BUS & ETHERNET
CABLES

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SPECIAL CABLES
SAB North America

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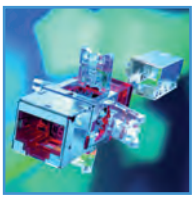


Application for Industrial ETHERNET cables

Industrial Ethernet is a quickly developing network technology. Ethernet with the worldwide accepted **TCP/IP** (**T**ransmission **C**ontrol **P**rotocol/**I**nternet **P**rotocol) will be the future connection to the well established field bus or sensor / actuator level. Generally, the following transmission rates are divided into:

SHARED ETHERNET = 10 Mbit/s

FAST ETHERNET = 100 Mbit/s (CAT 5 requirements)

GIGABIT ETHERNET = 1000 Mbit/s (1 Gbit/s)

SAB BRÖCKSKES developed a variety of cable solutions due to the strong innovative forces of the automation industry. Depending on the application, we are able to offer CAT 5, CAT 6 and CAT 7 cable solutions for flexible and continuous flex use, for chemical and thermal stress as well as special cable constructions for reeling and robotic applications.

Application for USB 2.0 and USB 3.0 Cables

SAB USB 2.0 and USB 3.0 cables were developed for high frequency data transmission for industrial applications because intelligent image processing systems are very important. They are the key to more efficiency, precision and productivity with the installation and treatment by robots for the most stringent applications. Whether for the identification of parts and components, for visual inspection, welded seam control or for the collection of bar codes or type tests; a quick and reliable collection and transmission of data from the camera to the industrial PC are absolutely important. Our highly flexible robot cable USB 2.0 and USB 3.0 was especially developed for this application. It guarantees excellent transmission characteristics as it is demanded for intelligent image processing under extreme industrial application conditions. The use of PC compatible components make possible the recourse to established standards and simplifies further treatment in electronic data processing systems.

Applications for INTERBUS-S cables · remote bus cables · remote installation bus cables

Interbus has been developed for sensor/actuator communication for automation technology. This technically matured system has been standardized in the meantime acc. to IEC 61158 and 61784. For the main application fields, different cable types are defined: remote bus cable, installation remote bus cable, S-line and loop.

Applications for Interbus-Loop cables

The two-conductor Interbus-Loop cable is to be applied as a data transmission cable as well as for the supply of sensors.
The three-conductor Interbus-Loop cable is applied for supply of actuators. These cables are also suitable for Interbus-Loop 2.

Applications for CAN-bus cables

Cables for a **C**ontroller **A**rea **N**etwork have been standardized for different application fields. The most common can require high speed in acc. to ISO 11898-2. The bus is optimized for a band efficient digital information exchange on the controller level.

Applications for DeviceNet™ cables

Based on CAN structures, DeviceNet™ was developed for the industrial process automation on the North American continent. This system is divided into Trunk and Drop cable.

Applications

Applications for Profibus cables

PROFIBUS systems are especially made for process automation (PA). PROFIBUS is standardized acc. to IEC 61158 that means the best interoperability of components from different manufacturers. The modular peripheral construction (DP: decentralized periphery) of the bus system simplifies installation and maintenance. The PROFIBUS type A is generally used in current systems, while cables of PROFIBUS type B are only used for replacement purpose in already existing systems.

“Fast Connect” cable construction

These cables have a symmetric construction. This enables the use of special stripping tools that make for quicker field installation.

Applications for SafetyBUS p cables

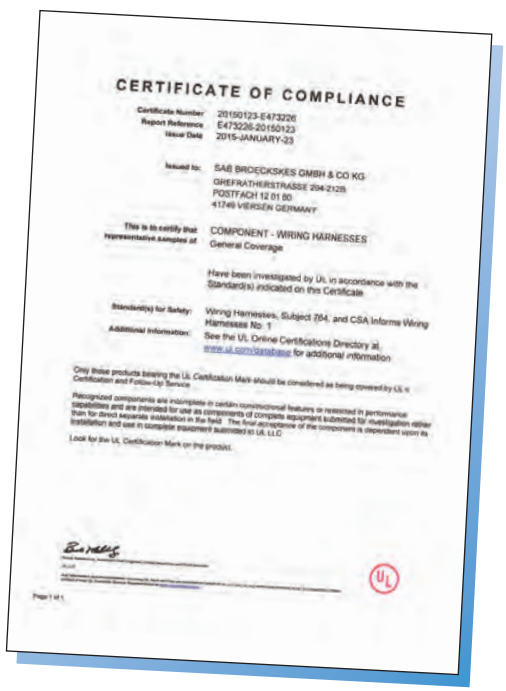
SafetyBUS is an open bus system that has been especially optimized for the transmission of data with regard to machine safety: the consistency of data with regard to time and contents have the highest priority. SafetyBUS fulfills a variety of standards to guarantee the protection of humans and goods during production.

Applications for Hybrid field bus cables

S 670 and S 671 are flexible UL recognized, CSA approval hybrid field bus control cables, suitable for cable continuous flexing with optical fiber and copper conductors. The cable S 670 with its polyurethane outer jacket has a very good resistance against acids, alkalines, solvents hydraulic liquids and oil.

Applications for Profinet / Profibus cable assemblies

Profinet cable assemblies are for the wiring of Profinet field bus systems in industrial environments. This cable type is for example used in cable track applications with rough environmental conditions, in automation, machine and plant construction. The PUR jacket is resistant against harsh environmental conditions. Profibus cable assemblies are for the field bus wiring in automation technique. Profibus signals are transmitted by these bus cables with different cable and plug combinations. The PUR cable for cable track applications is resistant against rough environmental conditions in industrial applications. On request we are able to manufacture cable assemblies acc. to UL Wiring Harnesses ZPFW2 and ZPFW8 from the cable to the assembly. In the manufacturer’s database (www.ul.com) SAB is listed under file no. E473226 as a qualified and reliable manufacturer.



CERTIFICATE OF COMPLIANCE

Certificate Number 20150123-E473226
Report Reference E473226-20150123
Issue Date 2015-JANUARY-23

Issued to: SAB BROCKSKES GMBH & CO KG
GREFRATHERSTRASSE 204-2128
POSTFACH 12 01 60
41749 VIERSEN GERMANY

This is to certify that representative samples of COMPONENT - WIRING HARNESSES
General Coverage

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate

Standard(s) for Safety: Wiring Harnesses, Subject 758, and CSA Informs Wiring Harnesses No. 1

Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Recognized components are incomplete in certain constructional features or restricted in performance capabilities and are intended for use as components of complete equipment submitted for investigation rather than for direct separate installation in the field. The final acceptance of the component is dependent upon its installation and use in complete equipment submitted to UL LLC

Look for the UL Certification Mark on the product.

Selection Table

		J/14	J/14	J/14	J/15	J/15	J/16	J/16	J/16	J/17	J/17	J/17	J/18	J/18	J/19	J/19	J/20	J/21	J/22	J/22
	Cable Type	PN 654 UL	PN 661	S PN 668	S PN 667	S PN 669	PN 678	PN 679	S PN 681	DR PN 689 P Highflex	S PN 668 Hybrid	RT PN 668	PN 675	S PN 676	CATLine CAT 6 S CATLine CAT 6A S	CATLine CAT 6 RT CATLine CAT 6A RT	CATLine CAT 6A HT	CATLine CAT 5e DR CATLine CAT 6A DR CATLine CAT7A DR	CATLine CAT 7A S	CATLine CAT 7A RT
		Industrial Ethernet Cables																		
Basic construction	Shielded	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Inner jacket	●	●	●	●	●				●	●									
	Optical waveguide POF																			
Temperature range fixed installation*	+180°C																			
	+ 90°C																			
	+ 85°C																			
	+ 80°C																			
	+ 75°C																			
	+ 70°C																			
	- 30°C																			
	- 40°C																			
	- 50°C																			
	- 90°C																			
Voltage	Nominal voltage 300/500 V																			
	Peak operating voltage max. 30V																			
	Peak operating voltage max. 50V																			
	Peak operating voltage max. 90V														●	●	●	●	●	●
	Peak operating voltage max. 350V	●	●	●	●	●	●	●	●	●	●	●	●	●						
	Voltage UL 30 V																			
	Voltage UL resp. CSA 300 V	●	●	●	●	●					●			●	●	●			●	●
	Voltage UL resp. CSA 600 V												●				●			
	Testing Voltage 600 V																			
	Testing Voltage 750 V																	●		
	Testing Voltage 1000 V																			
	Testing voltage 1500 V						●	●	●		●		●	●						
	Testing voltage 2000 V	●	●	●	●	●											●		●	●
	Testing voltage 3000 V																			
Standards and approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1		●	●	●	●		●	●	●	●	●			●	●		●	●	●
	Halogen-free for rail types																			
	Burning characteristics acc. to IEC + VDE											●			●	●	●		●	●
	Fire performance: no flame propagation acc. to IEC 60332-3-24 + IEC 60332-3-25 CAT C resp. D																			
	Fire performance: UL Horizontal Flame Test FT2														●	●			●	●
	Fire performance: UL VW1																●			
	Corrosiveness of conflagration gases																			
	Smoke density acc. to IEC 61034 + VDE 0482-1034																			
	Toxicity acc. to EN 50305 + VDE 0260-305																			
	UL recognized	●	●	●		●					●		●	●	●	●	●		●	●
	CSA approved													●	●	●			●	●
	ABS approved																			
	Rail type acc. to EN 45545-2																			
Characteristics	Oil resistance acc. to internal standard	●		●									●							
	Oil resistance acc. to VDE				●	●	●	●	●	●	●	●		●	●	●		●	●	●
	Oil resistance acc. to EN				●	●		●	●	●	●	●			●	●		●	●	●
	Chemical resistance																A			
	Weather resistance																	A		
	Suitable for cable tracks			●	●	●			●		●			●	●				●	
	Torsion angle											2				2				2
	Flexibility														A	A			A	A

from
to

A = very good
B = good
C = medium

1 = up to ± 360°/m
2 = up to ± 180°/m

*The temperature range for flexible application is mentioned on the corresponding catalogue page

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Selection Table

		J/23	J/24	J/25	J/26	J/27	J/27	J/27	J/28	J/29	J/29	J/29	J/30	J/30	J/30	J/31	J/32	J/32	J/32	J/33
	Cable Type	CATLine CAT 5e, 6A, & 7A R	CATLine CAT 5e, 6A, & 7A R Flex	CATLine CAT 5e, 6A, 7A BL	SABclean CATLine CAT 5e, 6A, 7A S	CATLine SPE C- Track	CATLine SPE Robot	CATLine SPE HT	CATLine SPE Rugged	USB 2.0	USB 2.0 UL	USB 2.0 FRNC	USB 2.0 S	USB 2.0 S UL/CSA	USB 2.0 RT UL/CSA	SABIX USB 2.0 flex	USB 3.0 S	USB 3.0 RT	USB 3.0	USB 3.0 M
		Industrial Ethernet Cables								USB 2.0 Cables							USB 3.0 Cables			
Basic construction	Shielded	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Inner jacket																			
	Optical waveguide POF																			
Temperature range fixed installation*	+180°C																			
	+ 90°C																			
	+ 85°C																			
	+ 80°C																			
	+ 75°C																			
	+ 70°C																			
	- 30°C																			
	- 40°C																			
	- 50°C																			
	- 90°C																			
Voltage	Nominal voltage 300/500 V																			
	Peak operating voltage max. 30V															●				
	Peak operating voltage max. 50V																			●
	Peak operating voltage max. 90V	●	●	●	●	●	●	●	●											
	Peak operating voltage max. 350V									●	●	●	●	●	●		●	●	●	
	Voltage UL 300 V				●															
	Voltage UL resp. CSA 300 V			●		●	●				●			●	●		●	●	●	
	Voltage UL resp. CSA 600 V							●												●
	Testing Voltage 600 V									●						●				
	Testing Voltage 750 V																			
	Testing Voltage 1000 V																			
	Testing voltage 1500 V	●	●									●								
	Testing voltage 2000 V				●	●	●	●	●		●									
	Testing voltage 3000 V																			
Standards and approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1					●	●					●	●	●						
	Halogen-free for rail types	●	●																	
	Burning characteristics acc. to IEC + VDE	●	●	●								●				●	●	●	●	
	Fire performance: no flame propagation acc.to IEC 60332-3-24 + IEC 60332-3-25 CAT C resp. D																			
	Fire performance: UL Horizontal Flame Test FT2				●															
	Fire performance: UL VW1																			
	Corrosiveness of conflagration gases			●																
	Smoke density acc. to IEC 61034 + VDE 0482-1034	●	●	●												●				
	Toxicity acc. to EN 50305 + VDE 0260-305	●	●													●				
	UL recognized			●	●	●	●	●			●			●	●		●	●	●	
	CSA approved													●	●					
	ABS approved			●																
	Rail type acc. to EN 45545-2	●	●													●				
Characteristics	Oil resistance acc. to internal standard									●	●									
	Oil resistance acc. to VDE					●	●	●					●	●	●					
	Oil resistance acc. to EN					●	●	●	●				●	●	●			●	●	
	Oil resistance acc. to UL				●															
	Weather resistance																			
	Suitable for cable tracks				●	●								●			●			
	Torsion angle						2								2			1		
	Flexibility	B	B	B																

from
to

A = very good
B = good
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1 = up to ± 360°/m
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Selection Table

	Cable Type	J/34 & 35 IBS 612	J/34 & 35 IBS 617	J/34 & 35 S IBS 618	J/34 & 35 S IBS 616	J/36 SABIX IBS 610	J/36 SABIX IBS 610 FRNC	J/37 SABIX IBL 600 FRNC	J/37 IBL 600	J/37 SABIX IBL 600	J/37 S IBL 605	J/38 S CB 626	J/38 S CB 625	J/38 SABIX CB 620	J/38 SABIX CB 620 FRNC	J/39 CB 627	J/39 S CB 628
		Interbus-S Cables						Interbus-Loop Cables				CAN-BUS Cables					
Basic construction	Shielded	●	●	●		●	●					●	●	●	●	●	●
	Inner jacket																
	Optical waveguide POF																
Temperature range fixed installation*	+180°C																
	+ 90°C																
	+ 85°C																
	+ 80°C																
	+ 75°C																
	+ 70°C																
	- 30°C																
	- 40°C																
	- 50°C																
	- 90°C																
Voltage	Nominal voltage 300/500 V																
	Peak operating voltage max. 30V																
	Peak operating voltage max. 50V																
	Peak operating voltage max. 90V																
	Peak operating voltage max. 350V	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Voltage UL 30 V																
	Voltage UL resp. CSA 300 V		●	●												●	●
	Voltage UL resp. CSA 600 V																
	Testing Voltage 600 V																
	Testing Voltage 750 V																
	Testing Voltage 1000 V	●		●	●	●									●		
	Testing voltage 1500 V						●	●	●	●	●	●	●	●	●		
	Testing voltage 2000 V															●	●
	Testing voltage 3000 V																
Standards and approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1			●	●	●	●	●		●	●		●	●	●		●
	Halogen-free for rail types																
	Burning characteristics acc. to IEC + VDE	●	●	●			●		●							●	●
	Fire performance: no flame propagation acc.to IEC 60332-3-24 + IEC 60332-3-25 CAT C resp. D						●	●							●		
	Fire performance: UL Horizontal Flame Test FT2																
	Fire performance: UL VW1																
	Corrosiveness of conflagration gases					●	●	●		●				●	●		
	Smoke density acc. to IEC 61034 + VDE 0482-1034						●	●							●		
	Toxicity acc. to EN 50305 + VDE 0260-305																
	UL recognized		●	●												●	●
	CSA approved																
	ABS approved																
	Rail type acc. to EN 45545-2																
Characteristics	Oil resistance acc. to internal standard	●															
	Oil resistance acc. to VDE		●	●	●				●		●	●	●			●	●
	Oil resistance acc. to EN			●	●	●				●	●	●	●				●
	Chemical resistance										B	B	B				B
	Weather resistance	C	C	A	A	B	B	B	C	B	A	A	A			C	A
	Suitable for cable tracks			●	●						●	●	●				●
	Torsion angle																
	Flexibility	B	B	A	A	A	B	B		A	A	A	A	B	B	B	A

