Industrial Ethernet Cables

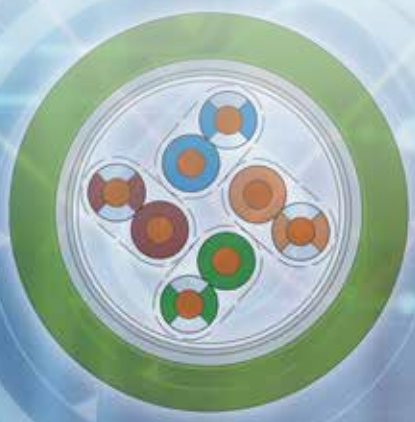
SPECIAL CABLES
SAB BRÖCKSKES

Industrial Ethernet cables

Content

Industrial Ethernet cables

Content



Customised connection solutions - quality & innovation since 1947

For three generations, SAB Bröckskes has stood for customised connection solutions in cable and measurement technology. Having grown from a one-man operation, we now employ approx. 550 people and realise more than 1,500 customer-specific special constructions every year. Our strength lies in the development and production of customised solutions that are perfectly tailored to our customers' requirements.

As a manufacturer and service provider, we combine technological expertise with maximum flexibility and genuine partnership. Our products are in use in more than 100 countries and fulfil the highest quality standards, certified in accordance with DIN EN ISO 9001. In addition, we set a clear example of sustainability and responsibility with environmental, labour and energy management systems in accordance with international standards.

The same applies to us today as in the future:

WE GO FORWARD!

FOUNDATION

» 1947 by Peter Bröckskes sen.
» an independent, medium-sized company

MANAGEMENT

» Peter Bröckskes and Sabine Bröckskes-Wetten

EMPLOYEES

» approx. 550 employees worldwide, approx. 430 at the location in Viersen

PRODUCTS

» Special Cables
» Measurement Technology
» Cable Harnessing

YEARLY SALES

» over 134 Mio. € worldwide

HEAD OFFICE & PRODUCTION

» in Viersen-Süchteln (Lower Rhine), with a floor area of 110,000 m²
» own manufacturing in Germany from copper conductor to outer sheath
» VDE approved burnchamber and technical centre with own test laboratory

CERTIFICATES AND APPROVALS

» Quality management system acc. to DIN EN ISO 9001 for every manufacturing field
» Environmental management system acc. to DIN EN ISO 14001
» Occupational Safety and Health Management System acc. to NLF/ILO-OSH and DIN ISO 45001
» Energy management system acc. to DIN EN ISO 50001
» UL, CSA, CE, VDE, HAR, IEC, EN, ISO, DNV, ABS, BSI

Family business in its third generation

1947 - 1989
Peter Bröckskes sen.

Visionary with a thirst for action: Peter Bröckskes Senior was a successful company founder with determination, hard work and a pioneering spirit. He started out in 1947 as a one-man alarm system company and continuously developed new products. In the course of his entrepreneurial career, he overcame setbacks and repeatedly managed to recognise gaps in the market and develop new products.

1989 - 2017
Peter Bröckskes

After studying business administration, Peter Bröckskes joined the company in 1980 as sales manager and took over the management in 1989. Under his leadership, the company's strategy shifted away from trading to speciality cable manufacturing and problem solving. Despite economic challenges, the company grows.

since 2011
Sabine Bröckskes-Wetten

In the summer of 2000, Sabine Bröckskes-Wetten began her training as a cable production mechanic at SAB Bröckskes. After completing her studies in industrial engineering, Sabine Bröckskes-Wetten rejoined the company in 2007. She becomes head of the production department and later has overall responsibility for the technical area. In 2011, she became the owner of the company and successfully focused on expansion, quality and service.

Flexible cables

Due to faster and high-tech automation systems in all areas of production and application technology, the industry demands **innovative cables and wires** from the cable industry. To ensure that we are always at the cutting edge of technology, we develop and produce **customized special cables** to meet the exact technical requirements of our customers.

We can realize even the **smallest batch sizes.** Total lengths of 300 m, often even **as short as 100 m,** are based on individual requirements and are therefore also economically in the interest of our customers.

Insulating and sheath materials
PVC
polyethylene
polypropylene
polyurethane
TPE
SABIX® (zero halogen)
Besilen® - silicone
FEP, ETFE, PFA, PTFE
pi foil
fibre-glass

Conductor materials
bare copper
tinned copper
silver-plated copper
nickel-plated copper
nickel
pure nickel
alloys for compensating cable

Temperature ranges
thermoplastic elastomers -50°C up to +145°C
SABIX® -50°C up to +220°C
Besilen® - silicone -40°C up to +220°C
FEP, ETFE, PFA -50°C bis +220°C
fibre-glass up to +600°C

Conductors
cross sections 0,055 - 300 mm²
unshielded and shielded more than 100 conductors

Quality assurance

TESTING

CHECKING

Good results are not determined by luck and chance, but rather by years of experience, sophisticated technology, technical expertise and the ability to develop and test new things and improve existing ones. We are **constantly developing and refining** our products in order to complete off our range of services and consolidate and expand our position in the market.

With our wide range of testing and inspection machines, we ensure that our products are **intensively tested** and **checked** before they are ready for the market. Further tests are often carried out in cooperation with our customers and partners under real conditions at the place of use.

SAB Bröckskes has at its disposal all the test procedures required by the VDE as well as numerous international certifications. In addition, we use many other test facilities, such as a self-developed alternating bending test machine for extreme hardness and long-term tests. We are convinced of the quality of our products and this is one of the ways we create trust with our customers.

TORSION

FLEXIBILITY

Industrial Ethernet cables

Direct current, low-frequency and high-frequency measurements for CATLine cables

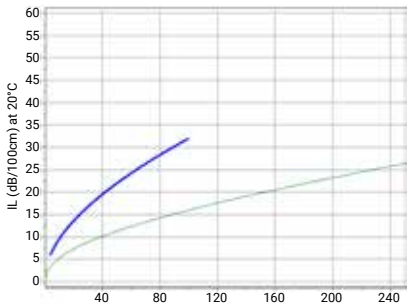
Our **CATLine** product range meets the electrical and transmission requirements in the high-frequency range in accordance with or based on the **EN 50288-x-x** (Cat.5-Cat7A) series of standards.

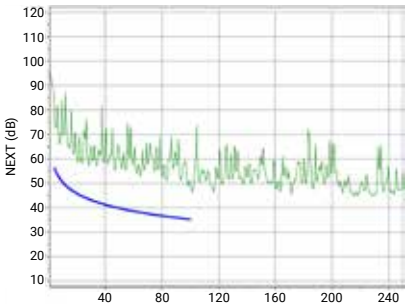
Resistance imbalance: **≤ 2,0%**
Characteristic impedance: **100Ω ± 10Ω**

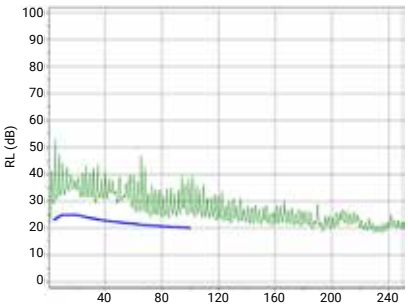
Below are some extracts for assessing performance. In addition, our particular expertise lies in the development of special cables that exceed standard requirements – whether in the field of **miniaturisation** with limited application lengths or for **extreme transmission lengths** of more than 100 m. Here, we have advanced testing capabilities in the low and high frequency measurement range and extensive experience from customer applications.
Please feel free to contact us!

