

ModuTEMP® 70 Modular Resistance and Thermocouple Temperature Sensors without/with Transmitter

- Measuring resistor 1x / 2x Pt100, thermocouple 1x / 2x "J", "K", "N"
- Measuring range -200 to +600 °C (Pt100), -200 to +800 °C ("J"), -200 to +1300 °C ("K", "N")
- Accuracy class A, B according to EN 60751, 1, 2 according to IEC 584-2
- Stem material stainless steel 1.4541, 1.4401, 2.4816, Nicrobell/Pyrosil
- Extension piece (thermowell) material stainless steel 1.4541
- Protective tube material stainless steel 1.4541, 1.4845, 1.4762, Kanthal AF
- Optional headmounted transmitter with output 4 to 20 mA, HART, Profibus, Fieldbus, including version with galvanic isolation and intrinsically safe version
- Housing IP 65, IP 68
- Intrinsically safe version
 - ⟨Ex⟩ II 1/2G Ex ia IIC T6...Tx°C Ga/Gb,
 - ⟨Ex⟩ II 1D Ex ia IIIC T85°C...Tx°C Da
- Flameproof enclosure
 - ⟨Ex⟩ II 1/2G Ex d IIC T6...Tx°C Ga/Gb
- Protection by enclosure
 - (x) II 1/2D Ex ta/tb IIIC T90°C...Tx°C Da/Db



Application

Industrial resistance (RTD) and thermocouple (TC) temperature sensors ModuTEMP® 70 made on the basis of interchangeable measuring inserts with mineral insulation are designed for accurate remote temperature measuring and temperature control of liquid and gaseous mediums in non-hazardous or in hazardous locations with potentially explosive atmosphere of gases or dusts (ATEX certificate).

Sensors can be supplied with connecting terminal box or with transmitter with output from 4 to 20 mA, possibly HART, Fieldbus, Profibus mounted in the sensor head.

J23, J32, J33, J63 - Sensors with thermowell

Sensors are intended for temperature measurement of flowing fluids, gasses and powdery mediums in pipelines, tanks, etc., at low to medium pressures and flowing velocities of a medium. Thermowell is in this case an integral part of the sensor.

Submersible part of the sensor (thermowell) or possibly adjacent part for sealing (at sensor with a flange) can be coated by special plastic paint (Halar, Hyflon, polyamide, etc.) to increase corrosion resistance. Increasing resistance of thermowell against abrasion and erosion can be provided by coating with resistant corundum or other layer.

J13, J16, J21P - Sensors into thermowell

The sensors into the thermowell must be assembled with appropriate cylindrical or conical thermowell. Using this sensors without thermowell is not recommended and for flameproof enclosure (code ED) and protection by enclosure (code ET) version is prohibited.

The sensors in combination with suitable thermowell are intended for temperature measurement of flowing fluids, gasses and powdery mediums in pipelines, tanks, etc., at middle to high pressures (PN 250, PN 400) and flowing velocities of mediums (90 m/s).

Measuring insert RTD is efficient up to 600 °C, measuring insert TC "J" up to 800 °C and "K", "N" up to 1300 °C, although measuring range of complete sensor is given by temperature resistance of used thermowell. The massive high-proof thermowells made of special materials extend the time of the sensor reaction. The strengths of these sensors are in easy operating service without breach of pressure technology tightness.

J43 - Sensors without thermowell

These sensors do not have protective thermowell and the sheath of measuring insert is directly in contact with the medium. The measuring insert is inseparably connected (welded, soldered) with a sensor fitting. Sensors are intended for measurement with higher requirements on quick reaction time of temperature change. They are used for lower pressures and lower velocities of medium.

B00, B01 - Sensors without fitting

Sensors are intended for temperature measurement of flowing and non-flowing fluids, gasses and powdery mediums at relative low pressures and flowing velocities of medium, at higher requirements on short reaction time of temperature change.

The required immersion is adjustable by fixing shift pipe union.

The stem length of sensor is not limited. Sensors with a length over one meter are supplied as default with measuring stem coiled into a circle.

The sensor can be used also for measurement of surface temperature and temperature in hard accessible places, where is used of advantage of workable stem with minimal curve diameter 5D, where D is diameter of the sensor stem.

B53, B63, B64, B66, B73, B74, B83, B84, B85, B86, B84Z, B842, B843, B852, B853 - Straight sensors

Straight sensors are intended for temperature measurement of liquid, gaseous and powdery mediums in furnaces, incinerators with overpressure up to 100 kPa.

Increasing resistance against abrasion and erosion can be provided by coating with resistant corundum or other layer.

P1E - Spatial sensors for explosive atmosphere of gasses or dusts

Spatial sensors are intended for ambient temperature measurement in locations of their installation.

Installation of the sensors into into explosion hazard environment acc. to EN 60079-0, EN 60079-1, EN 60079-10 and EN 60079-31



Any intervention into construction of the sensor with a ED, ET or EI version is not permitted and may cause an explosion!

J13, J16, J21P - Sensor into thermowell in ED, ET, El version Sensor into thermowell can be placed in, Zone 1, 2, 21, 22. Sensor must be mounted into the protective thermowell. Wall thickness of the thermowell must be at least 1 mm. Material of the thermowell must resist in the long term influence of medium and ambient environment. Protective thermowell can be installed in Zone 0, 1, 2, 20, 21, 22 according to EN 60079-

J23, J32, J33, J63 - Sensor with thermowell in ED, ET, EI version

Submersible part of the sensor (thermowell) can be mounted in Zone 0, 1, 2, 20, 21, 22 according to EN 60079-10. Other parts of the sensor (head, extension piece) can be placed in Zone 1, 2, 21, 22.

B53, B63, B64, B66, B73, B74, B83, B84, B85, B86, B84Z, B842, B843, B852, B853 - Straight sensor in ED, ET, El

Submersible part of the sensor (protective tube) can be placed in Zone 0, 1, 2, 20, 21, 22 according to EN 60079-10. Head of the sensor can be placed in Zone 1, 2, 21, 22.

P1E - Spatial sensors in ED, ET, El version

Sensor can be mounted in Zone 1, 2, 21, 22 according to EN 60079-10. Head of the sensor can be placed in Zone 1, 2, 21, 22

J43 - Sensor without thermowell in El version

Submersible parts of the sensor (stems of measuring inserts) can be placed in, Zone 0, 1, 2, 20, 21, 22 according to EN 60079-10. Other parts of the sensor (head, extension piece) can be placed in Zone 1, 2, 21, 22.

B00, B01 - Sensor without fitting in El version

Submersible part of the sensor (stem of measuring insert) can be placed in, Zone 0, 1, 2, 20, 21, 22 according to EN 60079-10. Head of the sensor can be placed in Zone 1, 2, 21, 22.

All sensors in El version with heads H5, H5N, H6 or H7

These sensors with respect to other installation conditions can be fully mounted in Zone 20.

Description

Modular concept, variable dimension and used materials simplify ordering and application of modular temperature sensor ModuTEMP® 70.

Main part of the sensor is exchangeable measuring insert assembled with head and in some versions with protective fitting of the sensor.

Exchangeable measuring insert is fastened in sensor head by two suspended screws, providing down-force on thermowell bottom (or protective tube).

RTD - Resistance sensor is made of one or two measuring resistors, embedded in the stem of exchangeable measuring insert. Resistors are connected by inner wiring to the terminal block in the sensor head. There is used defined resistance change according to temperature change. At sensors with transmitter is resistance signal further transformed to linearized unified current signal 4 to 20 mA, optionally to HART, Profibus, Fieldbus output.

TC-Thermocouple sensor is made of one or two thermocouples, embedded in the stem of exchangeable measuring insert and connected to terminal block in the sensor head. There is used the defined change of thermoelectric voltage according to the temperature change. At sensors with transmitter is output thermocouple signal further transformed to linearized unified current signal 4 to 20 mA, optionally to HART, Profibus, Fieldbus output.

Technical specifications

Resistance sensors type T1070

Measuring resistor:

1xPt100, accuracy class A, B according to EN 60751, inside wiring: two-wire, four-wire 2xPt100, accuracy class A, B according to EN 60751, inside wiring: two-wire, three-wire

Measuring range:

-200 to +600 °C

Measuring current:

recommended \leq 1 mA maximal 2 mA

Output signal:

without transmitter resistance with transmitter linearized 4 to 20 mA, other after agreement

Dielectric strength:

500 V eff

250 V eff (only for version with outer sheath diameter 3 mm, 1xPt100/4-wire connection, 2xPt100/3 - wire connection) at temperature (20 ± 15)°C, max. 80 % relative humidity

Electrical insulation resistance:

min. 100 M Ω according to EN 60751, at temperature (25 ±10)°C, max. 80 % relative humidity

Thermocouple sensors type T1570

Thermocouple:

1x / 2x "J", "K", "N" accuracy class 1, 2 according to IEC 584-2

Measuring range:

-200 to +800 °C ("J") -200 to +1300 °C ("K", "N")

Output signal:

without transmitter voltage with transmitter linearized 4 to 20 mA

Dielectric strength:

500 V eff (including version "1xJ", 1x"K", 1x"N" with outer sheath diameter 3 mm)

250 V eff (only for version "2xJ", 2x"K", 2x"N" with outer sheath diameter 3 mm)

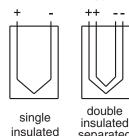
at temperature (20 ±15)°C, max. 80 % relative humidity

Electrical insulation resistance:

min. 1000 M Ω according to EN 61515,

at temperature (20 ±15)°C, max. 80 % relative humidity

Standard version of measuring junction:



General

Response time:

Resistance sensors type T1070

Version J43, B00, B01

Stem diameter	t _{0.5}	[s]	t _{0.9}	[s]
[mm]	water air		water	air
3	1,5	14	4	41
4,5	3	23	9	71
6	4	38	13	118
6 with distance	9,5	89	28	280
sleeve Ø8				

separated

Version J23 (thermowell 9x1)

Stem diameter	t _{0.5}	[s]	t _{0.9} [s]		
[mm]	water	air	water	air	
6	25	114	75	356	

Version J33 (thermowell 11x2)

Stem diameter	t _{0.5}	[s]	t _{0.9} [s]		
[mm]	water	air	water	air	
6	32	170	96	534	

Thermoelectric sensors type T1570

Version J43, B00, B01

Stem diameter	t _{0.5}	[s]	t _{0.9} [s]		
[mm]	water air		water	air	
3	1	22	3	64	
4,5	2,5	34	6,5	113	
6	3	55	9	170	

Version J23 (thermowell 9x1)

Stem diameter		[s]	t _{0.9} [s]		
[mm]	water	air	water	air	
6	9	165	27	510	

Version J33 (thermowell 11x2)

10101011000 (11101111011011111111111111						
Stem diameter	t _{0.5}	[s]	t _{0.9} [s]			
[mm]	water	air	water	air		
6	14	248	41	765		

 $v_{water} = 0.4 \text{ m/s. } v_{air} = 2 \text{ m/s}$

 $t_{0.5}$ - 50 % of temperature step

 $t_{0.9}$ - 90 % of temperature step

Materials:

- aluminium alloy (codes H1, H2, H3, H4(N), H5(N), H6) head

- stainless steel 1.4541(AISI 321) (code H7)
- polyamide (code H5PA)

stem of measuring insert

Pt100 - stainless steel 1.4401 (AISI 316)

"J" - stainless steel 1.4541 (AISI 321)

"K", "N" - alloy Inconel 600, Nicrobell/Pyrosil

RTD inside wiring - Cu, Ni

extension piece - stainless steel 1.4541 (AISI 321), (codes J13, J16, J21P, J23, J32, J33, J43, J63)

thermowells - stainless steel 1.4541 (AISI 321), (codes J23, J32, J32, J63)

protective tube

- stainless steel 1.4541 (AISI 321), (codes B53, B63, B73, B83)

- heat-resisting steel 1.4845 (AISI 310) (codes B64, B74, B84, B84Z, B842, B843)

- heat-resisting steel 1.4762 (AISI 446) (codes B85, B852, B853)

- Kanthal AF (codes B66, B86)

Housing (according to EN 60529):

IP 65, IP 68 (according to used head))

Operation conditions

Maximal temperature of head (not for Ex version):

100 °C (without transmitter) 85 °C (with transmitter P5310, P5311 and 5335)

Maximal temperature of transition between stem of measuring insert and terminal block:

100 °C (in the short term 120 °C)



Ambient temperature of head Ta for Ex version (codes ED, ET, EI):

-50 ≤ Ta ≤ 85 °C temperature class T5...Tx, $-50 \le Ta \le 75$ °C temperature class T6,

Maximal permissible operating properties of transmitter in the head for Ex version (codes ED, ET):

I_{imax}: 30 mA P_{imax}: 1 W

Allowable load of protective tubes (codes B63, B64, B66, B73, B74, B83, B84, B85, B86, B84Z, B842, B843, B852, B853): max. overpressure 100 kPa

Completion with thermowells for sensors designed for installation into thermowells:

WT70 C Thermowell, cylindrical, PN 160, for screwing, for welding, with flange, inner bore 9; 7; 5; 3.5 mm, optional outer connection and inner thread, optional nominal length and material

WT70 T Thermowell, conical, PN 400, for screwing, inner bore 9; 6.25; 3.2 mm, optional inner and outer thread, optional nominal length and material

WT70 D Thermowell, conical, according to DIN 43772, PN 250, for welding, with flange, inside bore 9; 7; 3.5 mm, optional inner and outer thread, nominal length and material

Optional protective coating, wide range of accessories. Detailed information can be found in data sheet No. 0993.