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Selection Table

		J/40	J/40	J/41	J/41	J/42	J/42	J/43	J/44	J/44	J/44	J/44	J/45	J/45	J/45	J/45	J/46	J/46	J/46
	Cable Type	DN 651	DN 650	DN 656	DN 657	DN 659	DN 658	DN 658 robot cable/Drop	SABIX PB 630	SABIX PB 630 FRNC	PB 631	PB 633	PB 630	PB 639	PB 636	PB 635	PB 637	S PB 634	PB 632
		DeviceNet Cables							Profibus-DP Cables										
Basic construction	Shielded	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Inner jacket																		
	Optical waveguide POF																		
Temperature range fixed installation*	+180°C																		
	+ 90°C																		
	+ 85°C																		
	+ 80°C																		
	+ 75°C																		
	+ 70°C																		
	- 30°C																		
	- 40°C																		
	- 50°C																		
	- 90°C																		
Voltage	Nominal voltage 300/500 V																		
	Peak operating voltage max. 30V																		
	Peak operating voltage max. 50V																		
	Peak operating voltage max. 90V																		
	Peak operating voltage max. 350V	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Voltage UL 30 V	●	●			●	●										●		
	Voltage UL resp. CSA 300 V			●				●											
	Voltage UL resp. CSA 600 V																		
	Testing Voltage 600 V																		
	Testing Voltage 750 V																		
	Testing Voltage 1000 V																		
	Testing voltage 1500 V	●	●		●				●	●	●	●	●	●	●	●	●	●	●
	Testing voltage 2000 V			●		●	●	●											
	Testing voltage 3000 V																		
Standards and approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1								●	●	●								
	Halogen-free for rail types																		
	Burning characteristics acc. to IEC + VDE									●			●	●	●	●	●		●
	Fire performance: no flame propagation acc.to IEC 60332-3-24 + IEC 60332-3-25 CAT C resp. D									●									
	Fire performance: UL Horizontal Flame Test FT2																		
	Fire performance: UL VW1																		
	Corrosiveness of conflagration gases								●	●	●	●							
	Smoke density acc. to IEC 61034 + VDE 0482-1034																		
	Toxicity acc. to EN 50305 + VDE 0260-305																		
	UL recognized	●	●	●		●	●	●									●		
	CSA approved																		
	ABS approved																		
	Rail type acc. to EN 45545-2																		
Characteristics	Oil resistance acc. to internal standard												●						●
	Oil resistance acc. to VDE																	●	
	Oil resistance acc. to EN								●									●	
	Chemical resistance																		
	Weather resistance								B	B	B	B	C	B	B	B	A	A	C
	Suitable for cable tracks																		
	Torsion angle							2											
	Flexibility																		

from / to

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Selection Table

	Cable Type	J/47 PB 640	J/47 PB 640 UL	J/47 S PB 640	J/47 PB 640 UL	J/48 PB 642	J/48 S PB 644	J/49 SBP 680	J/49 S SBP 684 Move	J/50 S 670	J/50 S 671
		Profibus-DP Cables				Profibus		SafetyBus p		Hybrid Field Bus	
Basic construction	Shielded	●	●	●	●	●	●		●		
	Inner jacket	●	●	●	●						
	Optical waveguide POF									●	●
Temperature range fixed installation*	+180°C										
	+ 90°C										
	+ 85°C										
	+ 80°C										
	+ 75°C										
	+ 70°C										
	- 30°C										
	- 40°C										
	- 50°C										
	- 90°C										
Voltage	Nominal voltage 300/500 V									●	●
	Peak operating voltage max. 30V										
	Peak operating voltage max. 50V										
	Peak operating voltage max. 90V										
	Peak operating voltage max. 350V	●	●	●	●	●	●	●	●		
	Voltage UL 30 V				●						
	Voltage UL resp. CSA 300 V		●								
	Voltage UL resp. CSA 600 V									●	●
	Testing Voltage 600 V										
	Testing Voltage 750 V										
	Testing Voltage 1000 V										
	Testing voltage 1500 V	●	●	●	●	●	●				
	Testing voltage 2000 V										
	Testing voltage 3000 V									●	●
Standards and approvals	Halogen-free acc. to IEC 60754-1 + VDE 0482-754-1							●	●		
	Halogen-free for rail types										
	Burning characteristics acc. to IEC + VDE	●	●	●	●					●	●
	Fire performance: no flame propagation acc.to IEC 60332-3-24 + IEC 60332-3-25 CAT C resp. D										
	Fire performance: UL Horizontal Flame Test FT2										
	Fire performance: UL VW1										
	Corrosiveness of conflagration gases										
	Smoke density acc. to IEC 61034 + VDE 0482-1034										
	Toxicity acc. to EN 50305 + VDE 0260-305										
	UL recognized									●	●
	CSA approved									●	●
	ABS approved										
	Rail type acc. to EN 45545-2										
Characteristics	Oil resistance acc. to internal standard	●	●			●					●
	Oil resistance acc. to VDE			●	●		●	●	●	●	
	Oil resistance acc. to EN			●	●		●	●	●	●	
	Chemical resistance										
	Weather resistance					C	A				
	Suitable for cable tracks			●	●		●		●		
	Torsion angle										
	Flexibility								A		

from
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Industrial Ethernet Cables

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

"Fast Connect" construction

Construction:	PN 654 UL Profinet type A *fixed installation*	PN 661 Profinet type B *flexible*	S PN 668 Profinet type C *continuous flex*
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)

Technical data:	PN 654 UL Profinet type A *fixed installation*	PN 661 Profinet type B *flexible*	S PN 668 Profinet type C *continuous flex*
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 DIN 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 ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft	ohmic resistance at 20°C to VDE 0812 max. Ω/km
▶ 6549002	PN 654 UL	22/4c	1.55	0.256	6.5	44	54.1
▶ 6612202	PN 661	22 (≈ 7/30)/4c	1.55	0.260	6.6	47	55.4
▶ 6682202	S PN 668	22 (≈ 19/34)/4c	1.55	0.252	6.4	39	58.0

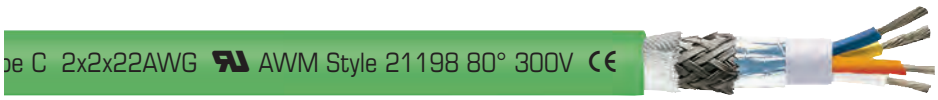
Other dimensions and colors are available on request

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

CABLE ASSEMBLY POSSIBLE

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

Construction:	S PN 667 Profinet type C *continuous flex*	S PN 669 Profinet type C *continuous flex*
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)

Technical data:	PN 667 Profinet type C *continuous flex*	S PN 669 Profinet type C *continuous flex*
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 DIN 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	outer-ø ±10% inch	outer-ø ±10% 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	6.5	40	58.8
▶ 6692202	S PN 669	22 (≈ 19/34)/4c	1.55	0.272	6.9	46	58.0
For extreme bending stress - conductor construction 19 wires:							
▶ 6679001	S PN 667	22 (≈ 19/34)/4c	1.55	0.256	6.5	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

CABLE ASSEMBLY POSSIBLE

Industrial Ethernet Cables

PN 678 PVC Ethernet cable type A for fixed installation, twisted pairs
PN 679 PVC Ethernet cable type B for flexible applications, twisted pairs
S PN 681 PUR paired Ethernet cable type C for continuous flex suitable for cable tracks

D-VIERSEN · S PN 681 CAT 5 Typ C 4x2x26AWG CE

CE RoHS

Marking for S PN 681 6812604:
SAB BRÖCKSKES · D-VIERSEN · S PN 681 CAT 5 Type C 4x2x26AWG CE

Construction:	PN 678 Ethernet CAT 5 type A *fixed installation*	PN 679 Ethernet CAT 5 type B *flexible*	S PN 681 Ethernet CAT 5 type C *continuous flex*
Item numbers:	6782604	6792604	6812604
Dimensions:	4 x 2 x 26 AWG	4 x 2 x 26 AWG	4 x 2 x 26 AWG
Conductor:	tinned copper wire	tinned copper strands, fine wires with reference to VDE 0812	tinned copper strands, extra fine wires
Insulation:	PE, L/MD acc. to EN 50290-2-23	PE, L/MD acc. to EN 50290-2-23	SABIX®
Color code:	white conductors with numbers 1-4 + (blue, orange, green, brown)	white conductors with numbers 1-4 + (blue, orange, green, brown)	white conductors with numbers 1-4 + (blue, orange, green, brown)
Stranding:	twisted to pairs & paired together	twisted to pairs & paired together	twisted to pairs & paired together
Wrapping:	alu foil	PETP foil + alu foil	non-woven tapes + alu foil
Shielding	tinned copper braiding	tinned copper braiding	tinned copper braiding
Wrapping:	---	non-woven tape	non-woven tape
Jacket material:	PVC	PUR	PUR
Jacket color:	green (similar RAL 6018)	green (similar RAL 6018)	green (similar RAL 6018)

Technical data:	PN 678 Ethernet cable type A *fixed installation*	PN 679 Ethernet cable type B *flexible*	S PN 681 Ethernet cable type C *continuous flex*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1200 V	 1500 V 1200 V	 1500 V 1200 V
Min. bending radius fixed installation: free movement: continuous flex:	 5 x O.D. — —	 5 x O.D. 10 x O.D. —	 5 x O.D. 10 x O.D. 12 x O.D.
Temperature range DIN VDE: static: flexible:	 -30/+70°C -5/+70°C	 -40/+70°C -40/+70 °C	 -40/+90°C -30/+90°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	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance:	100Ω ± 10Ω, 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)		
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 ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
▶ 6782604	PN 678	26/4pr	1.10	0.244	6.2	32	150
▶ 6792604	PN 679	26 (≈ 7/34)/4pr	1.05	0.272	6.9	36	148
▶ 6812604	S PN 681	26 (≈ 19/38)/4pr	1.10	0.283	7.2	40	145

Other dimensions and colors are available on request

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

CABLE ASSEMBLY POSSIBLE

DR PN 689 P Highflex PUR Reeling Profinet cable/ CAT 5 cable
S PN 668 PUR Hybrid cable continuous flex suitable for cable tracks with UL recognition
RT PN 668 PUR Profinet cable suitable for robots

Marking for DR PN 689 P Highflex 6892202:
SAB BRÖCKSKES · D-VIERSEN · DR PN 689 P Highflex 2x2x22AWG CE

Construction:	DR PN 689 P Highflex *reeling Profinet cable*	DR PN 689 P Highflex *reeling CAT 5 cable*	S PN 668 Hybrid *Hybrid cable CAT 5 type C continuous flex*	RT PN 668 *Profinet cable suitable for robots*
Item numbers:	6892202	6899001	6689010	6689001
Dimensions:	2 x 2 x 22 AWG	4 x 2 x 26 AWG	2 x 2 x 22 AWG + 4 x 16 AWG	2 x 2 x 22 AWG
Conductor:	tinned copper strands, fine wires	tinned copper strands, fine wires	22 AWG: tinned copper strands, extra fine wires 16 AWG: bare copper strands acc. to IEC 60228, VDE 0295, class 6	tinned copper strands, extra fine wires
Insulation:	SABIX®	SABIX®	22 AWG: SABIX® 16 AWG: TPE	special polymer
Color code:	blue, yellow, white, orange	blue, orange, green, brown + 4 white conductors with consecutive numbers	22 AWG: blue, yellow, white, orange 16 AWG: black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334	blue, yellow, white, orange
Stranding:	in layers	twisted to pairs and pairs together	22 AWG: in layers/ together in layers	star quad
Wrapping:	PETP foil	PETP foil	22 AWG: PETP foil	tape
Inner jacket:	SABIX®	SABIX®	22 AWG: SABIX®	—
Wrapping:	alu foil	alu foil	22 AWG: alu foil	alu foil
Shielding:	tinned copper braiding	tinned copper braiding	—	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	22 AWG: non-woven tape	non-woven tape
Wrapping:	—	—	overall non-woven tape	—
Jacket material:	PUR/supporting braid/PUR	PUR/supporting braid/PUR	PUR	PUR
Jacket color:	green (similar RAL 6018)	black (similar RAL 9005)	green (similar RAL 6018)	green (similar RAL 6018)

Technical data:	DR PN 689 P Highflex *reeling Profinet cable*	DR PN 689 P Highflex *reeling CAT 5 cable*	S PN 668 Hybrid *Hybrid cable type C continuous flex*	RT PN 668 *Profinet cable suitable for robots*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	—	—	300 V	—
Testing voltage: conductor/conductor: conductor/shielding:	1500 V 1200 V	1500 V 1200 V	2000 V 2000 V	1500 V 1200 V
Min. bending radius:	for laying and installation (fixed installation): 5 x O.D. for repeated winding action (flexible): 10 x O.D. guided on deflection pulleys (flexible): 12 x O.D.		fixed installation: 5 x O.D. flexible: 10 x O.D. continuous flex: 12 x O.D.	flexible: 10 x O.D. torsion angle: ± 360°/m
Temperature range DIN VDE: static: flexible:	-40/+90°C -30/+90°C	-40/+90°C -30/+90°C	**UL:** up to +80°C -40/+90°C -30/+90°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	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		TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Characteristic impedance:	100Ω ± 10Ω, 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:	—	—	20233	—
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	jacket color	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
▶ 6892202	DR PN 689 P Highflex	green (similar RAL 6018)	22 (≈ 19/34)/2pr	0.323	8.2	56	58.8
▶ 6899001	DR PN 689 P Highflex	black (similar RAL 9005)	26 (≈ 19/38)/4pr	0.343	8.7	57	139
▶ 6689010	S PN 668 Hybrid	green (similar RAL 6018)	22 (≈ 19/34)/2pr + 16 (≈ 84/34)/4c	0.394	10.0	106	58.0 / 13.3
▶ 6689001	RT PN 668	green (similar RAL 6018)	22 (≈ 19/34)/2pr	0.276	7.0	42	58.0

Other dimensions and colors are available on request

Industrial Ethernet Cables CAT 5 & 5e

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

Marking for PN 675 6752202:
SAB NORTH AMERICA 6752202 2/P 22 AWG SHIELDED INDUSTRIAL ETHERNET CAT5E (UL) TYPE CMR c(UL) TYPE CMG 75C or (UL) PLTC SUN RES OIL RES I OR (UL) AWM STYLE 2570 80C 600V -- RoHS

Construction:

	PN 675 CAT 5e type B *flexible*		S PN 676 CAT 5 type C *continuous flex*
Item numbers:	6752202	6752204	6762404
Dimensions:	2 x 2 x 22 AWG	4 x 2 x 22 AWG	4 x 2 x 24 AWG
Conductor:	tinned copper strands, fine wires	tinned copper strands, fine wires	tinned copper strands, extra fine wires
Insulation:	Foamed Polyolefin	PFA/PP	SABIX®
Color code:	orange & white/orange stripe green & white/green stripe	blue & white/blue stripe orange & white/orange stripe green & white/green stripe brown & white/brown stripe	white conductors with numbers 1 - 4 + (blue, orange, green, brown)
Stranding:	in layers	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	PVC	PUR
Jacket color:	teal	teal	green (similar RAL 6018)

Technical data:

	PN 675 type B *flexible*		S PN 676 type C *continuous flex*
Approvals:	c(UL) CMG 75C, (UL) PLTC, (UL) AWM 2570 600V 80°C		UL, CSA
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V
Voltage:	**UL:** 600 V	**UL:** 600 V	**UL/CSA:** 300 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1200 V	 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. —	 5 x O.D. 10 x O.D. 12 x O.D.
Temperature range DIN VDE: static: flexible:	**UL:** up to +80°C -40/+80°C -25/+80°C	**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	oil resistance I	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10
UV resistance:	yes	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	1 - 250 MHz	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	jacket color	dimensions AWG	outer-ø inch	outer-ø 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	—
▶ 6762404	S PN 676	green (similar RAL 6018)	24 (≈ 19/36)/4pr	0.327	8.3	53	145

Other dimensions and colors are available on request

Also possible as a cable assembly with M12 or RJ 45 plug — CABLE ASSEMBLY POSSIBLE

Industrial Ethernet Cables CAT 6 & 6A

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, suitable 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 I/II A/B 80°C 300V FT2

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

Technical data:	CATLine CAT 6 S *suitable for cable tracks*	CATLine CAT 6A S *suitable for cable tracks*	CATLine CAT 6 RT *suitable for cable tracks/ suitable for robots*	CATLine CAT 6A RT *suitable for cable tracks/ suitable for robots*
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V	max. 90 V
Voltage UL/CSA:	300 V	300 V	300 V	300 V
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V	 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.	 5 x O.D. 10 x O.D. 15 x O.D.	 5 x O.D. 10 x O.D. 15 x O.D.
Torsion:	—	—	up to ± 180°/m	up to ± 180°/m
Temperature range DIN VDE: 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
Halogen-free:	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
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2; UL Horizontal Flame Test FT2			
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2		TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	
Characteristic impedance (100 MHz): 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
Flexibility:	very good	very good	very good	very good
UL Style:	20549	20549	20549	20549
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 ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 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 — CABLE ASSEMBLY POSSIBLE

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

CATLine CAT 6A HT

Gigabit Ethernet cable – high temperature resistant

16314631- FEP Version

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

16324631- PFA Version

Marking for CATLine CAT 6A HT 16314631:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.6A HT 4x2x26AWG 16324631 CE

Construction:

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

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

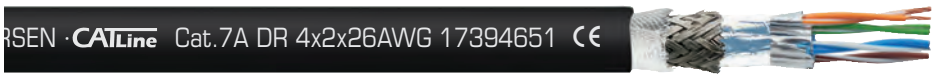
Also possible as a cable assembly with M12 or RJ 45 plug
CABLE ASSEMBLY POSSIBLE

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

Industrial Ethernet Cables CAT 5e, 6A & 7A

CATLine CAT 5e DR CAT 5e reeling industrial Ethernet cable
CATLine CAT 6A DR CAT 6A reeling gigabit Ethernet cable
CATLine CAT 7A DR CAT 7A reeling gigabit Ethernet cable

CE RoHS



Marking for CATLine CAT 7A DR 17394651:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A DR 4x2x26AWG 17394651 CE

Construction:	CATLine CAT 5e DR *reeling Ethernet cable*	CATLine CAT 6A DR *reeling Ethernet cable*	CATLine CAT 7A DR *reeling Ethernet cable*
Item numbers:	15394651	16394651	17394651
Dimensions:	4 x 2 x 26 AWG	4 x 2 x 26 AWG	4 x 2 x 26 AWG
Conductor:	bare copper strands, fine wires	bare copper strands, fine wires	bare copper strands, fine wires
Insulation:	special polymer	special polymer	special polymer
Color code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	conductors twisted to pairs, pairs together	conductors twisted to pairs, pairs together	conductors twisted to pairs, pairs shielded with foil, pairs together
Wrapping:	non-woven tape	non-woven tape	—
Shielding:	alu foil	alu foil	aluminized non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	non-woven tape
Jacket material:	PUR / supporting braid/ PUR	PUR / supporting braid/ PUR	PUR / supporting braid/ PUR
Jacket color:	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

Technical data:	CATLine CAT 5e DR *reeling Ethernet cable*	CATLine CAT 6A DR *reeling Ethernet cable*	CATLine CAT 7A DR *reeling Ethernet cable*
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V
Testing voltage: conductor/conductor: conductor/shielding:	 750 V 750 V	 750 V 750 V	 750 V 750 V
Min. bending radius for laying and installation (fixed installation): for repeated winding action (flexible application): guided on pulleys (flexible application):	 5 x O.D. 10 x O.D. 12 x O.D.	 5 x O.D. 10 x O.D. 12 x O.D.	 5 x O.D. 10 x O.D. 12 x O.D.
Temperature range DIN VDE: static: flexible:	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C
Halogen-free:	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
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance (100 MHz):	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Weather resistance:	very good	very good	very good
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 ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft	tensile strength max. N
▶ 15394651	CATLine CAT 5e DR	26 (≈ 7/34)/4pr	1.05	0.335	8.5	53	200
▶ 16394651	CATLine CAT 6A DR	26 (≈ 7/34)/4pr	1.05	0.335	8.5	54	200
▶ 17394651	CATLine CAT 7A DR	26 (≈ 7/34)/4pr	1.05	0.413	10.5	79	200

Other dimensions and colors are available on request

Also possible as a cable assembly with M12 or RJ 45 plug — CABLE ASSEMBLY POSSIBLE

Industrial Ethernet Cables CAT 7A

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

Construction:	CATLine CAT 7A S *suitable for cable tracks*	CATLine CAT 7A RT *suitable for robots*
Item numbers:	17774631 / 17774431	17874631 / 17874431
Dimensions:	4 x 2 x 26 AWG / 4 x 2 x 24 AWG	4 x 2 x 26 AWG / 4 x 2 x 24 AWG
Conductors:	bare copper strands, fine wires	bare copper strands, fine wires
Insulation:	special polymer	special polymer
Color code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	conductors twisted to pairs, pairs shielded with foil, pairs together	conductors twisted to pairs, pairs shielded with foil, pairs together
Shielding:	aluminized non-woven tape	aluminized non-woven tape
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)

Technical data:	CATLine CAT 7A S *suitable for cable tracks*	CATLine CAT 7A RT *suitable for robots*
Peak operating voltage:	max. 90 V	max. 90V
Voltage UL/CSA:	300 V	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. —
Torsion angle:	—	up to ± 180°/m
Temperature range DIN VDE: static: flexible:	**UL/CSA:** up to +80°C -40/+70°C -40/+70°C	**UL/CSA:** up to +80°C -40/+70°C -40/+70°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	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
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance (100 MHz):	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 + VDE 0819-9-2 / CAT 7A	
Flexibility:	very good	very good
UL Style:	20549	20549
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 ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 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

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

Ethernet Cables for Railway

CATLine CAT 5e R
CATLine CAT 6A R
CATLine CAT 7A R

Halogen-free industrial Ethernet cables for railway technology

EN 45545-2 · UN / ECE R118 · SAB Rail

CE RoHS

D-VIERSEN · CATLine Cat.7A R 4x2x24AWG 1767-4621 CE

Marking for CATLine CAT 7A R 17674621:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A R 4x2x24AWG 17674621 CE

Construction:	CATLine CAT 5e R *flexible*		CATLine CAT 6A R *flexible*	CATLine CAT 7A R *flexible*
Item numbers:	15672625 15679002 15679004	15674421	16674621	17674621
Dimensions:	2 x 2 x 26 AWG 2 x 2 x 24 AWG 2 x 2 x 22 AWG	4 x 2 x 22 AWG	4 x 2 x 26 AWG	4 x 2 x 26 AWG
Conductor:	bare copper strands, fine wires		bare copper strands, fine wires	bare copper strands, fine wires
Insulation:	PE	PE	PE	PE
Color code:	blue, yellow, white, orange	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	star quad	conductors twisted to pairs, pairs together		twisted to pairs with alu foil, pairs together
Wrapping:	foil	foil	foil	—
Shielding:	alu foil + tinned copper braiding		alu foil + tinned copper braiding	tinned copper braiding
Jacket material:	special SABIX®	special SABIX®	special SABIX®	special SABIX®
Jacket color:	green (similar RAL 6018)		green (similar RAL 6018)	green (similar RAL 6018)

Technical data:	CATLine CAT 5e R *flexible*	CATLine CAT 6A R *flexible*	CATLine CAT 7A R *flexible*
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V
Testing voltage: conductor/conductor: conductor/shielding:	 750 V 750 V	 750 V 750 V	 750 V 750 V
Min. bending radius: fixed installation: free movement:	 5 x O.D. 12 x O.D.	 5 x O.D. 12 x O.D.	 5 x O.D. 12 x O.D.
Temperature range DIN VDE: static: flexible:	 -40/+70°C -30/+70°C	 -40/+70°C -30/+70°C	 -40/+70°C -30/+70°C
Low smoke halogen-free (LSHF):	acc. to EN 50306-1 + EN 50264-1; Development of HCl is ≤ 0.5% acc. to IEC 60754-1; pH-value is ≥ 4.3 acc. to IEC 60754-2; Conductivity is ≤ 10.0 µS/mm acc. to IEC 60754-2; Fluoric content ≤ 0.1% acc. to IEC 60684-2		
Burning characteristics:	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. Flame retardant acc. to ISO 6722 (UN/ECE R118)		
Smoke density:	acc. to IEC 61034 + VDE 0482-1034	acc. to IEC 61034 + VDE 0482-1034	acc. to IEC 61034 + VDE 0482-1034
Toxicity:	acc. to EN 50305 + VDE 0260-305	acc. to EN 50305 + VDE 0260-305	acc. to EN 50305 + VDE 0260-305
Characteristic impedance:	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
For flexible application:	good	good	good
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 ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 15672625	CATLine CAT 5e R	26 (≈ 18/38)/2pr	1.05	0.157	4.0	17
▶ 15679002	CATLine CAT 5e R	24 (≈ 14/34)/2pr	1.30	0.205	5.2	28
▶ 15679004	CATLine CAT 5e R	22 (≈ 7/30)/2pr	1.60	0.232	5.9	35
▶ 15674421	CATLine CAT 5e R	24 (≈ 14/34)/4pr	1.30	0.315	8.0	47
▶ 16674621	CATLine CAT 6A R	26 (≈ 18/38)/4pr	1.05	0.268	6.8	37
▶ 17674621	CATLine CAT 7A R	26 (≈ 18/38)/4pr	1.60	0.307	7.8	50

Other dimensions and colors are available on request

Fulfills fire protection requirements R15 (EL1A) acc. to EN 45545-2 for hazard levels HL1-3

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

CABLE ASSEMBLY POSSIBLE

Ethernet Cables for Railway

CATLine CAT 5e R flex
CATLine CAT 6A R flex
CATLine CAT 7A R flex

Halogen-free continuous flex industrial Ethernet cables for railway technology

EN 45545-2 · UN / ECE R118 · SAB Rail

CE RoHS

Marking for CATLine CAT 7A R flex 17694431:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A R flex 4x2x24AWG 17694431 CE

Construction:	CATLine CAT 5e R flex *continuous flex*		CATLine CAT 6A R flex *continuous flex*	CATLine CAT 7A R flex *continuous flex*
Item numbers:	15692435 15692235	15694431 15694631	16694431 16694631	17694431 17694631
Dimensions:	2 x 2 x 24 AWG 2 x 2 x 22 AWG	4 x 2 x 24 AWG 4 x 2 x 26 AWG	4 x 2 x 24 AWG 4 x 2 x 26 AWG	4 x 2 x 24 AWG 4 x 2 x 26 AWG
Conductor:	bare copper strands, fine wires		bare copper strands, fine wires	bare copper strands, fine wires
Insulation:	special SABIX®		special SABIX®	special SABIX®
Color code:	blue, yellow, white, orange	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	star quad	conductors twisted to pairs, pairs together		twisted to pairs with alu foil, pairs together
Wrapping:	foil		foil	—
Shielding:	alu foil + tinned copper braiding		alu foil + tinned copper braiding	tinned copper braiding
Jacket material:	special SABIX®		special SABIX®	special SABIX®
Jacket color:	green (similar RAL 6018)		green (similar RAL 6018)	green (similar RAL 6018)

Technical data:	CATLine CAT 5e R flex *continuous flex*	CATLine CAT 6A R flex *continuous flex*	CATLine CAT 7A R flex *continuous flex*
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V
Testing voltage: conductor/conductor: conductor/shielding:	 750 V 750 V	 750 V 750 V	 750 V 750 V
Min. bending radius: fixed installation: free movement: continuous flex:	 5 x O.D. 12 x O.D. 15 x O.D.	 5 x O.D. 12 x O.D. 15 x O.D.	 5 x O.D. 12 x O.D. 15 x O.D.
Temperature range DIN VDE: static: flexible:	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C
Low smoke halogen-free (LSHF):	acc. to EN 50306-1 + EN 50264-1; Development of HCl is ≤ 0.5% acc. to IEC 60754-1; pH-value is ≥ 4.3 acc. to IEC 60754-2; Conductivity is ≤ 10.0 µS/mm acc. to IEC 60754-2; Fluoric content ≤ 0.1% acc. to IEC 60684-2		
Burning characteristics:	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. Flame retardant acc. to ISO 6722 (UN/ECE R118)		
Smoke density:	acc. to IEC 61034 + VDE 0482-1034	acc. to IEC 61034 + VDE 0482-1034	acc. to IEC 61034 + VDE 0482-1034
Toxicity:	acc. to EN 50305 + VDE 0260-305	acc. to EN 50305 + VDE 0260-305	acc. to EN 50305 + VDE 0260-305
Oil and fuel resistance:	acc. to EN 50264-1 + VDE 0260-264-1	acc. to EN 50264-1 + VDE 0260-264-1	acc. to EN 50264-1 + VDE 0260-264-1
Characteristic impedance:	100Ω ± 5Ω with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω with reference to EN 50288-9-2 / CAT 7A
Flexibility:	very good	very good	very good
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	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 15692435	CATLine CAT 5e R flex	24 (≈ 14/34)/2pr	0.201	5.1	27
▶ 15692235	CATLine CAT 5e R flex	22 (≈ 7/30)/2pr	0.228	5.8	36
▶ 15694431	CATLine CAT 5e R flex	24 (≈ 14/34)/4pr	0.307	7.8	54
▶ 15694631	CATLine CAT 5e R flex	26 (≈ 18/38)/4pr	0.256	6.5	37
▶ 16694431	CATLine CAT 6A R flex	24 (≈ 14/34)/4pr	0.311	7.9	54
▶ 16694631	CATLine CAT 6A R flex	26 (≈ 18/38)/4pr	0.256	6.5	38
▶ 17694431	CATLine CAT 7A R flex	24 (≈ 14/34)/4pr	0.382	9.7	73
▶ 17694631	CATLine CAT 7A R flex	26 (≈ 18/38)/4pr	0.339	8.6	62

