

# CABLES FOR WIND POWER PLANT



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# Cables for wind power plant








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## Family business in the third generation

**75** years of experience in cable and wire manufacturing as well as in temperature measurement technology turned a one-man business into a company with more than 550 employees. We prove our strength every year with more than 1500 special products according to customers' requirements. Each product is a new challenge for our creative technical team. We at **SAB** see ourselves as a manufacturer and a service provider – in the sense of true partnership and the greatest possible customer orientation.

Today, the quality of our products is known and appreciated in more than 100 countries around the world. In all product ranges, we are certified according to DIN EN ISO 9001. Furthermore, we have implemented an environmental management system for our company according to DIN EN ISO 14001, an occupational health and safety management system according to NLF/ILO-OSH and DIN ISO 45001, and an energy management system according to DIN EN ISO 50001.

And also for the future, our slogan is: **"WE GO FORWARD!"**

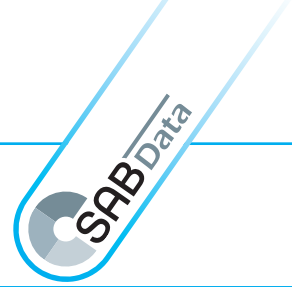
FOUNDED:	1947 by Peter Bröckskes sen. an independent, medium-sized company.
CEO:	Peter Bröckskes and Sabine Bröckskes-Wetten
PLANT/LOCATION:	In Viersen (Lower Rhine) 110.000 m <sup>2</sup> company site.  Own manufacturing from copper conductor to outer sheath.  VDE approved burnchamber and laboratory within the company.
EMPLOYEES/WORKERS:	approx. 430 at the plant in Viersen, 550 worldwide
YEARLY SALES:	over 134 Mio. € worldwide
PRODUCTS:	Special Cables  Measurement Technology  Cable Harnessing
CERTIFICATES AND APPROVALS:	Quality management system acc. to DIN EN ISO 9001 for every manufacturing field  Environmental management system acc. to DIN EN ISO 14001  Occupational health and safety management acc. to NLF/ILO-OSH and DIN ISO 45001  Energy management system acc. to DIN EN ISO 50001



# Customized cables

## Data / POF cables

POF-LWL and hybrid cables for data transmission



<b>Construction:</b>	2 x POF + 10 x 0,50 mm <sup>2</sup>	4 x POF + 19 x 1,00 mm <sup>2</sup>	6 x POF black	6 x POF coloured	8 x POF
<b>Conductor:</b>	bare copper strands, fine wires acc. to IEC 60228, VDE 0295		---		
<b>POF:</b> polymer optical fibre	blue, red	black cores with consecutive numbers in white 1-4	black cores with consecutive numbers in white 1-6	black, blue, red, white, green, orange	black cores with consecutive numbers in white 1-8
<b>Insulation copper conductors:</b>	YA, thermoplastic material, TI2 acc. to EN 50363-3 + VDE 0207-363-3		---		
<b>Colour code copper conductors:</b>	0,50 mm <sup>2</sup> : black cores with consecutive numbers in white 1-10 without green-yellow earth wire	1,00 mm <sup>2</sup> : black cores with consecutive numbers in white 1-18 without green-yellow earth wire	---		
<b>Stranding:</b>	POF and cores in layers		POF in layers with non-woven tape wrapping		
<b>Wrapping:</b>	---	non-woven tape	---		
<b>Sheath material:</b>	YM, thermoplastic material, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1				thermoplastic material
<b>Sheath colour:</b>	black (RAL 9005)				

<b>Technical data:</b>	2 x POF + 10 x 0,50 mm <sup>2</sup>	4 x POF + 19 x 1,00 mm <sup>2</sup>	6 x POF black	6 x POF coloured	8 x POF
<b>Peak operating voltage:</b>	max. 350 V		---		
<b>Testing voltage:</b>	core/core 1500 V		---		
<b>Min. bending radius:</b>	7,5 x d				
<b>Temperature range</b> fixed laying: flexible application:	-30/+70 °C -5/+70 °C				
<b>Fire performance:</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				
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union				

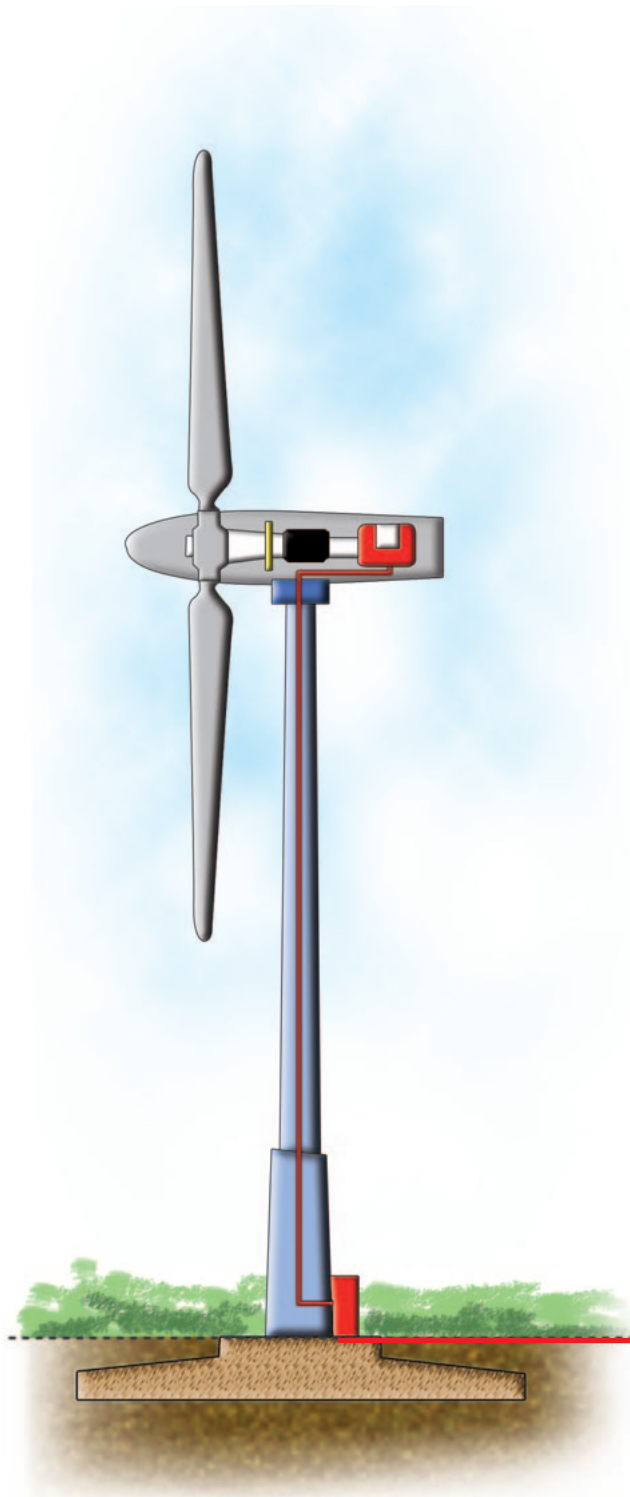
item no.	no. of cores	no. of POF	nominal cross-section mm <sup>2</sup>	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
	10	2	0,50	9,5	48,0	121	39,0
	19	4	1,00	14,9	182,4	293	19,5
on request		6		8,7		70	
		8		10,1		93	

Other dimensions and colours are possible on request.

## Data / POF cables

POF-LWL and hybrid cables for data transmission

**Application:** Good electromagnetic characteristics signal transmission for installation in switch boxes and wind energy plants. The copper cable is used for the transmission of the temperature signals that are used for the control of the operating temperature with the help of a resistance thermometer.





## Sensor cable

continuously flexible TPE/PUR data cable with coloured core  
3 x (1 x 0,14 mm<sup>2</sup>)D + 12 x 0,14 mm<sup>2</sup>



Marking for sensor cable:

SAB BRÜCKSKES · D-VIERSEN · Special Cable AWM Style 21198 80°C 300V CSA AWM I A/B 80°C 300V FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands, extra fine wires
<b>Insulation:</b>	TPE
<b>Colour code:</b>	with reference to DIN 47100
<b>Stranding:</b>	specially adjusted layering with non-woven tape over each layer
<b>Screen:</b>	wrapped with tinned copper
<b>Wrapping:</b>	non-woven tape
<b>Sheath material:</b>	PUR
<b>Sheath colour:</b>	black (RAL 9005)

### Technical Data:

<b>Peak operating voltage:</b>	max. 150 V	
<b>Voltage UL/CSA:</b>	300 V	
<b>Testing voltage:</b>	core/core	2000 V
	core/screen	2000 V
<b>Min. bending radius</b>		
<i>fixed laying:</i>	5 x d	
<i>flexible application:</i>	10 x d	
<i>individual bending:</i>	90° for a length of 7 cm	
<b>Temperature range</b>	<b>DIN VDE</b>	<b>UL/CSA:</b> up to +80°C
<i>fixed laying:</i>	-40/+80°C	
<i>flexible application:</i>	-30/+70°C	
<i>high temperature:</i>	up to +90°C	
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Resistance:</b>	very good against water, glycol and frost	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European	

item no.	no. of cores x cross section n x mm <sup>2</sup>	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C max. Ω/km
on request	3 x (1 x 0,14 mm <sup>2</sup> )D + 12 x 0,14 mm <sup>2</sup>	7,2	45,1	74	139,3

Other dimensions and colours are possible on request.

## Sensor cable

continuously flexible TPE/PUR data cable with coloured core  
3 x (1 x 0,14 mm<sup>2</sup>)D + 12 x 0,14 mm<sup>2</sup>

**Application:** Highly flexible sensor cable for the transmission of measured values of a weather station for the control of the yaw mechanism in wind energy plants. The highly flexible construction makes the cable resistant against the existing vibration of the rotor system.



