

**Operating Instructions
for
Temperature Sensor**

Model: TTL

Ignition Protection Ex ia



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2 Note

Please read these operating instructions before unpacking and putting the unit in operation. Follow the instructions precisely as described herein.

The instruction manuals on our website WWW.kobold.com are always for currently manufactured version of our products. Due to technical changes, the instruction manuals available online may not always correspond to the product version you have purchased. If you need an instruction manual that correspond to the purchased product version, you can request it from us free of charge by email (info.de@kobold.com) in PDF format, specifying the relevant invoice number and serial number. If you wish, the operating instructions can also be sent to you by post in paper form against an applicable postage fee.

The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and in accordance with local regulations applying to Health & Safety and prevention of accidents.

When used in machines, the measuring unit should be used only when the machines fulfil the EC-machine guidelines.

3 Instrument Inspection

Instruments are inspected before shipping and sent out in perfect condition.

Should damage to a device be visible, we recommend a thorough inspection of the delivery packaging. In case of damage, please inform your parcel service / forwarding agent immediately, since they are responsible for damages during transit.

Scope of delivery:

The standard delivery includes:

- Device model: TTL

4 Regulation Use

The temperature sensors of series TTL are suitable for all applications where processes involving fluids, solid bodies or materials, or gases, require temperature recording and measurement. Our temperature sensors are suitable for use in the following industrial areas: chemicals, petrochemicals, water, feed, food, sanitary, etc.

Any use of the Temperature Sensor, model: TTL, which exceeds the manufacturer's specification may invalidate its warranty. Therefore, any resulting damage is not the responsibility of the manufacturer. The user assumes all risk for such usage.

5 Operating Principle

Thermocouples use the Seebeck effect, state that a voltage is generated at the point of contact of two different metals.

Electrical conductors of different metals or metal alloys are connected by punctiform welding. A thermal e.m.f. is generated at the free ends (point of connection) by heating this junction (measuring junction). The free ends are extended to a point with know temperature (reference junction) by means of compensating leads. The temperature difference between measuring junction is measured with thermocouples.

6 Use in hazardous Areas

6.1 Area of validity

These security instructions apply to **TTL Series** temperature sensors and their accessories for use in explosion-proof atmospheres conform to **CE certificate LOM 08ATEX2015 X**

6.2 Guidelines

The **TTL Series** temperature measuring instruments work according to the Seebeck efect. This measuring principle acts to check and measure the temperature also in Ex areas.

TTL devices can be with a standard 4 to 20 mA signal transmitter, protocol Hart, Profibus/Fieldbus or with direct access to the sensor. They are appropriate for use in Group IIC and Categories 1G/D Atex atmospheres.

The temperature class and/or the surface temperature relates solely to a device operated at ambient temperature. On installation the actual temperature class for process operation must be determined.

The inlet bushings used must conform to the certification for their type in accordance with the directive.

The requirements of Regulation 2014/34/EU, and the applicable national regulations for the use of measuring instruments in Ex areas, such as EN 60079-0, EN 60079-11 and other regulations relating to this certification type, must be fulfilled.

Only qualified specialist personnel may install devices in Ex areas.

6.3 General

- When installing the sensor, it is necessary to follow all the instructions and regulations for explosion-proof areas and the safety instructions included in these instructions.
- **TTL-SN** and **TTL-SA** must be protected with an enclosure at least a degree of protection IP20.
- Make sure that the details on the sensor's type label correspond to the working conditions for the application.
- When installing the device, make sure you do not create any mechanical deformation as a result of solder spots or the application of mechanical force.
- **Important:** Make sure there is an electrical connection between the device's earth and the earth of the system.
- Make sure the lid is closed before putting the device into operation.
- Before re-opening the lid, remove the plug from the mains or de-energise the device and make sure there is no danger of explosion.

6.4 Protection against E.S.D. (Electrostatic Discharge)

Temperature sensors with plastic parts that can become electrically charged bear a warning label. Electrical charging must be avoided at all costs. Pay attention to the following:

- Avoid rubbing the device
- Never clean the device dry
- Do not install the device near material airflows or near steam outlets

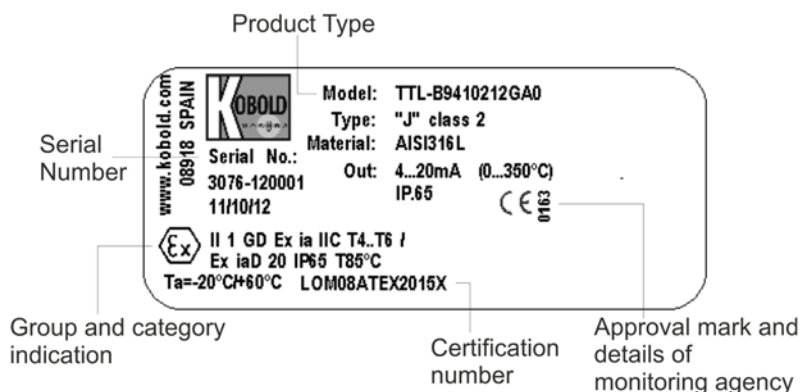
6.5 Maintenance and repairs

The instrument does not require maintenance or servicing.
Repairs must be only carried out by Kobold Mesura (manufacturer)

6.6 Storage

Measuring instruments should be protected against humidity and dust.
Storage temperature: -40°C....+85°C for sensors without transmitter.
Storage temperature: See manual of the corresponding transmitter.