Other dimensions and colors are available on request

Fulfills fire protection requirements R15 (EL1A) and R16 (EL1B) acc. to EN 45545-2 for hazard levels HL1-3

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

CABLE ASSEMBLY POSSIBLE

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

Industrial Ethernet Cables for Maritime Use

CATLine CAT 5e BL Halogen-free CAT 5e industrial Ethernet cables for maritime use
CATLine CAT 6A BL Halogen-free CAT 6A industrial Ethernet cables for maritime use
CATLine CAT 7A BL Halogen-free CAT 7A industrial Ethernet cables for maritime use

Marking for CATLine CAT 7A BL 17474421:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A BL 4x2x24AWG 17474421 AWM Style 21080 75°C 300V

Construction:	CATLine CAT 5e BL		CATLine CAT 6A BL	CATLine CAT 7A BL
Item numbers:	15479001 15479002	15474621	16474421 16474621	17474421 17474621
Dimensions:	2 x 2 x 24 AWG 2 x 2 x 22 AWG	4 x 2 x 26 AWG	4 x 2 x 24 AWG 4 x 2 x 26 AWG	4 x 2 x 24 AWG 4 x 2 x 26 AWG
Conductor:	bare copper strands, fine wires		bare copper strands, fine wires	bare copper strands, fine wires
Insulation:	special polymer		special polymer	special polymer
Color code:	blue, yellow, white, orange	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	star quad	conductors twisted to pairs, pairs together		conductors twisted to pairs, pairs shielded with foil, pairs together
Wrapping:	alu foil		alu foil	—
Shielding:	tinned copper braiding		tinned copper braiding	tinned copper braiding
Jacket material:	special SABIX®		special SABIX®	special SABIX®
Jacket color:	black		black	black

Technical data:	CATLine CAT 5e BL	CATLine CAT 6A BL	CATLine CAT 7A BL
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V
Voltage UL:	300 V	300 V	300 V
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius: 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.
Temperature range DIN VDE: static: flexible:	UL: up to +75°C -40/+70°C -30/+70°C	UL: up to +75°C -40/+70°C -30/+70°C	UL: up to +75°C -40/+70°C -30/+70°C
Low smoke halogen-free (LSHF):	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
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 Cat. A, UL Horizontal Flame Test FT2, UL AWM Style 21080		
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases		
Smoke density:	acc. to IEC 61034 + VDE 0482-1034	acc. to IEC 61034 + VDE 0482-1034	acc. to IEC 61034 + VDE 0482-1034
Characteristic impedance (100 MHz):	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Flexibility:	good	good	good
UL Style:	21080	21080	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		

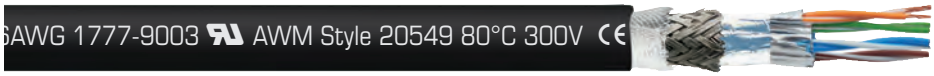
item no.	type	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 15479001	CATLine CAT 5e BL	24 (7 strand)/2pr	0.224	5.7	32
▶ 15479002	CATLine CAT 5e BL	22 (7 strand)/2pr	0.252	6.4	41
▶ 15474621	CATLine CAT 5e BL	26 (7 strand)/4pr	0.287	7.3	43
▶ 16474621	CATLine CAT 6A BL	26 (7 strand)/4pr	0.287	7.3	43
▶ 16474421	CATLine CAT 6A BL	24 (7 strand)/4pr	0.327	8.3	54
▶ 17474621	CATLine CAT 7A BL	26 (7 strand)/4pr	0.350	8.9	57
▶ 17474421	CATLine CAT 7A BL	24 (7 strand)/4pr	0.413	10.5	78

Other dimensions and colors are available on request

Also possible as a cable assembly with M12 or RJ 45 plug — CABLE ASSEMBLY POSSIBLE

Industrial Ethernet Cables for Cleanrooms

SABclean CATLine CAT 5e S — CAT 5e industrial Ethernet cable
SABclean CATLine CAT 6A S — CAT 6A industrial Ethernet cable
SABclean CATLine CAT 7A S — CAT 7A industrial Ethernet cable



Marking for SABclean CATLine CAT 7A S 17779003:
SAB BRÖCKSKES · D-VIERSEN · SAB Clean CATLine Cat. 7A S 4x2x26AWG 17779003 AWM Style 20549 80°C 300V RoHS

Construction:	SABclean CATLine CAT 5e S	SABclean CATLine CAT 6A S	SABclean CATLine CAT 7A S
Item numbers:	15779001	16779006	17779003
Dimensions:	4 x 2 x 26 AWG	4 x 2 x 26 AWG	4 x 2 x 26 AWG
Conductor:	bare copper strands, fine wires	bare copper strands, fine wires	bare copper strands, fine wires
Insulation:	special polymer	special polymer	special polymer
Color code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	conductors twisted to pairs, pairs together	conductors twisted to pairs, pairs together	conductors twisted to pairs, pairs shielded with foil, pairs together
Shielding:	alu foil and tinned copper braiding	alu foil and tinned copper braiding	aluminized non-woven tape and tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	non-woven tape
Jacket material:	TPE	TPE	TPE
Jacket color:	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

Technical data:	SABclean CATLine CAT 5e S	SABclean CATLine CAT 6A S	SABclean CATLine CAT 7A S
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V
Voltage UL:	300 V	300 V	300 V
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius fixed laying: flexible application: continuously flexible:	 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.
Temperature range DIN VDE: static: flexible:	UL: up to +80°C -40/+70°C -30/+70°C	UL: up to +80°C -40/+70°C -30/+70°C	UL: up to +80°C -40/+70°C -30/+70°C
Burning Characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2 UL Horizontal Flame Test FT2		
Oil resistance:	very good - Oil 60°C acc. to UL 758	very good - Oil 60°C acc. to UL 758	very good - Oil 60°C acc. to UL 758
Characteristic impedance (100 MHz):	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Flexibility:	very good	very good	very good
Air cleanliness class 1:	acc. to DIN EN ISO 14644-1	acc. to DIN EN ISO 14644-1	acc. to DIN EN ISO 14644-1
UL Style:	20549	20549	20549
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	outer-ø max. ±10% inch	outer-ø max. ±10% mm	cable weight ≈lbs/mft
▶ 15779001	SABclean CATLine CAT 5e S	26 (≈ 7/34)/4pr	0.251	6.4	32
▶ 16779006	SABclean CATLine CAT 6A S	26 (≈ 7/34)/4pr	0.271	6.9	38
▶ 17779003	SABclean CATLine CAT 7A S	26 (≈ 7/34)/4pr	0.350	8.9	57

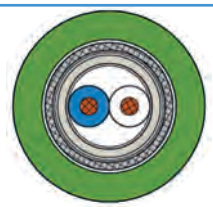
Other dimensions and colors are available on request

Cleanroom classification DIN EN ISO 14644-1 Air Cleanliness Class 1

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

Industrial Ethernet Cables

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

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

Technical data:	CATLine SPE C-Track *suitable for cable tracks*	CATLine SPE Robot *suitable for robots*	CATLine SPE HT *high temperature resistant*
Peak operating voltage:	max. 90 V	max. 90 V	max. 90 V
Voltage UL:	300 V	300 V	—
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 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.	 5 x O.D. 10 x O.D. —
Torsion angle:	---	up to ± 180°/m	---
Temperature range: 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
Temperature range conductor:	---	---	up to +180°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	---
Oil resistance:	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	---
Characteristic impedance:	100Ω ± 10Ω, fulfills the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz.		
Data transfer:	1 Gbit up to 40 m	1 Gbit up to 40 m	1 Gbit up to 40 m
UL Style	20549	20549	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

Outstanding features:

C-Track / Robot:

- UL recognized
- Suitable for Power over Dataline (PoDL) from up to approx. 50 W at 48 V DC
- 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

item no.	type	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 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

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

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:* *free movement:*	 5 x O.D. 12 x O.D.
Temperature range: *static:* *flexible:*	 -50/+90°C / +125°C / 2500 h -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
Chemical resistance:	very good - against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compounds
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 ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 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

CABLE ASSEMBLY POSSIBLE

USB 2.0 Cables

transmission length up to 10 m

SAB Bus

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

Marking for USB 2.0 UL 6010222:
SAB BRÖCKSKES · D-VIERSEN · USB 2.0 Leitung · (2x0.22mm²)ST+2x0.5mm² 0601-0222 AWM Style 2655 80°C 300V

Construction:	USB 2.0 *flexible*	USB 2.0 UL *flexible*	USB 2.0 FRNC *flexible*
Item numbers:	6010122	6010222	6019001
Dimensions:	(2 x 0.22 mm²) ST + 2 x 0.50 mm²	(2 x 0.22 mm²) ST + 2 x 0.50 mm²	(2 x 0.22 mm²) ST + 2 x 0.50 mm²
Conductor:	bare copper strands (0.50 mm²) silver-plated strands (0.22 mm²)	bare copper strands (0.50 mm²) silver-plated strands (0.22 mm²)	bare copper strands (0.50 mm²) silver-plated strands (0.22 mm²)
Insulation:	SABIX®	SABIX®	SABIX®
Color code:	black, red (0.50 mm²), white, green (0.22 mm²)	black, red (0.50 mm²), white, green (0.22 mm²)	black, red (0.50 mm²), white, green (0.22 mm²)
Stranding:	2 x 0.22 mm² wrapped with alu foil, together with 0.5 mm²		
Wrapping:	non-woven tape	non-woven tape	non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding
Jacket material:	PVC	PVC	SABIX®
Jacket color:	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

Technical data:	USB 2.0 *flexible*	USB 2.0 UL *flexible*	USB 2.0 FRNC *flexible*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	—	300 V	—
Testing voltage: conductor/conductor: conductor/shielding:	 600 V 600 V	 2000 V 2000 V	 1500 V 1200 V
Min. bending radius: 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.
Temperature range DIN VDE: 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
Halogen-free:	---	—	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	---	---	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	acc. to internal standard see page O/29	acc. to internal standard see page O/29	---
UL Style:	—	2655	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 6010122	USB 2.0	(2x0.22mm²) ST + 2x0.50mm²	0.268	6.8	40
▶ 6010222	USB 2.0 UL	(2x0.22mm²) ST + 2x0.50mm²	0.276	7.0	43
▶ 6019001	USB 2.0 FRNC	(2x0.22mm²) ST + 2x0.50mm²	0.268	6.8	42

Other dimensions and colors are available on request

USB 2.0 Cables

transmission length up to 10 m

SAB BUS

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

Marking for USB 2.0 S UL/CSA 6011122:
SAB BRÖCKSKES · D-VIERSEN · USB 2.0 Leitung · (2x0.22mm²)ST+2x0.5mm² 6011122 AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT2

Construction:	USB 2.0 S *suitable for cable tracks*	USB 2.0 S UL/CSA *suitable for cable tracks*	USB 2.0 RT UL/CSA *suitable for robots*
Item numbers:	6011022	6011122	6012022
Dimensions:	(2 x 0.22 mm²) ST + 2 x 0.50 mm²	(2 x 0.22 mm²) ST + 2 x 0.50 mm²	(2 x 0.22 mm²) ST + 2 x 0.50 mm²
Conductor:	bare copper strands (0.50 mm²) silver-plated strands (0.22 mm²)	bare copper strands (0.50 mm²) silver-plated strands (0.22 mm²)	bare copper strands (0.50 mm²) silver-plated strands (0.22 mm²)
Insulation:	SABIX®	SABIX®	SABIX®
Color code:	black, red (0.50 mm²), white, green (0.22 mm²)	black, red (0.50 mm²), white, green (0.22 mm²)	black, red (0.50 mm²), white, green (0.22 mm²)
Stranding:	2 x 0.22 mm² wrapped with alu foil, together with 0.5 mm²		
Wrapping:	non-woven tape	non-woven tape	PTFE foil
Shielding:	tinned copper braiding	tinned copper braiding	wrapping with tinned copper round wires
Wrapping:	non-woven tape	non-woven tape	non-woven tape
Jacket material:	PUR	PUR	PUR
Jacket color:	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

Technical data:	USB 2.0 S *suitable for cable tracks*	USB 2.0 S UL/CSA *suitable for cable tracks*	USB 2.0 RT UL/CSA *suitable for robots*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V
Voltage UL/CSA:	—	300 V	300 V
Testing voltage: conductor/conductor: conductor/shielding:	 600 V 600 V	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius: 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.
Torsion angle:	---	---	up to ± 180°/m
Temperature range DIN VDE: static: flexible:	 -50/+90°C -40/+90°C	**UL/CSA:** up to 80°C -50/+90°C -40/+90°C	**UL/CSA:** up to 80°C -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1	—
Oil resistance:	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
UL Style:	—	21198	21198
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 6011022	USB 2.0 S	(2x0.22mm²) ST + 2x0.50mm²	0.276	7.0	40
▶ 6011122	USB 2.0 S UL/CSA	(2x0.22mm²) ST + 2x0.50mm²	0.283	7.2	44
▶ 6012022	USB 2.0 RT UL/CSA	(2x0.22mm²) ST + 2x0.50mm²	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

CABLE ASSEMBLY POSSIBLE

USB 2.0 Cables

SABIX® USB 2.0 R flex

Halogen-free continuous flex SABIX® USB 2.0 Rail cable

EN 45545-2 · UN/ECE R118 · SAB Rail

RoHS

ES · D-VIERSEN · SABIX® USB 2.0 R flex 4x28AWG 6019013

Marking for SABIX® USB 2.0 R flex 6019013:
SAB BRÖCKSKES · D-VIERSEN · SABIX® USB 2.0 R flex 4x28AWG 6019013

Construction:

Conductor:	bare copper strands, fine wires
Insulation:	SABIX®
Color code:	white, green, red, black
Shielding:	alu. foil + tinned copper braiding Drain AWG 30 of tinned copper under the braid
Jacket material:	SABIX®
Jacket color:	black (RAL 9005)

Outstanding features:

- **low smoke halogen-free (LSHF)**
- **continuous flex**
- **no flame propagation**
- **flame retardant and self-extinguishing**
- **good oil and fuel resistance**
- **fulfills fire protection requirements R15 (EL1A) and R16 (EL1B) acc. to EN 45545-2 for hazard levels HL1-3**
- **flame rertardant acc. to UN/ECE R118**

Technical data:

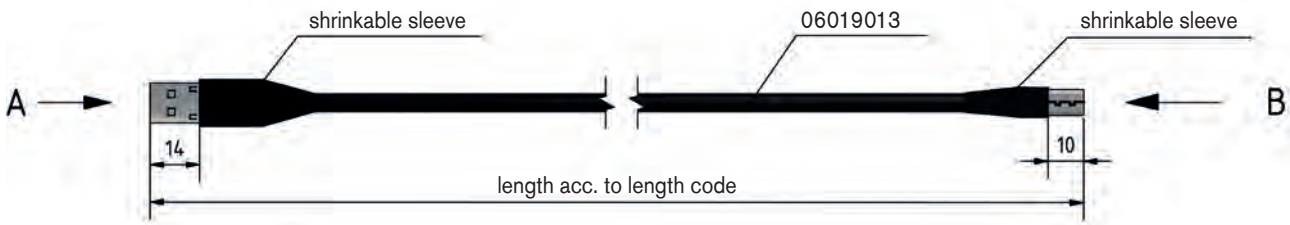
Peak operating voltage:	max. 30V
Testing voltage:	conductor/conductor: 600 V conductor/shielding: 600 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible*	 -50/+90°C -50/+90°C
Halogen-free:	acc. to EN 50306-1 + EN 50264-1 are fulfilled. Development of HCl is < 0.5% acc. to IEC 60754-1. pH-value is > 4.3 acc. to IEC 60754-2. Conductivity is < 10.0 µS/mm acc. to IEC 60754-2. Fluoric content < 0.1% acc. to IEC 60684-2.
Burning characteristics:	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 Flame retardant acc. to ISO 6722 (UN/ECE R118)
Toxicity:	acc. to EN 50305 + VDE 0260-305
Smoke density:	acc. to IEC 61034 + VDE 0482-1034
Oil and fuel resistance:	acc. to EN 50264-1 + VDE 0260-264-1
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	type	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max.Ω/km
► 6019013	SABIX® USB 2.0 R flex	28 (7 strand)/4c	0.205	5.2	28	223.8

