	288
7541004	4	0.685	17.4	347
7541005	5	0.760	19.3	416

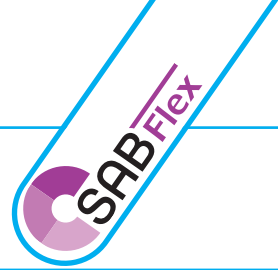
item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 8 AWG (≈ 320/32) ▪ 10.00 mm<sup>2</sup></b>				
7540804	4	0.835	21.2	531
7540805	5	0.925	23.5	644
<b>▶ 6 AWG (≈ 504/32) ▪ 16.00 mm<sup>2</sup></b>				
7540604	4	0.980	24.9	734
7540605	5	1.079	27.4	902
<b>▶ 4 AWG (≈ 760/32) ▪ 25.00 mm<sup>2</sup></b>				
7540404	4	1.165	29.6	1124
7540405	5	1.291	32.8	1329
<b>▶ 2 AWG (≈ 1083/32) ▪ 35.00 mm<sup>2</sup></b>				
7540204	4	1.303	33.1	1418
<b>▶ 1 AWG (≈ 703/28) ▪ 50.00 mm<sup>2</sup></b>				
7540104	4	1.567	39.8	2022

Other dimensions and colors are available on request

# Cables for Industrial Automation

## SD 960 CY TP

Continuous flex twisted pairs shielded data cable for small bending radius



Marking for SD 960 CY TP 7772403:

SAB BRÖCKSKES · D-VIERSEN · 7770325 3 x 2 x 0.25 mm<sup>2</sup> SD 960 CY TP 24 AWG/3pr 7772403 AWM Style 21083 80°C 300V CE

### Construction:

<b>Conductor:</b>	bare copper strands, extra fine wires
<b>Insulation:</b>	PVC, T12 acc. to EN 50363-3 + VDE 0207-363-3
<b>Color code:</b>	acc. to color code US 3, see below
<b>Stranding:</b>	conductors twisted to pairs, pairs twisted in specially adjusted layering with non-woven tape over the outer layer
<b>Shielding:</b>	tinned copper braiding
<b>Jacket material:</b>	PVC, TM2 acc. to EN 50363-3 + VDE 0207-363-3
<b>Jacket color:</b>	black (RAL 9005)

### Technical data:

<b>Peak operating voltage:</b>	max. 350 V	
<b>Voltage UL:</b>	300 V	
<b>Testing voltage:</b>	conductor/conductor: 1500 V conductor/shielding: 1200 V	
<b>Min. bending radius:</b>	<i>continuously flexing:</i> 7.5 x O.D.	
<b>Radiation resistance:</b>	8 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b> static: flexing: -30/+70°C -5/+70°C	<b>UL/CSA:</b> up to +80°C
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1	
<b>Oil resistance:</b>	acc. to our internal standard, see page O/29	
<b>Approvals:</b>	UR AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

### Outstanding features:



- very good flexibility
- small bending radius
- UV resistant jacket

item no.	no. of pairs	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 26 AWG (≈ 18/38) ▪ 0.14 mm<sup>2</sup></b>				
7772602	2	0.240	6.1	32
7772603	3	0.264	6.7	39
7772604	4	0.299	7.6	46
7772605	5	0.339	8.6	57
7772607	7	0.362	9.2	73
7772610	10	0.421	10.7	93
7772614	14	0.504	12.8	123
7772618	18	0.547	13.9	163
7772625	25	0.634	16.1	210
<b>▶ 24 AWG (≈ 32/38) ▪ 0.25 mm<sup>2</sup></b>				
7772402	2	0.256	6.5	36
7772403	3	0.283	7.2	47
7772404	4	0.335	8.5	58
7772405	5	0.366	9.3	69
7772407	7	0.386	9.8	91
7772410	10	0.461	11.7	116
7772414	14	0.555	14.1	168
7772418	18	0.594	15.1	205
7772425	25	0.689	17.5	265

item no.	no. of pairs	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 22 AWG (≈ 42/38) ▪ 0.34 mm<sup>2</sup></b>				
7772202	2	0.268	6.8	40
7772203	3	0.291	7.4	51
7772204	4	0.350	8.9	69
7772205	5	0.378	9.6	79
7772207	7	0.417	10.6	111
7772210	10	0.492	12.5	131
7772214	14	0.587	14.9	193
7772218	18	0.646	16.4	240
7772225	25	0.724	18.4	299

item no.	no. of pairs	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 20 AWG (≈ 28/34) ▪ 0.50 mm<sup>2</sup></b>				
7772002	2	0.291	7.4	47
7772003	3	0.339	8.6	70
7772004	4	0.386	9.8	86
7772005	5	0.425	10.8	108
7772007	7	0.461	11.7	138
7772010	10	0.555	14.1	187
7772014	14	0.657	16.7	251
7772018	18	0.705	17.9	308
7772025	25	0.795	20.2	387

Other dimensions and colors are available on request

### US 3 color code:

#1- black paired with red, #2- black paired with white, #3- black paired with green, #4- black paired with blue, #5- black paired with yellow, #6- black paired with brown, #7- black paired with orange, #8- red paired with white, #9- red paired with green, #10- red paired with blue, #11- red paired with yellow, #12- red paired with brown, #13- red paired with orange, #14- green paired with white, #15- green paired with blue, #16- green paired with yellow, #17- green paired with brown, #18- green paired with orange, #19- white paired with blue, #20- white paired with yellow, #21- white paired with brown, #22- white paired with orange, #23- blue paired with yellow, #24- blue paired with brown, #25- blue paired with orange



### Possible on request:

- with gray jacket and colored conductors acc. to DIN 47100



# Cables for Industrial Automation

## S 980 P

High speed continuous flex heavy duty halogen-free polyurethane control cable



Marking for S 980 P 77742012:

SAB BRÖCKSKES · D-VIERSEN · 77741205 S 980 P 12 x 0.50 mm<sup>2</sup> 20 AWG/12c 77742012 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 6
<b>Insulation:</b>	TPE
<b>Color code:</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
<b>Stranding:</b>	specially adjusted layering with netting tape over each layer and one additional non-woven tape over the outer layer
<b>Jacket material:</b>	PUR, TMPU acc. to EN 50363-3 + VDE 0207-363-3-10-2 with matte surface
<b>Jacket color:</b>	gray (RAL 7000)

### Outstanding features:



- halogen-free
- free from paint wetting impairment substances (PWIS-free)
- flexible at low temperatures
- travel > 10 m is possible
- high abrasion resistance
- minimal bending radius

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 300/500 V	
<b>Voltage UL/CSA:</b>	600 V	
<b>Testing voltage:</b>	conductor/conductor: 2000 V	
<b>Min. bending radius:</b> <i>continuously flexing:</i>	7.5 x O.D.	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b> <i>static:</i> <i>flexing:</i>	DIN VDE -50/+90°C	UL/CSA: up to +80°C -40/+90°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1, FT2	
<b>Oil resistance:</b>	very good - TMPU acc. to IEC 50363-10-2 + VDE 0207-363-10-2	
<b>Chemical resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids, etc.	
<b>Continuous flexibility:</b>	very good	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 20 AWG (≈ 28/34) ▪ 0.50 mm<sup>2</sup></b>				
77742003	3	0.260	6.6	35
77742004	4	0.280	7.1	41
77742005	5	0.307	7.8	48
77742007	7	0.350	8.9	62
77742012	12	0.413	10.5	93
77742018	18	0.476	12.1	129
77742025	25	0.563	14.3	171
<b>▶ 19 AWG (≈ 42/34) ▪ 0.75 mm<sup>2</sup></b>				
77741903	3	0.280	7.1	40
77741904	4	0.299	7.6	48
77741905	5	0.331	8.4	57
77741907	7	0.378	9.6	73
77741912	12	0.441	11.2	110
77741918	18	0.524	13.3	155
77741925	25	0.618	15.7	210
<b>▶ 18 AWG (≈ 56/34) ▪ 1.00 mm<sup>2</sup></b>				
77741803	3	0.287	7.3	46
77741804	4	0.311	7.9	56
77741805	5	0.339	8.6	66
77741807	7	0.394	10.0	86
77741812	12	0.461	11.7	131
77741818	18	0.539	13.7	185
77741825	25	0.642	16.3	252

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 16 AWG (≈ 84/34) ▪ 1.50 mm<sup>2</sup></b>				
77741603	3	0.315	8.0	58
77741604	4	0.350	8.9	73
77741605	5	0.370	9.4	88
77741607	7	0.429	10.9	113
77741612	12	0.512	13.0	175
77741618	18	0.563	14.3	247
77741625	25	0.720	18.3	344
<b>▶ 14 AWG (≈ 140/34) ▪ 2.50 mm<sup>2</sup></b>				
77741403	3	0.366	9.3	85
77741404	4	0.394	10.0	104
77741405	5	0.437	11.1	126
77741407	7	0.504	12.8	167
77741412	12	0.618	15.7	269
77741418	18	0.732	18.6	388
77741425	25	0.925	23.5	569
<b>▶ 12 AWG (≈ 224/34) ▪ 4.00 mm<sup>2</sup></b>				
77741203	3	0.413	10.5	148
77741204	4	0.453	11.5	156
77741205	5	0.496	12.6	182
<b>▶ 10 AWG (≈ 186/32) ▪ 6.00 mm<sup>2</sup></b>				
77741003	3	0.480	12.2	173
77741004	4	0.524	13.3	217
77741005	5	0.575	14.6	253

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 8 AWG (≈ 320/32) ▪ 10.00 mm<sup>2</sup></b>				
77740803	3	0.622	15.8	281
77740804	4	0.685	17.4	360
77740805	5	0.768	19.5	439
<b>▶ 6 AWG (≈ 504/32) ▪ 16.00 mm<sup>2</sup></b>				
77740603	3	0.732	18.6	399
77740604	4	0.811	20.6	554
77740605	5	0.965	24.5	714
<b>▶ 4 AWG (≈ 760/32) ▪ 25.00 mm<sup>2</sup></b>				
77740404	4	1.024	26.0	835
77740405	5	1.138	28.9	1016
<b>▶ 2 AWG (≈ 1083/32) ▪ 35.00 mm<sup>2</sup></b>				
77740204	4	1.161	29.5	1093
77740205	5	1.291	32.8	1332
<b>▶ 1 AWG (≈ 703/28) ▪ 50.00 mm<sup>2</sup></b>				
77740104	4	1.425	36.2	1566

Other dimensions and colors are available on request



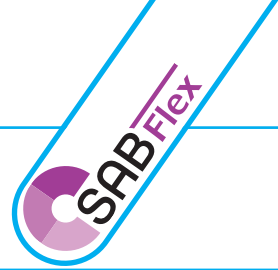
### Possible on request:

- with blue, red or white conductors

# Cables for Industrial Automation

## SD 980 CP

High speed continuous flex heavy duty shielded halogen-free polyurethane data cable



Marking for SD 980 CP 77842625:

SAB BRÖCKSKES · D-VIERSEN · 77842501 25 x 0.14 mm<sup>2</sup> SD 980 CP 26 AWG/25c 77842625 AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands, extra fine wires
<b>Insulation:</b>	TPE
<b>Color code:</b>	DIN 47100, see below
<b>Stranding:</b>	specially adjusted layering with netting tape over each layer
<b>Shielding:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
<b>Jacket color:</b>	grayish tan (RAL 7032)

### Outstanding features:

- free from paint wetting impairment substances (PWIS-free)
- flexible at low temperatures
- halogen-free
- travel > 10 m is possible
- good EMC characteristics
- high abrasion resistance

### Technical data:

<b>Peak operating voltage:</b>	max. 350 V	
<b>Voltage UL/CSA:</b>	300 V	
<b>Testing voltage:</b>	conductor/conductor: 2000 V conductor/shielding: 2000V	
<b>Min. bending radius:</b>	continuously flexing: 7.5 x O.D.	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b> static: -50/+90°C flexing: -40/+90°C	<b>UL/CSA:</b> up to +80°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1 (acc. to dimension), FT2	
<b>Oil resistance:</b>	very good - TMPU acc. to IEC 50363-10-2 + VDE 0207-363-10-2	
<b>Chemical resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids, etc.	
<b>Continuous flexibility:</b>	very good	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 26 AWG (≈ 18/38) ▪ 0.14 mm<sup>2</sup></b>				
77842603	3	0.165	4.2	16
77842604	4	0.177	4.5	18
77842605	5	0.193	4.9	22
77842607	7	0.209	5.3	26
77842610	10	0.236	6.0	32
77842614	14	0.252	6.4	37
77842618	18	0.276	7.0	46
77842625	25	0.315	8.0	59

item no.	no. of conductors	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 24 AWG (≈ 32/38) ▪ 0.25 mm<sup>2</sup></b>				
77842403	3	0.181	4.6	19
77842404	4	0.189	4.8	22
77842405	5	0.205	5.2	27
77842407	7	0.228	5.8	32
77842410	10	0.260	6.6	41
77842414	14	0.276	7.0	51
77842418	18	0.307	7.8	61
77842425	25	0.354	9.0	81

item no.	no. of conductors	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 22 AWG (≈ 42/38) ▪ 0.34 mm<sup>2</sup></b>				
77842203	3	0.189	4.8	22
77842204	4	0.201	5.1	26
77842205	5	0.220	5.6	30
77842207	7	0.244	6.2	37
77842210	10	0.276	7.0	48
77842214	14	0.295	7.5	60
77842218	18	0.323	8.2	73
77842225	25	0.378	9.6	95

Other dimensions and colors are available on request

#### DIN 47100 color code:

#1- white, #2- brown, #3- green, #4- yellow, #5- gray, #6- pink, #7- blue, #8- red, #9- black, #10- violet, #11- gray-pink, #12- red-blue, #13- white-green, #14- brown-green, #15- white-yellow, #16- yellow-brown, #17- white-gray, #18- gray-brown, #19- white-pink, #20- pink-brown, #21- white-blue, #22- brown-blue, #23- white-red, #24- brown-red, #25- white-black



#### Possible on request:

- with colored conductors acc. to US 2
- 20 AWG & 19 AWG

# Cables for Industrial Automation

## S 980 CP

High speed continuous flex heavy duty shielded halogen-free polyurethane control cable



Marking for S 980 CP 77842012:

SAB BRÖCKSKES · D-VIERSEN · 77841205 x 0.5 mm<sup>2</sup> S 980 CP 20 AWG/7c 77842012 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 6
<b>Insulation:</b>	TPE
<b>Color code:</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
<b>Stranding:</b>	specially adjusted layering with non-woven tape over each layer
<b>Inner jacket:</b>	special SABIX®
<b>Wrapping:</b>	non-woven tape
<b>Shielding:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PUR, TMPU acc. to EN 50363-3 + VDE 0207-363-3-10-2 with matte surface
<b>Jacket color:</b>	gray (RAL 7000)

### Outstanding features:

- free from paint wetting impairment substances (PWIS-free)
- flexible at low temperatures
- travel > 10 m is possible
- good EMC characteristics
- high abrasion resistance
- small bending radius
- halogen-free

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 300/500 V	
<b>Voltage UL/CSA:</b>	600 V	
<b>Testing voltage:</b>	conductor/conductor: 2000 V conductor/shielding: 2000 V	
<b>Min. bending radius:</b> <i>continuously flexing:</i>	7.5 x O.D.	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b> <i>static:</i> <i>flexing:</i>	DIN VDE -50/+90°C	UL/CSA: up to +80°C -40/+90°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1, FT2	
<b>Oil resistance:</b>	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
<b>Chemical resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids etc.	
<b>Continuous flexibility:</b>	very good	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 20 AWG (≈ 28/34) ▪ 0.50 mm<sup>2</sup></b>				
77842003	3	0.339	8.6	58
77842004	4	0.354	9.0	66
77842005	5	0.382	9.7	75
77842007	7	0.425	10.8	92
77842012	12	0.496	12.6	137
77842018	18	0.579	14.7	192
77842025	25	0.673	17.1	255
<b>▶ 19 AWG (≈ 42/34) ▪ 0.75 mm<sup>2</sup></b>				
77841903	3	0.354	9.0	65
77841904	4	0.374	9.5	74
77841905	5	0.406	10.3	85
77841907	7	0.461	11.7	116
77841912	12	0.543	13.8	171
77841918	18	0.630	16.0	238
77841925	25	0.736	18.7	306
<b>▶ 18 AWG (≈ 56/34) ▪ 1.00 mm<sup>2</sup></b>				
77841803	3	0.362	9.2	71
77841804	4	0.386	9.8	82
77841805	5	0.413	10.5	95
77841807	7	0.476	12.1	129
77841812	12	0.559	14.2	201
77841818	18	0.634	16.1	269
77841825	25	0.760	19.3	350

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 16 AWG (≈ 84/34) ▪ 1.50 mm<sup>2</sup></b>				
77841603	3	0.374	9.5	80
77841604	4	0.425	10.8	102
77841605	5	0.453	11.5	127
77841607	7	0.520	13.2	168
77841612	12	0.618	15.7	258
77841618	18	0.709	18.0	346
77841625	25	0.909	23.1	521
<b>▶ 14 AWG (≈ 140/34) ▪ 2.50 mm<sup>2</sup></b>				
77841403	3	0.449	11.4	123
77841404	4	0.476	12.1	146
77841405	5	0.528	13.4	175
77841407	7	0.610	15.5	248
77841412	12	0.736	18.7	376
77841418	18	0.921	23.4	566
77841425	25	1.071	27.2	725
<b>▶ 12 AWG (≈ 224/34) ▪ 4.00 mm<sup>2</sup></b>				
77841203	3	0.496	12.6	167
77841204	4	0.543	13.8	205
77841205	5	0.598	15.2	251
<b>▶ 10 AWG (≈ 186/32) ▪ 6.00 mm<sup>2</sup></b>				
77841003	3	0.579	14.7	234
77841004	4	0.622	15.8	294
77841005	5	0.681	17.3	334

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 8 AWG (≈ 320/32) ▪ 10.00 mm<sup>2</sup></b>				
77840803	3	0.740	18.8	372
77840804	4	0.807	20.5	458
77840805	5	0.957	24.3	607
<b>▶ 6 AWG (≈ 504/32) ▪ 16.00 mm<sup>2</sup></b>				
77840603	3	0.878	22.3	528
77840604	4	0.992	25.2	703
77840605	5	1.110	28.2	845
<b>▶ 4 AWG (≈ 760/32) ▪ 25.00 mm<sup>2</sup></b>				
77840404	4	1.169	29.7	1011
77840405	5	1.283	32.6	1211
<b>▶ 2 AWG (≈ 1083/32) ▪ 35.00 mm<sup>2</sup></b>				
77840204	4	1.307	33.2	1289
77840205	5	1.437	36.5	1545

Other dimensions and colors are available on request



# Cables for Industrial Automation

## SD 980 CP TP

High speed continuous flex twisted pairs heavy duty shielded halogen-free PUR data cable



Marking for SD 980 CP TP 77892403:

SAB BRÖCKSKES · D-VIERSEN · 77890325 3 x 2 x 0.25 mm<sup>2</sup> SD 980 CP TP 24 AWG/3pr 77892403 AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands, extra fine wires
<b>Insulation:</b>	TPE
<b>Color code:</b>	DIN 47100, see below
<b>Stranding:</b>	conductors twisted to pairs, pairs twisted in specially adjusted layering with netting tape over each layer
<b>Shielding:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
<b>Jacket color:</b>	grayish tan (RAL 7032)

### Outstanding features:

- free from paint wetting impairment substances (PWIS-free)
- flexible at low temperatures
- halogen-free
- travel > 10 m is possible
- good EMC characteristics
- high abrasion resistance
- small bending radius

### Technical data:

<b>Peak operating voltage:</b>	max. 350 V	
<b>Voltage UL/CSA:</b>	300 V	
<b>Testing voltage:</b>	conductor/conductor: 2000 V conductor/shielding: 2000 V	
<b>Min. bending radius:</b> <i>continuously flexing:</i>	7.5 x O.D.	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b> <i>static:</i> <i>flexing:</i>	<b>DIN VDE</b> -50/+90°C	<b>UL/CSA:</b> up to +80°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1 (acc.to dimension), FT2	
<b>Oil resistance:</b>	very good - TMPU acc. to IEC 50363-10-2 + VDE 0207-363-10-2	
<b>Chemical resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids, etc.	
<b>Continuous flexibility:</b>	very good	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of pairs	outer-ø		cable weight
		±10% inch	±10% mm	≈lbs/mft
<b>▶ 26 AWG (≈ 18/38) ▪ 0.14 mm<sup>2</sup></b>				
77892602	2	0.201	5.1	23
77892603	3	0.220	5.6	26
77892604	4	0.248	6.3	32
77892605	5	0.264	6.7	36
77892607	7	0.283	7.2	43
77892610	10	0.331	8.4	56
77892614	14	0.366	9.3	71
77892618	18	0.406	10.3	91
77892625	25	0.461	11.7	117
<b>▶ 24 AWG (≈ 32/38) ▪ 0.25 mm<sup>2</sup></b>				
77892402	2	0.220	5.6	28
77892403	3	0.244	6.2	35
77892404	4	0.272	6.9	40
77892405	5	0.291	7.4	46
77892407	7	0.311	7.9	57
77892410	10	0.362	9.2	74
77892414	14	0.429	10.9	105
77892418	18	0.457	11.6	126
77892425	25	0.551	14.0	185

item no.	no. of pairs	outer-ø		cable weight
		±10% inch	±10% mm	≈lbs/mft
<b>▶ 22 AWG (≈ 42/38) ▪ 0.34 mm<sup>2</sup></b>				
77892202	2	0.232	5.9	32
77892203	3	0.256	6.5	40
77892204	4	0.291	7.4	48
77892205	5	0.311	7.9	54
77892207	7	0.335	8.5	66
77892210	10	0.390	9.9	87
77892214	14	0.457	11.6	125
77892218	18	0.492	12.5	150
77892225	25	0.579	14.7	215
<b>▶ 20 AWG (≈ 28/34) ▪ 0.50 mm<sup>2</sup></b>				
77892002	2	0.268	6.8	40
77892003	3	0.299	7.6	53
77892004	4	0.343	8.7	66
77892005	5	0.370	9.4	76
77892007	7	0.406	10.3	99
77892010	10	0.476	12.1	132
77892014	14	0.563	14.3	189
77892018	18	0.634	16.1	244
77892025	25	0.709	18.0	309

item no.	no. of pairs	outer-ø		cable weight
		±10% inch	±10% mm	≈lbs/mft
<b>▶ 19 AWG (≈ 42/34) ▪ 0.75 mm<sup>2</sup></b>				
77891902	2	0.303	7.7	53
77891903	3	0.346	8.8	66
77891904	4	0.390	9.9	81
77891905	5	0.437	11.1	108
77891907	7	0.469	11.9	127
77891910	10	0.579	14.7	204
77891914	14	0.681	17.3	271
77891918	18	0.732	18.6	327
77891925	25	0.894	22.7	473

Other dimensions and colors are available on request

#### DIN 47100 color code:

#1- white/brown, #2- green/yellow, #3- gray/pink, #4- blue/red, #5- black/purple,  
#6- gray-pink/red-blue, #7- white-green/brown-green, #8- white-yellow/yellow-brown,  
#9- white-gray/gray-brown, #10- white-pink/pink-brown, #11- white-blue/brown-blue,  
#12- white-red/brown-red, #13- white-black/brown-black, #14- gray-green/yellow-gray,  
#15- pink-green/yellow-pink, #16- green-blue/yellow-blue, #17- green-red/yellow-red,  
#18- green-black/yellow-black, #19- gray-blue/pink-blue, #20- gray-red/pink-red,  
#21- gray-black/pink-black, #22- blue-black, red-black, #23- white/brown,  
#24- green/yellow, #25- gray/pink



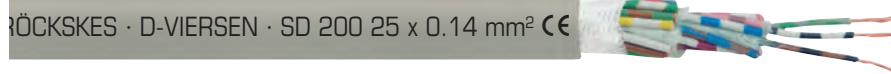
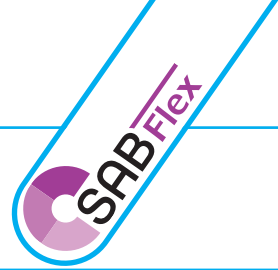
#### Possible on request:

- 20 AWG & 19 AWG
- with colored conductors acc. to US 3

# Cables for Industrial Automation

## SD 200

Continuous flex halogen-free polyurethane data cable with extreme temperature range



Marking for SD 200 7742501:

SAB BRÖCKSKES · D-VIERSEN · SD 200 25 x 0.14 mm² CE

### Construction:

<b>Conductor:</b>	bare copper strands, extra fine wires
<b>Insulation:</b>	TPE
<b>Color code:</b>	DIN 47100, see below
<b>Stranding:</b>	specially adjusted layering with non-woven tape over each layer
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PUR, TPU acc. to EN50363-10-2 + VDE 0207-363-10-2 with matte surface
<b>Jacket color:</b>	grayish tan (RAL 7032)

### Technical data:

<b>Peak operating voltage:</b>	max. 350 V acc. to VDE 0812
<b>Testing voltage:</b>	conductor/conductor: 1500 V
<b>Min. bending radius:</b> <i>continuously flexing:</i>	7.5 x O.D.
<b>Radiation resistance:</b>	1 x 10 <sup>7</sup> cJ/kg
<b>Temperature range:</b> <i>static:</i> <i>flexing:</i>	<b>DIN VDE</b> -50/+90°C -40/+90°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Oil resistance:</b>	very good - TPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
<b>Chemical resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids, etc.
<b>Continuous flexibility</b>	very good
<b>Weather resistance:</b>	very good
<b>Approvals:</b>	CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30

### Outstanding features:

- free from paint wetting impairment substances (PWIS-free)
- flexible at low temperatures
- halogen-free
- travel > 10 m is possible
- high abrasion resistance
- minimal bending radius
- small outer diameter

item no.	no. of conductors	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 26 AWG (≈ 18/38) • 0.14 mm<sup>2</sup></b>				
7740201	2	0.110	2.8	6
7740301	3	0.114	2.9	7
7740401	4	0.126	3.2	11
7740501	5	0.142	3.6	11
7740701	7	0.165	4.2	15
7741001	10	0.193	4.9	19
7741201	12	0.197	5.0	22
7741401	14	0.205	5.2	24
7741801	18	0.232	5.9	31
7742501	25	0.280	7.1	42
7743201	32	0.299	7.6	52

item no.	no. of conductors	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 24 AWG (≈ 32/38) • 0.25 mm<sup>2</sup></b>				
7740202	2	0.122	3.1	8
7740302	3	0.130	3.3	10
7740402	4	0.146	3.7	13
7740502	5	0.161	4.1	16
7740702	7	0.185	4.7	22
7741002	10	0.217	5.5	28
7741202	12	0.224	5.7	32
7741402	14	0.232	5.9	36
7741802	18	0.268	6.8	48
7742502	25	0.319	8.1	63
7743202	32	0.350	8.9	81

item no.	no. of conductors	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 22 AWG (≈ 42/38) • 0.34 mm<sup>2</sup></b>				
7740203	2	0.130	3.3	11
7740303	3	0.146	3.7	13
7740403	4	0.157	4.0	15
7740503	5	0.169	4.3	20
7740703	7	0.197	5.0	26
7741003	10	0.232	5.9	34
7741203	12	0.248	6.3	40
7741403	14	0.260	6.6	46
7741803	18	0.287	7.3	56
7742503	25	0.350	8.9	79
7743203	32	0.374	9.5	99

Other dimensions and colors are available on request

#### DIN 47100 color code:

#1- white, #2- brown, #3- green, #4- yellow, #5- gray, #6- pink, #7- blue, #8- red, #9- black, #10- violet, #11- gray-pink, #12- red-blue, #13- white-green, #14- brown-green, #15- white-yellow, #16- yellow-brown, #17- white-gray, #18- gray-brown, #19- white-pink, #20- pink-brown, #21- white-blue, #22- brown-blue, #23- white-red, #24- brown-red, #25- white-black, #26- brown-black, #27- gray-green, #28- yellow-gray, #29- pink-green, #30- yellow-pink, #31- green-blue, #32- yellow-blue



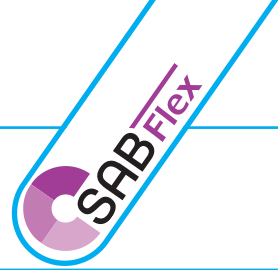
#### Possible on request:

- 20 AWG or 19 AWG

# Cables for Industrial Automation

## S 200

Continuous flex halogen-free polyurethane control cable with extreme temperature range



Marking for S 200 7741215:

SAB BRÖCKSKES · D-VIERSEN · S 200 12 x 1.5 mm² CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 6
<b>Insulation:</b>	TPE
<b>Color code:</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
<b>Stranding:</b>	specially adjusted layering with non-woven tape over each layer
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PUR, TPU acc. to EN 50363-3 + VDE 0207-363-3-10-2 with matte surface
<b>Jacket color:</b>	gray (RAL 7000)

### Outstanding features:



- free from paint wetting impairment substances (PWIS-free)
- flexible at low temperatures
- halogen-free
- travel > 10 m is possible
- high abrasion resistance
- minimal bending radius
- small outer diameter

### Technical data:

<b>Nominal voltage:</b>	Uo/U 300/500 V
<b>Testing voltage:</b>	conductor/conductor: 2000 V
<b>Min. bending radius:</b> <i>continuously flexing:</i>	7.5 x O.D.
<b>Radiation resistance:</b>	1 x 10 <sup>7</sup> cJ/kg
<b>Temperature range:</b> <i>static:</i> <i>flexing:</i>	-50/+90°C -40/+90°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Oil resistance:</b>	very good - TPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
<b>Chemical resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids etc.
<b>Continuous flexibility:</b>	very good
<b>Weather resistance:</b>	very good
<b>Approvals:</b>	CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 20 AWG (≈ 28/34) ▪ 0.50 mm<sup>2</sup></b>				
7740205	2	0.193	4.9	19
7740305	3	0.201	5.1	23
7740405	4	0.217	5.5	28
7740505	5	0.236	6.0	34
7740705	7	0.272	6.9	46
7741205	12	0.327	8.3	67
7741805	18	0.390	9.9	96
7742505	25	0.469	11.9	132
7743605	36	0.539	13.7	189
7745005	50	0.634	16.1	256
7746505	65	0.717	18.2	321
<b>▶ 19 AWG (≈ 42/34) ▪ 0.75 mm<sup>2</sup></b>				
7740207	2	0.213	5.4	24
7740307	3	0.224	5.7	30
7740407	4	0.240	6.1	36
7740507	5	0.264	6.7	45
7740707	7	0.311	7.9	62
7741207	12	0.378	9.6	92
7741807	18	0.445	11.3	136
7742507	25	0.547	13.9	187
7743607	36	0.606	15.4	258
7745007	50	0.724	18.4	355
7746507	65	0.819	20.8	462

