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MOBILE MEASUREMENT TECHNOLOGY



FOR HV COMPONENTS

Also for AD and
Pt measurement
modules!



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Technical data you will find under:

www.sab-kabel.de „mobile high voltage technique“

THE COMPANIES



FOUNDED IN 1947

by Peter Bröckskes sen.
An independent,
middle sized company

CEO

Peter Bröckskes and Sabine Bröckskes-Wetten

PLANT/LOCATION

in Viersen (lower Rhine) 110.000m² company site
manufacturing from copper conductor to
outer sheath, thermocouples,
resistance thermometers, cable harnessing,
own VDE approved burning chamber and laboratory

STAFF

approx. 420 in Viersen, 500 worldwide

TURNOVER

approx. 95 million € worldwide

PRODUCTS

- special cables
- thermo technique
- cable harnessing

CERTIFICATES AND APPROVALS

quality management system acc. to ISO 9001:2015
for all production fields, environmental management
system acc. to ISO 14001:2015, occupational health
and safety management acc. to NLF/ILO-OSH 2001
and OHSAS 18001:2007, energy management system
acc. to DIN EN ISO 50001:2011



FOUNDED IN 1983

by Iris Koch and Dr. Winfried Koch
as a privately held technology company

CEO

Iris Koch
Dr. Winfried Koch

PLANT/LOCATION

CSM Computer-Systeme-Messtechnik GmbH
Filderstadt near Stuttgart

STAFF

approx. 65 in Filderstadt, 70 worldwide

PRODUCT PORTFOLIO

CSM is a leading and independent supplier of:

- measurement technology and data logger for the
application in all kinds of vehicles and at test benches
- PC card drives, data loggers and storage media for
many industrial applications
- programming tools for control devices

CERTIFICATES AND APPROVALS

certified acc. to DIN EN ISO 9001 since 2002, certified
acc. to DIN EN ISO 14001 since 2004, own test
laboratory for EMC tests, laboratory for calibrations with
DAkkS approval (D-K-15214-01-00)

SAFE TEMPERATURE MEASUREMENT ON HV COMPONENTS

The measurement system is especially designed for safe temperature measurement on HV components and is excellently suited for mobile and stationary use in the field of electric mobility: electric and hybrid vehicles.



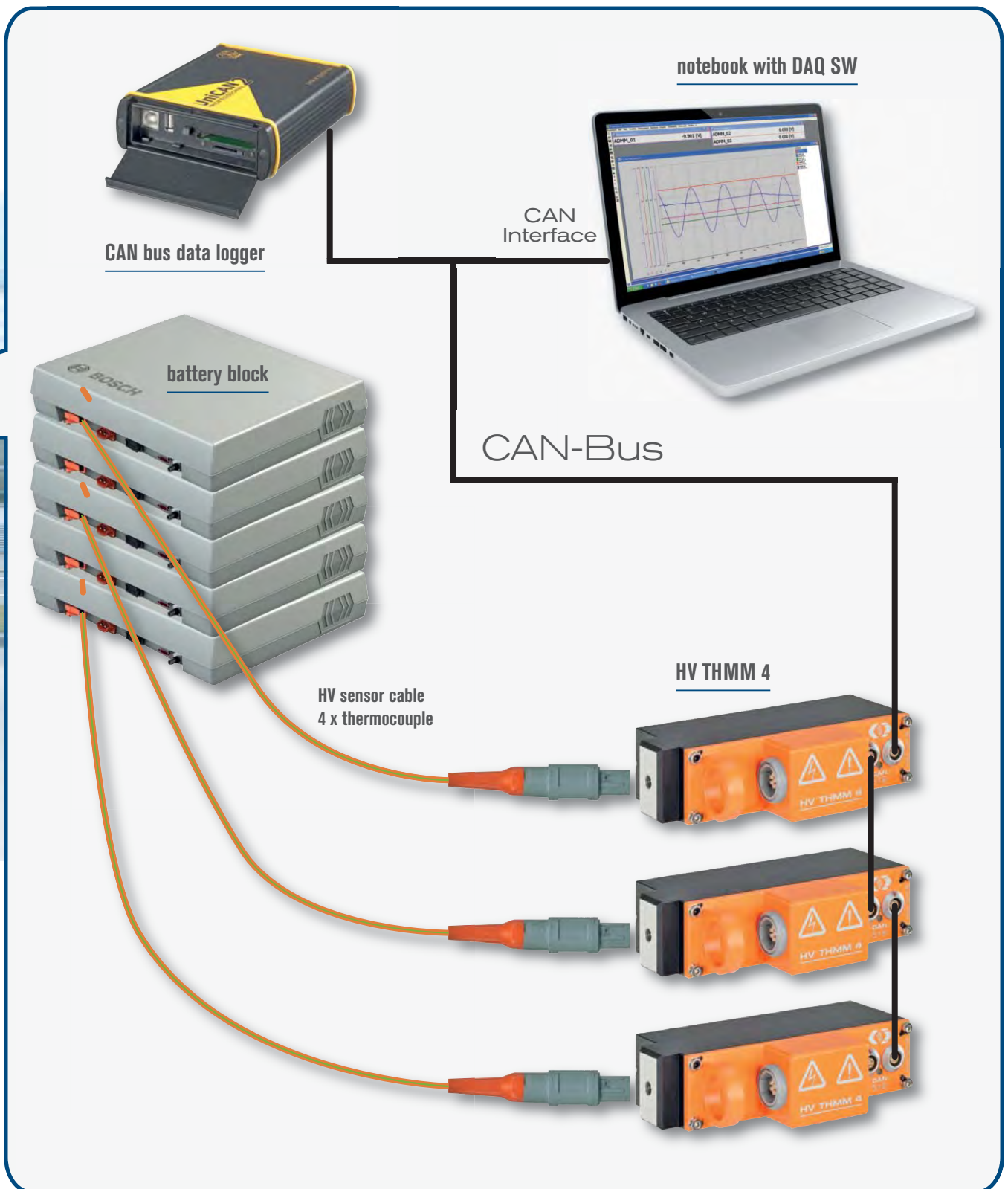
Tested safety from measuring point to data logging