Surface temperature for Ex version (code ED, ET, EI):

User is obliged to ensure installation of temperature sensors in such a way, that there is no influence of external heat sources (measured medium, sun heating, etc.) on the surface of the sensor and its fittings that could lead to exceeding defined maximum surface temperature defined in EN 60079-0. When defining a surface temperature of the sensor, it has to be calculated with a 5 °C for heating of the sensor from possible maximum operating energy output

Maximal surface temperatures for electrical devices group II for explosion hazard environment of gases, vapors and mists according to EN 60079-14 are listed in the following table. The maximal surface temperature for electrical equipment group II for explosion hazard environment of dusts according to EN 60079-14 is given by the smaller of the values defined in the following points:

- a) ignition temperature of dust in layer decreased by 75 °C,
- b) 2/3 of ignition temperature of dust in turbulent

Temperature class	Maximal surface temperature	Max. temperature of measured medium
T1	450 °C	440 °C
T2	300 °C	290 °C
T3	200 °C	195 °C
T4	135 °C	130 °C
T5	100 °C	95 °C
T6	85 °C	80 °C

For process temperature (measured medium) 440 °C < Tm \leq 1200 °C, the maximal surface temperature of sensor Tx is determined from maximal temperature of the process (measured medium) Tm and safety addition 10 °C.

Tx = Tm + 10 °C

 $(P_{imax} = 1 \text{ W}).$

Maximal surface temperature Tx for dust explosive atmosphere is equal to measured medium temperature Tm.

Tx = Tm

Supplementary parameters

EMC (Electromagnetic compatibility): according to EN 61326-1

EC Certificate on type examination, No. FTZÚ 03 ATEX 0297X with appendix No. 5 dated 7.5.2013.

For explosion hazard environment of gasses and dusts are approved these versions:

Versions with thermowell

T1070/T1570..J23/J32/J33/J63/J99..H6/H7..ED/ET

and straight versions

T1070/T1570..B53/B63/B64/B66/B73/B74/B83/B84/B85/B86/ B84Z/B842/B843/B852/B853/B99..H6/H7..ED/ET

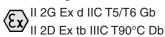
with marking:

II 1/2G Ex a IIO 10...... II 1/2D Ex ta/tb IIIC T90°C...Tx°C Da/Db ¬ II 1/2G Ex d IIC T6...Tx°C Ga/Gb

Versions into thermowell T1070/T1570..J13/J16/J21P/J19.. H6/H7..ED/ET

with marking:

II 2D Ex tb IIIC T90°C...Tx°C Db Spatial version T1070..P1E..H6/H7..ED/ET with marking:

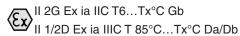


EC Certificate on type examination, No. FTZÚ 13 ATEX0080X dated 25.6.2013.

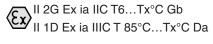
For explosion hazard environment of gasses and dusts are approved these versions:

Versions into thermowell T1070/T1570..J13/J16/J21P/J19.. H5/H5N/H6/H7..EI

with marking:



Spatial version T1070..P1E..H5/H5N/H6/H7..EI with marking:



Other standard versions

T1070/T1570..(except J13 and P1E)..H5/H5N/H6/H7..EI with marking:



CAUTION!

In addition to specified cable glands, it is possible to use for the sensors also other cable glands with connection thread M20x1.5 and with individual approval for specific type of protection. Cable gland must meet the requirements of EN 60079-1.

When using cable glands (code KME1, KME2) designed for fixed cable installation, the cable shall be fixed against a possible rotation and displacements. Cable gland provides proper protection if it is correctly tight and used with sealing.

Any intervention into construction of the sensor with a ED, ET or EI version is not permitted as may cause an explosion!

Modular Resistance and Thermocouple Temperature Sensors ModuTEMP® 70

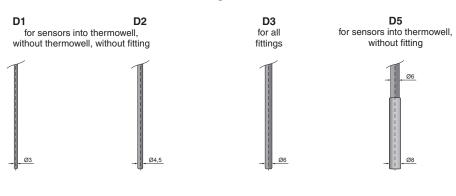
Sensor weight T1070 and T1570 [kg]									
Sensor version	J13	J2	23	J3	33	J43	B00, B01	B63	B64
without transmitter with head H1	with extension	without extension	with extension	with screwing	with flange	without thermowell	without fitting	straight with dia. 14	straight with dia. 14
Nominal length	piece	piece	piece	, and the second second					
L100	0.52	0.37	0.47	0.65	1.5	0.52			
L110							0.32		
L160	0.53	0.38	0.49	0.7	1.54	0.53			
L170							0.33		
L230		0.39							
L240							0.34		
L250	0.55		0.53	0.75	1.59	0.55		0.69	0.69
L300							0.35		
L310								8.0	0.8
L380		0.42							
L390							0.37		
L400	0.58		0.58	0.8	1.68	0.58		0.98	0.98
L500							0.39	1.17	1.17
L530		0.46					0.4		
L540					1.00		0.4		
L630 L710	0.63		0.63	0.95	1.82	0.63	0.42	1.57	1.57
L770							0.42	1.57	1.57
L800							0.43	1.75	1.75
L1000							0.48	2.14	2.14
L1400							0.55	2.91	2.91
L1600								3.3	3.3
L2000							0.66	4.08	4.08
L999							0.00	1.00	1.00
Head weight [kg]									
H2					0.04				
H3					0.05				
H4, H5	0.2								
H6	0.16 0.16								
H7	0.7 0.7								
H9									
Transmitter weight [kg]									
P5310					0.04				
P5311	0.05								
5335					0.05				

Dimensional drawings

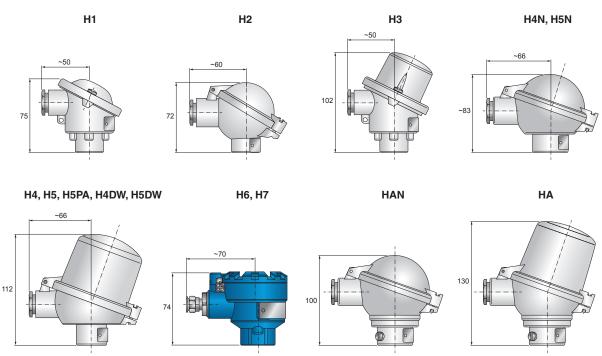
Resistance and thermocouple measuring inserts with mineral isolation

Cold-end \$1 with terminal board with flying leads with flying leads, for double sensor ### Add

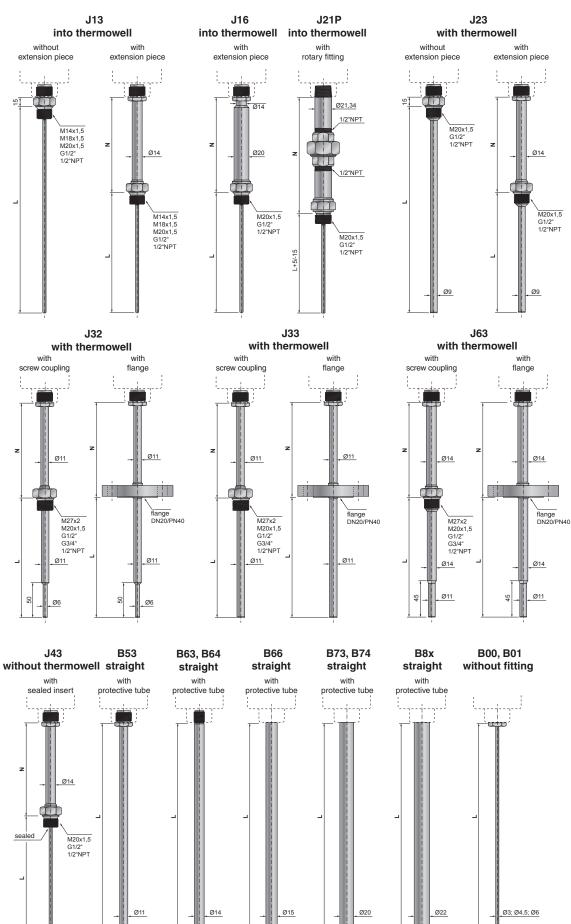
Measuring-end



Head

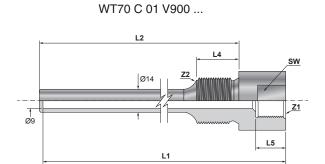


Fittings

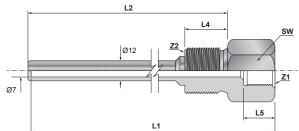


Thermowells

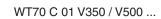
WT70 C, for screwing

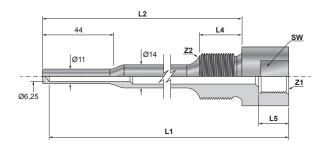


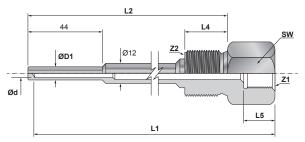
WT70 C 01 V700 ...



WT70 C 01 V625 ...

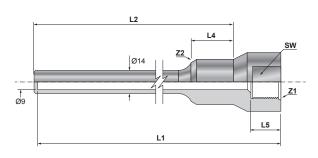




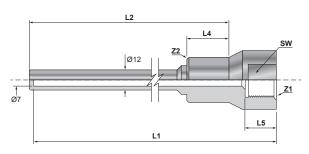


WT70 C, for welding

WT70 C 02 V900 ...

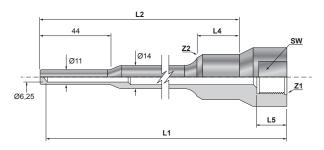


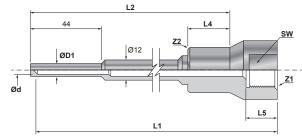
WT70 C 02 V700 ...



WT70 C 02 V625 ...

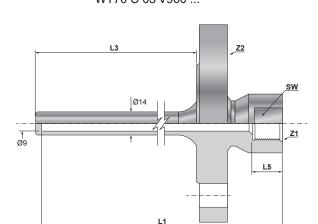
WT70 C 02 V350 / V500 ...



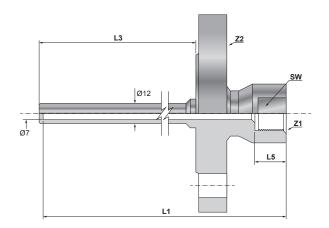


WT70 C, with flange

WT70 C 03 V900 ...

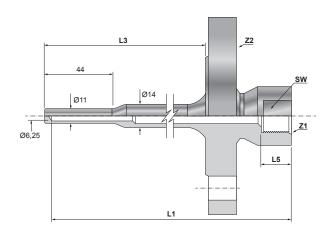


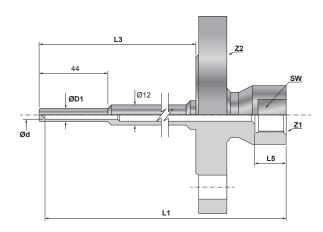
WT70 C 03 V700 ...



WT70 C 03 V625 ...

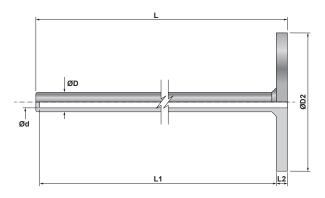
WT70 C 03 V300 / V500 ...