7 Description of the Factory Label

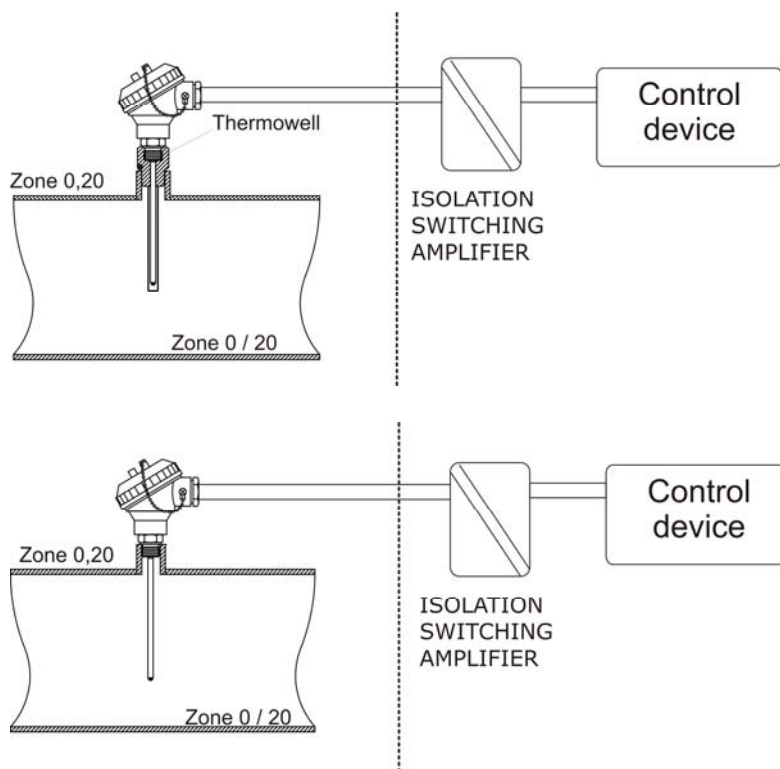


8 Installation in the classified area

8.1 Examples of installation in explosion-proof areas conform to the protection type "intrinsically safe": "Ex ia"

Hazardous area

Safe area



9 Technical Details

9.1 Sensor and accuracy

Type Class Temp. range Limiting error

DIN EN60584 part 2

K	1	-40°C...+375°C	±1,5°C
K	1	+375°C...+1000°C	±0,0040 x (t°)
K	2	-40°C...+333°C	±2,5°C
K	2	+333°C...+1200°C	±0,0075 x (t°)

ISA (ANSI) MC96.1-1982

K	Standard	0°C...+1250°C	±2,2°C or ±0,75 %
K	Special	0°C...+1250°C	±1,1°C or ±0,4 %

DIN EN60584 part 2

E	1	-40°C...+375°C	±1,5°C
E	1	+375°C...+800°C	±0,0040 x (t°)
E	2	-40°C...+333°C	±2,5°C
E	2	+333°C...+1200°C	±0,0075 x (t°)

DIN EN60584 part 2

N	1	-40°C...+375°C	±1,5°C
N	1	+375°C...+1000°C	±0,0040 x (t°)
N	2	-40°C...+333°C	±2,5°C
N	2	+333°C...+1200°C	±0,0075 x (t°)

Type Class Temp. range Limiting error

DIN EN60584 part 2

J	1	-40°C...+375°C	±1,5°C
J	1	+375°C...+750°C	±0,0040 x (t°)
J	2	-40°C...+333°C	±2,5°C
J	2	+333°C...+750°C	±0,0075 x (t°)

ISA (ANSI) MC96.1-1982

J	Standard	0°C...+750°C	±2,2°C or ±0,75 %
J	Special	0°C...+750°C	±1,1°C or ±0,4 %

DIN EN60584 part 2

T	1	-40°C...+125°C	±0,5°C
T	1	+125°C...+350°C	±0,0040 x (t°)
T	2	-40°C...+133°C	±1°C
T	2	+133°C...+350°C	±0,0075 x (t°)

For type K there is a risk of blue mould forming between 850°C and 950°C, so we recommend using a type N if the working temperature is continuously in this range

9.2 General details

Ambient temperature:	-40...+150°C with ceramic terminal base -40...+85°C with transmitter
Meas. Range:	1.4404 max. 750°C, others max. 1100°C
Operating pressure:	(depending on model, see order details)
Connection head:	Form B with chain (other on request) Without head on models TWL-SN and TWL-SA


9.3 Materials

Sensor:	st. st. 1.4404 (type J) Alloy 600 (type K).
Neckpipe:	Stainless steel 1.4404 (others on request)
Connection head:	Aluminium, painted (st. st. on request)
Cable:	Silicone or PTFE on model TTL-SN and TTL-SA (others on request)
Terminal base:	Ceramic (without transmitter)

9.4 Process connection

Thread:	GM $\frac{1}{2}$, GM $\frac{3}{4}$, GM1, $\frac{1}{2}$ " NPTM, $\frac{3}{4}$ " NPTM, 1" NPT
Din-flange:	DN 15, 20, 25, 32, 40, 50
Weld-on sleeve:	Ø 24h7 (other on request)