EN 50288-2-2 (Cat.5)

	MHz	1	4	10	16	20	31,25	62,5	100
attenuation	dB/100 m	3,2	6,0	9,5	12,1	13,6	17,1	24,8	32,0
crosstalk (Next)	dB	65,3	56,3	50,3	47,2	45,8	42,9	38,4	35,3
return loss (RL)	dB		23,0	25,0	25,0	25,0	23,6	21,5	20,1

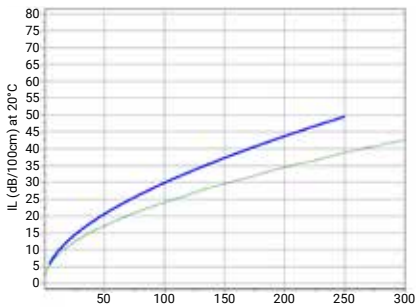


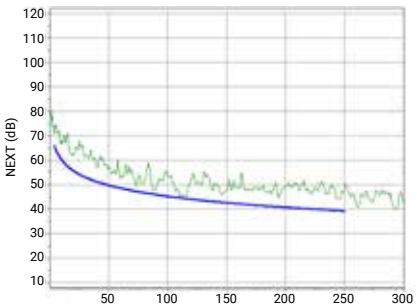


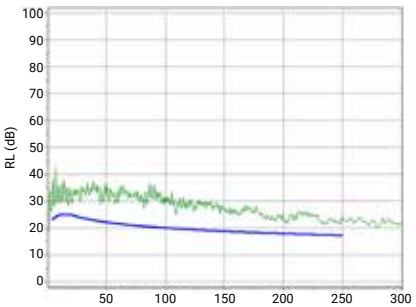


EN 50288-5-2 (Cat.6)

	MHz	1	4	10	16	20	31,25	62,5	100	155	200	250
attenuation	dB/100 m	3,1	5,7	9,0	11,4	12,8	16,1	23,2	29,9	37,9	43,7	49,5
crosstalk (Next)	dB	75,3	66,3	60,3	57,2	55,8	52,9	48,4	45,3	42,4	40,8	39,3
return loss (RL)	dB		23,0	25,0	25,0	25,0	23,6	21,5	20,1	18,8	18,0	17,3



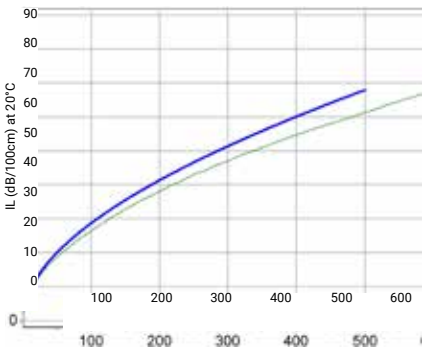


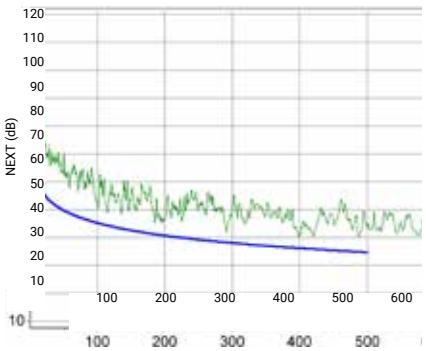


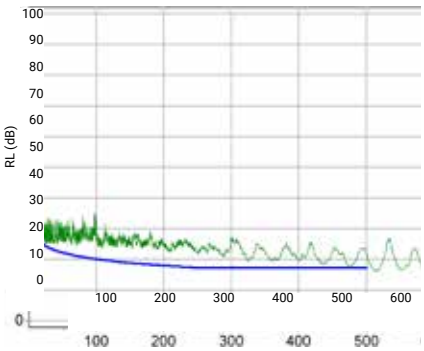
Direct current, low-frequency and high-frequency measurements for CATLine cables

EN 50288-10-2 (Cat.6A)

	MHz	1	4	10	16	20	31,25	62,5	100	155	200	300	500
attenuation	dB/100 m	3,1	5,7	8,9	11,2	12,6	15,8	22,5	28,7	36,1	41,4	51,4	67,9
crosstalk (Next)	dB	75,3	66,3	60,3	57,2	55,8	52,9	48,4	45,3	42,4	40,8	38,1	34,8
return loss (RL)	dB		23,0	25,0	25,0	25,0	23,6	21,5	20,1	18,8	18,0	17,3	17,3





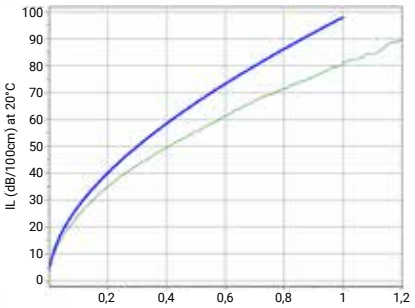


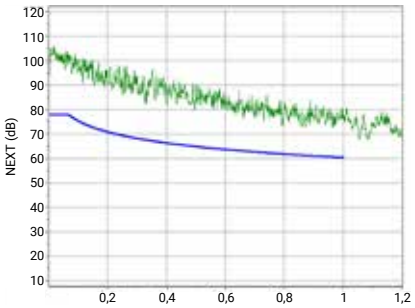
EN 50288-4-2 (Cat.7)

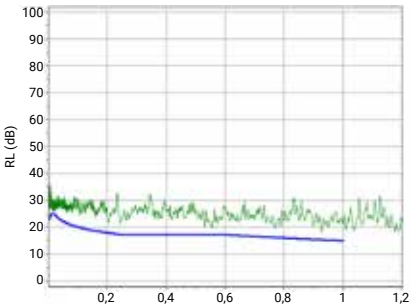
	MHz	1	4	10	16	20	31,25	62,5	100	155	200	300	600
attenuation	dB/100 m	2,9	5,5	8,5	10,8	12,1	15,2	21,7	27,8	35,0	40,1	50,0	73,3
crosstalk (Next)	dB	80,0	80,0	80,0	80,0	80,0	80,0	75,5	72,4	69,6	67,9	65,3	60,8
return loss (RL)	dB		23,0	25,0	25,0	25,0	23,6	21,5	20,1	18,8	18,0	17,3	17,3

EN 50288-9-2 (Cat.7A)

	MHz	1	4	10	62,5	100	155	200	300	400	600	800	1000
attenuation	dB/100 m	3,1	5,6	8,7	21,9	27,8	34,8	39,7	49,0	57,0	70,7	82,4	92,9
crosstalk (Next)	dB	78,0	78,0	78,0	78,0	75,4	72,5	70,9	68,2	66,4	63,7	61,9	60,4
return loss (RL)	dB		23,0	25,0	21,5	20,1	18,8	18,0	17,3	17,3	17,3	16,1	15,1







Industrial Ethernet cables

Selection table

	Cable type	CATLine CAT 6 S CATLine CAT 6A S	CATLine CAT 6 RT CATLine CAT 6A RT	CATLine CAT 6A HT / FEP	CATLine CAT 6A HT / PFA	CATLine CAT 7A S	CATLine CAT 7A RT	CATLine CAT 5e DR CATLine CAT 6A DR CATLine CAT 7A DR	CATLine CAT 6A ExLD	CATLine XL	CATLine CAT 5e R CATLine CAT 6A R CATLine CAT 7A R	CATLine CAT 5e R flex CATLine CAT 6A R flex CATLine CAT 7A R flex	CATLine CAT 5e BL CATLine CAT 6A BL CATLine CAT 7A BL	SAB bear CATLine CAT 5e S SAB bear CATLine CAT 6A S SAB bear CATLine CAT 7A S
Basic construction	Screened	●	●	●	●	●	●	●	●	●	●	●	●	●
	Inner sheath													
Temperature range fixed laying*	+ 250 °C													
	+ 180 °C													
	+ 90 °C													
	+ 80 °C													
	+ 75 °C													
	+ 70 °C													
	– 30 °C													
	– 40 °C													
	– 50 °C													
	– 60 °C													
	– 90 °C													
Voltage	Peak operating voltage max. 30 V													
	Peak operating voltage max. 90 V	●	●	●	●	●	●	●	●	●	●	●	●	●
	Peak operating voltage max. 350 V													
	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										●	●		
Fire performance	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													
	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										●	●		
	No flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 Cat. A												●	
	Flame retardant acc. to ISO 6722 (UN/ECE R118)										●	●		
	UL Horizontal Flame Test FT2	●	●			●	●			●			●	●
	UL VW1			●										
	acc. to NF C 32-070 C1													
	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										●	●	●	
	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 very good - Oil 60 °C acc. to UL 758													●
	Chemical resistance			A	A									
	Weather resistance							A	A	A				
	Suitable for cable tracks	●				●				●				●
	Torsion angle		2				2							
	Flexibility	A	A			A	A			A	B	B	B	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

