

# USB 2.0 Cables

SAB Bröckskes is a leading manufacturer of cables, thermocouples and cable harnessing worldwide. Our strength is not only the production of standard products but also the development and manufacturing of special products acc. to customers' specifications. Every year we manufacture more than 1500 special products on our customers' request.

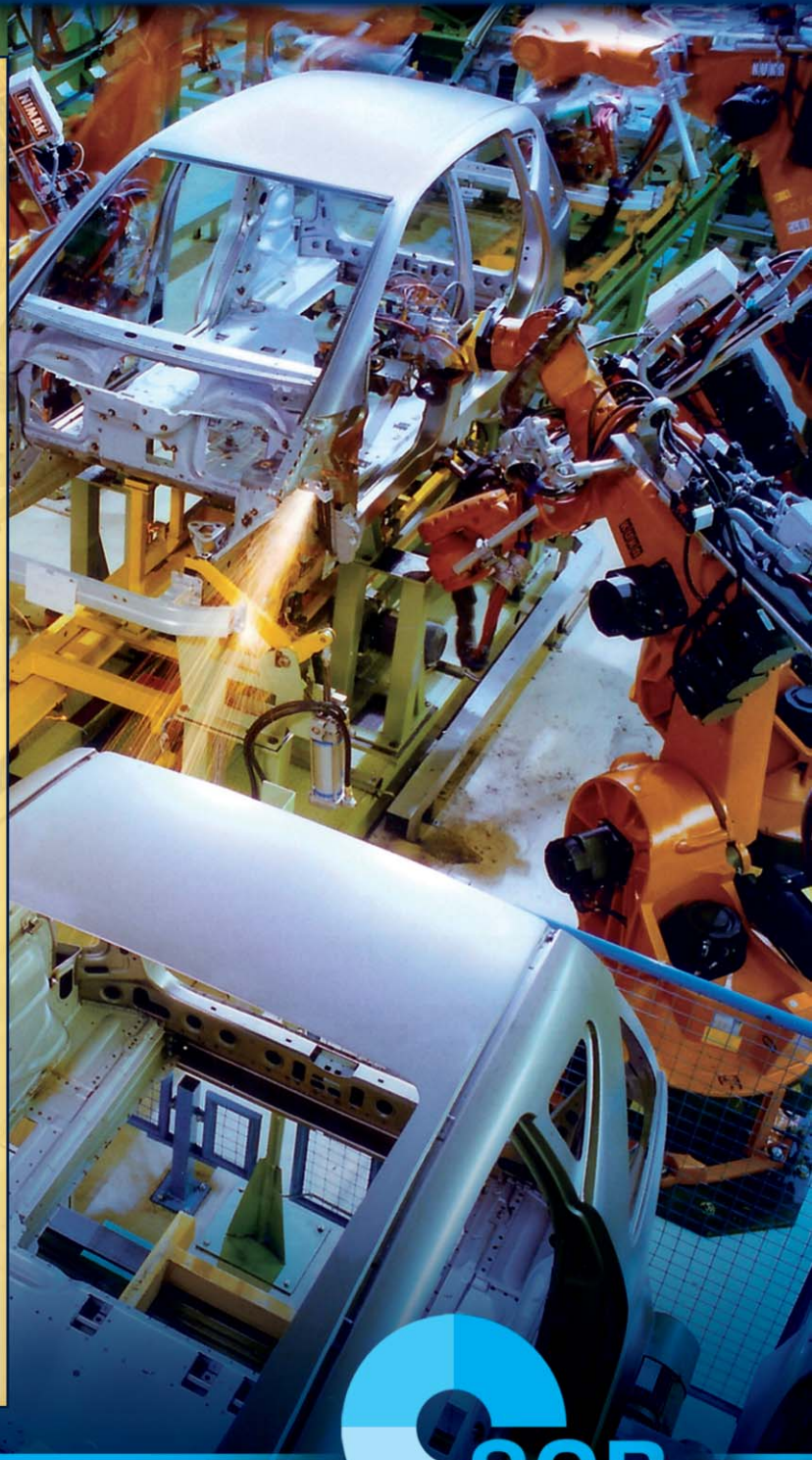
## **Application range:**

The robot cable USB 2.0 was developed for high frequency data transmission in industry.