- ✓ temperature measurement on HV components
- ✓ suitable for mobile and stationary use in the field of e-mobility
- ✓ it can be used in close proximity to the measuring point
- ✓ type test of the complete system by an accredited laboratory



Test bench of the company Digatron for electric vehicle batteries

APPLICATION EXAMPLE



HV THERMO SCAN MINI MODULE



- ✓ 4 NiCr-Ni (type K) temperature input
- ✓ galvanic insulation: reinforced insulation up to 846 V unipolar

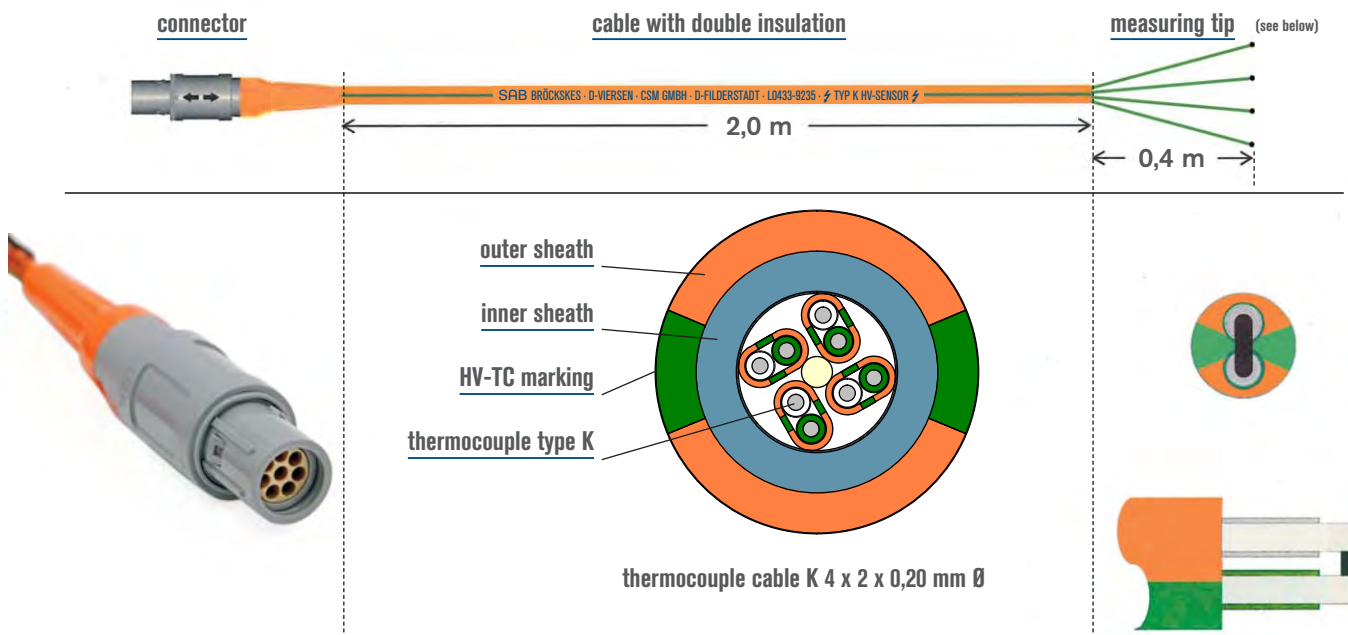
- channel / channel
- channel / CAN
- channel / supply
- channel / housing



