

# INDUSTRIAL ETHERNET CABLES



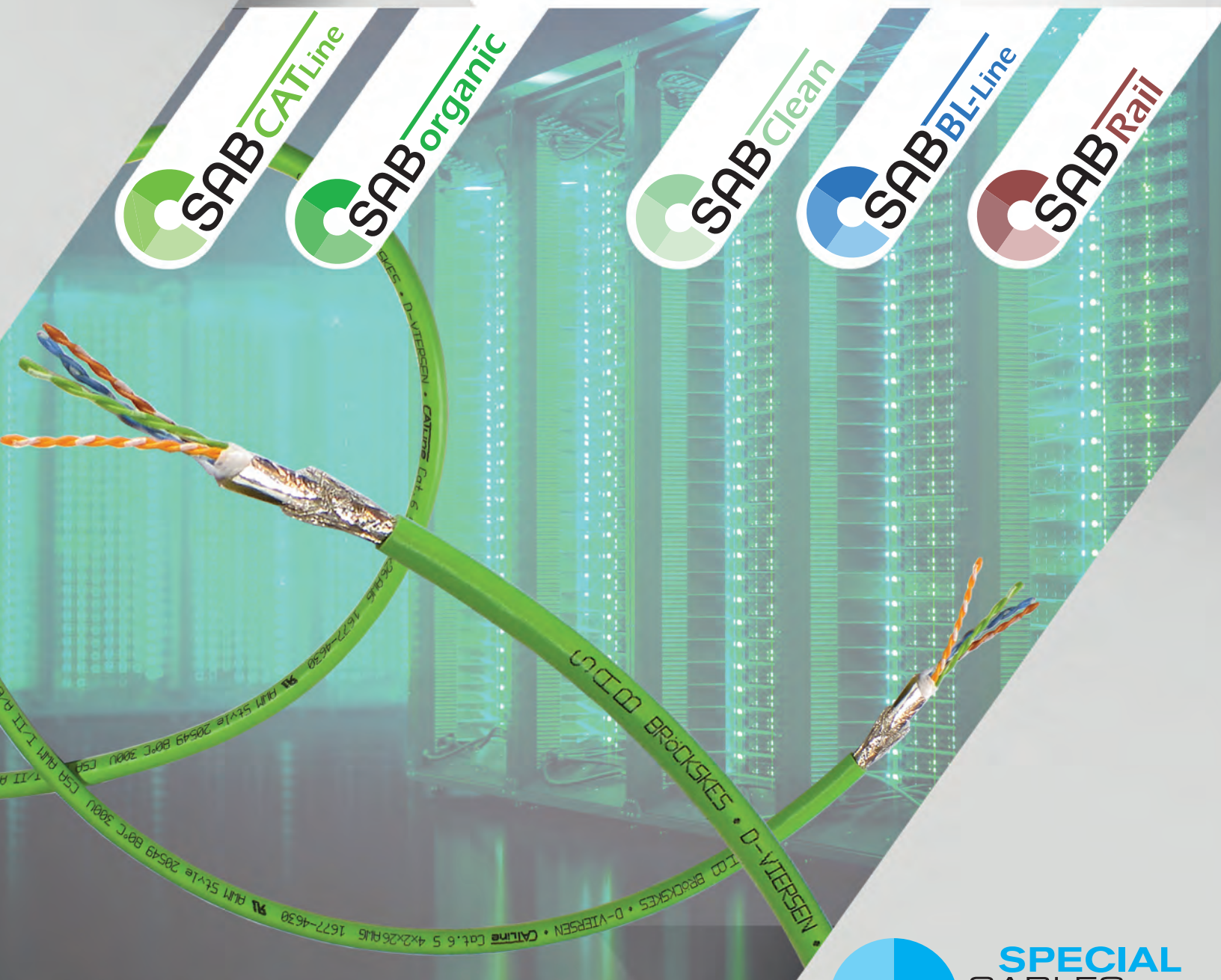
**SAB** *CAT*Line

**SAB** *organic*

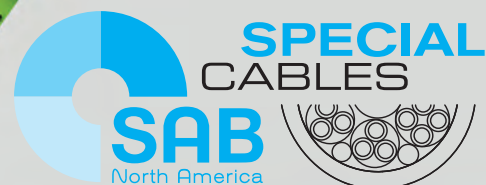
**SAB** *Clean*

**SAB** *BL*-Line

**SAB** *Rail*



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# SAB North America

## About Us

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

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

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



High-speed data exchange has become the cornerstone of factory automation as manufacturers harness real-time information to improve efficiencies and processes. Networking the “smart factory” takes robust Ethernet cables that can stand up to repetitive motion of robotic arms and other moving equipment — or even, mobile applications like rail cars. But unlike static cables typically found in building infrastructures, industrial Ethernet cables must endure inhospitable conditions and mechanical stresses. SAB North America’s CATLine series is a full range of Category cables that covers a broad range of industrial applications, movement types and corresponding Category data rates while providing designers with a host of protection options.

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

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



## SAB Advantage...We make it Easy

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

# Industrial Ethernet Cables

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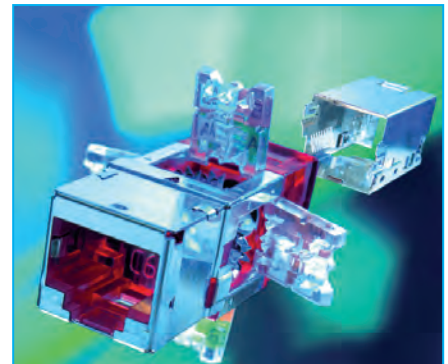
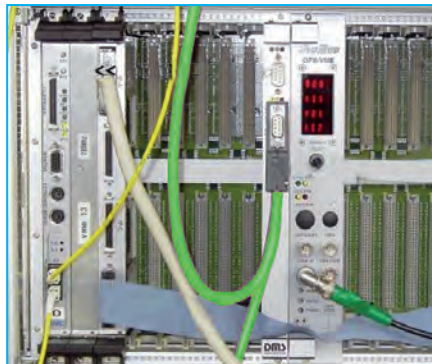
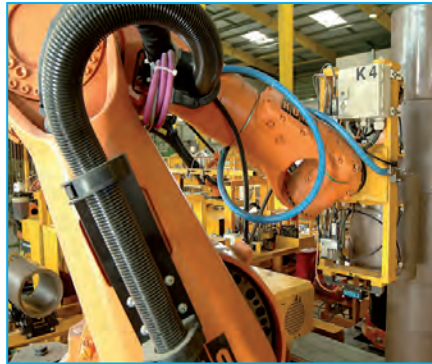
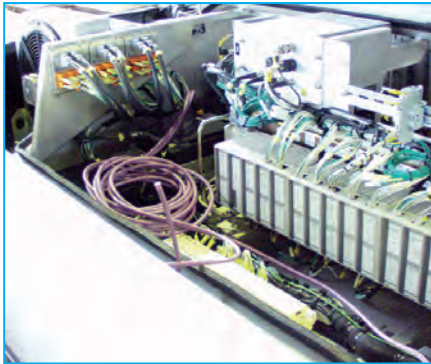
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# Industrial Ethernet Cables

## Applications



### ■ Application for Industrial ETHERNET cables

Industrial Ethernet is a quickly developing network technology. Ethernet with the worldwide accepted TCP/IP (Transmission Control Protocol/Internet Protocol) 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.