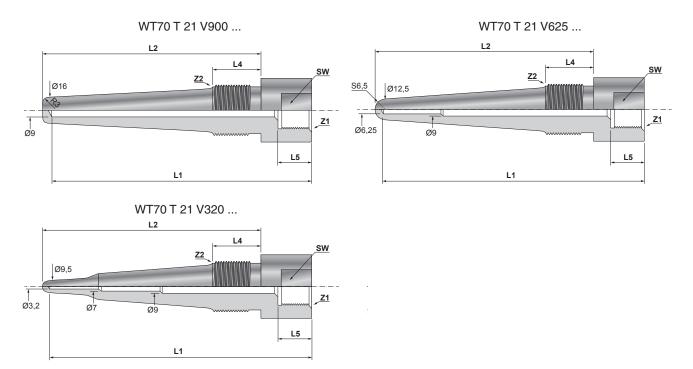


WT70 C, between flanges

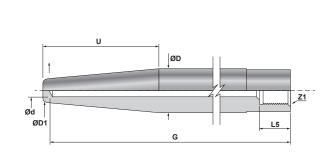
WT70 C 03 ... P89



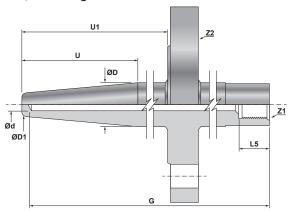
WT70 T, for screwing



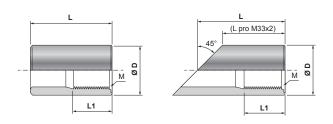
WT70 D, for welding



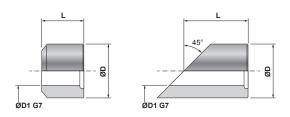
WT70 D, with flange



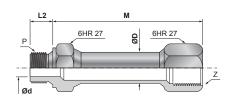
NV Welded on piece for WT70 C and WT70 T



NV D Welded on piece for WT70 D



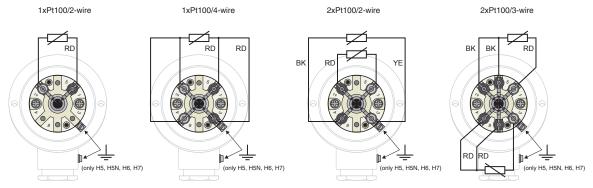
NT70 Extension piece for temperature sensors



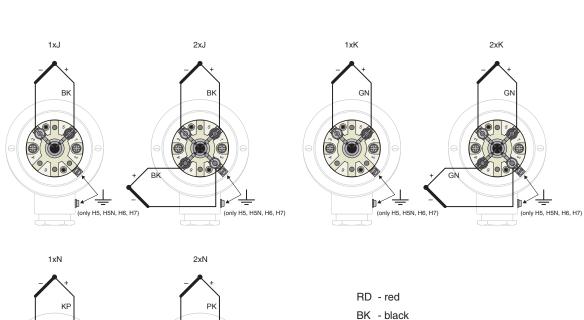
Electrical connection

(only H5, H5N, H6, H7)

a) RTD



b) TC



(only H5, H5N, H6, H7)

ModuTEMP® 70 - Sensors with thermowell Table 1 T1070 Resistance temperature sensor with thermowell T1570 Thermocouple temperature sensor with thermowell Temperature sensor Resistance (RTD) 04 1xPt100, two-wire inside wiring 1.4401 Cu 06 1) 1xPt100, four-wire inside wiring 1.4401 Ni 2xPt100, three-wire inside wiring 2xPt100, two-wire inside wiring 1.4401 Cu Thermocouple (TC) 1x"J" (Fe-CuNi), insulated 1.4541 21 2x"J" (Fe-CuNi), insulated, isolated junctions 22 1x"K" (NiCr-NiAl), insulated Inconel 600 (2.4816) 2x"K" (NiCr-NiAl), insulated, isolated junctions Inconel 600 (2.4816) 62 1x"N" (NiCr-NiAl), insulated Inconel 600 (2.4816) 23 2x"N" (NiCr-NiAl), insulated, isolated junctions Inconel 600 (2.4816) 63 Grounded version of junction TC 99 Code Accuracy class Measuring range Resistance (RTD) according to EN 60751 -50 to +300 °C F2 -70 to +500 °C F3C B, with certificate of calibration (has to be ordered with calibration - code KTE) -200 to +600 °C - only for code 06 and 07 F4C A, with certificate of calibration (has to be ordered with calibration - code KTE) -50 to +400 °C - only for code 06 and 07 F9 Other Thermocouple (TC) according to IEC 584-2 T7 -200 to +600 °C T6C 1, with certificate of calibration (has to be ordered with calibration - code KTE) -200 to +600 °C Code Fitting of the sensor Diameter of extension piece Fitting material With thermowell Ø 9 x 1 mm, PN 63 14 x 2.5 mm 1.4541 .132 With thermowell Ø 11 x 2 mm reduced to Ø 6 x 1.3 mm, PN 100 11 x 2 mm 1.4541 J33 With thermowell Ø 11 x 2 mm, PN 100 11 x 2 mm 1.4541 J63 With thermowell Ø 14 x 2.5 mm reduced to Ø 11 x 2.4 mm, PN 160 1.4541 14 x 2.5 mm Nominal immersion of sensor L [mm] Code L100 100 L160 160 - not for J23 N000 1 400 400 - not for J23 N000 L630 630 not for J23 N000 - only for J23 N000 1.380 380 L530 530 - only for J23 N000 Other (please fill nominal immersion of sensor in mm Code Н1 Al alloy, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm, IP 65 H2 Al alloy, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm, IP 65 Al alloy, with high cap for mounting of transmitter with Ø 44 mm, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm, IP 65 НЗ Al alloy, with low cap, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm, IP 65 Н4 Al alloy, with high cap for mounting of transmitter with Ø 62 mm, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm, IP 65 Al alloy, with low cap, ground clamps, cable outlet M20x1.5 for cable Ø 5 to 10 m, IP 65 Al alloy, with high cap for mounting of transmitter with Ø 62 mm, ground clamps, cable outlet M20x1.5 for cable Ø 5 to 10 mm, IP 65 H5N Н5 Polyamide, with high cap for mounting of transmitter with Ø 62 mm, Tmax 80 °C, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm, IP 65 **Н5РА** Al alloy, ground clamps, thread for cable outlet M20x1.5, IP 68 Н6 **H7** Stainless steel, ground clamps, thread for cable outlet M20x1.5, IP 68 - only for codes H4, H4N, H5, H5N ...D Double cable outlet - only for codes H4 Z1, H4D Z1, H5 Z1E and S2, S3; not for double sensors ..W Sensor head with peephole for display Н9 Cold-end of measuring insert Code S1 With ceramic terminal block (diameter 42 mm) on flange of measuring insert For single sensor, without terminal block, with set for mounting of transmitter on flange of measuring insert (instead of terminal block) **S3** For single sensor, with mounted selected transmitter on flange of measuring insert (necessary specifications of transmitter) For double sensor, without terminal block, with set for mounting of two transmitters (not suitable for H1, H2, H5N, H6 and H7) **S4** S5 With ceramic terminal block (diameter 42 mm), embedded pins (according to NAMUR) Extension piece /Nominal length of extension piece N/ Code Max. temperature of connection thread Without extension piece N=15 mm (only for J23) N000 120 °C N145 With extension piece N=145 mm Other (please fill nominal length of extension piece in mm) Process connection Code J32, J33, J63 J23 Male thread M20x1.5 Male thread M20x1.5 Male thread M27x2 Male thread G1/2 P5 Male thread G1/2 Male thread G3/4'

Male thread 1/2"NPT

Flat flange DN20/PN40

P6

P8

P9

Male thread 1/2"NPT

Other

Modular Resistance and Thermocouple Temperature Sensors ModuTEMP® 70

	OPTIONAL ACCESSORIES			
Code	Versions for explosive atmosphere of gasses or dusts			
Oode		sure "Ex t" only for dusts, intrinsically safe version "Ex i" for gasses and dusts		
	(Ex) II 1/2G Ex d IIC T6Tx°C Ga/Gb			
o ED/ET	(Ex) II 1/20 Ex ta/tb IIIC T90°CTx°C Da/Db	- only for version with heads codes H6, H7		
	EX I /2G Ex ia IC 76Tx°C Ga/Gb			
o El	(Ex) II 1/2G Ex la IIIC 16TX C Ga/GD	- only for version with heads codes H5, H5N, H6, H7		
Code		T _{MAX} (with spray)		
X01	Protective spray Polyamide PA 11	100 °C (depends on measured medium)		
	,	,		
X02 X03	E-CTFE "Halar" PFA	170 °C (depends on measured medium)		
		260 °C (depends on measured medium)		
X04	ETFE "Hyflon"	130 °C (depends on measured medium)		
X05	PTFE	260 °C (depends on measured medium)		
X07	Hard metal coating (Fe-Cr-Mn-Si-B-C) for abrasive medium	925 °C		
X08	Corundum spray for intense abrasive medium	according to specific composition of coating		
X99	Other			
Code	Indication units			
Z1	LED display mounted in sensor head (only for code H4(D)W and S2,			
Z1E		only for codes H5W and S2, S3; operating temperature -20 to +80 °C)		
Code	Cable outlet 3)			
• KM1	Cable outlet, nickel-plated brass, IP 68, M20x1.5, for cable Ø 5 to	10 mm (standard for H6, H7)		
KM4	Cable outlet, stainless steel, IP 68, M20x1.5, for cable \varnothing 7 to 12 mm			
• KME1	Cable outlet, nickel-plated brass, Ex d, M20x1.5, IP 68, for fixed a			
KME2	Cable outlet, nickel-plated brass, Ex d, M20x1.5, IP 68, for fixed a	·		
KME3	Cable outlet, stainless steel, Ex d, M20x1.5, IP 68, for fixed assembly			
KME5		sembly cable \varnothing 5 to 9 mm, operating temperature -20 to +95 °C (not for H5PA)		
KME6		sembly cable \varnothing 6.5 to 12 mm, operating temperature -20 to +95 °C (not for H5PA)		
KM9	Other			
• PK1	Lock anti pull-up cable for Ex d cable outlet KME1			
 PK2 	Lock anti pull-up cable for Ex d cable outlet KME2			
Code	Snap lock			
• RU	Snap lock - only with co	des H2, H4, H4N, H5, H5N		
Code	Calibration in customer defined points, including certificate of c	alibration		
Code • KTE31A	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran	alibration ge -40 to +600 °C		
Code KTE31A KTE41A	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in range	alibration ge -40 to +600 °C e -40 to +600 °C		
Code	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang	alibration ge -40 to +600 °C e -40 to +600 °C ∋ -40 to +600 °C		
Code	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in three points in	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C		
Code KTE31A KTE41A KTE51A KTE32AA KTE42AA	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in three points in Thermocouple temperature sensor calibration in four points in r	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C ange -40 to +660 °C		
Code KTE31A KTE41A KTE51A KTE32AA KTE42AA KTE52AA	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in three points in Thermocouple temperature sensor calibration in four points in Thermocouple temperature sensor calibration in five points in	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C ange -40 to +660 °C		
Code KTE31A KTE41A KTE51A KTE51A KTE32AA KTE42AA KTE42AA KTE52AA	Calibration in customer defined points, including certificate of content of the c	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C ange -40 to +660 °C		
Code KTE31A KTE41A KTE51A KTE32AA KTE42AA KTE52AA KTE9 Code	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in three points in Thermocouple temperature sensor calibration in four points in rang Thermocouple temperature sensor calibration in five points in range Cither Certificates	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C ange -40 to +660 °C		
Code KTE31A KTE41A KTE51A KTE32AA KTE52AA KTE52AA KTE50 KTE50A	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in three points in Thermocouple temperature sensor calibration in four points in rang Thermocouple temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in four points in range Thermocouple temperature sensor calibration in four points in range Thermocouple temperature sensor calibration in four points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in four points in range Thermocouple temperature sensor calibration in four points in range Thermocouple temperature sensor calibration in four points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperature sensor calibration in five points in range Thermocouple temperatur	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C ange -40 to +660 °C		
Code KTE31A KTE41A KTE51A KTE32AA KTE52AA KTE52AA KTE50 Code GR Code	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in three points in Thermocouple temperature sensor calibration in four points in r Thermocouple temperature sensor calibration in five points in r Other Certificates Certificate Certificate for supply and operation in Customs Union Accessories	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C		
Code KTE31A KTE41A KTE51A KTE32AA KTE52AA KTE52AA KTE52AA KTE9 Code GR Code BZS	Calibration in customer defined points, including certificate of content of the c	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C		
Code KTE31A KTE41A KTE51A KTE51A KTE42AA KTE52AA KTE52AA KTE50de GR Code BZS PPZ	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in three points in Thermocouple temperature sensor calibration in four points in r Thermocouple temperature sensor calibration in five points in r Thermocouple temperature sensor calibration in five points in r Cother Certificates Certificates Certificate for supply and operation in Customs Union Accessories Stainless steel tag for attachment (70x15 mm) with laser description of sensor according to the order	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C		
Code KTE31A KTE41A KTE51A KTE42AA KTE52AA KTE52AA KTE50 Code GR Code BZS PPZ Q1	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in three points in Thermocouple temperature sensor calibration in four points in rang Thermocouple temperature sensor calibration in four points in rang Thermocouple temperature sensor calibration in five points in rang Cotter Certificates Certificates Certificate for supply and operation in Customs Union Accessories Stainless steel tag for attachment (70x15 mm) with laser descript Laser description of sensor according to the order Material certificate according to EN 10204, 3.1	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C		
Code KTE31A KTE41A KTE51A KTE42AA KTE52AA KTE52AA KTE52AC Code GR Code GR Code Code Code Code Code Code	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in four points in r Thermocouple temperature sensor calibration in five points in r Other Certificates Certificates Certificate for supply and operation in Customs Union Accessories Stainless steel tag for attachment (70x15 mm) with laser descrip Laser description of sensor according to the order Material certificate according to EN 10204, 3.1 Transmitters for headmounting	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C		
Code KTE31A KTE41A KTE51A KTE51A KTE52AA KTE52AA KTE52AA KTE52AA KTE9 Code BZS PPZ Q1 Code P5310 H10	Calibration in customer defined points, including certificate of content of the sensor calibration in three points in rangesistance temperature sensor calibration in four points in rangesistance temperature sensor calibration in five points in rangesistance temperature sensor calibration in five points in rangesistance temperature sensor calibration in three points in Thermocouple temperature sensor calibration in four points in Thermocouple temperature sensor calibration in five points in range of the points in Thermocouple temperature sensor calibration in five points in range of the points in Thermocouple temperature sensor calibration in five points in range of the points	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C range -40 to +660 °C ange -40 to +660 °C tion according to the order		
Code KTE31A KTE41A KTE51A KTE51A KTE42AA KTE52AA KTE52AA KTE52AA KTE52AA KTE9 Code GR Code BZS PPZ Q1 Code P5310 H10 P5310EN2 H10	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in four points in r Thermocouple temperature sensor calibration in four points in r Thermocouple temperature sensor calibration in five points in r Cother Certificates Certificates Certificate for supply and operation in Customs Union Accessories Stainless steel tag for attachment (70x15 mm) with laser descrip Laser description of sensor according to the order Material certificate according to EN 10204, 3.1 Transmitters for headmounting Transmitter with LHP protocol (see data sheet No. 0824) Transmitter with LHP protocol, (Ex) II 3G Ex nA IIC T4 Gc (see data	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C range -40 to +660 °C ange -40 to +660 °C tion according to the order		
Code KTE31A KTE41A KTE51A KTE51A KTE52AA KTE52AA KTE52AA KTE52AA KTE52AA KTE52 Code GR Code BZS PPZ Q1 Code P5310 EN2 H10 P5311 H10	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in four points in rang Thermocouple temperature sensor calibration in four points in rang Thermocouple temperature sensor calibration in five points in rang Cother Certificates Certificates Certificate for supply and operation in Customs Union Accessories Stainless steel tag for attachment (70x15 mm) with laser descript Laser description of sensor according to the order Material certificate according to EN 10204, 3.1 Transmitters for headmounting Transmitter with LHP protocol (see data sheet No. 0824) Transmitter with LHP protocol, (Ex) II 3G Ex nA IIC T4 Gc (see data Transmitter with LHP protocol with galvanic isolation (see data	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C range -40 to +660 °C ange -40 to +660 °C tion according to the order ata sheet No. 0824) sheet No. 0824)		
Code KTE31A KTE41A KTE51A KTE51A KTE52AA KTE52AA KTE52AA KTE52AA KTE52AA KTE52AA KTE52AA KTE51 Code GR Code PS21 Q1 Code PS310 H10 PS311 H10 PS311 H10 PS311 H10	Calibration in customer defined points, including certificate of c Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in three points in Thermocouple temperature sensor calibration in four points in rang Thermocouple temperature sensor calibration in four points in rang Thermocouple temperature sensor calibration in five points in rang Other Certificates Certificates Certificate for supply and operation in Customs Union Accessories Stainless steel tag for attachment (70x15 mm) with laser descript Laser description of sensor according to the order Material certificate according to EN 10204, 3.1 Transmitters for headmounting Transmitter with LHP protocol (see data sheet No. 0824) Transmitter with LHP protocol, (Ex) II 3G Ex nA IIC T4 Gc (see data Transmitter with LHP protocol with galvanic isolation (see data I transmitter with LHP protocol with galvanic isolation, (Ex) II 3G	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C ange -40 to +600 °C range -40 to +660 °C ange -40 to +660 °C ange -40 to +660 °C tion according to the order ata sheet No. 0824) sheet No. 0824) Ex nA IIC T4 Gc (see data sheet No. 0824)		
Code KTE31A KTE41A KTE51A KTE51A KTE52AA KTE52AA KTE9 Code BZS PPZ Q1 Code P53110H10 P5311EN2 H10 P5311EN1 H10 P5311EN1 H10	Calibration in customer defined points, including certificate of C Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in four points in rang Thermocouple temperature sensor calibration in four points in rang Other Certificates Certificates Certificate for supply and operation in Customs Union Accessories Stainless steel tag for attachment (70x15 mm) with laser descript Laser description of sensor according to the order Material certificate according to EN 10204, 3.1 Transmitters for headmounting Transmitter with LHP protocol (see data sheet No. 0824) Transmitter with LHP protocol with galvanic isolation (see data Transmitter with LHP protocol with galvanic isolation, (Ex) II 3G Transmitter with LHP protocol with galvanic isolation, (Ex) II 13G Transmitter with LHP protocol with galvanic isolation, (Ex) II 13G	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C range -40 to +660 °C ange -40 to +660 °C tion according to the order tion according to the order ata sheet No. 0824) sheet No. 0824) Ex na IIC T4 Gc (see data sheet No. 0824) Ex na IIC T4 GG (see data sheet No. 0824) Ex la IIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 0824)		
Code KTE31A KTE41A KTE51A KTE51A KTE52AA KTE52AA KTE52AA KTE52AA KTE9 Code GR Code BZS PPZ Q1 Code P5310 H10 P5311 H10 P5311E11 H10 P5315 H10	Calibration in customer defined points, including certificate of C Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in four points in rang Thermocouple temperature sensor calibration in four points in rang Thermocouple temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in five points in rang Tertificates Certificates Certificate for supply and operation in Customs Union Accessories Stainless steel tag for attachment (70x15 mm) with laser description of sensor according to the order Material certificate according to EN 10204, 3.1 Transmitters for headmounting Transmitters for headmounting Transmitter with LHP protocol (see data sheet No. 0824) Transmitter with LHP protocol with galvanic isolation (see data in Transmitter with LHP protocol with galvanic isolation, (Ex) II 3G Transmitter with LHP protocol with galvanic isolation, (Ex) II 3G Precision transmitter with LHP protocol with galvanic isolation, (Ex) II 3G	allibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +660 °C range -40 to +660 °C ange -40 to +660 °C ange -40 to +660 °C tion according to the order tto according to the order tta sheet No. 0824) sheet No. 0824) Ex nA IIC T4 Gc (see data sheet No. 0824) Ex ia IIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 0824) see data sheet No. 2098)		
Code KTE31A KTE41A KTE51A KTE51A KTE42AA KTE52AA KTE52AA KTE9 Code BZS PPZ Q1 Code P5310 EN10 P5311 EN10 P5311EN1 H10	Calibration in customer defined points, including certificate of C Resistance temperature sensor calibration in three points in ran Resistance temperature sensor calibration in four points in rang Resistance temperature sensor calibration in five points in rang Resistance temperature sensor calibration in five points in rang Thermocouple temperature sensor calibration in four points in rang Thermocouple temperature sensor calibration in four points in rang Thermocouple temperature sensor calibration in five points in rang City control of the points in range of the poi	alibration ge -40 to +600 °C e -40 to +600 °C e -40 to +600 °C range -40 to +600 °C range -40 to +660 °C range -40 to +660 °C ange -40 to +660 °C tion according to the order tion according to the order tta sheet No. 0824) Ex nA IIC T4 GG (see data sheet No. 0824) Ex ia IIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 0824) see data sheet No. 2098) 3G Ex nA IIC T4 GC (see data sheet No. 2098)		
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ModuTEMP® 70 - Sensors into thermowell

