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## Type Examination Certificate

for Electrical Equipment used in Potentially Explosive Atmosphere

Issued by Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port CH65 4LZ, UK	
Applicant	Temposonics GmbH & Co. KG Auf dem Schüffel 9, 58513 Lüdenscheid, Germany
Manufacturer name	<b>Temposonics GmbH &amp; Co. KG</b> Auf dem Schüffel 9, 58513 Lüdenscheid, Germany <b>Temposonics LLC</b> 3001 Sheldon Drive, Cary, NC 27513, USA
Product name	Position Sensor Temposonics® T-series TH
Type/model code	T Series TH For details see attachment 1
Type of protection	Flameproof and dust ignition protection by enclosure.
Group, Temperature Class and EPL	IIC T4Ga/Gb IIIC T130°C Db
The equipment shall be marked with the following	Ex d IIC T4 Ga/Gb Ex d e IIC T4 Ga/Gb Ex t IIIC T130°C Db
Ratings	24 V.D.C
Special condition for safe use	See attachment 2
Certificate number	<b>CML 17JPN1072X</b>
Term of validity	From 16-07-2017 to 15-07-2020 
	From 16-07-2020 to 15-07-2023 

This is to certify that the equipment specified above complies with the requirements stipulated in Ordinance on Examination of Machines and Other Equipment of the Ministry of Health, Labour and Welfare, Japan.

Issue date: 09-07-2021

Signature of chief examiner:



## Attachment 1: Model/Type codes

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

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

### SELECTION 2 TYPE OF HOUSING (ROD AND COMPLETE ASSEMBLY)

H =Hydraulic rod style

### SELECTION 3 TYPE OF FLANGE:

- S = English threads, flat faced - Housing 1.4305; Rod material 1.4306/7/AISI304L
- M = Metric threads, flat faced - Housing 1.4305; Rod material 1.4306/7/AISI304L
- T = English threads, raised faced - Housing 1.4305; Rod material 1.4306/7/AISI304L
- N= Metric threads, raised face - Housing 1.4305; Rod material 1.4306/7/AISI304L
- 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

### SELECTION 4, 5, 6, 7, STROKE LENGTH:

for mm (25 to 7620 mm in 5 mm increments) (SIL rated - 25mm to 1500 mm in 5 mm increments)  
for inches (1 to 300" in 0.1" increments) (SIL rated - 1 to 60" in 0.1" increments)

### SELECTION 8 UNIT OF MEASURE:

M = mm  
U = inches

### SELECTION 9, 10, 11 CONNECTION TYPE:

- M01 = Side entry 1x Thread M16x1.5 (Type E & N Only: w/ internal terminals 1,5 mm<sup>2</sup>)
- M10 = Top entry 1x Thread M16x1.5 (Type E & N Only: w/ internal terminals 1,5mm<sup>2</sup>)
- N01 = Side entry 1x Thread M20x1.5 (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 1x Thread M20x1.5 (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 1x Thread M20x1.5 w/ internal terminals 2,5 mm<sup>2</sup> (Type E & N only;  
only valid for SELECTION14 FUNCTIONAL SAFETY = N)
- C01 = Side entry 1x Thread ½" 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 x thread ½" 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>)
- M02 = Side entry 2x thread M16x1.5 (Type e and n only)



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## SELECTION 12 INPUT VOLTAGES

1 = +24 VDC

**A = HVR Option**

2 = +9 Vdc to +28.8 Vdc – Future

**B = HVR Option – Future**

## SELECTION 13 HAZARDOUS TYPE APPROVAL

D = ATEX/IECEX: Ex II 1/2G Ex db IIC T4 Ga/Gb; Ex II 1G/2D Ex tb IIIC T130°C Ga/Db;  
-40°C ≤ Ta\* ≤ 90°C

E = ATEX/IECEX: Ex II 1/2G Ex db eb IIC T4 Ga/Gb; Ex II 1G/2D Ex tb IIIC T130°C Ga/Db;  
-40°C ≤ Ta\* ≤ 90°C

**For SELECTION 14 FUNCTIONAL SAFETY = S (SIL 2) only:**

NEC 500: NI - Class I Div. 2 Groups A, B, C, D T4; Class II, III Div.2 Groups E, F, G; T130°C  
-40°C ≤ Ta ≤ 80°C

NEC 505/506: Class I Zone 2, Ex nA/AEx nA IIC T4 Gc; Zone 22, Ex tc/AEx tc IIIC T130°C Dc;  
-40°C ≤ Ta ≤ 80°C

G = ATEX/IECEX: Ex II 1/2G Ex db IIC T4 Ga/Gb; Ex II 1G/2D Ex tb IIIC T130°C Ga/Db;  
-40°C ≤ Ta\* ≤ 90°C

NEC 500: XP - Class I Div. 1 Groups A<sup>1</sup>, B, C, D T4; Class II Div. 1 Groups E, F, G T130°C

NEC 505/506: - Class I Zone 0/1, Ex d/AEx d IIC T4 Ga/Gb; Zone 21, Ex tb/AEx tb IIIC T130°C Db

N = Not approved for hazardous area use

## SELECTION 14 FUNCTIONAL SAFETY

N = Not approved

S = SIL2 (w/ certificate and manual)

## SELECTION 15 ADDITIONAL OPTIONS

N = None

K = ClassNK approval

## SELECTION 16, 17, 18 (19-25 PROFIBUS, CANBUS, SSI, DEVICENET) OUTPUT:

Axx/Vxx = Analog (selection 16 18)

R02 = Digital startstop(selection 16 18)

Pxxxxxx = Profibus (selection 16 25)

Cxxxxxxxx = CANbus (selection 16 25)

Sxxxxxx = SSI (selection 16 25)

Cxxxxxxxx = DeviceNet (selection 16 25)



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## **Attachment 2: Special conditions for safe use**

- i. For repair of the flameproof joints contact the manufacturer for information on their dimensions.
- ii. The volume of the Ex d enclosure is less than 2 litres.
- iii. When installing the position sensor Temposonics® T-Series TH in the boundary of a zone 0 hazardous area, the corresponding requirements must be complied with. At this, the interface must be sufficiently tight (IP66 or IP67) or form a flameproof joint (joints specified for a volume  $\leq 100 \text{ cm}^3$ ) 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.
- iv. The sensor tube must be protected from mechanical damage.