Other dimensions and colors are available on request

Also possible as a cable assembly with USB type A or B plug — CABLE ASSEMBLY POSSIBLE

USB 2.0 cable with USB type A and USB type B plug

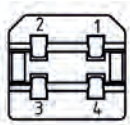


view A (2:1)

Pin configuration

USB A	color code	USB B
1	red	1
2	white	2
3	green	3
4	black	4
housing	screen	housing

view B (3:1)



view soldering side

USB 3.0 Cables

transmission length up to 3 m

SAB Bus

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

Construction:	USB 3.0 S *suitable for cable tracks*	USB 3.0 RT *suitable for robots*	USB 3.0 *flexible*
Item numbers:	6042098	6043098 / 6043096	6030078
Dimensions:	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
Conductor:	silver-plated strands and tinned copper strands	silver-plated strands and tinned copper strands	silver-plated strands and tinned copper strands
Insulation:	special polymer	special polymer	special polymer
Color code:	yellow, blue + orange, violet (USB 3.0), green, white (USB 2.0), red, black (power supply)		
Stranding:	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
Wrapping:	non-woven tape	netting tape + non-woven tape	non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	non-woven tape
Jacket material:	PUR	PUR	PVC
Jacket color:	black (RAL 9005)	black (RAL 9005)	black (RAL 9005)

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

item no.	type	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max.Ω/km 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

CABLE ASSEMBLY POSSIBLE

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USB 3.0 Cables

USB 3.0 M

Flexible USB 3.0 cable for Medical Technology Applications

transmission length up to 3 m

SAB BUS

CE RoHS

Marking for USB 3.0 M 6061018:
SAB BRÖCKSKES · D-VIERSEN · USB 3.0 M
2x(2x28AWG)ST+2x28AWG+2x26AWG 0606-1018 CE

Construction:

Conductor:	28 AWG: silver-plated strands, fine wires 26 AWG: tinned copper strands, fine wires
Insulation:	FEP
Color code:	28 AWG: yellow, blue + orange, violet (USB 3.0), green, white (USB 2.0), 26 AWG: red, black (power supply)
Stranding:	USB 3.0 twisted and shielded pairs, USB 2.0 twisted pairs, all elements together
Drain wire:	bare copper strands, fine wires
Shielding:	alu foil
Stranding:	all USB 3.0 elements together
Wrapping:	foil
Shielding:	tinned copper braiding
Jacket material:	SABmed S
Jacket color:	gray (RAL 7000)

Technical data:

Peak operating voltage:	max. 50V
Testing voltage:	conductor/conductor: 600 V conductor/shielding: 600 V
Min. bending radius: *fixed installation:* *free movement:*	 5 x O.D. 10 x O.D.
Temperature range: *static:* *flexible:*	 -40/+180°C -25/+180°C
Impedance of data pairs:	nom. 90Ω
Approvals:	CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

Outstanding features:

- **biocompatible jacket material**
- **biological harmlessness acc. to EN ISO 10993-1, cytotoxicity acc. to EN ISO 10993-5**
- **high temperature resistant**
- **high notch and tear resistance**
- **very good flexibility**
- **surface not adhesive**

item no.	type	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max.Ω/km 28 AWG	ohmic resistance at 20°C max.Ω/km 26 AWG
▶ 6061018	USB 3.0 M	28 (≈ 7/38)ST/2pr + 28 (≈ 7/38)/2c + 26 (≈ 7/34)/2c	0.220	5.6	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

CABLE ASSEMBLY POSSIBLE

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

Remote Bus Cables

IBS 612 PVC Interbus-S cable for indoor and outdoor installation

IBS 617 PVC Interbus-S cable with UL recognition

S IBS 618 PUR Interbus-S cable for cable tracks with UL recognition

S IBS 616 PUR Interbus-S cable for cable tracks

Marking for IBS 617 6173221:
SAB BRÖCKSKES · D-VIERSEN · 6173221 3x2x0.25mm² IBS 617 24AWG/3pr AWM Style 2464 80°C 300V

Construction:	IBS 612 *for indoor & outdoor*	IBS 617	S IBS 618* *suitable for cable tracks*	S IBS 616* *suitable for cable tracks*
Item numbers:	6123228	6173221	6183251	6163251
Dimensions:	3 x 2 x 0.22 mm²	3 x 2 x 0.22 mm²	3 x 2 x 0.25 mm²	3 x 2 x 0.25 mm²
Conductor:	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812
Insulation:	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103		PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103	
Color code:	acc. to DIN 47100	acc. to DIN 47100	acc. to DIN 47100	acc. to DIN 47100
Stranding:	twisted to pairs	twisted to pairs	twisted to pairs and pairs together	twisted to pairs
Wrapping:	PETP foil	PETP foil	non-woven tape	non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding	tinned copper braiding
Jacket material:	PVC, TM2 acc. to EN 50363-4-1	PVC, TM5 acc. to EN 50363-4-1	PUR	PUR, TMPU acc. to EN 50363-10-2 with rough surface
Jacket color:	black (RAL 9005)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	IBS 612 *for indoor & outdoor*	IBS 617	S IBS 618 *suitable for cable tracks*	S IBS 616 *suitable for cable tracks*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	—	300 V	300 V	—
Testing voltage: conductor/conductor: conductor/shielding:	 1000 V 1000 V	 2000 V 2000 V	 2000 V 2000 V	 1000 V 1000 V
Min. bending radius:	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg	8 x 10^7 cJ/kg	5 x 10^7 cJ/kg	5 x 10^7 cJ/kg
Temperature range: static: flexible:	 -30/+70°C -5/+70°C	 **UL:** up to +80°C -30/+70°C -5/+70°C	 **UL:** up to +80°C -40/+70°C -40/+70°C	 -40/+70°C -40/+70°C
Halogen-free:	—	—	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2			—
Oil resistance:	acc. to internal standard see page O/29	very good acc. to VDE 0207-5	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance at 0.064 MHz:	120Ω ± 20%	120Ω ± 20%	120Ω ± 20%	120Ω ± 20%
Characteristic impedance at > 1 MHz:	100Ω ± 15Ω	100Ω ± 15Ω	100Ω ± 15Ω	100Ω ± 15Ω
Flexibility:	good	good	very good	very good
Application in cable tracks:	not recommended	not recommended	recommended	recommended
Weather resistance:	medium	medium	very good	very good
Bending characteristics: # of bendings acc. to VDE 0472-603 test method H	—	—	min. 1,000,000 single bendings	min. 1,000,000 single bendings
Direct burial:	suitable	not suitable	suitable	not suitable
UL Style:	—	2464- 80°C	20235- 80°C	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	jacket color	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 6123228	IBS 612	black (RAL 9005)	24 (≈ 14/34)/3pr	0.354	9.0	64
▶ 6173221	IBS 617	red lilac (RAL 4001)	24 (≈ 14/34)/3pr	0.276	7.0	40
▶ 6183251*	S IBS 618	red lilac (RAL 4001)	24 (≈ 14/34)/3pr	0.335	8.5	55
▶ 6163251*	S IBS 616	red lilac (RAL 4001)	24 (≈ 14/34)/3pr	0.315	8.0	43

Other dimensions and colors are available on request

* Interbus-S remote bus cables 3 x 2 x 0.22 mm² or 3 x 2 x 0.25 mm² are used for the sensor/actuator level of industrial communication

DIN 47100 color code:
#1- white/brown, #2- green/yellow, #3- gray/pink

Installation Remote BUS Cables

IBS 612 PVC Interbus-S cable for indoor and outdoor installation

IBS 617 PVC Interbus-S cable with UL recognition

S IBS 618 PUR Interbus-S cable for cable tracks with UL recognition

S IBS 616 PUR Interbus-S cable for cable tracks

Marking for IBS 617 6176221:
SAB BRÖCKSKES · D-VIERSEN · IBS 617 3x2x0.22mm²+3x1.0mm² AWM Style 2464 80°C 300V

Construction:	IBS 612 *for indoor & outdoor*	IBS 617	S IBS 618* *suitable for cable tracks*	S IBS 616* *suitable for cable tracks*
Item numbers:	6126228	6176221	6186251	6166251
Dimensions:	3 x 2 x 0.22 mm² + 3 x 1.00 mm²	3 x 2 x 0.22 mm² + 3 x 1.00 mm²	3 x 2 x 0.25 mm² + 3 x 1.00 mm²	3 x 2 x 0.25 mm² + 3 x 1.00 mm²
Conductor: 3 x 2 x 0.22 mm² resp. 3 x 2 x 0.25 mm²	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812
Conductor: 3 x 1.00 mm²:	bare copper strands acc. to IEC 60228, VDE 0295, class 5		bare copper strands acc. to IEC 60228, VDE 0295, class 6	
Insulation:	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103		0.25 mm²: PE, 2YI1 1.00 mm²: TPE	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103
Color code:	acc. to DIN 47100 (pairs), 1.0 mm²: red, blue and green/yellow ground		acc. to DIN 47100 (pairs), 1.0 mm²: red, blue and green/yellow ground	
Stranding:	twisted to pairs (≤ 24 AWG)	twisted to pairs (≤ 24 AWG)	twisted to pairs (≤ 24 AWG) pairs & conductors together	twisted to pairs (≤ 24 AWG)
Wrapping:	PETP foil	PETP foil	non-woven tape	non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding	tinned copper braiding
Jacket material:	PVC, TM2 acc. to EN 50363-4-1	PVC, TM5 acc. to EN 50363-4-1	PUR with rough surface	PUR, TMPU acc. to EN 50363-10-2 with rough surface
Jacket color:	black (RAL 9005)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	IBS 612 *for indoor & outdoor*	IBS 617	S IBS 618 *suitable for cable tracks*	S IBS 616 *suitable for cable tracks*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	—	300 V	300 V	—
Testing voltage: conductor/conductor: conductor/shielding:	1500 V 1200 V	2000 V 2000 V	2000 V 2000 V	1500 V 1200 V
Min. bending radius:.	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.
Radiation resistance:	8 x 10^7 cJ/kg	8 x 10^7 cJ/kg	5 x 10^7 cJ/kg	5 x 10^7 cJ/kg
Temperature range: static: flexible:	-30/+70°C -5/+70°C	**UL:** up to +80°C -30/+70°C -5/+70°C	**UL:** up to +80°C -40/+70°C -40/+70°C	-40/+70°C -40/+70°C
Halogen-free:	—	—	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2			—
Oil resistance:	acc. to internal standard see page O/29	very good acc. to VDE 0207-5	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance at 0.064 MHz:	120Ω ± 20%	120Ω ± 20%	120Ω ± 20%	120Ω ± 20%
Characteristic impedance at > 1 MHz:	100Ω ± 15Ω	100Ω ± 15Ω	100Ω ± 15Ω	100Ω ± 15Ω
Flexibility:	good	good	very good	very good
Application in cable tracks:	not recommended	not recommended	recommended	recommended
Weather resistance:	medium	medium	very good	very good
Bending characteristics: # of bendings acc. to VDE 0472-603 test method H	—	—	min. 1,000,000 single bendings	min. 1,000,000 single bendings
Direct burial:	suitable	not suitable	suitable	not suitable
UL Style:	—	2464- 80°C	20235- 80°C	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	jacket color	no. of pairs	power conductors	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 6126228	IBS 612	black (RAL 9005)	24 (≈ 14/34)/3pr	18 (≈ 30/32)/3c	0.394	10.0	89
▶ 6176221	IBS 617	red lilac (RAL 4001)	24 (≈ 14/34)/3pr	18 (≈ 30/32)/3c	0.748	19.0	71
▶ 6186251*	S IBS 618	red lilac (RAL 4001)	24 (≈ 14/34)/3pr	18 (≈ 56/34)/3c	0.362	9.2	81
▶ 6166251*	S IBS 616	red lilac (RAL 4001)	24 (≈ 14/34)/3pr	18 (≈ 56/34)/3c	0.315	8.0	68

Other dimensions and colors are available on request

* Interbus-S installation remote bus cables 3 x 2 x 0.22 mm² + 3 x 1.0 mm² or 3 x 2 x 0.25 mm² + 3 x 1.0 mm² are used for the sensor/actuator level of industrial communication

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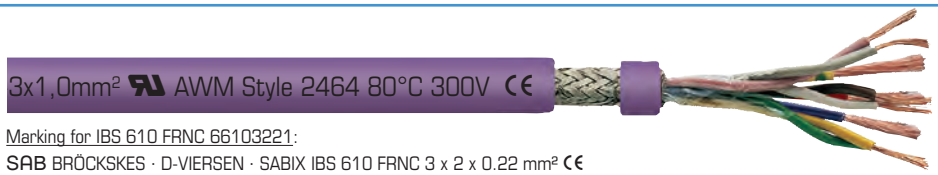
Remote Bus & Installation Remote BUS Cables

SABIX® IBS 610 — Halogen-free, Interbus-S cable

SABIX® IBS 610 FRNC — Halogen-free and flame retardant Interbus-S cable



Marking for IBS 610 FRNC 66103221:
SAB BRÖCKSKES · D-VIERSEN · SABIX IBS 610 FRNC 3 x 2 x 0.22 mm²