# Industrial Ethernet Cables

## Selection Table



|                                       |  | Cable Type                 |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
|---------------------------------------|--|----------------------------|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|---|
|                                       |  | 8                          | 8 | 8 | 9 | 9 | 10 | 10 | 10 | 11 | 11 | 11 | 12 | 12 | 13 | 13 | 14 | 15 | 16 | 16 | 17 |   |
|                                       |  | 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 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  |                            |   |   | ● | ● |    | ●  | ●  | ●  | ●  | ●  |    |    | ●  | ●  |    |    | ●  | ●  | ●  | ● |
|                                       | Chemical resistance  |                            |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |   |
|                                       | Weather resistance   |                            |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    | A  |    |    |    |   |
|                                       | Suitable for cable tracks  |                            |   | ● | ● | ● |    |    | ●  |    | ●  |    |    | ●  | ●  |    |    |    |    | ●  | ●  | ● |
|                                       | Torsion angle up to ± 180°/m   |                            |   |   |   |   |    |    |    |    |    |    | 2  |    |    |    |    |    |    |    | 2  |   |
|                                       | Very good flexibility  |                            |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    | A  | A |



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

# Industrial Ethernet Cables

## Selection Table



|                                       |   | Industrial Ethernet Cables |   |                                    |  |                                    |                        |                   |                |                       |
|---------------------------------------|---|----------------------------|---|------------------------------------|--|------------------------------------|------------------------|-------------------|----------------|-----------------------|
|                                       |   | 18                         | 19  | 20                                 | 21   | 22                                 | 22                     | 22                | 23             |                       |
|                                       |   | Cable Type                 | CATLine CAT 5e R<br>CATLine CAT 6A R<br>CATLine CAT7A R | CATLine CAT 5e,<br>6A, & 7A R Flex | CATLine CAT 5e BL<br>CATLine CAT 6A BL<br>CATLine CAT7A BL | SABclean CATLine<br>CAT 5e/6A/7A S | CATLine SPE<br>C-Track | CATLine SPE Robot | CATLine SPE HT | CATLine SPE<br>Rugged |
| 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  |                            |   |                                    |  |                                    |                        |                   |                |                       |
|                                       | Suitable for cable tracks   |                            |   |                                    |  |                                    | ●                      |                   |                |                       |
|                                       | Torsion angle up to ± 180°/m  |                            |   |                                    |  |                                    |                        | 2                 |                |                       |
|                                       | Good flexibility  | B                          | B   | B                                  | A  |                                    |                        |                   |                |                       |



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

# 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 CE

"Fast Connect" construction

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

| <b>Technical data:</b>         | <b>PN 654 UL</b><br>Profinet type A<br><i>fixed installation</i>  | <b>PN 661</b><br>Profinet type B<br><i>flexible</i> | <b>S PN 668</b><br>Profinet type C<br><i>continuous flex</i> |
|--------------------------------|---|---|--|
| Peak operating voltage:        | max. 350 V  | max. 350 V  | max. 350 V   |
| Voltage UL:                    | 300 V   | 300 V   | ---  |
| Testing voltage:               |   |   |  |
| conductor/conductor:           | 2000 V  | 2000 V  | 1500 V   |
| conductor/shielding:           | 2000 V  | 2000 V  | 1200 V   |
| Min. bending radius:           |   |   |  |
| fixed installation:            | 5 x O.D.  | 5 x O.D.  | 5 x O.D.   |
| free movement:                 | ---   | 12 x O.D.   | 12 x O.D.  |
| continuous flex:               | ---   | ---   | 15 x O.D.  |
| Temperature range VDE:         |   |   |  |
| static:                        | UL: up to +80°C   | UL: up to +75°C                                     | -40/+70°C  |
| flexible:                      | -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<br>AWG | max.<br>cond.-ø<br>mm | outer-ø     |           | cable<br>weight<br>≈lbs/mft | ohmic resistance<br>at 20°C acc. to VDE 0812<br>max. Ω/km |
|-----------|-----------|-------------------|-----------------------|-------------|-----------|-----------------------------|---|
|           |           |                   |                       | inch<br>±5% | mm<br>±5% |                             |   |
| ▶ 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





# Industrial Ethernet Cables

**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 06692202:

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



| <b>Construction:</b> | <b>PN 667<br/>Profinet type C<br/>continuous flex</b> | <b>S PN 669<br/>Profinet type C<br/>continuous flex</b> |
|----------------------|---|---|
| Item numbers:        | 06672202 / 06679001                                   | 06692202  |
| Dimensions:          | 2 x 2 x 22 AWG  | 2 x 2 x 22 AWG  |
| Conductor:           | tinned copper strands, 7 wires or 19 wires            | tinned copper strands, extra fine wires                 |
| Insulation:          | special polymer                                       | PE  |
| Color code:          | blue, yellow, white, orange                           | blue, yellow, white, orange                             |
| Stranding:           | in layers   | in layers   |
| Wrapping:            | PETP foil   | PETP foil   |
| Inner jacket:        | thermoplastic material                                | thermoplastic material                                  |
| Wrapping:            | alu foil  | alu foil  |
| Shielding:           | tinned copper braiding                                | tinned copper braiding                                  |
| Wrapping:            | non-woven tape  | non-woven tape  |
| Jacket material:     | PUR   | PUR   |
| Jacket color:        | green (similar RAL 6018)                              | green (similar RAL 6018)                                |

| <b>Technical data:</b>  | <b>PN 667<br/>Profinet type C<br/>continuous flex</b>   | <b>S PN 669<br/>Profinet type C<br/>continuous flex</b> |
|---|---|---|
| Peak operating voltage:   | max. 350 V  | max. 350 V  |
| Voltage:  | UL/CSA: 300 V   | UL: 300 V   |
| Testing voltage:<br>conductor/conductor:<br>conductor/shielding:                  | 2000 V<br>2000 V  | 2000 V<br>2000 V  |
| Min. bending radius:<br>fixed installation:<br>free movement:<br>continuous flex: | 5 x O.D.<br>10 x O.D.<br>15 x O.D.  | 5 x O.D.<br>10 x O.D.<br>15 x O.D.                      |
| Temperature range VDE:<br>static:<br>flexible:                                    | UL/CSA: up to +80°C<br>-40/+70°C<br>-40/+70°C   | UL: up to +80°C<br>-30/+70°C<br>-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<br>AWG | max.<br>cond.-ø<br>mm | nominal outer-ø<br>inch | mm  | cable<br>weight<br>≈lbs/mft | ohmic resistance at 20°C<br>acc. to VDE 0812<br>max. Ω/km |
|--|----------|-------------------|-----------------------|-------------------------|-----|-----------------------------|---|
| ▶ 06672202   | S PN 667 | 22 (≈ 7/30)/4c    | 1.55                  | 0.256                   | 6.5 | 40                          | 58.8  |
| ▶ 06692202   | S PN 669 | 22 (≈ 19/34)/4c   | 1.55                  | 0.272                   | 6.9 | 46                          | 58.0  |
| <b>For extreme bending stress - conductor construction 19 wires:</b> |          |                   |                       |                         |     |                             |   |
| ▶ 06679001   | 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