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 18 AWG (≈ 56/34) ▪ 1.00 mm<sup>2</sup></b>				
7740210	2	0.228	5.8	30
7740310	3	0.240	6.1	36
7740410	4	0.260	6.6	45
7740510	5	0.283	7.2	55
7740710	7	0.339	8.6	78
7741210	12	0.409	10.4	116
7741810	18	0.484	12.3	172
7742510	25	0.594	15.1	237
7743610	36	0.669	17.0	333
7745010	50	0.799	20.3	458
7746510	65	0.902	22.9	595
<b>▶ 16 AWG (≈ 84/34) ▪ 1.50 mm<sup>2</sup></b>				
7740115	1	0.157	4.0	17
7740215	2	0.252	6.4	38
7740315	3	0.264	6.7	47
7740415	4	0.287	7.3	60
7740515	5	0.315	8.0	74
7740715	7	0.378	9.6	107
7741215	12	0.465	11.8	163
7741815	18	0.559	14.2	243
7742515	25	0.673	17.1	329
7743615	36	0.760	19.3	464
7745015	50	0.906	23.0	638
7746515	65	1.024	26.0	833

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 14 AWG (≈ 140/34) ▪ 2.50 mm<sup>2</sup></b>				
7740125	1	0.185	4.7	26
7740225	2	0.307	7.8	57
7740325	3	0.327	8.3	74
7740425	4	0.362	9.2	95
7740525	5	0.402	10.2	118
7740725	7	0.480	12.2	172
7741225	12	0.606	15.4	268
7741825	18	0.713	18.1	395
7742525	25	0.870	22.1	539
7743625	36	0.976	24.8	758
<b>▶ 12 AWG (≈ 224/34) ▪ 4.00 mm<sup>2</sup></b>				
7740140	1	0.213	5.4	38
7740240	2	0.366	9.3	87
7740340	3	0.386	9.8	116
7740440	4	0.425	10.8	146
7740540	5	0.476	12.1	180
7740740	7	0.575	14.6	265

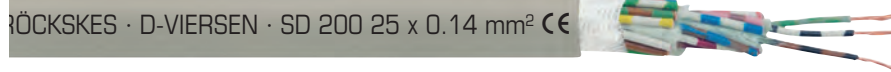
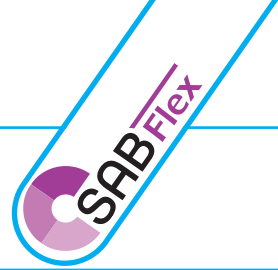
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# Cables for Industrial Automation

## S 200

Continuous flex halogen-free polyurethane control cable with extreme temperature range



Marking for SD 200 7742501:

SAB BRÖCKSKES · D-VIERSEN · SD 200 25 x 0.14 mm² CE

### Construction:

<b>Conductor:</b>	bare copper strands, extra fine wires
<b>Insulation:</b>	TPE
<b>Color code:</b>	DIN 47100, see below
<b>Stranding:</b>	specially adjusted layering with non-woven tape over each layer
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PUR, TPU acc. to EN50363-10-2 + VDE 0207-363-10-2 with matte surface
<b>Jacket color:</b>	grayish tan (RAL 7032)

### Technical data:

<b>Peak operating voltage:</b>	max. 350 V acc. to VDE 0812
<b>Testing voltage:</b>	conductor/conductor: 1500 V
<b>Min. bending radius:</b> <i>continuously flexing:</i>	7.5 x O.D.
<b>Radiation resistance:</b>	1 x 10 <sup>7</sup> cJ/kg
<b>Temperature range:</b> <i>static:</i> <i>flexing:</i>	<b>DIN VDE</b> -50/+90°C -40/+90°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Oil resistance:</b>	very good - TPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
<b>Chemical resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids, etc.
<b>Continuous flexibility</b>	very good
<b>Weather resistance:</b>	very good
<b>Approvals:</b>	CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30

### Outstanding features:



- free from paint wetting impairment substances (PWIS-free)
- flexible at low temperatures
- halogen-free
- travel > 10 m is possible
- high abrasion resistance
- minimal bending radius
- small outer diameter

item no.	no. of conductors	outer-ø		cable weight ≈ lbs/mft
		±10% inch	±10% mm	
<b>▶ 26 AWG (≈ 18/38) • 0.14 mm<sup>2</sup></b>				
7740201	2	0.110	2.8	6
7740301	3	0.114	2.9	7
7740401	4	0.126	3.2	11
7740501	5	0.142	3.6	11
7740701	7	0.165	4.2	15
7741001	10	0.193	4.9	19
7741201	12	0.197	5.0	22
7741401	14	0.205	5.2	24
7741801	18	0.232	5.9	31
7742501	25	0.280	7.1	42
7743201	32	0.299	7.6	52

item no.	no. of conductors	outer-ø		cable weight ≈ lbs/mft
		±10% inch	±10% mm	
<b>▶ 24 AWG (≈ 32/38) • 0.25 mm<sup>2</sup></b>				
7740202	2	0.122	3.1	8
7740302	3	0.130	3.3	10
7740402	4	0.146	3.7	13
7740502	5	0.161	4.1	16
7740702	7	0.185	4.7	22
7741002	10	0.217	5.5	28
7741202	12	0.224	5.7	32
7741402	14	0.232	5.9	36
7741802	18	0.268	6.8	48
7742502	25	0.319	8.1	63
7743202	32	0.350	8.9	81

item no.	no. of conductors	outer-ø		cable weight ≈ lbs/mft
		±10% inch	±10% mm	
<b>▶ 22 AWG (≈ 42/38) • 0.34 mm<sup>2</sup></b>				
7740203	2	0.130	3.3	11
7740303	3	0.146	3.7	13
7740403	4	0.157	4.0	15
7740503	5	0.169	4.3	20
7740703	7	0.197	5.0	26
7741003	10	0.232	5.9	34
7741203	12	0.248	6.3	40
7741403	14	0.260	6.6	46
7741803	18	0.287	7.3	56
7742503	25	0.350	8.9	79
7743203	32	0.374	9.5	99

Other dimensions and colors are available on request

#### DIN 47100 color code:

#1- white, #2- brown, #3- green, #4- yellow, #5- gray, #6- pink, #7- blue, #8- red, #9- black, #10- violet, #11- gray-pink, #12- red-blue, #13- white-green, #14- brown-green, #15- white-yellow, #16- yellow-brown, #17- white-gray, #18- gray-brown, #19- white-pink, #20- pink-brown, #21- white-blue, #22- brown-blue, #23- white-red, #24- brown-red, #25- white-black, #26- brown-black, #27- gray-green, #28- yellow-gray, #29- pink-green, #30- yellow-pink, #31- green-blue, #32- yellow-blue



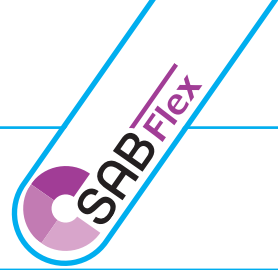
#### Possible on request:

- 20 AWG or 19 AWG

# Cables for Industrial Automation

## SD 200 C

Continuous flex halogen-free polyurethane shielded data cable with extreme temperature range



D-VIERSEN · SD 200 C 25 x 0.14 mm<sup>2</sup> CE



Marking for SD 200 C 7842501:

SAB BRÖCKSKES · D-VIERSEN · SD 200 C 25 x 0.14 mm<sup>2</sup> CE

### Construction:

<b>Conductor:</b>	bare copper strands, extra fine wires
<b>Insulation:</b>	TPE
<b>Color code:</b>	DIN 47100, see below
<b>Stranding:</b>	specialy adjusted layering with non-woven tape over each layer
<b>Wrapping:</b>	non-woven tape
<b>Shielding:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
<b>Jacket color:</b>	grayish tan (RAL 7032)

### Technical data:

<b>Peak operating voltage:</b>	max. 350 V acc. to VDE 0812
<b>Testing voltage:</b>	conductor/conductor: 1500 V conductor/shielding: 1200 V
<b>Min. bending radius:</b> <i>continuously flexing:</i>	7.5 x O.D.
<b>Radiation resistance:</b>	1 x 10 <sup>7</sup> cJ/kg
<b>Temperature range:</b> <i>static:</i> <i>flexing:</i>	<b>DIN VDE</b> -50/+90°C -40/+90°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Oil resistance:</b>	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
<b>Chemical resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids etc.
<b>Continuous flexibility:</b>	very good
<b>Weather resistance:</b>	very good
<b>Approvals:</b>	CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30

### Outstanding features:



- free from paint wetting impairment substances (PWIS-free)
- flexible at low temperatures
- halogen-free
- travel > 10 m is possible
- good EMC characteristics
- high abrasion resistance

item no.	no. of conductors	outer-ø		cable weight ≈ lbs/mft
		±10% inch	±10% mm	
<b>▶ 26 AWG (≈ 18/38) ▪ 0.14 mm<sup>2</sup></b>				
7840201	2	0.130	3.3	11
7840301	3	0.142	3.6	13
7840401	4	0.154	3.9	16
7840501	5	0.161	4.1	17
7840701	7	0.185	4.7	24
7841001	10	0.226	5.7	30
7841201	12	0.232	5.9	32
7841801	18	0.256	6.5	42
7842501	25	0.299	7.6	54
7843201	32	0.319	8.1	65
<b>▶ 24 AWG (≈ 32/38) ▪ 0.25 mm<sup>2</sup></b>				
7840202	2	0.150	3.8	13
7840302	3	0.157	4.0	16
7840402	4	0.165	4.2	19
7840502	5	0.181	4.6	23
7840702	7	0.205	5.2	32
7841002	10	0.244	6.2	38
7841202	12	0.252	6.4	42
7841402	14	0.268	6.8	51
7841802	18	0.287	7.3	58
7842502	25	0.346	8.8	77
7843202	32	0.366	9.3	94

item no.	no. of conductors	outer-ø		cable weight ≈ lbs/mft
		±10% inch	±10% mm	
<b>▶ 22 AWG (≈ 42/38) ▪ 0.34 mm<sup>2</sup></b>				
7840203	2	0.157	4.0	15
7840303	3	0.165	4.2	19
7840403	4	0.177	4.5	22
7840503	5	0.189	4.8	26
7840703	7	0.217	5.5	34
7841203	12	0.264	6.7	50
7841803	18	0.307	7.8	69
7842503	25	0.370	9.4	93
7843203	32	0.402	10.2	122
<b>▶ 20 AWG (≈ 28/34) ▪ 0.50 mm<sup>2</sup></b>				
7840250	2	0.181	4.6	20
7840350	3	0.189	4.8	24
7840450	4	0.205	5.2	30
7840550	5	0.220	5.6	34
7840750	7	0.264	6.7	49
7841250	12	0.315	8.0	69
7841850	18	0.374	9.5	100
7842550	25	0.465	11.8	146

item no.	no. of conductors	outer-ø		cable weight ≈ lbs/mft
		±10% inch	±10% mm	
<b>▶ 19 AWG (≈ 42/34) ▪ 0.75 mm<sup>2</sup></b>				
7840275	2	0.205	5.2	26
7840375	3	0.217	5.5	32
7840475	4	0.232	5.9	38
7840575	5	0.260	6.6	48
7840775	7	0.303	7.7	65
7841275	12	0.374	9.5	97
7841875	18	0.457	11.6	153
7842575	25	0.563	14.3	216

Other dimensions and colors are available on request

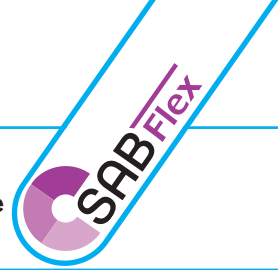
### DIN 47100 color code:

#1- white, #2- brown, #3- green, #4- yellow, #5- gray, #6- pink, #7- blue, #8- red, #9- black, #10- violet, #11- gray-pink, #12- red-blue, #13- white-green, #14- brown-green, #15- white-yellow, #16- yellow-brown, #17- white-gray, #18- gray-brown, #19- white-pink, #20- pink-brown, #21- white-blue, #22- brown-blue, #23- white-red, #24- brown-red, #25- white-black, #26- brown-black, #27- gray-green, #28- yellow-gray, #29- pink-green, #30- yellow-pink, #31- green-blue, #32- yellow-blue

# Cables for Industrial Automation

## S 200 C

Continuous flex halogen-free polyurethane shielded control cable with extreme temperature range



Marking for S 200 C 7841215:

SAB BRÖCKSKES · D-VIERSEN · S 200 C 12 x 1.5 mm²

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 6
<b>Insulation:</b>	TPE
<b>Color code: from 2 conductors</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
<b>Stranding:</b>	specially adjusted layering with non-woven tape over each layer
<b>Inner jacket:</b>	SABIX®
<b>Wrapping:</b>	non-woven tape
<b>Shielding:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PUR, TPU acc. to EN 50363-3 + VDE 0207-363-3-10-2 with matte surface
<b>Jacket color:</b>	gray (RAL 7000)

### Technical data:

<b>Nominal voltage:</b>	Uo/U 300/500 V
<b>Testing voltage:</b>	conductor/conductor: 2000 V conductor/shielding: 2000 V
<b>Min. bending radius: continuously flexing:</b>	7.5 x O.D.
<b>Radiation resistance:</b>	1 x 10 <sup>7</sup> cJ/kg
<b>Temperature range: static: flexing:</b>	-50/+90°C -40/+90°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Oil resistance:</b>	very good - TPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
<b>Chemical resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids etc.
<b>Continuous flexibility:</b>	very good
<b>Weather resistance:</b>	very good
<b>Approvals:</b>	CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30

### Outstanding features:

- free from paint wetting impairment substances (PWIS-free)
- flexible at low temperatures
- halogen-free
- travel > 10 m is possible
- good EMC characteristics
- high abrasion resistance
- minimal bending radius
- small outer diameter

item no.	no. of conductors incl. ground	outer-ø ±10% inch	±10% mm	cable weight ≈lbs/mft
<b>▶ 20 AWG (≈ 28/34) ▪ 0.50 mm<sup>2</sup></b>				
7840205	2	0.268	6.8	37
7840305	3	0.276	7.0	42
7840405	4	0.291	7.4	48
7840505	5	0.311	7.9	56
7840705	7	0.354	9.0	73
7841205	12	0.417	10.6	102
7841805	18	0.480	12.2	144
7842505	25	0.583	14.8	206
7843605	36	0.646	16.4	255
7845205	52	0.756	19.2	352
7846505	65	0.854	21.7	435
<b>▶ 19 AWG (≈ 42/34) ▪ 0.75 mm<sup>2</sup></b>				
7840207	2	0.287	7.3	43
7840307	3	0.299	7.6	50
7840407	4	0.315	8.0	58
7840507	5	0.346	8.8	71
7840707	7	0.386	9.8	87
7841207	12	0.469	11.9	137
7841807	18	0.559	14.2	198
7842507	25	0.654	16.6	259
7843607	36	0.736	18.7	349
7845207	52	0.862	21.9	488
7846507	65	0.965	24.5	583

item no.	no. of conductors incl. ground	outer-ø ±10% inch	±10% mm	cable weight ≈lbs/mft
<b>▶ 18 AWG (≈ 56/34) ▪ 1.00 mm<sup>2</sup></b>				
7840210	2	0.303	7.7	48
7840310	3	0.315	8.0	58
7840410	4	0.335	8.5	66
7840510	5	0.366	9.3	81
7840710	7	0.421	10.7	117
7841210	12	0.504	12.8	167
7841810	18	0.598	15.2	248
7842510	25	0.724	18.4	334
7843610	36	0.799	20.3	441
7845210	52	0.937	23.8	612
7846510	65	1.055	26.8	759
<b>▶ 16 AWG (≈ 84/34) ▪ 1.50 mm<sup>2</sup></b>				
7840115	1	0.181	4.6	24
7840215	2	0.327	8.3	58
7840315	3	0.339	8.6	71
7840415	4	0.370	9.4	88
7840515	5	0.398	10.1	100
7840715	7	0.469	11.9	141
7841215	12	0.579	14.7	236
7841815	18	0.665	16.9	325
7842515	25	0.803	20.4	439
7843615	36	0.906	23.0	597
7845215	52	1.059	26.9	799
7846515	65	1.177	29.9	1017

item no.	no. of conductors incl. ground	outer-ø ±10% inch	±10% mm	cable weight ≈lbs/mft
<b>▶ 14 AWG (≈ 140/34) ▪ 2.50 mm<sup>2</sup></b>				
7840125	1	0.209	5.3	33
7840225	2	0.390	9.9	82
7840325	3	0.417	10.6	111
7840425	4	0.453	11.5	137
7840525	5	0.496	12.6	167
7840725	7	0.591	15.0	245
7841225	12	0.728	18.5	364
7841825	18	0.850	21.6	515
7842525	25	1.024	26.0	696
7843625	36	1.130	28.7	934
7845225	52	1.299	33.0	1250
<b>▶ 12 AWG (≈ 224/34) ▪ 4.00 mm<sup>2</sup></b>				
7840140	1	0.232	5.9	45
7840240	2	0.457	11.6	122
7840340	3	0.476	12.1	151
7840440	4	0.539	13.7	201
7840540	5	0.591	15.0	240
7840740	7	0.709	18.0	357

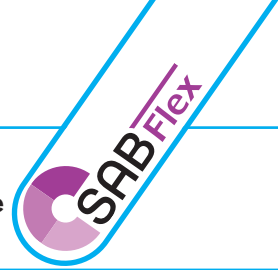
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# Cables for Industrial Automation

## S 200 C

Continuous flex halogen-free polyurethane shielded control cable with extreme temperature range



Marking for S 200 C 7840161:

SAB BRÖCKSKES · D-VIERSEN · S 200 C 1 x 10.0 mm² CE



Marking for S 200 C 7841215:

SAB BRÖCKSKES · D-VIERSEN · S 200 C 12 x 1.5 mm² CE

item no.	no. of conductors incl. ground	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 10 AWG (≈ 186/32) ▪ 6.00 mm²</b>				
7840160	1	0.260	6.6	61
7840260	2	0.539	13.7	169
7840360	3	0.575	14.6	228
7840460	4	0.626	15.9	282
7840560	5	0.709	18.0	351
7840760	7	0.811	20.6	478
<b>▶ 8 AWG (≈ 320/32) ▪ 10.00 mm²</b>				
7840161	1	0.303	7.7	91
7840361	3	0.685	17.4	347
7840461	4	0.744	18.9	434
7840561	5	0.807	20.5	491
<b>▶ 6 AWG (≈ 504/32) ▪ 16.00 mm²</b>				
7840162	1	0.358	9.1	140
7840362	3	0.815	20.7	486
7840462	4	0.886	22.5	615
7840562	5	0.972	24.7	740

item no.	no. of conductors incl. ground	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 4 AWG (≈ 760/32) ▪ 25.00 mm²</b>				
7840163	1	0.421	10.7	202
7840363	3	0.941	23.9	698
7840463	4	1.016	25.8	871
7840563	5	1.146	29.1	1082
<b>▶ 2 AWG (≈ 1083/32) ▪ 35.00 mm²</b>				
7840164	1	0.492	12.5	278
7840464	4	1.185	30.1	1196
7840564	5	1.303	33.1	1424
<b>▶ 1 AWG (≈ 703/28) ▪ 50.00 mm²</b>				
7840165	1	0.591	15.0	405
7840465	4	1.398	35.5	1756
<b>▶ 2/0 AWG (≈ 988/28) ▪ 70.00 mm²</b>				
7840166	1	0.693	17.6	560
<b>▶ 3/0 AWG (≈ 1340/28) ▪ 95.00 mm²</b>				
7840167	1	0.846	21.5	765

item no.	no. of conductors incl. ground	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ 4/0 AWG (≈ 1680/28) ▪ 120.00 mm²</b>				
7840168	1	0.894	22.7	923
<b>▶ 250 MCM (≈ 2122/28) ▪ 150.00 mm²</b>				
7840169	1	1.031	26.2	1164
<b>▶ 350 MCM (≈ 1472/26) ▪ 185.00 mm²</b>				
7840170	1	1.008	25.6	1402
<b>▶ 450 MCM (≈ 1910/26) ▪ 240.00 mm²</b>				
7840171	1	1.232	31.3	1777

Other dimensions and colors are available on request



### Possible on request:

- single conductor with green/yellow insulation and black outer jacket or 0.6/1 kV

# Cables for Industrial Automation

## SD 200 C TP

Continuous flex halogen-free twisted pairs shielded PUR data cable with extreme temperature range



Marking for SD 200 C TP 7890350:

SAB BRÖCKSKES · D-VIERSEN · SD 200 C TP 3 x 2 x 0.5 mm<sup>2</sup> CE

### Construction:

<b>Conductor:</b>	bare copper strands, extra fine wires
<b>Insulation:</b>	TPE
<b>Color code:</b>	DIN 47100, see below
<b>Stranding:</b>	conductors twisted to pairs, pairs twisted in specially adjusted layering with non-woven tape over each layer
<b>Wrapping:</b>	non-woven tape
<b>Shielding:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PUR, TMPU acc. to EN50363-10-2 + VDE 0207-363-10-2 with matte surface
<b>Jacket color:</b>	grayish tan (RAL 7032)

### Technical data:

<b>Peak operating voltage:</b>	max. 350 V acc. to VDE 0812
<b>Testing voltage:</b>	conductor/conductor: 1500 V conductor/shielding: 1200 V
<b>Min. bending radius:</b> <i>continuously flexing:</i>	7.5 x O.D.
<b>Radiation resistance:</b>	1 x 10 <sup>7</sup> cJ/kg
<b>Temperature range:</b> <i>static:</i> <i>flexing:</i>	DIN VDE -50/+90°C -40/+90°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Oil resistance:</b>	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
<b>Chemical resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids, etc.
<b>Continuous flexibility</b>	very good
<b>Weather resistance:</b>	very good
<b>Approvals:</b>	CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30

### Outstanding features:



- free from paint wetting impairment substances (PWIS-free)
- flexible at low temperatures
- halogen-free
- travel > 10 m is possible
- good EMC characteristics
- high abrasion resistance

item no.	no. of pairs	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 26 AWG (≈ 18/38) • 0.14 mm<sup>2</sup></b>				
7890214	2	0.173	4.4	19
7890314	3	0.193	4.9	20
7890414	4	0.220	5.6	27
7890514	5	0.236	6.0	29
7890614	6	0.252	6.4	35
7890714	7	0.264	6.7	40
7891014	10	0.311	7.9	48
7891414	14	0.354	9.0	65
7891814	18	0.394	10.0	85
7892514	25	0.461	11.7	112
<b>▶ 24 AWG (≈ 32/38) • 0.25 mm<sup>2</sup></b>				
7890225	2	0.193	4.9	22
7890325	3	0.217	5.5	28
7890425	4	0.252	6.4	34
7890525	5	0.272	6.9	40
7890625	6	0.280	7.1	46
7890725	7	0.291	7.4	54
7891025	10	0.350	8.9	67
7891425	14	0.429	10.9	101
7891825	18	0.457	11.6	124
7892525	25	0.543	13.8	174

item no.	no. of pairs	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 22 AWG (≈ 42/38) • 0.34 mm<sup>2</sup></b>				
7890234	2	0.205	5.2	26
7890334	3	0.228	5.8	32
7890434	4	0.272	6.9	42
7890534	5	0.291	7.4	48
7890734	7	0.315	8.0	63
7891034	10	0.378	9.6	82
7891434	14	0.457	11.6	120
7891834	18	0.492	12.5	148
7892534	25	0.579	14.7	208
<b>▶ 20 AWG (≈ 28/34) • 0.50 mm<sup>2</sup></b>				
7890250	2	0.248	6.3	34
7890350	3	0.272	6.9	45
7890450	4	0.311	7.9	56
7890550	5	0.346	8.8	68
7890750	7	0.370	9.4	90
7891050	10	0.445	11.3	125
7891450	14	0.531	13.5	169
7891850	18	0.579	14.7	221
7892550	25	0.669	17.0	288

item no.	no. of pairs	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
<b>▶ 19 AWG (≈ 42/34) • 0.75 mm<sup>2</sup></b>				
7890275	2	0.283	7.2	46
7890375	3	0.311	7.9	56
7890475	4	0.350	8.9	72
7890575	5	0.409	10.4	99
7890775	7	0.457	11.6	140
7891075	10	0.531	13.5	177
7891475	14	0.634	16.1	246
7891875	18	0.681	17.3	306
7892575	25	0.791	20.1	401

Other dimensions and colors are available on request

### DIN 47100 color code:

#1- white/brown, #2- green/yellow, #3- gray/pink, #4- blue/red, #5- black/purple, #6- gray-pink/red-blue, #7- white-green/brown-green, #8- white-yellow/yellow-brown, #9- white-gray/gray-brown, #10- white-pink/pink-brown, #11- white-blue/brown-blue, #12- white-red/brown-red, #13- white-black/brown-black, #14- gray-green/yellow-gray, #15- pink-green/yellow-pink, #16- green-blue/yellow-blue, #17- green-red/yellow-red, #18- green-black/yellow-black, #19- gray-blue/pink-blue, #20- gray-red/pink-red, #21- gray-black/pink-black, #22- blue-black, red-black, #23- white/brown, #24- green/yellow, #25- gray/pink


Our torsion cables transmit control signals or power to high-speed, heavy duty machines, robotic arms and other twisting applications requiring reliable rotary motion.

**Features:**

- Designed for torsional movement
- Rugged PUR jacket
- Chemical resistant for washdowns
- Abrasion resistant



**Torsion Cables with UL Recognition, CSA Approval**

■ RT 123		PUR rugged and dependable robot/track cable $\pm 450^\circ$ torsion over 0.5 m . . . . .	50
■ Robot Cable Examples		.....	51

Additional torsional cables are available on our website and in the full line catalog (Section C)





# Cables for Industrial Automation

## RT 123

PUR rugged and dependable robot/track cable  $\pm 450^\circ$  torsion over 0.5 m



Marking for RT 123 7951618:

SAB BRÖCKSKES · D-VIERSEN · 7951815 18 x 1.5 mm<sup>2</sup> RT 123 16 AWG/18c 7951618 AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

### Construction:

<b>Conductor:</b> 26 AWG - 22 AWG: from 20 AWG:	bare copper strands, extra fine wires bare copper strands acc. to IEC 60228, VDE 0295, class 6
<b>Insulation:</b>	TPE
<b>Color code:</b> 26 AWG - 22 AWG: from 20 AWG:	US 2, see below black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors
<b>Stranding:</b>	specially adjusted layering with netting tape over each layer and one additional non-woven tape over the outer layer
<b>Jacket material:</b>	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
<b>Jacket color:</b>	black (RAL 9005)

### Outstanding features:

- rugged and reliable
- torsion angle up to  $\pm 450^\circ$  over 0.5 meter
- weld resistant

### Technical data:

<b>Peak operating voltage:</b> 26 AWG - 22 AWG: from 20 AWG:	max. 375 V Uo/U 300/500 V
<b>Voltage UL/CSA:</b> 26 AWG - 22 AWG: from 20 AWG:	300 V 600 V
<b>Testing voltage:</b> 26 AWG - 22 AWG: from 20 AWG:	conductor/conductor: 1500 V conductor/conductor: 3000 V
<b>Torsion angle:</b>	up to $\pm 450^\circ/0.5$ m
<b>Min. bending radius:</b> continuously flexing: from 34 conductors:	12 x O.D. 20 x O.D.
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg
<b>Temperature range:</b> static: motion:	<b>DIN VDE</b> <b>UL/CSA:</b> up to +80°C -50/+90°C -40/+90°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Burning characteristics:</b>	acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
<b>Oil resistance:</b>	very good - TMPU acc. to IEC 50363-10-2 + VDE 0207-363-10-2
<b>Chemical resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids, etc.
<b>Continuous flexibility:</b>	very good
<b>Approvals:</b>	UR AWM, CSA AWM, CE, EAC, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors	outer-ø ±10% inch	±10% mm	cable weight ≈lbs/mft
<b>▶ 26 AWG (≈ 18/38) ▪ 0.14 mm<sup>2</sup></b>				
7952603	3	0.217	5.5	21
7952604	4	0.185	4.7	17
7952616	16	0.295	7.5	87
<b>▶ 24 AWG (≈ 14/34) ▪ 0.25 mm<sup>2</sup></b>				
7952403	3	0.181	4.6	17
7952404	4	0.189	4.8	19
7952407	7	0.213	5.4	26
7952425	25	0.358	9.1	79
<b>▶ 22 AWG (≈ 7/30) ▪ 0.34 mm<sup>2</sup></b>				
7952202	2	0.189	4.8	18

item no.	no. of conductors incl. ground	outer-ø ±10% inch	±10% mm	cable weight ≈lbs/mft
<b>▶ 20 AWG (≈ 28/34) ▪ 0.50 mm<sup>2</sup></b>				
7952004	4	0.291	7.4	44
7952018	18	0.492	12.5	145
7952025	25	0.575	14.6	204
<b>▶ 19 AWG (≈ 42/34) ▪ 0.75 mm<sup>2</sup></b>				
7951904	4	0.307	7.8	52
7951914	14	0.496	12.6	139
<b>▶ 18 AWG (≈ 56/34) ▪ 1.00 mm<sup>2</sup></b>				
7951802	2	0.287	7.3	43
7951803	3	0.299	7.6	50
7951804	4	0.319	8.1	61
7951806	6	0.370	9.4	85
7951807	7	0.394	10.0	99
7951812	12	0.480	12.2	144
7951818	18	0.579	14.7	212
7951825	25	0.654	16.6	288
7951834	34	0.776	19.7	376
7951840	40	0.823	20.9	443
7951841	41	0.823	20.9	450

item no.	no. of conductors incl. ground	outer-ø ±10% inch	±10% mm	cable weight ≈lbs/mft
<b>▶ 16 AWG (≈ 84/34) ▪ 1.50 mm<sup>2</sup></b>				
7951603	3	0.335	8.5	67
7951607	7	0.445	11.3	132
7951612	12	0.563	14.3	204
7951618	18	0.654	16.6	292
7951625	25	0.752	19.1	409
<b>▶ 14 AWG (≈ 140/34) ▪ 2.50 mm<sup>2</sup></b>				
7951403	3	0.390	9.9	91
7951404	4	0.406	10.3	112
7951405	5	0.465	11.8	141
<b>▶ 12 AWG (≈ 224/34) ▪ 4.00 mm<sup>2</sup></b>				
7951203	3	0.453	11.5	142
<b>▶ 8 AWG (≈ 320/32) ▪ 10.00 mm<sup>2</sup></b>				
7950803	3	0.650	16.5	316
<b>▶ 6 AWG (≈ 504/32) ▪ 16.00 mm<sup>2</sup></b>				
7950603	3	0.764	19.4	458
<b>▶ 4 AWG (≈ 760/32) ▪ 25.00 mm<sup>2</sup></b>				
7950403	3	0.945	24.0	695
<b>▶ 2 AWG (≈ 1083/32) ▪ 35.00 mm<sup>2</sup></b>				
7950203	3	1.071	27.2	933

#### US 2 color code: (26 - 22 AWG)

#1- black, #2- white, #3- red, #4- green, #5- orange, #6- blue, #7- white-black, #8- red-black, #9- green-black, #10- orange-black, #11- blue-black, #12- black-white, #13- red-white, #14- green-white, #15- blue-white, #16- black-red, #17- white-red, #18- orange-red, #19- blue-red, #20- red-green, #21- orange-green, #22- black-white-red, #23- white-black-red, #24- red-black-white, #25- green-black-white,

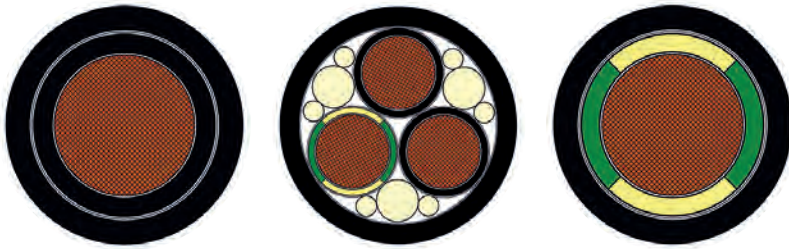
Other dimensions and colors are available on request

# Cables for Industrial Automation

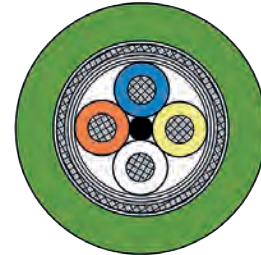
## **Robot Cables**

Specialty robotic cables built for specific needs and approvals for demanding applications.