Construction:	SABIX® IBS 610 *remote bus cable*	SABIX® IBS 610 FRNC *remote bus cable*	SABIX® IBS 610* Hybrid *installation remote bus cable*	SABIX® IBS 610 FRNC* Hybrid *installation remote bus cable*
Item numbers:	56103221	66103221	56106221	66106221
Dimensions:	3 x 2 x 0.22 mm²	3 x 2 x 0.22 mm²	3 x 2 x 0.22 mm² + 3 x 1.00 mm²	
Conductor: 3 x 2 x 0.22 mm² resp. 3 x 2 x 0.25 mm²	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812	bare copper strands with reference to VDE 0812
Conductor: 3 x 1.00 mm²:	—	—	bare copper strands acc. to IEC 60228, VDE 0295, class 6	
Insulation:	SABIX®	SABIX®	SABIX®	SABIX®
Color code:	acc. to DIN 47100	acc. to DIN 47100	acc. to DIN 47100 (pairs), 1.0 mm²: red, blue and green/yellow ground	
Stranding:	twisted to pairs and pairs together		twisted to pairs (≤ 0.25 mm²) pairs and conductors together	
Wrapping:	PETP foil	PETP foil	PETP foil	PETP foil
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding	tinned copper braiding
Jacket material:	SABIX®	SABIX	SABIX	SABIX
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	SABIX® IBS 610 *remote bus cable*	SABIX® IBS 610 FRNC *remote bus cable*	SABIX® IBS 610 *installation remote bus cable*	SABIX® IBS 610 FRNC *installation remote bus cable*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Testing voltage: conductor/conductor: conductor/shielding:	1000 V 1000 V	1000 V 1000 V	1500 V 1500 V	1500 V 1500 V
Min. bending radius:	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.
Radiation resistance:	5 x 10^8 cJ/kg	—	5 x 10^8 cJ/kg	—
Temperature range: static: flexible:	-50/+90°C -40/+90°C	-40/+85°C -30/+85°C	-50/+90°C -40/+90°C	-40/+85°C -30/+85°C
Halogen-free:	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
Burning characteristics:	—	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	—	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
Oil resistance:	very good acc. to EN50363-4-1	—	very good acc. to EN50363-4-1	—
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases			
Smoke density	—	acc. to IEC 61034 + VDE 0482-1034		acc. to IEC 61034 + VDE 0482-1034
Characteristic impedance at 0.064 MHz:	120Ω ± 20%	120Ω ± 20%	120Ω ± 20%	120Ω ± 20%
Characteristic impedance at > 1 MHz:	100Ω ± 15Ω	100Ω ± 15Ω	100Ω ± 15Ω	100Ω ± 15Ω
Flexibility:	very good	very good	very good	good
Weather resistance:	good	good	good	good
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no.of pairs	no. of power conductors	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 56103221	SABIX® IBS 610	24 (≈ 16/32)/3pr	—	0.276	7.0	36
▶ 66103221	SABIX® IBS 610 FRNC	24 (≈ 16/32)/3pr	—	0.276	7.0	42
▶ 56106221*	SABIX® IBS 610	24 (≈ 14/34)/3pr	18 AWG (≈ 30/32)/3c	0.311	7.9	56
▶ 66106221*	SABIX® IBS 610 FRNC	24 (≈ 14/34)/3pr	18 AWG (≈ 30/32)/3c	0.311	7.9	63

Other dimensions and colors are available on request

* Interbus-S installation remote bus cables 3 x 2 x 0.22 mm² + 3 x 1.0 mm² or 3 x 2 x 0.25 mm² + 3 x 1.0 mm² are used for the sensor/actuator level of industrial communication

DIN 47100 color code:
#1- white/brown, #2- green/yellow, #3- gray/pink

SPECIAL CABLES SAB North America
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Interbus-Loop Cables

SABIX® IBL 600 FRNC Halogen-free, flame retardant Interbus-Loop cable

SABIX® IBL 600 Halogen-free Interbus-Loop cable

S IBL 605 PUR Interbus-Loop cable for cable tracks

IBL 600 PVC Interbus-Loop cable

Marking for IBL 605 6052853:
SAB BRÖCKSKES · D-VIERSEN · IBL 605 2x1.5mm² CE *and current meter marking*

CE RoHS

Construction:	SABIX® IBL 600 FRNC	IBL 600	SABIX® IBL 600	S IBL 605
Item numbers:	66012853 / 66013853	6002853 / 6003853	56002853 / 56003853	6052853 / 6053853
Dimensions:	2 x 1.50 mm² / 3 x 1.50 mm²	2 x 1.50 mm² / 3 x 1.50 mm²	2 x 1.50 mm² / 3 x 1.50 mm²	2 x 1.50 mm² / 3 x 1.50 mm²
Conductor:	bare copper strands acc. to IEC 60228, VDE 0295, class 5			bare copper strands acc. to IEC 60228, VDE 0295, class 6
Insulation:	SABIX®	PVC, TI2 acc. to EN 50363-3	SABIX®	TPE-E
Color code:	colored acc. to HD 308 (VDE 0293-308), green/yellow ground from 3 conductors			
Stranding:	in layers	in layers	in layers	specially adjusted layering with netting tape and one additional non-woven tape over the outer layer
Jacket material:	SABIX®	PVC, TM5 acc. to EN 50363-4-1	SABIX®	PUR, TMPU acc. to EN 50363-10-2 with rough surface
Jacket color:	may green (RAL 6017)	may green (RAL 6017)	may green (RAL 6017)	red lilac (RAL 4001)

Technical data:	SABIX® IBL 600 FRNC	IBL 600	SABIX® IBL 600	S IBL 605
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Testing voltage:	conductor/conductor: 1500 V		conductor/conductor: 1500 V	
Min. bending radius:	15 x O.D.	15 x O.D.	15 x O.D.	15 x O.D.
Radiation resistance:	—	8 x 10^7 cJ/kg	5 x 10^6 cJ/kg	5 x 10^7 cJ/kg
Temperature range: static: flexible:	 -40/+85°C -30/+85°C	 -40/+70°C -5/+70°C	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	—	acc. to IEC 60754-1 + EN 0482-754-1	acc. to IEC 60754-1 + EN 0482-754-1
Burning characteristics:	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	—	—
Corrosiveness of conflagration gases:	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	—	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	—
Smoke density:	acc. to IEC 61034 + VDE 0482-1034	—	—	—
Oil resistance:	—	very good acc. to VDE 0207-5	very good acc. to EN 50363-4-1	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2
Chemical resistance:	—	—	—	good against acids, alkalines, solvents, hydraulic liquids etc.
Characteristic impedance at 0.25 - 10 MHz:	for two conductor cables 75 Ω ± 15%		for two conductor cables 75 Ω ± 15%	
Flexibility:	good	—	very good	very good
Application in cable tracks:	not recommended	not recommended	not recommended	recommended
Weather resistance:	good	medium	good	very good
continuous flex applications:	—	—	—	very good
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	jacket color	no. of conductors	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 66012853	SABIX® IBL 600 FRNC	may green (RAL 6017)	2	16 (≈ 27-29/30)	0.272	6.9	54
▶ 66013853	SABIX® IBL 600 FRNC	may green (RAL 6017)	3	16 (≈ 27-29/30)	0.295	7.5	63
▶ 6002853	IBL 600	may green (RAL 6017)	2	16 (≈ 27-29/30)	0.272	6.9	50
▶ 6003853	IBL 600	may green (RAL 6017)	3	16 (≈ 27-29/30)	0.295	7.5	63
▶ 56002853	SABIX® IBL 600	may green (RAL 6017)	2	16 (≈ 27-29/30)	0.272	6.9	40
▶ 56003853	SABIX® IBL 600	may green (RAL 6017)	3	16 (≈ 27-29/30)	0.295	7.5	50
▶ 6052853	S IBL 605	red lilac (RAL 4001)	2	16 (≈ 84/34)	0.303	7.7	50
▶ 6053853	S IBL 605	red lilac (RAL 4001)	3	16 (≈ 84/34)	0.319	8.1	60

Other dimensions and colors are available on request

HD 308 color code:
2c- blue, brown
3c- green/yellow, blue, brown

CAN-Bus Cables acc. to ISO 11898

S CB 626 CAN-Bus cable for cable tracks
S CB 625 Halogen-free CAN-Bus cable for cable tracks
SABIX® CB 620 Halogen-free CAN-BUS cable
SABIX® CB 620 FRNC Halogen-free, flame retardant CAN-BUS cable

Marking for S CB 620 FRNC 66202251:
SAB BRÖCKSKES · D-VIERSEN · S CB 620 FRNC 2x0.25mm2 CE

CE RoHS

Construction:	S CB 626	S CB 625	SABIX® CB 620	SABIX® CB 620 FRNC
Item numbers:	6262251	6252251	56202251	66202251
Dimensions:	2 x 0.25 mm²	2 x 0.25 mm²	2 x 0.25 mm²	2 x 0.25 mm²
Conductor:	bare copper strands, fine wires		bare copper strands acc. to VDE 0812	
Insulation:	FEP	TPE-E	SABIX®	SABIX®
Color code:	acc. to DIN 47100	acc. to DIN 47100	acc. to DIN 47100	acc. to DIN 47100
Wrapping:	non-woven tape	non-woven tape	PETP foil	PETP foil
Shielding:	tinned copper braiding	tinned copper braiding	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	—	—
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 with rough surface		SABIX®	SABIX®
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	S CB 626	S CB 625	SABIX® CB 620	SABIX® CB 620 FRNC
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1200 V	 1500 V 1200 V	 1500 V 1200 V	 1000 V 1000 V
Min. bending radius:	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.	7.5 x O.D.
Radiation resistance:	5 x 10^6 cJ/kg	1 x 10^7 cJ/kg	—	—
Temperature range: static: flexible:	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C	 -50/+90°C -40/+90°C	 -40/+85°C -30/+85°C
Halogen-free:	—	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
Burning characteristics:	—	—	—	no flame propagation acc.to IEC 60332-3-24 + IEC 60332-3-25 Cat C resp.D
Corrosiveness of conflagration gases:	—	—	in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases	
Smoke density:	—	—	—	acc. to IEC 61034 + VDE 0482-1034
Oil resistance:	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2		very good acc. to EN 50363-4-1	—
Chemical resistance:	good against acids, alkalines, solvents, hydraulic liquids etc.		—	—
Characteristic impedance:	120 Ω ± (95 - 140 Ω)	120 Ω ± (95 - 140 Ω)	120 Ω ± (95 - 140 Ω)	120 Ω ± (95 - 140 Ω)
Flexibility:	very good	very good	very good	good
Application in cable tracks:	recommended	recommended	not recommended	not recommended
Weather resistance:	very good	very good	—	—
Bending characteristics: # of bendings acc. to VDE 0472-603 test method H	min. 250,000 single bendings	min. 500,000 single bendings	min. 60,000 single bendings	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no. of conductors	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 6262251	S CB 626	2	24 (≈ 34/38)	0.244	6.2	33
▶ 6252251	S CB 625	2	24 (≈ 34/38)	0.307	7.8	42
▶ 56202251	SABIX® CB 620	2	24 (≈ 16/34)	0.228	5.8	22
▶ 66202251	SABIX® CB 620 FRNC	2	24 (≈ 16/34)	0.224	5.7	26

Other dimensions and colors are available on request

DIN 47100 color code:
#1- white, #2- brown

CAN-Bus Cables acc. to ISO 11898

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 mm² AWM Style 20235 80°C 300 V

Construction:	CB 627	S CB 628
Conductors:	bare copper strands with reference to VDE 0812	bare copper strands, extra fine wires
Insulation:	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103
Color code:	acc. to DIN 47100	acc. to DIN 47100
Wrapping:	PETP foil	non-woven tape
Inner jacket (natural):	—	SABIX®
Shielding:	tinned copper braiding	tinned copper braiding
Jacket material:	PVC, TM5 acc. to EN 50363-4-1	PUR, TMPU acc. to EN 50363-10-2 with rough surface
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)

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

item no.	type	no. of pairs/conductors	AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 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

DeviceNet™ Cables

DN 651 **Flexible PVC DeviceNet™ cable with a foil shield and UL recognition**

DN 650 **Flexible PVC DeviceNet™ cable with a tinned copper shield and UL recognition**

Marking for DN 650 6502241:
SAB BRÖCKSKES · D-VIERSEN · DN 650 2x0.24mm²+2x0.38mm² 6502241 24AWG/1pr+22AWG/1pr
Low Voltage Computer Cable AWM Style 2560 60°C 30V

Construction:	DN 651 *Drop Cable*	DN 651 *Trunk Cable*	DN 650 *Drop Cable*	DN 650 *Trunk Cable*
Item numbers:	6512241	6512781	6502241	6502781
Dimensions:	2 x 0.24 mm² + 2 x 0.38 mm²	2 x 0.96 mm² + 2 x 1.53 mm²	2 x 0.24 mm² + 2 x 0.38 mm²	2 x 0.96 mm² + 2 x 1.53 mm²
Conductor: 0.25 mm² tinned copper strands 0.38 mm² tinned copper strands	 AWG 24/19 AWG 22/19	 — —	 AWG 24/19 AWG 22/19	 — —
Conductor: 0.96 mm² tinned copper strands 1.53 mm² tinned copper strands	 — —	 AWG 18/19 AWG 15/19	 — —	 AWG 18/19 AWG 15/19
Insulation:	0.24 mm²: acc. to EN 50290-2-23 (02YI1) 0.38 mm²: PVC, TI2 acc. to EN 50363-3	0.96 mm²: acc. to EN 50290-2-23 (02YI1) 1.53 mm²: PVC, TI2 acc. to EN 50363-3	0.24 mm²: acc. to EN 50290-2-23 (02YI1) 0.38 mm²: PVC, TI2 acc. to EN 50363-3	0.96 mm²: acc. to EN 50290-2-23 (02YI1) 1.53 mm²: PVC, TI2 acc. to EN 50363-3
Color code:	0.24 mm²/0.96 mm²: data pair white and light blue; 0.38 mm²/1.53 mm²: supply pair black and red		0.24 mm²/0.96 mm²: data pair white and light blue; 0.38 mm²/1.53 mm²: supply pair black and red	
Wrapping:	conductors twisted to pairs stranded with alu foil		conductors twisted to pairs stranded with alu foil	
Stranding:	pairs in specially adjusted layering, tinned copper drain wire in core		pairs in specially adjusted layering, tinned copper drain wire in core	
Shielding:	alu. foil	alu. foil	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	non-woven tape	non-woven tape
Jacket material:	PVC, TM1 acc. to EN 50363-4-1 + VDE 0207-363-4-1		PVC, TM1 acc. to EN 50363-4-1 + VDE 0207-363-4-1	
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	DN 651 *Drop Cable*	DN 651 *Trunk Cable*	DN 650 *Drop Cable*	DN 650 *Trunk Cable*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	30 V	30 V	30 V	30 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1200 V	 1500 V 1200 V	 1500 V 1200 V	 1500 V 1200 V
Min. bending radius: 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.
Temperature range: static: flexible:	UL: up to +60°C -30/+70°C -5/+70°C	UL: up to +60°C -30/+70°C -5/+70°C	UL: up to +60°C -30/+70°C -5/+70°C	UL: up to +60°C -30/+70°C -5/+70°C
Characteristic impedance:	120 Ω ± 10%	120 Ω ± 10%	120 Ω ± 10%	120 Ω ± 10%
UL Style:	2560	2560	2560	2560
Absence of harmful substances:	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 inch	outer-ø mm	cable weight ≈lbs/mft
▶ 6512241	DN 651 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.240 - 0.280	6.1 - 7.1	38
▶ 6512781	DN 651 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.410 - 0.488	10.4 - 12.4	78
▶ 6502241	DN 650 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.240 - 0.280	6.1 - 7.1	42
▶ 6502781	DN 650 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.410 - 0.488	10.4 -12.4	103

Other dimensions and colors are available on request

DeviceNet™ Cables

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 6562241:
SAB BRÖCKSKES · D-VIERSEN · DN 656 2x0.24mm²+2x0.38mm² 6562241 24AWG/1pr+22AWG/1pr AWM Style 21080 75°C 300V

