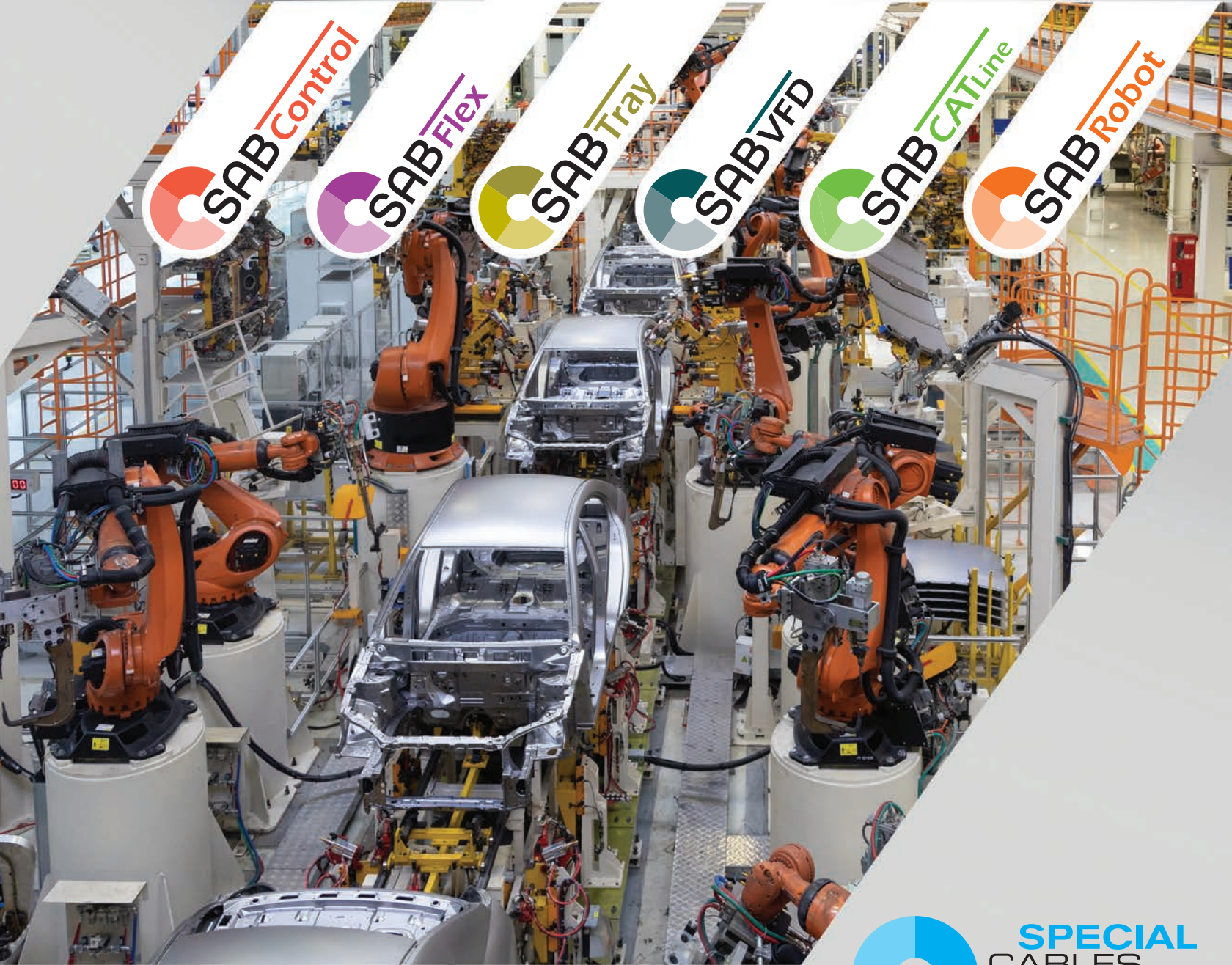
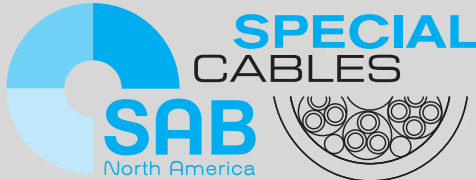


# CABLES & ACCESSORIES FOR AUTOMOTIVE



[www.sabcable.com](http://www.sabcable.com)  
866-722-2974 ■ [info@sabcable.com](mailto:info@sabcable.com)



# Cables & Accessories for Automotive

## About Us



SAB North America is a focused supplier for the automation, aerospace, food and beverage, medical, high temperature, and robotics industries, providing cable 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:

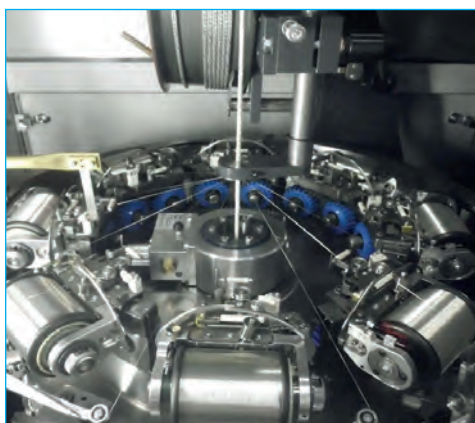
- Hybrid designs for multiple functions
- Harsh environments
- Difficult applications
- Industry-specific requirements



The enduring quality of SAB automation cables are quietly at work behind the scenes on assembly lines & factory floors. Machine builders and Tier 1 & Tier 2 suppliers to the automotive industry entrust SAB North America to build cables that thrive in harsh environments. Communication, control & power cables are literally the veins & arteries that make your machines tick. Don't allow inferior cables to compromise your equipment.