Industrial Ethernet cables

Selection table

	Cable type	PN 662	S PN 668	PN 663	S PN 669	PN 654	PN 654 UL	PN 660	PN 661	S PN 667	DR PN 689 P Highflex	RT PN 668	PN 668	CATLine SPE C-Track	CATLine SPE Robot	CATLine SPE HT	CATLine SPE Rugged	CATLine SPE C-Track Hybrid
Basic construction	Screened	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
	Inner sheath	●	●	●	●		●	●	●	●	●			●	●	●	●	
Temperature range fixed laying*	+ 250 °C																	
	+ 180 °C																	
	+ 90 °C																	
	+ 80 °C																	
	+ 75 °C																	
	+ 70 °C																	
	− 30 °C																	
	− 40 °C																	
	− 50 °C																	
	− 60 °C																	
	− 90 °C																	
Voltage	Peak operating voltage max. 30 V												●					
	Peak operating voltage max. 90 V													●	●	●	●	●
	Peak operating voltage max. 350 V	●	●	●	●	●	●	●	●	●	●	●						
	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							●	●									
Fire performance	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																	
	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																	
	No flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 Cat. A																	
	Flame retardant acc. to ISO 6722 (UN/ECE R118)																	
	UL Horizontal Flame Test FT2																	
	UL VW1																	
	acc. to NF C 32-070 C1																	
	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																	
	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 very good - Oil 60 °C acc. to UL 758																	
	Chemical resistance																	
	Weather resistance																	
	Suitable for cable tracks		●		●					●				●				●
	Torsion angle											1	1		2			
	Flexibility																	

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

Industrial Ethernet cables

Applications

Applications of Industrial Ethernet cables

Industrial Ethernet is the use of Ethernet technology in industrial environments for the networking of machines, control units and other devices. It offers high reliability, speed and real-time communication that is decisive for automation processes. Compared to standard data network it is robust in order to withstand extreme environmental conditions as for example dust, humidity, vibration and temperature fluctuations. Industrial protocols as Profinet enlarge the Ethernet technology in order to guarantee real-time capability.

Industrial Ethernet supports small local networks as well as big geographically spread facilities. In general Industrial Ethernet forms the basis for modern, connected and intelligent production systems.

Industrial Ethernet cables are different from standard network cables due to their robustness and their special construction for industrial environments. They are more robust against mechanical stress as for example bending, traction, vibration and abrasion. Furthermore, they are often resistant against extreme temperatures, humidity, oil and chemicals. The screen is reinforced in order to minimize electromagnetic interferences that may arise in industrial plants by machines and motors.

Industrial Ethernet cables have a longer service life and can be used for flexible applications as cable chains or robots. The cable sheath is often made of halogen free or flame retardant materials in order to meet higher safety requirements. Furthermore, they accomplish more stringent standards and certifications with regard to flame protection or environmental resistance. In total industrial Ethernet cables have been developed especially for the requirements of industrial and automation environments.

Industrial Ethernet supports different transfer rates that vary depending on protocol, application or used hardware. The most current transfer rates are:

100 Mbit/s (Fast Ethernet - 100BaseTX)
CATLine CAT 5 / Profinet
1 Gbit/s (Gigabit Ethernet - 1000BaseT)
CATLine CAT 5e / CAT 6

Standard in modern industrial Ethernet networks, offer a higher bandwidth for data intensive applications.

10 Gbit/s (High-Speed Ethernet - 10GBaseT)
CATLine Cat 6A / Cat 7A

Increasingly in High-End-Applications as industry 4.0, image processing and big data networks.

Industrial Ethernet cables

CATLine CAT 6 S / CAT 6A S
CAT 6 Gigabit Ethernet cable, suitable for cable tracks with UL recognition, CSA approval

CATLine CAT 6 RT / CAT 6A RT
CAT 6 Gigabit Ethernet cable, suitable for cable tracks and robots with UL recognition, CSA approval

marking example:
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
Dimension:	4 x 2 x 26 AWG			
Conductor:	bare copper strands, fine wires			
Insulation:	special polymer			
Colour code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown			
Stranding:	cores twisted to pairs, pairs together			
Wrapping:	non-woven tape			
Screen:	alu foil and tinned copper braiding			
Wrapping:	non-woven tape			
Sheath material:	PUR			
Sheath colour:	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
Item number:	1677-4630	1677-4631	1687-4630	1687-4631
Peak operating voltage:	max. 90 V			
Voltage UL/CSA:	300 V			
Testing voltage *core/core:* *core/screen:*	 2000 V 2000 V			
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	 5 x d 10 x d 15 x d			
Torsion angle:	–		up to ± 180°/m	
Temperature range VDE *fixed laying:* *flexible application:*	UL/CSA: up to +80 °C -40/+70 °C -40/+70 °C +90°C on request!			
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1			
Fire performance:	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			
Characteristic impedance (100 MHz):	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-5-2 / CAT 6	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-5-2 / CAT 6	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A
Flexibility:	very good			
UL Style:	20549			
Application:	suitable for EtherCAT- and EtherNET/IP-applications			
Absence of harmful substances:	acc. to RoHS directive of the European Union			

item no.	type	dimension	max. core-ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
16774630	CATLine CAT 6 S	4 x 2 x 26 AWG	1,05	7,1	32,0	57
16774631	CATLine CAT 6A S	4 x 2 x 26 AWG	1,05	7,1	32,0	57
16874630	CATLine CAT 6 RT	4 x 2 x 26 AWG	1,05	7,1	32,0	57
16874631	CATLine CAT 6A RT	4 x 2 x 26 AWG	1,05	7,1	32,0	57

Other dimensions and colours are possible on request.

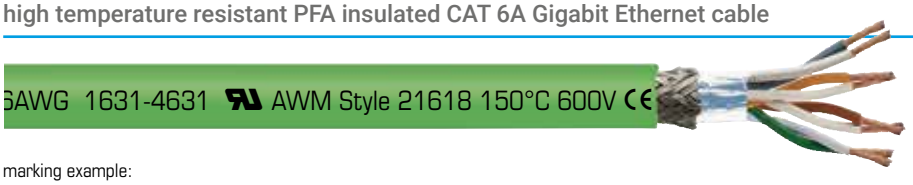
Customized plug-and-play solutions
from cable manufacturing to customized cable assembly from a single source

CATLine CAT 6A HT

high temperature resistant FEP insulated CAT 6A Gigabit Ethernet cable with UL recognition
high temperature resistant PFA insulated CAT 6A Gigabit Ethernet cable

PFA type up to +250°C

SAB CATLine



marking example:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.6A HT 4x2x26AWG 1631-4631 AWM Style 21618 150°C 600V

Construction:

Conductor:	**FEP:** bare copper strands, fine wires **PFA:** silver plated copper, fine wires
Insulation:	FEP or PFA
Colour code:	white/blue, white/orange, white/green, white/brown
Stranding:	twisted to pairs
Wrapping:	PTFE-foil
Screen:	**FEP:** alu foil and tinned copper braiding **PFA:** alu foil and silver plated copper braiding
Sheath material:	FEP or PFA
Sheath colour:	green (similar RAL 6018)

Outstanding features:

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

Technical data:

Peak operating voltage:	max. 90 V	
Voltage UL:	**FEP:** 600 V	
Testing voltage:	**FEP:** core/core 2000 V core/screen 2000 V **PFA:** core/core 750 V core/screen 750 V	
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d	
Temperature range *fixed laying:* *flexible application:*	**FEP:** **UL:** up to +150 °C -90/+180 °C -55/+180 °C	**PFA:** -90/+250 °C -55/+250 °C
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, **FEP:** UL VW1	
Oil resistance:	very good	
Chemical resistance:	very good against acids, halogens, bases, chlorinated solvents as well as organic and inorganic compoands	
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 (CAT 6A)	
UL Style:	**FEP:** 21618	
Application:	suitable for EtherCAT- and EtherNET/IP-applications	
Absence of harmful substances:	acc. to RoHS directive of the European Union	

item no.	type	material	dimension	max. core-ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
16314631	CATLine CAT 6A HT	FEP	4 x 2 x 26 AWG	1,05	5,8	29,7	54
16324631	CATLine CAT 6A HT	PFA	4 x 2 x 26 AWG	1,05	5,5	27,3	49

Other dimensions and colours are possible on request.