- ✓ type and routine test according to device safety standard EN 61010
- ✓ outstanding measurement accuracy for all temperature ranges and environmental conditions
- ✓ internal cold junction compensation per channel
- ✓ very low power consumption typ. 1 W
- ✓ operating temperature -40 °C to +100 °C
- ✓ protection class IP67
- ✓ robust aluminium housing
- ✓ extremely compact CAN bus measurement module

4-CHANNEL HV THERMOCOUPLE CABLE

Item no. L0433-9235



measuring tip: 2 mm bare/ quick response time

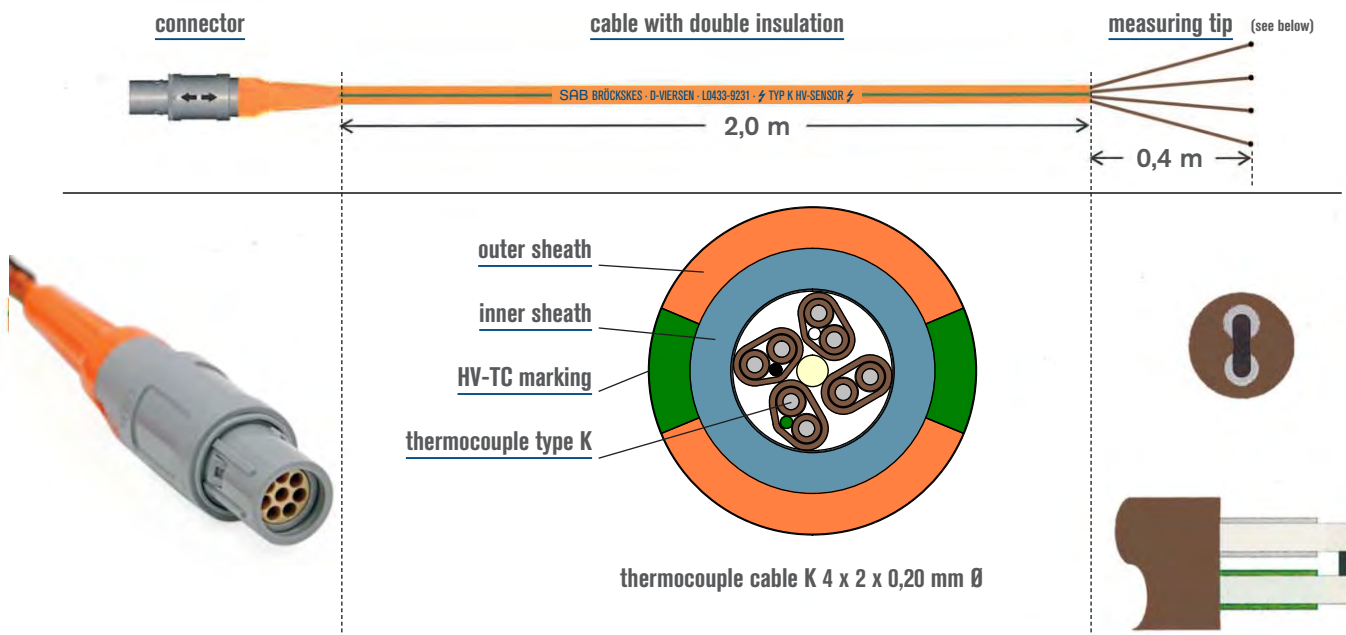


measuring tip: insulated / protected construction

- ✓ **Protected construction type (channel 1-4)**
(measuring tip insulated, equally protected)
- ✓ **Operating temperature**
fixed laying -40 °C to +150 °C (3000 h)
- ✓ **Min. bending radius**
12 x cable diameter
- ✓ **Marking**
SAB BRÖCKSKES · D-VIERSEN · CSM GmbH · D-FILDERSTADT ·
L0433-9235 · (type K HV-SENSOR)
- ✓ **Diameter**
approx. 6,1 mm
- ✓ **Construction type of measuring tip**
according to customer's specification
- ✓ **Routine test**