# Industrial Ethernet Cables

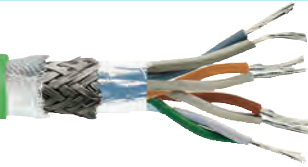
**PN 678** PVC Ethernet cable type A for fixed installation, twisted pairs

**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



Marking for S PN 681 06812604:

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

| <b>Construction:</b>    | <b>PN 678</b><br>Ethernet cable type A<br><i>fixed installation</i> | <b>PN 679</b><br>Ethernet cable type B<br><i>flexible</i>           | <b>S PN 681</b><br>Ethernet cable type C<br><i>continuous flex</i>  |
|-------------------------|---|---|---|
| <b>Item numbers:</b>    | 06782604  | 06792604  | 06812604  |
| <b>Dimensions:</b>      | 4 x 2 x 26 AWG  | 4 x 2 x 26 AWG  | 4 x 2 x 26 AWG  |
| <b>Conductor:</b>       | tinned copper wire  | tinned copper strands, fine wires<br>with reference to VDE 0812     | tinned copper strands,<br>extra fine wires                          |
| <b>Insulation:</b>      | PE, L/MD acc. to EN 50290-2-23                                      | PE, L/MD acc. to EN 50290-2-23                                      | SABIX®  |
| <b>Color code:</b>      | white conductors with numbers 1-4<br>+ (blue, orange, green, brown) | white conductors with numbers 1-4<br>+ (blue, orange, green, brown) | white conductors with numbers 1-4<br>+ (blue, orange, green, brown) |
| <b>Stranding:</b>       | twisted to pairs & paired together                                  | twisted to pairs & paired together                                  | twisted to pairs & paired together                                  |
| <b>Wrapping:</b>        | alu foil  | PETP foil + alu foil  | non-woven tapes + alu foil  |
| <b>Shielding:</b>       | tinned copper braiding  | tinned copper braiding  | tinned copper braiding  |
| <b>Wrapping:</b>        | ---   | non-woven tape  | non-woven tape  |
| <b>Jacket material:</b> | PVC   | PUR   | PUR   |
| <b>Jacket color:</b>    | green (similar RAL 6018)  | green (similar RAL 6018)  | green (similar RAL 6018)  |

| <b>Technical data:</b>  | <b>PN 678</b><br>Ethernet cable type A<br><i>fixed installation</i>   | <b>PN 679</b><br>Ethernet cable type B<br><i>flexible</i> | <b>S PN 681</b><br>Ethernet cable type C<br><i>continuous flex</i> |
|---|---|---|--|
| <b>Peak operating voltage:</b>  | max. 350 V  | max. 350 V  | max. 350 V   |
| <b>Testing voltage:</b><br>conductor/conductor:<br>conductor/shielding:                 | 1500 V<br>1200 V  | 1500 V<br>1200 V  | 1500 V<br>1200 V   |
| <b>Min. bending radius</b><br>fixed installation:<br>free movement:<br>continuous flex: | 5 x O.D.<br>—<br>—  | 5 x O.D.<br>10 x O.D.<br>—                                | 5 x O.D.<br>10 x O.D.<br>12 x O.D.                                 |
| <b>Temperature range VDE:</b><br>static:<br>flexible:                                   | -30/+70°C<br>-5/+70°C   | -40/+70°C<br>-40/+70 °C                                   | -40/+90°C<br>-30/+90°C   |
| <b>Halogen-free:</b>  | ---   | acc. to IEC 60754-1 +<br>VDE 0482-754-1                   | acc. to IEC 60754-1 +<br>VDE 0482-754-1                            |
| <b>Oil resistance:</b>  | acc. to internal standard<br>see page O/29  | TMPU<br>acc. to EN 50363-10-2<br>+ VDE 0207-363-10-2      | TMPU<br>acc. to EN 50363-10-2<br>+ VDE 0207-363-10-2               |
| <b>Characteristic impedance:</b>  | 100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency<br>acc. to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1) |   |  |
| <b>Application:</b>   | suitable for EtherCAT and EtherNET/IP applications  |   |  |
| <b>Absence of harmful substances:</b>   | acc. to RoHS directive of the European Union, see page O/30   |   |  |

| item no.   | type     | dimensions<br>AWG | max.<br>cond.-ø<br>mm | nominal outer-ø<br>inch | mm  | cable<br>weight<br>≈lbs/mft | ohmic resistance<br>at 20°C acc. to VDE 0812<br>max. Ω/km |
|------------|----------|-------------------|-----------------------|-------------------------|-----|-----------------------------|---|
| ▶ 06782604 | PN 678   | 26/4pr            | 1.10                  | 0.244                   | 6.2 | 33                          | 150   |
| ▶ 06792604 | PN 679   | 26 (≈ 7/34)/4pr   | 1.05                  | 0.272                   | 6.9 | 38                          | 148   |
| ▶ 06812604 | S PN 681 | 26 (≈ 19/38)/4pr  | 1.10                  | 0.283                   | 7.2 | 39                          | 145   |

Other dimensions and colors are available on request



# Industrial Ethernet Cables

**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

D-VIERSEN · DR PN 689 P Highflex 2x2x22AWG CE



Marking for DR PN 689 P Highflex 6892202:

SAB BRÖCKSKES · D-VIERSEN · DR PN 689 P Highflex 2x2x22AWG CE



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

| <b>Technical data:</b>  | DR PN 689 P Highflex<br><i>reeling Profinet cable</i>   | DR PN 689 P Highflex<br><i>reeling CAT 5 cable</i> | S PN 668 Hybrid<br><i>Hybrid cable type C continuous flex</i>                     | RT PN 668<br><i>Profinet cable suitable for robots</i> |
|---|---|--|---|--|
| <b>Peak operating voltage:</b>  | max. 350 V  | max. 350 V   | max. 350 V  | max. 350 V   |
| <b>Voltage UL:</b>  | —   | —  | 300 V   | —  |
| <b>Testing voltage:</b><br>conductor/conductor:<br>conductor/shielding: | 1500 V<br>1200 V  | 1500 V<br>1200 V                                   | 2000 V<br>2000 V  | 1500 V<br>1200 V                                       |
| <b>Min. bending radius:</b>   | for laying and installation (fixed installation):<br>for repeated winding action (flexible):<br>guided on deflection pulleys (flexible):                    | 5 x O.D.<br>10 x O.D.<br>12 x O.D.                 | fixed installation: 5 x O.D.<br>flexible: 10 x O.D.<br>continuous flex: 12 x O.D. | flexible: 10 x O.D.<br>torsion angle: ± 360°/m         |
| <b>Temperature range VDE:</b><br>static:<br>flexible:                   | -40/+90°C<br>-30/+90°C  | -40/+90°C<br>-30/+90°C                             | UL: up to +80°C<br>-40/+90°C<br>-30/+90°C   | -40/+70°C<br>-30/+70°C                                 |
| <b>Halogen-free:</b>  | acc. to IEC 60754-1 +<br>VDE 0482-754-1   | acc. to IEC 60754-1 +<br>VDE 0482-754-1            | acc. to IEC 60754-1 +<br>VDE 0482-754-1   | acc. to IEC 60754-1 +<br>VDE 0482-754-1                |
| <b>Oil resistance:</b>  | TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2  |  | TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2                                    |  |
| <b>Characteristic impedance:</b>  | 100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency<br>acc. to EN 50288-2-2 + VDE 0819-2-2 (CAT 5 acc. to EN 50173-1) |  |   |  |
| <b>UL Style:</b>  | —   | —  | 20233   | —  |
| <b>Application:</b>   | suitable for EtherCAT and EtherNET/IP applications  |  | —   | —  |
| <b>Absence of harmful substances:</b>                                   | acc. to RoHS directive of the European Union, see page O/30   |  |   |  |

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



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# Industrial Ethernet Cables 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



(UL) TYPE CMR c(UL) TYPE CMG 75C or (UL) PLTC SUN RES OIL



Marking for S PN 676 6762404:

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

| <b>Construction:</b> | <br>PN 675<br>type B<br>flexible                                      |  | <br>S PN 676<br>type C<br>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,<br>fine wires                                  | tinned copper strands,<br>fine wires   | tinned copper strands,<br>extra fine wires                               |
| Insulation:          | Polyolefin  | PFA/PP   | SABIX®   |
| Color code:          | orange & white/orange stripe<br>green & white/green stripe            | blue & white/blue stripe<br>orange & white/orange stripe<br>green & white/green stripe<br>brown & white/brown stripe | white conductors<br>with numbers 1 - 4<br>+ (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)   |

| <b>Technical data:</b>  | <br>PN 675<br>type B<br>flexible   |   | <br>S PN 676<br>type C<br>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: 600 V   |
| Testing voltage:<br>conductor/conductor:<br>conductor/shielding:                  | 1500 V<br>1200 V   | 1500 V<br>1200 V                          | 1500 V<br>1200 V  |
| Min. bending radius:<br>fixed installation:<br>free movement:<br>continuous flex: | 5 x O.D.<br>10 x O.D.<br>—   | 5 x O.D.<br>10 x O.D.<br>—                | 5 x O.D.<br>10 x O.D.<br>12 x O.D.  |
| Temperature range VDE:<br>static:<br>flexible:                                    | UL: up to +80°C<br>-40/+80°C<br>-25/+80°C  | UL: up to +80°C<br>-40/+80°C<br>-25/+80°C | UL/CSA: up to +80°C<br>-40/+90°C<br>-30/+90°C   |
| Halogen-free:   | —  | —   | acc. to DIN VDE 0472 part 815<br>IEC 60754-1  |
| Oil resistance:   | oil resistance I   | oil resistance I                          | TMPU acc. to DIN VDE 0282<br>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<br>the electrical and transmission<br>requirements with high frequency<br>acc. to EN 50288-2-2<br>(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 in full line catalog |   |   |

| item no.  | type     | jacket color             | dimensions AWG   | nominal outer-ø inch | mm  | cable weight ≈lbs/mft | ohmic resistance at 20°C acc. to VDE 0812 max. Ω/km |
|-----------|----------|--------------------------|------------------|----------------------|-----|-----------------------|---|
| ▶ 6752202 | PN 675   | teal                     | 22 (≈ 7/30)/2pr  | 0.310                | 7.9 | 45                    | —   |
| ▶ 6752204 | PN 675   | teal                     | 22 (≈ 7/30)/4pr  | 0.330                | 8.4 | 59                    | —   |
| ▶ 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



# Industrial Ethernet Cables 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



9 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE



Marking for CATLine CAT 6 S 16774630:

SAB BRÖCKSKES · D-VIERSEN · CATLine Cat.6 S 4x2x26AWG 16774630 AWM Style 20549 80°C 300V CSA AWM I/II A/B 80°C 300V FT2 CE

| <b>Construction:</b> | CATLine CAT 6 S<br>suitable for cable tracks                                  | CATLine CAT 6A S<br>suitable for cable tracks | CATLine CAT 6 RT<br>suitable for cable tracks/<br>suitable for robots         | CATLine CAT 6A RT<br>suitable for cable tracks/<br>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,<br>fine wires  | bare copper strands,<br>fine wires            | bare copper strands,<br>fine wires  | bare copper strands,<br>fine wires                                     |
| Insulation:          | special polymer   | special polymer                               | special polymer   | special polymer  |
| Color code:          | white-blue/blue, white-orange/orange,<br>white-green/green, white-brown/brown |   | white-blue/blue, white-orange/orange,<br>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)   |

| <b>Technical data:</b>  | CATLine CAT 6 S<br>suitable for cable tracks  | CATLine CAT 6A S<br>suitable for cable tracks           | CATLine CAT 6 RT<br>suitable for cable tracks/<br>suitable for robots | CATLine CAT 6A RT<br>suitable for cable tracks/<br>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:<br>conductor/conductor:<br>conductor/shielding:  | 2000 V<br>2000 V  | 2000 V<br>2000 V  | 2000 V<br>2000 V  | 2000 V<br>2000 V   |
| Min. bending radius:<br>fixed installation<br>free movement:<br>continuous flex:  | 5 x O.D.<br>10 x O.D.<br>15 x O.D.  | 5 x O.D.<br>10 x O.D.<br>15 x O.D.                      | 5 x O.D.<br>10 x O.D.<br>15 x O.D.                                    | 5 x O.D.<br>10 x O.D.<br>15 x O.D.                                     |
| Torsion:  | —   | —   | up to ± 180°/m  | up to ± 180°/m   |
| Temperature range VDE:<br>static:<br>flexible:  | UL: up to +80°C<br>-40/+70°C<br>-40/+70°C   | UL: up to +80°C<br>-40/+70°C<br>-40/+70°C               | UL: up to +80°C<br>-40/+70°C<br>-40/+70°C                             | UL: up to +80°C<br>-40/+70°C<br>-40/+70°C                              |
| Halogen-free:   | acc. to IEC 60754-1 +<br>VDE 0482-754-1   | acc. to IEC 60754-1 +<br>VDE 0482-754-1                 | acc. to IEC 60754-1 +<br>VDE 0482-754-1                               | acc. to IEC 60754-1 +<br>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):<br>accomplishes the electrical and transmission<br>requirements with high frequency | 100Ω ± 10Ω, with reference<br>to EN 50288-5-2 / CAT 6   | 100Ω ± 10Ω, with reference<br>to EN 50288-10-2 / CAT 6A | 100Ω ± 10Ω, with reference<br>to EN 50288-5-2 / CAT 6                 | 100Ω ± 10Ω, with reference<br>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<br>AWG | max.<br>cond.-ø<br>mm | nominal outer-ø<br>inch | mm  | cable<br>weight<br>≈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



