

SESA sensors



Via del Tratturello Tarantino, 6
c/o CISI PUGLIA
74100 - TARANTO

INDUSTRY PRODUCTS



PRIMARY ELEMENTS FOR TEMPERATURE MEASUREMENTS

THERMOCOUPLES THERMORESISTANCES PROTECTION SHIELDS



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Activities

The Company S.E.S.A. S.r.l. started its activity in 1980 with the purpose to design and produce products for physical measurements. Till today, the Company produces the following product-services:
Design and construction of temperature Sensors and relative accessories for industrial applications.

Our Company core business, is mainly focused on thermometric sensors for steel industry, and production of accessories for temperatures of molten metals
(MgO cables, compensated jacks/plugs for expendable thermocouples, internal cables for Lances, connectors and sensor tips for SubLances, level and temperature sensors for molten metals).

Our company is based on flexibility, professionalism and new technologies allowing us to put on the market products with high levels of precision and reliability, always at reasonable prices.

The ability of our products range, allows us to deal with industry and Research & Development, with innovative proposals of technical solutions, of single elements, as well as of a combination of them with control systems.

Moreover, the Company S.E.S.A. is equipped of a metrologic laboratory, with instrumentation periodically checked, for the calibration of sensors with issue of SIT (italian calibration service) test certificates

Production

Our product range is composed by:

- Skin contact sensor for temperature detection: MgO TCs and RTDs with various welding technologies
-



Contactless applications for temperature detection (optical fiber pirometers, infrared)



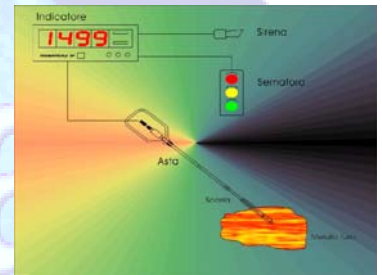
- thermometric protection shields



- Submersion thermocouples Connectors. Temperature measurements and %Oxygen (CELOX) for steel works and blast furnaces



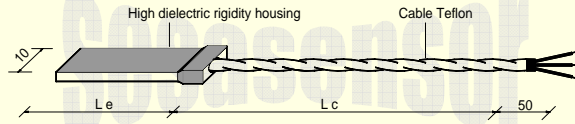
- MgO extension cables for manual Lances, measuring the molten metals





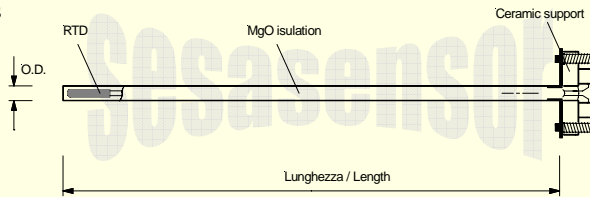
Thermoresistances

SE100



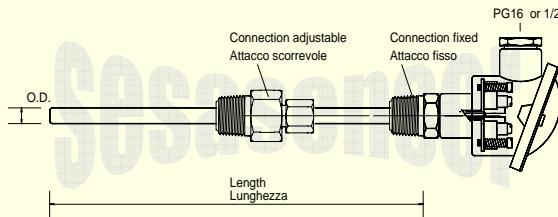
Thermometric sensor for temperature detection inside stator poles and polaric expansions on rotating machines, equipped with high dielectric strength (2mm thickness). PTFE Insulated cable on request.
Copper silver plated conductors.
Measure range: -50°C $+210^{\circ}\text{C}$

RTD insert for thermowells, suitable for process temperature measurement.
MgO compact insulation.
Measurement range: -50°C e $+400^{\circ}\text{C}$.