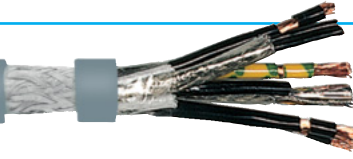
# Customized cables



## SL 859 C

PVC servo cable with overall copper screen

A AWM I/II A/B 90°C 600V FT1 FT2 LL104758 CE



Marking for SL 859 C:

SAB BRÖCKSKES · D-VIERSEN · SL 859 C 4 x 10,0 mm<sup>2</sup> + 4 x (2 x 1,0 mm<sup>2</sup>) AWM Style 2587 90°C 600V E172204

CSA AWM I/II A/B 90°C 600V FT1 FT2 LL104758 CE

### Construction:

<b>Conductor:</b>	tinned copper strands
<b>Insulation:</b>	PVC
<b>Colour code:</b>	black cores with consecutive numbers and a green-yellow earth wire
<b>Stranding:</b>	1,0 mm <sup>2</sup> twisted to pairs
<b>Screen:</b>	pairs wrapped with tinned copper braid
<b>Inner sheath:</b>	pairs with PVC, colour: grey (RAL 7000)
<b>Stranding:</b>	specially adjusted layering
<b>Wrapping:</b>	foil
<b>Screen:</b>	tinned copper braiding
<b>Sheath material:</b>	PVC
<b>Sheath colour:</b>	grey (RAL 7000)

### Technical data:

<b>Peak operating voltage:</b>	300/500 V	
<b>Voltage UL/CSA:</b>	600 V	
<b>Testing voltage:</b>	core/core	2000 V
	core/screen	2000 V
<b>Min. bending radius</b>		
<i>fixed laying:</i>	5 x d	
<i>flexible application:</i>	10 x d	
<b>Temperature range</b>	<b>DIN VDE</b>	<b>UL/CSA: up to +90°C</b>
<i>fixed laying:</i>	-30/+70°C	
<i>flexible application:</i>	- 5/+70°C	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European	

item no.	no. of cores x cross section n x mm <sup>2</sup>	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C max.Ω/km
on request	4 x (2 x 1,0 mm <sup>2</sup> ) + 4 x 10,0 mm <sup>2</sup>	23,9	671,9	945	20,0 1,95

Other dimensions and colours are possible on request.



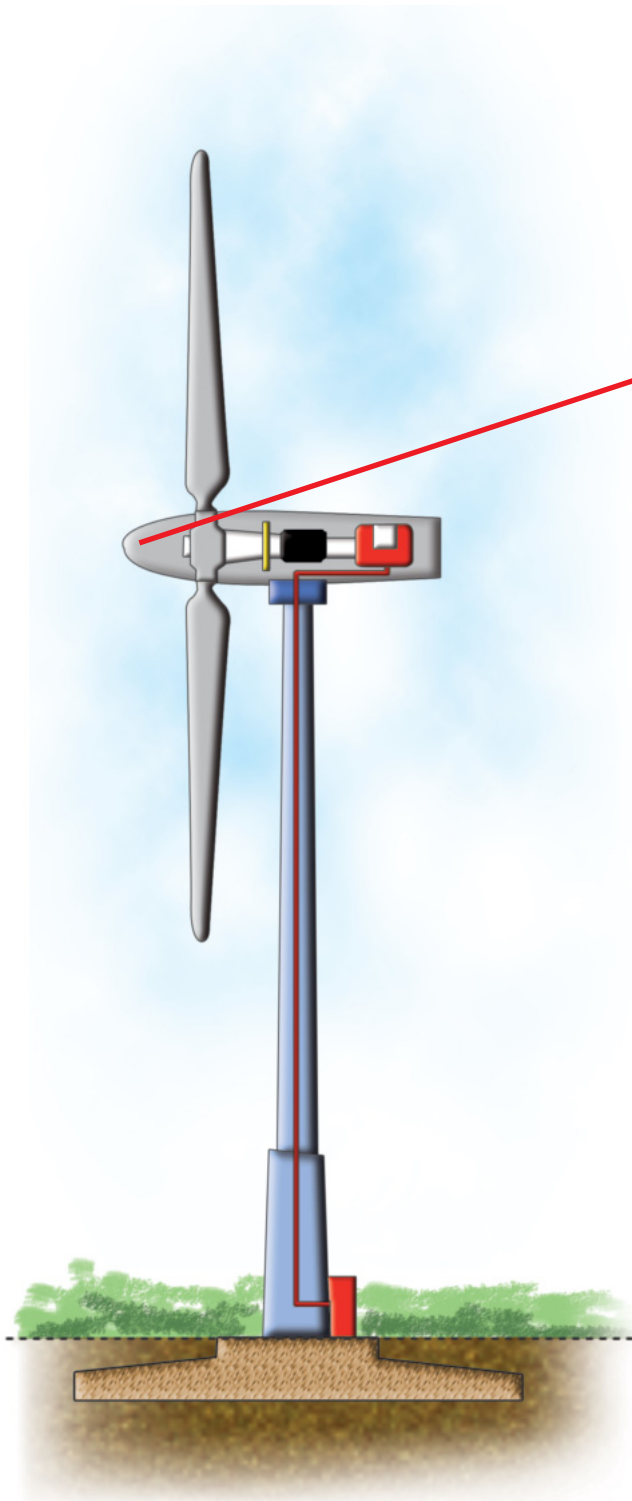
# Customized cables

## SL 859 C

PVC servo cable with overall copper screen



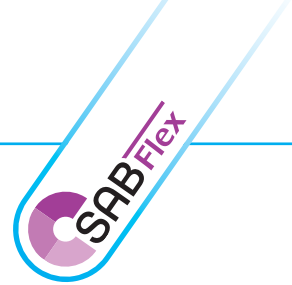
**Application:** For example as motor connection cable of pitch drives.



# Customized cables

## SD 200 C TP

continuously flexible paired TPE/PUR data cable with coloured cores and overall copper screen



Marking for SD 200 C TP 07890350:

SAB BRÜCKSKES · D-VIERSEN · SD 200 C TP 3 x 2 x 0,5 mm² CE

### Construction:

<b>Conductor:</b>	bare copper strands, extra fine wires
<b>Insulation:</b>	TPE
<b>Colour code:</b>	with reference to DIN 47100
<b>Stranding:</b>	cores twisted to pairs, pairs twisted in specially adjusted layering with non-woven tape over each layer
<b>Wrapping:</b>	non-woven tape
<b>Screen:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Sheath material:</b>	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with mat surface
<b>Sheath colour:</b>	grey (RAL 7032)

### Technical Data:

<b>Peak operating voltage:</b>	max. 350 V acc. to VDE 0812
<b>Testing voltage:</b>	core/core 1500 V core/screen 1200 V
<b>Min. bending radius</b> <i>continuously flexible:</i>	7,5 x d
<b>Radiation resistance:</b>	1 x 10 <sup>7</sup> cJ/kg
<b>Temperature range</b> <i>fixed laying:</i> <i>flexible application:</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 - TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
<b>Chem. resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids etc.
<b>Continuous flexibility:</b>	very good
<b>Weather resistance:</b>	very good
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union

### Outstanding features:

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

item no.	no. of pairs x cross section n x 2 x mm <sup>2</sup>	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07890214	2 x 2 x 0,14	0,11	4,4	17,4	29
07890314	3 x 2 x 0,14	0,11	4,9	20,2	30
07890414	4 x 2 x 0,14	0,11	5,6	24,7	40
07890514	5 x 2 x 0,14	0,11	6,0	28,8	43
07890614	6 x 2 x 0,14	0,11	6,4	31,5	52
07890714	7 x 2 x 0,14	0,11	6,7	35,9	59
07891014	10 x 2 x 0,14	0,11	7,9	47,5	72
07891414	14 x 2 x 0,14	0,11	9,0	62,7	97
07891814	18 x 2 x 0,14	0,11	10,0	89,6	127
07892514	25 x 2 x 0,14	0,11	11,7	114,3	167
07890225	2 x 2 x 0,25	0,11	4,9	21,8	33
07890325	3 x 2 x 0,25	0,11	5,5	28,3	41
07890425	4 x 2 x 0,25	0,11	6,4	36,1	51
07890525	5 x 2 x 0,25	0,11	6,9	41,1	60
07890625	6 x 2 x 0,25	0,11	7,1	47,3	69
07890725	7 x 2 x 0,25	0,11	7,4	54,1	81
07891025	10 x 2 x 0,25	0,11	8,9	70,8	100
07891425	14 x 2 x 0,25	0,11	10,9	108,7	150
07891825	18 x 2 x 0,25	0,11	11,6	133,4	185
07892525	25 x 2 x 0,25	0,11	13,8	171,9	259
07890234	2 x 2 x 0,34	0,11	5,2	20,3	38
07890334	3 x 2 x 0,34	0,11	5,8	34,9	47
07890434	4 x 2 x 0,34	0,11	6,9	43,2	62
07890534	5 x 2 x 0,34	0,11	7,4	53,1	72

item no.	no. of pairs x cross section n x 2 x mm <sup>2</sup>	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
07890734	7 x 2 x 0,34	0,11	8,0	66,4	94
07891034	10 x 2 x 0,34	0,11	9,6	90,5	122
07891434	14 x 2 x 0,34	0,11	11,6	138,3	179
07891834	18 x 2 x 0,34	0,11	12,5	169,2	220
07892534	25 x 2 x 0,34	0,11	14,7	247,3	310
07890250	2 x 2 x 0,50	0,11	6,3	34,6	51
07890350	3 x 2 x 0,50	0,11	6,9	47,3	67
07890450	4 x 2 x 0,50	0,11	7,9	61,4	84
07890550	5 x 2 x 0,50	0,11	8,8	73,1	101
07890750	7 x 2 x 0,50	0,11	9,4	108,4	134
07891050	10 x 2 x 0,50	0,11	11,3	143,3	186
07891450	14 x 2 x 0,50	0,11	13,5	191,7	251
07891850	18 x 2 x 0,50	0,11	14,7	257,8	329
07892550	25 x 2 x 0,50	0,11	17,0	336,5	429
07890275	2 x 2 x 0,75	0,11	7,2	47,4	69
07890375	3 x 2 x 0,75	0,11	7,9	66,2	84
07890475	4 x 2 x 0,75	0,11	8,9	101,0	107
07890575	5 x 2 x 0,75	0,11	10,4	118,8	147
07890775	7 x 2 x 0,75	0,11	11,6	148,0	208
07891075	10 x 2 x 0,75	0,11	13,5	228,0	263
07891475	14 x 2 x 0,75	0,11	16,1	296,9	366
07891875	18 x 2 x 0,75	0,11	17,3	366,1	456
07892575	25 x 2 x 0,75	0,11	20,1	480,5	597

Other dimensions and colours are possible on request.