WELDING CABLES



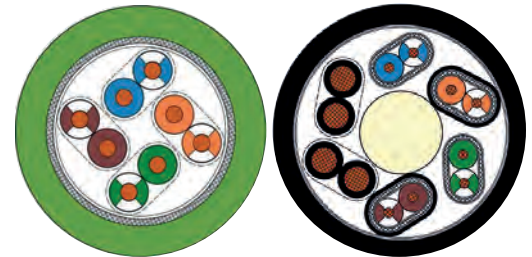
PROFINET CAT 5 CABLES



TRANSMISSION CABLES/ENCODER CABLES



RT ETHERNET CAT 6A



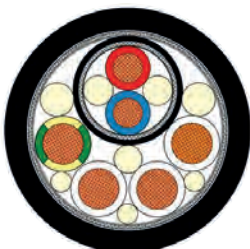
ROBOT HYBRID CABLE



CONTROL CABLES



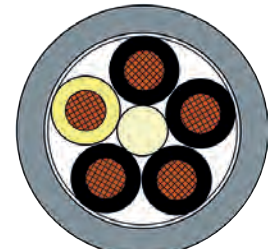
ROBOT MOTOR CABLES



ROBOT MULTIBUS CABLE



POWER CABLE







Designed for quick connections and worry-free operation in continuous flex and static applications, SAB servo cables are available in a broad range of power, signal, feedback and control configurations. These halogen-free cables offer good EMC characteristics and resist oils for a long service life.

**Features:**


- Available in position or feedback versions with copper shield (0.6/1 kV or overall)
- Halogen-free versions
- Good chemical resistance
- Long operating life
- Suitable for use in cable tracks





**Motor Connection Cables 0.6/1 kV with UL Recognition, CSA Approval**

■	SL 841 C		TPE motor connection cable with 1 or 2 pairs and overall tinned copper shield, 0.6/1 kV .....	53
■	SL 834 C		PUR motor connection cable with overall tinned copper shield, low capacitance 0.6/1 kV .....	54

**Feedback Cable with UL Recognition, CSA Approval**

■	SL 842 C		TPE/PUR feedback cable with overall tinned copper shield. ....	55
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**Transmission Cables with UL Recognition**

■	SL 839 C		Composite PUR transmission cable with overall tinned copper shield. ....	56
■	SL 843 C		Composite TPE/PUR transmission cable with overall tinned copper shield. ....	57

Additional servo motor cables are available on our website and in the full line catalog (Section G)





# Cables for Industrial Automation

## SL 841 C

TPE motor connection cable with 1 or 2 pairs and overall tinned copper shield, 0.6/1 kV



Style 20235 80°C CSA AWM I/II A/B 80°C 300V FT1 FT2 CE



Marking for SL 841 C 8410407:

SAB BRÖCKSKES · D-VIERSEN · 8410407 SL 841 C 4 x 0.75 mm<sup>2</sup> (1000V) + 2 x (2 x 0.34 mm<sup>2</sup>) (300V) **DESINA** AWM Style 20235 80°C CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 6 < 20 AWG with reference to VDE 0812
<b>Insulation:</b>	TPE
<b>Color code:</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow ground power supply conductors: * U1, V2, W3 and a green/yellow ground control conductors: ** BR1 and BR2
<b>from item no. 8411415:</b>	
<b>Stranding:</b>	control conductors: 22 - 14 AWG; twisted to pairs
<b>Shielding:</b>	pairs wrapped with alu. foil and tinned copper braiding
<b>Wrapping:</b>	pairs with PETP foil
<b>Stranding:</b>	shielded control pairs and power supply conductors twisted together in layers
<b>Wrapping:</b>	two layers non-woven tape
<b>Shielding:</b>	overall tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PUR, TPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
<b>Jacket color:</b>	orange (RAL 2003)

### Technical data:

<b>Peak operating voltage:</b>	control conductors: max. 350 V	
<b>Nominal voltage:</b>	power supply conductors: U <sub>0</sub> /U 0.6/1 kV	
<b>Voltage UL/CSA:</b>	control conductors: 300 V	power supply conductors: 1000 V
<b>Testing voltage:</b>		
<i>power supply conductors:</i>	conductor/conductor: 4000 V	conductor/shielding: 4000 V
<i>control conductors:</i>	conductor/conductor: 2000 V	conductor/shielding: 2000 V
<b>Min. bending radius:</b>		
<i>fixed installation:</i>	5 x O.D.	
<i>free movement:</i>	10 x O.D.	
<i>for continuous flexing:</i>	12 x O.D.	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b>	<b>UL/CSA:</b> up to +80°C
<i>static:</i>	-50/+90°C	
<i>flexible:</i>	-40/+90°C	
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2; UL FT1, CSA FT1, FT2	
<b>Oil resistance:</b>	very good - TPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
<b>Chemical resistance:</b>	good - against acids, alkalines, solvents, hydraulic liquids, etc.	
<b>Weather resistance:</b>	very good	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

### Outstanding features:



- UL recognized, CSA approval
- Very good EMC characteristics
- Long service life
- Adhesion-free installation
- High flexibility
- Suitable for cable tracks
- Halogen-free
- Free from paint wetting impairment substances (PWIS-free)
- Flexible at low temperatures
- DESINA® colors (see page G/3)
- In accordance with Indramat INK and Siemens 6FX8008



**Cable harnessing possible on request**

item no.	power supply conductors	control pairs individually shielded	outer-ø		cable weight ≈lbs/mft
			inch	mm	
▶ 8410407	19 AWG/4c	22 AWG/2pr	0.457 ± 0.020	11.6 ± 0.5	113
▶ 8410410	18 AWG/4c	19 AWG/2pr	0.465 ± 0.020	11.8 ± 0.5	135
▶ 8410415	16 AWG/4c	19 AWG/2pr	0.484 ± 0.020	12.3 ± 0.5	153
▶ 8410425	14 AWG/4c	18 AWG/2pr	0.571 ± 0.031	14.5 ± 0.8	215
▶ 8410441	12 AWG/4c	18 AWG/1pr + 16 AWG/1pr	0.685 ± 0.024	17.4 ± 0.6	308
▶ 8410461	10 AWG/4c	18 AWG/1pr + 16 AWG/1pr	0.744 ± 0.031	18.9 ± 0.8	374
▶ 8410471	8 AWG/4c	18 AWG/1pr + 16 AWG/1pr	0.803 ± 0.039	20.4 ± 1.0	495
▶ 8410485	6 AWG/4c	16 AWG/2pr	1.024 ± 0.031	26.0 ± 0.8	746
▶ 8410490	4 AWG/4c	16 AWG/2pr	1.157 ± 0.031	29.4 ± 0.8	1019
▶ 8410495	2 AWG/4c	16 AWG/2pr	1.232 ± 0.031	31.3 ± 0.8	1265
▶ 8410496	1 AWG/4c	14 AWG/2pr	1.504 ± 0.031	38.2 ± 0.8	1787

item no.	power conductors	control pairs individually shielded	outer-ø		cable weight ≈lbs/mft
			inch	mm	
▶ 8411415	16 AWG/4c	16 AWG/1pr	0.492 ± 0.012	12.5 ± 0.3	149
▶ 8411425	14 AWG/4c	16 AWG/1pr	0.524 ± 0.016	13.3 ± 0.4	191
▶ 8411440	12 AWG/4c	16 AWG/1pr	0.598 ± 0.016	15.2 ± 0.4	248
▶ 8411460	10 AWG/4c	16 AWG/1pr	0.654 ± 0.043	16.6 ± 1.1	326
▶ 8411470	8 AWG/4c	16 AWG/1pr	0.768 ± 0.063	19.5 ± 1.6	455
▶ 8411480	6 AWG/4c	16 AWG/1pr	0.933 ± 0.039	23.7 ± 1.0	685
▶ 8411490	4 AWG/4c	16 AWG/1pr	1.071 ± 0.028	27.2 ± 0.7	953
▶ 8411495	2 AWG/4c	16 AWG/1pr	1.185 ± 0.039	30.1 ± 1.0	1216
▶ 8411496	1 AWG/4c	16 AWG/1pr	1.354 ± 0.039	34.4 ± 1.0	1655

Other dimensions and colors are available on request

Note: SIEMENS® is a registered trademark. It is only used for comparative purposes.  
BOSCH REXROTH® is a registered trademark. It is only used for comparative purposes.  
DESINA® is a registered trademark of the German Machine Tool Builders' Association.

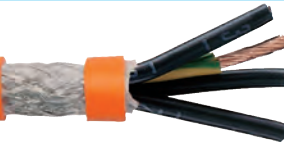
# Cables for Industrial Automation

## SL 834 C

PUR motor connection cable with overall tinned copper shield, low capacitance 0.6/1 kV



Style 20235 80°C CSA AWM I/II A/B 80°C 1000V FT1 FT2 CE



Marking for SL 834 C 8341604:

SAB BRÖCKSKES · D-VIERSEN · 8340415 4 x 1.5 mm<sup>2</sup> SL 834 C 16 AWG/4c 1000V 8341604 **DESINA** AWM Style 20235 80°C CSA AWM I/II A/B 80°C 1000V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to IEC 60228, VDE 0295, class 6
<b>Insulation:</b>	special polymer
<b>Color code:</b>	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green/yellow ground
<b>Stranding:</b>	in layers
<b>Wrapping:</b>	non-woven tape
<b>Shielding:</b>	tinned copper braiding
<b>Jacket material:</b>	PUR
<b>Jacket color:</b>	orange (RAL 2003)

### Outstanding features:



- UL recognized, CSA approval
- Low capacitance
- Very good EMC characteristics
- Halogen-free
- Very high flexibility
- Suitable for cable tracks
- Very good oil resistance
- Very long service life
- Adhesion-free installation
- Free from paint wetting impairment substances (PWIS-free)
- Flexible at low temperatures
- DESINA® colors (see page G/3)

### Technical data:

<b>Nominal voltage:</b>	U <sub>0</sub> /U 0.6/1 kV	
<b>Voltage UL/CSA:</b>	1000 V	
<b>Testing voltage:</b>	conductor/conductor: 4000 V conductor/shielding: 4000 V	
<b>Min. bending radius:</b>	fixed installation: 5 x O.D. free movement: 10 x O.D.	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b> static: -50/+90°C flexible: -40/+90°C	<b>UL/CSA:</b> up to +80°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2; CSA FT1, FT2	
<b>Oil resistance:</b>	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
<b>Chemical resistance:</b>	good - against acids, alkalines, solvents, hydraulic liquids, etc.	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 16 AWG (≈ 84/34) ▪ 1.50 mm <sup>2</sup> 8341604	4	0.354	9.0	85
▶ 14 AWG (≈ 140/34) ▪ 2.50 mm <sup>2</sup> 8341404	4	0.425	10.8	131
▶ 12 AWG (≈ 224/34) ▪ 4.00 mm <sup>2</sup> 8341204	4	0.488	12.4	181

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 10 AWG (≈ 186/32) ▪ 6.00 mm <sup>2</sup> 8341004	4	0.606	15.4	267
▶ 8 AWG (≈ 320/32) ▪ 10.00 mm <sup>2</sup> 8340804	4	0.693	17.6	406
▶ 6 AWG (≈ 504/32) ▪ 16.00 mm <sup>2</sup> 8340604	4	0.894	22.7	640

item no.	no. of conductors incl. ground	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 4 AWG (≈ 760/32) ▪ 25.00 mm <sup>2</sup> 8340404	4	1.008	25.6	875
▶ 2 AWG (≈ 1083/32) ▪ 35.00 mm <sup>2</sup> 8340204	4	1.138	28.9	1176
▶ 1 AWG (≈ 703/28) ▪ 50.00 mm <sup>2</sup> 8340104	4	1.358	34.5	1670

Other dimensions and colors are available on request



low capacity for your frequency controlled drives and motors

Note: DESINA® is a registered trademark of the German Machine Tool Builders' Association.

# Cables for Industrial Automation

## SL 842 C

TPE/PUR feedback cable with overall tinned copper shield



Marking for SL 842 C 8422009:

SAB BRÖCKSKES · D-VIERSEN · 8420050 9 x 0.5 mm<sup>2</sup> SL 842 C 20 AWG/9c 8422009 AWM-Style 20233 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to VDE 0812
<b>Insulation:</b>	TPE
<b>Color code:</b>	white, brown, green, yellow, gray, pink, blue, red, black
<b>Stranding:</b>	in layers
<b>Stranding:</b>	conductors/pairs twisted together in layers
<b>Wrapping:</b>	one or two layers non-woven tape
<b>Shielding:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
<b>Jacket color:</b>	orange (RAL 2003)

### Outstanding features:



- UL recognized, CSA approval
- Good EMC characteristics
- High flexibility
- Suitable for cable tracks
- Oil resistant
- Long service life
- Adhesion-free installation
- Halogen-free
- Free from paint wetting impairment substances (PWIS-free)
- DESINA® colors (see page G/3)

### Technical data:

<b>Peak operating voltage:</b>	max. 500 V	
<b>Voltage UL/CSA:</b>	300 V	
<b>Testing voltage:</b>	conductor/conductor:	2000 V
	conductor/shielding:	2000 V
<b>Min. bending radius:</b>		
<i>fixed installation:</i>	5 x O.D.	
<i>free movement:</i>	10 x O.D.	
<i>for continuous flexing:</i>	12 x O.D.	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b>	<b>UL/CSA:</b> up to +80°C
<i>static:</i>	-50/+90°C	
<i>flexible:</i>	-40/+90°C	
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2; UL FT1, CSA FT1, FT2	
<b>Oil resistance:</b>	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
<b>Chemical resistance:</b>	good - against acids, alkalines, solvents, hydraulic liquids, etc.	
<b>Weather resistance:</b>	very good	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

item no.	dimensions	outer-ø		cable weight ≈lbs/mft
		inch	mm	
▶ 8422009	20 AWG/9c	0.346 ± 0.012	8.8 ± 0.03	70

Other dimensions and colors are available on request



**suitable for  
resolvers and shaft encoders**



# Cables for Industrial Automation

## SL 839 C

Composite PUR transmission cable with overall tinned copper shield



Marking for SL 839 C 8390122:

SAB BRÖCKSKES · D-VIERSEN · 8390122 SL 839 C 12 x 0.22 mm² **DESINA** AWM Style 20236 80°C 30V

### Construction:

<b>Conductor:</b>	tinned copper strands acc. to VDE 0812
<b>Insulation:</b>	special polymer
<b>Color code:</b>	colored (see chart below)
	8390114, 8390214, & 8391050:
<b>Shielding:</b>	pairs shielded with tinned copper braiding
<b>Inner jacket:</b>	special polymer
<b>Stranding:</b>	conductors or pairs; twisted together in layers
<b>Wrapping:</b>	one non-woven tape or non-woven tape and PETP foil
<b>Shielding:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface or PU acc. to UL 758
<b>Jacket color:</b>	green (RAL 6018)

### Technical data:

<b>Nominal voltage:</b>	max. 30 V	
<b>Voltage UL:</b>	30 V	
<b>Testing voltage:</b>	conductor/conductor: 600 V conductor/shielding: 600 V	
<b>Min. bending radius:</b>		
<i>fixed installation:</i>	5 x O.D.	
<i>free movement:</i>	10 x O.D.	
<i>for continuous flexing:</i>	12 x O.D.	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b>	<b>UL/CSA:</b> up to +80°C
<i>static:</i>	-40/+70°C	
<i>flexible:</i>	-20/+70°C	
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Oil resistance:</b>	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2; oil rating 60°C acc. to UL 758	
<b>Chemical resistance:</b>	good - against acids, alkalines, solvents, hydraulic liquids, etc.	
<b>Weather resistance:</b>	very good	
<b>Approvals:</b>	UR AWM, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

### Outstanding features:



- UL recognized
- Good EMC characteristics
- Flexible and flexing installation
- Oil resistant
- Long service life
- Adhesion-free installation
- Halogen-free
- Suitable for cable tracks
- Free from paint wetting impairment substances (PWIS-free)
- DESINA® colors (see page G/3)



**suitable for resolvers  
and shaft encoders**

item no.	dimensions	outer-ø		cable weight ≈lbs/mft	color codes
		inch	mm		
<b>Jacket material TMPU acc. to DIN VDE 0282</b>					
▶ 8390114	(0.14 mm <sup>2</sup> /3pr)D + (20 AWG/2c)D	0.362 ± 0.016	9.2 ± 0.4	71	(GN/YE+BN/BK+OR/RD) - (RD+BK)
▶ 8390214	(0.14 mm <sup>2</sup> /3pr)D + 0.14 mm <sup>2</sup> + 20 AWG/2c	0.354 ± 0.016	9.0 ± 0.4	68	(RD/OR+BN/BK+GN/YE) - (BU+GY+WH-BK+WH-YE) - (BN-BU+BN-RD)
▶ 8391050	(0.14 mm <sup>2</sup> /3pr)D + 0.14 mm <sup>2</sup> /4c + 0.22 mm <sup>2</sup> /4c + 20 AWG/2c	0.378 ± 0.016	9.6 ± 0.4	77	(RD/OR+BN/BK+GN/YE) - (BU+GY+WH-BK+WH-YE) - (BN-YE+GN-RD+BN-GY+GN-BK) - (BN-BU+BN-RD)
▶ 8390138	0.38 mm <sup>2</sup> /4pr + 20 AWG/4c	0.346 ± 0.016	8.8 ± 0.4	75	(RD/OR+GN/YE+BU/VT+BN/BK) - (BK-WH+RD-WH+YE-WH+BU-WH)
▶ 8390318	0.18 mm <sup>2</sup> /8pr	0.307 ± 0.016	7.8 ± 0.4	52	(WH/GY+VT/BU+GN/YE+OR/RD+BK/BN+WH-RD/WH-OR+WH-BK/WH-BN+WH-YE/WH-GN)
▶ 8390122	0.22 mm <sup>2</sup> /12c	0.264 ± 0.016	6.7 ± 0.4	44	(RD+BK+BN+WH+GY+VT+BU+GN+YE+OR+WH-BN+WH-BK)
<b>Jacket material PU acc. to UL 758</b>					
▶ 8390118	0.18 mm <sup>2</sup> /4c	0.193 ± 0.016	4.9 ± 0.4	20	(RD+BK+OR+BN)
▶ 8390218	0.18 mm <sup>2</sup> /4pr	0.248 ± 0.016	6.3 ± 0.4	34	(VT/BU+GN/YE+OR/RD+BK/BN)
▶ 8390115	0.15 mm <sup>2</sup> /2pr + 0.38 mm <sup>2</sup> /2c	0.272 ± 0.012	6.9 ± 0.3	45	(GN/YE+BU/PK) + (RD+BK)
▶ 8390220	0.20 mm <sup>2</sup> /2pr + 0.38 mm <sup>2</sup> /2c	0.272 ± 0.012	6.9 ± 0.3	41	(GN/YE+BU/PK) + (RD+BK)

Other dimensions and colors are available on request  
D = tinned copper spiral

Note: DESINA® is a registered trademark of the German Machine Tool Builders' Association.

# Cables for Industrial Automation

## SL 843 C

Composite TPE/PUR transmission cable with overall tinned copper shield



Marking for SL 843 C 8431050:

SAB BRÖCKSKES · D-VIERSEN · 8431050 SL 843 C 3 x (2 x 0.14 mm<sup>2</sup> D) + 4 x 0.22 mm<sup>2</sup> + 2 x 0.5 mm<sup>2</sup> DESINA AWM-Style 20235 80°C CSA AWM I/II A/B 80°C 300V FT1 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to VDE 0812
<b>Insulation:</b>	TPE
<b>Color code:</b>	colored (see chart below)
<b>Stranding:</b>	in layers or pairwise
<b>Shielding:</b>	8430160, 8430040, 8430060, 8430020, 8430022, 8431050 & 8430070: pairs with tinned copper wires braided or wrapped
<b>Inner jacket:</b>	TPE over shielded pairs
<b>Stranding:</b>	conductors/pairs twisted together in layers
<b>Wrapping:</b>	one or two layers non-woven tape
<b>Shielding:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Jacket material:</b>	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface
<b>Jacket color:</b>	green (RAL 6018) or orange (RAL 2003)

### Technical data:

<b>Peak operating voltage:</b>	max. 350 V	
<b>Voltage UL/CSA:</b>	300 V	
<b>Testing voltage:</b>	conductor/conductor:	2000 V
	conductor/shielding:	2000 V
<b>Min. bending radius:</b>		
<i>fixed installation:</i>	5 x O.D.	
<i>free movement:</i>	10 x O.D.	
<i>for continuous flexing:</i>	12 x O.D.	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b>	<b>UL/CSA:</b> up to +80°C
<i>static:</i>	-50/+90°C	
<i>flexible:</i>	-40/+90°C	
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2; UL FT1, CSA FT1	
<b>Oil resistance:</b>	very good - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
<b>Chemical resistance:</b>	good - against acids, alkalines, solvents, hydraulic liquids, etc.	
<b>Weather resistance:</b>	very good	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

### Outstanding features:



- Good EMC characteristics
- High flexibility
- Suitable for cable tracks
- Oil resistant
- Long service life
- Adhesion-free installation
- Halogen-free
- Free from paint wetting impairment substances (PWIS-free)
- DESINA® colors (see page G/3)



suitable for resolvers and shaft encoders

item no.	dimensions	jacket color	outer-ø		cable weight ≈lbs/mft	color codes
			inch	mm		
▶ 8430009	24 AWG/4pr + 20 AWG/2c	orange	0.346 ± 0.012	8.8 ± 0.3	62	(BN/GN+RD/BK+BU/VT+GY/PK) - (WH+BN)
▶ 8430010	24 AWG/4pr + 18 AWG/2c	orange	0.346 ± 0.012	8.8 ± 0.3	65	(BN/GN+RD/BK+BU/VT+GY/PK) - (WH+BN)
▶ 8430160	(24 AWG/3pr)D + 24 AWG/3c + 18 AWG/2c	orange	0.394 ± 0.012	10.0 ± 0.3	89	(GN/YE+GY/PK+BU/RD) - (GY-PK+RD-BU+WH-GN) - (WH+BN)
▶ 8430040	(24 AWG/3pr)D	orange	0.343 ± 0.012	8.7 ± 0.3	63	(WH/BN+GN/YE+GY/PK)
▶ 8430060	26 AWG/4pr + (26 AWG/4c)D + 18 AWG/4c	orange	0.386 ± 0.012	9.8 ± 0.3	91	(GY/PK+YE/VT+BN/GN+BK/RD) - (GN-BK+BU-BK+YE-BK+RD-BK) - (WH+BU+WH-GN+BN-GN)
▶ 8430012	26 AWG/4pr + 20 AWG/4c	green	0.358 ± 10%	9.1 ± 10%	68	(PK/GY+RD/BK+BN/GN+YE/VT) - (BU+WH+BN-GN+WH-GN)
▶ 8430112	26 AWG/10c + 20 AWG/2c	green	0.335 ± 10%	8.5 ± 10%	60	(WH+BN+GN+YE+GY+PK+BU+RD+BK+VT) - (WH+BN)
▶ 8430114	26 AWG/10c + 20 AWG/4c	green	0.354 ± 10%	9.0 ± 10%	71	(WH+BN+GN+YE+GY+PK+BU+RD+BK+VT) - (WH+BN+GN+YE)
▶ 8430006	24 AWG/3pr + 20 AWG/2c	green	0.343 ± 10%	8.7 ± 10%	60	(WH/BN+GN/YE+GY/PK) - (BU+RD)
▶ 8430013	0.38 mm <sup>2</sup> /4pr + 20 AWG/4c	green	0.406 ± 10%	10.3 ± 10%	91	(WH/BN+GN/YE+GY/PK+BU/RD) - (BK+VT+GY-PK+RD-BU)
▶ 8430020	(26 AWG/3pr)C + 18 AWG/2c	green	0.394 ± 10%	10.0 ± 10%	85	(GN/YE+GY/PK+BU/RD) - (WH+BN)
▶ 8430022	(26 AWG/3pr)C + (20 AWG/2c)C	green	0.398 ± 10%	10.1 ± 10%	90	(GN/YE+GY/PK+BU/RD) - (WH+BN)
▶ 8431050	(26 AWG/3pr)D + 26 AWG/4c + 0.22 mm <sup>2</sup> /4c + 20 AWG/2c	green	0.421 ± 10%	10.7 ± 10%	87	(RD/OR+BN/BK+GN/YE) - (BU+GY+WH-BK+WH-YE) - (BN-YE+GN-RD+BN-GY+GN-BK) - (BN-BU+BN-RD)
▶ 8430070	(26 AWG/3pr)D + 26 AWG/4c + 20 AWG/2c	green	0.398 ± 10%	10.1 ± 10%	82	(RD/OR+BN/BK+GN/YE) - (BU+GY+WH-BK+WH-YE) - (BN-BU+BN-RD)
▶ 8430310	0.22 mm <sup>2</sup> /12c	green	0.335 ± 10%	8.5 ± 10%	58	(WH+BN+GN+YE+GY+PK+BU+RD+BK+VT+GY-PK+RD-BU)
▶ 8430212	0.18 mm <sup>2</sup> /2pr	green	0.264 ± 10%	6.7 ± 10%	34	(WH/BN+GN/YE)
▶ 8430214	0.18 mm <sup>2</sup> /4pr	green	0.323 ± 10%	8.2 ± 10%	48	(WH/BN+GN/YE+GY/PK+BU/RD)
▶ 8430216	0.18 mm <sup>2</sup> /8pr	green	0.382 ± 10%	9.7 ± 10%	70	(WH/BN+GN/YE+GY/PK+BU/RD+BK+VT+GY-PK+RD-BU+WH-GN/BN-GN+WH-YE/YE-BN)

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DESINA® is a registered trademark of the German Machine Tool Builders' Association.


























Other dimensions and colors are available on request  
pair in ( ) denotes shielded. C = tinned copper braid. D = tinned copper spiral.

Category cables (CAT 5/Profinet, CAT 5e, CAT 6 & 6A, CAT 7A) for a multitude of applications: static, flexible, continuous flex, torsion, reeling, cleanroom, marine and railway.