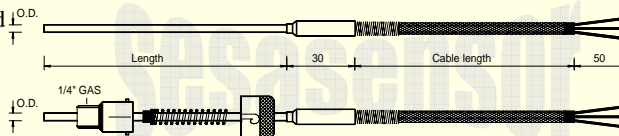
SE101

SE102



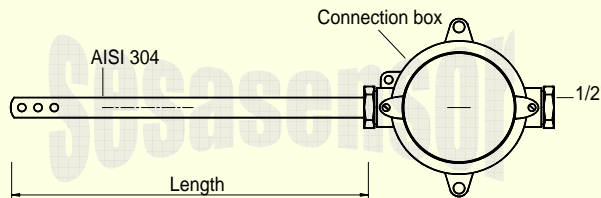
DIN B or DIN AG RTD printed head, for generic temperature detection in air and/or submersion.
Useful also with thermometric protection shields.
Measurement range: -50°C e $+600^{\circ}\text{C}$

Straight cylindrical RTD probe for generic temperature detection in air, gas and metal plates.
Cable with PTFE insulation or GS.
Available with slide and bayonet.
Measurement range -50°C and $+600^{\circ}\text{C}$.



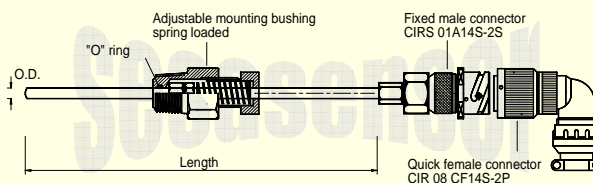
SE104

SE106



High-speed response probe for room temperature detection.
Wall mount, in-cabinet terminal board connection, waterproof and/or explosion-proof execution.
Element protected by steel sheath d. 8 mm.
Measurement range -50°C to $+120^{\circ}\text{C}$

RTD for bearings temperature measurements.
Fixed connector male and female moveable, with 4 or 6 gold contacts, such as CIR / MIL;
Compression fitting connector,
O-ring seal.
Measurement range -50°C to $+600^{\circ}\text{C}$.

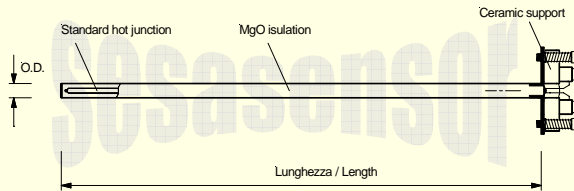


SE108



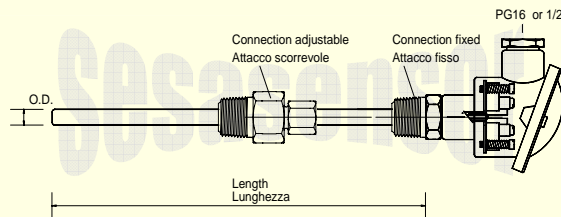
Thermocouples

SA200



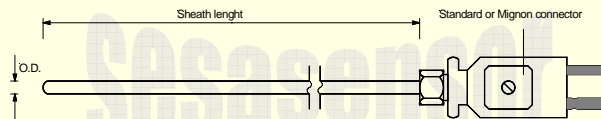
Thermocouple insert with MgO insulation for thermowell inclusion.
sprung disk with ceramic base 2 and 4 terminals

Cylindrical Thermocouple probe for temperature detection in generic air or liquids submersion.
Fixing with fixed or sliding connector.
Waterproof DIN B head electric connection
Measurement range up to +1300°C.



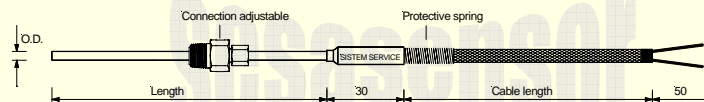
SA201

SA202



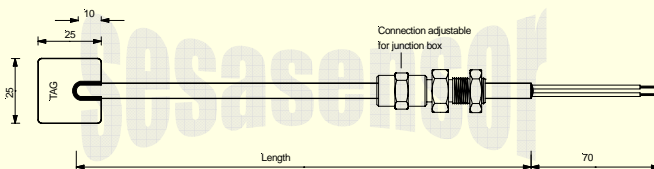
Straight probe with Quick-tip type connector, standard or miniature male.
Thermocouple alloy contacts identified by the color of the body, according to ANSI - IEC for general temperature detection in the air or gas
Fixing by threaded compression fitting

Straight Cylindrical probe with AISI or INCONEL sheath, for generic air / gas temperature detection.
Compensated extension cable PTFE electroglass insulation, MFA, EFF, GS, PVC etc..
Fixing by threaded sliding connector.