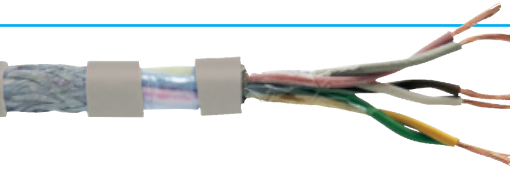
# Customized cables

## SD 980 CP TP

continuously flexible paired TPE/PUR data cable with coloured cores and overall copper screen



WM I/II A/B 80°C 300V FT1 FT2 CE



Marking for SD 980 CP TP 77890725:

SAB BRÜCKSKES · 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>Colour code:</b>	with reference to DIN 47100
<b>Stranding:</b>	cores twisted to pairs, pairs twisted in specially adjusted layering with netting tape over each layer
<b>Screen:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Sheath material:</b>	PUR, TPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with mat surface
<b>Sheath colour:</b>	grey (RAL 7032)

### Technical Data:

<b>Peak operating voltage:</b>	max. 350 V	
<b>Voltage UL/CSA:</b>	300 V	
<b>Testing voltage:</b>	core/core	2000 V
	core/screen	2000 V
<b>Min. bending radius</b> <i>continuously flexible:</i>	7,5 x 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>fixed laying:</i>	-50/+90 °C	
<i>flexible application:</i>	-40/+90 °C	
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Fire performance:</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 - TPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
<b>Chem. resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids etc.	
<b>Continuous flexibility:</b>	very good	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union	

### Outstanding features:



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

item no.	no. of pairs x cross section n x 2 x mm <sup>2</sup>	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
77890214	2 x 2 x 0,14	0,11	5,1	19,3	34
77890314	3 x 2 x 0,14	0,11	5,6	22,1	39
77890414	4 x 2 x 0,14	0,11	6,3	26,8	47
77890514	5 x 2 x 0,14	0,11	6,7	31,1	53
77890714	7 x 2 x 0,14	0,11	7,2	38,5	64
77891014	10 x 2 x 0,14	0,11	8,4	50,7	83
77891414	14 x 2 x 0,14	0,11	9,3	66,6	105
77891814	18 x 2 x 0,14	0,11	10,3	96,0	136
77892514	25 x 2 x 0,14	0,11	11,7	121,6	174
77890225	2 x 2 x 0,25	0,11	5,6	23,6	42
77890325	3 x 2 x 0,25	0,11	6,2	30,4	52
77890425	4 x 2 x 0,25	0,11	6,9	38,7	60
77890525	5 x 2 x 0,25	0,11	7,4	43,8	68
77890725	7 x 2 x 0,25	0,11	7,9	57,2	85
77891025	10 x 2 x 0,25	0,11	9,2	74,3	110
77891425	14 x 2 x 0,25	0,11	10,9	115,1	157
77891825	18 x 2 x 0,25	0,11	11,6	140,7	188
77892525	25 x 2 x 0,25	0,11	14,0	205,5	275
77890234	2 x 2 x 0,34	0,11	5,9	29,0	48
77890334	3 x 2 x 0,34	0,11	6,5	37,2	60
77890434	4 x 2 x 0,34	0,11	7,4	45,9	72
77890534	5 x 2 x 0,34	0,11	7,9	56,3	81
77890734	7 x 2 x 0,34	0,11	8,5	69,5	98

item no.	no. of pairs x cross section n x 2 x mm <sup>2</sup>	largest single wire ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
77891034	10 x 2 x 0,34	0,11	9,9	94,5	130
77891434	14 x 2 x 0,34	0,11	11,6	145,7	186
77891834	18 x 2 x 0,34	0,11	12,5	177,1	223
77892534	25 x 2 x 0,34	0,11	14,7	260,3	320
77890250	2 x 2 x 0,50	0,11	6,8	36,9	60
77890350	3 x 2 x 0,50	0,11	7,6	50,2	79
77890450	4 x 2 x 0,50	0,11	8,7	64,6	98
77890550	5 x 2 x 0,50	0,11	9,4	77,0	113
77890750	7 x 2 x 0,50	0,11	10,3	114,8	148
77891050	10 x 2 x 0,50	0,11	12,1	150,6	197
77891450	14 x 2 x 0,50	0,11	14,3	220,4	282
77891850	18 x 2 x 0,50	0,11	16,1	270,8	363
77892550	25 x 2 x 0,50	0,11	18,0	351,3	460
77890275	2 x 2 x 0,75	0,11	7,7	50,2	79
77890375	3 x 2 x 0,75	0,11	8,8	69,4	98
77890475	4 x 2 x 0,75	0,11	9,9	86,8	121
77890575	5 x 2 x 0,75	0,11	11,1	126,0	161
77890775	7 x 2 x 0,75	0,11	11,9	155,3	189
77891075	10 x 2 x 0,75	0,11	14,7	241,1	303
77891475	14 x 2 x 0,75	0,11	17,3	312,0	403
77891875	18 x 2 x 0,75	0,11	18,6	382,6	486
77892575	25 x 2 x 0,75	0,11	22,7	499,0	704

Other dimensions and colours are possible on request.



### Possible on request:

- with coloured cores  
acc. to colour code US 3

# Customized cables

**SD 200 C TP**

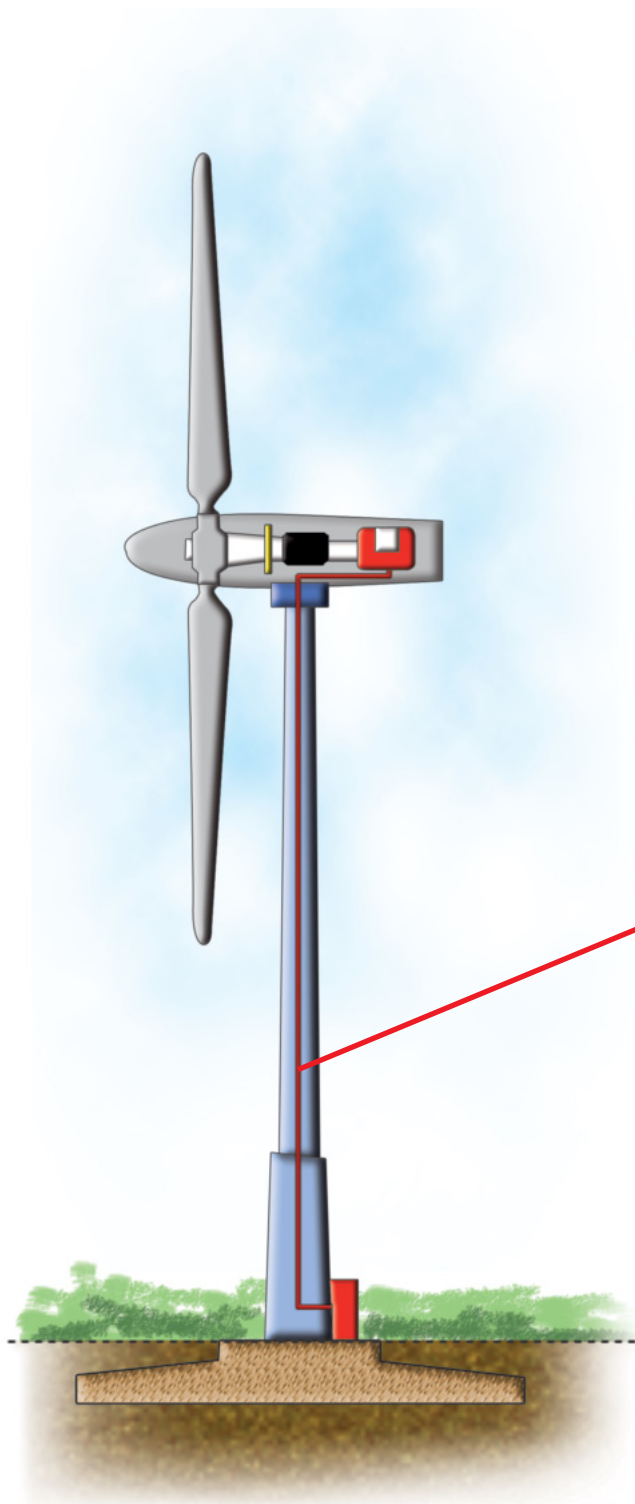
CE EAC **RoHS** ✓

**SD 980 CP TP**

UL **SP** CE EAC **RoHS** ✓



**Application:** Our data cables fulfill the requirements of our customers for a highly flexible cable for the installation from the housing to the base of a wind energy system. During operation they have proved their resistance against vibrations effectively.



# Tray Cables

## TR 600 black Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool cable with black cores

WTTC  
approval

NFPA 79  
for industrial machinery



Marking for TR 600 black 02841612:

SAB BRÖCKSKES · D-VIERSEN · TR 600 black 16 AWG/37c 02841612 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant, Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/12c 600V flexing AWM Style 21179 600V c(UL) Type CIC 90°C dry 600V FT1 FT2 FT4 CSA AWM I/II A/B 90°C 1000V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands with reference to IEC 60228, VDE 0295 class 5 + UL standard 758 table 5.1 + UL 1581 table 20.1
<b>Insulation:</b>	special formulated PVC/Nylon
<b>Colour code:</b>	black cores with consecutive white numbers, green-yellow earth wire from 3 cores
<b>Stranding:</b>	in layers
<b>Sheath material:</b>	special sunlight and oil resistant PVC
<b>Sheath colour:</b>	black (RAL 9005)

### Technical data:

<b>Voltage</b>	600 V
<b>UL-AWM / (UL) / c(UL):</b>	1000 V
<b>(UL) WTTC / CSA-AWM:</b>	
<b>Testing voltage:</b>	AWG 18-10 = 6000 V AWG 8-2 = 7500 V
<b>Min. bending radius</b>	
<i>fixed laying:</i>	< 12 mm = 3 x d > 12 mm = 4 x d
<i>flexible application:</i>	< 12 mm = 5 x d > 12 mm = 6 x d
<b>Radiation resistance:</b>	8 x 10 <sup>7</sup> cJ/kg
<b>Temperature:</b>	<b>UL-AWM:</b> up to +105 °C <b>(UL) / c(UL) / CSA-AWM:</b> up to +90 °C
<i>fixed laying:</i>	-25 °C
<b>Burning characteristics:</b>	(UL) FT4 + c(UL) FT1, FT2, FT4 + CSA FT1, FT2
<b>Oil resistance I:</b>	yes
<b>Sunlight resistance:</b>	yes
<b>Exposed Runs:</b>	yes
<b>Direct Burial:</b>	yes
<b>Machinery Area:</b>	yes
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union