9.5 ATEX-approval

 II 1 GD Ex ia IIC T4..T6/ Ex iaD 20 IP65
T85°C -20°C ≤ Ta ≤ +60°C

9.6 Head transmitter

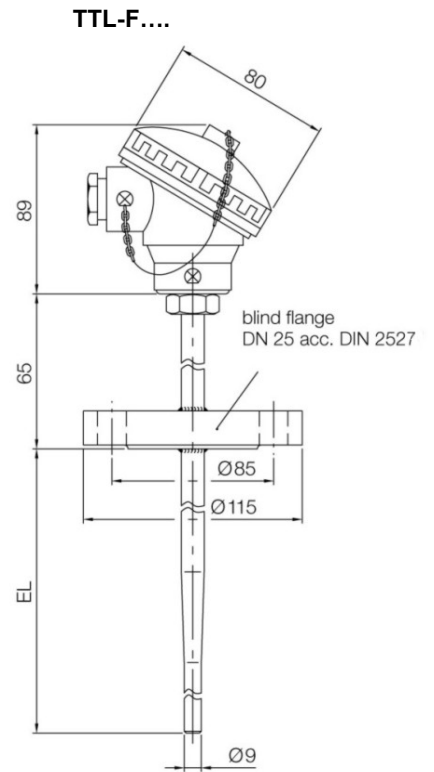
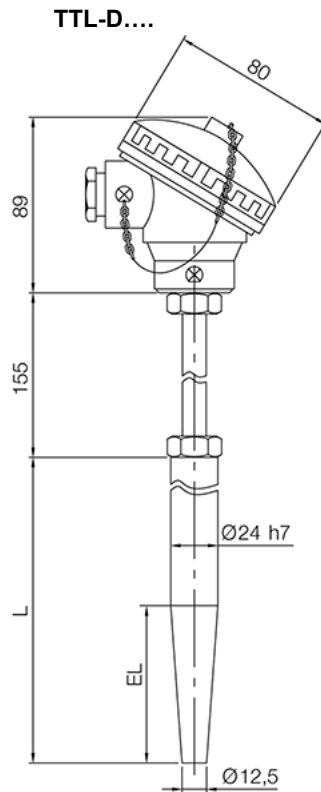
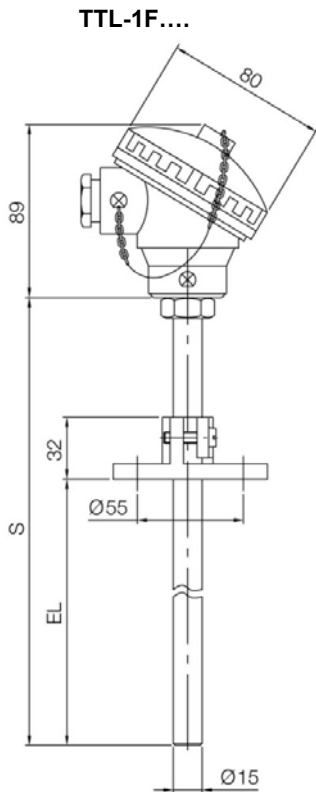
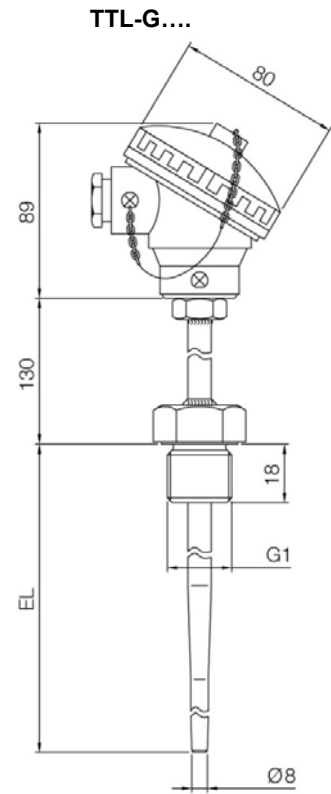
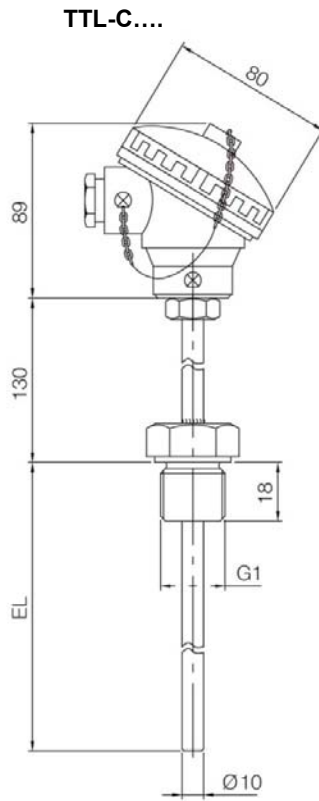
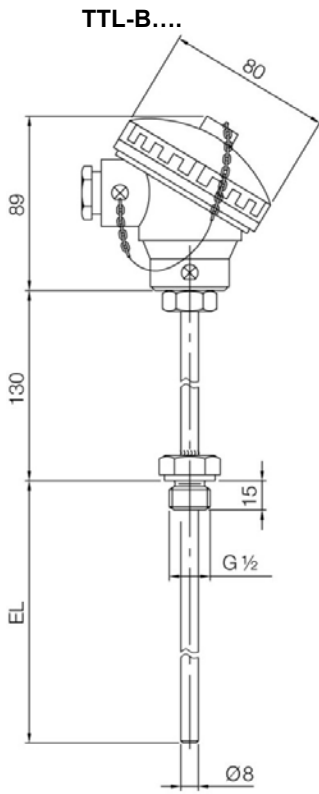
- Output:	analogue output 4...20m A
- Communication:	HART®-protocol PROFIBUS®/Fieldbus
- Minimum meas. span:	standard transmitter 25°K transmitter with HART® 10°K transmitter with PROFIBUS®/Fieldbus 5°K
- Supply voltage:	8...35 Vdc for standard transmitter and transmitter with Hart 9...32 Vdc for transmitter with PROFIBUS®/Fieldbus

Note

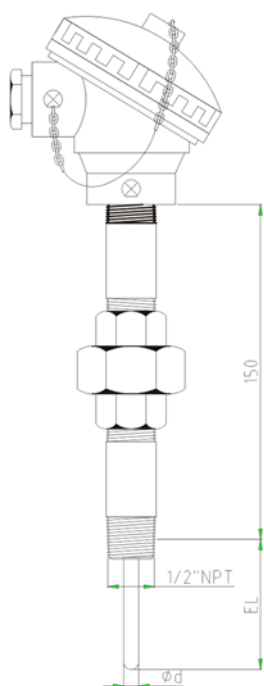
For programming of transmitter please refer to their separate programming manual.