Whether you're a valued distribution partner, an automation house, an integrator, or a contractor to the automobile manufacturer, 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.

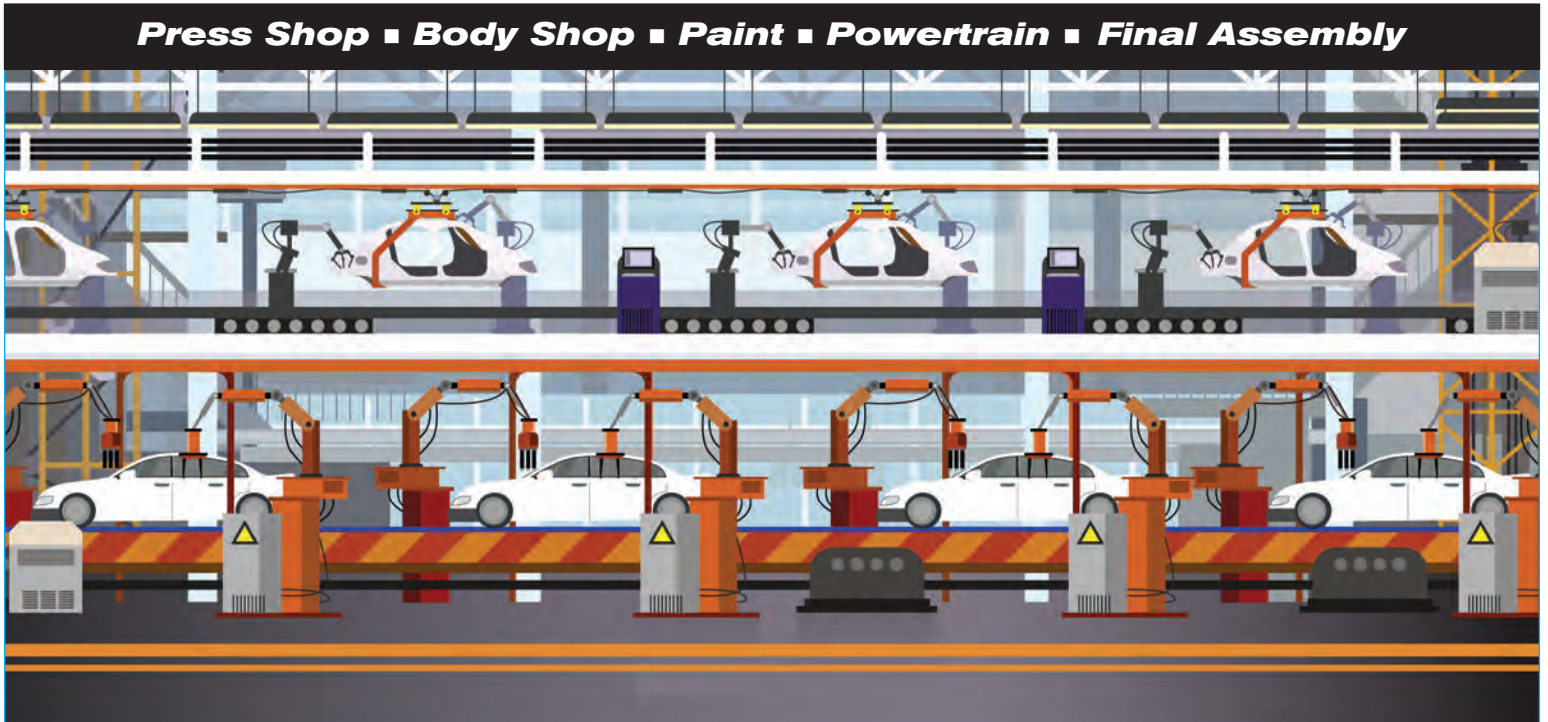


## SAB Advantage...We make it Easy

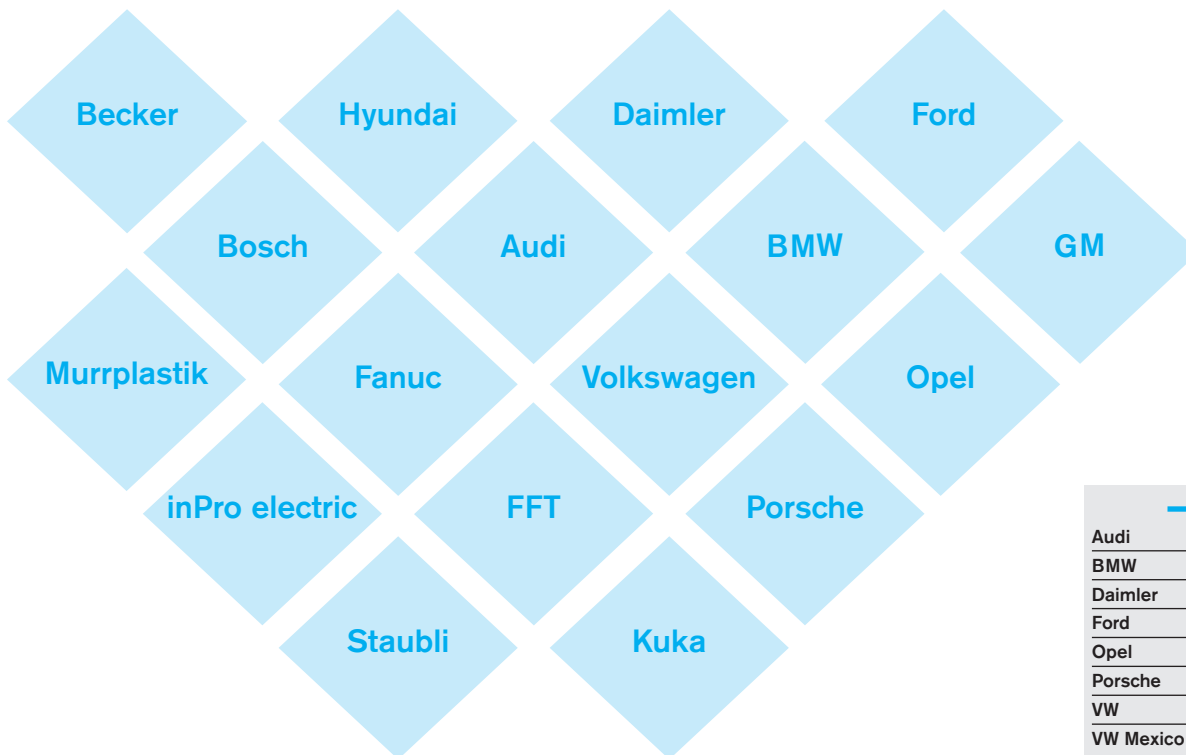
- Engineering & technical assistance
- Cut to length with no cut charges
- Prepaid freight within US for orders over \$2,500
- Specialty cable designs (1500 ft minimum)
- No minimum on orders from stock
- Free drop shipments (no surcharges)
- 24-hour shipments from stock
- Cord Grips for securing and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