Customized
plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

Industrial Ethernet cables

CATLine CAT 7A S CAT 7A Gigabit Ethernet cable, suitable for cable tracks with UL recognition, CSA approval

CATLine CAT 7A RT CAT 7A Gigabit Ethernet cable, suitable for robots with UL recognition, CSA approval

marking example:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A S 4x2x26AWG 1777-4631 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
Dimension:	4 x 2 x 26 AWG, 4 x 2 x 24 AWG	
Conductor:	bare copper strands, fine wires	
Insulation:	special polymer	
Colour code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown	
Stranding:	cores twisted to pairs, pairs screened with foil, pairs together	
Screen:	aluminized non-woven tape and tinned copper braiding	
Wrapping:	non-woven tape	
Sheath material:	PUR	
Sheath colour:	green (similar RAL 6018)	

Technical data:	CATLine CAT 7A S suitable for cable tracks	CATLine CAT 7A RT suitable for robots
Item number:	1777-4631, 1777-4431	1787-4631, 1787-4431
Peak operating voltage:	max. 90 V	
Voltage UL/CSA:	300 V	
Testing voltage *core/core:* *core/screen:*	 2000 V 2000 V	
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	 5 x d 10 x d 15 x d	 5 x d 10 x d
Torsion angle:	–	up to ± 180°/m
Temperature range VDE *fixed laying:* *flexible application:*	UL/CSA: up to +80 °C -40/+70 °C -40/+70 °C +90°C on request!	
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1	
Fire performance:	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	
Characteristic impedance (100 MHz):	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 + VDE 0819-9-2 / CAT 7A	
Flexibility:	very good	
UL Style:	20549	
Application:	suitable for EtherCAT and EtherNET/IP applications	
Absence of harmful substances:	acc. to RoHS directive of the European Union	

item no.	type	dimension	max. core-ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
17774631	CATLine CAT 7A S	4 x 2 x 26 AWG	1,50	8,5	38,5	81
17774431	CATLine CAT 7A S	4 x 2 x 24 AWG	1,60	10,4	46,6	101
17874631	CATLine CAT 7A RT	4 x 2 x 26 AWG	1,50	8,9	38,5	83
17874431	CATLine CAT 7A RT	4 x 2 x 24 AWG	1,60	9,3	44,0	98

Other dimensions and colours are possible on request.

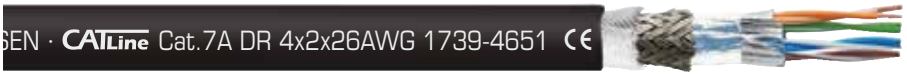
Customized
plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

Industrial Ethernet cables

CATLine CAT 5e DR
reeling CAT 5e Industrial Ethernet cable

CATLine CAT 6A DR
reeling CAT 6A Gigabit Ethernet cable

CATLine CAT 7A DR
reeling CAT 7A Gigabit Ethernet cable



marking example:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A DR 4x2x26AWG 1739-4651 CE

Construction:	CATLine CAT 5e DR reeling Ethernet cable	CATLine CAT 6A DR reeling Ethernet cable	CATLine CAT 7A DR reeling Ethernet cable
Dimension:	4 x 2 x 26 AWG		
Conductor:	bare copper strands, fine wires		
Insulation:	special polymer		
Colour code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		
Stranding:	cores twisted to pairs, pairs together		cores twisted to pairs, pairs screened with foil, pairs together
Wrapping:	non-woven tape		–
Screen:	alu foil and tinned copper braiding		aluminized non-woven tape and tinned copper braiding
Wrapping:	non-woven tape		
Sheath material:	PUR / supporting braid / PUR		
Sheath colour:	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
Item number:	1539-4651	1639-4651	1739-4651
Peak operating voltage:	max. 90 V		
Testing voltage *core/core:* *core/screen:*	 750 V 750 V		
Min. bending radius:	for laying and installation (fixed laying): 5 x d for repeated winding action (flexible application): 10 x d guided on pulleys (flexible application): 12 x d		
Temperature range *fixed laying:* *flexible application:*	 -50/+90 °C -40/+90 °C		
Halogen-free:	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 ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Weather resistance:	very good		
Application:	suitable for EtherCAT and EtherNET/IP applications		
Absence of harmful substances:	acc. to RoHS directive of the European Union		

item no.	type	dimension	max. core-ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km	tensile strength max. N
15394651	CATLine CAT 5e DR	4 x 2 x 26 AWG	1,05	8,5	32,0	79	200
16394651	CATLine CAT 6A DR	4 x 2 x 26 AWG	1,05	8,5	32,0	81	200
17394651	CATLine CAT 7A DR	4 x 2 x 26 AWG	1,05	10,5	38,5	117	200

Other dimensions and colours are possible on request.

Customized
plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

Industrial Ethernet cables

CATLine CAT 6A ExLD

CAT 6A Gigabit Ethernet cable for potentially explosive areas with UL recognition

acc. to IEC EN 60079-14

SAB CATLine

1639-9015 AWM Style 20549 80°C 300V

RoHS PFAS FREE

marking example:

SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.6A ExLD 4x2x23/1AWG 1639-9015 AWM Style 20549 80°C 300V

Application: A decisive characteristic of this cable is an excellent longitudinal tightness. It avoids ignition discharges as well as dangerous zone entrainment of flammable gases to areas that are not exposed to explosion hazards. The cable corresponds to the requirements according to standard IEC EN 60079-14 and is appropriate for the application in potentially explosive areas in order to avoid zone entrainment according to IEC EN 60079-14 chapter 9.3 appendix E.

Construction:

Conductor:	bare copper strands, single wire
Insulation:	SABIX®
Colour code:	EIA/TIA T568 + IEC 708-1
Stranding:	twisted to pairs
Screen:	alu foil and tinned copper braiding optical coverage ≥ 85%
Wrapping:	non-woven tape
Sheath material:	PUR
Sheath colour:	green (similar RAL 6018)

Outstanding features:

- low temperature resistant
- flame retardant and self-extinguishing
- oil- and chemical resistant
- Gigabit Ethernet 10GBase-T
- suitable for PoE
- excellent longitudinal tightness
- zone entrainment is avoided
- PFAS free

Technical data:

Peak operating voltage:	max. 90 V
Voltage UL:	300 V
Testing voltage:	core/core 2000 V core/screen 2000 V
Min. bending radius *after installation:* *during installation:*	 4 x d 8 x d
Temperature range *fixed laying:* *flexible application:*	**UL:** up to +80 °C -60/+80 °C -30/+80 °C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
Oil resistance:	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2, IRM 902, 168 h, 100 °C
MUD resistance:	very good - acc. to IEC 60092-360, IEC 61892-4, NEK TS 606
Sunlight and weather resistance:	very good - acc. to HD 605 (VDE 0276-605)
Insulation resistance:	min. 5GΩ x km at + 20 °C
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 (CAT 6A)
Application:	acc. to IEC 60079-14 chapter 9.3 and appendix E to avoid zone entrainment
Construction products regulation:	Euroclass E_{ca} acc. to EN 50575 is fulfilled
UL Style:	20549
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	type	dimension	outer-ø ± 0,3 mm mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
16399015	CATLine CAT 6A ExLD	4 x 2 x 23/1 AWG	8,9	48,1	94	64,6

Other dimensions and colours are possible on request.

Customized plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

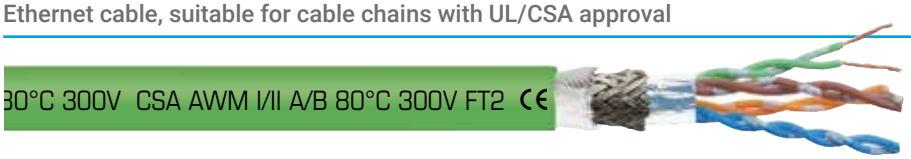
Industrial Ethernet cables

CATLine XL

Class D CAT 5 / Class E CAT 6
Ethernet cable, suitable for cable chains with UL/CSA approval

Transmission distance over 190 m resp. 130 m

SAB CATLine



RoHS PFAS FREE

marking example:
SAB BRÖCKSKES · D-VIERSEN · CATLine XL 4x2x20AWG 1639-4020 AWM Style 20549 80°C 300V CSA AWM I/II A/B 80°C 300V FT2

Application: With the new flexible CATLine XL types with reduced insertion loss, a product family is available that has been tested and validated beyond the normative limit of 100 metres. In practical tests, these cables were also able to transmit distances of over 190 m (CATLine XL / Class D - 100 MBit) or over 130 m (CATLine XL / Class E - 1GBit) - confirmed by measurements with BERT systems.