Sensors model TTL-SN and TTL-SA have not head transmitter, you must use remote transmitter.

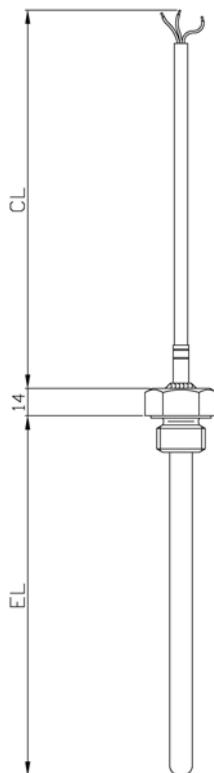
10 Dimensions



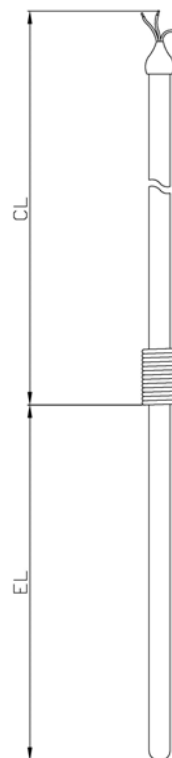
TTL-WD....



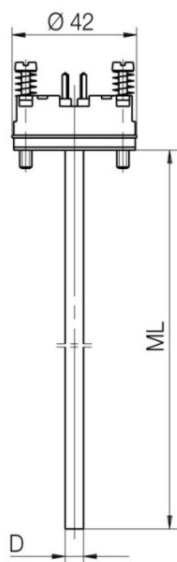
TTL-SN....



TTL-SA....



TTL-M....



11 Order details

Screw-in thermocouple form 2G with or without neckpipe, protection Ex ia, G ½ male according to DIN 43772 (with neckpipe), p_{max} 10 bar, with removable measuring element.

Model ¹⁾	Immersion length (mm)	Process connection	Sensor type/category	Wiring	Connection head	Head transmitter	Special option
TTL-L94 (without neckpipe)	10 = 100 Ø8x6 mm	2 = G ½	1= 1 x type J,cl 2; 1.4404 2= 2 x type J,cl 2; 1.4404 3= 1 x type K,cl 2; Alloy 600 4= 2 x type K,cl 2; Alloy 600	2 = 2-wire	G = form B, With chain Y = special connection head (to be specified in writing)	0 = without A ³⁾ = programmable transmitter 2-wire B ³⁾ = transmitter with HART protocol 2-wire C ³⁾ = transmitter profibus/Fieldbus	0 = without Y = acc. description
TTL-B94 (with neckpipe)	16 = 160 Ø8x6 mm		5= 1 x type J,cl 1; 1.4404 6= 2 x type J,cl 1; 1.4404 7= 1 x type K,cl 1; Alloy 600 8= 2 x type K,cl 1; Alloy 600				
	25 = 250 Ø8x6 mm						
	40 = 400 Ø8x6 mm						
	XX ¹⁾ = special length						
			X ²⁾ = special				

1) Please specify special length in writing 2) Please specify special type in writing 3) Please specify special range in writing

Screw-in thermocouple form 2G with neckpipe, protection Ex ia, thermowell G 1 male according to DIN 43772 (with neckpipe), p_{max} 10 bar, with removable measuring element.

Model	Immersion length (mm)	Process connection	Sensor type/category	Wiring	Connection head	Head transmitter	Special option
TTL-CB4	10 = 100 Ø10x8 mm	4 = G 1	1= 1 x type J,cl 2; 1.4404 2= 2 x type J,cl 2; 1.4404 3= 1 x type K,cl 2; Alloy 600 4= 2 x type K,cl 2; Alloy 600	2 = 2-wire	G = form B, With chain Y = special connection head (to be specified in writing)	0 = without A ³⁾ = programmable transmitter 2-wire B ³⁾ = transmitter with HART protocol 2-wire C ³⁾ = transmitter profibus/Fieldbus	0 = without Y = acc. description
	16 = 160 Ø10x8 mm		5= 1 x type J,cl 1; 1.4404 6= 2 x type J,cl 1; 1.4404 7= 1 x type K,cl 1; Alloy 600 8= 2 x type K,cl 1; Alloy 600				
	25 = 250 Ø10x8 mm						
	40 = 400 Ø10x8 mm						
	XX ¹⁾ = special length						
			X ²⁾ = special				

1) Please specify special length in writing 2) Please specify special type in writing 3) Please specify special range in writing

Screw-in thermocouple form 3G with neckpipe, protection Ex ia, tapered thermowell G 1 male according to DIN 43772 for faster response time, p_{max} 30 bar, with removable measuring element.

