

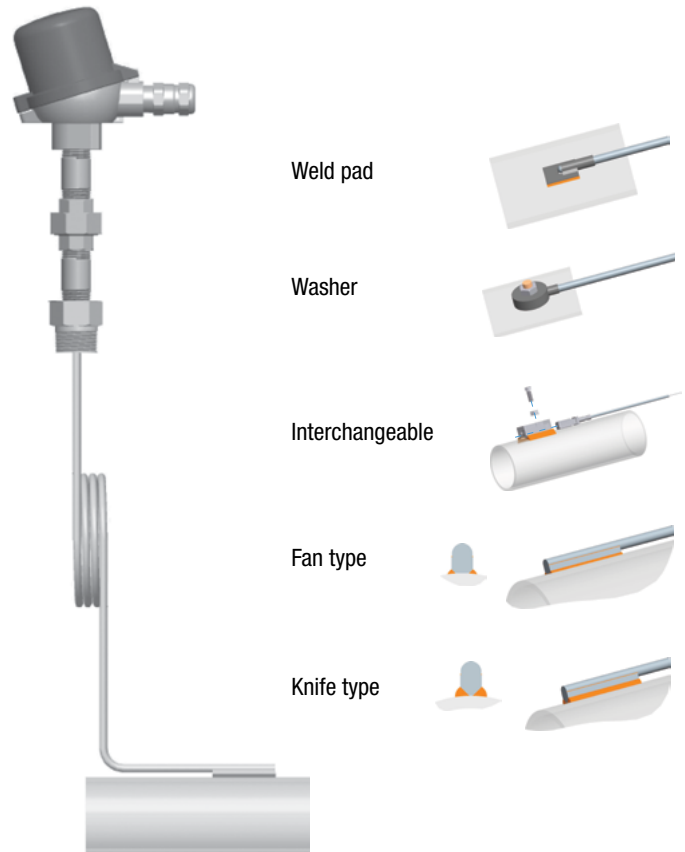
## S70 Electrical Thermometer for RTD and Thermocouples

### TYPICAL USES

- Manufactured to IEC 60584-2 or ANSI MC 96.1
- Sensor Types: J and K
- Metric Stem Diameters: 6 mm, 8 mm and 3/8"
- Head Types: DIN B, BUZ, BUZH, Ex d, and SCCI
- Aluminum alloy 316 SS connection heads
- Threaded process connection or ANSI flanged process connection
- Available stainless steel tags with customer specified information

### DESCRIPTION

- Power Generation
- Reactors
- Storage Tanks
- Cooling Towers
- Industrial equipment Manufacture
- Industrial Ovens
- HVAC/R
- Food and Beverage
- Pharmaceutical and Biotech



### SPECIFICATIONS

Model:	S70
Stem Diameter:	6 mm, 8 mm, 1/4" or 3/8"
Stem Length:	min. 200 mm max. 45000 mm
Stem Material:	Stainless steel 316L (1.4401) Inconel 600 (2.4816)
Insulation Material:	Compacted pure MgO (Magnesium oxide)
Lag Extension:	Nipple 40 or 100 mm Nipple-Union-Nipple 120 mm
Cable Entry:	Cable gland in Nickel-plated brass, plastic or stainless steel
Electrical Connection:	Cable gland in Nickel-plated brass, plastic or stainless steel
Sensore Types and max. Range: (single and dual)	Thermocouples: Type J -40 up to 750 °C Type K -200 up to 1000 °C
Wiring Configuration:	Thermocouple (single or dual) as 2 wire
Electrical Connection:	Ceramic terminal block
Ambient Temperature:	-40 to 85 °C
Process Connection:	Threaded: 1/2", 3/4" or 1-1/2" Flanged: 1", 1-1/2" or 2" with 150, 300 or 600 lbs



### KEY BENEFITS

- Weldable sensor head
- Available with and without transmitters
- Integrated expansion loop allows for expansion and contraction within temperature changes