Туре	Description			
• T1070	Resistance temperature sensor into thermowell			
o T1570	Thermocouple temperature sensor into thermowell			
Code	Temperature sensor	Measuring range	Sheath material	Inside wiring material
o 04	Resistance (RTD) 1xPt100, two-wire inside wiring		1.4401	Cu
o 06 1)	1xPt100, four-wire inside wiring		1.4401	Ni
o 07 1)	2xPt100, three-wire inside wiring		1.4401	Ni
- 08	2xPt100, two-wire inside wiring Thermocouple (TC)		1.4401	Cu
o 21	1x"J" (Fe-CuNi), insulated	-200 to + 800 °C	1.4541	
o 61	2x"J" (Fe-CuNi), insulated, isolated junctions	-200 to + 800 °C	1.4541	
o 22	1x"K" (NiCr-NiAl), insulated	-200 to +1100 °C	Inconel 600 (2.4816)	
o 62 23	2x"K" (NiCr-NiAl), insulated, isolated junctions 1x"N" (NiCr-NiAl), insulated	-200 to +1100 °C -200 to +1100 °C	Inconel 600 (2.4816) Inconel 600 (2.4816)	- not for code D2
63	2x"N" (NiCr-NiAl), insulated, isolated junctions	-200 to +1100 °C	Inconel 600 (2.4816)	- not for code D2 - not for code D1 and D2
22HT	1x"K" (NiCr-NiAl), insulated	-200 to +1300 °C	Nicrobell/Pyrosil	- only for code D1 and D3
62HT	2x"K" (NiCr-NiAl), insulated, isolated junctions	-200 to +1300 °C	Nicrobell/Pyrosil	- only for code D3
23HT 63HT	1x"N" (NiCrSi-NiSi), insulated 2x"N" (NiCrSi-NiSi), insulated, isolated junctions	-200 to +1300 °C -200 to +1300 °C	Nicrobell/Pyrosil Nicrobell/Pyrosil	- only for code D1 and D3- only for code D3
U	Grounded version of junction TC	200 10 1 1000 0	THIOTOBORYT YTOOR	only for code bo
99	Other			
Code	Accuracy class		Measuring range	
o F1	Resistance (RTD) according to EN 60751 B		-50 to +300 °C	
o F2	В		-70 to +500 °C	
° F3C	B, with certificate of calibration (has to be ordered with			for code 06 and 07
• F4C F9	A, with certificate of calibration (has to be ordered with Other	n calibration - code KTE)	-50 to +400 °C - only	for code 06 and 07
FB	Thermocouple (TC) according to IEC 584-2			
o T7	2			
T6C	with certificate of calibration (has to be ordered with cali	bration - code KTE)		
T9 Code	Other Fitting of the sensor		Diameter of extension p	iece Fitting material T _{MAX}
o J13	Into thermowell		14 x 2.5 mm	1.4541 3)
o J16	Into thermowell		20 x 3 mm	1.4541
J21P	Into thermowell, with rotary fitting in the middle of extension	n piece 2)	21.3 x 2.6 mm	1.4541 ³⁾
J19 Code	Other into thermowell Nominal immersion of sensor L [mm]			
o L100	100			
o L160	160			
 L165 L195 	165 195			
o L195 o L250	250			
o L255	255			
o L400	400			
L405L630	405 630			
L	Other (please fill nominal immersion of sensor in mm)			
Code	Head			
o H1	Al alloy, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm Al alloy, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm			
• H3	Al alloy, with high cap for mounting of transmitter with	,	0x1.5 for cable Ø 4 to 12.5 n	nm. IP 65
o H4N	Al alloy, with low cap, cable outlet M20x1.5 for cable &			,
○ H4 ○ H5N	Al alloy, with high cap for mounting of transmitter with			nm, IP 65
H5NH5	Al alloy, with low cap, ground clamps, cable outlet M20 Al alloy, with high cap for mounting of transmitter with			thle Ø 5 to 10 mm IP 65
• H5PA	Polyamide, with high cap for mounting of transmitter v			
о Н6	Al alloy, ground clamps, thread for cable outlet M20x1			
• H7 D	Stainless steel, ground clamps, thread for cable outlet Double cable outlet	: M20x1.5, IP 68 - only for codes H4, H4N	H5 H5N	
W	Sensor head with peephole for display	•	, กอ, กอเง I4D Z1, H5 Z1E and S2, S3; n	not for double sensors
H9	Other			
• S1 4)	Cold-end of measuring insert With ceramic terminal block (diameter 42 mm) on flang	ne of measuring incom (and	for diameter 6 mm (and - D	3 D5))
o S1 9	For single sensor, without terminal block, with set for			
o S3 ⁴⁾	For single sensor, with mounted selected transmitter of	on flange of measuring inse	ert (necessary specifications	s of transmitter)
o \$4 ⁵⁾	For double sensor, without terminal block, with set for	-	•	H5N, H6 and H7)
• S5 S9	With ceramic terminal block (diameter 42 mm), embede Other	ueu pins (according to NAM	iuri)	
Code	Measuring insert diameter [mm]			
o D1 ⁵⁾	Ø3			
• D2 ⁵⁾ • D3	Ø 4.5 (only for TC) Ø 6			
o D5	Ø 6 with distance sleeve Ø 8			
D9	Other			
Code Noon 6)	Extension piece /Nominal length of extension piece N/		nnection thread	
 N000 ⁶⁾ N140 	Without extension piece N=15 mm With extension piece N=140 mm	120 °C 600 °C	- standard version for I	=165, 195, 255 and 405 mm
o N145	With extension piece N=145 mm	600 °C		=100, 160, 250, 400 and 630 mm
N	Other (please fill nominal length of extension piece in mm)			
Code	Process connection J13	J16, J21P		
P1	Male thread M14x1.5	-		
P2	Male thread M18x1.5	-		
o P3	Male thread M20x1.5	Male thread M20x1.5		
P5P7	Male thread G1/2" Male thread 1/2"NPT	Male thread G1/2" Male thread 1/2"NPT		
P9	Other	Other		