Model	Immersion length (mm)	Process connection	Sensor type/category	Wiring	Connection head	Head transmitter	Special option
TTL-G94	16 = 160 Ø8x6 mm 25 = 250 Ø8x6 mm 28 = 280 Ø8x6 mm XX ¹⁾ = special length	4= G 1	1= 1 x type J,cl 2; 1.4404 2= 2 x type J,cl 2; 1.4404 3= 1 x type K,cl 2; Alloy 600 4= 2 x type K,cl 2; Alloy 600 5= 1 x type J,cl 1; 1.4404 6= 2 x type J,cl 1; 1.4404 7= 1 x type K,cl 1; Alloy 600 8= 2 x type K,cl 1; Alloy 600 X ²⁾ = special	2 = 2-wire	G = form B, With chain Y = special connection head (to be specified in writing)	0 = without A ³⁾ = programmable transmitter 2-wire B ³⁾ = transmitter with HART protocol 2-wire C ³⁾ = transmitter profibus/Fieldbus	0 = without Y = acc. description

1) Please specify special length in writing 2) Please specify special type in writing 3) Please specify special range in writing

Immersion thermocouple form A, protection Ex ia, thermowell according to DIN 43772 with adjustable flange, p_{max} 10 bar, with removable measuring element.

Model	Immersion length (mm)	Process connection	Sensor type/category	Wiring	Connection head	Head transmitter	Special option
TTL-1F4	50 = 500 Ø15 mm 71 = 710 Ø15 mm 1T = 1000 Ø15 mm T4 = 1400 Ø15 mm 2T = 2000 Ø15 mm XX ¹⁾ = special length	B = Adjustable G ¾ male st. st. C = aluminium sliding flange DIN 43743	1= 1 x type J,cl 2; 1.4404 2= 2 x type J,cl 2; 1.4404 3= 1 x type K,cl 2; Alloy 600 4= 2 x type K,cl 2; Alloy 600 5= 1 x type J,cl 1; 1.4404 6= 2 x type J,cl 1; 1.4404 7= 1 x type K,cl 1; Alloy 600 8= 2 x type K,cl 1; Alloy 600 X ²⁾ = special	2 = 2-wire	G = form B, With chain Y = special connection head (to be specified in writing)	0 = without A ³⁾ = programmable transmitter 2-wire B ³⁾ = transmitter with HART protocol 2-wire C ³⁾ = transmitter profibus/Fieldbus	0 = without Y = acc. description

1) Please specify special length in writing 2) Please specify special type in writing 3) Please specify special range in writing

Insertion thermocouple form 3F, protection Exia flange DN25 PN40,
Tapered thermowell according to DIN 43772 for faster response time p_{max} 30bar,
with removable measuring element.

Model	Immersion length (mm)	Process connection	Sensor type/category	Wiring	Connection head	Head transmitter	Special option
TTL-F94	<p>22 = 225</p> <p>28 = 285</p> <p>34 = 345</p> <p>XX¹⁾ = special length</p>	4 = flange DN25	<p>1= 1 x type J,cl 2; 1.4404</p> <p>2= 2 x type J,cl 2; 1.4404</p> <p>3= 1 x type K,cl 2; Alloy 600</p> <p>4= 2 x type K,cl 2; Alloy 600</p> <p>5= 1 x type J,cl 1; 1.4404</p> <p>6= 2 x type J,cl 1; 1.4404</p> <p>7= 1 x type K,cl 1; Alloy 600</p> <p>8= 2 x type K,cl 1; Alloy 600</p> <p>X²⁾= special</p>	2 = 2-wire	<p>G = form B, With chain</p> <p>Y = special connection head head (to be specified in writing)</p>	<p>0 = without</p> <p>A³⁾ = programmable transmitter 2-wire</p> <p>B³⁾ = transmitter with HART protocol 2-wire</p> <p>C³⁾ = transmitter profibus/Fieldbus</p>	<p>0 = without</p> <p>Y = acc. description</p>

1) Please specify special length in writing

2) Please specify special type in writing

3) Please specify special range in writing

Weld-on thermocouple form 4, protection Ex ia,
Thermowell according to DIN43772, p_{max} 250bar

Model	Immersion length EL/L (mm)	Process connection	Sensor type/category ²⁾	Wiring	Connection head	Head transmitter	Special option
TTL-D	<p>1406 = 65/140 (D1) st. st. 1.4404</p> <p>2412 = 125/200 (D2) st.st. 1.4404</p> <p>4406 = 65/200(D4) st.st. 1.4404</p> <p>5412 =125/260(D5) st.st. 1.4404</p> <p>XXXX¹⁾ = special length</p> <hr/> <p>1906²⁾ = 65/140(D1) st.st. 1.4903</p> <p>2912²⁾ = 125/200(D2) st.st. 1.4903</p> <p>4906²⁾ = 65/200(D4) st.st. 1.4903</p> <p>5912²⁾ = 125/260(D5) st.st. 1.4903</p> <p>XXXX¹⁾ = special length</p>	0 = weld-on	<p>1= 1 x type J,cl 2; 1.4404</p> <p>2= 2 x type J,cl 2; 1.4404</p> <p>3= 1 x type K,cl 2; Alloy 600</p> <p>4= 2 x type K,cl 2; Alloy 600</p> <p>5= 1 x type J,cl 1; 1.4404</p> <p>6= 2 x type J,cl 1; 1.4404</p> <p>7= 1 x type K,cl 1; Alloy 600</p> <p>8= 2 x type K,cl 1; Alloy 600</p> <p>X³⁾= special</p>	2 = 2-wire	<p>G = form B, With chain</p> <p>Y = special connection head (to be specified in writing)</p>	<p>0 = without</p> <p>A⁴⁾ = programmable transmitter 2-wire</p> <p>B⁴⁾ = transmitter with HART protocol 2-wire</p> <p>C⁴⁾ = transmitter profibus/Fieldbus</p>	<p>0 = without</p> <p>Y = acc. description</p>