### Outstanding features:



- Flexible cable for cable tray use
- Oil resistance
- Sunlight resistance
- NFPA 79 for industrial machinery
- WTTC approval
- WTTC: UL Subject 2277
- TC: UL Standard 1277
- (UL)/(cUL) listed

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02841803	3 x 18	0,21	7,7	28,8	83
02841804	4 x 18	0,21	8,3	38,4	99
02841805	5 x 18	0,21	9,0	48,0	118
02841807	7 x 18	0,21	9,8	67,2	146
02841809	9 x 18	0,21	11,9	86,4	194
02841812	12 x 18	0,21	12,5	115,2	227
02841816	16 x 18	0,21	14,6	153,6	310
02841818	18 x 18	0,21	15,3	172,8	343
02841819	19 x 18	0,21	15,3	182,4	352
02841825	25 x 18	0,21	18,1	240,0	450
02841827	27 x 18	0,21	18,1	259,2	476
02841837	37 x 18	0,21	20,1	355,2	620
02841850	50 x 18	0,21	24,6	480,0	868
02841603	3 x 16	0,26	8,3	43,2	103
02841604	4 x 16	0,26	9,0	57,6	123
02841605	5 x 16	0,26	9,8	72,0	148
02841607	7 x 16	0,26	10,7	100,8	186
02841608	8 x 16	0,26	12,3	115,2	222
02841609	9 x 16	0,26	13,1	129,6	248
02841612	12 x 16	0,26	14,5	172,8	313
02841616	16 x 16	0,26	16,0	230,4	397
02841618	18 x 16	0,26	16,8	259,2	439
02841619	19 x 16	0,26	16,8	273,6	453
02841625	25 x 16	0,26	19,9	360,0	581
02841627	27 x 16	0,26	19,9	388,8	616
02841637	37 x 16	0,26	23,3	532,8	862
02841641	41 x 16	0,26	25,0	590,4	957

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02841650	50 x 16	0,26	27,1	720,0	1126
02841661	61 x 16	0,26	28,8	878,4	1336
02841403	3 x 14	0,26	9,2	72,0	138
02841404	4 x 14	0,26	10,0	96,0	168
02841405	5 x 14	0,26	10,9	120,0	202
02841407	7 x 14	0,26	11,9	168,0	258
02841409	9 x 14	0,26	15,4	216,0	362
02841412	12 x 14	0,26	16,1	288,0	434
02841418	18 x 14	0,26	18,8	432,0	613
02841425	25 x 14	0,26	23,5	600,0	878
02841203	3 x 12	0,31	10,5	115,2	194
02841204	4 x 12	0,31	11,4	153,6	238
02841205	5 x 12	0,31	12,5	192,0	289
02841207	7 x 12	0,31	14,4	268,8	394
02841003	3 x 10	0,31	12,4	172,8	279
02841004	4 x 10	0,31	14,2	230,4	366
02841005	5 x 10	0,31	15,6	288,0	443
02841007	7 x 10	0,31	17,0	403,2	573
02840804	4 x 8	0,41	18,1	337,9	579
02840805	5 x 8	0,41	19,9	422,4	716
02840604	4 x 6	0,41	22,8	541,4	908
02840605	5 x 6	0,41	25,1	676,8	1099
02840404	4 x 4	0,41	27,4	844,8	1361
02840405	5 x 4	0,41	30,3	1056,0	1656
02840204	4 x 2	0,41	31,5	1305,6	1928
02840205	5 x 2	0,41	34,9	1632,0	2344

Other dimensions and colours are possible on request.



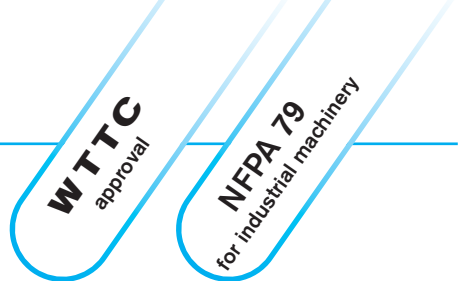
### Possible on request:

- also available with blue, red, yellow or other colour cores

# Tray Cables

## TR 600 CY black Type TC, MTW and WTTC

UV and oil resistant, flexible Tray Cable and Machine-Tool Cable with black cores and overall copper screen



Marking for TR 600 CY black 32231612:

SAB BRÖCKSKES · D-VIERSEN · TR 600 CY black 16 AWG/12c 32231612 TFFN (UL) Type TC-ER 90°C 600V, Oil Resistant I, Sunlight Resistant,

Direct Burial, FT4 (UL) WTTC 90°C 1000V (UL) MTW 16 AWG/12c 600V flexing AWM Style 21179 600V c(UL) Type CIC SHIELDED 90°C dry 600V FT1 FT2 FT4 CE

### Construction:

<b>Conductor:</b>	bare copper strands with reference to IEC 60228, VDE 0295 class 5 + UL standard 758 table 5.1 + UL 1581 table 20.1
<b>Insulation:</b>	special formulated PVC/Nylon
<b>Colour code:</b>	black cores with consecutive white numbers, green-yellow earth wire from 3 cores
<b>Stranding:</b>	in layers
<b>Inner sheath:</b>	special formulated PVC
<b>Screen:</b>	tinned copper braiding
<b>Sheath material:</b>	special sunlight and oil resistant PVC
<b>Sheath colour:</b>	black (RAL 9005)

### Technical data:

<b>Voltage</b>	600 V
<b>UL-AWM / (UL) / c(UL):</b>	1000 V
<b>(UL) WTTC:</b>	
<b>Testing voltage:</b>	AWG 18-10 = 6000 V AWG 8-2 = 7500 V
<b>Min. bending radius</b>	
<i>fixed laying:</i>	5 x d
<i>flexible application:</i>	10 x d
<b>Radiation resistance:</b>	8 x 10 <sup>7</sup> cJ/kg
<b>Temperature:</b>	<b>UL-AWM:</b> up to +105 °C <b>(UL) / c(UL):</b> up to +90 °C
<i>fixed laying:</i>	-25 °C
<b>Burning characteristics:</b>	(UL) FT4 + c(UL) FT1, FT2, FT4
<b>Oil resistance I:</b>	yes
<b>Sunlight resistance:</b>	yes
<b>Exposed Runs:</b>	yes
<b>Direct Burial:</b>	yes
<b>Machinery Area:</b>	yes
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union

### Outstanding features:



- Flexible cable for cable tray use
- Oil resistance
- Sunlight resistance
- NFPA 79 for industrial machinery
- WTTC approval
- WTTC: UL Subject 2277
- TC: UL Standard 1277
- (UL)/(cUL) listed

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32231803	3 x 18	0,21	9,1	52,6	118
32231804	4 x 18	0,21	9,7	64,7	137
32231805	5 x 18	0,21	10,4	77,1	159
32231807	7 x 18	0,21	11,4	115,0	203
32231809	9 x 18	0,21	14,2	146,2	280
32231812	12 x 18	0,21	15,0	201,0	337
32231816	16 x 18	0,21	17,2	263,4	444
32231818	18 x 18	0,21	17,9	283,5	483
32231819	19 x 18	0,21	17,9	293,1	492
32231825	25 x 18	0,21	20,7	366,1	611
32231827	27 x 18	0,21	20,7	385,3	633
32231837	37 x 18	0,21	23,8	496,5	853
32231850	50 x 18	0,21	27,9	654,8	1128
32231603	3 x 16	0,26	9,7	69,5	141
32231604	4 x 16	0,26	10,4	86,7	165
32231605	5 x 16	0,26	11,4	119,8	205
32231607	7 x 16	0,26	12,3	155,2	249
32231608	8 x 16	0,26	14,8	200,8	330
32231609	9 x 16	0,26	15,6	226,7	368
32231612	12 x 16	0,26	17,1	282,5	450
32231616	16 x 16	0,26	18,6	342,0	541
32231618	18 x 16	0,26	19,4	383,2	595
32231619	19 x 16	0,26	19,4	397,6	608
32231625	25 x 16	0,26	23,6	500,9	812
32231627	27 x 16	0,26	23,6	529,7	848
32231637	37 x 16	0,26	26,6	704,3	1113
32231641	41 x 16	0,26	28,3	766,3	1214

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
32231650	50 x 16	0,26	30,4	918,1	1408
32231661	61 x 16	0,26	32,1	1038,0	1637
32231403	3 x 14	0,26	10,6	101,2	180
32231404	4 x 14	0,26	11,6	149,9	229
32231405	5 x 14	0,26	12,5	174,5	266
32231407	7 x 14	0,26	14,2	227,8	348
32231409	9 x 14	0,26	18,0	326,8	504
32231412	12 x 14	0,26	18,7	399,7	579
32231418	18 x 14	0,26	22,5	570,8	842
32231425	25 x 14	0,26	26,8	772,0	1131
32231203	3 x 12	0,31	12,1	169,4	256
32231204	4 x 12	0,31	13,0	213,2	306
32231205	5 x 12	0,31	15,0	277,8	400
32231207	7 x 12	0,31	17,0	367,4	524
32231003	3 x 10	0,31	14,9	258,5	390
32231004	4 x 10	0,31	16,8	328,8	495
32231005	5 x 10	0,31	18,2	399,1	585
32231007	7 x 10	0,31	19,6	527,5	730
32230804	4 x 8	0,41	20,7	464,0	741
32230805	5 x 8	0,41	23,6	563,3	933
32230604	4 x 6	0,41	26,1	711,7	1156
32230605	5 x 6	0,41	28,4	852,9	1365
32230404	4 x 4	0,41	30,7	1044,0	1653
32230405	5 x 4	0,41	33,6	1277,3	1974
32230204	4 x 2	0,41	34,8	1532,4	2261
32230205	5 x 2	0,41	38,2	1879,0	2713

Other dimensions and colours are possible on request.