4-CHANNEL HV THERMOCOUPLE CABLE

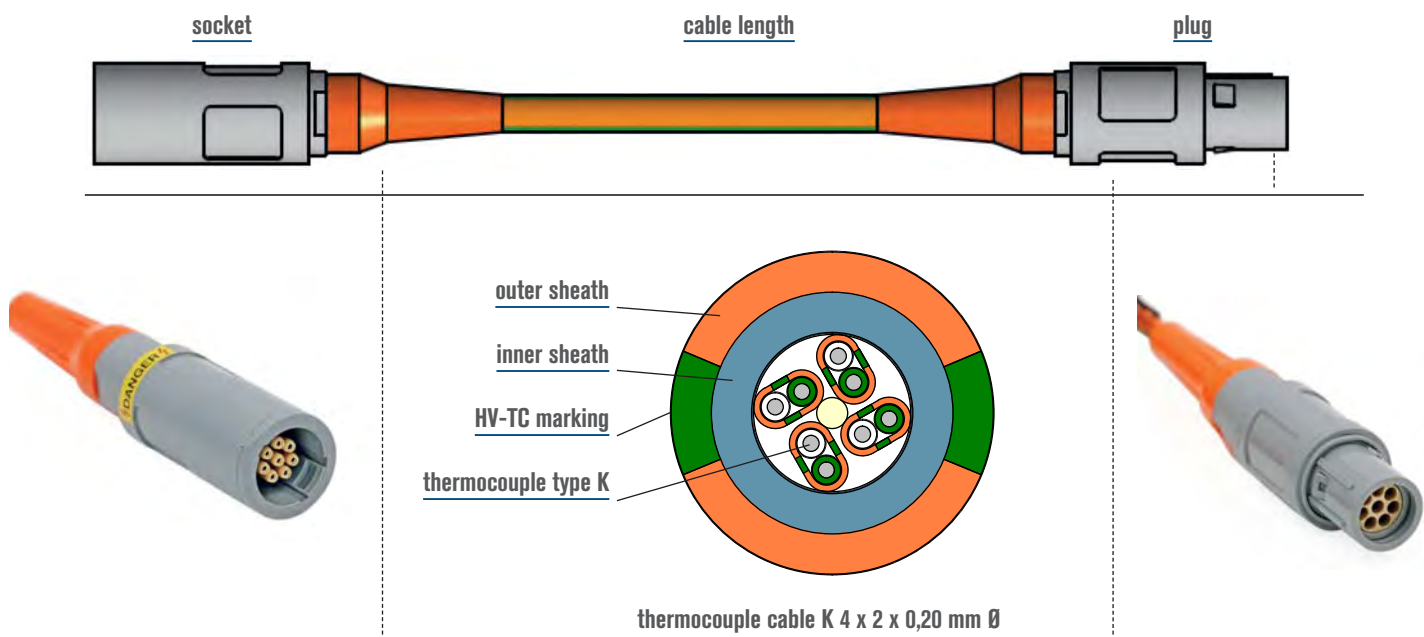
Item no. L0433-9231



- ✓ **Not protected construction type (channel 1-4)**
(only protected along outer sheath)
- ✓ **Operating temperature**
fixed laying -40 °C to +150 °C (3000 h)
- ✓ **Min. bending radius**
12 x cable diameter
- ✓ **Diameter**
approx. 4,5 mm
- ✓ **Marking**
SAB BRÖCKSKES · D-VIERSEN ·
L0433-9231 · ⚡ Typ K HV-SENSOR ⚡
- ✓ **Construction type of measuring tip**
according to customer's specification
- ✓ **Routine test**

4-CHANNEL HV THERMO EXTENSION

Item no. T141-054-143 (2 m extension)



✓ **Protected construction type (channel 1-4)**

✓ **Operating temperature**
fixed laying -40 °C to +150 °C (3000 h)