Construction:	DN 656 *Drop Cable*	DN 656 *Trunk Cable*	DN 657 *Drop Cable*	DN 657 *Trunk Cable*
Item numbers:	6562241	6562781	6572241	6572781
Dimensions:	2 x 0.24 mm² + 2 x 0.38 mm²	2 x 0.96 mm² + 2 x 1.53 mm²	2 x 0.24 mm² + 2 x 0.38 mm²	2 x 0.96 mm² + 2 x 1.53 mm²
Conductor: 0.24mm² tinned copper strands 0.38 mm² tinned copper strands	 AWG 24/19 AWG 22/19	 — —	 AWG 24/19 AWG 22/19	 — —
Conductor: 0.96 mm² tinned copper strands 1.53 mm² tinned copper strands	 — —	 AWG 18/19 AWG 15/19	 — —	 AWG 18/19 AWG 15/19
Insulation:	0.24 mm²: acc. to EN 50290-2-23 (02YI1) 0.38 mm²: SABIX®	0.96 mm²: acc. to EN 50290-2-23 (02YI1) 1.53 mm²: SABIX®	0.24 mm²: acc. to EN 50290-2-23 (02YI1) 0.38 mm²: SABIX®	0.96 mm²: acc. to EN 50290-2-23 (02YI1) 1.53 mm²: SABIX®
Color code:	0.24 mm²/0.96 mm²: data pair white and light blue; 0.38 mm²/1.53 mm²: supply pair black and red		0.24 mm²/0.96 mm²: data pair white and light blue; 0.38 mm²/1.53 mm²: supply pair black and red	
Wrapping:	conductors twisted to pairs stranded with alu foil		conductors twisted to pairs stranded with alu foil	
Stranding:	pairs in specially adjusted layering, tinned copper drain wire in core			
Shielding:	alu. foil	alu. foil	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	non-woven tape	non-woven tape
Jacket material:	SABIX®	SABIX®	SABIX®	SABIX®
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	DN 656 *Drop Cable*	DN 656 *Trunk Cable*	DN 657 *Drop Cable*	DN 657 *Trunk Cable*
Peak operating voltage:	max. 350 V	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	 1500 V 1200 V
Min. bending radius: 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.
Temperature range: 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
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1		acc. to IEC 60754-1 + VDE 0482-754-1	
Characteristic impedance:	120 Ω ± 10%	120 Ω ± 10%	120 Ω ± 10%	120 Ω ± 10%
UL Style:	21080	21080	—	—
Absence of harmful substances:	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 inch	outer-ø mm	cable weight ≈lbs/mft
▶ 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	42
▶ 6572781	DN 657 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.410 - 0.488	10.4 - 12.4	99

Other dimensions and colors are available on request

DeviceNet™ Cables

DN 659 Continuous flex DeviceNet™ cable with a foil shield

DN 658 Continuous flex DeviceNet™ cable with tinned copper shield

Marking for DN 658 6582241:
SAB BRÖCKSKES · D-VIERSEN · DN 658 2x0.24mm²+2x0.38mm² 6582241 24AWG/1pr+22AWG/1pr AWM Style 20417 60°C 30V

Construction:	DN 659 *Drop Cable*	DN 659 *Trunk Cable*	DN 658 *Drop Cable*	DN 658 *Trunk Cable*
Item numbers:	6592241	6592781	6582241	6582781
Dimensions:	2 x 0.24 mm² + 2 x 0.38 mm²	2 x 0.96 mm² + 2 x 1.53 mm²	2 x 0.24 mm² + 2 x 0.38 mm²	2 x 0.96 mm² + 2 x 1.53 mm²
Conductor: 0.24 mm² tinned copper strands 0.38 mm² tinned copper strands	 fine wires fine wires	 — —	 fine wires fine wires	 — —
Conductor: 0.96 mm² tinned copper strands 1.53 mm² tinned copper strands	 — —	 fine wires fine wires	 — —	 fine wires fine wires
Insulation:	0.24 mm²: acc. to EN 50290-2-23 (02YI1) 0.38 mm²: PVC, TI2 acc. to EN 50363-3	0.96 mm²: acc. to EN 50290-2-23 (02YI1) 1.53 mm²: PVC, TI2 acc. to EN 50363-3	0.24 mm²: acc. to EN 50290-2-23 (02YI1) 0.38 mm²: PVC, TI2 acc. to EN 50363-3	0.96 mm²: acc. to EN 50290-2-23 (02YI1) 1.53 mm²: PVC, TI2 acc. to EN 50363-3
Color code:	0.24 mm²/0.96 mm²: data pair white and light blue; 0.38 mm²/1.53 mm²: supply pair black and red		0.24 mm²/0.96 mm²: data pair white and light blue; 0.38 mm²/1.53 mm²: supply pair black and red	
Wrapping:	conductors twisted to pairs stranded with alu foil		conductors twisted to pairs stranded with alu foil	
Stranding:	pairs in specially adjusted layering, tinned copper drain wire in core			
Shielding:	alu. foil	alu. foil	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape	non-woven tape	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with rough surface			
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	DN 659 *Drop Cable*	DN 659 *Trunk Cable*	DN 658 *Drop Cable*	DN 658 *Trunk Cable*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	30 V	30 V	30 V	30 V
Testing voltage: conductor/conductor: conductor/shielding:	 2000 V 2000 V	 2000 V 2000 V	 2000 V 2000 V	 2000 V 2000 V
Min. bending radius: 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.
Temperature range: static: flexible:	**UL:** up to +60°C -30/+70°C -5/+70°C	**UL:** up to +60°C -30/+70°C -5/+70°C	**UL:** up to +60°C -30/+70°C -5/+70°C	**UL:** up to +60°C -30/+70°C -5/+70°C
Characteristic impedance:	120 Ω ± 10%	120 Ω ± 10%	120 Ω ± 10%	120 Ω ± 10%
UL Style:	20417	20417	20417	20417
Absence of harmful substances:	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 inch	outer-ø mm	cable weight ≈lbs/mft
▶ 6592241	DN 659 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.240 - 0.280	6.1 - 7.1	50
▶ 6592781	DN 659 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.410 - 0.488	10.4 - 12.4	77
▶ 6582241	DN 658 (Drop Cable)	24 AWG/1pr	22 AWG/1pr	0.240 - 0.280	6.1 - 7.1	42
▶ 6582781	DN 658 (Trunk Cable)	18 AWG/1pr	15 AWG/1pr	0.410 - 0.488	10.4 - 12.4	103

Other dimensions and colors are available on request

DN 658 Robot Cable/Drop

Highly flexible DeviceNet™ cable, suitable for robots with overall tinned copper shield

Marking for DN 658 6589007:
SAB BRÖCKSKES · D-VIERSEN · DN 658 robot cable/Drop 2x0.24mm²+2x0.38mm² 24AWG/1pr+22AWG/1pr AWM Style 21198 80°C 300V 6589007

Construction:

Conductor:	bare copper strands, fine wires
Insulation:	24 AWG: Foam-Skin PE 22 AWG: SABIX®
Color code:	24 AWG: white, blue 22 AWG: black, red
Wrapping:	conductors twisted to pairs stranded with alu foil
Stranding:	pairs in a specifically adjusted layering, tinned copper drain wire in the core.
Shielding:	tinned copper braiding
Wrapping:	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Jacket color:	red lilac (RAL 4001)

Technical data:

Peak operating voltage:	max. 350V
Voltage UL:	300 V
Testing voltage:	conductor/conductor: 2000 V conductor/shielding: 2000 V
Min. bending radius: *fixed installation:* *free movement:*	 7.5 x O.D. 15 x O.D.
Torsion angle:	up to ± 180°/m
Temperature range: *static:* *flexible:*	**UL:** up to 80°C -40/+80°C -30/+80°C
Characteristic impedance:	120 Ω ± 10%
Approvals:	UL AWM Style 21198, CE, RoHS
Absence of harmful substances:	acc. to RoHS directive of the European Union see page O/30

item no.	no. of conductors	AWG	outer-ø inch	outer-ø mm	cable weight ≈lbs/mft	ohmic resistance at 20°C max.Ω/km
► 6589007	2 2	24/19 22 (≈ 48/38)	0.240 - 0.280	6.1 - 7.1	38	83.3

Other dimensions and colors are available on request

Profibus-DP Cables acc. to IEC 61158-2

SABIX® PB 630 Halogen-free Profibus-DP cable
SABIX® PB 630 FRNC Halogen-free flame retardant Profibus-DP cable
PB 631 Halogen-free PE Profibus-DP cable for fixed installation
PB 633 Halogen-free, flexible PE Profibus-DP cable

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

Construction:

	SABIX® PB 630 *Halogen-free*	SABIX® PB 630 FRNC *Halogen-free & flame retardant*	PB 631 *for fixed installations*	PB 633 *for flexible applications*
Item numbers:	56302341	66302341	6312331	6332341 / 6334341
Dimensions:	2 x 0.34 mm²	2 x 0.34 mm²	2 x 22 AWG	2 x 0.34 mm² 2 x 0.34 mm² + 3 x 1.00 mm²
Conductor:	bare copper strands, acc. to VDE 0812	bare copper strands, acc. to VDE 0812	bare copper wire AWG 22, single wire	0.34 mm²: bare copper strands acc. to VDE 0812 1.00 mm²: bare copper strands acc. to IEC 60228, VDE 0295, class 5
Pairwise wrapping:	—	—	—	alu foil
Insulation:	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	0.34 mm²: EN 50290-2-23 + VDE 0819-103 (02YI1) 1.00 mm²: PE 2YI1 acc. to EN 50290-2-23
Color code:	red, green	red, green	red, green	red, green (0.34 mm²), brown, light blue and green/yellow ground (1.0 mm²)
Stranding:	in layers	in layers	in layers	—
Shielding:	alu foil + tinned copper braiding		alu foil + tinned copper braiding	tinned copper braiding (pairwise)
Jacket material:	SABIX®	SABIX®	PE, 2YM1 acc. to EN 50290-2-24	
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:

	SABIX® PB 630 *Halogen-free*	SABIX® PB 630 FRNC *Halogen-free & flame retardant*	PB 631 *for fixed installations*	PB 633 *for flexible applications*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1500 V	 1500 V 1500 V	 1500 V 1500 V	 1500 V 1500 V
Min. bending radius:	12 x O.D.	12 x O.D.	12 x O.D.	12 x O.D.
Radiation resistance:	—	—	7 x 10⁸ cJ/kg	—
Temperature range: static: flexible:	 -40/+80°C -40/+80°C	 -40/+80°C -30/+80°C	 -40/+70°C -40/+70°C	 -40/+70°C -40/+70°C
Halogen-free:	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	—
Burning characteristics: 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	—	X	—	—
Corrosiveness of conflagration gases:	IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases			
Smoke density:	—	very low	low	—
Oil resistance:	very good acc. to EN 50363-4-1	—	—	—
Characteristic impedance 3 - 20 MHz:	150 Ω ± 10%	150 Ω ± 10%	150 Ω ± 10%	—
For fixed installation:	suitable	suitable	suitable	suitable
For flexible application:	suitable	not suitable	not suitable	suitable
Weather resistance:	good	good	good	good
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30			

item no.	type	no. of conductors	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 56302341	SABIX® PB 630	2	22 (≈ 7/30)	0.295	7.5	34
▶ 66302341	SABIX® PB 630 FRNC	2	22 (≈ 7/30)	0.295	7.5	34
▶ 6312331	PB 631	2	22	0.280	7.1	30
▶ 6332341	PB 633	2	22 (≈ 7/30)	0.295	7.5	34
▶ 6334341	PB 633	2+3	22 (≈ 7/30) +18 (≈ 30/32)	0.398	10.1	68

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.

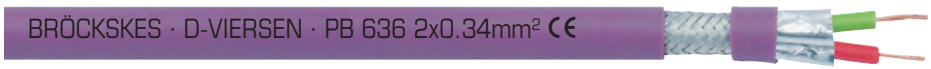
Profibus-DP Cables acc. IEC 61158-2

PB 630 PVC Profibus-DP cable for fixed installation

PB 639 PVC Profibus-DP cable for direct burial

PB 636 Flexible PVC Profibus-DP cable for outdoor installation

PB 635 PVC Profibus-DP cable for outdoor installation



Marking for PB 636 6362348:
SAB BRÖCKSKES · D-VIERSEN · PB 636 2x0.34mm² CE

Construction:	PB 630 *for fixed installations*	PB 639 *for direct burial*	PB 636 *for fixed installations*	PB 635 *for fixed installations*
Item numbers:	6302331	6392338	6362348	6352338
Dimensions:	2 x 22 AWG	2 x 22 AWG	2 x 0.34 mm²	2 x 22 AWG
Conductor:	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
Insulation:	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)
Color code:	red, green	red, green	red, green	red, green
Stranding:	in layers	in layers	in layers	in layers
Shielding:	alu foil + tinned copper braiding		alu foil + tinned copper braiding	
Jacket material:	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
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

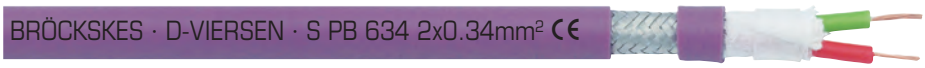
Technical data:	PB 630 *for fixed installations*	PB 639 *for direct burial*	PB 636 *for fixed installations*	PB 635 *for fixed installations*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V	max. 350 V
Testing voltage: conductor/conductor: conductor/shielding:	 1500 V 1500 V	 1500 V 1500 V	 1500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

item no.	type	no. of conductors	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 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

Profibus-DP Cables acc. to IEC 61158-2

PB 637 PVC Profibus-DP cable for fixed installations
S PB 634 Continuous flex PUR Profibus-DP cable for cable tracks
PB 632 PVC Profibus-DP Cable for flexible applications



Marking for S PB 634 6342341:
SAB BRÖCKSKES · D-VIERSEN · S PB 634 2x0.34mm²

Construction:	PB 637 *for fixed installations*	S PB 634 *continuous flex for cable tracks*	PB 632 *for flexible applications*
Item numbers:	6372331	6342341 / 6344341	6322341 / 6324341
Dimensions:	2 x AWG 22	2 x .034 mm² / 2 x 0.34 mm² + 3 x 1.00 mm²	2 x .034 mm² / 2 x 0.34 mm2 + 3 x 1.00 mm²
Conductor:	bare copper wire AWG 22, single wire	0.34 mm²: bare copper strands acc. to VDE 0812 1.00 mm²: bare copper strands acc. to IEC 60228, VDE 0295, class 6	0.34 mm²: bare copper strands acc. to VDE 0812 1.00 mm²: bare copper strands acc. to IEC 60228, VDE 0295, class 5
Pairwise wrapping:	—	non-woven tape/alu foil	alu foil
Pairwise jacketing:	—	TPE	—
Insulation:	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	0.34 mm²: EN 50290-2-23 + VDE 0819-103 (02YI1) 1.00 mm²: TPE	0.34 mm²: EN 50290-2-23 + VDE 0819-103 (02YI1) 1.00 mm²: PVC TI2 acc. to EN 50363-3
Color code:	red, green	red, green (0.34 mm²), brown, light blue and green/yellow ground (1.0 mm²)	
Stranding:	in layers	in layers	in layers
Shielding:	alu foil + tinned copper braiding	pairwise: tinned copper braiding	pairwise: tinned copper braiding
Jacket material:	PVC, TM5 acc. to EN 50363-4-1	PUR, TMPU acc. to EN 50363-10-2 with rough surface	PVC, TM2 acc. to EN 50363-4-1
Jacket color:	red lilac (RAL 4001)	red lilac (RAL 4001)	red lilac (RAL 4001)

Technical data:	PB 637 *for fixed installations*	S PB 634 *continuous flex for cable tracks*	PB 632 *for flexible applications*
Peak operating voltage:	max. 350 V	max. 350 V	max. 350 V
Voltage UL:	30 V	—	—
Testing voltage: conductor/conductor: conductor/shielding:	1500 V 1500 V	1500 V 1500 V	1500 V 1500 V
Min. bending radius:	12 x O.D.	12 x O.D.	12 x O.D.
Temperature range: static: flexible:	**UL:** up to 60°C -30/+70°C -5/+70°C	-40/+80°C -40/+80°C	-30/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	—	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good acc. to VDE 0207-5	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2	acc. to internal standard see page O/29
Characteristic impedance 3 - 20 MHz:	150 Ω ± 10%	—	—
For fixed installation:	suitable	suitable	suitable
For flexible application:	not suitable	suitable	suitable
Application in cable tracks:	not recommended	recommended	not recommended
Weather resistance:	very good	very good	medium
UL Style:	2560	—	—
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30		

item no.	type	no. of conductors	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 6372331	PB 637	2	22	0.295	7.5	38
▶ 6342341	S PB 634	2	22 (≈ 7/30)	0.299	7.6	39
▶ 6344341	S PB 634	2 + 3	22 (≈ 7/30) + 18 (≈ 56/34)	0.417	10.6	73
▶ 6322341	PB 632	2	22 (≈ 7/30)	0.295	7.5	38
▶ 6324341	PB 632	2+3	22 (≈ 7/30) + 18 (≈ 30/32)	0.398	10.1	82

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.