Construction:

Conductor:	bare copper strands, fine wires
Insulation:	special polymer
Colour code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown
Stranding:	cores twisted in pairs, pairs together class E: pairs screened with foil
Screen:	braiding of tinned round copper wires
Wrapping:	non-woven tape
Sheath material:	PUR
Sheath colour:	green (similar RAL 6018)

Outstanding features:

- suitable for cable tracks
- flame retardant and self-extinguishing
- suitable for PoE
- PFAS free

Technical data:

Peak operating voltage:	max. 90 V
Voltage UL/CSA:	300 V
Testing voltage:	core/core 2000 V core/screen 2000 V
Min. bending radius *fixed laying:* *flexible application:* *permanently flexible:*	 5 x d 10 x d 15 x d
Temperature range *fixed laying:* *flexible application:*	**UL/CSA:** up to +80 °C -50/+90 °C -40/+90 °C
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1
Fire performance:	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
Characteristic impedance:	100Ω ± 10Ω CATline XL / Class D, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5 CATline XL / Class E, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-5-2 / CAT 6
Sunlight and weather resistance:	very good - acc. to HD 605 (VDE 0276-605)
Flexibility:	very good
UL Style:	20549
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	type	dimension	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km	Transmission distance ≈ m
15394020	CATLine XL / Class D	4 x 2 x 20 AWG	11,6	100,7	158	190
16394020	CATLine XL / Class E	4 x 2 x 20 AWG	15,7	144,3	266	130

Other dimensions and colours are possible on request.

Customized
plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

Industrial Ethernet cables

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 PFAS FREE

marking example:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A R 4x2x24AWG 1767-4621 CE

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

Construction:	CATLine CAT 5e R flexible		CATLine CAT 6A R flexible	CATLine CAT 7A R flexible
Dimension:	2 x 2 x 26 AWG 2 x 2 x 24 AWG 2 x 2 x 22 AWG	4 x 2 x 24 AWG	4 x 2 x 26 AWG	
Conductor:	bare copper strands, fine wires			
Insulation:	PE			
Colour code:	blue, yellow, white, orange	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		
Stranding:	star quad	twisted to pairs, pairs together		twisted to pairs with alu foil, pairs together
Wrapping:	foil			–
Screen:	alu foil and tinned copper braiding			tinned copper braiding
Sheath material:	special SABIX®			
Sheath colour:	green (similar RAL 6018)			

Technical data:	CATLine CAT 5e R flexible		CATLine CAT 6A R flexible	CATLine CAT 7A R flexible
Dimension:	1567-2625 1567-9002 1567-9004	1567-4421	1667-4621	1767-4621
Peak operating voltage:	max. 90 V			
Testing voltage *core/core:* *core/screen:*	 750 V 750 V			
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 12 x d			
Temperature range VDE *fixed laying:* *flexible application:*	 -40/+70 °C -30/+70 °C			
Halogen-free:	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			
Fire performance:	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			
Toxicity:	acc. to EN 50305 + VDE 0260-305			
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5		100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Flexibility:	good			
Application:	suitable for EtherCAT and EtherNET/IP applications			
Absence of harmful substances:	acc. to RoHS directive of the European Union			

item no.	type	dimension	max. core-ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
15672625	CATLine CAT 5e R	2 x 2 x 26 AWG	1,05	4,0	16,4	25
15679002	CATLine CAT 5e R	2 x 2 x 24 AWG	1,30	5,2	22,7	41
15679004	CATLine CAT 5e R	2 x 2 x 22 AWG	1,60	5,9	29,1	52
15674421	CATLine CAT 5e R	4 x 2 x 24 AWG	1,30	8,0	41,2	70
16674621	CATLine CAT 6A R	4 x 2 x 26 AWG	1,05	6,8	31,9	55
17674621	CATLine CAT 7A R	4 x 2 x 26 AWG	1,60	7,8	38,5	75

Other dimensions and colours are possible on request.

Customized plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

Industrial Ethernet cables

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

continuously flexible halogen-free
Industrial Ethernet cables
for Railway Technology

EN 45545-2 · UN / ECE R118 · SAB Rail

CE RoHS PFAS FREE

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

marking example:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A R flex 4x2x24AWG 1769-4431 CE

Application: Suitable for flexible and protected installation in the interior for door control or in protecting tubes for outdoor laying at the bogie. Appropriate for light and medium mechanical stress.

Construction:	CATLine CAT 5e R flex continuously flexible		CATLine CAT 6A R flex continuously flexible	CATLine CAT 7A R flex continuously flexible
Dimension:	2 x 2 x 24 AWG 2 x 2 x 22 AWG	2 x 2 x 26 AWG 4 x 2 x 24 AWG	4 x 2 x 26 AWG, 4 x 2 x 24 AWG	
Conductor:	bare copper strands, fine wires			
Insulation:	special SABIX®			
Colour code:	blue, yellow, white, orange	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		
Stranding:	star quad	twisted to pairs, pairs together		twisted to pairs with alu foil, pairs together
Wrapping:	foil			–
Screen:	alu foil and tinned copper braiding			tinned copper braiding
Sheath material:	special SABIX®			
Sheath colour:	green (similar RAL 6018)			

Technical data:	CATLine CAT 5e R flex continuously flexible		CATLine CAT 6A R flex continuously flexible	CATLine CAT 7A R flex continuously flexible
Dimension:	1569-2435 1569-2235	1569-4431 1569-4631	1669-4431 1669-4631	1769-4431 1769-4631
Peak operating voltage:	max. 90 V			
Testing voltage *core/core:* *core/screen:*	 750 V 750 V			
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	 5 x d 12 x d 15 x d			
Temperature range VDE *fixed laying:* *flexible application:*	 -50/+90 °C -40/+90 °C			
Halogen-free:	acc. to EN 50306-1 + EN 50264-1. Development of HCl is ≤ 0,5% acc. to IEC 60754-1. pH-Wert ist ≥ 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			
Fire performance:	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			
Toxicity:	acc. to EN 50305 + VDE 0260-305			
Oil and fuel resistance:	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 50288-2-2 / 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:	good			
Application:	suitable for EtherCAT and EtherNET/IP applications			
Absence of harmful substances:	acc. to RoHS directive of the European Union			

item no.	type	dimension	max. core-ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
15692435	CATLine CAT 5e R flex	2 x 2 x 24 AWG	1,25	5,1	22,8	40
15692235	CATLine CAT 5e R flex	2 x 2 x 22 AWG	1,55	5,8	29,2	53
15694431	CATLine CAT 5e R flex	4 x 2 x 24 AWG	1,29	7,8	42,3	81
15694631	CATLine CAT 5e R flex	4 x 2 x 26 AWG	0,99	6,5	29,7	55
16694431	CATLine CAT 6A R flex	4 x 2 x 24 AWG	1,29	7,9	42,2	80
16694631	CATLine CAT 6A R flex	4 x 2 x 26 AWG	0,99	6,5	29,7	56
17694431	CATLine CAT 7A R flex	4 x 2 x 24 AWG	1,71	9,7	46,6	109
17694631	CATLine CAT 7A R flex	4 x 2 x 26 AWG	1,45	8,6	35,8	92

Other dimensions and colours are possible on request.