### Possible on request:

- also available with blue, red or other colour cores

# Control and connection cables



## CC 600

PVC control cable with numbered black cores, AWG 20 - AWG 10



Marking for CC 600 02041604:

SAB BRÖCKSKES · D-VIERSEN · <VDE-REG 7000> 4x1,5mm<sup>2</sup> CC 600 16 AWG/4c 02041604

AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

### 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>Colour code:</b>	black cores with consecutive numbers acc. to EN 50334 + VDE 0293-334, green-yellow earth wire from 3 cores
<b>Stranding:</b>	in layers
<b>Sheath material:</b>	special oil resistant PVC acc. to VDE and UL/CSA
<b>Sheath colour:</b>	grey (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>	core/core 3000 V	
<b>Min. bending radius</b>		
<i>fixed laying:</i>	4 x d	
<i>flexible application:</i>	6 x 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>fixed laying:</i>	-40/+70 °C	
<i>flexible application:</i>	+5/+70 °C	
<b>Fire performance:</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>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union	

### Outstanding features:



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

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02042002	2 x 20	0,21	5,3	9,6	41
02042003	3 x 20	0,21	5,6	14,4	48
02042004	4 x 20	0,21	6,0	19,2	57
02042005	5 x 20	0,21	6,7	24,0	70
02042007	7 x 20	0,21	7,2	33,6	86
02042008	8 x 20	0,21	8,5	38,4	108
02042010	10 x 20	0,21	9,4	48,0	126
02042012	12 x 20	0,21	9,7	57,6	143
02042014	14 x 20	0,21	10,1	67,2	161
02042016	16 x 20	0,21	10,9	76,8	186
02042018	18 x 20	0,21	11,4	86,4	205
02042025	25 x 20	0,21	13,9	120,0	282
02042030	30 x 20	0,21	14,3	144,0	232
02042034	34 x 20	0,21	15,6	163,2	370
02042040	40 x 20	0,21	16,9	192,0	435
02042061	61 x 20	0,21	19,8	292,8	628
02041903	3 x 19	0,21	6,2	21,6	60
02041904	4 x 19	0,21	6,7	28,8	71
02041905	5 x 19	0,21	7,5	36,0	89
02041907	7 x 19	0,21	8,2	50,4	111
02041908	8 x 19	0,21	9,6	57,6	136
02041910	10 x 19	0,21	10,6	72,0	161
02041912	12 x 19	0,21	10,9	86,4	182
02041914	14 x 19	0,21	11,4	100,8	205
02041916	16 x 19	0,21	12,0	115,2	228
02041918	18 x 19	0,21	12,9	129,6	261
02041925	25 x 19	0,21	15,6	180,0	357
02041930	30 x 19	0,21	16,1	216,0	410
02041934	34 x 19	0,21	17,8	244,8	478
02041940	40 x 19	0,21	19,0	288,0	549
02041961	61 x 19	0,21	22,8	439,2	824
02041802	2 x 18	0,21	6,0	19,2	55
02041803	3 x 18	0,21	6,4	28,8	68
02041804	4 x 18	0,21	7,0	38,4	82
02041805	5 x 18	0,21	7,8	48,0	102
02041807	7 x 18	0,21	8,5	67,2	128
02041808	8 x 18	0,21	9,9	76,8	157
02041812	12 x 18	0,21	11,3	115,2	211
02041814	14 x 18	0,21	12,1	134,4	245

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02041818	18 x 18	0,21	13,6	172,8	311
02041825	25 x 18	0,21	16,4	240,0	424
02041830	30 x 18	0,21	17,0	288,0	489
02041834	34 x 18	0,21	18,5	326,4	559
02041840	40 x 18	0,21	19,9	384,0	650
02041861	61 x 18	0,21	23,7	585,6	966
02041602	2 x 16	0,26	6,7	28,8	71
02041603	3 x 16	0,26	7,1	43,2	87
02041604	4 x 16	0,26	7,9	57,6	109
02041605	5 x 16	0,26	8,6	72,0	131
02041607	7 x 16	0,26	9,6	100,8	171
02041608	8 x 16	0,26	11,2	115,2	208
02041610	10 x 16	0,26	12,4	144,0	245
02041612	12 x 16	0,26	12,8	172,8	281
02041614	14 x 16	0,26	13,6	201,6	325
02041616	16 x 16	0,26	14,3	230,4	365
02041618	18 x 16	0,26	15,3	259,2	413
02041625	25 x 16	0,26	18,5	360,0	569
02041630	30 x 16	0,26	19,3	432,0	667
02041634	34 x 16	0,26	21,0	489,6	760
02041640	40 x 16	0,26	22,9	576,0	916
02041661	61 x 16	0,26	26,7	878,4	1309
02041402	2 x 14	0,26	8,1	48,0	108
02041403	3 x 14	0,26	8,6	72,0	132
02041404	4 x 14	0,26	9,5	96,0	166
02041405	5 x 14	0,26	10,6	120,0	208
02041407	7 x 14	0,26	11,6	168,0	263
02041408	8 x 14	0,26	13,8	192,0	322
02041410	10 x 14	0,26	15,2	240,0	383
02041412	12 x 14	0,26	15,7	288,0	440
02041418	18 x 14	0,26	18,7	432,0	643
02041425	25 x 14	0,26	23,1	600,0	904
02041203	3 x 12	0,31	10,2	115,2	196
02041204	4 x 12	0,31	11,3	153,6	246
02041205	5 x 12	0,31	12,6	192,0	304
02041207	7 x 12	0,31	13,9	268,8	397
02041003	3 x 10	0,31	12,1	172,8	284
02041004	4 x 10	0,31	13,2	230,4	351
02041005	5 x 10	0,31	14,9	288,0	440

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# Control and connection cables

## CC 600

PVC control cable with numbered black cores, AWG 8 - AWG 1



90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE



Marking for CC 600 02040804:

SAB BRÜCKSKES · D-VIERSEN · CC 600 8 AWG/4c 02040804

AWM Style 21216 90°C Oil 60°C 600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to UL/CSA
<b>Insulation:</b>	special PVC acc. to VDE and UL/CSA
<b>Colour code:</b>	black cores with consecutive numbers acc. to EN 50334 + VDE 0293-334, green-yellow earth wire from 3 cores
<b>Stranding:</b>	in layers
<b>Sheath material:</b>	special oil resistant PVC acc. to VDE and UL/CSA
<b>Sheath colour:</b>	grey (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>	core/core 3000 V	
<b>Min. bending radius</b>		
<i>fixed laying:</i>	4 x d	
<i>flexible application:</i>	6 x d	
<b>Radiation resistance:</b>	8 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range</b>	<b>DIN VDE</b>	<b>UL/CSA: up to +90 °C</b>
<i>fixed laying:</i>	-40/+70 °C	
<i>flexible application:</i>	+5/+70 °C	
<b>Fire performance:</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>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union	

### Outstanding features:



- UL recognized, CSA approved
- high mechanical loading capacity
- oil resistant
- on request construction with metric conductor stranding and VDE-Reg. no.

item no.	no. of cores x cross section n x AWG	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
02040803	3 x 8	0,41	15,3	253,4	449
02040804	4 x 8	0,41	17,0	337,9	570
02040805	5 x 8	0,41	18,9	422,4	696
02040604	4 x 6	0,41	20,9	541,4	845
02040605	5 x 6	0,41	23,6	676,8	969
02040404	4 x 4	0,41	25,6	844,8	1360
02040204	4 x 2	0,41	30,4	1344,0	2007
02040104	4 x 1	0,41	33,2	1651,2	2464

Other dimensions and colours are possible on request.

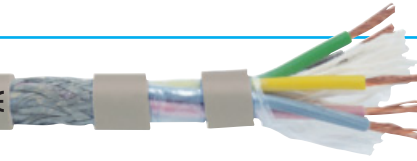


## SRY D 321 C

semi rigid PVC data cable with overall copper screen



CSA AWM I/II A/B 80°C 300V FT1 FT2 CE



Marking for SRY D 321 C 03210520:

SAB BRÖCKSKES · D-VIERSEN · 03210520 SRY D 321 C 20 AWG/5c 03212005

AWM Style 2464 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to ASTM B 286
<b>Insulation:</b>	semi-rigid PVC
<b>Colour code:</b>	acc. to colour code US 2
<b>Stranding:</b>	in layers
<b>Wrapping:</b>	PETP foil
<b>Screen:</b>	tinned copper braiding
<b>Sheath material:</b>	PVC
<b>Sheath colour:</b>	grey (RAL 7032)

### Technical data:

<b>Voltage UL/CSA:</b>	300 V
<b>Testing voltage:</b>	core/core 2000 V core/screen 2000 V
<b>Min. bending radius</b>	
fixed laying:	5 x d
flexible application:	10 x d
<b>Temperature range</b>	<b>DIN VDE</b> UL/CSA: up to +80 °C
fixed laying:	-30/+70 °C
flexible application:	-5/+70 °C
<b>Fire performance:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1, FT2
<b>Oil resistance:</b>	acc. to internal standard
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union

### Outstanding features:



- good EMC characteristic
- flexible
- small outer diameter
- small bending radius



On request with colour code  
**DIN 47100**

item no.	no. of cores x cross section n x AWG	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03210226	2 x 26	4,1	9,5	22
03210326	3 x 26	4,3	10,8	24
03210426	4 x 26	4,5	12,2	26
03210526	5 x 26	4,8	15,3	31
03210726	7 x 26	5,1	18,0	36
03210826	8 x 26	5,7	21,2	44
03211226	12 x 26	6,2	26,6	52
03211626	16 x 26	6,8	33,9	64
03211826	18 x 26	7,1	38,4	71
03212526	25 x 26	8,2	50,0	91
03210224	2 x 24	4,4	11,2	25
03210324	3 x 24	4,6	13,4	28
03210424	4 x 24	4,9	17,4	33
03210524	5 x 24	5,2	19,6	38
03210724	7 x 24	5,5	25,8	46
03210824	8 x 24	6,2	28,2	55
03211024	10 x 24	6,6	34,4	60
03211224	12 x 24	6,8	38,9	67
03211624	16 x 24	7,4	49,7	84
03211824	18 x 24	7,8	54,2	92
03212524	25 x 24	9,2	73,8	123
03210222	2 x 22	4,7	13,7	28
03210322	3 x 22	4,9	18,9	34
03210422	4 x 22	5,2	22,4	40
03210522	5 x 22	5,6	27,7	47
03210722	7 x 22	6,0	34,6	57
03210822	8 x 22	6,7	40,0	68
03211022	10 x 22	7,2	48,8	78
03211222	12 x 22	7,4	55,8	87

item no.	no. of cores x cross section n x AWG	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
03211622	16 x 22	8,1	71,7	110
03211822	18 x 22	8,7	78,8	124
03212522	25 x 22	10,1	107,4	136
03210220	2 x 20	5,2	20,5	37
03210320	3 x 20	5,4	26,5	44
03210420	4 x 20	5,8	34,2	54
03210520	5 x 20	6,2	40,3	63
03210620	6 x 20	6,7	48,1	74
03210720	7 x 20	6,7	54,0	80
03211020	10 x 20	8,2	76,0	109
03211220	12 x 20	8,5	87,9	127
03211820	18 x 20	9,9	126,1	179
03212520	25 x 20	11,6	172,8	238
03210218	2 x 18	5,6	28,8	47
03210318	3 x 18	5,9	38,1	57
03210418	4 x 18	6,3	49,1	71
03210518	5 x 18	6,9	60,3	86
03210718	7 x 18	7,4	78,8	108
03210818	8 x 18	8,6	90,2	131
03211218	12 x 18	9,6	129,4	176
03211818	18 x 18	11,1	189,5	251
03212518	25 x 18	13,4	258,9	346
03210216	2 x 16	6,0	34,1	54
03210316	3 x 16	6,2	45,9	67
03210416	4 x 16	6,7	59,6	83
03210516	5 x 16	7,3	73,3	101
03210716	7 x 16	7,9	99,0	130
03210816	8 x 16	9,1	113,1	157
03211216	12 x 16	10,2	162,8	212

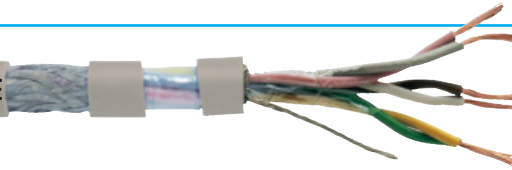
Other dimensions and colours are possible on request.