✓ **Min. bending radius**
12 x cable diameter

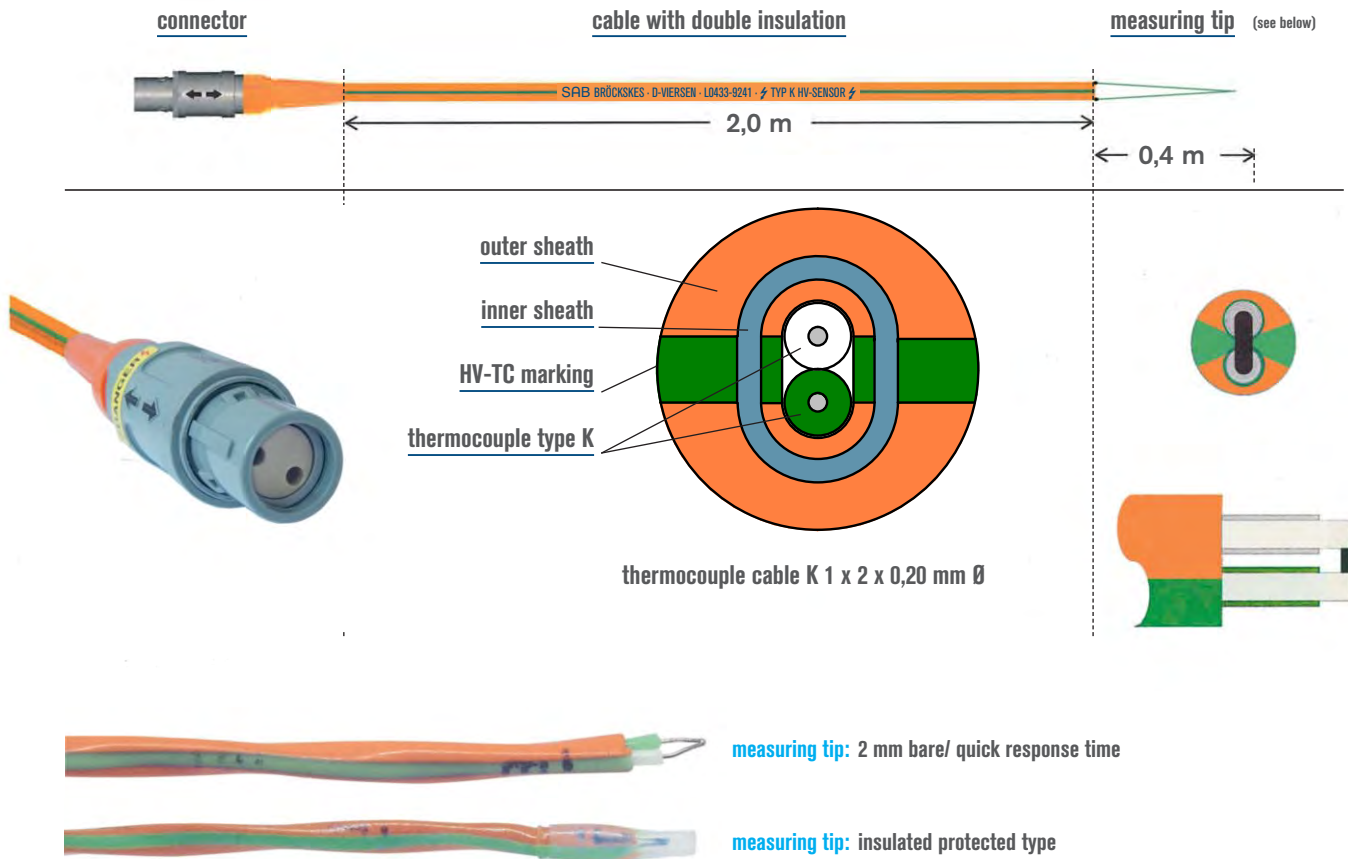
✓ **Marking**
SAB BRÖCKSKES · D-VIERSEN ·
L0433-9235 · ⚡ Typ K HV-SENSOR ⚡