### ACCURACY CLASSES

Accuracy Classes:	Standard	Special	
(TC - ANSI MC 96.1)			
Type J	±2,2 °C or ±0,0075 * Itl	±1,1 °C or ±0,0040 * Itl	
Type E	±1,7 °C or ±0,0050 * Itl	±1,0 °C or ±0,0075 * Itl	
Type K	±2,2 °C or ±0,0075 * Itl	±1,1 °C or ±0,0040 * Itl	
Type N	±2,2 °C or ±0,0040 * Itl	±1,1 °C or ±0,0040 * Itl	
Accuracy Classes:	Class 1	Class 2	Class 3
(TC - IEC 60584-2)			
Type J	±1,5 °C or ±0,0040 * Itl	±2,5 °C or ±0,0075 * Itl	N/A
Type E	±1,5 °C or ±0,0040 * Itl	±2,5 °C or ±0,0075 * Itl	±2,5 °C or ±0,0150 * Itl
Type K	±1,5 °C or ±0,0040 * Itl	±2,5 °C or ±0,0075 * Itl	±2,5 °C or ±0,0040 * Itl
Type N	±1,5 °C or ±0,0040 * Itl	±2,5 °C or ±0,0040 * Itl	±2,5 °C or ±0,0150 * Itl

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### APPROVALS

Available Approvals: FM, ATEX, IECEx, SIL2, INMETRO, EAC, CCC, AMI, ExNEPSI



FM Intrinsically safe:  
 Class I, Division 1,  
 Groups A, B, C, D

T4 for  $-55\text{ °C} \leq T_a \leq +80\text{ °C}$   
 T5 for  $-55\text{ °C} \leq T_a \leq +55\text{ °C}$   
 T6 for  $-55\text{ °C} \leq T_a \leq +40\text{ °C}$

FM Nonincendive:  
 Class I, Division 2,  
 Groups A, B, C, D

T4 for  $-55\text{ °C} \leq T_a \leq +80\text{ °C}$   
 T5 for  $-55\text{ °C} \leq T_a \leq +55\text{ °C}$   
 T6 for  $-55\text{ °C} \leq T_a \leq +40\text{ °C}$

ATEX or IECEx:

  II 1 G Ex ia IIC T6 Ga  $-50\text{ °C}$  to  $+60\text{ °C}$   
 II 2 G Ex ib IIC T6 Gb  $-50\text{ °C}$  to  $+60\text{ °C}$   
 II 2 G Ex e IIC T6 Gb  $-55\text{ °C}$  to  $+60\text{ °C}$

### SENSING ELEMENT TYPES



TC - ungrounded

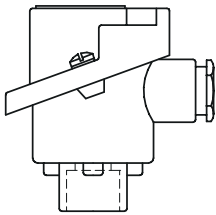


TC - grounded

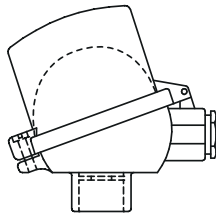
### MINIMUM IMMERSION LENGTH

Type & Inserts Ø	in liquid	in gas/vapour
TC Ø 3 mm	15 mm	25 mm
TC Ø 6 mm	30 mm	50 mm