# Cables & Accessories for Automotive

For every step of automotive manufacturing



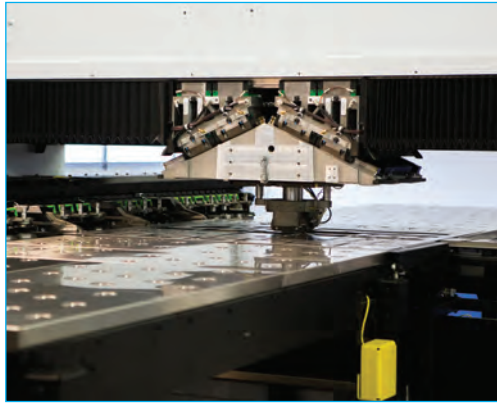
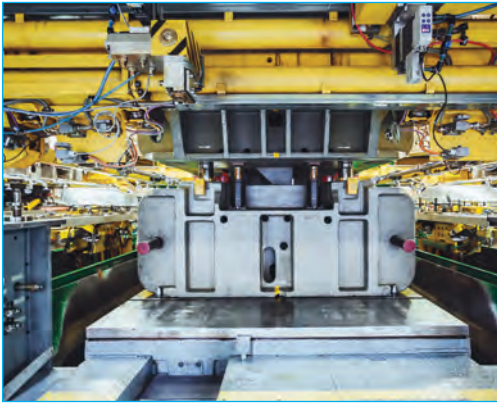
SAB enjoys a distinguished history partnering with the Automotive Industry worldwide. The high stress demands of the automotive vertical markets are a natural fit for our brand of high-performance cables.



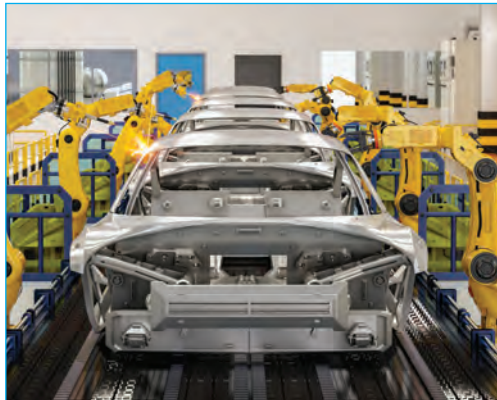
	<b>Supplier no.:</b>
Audi	1917/0
BMW	609-213-10
Daimler	102 218 10
Ford	DJM5A
Opel	1 950 428
Porsche	11 901
VW	1917-0
VW Mexico	600 200 57 70

# Cables & Accessories for Automotive

**Press & Stamping Shops: Chassis parts including side frames, doors, bonnets and roofs are shaped and formed to create the car frame**