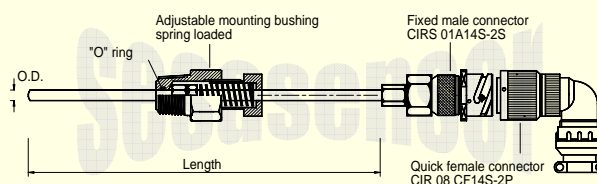
SA204

SA207



Thermocouple for high-speed response temperature measurement on tube bundles, refinery furnaces and boilers, built to ensure maximum thermal contact with surfaces to be measured by Skin-point plate.
Compensated extension cable upon request.

Thermocouples for temperature measurement by contact or inside liquids.
Fixed connector male and female moveable with compensated contacts, type CIR / MIL
Compression fitting sprung connector;
O-ring seal.

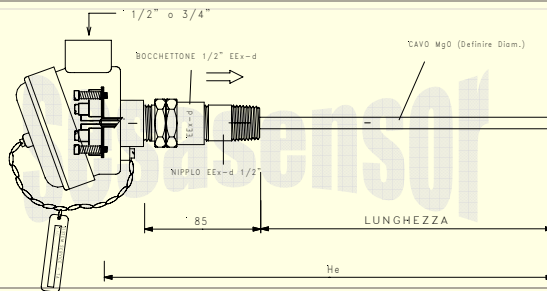


SA208



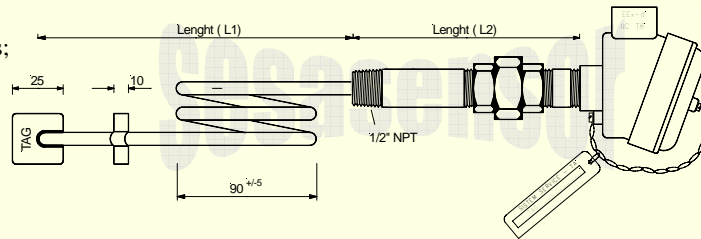
Thermocouples

SA210



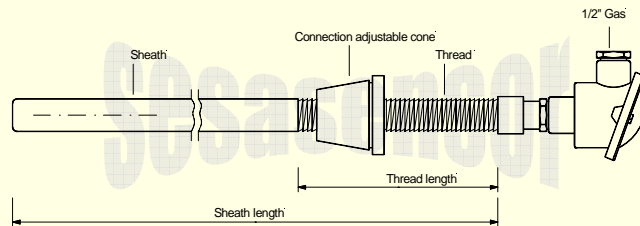
High-speed response Thermocouple for inclusion in Thermowells for measurements in refinery furnaces; Head of connection Explosion proof type, EExd IIC T6.

SKIN-point type thermocouple for temperature detection on pipe heaters; Refinery furnaces with expansion curl. Head of connection type EExd IIC T6 explosion proof.



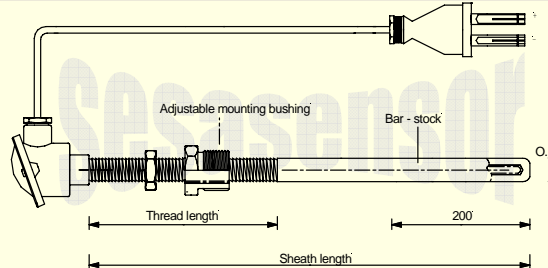
SA211

SA213



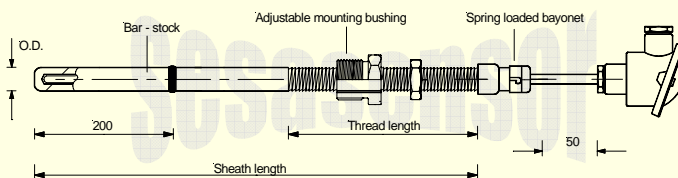
Thermocouple probe for measurements of high temperatures for stressful applications in metallurgy, with sheath obtained by Drilling of a solid bar of AISI or INCONEL diam. 28 mm. cone type connection, steel sealing carbon or stainless steel adjustable on the threaded

Thermocouple probe for measurements of high temperatures with a protective sheath composed by tube and tip made from solid bar Fixing by threaded coupling nut, extension cord with compensated plug.