Customized
plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

Industrial Ethernet cables

CATLine CAT 5e BL
CATLine CAT 6A BL
CATLine CAT 7A BL

halogen-free Ethernet cables for maritime use
with ABS typee Approval and UL recognition

marking example:
SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.7A BL 4x2x26/7AWG 1747-4621 AWM Style 21080 75°C 300V

Construction:	CATLine CAT 5e BL ABS		CATLine CAT 6A BL ABS	CATLine CAT 7A BL ABS
Dimension:	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	
Conductor:	bare copper strands, fine wires			
Insulation:	special polymer			
Colour code:	blue, yellow, white, orange	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		
Stranding:	star quad	cores twisted to pairs, pairs together		cores twisted to pairs, pairs screened with foil, pairs together
Screen:	alu foil and tinned copper braiding			tinned copper braiding
Sheath material:	special SABIX®			
Sheath colour:	black			

Technical data:	CATLine CAT 5e BL ABS		CATLine CAT 6A BL ABS	CATLine CAT 7A BL ABS
Dimension:	1547-9001 1547-9002	1547-4621	1647-4621, 1647-4421	1747-4621, 1747-4421
Peak operating voltage:	max. 90 V			
Voltage UL:	300 V			
Testing voltage *core/core:* *core/screen:*	 2000 V 2000 V			
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d			
Temperature range VDE *fixed laying:* *flexible application:*	UL/CSA: up to +75 °C -40/+70 °C -30/+70 °C			
Halogen-free:	acc. to IEC 60754-1 + VDE 0482-754-1			
Fire performance:	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			
Toxicity:	acc. to EN 50305 + VDE 0260-305			
Oil and fuel resistance::	acc. to EN 50264-1 + VDE 0260-264-1			
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5		100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Flexibility:	good			
Application:	suitable for EtherCAT and EtherNET/IP applications			
Absence of harmful substances:	acc. to RoHS directive of the European Union			

item no.	type	dimension	core-ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
15479001	CATLine CAT 5e BL	2 x 2 x 24/7 AWG	approx. 1,25	5,7	22,7	48
15479002	CATLine CAT 5e BL	2 x 2 x 22/7 AWG	max. 1,60	6,4	29,7	61
15474621	CATLine CAT 5e BL	4 x 2 x 26/7 AWG	max. 1,05	7,3	31,9	64
16474621	CATLine CAT 6A BL	4 x 2 x 26/7 AWG	max. 1,05	7,3	31,9	64
16474421	CATLine CAT 6A BL	4 x 2 x 24/7 AWG	approx. 1,33	8,3	41,1	81
17474621	CATLine CAT 7A BL	4 x 2 x 26/7 AWG	max. 1,60	8,9	38,5	85
17474421	CATLine CAT 7A BL	4 x 2 x 24/7 AWG	approx. 1,60	10,5	65,0	116

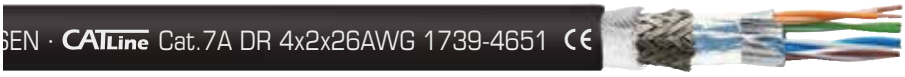
Other dimensions and colours are possible on request.

Customized
plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

Industrial Ethernet cables

SAB clean CATLine CAT 5e S
SAB clean CATLine CAT 6A S
SAB clean CATLine CAT 7A S

Industrial Ethernet Cable, suitable for cable tracks especially for clean room technology



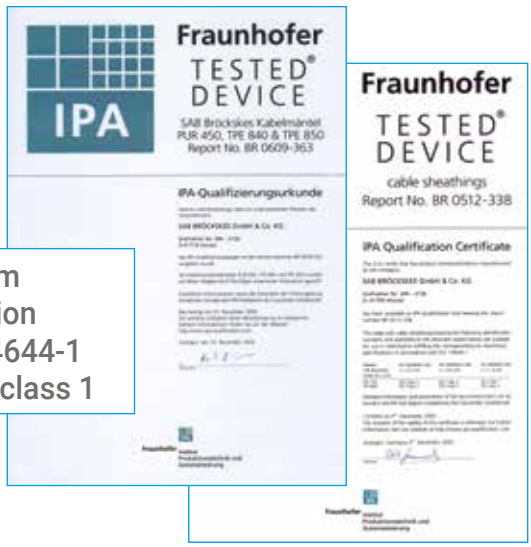
marking example:
SAB BRÖCKSKES · D-VIERSEN · S Clean CATLine Cat.7A S 4x2x26AWG 1777-9003 AWM Style 20549 80°C 300V CE RoHS and current meter marking

Construction:	SAB clean CATLine CAT 5e S	SAB clean CATLine CAT 6A S	SAB clean CATLine CAT 7A S
Dimension:	4 x 2 x 26 AWG		
Conductor:	bare copper strands, fine wires		
Insulation:	special polymer		
Colour code:	white-blue/blue, white-orange/orange, white-green/green, white-brown/brown		
Stranding:	cores twisted to pairs, pairs together		cores twisted to pairs, pairs screened with foil, pairs together
Screen:	alu foil and tinned copper braiding		aluminized non-woven tape and tinned copper braiding
Wrapping:	non-woven tape		
Sheath material:	TPE		
Sheath colour:	black (RAL 9005)		

Technical data:	SAB clean CATLine CAT 5e S	SAB clean CATLine CAT 6A S	SAB clean CATLine CAT 7A S
Dimension:	1577-9001	1677-9006	1777-9003
Peak operating voltage:	max. 90 V		
Voltage UL:	300 V		
Testing voltage *core/core:* *core/screen:*	 2000 V 2000 V		
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	 5 x d 10 x d 15 x d		
Temperature range *fixed laying:* *flexible application:*	UL: up to +80 °C -40/+70 °C -30/+70 °C		
Fire performance:	flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2, UL Horizontal Flame Test FT2		
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A
Oil resistance:	very good - Oil 60 °C acc. to UL 758		
Flexibility:	very good		
Air cleanliness class 1:	acc. to DIN EN 14644-1		
UL Style:	20549		
Application:	suitable for EtherCAT and EtherNET/IP applications		
Absence of harmful substances:	acc. to RoHS directive of the European Union		

item no.	type	dimension	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
15779001	SAB Clean CATLine CAT 5e S	4 x 2 x 26 AWG	6,4	31,8	48
16779006	SAB Clean CATLine CAT 6A S	4 x 2 x 26 AWG	6,9	31,8	56
17779003	SAB Clean CATLine CAT 7A S	4 x 2 x 26 AWG	8,9	38,5	85

Other dimensions and colours are possible on request.



Cleanroom classification
DIN EN ISO 14644-1
air cleanliness class 1

Customized plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

Industrial Ethernet cables Profinet

PN 662 PVC Profinet cable typee B for flexible applications

PN 663 PVC Profinet cable typee B for flexible applications with UL recognition

S PN 668 PUR Profinet cable typee C, continuously flexible, suitable for cable tracks

S PN 669 PUR Profinet cable typee C, continuously flexible, suitable for cable tracks with UL recognition

617 24AWG/3pr AWM Style 2464 80°C 300V

marking example:

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

Construction:	PN 662 Profinet type B flexible	S PN 668 Profinet type C continuously flexible	PN 663 Profinet type B flexible	S PN 669 Profinet type C continuously flexible
Dimension:	2 x 2 x 22 AWG			
Conductor:	tinned copper strands, fine wires with reference to VDE 0812	tinned copper strands, fine wires	tinned copper strands, fine wires with reference to VDE 0812	tinned copper strands, fine wires
Insulation:	PE, L/MD acc. to EN 50290-2-23	PE	PE, L/MD acc. to EN 50290-2-23	PE
Colour code:	blue, yellow, white, orange			
Stranding:	in layers			
Wrapping:	PETP-foil			
Inner sheath:	thermoplastic material			
Screen:	alu foil and tinned copper braiding			
Wrapping:	–	non-woven tape	–	non-woven tape
Sheath material:	PVC	PUR	PVC	PUR
Sheath colour:	green (similar RAL 6018)			

Technical data:	PN 662 Profinet type B flexible	S PN 668 Profinet type C continuously flexible	PN 663 Profinet type B flexible	S PN 669 Profinet type C continuously flexible
Item number:	0662-2202	0668-2202	0663-2202	0669-2202
Peak operating voltage:	max. 350 V			
Voltage UL:	–		300 V	
Testing voltage *core/core:* *core/screen:*	 1500 V 1200 V		 2000 V 2000 V	
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	 5 x d 10 x d	 5 x d 10 x d 15 x d	 5 x d 10 x d	 5 x d 10 x d 15 x d
Temperature range *fixed laying:* *flexible application:*	 -30/+70 °C -5/+70 °C	 -40/+70 °C -30/+70 °C	UL: up to +80 °C -30/+70 °C -5/+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:	acc. to internal standard	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2	acc. to internal standard	TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2
Characteristic impedance:	100Ω ± 5Ω, fulfils 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:	–		20601	21198
Application:	suitable for EtherCAT and EtherNET/IP applications			
Absence of harmful substances:	acc. to RoHS directive of the European Union			

item no.	type	dimension	max. core-ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
06622202	PN 662	2 x 2 x 22 AWG	1,55	6,1	33,9	57	58,0
06682202	S PN 668	2 x 2 x 22 AWG	1,55	6,4	36,7	58	58,0
06632202	PN 663	2 x 2 x 22 AWG	1,55	6,5	36,2	66	58,0
06692202	S PN 669	2 x 2 x 22 AWG	1,55	6,5	36,7	69	58,0

Other dimensions and colours are possible on request.