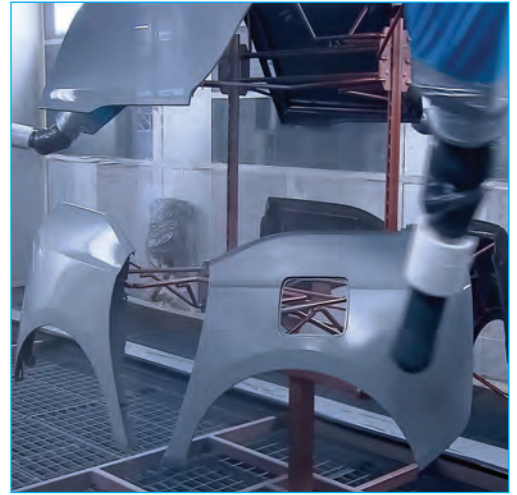
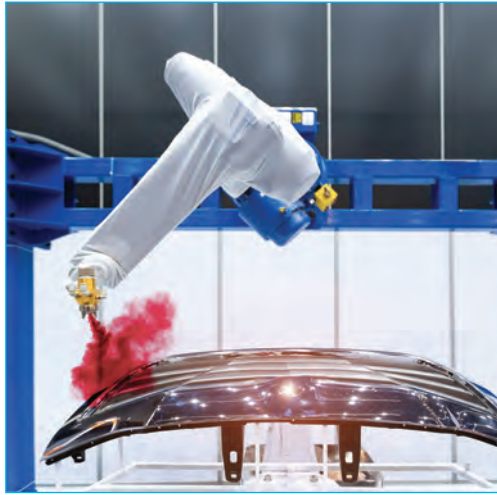


**Body Shop: Welding together the under body, body side, beams, wheel cover, seat frames, and bumpers**

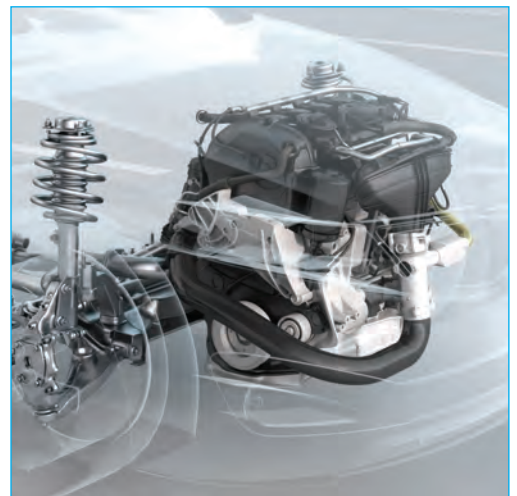
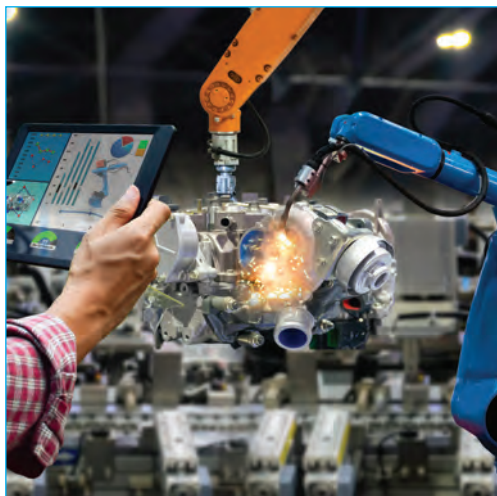
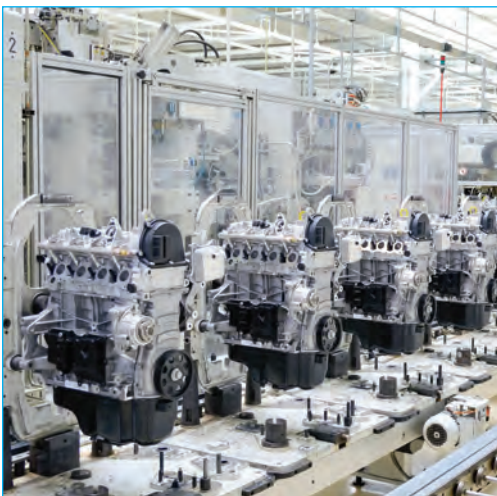