**Features:**

- Available with PLTC rating for use in tray
- CATLine is available for continuous flex & torsion/robotic applications
- Resistance to extreme temperatures.
- CAT 5e, CAT 6, CAT 6A, or CAT 7A
- Single Pair Ethernet (SPE)

Industrial Ethernet Cables CAT 5			
■ PN 654 UL		PVC Profinet type A, for fixed installation with UL recognition	59
■ PN 661		Halogen-free Profinet type B, for flexible applications with UL recognition	59
■ S PN 668		PUR Profinet type C, continuous flex, suitable for cable tracks	59
■ S PN 667	 	PUR Profinet type C, continuous flex with UL recognition and CSA approval	60
■ S PN 669		PUR Profinet type C, continuous flex suitable for cable tracks with UL recognition	60
■ PN 675	 	PVC Ethernet cable type B, for flexible applications, PLTC 600 V, CAT 5e	61
■ S PN 676	 	PUR Ethernet cable type C, continuous flex, CAT 5	61
Industrial Gigabit Ethernet Cables CAT 6 / CAT 6A / CAT 7A			
■ CATLine CAT 6 S	 	CAT 6 Gigabit Ethernet cable, suitable for cable tracks	62
■ CATLine CAT 6A S	 	CAT 6A Gigabit Ethernet cable, suitable for cable tracks	62
■ CATLine CAT 6 RT	 	CAT 6 Gigabit Ethernet cable, suitable for cable tracks and for robots	62
■ CATLine CAT 6A RT	 	CAT 6A Gigabit Ethernet cable, suitable for cable tracks and for robots	62
■ CATLine CAT 6A HT		CAT 6A Gigabit Ethernet cable, high temperature resistant	63
■ CATLine CAT 7A S	 	CAT 7A Gigabit Ethernet cable, suitable for cable tracks	64
■ CATLine CAT 7A RT	 	CAT 7A Gigabit Ethernet cable, suitable for robots	64
Single Pair Ethernet Cables			
■ CATLine SPE C-Track		Single Pair Ethernet cable, suitable for cable tracks	65
■ CATLine SPE Robot		Single Pair Ethernet cable, suitable for cable robots	65
■ CATLine SPE HT		Single Pair Ethernet cable, high temperature resistant	65
■ CATLine SPE Rugged		Single Pair Ethernet cable for robust indoor and outdoor use	66

Additional ethernet cables are available on our website and in the full line catalog (Section J)





# Cables for Industrial Automation

- PN 654 UL** PVC Profinet type A, for fixed installation with UL recognition
- PN 661** Halogen-free Profinet type B, for flexible applications with UL recognition
- S PN 668** PUR Profinet type C, continuous flex, suitable for cable tracks



Marking for PN 661 6612202:  
 SAB BRÖCKSKES · D-VIERSEN · S PN 661 Profinet CAT 5 Type B 2x2x22AWG AWM Style 21080 80° 300V CE

"Fast Connect" construction

<b>Construction:</b>	<b>PN 654 UL Profinet type A fixed installation</b>	<b>PN 661 Profinet type B flexible</b>	<b>S PN 668 Profinet type C continuous flex</b>
Item numbers:	6549002	6612202	6682202
Dimensions:	2 x 2 x 22 AWG	2 x 2 x 22 AWG	2 x 2 x 22 AWG
Conductor:	bare copper wire	bare copper strands, fine wires with reference to VDE 0812	tinned copper strands, extra fine wires
Insulation:	SABIX®	PE, L/MD acc. to EN 50290-2-23	PE
Color code:	blue, yellow, white, orange	blue, yellow, white, orange	blue, yellow, white, orange
Stranding:	star quad	star quad	in layers
Wrapping:	PETP foil	PETP foil	PETP foil
Inner jacket:	PVC	thermoplastic material	thermoplastic material
Wrapping:	alu foil	alu foil	alu foil
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding
Wrapping:	---	non-woven tape	non-woven tape
Jacket material:	PVC	SABIX®	PUR
Jacket color:	green (similar RAL 6018)	green (similar RAL 6018)	green (similar RAL 6018)

<b>Technical data:</b>	<b>PN 654 UL Profinet type A fixed installation</b>	<b>PN 661 Profinet type B flexible</b>	<b>S PN 668 Profinet type C continuous flex</b>
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	300 V	300 V	---
Testing voltage: conductor/conductor: conductor/shielding:	2000 V 2000 V	2000 V 2000 V	1500 V 1200 V
Min. bending radius: fixed installation: free movement: continuous flex:	5 x O.D. --- ---	5 x O.D. 12 x O.D. ---	5 x O.D. 12 x O.D. 15 x O.D.
Temperature range VDE: static: flexible:	UL: up to +80°C -30/+70°C -5/+70°C	UL: up to +75°C -40/+70°C -30/+70 °C	-40/+70°C -30/+70°C
Halogen-free:	---	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	acc. to internal standard see page O/29	---	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance:	100Ω ± 5Ω, accomplishes the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)		
UL Style:	2464	21080	---
Application:	suitable for EtherCAT and EtherNET/IP applications		
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	max. cond.-ø mm	outer-ø inch	mm	cable weight ≈lbs/mft	ohmic resistance at 20°C to VDE 0812 max. Ω/km
▶							
▶							
▶							

Other dimensions and colors are available on request

Also possible as a cable assembly with M12 or RJ 45 plug



# Cables for Industrial Automation

**S PN 667** PUR Profinet type C, continuous flex with UL recognition and CSA approval

**S PN 669** PUR Profinet type C, continuous flex suitable for cable tracks with UL recognition



Marking for S PN 669 6692202:

SAB BRÖCKSKES · D-VIERSEN · S PN 669 Profinet CAT 5 Type C 2x2x22AWG AWM Style 21198 80° 300V CE



<b>Construction:</b>	<b>S PN 667 Profinet type C continuous flex</b>	<b>S PN 669 Profinet type C continuous flex</b>
Item numbers:	6672202 / 6679001	6692202
Dimensions:	2 x 2 x 22 AWG	2 x 2 x 22 AWG
Conductor:	tinned copper strands, 7 wires or 19 wires	tinned copper strands, extra fine wires
Insulation:	special polymer	PE
Color code:	blue, yellow, white, orange	blue, yellow, white, orange
Stranding:	in layers	in layers
Wrapping:	PETP foil	PETP foil
Inner jacket:	thermoplastic material	thermoplastic material
Wrapping:	alu foil	alu foil
Shielding:	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape
Jacket material:	PUR	PUR
Jacket color:	green (similar RAL 6018)	green (similar RAL 6018)

<b>Technical data:</b>	<b>PN 667 Profinet type C continuous flex</b>	<b>S PN 669 Profinet type C continuous flex</b>
Peak operating voltage:	max. 350 V	max. 350 V
Voltage:	UL/CSA: 300 V	UL: 300 V
Testing voltage: conductor/conductor: conductor/shielding:	2000 V 2000 V	2000 V 2000 V
Min. bending radius: fixed installation: free movement: continuous flex:	5 x O.D. 10 x O.D. 15 x O.D.	5 x O.D. 10 x O.D. 15 x O.D.
Temperature range VDE: static: flexible:	UL/CSA: up to +80°C -40/+70°C -40/+70°C	UL: up to +80°C -30/+70°C -20/+70 °C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Characteristic impedance:	100Ω ± 5Ω, accomplishes the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)	
UL Style:	21198	21198
Application:	suitable for EtherCAT and EtherNET/IP applications	
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30	

item no.	type	dimensions AWG	max. cond.-ø mm	inch	outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C to VDE 0812 max. Ω/km
▶ 6672202	S PN 667	22 (≈ 7/30)/4c	1.55	0.256 ± 0.008	6.5 ± 0.2	40	58.8
▶ 6692202	S PN 669	22 (≈ 19/34)/4c	1.55	0.272 ± 5%	6.9 ± 5%	46	58.0
<b>For extreme bending stress - conductor construction 19 wires:</b>							
▶ 6679001	S PN 667	22 (≈ 19/34)/4c	1.55	0.256 ± .008	6.5 ± 0.2	39	58.8

Other dimensions and colors are available on request



**short assembling time  
by "Fast Connect"  
construction (7 wires)**

Also possible as a  
cable assembly with  
M12 or RJ 45 plug



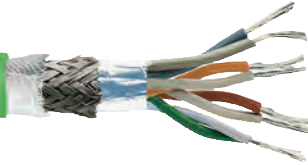
# Cables for Industrial Automation

**PN 675** PVC Ethernet cable type B, for flexible applications, PLTC 600 V, CAT 5e

**S PN 676** PUR Ethernet cable type C, continuous flex, CAT 5



80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE



Marking for S PN 676 06762404:

SAB BRÖCKSKES · D-VIERSEN · S PN 676 CAT 5 Type C 4x2x24AWG x AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE



<b>Construction:</b>	PN 675 type B <i>flexible</i>	S PN 676 type C <i>continuous flex</i>
Item numbers:	6752202	06762404
Dimensions:	2 x 2 x 22 AWG	4 x 2 x 24 AWG
Conductor:	tinned copper strands, fine wires	tinned copper strands, fine wires
Insulation:	Polyolefin	PFA/PP
Color code:	orange & white/orange stripe green & white/green stripe	white conductors with numbers 1 - 4 + (blue, orange, green, brown)
Stranding:	in layers	twisted pairs
Wrapping:	—	non-woven tapes + alu foil
Shielding:	aluminum foil/polyester tape + 24 AWG (7/32) tinned copper drain wire	tinned copper braiding
Wrapping:	—	non-woven tape
Jacket material:	PVC	PUR
Jacket color:	teal	green (similar RAL 6018)

<b>Technical data:</b>	PN 675 type B <i>flexible</i>	S PN 676 type C <i>continuous flex</i>
Approvals:	c(UL) CMG 75C, (UL) PLTC, (UL) AWM 2570 600V 80°C	UL, CSA
Peak operating voltage:	max. 350 V	max. 350 V
Voltage:	UL: 600 V	UL/CSA: 600 V
Testing voltage: conductor/conductor: conductor/shielding:	1500 V 1200 V	1500 V 1200 V
Min. bending radius: fixed installation: free movement: continuous flex:	5 x O.D. 10 x O.D. —	5 x O.D. 10 x O.D. 12 x O.D.
Temperature range VDE: static: flexible:	UL: up to +80°C -40/+80°C -25/+80°C	UL/CSA: up to +80°C -40/+90°C -30/+90°C
Halogen-free:	—	acc. to DIN VDE 0472 part 815 IEC 60754-1
Oil resistance:	oil resistance I	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
UV resistance:	yes	—
Characteristic impedance:	100Ω ± 15Ω (0.722-100.0 MHz)	100Ω ± 15Ω (0.722-100.0 MHz) 100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 (CAT 5 acc. to EN 50173-1)
Transmission performance:	1 - 250 MHz	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30 in full line catalog	

item no.	type	jacket color	dimensions AWG	nominal outer-ø inch	mm	cable weight ≈lbs/mft	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
▶ 6752202	PN 675	teal	22 (≈ 7/30)/2pr	0.310	7.9	45	—
▶ 6752204	PN 675	teal	22 (≈ 7/30)/4pr	0.330	8.4	59	—
▶ 06762404	S PN 676	green (similar RAL 6018)	24 (≈ 19/36)/4pr	0.327	8.3	53	145

Also possible as a cable assembly with M12 or RJ 45 plug





# Cables for Industrial Automation

**CATLine CAT 6 S / CAT 6A S**

Gigabit Ethernet cable suitable for cable tracks

**CATLine CAT 6 RT / CAT 6A RT**

Gigabit Ethernet cable suitable for cable tracks and for robots



Marking for CATLine CAT 6 S 16774630:

SAB BRÖCKSKES · D-VIERSEN · CATLine Cat. 6 S 4x2x26AWG 1677-4630 AWM Style 20549 80°C 300V CSA AWM III A/B 80°C 300V FT2

<b>Construction:</b>				
	CATLine CAT 6 S <i>suitable for cable tracks</i>	CATLine CAT 6A S <i>suitable for cable tracks</i>	CATLine CAT 6 RT <i>suitable for cable tracks/ suitable for robots</i>	CATLine CAT 6A RT <i>suitable for cable tracks/ suitable for robots</i>
<b>Item numbers:</b>	16774630	16774631	16874630	16874631
<b>Dimensions:</b>	4 x 2 x 26 AWG	4 x 2 x 26 AWG	4 x 2 x 26 AWG	4 x 2 x 26 AWG
<b>Conductor:</b>	bare copper strands, fine wires	bare copper strands, fine wires	bare copper strands, fine wires	bare copper strands, fine wires
<b>Insulation:</b>	special polymer	special polymer	special polymer	special polymer
<b>Color code:</b>	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	
<b>Stranding:</b>	conductors twisted to pairs, pairs together		conductors twisted to pairs, pairs together	
<b>Wrapping:</b>	non-woven tape	non-woven tape	non-woven tape	non-woven tape
<b>Shielding:</b>	alu foil	alu foil	alu foil	alu foil
<b>Shielding:</b>	tinned copper braiding	tinned copper braiding	tinned copper braiding	tinned copper braiding
<b>Wrapping:</b>	non-woven tape	non-woven tape	non-woven tape	non-woven tape
<b>Jacket material:</b>	PUR	PUR	PUR	PUR
<b>Jacket color:</b>	green (similar RAL 6018)	green (similar RAL 6018)	green (similar RAL 6018)	green (similar RAL 6018)

<b>Technical data:</b>				
	CATLine CAT 6 S <i>suitable for cable tracks</i>	CATLine CAT 6A S <i>suitable for cable tracks</i>	CATLine CAT 6 RT <i>suitable for cable tracks/ suitable for robots</i>	CATLine CAT 6A RT <i>suitable for cable tracks/ suitable for robots</i>
<b>Peak operating voltage:</b>	max. 90 V	max. 90 V	max. 90 V	max. 90 V
<b>Voltage UL/CSA:</b>	300 V	300 V	300 V	300 V
<b>Testing voltage:</b> conductor/conductor: conductor/shielding:	2000 V 2000 V	2000 V 2000 V	2000 V 2000 V	2000 V 2000 V
<b>Min. bending radius:</b> fixed installation free movement: continuous flex:	5 x O.D. 10 x O.D. 15 x O.D.	5 x O.D. 10 x O.D. 15 x O.D.	5 x O.D. 10 x O.D. 15 x O.D.	5 x O.D. 10 x O.D. 15 x O.D.
<b>Torsion:</b>	—	—	up to ± 180°/m	up to ± 180°/m
<b>Temperature range VDE:</b> static: flexible:	UL: up to +80°C -40/+70°C -40/+70°C	UL: up to +80°C -40/+70°C -40/+70°C	UL: up to +80°C -40/+70°C -40/+70°C	UL: up to +80°C -40/+70°C -40/+70°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2; UL Horizontal Flame Test FT2			
<b>Oil resistance:</b>	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2		TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
<b>Characteristic impedance (100 MHz):</b> accomplishes the electrical and transmission requirements with high frequency	100Ω ± 10Ω, with reference to EN 50288-5-2 / CAT 6	100Ω ± 10Ω, with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, with reference to EN 50288-5-2 / CAT 6	100Ω ± 10Ω, with reference to EN 50288-10-2 / CAT 6A
<b>Flexibility:</b>	very good	very good	very good	very good
<b>UL Style:</b>	20549	20549	20549	20549
<b>Application:</b>	suitable for EtherCAT and EtherNET/IP applications			
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	dimensions AWG	max. cond.-ø mm	outer-ø		cable weight ≈lbs/mft
				±5% inch	±5% mm	
▶ 16774630	CATLine CAT 6 S	26 (≈ 7/34)/4pr	1.05	0.280	7.1	38
▶ 16774631	CATLine CAT 6A S	26 (≈ 7/34)/4pr	1.05	0.280	7.1	38
▶ 16874630	CATLine CAT 6 RT	26 (≈ 7/34)/4pr	1.05	0.280	7.1	38
▶ 16874631	CATLine CAT 6A RT	26 (≈ 7/34)/4pr	1.05	0.280	7.1	38

Other dimensions and colors are available on request



**+90°C on request**

Also possible as a  
cable assembly with  
M12 or RJ 45 plug



# Cables for Industrial Automation

## CATLine CAT 6A HT

Gigabit Ethernet cable – high temperature resistant



### 16314631- FEP Version

26AWG 16314631 AWM Style 21618 150°C 600V CE

Marking for CATLine CAT 6A HT 16314631:

SAB BRÖCKSKES · D-VIERSEN · Cat. 6A HT 4x2x26AWG 16314631 AWM Style 21618 150°C 600V CE



### 16324631- PFA Version

CATLine CAT 6A HT 4x2x26AWG 16324631 CE

Marking for CATLine CAT 6A HT 16324631:

SAB BRÖCKSKES · D-VIERSEN · Cat. 6A HT 4x2x26AWG 16324631 CE



### Construction:

<b>Conductor:</b>	
FEP:	bare copper strands, fine wires
PFA:	silver-plated copper strands, fine wires
<b>Insulation:</b>	FEP or PFA
<b>Color code:</b>	white/blue, white/orange, white/green, white/brown
<b>Stranding:</b>	twisted to pairs
<b>Wrapping:</b>	PETP foil
<b>Shielding:</b>	
FEP:	alu. foil + tinned copper braiding
PFA:	alu. foil + silver-plated copper braiding
<b>Jacket material:</b>	FEP or PFA
<b>Jacket color:</b>	green (similar RAL 6018)

### Outstanding features:



- high temperature resistant
- low temperature resistant
- flame retardant and self-extinguishing
- oil and chemical resistant
- UL recognized- FEP version only

### Technical data:

<b>Peak operating voltage:</b>	max. 90 V		
<b>Voltage UL:</b>	600 V		
<b>Testing voltage:</b>	conductor/conductor:	FEP: 2000 V	PFA: 750 V
	conductor/shielding:	2000 V	750 V
<b>Min. bending radius:</b>			
fixed installation:	5 x O.D.		
free movement:	10 x O.D.		
<b>Temperature range:</b>	FEP:	PFA:	
static:	-90/+180°C	-90/+250°C	
flexible:	-55/+180°C	-55/+250°C	
	UL: up to +150°C		
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1		
<b>Oil resistance:</b>	very good		
<b>Chemical resistance:</b>	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds		
<b>Character impedance:</b>	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 (CAT 6A)		
<b>Approvals:</b>	FEP: UR AWM Style 21618, CE, RoHS PFA: CE, RoHS		
<b>Application:</b>	suitable for EtherCAT and EtherNET/IP applications		
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30		

item no.	type	dimensions AWG	max. cond.-ø mm	outer-ø ±5% inch	outer-ø ±5% mm	cable weight ≈lbs/mft
▶ 16314631	FEP	26 (≈ 7/34)/4pr	1.05	0.228	5.8	36
▶ 16324631	PFA	26 (≈ 7/34)/4pr	1.05	0.217	5.5	33

Other dimensions and colors are available on request

NEW

PFA type  
up to +250°C

Also possible as a cable assembly with M12 or RJ 45 plug



# Cables for Industrial Automation

**CATLine CAT 7A S** Gigabit Ethernet cable suitable for cable tracks

**CATLine CAT 7A RT** Gigabit Ethernet cable suitable for suitable for robots



Marking for CATLine CAT 7A S 17774631:

SAB BRÖCKSKES · D-VIERSEN · CATLine Cat. 7A S 4x2x26AWG 17774631 AWM Style 20549 80°C 300V CSA AWM I/II A/B 80°C 300V FT2



<b>Construction:</b>	<b>CATLine CAT 7A S</b> <i>suitable for cable tracks</i>	<b>CATLine CAT 7A RT</b> <i>suitable for robots</i>
<b>Item numbers:</b>	17774631 / 17774431	17874631 / 17874431
<b>Dimensions:</b>	4 x 2 x 26 AWG / 4 x 2 x 24 AWG	4 x 2 x 26 AWG / 4 x 2 x 24 AWG
<b>Conductors:</b>	bare copper strands, fine wires	bare copper strands, fine wires
<b>Insulation:</b>	special polymer	special polymer
<b>Color code:</b>	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
<b>Stranding:</b>	conductors twisted to pairs, pairs shielded with foil, pairs together	conductors twisted to pairs, pairs shielded with foil, pairs together
<b>Shielding:</b>	aluminized non-woven tape	aluminized non-woven tape
<b>Shielding:</b>	tinned copper braiding	tinned copper braiding
<b>Wrapping:</b>	non-woven tape	non-woven tape
<b>Jacket material:</b>	PUR	PUR
<b>Jacket color:</b>	green (similar RAL 6018)	green (similar RAL 6018)

<b>Technical data:</b>	<b>CATLine CAT 7A S</b> <i>suitable for cable tracks</i>	<b>CATLine CAT 7A RT</b> <i>suitable for robots</i>
<b>Peak operating voltage:</b>	max. 90 V	max. 90V
<b>Voltage UL/CSA:</b>	300 V	300 V
<b>Testing voltage:</b> conductor/conductor: conductor/shielding:	2000 V 2000 V	2000 V 2000 V
<b>Min. bending radius:</b> fixed installation: free movement: continuous flex:	5 x O.D. 10 x O.D. 15 x O.D.	5 x O.D. 10 x O.D. —
<b>Torsion angle:</b>	—	up to ± 180°/m
<b>Temperature range VDE:</b> static: flexible:	<b>UL/CSA:</b> up to +80°C -40/+70°C -40/+70°C	<b>UL/CSA:</b> up to +80°C -40/+70°C -40/+70°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 UL Horizontal Flame Test FT2	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 UL Horizontal Flame Test FT2
<b>Oil resistance:</b>	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
<b>Characteristic impedance (100 MHz):</b>	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 + VDE 0819-9-2 / CAT 7A	
<b>Flexibility:</b>	very good	very good
<b>UL Style:</b>	20549	20549
<b>Application:</b>	suitable for EtherCAT and EtherNET/IP applications	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union, see page O/30	

item no.	type	dimensions AWG	max. cond.-ø mm	outer-ø ±5% inch	outer-ø ±5% mm	cable weight ≈lbs/ft
▶ 17774631	CATLine CAT 7A S	26 (≈ 7/34)/4pr	1.50	0.355	8.5	54
▶ 17774431	CATLine CAT 7A S	24 (≈ 7/34)/4pr	1.60	0.409	10.4	68
▶ 17874631	CATLine CAT 7A RT	26 (≈ 7/34)/4pr	1.50	0.350	8.9	56
▶ 17874431	CATLine CAT 7A RT	24 (≈ 7/34)/4pr	1.60	0.366	9.3	66

Other dimensions and colors are available on request

**+90°C**  
on request

Also possible as a  
cable assembly with  
M12 or RJ 45 plug

CABLE  
ASSEMBLY  
POSSIBLE



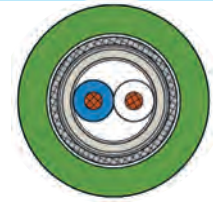
# Cables for Industrial Automation

**CATLine SPE C-Track** Single-Pair-Ethernet cable, suitable for cable tracks  
**CATLine SPE Robot** Single-Pair-Ethernet cable, suitable for robots  
**CATLine SPE HT** Single-Pair-Ethernet cable, high temperature resistant



Marking for CATLine SPE C-Track 17771630:

SAB BRÖCKSKES · D-VIERSEN · CATLine SPE C-Track 2xAWG26/7 17771630 AWM Style 20549 80°C 300V CE



<b>Construction:</b>	<b>CATLine SPE C-Track</b> <i>suitable for cable tracks</i>	<b>CATLine SPE Robot</b> <i>suitable for robots</i>	<b>CATLine SPE HT</b> <i>high temperature resistant</i>
<b>Item numbers:</b>	17771630	17871630	17211620
<b>Dimensions:</b>	2 x 26 AWG	2 x 26 AWG	2 x 26 AWG
<b>Conductor:</b>	bare copper strands, 7 or 19 wires	bare copper strands, 7 or 19 wires	bare copper strands, 7 wires
<b>Insulation:</b>	special polymer	special polymer	TPFP
<b>Color code:</b>	white, blue	white, blue	white, blue
<b>Stranding:</b>	twisted to pairs	twisted to pairs	twisted to pairs
<b>Inner jacket:</b>	SABIX®	SABIX®	TPFP
<b>Shielding:</b>	alu foil + tinned copper braiding	alu foil + tinned copper braiding	alu foil + tinned copper braiding
<b>Wrapping:</b>	non-woven tape	non-woven tape	—
<b>Jacket material:</b>	PUR	PUR	Besilen®
<b>Jacket color:</b>	green (similar RAL 6018)	green (similar RAL 6018)	green

<b>Technical data:</b>	<b>CATLine SPE C-Track</b> <i>suitable for cable tracks</i>	<b>CATLine SPE Robot</b> <i>suitable for robots</i>	<b>CATLine SPE HT</b> <i>high temperature resistant</i>
<b>Peak operating voltage:</b>	max. 90 V	max. 90 V	max. 90 V
<b>Voltage UL:</b>	300 V	300 V	—
<b>Testing voltage:</b> conductor/conductor: conductor/shielding:	2000 V 2000 V	2000 V 2000 V	2000 V 2000 V
<b>Min. bending radius:</b> fixed installation: free movement: continuous flex:	5 x O.D. 10 x O.D. 15 x O.D.	5 x O.D. 10 x O.D. 15 x O.D.	5 x O.D. 10 x O.D. —
<b>Torsion angle:</b>	---	up to ± 180°/m	---
<b>Temperature range:</b> static: flexible:	UL: up to 80°C -40/+70°C -40/+70°C	UL: up to 80°C -40/+70°C -40/+70°C	-40/+180°C -25/+180°C
<b>Temperature range conductor:</b>	---	---	up to +180°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	---
<b>Oil resistance:</b>	very good - TMPU acc. to EN 50363- 10-2 + VDE 0207-363-10-2	very good - TMPU acc. to EN 50363- 10-2 + VDE 0207-363-10-2	---
<b>Characteristic impedance:</b>	100Ω ± 10Ω, fulfills the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz.		
<b>UL Style</b>	20549	20549	—
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	outer-ø		cable weight ≈lbs/mft
			±10% inch	±10% mm	
▶ 17771630	CATLine SPE C-Track	26 (7 strand)/1pr	0.181	4.6	19
▶ 17771230	CATLine SPE C-Track	22 (19 strand)/1pr	0.224	5.7	27
▶ 17871630	CATLine SPE Robot	26 (7 strand)/1pr	0.181	4.6	19
▶ 17871230	CATLine SPE Robot	22 (19 strand)/1pr	0.224	5.7	27
▶ 17211620	CATLine SPE HT	26 (7 strand)/1pr	0.173	4.4	23
▶ 17211220	CATLine SPE HT	22 (7 strand)/1pr	0.209	5.3	30

Other dimensions and colors are available on request



## Outstanding features:

### C-Track / Robot:

- UL recognized
- low cabling effort
- short latency periods
- small outer diameter
- free from paint wetting impairment substances (PWIS-free)

### SPE HT:

- high temperature resistant
- flame retardant and self-extinguishing
- very easy installation



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# Cables for Industrial Automation

## CATLine SPE Rugged

Single-Pair-Ethernet cable for robust indoor and outdoor use



Marking for CATLine SPE Rugged 17191620:

SAB BRÖCKSKES · D-VIERSEN · CATLine SPE Rugged 2x26AWG 17191620 CE

### Construction:

Conductor:	bare copper strands, 7 wires
Insulation:	TPFP
Color code:	white, blue
Stranding:	twisted to pairs
Inner jacket:	SABIX®
Shielding:	alu. foil + tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR 420 with matte surface
Jacket color:	black (RAL 9005)

### Outstanding features:

- flexible down to -40°C
- absolutely weather resistant
- very easy installation
- small bending radius

### Technical data:

Peak operating voltage:	max. 90V
Testing voltage:	conductor/conductor: 750 V conductor/shielding: 750 V
Min. bending radius:	fixed installation: 5 x O.D. free movement: 12 x O.D.
Temperature range:	static: -90/+90°C / +125°C / 2500 h flexible: -40/+90°C / +125°C / 2500 h
Temperature range conductor:	up to +180°C
Oil resistance:	very good - TMPU acc. to EN 50363-10-2
Fuel resistance:	good
Battery acid resistance:	good
UV resistance:	acc. to HD 605
Ozone resistance:	acc. to EN 50396
Characteristic impedance:	100Ω ± 10Ω, fulfills the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz.
Approvals:	CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	type	dimensions AWG	outer-ø		cable weight ≈ lbs/mft
			±10% inch	±10% mm	
▶ 17191620	CATLine SPE Rugged	26 (7 strand)/1pr	0.177	4.5	19
▶ 17191220	CATLine SPE Rugged	22 (7 strand)/1pr	0.224	5.7	26

Other dimensions and colors are available on request

Also possible as a cable assembly with USB type A or B plug













High-speed data exchange has become the cornerstone of factory automation as manufacturers harness real-time information to improve efficiencies and processes. SAB's flexible bus cables are designed for industrial applications that require power, sensor and data communications. We also offer a complete range of halogen-free bus cables.

