SANITARY BY DESIGN
ANDERSON-NEGELE

Reliability, durability, quality – a new class in sanitary temperature measurement
TSB – One Temperature sensor for All

The new temperature class

With its flexibility, performance and unparalleled reliability and durability, the new TSB sets new standards in temperature measurement.

· **Process temperature range: -50...350 °F (-45...176 °C)**
· Improved **measuring accuracy: < ±0.1 K**
· Higher ambient **temperature resistance: 185 °F (85°C)**
· One-piece design completely in stainless steel: **lasting stability and application reliability**

IO-Link **4...20 mA**

IO-Link & 4...20 mA with Flex-Hybrid

The **Flex-Hybrid technology with IO-Link and 4...20 mA** combines the **best of both worlds**: Data can be transmitted in **digital or analog** mode.

· Flexible plug & play communication: **installation and commissioning save both time and costs**
· **Simple individual programming** with IO-Link master, e.g. changing the measuring range or two-point adjustment using offset and span
· **Sensor replacement is easier than ever before** thanks to the "Smart Replace Design" with automatic sensor identification, configuration, and parameterization through IO-Link

Fully modular and TFP compatible

Thanks to the **completely modular concept**, you can configure **your individual sensor** in just a few steps.

· For **new equipment**, Flex-Hybrid technology offers maximum flexibility and sustainability.
· For **retrofitting**, TSB can replace any TS sensor in existing installations - with all additional benefits
· For the **replacement of third-party devices**, a suitable model is always possible due to the large selection of process adaptations and maximum flexibility in the configuration

Also available as mini version TSM

Technical specification at a glance

· **One Temperature sensor for all applications**
· **Flex-Hybrid Technology** with digital + analog interface (**IO-Link + 4...20 mA**)
· **Modular Design: step-by-step configuration** from the economic basic version to the high-end model
· Available with up to two **integrated transmitters**
· **Head orientation** vertical or horizontal,
· Optional **LCD Display** with programming function
· Insertion length **1...43 inch**
· Slim sensor tip for **reduced response time**
· **Protection class IP 69K** for max. application safety
· **Two-point calibration** possible using offset and span

Configurable design for Maximum flexibility
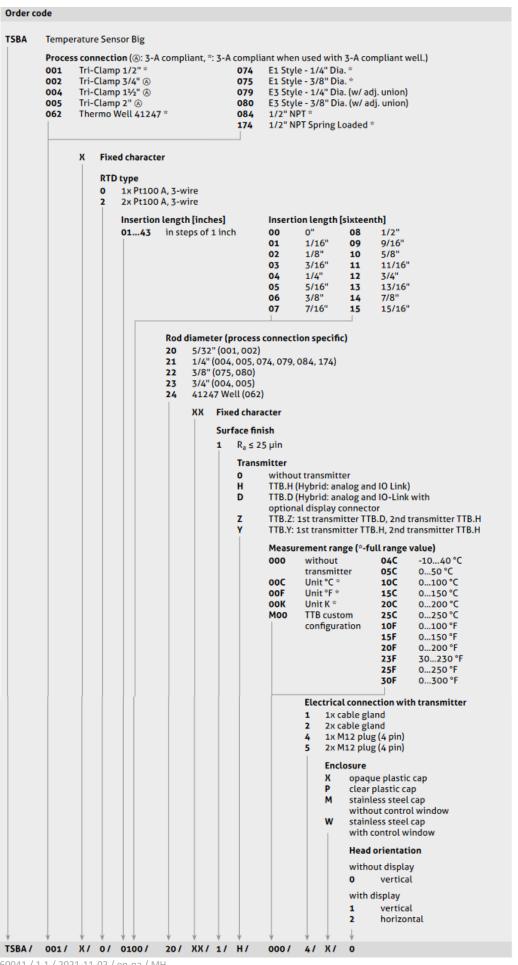
SENSORS FOR FOOD AND LIFE SCIENCE.

Order code

TSBA   Temperature Sensor Big

Process connection (Ⓐ: 3-A compliant, *: 3-A compliant when used with 3-A compliant well.)

001	Tri-Clamp 1/2" *	**074**	E1 Style - 1/4" Dia. *
002	Tri-Clamp 3/4" Ⓐ	**075**	E1 Style - 3/8" Dia. *
004	Tri-Clamp 1½" Ⓐ	**079**	E3 Style - 1/4" Dia. (w/ adj. union)
005	Tri-Clamp 2" Ⓐ	**080**	E3 Style - 3/8" Dia. (w/ adj. union)
062	Thermo Well 41247 *	**084**	1/2" NPT *
		174	1/2" NPT Spring Loaded *

X   Fixed character

RTD type

0	1x Pt100 A, 3-wire
2	2x Pt100 A, 3-wire

Insertion length [inches]

01...43   in steps of 1 inch

Insertion length [sixteenth]

00	0"	**08**	1/2"
01	1/16"	**09**	9/16"
02	1/8"	**10**	5/8"
03	3/16"	**11**	11/16"
04	1/4"	**12**	3/4"
05	5/16"	**13**	13/16"
06	3/8"	**14**	7/8"
07	7/16"	**15**	15/16"

Rod diameter (process connection specific)

20	5/32" (001, 002)
21	1/4" (004, 005, 074, 079, 084, 174)
22	3/8" (075, 080)
23	3/4" (004, 005)
24	41247 Well (062)

XX   Fixed character

Surface finish

1 R_a ≤ 25 µin

Transmitter

0	without transmitter
H	TTB.H (Hybrid: analog and IO Link)
D	TTB.D (Hybrid: analog and IO-Link with optional display connector
Z	TTB.Z: 1st transmitter TTB.D, 2nd transmitter TTB.H
Y	TTB.Y: 1st transmitter TTB.H, 2nd transmitter TTB.H

Measurement range (*-full range value)

000	without transmitter	**04C**	-10...40 °C
		05C	0...50 °C
00C	Unit °C *	**10C**	0...100 °C
00F	Unit °F *	**15C**	0...150 °C
00K	Unit K *	**20C**	0...200 °C
M00	TTB custom configuration	**25C**	0...250 °C
		10F	0...100 °F
		15F	0...150 °F
		20F	0...200 °F
		23F	30...230 °F
		25F	0...250 °F
		30F	0...300 °F

Electrical connection with transmitter

1	1x cable gland
2	2x cable gland
4	1x M12 plug (4 pin)
5	2x M12 plug (4 pin)

Enclosure

X	opaque plastic cap
P	clear plastic cap
M	stainless steel cap without control window
W	stainless steel cap with control window

Head orientation

without display

0	vertical

with display

1	vertical
2	horizontal

TSBA / 001 / X / 0 / 0100 / 20 / XX / 1 / H / 000 / 4 / X / 0

Accessory: IOM-01

IO-Link Master with USB connection for control and programming of all Anderson-Negele IO-Link devices