	OPTIONAL ACCESSORIES
Code	Versions for explosive atmosphere of gasses or dusts
Code	Plameproof enclosure "Ex d" only for gasses and protection by enclosure "Ex t" only for dusts, intrinsically safe version "Ex i" for gasses and dusts
	(Ex) II 2G Ex d IIC T6 Tx°C Gh
o ED/ET	(Ex) II 2D Ex th IIIC T90°CTx°C Db - only for version with heads codes H6, H7
	(Ev) II 2G Ev ia IIC T6 Tv°C Gh
o El	- only for version with heads codes H5, H5N, H6, H7 (Ex) II 1/2D Ex ia IIIC 785°CTx°C Da/Db
Code	Indication units
Z1	LED display mounted in sensor head (only for code H4(D)W and S2, S3; operating temperature -20 to +80 °C)
Z1E	Intrinsically safe LED display in sensor head (Ex) II 2G Ex ia IIC T6 (only for codes H5W and S2, S3; operating temperature -20 to +80 °C)
Code	Cable outlet 7)
• KM1	Cable outlet, nickel-plated brass, IP 68, M20x1.5, for cable Ø 5 to 10 mm (standard for H6, H7)
KM4	Cable outlet, stainless steel, IP 68, M20x1.5, for cable Ø 7 to 12 mm
 KME1 	Cable outlet, nickel-plated brass, Ex d, M20x1.5, IP 68, for fixed assembly cable Ø 4 to 8.5 mm
 KME2 	Cable outlet, nickel-plated brass, Ex d, M20x1.5, IP 68, for fixed assembly cable Ø 6 to 12 mm
KME3	Cable outlet, stainless steel, Ex d, M20x1.5, IP 68, for fixed assembly cable Ø 4 to 8 mm
KME5	Cable outlet, polyamide (light blue), Ex e, M20x1.5, IP 68, for fixed assembly cable Ø 5 to 9 mm, operating temperature -20 to +95 °C (not for H5PA)
KME6	Cable outlet, polyamide (light blue), Ex e, M20x1.5, IP 68, for fixed assembly cable Ø 6.5 to 12 mm, operating temperature -20 to +95 °C (not for H5PA)
KM9	Other
• PK1	Lock anti pull-up cable for Ex d cable outlet KME1
• PK2	Lock anti pull-up cable for Ex d cable outlet KME2
	Snap lock
• RU	Snap lock - only with codes H2, H4, H4N, H5, H5N
Code • KTE31A	Calibration in customer defined points, including certificate of calibration
• KTE41A	Resistance temperature sensor calibration in three points in range -40 to +600 °C Resistance temperature sensor calibration in four points in range -40 to +600 °C
• KTE41A	Resistance temperature sensor calibration in five points in range -40 to +600 °C
KTE32AA	Thermocouple temperature sensor calibration in three points in range -40 to +660 °C
∘ KTE42AA	Thermocouple temperature sensor calibration in four points in range -40 to +660 °C
○ KTE52AA	Thermocouple temperature sensor calibration in five points in range -40 to +660 °C
KTE32AB	Thermocouple temperature sensor calibration in three points in range -40 to +1100 °C
∘ KTE42AB	Thermocouple temperature sensor calibration in four points in range -40 to +1100 °C
° KTE52AB	Thermocouple temperature sensor calibration in five points in range -40 to +1100 °C
o KTE32B	Thermocouple temperature sensor calibration in three points in range +400 to +1300 °C
o KTE42B	Thermocouple temperature sensor calibration in four points in range +400 to +1300 °C
○ KTE52B	Thermocouple temperature sensor calibration in five points in range +400 to +1300 °C
KTE9	Other
Code	Certificates
• GR	Certificate for supply and operation in Customs Union
Code	Accessories
• BZS	Stainless steel tag for attachment (70x15 mm) with laser description according to the order
• PPZ	Laser description of sensor according to the order
• Q1	Material certificate according to EN 10204, 3.1
Code	Transmitters for headmounting
• P5310 H10	Transmitter with LHP protocol (see data sheet No. 0824)
• P5310EN2 H10	Transmitter with LHP protocol, (Ex) II 3G Ex nA IIC T4 Gc (see data sheet No. 0824) Transmitter with LHP protocol with galvenia inalities (see data sheet No. 0824)
	Transmitter with LHP protocol with galvanic isolation (see data sheet No. 0824) Transmitter with LHP protocol with galvanic isolation (Ex) II 3G Ex no IIC T4 Go (see data sheet No. 0824)
	Transmitter with LHP protocol with galvanic isolation, (Ex) II 3G Ex nA IIC T4 Gc (see data sheet No. 0824) Transmitter with LHP protocol with galvanic isolation, (Ex) II 1G Ex ia IIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 0824)
• P5311511 H10	Precision transmitter with LHP protocol with galvanic isolation (see data sheet No. 2098)
P5315EN2 H10	
P5315EI1 H10	Precision transmitter with LHP protocol with galvanic isolation, (Ex) II 1G Ex ia IIIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 2098)
• 5335A	Transmitter with HART protocol with galvanic isolation, (Ex) II 30, (Ex) II 30 (see data sheet No. 0786)
• 5335D	Transmitter with HART protocol with galvanic isolation, Ex) II 1G Ex ia IIC T6 or T4 Ga, (Ex) II 1D Ex ia IIIC Da,
	(Ex) I M1 Ex ia I Ma, CSA and FM (see data sheet No. 0786)
 P5320 H10 	Precision transmitter with HART protocol with galvanic isolation (see data sheet No. 0825)
• P5320EN2 H10	Precision transmitter with HART protocol with galvanic isolation, (Ex) II 3G Ex nA IIC T4 Gc (see data sheet No. 0825)
P5320EI1 H10	Precision transmitter with HART protocol with galvanic isolation, (Ex) II 1G Ex ia IIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 0825)
Code	Thermowells and welded on pieces
 WT70 C 	Cylindric thermowell to screwing, to welding, with flange, PN 160 (see data sheet No. 0993)
WT70 D	Conical thermowell to welding according to DIN 43772, PN 250 (see data sheet No. 0993)
WT70 T	Conical thermowell to screwing, PN 400 (see data sheet No. 0993)
• NV	Welded on piece for thermowells WT70 C, WT70 D and WT70 T (see data sheet No. 0993)
	Example of order: T1070 04 F2 J13 L160 H3 S1 D3 N145 P3 KTE31A (-40, 200, 500 °C)

- ... Marked version can be dispatched up to 5 working days (with calibration up to two weeks)
- | ... Not allowable to use two-wire connection because of nickel inner wiring. | 2 ... Spring stroke of insert 15 mm. | 3 ... Max. temperature of connection thread is 600 °C. | 4 ... In the case of J21 direct mounting to the sensor head. | 5 ... Not allowable to use two-wire connection thread is 600 °C. | 4 ... In the case of J21 direct mounting to the sensor head. | 5 ... Not allowable to use two-wire connection thread is 600 °C. | 6 ... In the case of J21 direct mounting to the sensor head. | 5 ... Not allowable to use two-wire connection thread is 600 °C. | 6 ... In the case of J21 direct mounting to the weeks | 5 ... Not allowable to use two-wire connection thread is 600 °C. | 6 ... In the case of J21 direct mounting to the weeks | 5 ... Not allowable to use two-wire connection thread is 600 °C. | 6 ... In the case of J21 direct mounting to the weeks | 6 ... Not allowable to use two-wire connection thread is 600 °C. | 6 ... In the case of J21 direct mounting to the weeks | 7 ... Not allowable to use two-wire connection thread is 600 °C. | 6 ... In the case of J21 direct mounting to the sensor head. | 7 ... Not allowable to use two-wire connection thread is 600 °C. | 7 ... Not allowable to use two-wire connection thread is 600 °C. | 7 ... Not allowable to use two-wire connection thread is 600 °C. | 7 ... Not allowable to use two-wire connection thread is 600 °C. | 7 ... Not allowable to use two-wire connection thread is 600 °C. | 7 ... Not allowable to use two-wire connection thread is 600 °C. | 7 ... Not allowable to use two-wire connection thread is 600 °C. | 8 ... Not allowable to use two-wire connection thread is 600 °C. | 8 ... Not allowable to use two-wire connection thread is 600 °C. | 8 ... Not allowable to use two-wire connection thread is 600 °C. | 8 ... Not allowable to use two-wire connection thread is 600 °C. | 8 ... Not allowable to the case of J21 direct mounting to the connection thread is 600 °C. | 8 ... Not allowable to use two-wire connection thread is 600 °C. | 8 ... Not allowable to use $^{5)}$... Not for J21P.

ModuTEMP® 70 - Sensors without thermowell Table 3 T1070 Resistance temperature sensor without thermowell T1570 Thermocouple temperature sensor without thermowell Inside wiring materia Resistance (RTD) 04 1xPt100, two-wire inside wiring 1.4401 Cu 06 1 1xPt100, four-wire inside wiring 1.4401 Ni 2xPt100, three-wire inside wiring 1.4401 Ni റമ 2xPt100, two-wire inside wiring 1.4401 Cu Thermocouple (TC) 1x"J" (Fe-CuNi), insulated -200 to + 800 °C 1.4541 2x"J" (Fe-CuNi), insulated, isolated junctions -200 to + 800 °C 1.4541 Inconel 600 (2.4816) 22 1x"K" (NiCr-NiAl), insulated -200 to +1100 °C 2x"K" (NiCr-NiAl), insulated, isolated junctions Inconel 600 (2.4816) -200 to +1100 °C 62 (NiCr-NiAl), insulated -200 to +1100 °C Inconel 600 (2.4816) - not for code D2 2x"N" (NiCr-NiAl), insulated, isolated junctions -200 to +1100 °C Inconel 600 (2.4816) not for code D1 and D2 -200 to +1300 °C 22H1 1x"K" (NiCr-NiAl), insulated Nicrobell/Pyrosil - only for code D1 and D3 Nicrobell/Pyrosil 62HT 2x"K" (NiCr-NiAl), insulated, isolated junctions -200 to +1300 °C only for code D3 (NiCrSi-NiSi), insulated Nicrobell/Pyrosil - only for code D1 and D3 -200 to +1300 °C 63HT 2x"N" (NiCrSi-NiSi), insulated, isolated junctions -200 to +1300 °C Nicrobell/Pyrosil - only for code D3 Grounded version of junction TC 99 Measuring range Code Accuracy class Resistance (RTD) according to EN 60751 F1 В -50 to +300 °C F2 -70 to +500 °C F3C B, with certificate of calibration (has to be ordered with calibration - code KTE) -200 to +600 °C - only for code 06 and 07 F4C A, with certificate of calibration (has to be ordered with calibration - code KTE) -50 to +400 °C - only for code 06 and 07 F9 Other Thermocouple (TC) according to IEC 584-2 Т7 T₆C 1, with certificate of calibration (has to be ordered with calibration - code KTE) Code Fitting of the sensor Diameter of extension piece Fitting material T_{MAX} J43 Without thermowell 14 x 2.5 mm Other without thermowell Nominal immersion of sensor L [mm] Code L100 100 160 1 250 250 L400 400 L630 630 Other (please fill nominal immersion of sensor in mm) Cod Head Al alloy, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm, IP 65 Al alloy, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm, IP 65 Al alloy, with high cap for mounting of transmitter with Ø 44 mm, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm, IP 65 НЗ H4N Al alloy, with low cap, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm, IP 65 Al alloy, with high cap for mounting of transmitter with Ø 62 mm, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm, IP 65 Н4 H5N Al alloy, with low cap, ground clamps, cable outlet M20x1.5 for cable Ø 5 to 10 m, IP 65 Н5 Al alloy, with high cap for mounting of transmitter with Ø 62 mm, ground clamps, cable outlet M20x1.5 for cable Ø 5 to 10 mm, IP 65 Polyamide, with high cap for mounting of transmitter with \emptyset 62 mm, Tmax 80 °C, cable outlet M20x1.5 for cable \emptyset 4 to 12.5 mm, IP 65 Al alloy, ground clamps, thread for cable outlet M20x1.5, IP 68 H₅PA Н6 Stainless steel, ground clamps, thread for cable outlet M20x1.5, IP 68 ...D Double cable outlet - only for codes H4, H4N, H5, H5N Sensor head with peephole for display - only for codes H4 Z1, H4D Z1, H5 Z1E and S2, S3; not for double sensors .W Code Cold-end of measuring insert **S1** With ceramic terminal block (diameter 42 mm) on flange of measuring insert (only for diameter 6 mm (code D3)) For single sensor, without terminal block, with set for mounting of transmitter on flange of measuring insert (instead of terminal block) S2 For single sensor, with mounted selected transmitter on flange of measuring insert (necessary specifications of transmitter) For double sensor, without terminal block, with set for mounting of two transmitters (not suitable for H1, H2, H5N, H6 and H7) Measuring insert diameter [mm] Code D1 Ø3 D2 Ø 4.5 (only for TC) D3 Ø6 Extension piece /Nominal length of extension piece N/ Max. temperature of connection thread N145 With extension piece N=145 mm (standard) 500 °C (300 °C for diameter of measuring insert 3 mm, code D1) Other (please fill nominal length of extension piece in mm) Process connection Code Male thread M20x1.5 P5 Male thread G1/2" Male thread 1/2"NPT P7 OPTIONAL ACCESSORIES Code Versions for explosive atmosphere of gasses or dusts

- only for version with heads codes H5, H5N, H6, H7

(Ex) II 2G Ex ia IIC T6...Tx°C Gb

(Ex) II 1/2D Ex ia IIIC T85°C...Tx°C Da/Db

LED display mounted in sensor head (only for code H4(D)W and S2, S3; operating temperature -20 to +80 °C)

Intrinsically safe LED display in sensor head (Ex) II 2G Ex ia IIC T6 (only for codes H5W and S2, S3; operating temperature -20 to +80 °C)