# Cables & Accessories for Automotive

## ***Paint: Pressure controlled spray booths***



## ***Powertrain: Engine, transmission, driveshaft, axles, and differential***

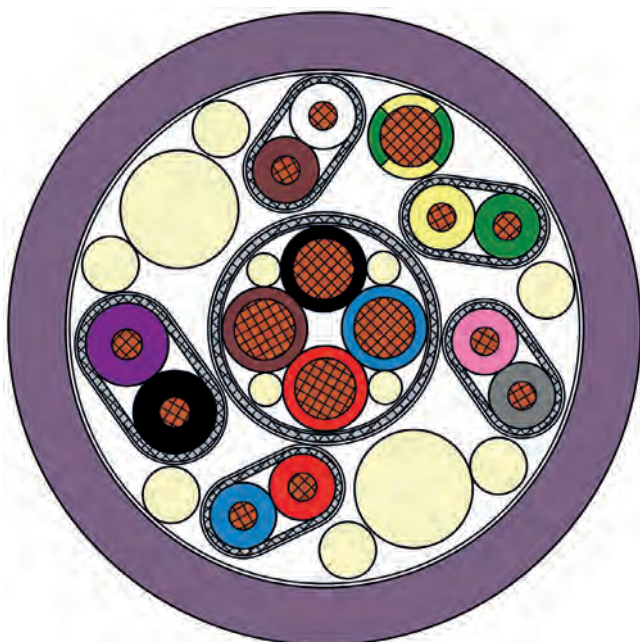


## ***Final Assembly: Final components are installed and prepped for delivery***



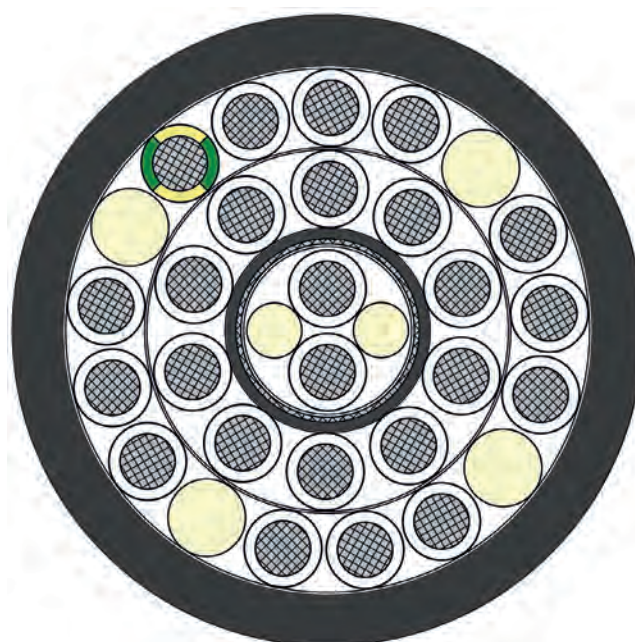
# Cables & Accessories for Automotive

## Hybrid Cables for Robots



**Interbus Hybrid cable for the automotive industry**

PUR interbus hybrid cable pairwise with copper wrapping.  
Available for flexible or stationary applications



**Control cable for the automotive industry**

Special PUR connection cable with numbered conductors  
and overall copper shielding

### Features:

- Withstand welding applications
- High cycle life

### Suggested Cables:

- PUR welding cables
- PUR control cables
- Regulated voltage cable
- Regulated voltage / medium frequency cables
- PUR hybrid cable (PNZ cable for welding control)
- PUR hybrid cable (EMZ cable for welding control)
- PUR hybrid cable (divided EMZ cable for welding control)

- Interbus hybrid cable
- PUR multi bus cable
- IBS cable rugged line
- Proportional valve cable
- RT profinet cable
- RT-CAT 6 Ethernet cable
- RT-CAT 6 Hybrid Ethernet cable
- DeviceNet™ cable - robot cable/Drop

# Cables & Accessories for Automotive

## FLEXIBLE POWER & CONTROL CABLES

**Applications Include:** CNC, Conveyors, Light Curtains, Safety & Vision Systems, E-stops, Transport including AGV/AMV/MIRs, Panels/Enclosures (Entry/Exit), Sorting



600V CSA AWM I/II A/B 90°C F 600V FT1 FT2 CE

**Pressing & Stamping**  
**Body Shop**  
**Paint**  
**Powertrain**  
**Final Assembly**



### Features:

- Flexible for easy installation
- Shielded versions available
- NFPA 79 compliant
- Abrasion and notch resistant
- Easy to crimp conductors

### Suggested Cables:

- CC 600 & CC 600 CY (UR/CSA/CE) - Flexible, Unshielded & Braid Shielded, Oil Resistant PVC Control Cable
- CC 600 P & CC 600 CP (UR/CSA/CE) - Flexible, Unshielded & Braid Shielded, Notch Resistant PUR Control Cable

## CONTINUOUS FLEX CABLES

**Applications Include:** RTU's, In Floor/Overhead Transfer and Gantry Units, Conveyors, CNCs, Cable Tracks, Openers, Sealers, Presses, Material Handling, Cutting, Multi-Access Equipment, C-Tracks & E-chains, Lifting Equipment



CSA AWM I/II A/B 90°C 600V FT1 FT2 CE

**Pressing & Stamping**  
**Body Shop**  
**Paint**  
**Powertrain**  
**Final Assembly**



D-VIERSEN · S 200 12 x 1.5 mm<sup>2</sup> CE

### Features:

- Applications requiring alternate bending or continuous motion
- Long service life- millions of bending cycles
- Abrasion resistant

### Suggested Cables:

- S 960 & S 960 CY (UR/CSA/CE) - Unshielded & Braid Shielded, Oil Resistant PVC Cable
- S 200 & S 200 C (CE) TPE/PUR - Unshielded & Braid Shielded Cable, Extreme Temperatures, & Tight Bending Radius
- S 980 P & S 980 CP (UR/CSA/CE) - Unshielded & Braid Shielded, Oil Resistant PUR Cable
- S 900 & S 900 P (UR/VDE/CE) - PVC & PUR Single Conductor, Tight Bend Radius for Confined Areas

## TORSIONAL CABLES

**Applications Include:** Robot Arm, CNC, Transportation Including AGV/AMV/MIRs, Material Removal (Cutting & Trimming), Pick-&-Place, Deburring & Fastening