✓ **Diameter**
approx. 6,1 mm

✓ **Lengths**
1 m = T141-054-030
3 m = T141-058-575
5 m = T141-058-576

1-CHANNEL HV THERMOCOUPLE CABLE

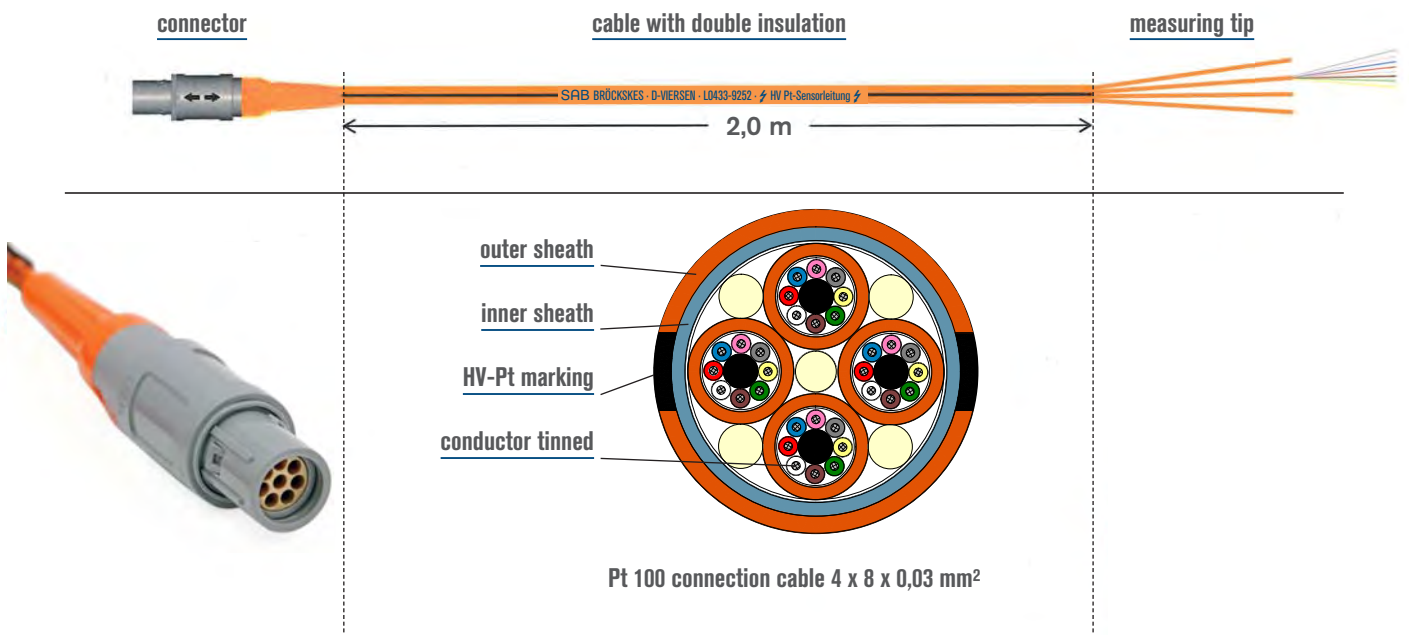
Item no. L0433-9241



- ✓ **Protected construction type (channel 1)**
(measuring tip insulated, equally protected)
- ✓ **Operating temperature**
fixed laying -40 °C to +150 °C (3000 h)
- ✓ **Min. bending radius**
12 x cable diameter
- ✓ **Diameter**
approx. 3,4 mm
- ✓ **Marking**
SAB BRÖCKSKES · D-VIERSEN ·
L0433-9241 · ⚡ Typ K HV-SENSOR ⚡
- ✓ **Construction type of measuring tip**
according to customer's specification
- ✓ **Routine test**

8-CHANNEL HV PT SENSOR CABLE (4-WIRE CIRCUIT)

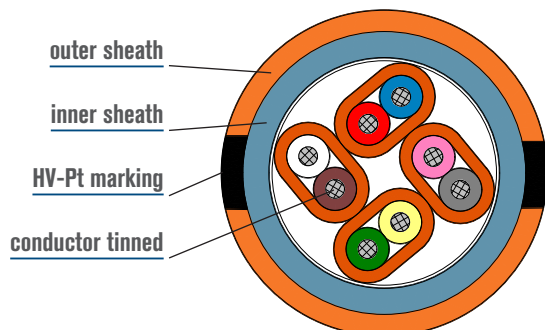
Item no. L0433-9252



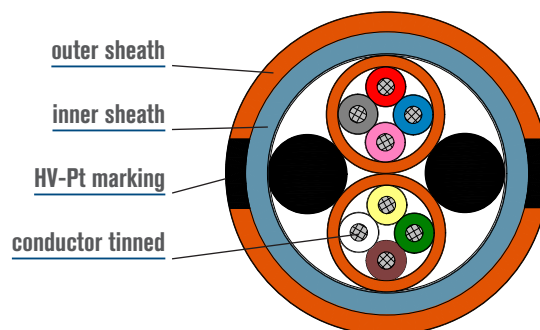
- ✓ **Operating temperature**
fixed laying -40 °C to +150 °C (3000 h)
- ✓ **Min. bending radius**
12 x cable diameter
- ✓ **Diameter**
approx. 9,3 mm
- ✓ **Marking**
SAB BRÖCKSKES · D-VIERSEN ·
L0433-9252 · ⚡ HV Pt-Sensorleitung ⚡
- ✓ **Construction type**
according to customer's specification
- ✓ **Routine test**

