


**UK Type Examination Certificate CML 21UKEX1878X Issue 0****United Kingdom Conformity Assessment**

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **Linear Position Sensor Temposonics® T-Series TH**
- 3 Manufacturer **Temposonics GmbH & Co. KG**
- 4 Address **Auf dem Schüffel 9, 58513, Lüdenscheid, Germany** **3001 Sheldon Drive, Cary, NC 27513, USA**
- 5 The equipment is specified in the description of this certificate and the documents to which it refers.
- 6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 43 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.  
The examination and test results are recorded in the confidential reports listed in Section 12.
- 7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.
- 8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.
- 9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:  
EN IEC 60079-0:2018      EN 60079-1:2014      EN IEC 60079-7:2015+A1:2018  
EN 60079-26:2015      EN 60079-31:2014
- 10 The equipment shall be marked with the following:  
 II 1/2 G D  
Ex db IIC T4 Ga/Gb      or      Ex db eb IIC T4 Ga/Gb      or      Ex tb IIIC T130°C Ga/Db  
Ta = -40°C to +90°C      Ta = -40°C to +90°C      Ta = -40°C to +90°C



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## 11 Description

The Linear Position Sensor Temposonics® T-Series TH is a magnetostrictive linear position sensor comprising a stainless steel hexagonal cross-sectional enclosure and cylindrical measuring element. The enclosure comprises two compartments; one containing the electronics and the other containing termination facilities for the connection to external circuits. The compartments are separated by a spigoted bushing with the terminal compartment cover being secured by five M4 socket-head cap screws grade A4-70. The rear of the electronics contains a threaded boss through which passes the measuring element.

Cable entry is made via either an M16 threaded boss to the side of the terminal compartment, which may optionally be fitted with an M20 or ½” NPT thread adapter, or an M20 or ½” NPT entry in the cover.

A facility for an external earthing or equi-potential bonding conductor is provided on both the terminal and electronics compartment comprising: a ground block; an M4 Screw; an M5 screw; a spring washer; a clamping tab.

### Configurator for T-Series / Rod Style, TH Model:

#### Model Nomenclature:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
T	H	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

#### NUMERAL 1: SERIES

T = T Series

#### NUMERAL 2: TYPE OF HOUSING (ROD AND COMPLETE ASSEMBLY)

H = (Housing 1.4305) Hydraulic rod style, material 1.4306/7 / AISI304L

#### NUMERAL 3: TYPE OF FLANGE:

S = English threads, flat faced

M = Metric threads, flat faced

T = English threads, raised faced

N = Metric threads, raised face

W = Metric threads, flat face - Housing 1.4404; Rod material 1.4404 / AISI316L

F = English threads, flat face - Housing 1.4404; Rod material 1.4404 / AISI316L

G = English threads, raised face - Housing 1.4404; Rod material 1.4404 / AISI316L

#### NUMERAL 4, 5, 6 & 7: STROKE LENGTH:

— — — — = For mm (25 mm to 7,700 mm ) (SIL rated - 25 mm to 1500 mm)

— — — — = For inches (1" to 300") (SIL rated - 2" to 60")



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NUMERAL 8: UNIT OF MEASURE:

M	=	mm
U	=	Inches

NUMERAL 9, 10 & 11: CONNECTION TYPE:

M01	=	Side entry - M16 x 1.5 (Type E & N Only: w/ internal terminals 1.5 mm <sup>2</sup> )
M10	=	Top entry - M16 x 1.5 (Type E & N Only: w/ internal terminals 1.5mm <sup>2</sup> )
N01	=	Side entry - M20 x 1.5 (Type D/G: w/ internal terminals 2.5 mm <sup>2</sup> ; Type E & N: w/ internal terminals 1.5 mm <sup>2</sup> )
N10	=	Top entry - M20 x 1.5 (Type D/G: w/ internal terminals 2.5 mm <sup>2</sup> , Type E & N: w/ internal terminals 1.5 mm <sup>2</sup> )
NF1	=	Side entry - M20 x 1.5 w/ internal terminals 2.5 mm <sup>2</sup> (Type E & N only; Only valid for NUMERAL 14: FUNCTIONAL SAFETY = N)
C01	=	Side entry - 1/2" NPT (for conduit pipes) (Type D/G: w/ internal terminals 2.5 mm <sup>2</sup> ; Type E & N: w/ internal terminals 1.5 mm <sup>2</sup> )
C10	=	Top entry - 1/2" NPT (for conduit pipes) (Type D/G: w/ internal terminals 2.5 mm <sup>2</sup> ; Type E & N: w/ internal terminals 1.5 mm <sup>2</sup> )
C02	=	Side entry 2 x Thread 1/2" NPT (for conduit pipes) internal terminals 2.5 mm <sup>2</sup> (Type D & G & N Only)
M02	=	Side entry 2 x Thread M16 X 1.5 (Type E & N only)

NUMERAL 12: INPUT VOLTAGE

1	=	+ 24 V DC
A	=	HVR Option
2	=	+9 Vdc to +28.8 Vdc
B	=	for future use

NUMERAL 13: HAZARDOUS AREA APPROVAL

D	=	Ex db for zone 0 / 1, Ex tb for Zone 21
E	=	Ex db eb for Zone 0 / 1, Ex tb – Flame Proof and Increased Safety

**For NUMERAL 14 Functional safety = S (SIL 2) only:**

NEC 500: NI - Class I/II/III Div. 2 Groups A,B,C,D,E,F,G; -40°C ≤ Ta ≤ 80°C

NEC 505/506: Class I Zone 2, Ex nA; Zone 22, Ex tc -40°C ≤ Ta ≤ 80°C

G	=	Ex db for zone 0 / 1, Ex tb for Zone 21; NEC 500: XP - Class I/II/III Div. 1 Groups A, B, C, D, E, F, G; (Group A is only approved for US ) NEC 505/506: - Class I Zone 0/1, Ex d/; Zone 21- Ex tb
N	=	Not approved for hazardous area/location use



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**NUMERAL 14: FUNCTIONAL SAFETY**

- N = Not approved
- S = SIL2 (w/ certificate and manual)

**NUMERAL 15: ADDITIONAL OPTIONS**

- N = None

**NUMERAL 16, 17, 18: (19-25 FOR DIGITAL) OUTPUT:**

- Axx/Vxx = Analogue (selection 16-18)
- R02 = Digital start-stop (selection 16-18)
- Pxxxxx = Profibus (selection 16-22)
- Cxxxxxxxx = CAN bus (selection 16-25)
- Sxxxxxx = SSI (selection 16-22)
- Cxxxxxxxx = DeviceNet (selection 16-25)

**12 Certificate history and evaluation reports**

Issue	Date	Associated report	Notes
0	20 Jan 2022	R14460B/00	Issue of the prime certificate. CML 16ATEX1090X, Issue 2 is attached and shall be referred to in conjunction with this certificate.

Note: Drawings that describe the equipment are listed or referred to in the Annex.

**13 Conditions of Manufacture**

The following conditions are required of the manufacturing process for compliance with the certification.

- i. When the position sensor Temposonics® T-Series TH utilises increased safety explosion protection, each unit shall be subjected to a dielectric strength test in accordance with EN 60079-7 clause 6.1.

**14 Specific Conditions of Use**

The following conditions relate to safe installation and/or use of the equipment.

- i. For repair of the flameproof joints, contact the manufacturer for information on their dimensions. Repairs must not be made on the basis of the values specified in Table 3 of EN 60079-1.
- ii. When installing the Position Sensor Temposonics® T-Series TH in the boundary of a zone 0 hazardous area, the corresponding requirements of EN 60079-26 and EN 60079-10-1 must be complied with. At this, the interface must be sufficiently tight (IP66 or IP67) or form a flameproof joint according to EN 60079-1 (joints specified for a volume ≤ 100 cm<sup>3</sup>) between the zone 0 and the less hazardous area. In addition, the position sensor Temposonics® T-Series TH must be protected against overheating by means of an upstream fuse of 125 mA.
- iii. The sensor tube must be protected from mechanical damage.