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# Industrial Ethernet Cables 6A

## CATLine CAT 6A HT

Gigabit Ethernet cable – high temperature resistant



6AWG 16314631 AWM Style 21618 150°C 600V CE



Marking for CATLine CAT 6A HT 16314631:

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

### Construction:

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

### Outstanding features:



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

### Technical data:

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

| item no.   | type              | dimensions AWG  | max. cond.-ø mm | nominal outer-ø inch | mm  | cable weight ≈lbs/mft |
|------------|-------------------|-----------------|-----------------|----------------------|-----|-----------------------|
| ▶ 16314631 | CATLine CAT 6A HT | 26 (≈ 7/34)/4pr | 1.05            | 0.224                | 5.7 | 35                    |

Other dimensions and colors are available on request

# 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



Marking for CATLine CAT 7A DR 17394651:

SAB BRÖCKSKES · D-VIERSEN · **CATLine** Cat.7A DR 4x2x26AWG 17394651 CE

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

| <b>Technical data:</b>   | <b>CATLine CAT 5e DR</b><br><i>reeling Ethernet cable</i>   | <b>CATLine CAT 6A DR</b><br><i>reeling Ethernet cable</i>   | <b>CATLine CAT 7A DR</b><br><i>reeling Ethernet cable</i>  |
|--|---|---|--|
| <b>Peak operating voltage:</b>   | max. 90 V   | max. 90 V   | max. 90 V  |
| <b>Testing voltage:</b><br>conductor/conductor:<br>conductor/shielding:  | 750 V<br>750 V  | 750 V<br>750 V  | 750 V<br>750 V   |
| <b>Min. bending radius</b><br>fixed laying and installation (fixed installation):<br>for repeated winding action<br>(flexible application):<br>guided on pulleys (flexible application): | 5 x O.D.<br>10 x O.D.<br>12 x O.D.  | 5 x O.D.<br>10 x O.D.<br>12 x O.D.  | 5 x O.D.<br>10 x O.D.<br>12 x O.D.   |
| <b>Temperature range VDE:</b><br>static:<br>flexible:  | -50/+90°C<br>-40/+90°C  | -50/+90°C<br>-40/+90°C  | -50/+90°C<br>-40/+90°C   |
| <b>Halogen-free:</b>   | acc. to IEC 60754-1 + VDE 0482-754-1  | acc. to IEC 60754-1 + VDE 0482-754-1  | acc. to IEC 60754-1 + VDE 0482-754-1   |
| <b>Oil resistance:</b>   | TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2  | TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2  | TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2   |
| <b>Characteristic impedance (100 MHz):</b>   | 100Ω ± 10Ω,<br>accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5 | 100Ω ± 10Ω,<br>accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A | 100Ω ± 10Ω,<br>accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-9-2 / CAT 7A |
| <b>Weather resistance:</b>   | very good   | very good   | very good  |
| <b>Application:</b>  | suitable for EtherCAT and EtherNET/IP applications  |   |  |
| <b>Absence of harmful substances:</b>  | acc. to RoHS directive of the European Union, see page O/30   |   |  |

| item no.   | type              | dimensions<br>AWG | max.<br>cond.-ø<br>mm | nominal<br>outer-ø<br>inch | mm   | cable<br>weight<br>≈lbs/mt | tensile<br>strength<br>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



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# 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



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

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

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

Other dimensions and colors are available on request



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

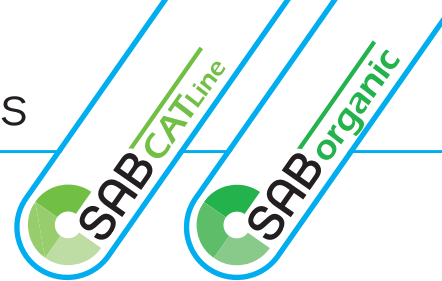




# Eco-Friendly Industrial Ethernet Cables

## SABorganic CATLine CAT 6

Eco-friendly CAT 6 Industrial Ethernet cable suitable for cable track



SABorganic Cat.6 4x2x26AWG 16990043 CE



Marking for SABorganic CATLine CAT 6 16990043:

SAB BRÖCKSKES · D-VIERSEN · SABorganic CATLine CAT 6 4x2x26AWG 16990043 CE

**Application:** The Industrial Ethernet cable, SABorganic CATLine CAT 6, is suitable for cable tracks and equipped with an outer jacket made of bio-based PUR material that is mainly obtained from sustainable resources. This reduces the carbon footprint by 25% compared to conventional types. SABorganic CATLine CAT 6 is particularly suitable for use in cable tracks and moveable machine parts. The halogen-free and flame-retardant characteristics of the new jacket material reduce potential fire hazards. SABorganic CATLine CAT 6 is also resistant against mineral oil based lubricants and many chemicals.

### Construction:

|                         |  |
|-------------------------|--|
| <b>Conductor:</b>       | bare copper strands, extra fine wires                                      |
| <b>Insulation:</b>      | special polymer  |
| <b>Color code:</b>      | white-blue/blue, white-orange/orange, white-green/green, white-brown/brown |
| <b>Stranding:</b>       | conductors twisted to pairs, pairs together                                |
| <b>Wrapping:</b>        | non-woven tape   |
| <b>Shielding:</b>       | alu. foil and inned copper braiding  |
| <b>Wrapping:</b>        | non-woven tape   |
| <b>Jacket material:</b> | PUR  |
| <b>Jacket color:</b>    | green (similar RAL 6018)   |

### Outstanding features:



- reduced carbon footprint
- low capacity construction
- sustainable plastic materials
- halogen-free
- flame retardant and self-extinguishing
- very good oil resistance
- good against aggressive chemicals

### Technical data:

|  |  |
|--|--|
| <b>Peak operating voltage:</b>             | max. 90 V  |
| <b>Testing voltage:</b>                    | conductor/conductor: 750 V<br>conductor/shielding: 750 V   |
| <b>Torsion angle:</b>                      | ± 60°/1 m  |
| <b>Min. bending radius:</b>                | <i>fixed installation:</i> 5 x O.D.<br><i>free movement:</i> 10 x O.D.<br><i>continuous flex:</i> 15 x O.D.                      |
| <b>Temperature range:</b>                  | <i>static:</i> -40/+70°C<br><i>flexing:</i> -40/+70°C  |
| <b>Halogen-free:</b>                       | acc. to IEC 60754-1 + VDE 0482-754-1   |
| <b>Burning characteristics:</b>            | flame retardant and self-extinguishing<br>acc. to IEC 60332-1-2 + VDE 0482-332-1-2   |
| <b>Oil resistance:</b>                     | very good<br>TMPU acc. to EN 50363-10-2 + VDE 0207-363-10-2  |
| <b>Characteristic impedance (100 MHz):</b> | 100Ω ± 10Ω, accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-5-2 / CAT 6 |
| <b>Continuous flexibility:</b>             | very good  |
| <b>Application:</b>                        | suitable for EtherCAT and EtherNET/IP applications   |
| <b>Absence of harmful substances:</b>      | acc. to RoHS directive of the European Union<br>see page O/30  |

| item no.   | dimensions AWG | max. cond.-ø mm | nominal outer-ø inch ± 5% | mm ± 5% | cable weight ≈lbs/mft |
|------------|----------------|-----------------|---------------------------|---------|-----------------------|
| ▶ 16990043 | 26AWG/4pr      | 1.05            | 0.272                     | 6.9     | 36                    |