80°C 600V CSA AWM I/II A/B 80°C 600V FT1 FT2 CE

**Pressing & Stamping**  
**Body Shop**  
**Paint**  
**Powertrain**  
**Final Assembly**



### Features:

- Designed for torsional movement
- Rugged PUR jacket
- Abrasion resistant

### Suggested Cables:

- RT 123 (UR/CSA/CE) - TPE/PUR Torsional and Continuous Flex Cable for  $\pm 450^\circ / 1/2$  m Available Shielded and Unshielded
- RT 113 (UR/CSA/CE) - TPE/PVC Torsional and Continuous Flex Cable for  $\pm 270^\circ / 1/2$  m Available Shielded and Unshielded

# Cables & Accessories for Automotive

## FLEXIBLE TRAY CABLES

**Applications Include:** Plant Infrastructure, Power Distribution, Lighting, Controls, Signal Services, NFPA 79 Industrial Machinery, Safety Class 1 Div 2 Circuits

TR FT4 OR AWM I/II A/B 90C 1000V FT4 RoHS CE



TR FT4 CSA AWM I/II A/B 90C 600V FT4 RoHS CE



**Pressing & Stamping**

**Body Shop**

**Paint**

**Powertrain**

**Final Assembly**



### Features:

- Flexible for easier installation
- Can be routed around tight bends and fit into confined spaces
- Shielded versions available

- UL TC-ER for exposed runs
- NFPA 79 compliant

### Suggested Cables:

- TR 600 S & TR 600 S CY (UL TC-ER/CSA-TC/CE) - UV & Oil Resistant Flexible Cable, Shielded & Unshielded
- TR 600 Auto HD (UL TC-ER/CSA/cULus/CE) - Continuous Flex Heavy Duty Cable
- TR 600 HD & TR 600 C HD (UL TC-ER/CSA/cULus/CE) - Heavy Duty Tray Cable, Shielded & Unshielded
- TRAY HD TPE (UL TC-ER/CSA/cULus/CE) - Heavy Duty Tray Cable, Unshielded



## FLEXIBLE VFD CABLES

**Applications Include:** In-Floor & Overhead Transfer Lines & Gantry Units, Conveyors, Safety E-stop / Brake, Fans, HVAC, Cooling, Dragline

4, CSA AWM I/II A/B 90C 1000V FT4 RoHS CE



**Pressing & Stamping**

**Body Shop**

**Paint**

**Powertrain**

**Final Assembly**



### Features:

- Cables engineered to suppress the noise issues associated with VFD drives
- XLPE insulation offers improved capacitance for longer installations

- NFPA 79 compliant
- Flex or continuous flex operations
- Heavy-duty jacket for harsh environments

### Suggested Cables:

- VFD XLPE TR (UL/CSA/CE) - 4c Power with Overall Shield
- VFD Combo XLPE (UL/CSA/CE) - 4c Power Plus Shielded Pair for Brake or Sensor
- VFD XLPE Auto TR (UL/CSA/CE) - 4c Power with Overall Shield for Continuous Flexing
- VFD XLPE Lean (UL/CSA/CE) - 4c Power with Overall Shield with Reduced Diameter

## EUROPEAN STANDARDIZED CABLES

**Applications Include:** Grounding, Control Machine Tool, Panels/Cabinets, Conveyors, Transport Equipment, Production Lines, Generators, Transformers



**Pressing & Stamping**

**Body Shop**

**Paint**

**Powertrain**

**Final Assembly**



### Features:

- Flexible for easier installation
- Can be routed around tight bends and fit into confined spaces

- Rubber Cordage per European Standards

### Suggested Cables:

- H05V-K/MTW/TEW (UL/CSA/HAR/VDE/CE) - Harmonized 300/500 Volt Hook-Up Wire
- H07V-K/MTW/TEW (UL/CSA/HAR/VDE/CE) - Harmonized 450/750 Volt Hook-Up Wire
- H07RN-F (HAR/CE) - Harmonized 450/750 Volt Neoprene Heavy Duty Multi-Conductor Cable



# Cables & Accessories for Automotive

## FLEXIBLE SERVO CABLES

**Applications Include:** Material Handling, Industrial Robots, Pick and Place, RTU's, Pulse Generators, CNCs, Cutting, Openers, Cable Tracks



**Pressing & Stamping**  
**Body Shop**  
**Paint**  
**Powertrain**  
**Final Assembly**



### Features:

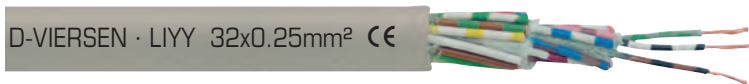
- Available in position or feedback versions with copper screen (0.6/1 kV or overall)
- Halogen-free versions
- Good chemical resistance
- Long operating life
- Suitable for use in cable tracks

### Suggested Cables:

- SL 863 C (UR/CE) - Braid Shielded Servo Motor Cables for Stationary Applications, PVC
- SL 834 C (UR/CSA/CE) - Braid Shielded Servo Motor Cable for Continuous Flex, PUR
- SL 841 C (UR/CSA/CE) - Braid Shielded Composite Servo Motor Cable with Pairs for Continuous Flex, PUR
- SL 839 C & SL 843 C (UR/CE) - Braid Shielded Servo Motor Cables for Resolver/Encoder, PUR

