



### Features

- Measuring resistor 1 x Pt 100 in 3- or 4-wire technology
- Measuring insert of stainless steel
- Measuring insert interchangeable
- Process connections for food/pharmaceutical/biotechnology
- Hygienic design, constructive design according to the EHEDG recommendations
- Available with reduced tip (fast response)

### Options

- Explosion protection
- Transmitter can be integrated
- Classification per SIL 2
- Measuring insert for In-process calibration

### Application area

- Food industry
- Pharmaceuticals
- Biotechnology

### Application

The resistance thermometer is suited for operation on tanks and pipings especially in hygienic applications. All standard types of process connections are available. Because of its robust design it is suitable for use in a great number of technological processes. The change in resistance, dependant on the measurement temperature, can be detected by a transmitter and converted into a standardized signal. A variety of transmitters for head mounting is available for different applications. For In-process calibration the integration of a special measuring insert with additional test pipe is possible (data sheet T4-025-45, Type GA3100, reference sensor: data sheet T4-025-46, Type GA3110).

### Technical Data

#### Mechanical design

measuring insert (interchangeable) with connection head and thermowell

#### Connection head

selective

- model B, cap with 2 slotted screws, mat. aluminium, IP 54
- model BUZH, high spring cover with slotted screw, mat. aluminium, IP 65
- field housing Ø 60 mm, screw cap, stainless steel mat.-no. 1.4305 (303), IP 67 further connection heads upon request

#### Thermowell

material stainless steel mat.-no. 1.4571 (316Ti) or 1.4404 (316L)

thermowell 9 x 1 or 11 x 2 mm

length see order details

option: certification of material testing per DIN EN 10204

Upon request a calculation for thermowells can be made (for static or dynamic application) with certificate.

#### Measuring insert

material stainless steel, interchangeable, DIN 43735

resistor Pt 100 per DIN EN 60751

Optional: Measuring insert with connection socket per DIN 43735 and with additional test pipe for In-process calibration.

Material: stainless steel, mat.-no. 1.4571 (316 Ti)

(see data sheet T4-025-45)

#### Type of sensor/class/ciit

see order details

#### Functional safety

per EN 61508, classification per SIL 2 ;

without transmitter, only

#### Ex-approval

For standard measuring insert:

BVS 04 ATEX E 144 X

Ex II 2G Ex ia IIC T4/T6

$U_i \leq 30$  V

$P_i \leq 200$  mW

More technical information see XA\_002

For In-process calibration:

IBExU 13 ATEX 1017 X

Ex II 2G Ex ia IIC T6-T1 Gb

$U_i \leq 30$  V

$P_i \leq 750$  mW

$L_i$  max. 10  $\mu$ H/m

$C_i$  max. 500 pF/m

More technical information see XA\_003.

#### Accuracy of the measuring resistor

class A per DIN EN 60751

#### Process connections

- aseptic connection DIN 11864-1
  - DIN 11851 with coupling nut
  - Tri-Clamp
  - clamp connection DIN 32676
  - clamp connection acc. to ISO 2852
  - thermowell with welding ball 30 x 40 mm
  - thread connection G1A conical, metal-to-metal joint
  - Varivent
  - Neumo BioControl
  - Ingold connection incl. O-ring gasket EPDM
- Further process connections upon request.  
material of process conn.: stainless steel mat. no. 1.4404 (316L).  
Gasket is not included (except for Ingold).

**more Technical Data**

**Surface roughness**

standard: surface roughness  $Ra \leq 1.5 \mu m$   
 hygienic: surface roughness  $Ra \leq 0.8 \mu m$   
 welding:  $< 1.5 \mu m$

**Integrated transmitters**

suitable Pt 100 transmitters can be integrated into the connection head.  
 Options:  
 a) instead of terminal block  
 b) mounting in the spring cover of the connection head BUZH  
 see product group T4 for analog or digital transmitters

**LED-on-site indication**

programmable LED-on-site indication for stainless steel field housing ( $\varnothing 60 \text{ mm}$ ), see data sheet M6-031.