1) Please specify special length in writing

2) Stainless steel 1.7380 or 1.7337 on request

3) Please specify special type in writing

4) Please specify special range in writing

Screw-in thermocouple with cable, protection Ex ia
Male according to DIN 43772, p_{max}. 10 bar,

Model	Immersion length (mm)	Process connection	Sensor type/category	Wiring	Connection head/cable ²⁾	Head transmitter	Special option
TTL-SN	10 = 100 Ø6 mm	2 = G1/2	1= 1 x type J,cl 2; 1.4404	2 = 2 wires	S = silicone P= PTFE Y ³⁾ = special length and/or material	0 = without	0 = without Y = acc. description
	16 = 160 Ø6 mm		2= 2 x type J,cl 2; 1.4404				
	25 = 250 Ø6 mm		3= 1 x type K,cl 2; Alloy 600				
	40 = 400 Ø6 mm		4= 2 x type K,cl 2; Alloy 600				
	XX ¹⁾ = special length		5= 1 x type J,cl 1; 1.4404				
			6= 2 x type J,cl 1; 1.4404				
			7= 1 x type K,cl 1; Alloy 600				
			8= 2 x type K,cl 1; Alloy 600				
			X ²⁾ = special				

1) Please specify special length in writing 2) Please specify special type in writing 3) Please specify length cable "CL" and/or material cable "CL" (standard model 1000 mm) in writing

Insertion thermocouple with cable, protection Ex ia.

Model	Immersion length (mm)	Process connection	Sensor type/category	Wiring	Connection head/cable ²⁾	Head transmitter	Special option
TTL-SA	10 = 100 Ø6 mm	0 = without	1= 1 x type J,cl 2; 1.4404	2 = 2 wires	S = silicone P = PTFE X ³⁾ = special length and/or material	0 = without	0 = without Y = acc. description
	16 = 160 Ø6 mm		2= 2 x type J,cl 2; 1.4404				
	25 = 250 Ø6 mm		3= 1 x type K,cl 2; Alloy 600				
	40 = 400 Ø6 mm		4= 2 x type K,cl 2; Alloy 600				
	XX ¹⁾ = special length		5= 1 x type J,cl 1; 1.4404				
			6= 2 x type J,cl 1; 1.4404				
			7= 1 x type K,cl 1; Alloy 600				
			8= 2 x type K,cl 1; Alloy 600				
			X ²⁾ = special				

1) Please specify special length in writing 2) Please specify special type in writing 3) Please specify length cable "CL" and/or material cable "CL" (standard model 1000 mm) in writing

Insertion thermocouple, protection Ex ia.
1/2" NPTM union + nipple.

Model ¹⁾	Immersion length (mm)	Process connection	Sensor type/category	Wiring	Connection head/cable ²⁾	Head transmitter	Special option
TTL-WD	XX ²⁾ = special length Ø6 mm	8 = 1/2" NPTM	1= 1 x type J,cl 2; 1.4404 2= 2 x type J,cl 2; 1.4404 3= 1 x type K,cl 2; Alloy 600 4= 2 x type K,cl 2; Alloy 600 5= 1 x type J,cl 1; 1.4404 6= 2 x type J,cl 1; 1.4404 7= 1 x type K,cl 1; Alloy 600 8= 2 x type K,cl 1; Alloy 600 X ³⁾ = special	2 = 2 wires	G = form B, With chain Y = special connection head head (to be specified in writing)	0 = without A ⁴⁾ = programmable transmitter 2-wire B ⁴⁾ = transmitter with HART protocol 2-wire C ⁴⁾ = transmitter profibus/Fieldbus	0 = without Y = acc. description

- 1) Thermocouples TTL-WD can be combined with a large number of thermowell designs. Operation without thermowell is not allowed.
 2) Please specify special length in writing according to thermowell 3) Please specify special type in writing 4) Please specify special range in writing

Replacement measuring element for thermocouples.

Model	Immersion length (mm)	For form	Measuring insert length ²⁾	Sensor type/category	Wiring	Head transmitter	Special option	
TTL-M82 Ø8mm	0050 = 500	1	537					
	0071 = 710		747					
	001T = 1000		1037					
	00T4 = 1400		1437					
	002T = 2000		2037					
	XXXX ¹⁾ = special length		Acc. To special length					
TTL-M62 Ø6mm	0010 = 100	2G (Model WD, TTL-CB4 only)	267	1= 1 x type J,cl 2; 1.4404 2= 2 x type J,cl 2; 1.4404 3= 1 x type K,cl 2; Alloy 600 4= 2 x type K,cl 2; Alloy 600		0 = without		
	0016 = 160		327					
	0025 = 250		417					
	0040 = 400		567					
	XXXX ¹⁾ = special length		Acc. To special length					
TTL-M52 Ø5mm	0010 = 100	2G (Model TWL-B94 only)	267	5= 1 x type J,cl 1; 1.4404 6= 2 x type J,cl 1; 1.4404 7= 1 x type K,cl 1; Alloy 600 8= 2 x type K,cl 1; Alloy 600	2 = 2-wire	0 = without A ³⁾ = programmable transmitter 2-wire B ³⁾ = transmitter with HART protocol 2-wire C ³⁾ = transmitter profibus/Fieldbus	0 = without Y = acc. description	
	0016 = 160		327					
	0025 = 250		417					
	0040 = 400		567					
	XXXX ¹⁾ = special length		Acc. To special length					
	0022 = 225		3F					327
	0028 = 285	387						
	0034 = 345	447						
	XXXX ¹⁾ = special length	Acc. To special length						
	0016 = 160	3G		267				
	0025 = 250			417				
	0028 = 280		447					
XXXX ¹⁾ = special length	Acc. To special length							

- 1) Please specify special length in writing 2) Please specify special type in writing 3) Please specify special range in writing.
 2)

12 EU-Certificates

DECLARACIÓN DE CONFORMIDAD EU

EU DECLARATION OF CONFORMITY
EU-KONFORMITÄTSEKTLÄRUNG
DÉCLARATION DE CONFORMITÉ
DICHIARAZIONE DI CONFORMITÀ EU

KOBOLD MESURA S.L.U.
Avda. Conflent 68 nave 15, 08915 Badalona (España)

Declara, bajo la propia responsabilidad, que el producto

Declares under our sole responsibility, that the product
Erklärt in alleiniger Verantwortung, daß das produkt
Déclare sous sa seule responsabilité, que le produit
Dichiara sotto la propria responsabilità, che il prodotto

TTL.....