### Features:

- USB 2.0 and 3.0
- DeviceNet
- CAN-Bus
- Interbus
- SafetyBus



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Additional BUS cables are available on our website and in the full line catalog (Section J)





# Cables for Industrial Automation

- USB 2.0** Flexible USB 2.0 cable
- USB 2.0 UL** Flexible USB 2.0 cable with UL recognition
- USB 2.0 FRNC** Halogen-free flexible USB 2.0 cable



2x0.5mm<sup>2</sup> 6010222 AWM Style 2655 80°C 300V



Marking for USB 2.0 UL 6010222:

SAB BRÖCKSKES · D-VIERSEN · USB 2.0 Leitung · (2x0.22mm<sup>2</sup>)ST+2x0.5mm<sup>2</sup> 0601-0222 AWM Style 2655 80°C 300V



<b>Construction:</b>	USB 2.0 flexible	USB 2.0 UL flexible	USB 2.0 FRNC flexible
<b>Item numbers:</b>	6010122	6010222	6019001
<b>Dimensions:</b>	(2 x 0.22 mm <sup>2</sup> ) ST + 2 x 0.50 mm <sup>2</sup>	(2 x 0.22 mm <sup>2</sup> ) ST + 2 x 0.50 mm <sup>2</sup>	(2 x 0.22 mm <sup>2</sup> ) ST + 2 x 0.50 mm <sup>2</sup>
<b>Conductor:</b>	bare copper strands (0.50 mm <sup>2</sup> ) silver-plated strands (0.22 mm <sup>2</sup> )	bare copper strands (0.50 mm <sup>2</sup> ) silver-plated strands (0.22 mm <sup>2</sup> )	bare copper strands (0.50 mm <sup>2</sup> ) silver-plated strands (0.22 mm <sup>2</sup> )
<b>Insulation:</b>	SABIX®	SABIX®	SABIX®
<b>Color code:</b>	black, red (0.50 mm <sup>2</sup> ), white, green (0.22 mm <sup>2</sup> )	black, red (0.50 mm <sup>2</sup> ), white, green (0.22 mm <sup>2</sup> )	black, red (0.50 mm <sup>2</sup> ), white, green (0.22 mm <sup>2</sup> )
<b>Stranding:</b>	2 x 0.22 mm <sup>2</sup> wrapped with alu foil, together with 0.5 mm <sup>2</sup>		
<b>Wrapping:</b>	non-woven tape	non-woven tape	non-woven tape
<b>Shielding:</b>	tinned copper braiding	tinned copper braiding	tinned copper braiding
<b>Jacket material:</b>	PVC	PVC	SABIX®
<b>Jacket color:</b>	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

<b>Technical data:</b>	USB 2.0 flexible	USB 2.0 UL flexible	USB 2.0 FRNC flexible
<b>Peak operating voltage:</b>	max. 350 V	max. 350 V	max. 350 V
<b>Voltage UL:</b>	—	300 V	—
<b>Testing voltage:</b> conductor/conductor: conductor/shielding:	600 V 600 V	2000 V 2000 V	1500 V 1200 V
<b>Min. bending radius:</b> fixed installation: free movement:	5 x O.D. 10 x O.D.	5 x O.D. 10 x O.D.	5 x O.D. 10 x O.D.
<b>Temperature range VDE:</b> static: flexible:	-30/+70°C -5/+70°C	UL: up to 80°C -30/+70°C -5/+70°C	-40/+90°C -30/+90°C
<b>Halogen-free:</b>	---	---	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Burning characteristics:</b>	---	---	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
<b>Oil resistance:</b>	acc. to internal standard see page O/29	acc. to internal standard see page O/29	---
<b>UL Style:</b>	---	2655	---
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	outer-ø		cable weight ≈lbs/mft
			approx. inch	approx. mm	
▶ 6010122	USB 2.0	(2x0.22mm <sup>2</sup> ) ST + 2x0.50mm <sup>2</sup>	0.268	6.8	40
▶ 6010222	USB 2.0 UL	(2x0.22mm <sup>2</sup> ) ST + 2x0.50mm <sup>2</sup>	0.276	7.0	43
▶ 6019001	USB 2.0 FRNC	(2x0.22mm <sup>2</sup> ) ST + 2x0.50mm <sup>2</sup>	0.268	6.8	42

Other dimensions and colors are available on request

# Cables for Industrial Automation

- USB 2.0 S** Continuous flex cable, suitable for cable tracks
- USB 2.0 S UL/CSA** Continuous flex cable, suitable for cable tracks
- USB 2.0 RT UL/CSA** Continuous flex cable, suitable for robots



Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE



Marking for USB 2.0 S UL/CSA 6011122:

SAB BRÜCKSKES · D-VIERSEN · USB 2.0 Leitung · (2x0.22mm<sup>2</sup>)ST+2x0.5mm<sup>2</sup> 6011122 AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE



<b>Construction:</b>	<b>USB 2.0 S</b> <i>suitable for cable tracks</i>	<b>USB 2.0 S UL/CSA</b> <i>suitable for cable tracks</i>	<b>USB 2.0 RT UL/CSA</b> <i>suitable for robots</i>
<b>Item numbers:</b>	6011022	6011122	6012022
<b>Dimensions:</b>	(2 x 0.22 mm <sup>2</sup> ) ST + 2 x 0.50 mm <sup>2</sup>	(2 x 0.22 mm <sup>2</sup> ) ST + 2 x 0.50 mm <sup>2</sup>	(2 x 0.22 mm <sup>2</sup> ) ST + 2 x 0.50 mm <sup>2</sup>
<b>Conductor:</b>	bare copper strands (0.50 mm <sup>2</sup> ) silver-plated strands (0.22 mm <sup>2</sup> )	bare copper strands (0.50 mm <sup>2</sup> ) silver-plated strands (0.22 mm <sup>2</sup> )	bare copper strands (0.50 mm <sup>2</sup> ) silver-plated strands (0.22 mm <sup>2</sup> )
<b>Insulation:</b>	SABIX®	SABIX®	SABIX®
<b>Color code:</b>	black, red (0.50 mm <sup>2</sup> ), white, green (0.22 mm <sup>2</sup> )	black, red (0.50 mm <sup>2</sup> ), white, green (0.22 mm <sup>2</sup> )	black, red (0.50 mm <sup>2</sup> ), white, green (0.22 mm <sup>2</sup> )
<b>Stranding:</b>	2 x 0.22 mm <sup>2</sup> wrapped with alu foil, together with 0.5 mm <sup>2</sup>		
<b>Wrapping:</b>	non-woven tape	non-woven tape	PTFE foil
<b>Shielding:</b>	tinned copper braiding	tinned copper braiding	wrapping with tinned copper round wires
<b>Wrapping:</b>	non-woven tape	non-woven tape	non-woven tape
<b>Jacket material:</b>	PUR	PUR	PUR
<b>Jacket color:</b>	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

<b>Technical data:</b>	<b>USB 2.0 S</b> <i>suitable for cable tracks</i>	<b>USB 2.0 S UL/CSA</b> <i>suitable for cable tracks</i>	<b>USB 2.0 RT UL/CSA</b> <i>suitable for robots</i>
<b>Peak operating voltage:</b>	max. 350 V	max. 350 V	max. 350 V
<b>Voltage UL/CSA:</b>	—	300 V	300 V
<b>Testing voltage:</b> conductor/conductor: conductor/shielding:	600 V 600 V	2000 V 2000 V	2000 V 2000 V
<b>Min. bending radius:</b> fixed installation: free movement: continuous flex:	5 x O.D. 6 x O.D. 7.5 x O.D.	5 x O.D. 6 x O.D. 7.5 x O.D.	5 x O.D. 7.5 x O.D. 10 x O.D.
<b>Torsion angle:</b>	---	---	up to ± 180°/m
<b>Temperature range VDE:</b> static: flexible:	-50/+90°C -40/+90°C	<b>UL/CSA:</b> up to 80°C -50/+90°C -40/+90°C	<b>UL/CSA:</b> up to 80°C -50/+90°C -40/+90°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	—
<b>Oil resistance:</b>	TMPU EN 50363-10-2 + VDE 0207-363-10-2	TMPU EN 50363-10-2 + VDE 0207-363-10-2	TMPU EN 50363-10-2 + VDE 0207-363-10-2
<b>UL Style:</b>	—	21198	21198
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	outer-ø		cable weight ≈lbs/mft
			approx. inch	approx. mm	
▶ 6011022	USB 2.0 S	(2x0.22mm <sup>2</sup> ) ST + 2x0.50mm <sup>2</sup>	0.276	7.0	40
▶ 6011122	USB 2.0 S UL/CSA	(2x0.22mm <sup>2</sup> ) ST + 2x0.50mm <sup>2</sup>	0.283	7.2	44
▶ 6012022	USB 2.0 RT UL/CSA	(2x0.22mm <sup>2</sup> ) ST + 2x0.50mm <sup>2</sup>	0.276	7.0	43

Other dimensions and colors are available on request

Also possible as a cable assembly with USB type A or B plug



866-722-2974 • www.sabcable.com

# Cables for Industrial Automation

- USB 3.0 S** Continuous flex USB 3.0 cable suitable for cable tracks
- USB 3.0 RT** Continuous flex USB 3.0 cable suitable for robots
- USB 3.0** Flexible USB 3.0 cable



Marking for USB 3.0 S 6042098:  
 SAB BRÖCKSKES · D-VIERSEN · USB 3.0 S 3x(2x28AWG)ST+2x26AWG 6042098  
 AWM Style 20549 80° 300V CE

<b>Construction:</b>	<b>USB 3.0 S</b> <i>suitable for cable tracks</i>	<b>USB 3.0 RT</b> <i>suitable for robots</i>	<b>USB 3.0</b> <i>flexible</i>
<b>Item numbers:</b>	6042098	6043098 / 6043096	6030078
<b>Dimensions:</b>	3 x (2 x 28 AWG)ST + 2 x 26 AWG	3 x (2 x 28 AWG)ST + 2 x 26 AWG 3 x (2 x 26 AWG)ST + 2 x 24 AWG	2 x (2 x 28 AWG)ST + 2 x 28 AWG + 2 x 26 AWG
<b>Conductor:</b>	silver-plated strands and tinned copper strands	silver-plated strands and tinned copper strands	silver-plated strands and tinned copper strands
<b>Insulation:</b>	special polymer	special polymer	special polymer
<b>Color code:</b>	yellow, blue + orange, violet (USB 3.0), green, white (USB 2.0), red, black (power supply)		
<b>Stranding:</b>	twisted pairs and data pairs shielded, all elements together	twisted pairs and data pairs shielded, all elements together	USB 3.0 twisted and screened pairs, USB 2.0 twisted pairs, all elements together
<b>Wrapping:</b>	non-woven tape	netting tape + non-woven tape	non-woven tape
<b>Shielding:</b>	tinned copper braiding	tinned copper braiding	tinned copper braiding
<b>Wrapping:</b>	non-woven tape	non-woven tape	non-woven tape
<b>Jacket material:</b>	PUR	PUR	PVC
<b>Jacket color:</b>	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

<b>Technical data:</b>	<b>USB 3.0 S</b> <i>suitable for cable tracks</i>	<b>USB 3.0 RT</b> <i>suitable for robots</i>	<b>USB 3.0</b> <i>flexible</i>
<b>Peak operating voltage:</b>	max. 350 V	max. 350 V	max. 350 V
<b>Voltage UL:</b>	300 V	300 V	300 V
<b>Testing voltage:</b> conductor/conductor: conductor/shielding:	2000 V 2000 V	2000 V 2000 V	2000 V 2000 V
<b>Min. bending radius:</b> fixed installation: free movement: continuous flex:	5 x O.D. 10 x O.D. 12 x O.D.	5 x O.D. 10 x O.D. 15 x O.D.	5 x O.D. 10 x O.D. —
<b>Torsion angle:</b>	—	up to ± 360°/m	—
<b>Temperature range VDE:</b> static: flexible:	<b>UL:</b> up to 80°C -50/+90°C -40/+90°C	<b>UL:</b> up to 80°C -50/+90°C -40/+90°C	<b>UL:</b> up to 80°C -30/+70°C -5/+70°C
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2		
<b>Oil resistance:</b>	very good, TMPU acc. to EN 50363-10-2	very good, TMPU acc. to EN 50363-10-2	very good - TM5 acc. to EN 50363-4-1
<b>UL Style:</b>	20549	20549	21083
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	outer-ø		cable weight ≈ lbs/mft	ohmic resistance at 20°C max.Ω/km		
			approx. inch	approx. mm		28 AWG	26 AWG	24 AWG
▶ 6042098	USB 3.0 S	28 (≈ 7/38)ST/3pr + 26 (≈ 7/34)/2c	0.240	6.1	30	223	140	—
▶ 6043098	USB 3.0 RT	28 (≈ 7/38)ST/3pr + 26 (≈ 7/34)/2c	0.252	6.4	34	223	140	—
▶ 6043096	USB 3.0 RT	26 (≈ 7/34)ST/3pr + 24 (7 strand)/2c	0.315	8.0	49	—	130	83.3
▶ 6030078	USB 3.0	28 (≈ 7/38)ST/2pr + 28 (≈ 7/38)/2c + 26 (≈ 7/34)/2c	0.240	6.1	32	223	140	—

Other dimensions and colors are available on request



**For transmission lengths  
more than 3 m,  
please contact us.**

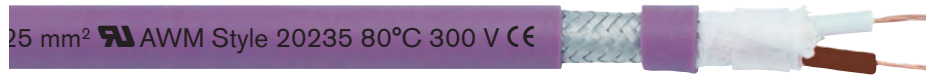
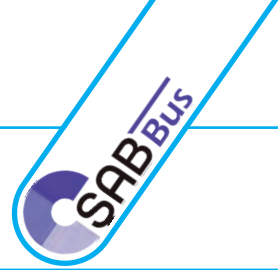
Also possible as a  
cable assembly with  
USB type A or B plug



# Cables for Industrial Automation

**CB 627** CAN-Bus cable with UL recognition

**S CB 628** Halogen-free, CAN-Bus cable for cable tracks with UL recognition



Marking for S CB 628 6282251:

SAB BRÖCKSKES · D-VIERSEN · S CB 628 2 x 0.25 mm<sup>2</sup> AWM Style 20235 80°C 300 V CE



<b>Construction:</b>	<b>CB 627</b>	<b>S CB 628</b>
<b>Conductors:</b>	bare copper strands with reference to VDE 0812	bare copper strands, extra fine wires
<b>Insulation:</b>	PE, 2Y11 acc. to EN 50290-2-23 + VDE 0819-103	PE, 2Y11 acc. to EN 50290-2-23 + VDE 0819-103
<b>Color code:</b>	acc. to DIN 47100	acc. to DIN 47100
<b>Wrapping:</b>	PETP foil	non-woven tape
<b>Inner jacket (natural):</b>	—	SABIX®
<b>Shielding:</b>	tinned copper braiding	tinned copper braiding
<b>Jacket material:</b>	PVC, TM5 acc. to EN 50363-4-1	PUR, TPU acc. to EN 50363-10-2 with rough surface
<b>Jacket color:</b>	red lilac (RAL 4001)	red lilac (RAL 4001)

<b>Technical data:</b>	<b>CB 627</b>	<b>S CB 628</b>
<b>Peak operating voltage:</b>	max. 350 V	max. 350 V
<b>Voltage UL:</b>	300 V	300 V
<b>Testing voltage:</b> conductor/conductor: conductor/shielding:	2000 V 2000 V	2000 V 2000 V
<b>Min. bending radius:</b>	7.5 x O.D.	7.5 x O.D.
<b>Radiation resistance:</b>	8 x 10 <sup>7</sup> cJ/kg	5 x 10 <sup>7</sup> cJ/kg
<b>Temperature range VDE:</b> static: flexible:	UL: up to +80°C -30/+70°C -5/+70°C	UL: up to +80°C -40/+70°C -40/+70°C
<b>Halogen-free:</b>	—	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	
<b>Oil resistance:</b>	very good acc. to VDE 0207-5	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2
<b>Chemical resistance:</b>	—	good against acids, alkalines, solvents, hydraulic liquids, etc.
<b>Characteristic impedance:</b>	120 Ω ± (95 - 140 Ω)	120 Ω ± (95 - 140 Ω)
<b>Flexibility:</b>	good	very good
<b>Application in cable tracks:</b>	not recommended	recommended
<b>Weather resistance:</b>	medium	very good
<b>UL Style:</b>	2464	20233
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union, see page O/30	

item no.	type	no. of pairs/conductors	AWG	outer-ø		cable weight ≈ lbs/mft
				±5% inch	±5% mm	
▶ 6272251	CB 627	2	24 (≈ 16/34)	0.240	6.1	30
▶ 6272341	CB 627	2	22 (≈ 7/30)	0.252	6.4	32
▶ 6272501	CB 627	2	20 (≈ 17/32)	0.303	7.7	45
▶ 6272751	CB 627	2	19 (≈ 23/32)	0.378	9.6	61
▶ 6282251	S CB 628	2	24 (≈ 34/38)	0.311	7.9	52
▶ 6282341	S CB 628	2	22 (≈ 42/38)	0.327	8.3	56
▶ 6282501	S CB 628	2	20 (≈ 68/38)	0.343	8.7	54
▶ 6274251	CB 627	2 x 2	24 (≈ 16/34)	0.287	7.3	41
▶ 6274341	CB 627	2 x 2	22 (≈ 7/30)	0.303	7.7	45
▶ 6274501	CB 627	2 x 2	20 (≈ 17/32)	0.386	9.8	70
▶ 6274751	CB 627	2 x 2	19 (≈ 23/32)	0.531	13.5	120
▶ 6284251	S CB 628	2 x 2	24 (≈ 34/38)	0.358	9.1	66
▶ 6284341	S CB 628	2 x 2	22 (≈ 42/38)	0.378	9.6	71
▶ 6284501	S CB 628	2 x 2	20 (≈ 68/38)	0.417	10.6	77

Other dimensions and colors are available on request

**DIN 47100 color code: Conductors**

#1- white, #2- brown

**DIN 47100 color code: Pairs**

#1- white/brown, #2- green/yellow

# Cables for Industrial Automation



**DN 656** Halogen-free, flexible DeviceNet™ cable with a foil shield and UL recognition

**DN 657** Halogen-free, flexible DeviceNet™ cable with tinned copper shield



Marking for DN 656 06562241:

SAB BRÖCKSKES · D-VIERSEN · DN 656 2x0.24mm<sup>2</sup>+2x0.38mm<sup>2</sup> 06562241 24AWG/1pr+22AWG/1pr AWM Style 21080 75°C 300V CE

<b>Construction:</b>	<b>DN 656</b> Drop Cable	<b>DN 656</b> Trunk Cable	<b>DN 657</b> Drop Cable	<b>DN 657</b> Trunk Cable
<b>Item numbers:</b>	06562241	06562781	06572241	06572781
<b>Dimensions:</b>	2 x 0.24 mm <sup>2</sup> + 2 x 0.38 mm <sup>2</sup>	2 x 0.96 mm <sup>2</sup> + 2 x 1.53 mm <sup>2</sup>	2 x 0.24 mm <sup>2</sup> + 2 x 0.38 mm <sup>2</sup>	2 x 0.96 mm <sup>2</sup> + 2 x 1.53 mm <sup>2</sup>
<b>Conductor:</b> 0.24mm <sup>2</sup> tinned copper strands 0.38 mm <sup>2</sup> tinned copper strands	AWG 24/19 AWG 22/19	— —	AWG 24/19 AWG 22/19	— —
<b>Conductor:</b> 0.96 mm <sup>2</sup> tinned copper strands 1.53 mm <sup>2</sup> tinned copper strands	— —	AWG 18/19 AWG 15/19	— —	AWG 18/19 AWG 15/19
<b>Insulation:</b>	0.24 mm <sup>2</sup> : acc. to EN 50290-2-23 (02Y11) 0.38 mm <sup>2</sup> : SABIX®	0.96 mm <sup>2</sup> : acc. to EN 50290-2-23 (02Y11) 1.53 mm <sup>2</sup> : SABIX®	0.24 mm <sup>2</sup> : acc. to EN 50290-2-23 (02Y11) 0.38 mm <sup>2</sup> : SABIX®	0.96 mm <sup>2</sup> : acc. to EN 50290-2-23 (02Y11) 1.53 mm <sup>2</sup> : SABIX®
<b>Color code:</b>	0.24 mm <sup>2</sup> /0.96 mm <sup>2</sup> : data pair white and light blue; 0.38 mm <sup>2</sup> /1.53 mm <sup>2</sup> : supply pair black and red		0.24 mm <sup>2</sup> /0.96 mm <sup>2</sup> : data pair white and light blue; 0.38 mm <sup>2</sup> /1.53 mm <sup>2</sup> : supply pair black and red	
<b>Wrapping:</b>	conductors twisted to pairs stranded with alu foil		conductors twisted to pairs stranded with alu foil	
<b>Stranding:</b>	pairs in specially adjusted layering, tinned copper drain wire in core			
<b>Shielding:</b>	alu. foil	alu. foil	tinned copper braiding	tinned copper braiding
<b>Wrapping:</b>	non-woven tape	non-woven tape	non-woven tape	non-woven tape
<b>Jacket material:</b>	SABIX®			
<b>Jacket color:</b>	red lilac (RAL 4001)			

<b>Technical data:</b>	<b>DN 656</b> Drop Cable	<b>DN 656</b> Trunk Cable	<b>DN 657</b> Drop Cable	<b>DN 657</b> Trunk Cable
<b>Peak operating voltage:</b>	max. 350 V	max. 350 V	max. 350 V	max. 350 V
<b>Voltage UL:</b>	300 V	300 V	—	—
<b>Testing voltage:</b> conductor/conductor: conductor/shielding:	2000 V 2000 V	2000 V 2000 V	1500 V 1200 V	1500 V 1200 V
<b>Min. bending radius:</b> fixed installation: free movement:	7.5 x O.D. 15 x O.D.	7.5 x O.D. 15 x O.D.	7.5 x O.D. 15 x O.D.	7.5 x O.D. 15 x O.D.
<b>Temperature range:</b> static: flexible:	UL: up to +75°C -40/+70°C -30/+70°C	UL: up to +75°C -40/+70°C -30/+70°C	-40/+70°C -30/+70°C	-40/+70°C -30/+70°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1		acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Characteristic impedance:</b>	120 Ω ± 10%		120 Ω ± 10%	
<b>UL Style:</b>	21080		—	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union, see page O/30 in full line catalog			

item no.	type	no. of data conductors	no. of power conductors	nominal outer-ø		cable weight ≈lbs/mft
				inch	mm	
▶ 06562241	DN 656 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.260	6.6	38
▶ 06562781	DN 656 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.449	11.4	81
▶ 06572241	DN 657 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.260	6.6	50
▶ 06572781	DN 657 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.449	11.4	123

Other dimensions and colors are available on request

# Cables for Industrial Automation



**DN 659** Continuous flex DeviceNet™ cable with a foil shield

**DN 658** Continuous flex DeviceNet™ cable with tinned copper shield



Marking for DN 656 6562241:

SAB BRÖCKSKES · D-VIERSEN · DN 656 2x0.24mm<sup>2</sup>+2x0.38mm<sup>2</sup> 6562241 24AWG/1pr+22AWG/1pr AWM Style 21080 75°C 300V CE

<b>Construction:</b>	<b>DN 656</b> <i>Drop Cable</i>	<b>DN 656</b> <i>Trunk Cable</i>	<b>DN 657</b> <i>Drop Cable</i>	<b>DN 657</b> <i>Trunk Cable</i>
<b>Item numbers:</b>	6562241	6562781	6572241	6572781
<b>Dimensions:</b>	2 x 0.24 mm <sup>2</sup> + 2 x 0.38 mm <sup>2</sup>	2 x 0.96 mm <sup>2</sup> + 2 x 1.53 mm <sup>2</sup>	2 x 0.24 mm <sup>2</sup> + 2 x 0.38 mm <sup>2</sup>	2 x 0.96 mm <sup>2</sup> + 2 x 1.53 mm <sup>2</sup>
<b>Conductor:</b> 0.24mm <sup>2</sup> tinned copper strands 0.38 mm <sup>2</sup> tinned copper strands	AWG 24/19 AWG 22/19	— —	AWG 24/19 AWG 22/19	— —
<b>Conductor:</b> 0.96 mm <sup>2</sup> tinned copper strands 1.53 mm <sup>2</sup> tinned copper strands	— —	AWG 18/19 AWG 15/19	— —	AWG 18/19 AWG 15/19
<b>Insulation:</b>	0.24 mm <sup>2</sup> : acc. to EN 50290-2-23 (02Y11) 0.38 mm <sup>2</sup> : SABIX®	0.96 mm <sup>2</sup> : acc. to EN 50290-2-23 (02Y11) 1.53 mm <sup>2</sup> : SABIX®	0.24 mm <sup>2</sup> : acc. to EN 50290-2-23 (02Y11) 0.38 mm <sup>2</sup> : SABIX®	0.96 mm <sup>2</sup> : acc. to EN 50290-2-23 (02Y11) 1.53 mm <sup>2</sup> : SABIX®
<b>Color code:</b>	0.24 mm <sup>2</sup> /0.96 mm <sup>2</sup> : data pair white and light blue; 0.38 mm <sup>2</sup> /1.53 mm <sup>2</sup> : supply pair black and red		0.24 mm <sup>2</sup> /0.96 mm <sup>2</sup> : data pair white and light blue; 0.38 mm <sup>2</sup> /1.53 mm <sup>2</sup> : supply pair black and red	
<b>Wrapping:</b>	conductors twisted to pairs stranded with alu foil		conductors twisted to pairs stranded with alu foil	
<b>Stranding:</b>	pairs in specially adjusted layering, tinned copper drain wire in core			
<b>Shielding:</b>	alu. foil	alu. foil	tinned copper braiding	tinned copper braiding
<b>Wrapping:</b>	non-woven tape	non-woven tape	non-woven tape	non-woven tape
<b>Jacket material:</b>	SABIX®		SABIX®	
<b>Jacket color:</b>	red lilac (RAL 4001)		red lilac (RAL 4001)	

<b>Technical data:</b>	<b>DN 656</b> <i>Drop Cable</i>	<b>DN 656</b> <i>Trunk Cable</i>	<b>DN 657</b> <i>Drop Cable</i>	<b>DN 657</b> <i>Trunk Cable</i>
<b>Peak operating voltage:</b>	max. 350 V	max. 350 V	max. 350 V	max. 350 V
<b>Voltage UL:</b>	300 V	300 V	—	—
<b>Testing voltage:</b> conductor/conductor: conductor/shielding:	2000 V 2000 V	2000 V 2000 V	1500 V 1200 V	1500 V 1200 V
<b>Min. bending radius:</b> fixed installation: free movement:	7.5 x O.D. 15 x O.D.	7.5 x O.D. 15 x O.D.	7.5 x O.D. 15 x O.D.	7.5 x O.D. 15 x O.D.
<b>Temperature range:</b> static: flexible:	UL: up to +75°C -40/+70°C -30/+70°C	UL: up to +75°C -40/+70°C -30/+70°C	-40/+70°C -30/+70°C	-40/+70°C -30/+70°C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1		acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Characteristic impedance:</b>	120 Ω ± 10%		120 Ω ± 10%	
<b>UL Style:</b>	21080		—	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no. of data conductors	no. of power conductors	outer-ø		cable weight ≈lbs/ft
				inch	mm	
▶ 6562241	DN 656 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.240 - 0.280	6.1 - 7.1	38
▶ 6562781	DN 656 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.410 - 0.488	10.4 - 12.4	81
▶ 6572241	DN 657 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.240 - 0.280	6.1 - 7.1	50
▶ 6572781	DN 657 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.410 - 0.488	10.4 - 12.4	123

Other dimensions and colors are available on request

# Cables for Industrial Automation

**PB 630** PVC Profibus-DP cable for fixed installation

**PB 636** Flexible PVC Profibus-DP cable for outdoor installation

**PB 639** PVC Profibus-DP cable for direct burial

**PB 635** PVC Profibus-DP cable for outdoor installation



BRÖCKSKES · D-VIERSEN · PB 636 2x0.34mm<sup>2</sup> CE



Marking for PB 636 6362348:

SAB BRÖCKSKES · D-VIERSEN · PB 636 2x0.34mm<sup>2</sup> CE

<b>Construction:</b>	<b>PB 630</b> <i>for fixed installations</i>	<b>PB 639</b> <i>for direct burial</i>	<b>PB 636</b> <i>for fixed installations</i>	<b>PB 635</b> <i>for fixed installations</i>
<b>Item numbers:</b>	6302331	6392338	6362348	6352338
<b>Dimensions:</b>	2 x 22 AWG	2 x 22 AWG	2 x 0.34 mm <sup>2</sup>	2 x 22 AWG
<b>Conductor:</b>	bare copper wire AWG 22, single wire	bare copper wire AWG 22, single wire	bare copper strands acc. to VDE 0812	bare copper wire AWG 22, single wire
<b>Insulation:</b>	acc. to EN 50290-2-23 + VDE 0819-103 (02Y11)	acc. to EN 50290-2-23 + VDE 0819-103 (02Y11)	acc. to EN 50290-2-23 + VDE 0819-103 (02Y11)	acc. to EN 50290-2-23 + VDE 0819-103 (02Y11)
<b>Color code:</b>	red, green	red, green	red, green	red, green
<b>Stranding:</b>	in layers	in layers	in layers	in layers
<b>Shielding:</b>	alu foil + tinned copper braiding		alu foil + tinned copper braiding	
<b>Jacket material:</b>	PVC, TM2 acc. to EN 50363-4-1	PVC, TM2 acc. to EN 50363-4-1	PVC, TM2 acc. to EN 50363-4-1	PVC, TM2 acc. to EN 50363-4-1
<b>Jacket color:</b>	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

<b>Technical data:</b>	<b>PB 630</b> <i>for fixed installations</i>	<b>PB 639</b> <i>for direct burial</i>	<b>PB 636</b> <i>for fixed installations</i>	<b>PB 635</b> <i>for fixed installations</i>
<b>Peak operating voltage:</b>	max. 350 V	max. 350 V	max. 350 V	max. 350 V
<b>Testing voltage:</b> conductor/conductor: conductor/shielding:	1500 V 1500 V	1500 V 1500 V	1500 V 1500 V	1500 V 1500 V
<b>Min. bending radius:</b>	12 x O.D.	12 x O.D.	12 x O.D.	12 x O.D.
<b>Radiation resistance:</b>	7 x 10 <sup>6</sup> cJ/kg	—	—	—
<b>Temperature range:</b> static: flexible:	-30/+70°C -5/+70°C	-30/+70°C -5/+70°C	-30/+70°C -5/+70°C	-30/+70°C -5/+70°C
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2			
<b>Oil resistance:</b>	acc. to internal standard, see page O/29		acc. to internal standard, see page O/29	
<b>Characteristic impedance 3 - 20 MHz:</b>	150 Ω ± 10%	150 Ω ± 10%	150 Ω ± 10%	150 Ω ± 10%
<b>For fixed installation:</b>	suitable	suitable	suitable	suitable
<b>For flexible application:</b>	not suitable	not suitable	suitable	not suitable
<b>Weather resistance:</b>	medium	good	good	good
<b>Outdoor installation:</b>	not suitable	suitable	suitable	suitable
<b>Direct burial:</b>	not suitable	suitable	not suitable	not suitable
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no. of conductors	dimensions AWG	outer-ø		cable weight ≈ lbs/mt
				±5% inch	±5% mm	
▶ 6302331	PB 630	2	22	0.280	7.1	33
▶ 6392338	PB 639	2	22	0.362	9.2	63
▶ 6362348	PB 636	2	22 (≈ 7/30)	0.346	8.8	54
▶ 6352338	PB 635	2	22	0.331	8.4	53

Other dimensions and colors are available on request



# Cables for Industrial Automation

**PB 640**

Flexible PVC  
Profibus-DP cable

**S PB 640**

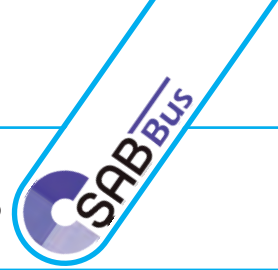
Continuous flex  
PUR Profibus-DP cable

**PB 640 UL**

Flexible PVC Profibus-DP cable  
with UL recognition

**S PB 640 UL**

Continuous flex PUR Profibus-DP  
cable with UL recognition



06402611 AWM Style 21198 80°C 300V



Marking for S PB 640 UL 6402611:

SAB BRÖCKSKES · D-VIERSEN · S PB 640 UL 24AWG/2c 6402611 AWM Style 21198 80°C 300V

<b>Construction:</b>	<b>PB 640</b> <i>for flexible applications</i>	<b>PB 640 UL</b> <i>for flexible applications</i>	<b>S PB 640</b> <i>continuous flex</i>	<b>S PB 640 UL</b> <i>continuous flex</i>
Item numbers:	6402421	6402631	6402601	6402611
Dimensions:	2 x 24 AWG	2 x 24 AWG	2 x 24 AWG	2 x 24 AWG
Conductor:	bare copper strands 24 AWG		bare copper strands 24 AWG	
Insulation:	acc. to EN 50290-2-23 + VDE 0819-103 (02Y11)	acc. to EN 50290-2-23 + VDE 0819-103 (02Y11)	acc. to EN 50290-2-23 + VDE 0819-103 (02Y11)	acc. to EN 50290-2-23 + VDE 0819-103 (02Y11)
Color code:	red, green	red, green	red, green	red, green
Stranding:	in layers	in layers	in layers	in layers
Inner jacket (natural):	PVC	PVC	SABIX®	SABIX®
Shielding:	alu foil + tinned copper braiding		alu foil + tinned copper braiding	
Jacket material:	PVC, TM2 acc. to EN 50363-4-1		PUR, TPU acc. to EN 50363-10-2 with matte surface	
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

<b>Technical data:</b>	<b>PB 640</b> <i>for flexible applications</i>	<b>PB 640 UL</b> <i>for flexible applications</i>	<b>S PB 640</b> <i>continuous flex</i>	<b>S PB 640 UL</b> <i>continuous flex</i>
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	—	300 V	—	300 V
Voltage CSA:	—	—	—	300 V
Testing voltage: conductor/conductor: conductor/shielding:	1500 V 1500 V	2000 V 2000 V	1500 V 1500 V	2000 V 2000 V
Min. bending radius: fixed installation: flexible application: continuous flex:	12 x O.D.	12 x O.D.	5 x O.D. 10 x O.D. 15 x O.D.	5 x O.D. 10 x O.D. 15 x O.D.
Temperature range: static: flexible:	-30/+70°C -5/+70°C	UL: up to +80°C -30/+70°C -5/+70°C	-40/+80°C -30/+80°C	UL/CSA: up to +80°C -40/+80°C -30/+80°C
Halogen-free:	—	—	acc. to IEC 60754-1 + VDE 0482-754-1	
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332 + VDE 0482-332-1-2			
Oil resistance:	acc. to internal standard, see page O/29		very good EN 50363-10-2 + VDE 0207-363-10-2	
Characteristic impedance (3 - 20 MHz):	150 Ω ± 10%	150 Ω ± 10%	150 Ω ± 10%	150 Ω ± 10%
Fixed installation:	suitable	suitable	suitable	suitable
For flexible application:	suitable	suitable	suitable	suitable
Application in cable tracks:	not recommended	not recommended	recommended	recommended
UL Style:	—	2464	—	21198
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no. of conductors	AWG	outer-ø		cable weight ≈ lbs/mft
				inch	mm	
▶ 6402421	PB 640	2	24	0.315 ± 0.016	8.0 ± 0.4	42
▶ 6402631	PB 640 UL	2	24	0.315 ± 0.016	8.0 ± 0.4	42
▶ 6402601	S PB 640	2	24	0.315 ± 0.016	8.0 ± 0.4	38
▶ 6402611	S PB 640 UL	2	24	0.315 ± 0.016	8.0 ± 0.4	42

Other dimensions and colors are available on request

Profibus-DP and Profibus-FMS apply the same transmission technology and a uniform bus access log. Therefore, both types can be used simultaneously on one cable.



with "Fast Connect"  
Construction

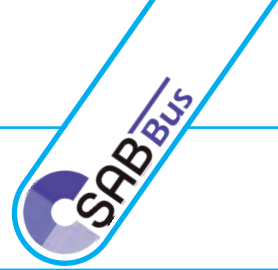


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# Cables for Industrial Automation

**PB 642** PVC Profibus-cable (PA)

**S PB 644** Continuous flex PUR Profibus-cable (PA) for cable tracks



BRÖCKSKES · D-VIERSEN · S PB 644 2x0.25mm<sup>2</sup> CE



Marking for S PB 644 6442251:

SAB BRÖCKSKES · D-VIERSEN · S PB 644 2x0.25mm<sup>2</sup> CE

<b>Construction:</b>	<b>PB 642</b> <i>flexible</i>	<b>S PB 644</b> <i>continuous flex</i>
<b>Item numbers:</b>	6422221, 6424221, 6422251, 6424251, 6422767, 6422768	6442251, 6444251
<b>Dimensions:</b>	2 x 0.22 mm <sup>2</sup> , 2 x 2 x 0.22 mm <sup>2</sup> , 2 x .025 mm <sup>2</sup> , 2 x 2 x 0.25 mm <sup>2</sup> , 2 x 0.82 mm <sup>2</sup> , 2 x 0.82 mm <sup>2</sup>	2 x .025 mm <sup>2</sup> , 2 x 2 x 0.25mm <sup>2</sup>
<b>Conductors:</b>	bare copper strands with reference to VDE 0812	bare copper strands, extra fine wires
<b>Insulation:</b>	PE, 2Y11 acc. to EN 50290-2-23 + VDE 0819-103	PE, 2Y11 acc. to EN 50290-2-23 + VDE 0819-103
<b>Color code:</b>	2c: red, green, 2pr: DIN 47100	2c: red, green, 2pr: DIN 47100
<b>Stranding:</b>	in layers	in layers
<b>Wrapping:</b>	PETP foil, non-woven tape	PETP foil, non-woven tape
<b>Shielding:</b>	tinned copper braiding	tinned copper braiding
<b>Jacket material:</b>	PVC, TM2 acc. to EN 50363-4-1	PUR, TPU acc. to EN 50363-10-2 with rough surface
<b>Jacket color:</b>	see table below	red lilac (RAL 4001)

<b>Technical data:</b>	<b>PB 642</b> <i>flexible</i>	<b>S PB 644</b> <i>continuous flex</i>
<b>Peak operating voltage:</b>	max. 350 V	max. 350 V
<b>Testing voltage:</b> conductor/conductor: conductor/shielding:	1500 V 1200 V	1500 V 1200 V
<b>Min. bending radius:</b> continuously flexing:	7.5 x O.D. —	7.5 x O.D. 12 x O.D.
<b>Temperature range:</b> static: flexible:	-30/+70°C -5/+70°C	-40/+70°C -40/+70°C
<b>Oil resistance:</b>	acc. to internal standard, see page O/29	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2
<b>Characteristic impedance:</b> type B: PA:	at >100 kHz 100 Ω - 130 Ω 100 Ω - 20%	at >100 kHz 100 Ω - 130 Ω 100 Ω - 20%
<b>For fixed installation:</b>	suitable	suitable
<b>For flexible application:</b>	suitable	suitable
<b>Application in cable tracks:</b>	not recommended	recommended
<b>Weather resistance:</b>	medium	very good
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union, see page O/30	

item no.	type	jacket color	no. of conductors	AWG	outer-ø		cable weight ≈lbs/mft
					±5% inch	±5% mm	
▶ 6422221	PB 642	red lilac (RAL 4001)	2	24 (≈ 7/32)	0.173	4.4	17
▶ 6424221	PB 642	red lilac (RAL 4001)	2 x 2	24 (≈ 7/32)	0.244	6.2	30
▶ 6422251	PB 642	red lilac (RAL 4001)	2	24 (≈ 14/34)	0.193	4.9	20
▶ 6424251	PB 642	red lilac (RAL 4001)	2 x 2	24 (≈ 14/34)	0.264	6.7	35
▶ 6422767	PB 642	blue (RAL 5015)	2	18 (≈ 26/32)	0.287	7.3	46
▶ 6422768	PB 642	black (RAL 9005)	2	18 (≈ 26/32)	0.287	7.3	46
▶ 6442251	S PB 644	red lilac (RAL 4001)	2	24 (≈ 32/38)	0.205	5.2	22
▶ 6444251	S PB 644	red lilac (RAL 4001)	2 x 2	24 (≈ 32/38)	0.268	6.8	38

Other dimensions and colors are available on request

**DIN 47100 color code:**

#1- white/brown, #2- green/yellow



# Data & Sensor Cables

SAB offers a wide range of data and sensor cables designed to meet or exceed high-speed data communications requirements for the exact measurement of physical values, precise positioning, measuring tolerances, and production control. These applications require SAB flexible data cables with the smallest cross-sections and a variety of shielding options to protect against high-frequency interference or interference from adjoining circuits.



### Features:

- 26 AWG to 16 AWG data/communication cables
- Shielded, unshielded and paired with overall shield
- Flexible for easier routing

### Semi Rigid PVC Data Cables with UL Recognition, CSA Approval

■ DC 300 DS		Multi-conductor double shielded PVC signal and control cable, Type AWM . . . . .	78
■ DC 300 DS TP		Multi-pair double shielded PVC signal and control cable, Type AWM. . . . .	79

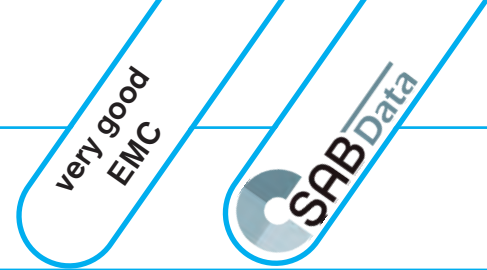
Additional Data & Sensor cables are available on our website and in the full line catalog (Section F)



# Cables for Industrial Automation

## DC 300 DS

Multi-conductor double shielded PVC signal and control cable  
Type AWM



Marking for DC 300 DS 3242225:

SAB BRÖCKSKES · D-VIERSEN · 3242522 DC 300 DS 22 AWG/25c 3242225 AWM Style 2464 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2

### Construction:

<b>Conductor:</b>	tinned copper strands acc. to ASTM B 286
<b>Insulation:</b>	semi-rigid PVC
<b>Color code:</b>	US 2, see below
<b>Stranding:</b>	in layers
<b>Shielding:</b>	double shielding, alu. foil, tinned copper braiding with tinned drain wire (0.22 mm <sup>2</sup> )
<b>Jacket material:</b>	PVC
<b>Jacket color:</b>	grayish tan (RAL 7032)

### Technical data:

<b>Peak operating voltage:</b>	max. 350 V	
<b>Voltage UL/CSA:</b>	300 V	
<b>Testing voltage:</b>	conductor/conductor: 2000 V conductor/shielding: 2000 V	
<b>Min. bending radius:</b>	fixed installation: 5 x O.D. free movement: 10 x O.D.	
<b>Radiation resistance:</b>	8 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range:</b>	<b>DIN VDE</b>	<b>UL/CSA:</b> up to +80°C
<i>static:</i>	-30/+70°C	
<i>flexible:</i>	-5/+70°C	
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2	
<b>Oil resistance:</b>	acc. to internal standard, see page O/29	
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30	

### Outstanding features:



- very good EMC characteristics
- small outer diameter
- small bending radius

item no.	no. of conductors	outer-ø		cable weight ≈lbs/mft
		±5% inch	±5% mm	
<b>▶ AWG 28/7</b>				
3242802	2	0.169	4.3	14
3242803	3	0.173	4.4	16
3242804	4	0.181	4.6	17
3242805	5	0.193	4.9	20
3242807	7	0.201	5.1	23
3242810	10	0.236	6.0	29
3242812	12	0.244	6.2	32
3242814	14	0.252	6.4	34
3242818	18	0.272	6.9	41
3242825	25	0.311	7.9	50
<b>▶ AWG 26/7</b>				
3242602	2	0.177	4.5	16
3242603	3	0.181	4.6	17
3242604	4	0.193	4.9	20
3242605	5	0.201	5.1	24
3242607	7	0.213	5.4	26
3242610	10	0.252	6.4	34
3242612	12	0.260	6.6	38
3242614	14	0.268	6.8	41
3242618	18	0.291	7.4	50
3242625	25	0.335	8.5	63

item no.	no. of conductors	outer-ø		cable weight ≈lbs/mft
		±5% inch	±5% mm	
<b>▶ AWG 24/7</b>				
3242402	2	0.185	4.7	18
3242403	3	0.193	4.9	20
3242404	4	0.201	5.1	24
3242405	5	0.217	5.5	28
3242407	7	0.228	5.8	32
3242410	10	0.272	6.9	42
3242412	12	0.280	7.1	47
3242414	14	0.287	7.3	52
3242418	18	0.315	8.0	64
3242425	25	0.366	9.3	82

item no.	no. of conductors	outer-ø		cable weight ≈lbs/mft
		±5% inch	±5% mm	
<b>▶ AWG 22/7</b>				
3242202	2	0.197	5.0	21
3242203	3	0.205	5.2	25
3242204	4	0.217	5.5	28
3242205	5	0.232	5.9	34
3242207	7	0.248	6.3	40
3242210	10	0.295	7.5	54
3242212	12	0.303	7.7	60
3242214	14	0.315	8.0	67
3242218	18	0.346	8.8	83
3242225	25	0.406	10.3	110

Other dimensions and colors are available on request

#### US 2 color code:

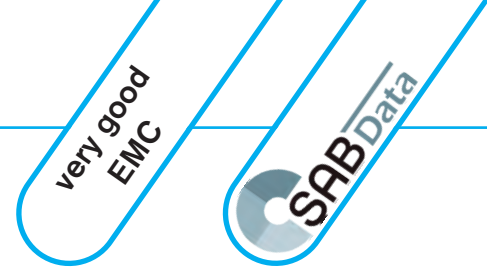
#1- black, #2- white, #3- red, #4- green, #5- orange, #6- blue, #7- white-black, #8- red-black, #9- green-black, #10- orange-black, #11- blue-black, #12- black-white, #13- red-white, #14- green-white, #15- blue-white, #16- black-red, #17- white-red, #18- orange-red, #19- blue-red, #20- red-green, #21- orange-green, #22- black-white-red, #23- white-black-red, #24- red-black-white, #25- green-black-white



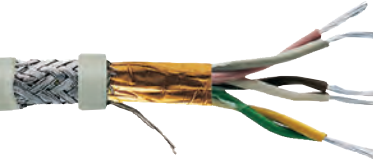
# Cables for Industrial Automation

## DC 300 DS TP

Multi-pair double shielded PVC signal and control cable  
Type AWM



300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE



Marking for DC 300 DS TP 3842203:

SAB BRÖCKSKES · D-VIERSEN · 3840322 DC 300 DS TP 22 AWG/3pr 3842203 AWM Style 2464 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	tinned copper strands acc. to ASTM B 286
<b>Insulation:</b>	semi-rigid PVC
<b>Color code:</b>	US 3, see below
<b>Stranding:</b>	conductors twisted to pairs, pairs twisted in layers
<b>Shielding:</b>	double shielding, alu. foil, tinned copper braiding with tinned drain wire (0.22 mm <sup>2</sup> )
<b>Jacket material:</b>	PVC
<b>Jacket color:</b>	grayish tan (RAL 7032)

### Technical data:

<b>Peak operating voltage:</b>	max. 350 V
<b>Voltage UL/CSA:</b>	300 V
<b>Testing voltage:</b>	conductor/conductor: 2000 V conductor/shielding: 2000 V
<b>Min. bending radius:</b>	<i>fixed installation:</i> 5 x O.D. <i>free movement:</i> 10 x O.D.
<b>Radiation resistance:</b>	8 x 10 <sup>7</sup> cJ/kg
<b>Temperature range:</b>	<b>DIN VDE</b> UL/CSA: up to +80°C <i>static:</i> -30/+70°C <i>flexible:</i> -5/+70°C
<b>Burning characteristics:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL VW-1, CSA FT1, FT2
<b>Oil resistance:</b>	acc. to internal standard, see page O/29
<b>Approvals:</b>	UR AWM, CSA AWM, CE, RoHS
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union see page O/30

### Outstanding features:

- very good EMC characteristics
- small outer diameter
- small bending radius

item no.	no. of pairs	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ AWG 28/7</b>				
3842802	2	0.201	5.1	19
3842803	3	0.217	5.5	23
3842804	4	0.240	6.1	27
3842805	5	0.256	6.5	31
3842807	7	0.272	6.9	36
3842810	10	0.311	7.9	45
3842814	14	0.354	9.0	57
3842818	18	0.378	9.6	70
3842825	25	0.425	10.8	87
<b>▶ AWG 26/7</b>				
3842602	2	0.213	5.4	22
3842603	3	0.232	5.9	27
3842604	4	0.260	6.6	32
3842605	5	0.276	7.0	38
3842607	7	0.287	7.3	42
3842610	10	0.335	8.5	56
3842614	14	0.386	9.8	73
3842618	18	0.413	10.5	89
3842625	25	0.465	11.8	112

item no.	no. of pairs	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ AWG 24/7</b>				
3842402	2	0.228	5.8	26
3842403	3	0.248	6.3	32
3842404	4	0.280	7.1	39
3842405	5	0.299	7.6	46
3842407	7	0.311	7.9	54
3842410	10	0.362	9.2	71
3842414	14	0.421	10.7	94
3842418	18	0.453	11.5	116
3842425	25	0.508	12.9	148

item no.	no. of pairs	outer-ø		cable weight ≈lbs/mft
		±10% inch	±10% mm	
<b>▶ AWG 22/7</b>				
3842202	2	0.248	6.3	32
3842203	3	0.268	6.8	40
3842204	4	0.303	7.7	48
3842205	5	0.327	8.3	58
3842207	7	0.343	8.7	70
3842210	10	0.402	10.2	95
3842214	14	0.465	11.8	124
3842218	18	0.500	12.7	156
3842225	25	0.579	14.7	207

Other dimensions and colors are available on request

### US 3 color code:

#1- black paired with red, #2- black paired with white, #3- black paired with green, #4- black paired with blue, #5- black paired with yellow, #6- black paired with brown, #7- black paired with orange, #8- red paired with white, #9- red paired with green, #10- red paired with blue, #11- red paired with yellow, #12- red paired with brown, #13- red paired with orange, #14- green paired with white, #15- green paired with blue, #16- green paired with yellow, #17- green paired with brown, #18- green paired with orange, #19- white paired with blue, #20- white paired with yellow, #21- white paired with brown, #22- white paired with orange, #23- blue paired with yellow, #24- blue paired with brown, #25- blue paired with orange

# Cables for Industrial Automation

## Specialty Cables

Specialty flexible cables built for specific needs and approvals for demanding applications.

### REELING & LIFT CABLES



Our control, robotics and automation capabilities allow us to design custom manufactured flexible cables that meet the most demanding specs for use in highly chemical resistant applications, reeling cable, spreader, forestry, and boarding bridge.



### CLEANROOMS CABLES



SABclean cables are used in cleanrooms where combined twisting and bending stresses occur. The high quality insulation with its smooth surface and slide wrapping increases cable life expectancy under extreme twisting and bending stresses. The outer jacket made of specially formulated TPE is highly resistant to abrasion, oil, notching, microbes, and hydrolysis. In addition, the surface quality prevents adhesion to adjacently installed cables. SABclean cables meet the highest requirements acc. to ISO 14644-1.



### MARINE CABLES



SABIX® BL flexible cables can meet the marine industry's challenges shipboard as well as below deck. SABIX® BL marine cables are halogen-free, flame retardant, and self-extinguishing. These cables are very resistant to high temperatures as well as against oils and chemicals.



### RAILWAY CABLES



SABIX® Rail cables are available as a control or data cable, these flexible halogen-free cables carry HL 1-3 flame protection — the highest level according to EN 45545-2. They withstand harsh weather and also exhibit exceptional oil and fuel resistance, making them well-suited for mechanically dynamic applications like railway construction, or it can be used in the bogie, as jumper cable or as sensor cable at the wheel set. Several SAB Data cables meet NFPA 130. This standard specifies fire protection and life safety requirements for underground, surface, and elevated fixed guideway transit and passenger rail systems.



### CABLES FOR MEDICAL DEVICES



SABmed Line is our product range of biocompatible, highly flexible, non-kinking cable solutions for medical devices that withstand the demanding requirements of cleaning, disinfection, and handling. A wide range of materials can be customized to find the right product for your application. (DIN EN ISO 10993-5 cytotoxicity)

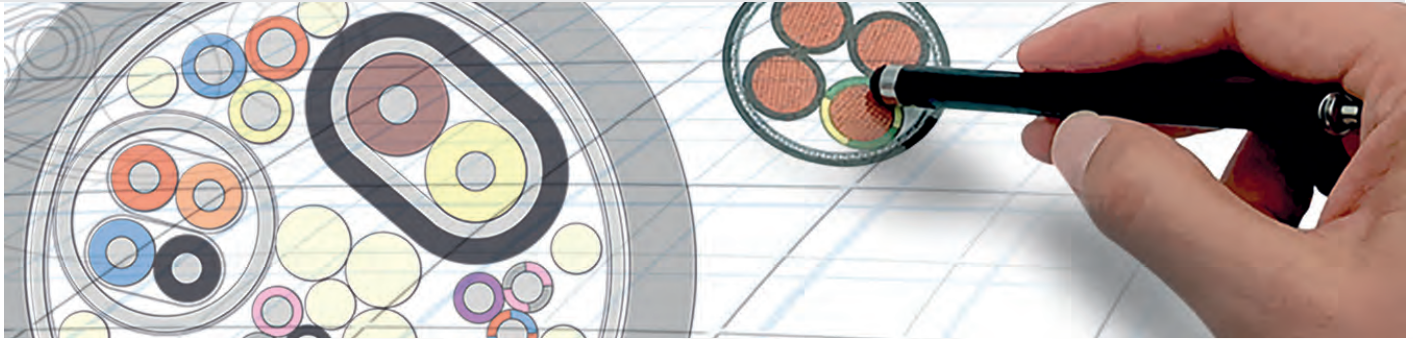


# Cables for Industrial Automation

## **Manufacturing Capabilities**

Specialty flexible cables built for specific needs and approvals for demanding applications.

Order minimums are as low as 1,500 feet, and we can test your unique product in our lab. No matter your application's requirements, SAB Special Cables expand the possibilities of standard cables and address your design challenges.



### **Conductor Materials**

- Bare copper
- Tinned copper
- Silver plated copper
- Nickel plated copper
- Nickel
- Nickel pure
- Compensating cable alloys

### **Conductor Sizes**

- 0.14 mm<sup>2</sup> - 300 mm<sup>2</sup>  
(26 AWG to 500 MCM)
- variety of stranding styles

### **Insulation and Jacketing Materials**

- PVC (many varieties)
- Polyethylene
- Polypropylene
- TPE
- Fiberglass
- Besilen®/Silicone
- Pi foil
- FEP, ETFE, PFA, PTFE
- SABIX® zero halogen
- Polyurethane

### **Conductor Count Ranges**

- unshielded - up to 125 conductors
- shielded - up to 100 conductors

### **Temperature Ranges** (based on material)

- Thermoplastic Elastomers -50°C up to +145°C
- Besilen®/Silicone -40°C up to +220°C
- FEP, ETFE, PFA, PTFE -90°C up to +260°C
- Halogen-free -50°C up to +220°C
- Fiberglass up to +600°C

### **Shielding and Braiding Materials**

- Bare copper
- Tinned copper
- Galvanized steel
- Stainless steel
- Aluminum foil
- Fiberglass
- Aramid

### **Approvals**

- UL, CSA, CE, EAC, VDE, HAR, IEC, EN, ISO, DNV, LR, ABS, RINA, BSI, RoHS





# Cord Grip & Accessories

Cable glands are indispensable for protecting wire and cable terminations against unwanted disconnections or damage in machines and control cabinets. Our multi-purpose glands, constructed of Polyamide 6, nickel-plated brass, or stainless steel, provide a liquid-tight seal, corrosion and impact resistance. They provide strain relief offering maximum protection against conductor fatigue caused by flexing cables. Glands such as SAB EMC-2 and EMC-4 offer built-in grounding mechanisms that come in contact with a cable shield to create a ground path to earth ground along with impact and vibration resistance.



## Polyamide 6 Cord Grips & Locknuts

■ CG 100 Metric		Polyamide cord grip, dome cap with locknut, black or gray, metric thread	83
■ CG 100 PG		Polyamide cord grip, dome cap with locknut, black or gray, PG thread	84
■ CG 100 NPT		Polyamide cord grip, dome cap with locknut, black or gray, NPT thread	85
■ Polyamide Locknuts		Polyamide hexagonal locknuts, black or gray, metric, PG, & NPT thread	86

## Nickel Plated Brass Cord Grips

■ CG 300 Metric		Nickel plated brass cord grip with standard or longer metric thread	87
■ CG 300 PG		Nickel plated brass cord grip with standard or longer PG thread	88
■ CG 300 NPT		Nickel plated brass cord grip with standard or longer NPT thread	89

## EMC Grounding Glands Cord Grips

■ CG EMC-2 & CG EMC-4		Overview of the EMC grounding glands	90
■ CG EMC-2 Metric		Nickel plated brass EMC cable gland, standard & longer metric thread	91
■ CG EMC-2 PG		Nickel plated brass EMC cable gland, standard & longer PG thread	92
■ CG EMC-2 NPT		Nickel plated brass EMC cable gland, NPT thread	92
■ CG EMC-4 Metric		Nickel plated brass EMC cable gland, vibration proof, metric thread	93
■ CG EMC-4 PG		Nickel plated brass EMC cable gland, vibration proof, PG thread	93
■ CG EMC-4 NPT		Nickel plated brass EMC cable gland, vibration proof, NPT thread	93

## Locknuts

■ Metal Locknuts & EMC Locknuts		Nickel plated brass & EMC locknuts, metric, PG, & NPT thread	94
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## Additional Cord Grips & Accessories

95





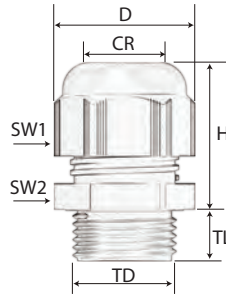
# Accessories for Industrial Automation

## CG 100 Metric

Dome cap cord grip, black or gray with locknut

Metric Thread

Liquid tight seal, fast and easy installation, wide clamping range, multi-purpose applications, easy handling.



### Technical data:

<b>Material:</b>	Polyamide 6
<b>Seal:</b>	Chloroprene (CR)
<b>Color:</b>	RAL 7001 (gray) RAL 9005 (black)
<b>Protection type:</b>	IP 68 - 5 Bar NEMA 4X
<b>Temperature range:</b>	<i>permanent:</i> -20°C to +100°C <i>intermittent:</i> -30°C to +150°C
<b>Flammability:</b>	V2 (according to UL 94)
<b>Approvals:</b>	cURus, cULus, cCSAus, VDE, DNV-GL, CE



Part Number	Thread Type	Clamping Range Ø min-max		Outer Diameter (D)	Wrenching Flats		Thread Diameter		Thread Length (TL)	Max. Height (H)	UL	
		(CR)	(CR)		Cap (SW1)	Body (SW2)	(TD)	(TD)				
gray	black	inches	mm	inches	inches	inches	inches	mm	inches	inches		
<b>Metric</b>												
PMG-12*	PMB-12*	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.669	0.591	0.591	0.472	12	0.315	0.996	cURus
PMG-16C*	PMB-16C*	M16x1.5	0.157 - 0.315	4.0 - 8.0	0.854	0.748	0.748	0.630	16	0.394	1.079	-
PMG-16*	PMB-16*	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.984	0.866	0.866	0.630	16	0.394	1.268	cURus
PMG-20*	PMB-20*	M20x1.5	0.236 - 0.472	6.0 - 12.0	1.063	0.945	0.945	0.787	20	0.394	1.276	cULus
PMG-20C*	PMB-20C*	M20x1.5	0.394 - 0.551	10.0 - 14.0	1.217	1.063	1.063	0.787	20	0.394	1.256	cULus
PMG-25C*	PMB-25C*	M25x1.5	0.433 - 0.669	11.0 - 17.0	1.280	1.142	1.142	0.984	25	0.315	1.484	cULus
PMG-25*	PMB-25*	M25x1.5	0.512 - 0.709	13.0 - 18.0	1.465	1.299	1.299	0.984	25	0.394	1.512	cULus
PMG-32C*	PMB-32C*	M32x1.5	0.591 - 0.827	15.0 - 21.0	1.614	1.417	1.417	1.260	32	0.394	1.665	cULus
PMG-32	PMB-32	M32x1.5	0.709 - 0.984	18.0 - 25.0	1.854	1.654	1.654	1.260	32	0.591	1.705	cULus
PMG-40C†	PMB-40C†	M40x1.5	0.748 - 1.102	19.0 - 28.0	2.063	1.811	1.811	1.575	40	0.394	1.866	cULus
PMG-40	PMB-40	M40x1.5	0.866 - 1.260	22.0 - 32.0	2.346	2.087	2.087	1.575	40	0.709	2.063	cULus
PMG-50	PMB-50	M50x1.5	1.181 - 1.496	30.0 - 38.0	2.669	2.362	2.362	1.969	50	0.709	2.157	cULus
PMG-63	PMB-63	M63x1.5	1.339 - 1.732	34.0 - 44.0	2.850	2.559	2.559	2.480	63	0.709	2.161	cULus
PMG-75	PMB-75	M75x2.0	1.890 - 2.165	48.0 - 55.0	3.504	2.953	3.150	2.953	75	0.984	2.165	cULus
<b>Metric with Reducer Bushings</b>												
PMG-12R	PMB-12R	M12x1.5	0.079 - 0.197	2.0 - 5.0	0.669	0.591	0.591	0.472	12	0.315	0.996	cURus
PMG-16RC*	PMB-16RC*	M16x1.5	0.079 - 0.236	2.0 - 6.0	0.854	0.748	0.748	0.630	16	0.394	1.079	-
PMG-16R*	PMB-16R*	M16x1.5	0.118 - 0.276	3.0 - 7.0	0.984	0.866	0.866	0.630	16	0.394	1.268	cURus
PMG-20R*	PMB-20R*	M20x1.5	0.197 - 0.354	5.0 - 9.0	1.063	0.945	0.945	0.787	20	0.394	1.276	cULus
PMG-20RC*	PMB-20RC*	M20x1.5	0.276 - 0.472	7.0 - 12.0	1.217	1.063	1.063	0.787	20	0.394	1.256	cULus
PMG-25RC*	PMB-25RC*	M25x1.5	0.354 - 0.512	9.0 - 13.0	1.280	1.142	1.142	0.984	25	0.315	1.484	cULus
PMG-25R*	PMB-25R*	M25x1.5	0.354 - 0.630	9.0 - 16.0	1.465	1.299	1.299	0.984	25	0.394	1.512	cULus
PMG-32RC*	PMB-32RC*	M32x1.5	0.433 - 0.591	11.0 - 15.0	1.614	1.417	1.417	1.260	32	0.394	1.665	cULus
PMG-32R	PMB-32R	M32x1.5	0.472 - 0.787	12.0 - 20.0	1.854	1.654	1.654	1.260	32	0.591	1.705	cULus
PMG-40RC*	PMB-40RC*	M40x1.5	0.630 - 0.906	16.0 - 23.0	2.063	1.811	1.811	1.575	40	0.394	1.866	cULus
PMG-40R	PMB-40R	M40x1.5	0.787 - 1.024	20.0 - 26.0	2.346	2.087	2.087	1.575	40	0.709	2.063	cULus
PMG-50R	PMB-50R	M50x1.5	0.984 - 1.220	25.0 - 31.0	2.669	2.362	2.362	1.969	50	0.709	2.157	cULus
PMG-63R	PMB-63R	M63x1.5	1.142 - 1.378	29.0 - 35.0	2.850	2.559	2.559	2.480	63	0.709	2.161	cULus

\* Available with longer thread of 0.591". Add an "L" to end of the P/N.  
† Available with longer thread of 0.709". Add an "L" to end of the P/N.

