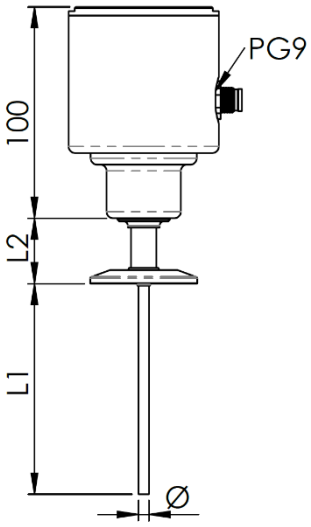
RESISTANCE THERMOMETER **Measuring insert: Interchangeable**	**Type:** **RT-BCQ-D**	Sheet No. 2-4 V2 **5452-E010721V3.1**

Application:

- For measuring temperatures in the food industry and the pharmaceutical, cosmetic and chemical/ technical industries
- Protection head with Display for local view.
- Output 4 – 20mA

Properties:

- Resistance thermometer Pt100 and Pt1000 in acc. with IEC 60751
- Mechanical and thermal stress in acc. with DIN 43772
- Measuring insert: Interchangeable
- Parts with media contact in EN 14404 (AISI 316L)
- Withstands media temperatures of up to max 250°C
- Withstands vibrations
- Quick reaction time



MECHANICAL SPECIFICATIONS

Protective sheath: ----------
EN 1.4404 (AISI 316Ti) max. 850°C

Sensor diameter Ø [mm]: ----------
Ø5 / Ø8
Other on request

Extension length L2 [mm]: ----------
30 / 50
Other on request

Immersion length L1 [mm]: ----------
20 / 35 / 50
Other on request

Process attachment: ----------
3/4" APC
11/2" DN38, ISO2852
2" DN51, ISO2852

Surface area of parts with media contact: --
Mechanically polished <0,8 µm
Electro-polished <0,5 µm

Protection head: ----------
B-SRFQ-D (sanitary, stainless steel, screw cap,)

ELECTRICAL SPECIFICATIONS

---Plug (pre-mounted In Head):
M12
Harting (specify type)
Other on request

---Cable (pre-mounted in Head):
SS (Silicone-Silicone) max. 180°C
SBS (Silicone-Inner Braided-Silicone) max. 180°C
TBT (Teflon-Inner Braided-Teflon) max. 250°C
None

---Cable length [m]:

---Sensor element:
1xPt100
2xPt100
1xPt1000 (only cl. B 1/1 and cl. A)
2xPt1000 (only cl. B 1/1 and cl. A)

---Number of conductors:
2-wire (recommended only for Pt1000)
3-wire
4-wire

---Media temperature max:
+180°C
+250°C

---Tolerance in acc. with IEC 60751:
Type A DIN (i.e.±(0,15+0,002xTactual) °C)
Type B 1/1 DIN (i.e.±(0,3+0,005xTactual) °C)
Type B 1/3 DIN (i.e.±(0,1+0,0017xTactual) °C)
Type B 1/6 DIN (i.e.±(0,05+0,00083xTactual) °C)
Type B 1/10 DIN (i.e.±(0,03+0,0005xTactual) °C)

Link for further information: Pt100 Tolerance

Date:

Part No.

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Calibration:
Temperature calibration are used to verify and certify the sensor to have the correct accuracy. We can do either: “In house” or “Accredited” calibration. Accredited is certified by 3.e part. Normally we do a calibration in 3 points.

Enhanced performance services:
Cold applications (below -50°C) will influence the material and the measurement. CRYO treatment is needed to ensure a correct and working sensor down to -196°C.

A sensor will always drift over time, especially when there are high temperature fluctuations.
With “Ageing treatment” we stabilize the sensor to ensure a minimum drift over time. The benefits are long term stability, more correct measurement and easier planning of calibration periods.

Documentation:
Please order the correct documentation when ordering the sensor.