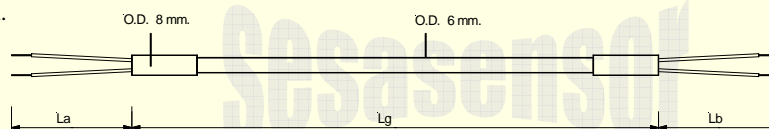
SA214

SA216



Thermocouple probe to measure temperature in blast furnaces; Protection sheath composed by tube and tip made from solid bar Threaded adjustable on the sheath; Interchangeable insert with bayonet connection in brass and chrome plated, and compression spring

MgO insulated cable extension. Sheathed in copper or Aisi diam. 6 mm. Calibration available upon request. Operating temperatures accordingly with applications: (+280 ° C).

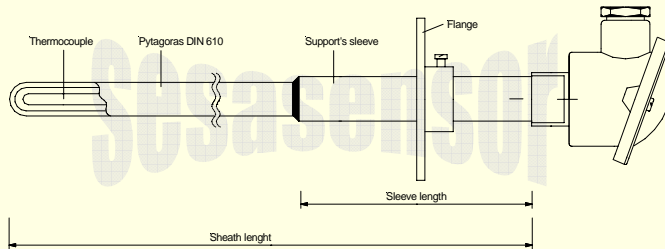


SA217



Thermocouples

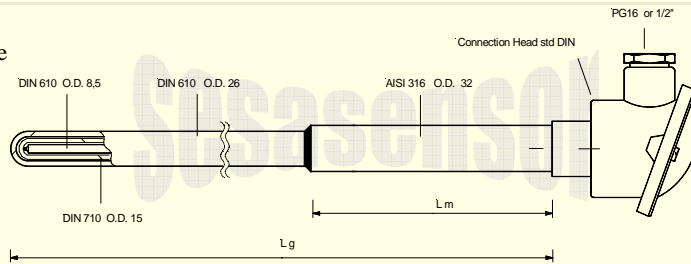
SA218



Thermocouple for temperature measurements in ceramic furnaces or high temperature. DIN 610 Pythagoras Sheath and connector sleeve in mild steel Mounted with adjustable flange and tighten screw.

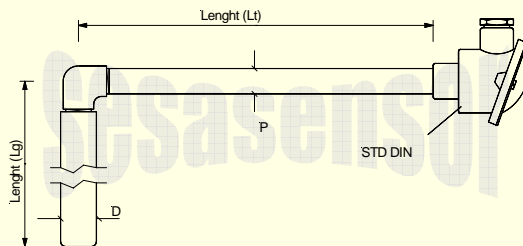
Double sheath thermocouple for temperature measurements on blast furnaces, ceramics and glass.

DIN 530 outer sheath, diameter 26/18
Pure Alumina710 Inner sheath gas-proof, diam. 15/10
Internal insulation in ALSINT, diam. 8,5
Sleeve for fitting in stainless steel
DIN type head with mounting slide flange



SA234

SA235

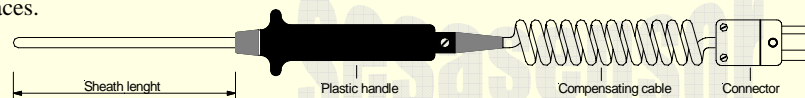


Squared Thermocouple with special sheath for heat treatment, submersion temp. detection inside baths salts or molten metals

Materials:
Pure ARMCO-Iron obtained by full bar, for zinc bath;
AISI-446 obtained by full bar, for baths salts;

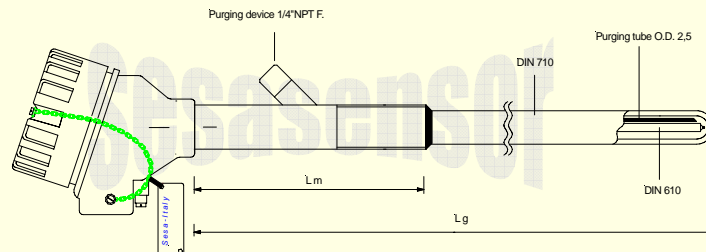
Portable thermocouple probe for contact measurement on rough surfaces.