ΕI

Modular Resistance and Thermocouple Temperature Sensors ModuTEMP® 70

Code	Cable outlet ³⁾				
• KM1	Cable outlet, nickel-plated brass, IP 68, M20x1.5, for cable Ø 5 to 10 mm (standard for H6, H7)				
KM4	Cable outlet, stainless steel, IP 68, M20x1.5, for cable Ø 7 to 12 mm				
• KME1	Cable outlet, nickel-plated brass, Ex d, M20x1.5, IP 68, for fixed assembly cable Ø 4 to 8.5 mm				
KME2	Cable outlet, nickel-plated brass, Ex d, M20x1.5, IP 68, for fixed assembly cable Ø 6 to 12 mm				
KME3	Cable outlet, stainless steel, Ex d, M20x1.5, IP 68, for fixed assembly cable Ø 4 to 8 mm				
KME5	Cable outlet, polyamide (light blue), Ex e, M20x1.5, IP 68, for fixed assembly cable ⊘ 5 to 9 mm, operating temperature -20 to +95 °C (not for H5PA)				
KME6	Cable outlet, polyamide (light blue), Ex e, M20x1.5, IP 68, for fixed assembly cable Ø 6.5 to 12 mm, operating temperature -20 to +95 °C (not for H5PA)				
KM9	Other				
• PK1	Lock anti pull-up cable for Ex d cable outlet KME1				
• PK2	Lock anti pull-up cable for Ex d cable outlet KME2				
Code	Snap lock				
• RU	Snap lock - only with codes H2, H4, H4N, H5, H5N				
Code	Calibration in customer defined points, including certificate of calibration				
o KTE31A	Resistance temperature sensor calibration in three points in range -40 to +600 °C				
° KTE41A	Resistance temperature sensor calibration in four points in range -40 to +600 °C				
○ KTE51A	Resistance temperature sensor calibration in five points in range -40 to +600 °C				
o KTE32AA	Thermocouple temperature sensor calibration in three points in range -40 to +660 °C				
○ KTE42AA	Thermocouple temperature sensor calibration in four points in range -40 to +660 °C				
○ KTE52AA	Thermocouple temperature sensor calibration in five points in range -40 to +660 °C				
○ KTE32AB	Thermocouple temperature sensor calibration in three points in range -40 to +1100 °C				
○ KTE42AB	Thermocouple temperature sensor calibration in four points in range -40 to +1100 °C				
° KTE52AB	Thermocouple temperature sensor calibration in five points in range -40 to +1100 °C				
○ KTE32B	Thermocouple temperature sensor calibration in three points in range +400 to +1300 °C				
○ KTE42B	hermocouple temperature sensor calibration in four points in range +400 to +1300 °C				
○ KTE52B	Thermocouple temperature sensor calibration in five points in range +400 to +1300 °C				
KTE9	Other				
Code	Certificates				
• GR	Certificate for supply and operation in Customs Union				
Code	Accessories				
• BZS	Stainless steel tag for attachment (70x15 mm) with laser description according to the order				
 PPZ 	Laser description of sensor according to the order				
• Q1	Material certificate according to EN 10204, 3.1				
Code	Transmitters for headmounting				
 P5310 H10 	Transmitter with LHP protocol (see data sheet No. 0824)				
	Transmitter with LHP protocol, (Ex) II 3G Ex nA IIC T4 Gc (see data sheet No. 0824)				
 P5311 H10 	Transmitter with LHP protocol with galvanic isolation (see data sheet No. 0824)				
	Transmitter with LHP protocol with galvanic isolation, (Ex) II 3G Ex nA IIC T4 Gc (see data sheet No. 0824)				
o P5311EI1 H10	Transmitter with LHP protocol with galvanic isolation, (Ex) II 1G Ex ia IIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 0824)				
 P5315 H10 	Precision transmitter with LHP protocol with galvanic isolation (see data sheet No. 2098)				
P5315EN2 H10	Precision transmitter with LHP protocol with galvanic isolation, (Ex) II 3G Ex nA IIC T4 Gc (see data sheet No. 2098)				
P5315EI1 H10	Precision transmitter with LHP protocol with galvanic isolation, (Ex) II 1G Ex ia IIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 2098)				
• 5335A	Transmitter with HART protocol with galvanic isolation, (Ex) II 3G, (Ex) II 3D (see data sheet No. 0786)				
• 5335D	Transmitter with HART protocol with galvanic isolation, Ex) II 1G Ex ia IIC T6 or T4 Ga, (Ex) II 1D Ex ia IIIC Da,				
	(Ex) I M1 Ex ia I Ma, CSA and FM (see data sheet No. 0786)				
 P5320 H10 	Precision transmitter with HART protocol with galvanic isolation (see data sheet No. 0825)				
	Precision transmitter with HART protocol with galvanic isolation, (Ex) II 3G Ex nA IIC T4 Gc (see data sheet No. 0825)				
P5320EI1 H10					
	Example of order: T1070 04 F2 J43 L160 H3 S1 D3 N145 P3 KTE31A (-40, 200, 500 °C)				

• ... Ex stock version

• ... Ex stock version

• ... Marked version can be dispatched up to 5 working days (with calibration up to two weeks)

1) ... Not allowable to use two-wire connection because of nickel inner wiring.

2) ... Max. temperature of connection thread is 500 °C for diameter of stem 6 mm and 300 °C for diameter of stem less than 6 mm (silver solder joint).

3) ... The heads H1, H2, H3, H4, H4N, H5, H5N are usually equipped with nickel-plated brass cable outlet for cable with diameter 4 to 12.5 mm.

ModuTEMP® 70 - Sensors without fitting

_	Туре	Description			
	T1070	Resistance temperature sensor without fitting			
	T1570	Thermocouple temperature sensor without fitting			
	Code	Temperature sensor	Measuring range	Sheath material	Inside wiring material
		Resistance (RTD)			0
0	04 06 ¹⁾	1xPt100, two-wire inside wiring 1xPt100, four-wire inside wiring		1.4401 1.4401	Cu Ni
0	07 ¹⁾	2xPt100, three-wire inside wiring		1.4401	Ni
	08	2xPt100, two-wire inside wiring		1.4401	Cu
		Thermocouple (TC)			
0	21	1x"J" (Fe-CuNi), insulated	-200 to + 800 °C	1.4541	
0	61 22	2x"J" (Fe-CuNi), insulated, isolated junctions 1x"K" (NiCr-NiAl), insulated	-200 to + 800 °C -200 to +1100 °C	1.4541 Inconel 600 (2.4816)	
0	62	2x"K" (NiCr-NiAl), insulated, isolated junctions	-200 to +1100 °C	Inconel 600 (2.4816)	
	23	1x"N" (NiCr-NiAl), insulated	-200 to +1100 °C	Inconel 600 (2.4816)	- not for code D2
	63	2x"N" (NiCr-NiAl), insulated, isolated junctions 1x"K" (NiCr-NiAl), insulated	-200 to +1100 °C -200 to +1300 °C	Inconel 600 (2.4816)	- not for code D1 and D2 - only for code D1 and D3
	22HT 62HT	2x"K" (NiCr-NiAl), insulated 2x"K" (NiCr-NiAl), insulated, isolated junctions	-200 to +1300 °C	Nicrobell/Pyrosil Nicrobell/Pyrosil	- only for code D1 and D3 - only for code D3
	23HT	1x"N" (NiCrSi-NiSi), insulated	-200 to +1300 °C	Nicrobell/Pyrosil	- only for code D1 and D3
	63HT	2x"N" (NiCrSi-NiSi), insulated, isolated junctions	-200 to +1300 °C	Nicrobell/Pyrosil	- only for code D3
	U 99	Grounded version of junction TC Other			
	Code	Accuracy class		Measuring range	
		Resistance (RTD) according to EN 60751		3 3	
0	F1	В		-50 to +300 °C	
0	F2 F3C	B B, with certificate of calibration (has to be ordered with c	alibration - code KTE\	-70 to +500 °C -200 to +600 °C - or	nly for code 06 and 07
0	F4C	A, with certificate of calibration (has to be ordered with c			nly for code 06 and 07
	F9	Other	•		
	Т7	Thermocouple (TC) according to IEC 584-2			
0	T7 T6C	2 1, with certificate of calibration (has to be ordered with calibra	tion - code KTF)		
	T9	Other	aion oode iti'L)		
	Code	Fitting of the sensor			
0	B00	Without fitting			
	B01 B99	Without fitting, with SST thermometer holder for wallmou Other without fitting	inting ^{-/}		
	Code	Nominal length L [mm]			
	L115	115			
	L175 L245	175 245			
	L305	305			
	L335	335			
	L395	395			
	L500 L545	500 545			
	L710	710			
	L775	775			
	L800	800			
	L1400	1000 1400			
	L2000	2000			
	L	Other (please fill nominal length in mm)			
	Code	Head Al alloy, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm, IF	0.65		
0	H1 H2	Al alloy, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm, IF			
0	H3	Al alloy, with high cap for mounting of transmitter with Q		x1.5 for cable Ø 4 to 12.	5 mm, IP 65
0	H4N	Al alloy, with low cap, cable outlet M20x1.5 for cable Ø 4			
0	H4 H5N	Al alloy, with high cap for mounting of transmitter with @ Al alloy, with low cap, ground clamps, cable outlet M20x1			5 mm, IP 65
0	H5	All alloy, with high cap for mounting of transmitter with $\mathcal Q$			cable Ø 5 to 10 mm, IP 65
	H5PA	Polyamide, with high cap for mounting of transmitter with	n Ø 62 mm, Tmax 80 °C, c		· · · · · · · · · · · · · · · · · · ·
0	H6	Al alloy, ground clamps, thread for cable outlet M20x1.5, IP 68			
	H7 D	Stainless steel, ground clamps, thread for cable outlet M2 Double cable outlet - only for code	20x1.5, IP 68 es H4, H4N, H5, H5N		
	W		es H4 Z1, H4D Z1, H5 Z1E	and S2, S3; not for doubl	e sensors
	H9	Other			
0	Code S1	Cold-end of measuring insert With ceramic terminal block (diameter 42 mm) on flange of	of measuring insort (orbi-	for diameter 6 mm (cod	e D3 D5))
0	S2	For single sensor, without terminal block, with set for mo		•	•
0	S3	For single sensor, with mounted selected transmitter on	flange of measuring inser	t (necessary specification	ons of transmitter)
0	S4	For double sensor, without terminal block, with set for me			12, H5N, H6 and H7)
0		With ceramic terminal block (diameter 42 mm), embedded pins (according to NAMUR) Other			
_	S5	Other			
	S9 Code	Measuring insert diameter [mm]			
0	S9 Code D1	Measuring insert diameter [mm] Ø 3			
o o	S9 Code D1 D2	Measuring insert diameter [mm] Ø 3 Ø 4.5 (only for TC)			
0	S9 Code D1 D2 D3	Measuring insert diameter [mm] Ø 3 Ø 4.5 (only for TC) Ø 6			
o o	S9 Code D1 D2	Measuring insert diameter [mm] Ø 3 Ø 4.5 (only for TC)			
0 0	S9 Code D1 D2 D3 D5	Measuring insert diameter [mm] Ø 3 Ø 4.5 (only for TC) Ø 6 Ø 6 with distance sleeve Ø 8 Other OPTIONAL ACCESSORIES			
0 0	S9 Code D1 D2 D3 D5	Measuring insert diameter [mm] Ø 3 Ø 4.5 (only for TC) Ø 6 Ø 6 with distance sleeve Ø 8 Other OPTIONAL ACCESSORIES Versions for explosive atmosphere of gasses or dusts			
0 0	S9 Code D1 D2 D3 D5	Measuring insert diameter [mm] Ø 3 Ø 4.5 (only for TC) Ø 6 Ø 6 with distance sleeve Ø 8 Other OPTIONAL ACCESSORIES Versions for explosive atmosphere of gasses or dusts (Ex) II 1/2G Ex ia IIC T6Tx°C Ga/Gb	- only for version with he	eads codes H5, H5N, H6	, H 7
0 0 0	S9 Code D1 D2 D3 D5 D9 Code	Measuring insert diameter [mm] Ø 3 Ø 4.5 (only for TC) Ø 6 Ø 6 with distance sleeve Ø 8 Other OPTIONAL ACCESSORIES Versions for explosive atmosphere of gasses or dusts	- only for version with he	eads codes H5, H5N, H6	, н7
0 0 0	S9 Code D1 D2 D3 D5 D9 Code	Measuring insert diameter [mm] Ø 3 Ø 4.5 (only for TC) Ø 6 Ø 6 with distance sleeve Ø 8 Other OPTIONAL ACCESSORIES Versions for explosive atmosphere of gasses or dusts (Ex) II 1/2G Ex ia IIIC T6Tx°C Ga/Gb (Ex) II 1D Ex ia IIIC T5Tx°C Da	and S2, S3; operating temp	erature -20 to +80 °C)	