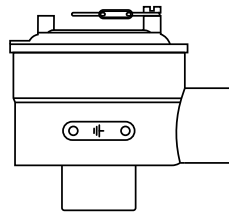
### HEAD TYPES



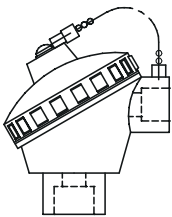
DIN B - IP66  
 Aluminum alloy



BUZ / BUZH - IP66...68  
 Aluminum alloy



Ex(d) - IP66  
 Aluminum alloy /  
 Stainless steel 316



SCCA / SCCI - IP67  
 Aluminum alloy /  
 Stainless steel 316



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**IP RATING MATRIX**

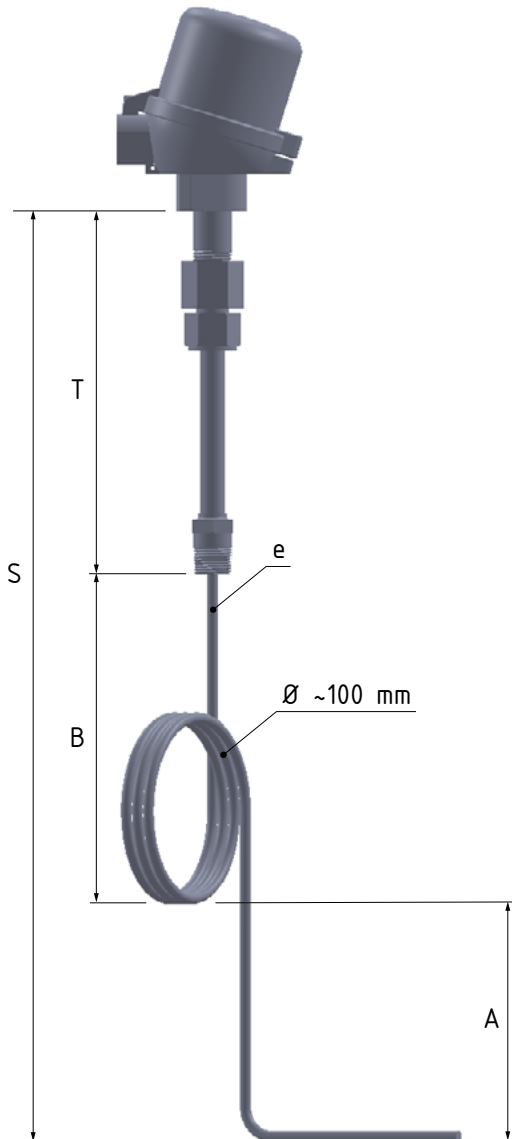
HEAD TYPE	MATERIAL	CABLE ENTRY	CABLE GLAND	IP RATING			
DIN B	Aluminum epoxy coated	M20x1,5	without	IP 00			
			Polyamide PA	IP66			
			Nickel-plated brass	IP66			
			Stainless steel	IP66			
		PG16	without	1/2 NPT	Polyamide PA		
					Nickel-plated brass		
					without		
					Polyamide PA		
			without	1/2 NPT	Nickel-plated brass		
					Stainless steel		
					without		
					Polyamide PA		
BUZ/BUZH	Aluminum epoxy coated	M20x1,5	without	IP 00			
			Polyamide PA	IP66			
			Nickel-plated brass	IP66			
			Stainless steel	IP66			
		PG16	without	1/2 NPT	Polyamide PA		
					Nickel-plated brass		
					without		
					Polyamide PA		
			without	1/2 NPT	Nickel-plated brass		
					Stainless steel		
					without		
					Polyamide PA		
Ex(d)	Aluminum epoxy coated Stainless steel	M20x1,5	without	IP 00			
			Nickel-plated brass	IP66			
			Stainless steel	IP66			
			without				
		1/2 NPT	without	3/4 NPT	Nickel-plated brass		
					Stainless steel		
					without		
					Nickel-plated brass		
		without	1/2 NPT	M20x1,5	Stainless steel		
					without		
					Polyamide PA		
					Nickel-plated brass		
without	1/2 NPT			3/4 NPT	Stainless steel		
					without		
					Polyamide PA		
					Nickel-plated brass		
SCCA SCC <sup>1)</sup>	Aluminum epoxy coated Stainless steel	M20x1,5	without	IP 00			
			Polyamide PA	IP66			
			Nickel-plated brass	IP66			
			Stainless steel	IP66			
		1/2 NPT	without	3/4 NPT	Polyamide PA		
					Nickel-plated brass		
					Stainless steel		
					without		
			without	3/4 NPT	Stainless steel	Nickel-plated brass	
						Stainless steel	
						without	
						Nickel-plated brass	

<sup>1)</sup>Stainless steel head type not compatible with Nickel-plated brass cable gland


## S70 Electrical Thermometer for RTD and Thermocouples

### DIMENSIONS IN MM [INCH]

For reference only, consult Ashcroft for specific dimensional drawings



e = Stem Diameter  
S = Total length  
T = Lag Extension Length  
LN = Nominal Length  
B = Length to Expansion Loop  
A = Length to Weld Pad