Retractable compensated cable, colored accordingly with ANSI MC 96.1 rules.
Thermoplastic Grip.



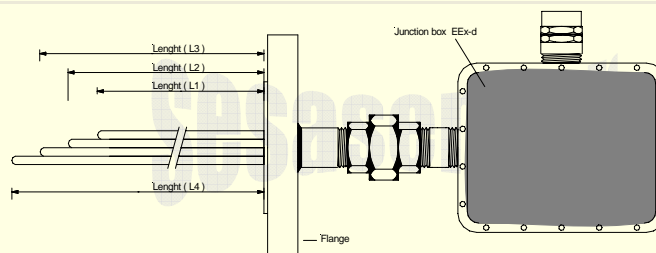
SA236

SA237



Thermocouple with pressurization System to measure temperature in refinery furnaces. FYRESTAN vitrified Sheath or ALSINT 99.7% Head connection EExd IIC T6 explosion proof. Pressurisation Device.

Multiple Thermocouple for applications on refinery reactors furnaces. Flanged ANSI or UNI; Junction Box Explosion proof EExd IIB T5 or EExd IIC T6.



SA238



Thermocouples

Thermocouple and Extension Wire Color Codes

T/C Type	ANSI MC96.1 T/C	ANSI MC96.1 Extension	UK BS 1843	Germany DIN 43714	Japan JIS C1610-1981	IEC 584-3
Type B						
Type E						
Type J						
Type K						
Type N						
Type R						
Type S						
Type T						

Termoresistenza tipo Pt100 ohm 0°C (IEC 751)

Temp. °C	Classe B Class B 0,30+0,005* t (°C)		>Classe A Class A 0,15+0,002* t (°C)		>Classe 1/3B Class 1/3B 1/3*(Class B) (°C)		>Classe 1/10B Class 1/10B 1/10*(Class B) (°C)	
	>Ohm	>°C	>Ohm	>°C	>Ohm	>°C	>Ohm	>°C
>-200	±0,56	±1,30	±0,24	±0,55	±0,19	±0,43	±0,06	±0,13
>-100	±0,32	±0,80	±0,14	±0,35	±0,11	±0,27	±0,03	±0,08
>0	±0,12	±0,30	±0,06	±0,15	±0,04	±0,10	±0,01	±0,03
>100	±0,30	±0,80	±0,13	±0,35	±0,10	±0,27	±0,03	±0,08
>200	±0,48	±1,30	±0,20	±0,55	±0,16	±0,43	±0,05	±0,13
>300	±0,64	±1,80	±0,27	±0,75	±0,21	±0,60	±0,06	±0,18
>400	±0,79	±2,30	±0,33	±0,95	±0,26	±0,77	±0,08	±0,23
>500	±0,93	±2,80	±0,38	±1,15	±0,31	±0,93	±0,09	±0,28
>600	±1,06	±3,30	±0,43	±1,25				
>650	±1,13	±3,55	±0,46	±1,45				
>700	±1,17	±3,80						
>800	±1,28	±4,30						
>850	±1,34	±4,60						

t = Temperatura (°C)