SIGNAL PROCESSING

Programmable head mounted transmitter---------- ☐

Measuring range min/max: -200/+850°C
Output: 2-wire, 4-20 mA
Min. span: 25°C
Ambient temperature min/max: -40/+85°C

5333A Uninsulated for RTD
5333D EEX Uninsulated for RTD
5332A Uninsulated for RTD
5332D EEX Uninsulated for RTD
5331A Galvanic Isolated RTD / TC
5331D EEX Galvanic Isolated RTD / TC
5335A Hart 5 Protocol Standard
5335D Hart 5 Protocol CSA, FM, ATEX, IECEx
5337A Hart 5 & 7 Protocol
5337D Hart 5 & 7 Protocol CSA, FM, ATEX, IECEx

Transmitter Type:			
4 mA =	C°	20 mA =	C°

Programmable rail mounted transmitter

Link for further information to Rail mounted transmitter

CALIBRATION

None ---**Calibration:**
In house (Span -33°C - +700°C)
Accredited – in laboratory (-196°C - +1200°C)

1.	Point	°C
2.	Point	°C
3.	Point	°C

More point on request

Enhanced performance services

☐ ---**Cryo treatment.**
For temperature sensor under -50°C

☐ ---**Ageing:**
For long term stability.
Secure minimum drift of sensor accuracy

☐ ---**Documentation**
Certificate: 3.1 Material
Certificate of origin
Certificate of conformity

Other on request

Save Print Submit

Date:

Part No.

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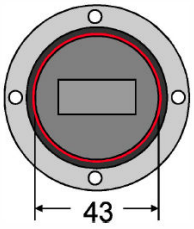
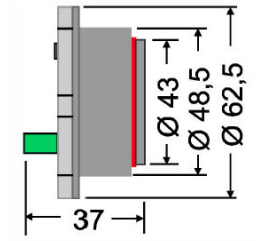
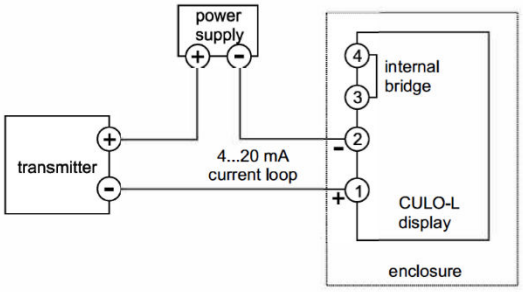


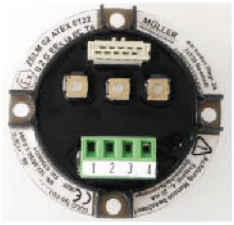


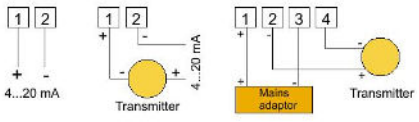
Input		
Current loop:	4...20 mA	
Input resistance:	Ri : <160 Ω (U <3,2 V)	
Accuracy		
Resolution:	-999...+9999 digit	
Measuring fault:	±0,2% of measuring range, ±1 digit	
Temperature drift:	100 ppm/K	
Indication		
Display:	7 segments, 8 mm high, red, 4 digits	
Overflow/Underflow:	to HI / to LO	
Time of indication:	0,1 s - 1 s - 10 s (adjustable)	
Ambient conditions		
Operating temperature:	standard: 0...+80°C / Ex-type: 0...+60°C	
Storing temperature	-20...+80°Cjh	
Programmable features		
range of indication / time of indication / decimal point / unit (°C/°F) / stabilization zero point / locking of programming / calibration points / TAG number		
Homologation		
EC Type Examination Certificate:	ZELM 05 ATEX 0252	
Attestation of conformity;	ZELM 05 ATEX 31	
Mechanics		
Material enclosure:	Macrolon	
Protection:	Front: IP 67	Connection: IP 20
Connection	open cable ends	plug-in connector up to 1,5 mm²:
Carrier circular	Dimension:	Ø 43/48,5/62,5 mm x 37mm
	Fastening:	4 mounting holes for M4
	Weight:	approx. 45 g
Carrier angular:	Dimension:	42 x 42 x 28 mm
	Fastening:	4 holes for 2 mm screws
	Weight:	approx. 55 g

Programming:

● **Example standard connection**







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