A los cuales se refiere esta declaración, son conformes a las siguiente Directivas Europeas:

To which this declaration relates is in conformity with the following European Directives:
Mit folgenden Richtlinien konform ist:
À auxquels se réfère cette déclaration, ils sont conformes aux Directives Européennes suivant :
A ai quali si riferisce questa dichiarazione, sono conformi alle direttive europee seguente:

EMC2014/30/EU LVD2014/35/EU ATEX2014/34/EU RoHS2011/65EU

Normas armonizadas y documentos de la normativa aplicados:

Applied harmonised standards and normative documents:
Angewandte harmonisierte Normen oder normativer Dokumente:
Normes harmonisées et documents normatifs appliqués
Norme armonizzate e documenti normativi applicati:

EN61010-1 :2011 EN61326-1:2021 EN60079-0:2006 (acc. EN60079-0:2021)
EN61000-6-2 :2019 EN60079-11 :2007 (ACC. EN60079-11:2013)


Certificado de examen CE de tipo

EC-type examination certificat
EG-baumusterprübescheinigung
Attestation d'examen CE de type
Certificazione per esame di tipo CE

Marcado

Marking
Markierung
Inscription
Marcatura

LOM 08ATEX2015 X

 II 1GD Ex ia IIC T4...T6 / Ex iaD 20 IP65 T85°C
-20°C ≤ Ta ≤ +60°C

Fabricado en: KOBOLD MESURA SLU Avda. Conflent 68 nave 15, 08915 BADALONA (Spain)

Made in:
Hergestellt in:
Fabriqué dans:
Fabbricato in:

Organismo notificado: LOM 0163

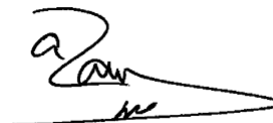
Notified organism
Mitgeteilter Organismus
Organization annoncée
Organismo informato

Número notificación : LOM 05ATEX9070

Number notification
Zahlmitteilung
Nombre notification
Notifica di numero

Badalona July 2017

Gerente



DT0464

Azzam Charmand

13 ATEX-Certificates



LABORATORIO OFICIAL J. M. MADARIAGA



(1) **EC-TYPE EXAMINATION CERTIFICATE**

(2) Equipment or protective system intended for use in potentially explosive atmospheres
Directive 94/9/EC

(3) EC-Type Examination Certificate nr **LOM 08ATEX2015 X**

(4) Equipment or protection system Temperature sensors
Types TWL... and TTL...

(5) Applicant KOBOLD MESURA, S.L.U.

(6) Address Grifé, 655
08918- Badalona (BARCELONA)
ESPAÑA

(7) This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) Laboratorio Oficial J.M. Madariaga (LOM), notified body number 0163 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and test results are recorded in confidential report nr. **LOM 07.165 PP**

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

Standards	EN 60079-0:2006	EN60079- 11:2007
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(10) If the sign X is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design and construction of this specified equipment or protective system in accordance with the Directive 94/9/EC. Further requirements of the Directive apply to the manufacture and supply of this equipment or protective system. These are not covered by this certificate.


(12) The marking of the equipment or protective system shall include the following:

	II 1 GD	Ex ia IIC T4..T6 Ex iaD 20 IP65 T85 °C -20 °C ≤ Ta ≤ +60 °C
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Madrid, 28th March 2008



Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY



OFICIAL
LABORATORIO
J.M. MADARIAGA
LOM



Angel Vega Remesal
Head of the ATEX

RCP CER 07.3/2

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UNIVERSIDAD POLITÉCNICA DE MADRID
ENSAYOS E INVESTIGACIONES DE MATERIALES Y EQUIPOS PARA ATMÓSFERAS EXPLOSIVAS Y MINERÍA
(Real Decreto 334/1992 de 3 de Abril - BOE 1992-04-29)



Alenza, 1 - 28003 MADRID • (34) 91 4421366 / 91 3367009 • (34) 91 4419933 • lom@lom.upm.es



LABORATORIO OFICIAL J. M. MADARIAGA

(A1) SCHEDULE

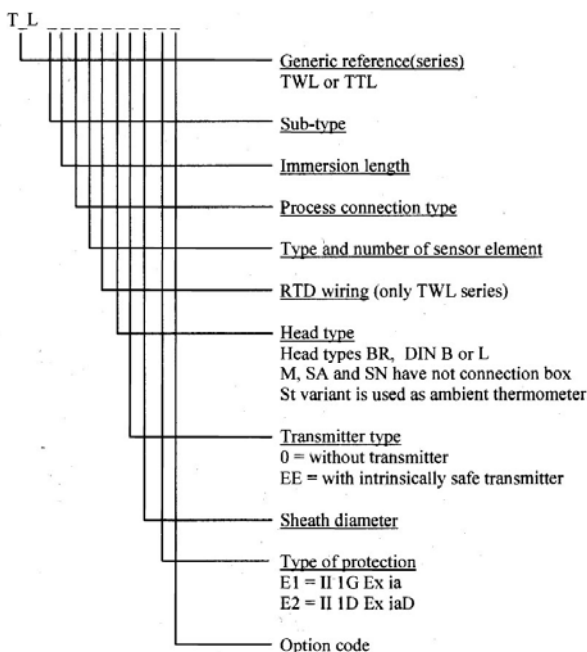
(A2) EC-Type Examination Certificate: LOM 08ATEX2015 X

(A3) Description of equipment or protective system

Temperature sensors based on thermocouple (TTL series) o thermoresistor RTD (TWL series) having a head in three formats and a sheath that contains the sensor element. Also is included an ambient thermometer (ST head) that uses a metallic or plastic enclosure.