HV ANALOG SENSOR CABLE

Item no. L3801-9192 / Item no. L3801-9196



Pt 100 connection cable 4 x 2 x AWG 28



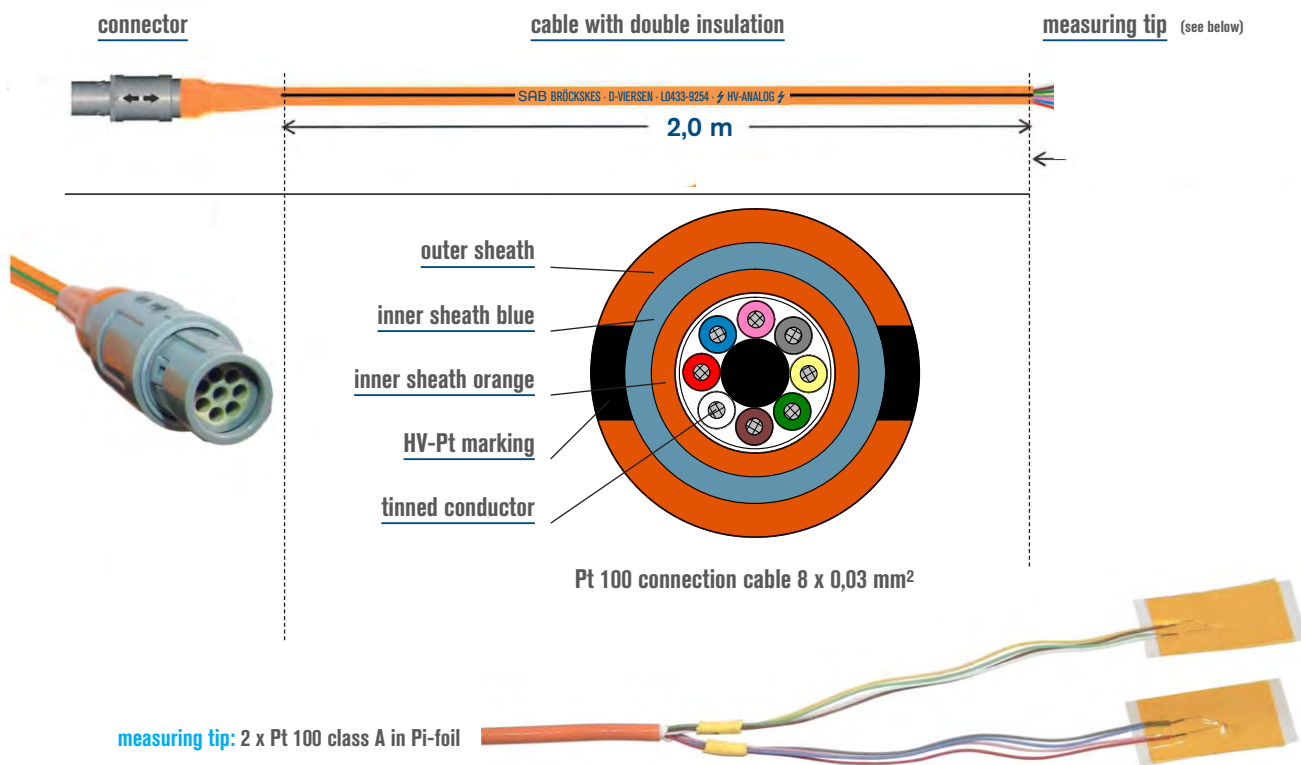
Pt 100 connection cable 2 x 4 x AWG 28

- ✓ **Operating temperature**
fixed laying -40 °C to +150 °C (3000 h)
- ✓ **Min. bending radius**
12 x cable diameter
- ✓ **Diameter**
approx. 7,1 mm
- ✓ **Voltage**
max. 100V
- ✓ **Marking**
SAB BRÖCKSKES · D-VIERSEN ·
CSM GmbH · D-FILDERSTADT ·
L3801-9192 · ⚡ HV-ANALOG ⚡

- ✓ **Operating temperature**
fixed laying -40 °C to +150 °C (3000 h)
- ✓ **Min. bending radius**
12 x cable diameter
- ✓ **Diameter**
ca. 7,2 mm
- ✓ **Voltage**
max. 100V
- ✓ **Marking**
SAB BRÖCKSKES · D-VIERSEN ·
CSM GmbH · D-FILDERSTADT ·
L3801-9196 · ⚡ HV-ANALOG ⚡