## SRY D 351 C (B) TP

semi rigid PVC data cable, twisted pairs with overall copper screen



AWM I/II A/B 80°C 300V FT1 FT2 CE



Marking for SRY D 351 C (B) TP 03510320:

SAB BRÜCKSKES · D-VIERSEN · 03510320 SRY D 351 C (B) TP 20 AWG/3pr 03512003

AWM Style 2464 80°C 300V CSA AWM I/II A/B 80°C 300V FT1 FT2 CE

### Construction:

<b>Conductor:</b>	bare copper strands acc. to ASTM B 286
<b>Insulation:</b>	semi-rigid PVC
<b>Colour code:</b>	acc. to colour code US 3
<b>Stranding:</b>	cores twisted to pairs, pairs twisted in layers
<b>Wrapping:</b>	PETP foil
<b>Screen:</b>	tinned copper braiding with a tinned copper drain wire (0,22 mm <sup>2</sup> )
<b>Sheath material:</b>	PVC
<b>Sheath colour:</b>	grey (RAL 7032)

### Technical data:

<b>Voltage UL/CSA:</b>	300 V	
<b>Testing voltage:</b>	core/core	2000 V
	core/screen	2000 V
<b>Min. bending radius</b>		
<i>fixed laying:</i>	5 x d	
<i>flexible application:</i>	10 x d	
<b>Temperature range</b>	<b>DIN VDE</b>	<b>UL/CSA:</b> up to +80 °C
<i>fixed laying:</i>	-30/+70 °C	
<i>flexible application:</i>	-5/+70 °C	
<b>Fire performance:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, CSA FT1, FT2	
<b>Oil resistance:</b>	acc. to internal standard	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union	

### Outstanding features:



- good EMC characteristic
- flexible
- small outer diameter
- small bending radius



On request with colour code  
**DIN 47100**

item no.	no. of pairs x cross section n x 2 x AWG	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
03510226	2 x 2 x 26	5,5	14,9	34
03510326	3 x 2 x 26	6,1	19,2	43
03510426	4 x 2 x 26	6,8	23,5	49
03510526	5 x 2 x 26	7,3	26,3	56
03510726	7 x 2 x 26	7,6	33,3	66
03510826	8 x 2 x 26	8,1	36,1	72
03511026	10 x 2 x 26	9,0	43,3	89
03511226	12 x 2 x 26	9,8	50,6	102
03511626	16 x 2 x 26	10,6	63,4	125
03511826	18 x 2 x 26	10,9	70,6	136
03512526	25 x 2 x 26	12,7	90,3	182
03512626	26 x 2 x 26	12,6	92,9	185
03510224	2 x 2 x 24	5,9	19,9	42
03510324	3 x 2 x 24	6,6	24,4	51
03510424	4 x 2 x 24	7,4	30,5	59
03510524	5 x 2 x 24	7,9	36,6	69
03510724	7 x 2 x 24	8,5	47,2	87
03510824	8 x 2 x 24	9,0	51,7	95
03511024	10 x 2 x 24	9,8	62,5	113
03511224	12 x 2 x 24	10,7	73,4	130
03511624	16 x 2 x 24	11,6	93,3	161
03511824	18 x 2 x 24	12,4	102,4	189
03512524	25 x 2 x 24	14,0	137,3	239
03512624	26 x 2 x 24	14,3	141,9	247
03510222	2 x 2 x 22	6,4	25,0	50
03510322	3 x 2 x 22	7,1	33,5	62
03510422	4 x 2 x 22	8,0	42,2	74

item no.	no. of pairs x cross section n x 2 x AWG	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
03510522	5 x 2 x 22	8,8	50,9	91
03510722	7 x 2 x 22	9,3	64,9	110
03511222	12 x 2 x 22	11,8	105,7	170
03511822	18 x 2 x 22	13,7	151,2	246
03512522	25 x 2 x 22	15,8	203,0	332
03510220	2 x 2 x 20	7,0	36,6	64
03510320	3 x 2 x 20	7,6	50,3	80
03510420	4 x 2 x 20	9,2	64,1	104
03510520	5 x 2 x 20	9,9	77,9	124
03510720	7 x 2 x 20	10,4	103,6	155
03511220	12 x 2 x 20	13,9	169,7	255
03511820	18 x 2 x 20	16,0	244,6	368
03512520	25 x 2 x 20	18,1	336,9	484
03510218	2 x 2 x 18	7,8	51,4	81
03510318	3 x 2 x 18	9,0	71,7	114
03510418	4 x 2 x 18	10,2	92,3	138
03510518	5 x 2 x 18	11,1	112,8	166
03510718	7 x 2 x 18	11,7	151,7	211
03511218	12 x 2 x 18	16,0	251,6	365
03511818	18 x 2 x 18	18,0	366,1	511
03512518	25 x 2 x 18	20,6	521,4	692
03510216	2 x 2 x 16	8,2	61,9	96
03510316	3 x 2 x 16	9,6	89,1	133
03510416	4 x 2 x 16	10,9	115,0	164
03510516	5 x 2 x 16	11,8	140,8	198
03510716	7 x 2 x 16	12,9	188,5	264
03510816	8 x 2 x 16	13,8	215,8	297

Other dimensions and colours are possible on request.

# CAN-Bus Cables acc. to ISO 11898



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

**SABIX® CB 620 FRNC** halogen-free, flame retardant CAN-Bus cable

AWG/1pr AWM Style 20235 80°C 300 V CE



Marking for S CB 628 06282251:

SAB BRÜCKSKES · D-VIERSEN · 06282251 1x2x0,25mm² S CB 628 24AWG/1pr AWM Style 20235 80°C 300 V CE



<b>Construction:</b>	<b>S CB 628</b>	<b>SABIX® CB 620 FRNC</b>
<b>Dimension:</b>	2 x 0,25 mm², 2 x 0,34 mm², 2 x 0,50 mm², 2 x 2 x 0,25 mm², 2 x 2 x 0,34 mm², 2 x 2 x 0,50 mm²	2 x 0,25 mm²
<b>Conductor:</b>	bare copper strands, extra fine wires	bare copper strands acc. to VDE 0812
<b>Insulation:</b>	PE, 2Y11 acc. to EN 50290-2-23 + VDE 0819-103	SABIX®
<b>Colour code:</b>	acc. to DIN 47100	
<b>Wrapping:</b>	non-woven tape	PETP foil
<b>Inner sheath (nature):</b>	SABIX®	---
<b>Screen:</b>	tinned copper braiding	
<b>Sheath material:</b>	PUR, TPU acc. to EN 50363-10-2 with rough surface	SABIX®
<b>Sheath colour:</b>	redlilac (RAL 4001)	

<b>Technical data:</b>	<b>S CB 628</b>	<b>SABIX® CB 620 FRNC</b>
<b>Item number:</b>	0628-2251, 0628-2341, 0628-2501, 0628-4251, 0628-4341, 0628-4501	6620-2251
<b>Peak operating voltage:</b>	max. 350 V	
<b>Voltage UL:</b>	300 V	---
<b>Testing voltage</b> core/core: core/screen:	2000 V 2000 V	1000 V 1000 V
<b>Min. bending radius:</b>	7,5 x d	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	---
<b>Temperature range</b> fixed laying: flexible application:	UL: up to +80 °C -40/+70 °C -40/+70 °C	-40/+85 °C -30/+85 °C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Fire performance:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	no flame propagation acc. to IEC 60332-3-24 + IEC 60332-3-25 Cat. C resp. D
<b>Corrosiveness of conflagration gases:</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>Oil resistance:</b>	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)	
<b>Flexibility:</b>	very good	good
<b>Application in cable tracks:</b>	recommended	not recommended
<b>Weather resistance:</b>	very good	---
<b>UL Style:</b>	20233	---
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union	

item no.	type	dimension	outer-ø ± 5%	copper figure kg/km	cable weight ≈kg/km
06282251	S CB 628	2 x 0,25 mm²	7,9	20,2	77
06282341	S CB 628	2 x 0,34 mm²	8,3	22,9	84
06282501	S CB 628	2 x 0,50 mm²	8,7	29,0	81
06284251	S CB 628	2 x 2 x 0,25 mm²	9,1	27,9	98
06284341	S CB 628	2 x 2 x 0,34 mm²	9,6	32,7	105
06284501	S CB 628	2 x 2 x 0,50 mm²	10,6	44,9	115
66202251	SABIX® CB 620 FRNC	2 x 0,25 mm²	5,8	19,0	44

Other dimensions and colours are possible on request.