**STANDARD TOLERANCE AND APPLICATION LIMITS
THERMOCOUPLES LIST**

*SESA*sensors

TYPE	JIS C 1602			ANSI MC 96.1			DIN 43710		IEC 584-2		
	Temp. range (°C)	Grade	Tolerance (°C)	Temp. range (°C)	Grade	Tolerance (°C)	Temp. range (°C)	Tolerance (°C)	Temp. range (°C)	Grade	Tolerance (°C)
B	200-1700	0.5	± 4°C or ± 0.5%	800-1700	STD	± 0.5%	-	-	600-1700	2	1.5°C 0.0025* t
										3	4C 0.005* t
R	0-1600	0.25	± 1.5°C or ± 0.25%	0-1450	STD	± 0.6°C or ± 0.1%	-	-	0-1600	1	1°C or [1+0.003 *(t-1100)]
					SP	± 1.5°C or ± 0.25%				2	1.5°C or 0.0025* t
S	0-1600	0.25	± 1.5°C or ± 0.25%	0-1450	STD	± 0.6°C or ± 0.1%	0-600	± 3°C	0-1600	1	1°C or [1+0.003 *(t-1100)]
					SP	± 1.5°C or ± 0.25%	600-1600	± 5°C		2	1.5°C or 0.0025* t
K	0-1000	0.4	± 1.5°C or ± 0.4%	0-1250	SP	± 1.1°C or ± 0.4%	0-400	± 3°C	-40-1000	1	1.5°C or 0.004* t
	0-1200	0.75	± 2.5°C or ± 0.75%		STD	± 2.2°C or ± 0.75%	400-1200	± 0.75°C		2	2.5°C or 0.0075* t
	-200-0	1.5	± 2.5°C or ± 1.5%	-200-0		± 2.2°C or ± 2%				-200-40	3
E	0-800	0.4	± 1.5°C or ± 0.4%	0-900	SP	± 1°C or ± 0.4%	-	-	-40-1000	1	1.5°C or 0.004* t
		0.75	± 2.5°C or ± 0.75%		STD	± 1.7°C or ± 0.5%				-40-1200	2
	-200-0	1.5	± 2.5°C or ± 1.5%	-200-0	STD	± 1.7°C or ± 1%				-200-40	3
J	0-750	0.4	± 1.5°C or ± 0.4%	0-750	SP	± 1.1°C or ± 0.4%	0.400	± 3°C	-40-750	1	1.5°C or 0.004* t
		0.75	± 2.5°C or ± 0.75%		STD	± 2.2°C or ± 0.75%	400-900	± 0.75°		2	2.5°C or 0.0075* t
T	0-350	0.4	± 0.5°C or ± 0.4%	0-350	SP	± 0.5°C or ± 0.4%	0-400	± 3°C	-40-350	1	0.5°C or 0.004* t
		0.75	± 1°C or ± 0.75%		STD	± 1°C or ± 0.75%	400-600	± 0.75°		2	1°C or 0.0075* t
	-200-0	1.5	± 1°C or ± 1.5%	-	STD	± 1°C or ± 1.5%			-200-40	3	1°C or 0.015* t

Registrazione No.: **0715031**

Si attesta che
il Sistema di Gestione per la Qualità di

S.E.S.A. SRL

con sede in: **VIA DEL TRATTURELLO TARANTINO, 6 C/O CISI – 74123 TARANTO/Italia**

è conforme alla norma

UNI EN ISO 9001:2008

per il seguente campo di applicazione

Progettazione e produzione di termocoppie; progettazione e produzione di sistemi per la rilevazione delle grandezze fisiche.

EA 19

Prima emissione
31 Marzo 2008

Scadenza
31 Marzo 2011

Modifica in data 16/04/2010 per transizione alla UNI EN ISO 9001:2008.

La validità del presente certificato è subordinata a sorveglianza periodica annuale ed al riesame completo del Sistema di Gestione per la Qualità entro il **14/02/2011**.

Amministratore unico

SINCERT
ACCREDITAMENTO ORGANISMI DI CERTIFICAZIONE E ISPEZIONE

SGQ N° 044 A

Membro di MLA EA per gli schemi di accreditamento SGQ, SG4, PRD, PPS e ISP
e di MLA IAF per gli schemi di accreditamento SGQ, SSA e PRD
Signatory of EA MLA for the accreditation schemes QMS, EMS, Product Personal and Inspection
and of IAF MLA for the accreditation schemes QMS, EMS, and Product

Moody International Certification srl
Via Castrogiovanni, 1 74121 Taranto

SPECIALISTS IN TEMPERATURE MEASUREMENTS

