

Cables for E-Ticketing Systems



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SAB BRÖCKSKES

More than 60 years of experience in temperature measurement and control technique as well as in cable production have made a one man business a company with more than 500 staff members. 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 customer's request. Every single product is a challenge for our technical team.

We at SAB Bröckskes see ourselves as manufacturer and service provider - in the sense of real partnership and customer oriented work. The quality of our products is known in more than 40 countries of the world. Our customers have tested our products intensively and confirm that they have a longer service life than others. In all product ranges we are certified acc. to ISO 9001:2008. Besides we established an environmental management system for our company acc. to ISO 14001:2004, an occupational health and safety management acc. to NLF/ILO-OSH 2001 and OHSAS 18001:2007 as well as an energy management system acc. to DIN EN 16001:2009.

PROBLEM SOLUTION

- Especially in the E-Ticketing area highly flexible cables are required. You need help? We will act fast and competently. And as a pioneer in the field of halogen free, flame retardant cables we will be your first-choice partner

SERVICE

- Deliveries of small quantities are possible!

FLEXIBILITY

- Several cables can be combined in a space saving hybrid cable
- Production length of 100 m possible
- Cable development customized to your request

SPEED

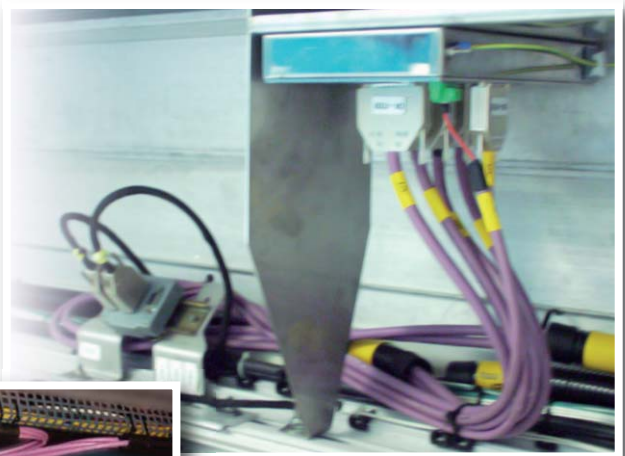
- From development to distribution in maximum speed

HIGH QUALITY

- Highest quality by DIN EN ISO 9001:2008
- Country specific standards on demand!

REFERENCES

- RET Rotterdam
- GVB Amsterdam
- HTM Den Haag
- VDL
- EVO Bus
- Veolia
- Arriva
- MAN
- Volvo
- Vialis
- further projects for Croatia and Russia



CABLES FOR E-TICKETING SYSTEMS

SABIX® IBS 610 FRNC (B)
SABIX® IBS 610 FRNC
Ethernet Cable

SABIX® A 200 FRNC
SABIX® D 345 FRNC TP



Construction:	SABIX® IBS 610 FRNC (B) item no. 6610-9002	SABIX® IBS 610 FRNC item no. 6610-9003	SABIX® A 200 FRNC item no. 6200-9109	SABIX® D 345 FRNC TP item no. 6345-9067	Ethernet Cable item no. 0660-9002
Dimension:	3 x 2 x 0,25 + 2 x 0,5 mm ²	2 x 0,25 + 1 x 0,25 mm ²	4 x 1,5 mm ²	20 x 2 x 0,25 mm ²	2 x 2 x 0,34 mm ²
Conductor:	bare copper strands				
Insulation:	0,25 mm ² : PE, 2Y11 acc. to DIN VDE 0207 part 2 0,50 mm ² : SABIX® 233	0,25 mm ² : PE, 2Y11 acc. to DIN VDE 0207 part 2 0,25 mm ² : SABIX® 231	SABIX® 336 acc. to DIN VDE 0207 part 23		thermoplastic material based on Polyethylene
Colour code:	with reference to DIN VDE 47100	with reference to DIN VDE 47100 and pink	red, blue, yellow, green	with reference to DIN VDE 47100	blue, yellow, white, orange
Stranding:	pairwise, pairs in layers		in layers	pairwise, pairs in layers	pecially adjusted layering
Wrapping:	PETP foil		-	PETP foil	
Inner sheath:					thermoplastic material based on Polyolefine
Screen:	tinned copper braiding		-	tinned copper braiding	
Wrapping:	non-woven tape		-	-	non-woven tape
Outer sheath:	SABIX® FRNC				
Sheath colour:	purple (RAL 4001)				green (RAL 6018)

Technical data:	SABIX® IBS 610 FRNC (B) item no. 6610-9002	SABIX® IBS 610 FRNC item no. 6610-9003	SABIX® A 200 FRNC item no. 6200-9109	SABIX® D 345 FRNC TP item no. 6345-9067	Ethernet Cable item no. 0660-9002
Nominal voltage:	-	-	U ₀ /U 300/500 V	-	-
Peak operating voltage:	max. 350 V		-	max. 500 V	max. 350 V
Testing voltage:	core/core 1500 V core/screen 1200 V		core/core 2000 V	core/core 1500 V core/screen 1200 V	
Temperature range: fixed laying: flexible application:	-40°C up to +70°C -30°C up to +70°C		-40°C up to +85°C -30°C up to +85°C		-30°C up to +70°C -20°C up to +70°C
Min. bending radius: fixed laying: flexible application:	7,5 x outer diameter		4 x outer diameter 6 x outer diameter	5 x outer diameter 10 x outer diameter	
Characteristic impedance:	0,064 MHz: 120 Ω ± 20% acc. to VDE 0472 part 516 1 MHz: 100 Ω ± 15% acc. to VDE 0472 part 516		-	-	-
Halogen-free:	acc. to DIN VDE 0472 part 815 + IEC 60754-1				
Fire performance:	fulfills DIN EN 60332-1-2, IEC 60332-1-2 in accordance with DIN EN 50265-2-1 (VDE 0482 part 265-2-1)				
Absence of harmful substances:	acc. to RoHS directive of the European Union				

Outstanding features:	SABIX® IBS 610 FRNC (B) item no. 6610-9002	SABIX® IBS 610 FRNC item no. 6610-9003	SABIX® A 200 FRNC item no. 6200-9109	SABIX® D 345 FRNC TP item no. 6345-9067	Ethernet Cable item no. 0660-9002
	combined bus and control cable - space-saving version	combined bus and control cable - space-saving version	highly flexible	highly flexible	accomplishes the electrical and transmission requirements with high frequency acc. to EN 50286-2-2 (CAT 5 acc. to EN 50173-1)



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