## DATA & SENSOR CABLES

**Applications Include:** Controls, Measuring, Data processing, Cabinet/Panels, Scales, Interference Control Modules, Sensitive Data Processing Systems, Conveyors, Vision systems, Safety Curtains



**Pressing & Stamping**  
**Body Shop**  
**Paint**  
**Powertrain**  
**Final Assembly**



### Features:

- 26 AWG to 16 AWG data/communication cables
- Shielded, unshielded and paired with overall shield
- Flexible for easier routing

### Suggested Cables:

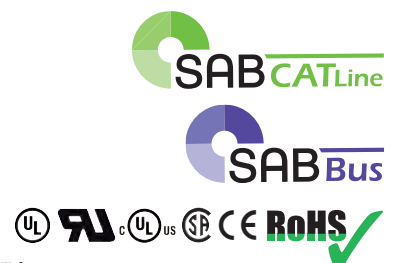
- DC 105, DC 105 C, & DC 105 TP (UL PLTC, ITC, CMG)(CSA/CE)- Flexible Multi-Conductor & Paired Cable, Shielded & Unshielded, PVC
- DC 300 DS & DC 300 TP (UR/CSA) - Flexible Multi-Conductor & Paired Cable, Shielded & Unshielded, PVC
- LiYY, LiYCY, & LiYCY TP (VDE/CE) - General Purpose, Multi-Conductor and Twisted Pair, Shielded & Unshielded, PVC

## FLEXIBLE INDUSTRIAL BUS & ETHERNET CABLES

**Applications Include:** Robotics, Trunk & Drop, Industrial PC, Safety BUS, Controllers, Process Automation, Machine Safety, TCP/IP



**Pressing & Stamping**  
**Body Shop**  
**Paint**  
**Powertrain**  
**Final Assembly**



### Features:

- Available with PLTC rating for use in tray
- CATLine is available for continuous flex & torsion/robotic applications
- Resistance to extreme temperatures.
- CAT 5e, CAT 6, CAT 6A, or CAT 7A
- USB 2.0 and 3.0 versions also available.
- Profinet: Type A, B, & C

### Suggested Cables:

- Profinet/CAT5 Cables for Type A, B, & C Applications Plus Torsion and Reeling (UL/CSA)
- DeviceNet™ Cables for Flexible, Continuous Flex, and Torsion Applications (UL/CSA)
- Profibus Cables for Flexible, Continuous Flex, Torsion, and Outdoor Applications. Halogen-Free (UL/CSA)
- CATLine 5e, 6, 6A, 7A Cables for Continuous Flex, Torsion, Reeling, and High Temperature Applications (UL/CSA)



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# Cables & Accessories for Automotive

## CORD GRIP & ACCESSORIES

Secure & Protect your Cable

Liquid tight seal, fast and easy installation, wide clamping range, multi-purpose applications, easy handling.



### Technical data:

Protection type:	IP 68 - 5 Bar NEMA 4X
Temperature range:	
<i>permanent:</i>	-20°C to +100°C
<i>intermittent:</i>	-30°C to +150°C
Flammability:	V2 (according to UL 94)

### Pressing & Stamping

Body Shop

Paint

Powertrain

Final Assembly

### CG 100 POLYAMIDE CORD GRIPS

Dome cap, black or gray available in NPT, PG, or metric thread

Liquid tight seal, fast and easy installation, wide clamping range, multi-purpose applications, easy handling.



### CG 200 POLYAMIDE CORD GRIPS

Flex cap, black or gray available in NPT, PG, or metric thread

Strain relief gland offers maximum protection against conductor fatigue caused by flexing cables



### CG 300 NICKEL PLATED BRASS CORD GRIPS

Available in NPT, PG, or metric thread

Impact resistant, suitable for industrial applications, water tight, corrosion resistant.



### CG 350 STAINLESS STEEL CORD GRIPS

Available in NPT, PG, or metric thread and SS 303 or SS 316

Impact resistant, suitable for industrial applications, water tight, corrosion resistant.



### EMC-2 GROUNDING CORD GRIPS

Nickel plated brass EMC cable gland available in NPT, PG, or metric thread

EMC-2 is a nickel plated brass strain relief with integral grounding springs in the gland.



#### Features:

- One Direction Installation
- Affordable
- Nickel Plated Brass with Tinned Copper Springs

### EMC-4 GROUNDING CORD GRIPS

Nickel plated brass, EMC cable gland, vibration proof, available in NPT, PG, or metric thread

EMC-4 is a nickel plated brass strain relief with integral grounding springs in the gland that will allow the cable to move without damage to the shield.