## CG 100 PG

Dome cap cord grip, black or gray with locknut

PG Thread

Liquid tight seal, fast and easy installation, wide clamping range, multi-purpose applications, easy handling.



### Technical data:

<b>Material:</b>	Polyamide 6
<b>Seal:</b>	Chloroprene (CR)
<b>Color:</b>	RAL 7001 (gray) RAL 9005 (black)
<b>Protection type:</b>	IP 68 - 5 Bar NEMA 4X
<b>Temperature range:</b>	<i>permanent:</i> -20°C to +100°C <i>intermittent:</i> -30°C to +150°C
<b>Flammability:</b>	V2 (according to UL 94)
<b>Approvals:</b>	cURus, cULus, cCSAus, DNV-GL, CE



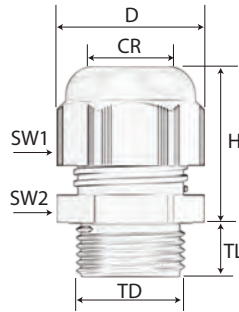
Part Number		Thread Type	Clamping Range Ø min-max (CR)		Outer Diameter (D) inches	Wrenching Flats		Thread Diameter		Thread Length (TL) inches	Max. Height (H) inches	UL
gray	black		inches	mm		Cap (SW1) inches	Body (SW2) inches	inches	mm			
<b>PG</b>												
PPG-7	PPB-7	PG 7	0.118 - 0.256	3.0 - 6.5	0.669	0.591	0.591	0.492	12.5	0.315	0.996	cURus
PPG-9	PPB-9	PG 9	0.157 - 0.315	4.0 - 8.0	0.854	0.748	0.748	0.598	15.2	0.315	1.079	cURus
PPG-11	PPB-11	PG 11	0.197 - 0.394	5.0 - 10.0	0.984	0.866	0.866	0.732	18.6	0.315	1.268	cURus
PPG-13	PPB-13	PG 13.5	0.236 - 0.472	6.0 - 12.0	1.063	0.945	0.945	0.803	20.4	0.394	1.276	cULus
PPG-16	PPB-16	PG 16	0.394 - 0.551	10.0 - 14.0	1.217	1.063	1.063	0.886	22.5	0.394	1.256	cULus
PPG-21	PPB-21	PG 21	0.512 - 0.709	13.0 - 18.0	1.465	1.299	1.299	1.114	28.3	0.433	1.512	cULus
PPG-29	PPB-29	PG 29	0.709 - 0.984	18.0 - 25.0	1.854	1.654	1.654	1.457	37.0	0.433	1.705	cULus
PPG-36	PPB-36	PG 36	0.866 - 1.260	22.0 - 32.0	2.346	2.087	2.087	1.850	47.0	0.512	2.063	cULus
PPG-42	PPB-42	PG 42	1.181 - 1.496	30.0 - 38.0	2.669	2.362	2.362	2.126	54.0	0.512	2.157	cULus
PPG-48	PPB-48	PG 48	1.339 - 1.732	34.0 - 44.0	2.850	2.559	2.559	2.335	59.3	0.551	2.161	cULus
<b>PG with Reducer Bushings</b>												
PPG-7R	PPB-7R	PG 7	0.079 - 0.197	2.0 - 5.0	0.669	0.591	0.591	0.492	12.5	0.315	0.996	cURus
PPG-9R	PPB-9R	PG 9	0.079 - 0.236	2.0 - 6.0	0.854	0.748	0.748	0.598	15.2	0.315	1.079	cURus
PPG-11R	PPB-11R	PG 11	0.118 - 0.276	3.0 - 7.0	0.984	0.866	0.866	0.732	18.6	0.315	1.268	cURus
PPG-13R	PPB-13R	PG 13.5	0.197 - 0.354	5.0 - 9.0	1.063	0.945	0.945	0.803	20.4	0.394	1.276	cULus
PPG-16R	PPB-16R	PG 16	0.276 - 0.472	7.0 - 12.0	1.217	1.063	1.063	0.886	22.5	0.394	1.256	cULus
PPG-21R	PPB-21R	PG 21	0.354 - 0.630	9.0 - 16.0	1.465	1.299	1.299	1.114	28.3	0.433	1.512	cULus
PPG-29R	PPB-29R	PG 29	0.472 - 0.787	12.0 - 20.0	1.854	1.654	1.654	1.457	37.0	0.433	1.705	cULus
PPG-36R	PPB-36R	PG 36	0.787 - 1.024	20.0 - 26.0	2.346	2.087	2.087	1.850	47.0	0.512	2.063	cULus
PPG-42R	PPB-42R	PG 42	0.984 - 1.220	25.0 - 31.0	2.669	2.362	2.362	2.126	54.0	0.512	2.157	cULus
PPG-48R	PPB-48R	PG 48	1.142 - 1.378	29.0 - 35.0	2.850	2.559	2.559	2.335	59.3	0.551	2.161	cULus

## CG 100 NPT

Dome cap cord grip, black or gray

NPT Thread

Liquid tight seal, fast and easy installation, wide clamping range, multi-purpose applications, easy handling.



### Technical data:

<b>Material:</b>	Polyamide 6
<b>Seal:</b>	Chloroprene (CR)
<b>Color:</b>	RAL 7001 (gray) RAL 9005 (black)
<b>Protection type:</b>	IP 68 - 5 Bar NEMA 4X
<b>Temperature range:</b>	<i>permanent:</i> -20°C to +100°C <i>intermittent:</i> -30°C to +150°C
<b>Flammability:</b>	V2 (according to UL 94)
<b>Approvals:</b>	cURus, cULus, cCSAus, DNV-GL, CE



Part Number		Thread Type	Clamping Range Ø min-max (CR)		Outer Diameter (D) inches	Wrenching Flats		Thread Diameter		Thread Length (TL) inches	Max. Height (H) inches	UL
gray	black		inches	mm		Cap (SW1) inches	Body (SW2) inches	inches	mm			
<b>NPT</b>												
PNG-3/8	PNB-3/8	NPT 3/8	0.197 - 0.394	5.0 - 10.0	0.984	0.866	0.866	0.675	17.2	0.591	1.268	cURus
PNG-1/2	PNB-1/2	NPT 1/2	0.236 - 0.472	6.0 - 12.0	1.063	0.945	0.945	0.840	21.3	0.591	1.276	cULus
PNG-1/2C	PNB-1/2C	NPT 1/2	0.394 - 0.551	10.0 - 14.0	1.217	1.063	1.063	0.840	21.3	0.591	1.256	cULus
PNG-3/4	PNB-3/4	NPT 3/4	0.512 - 0.709	13.0 - 18.0	1.465	1.299	1.299	1.050	26.7	0.591	1.512	cULus
PNG-1	PNB-1	NPT 1	0.709 - 0.984	18.0 - 25.0	1.854	1.654	1.654	1.315	33.4	0.709	1.705	cULus
<b>NPT with Reducer Bushings</b>												
PNG-3/8R	PNB-3/8R	NPT 3/8	0.118 - 0.276	3.0 - 7.0	0.984	0.866	0.866	0.675	17.2	0.591	1.268	cURus
PNG-1/2R	PNB-1/2R	NPT 1/2	0.197 - 0.354	5.0 - 9.0	1.063	0.945	0.945	0.840	21.3	0.591	1.276	cULus
PNG-1/2RC	PNB-1/2RC	NPT 1/2	0.276 - 0.472	7.0 - 12.0	1.217	1.063	1.063	0.840	21.3	0.591	1.256	cULus
PNG-3/4R	PNB-3/4R	NPT 3/4	0.354 - 0.630	9.0 - 16.0	1.465	1.299	1.299	1.050	26.7	0.591	1.512	cULus
PNG-1R	PNB-1R	NPT 1	0.472 - 0.787	12.0 - 20.0	1.854	1.654	1.654	1.315	33.4	0.709	1.705	cULus

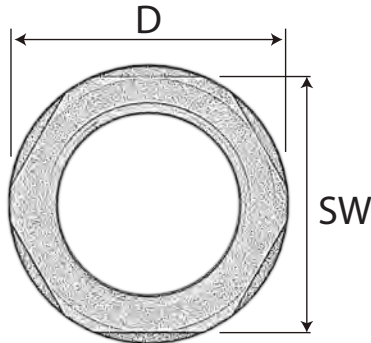
Locknuts need to be purchased separately, see page 86

## Polyamide Locknuts

Hexagonal locknut, black or gray

Metric, PG, & NPT Thread

Hexagonal locknuts made of polyamide, glass fiber reinforced.



### Technical data:

<b>Material:</b>	Polyamide 6 (30% Glass Fiber reinforced)
<b>Color:</b>	RAL 7001 (gray) RAL 9005 (black)
<b>Temperature range:</b>	<i>permanent:</i> -20°C to +100°C <i>intermittent:</i> -30°C to +150°C
<b>Flammability:</b>	UL 94 HB

Part Number		Thread Type	Height (H)		Diameter (D)		Wrenching Flats (SW)	
gray	black		inches	mm	inches	mm	inches	mm
LMG-12	LMB-12	M12x1.5	0.197	5	0.768	19.5	0.709	18
LMG-16	LMB-16	M16x1.5	0.197	5	0.953	24.2	0.866	22
LMG-20	LMB-20	M20x1.5	0.236	6	1.126	28.6	1.024	26
LMG-25	LMB-25	M25x1.5	0.236	6	1.378	35.0	1.260	32
LMG-32	LMB-32	M32x1.5	0.276	7	1.815	46.1	1.614	41
LMG-40	LMB-40	M40x1.5	0.276	7	2.177	55.3	1.969	50
LMG-50	LMB-50	M50x1.5	0.315	8	2.587	65.7	2.362	60
LMG-63	LMB-63	M63x1.5	0.315	8	3.248	82.5	2.953	75
LMG-75	LMB-75	M75x2.0	0.591	15	3.701	94.0	3.346	85
<b>PG</b>								
LPG-7	LPB-7	PG 7	0.197	5	0.823	20.9	0.748	19
LPG-9	LPB-9	PG 9	0.197	5	0.941	23.9	0.866	22
LPG-11	LPB-11	PG 11	0.197	5	1.020	25.9	0.945	24
LPG-13	LPB-13	PG 13.5	0.236	6	1.138	28.9	1.063	27
LPG-16	LPB-16	PG 16	0.236	6	1.295	32.9	1.181	30
LPG-21	LPB-21	PG 21	0.276	7	1.528	38.8	1.417	36
LPG-29	LPB-29	PG 29	0.276	7	1.961	49.8	1.811	46
LPG-36	LPB-36	PG 36	0.315	8	2.587	65.7	2.362	60
LPG-42	LPB-42	PG 42	0.315	8	2.862	72.7	2.559	65
LPG-48	LPB-48	PG 48	0.315	8	3.059	77.7	2.756	70
<b>NPT</b>								
LNG-3/8	LNB-3/8	NPT 3/8	0.276	7	0.984	25	0.866	22
LNG-1/2	LNB-1/2	NPT 1/2	0.276	7	1.201	30.5	1.063	27
LNG-3/4	LNB-3/4	NPT 3/4	0.276	7	1.476	37.5	1.299	33
LNG-1	LNB-1	NPT 1	0.276	7	1.819	46.2	1.614	41



# Accessories for Industrial Automation

## CG 300 Metric

Nickel plated brass cord grip with standard or longer thread

Metric Thread

Impact resistant, suitable for industrial applications, water tight, corrosion resistant.



### Technical data:

<b>Material:</b>	Brass, Nickel Plated
<b>Clamping Insert:</b>	Polyamide 6
<b>Seal:</b>	Chloroprene (CR)
<b>O-Ring:</b>	Neoprene (NBR)
<b>Protection type:</b>	IP 68 - 5 Bar NEMA 4X
<b>Temperature range:</b>	
<i>permanent:</i>	-20°C to +100°C
<i>intermittent:</i>	-40°C to +150°C
<b>Flammability:</b>	V2 (according to UL 94)
<b>Approvals:</b>	cURus, cULus, DNV-GL, CE



Part Number	Part Number with long threads	Thread Type	Clamping Range Ø min-max		Outer Diameter (D) inches	Wrenching Flats		Thread Diameter (TD) inches	Thread Length (TL) inches	Long Thread Length (TL) inches	Max. Height (H) inches	UL
			(CR) inches	mm		Cap (SW1) inches	Body (SW2) inches					
<b>Metric</b>												
MMS-12R <sup>1</sup>	MMS-12RL	M12x1.5	0.079 - 0.197	2.0 - 5.0	0.610	0.551	0.551	0.472	0.236	0.472	0.945	-
MMS-12 <sup>1</sup>	MMS-12L	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.610	0.551	0.551	0.472	0.236	0.472	0.945	cURus
MMS-16R	MMS-16RL	M16x1.5	0.079 - 0.236	2.0 - 6.0	0.787	0.669	0.709	0.630	0.276	0.472	1.004	-
MMS-16	MMS-16L	M16x1.5	0.157 - 0.315	4.0 - 8.0	0.787	0.669	0.709	0.630	0.276	0.472	1.004	cURus
MMS-16RC	MMS-16RCL	M16x1.5	0.118 - 0.276	3.0 - 7.0	0.866	0.787	0.787	0.630	0.276	0.472	1.201	-
MMS-16C	MMS-16CL	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.866	0.787	0.787	0.630	0.256	0.472	1.240	cURus
MMS-20R	MMS-20RL	M20x1.5	0.197 - 0.354	5.0 - 9.0	0.965	0.866	0.866	0.787	0.315	0.472	1.102	-
MMS-20	MMS-20L	M20x1.5	0.236 - 0.472	6.0 - 12.0	0.965	0.866	0.866	0.787	0.315	0.472	1.043	cULus
MMS-20C	MMS-20CL	M20x1.5	0.394 - 0.551	10.0 - 14.0	1.043	0.945	0.945	0.787	0.315	0.472	1.181	cULus
MMS-25R	MMS-25RL	M25x1.5	0.276 - 0.472	7.0 - 12.0	1.181	0.945	1.063	0.984	0.315	0.472	1.181	-
MMS-25*	MMS-25L	M25x1.5	0.394 - 0.551	10.0 - 14.0	1.181	0.945	1.063	0.984	0.315	0.472	1.181	cULus
MMS-25RC	MMS-25RCL	M25x1.5	0.433 - 0.669	11.0 - 17.0	1.181	1.063	1.063	0.984	0.315	0.472	1.280	cULus
MMS-25C	MMS-25CL	M25x1.5	0.512 - 0.709	13.0 - 18.0	1.299	1.181	1.181	0.984	0.315	0.472	1.378	cULus
MMS-32R	MMS-32RL	M32x1.5	0.354 - 0.630	9.0 - 16.0	1.476	1.181	1.339	1.260	0.354	0.591	1.378	-
MMS-32*	MMS-32L	M32x1.5	0.512 - 0.709	13.0 - 18.0	1.476	1.181	1.339	1.260	0.354	0.591	1.378	cULus
MMS-32RC	MMS-32RCL	M32x1.5	0.591 - 0.827	15.0 - 21.0	1.476	1.339	1.339	1.260	0.315	0.591	1.496	cULus
MMS-32C	MMS-32CL	M32x1.5	0.709 - 0.984	18.0 - 25.0	1.752	1.575	1.575	1.260	0.354	0.591	1.811	cULus
MMS-40R	MMS-40RL	M40x1.5	0.472 - 0.787	12.0 - 20.0	1.909	1.575	1.693	1.575	0.354	0.591	1.594	-
MMS-40*	MMS-40L	M40x1.5	0.709 - 0.984	18.0 - 25.0	1.909	1.575	1.693	1.575	0.354	0.591	1.594	cULus
MMS-40RC	MMS-40RCL	M40x1.5	0.748 - 1.102	19.0 - 28.0	1.909	1.693	1.693	1.575	0.354	0.591	1.791	cULus
MMS-40C	MMS-40CL	M40x1.5	0.866 - 1.260	22.0 - 32.0	2.185	1.969	1.969	1.575	0.354	0.591	2.146	cULus
MMS-50R	MMS-50RL	M50x1.5	0.787 - 1.024	20.0 - 26.0	2.402	1.969	2.165	1.969	0.354	0.591	1.969	-
MMS-50	MMS-50L	M50x1.5	0.866 - 1.260	22.0 - 32.0	2.402	1.969	2.165	1.969	0.354	0.591	1.969	cULus
MMS-50RC	MMS-50RCL	M50x1.5	1.063 - 1.496	27.0 - 38.0	2.520	2.283	2.283	1.969	0.354	0.591	2.126	cULus
MMS-50C	MMS-50CL	M50x1.5	1.339 - 1.732	34.0 - 44.0	2.756	2.520	2.520	1.969	0.354	0.591	2.165	cULus
MMS-63R	MMS-63RL	M63x1.5	1.142 - 1.378	29.0 - 35.0	2.953	2.520	2.677	2.480	0.551	0.709	2.165	-
MMS-63	MMS-63L	M63x1.5	1.339 - 1.732	34.0 - 44.0	2.953	2.520	2.677	2.480	0.551	0.709	2.165	cULus
MMS-63C	MMS-63CL	M63x1.5	1.457 - 2.087	37.0 - 53.0	3.268	2.953	2.953	2.480	0.394	0.709	2.087	cULus

\* Other clamping ranges available

<sup>1</sup> Not NEMA 4X rated

Larger thread sizes (M72 to M120) available upon request

Locknuts need to be purchased separately, see page 94

# Accessories for Industrial Automation

## CG 300 PG

Nickel plated brass cord grip with standard or longer thread

PG Thread

Impact resistant, suitable for industrial applications, water tight, corrosion resistant.



### Technical data:

<b>Material:</b>	Brass, Nickel Plated
<b>Clamping Insert:</b>	Polyamide 6
<b>Seal:</b>	Chloroprene (CR)
<b>O-Ring:</b>	Neoprene (NBR)
<b>Protection type:</b>	IP 68 - 5 Bar NEMA 4X
<b>Temperature range:</b>	
<i>permanent:</i>	-20°C to +100°C
<i>intermittent:</i>	-40°C to +150°C
<b>Flammability:</b>	V2 (according to UL 94)
<b>Approvals:</b>	cURus, cULus, DNV-GL, CE



Part Number	Part Number with long threads	Thread Type	Clamping Range Ø min-max		Outer Diameter (D) inches	Wrenching Flats		Thread Diameter (TD) inches	Thread Length (TL) inches	Long Thread Length (TL) inches	Max. Height (H) inches	UL
			(CR) inches	(CR) mm		(SW1) inches	(SW2) inches					
<b>PG</b>												
MPS-7	MPS-7L	PG 7	0.079 - 0.197	2.0 - 5.0	0.610	0.551	0.551	0.492	0.236	0.394	0.945	-
MPS-9R*	MPS-9RL	PG 9	0.118 - 0.256	3.0 - 6.5	0.610	0.551	0.551	0.492	0.236	0.394	0.945	-
MPS-9	MPS-9L	PG 9	0.079 - 0.236	2.0 - 6.0	0.744	0.669	0.669	0.598	0.236	0.394	1.004	cURus
MPS-11R*	MPS-11RL	PG 11	0.157 - 0.315	4.0 - 8.0	0.744	0.669	0.669	0.598	0.236	0.394	1.004	-
MPS-11	MPS-11L	PG 11	0.118 - 0.276	3.0 - 7.0	0.866	0.787	0.787	0.732	0.236	0.394	1.102	cURus
MPS-13R*	MPS-13RL	PG 13.5	0.197 - 0.394	5.0 - 10.0	0.866	0.787	0.787	0.732	0.236	0.394	1.102	-
MPS-13	MPS-13L	PG 13.5	0.197 - 0.354	5.0 - 9.0	0.965	0.866	0.866	0.803	0.256	0.394	1.043	cURus
MPS-16R*	MPS-16RL	PG 16	0.236 - 0.472	6.0 - 12.0	0.965	0.866	0.866	0.803	0.256	0.394	1.043	-
MPS-16	MPS-16L	PG 16	0.276 - 0.472	7.0 - 12.0	1.043	0.945	0.945	0.886	0.256	0.394	1.181	cULus
MPS-21R*	MPS-21RL	PG 21	0.394 - 0.551	10.0 - 14.0	1.043	0.945	0.945	0.886	0.256	0.394	1.181	-
MPS-21	MPS-21L	PG 21	0.354 - 0.630	9.0 - 16.0	1.299	1.181	1.181	1.114	0.283	0.472	1.378	cULus
MPS-29R*	MPS-29RL	PG 29	0.512 - 0.709	13.0 - 18.0	1.299	1.181	1.181	1.114	0.283	0.472	1.378	-
MPS-29	MPS-29L	PG 29	0.472 - 0.787	12.0 - 20.0	1.752	1.575	1.575	1.457	0.315	0.472	1.594	cULus
MPS-36R*	MPS-36RL	PG 36	0.709 - 0.984	18.0 - 25.0	1.752	1.575	1.575	1.457	0.315	0.472	1.594	-
MPS-36	MPS-36L	PG 36	0.787 - 1.024	20.0 - 26.0	2.185	1.969	1.969	1.850	0.354	0.551	1.969	cULus
MPS-42R*	MPS-42RL	PG 42	0.866 - 1.260	22.0 - 32.0	2.185	1.969	1.969	1.850	0.354	0.551	1.969	-
MPS-42	MPS-42L	PG 42	0.984 - 1.220	25.0 - 31.0	2.520	2.283	2.283	2.126	0.472	0.630	2.008	cULus
MPS-48R*	MPS-48RL	PG 48	1.181 - 1.496	30.0 - 38.0	2.520	2.283	2.283	2.126	0.472	0.630	2.008	-
MPS-48	MPS-48L	PG 48	1.142 - 1.378	29.0 - 35.0	2.756	2.520	2.520	2.335	0.551	0.709	2.146	cULus

\* R versions are not NEMA 4X rated

Locknuts need to be purchased separately, see page 94

# Accessories for Industrial Automation

## CG 300 NPT

Nickel plated brass cord grip

NPT Thread

Impact resistant, suitable for industrial applications, water tight, corrosion resistant.



### Technical data:

<b>Material:</b>	Brass, Nickel Plated
<b>Clamping Insert:</b>	Polyamide 6
<b>Seal:</b>	Chloroprene (CR)
<b>O-Ring:</b>	Neoprene (NBR)
<b>Protection type:</b>	IP 68 - 5 Bar NEMA 4X
<b>Temperature range:</b>	<i>permanent:</i> -20°C to +100°C <i>intermittent:</i> -40°C to +150°C
<b>Flammability:</b>	V2 (according to UL 94)
<b>Approvals:</b>	cURus, cULus, DNV-GL, CE



Part Number	Thread Type	Clamping Range Ø min-max		Outer Diameter (D) inches	Wrenching Flats		Thread Diameter (TD) inches	Thread Length (TL) inches	Max. Height (H) inches	UL
		inches	mm		Cap (SW1) inches	Body (SW2) inches				
<b>NPT</b>										
MNS-3/8R	NPT 3/8	0.079 - 0.236	2.0 - 6.0	0.827	0.669	0.748	0.675	0.453	1.004	-
MNS-3/8RC	NPT 3/8	0.118 - 0.276	3.0 - 7.0	0.866	0.787	0.787	0.675	0.453	1.240	-
MNS-3/8*	NPT 3/8	0.157 - 0.315	4.0 - 8.0	0.827	0.669	0.748	0.675	0.453	1.004	cURus
MNS-3/8C*	NPT 3/8	0.197 - 0.394	5.0 - 10.0	0.866	0.787	0.787	0.675	0.453	1.240	cURus
MNS-1/2R	NPT 1/2	0.197 - 0.354	5.0 - 9.0	0.965	0.866	0.866	0.840	0.512	1.083	-
MNS-1/2*	NPT 1/2	0.236 - 0.472	6.0 - 12.0	0.965	0.866	0.866	0.840	0.512	1.083	cULus
MNS-1/2RC	NPT 1/2	0.276 - 0.472	7.0 - 12.0	1.055	0.945	0.945	0.840	0.512	1.181	-
MNS-1/2C*	NPT 1/2	0.394 - 0.551	10.0 - 14.0	1.055	0.945	0.945	0.840	0.512	1.181	cULus
MNS-3/4R	NPT 3/4	0.354 - 0.630	9.0 - 16.0	1.299	1.181	1.181	1.050	0.512	1.496	-
MNS-3/4*	NPT 3/4	0.512 - 0.709	13.0 - 18.0	1.299	1.181	1.181	1.050	0.512	1.496	cULus
MNS-1R	NPT 1	0.472 - 0.787	12.0 - 20.0	1.909	1.575	1.693	1.315	0.512	1.791	-
MNS-1*	NPT 1	0.709 - 0.984	18.0 - 25.0	1.909	1.575	1.693	1.315	0.512	1.791	cULus
MNS-1 1/4	NPT 1 1/4	0.866 - 1.260	22.0 - 32.0	2.185	1.969	1.969	1.660	1.008	1.969	cULus
MNS-1 1/2	NPT 1 1/2	1.181 - 1.496	30.0 - 38.0	2.520	2.283	2.283	1.902	1.024	2.008	cULus
MNS-2	NPT-2	1.339 - 1.732	34.0 - 44.0	2.756	2.520	2.520	2.375	1.063	2.165	-

\* NEMA 4X rated

Locknuts need to be purchased separately, see page 94

# Accessories for Industrial Automation

## CG EMC-2 & CG EMC-4

### Overview

The EMC cable glands combine several advantages into one product. With the EMC gland, you get the same clamping range as a normal brass gland with a protection class of IP 68 and the added feature of EMC grounding springs to quickly ground a shielded cable to a metal enclosure or motor. To create the ground path, remove 5-10 mm of the jacket to expose the braid and position the gland on the cable. The large surface of the fingers come in contact with the braid to provide a completed grounding connection. Furthermore, the EMC design will give you a low impedance electrical contact between the body and the cable braid without having to open the gland. The shielding for electromagnetic purposes will be perfect by just tightening the gland delivered in a ready to use assembly.

### CG EMC-2



- Optimal grounding of shielded cable
- One direction installation
- Impact resistant
- Suitable for the highest demands of today's technology
- Easy installation
- Easy handling
- High corrosion resistance
- Water tight
- Strain relief

### CG EMC-4



- Optimal grounding of shielded cable
- Bi-directional installation
- Impact resistant
- Free radial and axial movement of the cable without any damage to the braid
- Easy installation
- Large contact surface of the fingers allowing low contact resistance
- High contact performance under vibrating conditions
- Water tight
- Strain relief



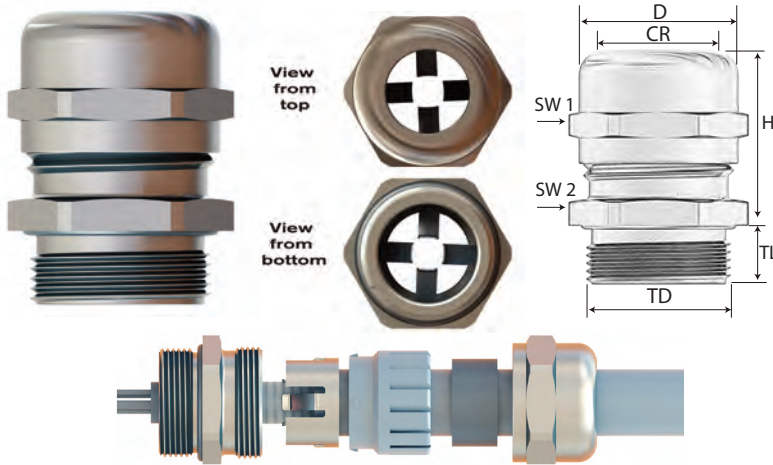
# Accessories for Industrial Automation

## CG EMC-2 Metric

Nickel plated brass EMC cable gland, standard & longer thread

Metric Thread

Optimal grounding of shielded cable, easy installation, water tight, impact resistant.