Sensors can be connected either directly or indirectly by means of intrinsically safe transmitters placed into the head. Permitted intrinsically safety transmitters are listed in manufactured descriptive documents.

Type codification:



Temperature class

TWL series without transmitter: T4
 TWL series without transmitter: T6
 T_L series with transmitter: T4 to T6 temperature class is the same that the used intrinsically safe transmitter modules

Specific parameters of the type of protection

TWL series without transmitter: Pi: 1,2 W

T_L series with transmitter: Input specific parameters are the same that the used intrinsically safe transmitter modules

RPCER 07.3/2

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LABORATORIO OFICIAL J. M. MADARIAGA

(A1)	SCHEDULE		
(A2)	<u>EC-Type Examination Certificate:</u> LOM 08ATEX2015 X		
(A4)	<u>Test report nr</u> LOM 07.165 PP		
(A5)	<u>Special conditions for safe use</u>		
	<ul style="list-style-type: none"> - It must be taken in account the electrostatic hazard when As and BR3 plastic head boxes are used - Variants without head box (sub-types M, Sa and SN) must be protected with an enclosure having at least a degree of protection IP20 - The marked temperature class or surface temperature only refers to the equipment operating t ambient temperature. It must be determined the real process temperature in the installation. Head temperature must not be greater than 60 °C. 		
(A6)	<u>Individual tests</u>		
	None		
(A7)	<u>Essential Health and Safety Requirements</u>		
	Explosion safe requirements are covered by application of the standards indicated in page 1/3 of this certificate.		
(A8)	<u>Descriptive Documents</u>		
		<u>Rev.</u>	<u>Date</u>
- Technical description nr.:	DT0315	-	2008-02-25
- Technical manuals nr.:	CT3225	-	2008-02-25
	CT3226	-	2008-02-25
- Drawings nr.:	PM0507R0	0	2007-10-23
	PM0508R0	0	2007-10-23
	PM0509R0	0	2007-10-23
	PM0510R0	0	2007-10-23
	PM0511R0	0	2007-10-23
	PM0512R0	0	2007-10-23
	PM0529R0	0	2007-10-23
	PM0530R0	0	2007-10-23
	PM0531R0	0	2007-10-23
	PM0532R0	0	2007-10-23
	PM0533R0	0	2007-10-23
	PM0534R0	0	2007-10-23
	PM0535R0	0	2007-10-23
	PM0536R0	0	2007-10-23
	PM0537R0	0	2007-10-23
	PM0538R0	0	2007-10-23
	PM0539R0	0	2007-10-23
	PM0540R0	0	2007-10-23
	PM0541R0	0	2007-10-23
	PM0542R0	0	2007-10-23
	DT0340	-	2008-01-02
	DT0342	-	2008-01-02
	DT0316	-	2008-01-02



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LABORATORIO OFICIAL J. M. MADARIAGA

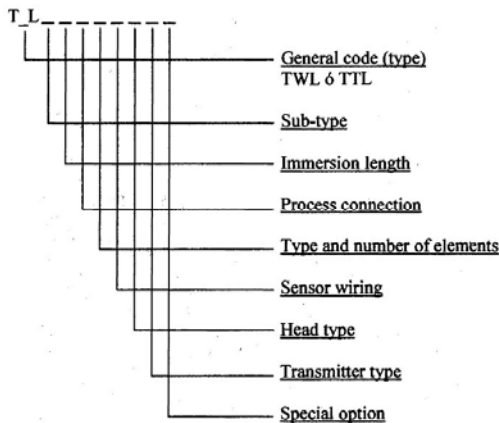


(1) **EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT**

- (2) Equipment or protective system intended for use in potentially explosive atmospheres
Directive 94/9/EC
- (3) Supplement nr. 1 to EC-Type Examination Certificate number **LOM 08ATEX2015 X**
- (4) Equipment or protection system Temperature sensors
Types TWL..., TTL...
- (5) Applicant KOBOLD MESURA, S.L.U.
- (6) Address Guifré, 665
08918 BADALONA(BARCELONA)
SPAIN
- (7) Test report nr.: **LOM 09.495 FP**

(8) Variations included in this certificate

To update de type codification:



(9) Changes in marking

Only those that correspond to the new type codification



This supplement must be an inseparable part together with the base **LOM 08ATEX2015 X**

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RCP CER 07/4/2
Rev. 0

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LABORATORIO OFICIAL J. M. MADARIAGA


(3) Supplement nr. 1 to EC-Type Examination Certificate number **LOM 08ATEX2015 X**

(10) Descriptive documents

- Description nr.: DT0396

Rev.	Date
-	2009-07-14

Madrid, 2009-10-21


Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY


Angel Vega Remesal
Head of ATEX area



14 Notes

KOBOLD MESURA S.L.U

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Tel.: +34 93 460 38 83

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E-Mail: info.es@kobold.comwww.kobold.com

Technical data
Subject to change without prior notice