Onde	
Code	Cable outlet ³⁾
• KM1	Cable outlet, nickel-plated brass, IP 68, M20x1.5, for cable Ø 5 to 10 mm (standard for H6, H7)
KM4	Cable outlet, stainless steel, IP 68, M20x1.5, for cable ∅ 7 to 12 mm
• KME1	Cable outlet, nickel-plated brass, Ex d, M20x1.5, IP 68, for fixed assembly cable Ø 4 to 8.5 mm
• KME2	Cable outlet, nickel-plated brass, Ex d, M20x1.5, IP 68, for fixed assembly cable Ø 6 to 12 mm
KME3	Cable outlet, stainless steel, Ex d, M20x1.5, IP 68, for fixed assembly cable Ø 4 to 8 mm
KME5	Cable outlet, polyamide (light blue), Ex e, M20x1.5, IP 68, for fixed assembly cable Ø 5 to 9 mm, operating temperature -20 to +95 °C (not for H5PA)
KME6	Cable outlet, polyamide (light blue), Ex e, M20x1.5, IP 68, for fixed assembly cable ∅ 6.5 to 12 mm, operating temperature -20 to +95 °C (not for H5PA)
KM9	Other
• PK1	Lock anti pull-up cable for Ex d cable outlet KME1
• PK2	Lock anti pull-up cable for Ex d cable outlet KME2
Code	Holder, snap lock
• DH1	Holder for wallmounting (optional only for code B00 with head H1, H2, H3)
• RU	Snap lock - only with codes H2, H4, H4N, H5, H5N
Code	Calibration in customer defined points, including certificate of calibration
o KTE31A	Resistance temperature sensor calibration in three points in range -40 to +600 °C
O KTE41A	Resistance temperature sensor calibration in four points in range -40 to +600 °C
KILJIA	Resistance temperature sensor calibration in five points in range -40 to +600 °C
	Thermocouple temperature sensor calibration in three points in range -40 to +660 °C
° KTE42AA ° KTE52AA	Thermocouple temperature sensor calibration in four points in range -40 to +660 °C
KILOZAA	Thermocouple temperature sensor calibration in five points in range -40 to +660 °C
KTE32AB	Thermocouple temperature sensor calibration in three points in range -40 to +1100 °C
○ KTE42AB ○ KTE52AB	Thermocouple temperature sensor calibration in four points in range -40 to +1100 °C
KILOLAD	Thermocouple temperature sensor calibration in five points in range -40 to +1100 °C
 KTE32B KTE42B 	Thermocouple temperature sensor calibration in three points in range +400 to +1300 °C
 KTE42B KTE52B 	Thermocouple temperature sensor calibration in four points in range +400 to +1300 °C
KTE9	Thermocouple temperature sensor calibration in five points in range +400 to +1300 °C Other
Code	Official
• GR	Certificate for supply and operation in Customs Union
Code	Accessories
BZS	Stainless steel tag for attachment (70x15 mm) with laser description according to the order
• PPZ	Laser description of sensor according to the order
Code 4)	Fixing shift pipe unions
 UPS3M12 	Fixing shift pipe union for diameter 3 mm, connecting thread M12x1.5 (see data sheet No. 0126)
• UPS4,5M12	Fixing shift pipe union for diameter 4.5 mm, connecting thread M12x1.5 (see data sheet No. 0126)
• UPS6M20	Fixing shift pipe union for diameter 6 mm, connecting thread M20x1.5 (see data sheet No. 0126)
Code	Transmitters for headmounting
 P5310 H10 	Transmitter with LHP protocol (see data sheet No. 0824)
o P5310EN2 H10	
• P5311 H10	Transmitter with LHP protocol with galvanic isolation (see data sheet No. 0824)
o P5311EN2 H10	
° P5311EI1 H10	Transmitter with LHP protocol with galvanic isolation, (Ex) II 1G Ex ia IIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 0824)
• P5315 H10	Precision transmitter with LHP protocol with galvanic isolation (see data sheet No. 2098)
P5315EN2 H10	, ,
P5315EI1 H10	Precision transmitter with LHP protocol with galvanic isolation, (Ex) II 1G Ex ia IIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 2098)
• 5335A	Transmitter with HART protocol with galvanic isolation, (Ex) II 3G, (Ex) II 3D (see data sheet No. 0786)
• 5335D	Transmitter with HART protocol with galvanic isolation, Ex) II 1G Ex ia IIC T6 or T4 Ga, (Ex) II 1D Ex ia IIIC Da,
	(Ex) I M1 Ex ia I Ma, CSA and FM (see data sheet No. 0786)
 P5320 H10 	Precision transmitter with HART protocol with galvanic isolation (see data sheet No. 0825)
• P5320EN2 H10	Precision transmitter with HART protocol with galvanic isolation, (Ex) II 3G Ex nA IIC T4 Gc (see data sheet No. 0825)
P5320EI1 H10	Precision transmitter with HART protocol with galvanic isolation, (Ex) II 1G Ex ia IIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 0825)
	Example of order: T1070 04 F2 B00 L175 H3 S1 D3 KTE31A (-40, 200, 500 °C)

		Fixing shift pipe union for sheath tempera	ture sensor		
	Тур	Description			
•	P	Fixing shift pipe union for sheath tempera	ture sensor		
	Code	Version		T _{MAX}	P _{MAX}
•	S 5)	With stainless steel cutting ring, pipe unio	n of stainless steel material	600 °C / 0.1 MPa	4 MPa / 100 °C
•	T 6)	With PTFE sealing ring, pipe union of stai	nless steel material	200 °C / 0.1 MPa	0.6 MPa / 100 °C
	Code	Connection thread Z			
•	M01	M8x1	- only for sensors with diameter she	ath 3 mm	
•	M02	M12x1.5	- only for sensors with diameter she	ath 3 to 6 mm	
	M03	M16x1.5	- only for sensors with diameter sheath	3 to 6 mm	
•	M04	M20x1.5	- only for sensors with diameter she	ath 3 to 6 mm	
•	G01	G1/8"	- only for sensors with diameter she	ath 3 mm	
•	G02	G1/4"	- only for sensors with diameter she	ath 3 to 6 mm	
•	G03	G3/8"	- only for sensors with diameter she	ath 3 to 6 mm	
•	G04	G1/2"	 only for sensors with diameter she 	ath 3 to 6 mm	
	N01	1/8" NPT	- only for sensors with diameter sheath	3 mm	
	N02	1/4" NPT	- only for sensors with diameter sheath	3 to 6 mm	
	N03	3/8" NPT	- only for sensors with diameter sheath	3 to 6 mm	
	N04	1/2" NPT	 only for sensors with diameter sheath 	3 to 6 mm	
	Code	Outer diameter of stem sensor			
•	D30	3 mm		•	_
	D45	4.5 mm			
•	D60	6 mm			
		Example of order: PS M04 D30			

- ° ... Marked version can be dispatched up to 5 working days (with calibration up to two weeks)
- 1... Not allowable to use two-wire connection because of nickel inner wiring.
 2... Standard for heads H4, H5.., H6 and H7; it is possible to use for heads H1, H2 and H3, but the version B00 with holder DH1 is cheaper.
 3... The heads H1, H2, H3, H4, H4N, H5, H5N are usually equipped with nickel-plated brass cable outlet for cable with diameter 4 to 12.5 mm.
- It is suitable only for non-flowing gas medium, free of mechanical stress including impacts and vibrations, where adjustable nominal length is required and it is impossible to use fixing pipe unions PT because of high temperature.
- 5) ... Adjustable nominal length only for first time of mounting.
 6) ... Always adjustable nominal length.

ModuTEMP® 70 - Straight sensors

	Type	Description			
0	T1070	Straight resistance temperature sensor			
0	T1570	Straight thermocouple temperature sensor			
	Code	Temperature sensor	Measuring range	Sheath material	Inside wiring material
		Resistance (RTD)			
0	04	1xPt100, two-wire inside wiring		1.4401	Cu
0	06 ¹⁾	1xPt100, four-wire inside wiring 2xPt100, three-wire inside wiring		1.4401 1.4401	Ni Ni
•	08	2xPt100, timee-wire inside wiring 2xPt100, two-wire inside wiring		1.4401	Cu
	- 00	Thermocouple (TC)		1.4401	
0	21	1x"J" (Fe-CuNi), insulated	-200 to + 800 °C	1.4541	
0	61	2x"J" (Fe-CuNi), insulated, isolated junctions	-200 to + 800 °C	1.4541	
0	22	1x"K" (NiCr-NiAl), insulated	-200 to +1100 °C	Inconel 600 (2.4816)	
0	62 23	2x"K" (NiCr-NiAl), insulated, isolated junctions 1x"N" (NiCr-NiAl), insulated	-200 to +1100 °C -200 to +1100 °C	Inconel 600 (2.4816)	
	63	2x"N" (NiCr-NiAl), insulated junctions	-200 to +1100 °C	Inconel 600 (2.4816)	
	22HT	1x"K" (NiCr-NiAl), insulated	-200 to +1300 °C	Nicrobell/Pyrosil	
	62HT	2x"K" (NiCr-NiAl), insulated, isolated junctions	-200 to +1300 °C	Nicrobell/Pyrosil	
	23HT	1x"N" (NiCrSi-NiSi), insulated	-200 to +1300 °C	Nicrobell/Pyrosil	
	63HT U	2x"N" (NiCrSi-NiSi), insulated, isolated junctions Grounded version of junction TC	-200 to +1300 °C	Nicrobell/Pyrosil	
	99	Other			
	Code	Accuracy class		Measuring range	
		Resistance (RTD) according to EN 60751			
0	F1	В		-50 to +300 °C	
0	F2	B	anlihunting	-70 to +500 °C	anh, fan anda 00 and 07
0	F3C F4C	B, with certificate of calibration (has to be ordered with A, with certificate of calibration (has to be ordered with			only for code 06 and 07 only for code 06 and 07
Ť	F9	Other	oundration - code KIE)	-50 to T400 C = (only for code to and or
		Thermocouple (TC) according to IEC 584-2			
0	T7	2			
	T6C	1, with certificate of calibration (has to be ordered with calib	ration - code KTE)		
	T9 Code	Other	ha Fitting material	T	
0	Code B53	Fitting of the sensor: straight sensor with protective tul Ø 11 x 2 mm	be Fitting material 1.4541	T _{MAX} up to 800 °C	
0	B63	Ø 14 x 2.5 mm	1.4541	up to 800 °C	
0	B64	Ø 14 x 2.5 mm	1.4845	up to 1100 °C	
0	B66	Ø 15 x 1.3 mm	Kanthal AF		only for codeHT, H4, H5
0	B73	Ø 20 x 3 mm	1.4541	up to 800 °C	
0	B74 B83	Ø 20 x 3 mm Ø 22 x 2 mm	1.4845 1.4541	up to 1100 °C up to 800 °C	
0	B84	Ø 22 x 2 mm	1.4845	up to 1100 °C	
0	B85	Ø 22 x 2 mm	1.4762	up to 1100 °C	
0	B86	Ø 22 x 1.3 mm	Kanthal AF	up to 1300 °C -	only for codeHT
	C	Inner ceramic protective tube \varnothing 15 mm of C610 (only for tu			not for S8)
0	B84Z B842	Ø 22 x 3.5	1.4845 1.4845	up to 1100 °C	
	B843	Ø 22 x 7.5 mm in length 200 mm, then 22 x 2 mm Ø 22 x 7.5 mm in length 300 mm, then 22 x 2 mm	1.4845	up to 1100 °C up to 1100 °C	
	B852	Ø 22 x 7.5 mm in length 200 mm, then 22 x 2 mm	1.4762	up to 1100 °C	
	B853	Ø 22 x 7.5 mm in length 300 mm, then 22 x 2 mm	1.4762	up to 1100 °C	
	B99	Other straight			
	Code	Nominal length L [mm]			
0	L180 L250	180 250			
0	L310	310			
0	L400	400			
0	L500	500			
0	L600	600			
0	L710 L800	710 800			
0	L1000	1000			
	L1200	1200			
ĺ	L1400	1400			
	L1600	1600			
<u> </u>	L2000	2000 Other (places fill persinal length in mm)			
	L Code	Other (please fill nominal length in mm)			
0	H1	Al alloy, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm,	IP 65		
0	H2	Al alloy, cable outlet M20x1.5 for cable Ø 4 to 12.5 mm,			
0	Н3	Al alloy, with high cap for mounting of transmitter with		20x1.5 for cable Ø 4 to 1	12.5 mm, IP 65
0	H4N	Al alloy, with low cap, cable outlet M20x1.5 for cable Ø		00-4 F4	40 F ID 05
0	H4 H5N	Al alloy, with high cap for mounting of transmitter with Al alloy, with low cap, ground clamps, cable outlet M20			1∠.5 mm, IP 65
0	H5	Al alloy, with high cap for mounting of transmitter with			for cable Ø 5 to 10 mm. IP 65
0	H5PA	Polyamide, with high cap for mounting of transmitter w			
0	H6	Al alloy, ground clamps, thread for cable outlet M20x1.5			,
0	H7	Stainless steel, ground clamps, thread for cable outlet I			
0	HAN	type A, Al alloy, with low cap, cable outlet M20x1.5, IP 5			- only for B8x
0	D	type A, Al alloy, with high cap for mounting of transmitt Double cable outlet - only for co	ter with Ø 62 mm, cable on des H4, H4N, H5, H5N, HA		- only for B8x
	W		odes H4, H4N, H5, H5N, HA odes H4 Z1, H4D Z1, H5 Z1		uble sensors
		- Offiy for Co	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	_ a.ia oz, oo, not ioi dot	unio 00110010
	H9	Other			