Profibus-DP Cables

PB 640 Flexible PVC Profibus-DP cable
PB 640 UL Flexible PVC Profibus-DP cable with UL recognition
S PB 640 Continuous flex PUR Profibus-DP cable
S PB 640 UL Continuous flex PUR Profibus-DP cable with UL recognition

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

Construction:	PB 640 *for flexible applications*	PB 640 UL *for flexible applications*	S PB 640 *continuous flex*	S PB 640 UL *continuous flex*
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 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)	acc. to EN 50290-2-23 + VDE 0819-103 (02YI1)
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, TMPU 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)

Technical data:	PB 640 *for flexible applications*	PB 640 UL *for flexible applications*	S PB 640 *continuous flex*	S PB 640 UL *continuous flex*
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 ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 6402421	PB 640	2	24	0.315	8.0	42
▶ 6402631	PB 640 UL	2	24	0.315	8.0	42
▶ 6402601	S PB 640	2	24	0.315	8.0	38
▶ 6402611	S PB 640 UL	2	24	0.315	8.0	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

SPECIAL CABLES SAB North America
www.sabcable.com
866-722-2974 ■ info@sabcable.com

Profibus-DP Cables acc. to IEC 61158-2

PB 642 PVC Profibus-cable (PA)

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

Marking for S PB 644 6442251:
SAB BRÖCKSKES · D-VIERSEN · S PB 644 2x0.25mm²

Construction:	PB 642 *flexible*	S PB 644 *continuous flex*
Item numbers:	6422221, 6424221, 6422251, 6424251, 6422767, 6422768	6442251, 6444251
Dimensions:	2 x 0.22 mm², 2 x 2 x 0.22 mm², 2 x .025 mm², 2 x 2 x 0.25 mm², 2 x 0.82 mm², 2 x 0.82 mm²	2 x .025 mm², 2 x 2 x 0.25mm²
Conductors:	bare copper strands with reference to VDE 0812	bare copper strands, extra fine wires
Insulation:	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103	PE, 2YI1 acc. to EN 50290-2-23 + VDE 0819-103
Color code:	2c: red, green (PA), 2pr: DIN 47100 (type B)	2c: red, green (PA), 2pr: DIN 47100 (type B)
Stranding:	in layers	in layers
Wrapping:	PETP foil, non-woven tape	PETP foil, non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding
Jacket material:	PVC, TM2 acc. to EN 50363-4-1	PUR, TMPU acc. to EN 50363-10-2 with rough surface
Jacket color:	red lilac (RAL 4001), blue (RAL 5015), or black (RAL 9005)	red lilac (RAL 4001)

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

item no.	type	jacket color	no. of conductors	mm²	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 6422221	PB 642	red lilac (RAL 4001)	2	0.22 mm²	0.173	4.4	17
▶ 6424221	PB 642	red lilac (RAL 4001)	2 x 2	0.22 mm²	0.244	6.2	30
▶ 6422251	PB 642	red lilac (RAL 4001)	2	0.25 mm²	0.193	4.9	20
▶ 6424251	PB 642	red lilac (RAL 4001)	2 x 2	0.25 mm²	0.264	6.7	35
▶ 6422767	PB 642	blue (RAL 5015)	2	0.82 mm²	0.287	7.3	46
▶ 6422768	PB 642	black (RAL 9005)	2	0.82 mm²	0.287	7.3	46
▶ 6442251	S PB 644	red lilac (RAL 4001)	2	0.25 mm²	0.205	5.2	22
▶ 6444251	S PB 644	red lilac (RAL 4001)	2 x 2	0.25 mm²	0.268	6.8	38

Other dimensions and colors are available on request

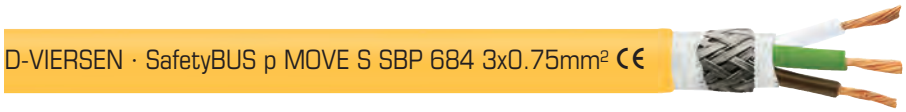
DIN 47100 color code:
#1- white/brown, #2- green/yellow

SafetyBus p Cables

SBP 680 SafetyBUS p cable for fixed installation

S SBP 684 Move SafetyBUS p cable for flexible application

Marking for SBP 680 6803754:
SAB BRÖCKSKES · D-VIERSEN · SafetyBUS p SBP 680 3x0.75mm² CE *and current meter marking*



Marking for S SBP 684 Move 6843754:
SAB BRÖCKSKES · D-VIERSEN · SafetyBUS p MOVE S SBP 684 3x0.75mm² CE *and current meter marking*

Construction:	SBP 680 *for fixed installation*	S SBP 684 Move *for flexible applications*
Item numbers:	6803754	6843754
Dimensions:	3 x 0.75 mm²	3 x 0.75 mm²
Conductors:	bare copper strands acc. to VDE class 5	bare copper strands acc. to VDE class 6
Insulation:	acc. to EN 50290-2-23 + VDE 0819-103 (02Y11)	acc. to EN 50290-2-23 + VDE 0819-103 (02Y11)
Color code:	acc. to DIN 47100	acc. to DIN 47100
Wrapping:	non-woven tape	non-woven tape
Shielding:	tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	non-woven tape
Jacket material:	PUR	PUR
Jacket color:	signal yellow (RAL 1003)	signal yellow (RAL 1003)

Technical data:	SBP 680 *for fixed installation*	S SBP 684 Move *for flexible applications*
Peak operating voltage:	max. 350 V	max. 350 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:	-40/+80°C	-40/+80°C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	acc. to IEC 60754-1 + VDE 0482-754-1
Oil resistance:	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
Characteristic impedance at 1 MHz:	100 - 120 Ω	100 - 120 Ω
Application in cable tracks:	not recommended	recommended
Continuous flex application:	—	very good
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 ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 6803754	SBP 680	3	19 (≈ 24/32)	0.307	7.8	50
▶ 6843754	S SBP 684 Move	3	19 (≈ 69/38)	0.307	7.8	50

Other dimensions and colors are available on request

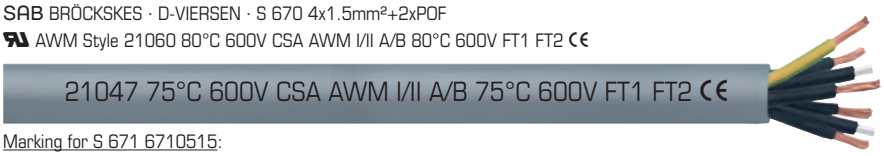
DIN 47100 color code:
#1- white, #2- brown, #3- green

Hybrid Fieldbus Cables

S 670 PUR hybrid field bus control cable, with 2 optical wave guides, suitable for cable tracks

S 671 PVC hybrid field bus control cable, with 2 optical wave guides, suitable for cable tracks

Marking for S 670 6700415:
SAB BRÖCKSKES · D-VIERSEN · S 670 4x1.5mm²+2xPOF
AWM Style 21060 80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE



Marking for S 671 6710515:
SAB BRÖCKSKES · D-VIERSEN · S 671 5x1.5mm²+2xPOF
AWM Style 21047 75°C 600V CSA AWM I/II A/B 75°C 600V FT1 FT2 CE

optical waveguide + copper conductors

Construction:	S 670	S 671
Item numbers:	6700415, 6700515, 6700425, 6700525	6710210, 6710310, 6710215, 6710515
Dimensions:	4 x 1.50 mm², 5 x 1.50 mm² 4 x 2.50 mm², 5 x 2.50 mm²	2 x 1.00 mm², 3 x 1.00 mm² 2 x 1.50 mm², 5 x 1.50 mm²
Conductors:	bare copper strands, extra fine wires	bare copper strands, extra fine wires
Insulation:	PVC, TI2 acc. to EN 50363-3	PVC, TI2 acc. to EN 50363-3
Color code:	black conductors with consecutive numbers acc. to EN 50334 + VDE 0293-334, green/yellow ground from 3 conductors	
Optical waveguide:	POF (polymeric optical fibers)	POF (polymeric optical fibers)
Color Code POF:	black	black
Stranding:	cores and POF in specially adjusted layering	cores and POF in specially adjusted layering
Wrapping:	non-woven tape	non-woven tape
Jacket material:	PUR, TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2 with matte surface	PVC, TM2 acc. to EN 50363-4-1 + VDE 0207-363-4-1, reinforced wall-thickness
Jacket color:	red lilac (RAL 4001)	silver gray (RAL 7001)

Technical data:	S 670	S 671
Nominal voltage:	Uo/U 300/500 V	Uo/U 300/500 V
Voltage UL/CSA:	600 V	600 V
Testing voltage: conductor/conductor:	3000 V	3000 V
Min. bending radius: fixed installation: free movement: continuous flex:	4 x O.D. 7.5 x O.D. 10 x O.D.	4 x O.D. 7.5 x O.D. 10 x O.D.
Temperature range: static: flexible:	**UL/CSA: up to +80°C** -40/+70°C -5/+70°C	**UL/CSA: up to +75°C** -40/+70°C -5/+70°C
Burning characteristics:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	very good acc. to EN 50363-10-2 + VDE 0207-363-10-2	acc. to internal standard see page O/29
Attenuation POF measured at 650 nm:	max. 10 dBm / 20 m	max. 10 dBm / 20 m
Diameter:	**POF:** Center 900/1000 µm - outside 2.2 mm	**POF:** Center 900/1000 µm - outside 2.2 mm
UL Style:	21060	21047
Absence of harmful substances:	acc. to RoHS directive of the European Union, see page O/30	

S 670: PUR jacket

item no.	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 6700415	16 AWG/4c	0.394	10.0	89
▶ 6700515	16 AWG/5c	0.417	10.6	105
▶ 6700425	14 AWG/4c	0.480	12.2	132
▶ 6700525	14 AWG/5c	0.516	13.1	161

each + 2 x POF (polymeric optical fibers)

Other dimensions and colors are available on request

S 671: PVC jacket

item no.	dimensions AWG	outer-ø ±10% inch	outer-ø ±10% mm	cable weight ≈lbs/mft
▶ 6710210	18 AWG/2c	0.283	7.2	43
▶ 6710310	18 AWG/3c	0.315	8.0	54
▶ 6710215	16 AWG/2c	0.303	7.7	49
▶ 6710515	16 AWG/5c	0.421	10.7	111

each + 2 x POF (polymeric optical fibers)

Other dimensions and colors are available on request

CATLine Profinet Cable Assemblies

Suitable for cable tracks with male M12 connectors

INNOVATIVE SOLUTIONS
FOR PROFINET WIRING

Application: For the field bus wiring of Profinet field bus systems in industrial sectors. This cable type is used for example in cable track applications for automation and machine and plant construction with rough environments. The PUR outer jacket is resistant against rough environmental conditions.

Construction:

Conductor:	tinned copper strands
Insulation:	special polymer
Shielding:	alu foil and tinned copper braiding
Jacket material:	PUR
Jacket color:	green (RAL 6018)

Technical Data:

Min. bending radius *continuous flex:*	15 x O.D.
Temperature range *flexible:* *static:*	-20/+70°C -30/+70°C
Special feature:	Characteristic impedance 100Ω ± 10Ω CAT 5 with reference to EN 50173-1, oil resistant, suitable for cable tracks

J
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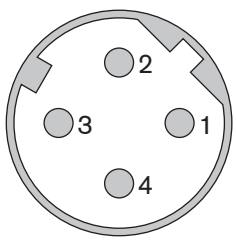
Pin configuration:

Pin1:	yellow
Pin2:	white
Pin3:	orange
Pin4:	blue
Housing:	screen



Plug types:

- M12 plug (male) 4-pole, D-coded
- M12 socket (female) 4-pole, D-coded
  straight or angled
  molded or mounted

item no.	length
▶ S0667-4003	3m/ ≈ 9.8 ft
▶ S0667-4004	5m/ ≈ 16.4 ft
▶ S0667-4005	7m/ ≈ 23.0 ft
▶ S0667-4006	10m/ ≈ 32.8 ft
▶ S0667-4007	15m/ ≈ 49.2 ft
▶ S0667-4008	20m/ ≈ 65.6 ft
▶ S0667-4009	25m/ ≈ 82.0 ft
▶ S0667-4011	28m/ ≈ 91.9 ft
▶ S0667-4010	35m/ ≈ 114.8 ft
▶ S0667-4012	50m/ ≈ 164.0 ft

Other lengths are possible on request

Cable assemblies with RJ45 connectors are also available.

S PN 667 cable information on page J/15

Profibus Cable Assemblies

Suitable for cable tracks with male M12 connectors

PROFIBUS CABLES ASSEMBLIES
FOR CABLE TRACK APPLICATIONS

Application: For the field bus wiring in automation technique. These bus cables transfer Profibus signals with different cable and plug combinations. The PUR cable for cable track applications is resistant against rough environmental conditions in industrial applications.

Construction:

Conductor:	bare copper strands
Insulation:	TPK
Shielding:	alu foil and tinned copper braiding
Jacket material:	PUR
Jacket color:	red lilac (RAL 4001)

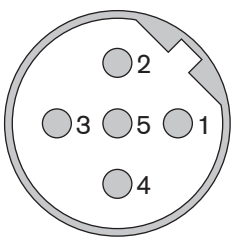
Technical Data:

Min. bending radius *continuous flex:*	12 x O.D.
Temperature range *flexible:* *static*	-40/+80 °C -40/+80 °C
Special feature:	Characteristic impedance at 3 - 20 MHz: 150Ω ± 10% with reference to IEC 61158-2, oil resistant, suitable for cable tracks

Pin configuration:

Pin1:	n.a.*
Pin2:	green
Pin3:	n.a.*
Pin4:	red
Pin5:	n.a.*
Housing:	screen

*n.o. - no allocation



Plug types:

- M12 plug (male) 5-pole, B-coded
- M12 socket (female) 5-pole, B-coded
  straight or angled
  molded or mounted

item no.	length
▶ S0634-4039	3m/ ≈ 9.8 ft
▶ S0634-4040	5m/ ≈ 16.4 ft
▶ S0634-4041	7m/ ≈ 23.0 ft
▶ S0634-4042	10m/ ≈ 32.8 ft
▶ S0634-4043	15m/ ≈ 49.2 ft
▶ S0634-4045	25m/ ≈ 82.0 ft
▶ S0634-4046	30m/ ≈ 98.4 ft

Other lengths are possible on request

We offer further plug and cable combinations for example with angular connectors or with one open cable end on request. Cable assemblies with RJ45 connectors are also available.

S PB 634 cable information on page J/46

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