#### Features:

- Bi-directional Installation
- Great Anti-Vibration Mechanisms
- Nickel Plated Brass with Tinned Copper Springs

## Accessories & Fittings

Enlargers	Reducers	Hole Plugs	Multi-Hole Bushing	Vent Gland & Plugs	Locknuts

# Cables & Accessories for Automotive

## Production possibilities

### Flexible cables and wires “Made in Germany”

As a leading manufacturer we develop and produce cables for industrial purposes. Our wide range of materials offers a lot of possibilities for your individual product requirement. The following survey shows an extract of our production possibilities:

#### Conductor Materials:

- ✓ bare copper
- ✓ tinned copper
- ✓ silver plated copper
- ✓ nickel plated copper
- ✓ nickel
- ✓ nickel pure
- ✓ compensating cable alloys

#### Insulation and Jacketing Materials:

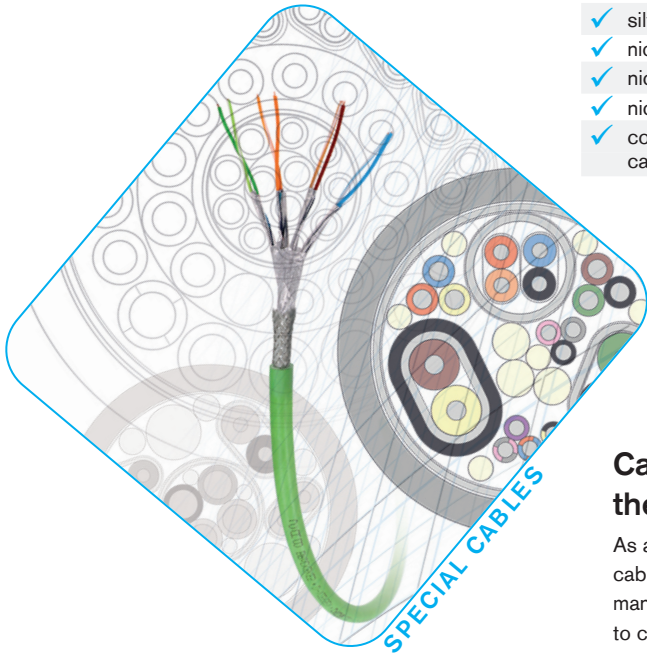
- ✓ PVC
- ✓ Polyethylene
- ✓ Polypropylene
- ✓ Polyurethane
- ✓ TPE
- ✓ SABIX® (zero halogen)
- ✓ Besilen® - Silicone
- ✓ FEP, ETFE, PFA, PTFE
- ✓ PI foil
- ✓ Fiberglass

#### Temperature Ranges:

- Thermoplastic Elastomers
- ✓ -50°C up to +145°C
- SABIX®
- ✓ -50°C up to +220°C
- Besilen® - Silicone
- ✓ -40°C up to +220°C
- FEP, ETFE, PFA
- ✓ -90°C up to +260°C
- Fiberglass
- ✓ up to +600°C

#### Conductors:

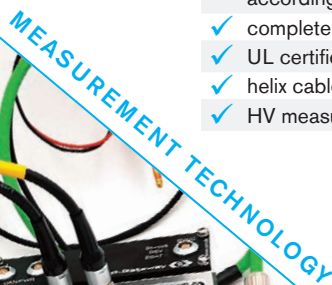
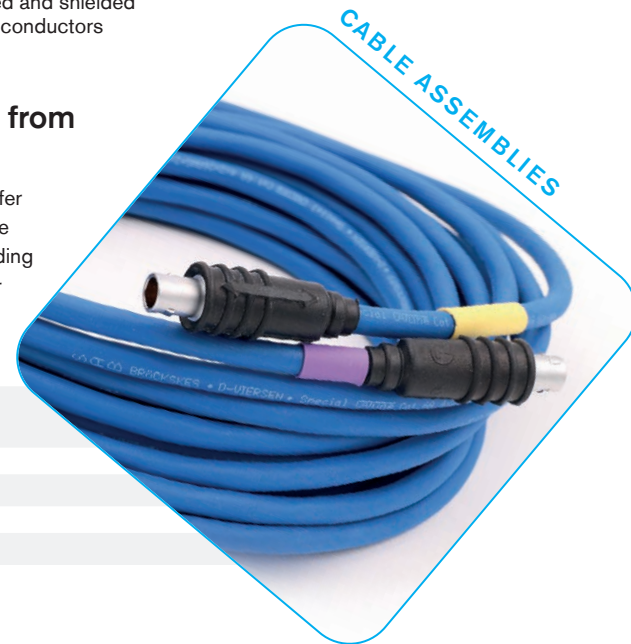
- ✓ cross sections 0.055 - 300 mm<sup>2</sup>
- ✓ unshielded and shielded over 100 conductors



### Cable assemblies directly from the manufacturer SAB:

As a full service partner, we are able to offer cable design and production as well as the manufacturing of cable assemblies according to customer's request. Please trust on our experience for decades in the treatment of cables and connectors.

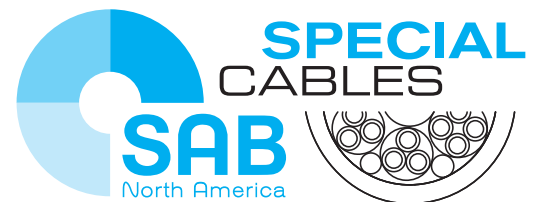
- ✓ cable assemblies according to customer's demands
- ✓ complete cable assemblies
- ✓ UL certified assemblies
- ✓ helix cables
- ✓ HV measuring assemblies



### Measuring technology for industrial applications

Manufacturer of temperature sensors for industrial applications with 75 years of experience!

- ✓ mineral insulated thermocouples
- ✓ mineral insulated resistance thermometers
- ✓ temperature sensors
- ✓ mobile high voltage measuring technology
- ✓ temperature sensors for vehicle testing



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April 2023