In the automobile industry intelligent image processing systems are very important. They are the key to more efficiency, precision and productivity with the installation and treatment by robots for the most different applications.

Whether for the identification of parts and components, for visual inspection, welded seam control or for the collection of bar codes or type tests; wherever a quick and reliable collection and transmission of data from the camera to the industrial PC are absolutely important.

Our highly flexible robot cable USB 2.0 was especially developed for this application. It guarantees excellent transmission characteristics as it is demanded for intelligent image processing with a transmission distance of up to 10 m without amplifier under extreme industrial application conditions.



## USB 2.0 Cables flexible



Marking for USB 2.0 cable 06010122:

SAB BRÖCKSKES · D-VIERSEN · USB 2.0 Leitung (2x0,22mm<sup>2</sup>) ST + 2x0,5mm<sup>2</sup> 0601-0122 CE



<b>Construction:</b>	USB 2.0 <i>flexible</i>	USB 2.0 with UL <i>flexible</i>	USB 2.0 FRNC <i>flexible</i>
<b>Dimension:</b>	(2 x 0,22 mm <sup>2</sup> ) ST + 2 x 0,5 mm <sup>2</sup>		
<b>Conductor:</b>	bare copper strands (0,50 mm <sup>2</sup> ), silver-plated strands (0,22 mm <sup>2</sup> )		
<b>Core insulation:</b>	SABIX® 151		
<b>Colour code:</b>	black, red (0,50 mm <sup>2</sup> ), white, green (0,22 mm <sup>2</sup> )		
<b>Stranding:</b>	2 x 0,22 mm <sup>2</sup> wrapped with alu foil, together with 0,5 mm <sup>2</sup>		
<b>Wrapping:</b>	non-woven tape		
<b>Screen:</b>	tinned copper braiding		
<b>Outer sheath:</b>	PVC		SABIX®
<b>Sheath colour:</b>	black (RAL 9005)		

<b>Technical data:</b>	USB 2.0 <i>flexible</i>	USB 2.0 with UL <i>flexible</i>	USB 2.0 FRNC <i>flexible</i>
<b>Item number:</b>	0601-0122	0601-0222	0601-9001
<b>Peak operating voltage VDE:</b>	max. 350 V		
<b>Voltage: UL:</b>	---	300 V	---
<b>Testing voltage:</b>	core/core 1500 V core/screen 1200 V	core/core 2000 V core/screen 2000 V	core/core 1500 V core/screen 1200 V
<b>Temperature range VDE</b> fixed laying: flexible application:	- 30°C / + 70°C - 5°C / + 70°C	<b>UL:</b> up to + 80°C - 30°C / + 70 °C - 5°C / + 70 °C	- 50°C / + 90 °C - 40°C / + 90 °C
<b>Min. bending radius</b> fixed laying: flexible application:	5 x d 10 x d		
<b>Halogen-free:</b>	---		acc. to DIN VDE 0472 part 815 + IEC 60754-1
<b>Fire performance:</b>	---		flame retardant and self-extinguishing acc. to IEC 60332-1-2 + EN 60332-1-2
<b>Oil resistance:</b>	acc. to internal standard		---
<b>Absence of harmful substances:</b>	acc. to RoHS directive of the European Union		

item no.	type	dimension mm <sup>2</sup>	outer-ø approx. mm	copper figure kg/km	cable weight ≈kg/km
06010122	PVC	(2x0,22) ST + 2x0,50	6,8	34,0	60
06010222	PVC with UL	(2x0,22) ST + 2x0,50	7,0	34,0	63
06019001	SABIX®	(2x0,22) ST + 2x0,50	6,8	34,0	62

Other dimensions and colours are possible on request.