### Technical data:

<b>Material:</b>	Brass, Nickel Plated
<b>Contact spring:</b>	Special Copper Alloy
<b>Clamping Insert:</b>	Polyamide 6
<b>Seal:</b>	Chloroprene (CR)
<b>O-Ring:</b>	Neoprene (NBR)
<b>Protection type:</b>	IP 68 - 5 Bar NEMA 4X
<b>Temperature range:</b>	<i>permanent:</i> -20°C to +100°C <i>intermittent:</i> -40°C to +150°C
<b>Flammability:</b>	V2 (according to UL 94)
<b>Approvals:</b>	cURus, cULus, VDE, DNV-GL, CE



Part Number	Thread Type	Clamping Range Ø min-max (CR)		Outer Ø (D) inches	Shield Diameter (Ø min)		Wrenching Flats		Thread Diameter (TD) inches	Thread Length (TL) inches	Max. Height (H) inches	UL
		inches	mm		inches	mm	Cap (SW1) inches	Body (SW2) inches				
<b>Metric</b>												
EM2-12	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.610	0.098	2.5	0.551	0.551	0.472	0.236	0.945	cURus
EM2-16	M16x1.5	0.157 - 0.315	4.0 - 8.0	0.787	0.138	3.5	0.669	0.709	0.630	0.276	1.004	cURus
EM2-16C	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.866	0.157	4.0	0.787	0.787	0.630	0.256	1.240	cURus
EM2-20	M20x1.5	0.236 - 0.472	6.0 - 12.0	0.965	0.197	5.0	0.866	0.866	0.787	0.315	1.043	cURus
EM2-25	M25x1.5	0.394 - 0.551	10.0 - 14.0	1.181	0.335	8.5	0.945	1.063	0.984	0.315	1.181	cULus
EM2-25C	M25x1.5	0.512 - 0.709	13.0 - 18.0	1.299	0.433	11	1.181	1.181	0.984	0.315	1.575	cULus
EM2-32	M32x1.5	0.512 - 0.709	13.0 - 18.0	1.476	0.433	11	1.181	1.339	1.260	0.354	1.378	cULus
EM2-32C	M32x1.5	0.709 - 0.984	18.0 - 25.0	1.752	0.630	16	1.575	1.575	1.260	0.354	1.811	cULus
EM2-40	M40x1.5	0.709 - 0.984	18.0 - 25.0	1.909	0.630	16	1.575	1.693	1.575	0.354	1.594	cULus
EM2-40C	M40x1.5	0.866 - 1.260	22.0 - 32.0	2.185	0.787	20	1.969	1.969	1.575	0.354	2.146	cULus
EM2-50	M50x1.5	0.866 - 1.260	22.0 - 32.0	2.402	0.787	20	1.969	2.165	1.969	0.354	1.969	cULus
EM2-50C	M50x1.5	1.063 - 1.732	27.0 - 44.0	2.165	1.024	26	1.969	2.165	1.969	0.354	1.969	-
EM2-63	M63x1.5	1.339 - 1.732	34.0 - 44.0	2.953	1.220	31	2.520	2.677	2.480	0.551	2.165	cULus
<b>Metric with Long Thread *</b>												
EM2-12L	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.610	0.098	2.5	0.551	0.551	0.472	0.472	0.945	-
EM2-16L	M16x1.5	0.157 - 0.315	4.0 - 8.0	0.787	0.138	3.5	0.669	0.709	0.630	0.472	1.004	-
EM2-20L	M20x1.5	0.236 - 0.472	6.0 - 12.0	0.965	0.197	5.0	0.866	0.866	0.787	0.472	1.043	-
EM2-25L	M25x1.5	0.394 - 0.551	10.0 - 14.0	1.181	0.335	8.5	0.945	1.063	0.984	0.472	1.181	-
EM2-32L	M32x1.5	0.512 - 0.709	13.0 - 18.0	1.476	0.433	11	1.181	1.339	1.260	0.591	1.378	-
EM2-40L	M40x1.5	0.709 - 0.984	18.0 - 25.0	1.909	0.630	16	1.575	1.693	1.575	0.591	1.594	-
EM2-50L	M50x1.5	0.866 - 1.260	22.0 - 32.0	2.402	0.787	20	1.969	2.165	1.969	0.591	1.969	-
EM2-63L	M63x1.5	1.339 - 1.732	34.0 - 44.0	2.953	1.220	31	2.520	2.677	2.480	0.709	2.165	-

\* Long thread version is not NEMA 4X rated

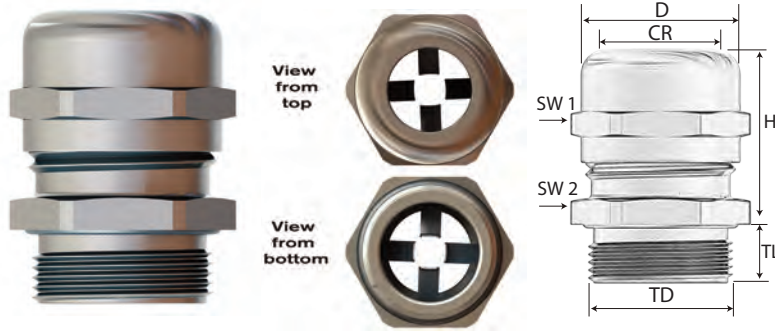
Locknuts need to be purchased separately, see page 94

## CG EMC-2 PG / CG EMC-2 NPT

Nickel plated brass EMC cable gland, standard & longer thread

PG & NPT Thread

Optimal grounding of shielded cable, easy installation, water tight, impact resistant.



### Technical data:

<b>Material:</b>	Brass, Nickel Plated
<b>Contact spring:</b>	Special Copper Alloy
<b>Clamping Insert:</b>	Polyamide 6
<b>Seal:</b>	Chloroprene (CR)
<b>O-Ring:</b>	Neoprene (NBR)
<b>Protection type:</b>	IP 68 - 5 Bar NEMA 4X
<b>Temperature range:</b>	<i>permanent:</i> -20°C to +100°C <i>intermittent:</i> -40°C to +150°C
<b>Flammability:</b>	V2 (according to UL 94)
<b>Approvals:</b>	cURus, cULus, DNV-GL, CE



Part Number	Thread Type	Clamping Range Ø min-max (CR)		Outer Ø (D) inches	Shield Diameter (Ø min)		Wrenching Flats		Thread Diameter (TD) inches	Thread Length (TL) inches	Max. Height (H) inches	UL
		inches	mm		inches	mm	Cap (SW1) inches	Body (SW2) inches				
<b>PG</b>												
EP2-7	PG 7	0.118 - 0.256	3.0 - 6.5	0.610	0.098	2.5	0.551	0.551	0.492	0.236	0.945	-
EP2-9	PG 9	0.157 - 0.315	4.0 - 8.0	0.744	0.138	3.5	0.669	0.669	0.598	0.236	1.004	cURus
EP2-11	PG 11	0.197 - 0.394	5.0 - 10.0	0.866	0.157	4.0	0.787	0.787	0.732	0.236	1.102	cURus
EP2-13	PG 13.5	0.236 - 0.472	6.0 - 12.0	0.965	0.197	5.0	0.866	0.866	0.803	0.256	1.043	cURus
EP2-16	PG 16	0.394 - 0.551	10.0 - 14.0	1.043	0.335	8.5	0.945	0.945	0.886	0.256	1.181	cULus
EP2-21	PG 21	0.512 - 0.709	13.0 - 18.0	1.299	0.433	11	1.181	1.181	1.114	0.283	1.378	cULus
EP2-29	PG 29	0.709 - 0.984	18.0 - 25.0	1.752	0.630	16	1.575	1.575	1.457	0.315	1.594	cULus
EP2-36	PG 36	0.866 - 1.26	22.0 - 32.0	2.185	0.787	20	1.969	1.969	1.850	0.354	1.969	cULus
EP2-42	PG 42	1.181 - 1.496	30.0 - 38.0	2.520	1.102	28	2.283	2.283	2.126	0.472	2.008	cULus
EP2-48	PG 48	1.339 - 1.732	34.0 - 44.0	2.756	1.220	31	2.520	2.520	2.335	0.551	2.165	cULus
<b>PG with Long Thread*</b>												
EP2-7L	PG 7	0.118 - 0.256	3.0 - 6.5	0.610	0.098	2.5	0.551	0.551	0.492	0.394	0.945	-
EP2-9L	PG 9	0.157 - 0.315	4.0 - 8.0	0.744	0.138	3.5	0.669	0.669	0.598	0.394	1.004	-
EP2-11L	PG 11	0.197 - 0.394	5.0 - 10.0	0.866	0.157	4.0	0.787	0.787	0.732	0.394	1.102	-
EP2-13L	PG 13.5	0.236 - 0.472	6.0 - 12.0	0.965	0.197	5.0	0.866	0.866	0.803	0.394	1.043	-
EP2-16L	PG 16	0.394 - 0.551	10.0 - 14.0	1.043	0.335	8.5	0.945	0.945	0.886	0.394	1.181	-
EP2-21L	PG 21	0.512 - 0.709	13.0 - 18.0	1.299	0.433	11	1.181	1.181	1.114	0.472	1.378	-
EP2-29L	PG 29	0.709 - 0.984	18.0 - 25.0	1.752	0.630	16	1.575	1.575	1.457	0.472	1.594	-
EP2-36L	PG 36	0.866 - 1.26	22.0 - 32.0	2.185	0.787	20	1.969	1.969	1.850	0.551	1.969	-
EP2-42L	PG 42	1.181 - 1.496	30.0 - 38.0	2.520	1.102	28	2.283	2.283	2.126	0.630	2.008	-
EP2-48L	PG 48	1.339 - 1.732	34.0 - 44.0	2.756	1.220	31	2.520	02.52	2.335	0.709	2.165	-
<b>NPT</b>												
EN2-3/8	NPT 3/8	0.197 - 0.394	5.0 - 10.0	0.866	0.157	4.0	0.787	0.787	0.675	0.453	1.240	cURus
EN2-1/2	NPT 1/2	0.236 - 0.472	6.0 - 12.0	0.965	0.197	5.0	0.866	0.866	0.840	0.512	1.083	cULus
EN2-3/4R*	NPT 3/4	0.354 - 0.630	9.0 - 16.0	1.299	0.335	8.5	1.181	1.181	1.050	0.512	1.496	cULus
EN2-3/4	NPT 3/4	0.512 - 0.709	13.0 - 18.0	1.299	0.433	11	1.181	1.181	1.050	0.512	1.496	cULus
EN2-1	NPT 1	0.709 - 0.984	18.0 - 25.0	1.909	0.630	16	1.575	1.693	1.315	0.512	1.791	cURus

\* PG version and EN2-3/4R are not NEMA 4X rated

Locknuts need to be purchased separately, see page 94

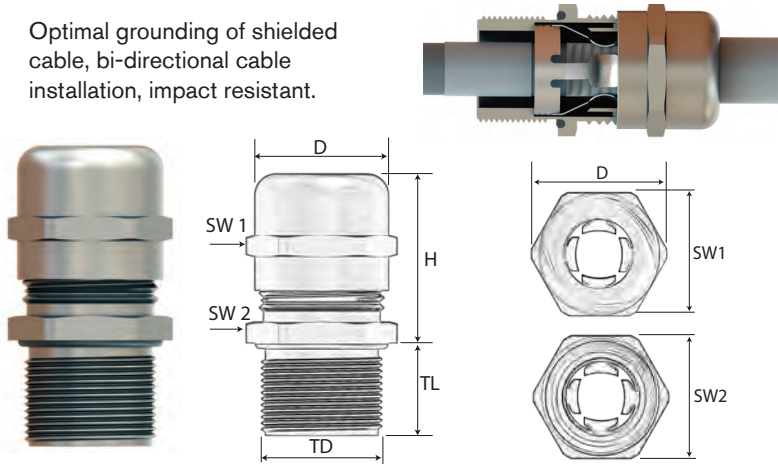
# Accessories for Industrial Automation

## CG EMC-4 Metric / CG EMC-4 PG / CG EMC-4 NPT

Nickel plated brass EMC cable gland, vibration proof

Metric, PG, & NPT Thread

Optimal grounding of shielded cable, bi-directional cable installation, impact resistant.



### Technical data:

<b>Material:</b>	Brass, Nickel Plated
<b>Contact spring:</b>	Special Copper Alloy
<b>Clamping Insert:</b>	Polyamide 6
<b>Seal:</b>	Chloroprene (CR)
<b>O-Ring:</b>	Neoprene (NBR)
<b>Protection type:</b>	IP 68 - 5 Bar NEMA 4X
<b>Temperature range:</b>	
<i>permanent:</i>	-20°C to +100°C
<i>intermittent:</i>	-40°C to +150°C
<b>Flammability:</b>	V2 (according to UL 94)
<b>Approvals:</b>	cURus, cULus, VDE, DNV-GL, CE



Part Number	Thread Type	Clamping Range Ø min-max (CR)		Outer Ø (D) inches	Shield Diameter (Ø min)		Wrenching Flats		Thread Diameter (TD) inches	Thread Length (TL) inches	Max. Height (H) inches	UL
		inches	mm		inches	mm	Cap (SW1) inches	Body (SW2) inches				
<b>Metric</b>												
EM4-12	M12x1.5	0.118 - 0.256	3.0 - 6.5	0.610	0.079	2.0	0.551	0.551	0.472	0.236	1.181	cURus
EM4-16	M16x1.5	0.197 - 0.394	5.0 - 10.0	0.866	0.138	3.5	0.787	0.787	0.630	0.236	1.378	cURus
EM4-20	M20x1.5	0.236 - 0.472	6.0 - 12.0	0.965	0.177	4.5	0.866	0.866	0.787	0.236	1.319	cULus
EM4-20C	M20x1.5	0.295 - 0.551	7.5 - 14.0	1.055	0.217	5.5	0.945	0.945	0.787	0.315	1.634	cULus
EM4-25	M25x1.5	0.394 - 0.709	10.0 - 18.0	1.299	0.276	7.0	1.181	1.181	0.984	0.315	1.752	cULus
EM4-32	M32x1.5	0.630 - 0.984	16.0 - 25.0	1.752	0.472	12	1.575	1.575	1.260	0.354	2.165	cULus
EM4-40	M40x1.5	0.866 - 1.260	22.0 - 32.0	2.185	0.709	18	1.969	1.969	1.575	0.354	2.461	cULus
EM4-50	M50x1.5	1.181 - 1.496	30.0 - 38.0	2.520	1.024	26	2.283	2.283	1.969	0.354	2.913	cULus
EM4-63	M63x1.5	1.339 - 1.732	34.0 - 44.0	2.953	1.181	30	2.520	2.677	2.480	0.551	2.362	cULus
EM4-63C	M63x1.5	1.457 - 2.087	37.0 - 53.0	3.268	1.299	33	2.953	2.953	2.480	0.394	2.953	cULus
<b>PG<sup>1*</sup></b>												
EP4-7	PG 7	0.118 - 0.256	3.0 - 6.5	0.650	0.079	2.0	0.551	0.591	0.492	0.236	1.181	-
EP4-11	PG 11	0.197 - 0.394	5.0 - 10.0	0.906	0.138	3.5	0.787	0.827	0.732	0.236	1.378	-
EP4-13	PG 13.5	0.236 - 0.472	6.0 - 12.0	0.965	0.177	4.5	0.866	0.866	0.803	0.256	1.319	-
EP4-16	PG 16	0.295 - 0.551	7.5 - 14.0	1.083	0.217	5.5	0.945	0.984	0.886	0.256	1.634	-
EP4-21	PG 21	0.394 - 0.709	10.0 - 18.0	1.398	0.276	7.0	1.181	1.260	1.114	0.276	1.752	-
EP4-29	PG 29	0.630 - 0.984	16.0 - 25.0	1.752	0.472	12	1.575	1.575	1.457	0.354	2.165	-
EP4-36	PG 36	0.866 - 1.26	22.0 - 32.0	2.185	0.709	18	1.969	1.969	1.850	0.354	2.441	-
EP4-42	PG 42	1.181 - 1.496	30.0 - 38.0	2.618	1.024	26	2.283	2.362	2.126	0.472	2.933	-
EP4-48	PG 48	1.339 - 1.732	34.0 - 44.0	2.953	1.181	30	2.520	2.677	2.335	0.551	2.382	-
<b>NPT<sup>**</sup></b>												
EN4-1/4	NPT 1/4	0.118 - 0.256	3.0 - 6.5	0.650	0.079	2.0	0.551	0.591	0.540	0.453	1.181	-
EN4-3/8	NPT 3/8	0.197 - 0.394	5.0 - 10.0	0.866	0.138	3.5	0.787	0.787	0.675	0.453	1.378	-
EN4-1/2	NPT 1/2	0.236 - 0.472	6.0 - 12.0	0.965	0.177	4.5	0.866	0.866	0.840	0.591	1.555	cULus
EN4-1/2C	NPT 1/2	0.295 - 0.551	7.5 - 14.0	1.055	0.217	5.5	0.945	0.945	0.840	0.591	1.634	cULus
EN4-1/2C-2	NPT 1/2	0.295 - 0.551	7.5 - 14.0	1.055	0.217	5.5	0.945	0.945	0.840	0.314	1.634	cULus
EN4-3/4	NPT 3/4	0.394 - 0.709	10.0 - 18.0	1.299	0.276	7.0	1.181	1.181	1.050	0.591	1.713	cULus
EN4-1	NPT 1	0.630 - 0.984	16.0 - 25.0	1.752	0.472	12	1.575	1.575	1.315	0.787	2.126	cULus
EN4-1 1/4	NPT 1 1/4	0.866 - 1.260	22.0 - 32.0	2.185	0.709	18	1.969	1.969	1.660	0.787	2.480	cULus
EN4-1 1/2	NPT 1 1/2	1.181 - 1.496	30.0 - 38.0	2.520	1.024	26	2.283	2.283	1.900	0.866	2.874	cULus
EN4-2	NPT 2	1.339 - 1.732	34.0 - 44.0	2.953	1.181	30	2.520	2.677	2.375	0.866	0.866	cULus

<sup>1</sup> PG - DNV-GL & CE only  
<sup>\*</sup> NPT - cULus, DNV-GL & CE only  
<sup>\*</sup> PG & NPT are not NEMA 4X rated

Locknuts need to be purchased separately, see page 94

# Accessories for Industrial Automation

## Metal Locknuts / Metal EMC Locknuts

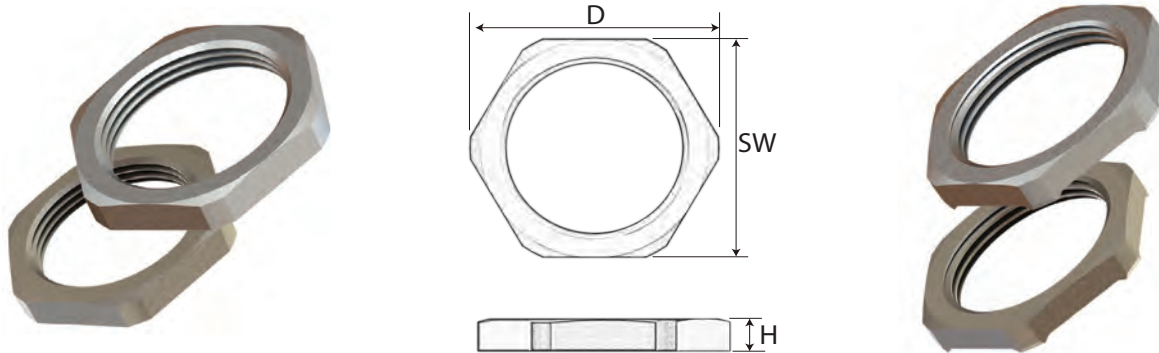
Nickel plated brass locknuts / Nickel plated brass locknuts with grounding teeth

EMC locknut has grounding teeth to make connection to metal panels or control boxes.

### Technical data:

Material:

Brass, Nickel Plated



Part Number	Thread Type	Height (H) inches	Diameter (D) inches	Wrenching Flats (SW) inches
<b>Metric-Standard</b>				
LMM-12	M12x1.5	0.110	0.654	0.591
LMM-16	M16x1.5	0.118	0.827	0.748
LMM-20	M20x1.5	0.138	1.043	0.945
LMM-25	M25x1.5	0.157	1.299	1.181
LMM-32	M32x1.5	0.197	1.555	1.417
LMM-40	M40x1.5	0.197	2.008	1.811
LMM-50	M50x1.5	0.197	2.598	2.362
LMM-63	M63x1.5	0.236	3.031	2.756
LMM-75	M75x2.0	0.276	3.528	3.150
LMM-80	M80x2.0	0.315	3.937	3.543
LMM-85	M85x2.0	0.315	4.181	3.740
LMM-90	M90x2.0	0.315	4.409	3.937
<b>PG-Standard</b>				
LPM-7	PG 7	0.110	0.654	0.591
LPM-9	PG 9	0.110	0.787	0.709
LPM-11	PG 11	0.118	0.925	0.827
LPM-13	PG 13.5	0.118	1.004	0.906
LPM-16	PG 16	0.118	1.142	1.024
LPM-21	PG 21	0.138	1.398	1.260
LPM-29	PG 29	0.157	1.772	1.614
LPM-36	PG 36	0.197	2.205	2.008
LPM-42	PG 42	0.197	2.598	2.362
LPM-48	PG 48	0.217	2.776	2.520
<b>NPT-Standard</b>				
LNM-3/8	NPT 3/8	0.197	0.965	0.866
LNM-1/2	NPT 1/2	0.197	1.181	1.063
LNM-3/4	NPT 3/4	0.197	1.437	1.299
LNM-1	NPT 1	0.197	1.831	1.693
LNM-1 1/4	NPT 1 1/4"	0.197	2.087	1.890
LNM-1 1/2	NPT 1 1/2"	0.197	2.402	2.165
LNM-2	NPT 2"	0.217	2.776	2.520

Part Number	Thread Type	Height (H) inches	Diameter (D) inches	Wrenching Flats (SW) inches
<b>Metric-EMC</b>				
LME-12	M12x1.5	0.130	0.650	0.591
LME-16	M16x1.5	0.138	0.827	0.748
LME-20	M20x1.5	0.146	1.043	0.945
LME-25	M25x1.5	0.146	1.299	1.181
LME-32	M32x1.5	0.157	1.555	1.417
LME-40	M40x1.5	0.181	2.008	1.811
LME-50	M50x1.5	0.220	2.598	2.362
LME-63	M63x1.5	0.264	3.031	2.756
<b>PG-EMC</b>				
LPE-7	PG 7	0.130	0.650	0.591
LPE-9	PG 9	0.130	0.787	0.709
LPE-11	PG 11	0.138	0.925	0.827
LPE-13	PG 13.5	0.138	1.004	0.906
LPE-16	PG 16	0.138	1.142	1.024
LPE-21	PG 21	0.157	1.398	1.260
LPE-29	PG 29	0.181	1.772	1.614
LPE-36	PG 36	0.220	2.205	2.008
LPE-42	PG 42	0.220	2.598	2.362
LPE-48	PG 48	0.240	2.776	2.520
<b>NPT-EMC</b>				
LNE-1/4	NPT 1/4"	0.217	0.740	0.669
LNE-3/8	NPT 3/8"	0.224	0.945	0.866
LNE-1/2	NPT 1/2"	0.264	1.043	0.945
LNE-3/4	NPT 3/4"	0.256	1.299	1.181
LNE-1	NPT 1"	0.299	1.752	1.575
LNE-1 1/4	NPT 1 1/4"	0.299	2.185	1.969
LNE-1 1/2	NPT 1 1/2"	0.343	2.520	2.283
LNE-2	NPT 2"	0.425	3.071	2.756

Stainless steel locknuts are available upon request



# Accessories for Industrial Automation

## Additional Cord Grips & Accessories

### CG 200 POLYAMIDE CORD GRIPS

Flex cap, black or gray available in NPT, PG, or metric thread

Strain relief gland offers maximum protection against conductor fatigue caused by flexing cables



### CG 350 STAINLESS STEEL CORD GRIPS

Available in NPT, PG, or metric thread and SS 303 or SS 316

Impact resistant, suitable for industrial applications, water tight, corrosion resistant.



### HYGIENIC CABLE GLANDS & CONDUIT FITTINGS

Stainless steel cable gland and conduit fittings available in NPT or metric thread

Smooth surface with all threads beneath cap nut preventing the depositing of harmful microorganisms

#### Features:

- Resistant to high-pressure water jet cleaning (IP 69K)
- Sustains disinfectant, cleaners, and acids or alkalis
- Suitable for high pressure steam cleaning
- Seal material according to FDA guideline 21 CFR 177.2600.



### VENTILATION GLANDS & PLUGS

Polyamide, Nickel Plated Brass or Stainless steel cable glands available in metric or PG thread

Vent glands and plugs are used to balance the pressure in an enclosure to protect electronic connections from condensation. They are UL approved and chemical resistant.



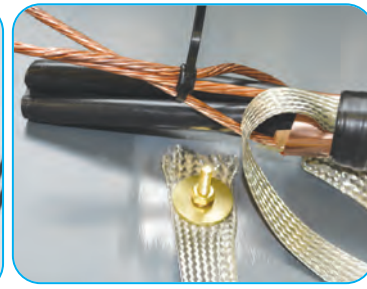
### VFD TERMINATION KITS

Grounding kits for larger AWG cables

VFD Termination Kits are used to ground the shield of VFD cables to a metal enclosure. It is an effective way to remove noise associated with VFD motors and drives. Improve the effectiveness by also using a SAB EMC grounding gland where the cable enters the enclosure.

**Part #:**  
VFD GRD KIT 14-2  
VFD GRD KIT 1 - 4/0  
VFD GRD KIT 250-500

**For AWG size:**  
14 AWG to 2 AWG  
1 AWG to 4/0 AWG  
250 KCMIL to 500 KCMIL



**Contents include:**  
tinned copper braid, copper tape, bolt assembly, rubber splicing tape, tie wraps, metal sand paper, alcohol wipes

## Accessories & Fittings

Enlargers	Reducers	Hole Plugs			Multi-Hole Bushing

Additional cord grips and accessories are available on our website and in the full line catalog (Section N)

# Products for Industrial Automation

## TEMPERATURE MEASUREMENT

Manufacturer of thermocouples & resistance thermometers

### Protecting armatures and gauge slides:

- Immersion protecting armatures
- Screwed protecting armatures
- Welding protecting armatures, etc.

### Temperature measurement in test vehicles:

- Thermo 8-plug connector
- Dipstick thermocouples
- Thermocouples for cooling water tube applications, etc.

### Mineral insulated thermocouples/ Mineral insulated resistance thermometers:

- With fixed connecting cable
- With bare connection ends
- With thermo-plug/miniature plug, etc.

### Temperature measurement in plastics processing industry/hot runner process:

- Hot runner mineral insulated thermocouples
- Plug-in thermocouples
- Molten mass thermocouples, etc.

### Probe with stainless steel sleeve:

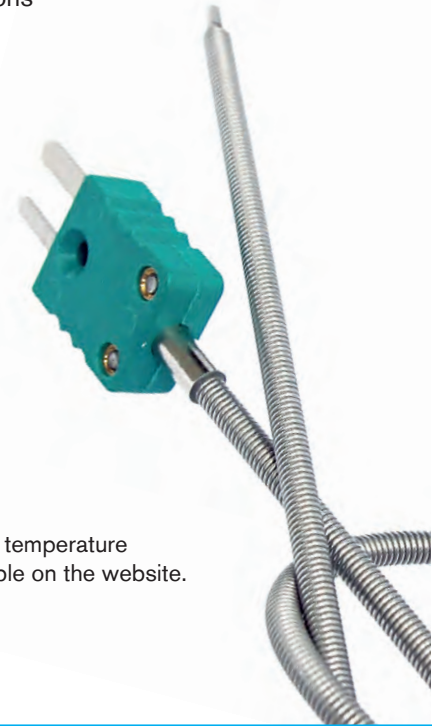
- Available as thermocouple
- Available as resistance thermometer

### Compensating and extension cables:

- Compensating and extension cables for thermocouples
- Connection cables for resistance thermometers, etc.

### Accessories:

- Clamping screw connections
- Flanges
- Screw sockets
- Connection heads
- Welding protecting tubes
- Transmitters
- Thermo-plugs/sockets
- Screw-in nipples
- Miniature plugs/sockets



Additional information about our temperature measurement products is available on the website.

## General Conversion Tables



■ Length		
from	to	formula
inch(in)	millimeter(mm)	in x 25.4 = mm
millimeter(mm)	inch(in)	mm x 0.03937 = in
foot(ft)	meter(m)	ft x 0.3048 = m
meter(m)	foot(ft)	m x 3.281 = ft
mile(mi)	kilometer(km)	mi x 1.609 = km
kilometer(km)	mile(mi)	km x 0.621 = mi

■ Temperature		
from	to	formula
Fahrenheit(F)	Celsius(C)	(F-32) x 0.56 = C
Celsius(C)	Fahrenheit(F)	C x 1.8 + 32 = F

■ Weights		
from	to	formula
pound(lb)	kilogram(kg)	lb x 0.454 = kg
kilogram(kg)	pound (lb)	kg : 2.205 = lb
kg/km	lbs/mft	kg/km x 0.6719
lbs/mft	kg/km	lbs/mft x 1.488

You will find our complete product offering  
and latest catalog pages under:

[www.sabcable.com](http://www.sabcable.com)

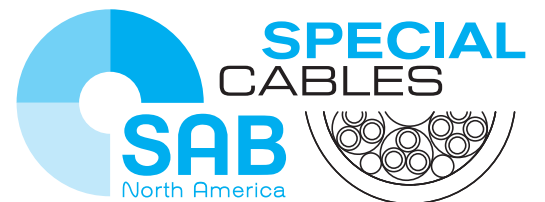


### Features include:

- Product criteria search
- Cord grip cross reference
- Industry specific brochures
- Technical resources
- PDF version of catalog

All information included in this catalog is accurate to the best of our knowledge and is meant for product selection only. As product applications vary greatly, SAB North America cannot guarantee the suitability of its products in specific applications, unless we confirm this separately. Product specifications are subject to change without prior notice.

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344 Kaplan Drive  
Fairfield, NJ 07004  
Toll Free: 866-722-2974  
[www.sabcable.com](http://www.sabcable.com)  
[info@sabcable.com](mailto:info@sabcable.com)