**Dimensions**

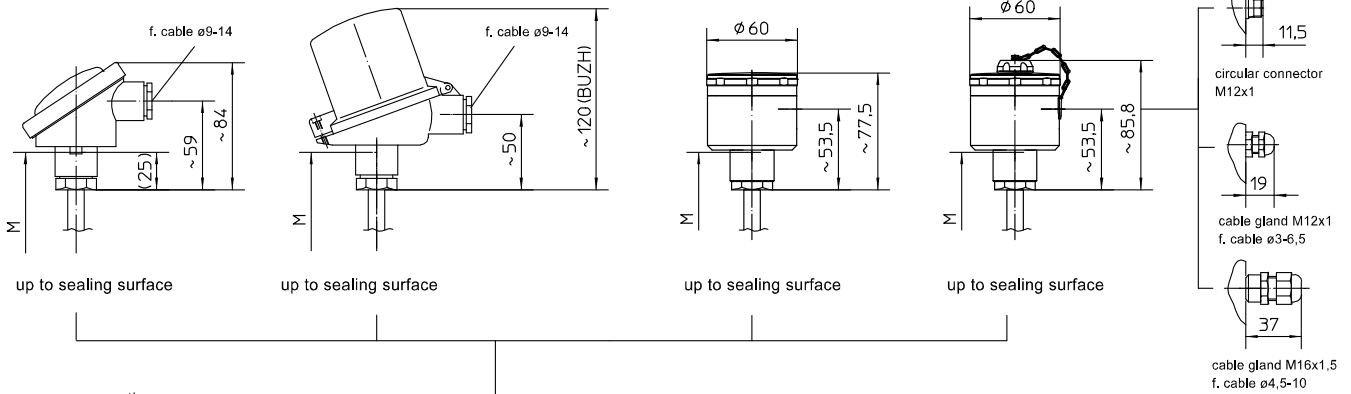
connection heads

model B, cap with 2 slotted screws  
 mat. aluminium, IP 54

model BUZH, high spring cover with slotted screw,  
 mat. aluminium, IP 65

connection head field housing, screw cap,  
 mat. stainless steel, IP 67

connection head field housing, screw cap with opening,  
 mat. stainless steel, IP 67



process connections

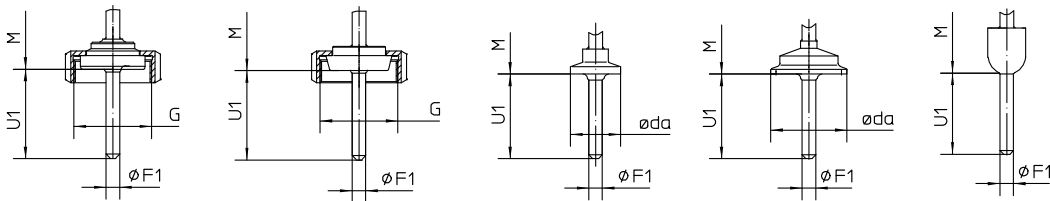
tapered coupling with groove union nut  
 aseptic design per DIN 11864-1

tapered coupling with groove union nut  
 per DIN 11851

Tri-clamp connection

clamp connection per DIN 32676 or ISO 2852

thermowell with welding ball 30x40 mm



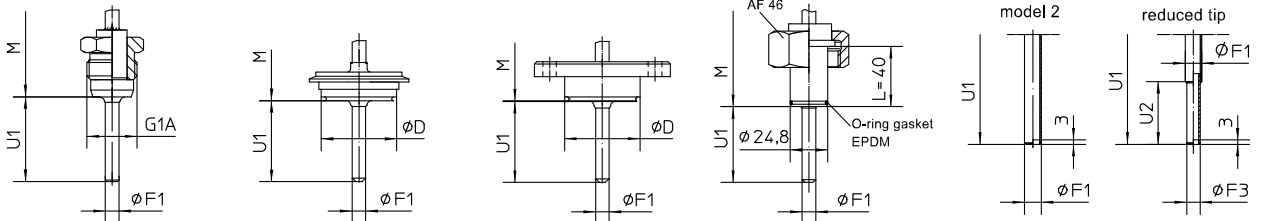
G1A dead-zone free (conical taper of metall)

Varivent connection

NEUMO BioControl

connection per INGOLD DN 25 with coupling nut

neck tube according to DIN 43772



**Connection diagram**

connection head

circular connector M12x1

Pt100 3-wire	Pt100 4-wire	2xPt100 3-wire