Other dimensions and colors are available on request

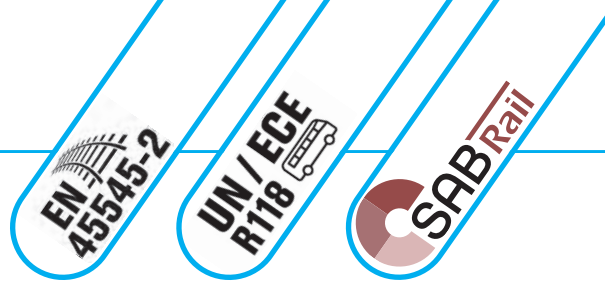


**+90°C  
on request**

# Ethernet Cables for Railway

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

Halogen-free industrial Ethernet cables  
for railway technology



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<br><i>flexible</i>                |   | CATLine CAT 6A R<br><i>flexible</i> | CATLine CAT 7A R<br><i>flexible</i>   |
|------------------|--|---|-------------------------------------|---|
| Item numbers:    | 15672625<br>15679002<br>15679004                   | 15674421  | 16674621                            | 17674621  |
| Dimensions:      | 2 x 2 x 26 AWG<br>2 x 2 x 24 AWG<br>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,<br>white, orange                     | white-blue/blue, white-orange/orange,<br>white-green/green, white-brown/brown |                                     | white-blue/blue, white-orange/orange,<br>white-green/green, white-brown/brown |
| Stranding:       | star quad  | conductors twisted to pairs, pairs together                                   |                                     | twisted to pairs with alu foil,<br>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<br><i>flexible</i>  | CATLine CAT 6A R<br><i>flexible</i>  | CATLine CAT 7A R<br><i>flexible</i>   |
|--|--|--|---|
| Peak operating voltage:  | max. 90 V  | max. 90 V  | max. 90 V   |
| Testing voltage:<br>conductor/conductor:<br>conductor/shielding: | 750 V<br>750 V   | 750 V<br>750 V   | 750 V<br>750 V  |
| Min. bending radius:<br>fixed installation:<br>free movement:    | 5 x O.D.<br>12 x O.D.  | 5 x O.D.<br>12 x O.D.  | 5 x O.D.<br>12 x O.D.   |
| Temperature range VDE:<br>static:<br>flexible:                   | -40/+70°C<br>-30/+70°C   | -40/+70°C<br>-30/+70°C   | -40/+70°C<br>-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;<br>pH-value is ≥ 4.3 acc. to IEC 60754-2; Conductivity is ≤ 10.0 μS/mm acc. to IEC 60754-2;<br>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<br>resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2.<br>Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2.<br>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,<br>accomplishes the electrical and<br>transmission requirements with<br>high frequency with reference to<br>EN 50288-2-2 / CAT 5   | 100Ω ± 10Ω,<br>accomplishes the electrical and<br>transmission requirements with<br>high frequency with reference to<br>EN 50288-10-2 / CAT 6A | 100Ω ± 10Ω,<br>accomplishes the electrical and<br>transmission requirements with<br>high frequency with reference to<br>EN 50288-9-2 / CAT 7A |
| Flexibility:   | 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<br>AWG | max.<br>cond.-ø<br>mm | nominal outer-ø<br>inch<br>± 5% | mm<br>± 5% | cable<br>weight<br>≈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

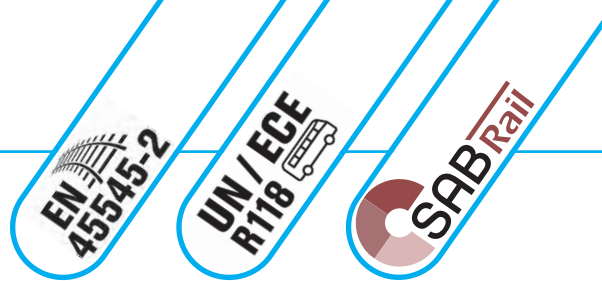
Also possible as a  
cable assembly with  
M12 or RJ 45 plug



# 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



D-VIERSEN · CATLine Cat. 7A R flex 4x2x24AWG 17694431 CE



Marking for CATLine CAT 7A R flex 17694431:

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

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

| <b>Technical data:</b>                | CATLine CAT 5e R flex<br><i>continuous flex</i>  |  | CATLine CAT 6A R flex<br><i>continuous flex</i>        | CATLine CAT 7A R flex<br><i>continuous flex</i> |
|---------------------------------------|--|--|--|---|
| <b>Peak operating voltage:</b>        | max. 90 V  |  | max. 90 V  |   |
| <b>Testing voltage:</b>               | 750 V  |  | 750 V  |   |
| conductor/conductor:                  | 750 V  |  | 750 V  |   |
| conductor/shielding:                  | 750 V  |  | 750 V  |   |
| <b>Min. bending radius:</b>           | 5 x O.D.   |  | 5 x O.D.   |   |
| fixed installation:                   | 12 x O.D.  |  | 12 x O.D.  |   |
| free movement:                        | 15 x O.D.  |  | 15 x O.D.  |   |
| continuous flex:                      | 15 x O.D.  |  | 15 x O.D.  |   |
| <b>Temperature range VDE:</b>         | -50/+90°C  |  | -50/+90°C  |   |
| static:                               | -40/+90°C  |  | -40/+90°C  |   |
| flexible:                             | -40/+90°C  |  | -40/+90°C  |   |
| <b>Low smoke halogen-free (LSHF):</b> | acc. to EN 50306-1 + EN 50264-1; Development of HCl is ≤ 0.5% acc. to IEC 60754-1;<br>pH-value is ≥ 4.3 acc. to IEC 60754-2; Conductivity is ≤ 10.0 μS/mm acc. to IEC 60754-2;<br>Fluoric content ≤ 0.1% acc. to IEC 60684-2   |  |  |   |
| <b>Burning characteristics:</b>       | no flame propagation acc. to IEC 60332-3-24 + VDE 0482-332-3-24<br>resp. IEC 60332-3-25 + VDE 0482-332-3-25 and EN 50305 + VDE 0260-305 section 9.1.2.<br>Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2.<br>Flame retardant acc. to ISO 6722 (UN/CEC R118) |  |  |   |
| <b>Smoke density:</b>                 | acc. to IEC 61034 + VDE 0482-1034  |  | acc. to IEC 61034 + VDE 0482-1034                      |   |
| <b>Toxicity:</b>                      | acc. to EN 50305 + VDE 0260-305  |  | acc. to EN 50305 + VDE 0260-305                        |   |
| <b>Oil and fuel resistance:</b>       | acc. to EN 50264-1 +<br>VDE 0260-264-1   |  | acc. to EN 50264-1 +<br>VDE 0260-264-1                 |   |
| <b>Characteristic impedance:</b>      | 100Ω ± 5Ω with<br>reference to<br>EN 50288-2-2 /<br>CAT 5  | 100Ω ± 10Ω with<br>reference to<br>EN 50288-2-2 /<br>CAT 5 | 100Ω ± 10Ω with reference to<br>EN 50288-10-2 / CAT 6A |   |
| <b>Flexibility:</b>                   | good   |  | good   |   |
| <b>Application:</b>                   | suitable for EtherCAT and EtherNET/IP applications   |  |  |   |
| <b>Absence of harmful substances:</b> | acc. to RoHS directive of the European Union, see page O/30  |  |  |   |