Customized plug-and-play solutions
from cable manufacturing to customized cable assembly from a single source

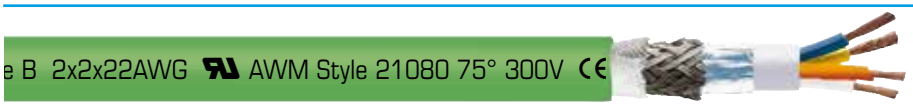
Industrial Ethernet cables Profinet

PN 654 PVC Profinet cable typee A for fixed installation

PN 654 UL PVC Profinet cable typee A for fixed installation with UL recognition

PN 660 halogen-free Profinet cable typee B for flexible applications

PN 661 halogen-free Profinet cable typee B for flexible applications with UL recognition



marking example:
SAB BRÖCKSKES · D-VIERSEN · PN 661 Profinet CAT 5 type B 2x2x22AWG AWM Style 21080 75° 300V

with „Fast Connect" construction

Construction:	PN 654 Profinet type A fixed laying	PN 654 UL Profinet type A fixed laying	PN 660 Profinet type B flexible	PN 661 Profinet type B flexible
Dimension:	2 x 2 x 22 AWG			
Conductor:	bare copper wire		PE, L/MD acc. to EN 50290-2-23	
Insulation:	PE, L/MD acc. to EN 50290-2-23	SABIX®	fine wires	
Colour code:	blue, yellow, white, orange			
Stranding:	star quad			
Wrapping:	PETP-foil			
Inner sheath:	–	PVC	thermoplastic material	
Screen:	tinned copper braiding	alu foil and tinned copper braiding		
Wrapping:	–		non-woven tape	
Sheath material:	PVC		SABIX®	
Sheath colour:	green (similar RAL 6018)			

Technical data:	PN 654 Profinet type A fixed laying	PN 654 UL Profinet type A fixed laying	PN 660 Profinet type B flexible	PN 661 Profinet type B flexible
Item number:	0654-2202	0654-9002	0660-2202	0661-2202
Peak operating voltage:	max. 350 V			
Voltage UL:	–	300 V	–	300 V
Testing voltage *core/core:* *core/screen:*	 1500 V 1200 V	 2000 V 2000 V	 1500 V 1200 V	 2000 V 2000 V
Min. bending radius *fixed laying:* *flexible application:*	5 x d		 5 x d 12 x d	
Temperature range *fixed laying:* *flexible application:*	 -30/+70 °C -5/+70 °C	UL: up to +80 °C -30/+70 °C -5/+70 °C	 -30/+70 °C -20/+70 °C	UL: up to +75 °C -40/+70 °C -30/+70 °C
Halogen-free:	–		acc. to IEC 60754-1 + VDE 0482-754-1	
Oil resistance:	acc. to internal standard		–	
Characteristic impedance:	100Ω ± 5Ω, fulfils 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			

item no.	type	dimension	max. core-ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
06542202	PN 654	2 x 2 x 22 AWG	1,55	5,3	28,0	43	54,1
06549002	PN 654 UL	2 x 2 x 22 AWG	1,55	6,5	32,2	66	54,1
06602202	PN 660	2 x 2 x 22 AWG	1,55	6,6	36,2	67	55,4
06612202	PN 661	2 x 2 x 22 AWG	1,55	6,6	36,2	70	55,4

Other dimensions and colours are possible on request.

Customized plug-and-play solutions
from cable manufacturing to customized cable assembly from a single source

Industrial Ethernet cables Profinet

S PN 667

Profinet cable type C, continuously flexible with UL recognition, CSA approval

with „Fast Connect" construction

SAB Bus

1198 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE

RoHS PFAS FREE

marking example:

SAB BRÖCKSKES · D-VIERSEN · S PN 667 Industrial Ethernet FC Cat 5 type C 2x2x22AWG AWM Style 21198 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE

Construction:

Conductor:	tinned copper strands, 7 wires
Insulation:	special polymer
Colour code:	blue, yellow, white, orange
Stranding:	in layers
Wrapping:	PETP-foil
Inner sheath:	thermoplastic material
Screen:	alu foil and tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PUR
Sheath colour:	green (similar RAL 6018)

Technical data:

Peak operating voltage:	max. 350 V
Voltage UL/CSA:	300 V
Testing voltage:	core/core 2000 V core/screen 2000 V
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	 5 x d 10 x d 15 x d
Temperature range *fixed laying:* *flexible application:*	**UL/CSA:** up to +80 °C -40/+70 °C -40/+70 °C
Halogen-free:	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, fulfils the electrical and transmission requirements with high frequency acc. to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173)
UL Style:	21198
Application:	suitable for EtherCAT and EtherNET/IP applications
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	type	dimension	max. core-ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
06672202	S PN 667	2 x 2 x 22 AWG	1,55	6,5	33,8	60	58,8

Other dimensions and colours are possible on request.

For extreme bending stress - conductor construction 19 wires:

item no.	type	dimension	max. core-ø mm	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
06679001	S PN 667	2 x 2 x 22 AWG	1,55	6,5	33,8	58	58,8

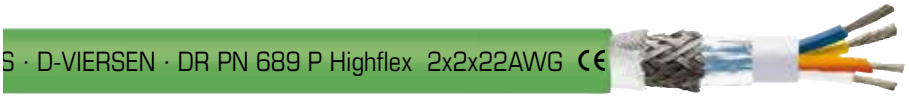
Other dimensions and colours are possible on request.

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

Customized plug-and-play solutions
from cable manufacturing to customized cable assembly from a single source

DR PN 689 P Highflex

reeling PUR Profinet cable / CAT 5 cable



marking example:
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
Dimension:	2 x 2 x 22 AWG	4 x 2 x 26 AWG
Conductor:	tinned copper strands, fine wires	
Insulation:	SABIX®	
Colour code:	blue, yellow, white, orange	blue, orange, green, brown + 4 white cores with consecutive numbers
Stranding:	in layers	twisted to pairs and pairs together
Wrapping:	PETP-foil	
Inner sheath:	SABIX®	
Screen:	alu foil and tinned copper braiding	
Wrapping:	non-woven tape	
Sheath material:	PUR / supporting braid / PUR	
Sheath colour:	green (similar RAL 6018)	black (similar RAL 9005)

Technical data:	DR PN 689 P Highflex reeling Profinet cable	DR PN 689 P Highflex reeling CAT 5 cable
Item number:	0689-2202	0689-9001
Peak operating voltage:	max. 350 V	
Testing voltage *core/core:* *core/screen:*	 1500 V 1200 V	
Min. bending radius:	for laying and installation (fixed laying): 5 x d for repeated winding action (flexible application): 10 x d guided on pulleys (flexible application): 12 x d	
Temperature range *fixed laying:* *flexible application:*	 -40/+90 °C -30/+90 °C	
Halogen-free:	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 ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)	
Application:	suitable for EtherCAT and EtherNET/IP applications	
Absence of harmful substances:	acc. to RoHS directive of the European Union	

item no.	type	dimension	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km	tensile strength max. N	characteristic impedance
06892202	DR PN 689 P Highflex	2 x 2 x 22 AWG	8,2	36,2	83	58,8	200	100Ω
06899001	DR PN 689 P Highflex	4 x 2 x 26 AWG	8,7	34,3	85	139	200	100Ω

Other dimensions and colours are possible on request.