		Cold-end of measuring insert			
		With ceramic terminal block (diameter 42 mm) on flange of measuring insert			
		For single sensor, without terminal block, with set for mounting of transmitter on flange of measuring insert (instead of terminal block)			
		For single sensor, with mounted selected transmitter on flange of measuring insert (necessary specifications of transmitter) For double concer, without terminal block, with cot for possible of the transmitter)			
		For double sensor, without terminal block, with set for mounting of two transmitters (not suitable for H1, H2, H5N, H6 and H7)			
	S8	With ceramic terminal block (diameter 42 mm), embedded pins (according to NAMUR) With ceramic terminal block (diameter 55 mm), with hole for insertion of control sensor - only for HA, HAN			
		with detailing block (diameter 55 min), with hole for insention of control sensor - only for FA, HAM			
3		OPTIONAL ACCESSORIES			
Co		Versions for explosive atmosphere of gasses or dusts			
		Flameproof enclosure "Ex d" only for gasses and protection by enclosure "Ex t" only for dusts, intrinsically safe version "Ex i" for gasses and dusts			
o ED		(Ex) II 1/2G Ex d IIC T6Tx°C Ga/Gb - only for version with heads codes H6, H7			
~ LD/		(Ex) II 1/2D Ex ta/tb IIIC T90°CTx°C Da/Db			
o E		(Ex) 1/2G Ex ia C T6Tx°C Ga/Gb - only for version with heads codes H5, H5N, H6, H7			
		(Ex) II 1D Ex ia IIIC T85°CTx°C Da			
		Protective spray T _{MAX} (with spray)			
		Polyamide PA 11 100 °C (depends on measured medium) E-CTFE "Halar" 170 °C (depends on measured medium)			
		PFA 260 °C (depends on measured medium)			
		ETFE "Hyflon" 130 °C (depends on measured medium)			
		PTFE 260 °C (depends on measured medium)			
		Hard metal coating (Fe-Cr-Mn-Si-B-C) for abrasive medium 925 °C			
X		Corundum spray for intense abrasive medium according to specific composition of coating			
X	99	Other			
		Indication units			
		LED display mounted in sensor head (only for code H4(D)W and S2, S3; operating temperature -20 to +80 °C)			
		Intrinsically safe LED display in sensor head (Ex) II 2G Ex ia IIC T6 (only for codes H5W and S2, S3; operating temperature -20 to +80 °C)			
		Cable outlet 2)			
		Cable outlet, nickel-plated brass, IP 68, M20x1.5, for cable Ø 5 to 10 mm (standard for H6, H7)			
		Cable outlet, stainless steel, IP 68, M20x1.5, for cable Ø 7 to 12 mm Cable outlet, nickel-plated brass, Ex d, M20x1.5, IP 68, for fixed assembly cable Ø 4 to 8.5 mm			
		Cable outlet, nickel-plated brass, Ex d, M20x1.5, IP 68, for fixed assembly cable Ø 4 to 8.5 mm Cable outlet, nickel-plated brass, Ex d, M20x1.5, IP 68, for fixed assembly cable Ø 6 to 12 mm			
		Cable outlet, nicker-plated brass, Ex.d, M20x1.5, IP 68, for fixed assembly cable Ø 4 to 8 mm			
		Cable outlet, staillness steet, Lx t, M2Xx1.x, in Co. In linear assertionly cable 2 4 to 0 IIIII. Cable outlet, polyamide (light blue), Ex e, M2Xx1.5, IP 68, for fixed assertionly cable 2 5 to 9 mm, operating temperature -20 to +95 °C (not for H5PA)			
		Cable outlet, polyamide (light blue), Ex e, MEXX1.5, IP 68, for fixed assembly cable Ø 6.5 to 12 mm, operating temperature 20 to +95 °C (not for HSPA)			
		Other			
		Lock anti pull-up cable for Ex d cable outlet KME1			
	K2	Lock anti pull-up cable for Ex d cable outlet KME2			
		Snap lock			
		Snap lock - only for codes H2, H4, H4N, H5, H5N, HA, HAN			
		Calibration in customer defined points, including certificate of calibration			
		Resistance temperature sensor calibration in three points in range -40 to +600 °C			
		Resistance temperature sensor calibration in four points in range -40 to +600 °C			
		Resistance temperature sensor calibration in five points in range -40 to +600 °C Thermocouple temperature sensor calibration in three points in range -40 to +1100 °C			
		Thermocouple temperature sensor calibration in four points in range -40 to +1100 °C Thermocouple temperature sensor calibration in four points in range -40 to +1100 °C			
		Thermocouple temperature sensor calibration in five points in range -40 to +1100 °C			
		Thermocouple temperature sensor calibration in five points in range -40 to +1100 °C Thermocouple temperature sensor calibration in three points in range +400 to +1300 °C			
• KTE		Thermocouple temperature sensor calibration in four points in range +400 to +1300 °C Thermocouple temperature sensor calibration in four points in range +400 to +1300 °C			
		Thermocouple temperature sensor calibration in five points in range +400 to +1300 °C			
		Other			
		Certificates			
		Certificate for supply and operation in Customs Union			
		Accessories Stainless stant tag for attachment (70v15 mm) with laser description according to the order			
		Stainless steel tag for attachment (70x15 mm) with laser description according to the order Laser description of sensor according to the order			
		Laser description of sensor according to the order Material certificate according to EN 10204, 3.1			
	۵\	Fixing shift pipe unions and flanges			
		Fixing shift pipe union for diameter 11 mm, connecting thread M20x1,5 (see data sheet No. 0126)			
		Fixing shift pipe union for diameter 14 mm, connecting thread M27x2 (see data sheet No. 0126)			
		Fixing shift pipe union for diameter 15 mm, connecting thread M27x2 (see data sheet No. 0126)			
		Fixing shift pipe union for diameter 20 mm, connecting thread M30x2 (see data sheet No. 0126)			
		Fixing shift pipe union for diameter 22 mm, connecting thread M33x2 (see data sheet No. 0126)			
		Fixing shift flange for diameter 14 mm (see data sheet No. 0126)			
		Fixing shift flange for diameter 15 mm (see data sheet No. 0126)			
		civing shift flange for diameter 22 mm (see data sheet No. 0126)			
		Other			
		Transmitters for headmounting			
		Transmitter with LHP protocol (see data sheet No. 0824) Transmitter with LHP protocol, (Ex) II 3G Ex nA IIC T4 Gc (see data sheet No. 0824)			
		Transmitter with LHP protocol with galvanic isolation (see data sheet No. 0824)			
		Transmitter with LHP protocol with galvanic isolation, (Ex) II 3G Ex nA IIC T4 Gc (see data sheet No. 0824)			
		Transmitter with LHP protocol with galvanic isolation, (Ex) II 1G Ex ia IIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 0824)			
		Precision transmitter with LHP protocol with galvanic isolation (see data sheet No. 2098)			
		Precision transmitter with LHP protocol with galvanic isolation, (Ex) IÌ 3G Ex nA IIC T4 Gc (see data sheet No. 2098)			
	5EI1 H10	Precision transmitter with LHP protocol with galvanic isolation, (Ex) II 1G Ex ia IIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 2098)			
		Transmitter with HART protocol with galvanic isolation, (Ex) II 3G, (Ex) II 3D (see data sheet No. 0786)			
I = E2		Transmitter with HART protocol with galvanic isolation, Ex) II 1G Ex ia IIC T6 or T4 Ga, (Ex) II 1D Ex ia IIIC Da,			
• 53		(Ex) I M1 Ex ia I Ma, CSA and FM (see data sheet No. 0786)			
• P532	20 H10	Precision transmitter with HART protocol with galvanic isolation (see data sheet No. 0825)			
• P532	320 H10 EN2 H10	Precision transmitter with HART protocol with galvanic isolation (see data sheet No. 0825) Precision transmitter with HART protocol with galvanic isolation, (Ex) II 3G Ex nA IIC T4 Gc (see data sheet No. 0825) Precision transmitter with HART protocol with galvanic isolation, (Ex) II 1G Ex ia IIC T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 0825)			

- Example of order: T1070 04 F2 B53 L310 H3 S1 KTE31A (-40, 200, 500 °C)

 ... Ex stock version

 °... Marked version can be dispatched up to 5 working days (with calibration up to two weeks)

 1)... Not allowable to use two-wire connection because of nickel inner wiring.
- 2) ... The heads H1, H2, H3, H4, H4N, H5, H5N are usually equipped with nickel-plated brass cable outlet for cable with diameter 4 to 12.5 mm.
- 3) ... It is suitable only for non-flowing gas medium, free of mechanical stress including impacts and vibrations, where adjustable nominal length is required and it is impossible to use fixing pipe unions PT because of high temperature.

ModuTEMP® 70 - Spatial sensors for explosive atmosphere of gasses or dusts

	T1070	Description	avalaciva atmosahasa	
0	T1070	Spatial resistance temperature sensor for		Incide minimum eterial
	Code	Temperature sensor	Sheath material	Inside wiring material
0	04	Resistance (RTD)	1.4401	Cu
0	04 06 ¹⁾	1xPt100, two-wire inside wiring		
0	06 ·/ 07 ¹)	1xPt100, four-wire inside wiring 2xPt100, three-wire inside wiring	1.4401	Ni Ni
•	-	,	1.4401	Cu
	99	2xPt100, two-wire inside wiring Other	1.4401	Cu
				Moscuring rongs
	Code	Accuracy class		Measuring range
_	F2	Resistance (RTD) according to EN 60751		F0.40 : 100 °C (05 °C for each FD)
0	F4C		and and with a libration and	-50 to +100 °C (85 °C for code ED) le KTE) -50 to +100 °C (85 °C for code ED)
0	F4C	A, with certificate of calibration (has to be	ordered with cambration - cod	-50 t0 +100 C (65 C 101 Code ED)
	F9	- only for code 06 and 07 Other		
	Code	Fitting of the sensor		
0	P1E	Spatial for explosive atmosphere		
-	Code	Nominal lenght L [mm]		
0		75		
		Head		
0	H5N	Al alloy, with low cap, ground clamps, cab	ale outlet M20v1 5 for cable Ø	5 to 10 m IP 65
0	H5			d clamps, cable outlet M20x1.5 for cable Ø 5 to 10 mm, IP 65
0	H6	Al alloy, ground clamps, thread for cable of		a siamps, saute outlet m20x1.5 for saute \$2.3 to 10 fillin, IF 03
0	H7	Stainless steel, ground clamps, thread for		
	D	Double cable outlet	- only for codes H5, H5i	V
	W	Sensor head with peephole for display		and S2, S3; not for double sensors
	H9	Other	5, 131 00000 110 Z1E	==, ==,
	Code	Cold-end of measuring insert		
0	S1	With ceramic terminal block (diameter 42 i	mm) on flange of measuring in	nsert
0	S2	,		smitter on flange of measuring insert (instead of terminal block)
0	S3			uring insert (necessary specifications of transmitter)
0	S4	,	•	transmitters (not suitable for H5N, H6 and H7)
0	S5	With ceramic terminal block (diameter 42 i		
	S9	Other		,
	Code	Measuring insert diameter [mm]		
	D1	Ø3		
0	D3	Ø 6 (standard)		
	Code	Versions for explosive atmosphere of gas	ses or dusts	
		Flameproof enclosure "Ex d" only for gasses	and protection by enclosure "Ex	t" only for dusts, intrinsically safe version "Ex i" for gasses and dusts
_	ED/ET	(Ex) II 2G Ex d IIC T5/T6 Gb		
0	ED/ET	(Ex) II 2D Ex tb IIIC T90°C Db	- only for version	n with heads codes H6, H7
		(Ex) II 2G Ex ia IIC T6Tx°C Gb		
0	EI	(Ex) II 1D Ex ia IIIC T85°CTx°C Da		
		OPTIONAL ACCESSORIES		
	Code	Indication units		
	Z1E		(Ex) II 2G Ex ia IIC T6 (only for	codes H5W and S2, S3; operating temperature -20 to +80 °C)
	Code	Cable outlet 2)	(EX) II ZG EX IG IIO TO (OIII) IOI	oddo 11011 and 62, 66, operating temperature 25 to 150 G
	KME1	Cable outlet, nickel-plated brass, Ex d, M2	0x1.5. IP 68, for fixed assemble	ly cable Ø 4 to 8.5 mm
	KME2	Cable outlet, nickel-plated brass, Ex d, M2		
	KME3	Cable outlet, stainless steel, Ex d, M20x1.5, I		
	KME5			cable Ø 5 to 9 mm, operating temperature -20 to +95 °C (not for ED)
	KME6			cable \varnothing 6.5 to 12 mm, operating temperature -20 to +95 °C (not for ED)
	KM9	Other	,	, .p 3 p (/
•	PK1	Lock anti pull-up cable for Ex d cable outle	et KME1	
•	PK2	Lock anti pull-up cable for Ex d cable outle		
	Code	Snap lock		
•	RU	Snap lock	- only with codes H5, I	H5N
	Code	Calibration in customer defined points, inc		
	TE31A	Resistance temperature sensor calibration	3	
0 K	TE41A	Resistance temperature sensor calibration		
0 K	TE51A	Resistance temperature sensor calibration	n in five points in range -20 to	+100 °C
	KTE9	Other		
	Code	Certificates		
•	GR	Certificate for supply and operation in Cus	stoms Union	
	Code	Accessories		
•	BZS	Stainless steel tag for attachment (70x15 r	mm) with laser description acc	cording to the order
•	PPZ	Laser description of sensor according to t	the order	
	Code	Transmitters for headmounting		
	5310 H10	Transmitter with LHP protocol (see data si		
		Transmitter with LHP protocol, (Ex) II 3G E		
	5311 H10	Transmitter with LHP protocol with galvan		
° P53		Transmitter with LHP protocol with galvan		
	311EI1 H10			C T4-T6 Ga, (Ex) II 1D Ex ia IIIC T106°C Da (see data sheet No. 0824)
° P5				
	5335A	Transmitter with HART protocol with galva	anic isolation, (Ex) II 3G, (Ex) I	I 3D (see data sheet No. 0786)
•	5335A 5335D	Transmitter with HART protocol with galva Transmitter with HART protocol with galva		· ·

Example of order: T1070 04 F2 P1E L75 H5 S1 D3 KTE31A (-40, 50, 100 °C) $^{\circ}$... Marked version can be dispatched up to 5 working days (with calibration up to two weeks)