2-CHANNEL HV PT SENSOR CABLE

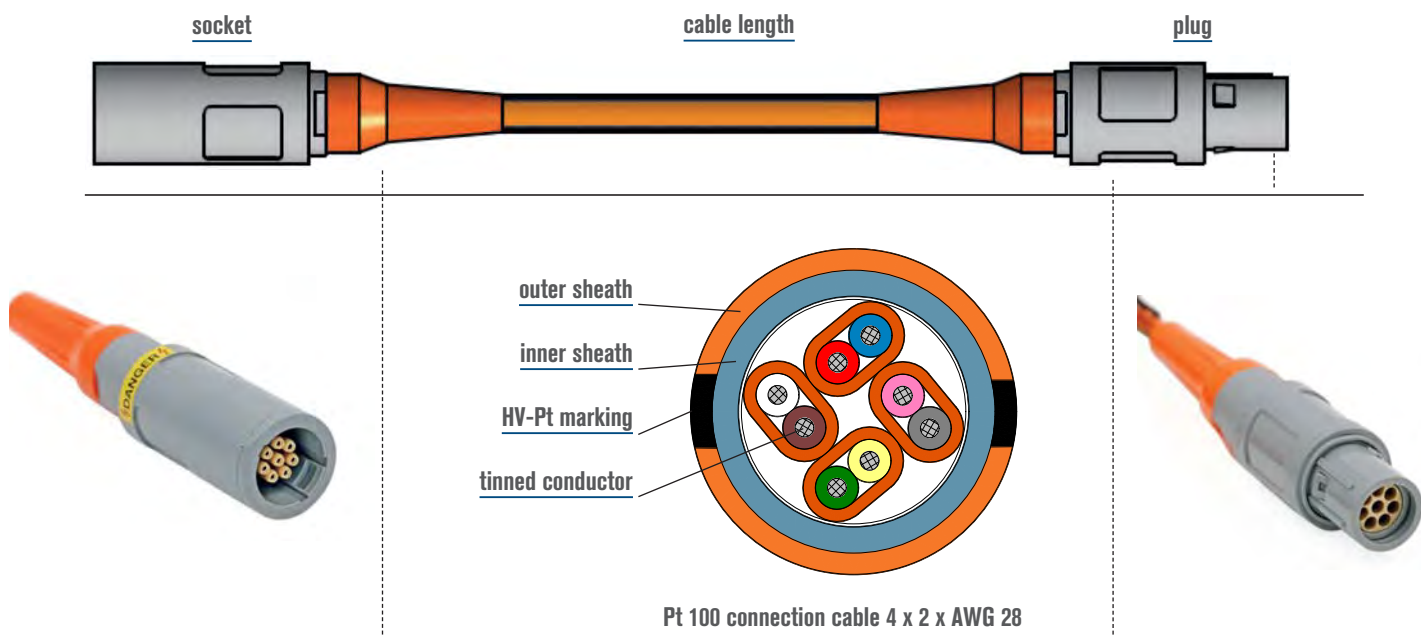
Item no. L0433-9254



- ✓ **Operating temperature**
fixed laying -40 °C to +150 °C (3000 h)
- ✓ **Min. bending radius**
12 x cable diameter
- ✓ **Diameter**
approx. 4,9 mm
- ✓ **Marking**
SAB BRÖCKSKES · D-VIERSEN ·
L0433-9254 · HV-ANALOG
- ✓ **Construction type**
2 x Pt 100 class A in Pi-foil
sensor (l x w x h) 3 mm x 0,8 mm x 0,6 mm
- ✓ **Routine test**

2-CHANNEL HV PT EXTENSION

Item no. T641-058-117 (3 m extension)

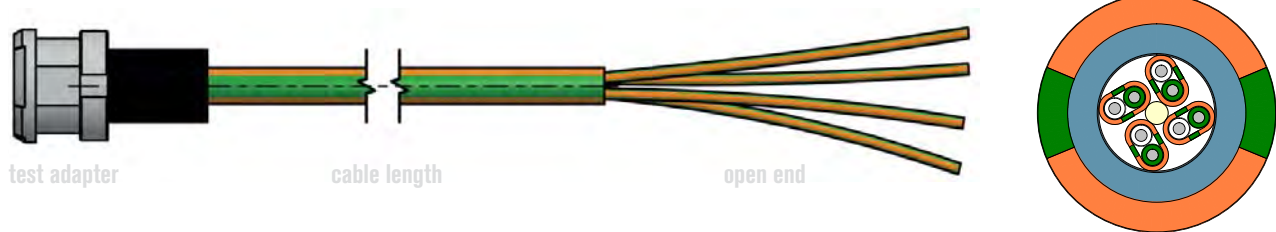


- ✓ **Operating temperature**
fixed laying -40 °C to +150 °C (3000 h)
- ✓ **Min. bending radius**
12 x cable diameter
- ✓ **Marking**
SAB BRÖCKSKES · D-VIERSEN ·
CSM GmbH · D-FILDERSTADT ·
L3801-9192 · ⚡ HV-ANALOG ⚡
- ✓ **Diameter**
approx. 7,1 mm
- ✓ **Lengths**
1 m = T641-056-497
3 m = T641-058-117
5 m = T641-058-574



TEST ADAPTER FOR HV SENSORS

4-channel HV



available on stock: T141-056-583 with 100 mm open end cable

1-channel HV



Pt 100 / Pt 1000 due to the encoding also suitable for ADMM sensors



accessories

- glass fibre adhesive pads to fix the measuring tips
dimension: 25 x 25 mm
size of packaging: 100 pcs
item no.: T095-044-258
- Pi adhesive pads to fix the measuring tips
dimension: 25 x 25 mm
size of packaging: 100 pcs
item no.: T095-056-403



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