Customized
plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

Industrial Ethernet cables CAT 5

RT PN 668 PUR Profinet cable, suitable for robots

PN 668 PUR Profinet cable type R, suitable for robots with UL recognition

2x2x22AWG 0668-9039 AWM Style 21198 80° 300V

marking example:
SAB BRÖCKSKES · D-VIERSEN · PN 668 type R 2x2x22AWG 0668-9039 AWM Style 21198 80° 300V

Construction:	RT PN 668 Profinet suitable for robots	PN 668 Profinet type R suitable for robots
Dimension:	2 x 2 x 22 AWG	
Conductor:	tinned copper strands, fine wires	
Insulation:	special polymer	
Colour code:	blue, yellow, white, orange	
Stranding:	star quad	twisted to pairs and pairs together
Wrapping:	tape	non-woven tape
Screen:	alu foil and tinned copper braiding	tinned copper braiding
Wrapping:	non-woven tape	special-non-woven tape
Sheath material:	PUR	
Sheath colour:	green (similar RAL 6018)	

Technical data:	RT PN 668 Profinet suitable for robots	PN 668 Profinet type R suitable for robots
Item number:	0668-9001	0668-9039
Peak operating voltage:	max. 350 V	max. 30 V
Voltage UL:	–	300 V
Testing voltage *core/core:* *core/screen:*	 1500 V 1200 V	 2000 V 2000 V
Min. bending radius *fixed laying:* *flexible application:*	 10 x d	 3 x d 10 x d
Temperature range *fixed laying:* *flexible application:*	 -40/+70 °C -30/+70 °C	UL: up to +80 °C -40/+70 °C -30/+70 °C
Torsion angle:	up to ±360°/m	
Halogen-free:	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 ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1)	
UL Style:	–	21198
Application:	suitable for EtherCAT and EtherNET/IP applications	
Absence of harmful substances:	acc. to RoHS directive of the European Union	

item no.	type	dimension	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km	ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km
06689001	RT PN 668	2 x 2 x 22 AWG	7,0	36,3	62	58,8
06689039	PN 668	2 x 2 x 22 AWG	7,8	36,7	68	58,8

Other dimensions and colours are possible on request.

Customized
plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

Single Pair Ethernet cables

CATLine SPE C-Track
Single Pair Ethernet cable, suitable for cable tracks with UL recognition

CATLine SPE Robot
Single Pair Ethernet cable, suitable for robots with UL recognition

marking example:
SAB BRÖCKSKES · D-VIERSEN · CATLine SPE C-Track 2xAWG26/7 1777-1630 AWM Style 20549 80°C 300V

Construction:	CATLine SPE C-Track suitable for cable tracks	CATLine SPE Robot suitable for robots
Dimension:	2 x 26/7 AWG, 2 x 22/19 AWG	
Conductor:	bare copper strands	
Insulation:	special polymer	
Colour code:	white, blue	
Stranding:	twisted to pairs	
Inner sheath:	SABIX®	
Screen:	alu foil and tinned copper braiding	
Wrapping:	non-woven tape	
Sheath material:	PUR	
Sheath colour:	green (similar RAL 6018)	

Construction:	CATLine SPE C-Track suitable for cable tracks	CATLine SPE Robot suitable for robots
Item number:	1777-1630, 1777-1230	1787-1630, 1787-1230
Peak operating voltage:	max. 90 V	
Voltage UL:	300 V	
Testing voltage *core/core:* *core/screen:*	 2000 V 2000 V	
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	 5 x d 10 x d 15 x d	
Torsion angle:	–	up to ± 180°/m
Temperature range *fixed laying:* *flexible application:*	UL: up to +80 °C -40/+70 °C -40/+70 °C	
Halogen-free:	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	
Characteristic impedance:	100Ω ± 10Ω, fulfils 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	
UL Style:	20549	
Absence of harmful substances:	acc. to RoHS directive of the European Union	

item no.	type	dimension	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
17771630	CATLine SPE C-Track	2 x 26/7 AWG	4,6	16,9	29
17771230	CATLine SPE C-Track	2 x 22/19 AWG	5,7	22,7	40
17871630	CATLine SPE Robot	2 x 26/7 AWG	4,6	16,9	29
17871230	CATLine SPE Robot	2 x 22/19 AWG	5,7	22,7	40

Other dimensions and colours are possible on request.

Outstanding features:

- 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
- PFAS free
- PWIS uncritical
  (PWIS = paint-wetting impairment substances)

Customized
plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

CATLine SPE HT

Single Pair Ethernet cable, high temperature resistant

marking example:
SAB BRÖCKSKES · D-VIERSEN · CATLine SPE HT 2xAWG26/7 1721-1620

Construction:

Conductor:	bare copper strands
Insulation:	TPFP
Colour code:	white/blue
Stranding:	twisted to pairs
Inner sheath:	TPFP
Screen:	alu foil and tinned copper braiding
Sheath material:	Besilen®
Sheath colour:	green

Outstanding features:

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

Technical data:

Peak operating voltage:	max. 90 V
Testing voltage:	core/core 2000 V core/screen 2000 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 10 x d
Temperature range *fixed laying:* *flexible application:*	 -40/+180 °C -25/+180 °C
Temperature range conductor:	up to +180 °C
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz.
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	type	dimension	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
17211620	CATLine SPE HT	2 x 26/7 AWG	4,4	14,3	34
17211220	CATLine SPE HT	2 x 22/7 AWG	5,3	22,6	45

Other dimensions and colours are possible on request.

Customized
plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

CATLine SPE Rugged

Single Pair Ethernet cable for robust indoor and outdoor use

marking example:
SAB BRÖCKSKES · D-VIERSEN · CATLine SPE Rugged 2xAWG26/7 1719-1620

Construction:

Conductor:	bare copper strands, 7 wires
Insulation:	TPFP
Colour code:	white/blue
Stranding:	twisted to pairs
Inner sheath:	SABIX®
Screen:	alu foil and tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PUR 420 with mat surface
Sheath colour:	black (RAL 9005)

Outstanding features:

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

Technical data:

Peak operating voltage:	max. 90 V
Testing voltage:	core/core 750 V core/screen 750 V
Min. bending radius *fixed laying:* *flexible application:*	 5 x d 12 x d
Temperature range *fixed laying:* *flexible application:*	 -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 compoands
Fuel resistance:	good
Battery acid resistance:	good
UV resistance:	acc. to HD 605
Ozone resistance:	acc. to EN 50396
Salt water resistance:	acc. to UL 1309
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz.
Absence of harmful substances:	acc. to RoHS directive of the European Union

item no.	type	dimension	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
17191620	CATLine SPE Rugged	2 x 26/7 AWG	4,5	16,9	29
17191220	CATLine SPE Rugged	2 x 22/7 AWG	5,7	22,7	39

Other dimensions and colours are possible on request.

Customized
plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

CATLine SPE C-Track Hybrid

Single Pair Ethernet cable, suitable for cable tracks with power supply and UL recognition

marking example:
SAB BRÖCKSKES · D-VIERSEN · CATLine SPE C-Track Hybrid 2xAWG26/7+2xAWG18 1707-4267 AWM Style 2023 80°C 300V

Construction:

Conductor:	bare copper strands
Insulation:	SPE-element: special polymer energy supply: special polymer
Colour code:	SPE-element: white, blue energy supply: red, black
Stranding:	in pairs
Screen:	alu foil white, blue
Stranding:	together
Screen:	tinned copper braiding
Wrapping:	non-woven tape
Sheath material:	PUR
Sheath colour:	green (similar RAL 6018)

Technical data:

Peak operating voltage:	max. 90 V
Voltage UL:	300 V
Testing voltage:	core/core 2000 V core/screen 2000 V
Min. bending radius *fixed laying:* *flexible application:* *continuously flexible:*	 5 x d 10 x d 15 x d
Temperature range *fixed laying:* *flexible application:*	**DIN VDE** **UL/CSA:** up to +80 °C -40/+70 °C -40/+70 °C
Halogen-free:	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
Characteristic impedance:	100Ω ± 10Ω, fulfils the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz.
Data transfer:	1 Gbit up to zu 40 m
UL Style:	20549
Absence of harmful substances:	acc. to RoHS directive of the European Union

Outstanding features:

- **UL recognized**
- **appropriate for direct current supply from approx. 200 W with 24 V resp. 400 W with 48 V**
- **SPE plus energy supply**
- **short latency periods**
- **PFAS free**
- **PWIS uncritical**
  (PWIS = paint-wetting impairment substances)

item no.	type	dimension	outer-ø ± 10% mm	copper figure kg/km	cable weight ≈ kg/km
17074267	CATLine SPE C-Track Hybrid	2 x 26/7 AWG + 2 x AWG 18	6,2	38,2	66
17076267	CATLine SPE C-Track Hybrid	2 x 22/19 AWG + 2 x AWG 18	6,8	43,5	77

Other dimensions and colours are possible on request.

Customized
plug-and-play solutions
from cable manufacturing
to customized cable assembly
from a single source

SPECIAL CABLES

SAB BRÖCKSKES

SAB Bröckskes GmbH & Co. KG
Grefrather Str. 204 - 212 b | 41749 Viersen | GERMANY
Tel.: +49(0)2162/898-0 | www.sab-cable.com | info@sab-cable.com

02/2026