# Profibus-DP Cables

**SABIX® PB 630 FRNC** halogen-free, flame retardant Profibus-DP cable acc. to IEC 61158-2

**S PB 640 UL** highly flexible PUR Profibus-DP cable with UL recognition, CSA approval



Marking for SABIX® PB 630 FRNC 66302341:  
SAB BRÖCKSKES · D-VIERSEN · SABIX PB 630 FRNC 2x0,34mm² CE



<b>Construction:</b>	<b>SABIX® PB 630 FRNC</b>	<b>S PB 640 UL</b>
<b>Dimension:</b>	2 x 0,34 mm <sup>2</sup>	2 x AWG 24
<b>Conductor:</b>	bare copper strands acc. to VDE 0812	bare copper strands AWG 24
<b>Insulation:</b>	acc. to EN 50290-2-23 + VDE 0819-103 (02Y11)	
<b>Colour code:</b>	red, green	
<b>Stranding:</b>	in layers	
<b>Inner sheath (nature):</b>	---	SABIX®
<b>Screen:</b>	alu foil and tinned copper braiding	
<b>Sheath material:</b>	SABIX®	PUR, TMPU acc. to EN 50363-10-2 with matt surface
<b>Sheath colour:</b>	redlilac (RAL 4001)	

<b>Technical data:</b>	<b>SABIX® PB 630 FRNC</b>	<b>S PB 640 UL</b>
<b>Item number:</b>	6630-2341	0640-2611
<b>Peak operating voltage:</b>	max. 350 V	
<b>Voltage UL/CSA:</b>	---	300 V
<b>Testing voltage</b> core/core: core/screen:	1500 V 1500 V	2000 V 2000 V
<b>Radiation resistance:</b>	7 x 10 <sup>5</sup> cJ/kg	---
<b>Min. bending radius</b> fixed laying: flexible application: continuously flexible:	12 x d	5 x d 10 x d 15 x d
<b>Temperature range</b> fixed laying: flexible application:	-40/+80 °C -30/+80 °C	<b>UL/CSA:</b> up to +60 °C -40/+80 °C -30/+80 °C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1	
<b>Fire performance:</b>	no flame propagation acc. to IEC 60332-3-24 + IEC 60332-3-25 Cat. C resp. D. Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	flame retardant and self-extinguishing acc. to IEC 60332 + VDE 0482-332-1-2
<b>Corrosiveness of conflagration gases:</b>	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	---
<b>Smoke density:</b>	very low	---
<b>Oil resistance:</b>	---	very good EN 50363-10-2 + VDE 0207-363-10-2
<b>Characteristic impedance 3 - 20 MHz:</b>	150 Ω ± 10%	
<b>For fixed installation:</b>	suitable	
<b>For flexible application:</b>	not suitable	suitable
<b>Application in cable tracks:</b>	not recommended	recommended
<b>UL Style:</b>	---	21198
<b>Weather resistance:</b>	good	---
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union	

**Outstanding features:**

- S PB 640 UL:
- short assembling time
- avoidance of connection errors

item no.	type	dimension	outer-ø mm	copper figure kg/km	cable weight ≈kg/km
66302341	SABIX® PB 630 FRNC	2 x 0,34 mm <sup>2</sup>	7,5 ± 5%	30,4	62
06402611	S PB 640 UL	2 x 24 AWG	8,0 ± 0,4	31,2	62

Other dimensions and colours are possible 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.

# Industrial Ethernet Cables CAT 5



## RT PN 668

Profinet cable suitable for robots

ERSEN · RT PN 668 Profinet 2x2x22AWG · Robot Cable · CE



Marking for RT PN 668 06689001:

SAB BRÜCKSKES · D-VIERSEN · RT PN 668 Profinet 2x2x22AWG · Robot Cable · CE

### Construction:

<b>Conductor:</b>	tinned copper strands, extra fine wires
<b>Insulation:</b>	PE
<b>Colour code:</b>	blue, yellow, white, orange
<b>Stranding:</b>	in layers
<b>Wrapping:</b>	netting tape, alu foil
<b>Screen:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Sheath material:</b>	PUR
<b>Sheath colour:</b>	green (similar RAL 6018)

### Technical data:

<b>Peak operating voltage:</b>	max. 350 V
<b>Testing voltage:</b>	core/core 1500 V core/screen 1200 V
<b>Min. bending radius</b>	
fixed laying:	5 x d
flexible application:	10 x d
<b>Torsion angle:</b>	± 180°/m
<b>Temperature range</b>	
fixed laying:	-40/+70 °C
flexible application:	-30/+70 °C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Oil resistance:</b>	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
<b>Characteristic impedance:</b>	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)
<b>Application:</b>	suitable for EtherCAT and EtherNET/IP applications
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union

item no.	type	dimension	max. core-ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
06689001	RT PN 668	2 x 2 x 22 AWG	1,50	7,0	36,3	62	58,0

Other dimensions and colours are possible on request.

Also possible as harnessed cable with M12 or RJ 45 plug!



# Servo Motor Cables

## SL 839 C

PUR transmission cable with overall copper screen



Marking for SL 839 C 08390122:

SAB BRÜCKSKES · D-VIERSEN · 08390122 SL 839 C 12 x 0,22 mm<sup>2</sup> DESINA AWM Style 20236 80°C 30V

### Construction:

<b>Conductor:</b>	tinned copper strands with reference to VDE 0812
<b>Insulation:</b>	special polymer
<b>Colour code:</b>	coloured
	<i>acc. to dimension:</i>
<b>Screen:</b>	pairs wrapped with tinned copper braiding
<b>Inner sheath:</b>	special polymer
<b>Stranding:</b>	cores or pairs
<b>Stranding:</b>	cores/pairs twisted together in layers
<b>Wrapping:</b>	one non-woven tape or non-woven tape and PETP foil
<b>Screen:</b>	tinned copper braiding
<b>Wrapping:</b>	non-woven tape
<b>Sheath material:</b>	PUR, TPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with mat surface or PU acc. to UL 758
<b>Sheath colour:</b>	green (RAL 6018)

### Technical data:

<b>Peak operating voltage:</b>	max. 30 V	
<b>Voltage UL:</b>	30 V	
<b>Testing voltage:</b>	core/core	600 V
	core/screen	600 V
<b>Min. bending radius</b>		
<i>fixed laying:</i>	5 x d	
<i>flexible application:</i>	10 x d	
<i>continuously flexible:</i>	12 x d	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg	
<b>Temperature range</b>	<b>DIN VDE</b>	<b>UL: up to +80 °C</b>
<i>fixed laying:</i>	-40/+70 °C	
<i>flexible application:</i>	-20/+70 °C	
<b>Oil resistance:</b>	very good - TPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 or oilrating 60 °C acc. to UL 758	
<b>Chem. resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids etc.	
<b>Weather resistance:</b>	very good	
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union	

### Outstanding features:



- UL recognized
- good EMC characteristics
- suitable for cable tracks
- flexible installation
- oil resistant
- long service life
- adhesion-free installation
- halogen-free
- PWIS uncritical  
(PWIS = paint-wetting impairment substances)
- DESINA® colours (page C/4)



**suitable for  
resolvers and shaft encoders**

### Sheath material TPU acc. to DIN VDE 0282

item no.	dimension	sheath colour	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
08390114	3 x (2 x 0,14) D + 2 x (0,50) D	green	0,11/0,16	9,2 ± 0,4	68,2	106
08390214	3 x (2 x 0,14) D + 4 x 0,14 + 2 x 0,50	green	0,11/0,16	9,0 ± 0,4	63,7	101
08391050	3 x (2 x 0,14) D + 4 x 0,14 + 4 x 0,22 + 2 x 0,50	green	0,11/0,16	9,6 ± 0,4	79,0	114
08390138	4 x 2 x 0,38 + 4 x 0,50	green	0,11/0,16	8,8 ± 0,4	72,2	111
08390318	8 x 2 x 0,18	green	0,11	7,8 ± 0,4	48,0	77
08390122	12 x 0,22	green	0,11	6,7 ± 0,4	42,5	66

Other dimensions and colours are possible on request.

### Sheath material PU acc. to UL 758

item no.	dimension	sheath colour	largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
08390118	4 x 0,18	green	0,11	4,9 ± 0,4	18,9	30
08390218	4 x 2 x 0,18	green	0,11	6,3 ± 0,4	30,8	50
08390115	2 x 2 x 0,15 + 2 x 0,38	green	0,11/0,16	6,9 ± 0,3	46,1	67
08390220	2 x 2 x 0,20 + 2 x 0,38	green	0,11/0,16	6,9 ± 0,3	34,9	61

Other dimensions and colours are possible on request.

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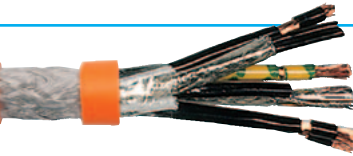
# Servo Motor Cables

## SL 841 C

combined TPE/PUR motor connection cable with overall copper screen 0.6/1 kV



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



Marking for SL 841 C 08410407:

SAB BRÖCKSKES · D-VIERSEN · 08410407 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 < 0,50 mm <sup>2</sup> with reference to VDE 0812
<b>Insulation:</b>	TPE
<b>Colour code:</b>	black cores with consecutive numbers acc. to EN 50334 + VDE 0293-334 and a green-yellow earth wire
<b>from item no. 08411415:</b>	supply cores: * U1, V2, W3 and a green-yellow earth wire control cores: ** BR1 and BR2
<b>Stranding:</b>	control cores 0,34 mm <sup>2</sup> - 2,5 mm <sup>2</sup> twisted to pairs
<b>Screen:</b>	pairs wrapped with alu foil, tinned copper braiding
<b>Wrapping:</b>	pairs with PETP foil
<b>Stranding:</b>	screened control pairs and supply cores twisted together in layers
<b>Wrapping:</b>	two layers non-woven tape
<b>Screen:</b>	overall copper screen
<b>Wrapping:</b>	non-woven tape
<b>Sheath material:</b>	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with mat surface
<b>Sheath colour:</b>	orange (RAL 2003)

### Technical data:

<b>Nominal voltage:</b>	supply cores U <sub>0</sub> /U 0.6/1 kV
<b>Peak operating voltage:</b>	control cores max. 350 V
<b>Voltage UL/CSA:</b>	supply cores 1000 V control cores 300 V
<b>Testing voltage:</b>	supply cores core/core 4000 V core/screen 4000 V control cores core/core 2000 V core/screen 2000 V
<b>Min. bending radius</b>	5 x d
<i>fixed laying:</i>	10 x d
<i>flexible application:</i>	12 x d
<i>continuously flexible:</i>	
<b>Radiation resistance:</b>	5 x 10 <sup>7</sup> cJ/kg
<b>Temperature range</b>	<b>DIN VDE</b> UL/CSA: up to +80 °C
<i>fixed laying:</i>	-50/+90 °C
<i>flexible application:</i>	-40/+90 °C
<b>Fire performance:</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>Chem. resistance:</b>	good against acids, alkalines, solvents, hydraulic liquids etc.
<b>Weather resistance:</b>	very good
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union