## USB 2.0 Cables continuously flexible



USB 2.0 Leitung (2x0,22mm<sup>2</sup>)ST+ 2x0,5mm<sup>2</sup> 0601-0

Marking for USB 2.0 cable 06010122:

SAB BRÖCKSKES · D-VIERSEN · USB 2.0 Leitung (2x0,22mm<sup>2</sup>) ST + 2x0,5mm<sup>2</sup> 0601-0122 CE



Construction:	USB 2.0	USB 2.0 with UL/CSA	USB 2.0 with UL/CSA
	<i>suitable for cable tracks</i>	<i>suitable for cable tracks</i>	<i>suitable for robots</i>
Dimension:	(2 x 0,22 mm <sup>2</sup> ) ST + 2 x 0,5 mm <sup>2</sup>		
Conductor:	bare copper strands (0,50 mm <sup>2</sup> ), silver-plated strands (0,22 mm <sup>2</sup> )		
Core insulation:	SABIX® 151		
Colour code:	black, red (0,50 mm <sup>2</sup> ), white, green (0,22 mm <sup>2</sup> )		
Stranding:	2 x 0,22 mm <sup>2</sup> wrapped with alu foil, together with 0,5 mm <sup>2</sup>		
Wrapping:	non-woven tape	PTFE foil	
Screen:	tinned copper braiding	wrapping with tinned copper round wires	
Wrapping:	non-woven tape		
Outer sheath:	PUR		
Sheath colour:	black (RAL 9005)		

Technical data:	USB 2.0	USB 2.0 with UL/CSA	USB 2.0 with UL/CSA
	<i>suitable for cable tracks</i>	<i>suitable for cable tracks</i>	<i>suitable for robots</i>
Item number:	0601-1022	0601-1122	0601-2022
Peak operating voltage VDE:	max. 350 V		
Voltage: UL:	---	300 V	
Testing voltage:	core/core 2000 V - core/screen 2000 V		
Temperature range VDE	UL: up to + 80°C		
fixed laying:	- 50°C / + 90 °C	- 50°C / + 90 °C	
flexible application:	- 40°C / + 90 °C	- 40°C / + 90 °C	
Min. bending radius	5 x d		5 x d
fixed laying:	6 x d		7,5 x d
flexible application:	7,5 x d		10 x d
continuously flexible:			up to +/- 180°/m
torsion angle:			
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1		---
Oil resistance:	TMPU acc. to DIN VDE 0282 part 10 + HD 22.10		
Absence of harmful substances:	acc. to RoHS directive of the European Union		

item no.	type	dimension	outer-ø	copper figure	cable weight
		mm <sup>2</sup>	approx. mm	kg/km	≈kg/km
06011022	PUR	(2x0,22) ST + 2x0,50	7,0	34,1	59
06011122	PUR with UL/CSA	(2x0,22) ST + 2x0,50	7,2	34,1	66
06012022	robot cable with UL/CSA	(2x0,22) ST + 2x0,50	7,0	34,3	64

Other dimensions and colours are possible on request.



## FLEXIBLE CABLES

- Halogen-free cables ■ Cable track cables
- Servo motor cables ■ ETFE, FEP, PFA cables
  - Bus cables ■ Torsion cables
- Hybrid and special cables ■ Control and connection cables
  - Data cables ■ Besilen® (Silicone) cables
- Compensating and extension cables ■ Tray cables

## TEMPERATURE MEASUREMENT

- Protecting armatures and gauge slides
- Mineral insulated thermocouples and Mineral insulated resistance thermometers
- Temperature measurement in plastic processing industry/Hot runner technique
  - Diesel thermocouples ■ Probe with stainless steel sleeve
  - Temperature measurement in test vehicles
    - Measurement techniques

## CABLE HARNESSING

- Harnessed cables acc. to customer's specification
  - Harnessed cable track cables
  - Helix cables ■ Cable harnesses
- Harnessed motor and transmission cables for Siemens and Indramat drives