| item no.   | type                  | dimensions<br>AWG | nominal outer-ø<br>inch | mm  | cable<br>weight<br>≈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



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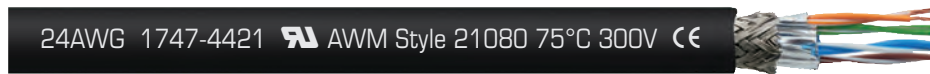
# Industrial Ethernet Cables for Maritime Use



**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 CE



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

| <b>Technical data:</b>   | CATLine CAT 5e BL   |  | CATLine CAT 6A BL  | CATLine CAT 7A BL   |
|--|---|--|--|---|
| <b>Peak operating voltage:</b>   | max. 90 V   |  | max. 90 V  | max. 90 V   |
| <b>Voltage UL:</b>   | 300 V   |  | 300 V  | 300 V   |
| <b>Testing voltage:</b><br>conductor/conductor:<br>conductor/shielding:            | 2000 V<br>2000 V  |  | 2000 V<br>2000 V   | 2000 V<br>2000 V  |
| <b>Min. bending radius:</b><br>fixed installation<br>free movement (only 7 wires): | 5 x O.D.<br>10 x O.D.   |  | 5 x O.D.<br>10 x O.D.  | 5 x O.D.<br>10 x O.D.   |
| <b>Temperature range VDE:</b><br>static:<br>flexible:                              | UL: up to +75°C<br>-40/+70°C<br>-30/+70°C   |  | UL: up to +75°C<br>-40/+70°C<br>-30/+70°C  | UL: up to +75°C<br>-40/+70°C<br>-30/+70°C   |
| <b>Low smoke halogen-free (LSHF):</b>  | acc. to IEC 60754-1 +<br>VDE 0482-754-1   |  | acc. to IEC 60754-1 +<br>VDE 0482-754-1  | acc. to IEC 60754-1 +<br>VDE 0482-754-1   |
| <b>Burning characteristics:</b>  | flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2,<br>no flame propagation acc. to IEC 60332-3-22 + VDE 0482-332-3-22 Cat. A,<br>UL Horizontal Flame Test FT2, UL AWM Style 21080 |  |  |   |
| <b>Corrosiveness of conflagration gases:</b>                                       | in compliance with IEC 60754-2 + VDE 0482-754-2 - no development of corrosive conflagration gases   |  |  |   |
| <b>Smoke density:</b>  | acc. to IEC 61034 + VDE 0482-1034   |  | acc. to IEC 61034 + VDE 0482-1034  | acc. to IEC 61034 + VDE 0482-1034   |
| <b>Characteristic impedance (100 MHz):</b>   | 100Ω ± 10Ω, accomplishes the<br>electrical and transmission<br>requirements with high frequency<br>with reference to<br>EN 50288-2-2 / CAT 5  |  | 100Ω ± 10Ω, accomplishes the<br>electrical and transmission<br>requirements with high frequency<br>with reference to<br>EN 50288-10-2 / CAT 6A | 100Ω ± 10Ω, accomplishes the<br>electrical and transmission<br>requirements with high frequency<br>with reference to<br>EN 50288-9-2 / CAT 7A |
| <b>Flexibility:</b>  | good  |  | good   | good  |
| <b>UL Style:</b>   | 21080   |  | 21080  | 21080   |
| <b>Application:</b>  | suitable for EtherCAT and EtherNET/IP applications  |  |  |   |
| <b>Absence of harmful substances:</b>  | acc. to RoHS directive of the European Union, see page O/30   |  |  |   |

| item no.   | type              | dimensions<br>AWG | nominal outer-ø<br>inch | mm   | cable<br>weight<br>≈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                          |

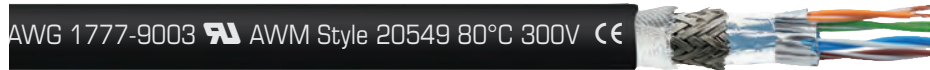
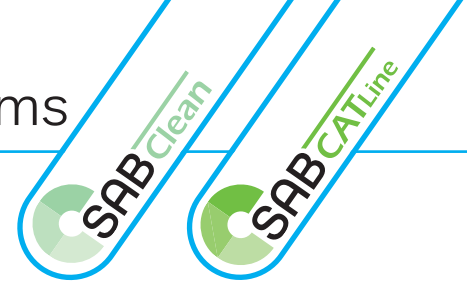
Other dimensions and colors are available on request



# Industrial Ethernet Cables for Cleanrooms

**SAB<sup>clean</sup> CATLine CAT 5e S**  
**SAB<sup>clean</sup> CATLine CAT 6A S**  
**SAB<sup>clean</sup> CATLine CAT 7A S**

CAT 5e industrial Ethernet cable  
 CAT 6A industrial Ethernet cable  
 CAT 7A industrial Ethernet cable



Marking for **SAB<sup>clean</sup> CATLine CAT 7A S 17779003**:

SAB BRÖCKSKES · D-VIERSEN · **SAB Clean CATLine** Cat. 7A S 4x2x26AWG 17779003 **AWM Style 20549 80°C 300V CE RoHS**

| <b>Construction:</b> | <b>SAB<sup>clean</sup> CATLine CAT 5e S</b>                                | <b>SAB<sup>clean</sup> CATLine CAT 6A S</b>                                | <b>SAB<sup>clean</sup> CATLine CAT 7A S</b>                                |
|----------------------|--|--|--|
| 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)   |

| <b>Technical data:</b>  | <b>SAB<sup>clean</sup> CATLine CAT 5e S</b>   | <b>SAB<sup>clean</sup> CATLine CAT 6A S</b>   | <b>SAB<sup>clean</sup> CATLine CAT 7A S</b>  |
|---|---|---|--|
| Peak operating voltage:   | max. 90 V   | max. 90 V   | max. 90 V  |
| Voltage UL:   | 300 V   | 300 V   | 300 V  |
| Testing voltage:<br>conductor/conductor:<br>conductor/shielding:                        | 2000 V<br>2000 V  | 2000 V<br>2000 V  | 2000 V<br>2000 V   |
| Min. bending radius<br>fixed laying:<br>flexible application:<br>continuously flexible: | 5 x O.D.<br>10 x O.D.<br>15 x O.D.  | 5 x O.D.<br>10 x O.D.<br>15 x O.D.  | 5 x O.D.<br>10 x O.D.<br>15 x O.D.   |
| Temperature range VDE:<br>static:<br>flexible:  | UL: up to +80°C<br>-40/+70°C<br>-30/+70°C   | UL: up to +80°C<br>-40/+70°C<br>-30/+70°C   | UL: up to +80°C<br>-40/+70°C<br>-30/+70°C  |
| Burning Characteristics:  | flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2<br>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,<br>accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-2-2 / CAT 5 | 100Ω ± 10Ω,<br>accomplishes the electrical and transmission requirements with high frequency with reference to EN 50288-10-2 / CAT 6A | 100Ω ± 10Ω,<br>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 ISO 14644-1   | acc. to ISO 14644-1   | acc. to 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<br>AWG | outer-ø max.<br>inch | mm  | cable<br>weight<br>≈lbs/ft |
|------------|---------------------------------------|-------------------|----------------------|-----|----------------------------|
| ▶ 15779001 | SAB <sup>clean</sup> CATLine CAT 5e S | 26 (≈ 7/34)/4pr   | 0.251                | 6.4 | 32                         |
| ▶ 16779006 | SAB <sup>clean</sup> CATLine CAT 6A S | 26 (≈ 7/34)/4pr   | 0.271                | 6.9 | 38                         |
| ▶ 17779003 | SAB <sup>clean</sup> CATLine CAT 7A S | 26 (≈ 7/34)/4pr   | 0.350                | 8.9 | 57                         |

Other dimensions and colors are available on request



**Cleanroom classification**  
**ISO 14644-1**  
**Air Cleanliness Class 1**

# Industrial Ethernet Cables- SPE



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



Marking for CATLine SPE C-Track 17771630:

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



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

| <b>Technical data:</b>   | <b>CATLine SPE C-Track</b><br><i>suitable for cable tracks</i>   | <b>CATLine SPE Robot</b><br><i>suitable for robots</i>         | <b>CATLine SPE HT</b><br><i>high temperature resistant</i> |
|--|--|--|--|
| <b>Peak operating voltage:</b>   | max. 90 V  | max. 90 V  | max. 90 V  |
| <b>Voltage UL:</b>   | 300 V  | 300 V  | 600 V  |
| <b>Testing voltage:</b><br>conductor/conductor:<br>conductor/shielding:                  | 2000 V<br>2000 V   | 2000 V<br>2000 V   | 2000 V<br>2000 V   |
| <b>Min. bending radius:</b><br>fixed installation:<br>free movement:<br>continuous flex: | 5 x O.D.<br>10 x O.D.<br>15 x O.D.   | 5 x O.D.<br>10 x O.D.<br>15 x O.D.                             | 5 x O.D.<br>10 x O.D.<br>—                                 |
| <b>Torsion angle:</b>  | —  | up to ± 180°/m   | —  |
| <b>Temperature range:</b><br>static:<br>flexible:  | UL: up to 80°C<br>-40/+70°C<br>-40/+70°C   | UL: up to 80°C<br>-40/+70°C<br>-40/+70°C                       | UL: up to 150°C<br>-40/+180°C<br>-25/+180°C                |
| <b>Temperature range conductor:</b>  | —  | —  | up to ± 180°C  |
| <b>Halogen-free:</b>   | acc. to IEC 60754-1 +<br>VDE 0482-754-1  | acc. to IEC 60754-1 +<br>VDE 0482-754-1                        | —  |
| <b>Oil resistance:</b>   | very good - TMPU acc. to EN 50363-<br>10-2 + VDE 0207-363-10-2   | very good - TMPU acc. to EN 50363-<br>10-2 + VDE 0207-363-10-2 | —  |
| <b>Characteristic impedance:</b>   | 100Ω ± 10Ω, fulfills the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz. |  |  |
| <b>UL Style</b>  | 20549  | 20549  | 4535   |
| <b>Absence of harmful substances:</b>  | acc. to RoHS directive of the European Union, see page O/30  |  |  |

| item no.   | type                | dimensions<br>AWG  | nominal outer-ø<br>inch | mm  | cable<br>weight<br>≈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



## Outstanding features:

### C-Track / Robot:

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

### SPE HT:

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

# Industrial Ethernet Cables- SPE

## CATLine SPE Rugged

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



Marking for CATLine SPE Rugged 17399003:

SAB BRÖCKSKES · D-VIERSEN · CATLine SPE Rugged 2x26AWG 17399003 CE



### Construction:

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

### Outstanding features:

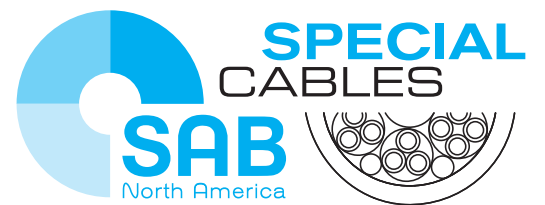
- flexible down to -45°C
- absolutely weather resistant
- very easy installation
- small bending radius

### Technical data:

|                                       |   |
|---------------------------------------|---|
| <b>Peak operating voltage:</b>        | max. 90V  |
| <b>Testing voltage:</b>               | conductor/conductor: 750 V<br>conductor/shielding: 750 V  |
| <b>Min. bending radius:</b>           | 5 x O.D.<br>12 x O.D.   |
| <b>Temperature range:</b>             | static: -90/+90°C / +125°C / 2500 h<br>flexible: -40/+90°C / +125°C / 2500 h  |
| <b>Temperature range conductor:</b>   | up to +180°C  |
| <b>Oil resistance:</b>                | very good - TMPU acc. to EN 50363-10-2  |
| <b>Fuel resistance:</b>               | good  |
| <b>Battery acid resistance:</b>       | good  |
| <b>UV resistance:</b>                 | acc. to HD 605  |
| <b>Ozone resistance:</b>              | acc. to EN 50396  |
| <b>Saltwater resistance:</b>          | acc. to UL 1309   |
| <b>Characteristic impedance:</b>      | 100Ω ± 10Ω,<br>fulfills the electrical and transmission requirements with high frequency with reference to IEC 61156-12. Bandwidth 1 - 600 MHz. |
| <b>Approvals:</b>                     | CE, EAC, RoHS   |
| <b>Absence of harmful substances:</b> | acc. to RoHS directive of the European Union see page O/30 in full line catalog   |

| item no.   | type               | dimensions<br>AWG | nominal outer-ø<br>inch | mm  | cable<br>weight<br>≈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



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