### Outstanding features:



- UL recognized, CSA approval
- very good EMC characteristics
- long service life
- adhesion-free installation
- high flexibility
- suitable for cable tracks
- halogen-free
- PWIS uncritical  
(PWIS = paint-wetting impairment substances)
- flexible at low temperatures
- DESINA® colours (see page C/4)



Cable harnessing possible on request

item no.	dimension	AWG		largest single wire ø mm	outer-ø mm	copper figure kg/km	cable weight ≈ kg/km
		supply cores	control cores (pairs)				
08410407	4 x 0,75 + 2 x (2 x 0,34)	19 / 4c	22 / 2pr	0,16/0,11	11,6 ± 0,5	117,1	168
08410410	4 x 1,00 + 2 x (2 x 0,75)	18 / 4c	19 / 2pr	0,16	11,8 ± 0,5	150,1	201
08410415	4 x 1,50 + 2 x (2 x 0,75)	16 / 4c	19 / 2pr	0,16	12,3 ± 0,5	170,1	228
08410425	4 x 2,50 + 2 x (2 x 1,00)	14 / 4c	18 / 2pr	0,16	14,5 ± 0,8	231,8	320
08410441	4 x 4,00 + (2 x 1,00) + (2 x 1,50)	12 / 4c	18 / 1pr + 16 / 1pr	0,16	17,4 ± 0,6	343,0	458
08410461	4 x 6,00 + (2 x 1,00) + (2 x 1,50)	10 / 4c	18 / 1pr + 16 / 1pr	0,21/0,16	18,9 ± 0,8	432,8	557
08410471	4 x 10,00 + (2 x 1,00) + (2 x 1,50)	8 / 4c	18 / 1pr + 16 / 1pr	0,21/0,16	20,4 ± 1,0	603,7	736
08410485	4 x 16,00 + 2 x (2 x 1,50)	6 / 4c	16 / 2pr	0,21/0,16	26,0 ± 0,8	875,7	1111
08410490	4 x 25,00 + 2 x (2 x 1,50)	4 / 4c	16 / 2pr	0,21/0,16	29,4 ± 0,8	1251,1	1517
08410495	4 x 35,00 + 2 x (2 x 1,50)	2 / 4c	16 / 2pr	0,21/0,16	31,3 ± 0,8	1644,6	1882
08410496	4 x 50,00 + 2 x (2 x 2,50)	1 / 4c	14 / 2pr	0,31/0,16	38,2 ± 0,8	2317,6	2659
08411415	4 x 1,50 + (2 x 1,50)	16 / 4c	16 / 1pr	0,16	12,5 ± 0,3	159,9	222
08411425	4 x 2,50 + (2 x 1,50)	14 / 4c	16 / 1pr	0,16	13,3 ± 0,4	204,8	285
08411440	4 x 4,00 + (2 x 1,50)	12 / 4c	16 / 1pr	0,16	15,2 ± 0,4	268,8	369
08411460	4 x 6,00 + (2 x 1,50)	10 / 4c	16 / 1pr	0,21/0,16	16,6 ± 1,1	377,5	485
08411470	4 x 10,00 + (2 x 1,50)	8 / 4c	16 / 1pr	0,21/0,16	19,5 ± 1,6	555,8	677
08411480	4 x 16,00 + (2 x 1,50)	6 / 4c	16 / 1pr	0,21/0,16	23,7 ± 1,0	814,8	1019
08411490	4 x 25,00 + (2 x 1,50)	4 / 4c	16 / 1pr	0,21/0,16	27,2 ± 0,7	1175,6	1418
08411495	4 x 35,00 + (2 x 1,50)	2 / 4c	16 / 1pr	0,21/0,16	30,1 ± 1,0	1586,4	1810
08411496	4 x 50,00 + (2 x 1,50)	1 / 4c	16 / 1pr	0,31/0,16	34,4 ± 1,0	2192,4	2463

Other dimensions and colours are possible 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.



# Halogen-free Cables

**SABIX® A 147 FRNC** wiring cable 600 V  
**SABIX® A 157 FRNC** wiring cable 1000 V



SABIX® 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>Colour code:</b>	see table*

## Outstanding features:



- halogen-free
- no flame propagation
- flame retardant and self-extinguishing
- UL recognized

## Technical Data:

<b>Nominal voltage:</b>	<b>SABIX® A 147 FRNC:</b> 0,50 - 1,0 mm <sup>2</sup> : Uo/U 300/500 V	<b>SABIX® A 157 FRNC:</b> 1,50 - 300,0 mm <sup>2</sup> : Uo/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 d 5 x d	
<b>Temperature range</b> <i>fixed laying:</i> <i>flexible application:</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>Fire performance:</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>Corrosiveness of conflagration gases:</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>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union	

## SABIX® A 147 FRNC

item no.	nominal cross-section mm <sup>2</sup>	AWG/MCM	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
6147 .. 50*	0,50	20 (15/32)	0,21	2,5	4,8	12
6147 .. 75*	0,75	19 (23/32)	0,21	2,8	7,2	14
6147 .. 80*	1,00	18 (30/32)	0,21	2,9	9,6	16

Other dimensions and colours are possible on request.

## SABIX® A 157 FRNC

item no.	nominal cross-section mm <sup>2</sup>	AWG/MCM	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
6157 .. 82*	1,50	16 (27/30)	0,26	3,2	14,4	22
6157 .. 84*	2,50	14 (46/30)	0,26	3,6	24,0	32
6157 .. 86*	4,00	12 (52/28)	0,31	4,3	38,4	46
6157 .. 87*	6,00	10 (70/20)	0,31	5,5	57,6	75
6157 .. 88*	10,00	8 (77/26)	0,41	6,7	96,0	117
6157 .. 89*	16,00	6 (119/26)	0,41	8,8	153,6	192
6157 .. 90*	25,00	4 (196/26)	0,41	10,2	240,0	282
6157 .. 91*	35,00	2 (280/26)	0,41	12,7	336,0	414
6157 .. 92*	50,00	1 (400/26)	0,41	13,9	480,0	573
6157 .. 93*	70,00	2/0 (554/26)	0,41	16,3	672,0	775
6157 .. 94*	95,00	3/0 (484/24)	0,51	18,4	912,0	1009
6157 .. 95*	120,00	4/0 (589/24)	0,51	20,9	1152,0	1248
6157 .. 96*	150,00	250 MCM (740/24)	0,51	22,4	1440,0	1532
6157 .. 97*	185,00	350 MCM (899/24)	0,51	25,0	1776,0	1889
6157 .. 98*	240,00	450 MCM (1220/24)	0,51	28,3	2304,0	2474
6157 .. 99*	300,00		0,51	31,0	2880,0	3063

Other dimensions and colours are possible on request.

\* Colour code for single conductors, position 5 and 6 of the item no.:

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







## Generator connection cable

with silicone impregnated fiber-glass braiding

+180 °C



**Application:** For the wiring of motors /generators / transformers. Suitable for the potting with impregnating materials for example with epoxy resin. Residues can be easily removed from the silicone impregnated surfaces.

### Construction:

<b>Conductor:</b>	tinned copper strands acc. to IEC 60228, VDE 0295, class 5
<b>Wrapping:</b>	non-woven tape
<b>Insulation:</b>	special silicone
<b>Colour code</b>	
450/750 V:	white
3,8/6,6 kV:	grey
8,0/13,8 kV:	black
<b>Braiding:</b>	fiber-glass
<b>Impregnation:</b>	special silicone

### Technical data:

<b>Nominal voltage:</b>	U <sub>o</sub> /U 450/750 V U <sub>o</sub> /U 3,8/6,6 V U <sub>o</sub> /U 8,0/13,8 V
<b>Testing voltage:</b>	450/750 V = 2500 V 3,8/6,6 kV = 15000 V 8,0/13,8 kV = 30000 V
<b>Min. bending radius:</b>	7,5 x d
<b>Radiation resistance:</b>	2 x 10 <sup>7</sup> cJ/kg
<b>Temperature range</b>	
fixed laying:	-40/+180 °C
flexible application:	-25/+180 °C
short-time use:	+250 °C
<b>Halogen-free:</b>	acc. to IEC 60754-1 + VDE 0482-754-1
<b>Fire performance:</b>	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
<b>Corrosiveness of conflagration gases:</b>	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union

### Outstanding features:



- halogen-free
- flexible at low temperatures
- heat resistant
- good mechanical characteristics
- fiber-glass braiding up to +400°C

### 450/750 V

item no.	nominal cross-section mm <sup>2</sup>	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
	6,00	0,31	5,3	57,6	71
	10,00	0,41	6,9	96,0	125
item group 0123	16,00	0,41	7,9	153,6	179
	25,00	0,41	10,1	240,0	279
	35,00	0,41	11,5	336,0	381
item no. on request	50,00	0,41	13,1	480,0	548
	70,00	0,41	15,4	672,0	722
	95,00	0,51	18,3	912,0	1004
	120,00	0,51	20,2	1152,0	1221

Other dimensions and colours are possible on request.

### 3,8/6,6 kV

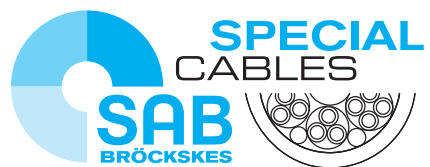
item no.	nominal cross-section mm <sup>2</sup>	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
	16,00	0,41	10,3	153,6	224
item group 0123	25,00	0,41	12,1	240,0	325
	35,00	0,41	13,5	336,0	434
	50,00	0,41	15,1	480,0	596
item no. on request	70,00	0,41	17,4	672,0	798
	95,00	0,51	19,5	912,0	1032
	120,00	0,51	21,4	1152,0	1250

Other dimensions and colours are possible on request.

### 8,0/13,8 kV

item no.	nominal cross-section mm <sup>2</sup>	largest single wire ø mm	outer-ø ± 5% mm	copper figure kg/km	cable weight ≈ kg/km
item group 0123	10,00	0,41	11,9	96,0	224
	16,00	0,41	12,9	153,6	286
	25,00	0,41	14,7	240,0	386
item no. on request	50,00	0,41	17,3	480,0	663
	70,00	0,41	19,6	672,0	870
	95,00	0,51	21,7	912,0	1109

Other dimensions and colours are possible on request.



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